

# Moorebank Precinct West - Stage 3

Environmental Impact Statement -  
(SSD 10431)







**SIMTA**

SYDNEY INTERMODAL TERMINAL ALLIANCE

Part 4, Division 4.7, State Significant  
Development

## Sydney Intermodal Terminal Alliance

Moorebank Precinct West Stage 3 Environmental Impact Statement –  
 SSD 10431 Moorebank Precinct West Stage 3 Environmental Impact  
 Statement – SSD 10431 Moorebank Precinct West Stage 3 Environmental  
 Impact Statement – SSD 10431

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# Statement of Validity

Declaration in accordance with Schedule 2, Part 3 of the *NSW Environmental Planning and Assessment Regulation 2000*.

## Submission of Environmental Impact Statement (EIS)

Prepared under Part 4.1 of the *NSW Environmental Planning and Assessment Act 1979*

### Environmental Impact Statement prepared by:

Name: Carolyn Stanley

Qualifications: MSc, BSc, BA  
8 years environmental planning, assessment and management

Address: Aspect Environmental  
Suite 117, 25 Solent Circuit  
Baulkham Hills, NSW 2153


In respect of: Sydney Intermodal Terminal Alliance (SIMTA)

Applicant name: Sydney Intermodal Terminal Alliance (SIMTA)

Applicant address: Level 27, 45 Clarence Street, Sydney, NSW 2000

Proposed development: The Proposal represents Stage 3 of the MPW Development. The key components of the Proposal are:

- Establishment of works compound to facilitate site development in accordance with the MPW Concept Plan and Stage 1 Early Works Approval (SSD 5066), MPW Stage 2 Approval (SSD 7709) and future development stages of the MPW Precinct.
- Progressive subdivision of MPW Site into nine allotments, including:
  - proposed Lots 5, 6 and 7 to be used for future warehousing and distribution;
  - proposed Lots 8, 9 and 10 to be used for (temporary) works compound, and future development as part of SSD 5066;
  - proposed Lot 11 to be primarily used as a biodiversity conservation area, as well as for roads and stormwater functions, to the west of the MPW Site on the Georges River;
  - proposed Lot 12 to be used as an interstate freight terminal; and
  - proposed Lot 13 to be used as part of the rail corridor (known as the SME Rail Corridor) to allow the completion of construction and operation of the intermodal import/export (IMEX) freight terminal (approved as part of MPE Stage 1 SSD 6766) and subsequent operation of the rail link under SIMTA's development arrangement with Moorebank Intermodal Company (MIC).
- Ancillary works including:
  - access roads;
  - temporary and permanent access roads;

		<ul style="list-style-type: none"> <li>– earthworks;</li> <li>– fencing and preliminary establishment facilities;</li> <li>– utilities installation/connection;</li> <li>– stormwater and drainage infrastructure; and</li> <li>– signage and landscaping.</li> </ul> <ul style="list-style-type: none"> <li>• Importation of clean fill material to achieve finished surface level of 16.6 m AHD.</li> </ul>
		Mitigation installations and activities for noise, dust, weed, biodiversity, soil and water management will be implemented across the site.
Land to be developed:		<p>The Proposal site includes approximately 20 ha of Commonwealth land to the south of the M5 Motorway and west of Moorebank Avenue, and comprises:</p> <ul style="list-style-type: none"> <li>• Lot 1 DP1197707; and</li> <li>• Lot 100 DP1049508.</li> </ul> <p>The land is leased by Sydney Intermodal Terminal Alliance (SIMTA).</p>
Environmental Statement:	Impact	An EIS is attached which addresses all matters in accordance with Part 4 (Division 4.7) of the <i>Environmental Planning and Assessment Act</i> 1979 and Schedule 2, Part 3, clause 7(1)(e) of the <i>Environmental Planning and Assessment Regulation</i> 2000, as well as other relevant legislation.
Declaration:		I certify that I have prepared the contents of this EIS in accordance with the Secretary's Environmental Assessment Requirements (SEARs) (Ref SSD 10431) dated 20 March 2020, and Schedule 2 of the <i>Environmental Planning and Assessment Regulation</i> 2000 and that, to the best of my knowledge, the information contained is relevant to the environmental assessment of the development, and the information within this EIS is not false or misleading.
Signature:		
Name:		Carolyn Stanley
Date:		24/04/2020

## Acronyms, Key Terms and Definitions

Term	Description
ACHAR	<i>Aboriginal Cultural Heritage Assessment Report</i>
ACM	Asbestos containing material
AEP	Annual exceedance probability
AERMOD	AMS/US-EPA Regulatory Model
AfL	Agreement(s) for Lease
AHD	Australian height datum
AHIP	Aboriginal Heritage Impact Permit
AHIS	<i>Aboriginal Heritage Impact Statement</i>
ANZECC	Australian and New Zealand Environment and Conservation Council
ASS	Acid sulfate soils
BDAR	<i>Biodiversity development assessment report</i>
Boot Land	Residual Commonwealth owned land to the east and south of the MPE Site between the site boundary and the Wattle Grove residential area and to the south of the MPE Site between the boundary and the East Hills Railway Line, some of which also forms part of the MPW Site.
CAQMP	<i>Construction Air Quality Management Plan</i>
CCS	Community Communication Strategies
CEMP	<i>Construction Environmental Management Plan</i>
CFFMP	<i>Construction Flora and Fauna Management Plan</i>
CHMP	<i>Construction Heritage Management Plan</i>
CMP	<i>Contamination Management Plan</i>
CNVMP	<i>Construction Noise and Vibration Management Plan</i>
CoC	Condition(s) of Consent

CSWMP	<i>Construction Soil and Water Management Plan</i>
CTAMP	<i>Construction Traffic and Access Management Plan</i>
CTMP	<i>Construction Traffic Management Plan</i>
DCP	Development Control Plan
Developable area	That portion of the MPW Site that excludes the western conservation area, lying to the east of the conservation area and to the west of Moorebank Avenue.
DJLU	Defence Joint Logistics Unit
DNSDC	Defence National Storage and Distribution Centre
DOD	Development and Operations Deed
DP	Deposited Plan
DP&E	NSW Department of Planning and Environment (now DPIE)
DPIE	Department of Planning, Industry and Environment (formerly DP&E). Includes the EES Group (formerly NSW Office of Environment and Heritage).
EEC	Endangered Ecological Community (ies)
EIS	Environmental Impact Statement
ENM	Excavated natural material
EOW	Explosive Ordnance Waste
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	NSW Environment Protection Agency
EPBC Act	<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>
EPI	Environmental Planning Instruments
EPL	Environment Protection Licence
ESCP	<i>Erosion and Sediment Control Plan</i>



ESD	Ecologically Sustainable Development
FBA	<i>Framework for Biodiversity Assessment</i>
FEAR	Future Environmental Assessment Requirement
FERP	<i>Flood Emergency Response Plan</i>
GFA	Gross floor area
GHG	Greenhouse gas
HHRA	Human health risk assessment
HIA	Health impact assessment
IMT	Intermodal Terminal
IMEX	Import Export (freight facility)
IPC	Independent Planning Commission (formerly the Planning Assessment Commission – PAC)
LGA	Local Government Area
Liverpool LEP	<i>Liverpool Local Environmental Plan 2008</i>
LoS	Level of service
MIC	Moorebank Intermodal Company
MLP	Moorebank Logistics Park – includes MPE development and MPW development.
MNES	Matters of national environmental significance
Moorebank Precinct	Includes MPE development and MPW development
MPE Development	The SIMTA Moorebank Intermodal Facility at Moorebank, as approved by the concept plan (MP_10_0913), MPE Stage 1 (SSD 6766) and MPE Stage 2 (SSD 7709).
MPE Site	Comprises the land used for the MPE terminal and warehouse facilities and supporting infrastructure, the rail corridor to the Southern Sydney Freight Line and Moorebank Avenue.
MPW Development	The development of an intermodal freight facility, associated commercial infrastructure (i.e. warehousing), a rail connection,

	and associated works as approved by the Concept Plan, Stage 1 and Early Works (SSD 5066) and MPW Stage 2 (SSD 7709)
MPW Stage 3	This Proposal. The third stage of development in accordance with the MPW Concept Plan (SSD 5066). Development for the purposes of supporting subdivision works and subdivision and provision of a work compound and materials storage areas. Includes provision of permanent and temporary roads, surface drainage works, signage, utilities and services.
MPW Site	Comprises the land to be used for the MPW intermodal terminal and warehouse facilities and supporting infrastructure, a rail connection to the MPE rail link, the Moorebank Avenue/Anzac Road intersection and the conservation area between the developable land and the Georges River.
NEPM	National Environmental Pollution Measure
NML	Noise Management Level
OEMP	<i>Operational Environmental Management Plan</i>
OEH	NSW Office of Environment and Heritage (now the EES Group within DPIE)
OFFMP	<i>Operational Flora and Fauna Management Plan</i>
ONVMP	<i>Operational Noise and Vibration Management Plan</i>
OSD	Onsite detention (basin)
OTAMP	<i>Operational Traffic and Access Management Plan</i>
OTTIA	<i>Operational Traffic and Transport Impact Assessment</i>
PAC	Planning Assessment Commission (now the Independent Planning Commission – IPC)
PAD	Potential archaeological deposit
PASS	Potential acid sulfate soils
PBP 2006	<i>Planning for Bushfire Protection 2006 (NSW Rural Fire Service)</i>
PCT	Plant community type
PDC	Precinct Development Company
PFOS/PFAS	Perfluoroalkyl and polyfluoroalkyl substances

PHA	<i>Preliminary Hazard Assessment (under State Environmental Planning Policy No. 33 - SEPP 33)</i>
PMA	Precinct management agreement
ppb	Parts per billion
The Proposal	MPW Stage 3, including establishment of a works compound and materials storage areas, progressive installation of subdivision works, subdivision of the MPW Site, temporary and permanent internal roadworks, utilities, services and ancillary works, and implementation of mitigation measures
Proposal Site	Area of the MPW Site on which the Proposal is to be developed
RAP	Registered Aboriginal Parties
REMMs	Revised Environmental Management Measures
RMS	Roads and Maritime Service (now incorporated into Transport for NSW)
RtS	Response to Submissions
SDDR	<i>Stormwater Development Design Report</i>
SEARs	Secretary's Environmental Assessment Requirements
SIDRA	Signalised and Unsignalised Intersection Design and Research Aid
SIMTA	Sydney Intermodal Terminal Alliance
SME	School of Military Engineering
SRtS	Supplementary Response to Submissions
SSD	State significant development
SSI	State significant infrastructure
SSFL	Southern Sydney Freight Line
SWMP	<i>Soil and Water Management Plan</i>
TEC	Threatened Ecological Communities
TEU	Twenty-foot equivalent unit or a standard shipping container
UDDR	<i>Urban Development Design Report</i>

UST	Underground storage tanks
UXO	Unexploded ordnance
VENM	Virgin excavated natural material
WHO	World Health Organisation
WSUD	Water sensitive urban design

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# EIS Executive Summary

## Overview

This Environmental Impact Statement (EIS) has been prepared on behalf of Sydney Intermodal Terminal Alliance (SIMTA) (the 'Proponent') to accompany a State significant development application (SSDA 10431) for the proposed Moorebank Precinct West (MPW) Stage 3 development (the 'Proposal'). The development site includes Lot 1 Deposited Plan (DP) 1197707 and Lot 100 DP1049508, and together with Moorebank Precinct East (MPE) is part of the Moorebank Logistics Park (MLP).

The Proposal is classified as a State significant development (SSD) under Part 4 Division 4.7 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

## MPW Development to Date

Development consent for the MPW Development was initially provided by the (then) Planning Assessment Commission of NSW (PAC) under the EP&A Act on 3 June 2016. Commonwealth Approval (No. 2011/6086) under the *Environmental Protection Biodiversity Conservation Act 1999* (EPBC Act) was originally granted on 1 July 2014 with variations on 2 February 2016 and 27 September 2016. Consequential to the MPW consent, gazettal was undertaken on 24 June 2016 for an amendment to the *Liverpool Local Environmental Plan* (Liverpool LEP) 2008, which rezoned the MPW Site as IN1 industrial land.

The development (as modified) involves the development of intermodal freight facilities linked to the interstate and intrastate freight-rail network. The development includes warehouse and distribution facilities, freight village and ancillary facilities, a rail connection to the MPE rail link connecting the MPW Site to the Southern Sydney Freight Line (SSFL) and a road entry and exit point from Moorebank Avenue.

A summary of the MPW Development, as approved in the MPW Concept Plan Approval, June 2016 (refer to Figure 1-2), is as follows:

- IMEX freight terminal - maximum capacity of 550,000 TEU throughput per annum, servicing international import/export (IMEX) freight movement between Port Botany and the MPW Site.
- Interstate freight terminal - maximum capacity of 500,000 twenty-foot equivalent units (TEU) throughput per annum, servicing trains and container freight movements by truck travelling to, from and between Sydney, regional and interstate destinations.
- Warehousing facilities - maximum of 300,000 m<sup>2</sup> gross floor area (GFA) to service the IMEX and interstate terminals.
- Rail link connection - between the MPW Site and the SSFL.
- Conservation area - to maintain and enhance riparian vegetation on the western boundary of the site along the Georges River.
- Moorebank Avenue upgrade - widening of the road to four lanes between Anzac Road and the M5 Motorway.

Subsequent modification to the MPW Concept and Stage 1 Early Works consent (SSD 5066) was approved under Concept MOD1 on 30 October 2019. Concept MOD 1 SSD 5066 (MOD 1) comprised primarily an importation of approximately 1,600,000 m<sup>3</sup> of clean fill for bulk earthworks within the site, an expansion of construction footprint to allow for Moorebank Avenue/ Anzac Road intersection works, deletion of the port shuttle (IMEX) rail freight intermodal terminal and an increase in the warehousing area; ability to subdivide the site and some additional design and site usage adjustments.

MPW Stage 2 SSD 7709 was given development consent on 11 November 2019. The development consent enables:

- construction and 24/7 operation of an intermodal terminal to support a container freight throughput volume of 500,000 TEU per annum;
- construction and 24/7 operation of a warehousing estate on the northern part of the site servicing the IMT;
- intersection upgrades at Moorebank Avenue at Anzac Road and Bapaume Road;
- construction and operation of a stormwater drainage system for the entire site; and
- construction works and temporary ancillary facilities.

As at April 2020, final post-approval requirements were being addressed to enable commencement of MPW low impact and construction works.

## The Proposal

The Proposal comprises the construction and operation of Stage 3 of the MPW Development as approved in the MPW Concept Plan (SSD-5066). This includes allowance for:

- Establishment of a works compound to facilitate approved site development works for the MPW Site (as per SSD 5066 and SSD 7709) as well as progressive and future MPW Site development works. The compound and laydown area may also be used to support progressive construction requirements on the MPE Stage 2 SSD 7628 site as available laydown and temporary accommodation space reduces as site construction works progress. The MPW 3 Development includes compound worker accommodation, car-parking, hardstand, laydown and materials stockpile areas, temporary and permanent access roads, site drainage, utilities and services.
- Progressive subdivision of the MPW Site to create nine allotments for the purpose of separating the intermodal freight terminal and warehousing, establishing the biodiversity conservation allotment and progressive tenanting of individual warehouses.
- Ancillary works to facilitate establishment, access and servicing of the construction compound and site subdivision.
- Importation of fill to achieve the 16.6 m AHD finished surface level.

Chatham Avenue site access will be retained in the short to medium term to separate construction and operational traffic. An alternate site access from Moorebank Avenue may be required subsequent to the removal of the Chatham Road access to facilitate MPW construction works when the new perimeter road is utilised by operational traffic.

Required mitigation works for potential noise, dust, weed, biodiversity, soil and water management impacts will be implemented across the MPW Site.

The Proposal layout is shown in Figure 1-1. A more detailed description of the Proposal is provided in Section 3 of this report.

### Planning Pathway

The Proposal is consistent with the MPW Concept Plan and Stage 1 Early Works (SSD 5066) and MPW Stage 2 (SSD 7709) consents and is classified as a new SSD application as the Proposal capital investment value has been estimated at approximately \$38M.

This EIS has been prepared in accordance with the Secretary's Environmental Assessment Requirements (SEARs) (SSD 10431) issued on 20 March 2020 and the SSD 5066 future environmental assessment requirements (FEARs) to inform this SSD application and to satisfy Clause 3, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Reg).

### Subdivision – Clause 4.6 Variation

The Liverpool LEP requires a minimum lot size of 120 ha across the MPW Site. The proposed subdivision layout that is the subject of this application would result in the 189.39 ha site being subdivided into nine lots, with lot areas between 12.28 ha (proposed Lot 13) and 38.91 ha (proposed Lot 11). The proposed lot layout is therefore non-compliant with the Liverpool LEP minimum lot size requirements. While the ability to subdivide was approved in the SSD 5066 Concept MOD 1 consent (30 October 2019), the present minimum lot size otherwise prevents any subdivision on the lot.

A Clause 4.6 exception under the Liverpool LEP 2008 enables flexibility in the application of development standards that achieve better outcomes for and from development by allowing flexibility in particular circumstances. A Clause 4.6 request has been submitted with this EIS (Appendix F) and is sought to vary (reduce) the minimum lot size requirement within the bounds of the MPW Site. Consent to this request would enable the subdivision of the site into lots that have an area less than the current minimum lot size provision within the Liverpool LEP 2008 (120 ha). Application of the Liverpool LEP prescriptive minimum lot size for the site would be an unreasonable and unnecessary constraint on the ability for the Development to secure and register long term tenancies on the site.

Given the MPW development is part of a greater MLP development that encompasses both the MPW development and the adjacent MPE development, a minimum lot size requirement that is consistent with the MPE Site (i.e. 2,000 m<sup>2</sup>) is considered appropriate. This will allow a consistent subdivision approach across the Precinct.

Variation of the minimum lot size development standard will allow the MPW subdivision to proceed in full compliance with Condition E26 of SSD 5066, which currently requires (emphasis added in **bold**):

#### *Subdivision*

*E26 Any future Development Application for subdivision must:*

*a) **demonstrate compliance with the minimum lot size specified in the Liverpool Local Environmental Plan;***



Without the variation of the development standard, the minimum lot size requirements directly prohibit subdivision of the MPW Site otherwise approved under the MPW Concept Plan and Stage 1 Early Works Modification (Concept MOD 1). The variation would not compromise the development from continuing to be consistent with the intent of the Concept Plan Approval.

As part of the EIS assessment process, the DPIE may consider such an application to grant an exception to the environmental planning instrument (i.e. Liverpool LEP) conditions in order to permit the carrying out of an SSD.

### Need for the Proposal

The Proposal will facilitate progressive site development in accordance with the MPW Concept Plan and Stage 1 Early Works consent (SSD 5066), MPW Stage 2 consent (SSD 7709), and future stages of MPW development.

The MLP forms a key part of the *NSW Freight and Ports Strategy* (2013) and is critical to accommodating Sydney's future freight needs as well as relieving heavy freight truck traffic and congestion from Port Botany. The MLP will increase rail share for the Sydney freight distribution network and support catchment demand for rail and truck freight movements to the outer western and south-western suburbs of Sydney. The MPW Development as part of the MLP, plays a key role in realising the regional and State transport infrastructure development policy objectives and transport infrastructure commitments of National and State governments.

### Consultation

The Proposal represents a further stage of the design, assessment, construction and operation for the MPW Development, albeit one that has been previously considered and assessed under the MPW Concept Plan Stage 1 and Early Works and Stage 2 consents. As such, SIMTA recognises the importance of continuing to engage with Commonwealth, State and Local Government stakeholders, the community, Registered Aboriginal Parties (RAP), and special interest groups. As part of the MPW Development consent and post-approvals processes, these agencies have been consulted on an ongoing basis and a feedback loop is provided as part of the submission process.

The *Community Communication Strategy* (CCS), already in place for the adjacent MPE Site and for MPW Site activities generally including MPW Stage 1 works, was established in accordance with relevant consents to provide the overarching mechanism to facilitate communication between the MLP Project and Liverpool City Council, community representatives and RAPs and will continue to be applied to incorporate the MPW Stage 3 development.

The community consultative committee will be notified throughout the course of the application, with consultation to be guided by the overarching stakeholder engagement principles that have been used to inform earlier consultation.

## Key Potential Environmental Impacts

Key environmental issues relating to the Proposal's construction and operation have been identified based upon investigations and environmental assessment undertaken as part of the MPW Concept Plan Approval and MPW Stage 2 environmental assessments. Further assessments of the Proposal's environmental impacts are detailed in Sections 7 to 17.

Potential environmental impacts have, in general, already been assessed as part of the broader MPW Concept Plan and MPW Stage 2 Environmental Impact Assessments and which have largely covered the area and extent of the Proposal works. The Proposal does not introduce any new or additional scale, nature or extent of likely impacts not already anticipated and assessed in the studies prepared in support of MPW Stage 1 and MPW Stage 2 consents.

Assessment to support this Proposal has involved consideration of the existing MPW Stage 2 documentation and its extrapolation to assess the changes resulting from the Proposal to the internal design and progressive construction and operation of the approved development.

The proposed works considered under the MPW Stage 2 consent covered the entirety of the MPW Site with the operational area delineated within the northern portion of the site. The MPW Stage 2 works include clearing and the import of fill across the entire site. Construction traffic for import of fill is limited across the precinct to a total of 22,000 m<sup>3</sup> per day. No change to the approved area of surface disturbance and fill activity or to the construction traffic cap for the Precinct is likely as a result.

The MPW 3 Proposal sits entirely within the construction footprint previously assessed and approved under MPW Stage 2 SSD 7628. No additional impacts to the bio-physical environmental and social values beyond those already assessed and approved under MPW Stage 2 SSD 7628 are considered likely. Additional impacts generated as a result of the construction of the Proposal are considered to be limited to the following values:

- visual
- lighting
- traffic
- noise
- fill to final finished levels.

The proposed subdivision is anticipated to have minimal environmental impacts on the built or natural environment or surrounding community. Potential environmental impacts due to construction and establishment of the works compound and placement/installation of ancillary and infrastructure to facilitate the works compound and the subdivision development and its operation have been addressed in Sections 7 through 18. No significant environmental impacts have been identified for the Proposal.

It is anticipated that potential construction and operation environmental impacts would be mitigated through the application of the MPW Stage 2 CEMP, OEMP and/or sub-plans, which would be revised to address MPW Stage 3 CoC.

Revised Environmental Management Measures (REMMS) have been assessed and updated for both the construction and operation of this Proposal (refer to Section 20).

## Conclusion

This EIS has been prepared to support the application for development consent for the Proposal, which is identified as an SSD, in accordance with Part 4, Division 4.7 of the EP&A Act. Potential direct and cumulative environmental impacts have been assessed as part of this EIS and no significant environmental impacts to the built or natural environment or surrounding community have been identified. Potential environmental impacts would be mitigated through the implementation of management and control measures for the construction and operation of the Proposal.

The Proposal facilitates the development of an intermodal freight terminal facility, the rail network link, and warehousing infrastructure, and is consistent with goals and objectives of State plans and strategies. As demonstrated throughout this EIS and the accompanying specialist reports (Appendices A – E), the Proposal is therefore considered to be in the public interest.

The Proposal addresses and meets the requirements of the SEARs and is considered consistent with Schedule 4 of the MPW Concept Plan and Stage 1 Early Works Consent (SSD 5066) and EBPC Approval. The Proposal complies with Part 4, Division 4.15 of the EP&A Act, and is consistent with the principles of ESD, as demonstrated in Section 17.5.

Overall the EIS concludes that the development, as proposed, is in the public interest and is able to effectively mitigate and manage any resultant impacts. Approval is recommended.

## 1. Introduction

This Environmental Impact Statement (EIS) has been prepared on behalf of Sydney Intermodal Terminal Alliance (SIMTA) (the 'Proponent') to accompany a State significant development application (SSD) for the proposed Moorebank Precinct West (MPW) Stage 3 development (the 'Proposal'). The Proposal site includes Lot 1 DP 1197707, and Lots 100 and 101 DP1049508.

The Proposal comprises the establishment of a works compound in the southern portion of the MPW Site to facilitate progressive site development in accordance with the MPW Concept Plan and Stage 1 Early Works Consent (SSD 5066), MPW Stage 2 Consent (SSD 7709), and future stages of MLP development. The Proposal also includes progressive subdivision of the MPW Site for the purpose of delineating easements and rights of way across and between the rail terminal, warehousing, and conservation management areas of the site. Subdivision of the MPW Site would also facilitate long-term tenancing of individual warehouses.

Ancillary works on the site would include:

- temporary and permanent access roads
- earthworks
- fencing and preliminary establishment facilities
- utilities installation/connection
- stormwater and drainage infrastructure
- signage and landscaping
- mitigation works for noise, dust, weed, biodiversity, soil and water management.

The works compound would be developed for servicing of the proposed allotments, for site monitoring, mitigation and maintenance activities, establishment of subdivision works and for progressive future warehouse construction. Additionally, clean fill material will be imported to the site to achieve the finished surface level of 16.6 m AHD. The Proposal layout is shown in Figure 1-1.

The Proposal represents a progression of works from MPW Concept Plan and Stage 1 Early Works (SSD 5066) and MPW Stage 2 (SSD 7709) and is a new SSD application (MPW 3 SSD 10431). A Scoping Report (Aspect, 2019) was prepared and submitted to NSW Department of Planning, Industry and Environment (DPIE) on 24 December 2019 to inform Secretary's Environmental Assessment Requirements (SEARs) to guide the content expectations with respect to preparation of this EIS.

The MPW Concept Plan consent (SSD 5066) as modified 30 October 2019, identifies future environmental assessment requirements (FEARs) to be addressed within subsequent development applications.

In addition to the proposed works subject of this EIS, a Clause 4.6 exception to the minimum lot size standard (Clause 4.1) of *Liverpool Local Environmental Plan* (Liverpool LEP) 2008 is being sought. Condition E26(a), one of the SSD 5066 FEARs, requires consistency with the minimum lot size requirements of Liverpool LEP 2008, currently set at 120 ha for the site (refer to Section 3.1.2.4). The Clause 4.6 application seeks an exception to this development standard within the bounds of the MPW Site, to enable a reasonable subdivision of the MPW Site. The Clause 4.6 variation is attached to this EIS as Appendix F.

This EIS has been prepared in accordance with the SEARs (SSD 10431) issued on 20 March 2020 and the SSD 5066 FEARs to support the SSD application and to satisfy Clause 3, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Reg). The SEARs and the relevant corresponding sections of the EIS are provided in Section 1.8.

[illegible]

## 1.1 The Proponent

On 4 June 2015 Moorebank Intermodal Company (MIC) (a Federal Government Business Enterprise), with the approval of the Commonwealth Government, entered into an agreement with SIMTA, whereby SIMTA would obtain all future approvals as well as construct and operate the remaining stages of the MPW Development as approved under the MPW Concept Plan. Under the agreement MIC will oversee the development providing both funding (for some elements) and land for the MPW Development.

The Applicant for this Proposal is SIMTA on behalf of MIC. SIMTA, a consortium comprising Qube Holdings (Qube) and Aurizon, has national experience in logistics delivery, property management and a strong commitment to stakeholder engagement. Combined, the SIMTA members currently own or operate eight intermodal freight facilities across Australia. Qube will be undertaking development works on behalf of SIMTA.

## 1.2 MPW Development Background

MIC has received Concept Plan Consent under what was then Part 4, Division 4.1 of the EP&A Act to develop the MPW Site. The MPW Development involves the development of intermodal import-export freight facilities linked to Port Botany and the interstate and intrastate freight-rail network. It includes associated commercial infrastructure (i.e. warehousing), a rail link connecting the MPW Site to the Southern Sydney Freight Line (SSFL) and a road entry and exit point from Moorebank Avenue.

The MPW Concept Plan Approval was granted on 3 June 2016 by the (then) Planning & Assessment Commission (PAC). Further details regarding the MPW Concept, as approved, are provided in Section 1.3 of this EIS. Commonwealth Approval (No. 2011/6086) under the *Environmental Protection Biodiversity Conservation Act 1999* (EPBC Act) was granted on 27 September 2016 (assessed concurrently with the MPW Concept Plan and Stage 1 Early Works SSD application) for the MPW Development. Additionally, gazettal was undertaken on 24 June 2016 for an amendment to the Liverpool LEP, which rezoned the MPW Site for general industrial purposes (IN1).

This EIS is seeking approval for Stage 3 of the MPW Development on the western side of Moorebank Avenue as a progression of the development from both SSD 5066 and SSD 7709 consents, and includes:

- establishment of a works compound that will be used to facilitate MPW Early Works Stage 1, Stages 2 and 3 site development works and future stages of the MLP development;
- progressive subdivision of the MPW Site into nine allotments for the purpose of creating separate lots for the interstate freight terminal, future warehousing, rail link corridor, and biodiversity conservation allotment (being Lots 5 to 13 inclusive);
- ancillary works including access roads, earthworks, utilities, stormwater and drainage, signage and landscaping; and
- importation and placement of clean fill material to achieve the finished surface level of 16.6 m AHD.



Mitigation installations and actions for noise, dust, weed, biodiversity, soil and water management would also be implemented, consistent with controls implemented under the SSD 7709 consent.

### 1.3 MPW Development – Existing Approvals

#### 1.3.1 MPW Concept Plan Approval

Approval for the MPW Concept Proposal and Stage 1 Early Works (SSD 5066) to develop the MPW Development, under what was then Part 4, Division 4.1 of the EP&A Act, was granted on 3 June 2016 by NSW Department of Planning and Environment (DP&E). The MPW Development involved the development of IMEX freight facilities linked to Port Botany and the intrastate/interstate freight-rail network. It also included associated commercial infrastructure (i.e. warehousing and logistics facilities), a rail link connecting the MPW Site to the SSFL and a road entry and exit point from Moorebank Avenue.

A summary of the MPW Development, as approved in the MPW Concept Plan consent (at full build; refer to Figure 1-2), is as follows:

- IMEX freight terminal - maximum capacity of 550,000 TEU throughput per annum, servicing international import/export (IMEX) freight movement between Port Botany and the MPW Site or rail connection to the IMEX freight terminal on the MPE Site (approval for the IMEX freight terminal was granted under SSD 6766).
- Interstate freight terminal - maximum capacity of 500,000 twenty-foot equivalent units (TEU) throughput per annum, servicing trains and container freight movements by truck travelling to, from and between Sydney, regional and interstate destinations.
- Warehousing facilities - maximum of 300,000 m<sup>2</sup> gross floor area (GFA) to service the IMEX and interstate terminals.
- Rail link connection - between the MPW Site and the SSFL.
- Conservation area - to maintain and enhance riparian vegetation on the western boundary of the site along the Georges River.
- Moorebank Avenue upgrade - widening of the road to four lanes between Anzac Road and the M5 Motorway.

It should be noted that the MPW Concept Plan consent stated that the combined movement of container freight on the MPW Site must not exceed 1.05 million TEU per annum (i.e. up to 500,000 TEU interstate freight and up to 550,000 TEU IMEX freight per annum).

The SSD 5066 conditions of consent (CoC) (Schedule 4) provide a detailed list of future environmental assessment requirements (FEARs) to be considered and addressed in future development applications forming part of the MPW Development.

Environmental mitigation measures were prepared as part of the MPW Concept Plan Approval process, and revised as part of the Supplementary Response to Submissions (SRtS) during the approval process. The Revised Environmental Management Measures (REMMs) detail management measures to be applied during project construction and operation to reduce or prevent environmental harm. The REMMs are provided in Section 20.

This EIS is seeking approval for the construction and operation of the Proposal as part of the SSD 5066 consent for the MPW Development. The construction and operation of future



stages of the MPW Development are subject to additional approvals undertaken in accordance with Part 4, Division 4.7 of the EP&A Act.

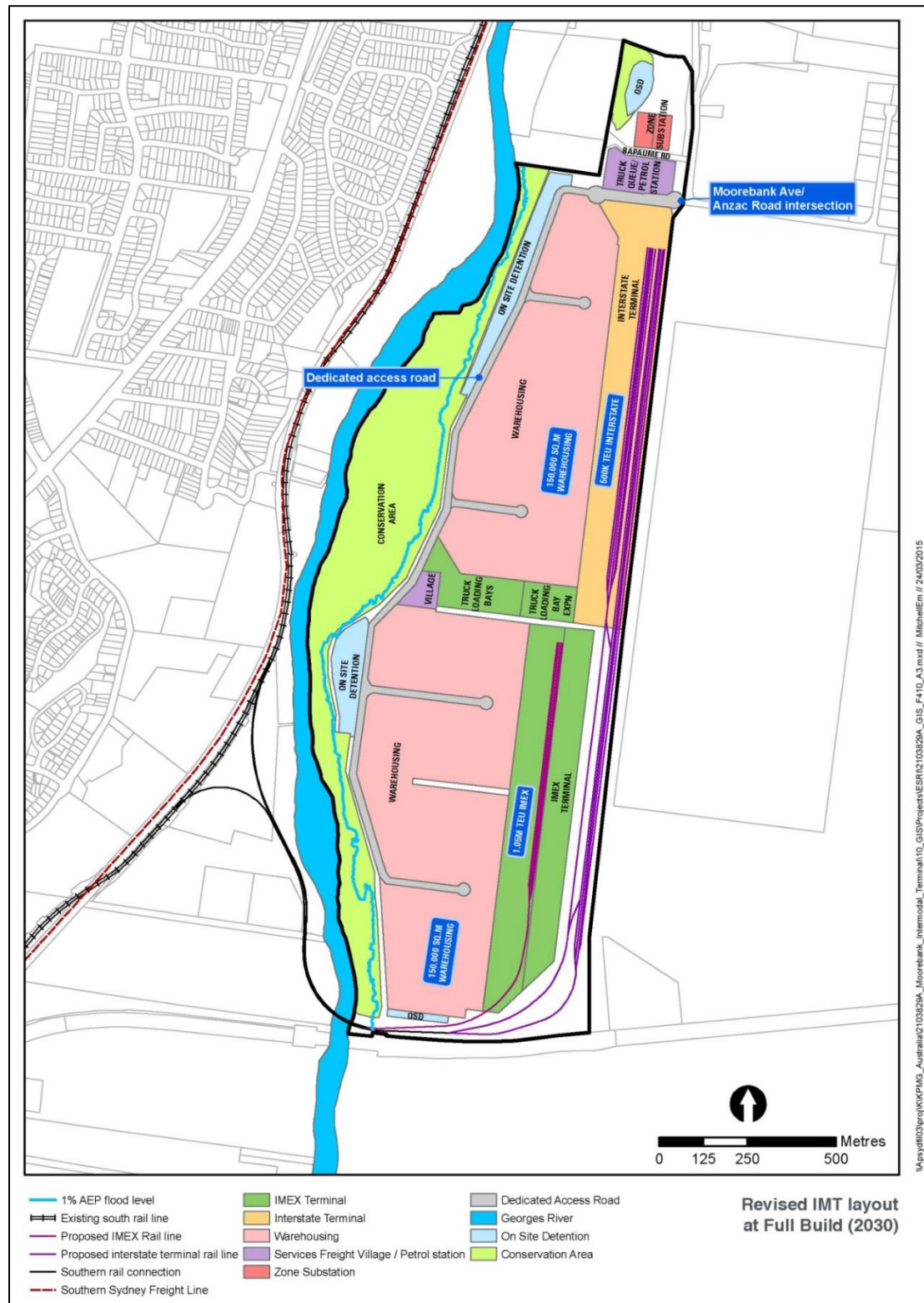


Figure 1-2: MPW Concept Approval (Arcadis, 2016)

### 1.3.2 MPW Concept Modification (MOD 1)

Modification to SSD 5066 was approved under Concept MOD1 on 30 October 2019. Concept MOD 1 SSD 5066 (MOD 1) comprised:

- Importation of approximately 1,600,000 m<sup>3</sup> of clean fill for bulk earthworks within the site
- Expansion of construction footprint to allow for Moorebank Avenue/ Anzac Road intersection works
- Rearrangement of warehousing, freight village, internal roads and truck parking locations and layouts
- Additional onsite detention (OSD) basin near the northern boundary of the site and relocation to the western boundary and enlargement of the southern OSD basin
- Deletion of the port shuttle (IMEX) rail freight intermodal terminal and an increase in the warehousing area
- Use of the interstate terminal for interstate, intrastate and port shuttle rail freight including one additional rail track
- Increase in building heights as a result of raising the site by up to 3.6 m
- Reducing construction stages from four (excluding Stage 1 Early Works) with potentially only two future development applications
- Transfer of containers by heavy vehicles between the MPW warehouses and MPE rail terminal and between the MPE rail terminal and MPW warehouses
- Ability to subdivide the site as part of a future development.

The MPW Concept Mod 1 also included additional FEARs for consideration in future development applications.

The works included within MPW Concept MOD 1, as identified above, are being undertaken as part of the MPW Stage 2 works.

### 1.3.3 MPW EPBC Approval

Approval for the MPW Development under the Commonwealth EPBC Act (Approval No. 2011/6086) under the EPBC Act to develop the MPW Development was granted on 27 September 2016. EPBC approval was required, subsequent to a referral, as the MPW Development was determined to be a 'controlled action' under the EPBC Act for the reasons identified in

Table 1-1.

Table 1-1: MPW EPBC Approval.

Matter of National Environmental Significance Triggered	Details
An action by the Commonwealth which will have a significant impact on the environment	MIC is a Commonwealth Government Business Enterprise and as stated in the MPW Concept EIS, without mitigation measures, MPW Development would potentially have a significant impact on surrounding environment, particularly with regards to traffic, transport and access, noise and vibration, local air quality and human health.
Significant impact on listed threatened species and communities	<p>The MPW Development would affect two threatened species of plant, <i>Grevillea parviflora subsp. Parviflora</i> and <i>Persoonia nutans</i>, which are listed under the EPBC Act and the <i>Threatened Species Conservation Act 1995</i> (TSC Act) (now replaced by the <i>Biodiversity Conservation Act 2016</i>). Impacts on these species would include direct loss of individuals and loss of habitat. Impacts were also predicted to 25 threatened fauna species known or likely to occur on the MPW Site.</p> <p>Overall it was determined that no EPBC Act or TSC Act threatened species population or ecological community was likely to be significantly affected by the Project. For additional details refer to Section 10.</p>

The CoC for the EPBC Approval provided a list of further investigations and information that should be undertaken to inform future approvals for the MPW Site and ultimately construction and operation of the MPW Development, including the Proposal. An overview of the EPBC Approval conditions are provided within Section 4.2.1 of this EIS.

#### 1.3.4 MPW Stage 1, Early Works

Approval for the Early Works phase was granted as Stage 1 of the MPW Development within SSD 5066 and development works for this phase commenced in the third quarter of 2016. Early Works comprise the following:

- The demolition of existing buildings and structures
- Service utility terminations and diversion/relocation
- Removal of existing hardstand/roads/pavements and infrastructure associated with former buildings
- Rehabilitation of the excavation/earthmoving training area (i.e. 'dust bowl')
- Remediation of contaminated land and hotspots, including areas known to contain asbestos, and the removal of:
  - underground storage tanks (USTs);
  - unexploded ordnance (UXO) and explosive ordnance waste (EOW) if found; and
  - asbestos contaminated buildings
- Archaeological salvage of Aboriginal and European sites, including the CUST Hut and STRARCH Hanger1
- Establishment of a conservation area along the Georges River, including seed banking and planting
- Establishment of construction facilities (which included a construction laydown area, site offices, hygiene units, kitchen facilities, wheel wash and staff parking) and access, including site security

- vegetation removal, including the relocation of hollow-bearing trees as required for remediation/demolition purposes.

### 1.3.5 MPW Planning Proposal

The MPW Site is located wholly within the Liverpool Local Government Area (LGA) and is subject to the provisions of the Liverpool LEP 2008.

The MPW Site was initially located within the Liverpool LEP 2008 zoning of SP2 Infrastructure (Defence) zone, with the exception of the Northern Commonwealth Land and Northern Council Land (the area north of Bapaume Road), which was (and is) zoned IN1 General Industrial.

In order to facilitate future development of the MPW Site in accordance with MPW Concept Plan Approval, MIC lodged a Planning Proposal (PP 2012 LPOOL 004 00) application with NSW Department of Planning and Environment (DP&E) to amend the Liverpool LEP. The Planning Proposal application sought to rezone the MPW Site under Part 3 of the EP&A Act, to partly IN1 General Industrial (for the interstate freight terminal) and partly E3 Environmental Management (for the conservation area along the Georges River) (Figure 1-3).

The Planning Proposal was exhibited concurrently with the MPW Concept EIS in order for the proposed rezoning of the MPW Site to be properly considered in conjunction with the MPW Development.

Approval was granted on 24 June 2016 for PP 2012 LPOOL 004 00 to rezone the MPW Site, allowing for the MPW Development and associated amendments to the Liverpool LEP 2008.



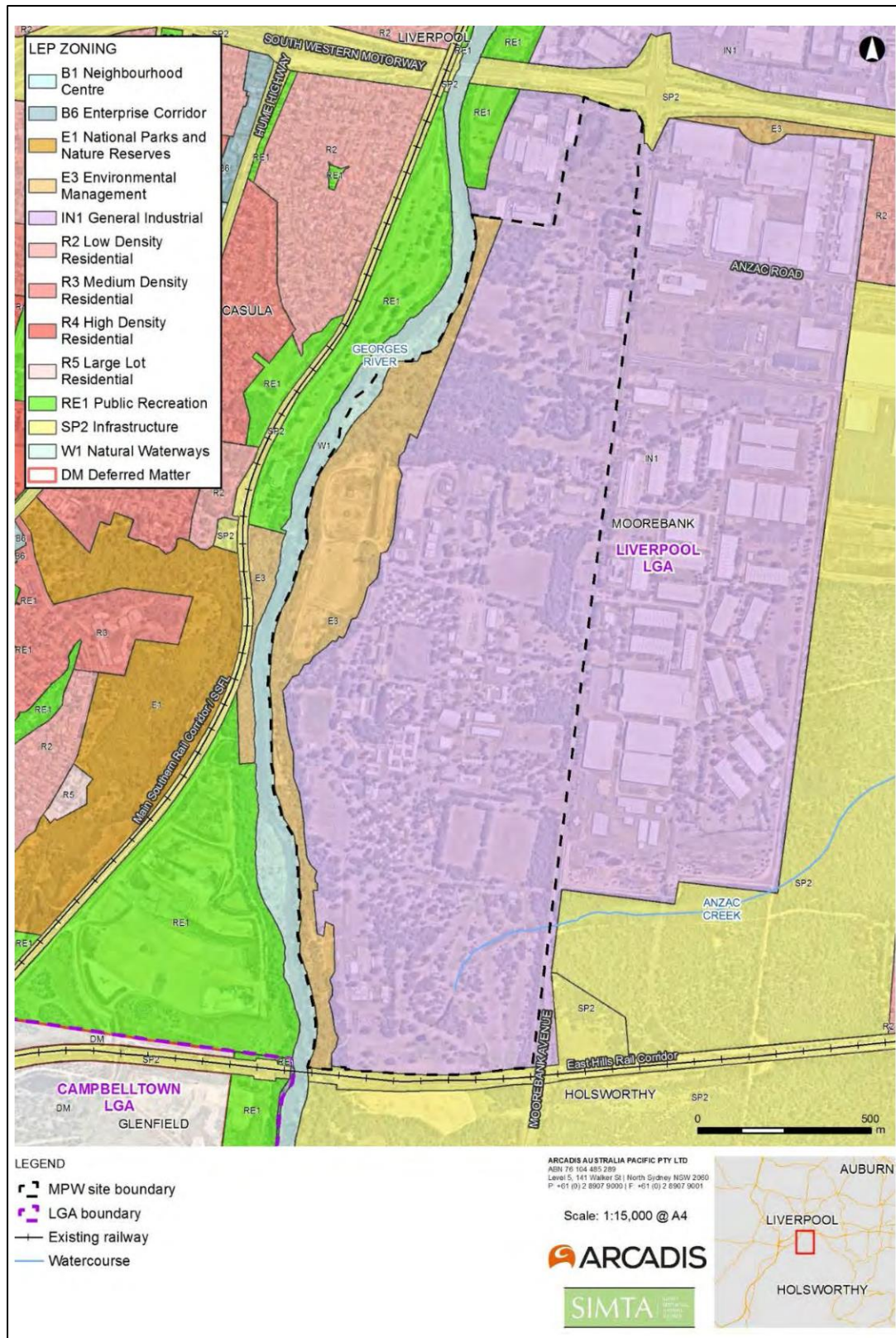


Figure 1-3: MPW Planning Proposal Zoning Map (Arcadis, 2016)

### 1.3.6 MPW Stage 2 Approval

MPW Stage 2 (SSD 7709) was approved by the Independent Planning Commission (IPC) under the EP&A Act (Part 4 Division 4) on 11 November 2019. The SSD 7709 consent authorises the construction of an interstate freight terminal facility, warehousing and a rail link connection. Specifically, the consent covers the following key development components:

- Interstate freight terminal facility including:
  - infrastructure to support a container freight throughput volume of 500,000 TEUs per annum;
  - installation of nine rail sidings and associated locomotive shifter;
  - capacity to receive trains up to 1,800 m in length;
  - truck processing, holding and loading areas;
  - container storage area serviced by manual handling equipment; and
  - administration facility, engineer's workshop and associated car parking.
- Rail link including:
  - construction of the rail link connection, which links the sidings within the interstate freight terminal facility to the rail link (which were approved as part of the MPE Stage 1 (SSD 6766) consent); and
  - the operation of the rail link (from the rail link connection to the SSFL).
- Warehousing area, including construction of approximately 215,000m<sup>2</sup> GFA of warehousing, plus ancillary offices, with associated warehouse access roads.
- Upgraded intersection on Moorebank Avenue, which would provide site access and egress and construction of an internal road.
- Ancillary works, including vegetation clearing, earthworks (including the importation of 1,600,000 m<sup>3</sup> fill), utilities installation/connection, signage and landscaping.

Construction for the MPW Stage 2 development is expected to commence in the second quarter 2020, once required post-approval documentation has been approved.



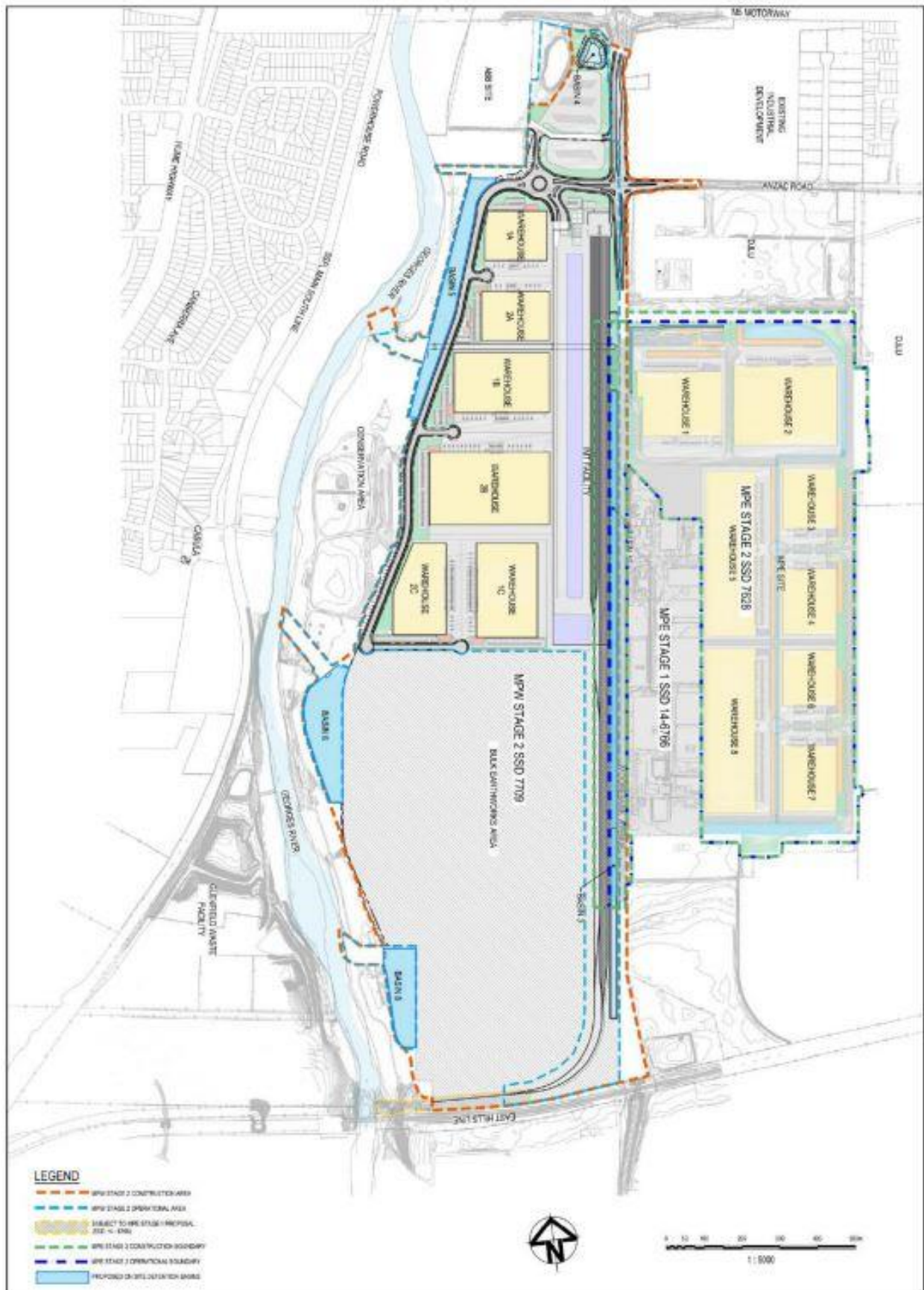


Figure 1-4: Moorebank Logistics Precinct overview plan (Arcadis, 2016)



## 1.4 Proposal Outline

The key components of the MPW Stage 3 (SSD 10431) Proposal are:

- establishment of a works compound to facilitate approved site development works for the MPW Site (as per SSD 5066 and SSD 7709) as well as progressive and future MPW Site development works, and includes hardstand, laydown and materials stockpile areas, temporary and permanent access roads, utilities and services
- progressive subdivision of the MPW Site to create nine allotments for the purpose of separating the interstate freight terminal and warehousing, establishment of a biodiversity conservation allotment and tenancing of individual warehouses
- ancillary works to facilitate establishment, access and servicing of the construction compound and site subdivision
- importation of fill to achieve the 16.6 m AHD finished surface level
- mitigation installations and activities for noise, dust, weed, biodiversity, soil and water management across the MPW Site.

The Proposal general layout is shown in Figure 1-1. The Proposal timeframe would overlap with construction works being undertaken under SSD 7709 and MPE Stage 2 (SSD 7628) (refer to Figure 1-4 for operational boundaries of MPW Stage 2). A more detailed description of the Proposal is provided in Section 3 of this report.

## 1.5 Interface between MPW and MPE Precincts

### 1.5.1 MPW Concept Plan Approval – relevant Conditions of Consent

Table 1-2 identifies FEARs as specified in Schedule 4 of the MPW Concept Plan Approval (SSD 5066) CoC which relate to the interaction between MPW and MPE Sites.

Table 1-2: Interaction between MPW and MPE Sites – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October, 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October, 2019)		Comment / Relevant EIS Section
<i>Schedule 4 Conditions to be Met in Future Development Applications – Interaction between MPW and MPE Sites</i>		
E29	<p><i>Any future Development Application that proposes the use of infrastructure on the MPE site or integration of operations across the MPW and MPE sites must:</i></p> <p><i>a) demonstrate that there will be no overall increase in cumulative construction and operational environmental impacts;</i></p> <p><i>b) describe the relationship between similar facilities on each site such as the intermodal terminal facilities and freight villages;</i></p> <p><i>c) provide a mechanism to record the TEUs supplied and received at each of the MPW and MPE intermodal terminal facilities to demonstrate compliance with condition 7 and 8 of this consent and conditions 1.6 and 1.7 of the MPE Concept Plan (MP 10_0193) approval;</i></p> <p><i>d) provide an overall Precinct (MPW + MPE) layout and design drawings, including for:</i></p> <p><i>(i) access to the Precinct,</i></p>	<p>E29a) No change to the precinct import fill cap of 22,000 m<sup>3</sup> per day across the MPW and MPE Sites is proposed, so there will be no change to the cumulative construction T and operational environmental outcomes of previous assessments.</p> <p>E29b) and E29c) The relationship between the intermodal terminal facilities and freight villages on each site, and compliance management is expected to</p>

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October, 2019)	Comment / Relevant EIS Section
<i>Schedule 4 Conditions to be Met in Future Development Applications – Interaction between MPW and MPE Sites</i>	
<ul style="list-style-type: none"> <li>(ii) internal access and connections for pedestrians and vehicles including for the transfer of containers between intermodal terminal facilities and warehouses,</li> <li>(iii) public access including vehicle access between Anzac Road and Cambridge Avenue, public transport and pedestrian/cyclist connections,</li> <li>(iv) stormwater infrastructure including stormwater treatment and detention, and</li> <li>(v) landscaping and directional signage; and</li> <li>e) outline management and maintenance arrangements for the use of infrastructure on the other site.</li> </ul>	<p>continue as existing. This Proposal does not include any works to intermodal terminal or freight village facilities.</p> <p>E29d) Figure 1-4 provides an overview plan of MLP. An Urban Development Design Report (UDDR) for MPW, and an Urban Design Landscape Plan for MPE, are currently under preparation for submission to the DPIE. These two plans each present a holistic approach to landscape design for their respective sites.</p> <p>E29e) Section 3.1.2.6 and Section 3.1.2.7</p>

### 1.5.2 MPE Development

SIMTA is currently developing land to the east of the MPW Site, on the eastern side of Moorebank Avenue in accordance with Moorebank Precinct East (MPE) Concept Plan Approval MP10\_0193 and subsequent modification and staging applications. Under MPE Stage 2 Approval (SSD 7628), the 83 ha site was approved for the development of an IMEX terminal, warehousing (approximately 300,000 m<sup>2</sup> GFA) and distribution facilities with ancillary offices, a freight village (approximately 8,000 m<sup>2</sup> GFA of retail, commercial and light industrial land uses), ancillary site and operational services, stormwater, vegetation clearing, landscaping, servicing and associated works. MPE Stage 2 also included approval for construction of roads and hardstand areas, a rail link connecting the MPE Site to the SSFL, Moorebank Avenue intersection upgrades, and site subdivision. The MPW and MPE Developments will ultimately be integrated to establish a holistic use for the Precinct as an intermodal freight facility.

### 1.5.3 Relationship between the Proposal and MPE

The Proposal does not include use of infrastructure on the MPE Site nor propose any operational elements that will require integration with operations on the MPE Site.

The Proposal does not involve the intermodal terminal, any freight villages, and does not further amplify construction or operational requirements at the MPE Site. Importantly, the Proposal does not compromise any existing or future relationships between MPW and MPE.

As demonstrated throughout this EIS, this application does not result in increased cumulative construction or operational environmental impacts, other than already assessed under either MPW Stage 2 or MPE Stage 2.

Additional assessment of the interaction between the Proposal and MPE is therefore not considered to be required.

## 1.6 Planning Approval Process

The Proposal represents the third development application for the MPW Development.

Because the Proposal forms part of the development approved under the MPW Concept Plan, it is SSD in accordance with Clause 12 of *State Environmental Planning Policy (State and Regional Development SEPP)* 2011. Additionally, the estimated capital investment value (CIV) for the Proposal exceeds \$30M which would otherwise make the Proposal SSD under Schedule 1 of the SEPP.

This EIS has been prepared in support of the SSD application and approval process and to satisfy Clause 3, Schedule 2 of the EP&A Regulations.

It is noted that the subdivision element of the Proposal is non-compliant with Liverpool LEP 2008 minimum lot size requirements (see Section 3.1.2.4). Consequently, this development application also seeks an exception under Clause 4.6 to the LEP to allow the subdivision as proposed to be undertaken. The Clause 4.6 exception application is provided with this EIS as Appendix F, and is to be considered by the Planning Secretary in conjunction with this SSD EIS.

## 1.7 Structure and Content of the EIS

### 1.7.1 Overview

This EIS has been prepared in accordance with the MPW Stage 3 Scoping Report and subsequent SEARs (SSD 10431) as issued by the Secretary on 20 March 2020. In addition to addressing the SEARs, the EIS has addressed the future environmental assessment requirements (FEARs) specified in Schedule 4 of the MPW Concept Plan Approval (SSD 5066) CoC as relevant to the Proposal.

Additionally, the relevant requirements of the approval under the EPBC 2011/6086 CoC, issued 27 September 2016 have also been addressed (refer to Section 4.2.1 of this EIS).

This EIS provides an assessment of the potential environmental impacts associated with the construction and operation of the Proposal in order to mitigate potential issues and reduce any unreasonable impacts on the environment and surrounding community.

The Proposal is subject to approval in accordance with Part 4, Division 4.7 of the EP&A Act.

### 1.7.2 EIS Content Summary

An overview of the EIS is summarised below:

Executive Summary: Provides a brief overview of the Proposal, approval process, permissibility and summary of Proposal's impacts and proposed mitigation measures.

Section 1: Introduces and outlines the MPW Development and proposed development, the approval and consultation processes, proposed assessment in relation to the SEARs, and an outline of the EIS format.

Section 2: Provides a site description, including existing and surrounding land uses.

Section 3: Provides a detailed description of the Proposal including the works compound, proposed subdivision and ancillary works. Section 3 also provides justification for the Proposal and discusses permissibility and consideration of alternative options.

Section 4: Describes the planning context for the proposed development including applicability of Commonwealth, State and local legislation.

Section 5: Provides details of consultation undertaken with relevant authorities, the community and other key stakeholders.

Section 6: Describes the existing site environment.

Sections 7 to 17: Provides an assessment of the key issues against the existing environment and as relevant to the proposed development including potential environmental impacts, and proposed mitigation measures.

Section 18: Provides a summary of cumulative environmental impacts in relation to the Proposal.

Section 19: Provides an environmental risk assessment to identify potential key environmental impacts associated with the construction and operation of the Proposal.

Section 20: Provides a summary of mitigation measures in relation to the Proposal.

Section 21: Provides a conclusion summarising the justification for the Proposal, permissibility and environmental assessment undertaken for this EIS.

A list of references are provided at after Section 21.

### 1.7.3 List of Accompanying Documents and Environmental Team

This EIS was prepared by Aspect Environmental on behalf of SIMTA. Accompanying reports, documentation and plans with this EIS were provided by consultants / agency as listed in Table 1-3 and are provided in Appendices C through Q.

Table 1-3: List of Environmental Assessment Team and accompanying documentation with this EIS.

Report/Documentation	Consultant / Agency	Location within this EIS
Environmental Impact Statement	Aspect Environmental	This EIS and Appendix A
Draft Section 88B Instrument	Norton Rose Fulbright Australia	Appendix B
Plans, including Subdivision Plan and Proposal Plan	Reid Campbell Land Partners	Appendix C
SEARs	DPIE	Appendix D
Capital Investment Value Report	Rider Levett Bucknall	Appendix E
Clause 4.6 Variation	Aspect Environmental	Appendix F
Traffic and Access	Ason Group	Appendix G
Noise and Vibration	Renzo Tonin	Appendix H
Air Quality	EMM	Appendix I

Report/Documentation	Consultant / Agency	Location within this EIS
Biodiversity	Arcadis	Appendix J
Civil Works / Soil and Water Management Plan	Costin Roe	Appendix K
Geology, Soil and Contamination	JBS&G	Appendix L
Aboriginal Heritage	Artefact	Appendix M
Non-Indigenous Heritage	Artefact	Appendix N
Visual Amenity	Reid Campbell	Appendix O
Bushfire	Australian Bushfire Protection Planners (ABPP)	Appendix P
Utilities	Aurecon	Appendix Q

## 1.8 MPW Stage 3 Proposal SEARs and Relevant EIS Sections

The SEARs for the Proposal were issued by DPIE on 20 March 2020 and have been used to guide content of this EIS. The requirements have been addressed, and relevant EIS Sections and/or Appendices are identified in Table 1-4.

Table 1-4: MPW Stage 3 Proposal SEARs (SSD 10431).

Ref No.	SEARs	Relevant EIS Sections
General Requirements	<p>The Environmental Impact Statement (EIS) must be prepared in accordance with, and meet the minimum requirements of clauses 6 and 7 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (the Regulation).</p> <p>Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.</p> <p>Where relevant, the assessment of key issues below, and any other significant issues identified in the risk assessment, must include:</p> <ul style="list-style-type: none"> <li>adequate baseline data</li> <li>consideration of the potential cumulative impacts due to other developments in the vicinity (completed, underway or proposed)</li> <li>measures to avoid, minimise and If necessary, offset predicted impacts, including detailed contingency plans for managing any significant risks to the environment</li> <li>a health impact assessment of local and regional impacts associated with the development, including those health risks associated with relevant key issues</li> <li>justification for the use of any assessments prepared for MPW Concept Proposal and Stage 1 (SSD 5066) or MPW Stage 2 (SSD 7709).</li> </ul> <p>The EIS must also be accompanied by a report from a qualified quantity surveyor providing:</p> <ul style="list-style-type: none"> <li>a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Regulation) of the proposal, including details of all assumptions and components from which the CIV calculation is derived</li> <li>The report must be prepared on company letterhead and indicate applicable GST component of the CIV</li> <li>an estimate of jobs that will be created during the construction and operational phases of the proposed development</li> <li>certification that the information provided is accurate at the date of preparation.</li> </ul>	<p>Statement of Validity</p> <p>Section 19</p> <p>This EIS</p> <p>This EIS</p> <p>Section 18</p> <p>Sections 7 to 20</p> <p>Section 17.6</p> <p>Section 3.9</p> <p>Section 3.6 and Appendix E</p>

Ref No.	SEARs	Relevant EIS Sections
Key Issues		
1	<p>The EIS must address the following specific matters:</p> <p>1. <b>Statutory and Strategic Context</b> – including but not limited to:</p> <p>Addressing the relevant planning provisions, relevant environmental planning instruments, goals and strategic planning objectives in the following:</p> <ul style="list-style-type: none"> <li>• NSW State and Premier Priorities</li> <li>• A Metropolis of Three Cities – the Greater Sydney Region Plan</li> <li>• The NSW State Infrastructure Strategy 2018-2038</li> <li>• Future Transport 2056</li> <li>• NSW Freight and Ports Plan 2018-2023</li> </ul>	Section 3.3.1
	<p>2. <b>Compliance with the Approved Concept Proposal</b></p> <p>The EIS must demonstrate that the proposal is consistent with the Concept Proposal and Stage 1 approval SSD 5066, dated 3 June 2016 (as modified), including compliance with development outcomes approved under the Concept Proposal for stage1, 2 and 3 and meeting of all the requirements stipulated under Schedule 4 (Conditions to be met in future development applications).</p>	<p>This EIS</p> <p>Section 3.4</p>
	<p>3. <b>Air Quality</b> – including but not limited to:</p> <p>A comprehensive air quality impact assessment including:</p> <ol style="list-style-type: none"> <li>a) an assessment of construction related impacts including dust and wind erosion from exposed surfaces and proposed mitigation measures and safeguards to control dust generation and other airborne pollutants and to minimise impacts on nearby receptors</li> <li>b) an assessment of cumulative impacts associated with any existing development and any developments having been granted development consent, but which have not commenced</li> <li>c) an updated assessment/review of direct and indirect greenhouse gas emissions arising from this development and associated impact mitigation requirements, in reference to the Concept Plan greenhouse gas assessment.</li> </ol>	Section 9

Ref No.	SEARs	Relevant EIS Sections
	<p>4. <b>Traffic and Transport</b> – including but not limited to:</p> <p>A Traffic Impact Assessment that assesses intersection and road network impacts, including impacts on Cambridge Avenue. The traffic assessment must provide:</p> <ul style="list-style-type: none"> <li>a) details of the current daily and peak hour light and heavy vehicle, public transport, pedestrian and bicycle movements (including consideration of pedestrian and bicycle access from Casula train station to the MPW and Moorebank Precinct East (MPE) sites), and existing traffic and transport facilities provided on the road network located adjacent to the proposed development</li> <li>b) details of the proposed permanent access road and temporary loop road</li> <li>c) detailed traffic modelling analysis to assess the road network operation in consultation with Transport for NSW and identify intersection upgrade requirements (if required). This assessment must include both MPE and MPW sites under the State Significant Development (SSD) applications approved to date</li> <li>d) an assessment of operational traffic and transport impacts to the road network and transport operation, including any changes to local road connectivity and impacts on local traffic arrangements, road capacity/safety assessment and traffic capacity of the road network and its ability to cater for predicted future growth and the development traffic</li> <li>e) details of mitigation measures for the identified impacts (if any)</li> <li>f) details of proposed upgrade(s) at key intersections (if any), such as vehicle swept paths, geometry and sight lines</li> <li>g) details of future public transport requirements including bus services and bus stops</li> <li>h) an assessment of construction traffic impacts, which may include a draft Construction Traffic Management Plan including <ul style="list-style-type: none"> <li>(i) the identification of haulage routes and details of the existing traffic situation on these routes</li> <li>(ii) an assessment of construction traffic volumes (including spoil haulage/delivery of materials and equipment to the road corridor and ancillary facilities)</li> <li>(iii) a draft construction staging plan that includes the proposed construction activities and timeframe for each stage for MPE Stage 1 and 2 approvals and MPW Stage 2 approval</li> <li>(iv) an assessment of cumulative impacts associated with other construction activities, including MPE and MPW sites under the SSD applications approved to date</li> <li>(v) details of peak hour and daily truck movements, hours of operation, access arrangements at all stages of construction, including the access points to MPW Stage 2 and MPE Stage 1 and Stage 2 projects and traffic control measures for all construction activities</li> </ul> </li> </ul>	Section 7



Ref No.	SEARs	Relevant EIS Sections
	<ul style="list-style-type: none"> <li>(vi) an assessment of construction road safety at key</li> <li>(vii) intersections and locations subject to pedestrian / vehicle / bicycle conflicts</li> <li>(viii) details of any required temporary cycling and pedestrian access during construction</li> <li>(ix) details of access arrangements for workers to / from the site, including pedestrian and public transport linkages, emergency vehicles and service vehicle movements</li> <li>(x) details of mitigation measures for the identified impacts (if any).</li> </ul> <p>i) be prepared in accordance with: Guide to Traffic Generating Developments (Roads and Maritime Services), EIS Guidelines — Road and Related Facilities (DoPI), NSW Planning Guidelines for Walking and Cycling and Guide to Traffic Management Part 12: Traffic Impacts of Development (AUSTROADS).</p>	
5.	<p><b>Noise and Vibration</b> – including but not limited to:</p> <p>An updated assessment of noise and vibration impacts. The assessment must:</p> <ul style="list-style-type: none"> <li>a) assess construction noise and vibration impacts associated with construction of the proposal, including impacts from construction traffic and ancillary facilities. The assessment must identify sensitive receivers and assess construction noise/vibration generated by representative construction scenarios focusing on high noise generating works. Where work hours outside of standard construction hours are proposed, clear justification and detailed assessment of these work hours must be provided, including alternatives considered, mitigation measures proposed and details of construction practices, work methods, compound design, etc</li> <li>b) assess operational noise and vibration impacts and identify feasible and reasonable measures proposed to be implemented to minimise noise impacts from use of the facility</li> <li>c) include a framework for on and off-site noise monitoring during operation</li> <li>d) an assessment of cumulative impacts associated with any existing development and any developments having been granted development consent, but which have not commenced</li> <li>e) be prepared in accordance with: Noise Policy for Industry (EPA, 2017), Interim Construction Noise Guideline (EPA, 2009), Assessing Vibration: a technical guide (EPA, 2006), and the NSW Road Noise Policy (EPA 2011).</li> </ul>	Section 8
6.	<p><b>Infrastructure Upgrades/Contributions</b> – including but not limited to the following:</p> <ul style="list-style-type: none"> <li>a) an assessment of the impacts of the project on local infrastructure, demonstrating that satisfactory arrangements are in place to support and mitigate any impacts of MPW Stage 3 including applicable costs, timing and approval pathways for such measures</li> <li>b) consideration of any relevant Council's Developer Contributions Plan (or equivalent document requiring developer contributions)</li> </ul>	Section 4.6

Ref No.	SEARs	Relevant EIS Sections
	c) consideration of the need to extend the Route 901 bus service.	
	<p>7. <b>Soil and Water</b> – including but not limited to:</p> <p>An assessment of soil and water impacts for the site. The assessment must:</p> <ul style="list-style-type: none"> <li>a) assess impacts on surface and groundwater flows, quality and quantity</li> <li>b) assess flooding impacts and characteristics, to and from the project, with an assessment of the potential changes to flooding behaviour (levels, velocities and direction) and impacts on bed and bank stability, through flood modelling, including: <ul style="list-style-type: none"> <li>(i) hydraulic modelling for a range of flood events</li> <li>(ii) description, justification and assessment of design objectives (including bridge, culvert and embankment design)</li> <li>(iii) an assessment of afflux and flood duration (inundation period) on property;</li> <li>(iv) consideration of the effects of climate change, including changes to rainfall frequency and/or intensity, including an assessment of the capacity of stormwater drainage structures</li> <li>(v) relevant provisions of the NSW Floodplain Development Manual 2005</li> </ul> </li> <li>c) assess effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas, water dependent fauna and flora (including Groundwater Dependent Ecosystems), having regard to advice received from EESG (see Attachment 1)</li> <li>d) describe any mitigating effects of the proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options</li> <li>e) identify proposed monitoring of hydrological attributes</li> <li>f) address drainage issues associated with the development / site, including the incorporation of Water Sensitive Urban Design measures, stormwater and drainage infrastructure such as on-site detention systems to ensure peak discharges and flow velocities post development must not exceed existing peak flows and velocities</li> <li>g) undertake an assessment of surface water quality during construction (including reference to water quality objectives for the relevant catchment where objectives have been determined), including an identification of works that may impact water quality, and a summary of proposed monitoring and mitigation measures in accordance with Managing Urban Stormwater – Soils &amp; Construction Volume 1 2004 (Landcom) and Volume 2 (DECC 2008)</li> </ul>	Section 11 and Section 12

Ref No.	SEARs	Relevant EIS Sections
	<ul style="list-style-type: none"> <li>h) consideration of stormwater quality and management (including monitoring) during use of the site with the objective of maintaining or improving existing water quality taking into account the Water Quality Objectives</li> <li>i) consider whether the existing sewerage system can cater for the proposal and whether environmental performance of the existing system will be impacted</li> <li>j) identify and assess the soil characteristics and properties that may impact or be impacted by the project, including acid sulfate soils, salinity, erodibility, unstable or unsuitable ground and unrippable rock</li> <li>k) include a bulk earthworks strategy detailing the volume of spoil to be extracted from the site, planned reuse and amount of material to be imported.</li> </ul>	
8.	<p><b>Aboriginal Heritage</b> including but not limited to:</p> <p>An assessment of the heritage impacts of the proposal. The assessment must:</p> <ul style="list-style-type: none"> <li>a) identify and describe the Aboriginal cultural heritage values that exist across the whole area that would be affected by the development and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010), and guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011)</li> <li>b) where impacts are identified, undertake and document consultation with Aboriginal people in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR</li> <li>c) assess and document impacts on Aboriginal cultural heritage values in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to the Environment, Energy and Science Group in the Department of Planning, Industry and Environment.</li> </ul>	Section 13
9.	<p><b>Historic Heritage</b> including but not limited to:</p> <p>An assessment of the heritage impacts of the proposal. The assessment must consider impacts to historic heritage. For any identified impacts, the assessment must:</p> <ul style="list-style-type: none"> <li>a) include a statement of heritage impact</li> <li>b) be undertaken by a suitably qualified heritage consultant(s)</li> </ul>	Section 14

Ref No.	SEARs	Relevant EIS Sections
	<p>c) outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the measures). Mitigation measures should include (but not be limited to) photographic archival recording and adaptive re-use of buildings or building elements on site).</p> <p><b>Note:</b> Where historical excavation is proposed, the heritage consultant undertaking the assessment must meet the NSW Heritage Council's Excavation Director criteria.</p>	
10.	<p><b>Visual Amenity, Urban Design and Landscaping</b> – including but not limited to:</p> <ul style="list-style-type: none"> <li>a) an assessment of visual impacts</li> <li>b) consideration of lighting impacts in the local area, analyse and describe the contribution and impacts of the proposed facility on light spill at the local scale and to sensitive receivers</li> <li>c) include details of hard and soft landscaping treatment and design (including details of suitable landscaping incorporating endemic species)</li> <li>d) ensure the layout and design of the development has regard to the surrounding vehicular, pedestrian and cycling networks</li> <li>e) propose management/mitigation measures to address the visual impact of the proposal.</li> </ul>	Section 15
11.	<b>Contamination</b> – including but not limited to details of remediation to be or already completed on site.	Section 12
12.	<b>Hazards and Risks</b> – including but not limited to a preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33 (DoP 2011).	Section 16
13.	<b>Masterplan</b> – including but not limited to consideration of the inter-relationships between the Moorebank Precinct West site with surrounding land uses, in particular the Moorebank Precinct East site. Connectivity between sites such as container, vehicle and pedestrian movements should also be considered (if proposed, or likely to occur in the future).	This EIS and accompanying plans
14.	<p><b>Biodiversity</b></p> <ul style="list-style-type: none"> <li>a) biodiversity impacts related to the proposal and the preparation of a Biodiversity Assessment are to be addressed in accordance with the requirements of the Biodiversity Conservation Act 2016</li> <li>b) where a Biodiversity Development Assessment Report (BDAR) is not required, engage a suitably qualified person to assess and document the flora and fauna impacts related to the proposal.</li> </ul>	Section 10

Ref No.	SEARs	Relevant EIS Sections
	<p><b>Note:</b> A BDAR waiver under section 7.9 has been granted for the proposed development (being Moorebank Precinct West Stage 3 – SSD 10431). The application, therefore, does not need to be accompanied by a BDAR, where made in accordance with the requirements of the waiver.</p>	
15.	<p><b>Waste</b> – including but not limited to:</p> <p>An assessment of liquid and/or non-liquid waste generated on the site, how it will be identified, quantified, classified, documented and disposed of. The assessment must also include a description of measures to be implemented to manage waste in accordance with the waste hierarchy.</p> <p>This assessment must include waste management measures to ensure that the proposal considers the aims, objectives and guidelines in the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021.</p>	Section 17.4
16.	<p><b>Bushfire Management</b> – including but not limited to:</p> <p>a) an assessment against the Planning for Bushfire 2006 (NSW Rural Fire Service)</p> <p>b) demonstrate that bushfire asset protection zones do not impact on biodiversity offset areas and the Georges River riparian corridor.</p>	Section 17.1
17.	<p><b>Property and Infrastructure</b> – including but not limited to:</p> <p>a) assessing the impacts on affected properties and land uses, including impacts relating to access, land use, business activities, future development potential, and property acquisition</p> <p>b) assessing the service demand, capacity and augmentation of existing and proposed utilities and infrastructure, including any relocation as a result of the development.</p>	<p>Section 17.2</p> <p>Section 17.3</p>
18.	<p><b>Staging</b> – provide details of staging which:</p> <p>a) describes how the development will relate to other future development stages, including those on the MPE site</p> <p>b) describes how future estate infrastructure will be delivered in conjunction with future warehouse construction</p> <p>c) includes an indicative construction program for both MPW and MPE</p> <p>d) documents how compliance with the requirements of conditions in Schedule 4 of the MPW Concept Plan (SSD 5066) will be achieved</p>	Section 3.7

Ref No.	SEARs	Relevant EIS Sections
	e) demonstrates that estate infrastructure will be delivered prior to operation of the intermodal terminal facility, warehousing delivered in each stage, and the freight village.	
	<b>19. Ecologically Sustainable Development (ESD)</b>  The EIS must detail how the development will incorporate ESD principles in the design, construction and ongoing operation phases of the development.	Section 17.5
	<b>20. Subdivision</b> – provide details of subdivision which:	Section 1.5
	a) assess compliance with the minimum lot size specified in the Liverpool Local Environmental Plan 2008, having regard to advice received from Council (see Attachment 1) b) demonstrate compliance with Condition 15 of SSD 5066 c) include a subdivision plan showing completed estate works including but not limited to site services, internal roads, maintenance access roads, pedestrian paths, landscaping, lighting of common areas, provision for emergency services including for firefighting, onsite detention basins and stormwater treatment systems d) include a detailed management and maintenance program for estate infrastructure e) nominate a single entity responsible for implementation of the management and maintenance program.	Section 3.1.2
Plans and Documents	<p>The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Environmental Planning and Assessment Regulation 2000.</p> <p>In addition, the EIS must include the following:</p> <ul style="list-style-type: none"> <li>• site layout plan, including carparking</li> <li>• architectural drawings (floor plans, elevations, sections)</li> <li>• site survey plan, showing existing levels, location and height of existing and adjacent structures/buildings</li> <li>• swept path analysis</li> <li>• site analysis plan</li> <li>• landscape plan, including any public domain works</li> <li>• indicative precinct layout plan (illustrating the layouts of Moorebank Precinct West and Moorebank Precinct East)</li> <li>• mapping of: flood prone land, flood planning area and hydraulic categorisation; acid sulfate soils (classes); rivers, streams, wetlands and estuaries</li> <li>• groundwater; groundwater dependent ecosystems; and proposed intake and discharge locations</li> <li>• preliminary construction management plan, inclusive of a construction traffic management plan</li> </ul>	Figures and plans throughout this EIS and accompanying plans and documents within the attached Appendices

Ref No.	SEARs	Relevant EIS Sections
	<ul style="list-style-type: none"> <li>• geotechnical and structural report</li> <li>• noise contour maps</li> <li>• signage details</li> <li>• schedule of materials and finishes.</li> </ul>	
Consultation	<p>During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners</p> <p>In particular you must consult with:</p> <ul style="list-style-type: none"> <li>• local, State or Commonwealth government authorities, including the: <ul style="list-style-type: none"> <li>• Liverpool City Council</li> <li>• Campbelltown City Council</li> <li>• Environment Protection Authority</li> <li>• Environment, Energy and Science Group of the Department of Planning, Industry and Environment (former Officer of Environment and Heritage)</li> <li>• Transport for NSW</li> <li>• Regions, Industry, Agriculture and Resources Group of the Department of Planning, Industry and Environment – Fisheries (Department of Primary Industries)</li> <li>• Water Group of the Department of Planning, Industry and Environment</li> <li>• Department of Premier and Cabinet – Heritage NSW</li> <li>• NSW Rural Fire Service</li> <li>• NSW Health</li> </ul> </li> <li>• service and infrastructure providers: <ul style="list-style-type: none"> <li>• Transport for NSW (Roads and Maritime Services Division)</li> <li>• Sydney Water Corporation</li> <li>• Endeavour Energy</li> <li>• Jemena</li> <li>• Telstra</li> <li>• AGL Upstream Investments Pty Ltd</li> </ul> </li> <li>• specialist interest groups, including Local Aboriginal Land Councils</li> <li>• the public, including community groups and adjoining and affected landowners.</li> </ul>	Section 5

Ref No.	SEARs	Relevant EIS Sections
	The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	
Further consultation after 2 years	If you do not lodge a development application and EIS for the development within 2 years of the issue date of these SEARs, you must consult further with the Secretary in relation to the preparation of the EIS.	Noted
References	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this proposal.	



## 2. Site Context

### 2.1 Regional Context

The Proposal Site is located within the Liverpool Local Government Area (LGA) in Sydney's south-west sub-region, 2.5 km from the Liverpool city centre, 27 km south-west of the Sydney central business district and approximately 26 km west of Port Botany (Figure 2-1).

The M5 Motorway provides the main road link between the Proposal Site and the key employment and industrial areas within the west and south-western Sydney sub-regions. The M5 Motorway connects with the M7 Motorway to the west, providing access to the Greater Sydney Metropolitan Region and the NSW road network. Similarly, the M5 Motorway is the principal connection to Sydney's north and north-east via the Hume Highway.

The Proposal site freight catchment area can be broadly defined as Sydney's industrial west, Liverpool LGA and Sydney south-west. It is bordered by the M4/Great Western Highway to the north, the Hume Highway to the east and the Northern Road to the west.

### 2.2 Local Context

The Proposal site is located approximately 17 km south of the Parramatta central business district, 5 km east of the M5/M7 Interchange, 2 km from the Main North-South Rail Line and SSFL, and 600 m from the M5 Motorway (Figure 2-1 and Figure 2-2).

Most of the land surrounding the Proposal site is owned by either the Commonwealth or SIMTA and comprises:

- The MPE Site, owned and operated by SIMTA
- The Defence Joint Logistics Unit (DJLU) to the immediate north of the MPE Site
- The MPW Site, formerly the School of Military Engineering (SME), on the western side of Moorebank Avenue
- To the south, the Sydney Trains East Hills Rail Corridor
- The Holsworthy Military Reserve, further to the south of the Sydney Trains East Hills Rail Corridor
- Residual Commonwealth Land (known as the Boot Land) biobanking site, to the immediate east and south of the MPE Site
- Georges River to the immediate west, separating the site from the SSFL, Sydney Trains Macarthur Rail Corridor and the residential area of Casula.

The nearest residential suburbs located near the Proposal Site include:

- Wattle Grove – approximately 1.3 km to the east
- Moorebank - approximately 2.5 km to the north-east
- Casula - approximately 1 km to the west
- Glenfield – approximately 2 km to the south-west.

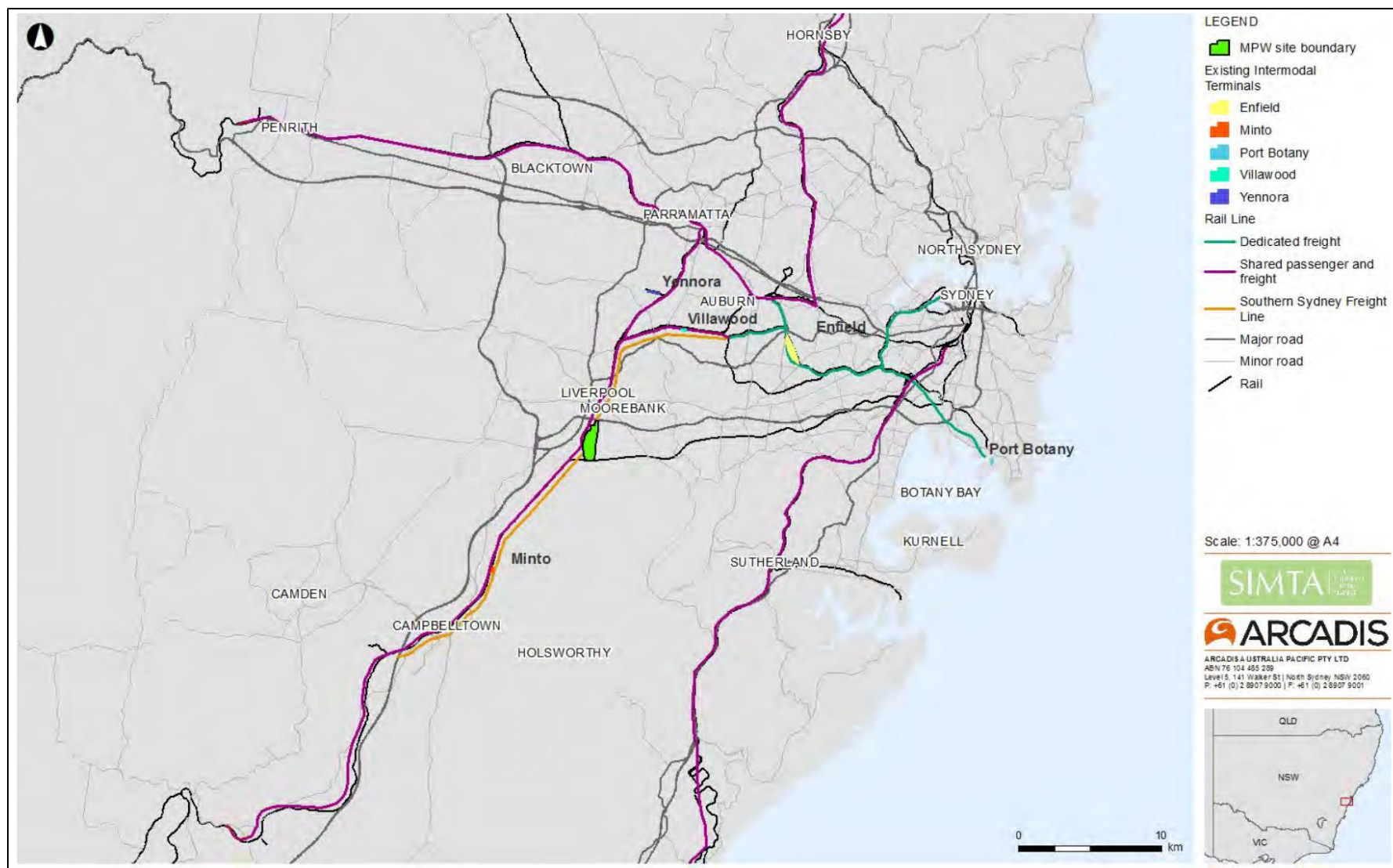


Figure 2-1: Moorebank – Regional Context (Arcadis, 2016)



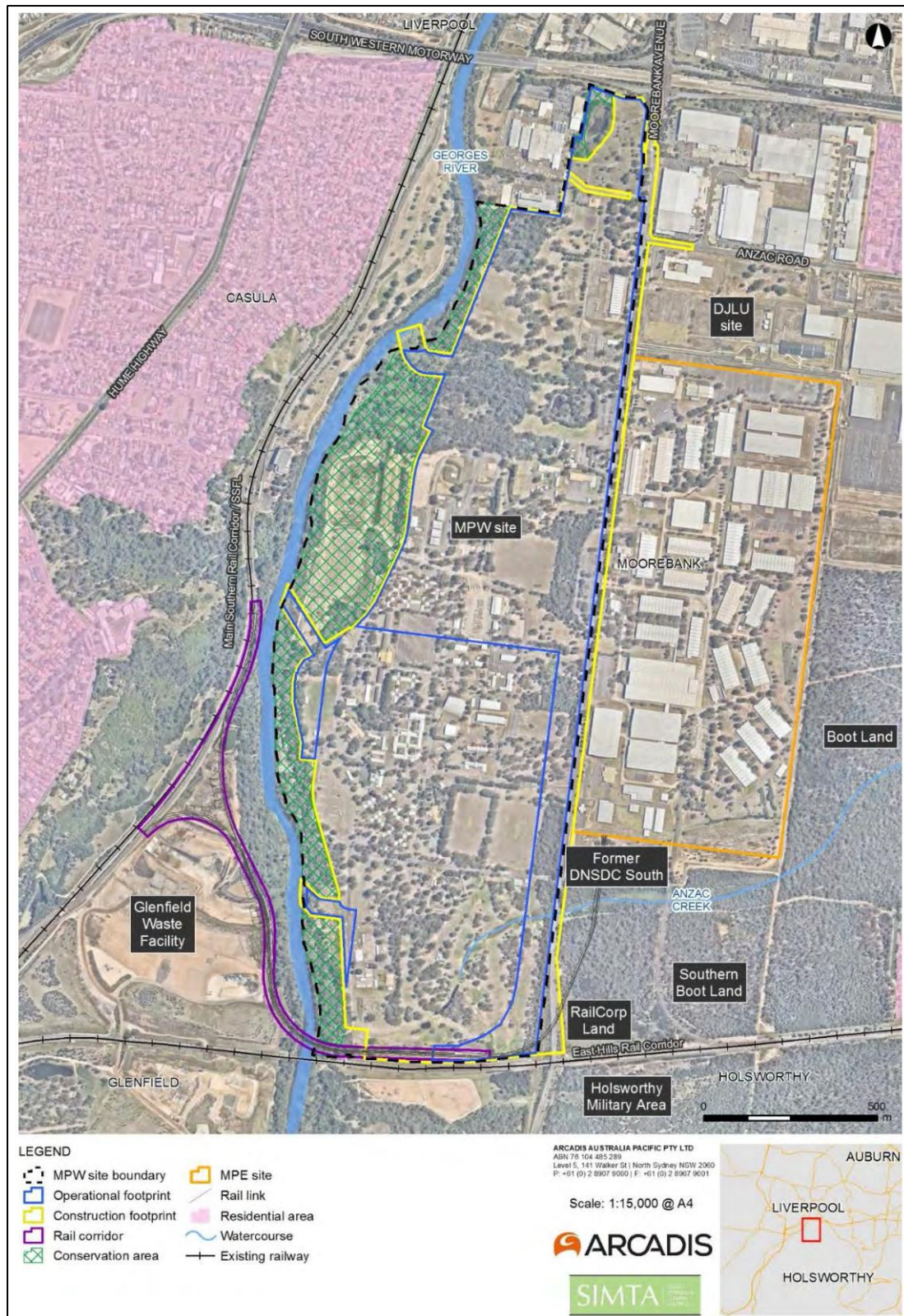


Figure 2-2: Moorebank – Local Context (Arcadis, 2016)

The Proposal Site is located near the Moorebank Industrial Area (including, but not limited to, the Yulong, Amiens and ABB Sites), Warwick Farm to the north, Chipping Norton to the north-east, Prestons to the west, and Glenfield and Ingleburn to the south-west.

The Moorebank Industrial Area is the closest industrial precinct, comprising around 200 ha of industrial development, the majority of which is located to the north of the M5 Motorway between Newbridge Road, the Georges River and Anzac Creek. The Moorebank Industrial Area supports a range of industrial and commercial uses including freight and logistics, heavy and light manufacturing, offices and business park developments.

### 2.3 Site Description

The Proposal Site includes nearly 200 ha of Commonwealth land which forms Lot 1 in DP 1197707, which is wholly owned by the Commonwealth. The Proposal Site also contains Lot 100 DP 1049508 (owned by the Commonwealth) located north of Bapaume Road and west of Moorebank Avenue. For reference, the subdivision component of the proposal covers the entire MPW Site, while the works compound and ancillary infrastructure is confined to the southern portion of the site.

The key existing features of the Proposal Site are detailed below.

- Relatively flat topography, with the western edge sloping down towards the Georges River which forms the western boundary. The natural MPW Site landform has already been altered under previously approved consents for site development works.
- The developable portion of the MPW Site has been cleared and remediated in preparation for construction of MPW Stage 2 (approved by the IPC on 11 November, 2019).
- Construction offices to facilitate already approved site works.
- Earthworks, soil and fill material stockpiled across the site under previous consents.
- Several linked ponds located in the south-west corner of the site, on the former golf course, that link to Anzac Creek, an ephemeral tributary of the Georges River.
- An existing stormwater system comprising pits, pipes and open channels.
- Native vegetation bordering the western edge of the developable area.
- A riparian corridor of the Georges River located on the west of the site contains a substantial corridor of native and introduced vegetation. The riparian corridor provides a wildlife corridor and a buffer for the protection of soil stability, water quality and aquatic habitats. This area has been defined as a conservation area as part of the MPW Concept Plan consent and is outside the developable area, and will form its own allotment under the proposed subdivision.
- Direct frontage to Moorebank Avenue, which is a publicly used private road south of Anzac Road, and a publicly owned and used road north of Anzac Road.
- The rail link (MPE Stage 1) which is located along the southern boundary of the site, linking the MPE Site to the SSFL.

Further details on the existing environmental conditions of the Proposal Site and surrounds by specific assessment aspect are provided in Sections 7 to 17.

## 2.4 Property Ownership and Rights

The MPW Site, which includes the Proposal Site, is owned by the Commonwealth and leased by SIMTA.

Lot 1 in DP 1197707: located west of Moorebank Avenue, wholly owned by the Commonwealth.

Lot 100 in DP 1049508: located north of Bapaume Road and west of Moorebank Avenue, wholly owned by the Commonwealth.

Necessary property rights would be established for the construction and operation of the Proposal.

The construction and operation of the rail link connection, including associated utilities and infrastructure, does not form part of the Proposal.

## 3. The Proposal

### 3.1 Description of the Proposal

The Proposal represents Stage 3 of the MPW Development. The key components of the Proposal are:

- Establishment of a works compound in the southern portion of the MPW Site
- Progressive subdivision of MPW Site into nine (9) allotments
- Import of additional clean fill up to 16.6 m AHD
- Ancillary works including access roads, earthworks, utilities installation/connection, stormwater and drainage infrastructure, signage and landscaping.

An overview of the Proposal is shown in Figure 3-1, Figure 3-2, Figure 3-3 and Figure 3-4. This layout has been designed to be consistent with the MPW Concept Plan Approval.



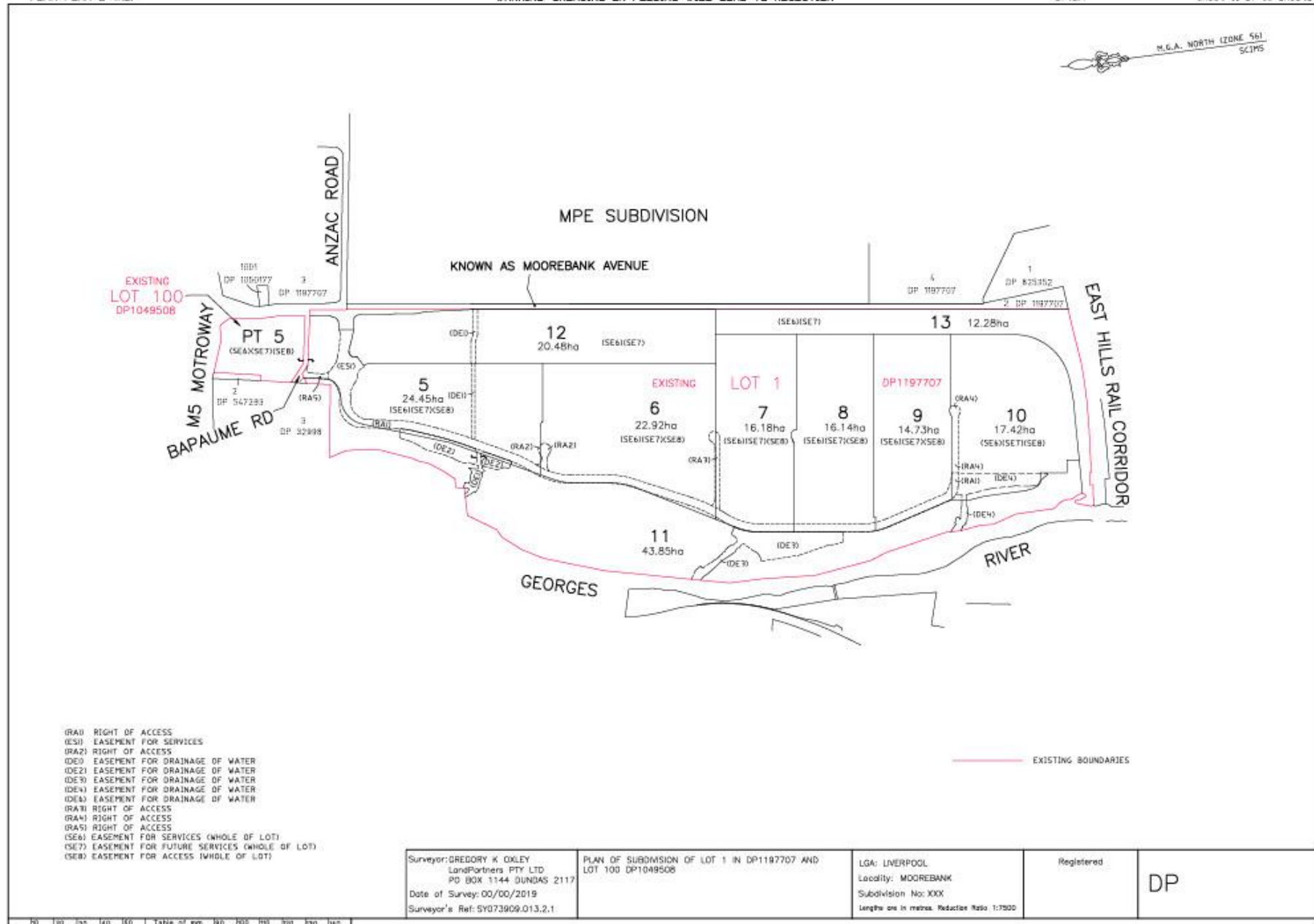


Figure 3-1: Proposed draft plan of subdivision of Lot 1 in DP 1197707 (Land Partners, 2020)

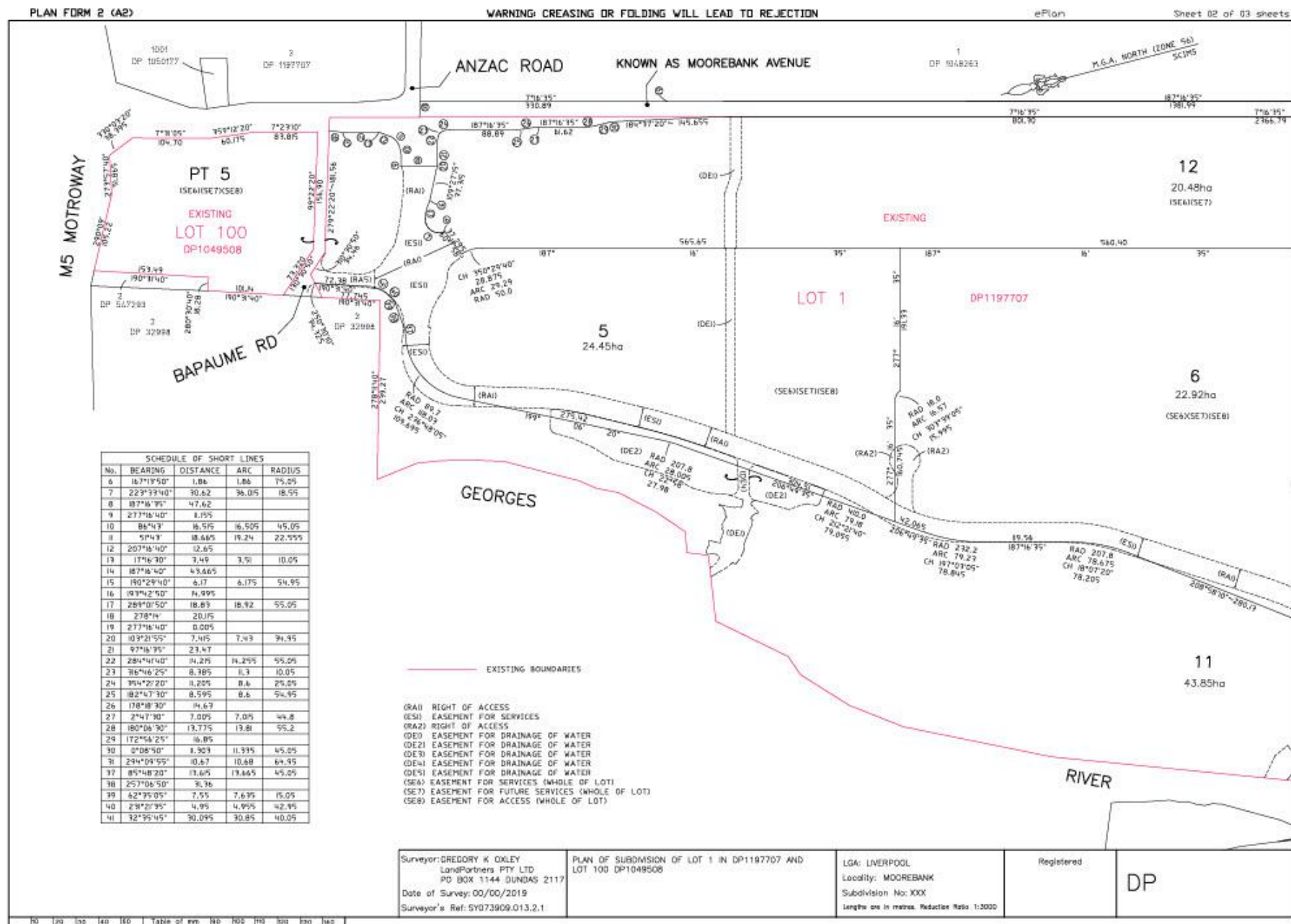


Figure 3-2: Proposed draft plan of subdivision of Lot 1 in DP 1197707 (northern portion of MPW Site) (Land Partners, 2020)



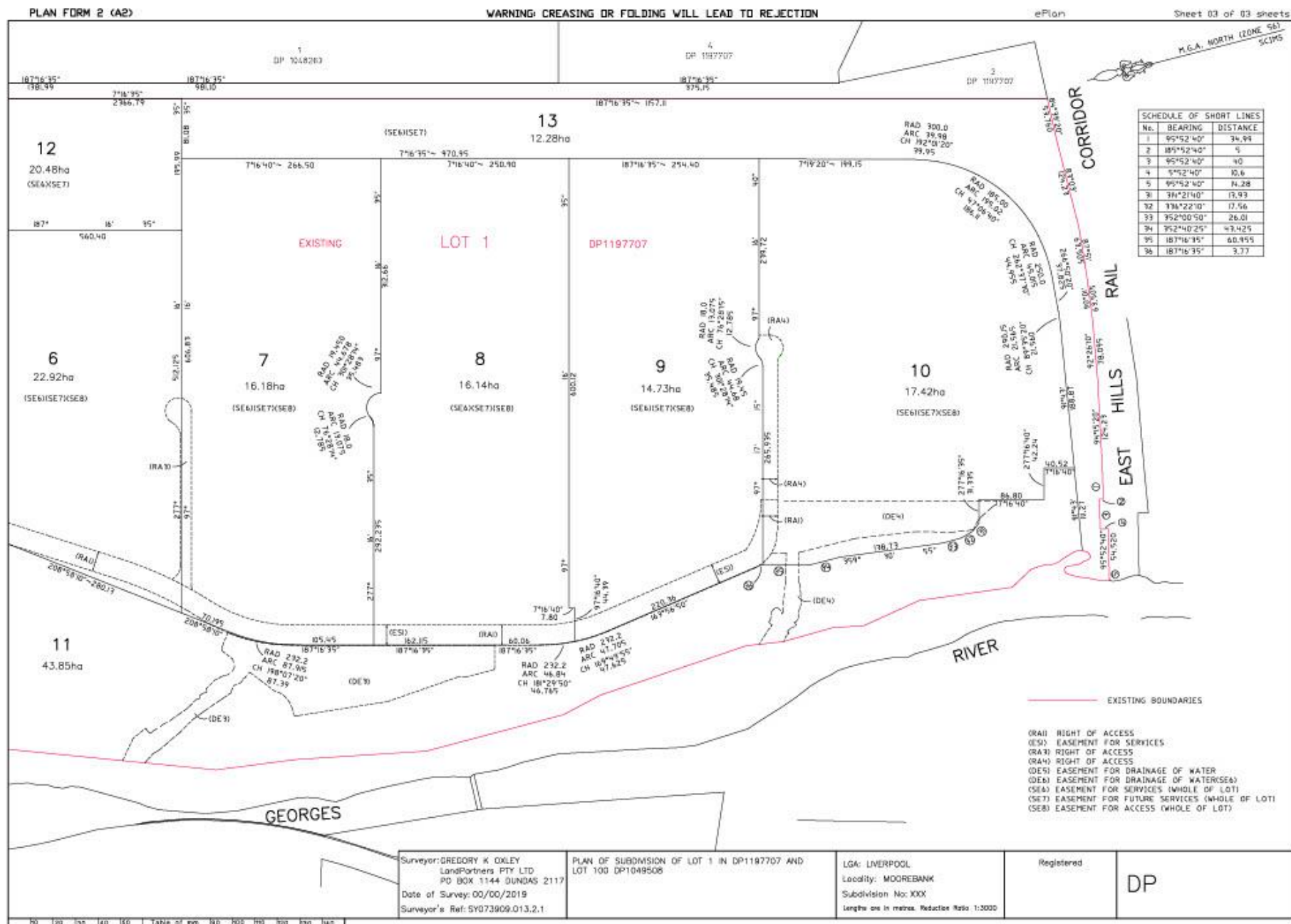


Figure 3-3: Proposed draft plan of subdivision of Lot 1 in DP 1197707 (southern portion of MPW Site) (Land Partners, 2020)

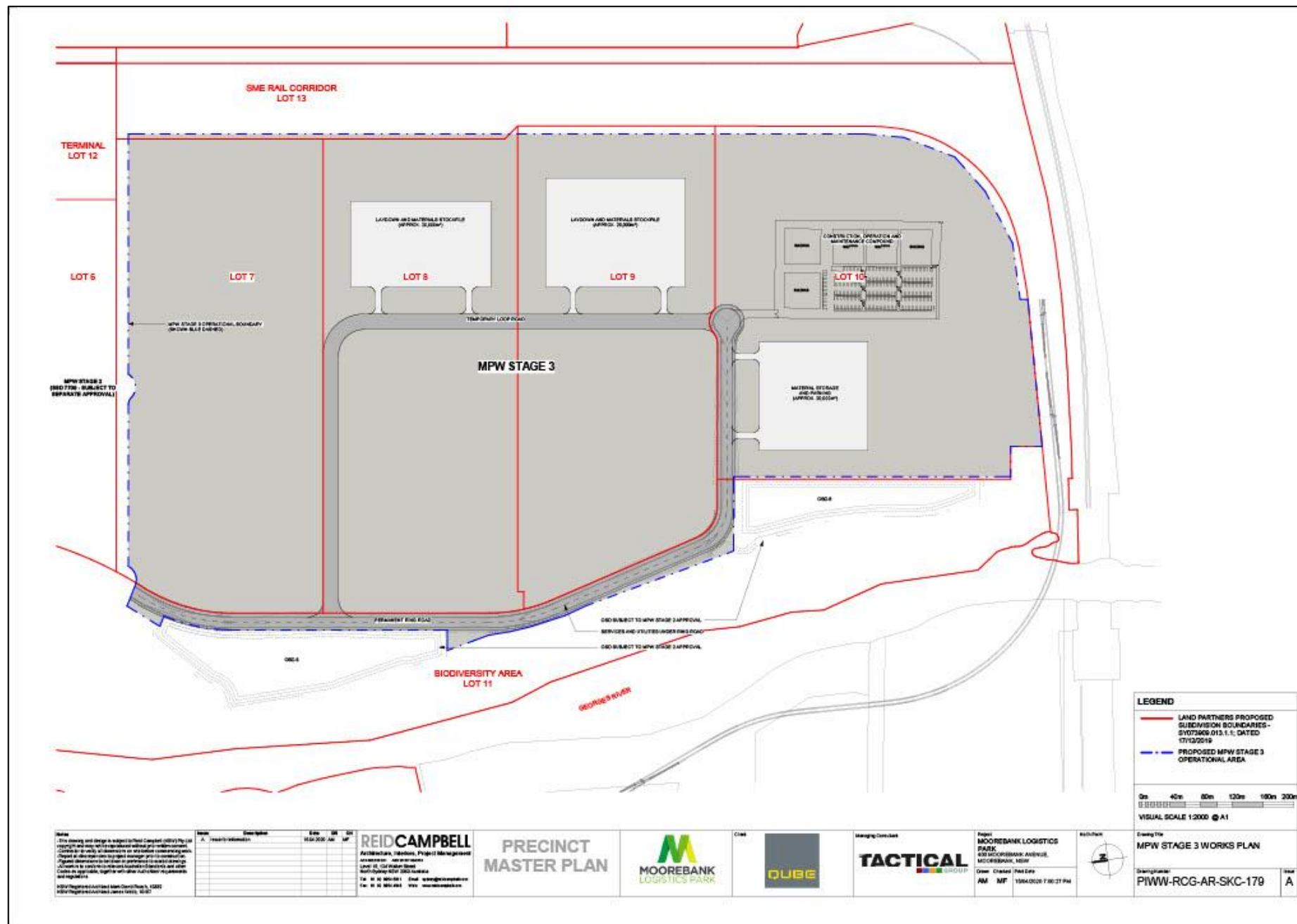


Figure 3-4: Plan of proposed development works in southern portion of site (Reid Campbell, 2020).

### 3.1.1 Works Compound

#### 3.1.1.1 Design concept

The design aspects of the works compound include:

- The main compound (approximately 20,000 m<sup>2</sup>) to be located in the south-eastern portion of the MPW Site (eastern portion of proposed Lot 10), including provision for the construction, operation and maintenance for residual early works (MPW Stage 1), MPW Stage 2 works, and prospective works for the balance of the MPW Site (subject to future application).
- Hardstand, laydown and materials stockpile areas in the eastern portion of proposed Lot 8 (approximately 20,000 m<sup>2</sup>) and proposed Lot 9 (approximately 25,000 m<sup>2</sup>) to support MPW Stages 1 and 2, and future MPW construction, operations and maintenance.
- A materials storage area and car parking (approximately 20,000 m<sup>2</sup>) in the south western portion of the MPW Site (western portion of proposed Lot 10).
- Permanent access road and temporary loop road (generally located in the south-eastern portion of the MPW Site).
- Associated office, staff amenities, meeting and training rooms, staff kitchen and temporary café facilities (to be located within the works compound area in the eastern portion of proposed Lot 10).
- Services and utilities for the works compound and storage areas to be located within the permanent loop road.
- Appropriate landscaping, stormwater and drainage works.
- Appropriate signage for business and operation purposes.

Light vehicles would park in the allocated parking area on proposed Lot 10 and construction and heavy vehicles would progress to the materials stockpile, hardstand, and/or works compound areas as required. Heavy vehicle parking may be within a nominated hardstand area or external to it based on frequency of use, pavement protection and accessibility.

The works compound is intended to be temporary in nature and is required to support primarily MPW construction works. As MPW Stage 2 and MPE developments progress from construction to operational status the works compound may be required to provide support to these respective developments in advance of facilities being established on the respective sites as an interim measure. It is likely that there would be spatial limitations for storage and handling of materials on the MPE and MPW 2 footprints as the final warehouses are constructed. Similarly, maintenance and workshop facilities may not be finalised within the freight village, by way of example.

The existing construction compound and materials storage and hardstand areas in the northern portion of the MPW Site will be decommissioned in response to MPW Stage 2 warehouse construction.

The proposed MPW Stage 3 works compound would also be decommissioned to accommodate completion of MPW Site warehouse, terminal facility and infrastructure construction works.

The Proposal is consistent with the intent of the original Concept Plan Approval, in that it will not compromise the intent for the site to be an integrated intermodal facility.

### 3.1.1.2 Establishment of Works Compound

The Proposal would involve the following construction works in relation to the establishment of the works compound, hardstand, laydown, parking, and materials stockpile and storage areas:

- Import of approximately 280,000 m<sup>3</sup> of unconsolidated clean fill for compaction up to final land level and approximately 540,000 m<sup>3</sup> of structural fill for warehouse pad completion.
- Installation of services and utilities:
  - water services including trenched potable pipework and fittings and fire hydrant pipework and fittings to enable a minimum 600 mm cover.
  - light and power including trenched light cabling and low and high voltage electrical works and services to enable a minimum 600 mm and 750 mm cover respectively.
  - local substation and associated high voltage cabling connections.
  - sewer drainage trenched to enable a minimum 1,300 mm cover.
  - communications trenched conduit and cabling to enable a minimum 600 mm cover, with associated telecommunications pits.
- Construction of permanent and temporary roads including footpaths, kerbing and guttering, landscaping, line marking and stormwater drainage to existing OSD basin (OSD 8). Permanent roadworks would connect to the MPW Stage 2 western perimeter road as well as to Chatham Avenue while it remains. A temporary road access connecting to the Moorebank Avenue diversion road may be required where Chatham Avenue is no longer able to be accessed.
- Installation of permanent and temporary street lighting comprising 10.5 m high poles.
- Compaction and adjustment of site levels to laydown, materials stockpile, compound/amenities and car parking areas.
- Construction of site accommodation comprising up to 16 x 40 ft site offices, lunch room, toilets, showers, first aid rooms, storage containers, covered walkways, connection of light, power, drainage and sewerage and compound fencing and gates.
- Installation of hardstand and stockpile area fencing and gates.
- Installation of compound temporary landscaping, directional and control signage.

Works on site would not necessarily be undertaken precisely in the order identified above.

There may be some adjustments to the final location and size of supporting construction facilities to reflect progression of construction or site characteristics encountered during the undertaking of MPW Stage 2 bulk earthworks.

### 3.1.1.3 Traffic and Access

The MPW Site would generally continue to be accessed via an entry point from Moorebank Avenue in the northern portion of the MPW Site, with the perimeter access road continuing to the west and then south along the boundary of the developable area. A secondary access to the MPW Site would remain available from Chatham Avenue, although this access may be removed during later stages of MPW construction. As identified in the description of works above, a temporary road access connecting to the Moorebank Avenue diversion road may be required where Chatham Avenue is no longer able to be accessed.

The works compound would be accessed by a permanent ring road to be constructed as an extension to the existing MPW Stage 2 perimeter road adjacent to the Site's western boundary and continuing south and then east between proposed Lots 9 and 10. The permanent ring road would provide direct access to the works compound, the material storage and parking area (on proposed Lot 10), and the hardstand, laydown and materials stockpile area on proposed Lot 9. The temporary loop road would be constructed between proposed Lots 7 and 8, and across the central portions of proposed Lots 8 and 9 to provide circuit access route (refer to Section 3.1.3.2 for further details).

Traffic to access the compound areas would include heavy vehicles, construction and maintenance equipment transports and light vehicles including staff, service and emergency services vehicles.

#### 3.1.1.4 Construction Workforce and Hours

It is estimated that there would be between 30 to 100 personnel required during peak construction works and as per SSD 7709 (CoC B125), SSD 5066 (CoC D5) and SSD 7628 (CoC B125), construction works would be undertaken during the following standard hours:

- 7:00 am to 6:00 pm Mondays to Fridays, inclusive
- 8:00 am to 1:00 pm on Saturdays
- At no time on Sundays or public holidays.

Additional provisions for construction hours of work would include:

- Unless otherwise permitted, highly noise intensive works would only be undertaken:
  - between the hours of 8:00 am to 5:00 pm Monday to Friday;
  - between the hours of 8:00 am to 1:00 pm Saturday; and
  - in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block.
- Out of hours construction would be undertaken when:
  - works are no more than 5 dB above rating background level at any residence in accordance with the *Interim Construction Noise Guideline* (DECC, 2009);
  - a negotiated agreement has been arranged with affected receivers, or works are agreed to by the Planning Secretary;
  - for the delivery of materials required outside these hours for safety reasons;
  - it is required in an emergency situation or
  - they are undertaken in accordance with an Out-of-Hours Work Protocol.

Some construction works are likely to be undertaken outside of standard construction hours under an Out-of-Hours Work Protocol, where they do not meet the first four of the criteria identified above, and could include:

- importation of clean fill to the site between 6:00 am to 10:00 pm Mondays to Fridays, and 7:00 am to 6:00 pm Saturdays;
- works associated with the upgrade of Moorebank Avenue/Anzac Road intersection; and
- services and utilities connections.

Workers are expected to most likely access the site via private vehicle.

### 3.1.2 Subdivision

#### 3.1.2.1 Subdivision Overview

It is intended that the Proposal Site would be progressively subdivided as part of this application into nine (9) new allotments (Figure 3-1). The proposed subdivision would maintain connectivity across the intermodal precinct including vehicle and pedestrian access between all intermodal elements, utility services and drainage. It would facilitate tenant leasing of individual warehouses by enabling the registration of long term leases of buildings and facilitating the establishment of, and responsibilities for, common areas and easements. The proposed subdivision would also separate the freight terminal, rail connection, warehousing and distribution activities and the conservation area in accordance with the approved SSD 5066, as modified.

Whilst the proposed Lots 8, 9 and 10 are intended to initially be used to facilitate works compound activities, the future intended use for proposed Lots 8, 9 and 10 is for warehousing and distribution, subject to future development application(s) in accordance with the approved SSD 5066.

The proposed subdivision:

1. provides a subdivision plan and supporting documentation providing for access and services, including drainage works, required to maintain internal connections and interdependencies between the individual intermodal functions within the development site (refer to Appendix C);
2. identifies the entity(s) responsibility for the delivery and ongoing maintenance within the subdivided intermodal site (refer to Table 3-2, Section 3.1.2.6 and Section 3.1.2.7); and
3. provides details of the overarching operational management of the site following subdivision, to be included on approval within an updated operational management plan (OEMP) and/or OEMP sub-plans.

The proposed subdivision is consistent with the intent of the original Concept Plan Approval, in that it will not compromise the intent for the site to be an integrated intermodal facility.

#### 3.1.2.2 SEARs

Table 3-1 identifies the SEARs as they relate to subdivision, and where these requirements have been met within this Section or elsewhere in this EIS.

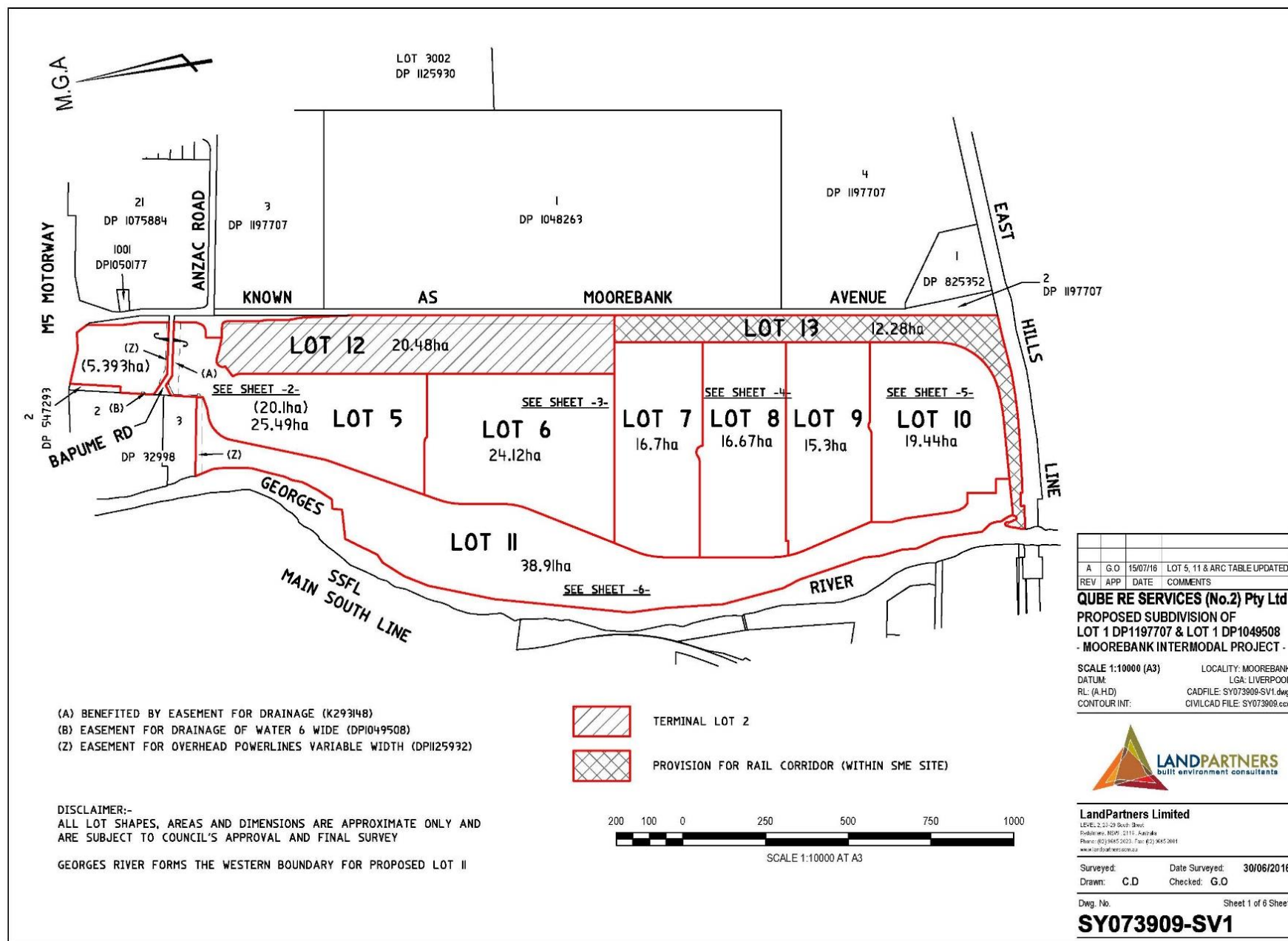


Table 3-1: SEARs for the Proposal relating to subdivision.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 20	<p>20. <b>Subdivision</b> – provide details of subdivision which:</p> <ul style="list-style-type: none"> <li>a) assess compliance with the minimum lot size specified in the Liverpool Local Environmental Plan 2008, having regard to advice received from Council (see Attachment 1)</li> <li>b) demonstrate compliance with Condition 15 of SSD 5066</li> <li>c) include a subdivision plan showing completed estate works including but not limited to site services, internal roads, maintenance access roads, pedestrian paths, landscaping, lighting of common areas, provision for emergency services including for firefighting, onsite detention basins and stormwater treatment systems</li> <li>d) include a detailed management and maintenance program for estate infrastructure</li> <li>e) nominate a single entity responsible for implementation of the management and maintenance program.</li> </ul>	<p>Section 3.1.2</p> <p>a) Section 3.1.2.4</p> <p>b) Table 3-2</p> <p>c) Appendix C</p> <p>d) Section 3.1.2.7</p> <p>e) Section 3.1.2.7</p>

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential impacts resulting from the proposed subdivision of the site. Measures to mitigate impacts have also been identified where they are required.





### 3.1.2.3 Subdivision Consent Conditions

#### SSD 5066 MOD 1

Modification of Development Consent SSD 5066 (SSD 5066 MOD 1) was granted 30 October 2019 by the Minister for Planning. In addition to other provisions, SSD 5066 MOD 1 consent modification included conditions regarding the “*ability to subdivide the site as part of a future development application*”. CoC E26 provides specific conditions in relation to future MPW Site subdivision applications.

A summary of relevant CoC in relation to the proposed subdivision is provided in Table 3-2.

Table 3-2: Summary of relevant Conditions of Consent in relation to subdivision.

Condition of Consent	Comment
<b>SSD 5066 MOD 1 – Schedule 4, Condition E26</b>	
<p><i>E26: Any future Development Application for subdivision must:</i></p> <p>a) <i>Demonstrate compliance with the minimum lot size specified in the Liverpool Local Environmental Plan;</i></p>	<p>The proposed subdivision plan is inconsistent with the minimum lot size specified in the Liverpool LEP 2008.</p> <p>At the same time it submits this development application for the Proposal, SIMTA will lodge an application in conjunction with this SSD application to vary Liverpool LEP 2008 minimum lot size (Clause 4.1) in respect of the Proposal through a Clause 4.6 exception application. The Clause 4.6 application is attached as Appendix F, and will be assessed concurrently with this SSD application by DPIE.</p>
<p>b) <i>Demonstrate compliance with Condition 15 of this consent;</i></p>	<p>Condition 15 of SSD 5066 MOD 1 states:</p> <p><i>The warehousing and distribution facilities must only be used for activities associated with freight using the intermodal terminal facility unless otherwise approved in a subsequent Development Application.</i></p> <p>This application would not preclude, and would largely facilitate the provision for this condition to be satisfied as part of current and/or future development approvals. The subdivision plan identifies lots burdened and benefitting respectively from either existing, created or to be created easements, with access to common areas, facilities and amenities that support the requirements of interdependency and co-dependency of the warehouse and distribution facilities and the freight terminal and rail facilities respectively.</p>
<p>c) <i>Include a subdivision plan showing completed estate works including but not limited to site services, internal roads, maintenance access roads, pedestrian paths, landscaping, lighting of common areas, provision for emergency services including for firefighting, onsite detention basins and stormwater treatment systems;</i></p>	<p>A plan has been provided with this application (refer to Figure 3-1, Figure 3-2, and Figure 3-3, and Appendix C) showing proposed estate works including:</p> <ul style="list-style-type: none"> <li>• easements for site services;</li> <li>• internal roads;</li> <li>• locations of onsite detention basins and stormwater treatment systems</li> </ul> <p>An Urban Development Design Report (UDDR), which presents a holistic approach to landscape design for the MPW Site is currently under preparation for submission to DPIE, and will include further details regarding:</p> <ul style="list-style-type: none"> <li>• maintenance access roads;</li> <li>• pedestrian paths;</li> </ul>

Condition of Consent	Comment
	<ul style="list-style-type: none"> <li>• landscaping;</li> <li>• lighting of common areas; and</li> <li>• provision for emergency services including for firefighting; and</li> </ul> <p>Additionally, details regarding easements have been provided in Section 3.1.2.9.</p>
<i>d) Include a detailed management and maintenance program for estate infrastructure; and</i>	The OEMP and OEMP sub-plans for the MPW Site would be revised, where required, to detail operational maintenance and management of the site following subdivision.
<i>e) Nominate a single entity responsible for implementation of the management and maintenance program.</i>	As the Applicant, SIMTA, and Qube, in its capacity as PDC under the DOD will be responsible for implementation of MPW Site's management and maintenance program to ensure common areas and infrastructure (i.e. site accessibility and stormwater drainage) are maintained for the benefit of each respective lot (refer to Section 3.1.2.6).

#### 3.1.2.4 Lot Size

The Liverpool LEP requires a minimum lot size of 120 ha across the MPW Site. The proposed subdivision layout, subject of this application, would result in the 189.39 ha site being subdivided into nine lots, with lot areas between 12.28 ha (proposed Lot 13) and 43.85 ha (proposed Lot 11). The proposed lot layout is therefore inconsistent with the Liverpool LEP minimum lot size requirements.

A Clause 4.6 exception is sought to reduce the minimum lot size requirement within the bounds of the MPW Site, thereby enabling the subdivision of the site into lots that have an area less than the current minimum lot size provision within the Liverpool LEP 2008. Given the MPW development is part of a greater MLP development that encompasses both the MPW development and the adjacent MPE development, the proposed minimum lot size requirement is consistent with the MPE site (i.e. 2,000 m<sup>2</sup>). This would allow a consistent subdivision approach across the Precinct.

Variation of the minimum lot size development standard would allow the MPW subdivision to proceed in accordance with the requirements of Condition E26 of SSD 5066.

In the absence of the exception to the development standard, the minimum lot size development standards of the Liverpool LEP prohibit subdivision of the MPW Site, for which approval has been granted by the IPC in its determination of SSD 5066 MOD 1. Such an outcome is considered unreasonable given the requirements surrounding registration of long-term leaseholds. This outcome would unduly compromise and restrict the ability for the Development to effect a warehousing and distribution strategy in accordance with the approved Concept Plan.

The variation under Clause 4.6 to the minimum lot size requirements under Clause 4.1 of the Liverpool LEP does not compromise the development from continuing to be consistent with the intent of the Concept Plan and is considered a reasonable means by which to achieve a better outcome for the Development that helps to achieve the State, regional and local benefits attributed to it.

The Clause 4.6 variation request will be assessed by DPIE using their overarching assessment powers as part of the consideration of this SSD application.

The Clause 4.6 variation application forms an appendix to this EIS (Appendix F) which will be lodged with DPIE for, among other development components, subdivision of the MPW Site. Environmental assessment of the proposed future subdivision of the MPW Site is subject to that subsequent SSD application that addresses the balance of the FEARs required in respect of subdivision.

### 3.1.2.5 Proposed subdivision layout

A plan of the proposed subdivision lot layout is provided in Figure 3-1. Table 3-3 provides details regarding the proposed lot sizes and descriptions.

Table 3-3: Proposed subdivision lots of MPW Site.

Proposed Lot Number	Approximate Size (ha)	General Description
5	24.45	Northern portion of the MPW Site, to be used for warehousing and distribution facilities, and ancillary-related development for the Precinct in accordance with the approved Concept Plan and the MPW Stage 2 Consent.
6	22.92	Central portion of the MPW Site, to be used for warehousing and distribution facilities, and ancillary-related development for the Precinct in accordance with the approved Concept Plan and the MPW Stage 2 Consent.
7	16.18	Central portion of the MPW Site, to be used for warehousing and distribution facilities, and ancillary-related development for the Precinct in accordance with the approved Concept Plan and the MPW Stage 2 Consent.
8	16.14	Southern portion of the MPW Site, to be used under this Proposal for hardstand, laydown and material stockpile area to support the works compound, and for access to the works compound via a temporary loop road. The future intention of the lot use is for warehousing and distribution facilities, and ancillary-related development for the Precinct in accordance with the approved Concept Plan and a future development consent.
9	14.73	Southern portion of the MPW Site, to be used under this Proposal for hardstand, laydown and material stockpile area to support the works compound. The future intention of the lot use is for warehousing and distribution facilities, and ancillary-related development for the Precinct in accordance with the approved Concept Plan and a future development consent.
10	17.42	Southern portion of the MPW Site, to be used under this Proposal for the establishment of the works compound, materials and store area, and car parking. Access to the works compound will be constructed near the northern lot boundary. The future intention of the lot use is for warehousing and distribution facilities, and ancillary-related development for the Precinct in accordance with the approved Concept Plan and a future development consent.

Proposed Lot Number	Approximate Size (ha)	General Description
11	43.85	Adjacent to the western boundary, to be used as a biodiversity conservation area as well as for roads and stormwater functions to the west of the MPW Site and east of the Georges River.
12	20.48	Adjacent to the north-eastern boundary of the MPW Site, to be used as an interstate/intrastate freight terminal in accordance with the approved Concept Plan and MPW Stage 2 consent.
13	12.28	Adjacent to the south-eastern boundary of the MPW Site, to be used as part of the rail connection (known as the SME Rail Corridor) to, and subsequent operation of, the rail link under SIMTA's development arrangement with MIC, in accordance with SSD 6755 and SSD 7709 consents.

### 3.1.2.6 Moorebank Precinct Environmental Management

On 3 June 2015 MIC and Qube entered into an agreement, the Development and Operations Deed (DOD), for the development and operation of the MPE and MPW Sites on a whole of Precinct basis.

On 24 January 2017 financial close under the agreement occurred. Each of the land owners of the land comprising the Precinct placed their land under a 99-year lease to a Land Trust for the sole purpose of facilitating the development of the Precinct. Responsibility for Precinct environmental management sits with Qube in its function as the Precinct Development Company (PDC), established under this trust arrangement with the Commonwealth Government.

Under the arrangement described above, Qube has entered into agreements with the Commonwealth for 99-year leases for the development and operation of the Precinct including the IMEX terminal, interstate terminal and warehouses. PDC is the entity responsible for delivering the development and is also tasked with the ongoing maintenance of the Precinct once it has been developed.

The Agreements for Lease (Afls) detail the roles and responsibilities of the PDC for the construction and operations of the Precinct and include arrangements for:

- the management and operation of the Precinct;
- the proper repair and maintenance of the Precinct facilities;
- the fair apportionment of costs of repair and maintenance and upgrading of Common Facilities on the Precinct; and
- the keeping of certain insurances.

The lease arrangement is presented in Figure 3-6.

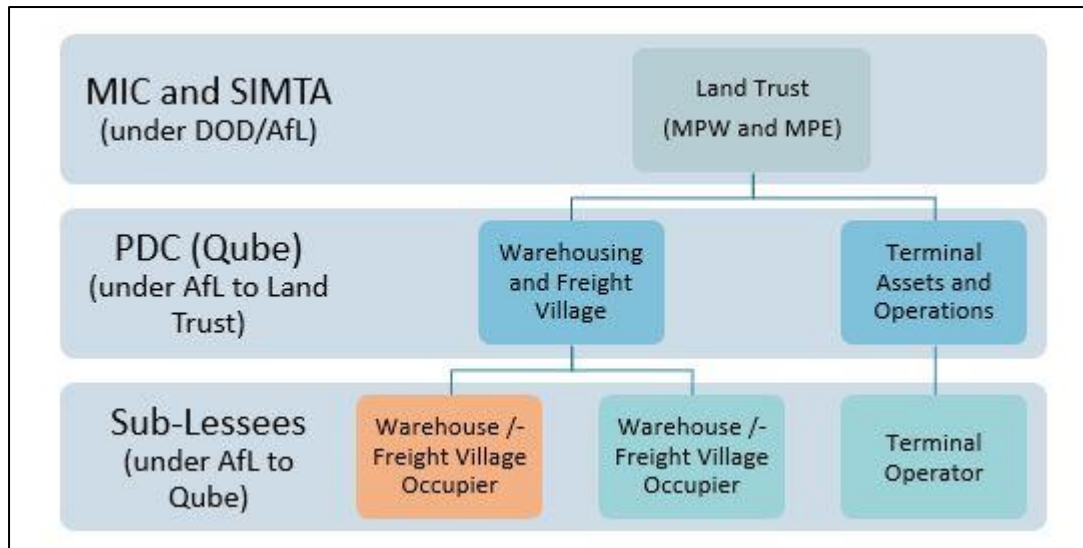


Figure 3-6: Leasehold arrangements for delivery and operation of MPW (Aspect, 2019)

The management principles allocating operations and maintenance responsibilities between Qube and site tenants are to be incorporated in lease documents. This would give effect within the lease arrangement to the management control and servicing of Precinct components and their respective interaction and interdependency requirements, for example access roads, common roads, and surface drainage infrastructure.

The AfLs document common facilities including rights of access to and from any common facility as well as their maintenance, repair and operation (including cleaning and replacement of fixtures, fittings and any equipment, i.e. fire extinguishers). The AfL would also document any positive covenants or restrictions as to user, for example restrictions on use as a hazardous or offensive storage establishment.

Beyond enforceable requirements for compliance with relevant conditions of consent, legal effect is given to the AfL requirements as a component of any registered lease agreement registered against the title.

Implementation and maintenance of environmental management controls and functions across the site are legally enforceable via compliance with conditions of consent and, specifically, the OEMP under Section 4.2 of the EP&A Act, and via the legal obligations attached to lease agreements binding PDC and subsequent lessees and tenants respectively.

### 3.1.2.7 Moorebank Precinct Operational Management

SIMTA, as a single entity, and Qube, in its capacity as the PDC under the DOD will be responsible for the overarching operational management of the MPW Site following subdivision, and the delivery and ongoing maintenance within the MLP of site services, internal roads, pedestrian paths, landscaping, lighting of common areas, emergency services including bushfire mitigation, OSD and Water Sensitive Urban Design (WSUD) elements.

MPW is proposed to be managed in a manner consistent with approved approach for MPE, which is outlined in the following sections

## Operational Management

There are three components to the operational framework (consistent with those established under MPE Stage 2 (SSD 7628) CoC) to deliver and manage operational environmental controls and responsibilities for the MPW Site:

1. Preparation of an Operational Environmental Management Plan (OEMP).
2. Operation of the development in accordance with the OEMP.
3. Confirmation of the entity responsible for environmental management.

Section 4.2 of the EP&A Act specifies that a person must not carry out development on land where a consent is required for that development and must only carry out the development in accordance with the consent and the instrument. This means that the CoC issued in respect of a development consent (i.e. for MPW, SSD 7709 and SSD 10431) are binding on both the site developer (SIMTA) and on all lessees and tenants who will be undertaking the suite of activities that comprise the MPW development for the respective rail terminal, warehouse and freight village operations.

The Applicant would operate the development in accordance with the most recent version of the OEMP. Under Section 4.2 of the EP&A Act all lessees and tenants are likewise compelled to operate their respective components in accordance with the OEMP, and its constituent plans.

SIMTA, as the entity responsible for MPW environmental management, has overall responsibility for the development environmental management during operations. As has been indicated above, responsibility for compliance with consent conditions under SSD 7709 rests not only with the Applicant, but also with anyone undertaking activities comprising the development on the land subject of the consent.

In addition to the regulatory obligation of lessees and tenants imposed by Section 4.2 of the EP&A Act, specific obligations of parties would be documented within respective lease agreements.

## MPW Operational Management

MPW is intended to be managed in a similar structure to the already subdivided MPE giving effect to existing and future development approvals for the Precinct as a whole, and to support and enable the Precinct relationship intended to exist in an operational environment between the freight terminal facility, the freight village, the rail link and warehousing.

The subdivision of MPW is intended to enable long-term leases whilst managing the site holistically through an OEMP and facilitated by a legal framework that supports delivery and compliance with the OEMP in relation to the subdivision and/or leasing of the allotments.

In a holistic development management approach, Qube, in its capacity as PDC for MPW, would address and manage operational elements including:

- bushfire hazard
- provision of emergency services and access
- fencing
- signage
- weed management
- landscaping management



- noise
- air quality
- water quality and quantity
- water recycling
- ESD
- visual impacts
- light spill from common areas and individual tenancies.

#### 3.1.2.8 Merit Justification for Subdivision

Progressive subdivision of the MPW Site is consistent with the intent of the Concept Plan Approval and is predominately required to allow progressive construction and tenancing of individual warehouses by enabling the lease of buildings and facilitating the establishment of easements. The subdivision would maintain connectivity across the intermodal precinct including vehicle and pedestrian access between all intermodal elements, utility services and drainage, and would promote efficient use of the intermodal precinct.

The proposed subdivision does not include physical works, however, ancillary works including access construction, and installation and connection of utilities and services to facilitate the site subdivision would be undertaken as part of this Proposal.

The proposed subdivision is within the scope of the Concept Plan Approval and does not involve new land. The scale, nature, extent and form of the building envelopes already approved for the MPW Site would remain the same. Further, neither the proposed subdivision nor the subdivision works would result in any environmental impacts beyond those previously assessed and approved as part of the SSD 7709 consent.

Notwithstanding SSD 5066 MOD 1 CoC E26(a), the proposed subdivision remains consistent with the applicable legislation, policies and controls, and the residual SSD 5066 conditions of consent, including the residual FEARs.

#### 3.1.2.9 Easements

Easement details for access, services and drainage have been provided on the subdivision plan as part of this application (refer to Figure 3-1, Figure 3-2, and Figure 3-3 and Appendix B). Final identification of the easements would be determined subject to detailed design and lessee construction requirements. Details would be included within the respective tenancy agreements for lease and in final registered instrument or update/amendment to the registered instrument. Whole of lot easements either exist or are to be created to maintain internal connectivity and interdependencies between the individual intermodal functions within the development site, and including vehicle and pedestrian access, utility services, and drainage.

##### Easements for Access

Easement (SE8) is a whole of lot easement for access and provides for inter-allotment access and right of access to the Moorebank Ave carriageway, to the benefit of the MPW Site. Access arrangements for Easement (SE8) would attach to completion of an individual warehouse or building and would maintain reciprocal rights of way between the three functional Precinct components (terminal, warehousing and freight village). The terms of the easement for access permit access over the trafficable surfaces within the lot burdened to the benefit of



the remaining lots, thereby providing and maintaining internal connections between the Precinct components. The whole of lot easement for access covers all access rights.

Right of Access (RA1), (RA2), (RA3), (RA4) and (RA5) will be created as limited access ways across the site. Right of Access (RA1) will be created as a limited access primarily through Lot 11 to form the permanent western ring road, from Moorebank Avenue and continuing through to the southern portion of the site, with the western boundary of Lots 5 to 10 aligning to form the (eastern) verge of the permanent western ring road. Right of Access (RA2), (RA3), (RA4) and (RA5) extend from Right of Access (RA1) to permit limited direct access over specific trafficable connections to Lots 5 to 12 for access to future warehousing and freight distribution facilities.

Lot 13 (part of the SME rail corridor) will continue to be accessible directly from Moorebank Avenue.

#### Easements for Services and Drainage

Under agreement, additional (limited) easements (DE1), (DE2), (DE3), (DE4) and (DE5) are to be created to facilitate inter-allotment site drainage.

Easement (SE6) is a whole of lot easement to the benefit of the MPW Site for services which may include carrying out work, such as constructing, placing, repairing or maintaining pipes, poles, wires, cables, conduits, structures and equipment. Easement (SE1) provides for service allocation within the permanent western ring road, near the site's western boundary, and is generally consistent with Right of Access (RA1). The terms of the easements for services would permit use of services within specific and limited areas of the burdened land and the right to install additional services on particular terms (refer to the draft Section 88B instrument, provided in Appendix B).

Whole of lot easement (SE7) is proposed to be created to provide for future services across and to the benefit of the MPW Site, including carrying out work, such as constructing, placing, installing, repairing, using, operating, maintaining, examining, re-laying, altering, renewing, cleaning, replacing, enhancing, adding to or removing pipes, poles, wires, cables, ducts, conduits, structures and equipment.

#### Subdivision Instrument

As identified above and on the provided subdivision plan, it is intended to effect the subdivision with reference to existing easements, easements required under agreement but not as yet created, and proposed easements. These easements would provide for access, services, drainage and any other encumbrances and indemnities required for joint or reciprocal use of part or all of the proposed lots resulting from the subdivision of the site.

All proposed easements would be created in accordance with the requirements of the *Conveyancing Act 1919*. As the site is progressively subdivided and areas are drawn down for long term leases, a Section 88B instrument would be prepared for each of the relevant plan of subdivision for the lot. A draft Section 88B instrument has been prepared detailing the creation of all relevant easements, restrictions and covenants in accordance with Section 88B of the *Conveyancing Act 1919*, and has been included as Appendix B to this report.

### 3.1.3 Ancillary Works

#### 3.1.3.1 Overview

Ancillary works including access roads, earthworks, utilities installation/connection, stormwater and drainage infrastructure, signage and landscaping would be progressively undertaken to facilitate the establishment of the works compound works and ultimately support the proposed subdivision (Figure 1-1).

The proposed ancillary works are consistent with the intent of the original Concept Plan Approval, in that they would not compromise the intent for the site to function as an integrated intermodal facility.

#### 3.1.3.2 Access Roads

A permanent ring road would be constructed, continuing south from the access road near the MPW Site's western boundary and which was approved as part of MPW Stage 2, to the southern portion of the MPW Site. The permanent ring road will provide direct access to the works compound, the material storage and parking area (on proposed Lot 10) and the hardstand, laydown and materials stockpile area on proposed Lot 9. A permanent turnaround point would be constructed at the end of the permanent ring road for construction, delivery and emergency service vehicles alike.

A temporary loop road would be constructed from the permanent ring road, to provide access to the hardstand, laydown and materials stockpile area on proposed Lot 8, and additional access to proposed Lot 9.

#### 3.1.3.3 Earthworks

Earthworks would be undertaken, as required, to establish the site surface levels to facilitate construction of the compound and associated material storage and car parking areas, roads, stormwater and drainage infrastructure and for installation of services and utilities.

#### 3.1.3.4 Services and Utilities Relocation, Installation and Connection

Installation and connection to the public utility and services networks including water, sewer, electricity and telecommunications would be established to support the construction and operation of the Proposal.

Services and utilities to service the compound and storage areas would be included in the permanent ring road accessway.

Services and utilities connections for the proposed Lots 8, 9 and 10 would service the works compound, materials storage and hardstand areas. It is envisaged that the proposed Lots 5, 6 and 7, which are intended to be used for warehousing and distribution facilities would progressively be brought online with services and utilities.

#### 3.1.3.5 Stormwater and Drainage

The Proposal would include the installation of temporary (to facilitate construction works) and permanent (to facilitate operation activities) stormwater, drainage and flooding infrastructure, with connection to infrastructure already approved under MPW Stage 2 SSD 7709, i.e. OSD 8 and OSD 10. Key features of this infrastructure include:

- Connection to onsite detention basins located along the western or eastern boundary of the construction footprint, adjacent to the conservation area, and approved under MPW Stage 2 SSD 7709. Basins would manage water quality and quantity being discharged into the Georges River.
- Stormwater infrastructure (i.e. kerbing, pits and pipes) to collect and transport stormwater surface runoff as overland flow from the Proposal site and into nominated detention basins and discharge points.

#### 3.1.3.6 Signage and Landscaping

Appropriate wayfinding signage for business purposes would be installed to safely direct movement around the site and particularly within the compound areas. Wayfinding signage would not be internally illuminated.

Localised temporary landscaping would be undertaken to establish vegetation to enhance visual amenity, reduce erosion and sediment transport and assist in the management of surface stormwater flow.

A Landscape Design Statement provided as an appendix to the Visual Impact Assessment (Reid Campbell, 2020) (Appendix O) has been prepared by Ground Ink and provides comment regarding indicative species selection and plant schedule, pedestrian experience, and overall site landscape design.

The UDDR is currently under preparation for submission to the DPIE and presents a holistic approach to landscape design for the MPW Site.

#### 3.1.3.7 Environmental Management Plans

Any potential environmental impacts relating to construction of subdivision ancillary works not currently managed under the MPW Stage 2 CEMP would be addressed progressively and as required in a revised CEMP. It is envisaged that compliance with the relevant MPW Stage 2 CEMP and related sub-plan conditions would continue to be applied to the Proposal, with consideration given to amending the CEMP to accommodate any additional Proposal condition requirements, or adding an addendum to the CEMP to clarify response to additional Proposal conditions.

The MPW Stage 2 OEMP for the MPW Site would be updated to identify the entity responsibility for the delivery and ongoing maintenance for internal roads, pedestrian paths, landscaping, lighting of common areas, emergency services including bushfire mitigation, on-site detention (OSD) and WSUD elements.

#### 3.1.4 Built Form Controls

Although compliance with the *Liverpool Development Control Plan 2008* (Liverpool DCP) is not required (Section 0), as the Project is SSD under Part 4, Division 4.7 of the EP&A Act, consideration of the Liverpool DCP at a high level is provided. The MPW Concept Plan EIS identified that the building design would consider controls outlined in the Liverpool DCP 2008, Part 7 Development in Industrial Areas, including façade, materials, colours, setbacks and landscaping.

### 3.2 Proposal Objectives

The objectives of the MPW Development are identified in the MPW Concept Plan Approval. The objectives of this Proposal, which are generally consistent with those of the MPW Development, are to support:

- Australian Government objectives (2010):
  - Boost national productivity over the long term through improved freight network capacity and rail utilisation.
  - Create a flexible and commercially viable facility and enable open access for rail operators and other terminal users.
  - Attract employment and investment to west and south-western Sydney.
  - Achieve sound environmental and social outcomes that are considerate of community views.
  - Optimise value for money for the Commonwealth having regard to the other stated Project objectives.
  - Minimise impact on Defence's operational capability during the relocation of Defence facilities from the Moorebank site.
- MIC constitutional objectives (2012):
  - To facilitate the development of an intermodal freight facility at Moorebank, including an IMEX terminal, an interstate freight terminal capable of catering for 1,800 m long trains and ancillary facilities by optimising private sector investment and innovation in the development, construction and operation of the intermodal terminal.
  - To facilitate the operation of a flexible and commercially viable common user facility which will be available on reasonably comparable terms to all rail operators and other terminal users.
  - To ensure the intermodal freight facility operates with the aim of improving national productivity through an efficient supply chain, increased freight capacity and better rail utilisation.
  - To operate on commercially sound principles having regard to the Australian Government's long-term intention to sell its interest in the Company (MIC).

SIMTA supports the MIC objectives with a view to implementing relevant objectives as part of this third stage. Together MIC and SIMTA are tasked with delivering an intermodal freight facility which realises the economic benefits of rail distribution, including reduction of truck vehicle kilometres and net travel time savings while acting in an environmentally and socially responsible manner with due regard to local communities' views.

The proposed third stage of the MPW Development is consistent with the objectives of the original MPW Concept Plan and Stage 1 Early Works consent (SSD 5066) and with the development outcomes of MPW Stage 2 consent (SSD 7709), in that the Proposal supports and facilitates the intent for the MPW Site to become an integrated intermodal facility.

### 3.3 Need for the Proposal

#### 3.3.1 Statutory and Strategic Context of MLP Project

The MLP Development, and the Proposal by implication, are consistent with the goals and strategic planning objectives of the following State infrastructure commitments and policy objectives:

- *NSW State and Premier Priorities* – Smart technology freight and logistics infrastructure, including projects such as the MLP, alleviate congestion and improve the quality of essential services, provide solutions to urban infrastructure challenges, and help make cities more sustainable, resilient and liveable.
- *A Metropolis of Three Cities – the Greater Sydney Region Plan* – Consistent with the Plan’s bold vision for an integrated and balanced Greater Sydney Region which will provide housing, jobs, infrastructure and services within easier reach of residents, the MLP is well placed to provide infrastructure to support and integrate population growth, and responsible and sustainable community infrastructure.
- *The NSW State Infrastructure Strategy 2018-2038* – This Strategy focuses on achieving sustainable growth in the NSW population and economy by aligning infrastructure investment with service delivery to support the evolution of communities. Coordinated focus in resilient transport infrastructure, such as the MLP, will support population growth whilst improving service quality and efficiency through connected and interdependent asset investment.
- *Future Transport 2056* – This Strategy is an update of NSW’s *Long Term Transport Master Plan 2012*, and includes a suite of strategies and plans for transport developed for the Greater Sydney Region to provide an integrated vision for the State. The Moorebank Intermodal Project is a nominated initiative of the Greater Sydney Service and Infrastructure Plan (0-10 years).
- *NSW Freight and Ports Plan 2018-2023* – This Plan is a call to action for Government and industry to collaborate on clear initiatives and targets to make the NSW freight chain more efficient and safe. The MLP will increase freight movement capacity, efficiency, connectivity and access by developing a sustainable supply chain that delivers benefits to our environment and community and continued operations benefits into the future.

The development of intermodal freight terminal facilities, the link to the rail network and warehousing and distribution infrastructure is consistent with the identified goals and objectives of State plans and strategies.

#### 3.3.2 Strategic Justification of MPW Development

The MPW Development, which includes this Proposal, is an identified part of the *NSW Freight and Ports Strategy* (2013) due to its essential role in meeting Sydney’s future freight needs. The MPW Development is closely aligned to achieving effective delivery of National and State Government transport infrastructure framework commitments and policy objectives including:

- National strategic planning and policy framework:
  - *Australian Infrastructure Plan*, 2016.
  - *National Infrastructure Priority List and Update*, 2009 and 2016.
  - *National Land Freight Strategy Discussion Paper and Update*, 2011 and 2012.
  - *National Ports Strategy*, 2011.
- NSW strategic planning and policy framework:
  - *'Navigating the Future' NSW Ports' 30 year Master Plan*, 2015.
  - *A Plan for Growing Sydney*, 2014.
  - *State Infrastructure Strategy and Update*, 2012 and 2014.
  - *NSW Freight and Ports Strategy*, 2013.
  - *NSW Long Term Transport Masterplan*, 2012.
  - *NSW 2021: A plan to make NSW number one*, 2011.
  - *Draft Subregional Strategy for the South West Subregion*, 2009.
  - *Railing Port Botany's Containers*, 2005.

There has been a significant year on year increase in container trade growth at Port Botany, with more than two million TEU containers currently passing through the port annually. Growth in container throughput at Port Botany is expected to continue as evidenced by the removal of the container throughput cap in 2012. Government policies and strategies, as listed above have identified that, to support future growth, more freight needs to be moved to and from Port Botany by rail rather than by road. If the current rail mode share is not improved it is anticipated that truck traffic at Port Botany could increase by up to four times its current level by 2030.

The MPW Development is considered the most viable alternative to meet that timeline and increase the capacity required in the area. The Moorebank Precinct has been identified in both Federal and State strategies as the best location for an intermodal freight facility to service the industrial areas of south-western Sydney that has the appropriate proximity to main arterial road networks and a dedicated freight line.

The NSW Government and the Port Authority of NSW have a shared objective of increasing freight movements by rail and of improving the efficiency of port-related freight movements across the infrastructure network.

### 3.3.3 Proposal justification

The Proposal would facilitate progressive development works within the MPW Site and across the MLP Precinct which supports infrastructure development to increase rail share for the Sydney freight distribution network. The MPW Site once operational, would also support the construction of infrastructure to meet the catchment demand for rail and truck freight movements to the regions of south-west and western Sydney, in accordance with National and State Government transport infrastructure commitments and policy objectives.

As approved site development works in the northern portion of MPW progress under SSD 7709, space available for the existing construction compound and materials storage will become constrained. Ongoing warehouse tenant enquiries have been strong, and progressive construction of warehousing to accommodate tenants within proximity of the existing construction compound in the northern portion of the MPW Site is expected to further reduce available compound and materials storage space.

The proposed works compound in the south-eastern portion of the MPW Site has been identified to enable continuity of progressive construction works in accordance with approved (SSD 5066 and SD 7709) and future MPW Site development works (subject to future approvals). The land currently used for construction compound activities in the northern portion of the MPW Site would be released and developed for warehousing and distribution facilities.

The proposed subdivision is consistent with the intent of SSD 5066. The subdivision, comprising nine allotments for warehousing and distribution facilities, biodiversity conservation, intermodal freight terminal, and rail corridor for completion and operation of the freight terminal and rail link, would separate the functions of the intermodal freight terminal and tenancing of individual warehouses. A separate biodiversity conservation area established adjacent to the Georges River provides a riparian corridor outside of the developable area.

Ancillary works would establish permanent and temporary road access to the new works compound and would provide services and lighting to the compound and materials stores areas, offices, amenities, kitchen/cafe facilities, and meeting and training rooms. Further, the provision of access and services to facilitate the establishment of the works compound would also support site infrastructure requirements for the subdivision.

### 3.4 Permissibility

As outlined in Section 1 of this EIS the Proposal is consistent with the MPW Concept Plan and Stage 1 Early Works consent (SSD 5066 MOD 1), which includes provisions for subdivision and subdivision works. The Proposal does not compromise the intent or effect of SSD 5066 or SSD 7709.

Section 4 provides an assessment of the Proposal's consistency and compliance with relevant statutory requirements. The Proposal is consistent with the SSD requirements under Part 4, Division 4.7 of the EP&A Act and the Matters of Consideration under Section 4.15.

Section 4.5.1 of this EIS characterises the development and outlines the permissibility of the Proposal under the Liverpool LEP 2008. The Proposal is deemed to be consistent with the LEP objectives and complies with its requirements with the exception of minimum lot size requirements (Section 4.1 of Liverpool LEP 2008). During the EIS assessment process and using overarching powers, DPIE can consider the attached Clause 4.6 variation application to give effect to an exception under the Liverpool LEP with regards to minimum lot size development standards (Clause 4.1), in order to enable the carrying out of a SSD (refer to Section 3.1.2.4).

#### 3.4.1 SSD 5066 MPW Concept Plan – MOD 1 Consent

Consent for MPW Concept and Stage 1 (SSD 5066) MOD 1 approval was granted by DPIE on 30 October 2019. SSD 5066 MOD 1 was predominately to permit fill importation and associated increase in building heights; transfer of containers to the MPW rail terminal site; and future subdivision. The modification also included

*reduction of construction staging from four (excluding Stage 1 Early Works) with potentially only two future development applications.*

Section 6.2 of the SSD 5066 MOD 1 Response to Submissions (RtS) (Arcadis, 2016) provided details regarding proposed staging of future MPW development applications, whereby Stage 3 would consist of residual elements approved under the MPW Concept Approval (SSD 5066) including:

1. *infrastructure to support an increase in container freight throughput to the limits of the MPW Concept Approval (SSD\_5066) or as modified;*
2. *warehousing area, including construction of additional warehouses and operation of warehousing to the limits of MPW Concept Approval (SSD\_5066) or as modified; and*
3. *ancillary works, specific to activities undertaken during Stage 3 of the MPW Project.*

It was also noted that Stage 3 ‘*may be undertaken in a number of sub-stages which have the potential to form separate approvals*’, and which would be intended to align with constructability and operational efficiencies at the site.

Section 6.2 of the RtS also indicated that SSD 5066 MOD 1 included the ability to subdivide the site into lots in future stages of the MPW Project. Further, Section 1.2.1 of the Supplementary Response to Submissions (SRtS) (Parsons Brinkerhoff, 2015) for the MPW Concept Approval (SSD 5066) determined that future development phases may be subject to change in light of changing economic conditions.

During the consultation phase of preparation of this EIS, DPIE queried whether this application (SSD 10431) triggered the requirement for a Modification to the MPW Concept and Early Works approval (SSD 5066) due to the MOD 1 construction staging parameters, and variation to the intended MPW development works under Stage 3 as detailed in the MOD 1 RtS (Arcadis, 2016).

Following review of the SSD 5066 MPW Concept Mod Approval, the MPW Concept Plan EIS and the MPW Concept MOD 1 RtS, this development application is considered to be within the scope of the approved MPW development description, and a further Modification is not required, as:

1. There is no specific condition in the SSD 5066 MPW Concept Approval MOD 1 that requires development to follow specific staging (or keep within a specific number of construction stages).
2. The Project description within SSD 5066 MOD 1 notes there will be potentially only two future development applications. This, correctly, allows a degree of flexibility in construction phasing in the development of the MPW Project, which is consistent with Section 6.2 of the SSD 5066 MOD 1 RtS and Section 1.2.1 of the SRtS.
3. The proposed construction phasing of the MPW Project was changed from that within the original MPW Concept EIS to align with construction ability and operational efficiencies at the site (RtS, Arcadis 2016). The phases were condensed into Stage 2 and Stage 3 and, importantly, sub-stages. Four years on from preparation of that document, this Proposal represents a sub-stage of what was envisaged for the MPW Project and is reflective of current market demands and subsequent construction priorities onsite.
4. Future application staging details in the SSD 5066 MOD 1 RtS (Section 6.2; Arcadis, 2016) indicated that a degree of flexibility in construction staging was to be required at Stage 3 of development based on market demands and operational efficiency requirements. This development application is considered a sub-stage of Stage 3 as a separate approval, as it will facilitate the progression of works encompassed within



Stage 2 and the greater Stage 3 development works (as described above), which would be subject to a future development application.

5. As outlined in the SSD 5066 MOD 1 RtS documentation, the staging of future applications for MPW would not result in changes to the potential property and infrastructure impacts resulting from the MPW Project in that the overall MPW Project at full build development scenario would remain the same regardless of the proposed staging, including the proposed land uses, property ownership and utility requirements. This development application therefore remains consistent with the overall MPW Concept Approval.

This Proposal is not in itself a separate stage of warehouse and intermodal development, but rather facilitates the construction of previously approved works, as well as works approved under future Stage application(s). The proposed subdivision does not, on its own, include development works for warehousing and intermodal other than establishing access, works facilities and subdivision works. The establishment of the works compound facilitates both already approved and future staged development works, and ancillary works including the establishment of roads and services facilitate both the subdivision and works compound elements of this Proposal.

It is determined that this development application does not trigger the requirement for Modification of the SSD 5066 MPW Concept Approval, as the Proposal remains within the greater context of the MPW Project description and within the scope of what was envisaged within the SSD 5066 MOD 1 RtS documentation (Arcadis, 2016) in relation to construction staging.

### 3.5 Proposal Timeline

Construction of the Proposal is expected to commence around the fourth quarter of 2020, or shortly after the revised MPW Stage 2 CEMP, sub-plans and other required documentation in accordance with CoC have been approved. The Proposal works may be undertaken concurrently with MPW Stage 2 and/or other approved development works. The Proposal construction works are expected to be completed within 12 to 18 months from the date of commencement.

### 3.6 Capital Investment Value of the Proposal

The capital investment value for the Proposal, consistent with the definition provided in the EP&A Regulation, is approximately \$38,061,404 million AUD (excluding GST) (refer to the Quantity Surveyors Report prepared by Rider Levett Bucknall at Appendix E of this EIS).

Estimated costs for the proposed MPW Stage 3 development works are comprised of:

- hydraulic services: \$968,290
- electric light and power: \$9,661,998
- communications: \$828,107
- roads, footpaths and paved areas: \$4,028,828
- boundary walls, fencing and gates: \$168,750
- landscaping and improvements: \$4,545,000
- external stormwater drainage: \$1,206,000
- external sewer drainage: \$761,370

- special provisions: \$843,100
- site accommodation: \$6,762,950
- margins and adjustments: \$8,287,009.

All MPW Development costs will be borne by SIMTA. SIMTA will assume responsibility for the delivery of the development including all future planning applications, the construction of the precinct and the ongoing operations and maintenance of the precinct.

## 3.7 Proposal Staging

### 3.7.1 SEARs

Table 3-4 identifies the SEARs as they relate to staging and where these requirements have been met within this Section or elsewhere in this EIS.

Table 3-4: SEARs for the Proposal relating to staging.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 18	18. <b>Staging</b> – provide details of staging which:	Section 3.7
	a) describes how the development will relate to other future development stages, including those on the MPE site	a) Section 1.5.2
	b) describes how future estate infrastructure will be delivered in conjunction with future warehouse construction	b) Section 3.7
	c) includes an indicative construction program for both MPW and MPE	c) Section 3.7
	d) documents how compliance with the requirements of conditions in Schedule 4 of the MPW Concept Plan (SSD 5066) will be achieved	d) Appendix A
	e) demonstrates that estate infrastructure will be delivered prior to operation of the intermodal terminal facility, warehousing delivered in each stage, and the freight village.	e) Section 3.1.3.4

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential impacts resulting from staging of the proposed site development. Measures to mitigate impacts have also been identified where they are required.

### 3.7.2 MPW Concept Plan Approval – Relevant Conditions of Approval

Table 3-5 identifies relevant CoC that apply as a result of the MPW Concept and Stage 1 SSD 5066, as modified by MOD 1, for the Proposal. Condition E27 of SSD 5066 is consistent with SSD 10431 SEARs, Item 1 – 18 (refer to Section above).

Table 3-5: Staging – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October, 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October, 2019)		Comment / Relevant EIS Section
<i>Schedule 4 Conditions to be Met in Future Development Applications – Staging</i>		
E27	Any future Development Applications that propose staging of construction must provide details of staging which:	Section 3.7.1
	a) describes how the development will relate to other future development stages including those on the MPE site;	The Proposal encompasses the progressive installation of subdivision works for the

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October, 2019)	Comment / Relevant EIS Section
<i>Schedule 4 Conditions to be Met in Future Development Applications – Staging</i>	
<ul style="list-style-type: none"> <li>b) describes how estate infrastructure will be delivered in conjunction with warehouse construction;</li> <li>c) includes an indicative construction program for both MPW and MPE;</li> <li>d) documents how compliance with the requirements of conditions in this Schedule (Schedule 4) will be achieved; and</li> <li>e) demonstrates that estate infrastructure will be delivered prior to operation of the intermodal terminal facility, warehousing delivered in each stage, and the freight village.</li> </ul>	MPW Site and the provision of a works compound and materials storage facilities in the southern portion of the MPW Site.

### 3.7.3 Development Phasing

A concept description of key construction and operational activities was provided in the MPW Concept Plan Approval EIS (Parsons Brinkerhoff, 2014). Project development phases involved the delivery of the IMEX terminal, interstate freight terminal, and warehousing capacity in line with the market demand for processing of containers through the intermodal freight facility.

Environmental assessments for the MPW Concept Plan Approval EIS considered five construction and operational development phases as part of the MPW Development assessment. Indicative Project development phasing key activities and proposed timelines, as detailed in the MPW Concept Plan Approval EIS, are provided in Figure 3-7.

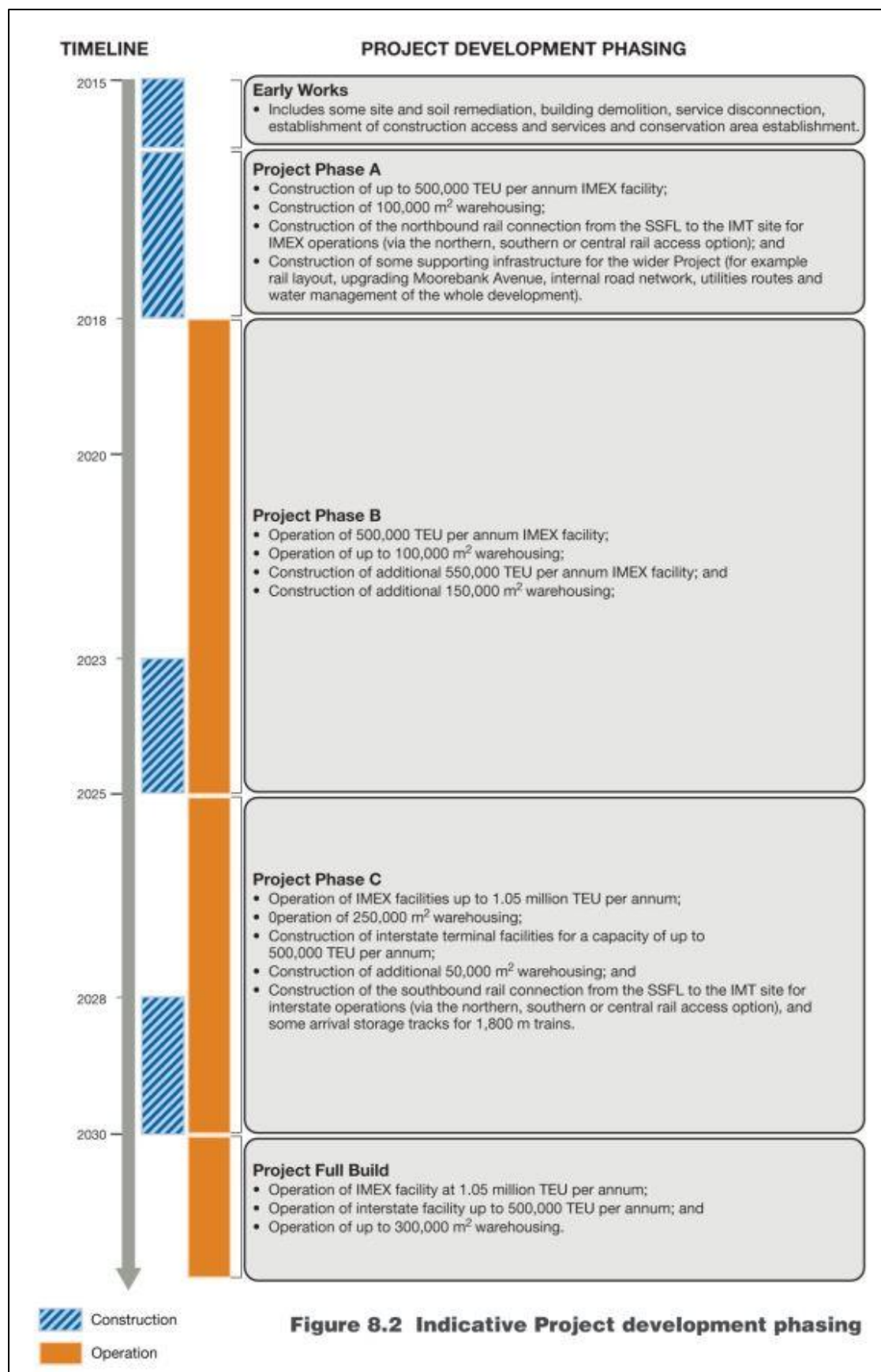


Figure 3-7: MPW Concept Plan Approval – Indicative Project development phasing (Parsons Brinkerhoff, 2014)

Approval for Early Works activities was obtained in conjunction with the MPW Concept Plan consent under SSD 5066 and commenced in Q3 2016.

MPW Stage 2 consent SSD 7709 was approved in November 2019 and has yet to formally commence. SSD 7709 includes key project activities generally identified within Project Phase A. The SSD 7709 consent also includes elements of Concept Project Phases B and C, being the construction and operation of an additional 115,000 m<sup>2</sup> GFA warehousing (total approved under MPW Stage 2 being 215,000 m<sup>2</sup> GFA warehousing), 800 m<sup>2</sup> freight village, and construction and operational consent for the interstate freight terminal with an annual container throughput of 500,000 TEUs. Additionally, up to 1,600,000 m<sup>3</sup> of fill was approved for importation to the site under SSD 5066 MOD 1. Key development activities approved under MPW Stage 2 are detailed in Section 0.

MPW Stage 3 is intended to facilitate the construction of approved MPW Early Works Stage 1, Stage 2 and Proposal site development works and future development stages of the MPW Development. Given the progressive warehouse development on the MPE Site, the works compound may also provide some materials management, operations and maintenance support for the MPE Site. The Proposal is generally consistent with Project Phase Early Works, Phase A, and Phase C (refer to Figure 3-7) as an extension of approved MPW Stage 2 works and includes the establishment of construction facilities and construction of supporting infrastructure, internal road network, utilities routes and water management within the southern portion of the MPW Site.

Ancillary works including provision of roads and services will be undertaken to facilitate site subdivision. Registration of subdivision may be undertaken progressively, as areas are drawn down for long term leases (refer to Section 3.1.2).

### 3.8 Consideration of Alternative Options

Consideration of alternative options for the Proposal are detailed in the following sections.

#### 3.8.1 Alternative Proposal Locations

Alternative Proposal locations within the southern portion of the MPW Site were considered for the works compound as part of the MPW Stage 3 design. The proposed position for the works compound was determined to be the most appropriate location as suitable space was available to establish the works compound and adequate distance was maintained to sensitive receivers, including the Georges River. The proposed works compound location maintains proximity and transport links between the MPW Site and road and rail freight corridors. Connectivity between the Georges River riparian zone and vegetation to the south and east of the site is also retained.

The proposed works compound development location was determined to meet overall Project objectives whilst maintaining suitable measures to mitigate potential environmental impacts.

#### 3.8.2 Alternative Proposal Design Options

Alternative layout design options were considered. The Proposal establishes a works compound in the southern portion of the MPW Site and provides appropriate facilities to maintain and continue approved site construction activities. The proposed design layout allows efficient and appropriate use of the available allotment space and facilitates

construction of access roads and other ancillary infrastructure for the works compound use and for future use of the allotments for warehousing.

The design of the loop road enables separation of light and heavy vehicles as appropriate.

Adequate buffer zones are provided between the proposed works compound facilities and nearby sensitive receivers.

### 3.8.3 Alternative - Do Nothing

The current works compound sits within the MPW Stage 2 SSD 7709 warehouse footprint. As warehouse construction activities progress on the MPW Stage 2 Site, there will be increasing pressure to reduce the existing compound and ultimately remove it from the MPW Stage 2 operational footprint.

To ensure adequate space is available to efficiently enable further construction, maintenance and operational works in accordance with approved MPW works (SSD 5066, and SSD 7709), and future MPW Site development works (subject to future approvals), and to reduce constraints to future warehousing demands, the works compound needs to be established in a more appropriate portion of the site.

Additionally, the progressive implementation of subdivision works on the MPW Site is required to facilitate the subdivision certification process and to support management of tenant leasing and registration requirements for long-term leases.

Failing to provide an appropriate works compound and ancillary infrastructure within the MPW Development Site could delay progress of the MPW Development and would not be consistent with MPW Development goals.

## 3.9 Assessment of Key Environmental Issues

Key environmental issues relating to the Proposal's construction and operation have been initially identified based upon investigations and environmental assessment undertaken as part of the SSD 5066 and SSD 7709 environmental assessments. Further assessments of the Proposal's environmental impacts are detailed in Sections 7 to 17.

The study area for MPW Stage 2 environmental assessments included the entire MPW Site, including the Proposal Site. The associated physical works and the scale, nature and extent of the potential impacts for the Proposal are similar to construction development works already previously assessed as part of the broader MPW Stage 2 SSD 7709 environmental impact assessments. Given that the SSD 7709 consent applies to the entire MPW Site, environmental assessments carried out in respect of MPW Stage 2 continue to be relevant and applicable to the consideration of nature, scale and extent of likely impacts for this Proposal.

Assessment to support this Proposal predominately involved assessment of the existing MPW Stage 2 documentation to reflect the changes as a result of the Proposal, considering the internal design, planning and progressive construction and operation of the approved SSD 7709 development. It is noted, however, that these previous assessments were for approval of the entire MPW Development, i.e. included construction and operation of the intermodal terminal facility, the rail connection, warehouse and distribution facilities, the freight village, landscaping and supporting road and stormwater infrastructure.

The baseline construction environment for the current Proposal is a site that has been cleared of vegetation, has been remediated, at least partially filled, and has existing construction vehicle movement caps associated with import of fill.

All works proposed to be constructed and operated in the Proposal are consistent with those in the SSD 7709 consent, fall within the original approved construction and operation footprint and involve no new and/or additional works or activities that is inconsistent with those identified and already approved in SSD 7709.

The proposed subdivision is anticipated to have minimal environmental impacts. Potential environmental impacts due to construction and establishment of the works compound and placement/installation of ancillary and infrastructure works to facilitate the works compound and the subdivision development, and operation (i.e. use of the works compound and ancillary infrastructure) have been addressed in Sections 7 through 17.

The CEMP and sub-plans are currently being finalised for MPW Stage 2 to address and mitigate the potential construction environmental impacts identified in the MPW Stage 2 CoC, and the OEMP and sub-plans will be prepared to address and mitigate potential operational impacts. It is anticipated that where environmental impacts assessed in the Proposal EIS are the same or similar to those previously identified, that these impacts would be managed through the application of the MPW Stage 2 CEMP, OEMP and/or sub-plans, updated as appropriate to reflect the Proposal once approved.

Relevant REMMs discussed in previous assessments would continue to apply to this Proposal, and have been adjusted to maintain relevance to MPW Stage 3 scope of works.

The CoC for SSD 5066 (Schedule 4) provide further investigations and information that should be undertaken to inform future approvals for the site and ultimately construction and operation of the MPW Development, including this Proposal. The CoC also refer to the REMMs which have been prepared as part of the Moorebank Intermodal Terminal (MIT) Supplementary Response to Submissions (SRtS) (Parsons Brinkerhoff, 2015) and are to be satisfied as part of future stages of approval for the MPW Development.



## 4. Statutory Planning and Approvals

### 4.1 Overview

In accordance with SSD 5066 and *State Environmental Planning Policy (State and Regional Development)* 2011 (SEPP SRD), development consent for the Proposal is to be sought under Part 4, Division 4.7 of the EP&A Act (Section 2.3). As a result the Proposal (for the MPW Stage 3 works) requires a DA for SSD submitted to DPIE, with a supporting EIS prepared.

Approval (SSD 7709) has been granted for MPW Stage 2 works (SSD 7709) including the construction and operation of a multi-purpose freight terminal (that enables interstate and intrastate freight distribution and port shuttle (IMEX) movements), warehousing and a rail link connection. CoC for MPW Stage 2 issued by the IPC on 11 November 2019 are applicable to the entire MPW Site and have been reviewed and assessed for this Proposal.

### 4.2 Commonwealth Legislation

#### 4.2.1 Environmental Protection and Biodiversity Conservation Act 1999

The EPBC Act protects Matters of National Environmental Significance (MNES) such as threatened species and ecological communities, migratory species (protected under international agreements) and National Heritage places (among others).

In accordance with Sections 67 and 67 A of the EPBC Act, any works that have the potential to result in an impact on any MNES or on Commonwealth land are considered to be *controlled actions* and require a referral to the Federal Minister for the Environment for approval. The MPW Development was determined to be a controlled action and approval sought and granted (EPBC Reference 2011/6086) on 27 September 2016, as the MPW Development will be undertaken by, or on behalf of the Commonwealth and will result in impacts to listed threatened species, including:

- *Persoonia nutans* (listed as Endangered under the EPBC Act)
- *Grevillea parviflora subsp. parviflora* (listed as Vulnerable under the EPBC Act).

The EPBC Approval is subject to a number of conditions. As demonstrated in Table 4-1, the Proposal is consistent with the relevant EPBC CoC.

Table 4-1: EPBC Conditions of Approval Compliance Assessment.

Condition Number	Requirement	Comment
1	Construction activities or operations are not to extend outside the development footprint (Annexure 1 of Approval).	MPW 3 Proposal is entirely within the footprint as per Annexure 1 of the EPBC Approval.
2	Preparation of a Construction Environmental Management Plan (CEMP)	The existing approved MPW Site CEMP would be reviewed and revised, as required, following receipt of CoC for MPW Stage 3. The CEMP would address elements outlined in the EPBC CoC, and outcomes of specialist studies for the Proposal including the traffic assessment, stormwater assessment, visual



Condition Number	Requirement	Comment
		impact assessment and biodiversity assessment.
4	Preparation of an Operational Environmental Management Plan (OEMP)	The OEMP to be prepared for the MPW Site would be reviewed and revised following receipt of CoC for MPW Stage 3. The OEMP would address elements outlined in the EPBC CoC and outcomes of specialist studies for the Proposal including the traffic assessment, stormwater assessment, visual impact assessment and biodiversity assessment.
5 - 13	Consideration of impacts of the Proposal to environmental elements (including traffic, noise and vibration, biodiversity, contamination, stormwater, air quality, heritage and visual impacts) within the CEMP and OEMP.	The CEMP and OEMP for MPW Site would be reviewed in light of revised environmental studies and updated accordingly to demonstrate consistency with these management plans and the EPBC CoC.
14-15	Biodiversity Offset Strategy and Management Plan	As outlined in Section 10, a Biodiversity Offset Strategy was prepared to support the Response to Submissions for the MPW Concept Plan. This document outlined the biodiversity credits required to offset biodiversity impacts with the wider MPW Development. Following revision of the EPBC conditions in September 2019 this document is now labelled a Biodiversity Offset Strategy and Management Plan. The offset strategy has since been implemented in accordance with the EPBC CoC. The works included within the Proposal are covered within the scope of this offset strategy.
16 - 27	Administrative conditions	Administrative conditions shall be adhered to as the Proposal progresses to later stages of construction and operation works.

## 4.3 State Legislation

### 4.3.1 *Environmental Planning and Assessment Act 1979*

The EP&A Act is the principal planning legislation for NSW. It provides a framework for the overall environmental planning and assessment of proposals. Part 3 of the EP&A Act provides for the formation of Environmental Planning Instruments (EPIs) (in the form of Local Environmental Plans (LEPs) or State Environmental Planning Policies (SEPPs)) which in turn outline the permissibility of development and respective controls and approval requirements. Assessment of the Proposal's consistency with the requirements and objectives of relevant EPIs is provided in Sections 4.3 and 4.4 of this EIS.

#### 4.3.1.1 Objectives

Table 4-2 demonstrates consistency of the Proposal against the objectives of the EP&A Act.

Table 4-2: Assessment of Proposal against EP&A Act Objectives (Clause 1.3 of Act).

Objective	Requirement	Comment
a	Promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources	<p>The proposed subdivision will have neutral impacts on the State's natural and other resources.</p> <p>The works compound and associated ancillary works have been designed to maintain the social and economic welfare of the community by minimising impacts on the surrounding environment, development and communities.</p>
b	Facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment	<p>The Proposal is consistent with the principles of Ecologically Sustainable Development (ESD).</p> <p>The Proposal is part of the wider approved MPW Development that has been designed to integrate site economic, environmental and social site constraints and opportunities.</p>
c	Promote the orderly and economic use and development of land	The Proposal forms part of the wider MPW Development which was strategically identified and approved as a Project that would improve the economic efficiency of freight distribution throughout NSW.
d	Promote the delivery and maintenance of affordable housing	The Proposal does not include provision of affordable housing. The Proposal site has not previously been identified as an opportunity for the provision of affordable housing.
e	Protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats	Detailed biodiversity and flora fauna assessments have been completed as part of MPW Concept Plan and MPW Stage 2 Approvals. As outlined in Section 10, the Proposal does not increase the operational footprint of the MPW Stage 2 footprint so would not result in any additional impacts to threatened species or ecological communities that have not already been assessed and approved under the MPW Stage 2 Project.
f	Promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage)	Detailed Indigenous and Non-Indigenous impact assessments have been prepared and approved as part of MPW Concept and MPW Stage 2 Approvals. The Proposal does not increase the footprint of the MPW Stage 2 footprint so would not result in any additional impacts on heritage values that have not already been assessed and approved under

Objective	Requirement	Comment
		the MPW Stage 2 Project. Sections 12 and 13 provide further assessment.
g	Promote good design and amenity of the built environment	<p>The proposed subdivision will have neutral visual impacts on the site.</p> <p>Visual Impact Assessments have been prepared and approved in support of MPW Stage 2 development. The assessments included scope for construction of a works compound. As detailed in Section 15, the Proposal does not generate any additional impacts not already considered, assessed and approved under the MPW Stage 2 Project.</p>
h	Promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants	The Proposal has been designed to ensure proper construction and maintenance of buildings, including the protection of the health and safety of their occupants. The MPW Stage 2 CEMP and OEMP shall also be revised, as required, in light of the Proposal to meet this objective.
i	Promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State	Consultation completed as part of the preparation of the EIS has provided opportunity and encouraged all relevant local councils and State government agencies to have input and contribute to the design and development of the Proposal.
j	Provide increased opportunity for community participation in environmental planning and assessment	Community consultation has been undertaken throughout all stages of the MPW development (i.e. Concept Plan Approval and associated exhibition, Stage 2 Approval and associated exhibition) and feedback considered. This consultation shall continue, subject to approval, throughout the detailed design, construction and operation of the Proposal.

#### 4.3.1.2 Planning and Approval Pathway

The Proposal represents the third development application for the MPW Development. ‘

1. The MPW Concept Plan and Stage 1 Early Works consent (SSD 5066) was granted on 3 June 2016 under Part 4, Section 4.1 of the EP&A Act for the MPW Development and included the following:
  - Concept Proposal: use of the site as an intermodal facility, including a rail link to the SSFL, warehouse and distribution facilities, and associated works; and
  - Early Works (Stage 1): demolition of buildings including services termination and diversion; rehabilitation of the excavation/earthmoving training area; remediation of contaminated land; removal of underground storage tanks;

heritage impact remediation works; and the establishment of construction facilities and access, including site security.

2. MPW Stage 2 (SSD 7709) was approved by the IPC under what was then Part 4 Division 4.1 of the EP&A Act on 11 November 2019. The Approval provides CoC for the construction of an interstate freight terminal, warehousing and a rail link connection. Construction for MPW Stage 2 development works is expected to commence once the preparation of the CEMPs and other required documentation have been approved.

In accordance with the MPW Concept Plan EIS and associated documentation, it was envisaged that any further development under the Concept Plan Approval would be undertaken under Part 4, Division 4.7 of the EP&A Act.

As the Proposal forms part of the development approved under the MPW Concept Plan, it is SSD in accordance with Clause 12 of *State Environmental Planning Policy (State and Regional and Development) 2011*.

This EIS has been prepared in support of the SSD application and approval process and to satisfy Clause 3, Schedule 2 of the EP&A Regulation, and so in accordance with the State and Regional Development SEPP, the Proposal is to be assessed as SSD and approval is sought under Part 4, Division 4.7 of the EP&A Act.

Additionally, under Section 4.3.1, Schedule 1, Clause 19 of the SEPP(S&RD) specifies that developments for the purposes of 'rail and transport related facilities' that have a capital investment value of more than \$30 million are considered SSD that require assessment under Part 4, Division 4.7 of the EP&A Act.

#### 4.3.1.3 Section 4.15 (previously Section 79C): Matters of Consideration

As the Proposal seeks approval via a development application under the EP&A Act it must demonstrate consistency with the Matters of Consideration under Section 4.15. Table 4-3 demonstrates this consistency.

Table 4-3: Compliance with Matters of Consideration (Section 4.15 (1) of the EP&A Act

Objective	Matters of Consideration	Comment
a	Relevant legislation, plans and policy	A detailed assessment of the Proposal against relevant legislation, plans and policy is provided within this EIS. This assessment demonstrates that the Proposal is consistent with relevant requirements and includes suitable mitigation measures to ensure this compliance is achieved throughout construction and operation.
b	Environmental impacts	Sections 6 to 17 and associated Appendices provide detailed environmental assessment of the Proposal to identify potential impacts and where they occur, provide suitable mitigation measures.

c	Site suitability	The Proposal forms part of the wider MPW Development that was recognised as suitable for the site on approval of the Concept Plan (SSD 5066). The scope of this Proposal was envisaged, assessed and approved under both the Concept Plan and MPW Stage 2 Approvals.
d	Submissions	Submissions made during the MPW Concept and Stage 2 Approval process have been considered as part of preparation of this EIS (Section 5). An appropriate <i>Community Communication Strategy</i> (CCS) will be adopted to inform relevant key stakeholders and the community regarding this Proposal.
e	The public interest	<p>The wider MPW Development is considered in the public interest as it has been strategically identified and approved as a Project that would improve the economic efficiency of freight distribution throughout NSW. Positive impacts resulting from the development are likely to be experienced at both a regional and local level.</p> <p>As demonstrated throughout this EIS, the Proposal is consistent with relevant State and regional planning policies and environmental regulations.</p>

#### 4.3.2 *Protection of the Environment Operations Act 1997*

The *Protection of the Environment Operations Act 1997* (POEO Act) sets out procedures and requirements for waste, air, water and noise pollution control. It establishes that an environment protection licence (EPL) must be obtained for a *scheduled activity* as prescribed in Schedule 1 of the POEO Act.

While an existing EPL (EPL No. 21054) exists in respect of the MLP, i.e. it presently covers the construction and operation footprint of MPW and MPE sites respectively, the Proposal itself does not include activities listed under Schedule 1 of the POEO Act. Therefore an EPL would not be required specifically for the Proposal and no additional scheduled activities are required to be added to the existing EPL.

#### 4.3.3 *Contaminated Land Management Act 1997*

The *Contaminated Land Management Act 1997* (CLM Act) establishes a process for investigating and remediating land that the Environment Protection Authority (EPA) considers to be contaminated significantly enough to require regulation. The CLM Act defines contamination of land as:

*The presence in, on or under the land of a substance at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment.*

The Concept Plan Approval included Phase 1 and Phase 2 Environmental Site Assessments for the intermodal freight facility site, a Phase 1 Environmental Site Assessment for the rail link connection and preparation of Site Audit Statements. Activities under the Early Works (Stage 1) consent remediated the majority of the existing onsite contamination.

Subject to alignment and demonstrated consistency with the Site Audit Statements, Contamination Management Plan, and CEMP prepared for the MPW Site, and requirements issued under MPW Stage 2 CoC in respect of completing Site Audit Statement requirements subsequent to import of fill to the MPW Site, no further contamination assessment is required. Further discussion on soil and contamination is provided in Section 12 of this EIS.

#### **4.3.4 National Parks and Wildlife Act 1974**

The *National Parks and Wildlife Act 1974* (NPW Act) regulates the control and management of all national parks, historic sites, nature reserves and Aboriginal areas (among others). The main aim of the NPW Act is to conserve the natural and cultural heritage of NSW. Absence from an existing listing does not necessarily mean it is not significant or remove responsibility to identify and consider importance.

Heritage 'objects' can comprise places, buildings, archaeological sites, landscapes, individual vegetation items (i.e. trees) and fixed or moveable objects. Where works would disturb Aboriginal objects, an Aboriginal Heritage Impact Permit (AHIP) is required. Under Section 4.41 of the EP&A Act, development applications assessed as SSD do not require an AHIP.

The MPW Concept Plan and MPW Stage 2 EISs included an *Aboriginal Heritage Impact Assessment* for the MPW Site. Activities under the Early Works consent included Aboriginal heritage salvage works and the majority of salvage works have already been completed for the site. Subject to alignment and demonstrated consistency with the *Aboriginal Cultural Heritage Salvage Report* prepared for the MPW Site, requirements and recommendations of the CEMP sub-plan *Construction Heritage Management Plan* and requirements issued under MPW Stage 2 CoC, no further heritage assessment is required. Further details pertaining to the Proposal and Aboriginal heritage is provided in Section 13.

#### **4.3.5 Biodiversity Conservation Act 2016**

The *Biodiversity Conservation Act 2016* (BC Act) replaces the TSC Act and its purpose is to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ESD.

As part of the MPW Concept Plan and MPW Stage 2 Approvals, biodiversity and flora fauna assessments were undertaken and approval provided under the (then) applicable TSC Act. The Biodiversity Assessment Report (BAR) (Arcadis, 2019) prepared for MPW Stage 2 documented potential ecological impacts associated with threatened species or ecological communities and identified required biodiversity offsets. Ecological values within the Proposal Site and subsequent impacts resulting from the Proposal are within the scope of assessments already undertaken for MPW Stage 2.

All credits required for MPW Stage 2 have been retired in accordance with the SSD 7709 consent and therefore the ecological requirements of the Proposal, under the BC Act 2016 have been achieved.

A Waiver Application was submitted to the Department prior to the issuance of the SEARs to request that the Proposal be exempt from Section 7.9 (2) of the BC Act, meaning that this EIS need not be accompanied by a Biodiversity Development Assessment Report (BDAR), as previous biodiversity assessments included the entire MPW Site (refer to Section 10).

The BDAR waiver was granted by DPIE on 13 March 2020 (refer to Appendix J for further details including copies of the BDAR Waiver Approvals from the Planning Agency Head and Environment Agency Head).

#### 4.3.6 *Noxious Weeds Act 1993 / Biosecurity Act 2015*

Project environmental assessments were undertaken in accordance with the objectives of the *Noxious Weeds Act 1993* (NW Act) which aimed to reduce the impact of weeds by preventing and restricting their spread. The NW Act identified individual classes (based on their prohibition in geographic areas) for types of noxious weeds.

A noxious weed classified as a Class 1, 2 or 5 noxious weed was referred to in the NW Act as a 'notifiable weed'. If notifiable weeds were present on the land the occupier of the land was required to notify Council. Weeds identified as 'Weeds of National Significance' listed by the Natural Resource Management Ministerial Council were identified as Class 1, 2 or 5 noxious weeds under the NW Act. The NW Act was repealed by the *Biosecurity Act 2015*.

Surveys of the MPW Site in the MPW Concept Plan EIS identified 14 weeds listed under the (now repealed) NW Act for the Liverpool noxious weed control area. Management and mitigation of noxious weeds on the MPW Site (and therefore within the Proposal area) was previously assessed and approved.

The CEMP to be adopted for the Proposal and REMMs already prepared for the site aim to prevent, eliminate, minimise or otherwise manage weeds. The Proposal remains consistent with the objectives of the *Biosecurity Act 2015*.

#### 4.3.7 *Water Management Act 2000*

The aim of the *Water Management Act 2000* (WM Act) is to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations. The EP&A Act lists the parts of the WM Act that do not apply to SSD (Section 4.41). This section, however, excludes an aquifer interference approval that may be required under Section 91 of the WM Act.

The Proposal does not include works that have potential to interact with the water table or onsite aquifers. The MPW Concept Plan EIS included a *Surface Water Assessment* which included the Proposal site and assessed potential impacts on surrounding water bodies. Appropriate stormwater design reports and drawings shall be prepared prior to the establishment of the works compound in accordance with MPW Stage 2 CoC (B4).

Further, the subdivision plan shall provide details of drainage works to show internal connections and interdependencies between the individual intermodal functions within the development site are maintained. Where required, the CEMP sub-plan *Construction Soil and Water Management Plan* shall be updated.

The Proposal is therefore considered consistent with the requirements of the WM Act.



#### 4.3.8 *Roads Act 1993*

The *Roads Act 1993* (Roads Act) covers activities in, on, under or over a public road. This Act is administered by NSW Roads and Maritime Services (RMS), the local council or the NSW Land and Property Management Authority depending on the road classification. Under Section 138 of the Act approval is required for works undertaken within a public road reserve. In accordance with Section 4.42 of the EP&A Act consent under Section 138 of the *Roads Act* cannot be refused if it is necessary for the carrying out of an SSD authorised by a development consent.

No additional roadworks are anticipated external to the MPW Site, with existing approved intersections and access to and from Moorebank Avenue being proposed. Should any additional site access be required, any approvals under Section 138 of the *Roads Act* shall be sought in the post-approvals process. The Proposal is therefore consistent with the requirements of the *Roads Act 1993*.

### 4.4 State and Regional Environmental Planning Policies

#### 4.4.1 *State Environmental Planning Policy (State and Regional Development) 2011*

The aims of the *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP(S&RD)) are to identify development that is considered SSD, State significant infrastructure (SSI) or critical State significant infrastructure (CSSI).

Development is declared to be SSD if the development on the land concerned is by the operation of an environmental planning instrument, not permissible without development approval under Part 4 of the EP&A Act and the development is identified in Schedule 1 or 2 of the SEPP(S&RD).

As outlined in Section 4.3.1, Schedule 1, Clause 19 of the SEPP(S&RD) specifies that developments for the purposes of 'rail and transport related facilities' that have a capital investment value of more than \$30 million are considered SSD that require assessment under Part 4, Division 4.7 of the EP&A Act.

The Proposal forms part of the development approved under the MPW Concept Plan, exceeds the capital investment value at an estimated \$38 million, and so it is SSD in accordance with Clause 12 of SEPP(S&RD).

Under Clause 11 of SEPP(S&RD), development control plans (DCPs) developed under LEPs are not applicable to SSD. Notwithstanding this, consideration of the Proposal having regard to the Liverpool DCP 2008 has been provided (Section 0).

#### 4.4.2 *State Environmental Planning Policy (Infrastructure) 2007*

The aim of the *State Environmental Planning Policy Infrastructure 2007* (ISEPP) is to facilitate the effective delivery of infrastructure across the State. Part 3 Division 15 of ISEPP relates to railway infrastructure and development within rail corridors. Clause 81 permits 'rail freight intermodal facilities' by any person with development consent in 'prescribed zones', which include IN1 General Industrial and SP2 Infrastructure zones. This Proposal forms part of the proposed rail freight intermodal facility at the site and so is permissible with consent under ISEPP.



#### *4.4.3 State Environmental Planning Policy No 33 – Hazardous and Offensive Development*

*State Environmental Planning Policy No. 33- Hazardous and Offensive Development* (SEPP 33) defines certain activities that may create risk to people, property or the environment as a 'potentially hazardous industry' or 'potentially offensive industry'.

A *Hazard and Risks Assessment* was prepared for the MPW Development as part of the application for Concept Plan Approval. This assessment found that a Preliminary Hazard Assessment was not required. This Proposal remains within the scope of this assessment and does not involve any additional activities that will be considered to fall under SEPP 33. Subject to the Proposal aligning with the CEMP prepared for MPW Stage 2 and requirements issued under MPW Stage 2 CoC, no further hazard risk assessment is required.

#### *4.4.4 State Environmental Planning Policy No 64 – Advertising and Signage*

*State Environmental Planning Policy No. 64 - Advertising and Signage* (SEPP 64) aims to ensure that signage is compatible with its surroundings, provides effective communication and is of high-quality design. Clause 8 states that a consent authority must not grant consent to a DA unless it is consistent with the objectives and assessment criteria provided in this SEPP. The Proposal is likely to include signage that will be visible from Moorebank Avenue (a public place) and so SEPP 64 applies.

A *Visual Impact Assessment* was undertaken as part of the EIS for MPW Concept Plan Approval. This assessment provided mitigation measures to maintain design quality at the site. This assessment was consistent with the objectives of SEPP 64.

The potential visual impacts of the Proposal on the surrounding area (including the potential impacts of signage associated with the operation of the Proposal) are outlined and assessed in Section 14.

The Proposal is considered compliant with the provisions of SEPP 64.

#### *4.4.5 State Environmental Planning Policy No 55 – Remediation of Land*

The *State Environmental Planning Policy No. 55 – Remediation of Land* (SEPP 55) provides controls and guidelines for the remediation of contaminated land. It aims to promote the remediation of contaminated land to reduce the risk of harm to human health and/or the environment.

Contamination assessments and subsequent remediation action plans and validation assessments have been prepared and approved as part of the Concept Plan and MPW Stage 2 Approvals. The Proposal lies within the area and scope of MPW Stage 2 and therefore no additional assessments are required and the Proposal is considered consistent with the requirements of SEPP 55. No further contamination assessment is required.

A detailed assessment of soil and contamination as it relates to the Proposal is provided in Section 12.

#### *4.4.6 Greater Metropolitan Regional Environmental Plan No 2 – Georges River Catchment*

*Greater Metropolitan Regional Environmental Plan No 2 – Georges River Catchment* (GREP 2) aims to maintain and improve the water quality and river flows of the Georges River and its catchment and to establish a consistent and coordinated approach to environmental planning and assessment for land along the Georges River and its tributaries. The MPW Site exists

within the Georges River catchment and so consistency of the Proposal with the objectives of the GREP 2 is required.

Part 3, Section 11 of GREP 2 provides a planning control table which provides specific objectives and matters of consideration for specific types of development. Table 4-4 provides a compliance assessment of the Proposal against the relevant matters of consideration of GREP 2.

Table 4-4: Compliance with Matters of Consideration of GREP 20.

Development	Matters of Consideration	Comment
9. Industry	<p>Cumulative environmental impact of any industrial uses on water quality within the catchment.</p> <p>Adequacy of stormwater controls and stormwater management.</p> <p>Impact on groundwater and remnant vegetation.</p> <p>Provision of vegetated buffers to protect watercourses and sensitive areas.</p> <p>Wastewater disposal.</p>	<p>The Proposal does not propose onsite wastewater disposal.</p> <p>The Stormwater Assessment prepared as part of the MPW Stage 2 Approval has been reviewed in light of the Proposal. Outcomes of this assessment and mitigation measures to protect the Georges River catchment are provided in Section 11.</p> <p>Biodiversity and flora fauna investigations have been prepared as part of the Concept Plan and Stage 2 Approvals. These assessments included discussion of impact on remnant vegetation and riparian vegetation. Details of these assessments and how they relate to the Proposal are provided in Section 9. In accordance with GREP 2, no significant impacts on remnant vegetation will occur as a result of the Proposal.</p>
20 Stormwater Management System or Works	<p>Impact of stormwater on receiving waters.</p> <p>Neutral or beneficial effect of Proposal on waterways.</p> <p>Compliance with <i>Managing Urban Stormwater Soils and Construction Handbook (1998)</i>.</p> <p>Consistency with Council sediment and erosion control plan.</p>	<p>The Stormwater Assessment prepared as part of the MPW Stage 2 Approval has been reviewed in light of the Proposal. Outcomes of this assessment and mitigation measures to protect the Georges River catchment are provided in Section 11.</p> <p>This assessment demonstrates the Proposal is consistent with the relevant objectives of GREP 2.</p>

## 4.5 Local Environmental Planning Policies

### 4.5.1 Liverpool Local Environmental Plan 2008

#### 4.5.1.1 Aims

The aims of the Liverpool LEP 2008 and the Proposal's consistency with them are provided in Table 4-5.

Table 4-5: Compliance assessment with Liverpool LEP 2008 aims.

Aim	Comment
To encourage a range of housing, employment, recreation and services to meet the needs of existing and future residents of Liverpool.	The Proposal will encourage employment opportunities and facilitate the development of the greater MPW Site which will provide for a vast number of services and opportunities to meet the needs of existing and future residents of Liverpool.
To foster economic, environmental and social well-being so that Liverpool continues to develop as a sustainable and prosperous place to live, work and visit.	The Proposal has been designed in accordance with the principles of ESD so that Liverpool continues to develop as a sustainable and prosperous place to live, work and visit.
To provide community and recreation facilities, maintain suitable amenity and offer a variety of quality lifestyle opportunities to a diverse population.	The Proposal has been designed to, where possible, maintain or improve site amenity and avoid adverse impacts on the amenity of the surrounding area.
To strengthen the regional position of the Liverpool city centre as the service and employment centre for Sydney's south west region.	NA
To concentrate intensive land uses and trip-generating activities in locations most accessible to transport and centres	As outlined in Section 2, the Proposal site is located in close proximity to industrial precincts and has connectivity and access to major roads, motorways and existing rail lines.
To promote the efficient and equitable provision of public services, infrastructure and amenities	The Proposal shall facilitate delivery of the MPW development which will promote efficient freight management and transport.
To conserve, protect and enhance the environmental and cultural heritage of Liverpool	Environmental and cultural heritage has been considered as part of this Proposal which has been adapted to conserve and protect values as required.
To protect and enhance the natural environment in Liverpool, incorporating ecologically sustainable development,	The Proposal is consistent with the principles of ESD. Sections 6 to 16 provide assessments of environmental impacts and how these shall be mitigated to protect and enhance the natural environment in Liverpool.
To minimise risk to the community in areas subject to environmental hazards, particularly flooding and bush fires,	The Proposal has been designed such that risks from environmental hazards are appropriately managed and are not amplified.
To promote a high standard of urban design that responds appropriately to the existing or desired future character of areas.	The Proposal is intended to be consistent with the Urban Development Design Report currently under preparation for the greater MPW Site. This plan has considered the relevant visual impacts and has been

Aim	Comment
	prepared to promote the site as characteristic of the local area.

#### 4.5.1.2 Permissibility

The Proposal is located within IN1 General Industrial zone under the Liverpool LEP 2008. The objectives of this zone are:

- *To provide a wide range of industrial and warehouse land uses.*
- *To encourage employment opportunities.*
- *To minimise any adverse effect of industry on other land uses.*
- *To support and protect industrial land for industrial uses.*
- *To particularly encourage research and development industries by prohibiting land uses that are typically unsightly or unpleasant.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.*

Within this zone, the compound and associated ancillary development is characterised as being supporting works for freight transport facilities and for warehouse and distribution and are therefore permissible with consent.

Clause 4.1 of the Liverpool LEP 2008 requires that the minimum subdivision lot size for the site be 120 ha. This is reflected in Condition E26(a) of the MPW Concept Plan Approval (SSD 5066) MOD 1 which states:

*Any future development application for subdivision must:*

- *Demonstrate compliance with the minimum lot size specified in the Liverpool Local Environmental Plan.*

The Proposal includes subdivision of the 189.4 ha site into nine (9) lots, with areas between 12.28 ha and 38.91 ha (i.e. below the prescribed minimum lot size). The Proposal is therefore non-compliant with Clause 4.1 of Liverpool LEP 2008. As outlined previously (3.1.2.4), this SSD application therefore seeks to concurrently lodge a Clause 4.6 variation as an exception to the minimum lot size development standards (Clause 4.1) of the Liverpool LEP 2008 to allow the proposed lot layout to be undertaken.

#### 4.5.1.3 Controls

The consistency of the Proposal with the relevant controls of Liverpool LEP 2008 is provided in Table 4-6.

Table 4-6: Consistency with Liverpool LEP 2008 relevant controls.

LEP Clause	Requirement	Comment	Consistent (Yes/No)
Part 2 Land Use Zoning	The Proposal is consistent with the permissible land uses within IN1 General industrial zone.	The Proposal is characterised as freight transport facilities which is permissible in IN1 with consent.	Yes

LEP Clause	Requirement	Comment	Consistent (Yes/No)
4.1 Minimum subdivision lot size	The Proposal is consistent with minimum lot size requirements, being 120 ha.	The Proposal seeks subdivision of the site into 9 lots. Lots are less than the prescribed minimum lot size.	No <sup>1</sup>
4.3 Height of buildings	Maximum building height limit of 21 m applies to the Proposal site.	The proposed Compound will not exceed maximum building height requirements	Yes
4.4 Floor Space Ratio (FSR)	Maximum FSR of 1.0 applies to the Proposal site.	The proposed Compound will not exceed maximum FSR requirements	Yes
5.10 Heritage Conservation	Consent is required for impacts on heritage items and conservation areas, as outlined in Liverpool LEP 2008.	Consent for impacts on heritage items was provided as part of MPW Stage 2 Approval. The Proposal does not generate any additional heritage impacts and additional assessment and consent is not required.	Yes
7.6 Environmentally Significant Land	Land identified as being environmentally significant shall be protected and maintained as per the requirements of this Clause. Development applications are to consider the impacts of works on environmental values of the land.	As part of the Concept Plan and MPW Stage 2 applications and Approvals, detailed environmental assessments, including biodiversity assessments and heritage assessments have been completed. These assessments have been reviewed in light of the Proposal. Section 6 – 16 provides a summary of the outcomes of these assessments and demonstrate that no adverse impacts on environmentally significant land will arise as a result of the Proposal.	Yes
7.7 Acid Sulfate Soils (ASS)	Development is not to disturb, expose or drain acid sulfate soils without an appropriate assessment and management plan.	As a subplan of the MPW Stage 2 CEMP an <i>Acid Sulfate Soils Management Plan</i> has been prepared. As outlined in Section 12, although no impacts to ASS are expected as a result of the Proposal, this Plan shall be reviewed and updated, where required, to reflect the Proposal.	Yes
7.8 Flood Planning	Development consent must not be granted unless the	A comprehensive flood assessment was prepared as	Yes

LEP Clause	Requirement	Comment	Consistent (Yes/No)
	development is considered compatible with flood hazard and will not significantly adversely impact on flood behaviour.	part of the MPW Stage 2 EIS and subsequently approved. The MPW Site is flood affected but is considered flood free in relation to regional flood conditions. The flood assessment has been reviewed and comment provided to reflect potential impacts in relation to this Proposal, as detailed in Section 11.	
7.36 Arrangements for infrastructure arising out of development of intermodal terminal at Casula and Moorebank (and Clause 22 of Schedule 1)	The Liverpool LEP outlines arrangements for infrastructure arising out of the development of intermodal terminal at Casula and Moorebank.	The Proposal is consistent with the Concept Plan and MPW Stage 2 Approval. It will facilitate the delivery of the intermodal freight facility precinct. The Proposal is consistent with the LEP requirements and vision for this key site and is permissible with development consent.	Yes

**Note:**

<sup>1</sup> The SSD application seeks to concurrently amend the relevant controls of the Liverpool LEP 2008 to permit the proposed subdivision (see below).

#### 4.5.1.4 Subdivision

As discussed in Section 3.1.2 and shown in , the proposed subdivision forming part of this Proposal does not comply with the Liverpool LEP 2008 minimum lot size requirements and Condition E26(a) of the MPW Concept Plan Approval SSD 5066 MOD 1 (which requires demonstrated compliance with Liverpool LEP 2008 minimum lot size requirements).

Division 4.7 of the EP&A Act outlines the planning control provisions for SSD. Assessment of this Proposal in accordance with Clause 4.38 *Consent for State Significant Development* is provided in Section 3.1.2.4.

Section 4.38(5) of the EP&A Act gives the consent authority the power to consider the 4.6 variation as an exception to the minimum lot size development standards under Liverpool LEP 2008 as part of the SSD approval process.

Section 3.1.2.4 of this EIS includes justification for submission of the variation application, which seeks to vary the application of Clause 4.1 of Liverpool LEP 2008 concurrently with this SSD application, and is provided as Appendix F of this EIS.

#### 4.5.2 Liverpool Development Control Plan 2008

The Liverpool DCP 2008 provides detailed development controls applying to the Liverpool Local Government Area. Clause 11 of SEPP(S&RD) however states (emphasis added in bold):

**11 Exclusion of application of development control plans**

*Development control plans (whether made before or after the commencement of this Policy) do not apply to—*

*(a) State significant development, or*

*(b) development for which a relevant council is the consent authority under section 4.37 of the Act.*

The development controls within Liverpool DCP 2008 therefore do not apply to the Proposal.

#### 4.6 Other Applicable Legislation

##### 4.6.1 Public Infrastructure - Section 7.11 Contributions

In accordance with Section 7.11 of the EP&A Act, a determining authority (i.e. Liverpool City Council) is allowed to grant consent to a proposed development subject to a condition requiring the payment of a monetary contribution or a dedication of land free of charge, or a combination of these, towards the provision of public services and public amenities to meet the increase demand for services and amenities generated by the development.

Table 4-7 identifies relevant MPW Concept Plan Approval CoC that apply to public infrastructure and comments on how this has been addressed within this EIS.

Table 4-7: Public Infrastructure – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Relevant EIS Section
<i>Schedule 4 Conditions to be Met in Future Development Applications – Infrastructure Contributions</i>		
E13	All future Development Application shall include:  a) an assessment of the impacts of the Project on local infrastructure, having regard to any relevant Council's Developer Contributions Plan (or equivalent document requiring developer contributions);  b) a commitment to pay developer contributions to the relevant consent authority or undertake works-in-kind towards the provision or improvement of public amenities and services. Note: This requirement may be satisfied subject to the terms of any applicable Voluntary Planning Agreement; and  c) a commitment to undertake vehicle monitoring on Cambridge Avenue. Should any monitoring reveal the need for improvement works within the Campbelltown LGA as a result of the Proposal, the Applicant may be required to contribute towards local road maintenance or upgrades.	a) and b) The apportionment of developer contributions is largely subject to potential impacts to Council's local road and stormwater networks. Further discussions with Council and RMS will be undertaken to clarify developer contribution requirements relative to the scale and extent of likely impacts of the Proposal. Any Developer's contributions would be consistent with calculation methods applied by the IPC to earlier stages of the MLP Development.

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)	Relevant EIS Section
<i>Schedule 4 Conditions to be Met in Future Development Applications – Infrastructure Contributions</i>	

c) As part of the MPW Stage 2 a commitment to undertake camera monitoring at exit points from the MPW Site was undertaken and would continue for the present Proposal.

Developer contributions are required towards the provision, extension or augmentation of public amenities and services as payment to the relevant consent authority - in this case, to Liverpool City Council. The *Liverpool Contributions Plan 2018 – Established Areas*, adopted by Liverpool Council 12 December 2018, is likely to apply to the Proposal. Contributions for Non-residential Development (Section 7 of the Contributions Plan) aims to apply contributions primarily towards traffic and/or stormwater measures and includes the provision of or improvements to:

- bikeways and footpaths - including the provision of missing links to augment the existing bicycle network;
- bus shelters – to facilitate the increasing demand for bus shelters in residential, commercial and industrial areas;
- traffic management facilities – including provision of sub-arterial roads, roundabouts, medians, refuge islands, traffic signals, or other minor intersection works; and
- stormwater quality management facilities – including water quality improvement projects in accordance with Council’s *Water Quality Management Strategy*.

The applicable non-residential contribution development levy to be applied is based on 1.0% of the cost of carrying out the development. Further discussions would be held with Council to confirm contributions required.

## 4.6.2 Other Licences and Approvals

### 4.6.2.1 Section 73

A Section 73 Certificate may be required from Sydney Water for reticulation and sewer supply infrastructure requirements in relation to establishment of amenities for the works compound.



## 5. Consultation

### 5.1 Background

#### 5.1.1 Community Consultation Objectives

As part of the MPW Concept Plan and MPW Stages 1 and 2 approval process, community consultation was undertaken to raise awareness of the MPW Development and engage with key stakeholders with consideration of the following key objectives:

1. Identification of key stakeholders with an interest in the MPW Development.
2. Provision of accurate and relevant information to key community stakeholders and local residents.
3. Provision of a pathway for comment by key community stakeholders and local residents, prior to finalisation of plans.
4. Provision of community feedback to SIMTA, with the opportunity to incorporate the feedback into the planning and development process.

These objectives will remain applicable and will be considered in the SSD preparation stages and throughout the construction and operation activities for the Proposal.

#### 5.1.2 Best Practice Principles

Best practice principles underpinned community consultation objectives and provided the framework for government agency, key stakeholders and community consultation for the MPW Concept Plan. The MPW Stage 2 EIS (Arcadis, 2016) identified the best practice principles which were adopted from the MPW Concept Plan as:

- The Project team is a 'guest' within the community – SIMTA's Project team acknowledges they are a guest within the community for the duration of the project – and will respect local residents, businesses and other stakeholders during this time.
- Aim for 'no surprises' – A 'no surprises' approach during the planning process requires close community and stakeholder interaction to be maintained. This will build trust within the community.
- Delivering on promises – SIMTA will deliver on its promises and, importantly, be seen to be delivering them. This is crucial to building and maintaining stakeholder trust in the context of this Proposal.
- Understanding diverse stakeholder interests and values – SIMTA is committed to identifying and understanding the range of stakeholder issues, values and concerns related to the Proposal.
- Quality and timely information to all affected stakeholders – SIMTA will provide relevant, up to-date and accessible information to all affected stakeholders at planning milestones.
- Develop effective, two-way communication with the community – SIMTA aims to create robust, constructive and respectful communication with community members affected by the Proposal. SIMTA will provide opportunities for the community to have their feedback considered and their concerns addressed throughout the planning process.

These best practice principles remain applicable for the Proposal and have been integrated into the community consultation process, as has been undertaken for previous Proposals for the MPW Development.

### 5.1.3 Previous Consultation Summary

During the preparation of the MPW Concept Plan EIS and Stage 2 EIS, consultation was carried out with the following parties in accordance with the Commonwealth EIS Guidelines under the EPBC Act and the SEARs issued for the Concept Plan under the EP&A Act (Table 5-1):

Table 5-1: Consultation undertaken during preparation of MPW Concept Plan and MPW Stage 2 EIS process.

Authority	Relevant Agency
Commonwealth	<ul style="list-style-type: none"> <li>• Commonwealth Department of the Environment</li> <li>• Department of Finance</li> <li>• Department of Defence</li> <li>• Department of Infrastructure and Regional Development</li> </ul>
State	<ul style="list-style-type: none"> <li>• NSW Environment Protection Authority</li> <li>• NSW Office of Environment and Heritage</li> <li>• NSW Department of Primary Industries, including the Department of Fisheries and Office of Water</li> <li>• NSW Department of Planning and Environment</li> <li>• NSW Rural Fire Service</li> <li>• NSW Health</li> <li>• Sydney Ports</li> <li>• NSW Rural Fire Service</li> <li>• NSW Department of Industry</li> <li>• Sydney Ports Corporation</li> </ul>
Local	<ul style="list-style-type: none"> <li>• Liverpool City Council</li> <li>• Campbelltown City Council</li> <li>• Western City Regional Organisation of Councils</li> </ul>
Service and infrastructure providers	<ul style="list-style-type: none"> <li>• Infrastructure Australia</li> <li>• Infrastructure NSW</li> <li>• Transport for NSW</li> <li>• NSW Roads and Maritime Services</li> <li>• Australian Rail Track Corporation</li> <li>• Sydney Trains</li> <li>• Sydney Water</li> <li>• Australian Trucking Association</li> <li>• Endeavour Energy</li> <li>• Jemena</li> <li>• Optus</li> <li>• Telstra</li> <li>• AGL</li> <li>• APA Group.</li> </ul>
Local community and specialist groups	<ul style="list-style-type: none"> <li>• Registered Aboriginal Parties</li> <li>• Adjacent landowners</li> <li>• Nearby residents</li> </ul>

Consultation with government agencies and service and infrastructure providers continued throughout the public exhibition period of the MPW Concept Plan EIS, the preparation of the Submissions Report and as part of the PAC inquiry and assessment. This consultation included direct meetings to discuss key aspects and concerns associated with the MPW Development and responding to written submissions received during public exhibition.

Consultation was undertaken through a range of mediums including emails, phone conversations, face-to-face meetings, workshops and letter submissions. The EIS was placed on public exhibition in accordance with Schedule 1, Clause 9 of the EP&A Act.

## 5.2 Proposal Consultation

### 5.2.1 Conditions of Approval Requirements

The SSD 5066 CoC and the REMMs require that any future DA for the MPW Development include details of the consultation process and outcomes with relevant stakeholders, potentially including but not limited to:

- relevant government authorities, such as the Commonwealth Dept of the Environment and Energy (DotEE), Environment, Energy and Sciences group (EES), EPA, DPI, Transport for NSW, Sydney Trains, Crown Lands, Department of Primary Industries - Fisheries, Department of Industries – Water, Water NSW, Liverpool City Council and Campbelltown Council;
- service and infrastructure providers; and
- special interest groups and the public, including adjoining and affected landowners.

The following sections detail consultation strategies for the Proposal.

### 5.2.2 Community Communication Strategy

The Proposal represents a further stage of the design, assessment, construction, and operation, for the MPW Development. As such, SIMTA recognises the importance of continuing to engage with Commonwealth, State and local government stakeholders, the community, Registered Aboriginal Parties and special interest groups. As part of the MPW Precinct development process, these agencies have been consulted on an ongoing basis and a feedback loop is provided as part of the submission process.

A *Community Communication Strategy* (CCS) for MPW was established in accordance with SSD 7709, building on the CCS established in respect of MPE Stage 2 SSD 7628, to provide the overarching mechanism to facilitate communication between MPE Project managers and contractors, Liverpool City Council and key stakeholders. The MPW CCS:

- a) Provides details of key components of the Project, including Project delivery phases for construction and operations.
- b) Provides objectives and targets for communication and engagement activities under the CCS.
- c) Provides compliance matrices for Project Conditions of Consent in relation to community involvement.
- d) Identifies key roles and responsibilities associated with the CCS.
- e) Describes incident management procedures.

- f) Summarises available Project tools, including telephone, email and website contact details with regards to community communication, notification, advertisements, signage, information sessions, stakeholder meetings, reporting, training and other information tools.
- g) Provides identification and contact details for key stakeholders, including level of engagement.
- h) Outlines potential impacts to stakeholders from construction activities and provides mitigation and management measures to be implemented to address identified impacts.
- i) Outlines the community communication process, including committee selection, notification timing and approvals process, out-of-hours work protocol, high noise activities and traffic disruptions, complaints and enquiries and media management.
- j) Summarises monitoring and review requirements regarding Project community and stakeholder interactions.

The MPW CCS would be updated as required and implemented for the duration of construction activities.

The preparation and implementation of a CCS for the Proposal, as an extension of the CCS already in place for the MPW Site is currently underway. The process of implementing the CCS for MPW is currently managed by Elton Consulting.

This would entail revising the existing MPW CCS so that it is extended to include the Proposal and would continue to be implemented for the construction and operation stages of the MPW Development, in accordance with MPW Stage 2 SSD 7709 (CoC A31). The Community Consultative Committee formed for MPW would be notified throughout the course of the application, with consultation to be guided by the overarching stakeholder engagement principles that have been used to inform previous consultation.

### 5.2.3 Consultation with Key Stakeholders

A notification letter was emailed to agency contacts as provided by DPIE, to notify stakeholders regarding the proposed development and provide an opportunity for comment prior to the EIS being placed on exhibition.

In accordance with Schedule 1, Clause 9 of the EP&A Act, the EIS would be placed on public exhibition for 28 days. Consultation with key Government agencies and service and infrastructure providers will be undertaken throughout the public exhibition period of the Proposal as part of the assessment by the Department. This consultation may include direct meetings to discuss key aspects and concerns associated with the Proposal, as required, and responding to written submissions received during public exhibition.

Consultation with key stakeholders may be undertaken through a range of mediums including emails, phone conversations, face-to-face meetings, workshops and letter submissions.

A summary of consultation undertaken to date with regards to the Proposal is provided in

Table 5-2.

Table 5-2: Summary of consultation undertaken to date.

Agency	Date	Comment
DPIE	24/12/2019	Scoping Report for MPW Stage 3 lodged by Aspect Environmental with DPIE to request Secretary's Environmental Assessment Requirements (SEARs).
DPIE	11/02/2020	Meeting with DPIE, Aspect Environmental and Tactical Group (representing SIMTA) to discuss the Scoping Report, prior to the preparation and provision of SEARs.
DPIE	11/02/2020	BDAR Waiver Report prepared by Arcadis (2020) was provided to DPIE to request the removal of the requirement for preparation of a BDAR as part of the EIS process for the proposed MPW Stage 3 development.
DPIE	1/04/2020	DPIE provided list of agency and authority contacts for notification and request for comment letter (refer to comment 7/04/2020)
DPIE	2/04/2020;	Meeting to discuss consultation requirements, given the current COVID-19 restrictions.
Stakeholder Agencies	7/04/2020	Letter requesting any additional comment or clarifications prior to EIS lodgement sent to various stakeholder agencies and authorities by Aspect.
Elton Consulting	7/04/2020	Provided a copy of the letter sent out to agencies and authorities, and provided consultation progress update.
DPI Fisheries	7/04/2020	DPI Fisheries response to letter, advised they have no further comment regarding the EIS at this stage, but may provide further comment after review of the documentation.
NSW RFS	9/04/2020	NSW RFS response to letter, advised they have no further comment regarding the EIS at this stage, but may provide further comment after review of the documentation.
DPI Fisheries	14/04/2020	DPI Agriculture response to letter, advised they have no comment to make in respect of this proposed development.
Liverpool City Council	15/04/2020	Liverpool City Council response to letter, advised they have no further comment regarding the EIS at this stage, but may provide further comment after review of the documentation.
Heritage NSW	17/04/2020	Advised comments may be provided by 24 April; otherwise further comment may be provided after review of the documentation.
DPIE	17/04/20	Discussion with Aspect Environmental regarding progression of the EIS, and clarification of DPIE expectations.
NSW EPA	20/04/2020	Advised that DPIE has generally translated the EPA's requirements into the SEARs provided for the Proposal, and will review the documentation in light of the SEARs.
NSW RFS	21/04/2020	Advised that a bush fire assessment against the provisions of <i>Planning For Bush Fire Protection 2019</i> to be prepared for the application, which is consistent with SEARs Item #16, and addressed in Section 17.1.
DPIE	23/04/2020	Discussion with Aspect Environmental regarding progression of the EIS
DPIE	24/04/2020	Discussion with Aspect Environmental regarding progression of the EIS

Recent restrictions imposed by National and State Governments as a result of COVID-19 may result in a modification to intended consultation processes, with face-to face meetings or public workshops unlikely to be undertaken under current conditions. Updates to websites, emails or other online notifications remain suitable community consultation strategies.

## 6. Existing Environment

Precinct construction and operation development works, under various MPW and MPE consents, are well underway.

### 6.1 MPW Concept Plan and Stage 1 Early Works and MPW Stage 2 Approval

The MPW Concept Project (SSD 5066) involves the development of IMT facilities linked to Port Botany and the interstate freight rail network. It also includes associated commercial infrastructure (i.e. warehousing), a rail link connecting the MPW Site to the SSFL, and a road entry and exit point from Moorebank Avenue. Approval for the Early Works phase (Stage 1) was granted within the MPW Concept Plan Approval. Development works for this phase commenced in the third quarter of 2016 and are now largely completed.

MPW Stage 2 (SSD 7709) involves the construction and operation of a multi-purpose IMT facility (interstate/intrastate freight distribution and IMEX movements), warehousing and a rail link connection.

Section 1 of the EIS provides further details of works included within the approved MPW Stage 1 and MPW Stage 2 projects.

At the time of implementation of the Proposal the following environmental characteristics are likely to apply to the site, in accordance with MPW Concept Plan and Stage 1 Early Works (SSD 5066) and MPW Stage 2 (SSD 7709) CoC:

- a) Construction facilities and access, including site security, have been established across the site.
- b) Site remediation works will have been completed, likely including areas where active remediation was not previously able to be undertaken due to the presence of EECs. All previous Defence infrastructure has been removed from the site.
- c) Heritage salvage works will have been completed, with heritage items relocated, in accordance with heritage salvage strategies.
- d) The site's developable land areas will have been cleared of all vegetation.
- e) Fill material will have been placed on the site resulting in raised surface levels over the majority of the site.
- f) The northern portion of the perimeter road (near the site's western boundary and across proposed Lots 5 and 6) will have been constructed.
- g) OSD 3 and OSD 10 will have been installed.
- h) The Moorebank Avenue diversion road would be approaching commissioning.
- i) The application review process by DPIE is likely to be well underway for Project Bell, for the construction of warehousing on proposed Lot 6.

### 6.2 MPE Concept, Stage 1 and Stage 2 Development

The Concept Plan Approval for the MPE Project (MP\_10\_0193) involves the development of an IMT, including a rail link to the SSFL within the Rail Corridor, warehouse and distribution facilities with ancillary offices, a freight village, stormwater, landscaping, servicing and associated works on the eastern side of Moorebank Avenue.



The MPE Stage 1 Proposal (SSD 6766) involves the construction and operation of Stage 1 of Concept Plan including:

- a) an IMT facility operating 24 hrs, seven days a week with a capacity to handle up to 250,000 TEUs including: truck processing and loading areas; rail loading and container storage areas; and an administration facility and associated car parking;
- b) a rail link connecting the southern end of the site to the SSFL; and
- c) associated works including: rail sidings; vegetation clearing, remediation and levelling works; and drainage and utilities installation.

The MPE Stage 2 Proposal (SSD 7628) involves the construction and operation of Stage 2 of the MPE Project, comprising warehousing and distribution facilities and upgrades to Moorebank Avenue.

Specifically, MPE Stage 2 includes:

- a) warehousing (300,000 m<sup>2</sup> GFA) and additional ancillary offices;
- b) freight village (8,000 m<sup>2</sup> GFA) including retail, commercial and light industrial uses;
- c) internal road network, connecting the site to existing public roads;
- d) ancillary supporting infrastructure (drainage, utilities, vegetation clearing, and landscaping);
- e) subdivision of the MPE Site; and
- f) Moorebank Avenue upgrade and upgrades to intersections along Moorebank Avenue.

MPE Stage 2 interacts with the Stage 1 Project via the transfer of containers between the IMT and the warehousing and distribution facilities. Construction works on MPE under both the Concept Plan and Stage 2 Approvals is currently underway.

Development works on MPE are well progressed, and the following environmental characteristics are likely to apply to the site at the time of implementation of the Proposal:

- a) Warehouse 1 (Target) should be operational.
- b) Warehouses 3, 4 and 5 will have been built and possibly tenanted and operational.
- c) Warehouses 2, 6, 7 and 8 should be nearing completion and so approaching operational status.

### 6.3 General Environmental Conditions

A site-specific SEPP and DCP which are currently under preparation for the Precinct and will be imminently forwarded to DPIE for review and approval, will provide guidance for future development applications whilst remaining consistent with existing site consents.

Regular communication meetings and other media initiatives are in progress under the *Community Communication Strategy* (CCS) which was initially established for MPE (in accordance with MPE Stage 2 SSD 7628) to provide the overarching mechanism to facilitate communication between MPE Project managers and contractors, Liverpool City Council and key stakeholders. The CCS will continue to play a vital role in the management of communication to key stakeholders.

Further details regarding existing site conditions are provided in Sections 7 through to 17, and Section 18.1.

## 7. Traffic and Transport

### 7.1 Approval Requirements

#### 7.1.1 SEARs

A traffic and transport report has been prepared by Ason Group (2020) which reviewed and assessed previous reports prepared for MPW Stage 2, as well as MPW Concept Plan reports, where required, to address the SEARs relating to traffic and transport for the Proposal. The report is included as Appendix G of this EIS.

Table 7-1 identifies the SEARs as they relate to traffic and transport, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 7-1: SEARs for the Proposal relating to traffic and transport.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 4	<p><b>4. Traffic and Transport</b> – including but not limited to:</p> <p>A Traffic Impact Assessment that assesses intersection and road network impacts, including impacts on Cambridge Avenue. The traffic assessment must provide:</p> <ul style="list-style-type: none"> <li>a) details of the current daily and peak hour light and heavy vehicle, public transport, pedestrian and bicycle movements (including consideration of pedestrian and bicycle access from Casula train station to the MPW and Moorebank Precinct East (MPE) sites), and existing traffic and transport facilities provided on the road network located adjacent to the proposed development</li> <li>b) details of the proposed permanent access road and temporary loop road</li> <li>c) detailed traffic modelling analysis to assess the road network operation in consultation with Transport for NSW and identify intersection upgrade requirements (if required). This assessment must include both MPE and MPW sites under the State Significant Development (SSD) applications approved to date</li> <li>d) an assessment of operational traffic and transport impacts to the road network and transport operation, including any changes to local road connectivity and impacts on local traffic arrangements, road capacity/safety assessment and traffic capacity of the road network and its ability to cater for predicted future growth and the development traffic</li> <li>e) details of mitigation measures for the identified impacts (if any)</li> <li>f) details of proposed upgrade(s) at key intersections (if any), such as vehicle swept paths, geometry and sight lines</li> <li>g) details of future public transport requirements including bus services and bus stops</li> <li>h) an assessment of construction traffic impacts, which may include a draft Construction Traffic Management Plan including: <ul style="list-style-type: none"> <li>(ii) the identification of haulage routes and details of the existing traffic situation on these routes</li> <li>(iii) an assessment of construction traffic volumes (including spoil haulage/delivery of materials and equipment to the road corridor and ancillary facilities)</li> </ul> </li> </ul>	<p>Section 7 and Appendix G</p> <p>a) Section 7.3.1.2</p> <p>The <i>Liverpool Bike Plan 2018-2023</i> indicates that a new path near Casula station may be provided in the future as part of the Liverpool to Parramatta Rail Trail.</p> <p>b) Section 3.1.3.2</p> <p>c) and d) Section 7.3.2</p> <p>e) Section 7.3.1.2</p> <p>The Proposal will have no material impact on the previously identified mitigation measures, which are outlined in the <i>Operational Traffic and Transport Impact Assessment</i> (OTTIA).</p> <p>f) and g) Section 7.3.2</p> <p>g) Section 7.3.1.2</p> <p>h) Sections 7.3.1.2, 7.5.1 and 0, and Appendix G</p> <p>(ii) Section 7.3.2</p> <p>(iii) Sections 7.3.1.2 and 7.3.2</p> <p>(iv) Section 7.3.1.2</p> <p>Indicative construction staging details are provided in Section 3 of the <i>Construction Traffic Impact Assessment</i> (CTIA). Works (current and future) in</p>

<ul style="list-style-type: none"> <li>(iv) a draft construction staging plan that includes the proposed construction activities and timeframe for each stage for MPE Stage 1 and 2 approvals and MPW Stage 2 approval</li> <li>(v) an assessment of cumulative impacts associated with other construction activities, including MPE and MPW sites under the SSD applications approved to date</li> <li>(vi) details of peak hour and daily truck movements, hours of operation, access arrangements at all stages of construction, including the access points to MPW Stage 2 and MPE Stage 1 and Stage 2 projects and traffic control measures for all construction activities</li> <li>(vii) an assessment of construction road safety at key intersections and locations subject to pedestrian / vehicle / bicycle conflicts</li> <li>(viii) details of any required temporary cycling and pedestrian access during construction</li> <li>(ix) details of access arrangements for workers to / from the site, including pedestrian and public transport linkages, emergency vehicles and service vehicle movements</li> <li>(x) details of mitigation measures for the identified impacts (if any).</li> <li>i) be prepared in accordance with: Guide to Traffic Generating Developments (Roads and Maritime Services), EIS Guidelines — Road and Related Facilities (DoPI), NSW Planning Guidelines for Walking and Cycling and Guide to Traffic Management Part 12: Traffic Impacts of Development (AUSTROADS).</li> </ul>	<p>relation to MPW and MPE shall be addressed in the relevant CTAMP prepared for each Approval.</p> <p>(v) Section 7.3.1.2</p> <p>A cumulative assessment of both MPW and MPE construction activities has been undertaken previously as part of the MPW Stage 2 CTIA. As there is no change to proposed traffic generation, no further cumulative construction assessment works are required.</p> <p>(vi) Section 7.3.1.2 and Table 1, Appendix G.</p> <p>(vii) Construction access shall occur via the Moorebank Avenue / Anzac Road signals. As such, a suitable level of safety is afforded for all road users.</p> <p>(viii) Shall be reviewed as part of the CTAMP.</p> <p>(ix) Access to the site is via the Moorebank Avenue / Anzac Road signalised intersection. Protocols for emergency vehicles have been addressed in the CTAMP.</p> <p>(x) Section 7.5</p> <p>Mitigation measures are outlined in relevant CEMP and future OEMP and relevant sub-plans CTAMP and <i>Operational Traffic and Access Management Plan</i> (OTAMP)</p> <p>i) Noted. Ason (2020) has been prepared in accordance with relevant guidelines.</p>
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This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal and provides an assessment of potential impacts resulting from changes to traffic and transport arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

## 7.1.2 Relevant Conditions of Approval

### 7.1.2.1 MPW Concept Plan and Stage 1 Early Works consent (MOD 1)

Table 7-2 identifies relevant CoC that apply as a result of the MPW Concept and Stage 1 SSD 5066 and as modified by MOD 1, and provides comment and/or identifies the relevant sections of this EIS where these requirements have been addressed for the Proposal.

Table 7-2: Traffic and access – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Relevant EIS Section / Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Traffic; Public Transport; Cumulative Impacts</i>		
E10	Development Applications for the intermodal terminal facility shall include documentation demonstrating how Condition 14 of this approval has been satisfied.	Condition E10 is not considered relevant to this Proposal as it does not include any additional warehousing. Additional bus stops have been provided in the MPW Stage 2 development design.
E11	<p>All future Development Applications shall include a Traffic Impact Assessment based on background growth models developed by RMS for the Liverpool/Moorebank area (if applicable).</p> <p>11A. All future Development Applications must assess traffic impacts associated with fill importation and identify management measures.</p>	<p>E11 Cumulative assessments for construction and operation impacts on traffic were considered as part of the MPW Concept Plan and MPW Stage 2 assessments. The MPW Stage 2 assessment has been reviewed and comment provided in relation to this Proposal.</p> <p>The outcomes of the MPW Concept, Stage 2 and Stage 3 assessment are provided in Section 7.</p> <p>E11A An additional 830,000 m<sup>3</sup> of fill would be required, this would extend the time for import of fill from the MPW Stage 2 works but would still be under the approved precinct cap of 22,000 m<sup>3</sup> per day cap for fill import.</p>
E12	All future Development Applications must include adequate measures to prevent heavy vehicles associated with the construction or operation of the facility from using Cambridge Avenue.	This condition will be met for the Proposal as it has for previous Consents and as discussed in the <i>Preliminary Construction Traffic Management Plan</i> (Arcadis, 2016) and <i>Moorebank Avenue and Anzac Road Intersection</i> (Arcadis, 2016).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Relevant EIS Section / Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Traffic; Public Transport; Cumulative Impacts</i>		
E14	All future Development Applications shall consider the need for a bus stop on Moorebank Avenue (including direct pedestrian access from the warehousing to the bus stop), and associated turnaround facility suitable for a 14.5 metre long non-rear steer bus.	Condition E14 is not considered relevant to this Proposal, as the Proposal does not include any additional warehousing. Additional bus stops have been provided in the MPW Stage 2 development design.
E28	<p>All future Development Applications must provide the timing for construction and operation on both the MPW and MPE sites and provide cumulative assessments for construction and operation on the MPW and MPE sites including, but not limited to</p> <p><b>a) traffic and access impacts;</b></p> <p>b) noise and vibration impacts;</p> <p>c) air quality impacts;</p> <p>d) stormwater drainage impacts;</p> <p>e) ecological impacts.</p>	<p>E28a) Cumulative assessments for construction and operation related traffic impacts were considered as part of the MPW Concept Plan and MPW Stage 2 assessments. These traffic assessment impacts have been reviewed and comment provided in relation to the Proposal.</p> <p>The outcomes of the MPW Concept, Stage 2 and Proposal assessments are provided in Section 7.</p>

## 7.2 Existing Environment

### 7.2.1 Traffic Study Area

A *Traffic, Transport and Accessibility Impact Assessment* report was prepared by Parsons Brinkerhoff (2014) as part of the MPW Concept Plan EIS. The report identified the following key traffic and transport-related characteristics relating to the existing environment at the Proposal site and within the surrounding area prior to MPW Site development works.

The MPW Concept Plan Approval local traffic network study area is provided in Figure 7-1.

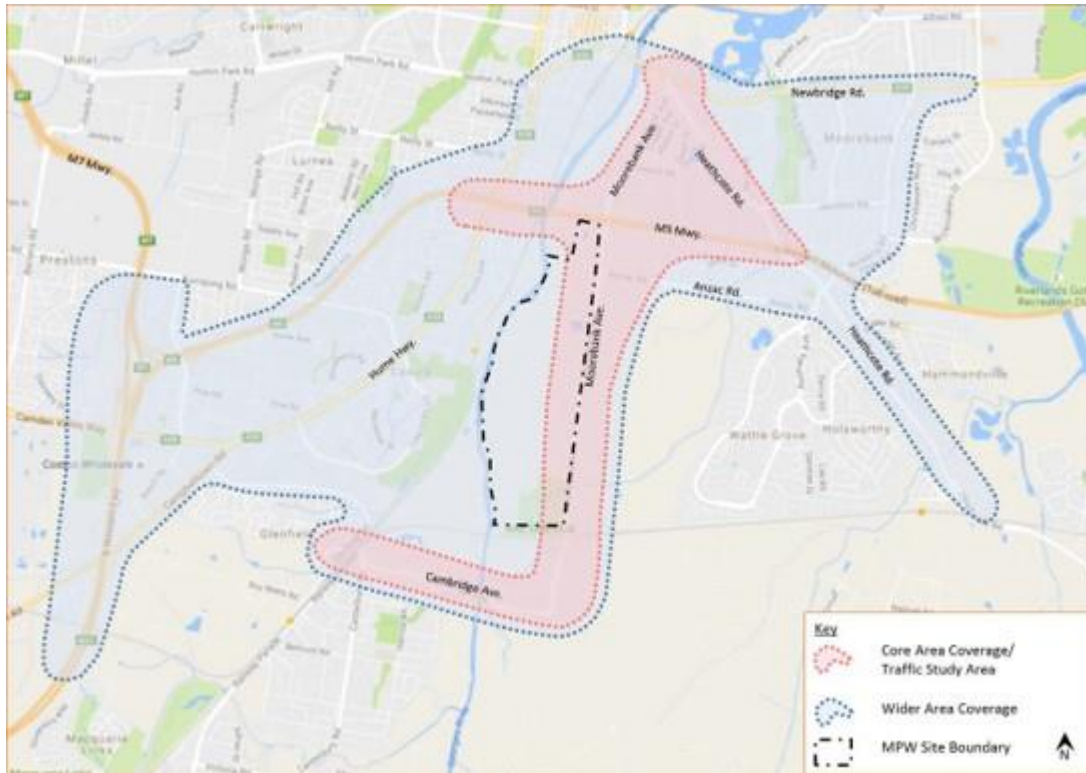


Figure 7-1: MPW Concept Plan Approval – local traffic network study area (Arcadis, 2016)

## 7.2.2 Road Network

The existing road network surrounding the Proposal comprises National and State Roads, Local Roads owned and maintained by Liverpool City Council and private roads owned and maintained by the Department of Defence, Commonwealth or SIMTA. Liverpool City Council local roads include Moorebank Avenue (between the M5 Motorway and Anzac Road), Anzac Road and Bapaume Road, each of which has a speed limit of 60 kilometres per hour (km/h). Privately owned roads include Moorebank Avenue south of Anzac Road and roads within the Proposal site, some of which connect to Moorebank Avenue i.e. Chatham Avenue.

The Proposal site is close to several major roads, including:

- M5 Motorway (State Road<sup>1</sup>), extending from Botany to Casula. The M5 Motorway is the key link between Port Botany and the Hume Highway and M7 Motorway in Sydney's south and south-west. The M5 Motorway is the most significant road connection that links the Proposal site to the surrounding major road network and interstate road transit routes.
- M7 Motorway (privately operated toll road), extending from Casula to Seven Hills. The M7 Motorway links Sydney's greater west to the M5, M4 and M2 Motorways, thereby linking Sydney's road network to regional and interstate road networks to the south, west and north of Sydney.

<sup>1</sup> State Road until the Camden Valley Way Interchange (northbound traffic) and the Hume Highway on-ramp (southbound traffic) where it is classified as a National Road.

- Hume Highway (south) (National Road), extending from Casula to Campbellfield in Victoria. The Hume Highway is the major road transport link between Sydney and Melbourne.
- Anzac Road (Local Road) is an east-west local road that connects Moorebank Avenue and Heathcote Road. It provides access to Moorebank Business Park and the residential area of Wattle Grove. This is generally a two-lane undivided road. At the intersection with Moorebank Avenue, Anzac Road is owned by the Department of Defence.
- Newbridge Road (State Road) is an east-west road that provides access to Canterbury Road and Liverpool. In proximity to the MPW Site it is a six lane, divided road that is maintained by Roads and Maritime Services (RMS).
- Heathcote Road (State Road) is an arterial road that connects Heathcote to Liverpool in a north-westerly direction. From Sandy Point to Moorebank Heathcote Road ranges between a two-lane, undivided road and a four lane, divided road. It is generally used by local and commercial traffic including the Department of Defence at Holsworthy and is maintained by RMS.
- Cambridge Avenue (Local Road) is a Local Road which connects Moorebank Avenue from the south to Macquarie Fields through to Campbelltown. It is generally a two-lane road (one lane each direction). Cambridge Avenue is owned and maintained by Campbelltown City Council. Cambridge Avenue crosses the Georges River via a low-level narrow bridge and is subject to flooding.
- Moorebank Avenue (State Road/Local Road<sup>2</sup>) is currently a two-lane undivided road (one lane each direction) between Cambridge Avenue and M5 South West Motorway (adjacent to the site) and four lane undivided road (two-lane each direction) north of the M5 South West Motorway. This road provides a north-south link between Liverpool and Glenfield. It also forms a grade separated interchange with the M5 South-West Motorway. Moorebank Avenue between M5 and Anzac Road is owned and maintained by Liverpool City Council. Moorebank Avenue between Anzac Road and Cambridge Avenue is a private road on Commonwealth land.

### 7.2.3 Rail Network

The SSFL along with the Main South Railway Line is located on the western side of the Georges River. The East Hills Railway Line is located to the south of the Proposal site. The SSFL operates over 36 kms between Birrong and Macarthur in southern Sydney, providing a dedicated rail line for freight services, allowing passenger and freight services to operate independently in this area. The SSFL, amongst other industrial sectors, provides access to Port Botany and connects to the greater regional rail network, throughout NSW and Australia.

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<sup>2</sup> Moorebank Avenue between M5 and Anzac Road is owned and maintained by Liverpool City Council. Moorebank Avenue between Anzac Road and Cambridge Avenue is a private road on Commonwealth land.



#### 7.2.4 Other Public and Active Transport Infrastructure

The following public transport and access routes are located in the vicinity of the Proposal site:

- Bus - presently only one route, Route service 901 operated by Transdev, which services the area in the vicinity of the Proposal site via Moorebank Avenue. The 901 bus service operates once every half hour during peak periods and hourly outside of peak periods.
- Rail services - The Proposal site is located near the junction of the Main Southern and East Hills Railway Line, with three rail stations (i.e. Casula, Glenfield and Liverpool) located within three to four kilometres from the Proposal site.
- Cycling:
  - The *Liverpool Bike Plan 2018-2023* (2018) outlines the existing and proposed bicycle network within Liverpool LGA. Local bicycle routes include access along the Georges River, Anzac Road, Newbridge Road and Heathcote Road. Additional access routes are planned adjacent to Anzac Creek and the Georges River and through neighbouring suburbs.
  - *Sydney's Cycling Future* (Transport for NSW, 2013) committed to completing missing links in the existing bicycle network to the Liverpool central business district. This would include improving bicycle access to the Liverpool City Centre from the south by completing the missing sections of the off-road walking and cycling corridor along Glenfield Creek, between Casula and Liverpool, and within the Liverpool central business district area. This improved access would integrate with the cycling routes proposed in the *Liverpool Bike Plan 2018-2023* (Liverpool Council, 2018).

### 7.3 Assessment Methodology

#### 7.3.1 Recent Environmental Assessments

##### 7.3.1.1 MPW Concept Plan

The *Traffic, Transport and Accessibility Impact Assessment* (Parsons Brinkerhoff, 2014), prepared for the MPW Concept Plan EIS analysed how future traffic conditions and the surrounding traffic network would be impacted by the MPW Development, during both construction and operation. The objective was to demonstrate that the traffic conditions resulting from the MPW Development would not be “significantly worse” than traffic conditions without the MPW Development. Refer to Figure 7-1 for the local road network study area.

The assessment included two main components:

- A strategic transport model to assess impacts from articulated truck movements throughout the Greater Sydney Metropolitan Area network, providing traffic forecasts for 2031. This model used elements of other models provided by the NSW Government.
- Intersection performance modelling using signalised and unsignalised Intersection Design and Research Aid (SIDRA) modelling software to assess the performance of intersections in the local and wider road network in 2030 without and with the MPW Development throughout the various project stages.



The key findings of the assessment were:

- Strategic modelling indicated that in 2031 the approximate daily road network-wide benefits of transferring containers to Moorebank by rail would realise a saving of 56,125 truck vehicle kilometres and a saving of 1,265 truck vehicle hours. Additional road network efficiency benefits would be realised by traffic migrating from adjacent routes to take advantage of the reduction in congestion along the M5.
- Within the Moorebank study area the following intersections were identified as operating unsatisfactorily without development at the Project site: (i.e. a Level of Service (LoS) of F):
  - Moorebank Avenue and Bapaume Road intersection would operate unsatisfactorily during both the AM and PM peak hours from 2015 onwards.
  - Moorebank Avenue and Anzac Road intersection would operate unsatisfactorily in the PM peak in 2030.
  - Moorebank Avenue and the Defence Support Access intersection would operate poorly in the PM peak from 2016 and in the AM peak from 2028.
  - Moorebank Avenue and the DNDSC Access intersection (i.e. the access into the MPE Site) would operate poorly in the PM peak from 2023.
  - Moorebank Avenue and Chatham Avenue intersection would operate poorly in the AM and PM peaks from 2023.
- Overall, only a minor contribution to congestion is predicted throughout the road network due to the traffic generated by the MPW Development. Furthermore, there are no significant intersection performance changes between the 'with' and 'without' the MPW Development scenarios. This is because the local road network in 2030 is generally predicted to be congested based on general background traffic/population growth predictions.

#### 7.3.1.2 MPW Stage 2

##### MPW Stage 2 Construction Traffic Impact Assessment

The *Construction Traffic Impact Assessment* (Arcadis, 2016) prepared for the MPW Stage 2 EIS included an overview of proposed construction works, provided an assessment of potential traffic impacts on the road network during construction stages of the MPW Development and identified mitigation measures to address impacts.

The assessment included two main components:

- A construction traffic generation model outlining the construction traffic volume estimates and the number of estimated construction vehicle movements.
- Construction traffic impacts and mitigation measures including models of two scenarios tested for 2018 traffic conditions at "worse case" scenario.

The key findings of the assessment were:

- The MPW Stage 2 Site would generate between 6 and 740 truck movements daily, with the highest truck movements occurring in works period C (i.e. during bulk earthworks, drainage and utilities) and between 30 and 350 car movements daily, with the highest car movements occurring in works period E (i.e. during interstate freight terminal and rail link connection construction).

- Peak construction period would occur during the overlap in earthworks and utilities, roadworks, interstate freight terminal and warehousing construction works phases, with 481 vehicles travelling to and from the site during the AM peak hour, and 436 vehicles during the PM peak.

Traffic impacts included:

- A 10% increase in traffic volume at the M5 Motorway/Moorebank Avenue interchange during peak construction periods.
- A 20% increase in background traffic volumes of Moorebank Avenue during construction.
- Construction traffic impact along Moorebank Avenue was anticipated to be small and the impact on key intersections would be small.
- A *Construction Traffic Management Plan* (CTMP) was required to detail the management controls that would be implemented to avoid or minimise impacts to traffic, pedestrian and cyclist access and the amenity of the surrounding landscape.
- Construction traffic associated with MPW Stage 2 would have minimal impacts on the performance of the existing M5 Motorway/Moorebank Avenue interchange, Bapaume Road/Moorebank Avenue intersection and Anzac Road/Moorebank Avenue intersections. Further, construction traffic would not adversely affect Moorebank Avenue and Cambridge Avenue.

The impact of the construction of MPW Stage 2 was anticipated to be minor and appropriate management plans would be applied during construction to mitigate the impact. The outcomes and recommendations of the *Construction Traffic Impact Assessment*, together with the relevant MPW Stage 2 CoC and further identified environmental impacts requiring mitigation will inform further revisions to the *Construction Traffic and Access Management Plan* (CTAMP) for the MPW Site.

#### MPW Stage 2 Operational Traffic and Transport Impact Assessment

The *Operational Traffic and Transport Impact Assessment* (OTTIA) (Arcadis, 2016) prepared for MPW Stage 2 included an overview of traffic impact and assessed intersections and road network impacts using evidence-based traffic modelling to identify appropriate mitigation measures to address these impacts.

The assessment included three main components:

- A traffic assessment without the MPW Stage 2 Project outlining the impact of future background traffic volumes at eight key intersections for opening year (2019) and ten years after opening (2029).
- A traffic assessment with the MPW Stage 2 Project outlining the impact of the project on traffic volumes at eight key intersections for opening year (2019) and ten years after opening (2029).
- Network improvement and mitigation measures outlining how the road network will need to be improved to cater for the forecast increase in traffic volumes from both MPW Stage 2 and general background growth.

The key findings of the assessment were:

- MPW Stage 2 was expected to generate approximately 1,458 truck trips (2-way) and 2,670 car trips (2-way) to and from the precinct each weekday.

- Moorebank transport catchment data indicated that daily travel to the workplace included 40 trips by public transport and 127 trips by walking or cycling.
- The highest traffic increase due to MPW Stage 2 for 2019 was forecast on Moorebank Avenue (17%) as well as Anzac Road (1.9%). The analysis indicated minor traffic increase (less than 0.5%) along Moorebank Avenue (south of Anzac Road) and Cambridge Avenue attributable to MPW Stage 2.
- The highest traffic increase at an intersection for 2019 was forecast at Moorebank Avenue/Anzac Road (20 to 26% during peak hour) as well as the M5 Motorway/Moorebank Avenue intersection (11 to 14%).
- The Moorebank Avenue/Anzac Road intersection and the M5 Motorway/Moorebank Avenue intersection were predicted to be operating at unacceptable LoS F without MPW Stage 2 in 2029 and therefore it was considered that upgrading the intersections was required to improve their performance. Other intersections were determined to continue to operate at acceptable levels and did not require upgrades.
- Other facilities included in the assessment included: 983 car parking spaces, 127 bicycle parking spaces and lockers and 15 shower/changing cubicles.
- The assessment determined that consultation was required by SIMTA with bus providers and Transport for NSW regarding the provision of public and active transport.
- Mitigation measures included:
  - upgrading the Moorebank Avenue/Anzac Road intersection; and
  - recommendations for network improvements due to background traffic for the M5 Motorway/Moorebank Avenue intersection, M5 Motorway/Hume Highway intersection, Moorebank Avenue/Newbridge Road intersection, Moorebank Avenue/Heathcote Road intersection and M5 Motorway/Heathcote Road intersection.

The outcomes and recommendations of the OTTIA, together with the relevant MPW Stage 2 Consent informed revisions to the *Operational Traffic and Access Management Plan (OTAMP)*.

#### Preliminary Construction Traffic Management Plan

The *Preliminary Construction Traffic Management Plan (CTMP)* (Arcadis, 2016) prepared to support the MPW Stage 2 EIS includes a strategy which provides for a safe environment for workers, visitors and the general public from traffic hazards from construction activities as well as minimised disruption, congestion and delays to road users, whilst at the same time maintaining the network performance at an acceptable level throughout the construction period and eliminating or mitigating risks of damage or degradation to the road environment.

The key components of the plan were:

- Construction Traffic Management Procedures to be adopted within the CTMP to mitigate impacts on traffic during construction of MPW Stage 2 including:
  - maintaining the amenity of road users and the general public through appropriate mitigation measures;
  - minimising impacts on traffic flows and congestion on local roads;
  - managing road user delay;
  - implementing information signage, distance information and advance warning measures; and

- incident management.
- Workplace and traffic safety training including induction safety training and accredited work zone traffic controllers and management training.
- Inspection and monitoring procedures including:
  - weekly inspections at the commencement of construction and fortnightly thereafter;
  - monitoring to confirm compliance with the CTMP and regulatory requirements; and
  - corrective actions including recording non-conformances and following the notification process.
- Review and Improvement processes of the CTMP.
- Document control and records.

#### Preliminary Operational Traffic Management Plan

The Preliminary Operational Traffic Management Plan (OTMP) (Arcadis, 2016) prepared to support the MPW Stage 2 EIS similarly included a strategy which provided a safe environment for workers, visitors and the general public from traffic hazards from operational activities, as well as minimised disruption, congestion and delays to road users, whilst maintaining the network performance at an acceptable level throughout the operational period and eliminating or mitigating risks of damage or degradation to the road environment.

The key components of the plan were:

- Operational Traffic Management Procedures to be adopted within the OTMP to mitigate impacts on traffic during operation of MPW Stage 2 including:
  - protecting the safety of onsite personnel, pedestrians and motorists;
  - managing operational activities so that they do not adversely compromise safe traffic flow within and surrounding the site;
  - minimising environmental impacts due to operational traffic; and
  - managing operational traffic so that it does not interrupt traffic on the adjacent road network.
- A description of Traffic Management Controls including:
  - a vehicle booking system to control the arrival of authorised vehicles;
  - workplace and traffic safety training;
  - traffic control measures; and
  - liaison with stakeholders.
- Traffic Management Procedures including:
  - a heavy vehicle booking system;
  - processes to ensure the safety and amenity of road users and the public;
  - congestion management of Moorebank Avenue;
  - road user delay management;
  - information signage, distance information and advance warning procedures; and
  - incident Management.
- Inspection and monitoring procedures including:
  - inspections at the commencement of operations and at an agreed frequency;
  - monitoring to confirm compliance with the OTMP and regulatory requirements; and

- corrective actions including recording non-conformances and following the notification process.
- Review and Improvement processes of the CTMP.
- Document control and records.

### 7.3.2 The Proposal

According to Ason Group (2020), proposed changes to construction methodology under the Proposal largely involve:

- Relocation of the contractor car park from the area to the north-east of the Anzac Road/Moorebank Avenue intersection to the southern area of the site.
- Consolidation of stockpiling and material handling areas to the south of the future MPW Stage 2 built-form to ensure that construction works do not inhibit construction and operation of the MPW Stage 2 lots.
- Retention of Chatham Avenue site access in the short to medium term to separate construction and operational traffic. An alternate site access from Moorebank Avenue may be required subsequent to the removal of the Chatham Road access, to facilitate MPW construction works when the new perimeter road is utilised by operational traffic.

Key findings of the Proposal on traffic and transport include:

- The Proposal seeks minor changes to the construction works and does not seek fundamental changes to the operational details as approved as part of the original MPW Concept Plan (SSD 5066) and subsequent applications.
- All haulage shall continue to occur from Moorebank Avenue, via the M5 interchange, although a small proposition of light vehicles associated with construction may use Anzac Road.
- Detailed traffic modelling has already been undertaken as part of MPW Stage 2, including extensive consultation with Transport for NSW and other authorities. The Proposal does not propose any material changes to overarching construction or operational traffic volumes, hence does not warrant any changes to the intersection and road upgrade works already identified and conditioned as part of MPW Stage 2. No further traffic modelling, or road or intersection upgrades are required.
- Importantly, there will be no change to the overall limits imposed under MPW Stage 2, whereby no exceedance to the importation of imported fill is proposed (22,000 m<sup>3</sup> per day across MPW and MPE).
- No changes to fundamental development characteristics envisaged by the approved MPW Concept Plan, such as maximum warehouse GFA, fill import rates or future operational precinct access arrangements are proposed, and as such, the Proposal will have negligible impact on future operational traffic volumes and impact thereof on the surrounding road network. Further, there is no change in construction generation estimates from that of the cumulative assessment already undertaken by Arcadis (2016) in support of MPW Stage 2.
- No changes to future public transport or infrastructure is required as a result of the Proposal.
- Changes to proposed site access, and access to the works compound will largely eliminate the need for MPW construction traffic to traverse Moorebank Avenue,

south of Anzac Road, which will assist management of construction access to MPE and Moorebank Avenue diversion road works in that area.

## 7.4 Potential Impacts

### 7.4.1 Construction and Operation

The MPW Stage 2 traffic assessments found that a number of local intersections could be partially impacted by the MPW Stage 2 development works. The greatest potential traffic impacts were predicted to be the Moorebank Avenue/M5 and Moorebank Avenue/Anzac Road intersections. The Moorebank Avenue/Newbridge Road/Heathcote Road intersections and other local intersections would also be impacted to a lesser extent. Recommended intersection upgrades were expected to improve the local traffic network.

Notwithstanding this, traffic modelling undertaken as part of previous environmental assessments included development associated with the interstate freight terminal, rail links and proposed construction or operation of warehousing and so the potential traffic impacts arising from the Proposal are significantly less than those identified for MPW Concept Plan and Stage 2.

A number of potential impacts identified in the Stage 2 traffic assessment are relevant to this Proposal. A summary of potential traffic impacts resulting from this Proposal, which have been identified and addressed in the MPW Stage 2 EIS and environmental assessments are provided in Table 7-3.

There will be no physical works required as part of the proposed subdivision and therefore there will be no traffic impacts beyond those already identified and assessed as part of the Concept Plan and MPW Stage 2 assessments and Approvals. With regards to the proposed works compound and associated ancillary infrastructure, Table 7-3 identifies potential impacts that may arise during construction of these elements (i.e. during their placement/installation) and operation (i.e. use of the works compound and ancillary infrastructure).

Table 7-3: Potential construction and operational traffic and transport impacts resulting from this Proposal already considered and addressed in MPW Stage 2 assessments.

Potential Construction Impacts	Potential Operation Impacts
<ul style="list-style-type: none"> <li>• Reductions to intersection and traffic performance along the surrounding road network.</li> <li>• Temporary disruption and delay to traffic and public transport services.</li> <li>• Cumulative construction impacts associated with simultaneous construction of the MPW and MPE Sites.</li> </ul>	<ul style="list-style-type: none"> <li>• Increases in traffic volume as a result of operational traffic on the surrounding road network contributing to traffic congestion and the potential to reduce intersection performance.</li> <li>• Operational traffic movements impacting on road capacity and safety.</li> <li>• Potential increase in traffic on the surrounding road network impacting levels of service in consideration of both the Proposal and future predicted growth.</li> <li>• Cumulative construction impacts associated with simultaneous operation of the MPW and MPE Sites.</li> </ul>

Potential cumulative traffic impacts have previously been assessed and approved for the baseline 22,000 m<sup>3</sup> per day imported fill material allowed under the approval cap (MPW Stage 2 SSD 7709) during construction works. Given the progression of works already completed on MPE and significantly reduced fill importation and therefore truck movements required for MPE development, traffic volumes to facilitate site fill importation will remain below that cap for the duration of this Proposal. No changes to the approval cap or total truck movements are proposed so there are no anticipated additional impacts in relation to the Proposal works.

## 7.5 Mitigation and Management

The Proposal works will be managed under the existing *Construction Environmental Management Plan* (CEMP), the (future) *Operational Environmental Management Plan* (OEMP) and related sub-plans which have been prepared and approved for MPW Stage 2, with adjustments where required, to reflect the nature, scale and extent of interface with MPW Stage 2.

In accordance with the *Preliminary Construction Traffic Management Plan* (Arcadis, 2016) and *Preliminary Operational Traffic Management Plan* (Arcadis, 2016) prepared for MPW Stage 2 (Arcadis, 2016; revised 2017), traffic and transport mitigation and management measures were identified and recommended for implementation for both the construction and operation of MPW Stage 2 works. The following sections outline specific mitigation measures for the Proposal as they relate to traffic access and management.

### 7.5.1 Construction

The CEMP sub-plan *Construction Traffic and Access Management Plan* (CTAMP) has been revised to address and mitigate traffic and access impacts identified in the MPW Concept Plan and MPW Stage 2 environmental assessments and relevant MPW Stage 2 CoC. It is anticipated that where traffic and access impacts for MPW Stage 3 are the same or similar to those in the previous assessments, that these impacts would be mitigated through the application of this management plan.

The *Preliminary Construction Traffic Management Plan* (Arcadis, 2016) included environmental assessment for works similar to those in this Proposal, including the establishment of works compounds, utilities installation, construction of access roads, stormwater and drainage, landscaping and signage works. Mitigation measures, as provided in the CTAMP and applicable to the Proposal works include:

- implementation of appropriate traffic techniques to delineate construction traffic from through traffic, including pavement and line markers, fencing and signage;
- setting appropriate speed limits and signage to ensure safety of pedestrians, site workers, and local and site traffic;
- implementation of traffic incident management procedures; and
- liaison with key stakeholders including government agencies, landowners, local residents and businesses and Councils.

### 7.5.2 Operation

The *Operational Traffic and Access Management Plan* (OTAMP) will be revised to address and mitigate the operational traffic and access impacts identified in the MPW Concept Plan and MPW Stage 2 environmental assessments, and relevant MPW Stage 2 CoC. The Proposal traffic and access impacts are assessed as being the same or similar to those identified in previous environmental assessments and therefore will be mitigated through the application of this management plan, or where required, a progressively revised and updated OTAMP.

Best practice traffic mitigation measures for this Proposal to be included within the OTAMP include:

- a vehicle booking system to manage and regulate truck arrivals to the site and prevent queueing;
- revisions, where required, to the Driver Code of Conduct to maintain safe amenity of road users and the public;
- safe site entry and exit points; and
- incident management.

Mitigation measures would be implemented as recommended in the revised and updated CEMP and OEMP, including the CEMP sub-plans CTAMP and OTAMP and would be further updated, as required, in accordance with MPW Stage 3 CoC. Potential traffic and access impacts resulting from this Proposal would be successfully managed.

### 7.5.3 Revised Environmental Management Measures

Environmental Management Measures were prepared as part of the MPW Concept Plan Approval and revised for the MPW Stage 2 Approval, to inform the CEMP, OEMP and sub-plans. Relevant traffic and transport related MPW Stage 2 REMMs would continue to apply to this Proposal to manage potential impacts consistent with relevant CoC and guidelines. The REMMS have been reviewed and further updated, as required, to ensure relevance to this Proposal (refer to Section 20).



## 8. Noise and Vibration

### 8.1 Approval Requirements

#### 8.1.1 SEARs

A noise and vibration report has been prepared by Renzo Tonin (2020) which reviewed and assessed previous reports prepared for MPW Stage 2, as well as MPW Concept Plan reports, where required, to address the SEARs relating to noise and vibration for the Proposal. The report is included as Appendix H of this EIS.

Table 8-1 identifies the SEARs as they relate to noise and vibration, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 8-1: SEARs for the Proposal relating to noise and vibration.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 5	<p><b>5. Noise and Vibration</b> – including but not limited to:</p> <p>An updated assessment of noise and vibration impacts. The assessment must:</p> <ul style="list-style-type: none"> <li>a) assess construction noise and vibration impacts associated with construction of the proposal, including impacts from construction traffic and ancillary facilities. The assessment must identify sensitive receivers and assess construction noise/vibration generated by representative construction scenarios focusing on high noise generating works. Where work hours outside of standard construction hours are proposed, clear justification and detailed assessment of these work hours must be provided, including alternatives considered, mitigation measures proposed and details of construction practices, work methods, compound design, etc.</li> <li>b) assess operational noise and vibration impacts and identify feasible and reasonable measures proposed to be implemented to minimise noise impacts from use of the facility.</li> <li>c) include a framework for on and off-site noise monitoring during operation.</li> <li>d) an assessment of cumulative impacts associated with any existing development and any developments having been granted development consent, but which have not commenced.</li> <li>e) be prepared in accordance with: Noise Policy for Industry (EPA, 2017), Interim Construction Noise Guideline (EPA, 2009), Assessing Vibration: a technical guide (EPA, 2006), and the NSW Road Noise Policy (EPA 2011).</li> </ul>	<p>Section 8 and Appendix H</p> <p>a) Section 8.3.2 and Section 0</p> <p>b) Section 0 and Section 8.5</p> <p>c) Section 0</p> <p>d) Section 18</p> <p>e) Appendix H</p>

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential impacts resulting from changes to noise and vibration arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

## 8.1.2 Relevant Conditions of Approval

### 8.1.2.1 MPW Concept Plan Approval (MOD 1)

Table 8-2 identifies relevant CoC that apply as a result of the MPW Concept and Stage 1 SSD 5066 and as modified by MOD 1, and provides comment and/or identifies the relevant sections of this EIS where these requirements have been addressed for this Proposal.

Table 8-2: Noise and vibration – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Relevant EIS Section/ Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Operational Noise and Vibration; Cumulative Impacts</i>		
E1	<p>To ensure the operational noise impacts are appropriately managed, the following measures must be considered in future Development Applications:</p> <ul style="list-style-type: none"> <li>a) Best practice plant for the intermodal terminal facility, including electronic automated container handling equipment or equipment with equivalent sound power levels.</li> <li>b) The use of automatic rail lubrication equipment in accordance with ASA Standard T HR TR 00111 ST Rail Lubrication and top of rail friction modifiers.</li> <li>c) Measures to ensure the rail cross sectional profile is maintained in accordance with ETN-01-02 Rail Grinding Manual for Plain Track to ensure the correct wheel / rail contact position and hence to encourage proper rolling stock steering.</li> <li>d) A noise barrier on the western side of the haul road.</li> <li>e) A detailed assessment of sleep disturbance impacts, including: how often noise events occur; the time of day when they occur; and whether there are any times of day when there is a clear change in the noise environment.</li> <li>f) A risk assessment to determine if non-tonal reversing alarms can be fitted as a condition of site entry. Alternatively, site design may include traffic flow that does not require or precludes reversing of vehicles.</li> </ul>	<p>E1a), b) and c): Conditions relating to construction or operation of the rail link or interstate freight terminal are not relevant to the Proposal as they will be designed and constructed as part of the MPE Stage 1 Project - SSD:14-6766 and under previous MPW consents. The remainder of these conditions are applicable to the Proposal and have already been considered in assessments prepared for MPW Stage 2 and reviewed as part of this EIS to reflect the Proposal.</p> <p>E1d): Noise barrier mitigation measures have been addressed as part of MPW Stage 2 environmental assessments and SSD 7709 CoC.</p> <p>E1e) and f): Cumulative assessments for construction and operation impacts on noise and vibration were considered as part of the MPW Concept Plan and MPW Stage 2 assessments. The MPW Stage 2 assessment has been reviewed with consideration of this Proposal.</p> <p>The outcomes of the MPW Concept, Stage 2 and Proposal assessments are provided in Section 8.</p>

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)	Relevant EIS Section/ Comment
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*Schedule 4 Conditions to be Met in Future Development Applications – Operational Noise and Vibration; Cumulative Impacts*

E2	<p>Development Applications for the intermodal terminal facility shall include a report to identify:</p> <ul style="list-style-type: none"> <li>a) The extent of brake squeal across the fleet of rail vehicles that will frequently use the terminals. This should identify the number of occurrences of brake squeal, the typical noise levels associated with brake squeal (including the frequency content) and the operational conditions under which brake squeal occurs (i.e. under light braking, hard braking, low / medium / high speed, effects of temperature and weather, etc.).</li> <li>b) The root cause of brake squeal, including the influence of the design, set-up and maintenance of both brake shoes and brake rigging.</li> <li>c) Possible solutions to mitigate or eliminate brake squeal, including modifications to brake rigging and alternative brake shoe designs and compounds.</li> <li>d) Any monitoring system proposed to capture brake squeal.</li> </ul>	<p>Conditions relating to construction or operation of the IMEX rail terminal are not relevant to the Proposal as the IMEX rail terminal will be designed and constructed as part of the MPE Stage 1 Project SSD 6766 and previous MPW consents.</p>
E28	<p>All future Development Applications must provide the timing for construction and operation on both the MPW and MPE sites and provide cumulative assessments for construction and operation on the MPW and MPE sites including, but not limited to</p> <ul style="list-style-type: none"> <li>a) traffic and access impacts;</li> <li><b>b) noise and vibration impacts;</b></li> <li>c) air quality impacts;</li> <li>d) stormwater drainage impacts; and</li> <li>e) ecological impacts.</li> </ul>	<p>E28b) Cumulative assessments for construction and operation impacts on noise and vibration were considered as part of the MPW Concept Plan and MPW Stage 2 assessments. The MPW Stage 2 assessment has been reviewed with consideration to this Proposal.</p> <p>The outcomes of the MPW Concept, Stage 2 and Proposal assessments are provided in Section 8.</p>

## 8.2 Existing Environment

### 8.2.1 Sensitive Receivers

The *Noise and Vibration Impact Assessment* undertaken by SLR Consulting (2014) as part of the MPW Concept Plan EIS identified the following key characteristics relating to the baseline noise environment at the MPW Site and within the surrounding area:

- The suburbs of Casula, Wattle Grove, North Glenfield and Moorebank are the closest communities to the MPW Site and include sensitive receptors that have the potential to be impacted by noise generated by the MPW Development.

Distances from the MPW Site to the closest residential receivers are:

- Wattle Grove: 1,000 m
- Moorebank: 630 m
- Casula: 330 m
- Glenfield: 820 m.

- The MPW Site is located at an approximate ground level height of 15 metres above Australian height datum (AHD) and immediately to the east of the Georges River and floodplain. There is steep relief on either side of the floodplain between the MPW Site and the surrounding suburbs. The nearest receptors in Wattle Grove and Glenfield are predominantly at the same ground level height as the main interstate freight terminal proposed for the MPW Development, with the exception of some receptors up to five meters above the residual level of the main intermodal site. At Casula, the nearest receptors are approximately 10 m to 30 m above the residual ground level of the main intermodal site.

Potentially affected noise receivers surrounding the MPW Site are provided in Figure 8-1.

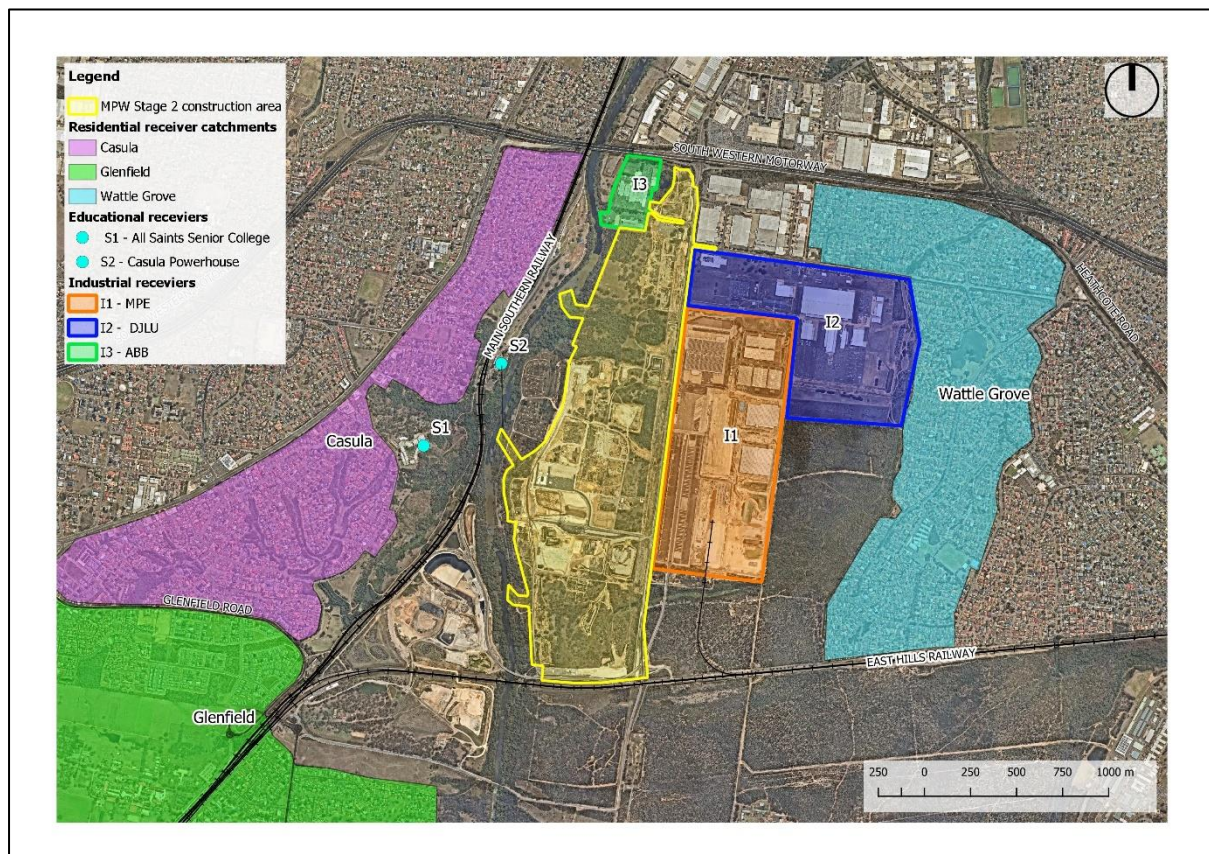


Figure 8-1: Potentially affected noise receivers surrounding the MPW Site (Renzo Tonin, 2020)

## 8.2.2 Background Noise

Noise monitoring undertaken by SLR (2014) determined background ambient noise levels at key residential receivers in Casula, Glenfield and Wattle Grove, prior to MPW Development site development works already approved and undertaken, as follows (

Table 8-3):

Table 8-3: Ambient existing noise levels at key residential receivers (SLR, 2014).

Noise Levels (dBA)							
Suburb	Monitoring Location	Rating Background Level			L <sub>Aeq</sub>		
		Day	Evening	Night	Day	Evening	Night
Casula	L1	39	39	33	55	54	53
Glenfield	L2	35	37	33	48	47	44
Wattle Grove	L3	35	36	32	55	49	46

MPW Site construction works under MPW Stage 1, Early Works have already commenced and so current site background ambient noise levels are likely to be higher than as identified in



Table 8-3.

## 8.3 Assessment Methodology

### 8.3.1 Recent Environmental Assessments

#### 8.3.1.1 MPW Concept Plan

The *Noise and Vibration Impact Assessment* (SLR Consulting, 2014) undertaken for the MPW Concept Plan EIS established background noise levels by using 20 months of noise monitoring data from the MPW Site and surrounding areas.

This monitoring was carried out in November 2010, August 2011 and October 2011 with a continuous ambient noise monitoring survey commencing in July 2012. The noise assessment was undertaken using the following technical criteria:

- Construction noise criteria were established using the NSW EPA's *Interim Construction Noise Guidelines* (ICNG), 2009.
- Operational noise criteria were established using the 'intrusiveness' and 'amenity' criteria in the *NSW Industrial Noise Policy* (INP), 2000.
- Sleep disturbance criteria were established using the EPA's *Noise Guide for Local Government*.
- Road traffic noise criteria were established using the EPA's *NSW Road Noise Policy*.
- Rail traffic noise criteria were established using the *Rail Infrastructure Noise Guideline* (RING), 2013.
- Construction vibration criteria were established using the EPA's *Assessing Vibration: A Technical Guideline*.

The assessments found that the MPW Development works were expected to comply with relevant Noise Management Levels (NMLs) during construction activities. Operational noise levels for the MPW Development were generally expected to increase throughout its progressive development phases. Noise levels at various receptors differed depending on the concept layouts and proximity of each receiver to prominent noise sources i.e. rail mounted gantry cranes, trucks transporting containers, side picks, in-terminal transport vehicles and rail freight.

Road traffic noise from the MPW Development on the M5 Motorway, Moorebank Avenue and Anzac Road was expected to either comply with or have a negligible exceedance of the RNP noise criteria during the daytime and night-time at the nearest receptors, and therefore would not trigger a requirement for road noise mitigation. Rail noise at the MPW Site from the operation of the rail link connection was expected to comply with the RING criteria.

The full build scenario of the MPW Development, i.e. IMEX operating at 1.05 million TEU per annum, interstate freight terminal at 0.5 million TEU per annum and 300,000 m<sup>2</sup> GFA of warehousing, would require reductions of up to 11 dBA for the MPW Site to meet criteria. However, the IMEX facility has been approved under MPE Stage 1 SSD 6766 which would significantly reduce noise levels at the MPW Site.

Predicted noise levels at operational full-build scenario are provided in Figure 8-2.

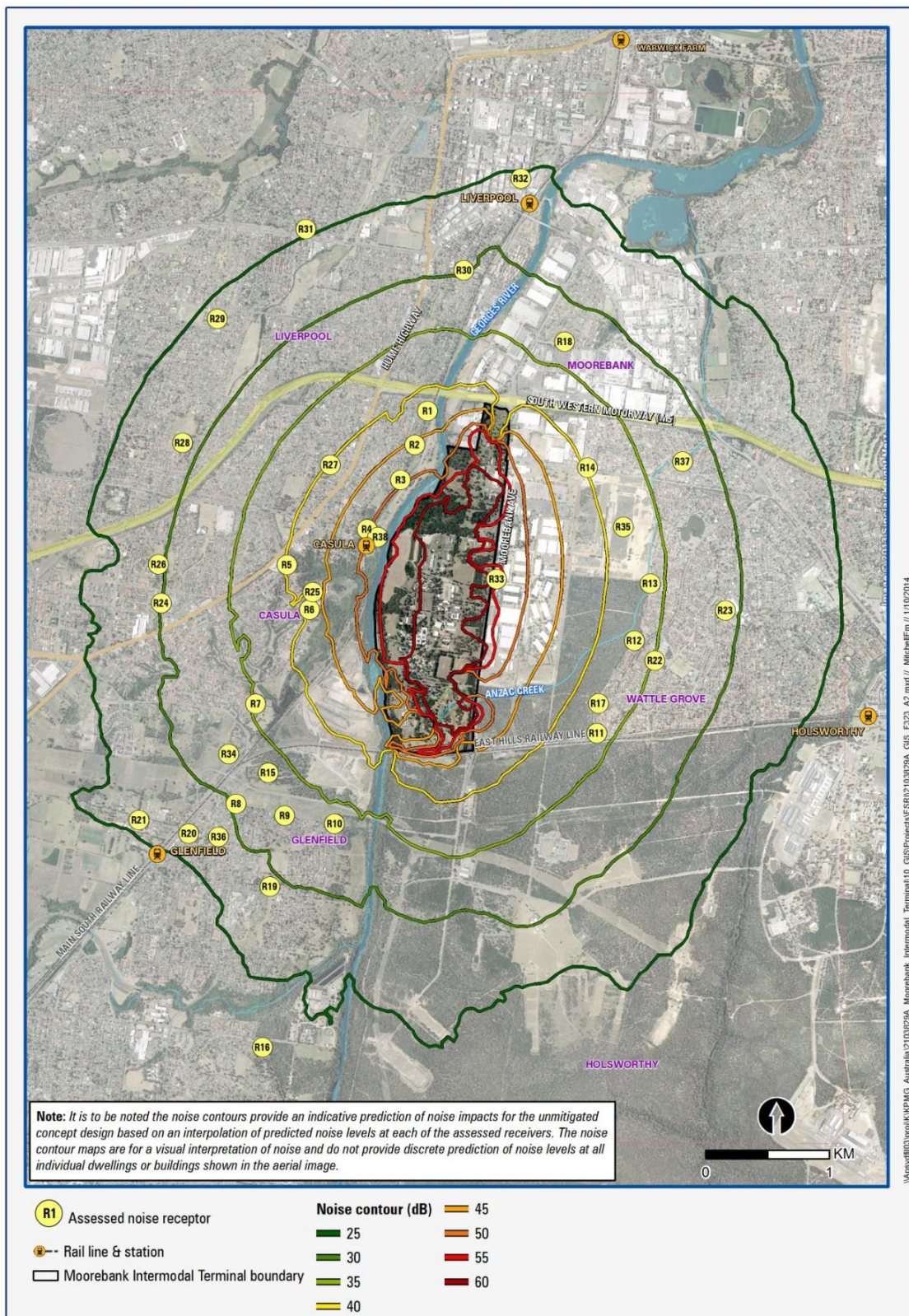


Figure 8-2: MPW Concept Plan Approval – predicted noise levels at operational full-build scenario (Arcadis, 2016)



#### 8.3.1.2 MPW Stage 2

A *Noise Impact Assessment* (Wilkinson Murray) was conducted in October 2016, as part of the EIS for MPW Stage 2.

The assessment was completed in accordance with the following technical guidelines and/or policies:

- *NSW Industrial Noise Policy* (INP) (EPA, 2000)
- *Noise Guide for Local Government* (NGLG) (EPA, 2013)
- *NSW Road Noise Policy* (RNP) (DECCW, 2011)
- *Rail Infrastructure Noise Guideline* (RING) (EPA, 2013)
- *Interim Construction Noise Guideline* (ICNG) (DECC, 2009)
- *Assessing Vibration: a technical guide* (Assessing Vibration) (DEC, 2006).

The dominant sources of noise associated with MPW Stage 2 included:

- trucks accessing the interstate freight terminal and warehouse areas;
- container handling equipment, specifically reach stackers;
- the locomotive shifter; and
- locomotives idling and moving within the interstate freight terminal and the rail link connection.

The report concluded that:

1. Construction vibration would not significantly impact human comfort at the nearest residential receiver. No further assessment of construction vibration was necessary.
2. Predicted EPA construction noise levels met NML for all sensitive receivers, except for minor exceedance of the EPA Noise Management Level at Casula for predicted worst-case cumulative construction bulk earthworks by up to 2 dB. The predicted exceedance was considered negligible and would not require any further mitigation measures than already proposed.
3. Predicted construction noise levels were not expected to exceed applicable NML at sensitive receivers for out-of-hours (OOH) construction works.
4. Acoustic modelling indicated that predicted operational noise levels at sensitive receivers met relevant NML and complied with sleep disturbance screening levels at all monitoring locations. Minor predicted exceedances (less than 1 dB) during night time at six residential receivers in Casula during adverse meteorological conditions were considered negligible and could be effectively mitigated.
5. Predicted increases to traffic noise as a result of MPW Stage 2 along modelled roads were below the 2 dBA *NSW Road Noise Policy* goal to limit any increase in total road traffic generated by land use developments, and so no traffic mitigation measures were considered necessary.

During construction of MPW Stage 2, possible exceedance of noise limits at most affected receivers were found to be effectively mitigated through the implementation of the *Construction Noise and Vibration Management Plan (CNVMP)*, the main features of which include:

- identification of nearby residences and other sensitive land uses;
- approved hours of work;
- controls on construction activities, including work areas, equipment and duration;

- controls on work practices (generic and specific) that will be applied to minimise noise and vibration;
- selection of plant and processes with reduced noise emissions;
- a complaints handling process;
- noise and vibration monitoring procedures;
- community consultation required for identified high impact works;
- induction and training provided to relevant staff and sub-contractors outlining their responsibilities with regard to noise; and
- procedure for approval of any works undertaken outside of the following hours:
  - Standard hours of 07:00 am to 6:00 pm Monday to Friday, and 08:00am to 1:00 pm Saturday
  - OOH work periods were considered to include:
    - Period 1: 6:00 am – 7:00 am weekdays
    - Period 2: 6:00 pm – 10:00 pm weekdays
    - Period 3: 7:00 am – 8:00 am Saturday
    - Period 4: 1:00 pm – 6:00 pm Saturday.

Proposed cumulative operational levels of the development complied with the relevant criteria in relevant guidelines and policies and so operations were considered unlikely to contribute to any exceedance of daytime amenity criteria.

The assessment concluded that the noise and vibration impacts associated with the construction and operation of MPW Stage 2 were not expected to either degrade the existing acoustic environment or generate significant acoustic impacts to nearby sensitive receivers and could be successfully managed by implementation of appropriate mitigation measures.

### 8.3.2 The Proposal

Renzo Tonin (2020) reviewed noise and vibration assessments previously prepared for Precinct works including MPW Concept Plan and Early Works, MOD 1, and MPW Stage 2, and concluded that:

- No additional construction travelling along public roads is proposed as part of the Proposal. Construction traffic noise along public roads was determined to not increase road traffic noise levels by more than 2dB(A), and so no additional noise mitigation measures are required, other than already recommended for MPW Stage 2.
- Vibration intensive activities are not proposed as part of the Proposal and considering the distances from any construction works to nearby vibration sensitive receivers are greater than 100 m, no vibration impacts from the Proposal are expected.
- The Proposal is not expected to result in any substantial changes in construction noise impacts at nearby sensitive receivers during standard construction hours from those already assessed and presented in the MPW Stage 2 and MPW Concept Plan assessments.
- For construction works outside of standard construction hours, material deliveries along with stockpiling are predicted to achieve the noise management levels. High noise events are predicted to exceed the sleep disturbance screening level, however, they are not expected to exceed awakening reaction levels at any nearby residential receivers.

Renzo Tonin concluded that noise from construction traffic from the site, construction noise impacts from the direct placement of fill and potential vibration impacts have already been assessed as part of the overall assessments prepared for MPW Stage 2, and no further assessments are required in relation to the Proposal. Potential noise impacts from the Proposal are generally consistent with those already presented in the MPW Stage 2 and MPW Concept Plan assessments, and by implementing feasible and reasonable mitigation measures consistent with those required with the Project Approvals, the potential noise impacts from the Proposal can be sufficiently managed.

## 8.4 Potential Impacts

### 8.4.1 Construction and Operation

The Proposal has the potential to result in similar construction and operational noise and vibration impacts, albeit generally to a lesser extent, to those previously identified and addressed in the MPW Concept Plan Approval and MPW Stage 2 EISs as the Proposal does not include interstate freight terminal or rail links works and no construction or operation of warehousing. In particular, the rail link has been addressed in the MPW Concept Plan Approval and MPW Stage 2 environmental assessments, but the construction and operation of the rail link is now part of the MPE Stage 1 (14-6766); therefore rail construction and operation related impacts are not relevant to this Proposal.

Given no physical works are yet required as part of the proposed subdivision, no noise and vibration impacts will arise at this stage of the development. With regards to the proposed works compound and associated ancillary infrastructure, Table 8-4 identifies potential impacts that may arise during construction of these elements (i.e. during their placement/installation) and operation.

A summary of potential noise and vibration that may result from this Proposal and which have already been addressed in MPW Stage 2 environmental assessments is provided in Table 8-4.

Table 8-4: Potential construction and operational noise and vibration impacts resulting from this Proposal already considered and addressed in MPW Stage 2 assessments.

Potential Construction Impacts	Potential Operation Impacts
<ul style="list-style-type: none"> <li>• Airborne noise from surface construction works, including vehicle movements within the MPW Site.</li> <li>• Use of plant and machinery throughout the MPW Site.</li> <li>• Minor vibration impacts on buildings near surface works.</li> <li>• Construction traffic noise from the use of heavy and light vehicles within the MPW Site and on the surrounding road networks.</li> <li>• Potential construction required outside of standard construction hours may impact on sensitive receivers surrounding the MPW Site.</li> </ul>	<ul style="list-style-type: none"> <li>• Increases in industrial noise from operations at the works compound.</li> <li>• Increases in road traffic noise from an increase in heavy and light vehicle movements to and from the MPW Site.</li> </ul>

The *Noise and Vibration Impact Assessment* report (Wilkinson Murray, 2016; revised 2017) concluded that potential impacts associated with the construction and operation of MPW Stage 2 were not expected to either significantly impact the site's existing acoustic environment, or to generate significant acoustic impacts to nearby sensitive receivers. Baseline noise contours provided as part of MPW Concept, MPW Stage 1, and MPW Stage 2 assessments included development works on the entire MPW Site. Noise contours reflect the cumulative/worst case noise levels for the MPW Development and include rail and interstate freight terminal noise levels. Machinery and equipment similar to that already assessed will be used for the Proposal works, so there are no anticipated additional impacts in relation to this Proposal.

## 8.5 Mitigation and Management

The Proposal works would be managed under the existing CEMP, the OEMP and related sub-plans prepared and approved for MPW Stage 2, with adjustments where required, to reflect the nature, scale and extent of interface with MPW Stage 2.

In accordance with the *Noise and Vibration Impact Assessment* report prepared for MPW Stage 2 (Wilkinson Murray, 2016; revised 2017), environmental mitigation and management measures were identified and recommended for implementation for both the construction and operation of MPW Stage 2 works.

The following sections outline specific mitigation measures for this Proposal as they relate to noise and vibration management.

### 8.5.1 Construction

The CEMP sub-plan *Construction Noise and Vibration Management Plan* (CNVMP) is currently being developed for MPW Stage 2 to address and mitigate the noise and vibration impacts identified in the MPW Concept Plan and MPW Stage 2 environmental assessments, and relevant MPW Stage 2 CoC. It is anticipated that where noise and vibration impacts for this Proposal are the same or similar to those in the previous assessments, that these impacts will be mitigated through the application of this management plan and/or a revised and updated version addressing any potential impacts resulting from this Proposal.

Principle noise sources associated with the Proposal construction are mobile plant and machinery to be used during construction works and transport of materials to and from the site. Mitigation measures that will be included in an updated CNVMP with respect to the management of noise and vibration include:

- Reasonable equipment selection and/or modifications to reduce machinery noise and vibration impacts.
- Limiting vehicle movements to designated haulage routes and entry/exit points.
- Establishment of an OOH Work Protocol (i.e. for works outside of standard construction hours).
- Implementation of periods of respite from noise and vibration, as consistent with MPW Stage 2 CoC B126.
- Conducting operational noise and vibration monitoring to assess compliance with predicted operational noise levels, in accordance with the MPW Stage 2 CEMP which shall be revised to accommodate the Proposal CoC.

- Construction works outside of standard construction hours may be undertaken as consistent with MPW Stage 2 CoC B126 and B127, and where  $LA_{eq(15\text{ minute})}$  noise levels are deemed to be no more than 5dB above rating background level for nearby residential receivers.
- Preparing and implementing procedures for noise complaints.
- Contingency measures for noise and vibration in the event that control measures are considered ineffective.

Additional noise mitigation and potential noise reduction measures are provided in Table 16, Appendix H.

### 8.5.2 Operation

The OEMP will be prepared to include mitigation measures for MPW Concept Stage 1 Early Works and MPW Stage 2 development works and will incorporate the recommendations of the *Noise and Vibration Impact Assessment* report (Wilkinson Murray, 2016; revised 2017). Where required, the ONVMP will be revised and updated to incorporate best practice mitigation measures for this Proposal, including:

- noise monitoring;
- procedures to minimise truck loading/unloading wait times;
- truck marshalling times to minimise congestion and queueing; and
- implementation and communication of anti-idling policy for trucks.

Mitigation measures will be implemented as recommended in the revised and updated CEMP and OEMP, including the CEMP sub-plan Construction Noise and Vibration Management Plan, and any potential noise and vibration impacts resulting from this Proposal will be successfully managed.

### 8.5.3 Revised Environmental Management Measures

Environmental Management Measures were prepared as part of the MPW Concept Plan Approval and revised for the MPW Stage 2 Approval to inform the CEMP, OEMP and sub-plans. Relevant noise and vibration related MPW Stage 2 REMMs would continue to apply to this Proposal to manage impacts consistent with relevant CoC and guidelines. The REMMS have been reviewed and further updated, as required, to ensure relevance to this Proposal (refer to Section 20).

## 9. Air Quality

### 9.1 Approval Requirements

#### 9.1.1 SEARs

An air quality report has been prepared by EMM (2020) which reviewed and assessed previous reports prepared for MPW Stage 2, as well as MPW Concept Plan reports, where required, to address the SEARs relating to air quality for the Proposal. The EMM report is included as Appendix I of this EIS.

Table 9-1 identifies the SEARs as they relate to air quality, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 9-1: SEARs for the Proposal relating to air quality.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 3	<b>3. Air Quality</b> – including but not limited to: A comprehensive air quality impact assessment including: a) an assessment of construction related impacts including dust and wind erosion from exposed surfaces and proposed mitigation measures and safeguards to control dust generation and other airborne pollutants and to minimise impacts on nearby receptors b) an assessment of cumulative impacts associated with any existing development and any developments having been granted development consent, but which have not commenced c) an updated assessment/review of direct and indirect greenhouse gas emissions arising from this development and associated impact mitigation requirements, in reference to the Concept Plan greenhouse gas assessment.	Section 9 and Appendix I  a) Section 9.5 b) Section 18 Section 17.7 and Appendix I

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal and provides an assessment of potential impacts resulting from changes to air quality arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

#### 9.1.2 Relevant Conditions of Approval

##### 9.1.2.1 MPW Concept Plan Approval (MOD 1)

Table 9-2 outlines relevant CoC that apply as a result of the MPW Concept and Stage 1 SSD 5066 and as modified by MOD 1 and provides comment and/or identifies the relevant sections of this EIS where these requirements have been addressed for this Proposal.

Table 9-2: Air Quality – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Relevant EIS Section/Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Cumulative Impacts</i>		
E28	<p>All future Development Applications must provide the timing for construction and operation on both the MPW and MPE sites and provide cumulative assessments for construction and operation on the MPW and MPE sites including, but not limited to</p> <ul style="list-style-type: none"> <li>a) traffic and access impacts;</li> <li>b) noise and vibration impacts;</li> <li><b>c) air quality impacts;</b></li> <li>d) stormwater drainage impacts;</li> <li>e) ecological impacts.</li> </ul>	<p>E28c) The cumulative assessments for construction and operation impacts on air quality were considered as part of the MPW Concept Plan and MPW Stage 2 assessments.</p> <p>The outcomes of the MPW Concept, Stage 2 and Proposal assessment review is provided in Section 9.</p>

## 9.2 Existing Environment

### 9.2.1 Sensitive Receivers

As part of the MPW Stage 2 assessment, Ramboll (2016) reviewed the residential and sensitive locations in the vicinity of the MPW Stage 2 Site and identified a total of 37 sensitive receivers. This is consistent with the findings of the Concept Plan Approval (see Section 9.3.1.1 **Error! Reference source not found.**). Note R33 identified in Figure 9-1 was subsequently removed from the assessment given it forms part of MPE).

Given the footprint of this Proposal lies within that of MPW Stage 2, it is considered that these sensitive receivers would also apply to this current Proposal (Figure 9-1).

### 9.2.2 Baseline Ambient Air Quality

The baseline ambient air quality for the MPW Site has been adopted for this current Proposal.

Table 9-3 provides a summary of the adopted ambient air quality conditions for MPW Stage 2 (and hence this Proposal), as provided within the MPW Stage 2 EIS (Arcadis, 2016).

Table 9-3: Baseline Ambient Air Quality MPW (Arcadis, 2016).

Pollutant	Averaging Period	Adopted background value
PM <sub>10</sub>	24 hour average	Daily varying
	Annual average	19.4 µg/m <sup>3</sup>
PM <sub>2.5</sub>	24 hour average	Daily varying
	Annual average	8.2 µg/m <sup>3</sup>
NO <sub>2</sub>	1 hour average	Hourly varying
	Annual average	20.4 µg/m <sup>3</sup>



SO <sup>2</sup>	1 hour average	74.4 µg/m <sup>3</sup>
	24 hour average	13.6 µg/m <sup>3</sup>
	Annual average	2.6 µg/m <sup>3</sup>
TSP	Annual average	48.4 µg/m <sup>3</sup>
Dust Deposition	Annual average	1 g/m <sup>2</sup> /month

## 9.3 Assessment Methodology

### 9.3.1 Recent Environmental Assessments

#### 9.3.1.1 MPW Concept Plan

The *Local Air Quality Impact Assessment* (Environ Australia, 2014) undertaken for the MPW Concept Plan EIS included modelling to ascertain the impacts arising from the MPW Development on local air quality.

The assessment examined four scenarios representing key development phases of the MPW Development (with the final stage being the “full build” scenario). The pollutants assessed included particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) and combustion-related gaseous pollutants (NO<sub>x</sub> and specifically NO<sub>2</sub>, SO<sub>2</sub>, CO, VOCs and PAHs<sup>3</sup>).

Atmospheric dispersion modelling was carried out using the AMS/US-EPA regulatory model (AERMOD). The model considered the MPW Development (incremental) ground level concentrations and deposition rates, covering a seven kilometres squared area centred over the MPW Site, with a grid resolution of 200 m. Additionally, model predictions were made at 38 sensitive receptor locations, representative of the local area (Figure 9-1).

<sup>3</sup> NO<sub>x</sub> (nitrogen oxide); NO<sub>2</sub> (nitrogen dioxide); SO<sub>2</sub> (sulfur dioxide); CO (carbon monoxide); VOCs (volatile organic compounds) and PAHs (polycyclic aromatic hydrocarbons).

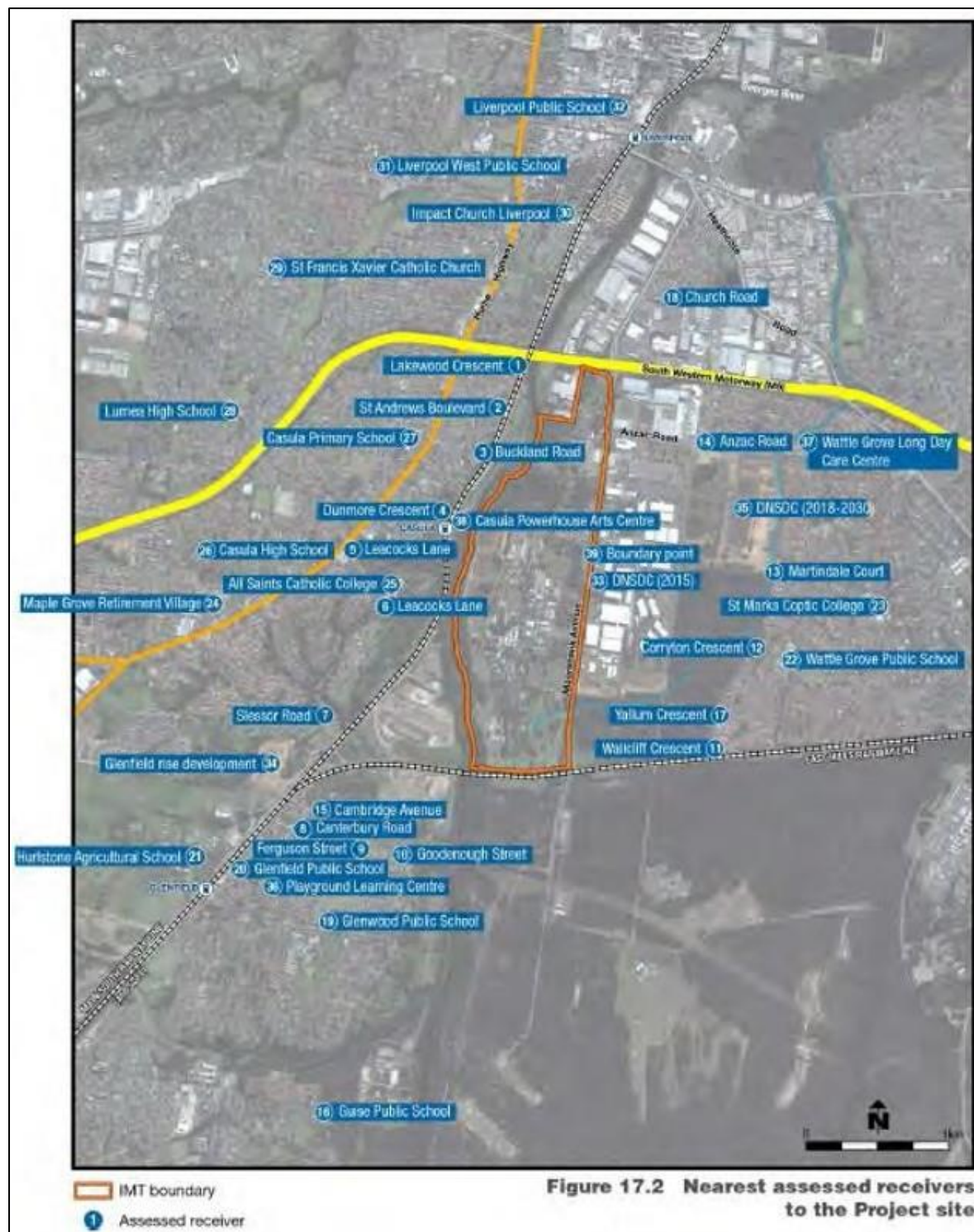


Figure 9-1: MPW Concept Plan Approval – sensitive air quality receivers surrounding MPW Site (Arcadis, 2016)

The following findings were made:

- Incremental air pollutant concentrations and dust deposition rates associated with all modelled scenarios were predicted to be within NSW EPA criteria and National Environmental Pollution Measure (NEPM) advisory reporting goals at all surrounding receptor locations.

- Taking elevated background airborne PM concentrations into account, no exceedance days were predicted for 24-hour average PM<sub>10</sub> and PM<sub>2.5</sub> beyond those already recorded due to bushfire events in 2013.
- Exceedance of the annual average NEPM advisory reporting goal for cumulative PM<sub>2.5</sub> is predicted for one receptor (R33). R33 was the DNSDC facility, which is now located on the MPE Site and adjacent to the eastern boundary of the MPW Site. It is no longer considered to be a sensitive receiver for air quality as it forms part of the MPE development and is therefore not considered further in this assessment.
- All incremental cumulative and gaseous pollutants assessed are below applicable NSW EPA assessment criterion for all scenarios.

Modelling was also undertaken to account for potential cumulative impacts of the MPW Concept Project and the adjacent MPE Site (including Stage 1 of the MPE Project), using three cumulative assessment scenarios. The following findings were made:

- Cumulative incremental (Moorebank intermodal freight facility and SIMTA only) concentrations are below NSW EPA and NEPM advisory reporting goals at all surrounding receptor locations.
- Cumulative annual average (Moorebank intermodal freight facility and SIMTA-only increment + background) PM<sub>2.5</sub> concentrations do not exceed the NEPM advisory reporting goal at any sensitive receptors.
- No other cumulative (Moorebank intermodal freight facility and SIMTA - only increment + background) pollutant exceedances are predicted for any scenario at any of the surrounding receptor locations.
- Regarding regional air quality, the operation of the MPW Development would be expected to have a net positive impact by reducing freight transport by truck and reducing the overall emissions to the air shed.

#### 9.3.1.2 MPW Stage 2

An *Air Quality Impact Assessment* was conducted in October 2016 (Rambol Environ Australia) for the MPW Stage 2 EIS. The assessment was conducted in accordance with the *NSW EPA Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* with consideration of the following factors:

- Emissions are estimated for MPW Stage 2 related activities.
- Dispersion modelling is used to predict ground level concentrations for key pollutants from the MPW Site at surrounding sensitive receivers.
- Cumulative impacts are assessed considering the combined effect of existing baseline air quality, other local sources of emissions, reasonably foreseeable future emissions and any indirect or induced effects.

#### Construction Stage

The assessment identified that the key emissions during construction of the MPW Stage 2 include fugitive dust or particulate matter generated during demolition, site clearing and earthworks.

Construction phase emissions of MPW Stage 2 comply with all relevant assessment criteria. The predicted increase in annual average PM<sub>10</sub>, PM<sub>2.5</sub>, TSP and dust deposition were considered minor when compared against existing background conditions. Cumulative

predictions were also presented and the results indicated that the construction of MPW Stage 2 would result in no additional exceedances over the criteria.

### Operational Stage

During operations the key emissions were assessed as being associated with the combustion of diesel fuel.

The maximum increase in PM<sub>10</sub> and PM<sub>2.5</sub> was considered to be minor in comparison to existing background conditions and there were no additional exceedances of the short-term impact assessment criteria.

The annual average background concentrations of PM<sub>2.5</sub> were found to marginally exceed the NEPM reporting standard and therefore cumulative predictions were also above the standard at all receptors. It should be noted, however, that the MPW Stage 2 development would result in a relatively minor increase in annual average PM<sub>2.5</sub> (<0.4µg/m<sup>3</sup> at all sensitive receptors). The predicted NO<sub>2</sub>, CO, SO<sub>2</sub> and VOC concentrations were well below the relevant impact assessment criteria.

The conclusion drawn by the assessment for MPW Stage 2 was that it was consistent with previous assessments conducted for the Concept Plan Approval, with the potential air quality impacts expected to be low risk. Nevertheless, proposed mitigation measures were considered sufficient in ensuring offsite impacts of the development are effectively managed.

### 9.3.2 The Proposal

EMM (2020) reviewed air quality impact assessments previously prepared for Precinct works including MPW Concept Plan and Early Works, MOD 1, and MPW Stage 2, and concluded that:

- although the proposed construction compound will be located in a different area compared to previously assessed, this would not have a significant impact on the Concept Plan, MOD1 or MPW Stage 2 offsite modelling predictions;
- all previous air quality impact assessments considered the cumulative impact associated with the construction and operation of the adjacent MPE Site; and
- the impact to local air quality from the Proposal is therefore expected to be no different to what has already been assessed and approved for the MPW Site.

EMM noted that the Proposal does not introduce any new or additional emission sources not already assessed in these previous assessments and confirmed prior cumulative assessment conclusions that project-only local air quality impacts were minor, with no additional exceedances of the impact assessment criteria except for the annual average PM<sub>2.5</sub>, which was caused primarily by the existing high background for PM<sub>2.5</sub> in the region.

## 9.4 Potential Impacts

### 9.4.1 Construction and Operation

The MPW Stage 2 air quality assessment found that the operation of container handling equipment is the largest potential source of PM emissions (the key pollutant at the site) which would have subsequent impacts on air quality, while locomotives were the largest source of NO<sub>x</sub> emissions. However, the potential air quality impacts arising from this Proposal will be significantly less than those identified for MPW Concept Plan and Stage 2, as there is no

development associated with the interstate freight terminal or rail links and no proposed construction or operation of warehousing. .

Notwithstanding this, a number of potential impacts identified in the MPW Stage 2 air quality assessment are relevant to this Proposal. A summary of potential air quality impacts resulting from this Proposal which have already been identified and assessed in the MPW Stage 2 EIS are provided in Table 9-4.

Given no physical works are required as part of the proposed subdivision in this Proposal, no air quality impacts are considered to arise. With regards to the proposed works compound and associated ancillary infrastructure, Table 9-4 identifies potential impacts that may arise during construction of these elements (i.e. during their placement/installation) and operation (i.e. use of the works compound and ancillary infrastructure).

Table 9-4: Potential construction and operation air quality impacts resulting from this Proposal considered and addressed in MPW Stage 2 assessments.

Potential Construction Impacts	Potential Operation Impacts
<ul style="list-style-type: none"> <li>• Generation of particulate matter and fugitive dust emissions during site preparation, earthworks, drainage, utilities and road work activity.</li> <li>• Increase in background air pollution levels.</li> <li>• Exceedance of impact assessment criteria.</li> <li>• Reduced air quality at sensitive receivers.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced local air quality from truck movements.</li> <li>• Increase in particulate matter in the air.</li> <li>• Increase in background air pollution levels.</li> <li>• Exceedance of impact assessment criteria.</li> <li>• Reduced air quality at sensitive receivers.</li> </ul>

The Proposal is unlikely to present any additional air quality environmental impacts beyond those already assessed and addressed as part of the MPW Stage 2 EIS. Further, potential air quality impacts arising from this Proposal are significantly less than those identified for MPW Concept Plan and Stage 2, as there is no development associated with the interstate freight terminal or rail links and no proposed construction or operation of warehousing.

Those impacts that are relevant to this Proposal have largely already been assessed under MPW Stage 2 environmental assessments. Machinery and equipment similar to that already assessed will be used for the proposed MPW Stage 3 works so there are no anticipated additional impacts in relation to this Proposal.

## 9.5 Mitigation and Management

The Proposal works will be managed under the existing CEMP, the OEMP and related sub-plans prepared and approved for MPW Stage 2, with adjustments where required, to reflect the nature, scale and extent of interface with MPW Stage 2. The following sections outline specific mitigation measures for the Proposal as they relate to air quality management.

### 9.5.1 Construction

The principle emission to air during the construction phase will be dust and particulate matter. The current CEMP and *Construction Air Quality Management Plan* for MPW Stage 2 incorporates recommendations from the *Air Quality Management Plan* (Ramboll, 2016), and these management plans will be updated, where required, to address any additional potential air quality impacts resulting from this Proposal. Mitigation measures that will be included in the CEMP with respect to the management of air quality include:



- procedures for managing and controlling dust;
- roles, responsibilities and reporting requirements;
- contingency measures in the event that control measures are considered ineffective; and
- limiting vehicle movements to designated haulage routes and entry/exit points.

#### 9.5.2 Operation

The OEMP to be prepared for MPW Stage 2 will incorporate recommendations from the *Air Quality Management Plan* (Ramboll, 2016), and potential air quality impacts as a result of this Proposal will be successfully managed in an updated OEMP. In particular the OEMP will consider the following mitigation measures for this Proposal:

- implementation and communication of anti-idling policy for trucks;
- complaints line for the community for air quality related matters;
- procedures to reject excessively smoky trucks visiting the site based on visual inspection; and
- contingency measures in the event that control measures are considered ineffective.

Mitigation measures will be implemented as recommended in the revised and updated CEMP and OEMP. Potential air quality impacts on ambient conditions resulting from this Proposal are likely to be negligent and, in most cases, below the adopted criteria.

#### 9.5.3 Revised Environmental Management Measures

Environmental Management Measures were prepared as part of the MPW Concept Plan Approval and revised for the MPW Stage 2 Approval to inform the CEMP, OEMP and sub-plans. Relevant air quality related MPW Stage 2 REMMs would continue to apply to this Proposal to manage impacts consistent with relevant CoC and guidelines. The REMMS have been reviewed and further updated, as required, to ensure relevance to this Proposal (refer to Section 20).

## 10. Biodiversity

### 10.1 Approval Requirements

#### 10.1.1 SEARs

A biodiversity report, including flora and fauna advice, has been prepared by Arcadis (2020). The report reviewed and assessed previous reports prepared for MPW Stage 2, as well as MPW Concept Plan reports, where required, to address the SEARs relating to biodiversity for the Proposal. The report is included as Appendix J of this EIS.

Table 10-1 identifies the SEARs as they relate to biodiversity, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 10-1: SEARs for the Proposal relating to biodiversity.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 14	<p><b>14. Biodiversity</b></p> <p>a) biodiversity impacts related to the proposal and the preparation of a Biodiversity Assessment are to be addressed in accordance with the requirements of the Biodiversity Conservation Act 2016</p> <p>b) where a Biodiversity Development Assessment Report (BDAR) is not required, engage a suitably qualified person to assess and document the flora and fauna impacts related to the proposal.</p> <p><b>Note:</b> A BDAR waiver under section 7.9 has been granted for the proposed development (being Moorebank Precinct West Stage 3 – SSD 10431). The application, therefore, does not need to be accompanied by a BDAR, where made in accordance with the requirements of the waiver.</p>	<p>a) Arcadis (2020) has considered the potential direct, indirect and cumulative impacts of the proposal on biodiversity values listed under the BC Act (refer to Section 10.3.2 and Appendix J).</p> <p>b) Potential flora and fauna impacts related to the Proposal were documented by Arcadis (2020), refer to Appendix J.</p>

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential impacts resulting from changes to biodiversity arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

#### 10.1.2 Relevant Conditions of Approval

##### 10.1.2.1 EPBC 2011/6086 Conditions of Approval

The MPW Development was determined to be a controlled action under the EPBC Act by the Commonwealth Department of Environment and Energy, as the MPW Development works have the potential to result in an impact on MNES or Commonwealth land, and will result in impacts to listed threatened species, including:

- *Persoonia nutans* (listed as Endangered under the EPBC Act); and
- *Grevillea parviflora subsp. parviflora* (listed as Vulnerable under the EPBC Act).

Further information regarding EPBC 2011/6086 CoC (issued on 27 September 2016) is provided in Section 4.3.1. The Proposal is consistent with the relevant EPBC CoC, as demonstrated in Table 4-1.



### 10.1.2.2 MPW Concept Plan Approval (MOD 1)

Table 10-2 identifies relevant CoC that apply as a result of the MPW Concept and Stage 1 SSD 5066 and as modified by MOD , and provides comment and/or identifies the relevant sections of this EIS where these requirements have been addressed for the Proposal.

Table 10-2: Biodiversity – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Relevant EIS Section/ Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Biodiversity; Cumulative Impacts</i>		
E15	All future Development Applications shall consider measures to improve the condition of the riparian corridor along the western bank of the Georges River (known as the 'hourglass land')	No works will be undertaken within the riparian corridor under this Proposal. The Proposal will be consistent with MPW Concept Plan Approval and MPW Stage 2 assessments, which have already considered measures to maintain and improve the condition of the riparian corridor.
E16	<p>All future Development Applications shall include the following vegetated riparian corridor widths (measured landward from the top of bank) and provide detailed drawings demonstrating compliance with this requirement:</p> <p>a) a minimum of 50 metres wide associated with the rail corridor;</p> <p>b) a minimum of 40 metres wide along the terminal site; and</p> <p>c) compliance with condition 18B.</p> <p>E16A. All future Development Applications must demonstrate that onsite detention basins are located outside the riparian corridor and the outlets have been designed to minimise impacts on the riparian corridor.</p> <p>E16B. All future Development Applications must include an assessment of the impact of the development on core Koala habitat and provide a detailed assessment of options to manage and minimise impacts.</p>	<p>E16 The plans provided with this application confirm that no works will be undertaken within the riparian corridor under this Proposal. All development works, including sedimentation basins will be located outside the 40 m riparian corridor.</p> <p>E16A, 16B Potential impacts of the onsite detention basins on the riparian corridor and of the development in relation to core koala habitat have already been assessed in MPW Concept Plan Approval and MPW Stage 2 Approval assessments.</p> <p>The outcomes of the MPW Concept, Stage 2 and Proposal assessment review is provided in Section 10.</p>
E18	<p>The layout of the site shall not prevent a possible future pedestrian connection to Casula Railway Station across the Georges River.</p> <p>18A. The layout of the site must not prevent the provision of vegetated wildlife corridors linking the Georges River riparian corridor and Moorebank offset area with the Wattle Grove offset area as shown in the Appendix.</p>	The proposed site layout will not prevent any future pedestrian connection to Casula Railway Station across the Georges River.

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Relevant EIS Section/ Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Biodiversity; Cumulative Impacts</i>		
	<p>18B. The site must include provision of a riparian corridor, comprising the following:</p> <p>(i) a buffer zone to the most inland of:</p> <ul style="list-style-type: none"> <li>• 40 metres from the top of bank, as surveyed by a registered surveyor, or</li> <li>• the 1% AEP flood extent, excluding the localised depression at the existing major east-west drainage channel, and</li> </ul> <p>(ii) an additional 10 metre extension to the buffer zone established in (i) above, where native vegetation is located on or within 10 metres east of the buffer.</p>	18A and 18B The proposed development layout does not impact the provision of vegetated wildlife corridors, all development works will be undertaken outside of required buffer zones.
E28	<p>All future Development Applications must provide the timing for construction and operation on both the MPW and MPE sites and provide cumulative assessments for construction and operation on the MPW and MPE sites including, but not limited to</p> <p>a) traffic and access impacts;</p> <p>b) noise and vibration impacts;</p> <p>c) air quality impacts;</p> <p>d) stormwater drainage impacts;</p> <p><b>e) ecological impacts.</b></p>	<p>E28e) Cumulative assessments for construction and operation impacts on ecology were considered as part of the MPW Concept Plan and MPW Stage 2 assessments.</p> <p>The outcomes of the MPW Concept, Stage 2 and Proposal assessment review is provided in Section 10.</p>

### 10.1.2.3 MPW Stage 2

In accordance with SSD 7709 CoC B157, the required number of offset biodiversity credits must be retired prior to any impacts to threatened species or the ecological community. All required biodiversity offset credits against threatened species and communities for MPW have been retired through biobanking credits generated both onsite and offsite, and so this approval condition has been met.

## 10.2 Ecological Environment

A detailed *Ecological Impact Assessment* (with an associated *Biodiversity Offsets Strategy*) was prepared by Parsons Brinckerhoff (2014) as part of the MPW Concept Plan EIS. The assessment identified the following ecological constraints and characteristics in relation to the MPW Site and within the surrounding area prior to development works:

- The MPW Site was located in an urban setting, comprising mainly residential, industrial and commercial land uses with a narrow open space riparian corridor associated with the Georges River running north to south along the western boundary.

### 10.2.1 Pre-Development Vegetation

- Vegetation has been selectively removed in the central areas of the MPW Site in accordance with approved consents. Native vegetation was largely retained along the Georges River and along the south-eastern boundary of the MPW Site. The retained vegetation communities in these areas were listed as threatened communities under the TSC Act. None were listed under the EPBC Act but they do have moderate to high value as potential habitat for threatened fauna and flora species.
- Four native vegetation types were mapped within the MPW Site, which together are consistent with three TECs:
  - Riparian Forest and Alluvial Woodland; consistent with River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions, listed as an EEC under the TSC Act.
  - Castlereagh Scribbly Gum Woodland in the Sydney Basin Bioregion, listed as a vulnerable ecological community under the TSC Act. This community is also listed as endangered under the EPBC Act.
  - Castlereagh Swamp Woodland, listed as an EEC under the TSC Act.
- Three plant community types (PCTs) have been identified within the development site which are equivalent to threatened ecological communities as listed under Commonwealth and/or State legislation:
  - Hard-leaved Scribbly Gum – Parramatta Red Gum healthy woodland of the Cumberland Plain, Sydney Basin (ME003);
  - Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin (ME005); and
  - Forest Red Gum – rough barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney (ME018).
- A total of 233 species of plants were recorded within the MPW Site comprising 155 native species and 78 introduced species. The high number of native species recorded reflected the presence of areas onsite with near-natural levels of plant diversity, particularly in the Castlereagh Scribbly Gum Woodland along Moorebank Avenue and the Riparian Forest community along the Georges River. However, native species diversity was much lower in degraded patches of vegetation in the core of the MPW Site.
- Two threatened species of plant were recorded: *Persoonia nutans* (listed as Endangered under the EPBC Act and TSC Act) and *Grevillea parviflora subsp. parviflora* (listed as Vulnerable under the EPBC Act and TSC Act). These plants were located in Castlereagh Scribbly Gum Woodland patches adjacent to Moorebank Avenue in the east of the MPW Site.
- Of the 72 non-indigenous species of plants recorded, 12 were listed under the NW Act for the Liverpool noxious weed control area and nine of these species were listed as Weeds of National Significance (Australian Weeds Committee, 2010).

### 10.2.2 Pre-Development Fauna

- A total of 92 species of fauna were recorded within the MPW Site, comprising 87 native species and five introduced species. One threatened fauna species was recorded: Grey-headed Flying-fox, listed as Vulnerable under the EPBC Act and TSC Act. The MPW Site was also likely to provide habitat for 24 additional threatened species of fauna not detected during surveys. The site maintains an important role in

the local and regional corridor network given its location adjacent to the Georges River and extensive areas of vegetation to the south.

- Five broad terrestrial fauna habitat types were identified on the MPW Site based on field verification. These included:
  - riparian vegetation along the Georges River;
  - fragmented patches of shrubby woodland;
  - highly disturbed areas containing large remnant trees;
  - artificial wetlands and tall eucalypt forest with intact canopy; and
  - Georges River, Anzac Creek and surrounding damp areas were considered to offer habitat to a variety of fish and amphibian species, however these areas were considered to be of poor quality.

#### 10.2.2.1 Aquatic Fauna

The Georges River is a permanently flowing 6<sup>th</sup> order watercourse adjacent to the site and is classified as a Class 1 (major) fish habitat. Due to the degraded nature of the bank vegetation and onsite river reach no species currently listed under the NSW FM Act were recorded within the vicinity. Further, native fish species within the adjacent river reach were likely to consist of disturbance tolerant species who are less sensitive to alterations in environmental conditions.

No suitable habitat for dragonfly species, listed under the FM Act and occurring within the Sydney basin, were detected in ecological surveys.

#### 10.2.3 Amiens Wetland

The *Amiens Wetland Assessment* (Arcadis, 2016) was prepared by Dr John L Porter and included as part of the *Biodiversity Assessment Report* (BAR) for MPW Stage 2, in response to MPW Concept Plan CoC Condition E22:

*All future Development Application which includes construction in the vicinity of Amiens Wetland shall include advice from an independent wetland expert to determine whether it is artificial or a natural lake basin, its significance, and any recommendations on mitigation measures (if appropriate).*

Amiens Wetland is a small (4,855 m<sup>2</sup>) natural freshwater wetland with fringing vegetation located on the Georges River floodplain, adjacent to Amiens Road near the Moorebank Avenue/M5 intersection. The wetland lies within the northern portion of the MPW Site. Although the wetland is impacted by weeds, vertebrate pests and pollution, it retains significance for biodiversity and habitat conservation as a natural floodplain wetland. Recommendations and mitigation measures to retain biodiversity and habitat values were provided in the report.

No MPW Stage 3 development works are proposed within the locality of Amiens Wetland. Under the proposed subdivision plan the wetland would be located within proposed Lot 5.

#### 10.2.4 Existing Environment

The MPW Site has been highly modified by development including construction of road, sewerage and stormwater infrastructure and establishment of hardstand and warehousing. Approved fill material is expected to elevate site levels up to 3 m across some portions of the site.

The site has been largely cleared of vegetation and infrastructure to facilitate site development in accordance with recent Approvals. The majority of the remaining site vegetation consists of remnant forest and woodland vegetation and will be cleared in accordance with approved MPW Stage 2 (SSD 7709) CoC.

The MPW Site contains, and is bound by, barriers to fauna movement, including Moorebank Avenue, the SSFL, the East Hills Rail Corridor, M5 Motorway and chain-mesh fencing surrounding the MPW Site, which potentially limits movement into and through the area to small terrestrial mammals, reptiles, amphibians, bats and birds. Post-development, habitat connectivity will continue to exist along the western boundary, which will facilitate the movement of threatened species across their range to larger adjacent areas of vegetation.

#### 10.2.4.1 Biodiversity Values Map

DPIE's Biodiversity Values Map, which identifies land with high biodiversity value as defined by the BC Regulation and in accordance with the BC Act, has mapped portions of the MPW Site as having high biodiversity value (Figure 9-1). Entry into the Biodiversity Offset Scheme and therefore preparation of a *Biodiversity Development Assessment Report* (BDAR) are required for SSI and SSD proposals in accordance with Section 7.9 of the BC Act. Section 10.3.2 discusses the request to the Department for a BDAR waiver for this Proposal; further details are provided in Appendix J



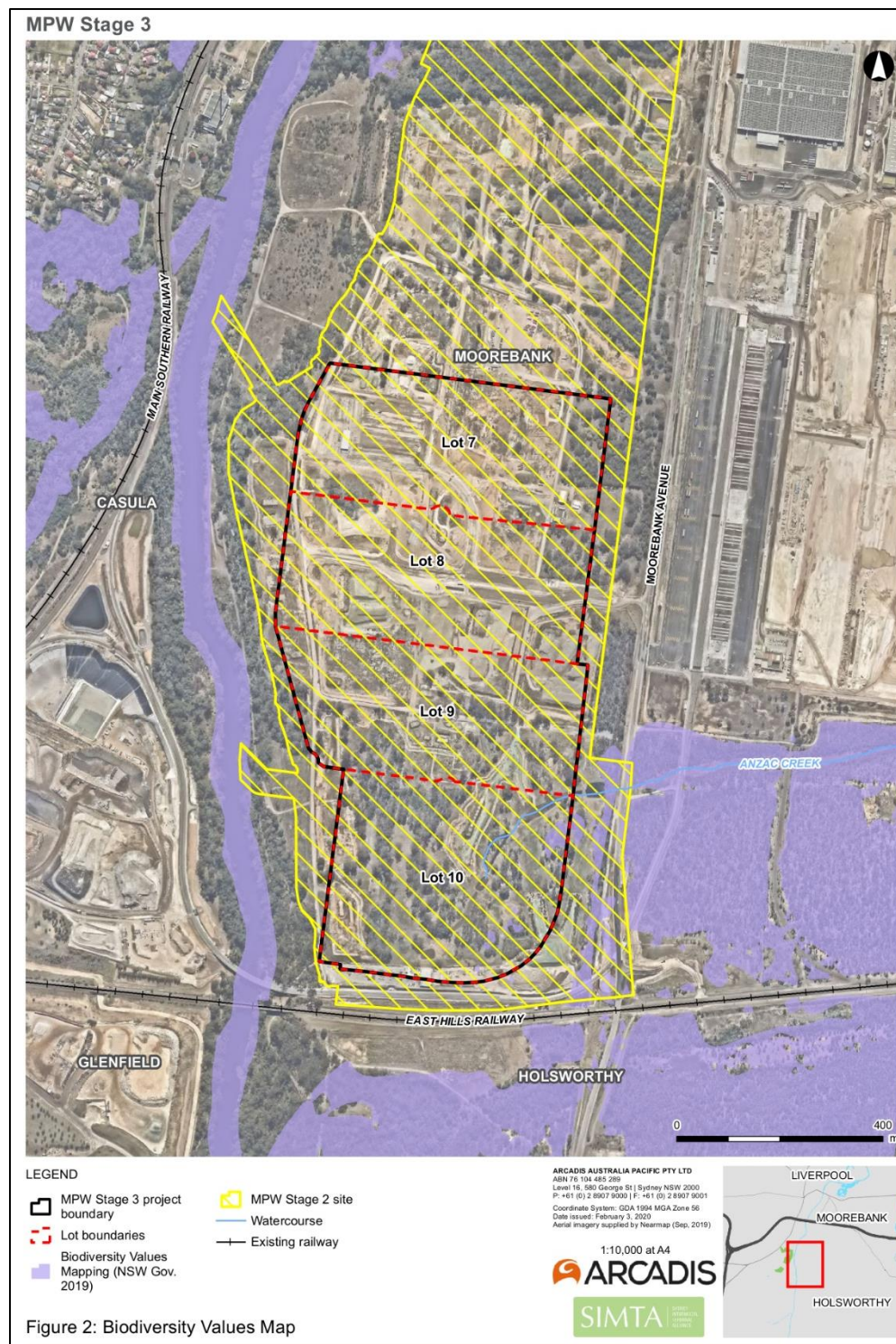


Figure 9-1: Biodiversity Values Map – MPW Stage 3 (Arcadis, 2020)

## 10.3 Assessment Methodology

### 10.3.1 Recent Environmental Assessments

#### 10.3.1.1 MPW Concept Plan

Biodiversity impacts for MPW Concept and Early Works were assessed by Parsons Brinckerhoff in an *Ecological Impact Assessment* (2014) prepared for the MPW Concept EIS,

and in a separate *Framework for Biodiversity Assessment* (FBA) (2015) prepared as part of the Response to Submissions (RtS). Although the technical papers prepared for the MPW Concept EIS addressed biodiversity values and potential biodiversity impacts across the entire MPW development site, only the Early Works component of the Project was approved under the MPW Concept Plan Approval.

The MPW Concept EIS also addressed EPBC Act assessment requirements for impacts to Matters of National Environmental Significance (MNES). The MPW Development was subsequently determined to be a controlled action under the EPBC Act in 2016.

The ecological assessment undertaken for the MPW Concept Plan EIS included impact significance assessments which were undertaken for threatened species known or predicted to occur in the area. Terrestrial flora and fauna surveys were undertaken from 8-12 November 2010 to verify the results of the desktop assessment and enable completion of a hollow-bearing tree survey. Additional vegetation and habitat assessments were undertaken in May 2014 to quantify biodiversity offsets likely to be required as a result of the MPW Development. Targeted threatened species surveys were undertaken in September 2014.

Early Works for the MPW Development included vegetation clearance in selected areas to facilitate remediation and building/infrastructure demolition works (refer to Sections 1.3.1 and 1.3.2). Assessment of the Early Works activities did not identify that any TECs or threatened plant species would be removed and the assessment concluded that the Early Works were unlikely to result in a significant adverse impact on biodiversity.

Assessment of Early Works impacts (Parsons Brinkerhoff, 2014) identified threatened species populations and threatened ecological communities and proposed mitigation measures. Based on these assessments, no threatened species population or ecological communities listed under the EPBC Act or the TSC Act were considered to be significantly impacted by Early Works.

Assessments of significance undertaken for the EIS found that no threatened species population or ecological communities listed under either the EPBC Act or TSC Act were likely to be significantly impacted by the MPW Development. However, the assessment identified that further stages of the MPW Development were likely to involve the removal of TECs/threatened species, along with further scattered native and introduced trees and shrubs within the MPW Site.

A *Biodiversity Offset Strategy*, which included an FBA report and was prepared to support the Response to Submissions for the MPW Concept Plan (PB, 2015), aimed to:

- assess measures taken to avoid and minimise the direct and indirect impacts on biodiversity in accordance with the FBA;
- Identify the residual biodiversity impacts to be offset;
- identify a proposed offset strategy specific to the Project;
- identify the ecological values of the proposed offset areas and approach to residual offset requirements; and
- outline the compliance of the offset strategy with Commonwealth and State offsetting principles.

The FBA report, which formed Appendix A of the *Biodiversity Offset Strategy* (which itself formed Appendix F of the MPW Concept Plan EIS *Technical Paper 3 – Ecological Impact*



Assessment) described the biodiversity credits required to offset biodiversity impacts associated with the MPW Development.

Threatened flora species and vegetation communities recorded on the MPW Site are provided in Figure 9-2.

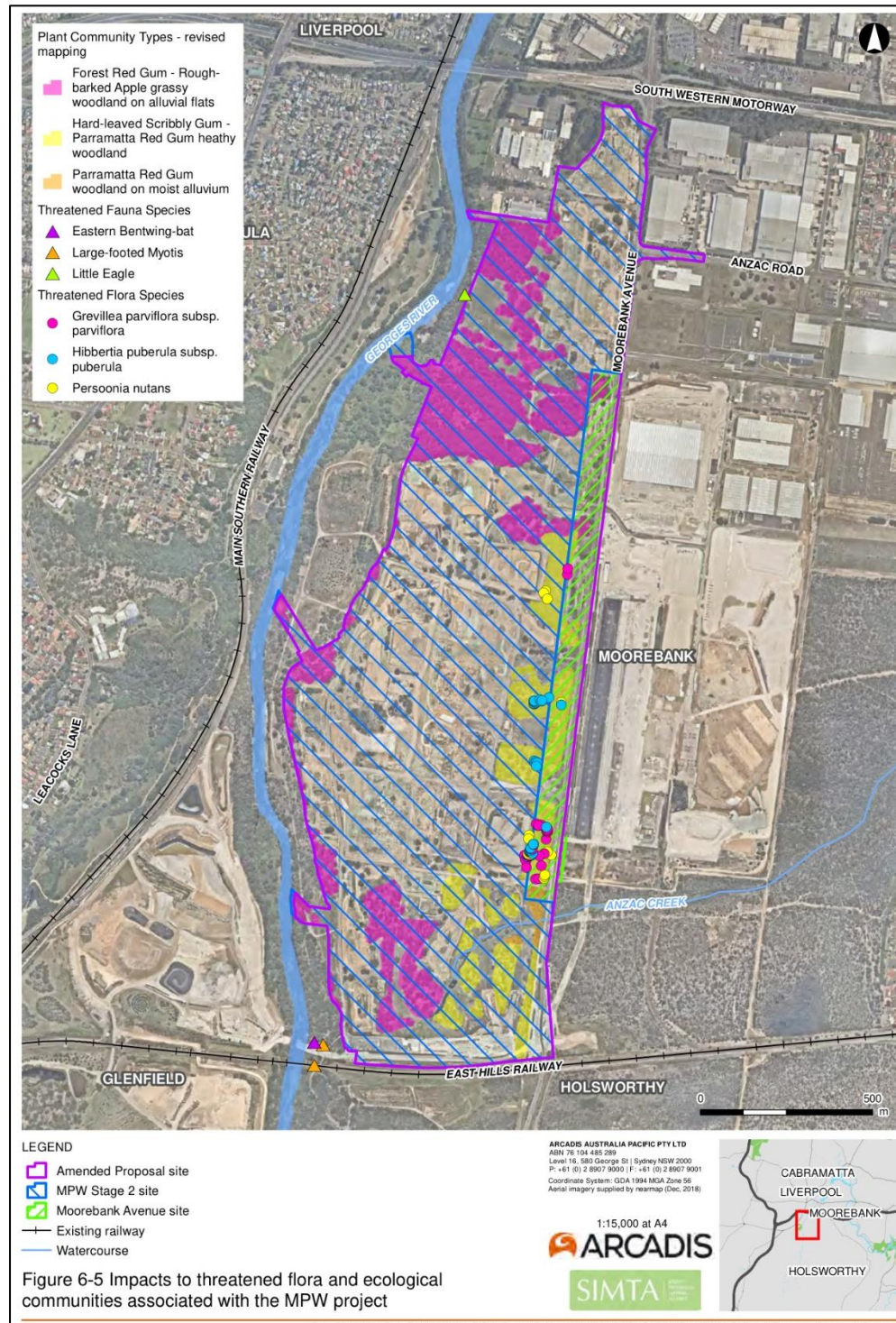


Figure 9-2: Threatened flora species and plant communities recorded on the MPW Site (Arcadis, 2019)

#### 10.3.1.2 MPW Stage 2

MPW Stage 2 works required clearing of all vegetation within the development site, including TECs. The BAR (Arcadis, 2016) prepared to support the MPW Stage 2 EIS assessed potential impacts to biodiversity for the whole of the MPW Development site. The BAR aimed to build on previous reports, and provided:

- a revised calculation of the biodiversity impacts within the MPW Site;
- a separate calculation of additional impacts outside the MPW Site as a result of additional design development for MPW Stage 2; and
- impact calculations prepared in accordance with the FBA.

The BAR determined that:

- MPW Stage 2 would remove 42.89 ha of native vegetation comprising three plant community types (PCTs) and equivalent to TECs as listed under Commonwealth and/or State legislation:
  - Castlereagh Scribbly Gum Woodland in the Sydney Basin bioregion - 15.51 ha impacted (conservation status of Vulnerable (under TSC Act) and Endangered (under EPBC Act));
  - Castlereagh Swamp Woodland – 0.92 ha impacted (conservation status of Endangered (under EPBC Act); and
  - River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and Southeast Corner bioregions – 30.62 ha impacted (conservation status of Endangered (under TSC Act)).
- MPW Stage 2 would have direct impacts on populations of two threatened flora species listed under the TSC Act and EPBC Act:
  - *Persoonia nutans* (Endangered – 10 individuals); and
  - *Grevillea parviflora subsp. parviflora* (Vulnerable – 16 individuals).
- The MPW Stage 2 works would potentially impact:
  - groundwater dependent ecosystems, such as the drawdown of groundwater from the root zone as a result of earthworks and geotechnical construction activities;
  - the Georges River riparian corridor, due to the removal of vegetation for construction of sediment basin outlets in three locations; and
  - vegetation removed for the construction of three basin outlets.
- Development works adjacent to the Georges River, including construction of stormwater drainage outlets, would have limited impact on the connectivity of the Georges River riparian zone and were unlikely to significantly impact riverine areas outside of the MPW Site.
- A Biodiversity Offsets Strategy, which was developed for the MPW Development to compensate for the losses of native vegetation, TECs and threatened species habitat, was updated in the MPW Stage 2 BAR to obtain ecosystem credit values to offset the area impacted by MPW Stage 2.

The potential impacts of the MPW Stage 2 project were assessed to be largely similar in nature to the impacts considered and assessed for the MPW Concept Plan EIS. Mitigation measures were provided to, where possible, avoid impacts during construction and operation.

### 10.3.2 BDAR Waiver

Arcadis (2020) prepared a BDAR Waiver Application to request DPIE to consider that the Proposal be exempt from Section 7.9 (2) of the BC Act, meaning that this EIS need not be accompanied by a BDAR. The BDAR Waiver Application memo was provided to DPIE (5 February 2020) as part of the SEARs discussion process between Aspect Environmental and the Department, and prior to the issuance of the SEARs. The Planning Agency Head and the Environmental Agency head determined that the Proposal is not likely to have a significant impact on biodiversity values and so a waiver was granted on behalf of the Planning Agency Head on 17 March 2020 and the Environmental Agency Head on the 13 March 2020. This EIS therefore does not need to be supported by a BDAR.

### 10.3.3 The Proposal

Arcadis (2020) confirmed that vegetation and other landscape features currently on the Proposal site which may contain threatened species, threatened ecological communities or their habitat, and high biodiversity value mapped lands (on the Biodiversity Values Map; Figure 9-1) were assessed as part of MPW Stage 2. Site vegetation and biodiversity assets were confirmed to have already been approved for removal in accordance with the MPW Stage 2 CoC and will be removed from the site prior to commencement of approved Proposal works. The Proposal site will therefore ultimately consist of a cleared landscape with no vegetation or biodiversity assets prior to the commencement of any approved MPW Stage 3 works.

Arcadis assessed the Proposal against Section 1.4 of the BC Regulation and demonstrated that as the entire footprint of the Proposal is situated within the assessment area and approved construction boundary of MPW Stage 2 and site vegetation has already been approved to be removed under MPW Stage 2 CoC, the Proposal would not further impact on:

- biodiversity values;
- the occurrence and abundance of vegetation;
- vegetation integrity within the Proposal site or the surrounding area;
- habitat sustainability; or
- threatened species abundance.

The Proposal is also unlikely to have a significant impact on:

- habitat connectivity;
- threatened species movement;
- flight path integrity; or
- water sustainability.

Arcadis determined that there is potential for elements of the Proposal to result in indirect impacts to adjoining bushland including the spread of weeds and disturbance of wildlife by light, noise and vibration. These potential impacts were assessed for MPW Stage 2, and mitigation measures incorporated into the *Construction Flora and Fauna Management Plan* (CFFMP) would continue to be applicable to the Proposal.

Arcadis concluded that given the already approved site clearing which would be undertaken prior to commencement of MPW Stage 3 works, it was considered unlikely that any threatened species or communities would occur within the Proposal site, and the Proposal would be unlikely to have a significant impact with respect to Section 1.5 of the BC Act and



Section 1.4 of the BC Regulation. Further, mapped High Biodiversity Values areas would no longer exist prior to the commencement of the Proposal and are therefore not required to be considered. No biodiversity offsets are required for the Proposal.

## 10.4 Potential Impacts

### 10.4.1 Construction and Operation

Vegetation and biodiversity assets have already been approved for removal across the Proposal site as part of MPW Concept Plan, Early Works Stage 1, and MPW Stage 2 assessments. No further significant impacts on the biodiversity value of the site are likely as a result of this Proposal.

A summary of potential impacts related to biodiversity as a result of this Proposal, which have already been identified and addressed in the MPW Stage 2 EIS and environmental assessments, are provided in Table 9-2. There will be no physical works required as part of the proposed subdivision and so no further biodiversity impacts will arise as a result of this Proposal. With regards to the proposed works compound and associated ancillary infrastructure, Table 9-2 identifies potential impacts that may arise during construction of these elements (i.e. during their placement/installation) and operation (i.e. use of the works compound and ancillary infrastructure).

Table 9-2: Potential construction and operational biodiversity impacts resulting from this Proposal already considered and addressed in MPW Stage 2 assessments

Potential Construction Impacts	Potential Operation Impacts
<ul style="list-style-type: none"> <li>• Increase in edge effects.</li> <li>• Potential noise, light and/or dust pollution impacts to local fauna.</li> <li>• Introduction of weeds, pests and pathogens.</li> <li>• Potential disturbance to aquatic habitat or groundwater dependent ecosystems.</li> </ul>	<ul style="list-style-type: none"> <li>• Fauna injury or mortality may result from collisions with vehicles, trains or plant in operation within the MPW Site, or as a result of increased traffic movements within, and in the vicinity of the site.</li> <li>• Increased movement of people, vehicles, machinery, vegetation waste and soil may facilitate the introduction and/or spread of weeds.</li> <li>• Accidental spills or leaks (oils, fuel, lubricants and chemicals) have the potential to result in contaminants being transported to the aquatic environment of Georges River via rainfall runoff.</li> <li>• An increased utilisation of the site by both people and vehicles as site development progresses, which may impact upon the roosting, breeding and foraging activities of locally occurring fauna as a result of increased exposure to light, noise, dust, vehicles and people.</li> <li>• Potential disturbance to aquatic habitat or groundwater dependent ecosystems.</li> </ul>

The Proposal sits entirely within the approved MPW Stage 2 footprint and all native vegetation and threatened species habitat within the MPW Site have already been assessed. Whilst the vegetation within the MPW Stage 2 Site has not yet been completely cleared, the MPW Site will be entirely cleared by the time that the Proposal works commence. All required biobanking credits in relation to the MPW Stage 2 development have been retired. The

Proposal does not represent an increase to the construction or operational footprint of the MPW Stage 2 project and so would not result in any additional impacts to threatened species or ecological communities that have not already been assessed and approved under MPW Stage 2.

The Proposal does not require further removal of vegetation or other biodiversity features including threatened species, threatened ecological communities or their habitats. Development of the works compound and ancillary infrastructure will not impact upon biodiversity assets or adjacent biodiversity areas, and so no prescribed impacts as defined under the BC Act will result from the Proposal.

## 10.5 Mitigation and Management

As the Proposal is not expected to impact the biodiversity assets of the MPW Site or adjacent areas, the Proposal works will be managed under the existing CEMP, the OEMP and related sub-plans including the CFFMP, which have been prepared to accommodate MPW Stage 2 CoC. Where required, the CEMP, OEMP and CFFMP will be updated to mitigate potential biodiversity impacts as a result of the Proposal. The Proposal will also be consistent with relevant EPBC 2011/6086 CoC.

The following sections outline specific construction and operational mitigation measures for the Proposal as they relate to biodiversity.

### 10.5.1 Construction

Relevant MPW Stage 2 construction mitigation measures that will be included in a revised CCFMP for the Proposal include:

- appropriate site management to manage potential impacts to adjacent biodiversity assets, including the retained conservation area;
- weed control and pest management;
- roles, responsibilities and reporting requirements; and
- contingency measures in the event that control measures are considered ineffective.

### 10.5.2 Operation

Relevant MPW Stage 2 operation mitigation measures that will be included in a revised CCFMP for the Proposal include:

- appropriate site traffic management measures to minimise potential impacts to local fauna;
- suitable remediation procedures in the event of site contamination to minimise potential impacts to vegetation and aquatic habitat, the riparian zone and the Georges River;
- a complaints line for the community for biodiversity related matters; and
- contingency measures in the event that control measures are considered ineffective.

### 10.5.3 Revised Environmental Management Measures

Environmental Management Measures were prepared as part of the MPW Concept Plan Approval and revised for the MPW Stage 2 Approval to inform the CEMP, OEMP and sub-plans. Relevant biodiversity related MPW Stage 2 REMMs will continue to apply to this Proposal to ensure compliance with relevant CoC and guidelines; the REMMS have been

reviewed and further updated, as required, to ensure relevance to this Proposal (refer to Section 20).

## 10.6 Offsetting Impacts

The *NSW Biodiversity Offsets Policy for Major Projects* applies to SSD projects. A Biobanking Agreement, approved by the Department, clarifies funded management actions, monitoring, and long-term security of the Biobank site in-perpetuity.

The *Biodiversity Offset Strategy* which was prepared for the Moorebank Precinct under the MPW Concept Plan Approval identified offset requirements for removal of vegetation across the site. The *Biodiversity Offset Strategy* confirmed that all required biodiversity offset credits against threatened species and communities for MPW Stage 2, in accordance with SSD 7709 CoC B157, have been retired through biobanking credits generated both onsite and offsite, and so this consent condition has been met.

## 11. Stormwater and Flooding

### 11.1 Approval Requirements

#### 11.1.1 SEARs

A civil works report incorporating hydrology has been prepared by Costin Roe (2020) which reviewed and assessed previous reports prepared for MPW Stage 2, as well as MPW Concept Plan reports, where required, to address the SEARs relating to stormwater and flooding for the Proposal. The report is included as Appendix K of this EIS.

Table 11-1 identifies the SEARs as they relate to biodiversity, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 11-1: SEARs for the Proposal relating to stormwater and flooding.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 7	<p><b>7. Soil and Water</b> – including but not limited to:</p> <p>An assessment of soil and water impacts for the site. The assessment must:</p> <ul style="list-style-type: none"> <li>a) assess impacts on surface and groundwater flows, quality and quantity</li> <li>b) assess flooding impacts and characteristics, to and from the project, with an assessment of the potential changes to flooding behaviour (levels, velocities and direction) and impacts on bed and bank stability, through flood modelling, including: <ul style="list-style-type: none"> <li>(i) hydraulic modelling for a range of flood events</li> <li>(ii) description, justification and assessment of design objectives (including bridge, culvert and embankment design)</li> <li>(iii) an assessment of afflux and flood duration (inundation period) on property;</li> <li>(iv) consideration of the effects of climate change, including changes to rainfall frequency and/or intensity, including an assessment of the capacity of stormwater drainage structures</li> <li>(v) relevant provisions of the NSW Floodplain Development Manual 2005</li> </ul> </li> <li>c) assess effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas, water dependent fauna and flora (including Groundwater Dependent Ecosystems), having regard to advice received from EESG (see Attachment 1)</li> <li>d) describe any mitigating effects of the proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options</li> <li>e) identify proposed monitoring of hydrological attributes</li> <li>f) address drainage issues associated with the development / site, including the incorporation of Water Sensitive Urban Design measures, stormwater and drainage infrastructure such as on-site detention systems to ensure peak discharges and flow velocities post development must not exceed existing peak flows and velocities</li> <li>g) undertake an assessment of surface water quality during construction (including reference to water quality objectives for the relevant catchment where objectives have been determined), including an identification of works that may impact water quality, and a summary</li> </ul>	<p>Section 11 and Appendix K</p> <p>a), c), d), e), f), g) and h) Section 11.3.2</p> <p>b) Section 11.3.2 and Section 11.5.2</p> <p>i) Section 17.3.3</p>



Ref No.	SEARs	Relevant EIS Sections / Comment
	<p>of proposed monitoring and mitigation measures in accordance with Managing Urban Stormwater – Soils &amp; Construction Volume 1 2004 (Landcom) and Volume 2 (DECC 2008)</p> <p>h) consideration of stormwater quality and management (including monitoring) during use of the site with the objective of maintaining or improving existing water quality taking into account the Water Quality Objectives</p> <p>i) consider whether the existing sewerage system can cater for the proposal and whether environmental performance of the existing system will be impacted.</p>	

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential impacts resulting from changes to stormwater and flooding arising as a result of the Proposal.

### 11.1.2 Relevant Conditions of Consent

#### 11.1.2.1 MPW Concept Plan and Stage 1 Early Works Consent (MOD 1)

Table 10-1 identifies relevant CoC that apply as a result of the MPW Concept and Stage 1 SSD 5066 and as modified by MOD 1, and provides comment and/or identifies the relevant sections of this EIS where these requirements have been addressed for the Proposal.

Table 11-2: Stormwater and Flooding – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Relevant EIS Section/ Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Soil and Water</i>		
E21	<p>All future Development Application shall include an assessment of soil and water impacts. The assessment shall (where relevant):</p> <p>a) assess impacts on surface and groundwater flows, quality and quantity, with particular reference to any likely impacts on Georges River and Anzac Creek;</p> <p>b) assess flooding impacts and characteristics, to and from the Project (including rail link), with an assessment of the potential changes to flooding behaviour (levels, velocities and direction) and impacts on bed and bank stability, through flood modelling, including:</p> <ul style="list-style-type: none"> <li>(i) hydraulic modelling for a range of flood events;</li> <li>(ii) description, justification and assessment of design objectives (including bridge, culvert and embankment design);</li> <li>(iii) an assessment of afflux and flood duration (inundation period) on property; and</li> <li>(iv) consideration of the effects of climate change, including changes to rainfall frequency and/or intensity, including an assessment of the capacity of stormwater drainage structures.</li> </ul> <p>c) identify and assess the soil characteristics and properties that may impact or be impacted by the Project, including acid sulfate soils;</p>	<p>Conditions relating to construction or operation of the rail link are not relevant to this Proposal.</p> <p>The potential stormwater and flooding impacts of this Proposal have been largely assessed as part of MPW Stage 2, which is outlined in Section 10 of this EIS.</p> <p>Assessment of impacts on soil, acid sulfate soils (ASS) and contamination is provided in Section 11.</p>

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Relevant EIS Section/ Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Soil and Water</i>		
	d) include a contamination assessment in accordance with the guidelines made under the Contaminated Land Management Act 1997 and in consultation with the EPA for the subject site including the Glenfield Waste Facility.	
E22	All future Development Application which includes construction in the vicinity of Amiens Wetland shall include advice from an independent wetland expert to determine whether it is artificial or a natural lake basin, its significance, and any recommendations on mitigation measures (if appropriate).	The Proposal site is outside the catchment area for the Amiens Wetland. Assessment is not required.
E22A	All future Development Applications must demonstrate that the proposed development, including the importation and placement of fill, will not adversely impact on or be adversely impacted by long term management or monitoring of remediation required under the Stage 1 Early Works in relation to contaminated land management.	Contaminated land management and the impact of the Proposal is provided in Section 11.

## 11.2 Existing Environment

### 11.2.1 Local Surface Water Flows

The *Surface Water Assessment* prepared by Parsons Brinkerhoff (2014) for the MPW Concept Plan EIS identified the following drainage and flood characteristics relating to the MPW Site and the surrounding area:

- The MPW Site was previously largely developed comprising of low-rise buildings, including warehouses, administrative offices, residential buildings, access roads, open areas, landscaped fields and the Royal Australian Engineers Golf Course and Club.
- The MPW Site is located within the Georges River catchment, with the majority of the area draining into the Georges River, which forms the western boundary of the MPW Site.
- Stormwater is generally conveyed via pits, pipes and open channels in a north-westerly direction across the MPW Site and discharged into the Georges River. Only one of the existing stormwater pipe networks discharges elsewhere (into Anzac Creek).
- The MPW Site contains two open channels: one is a vegetated open channel in the north of the site adjacent to the ABB Site, and the other is an open concrete-lined trapezoidal channel that flows westward through the site from the lowest point in Moorebank Avenue to the Georges River.
- Discharges within the Royal Australian Engineers' Golf Course, in the south-east corner of the MPW Site, drain by open channels to road culverts underneath Moorebank Avenue, which then discharge into Anzac Creek.
- Based on the local topography, a number of land areas surrounding the MPW Site partially drain into the site through open channels, box culverts, natural drainage lines and overland flows during differing rainfall events. These land areas include:
  - DNSDC (MPE) Site, east of the MPW Site;
  - M5 Motorway, north of the MPW Site;

- Moorebank Business Park, north-east of the MPW Site; and
- ABB Site, north of the MPW Site.

### 11.2.2 Water Quality

Existing water quality conditions for the MPW Site were estimated, as part of the environmental assessment for MPW Stage 2, using MUSIC modelling and applying existing land use and imperviousness conditions. Annual stormwater pollutant loads calculated for the MPW Site are summarised in Table 11-3 (as taken from MPW Stage 2 EIS, Arcadis 2016).

**Table 11-3:** Existing stormwater quality for MPW Site (Arcadis, 2016).

Pollutant Type	Existing Load (kg/year)
Gross Pollutants	15, 800
Total Suspended Solids	126, 000
Total Phosphorus	248
Total Nitrogen	1, 510

### 11.2.3 Key Surrounding Waterbodies

Key surrounding water bodies to the MPW Site and their characteristics include:

- Georges River – At the regional level the Georges River is the main receiving waterway for discharge from the MPW Site. The critical storm duration for flooding at the MPW Site was determined to be 36 hours for the 1% AEP flood event, meaning that flooding from a critical storm would persist for a relatively long duration in the medium and high flood risk zones within the MPW Site (Figure 11-2 **Error! Reference source not found.**).
- Amiens wetland – The Amiens Site is located in the north-eastern corner of the MPW Site and has an approximate local catchment area of 5.9 ha, which drains north towards the Amiens wetland waterbody. The wetland acts as an outlet-controlled detention basin for the M5 Motorway and adjacent catchment which means that if water levels in the Georges River are elevated the basin will not release water until the levels are below the outlet pipe levels. Waters are discharged from the Amiens wetland via a piped connection to the Georges River. This wetland is not impacted by the Proposal.
- Anzac Creek and water bodies – The densely vegetated and linked permanent waterbodies that form the headwaters of Anzac Creek provide some degree of detention and water quality treatment for stormwater flows from the local catchment draining to Anzac Creek. However, Anzac Creek was found to be heavily degraded and in a low flow state with sluggish to minimal water movement, dependent on local rainfall.
- Defence land ponds – The MPW Site contains four small waterbodies, most likely used for attenuation and/or water quality treatment. Discharge from these ponds overtops the pond outlets and flows through informal overland channels into the Georges River.

### 11.2.4 Flooding

As discussed earlier, flooding risk is predominately concentrated along the Georges River riparian corridor. The MPW Stage 2 and Proposal site areas lie outside the Georges River 100 year flood extent, which corresponds to the Flood Planning Area as per Liverpool LEP 2008.

The northern portion of the MPW Stage 2 area, as well as the Georges River riparian corridor are subject to flooding during the PMF event, however the Proposal area lies outside this extent (Figure 11-2Error! Reference source not found.).

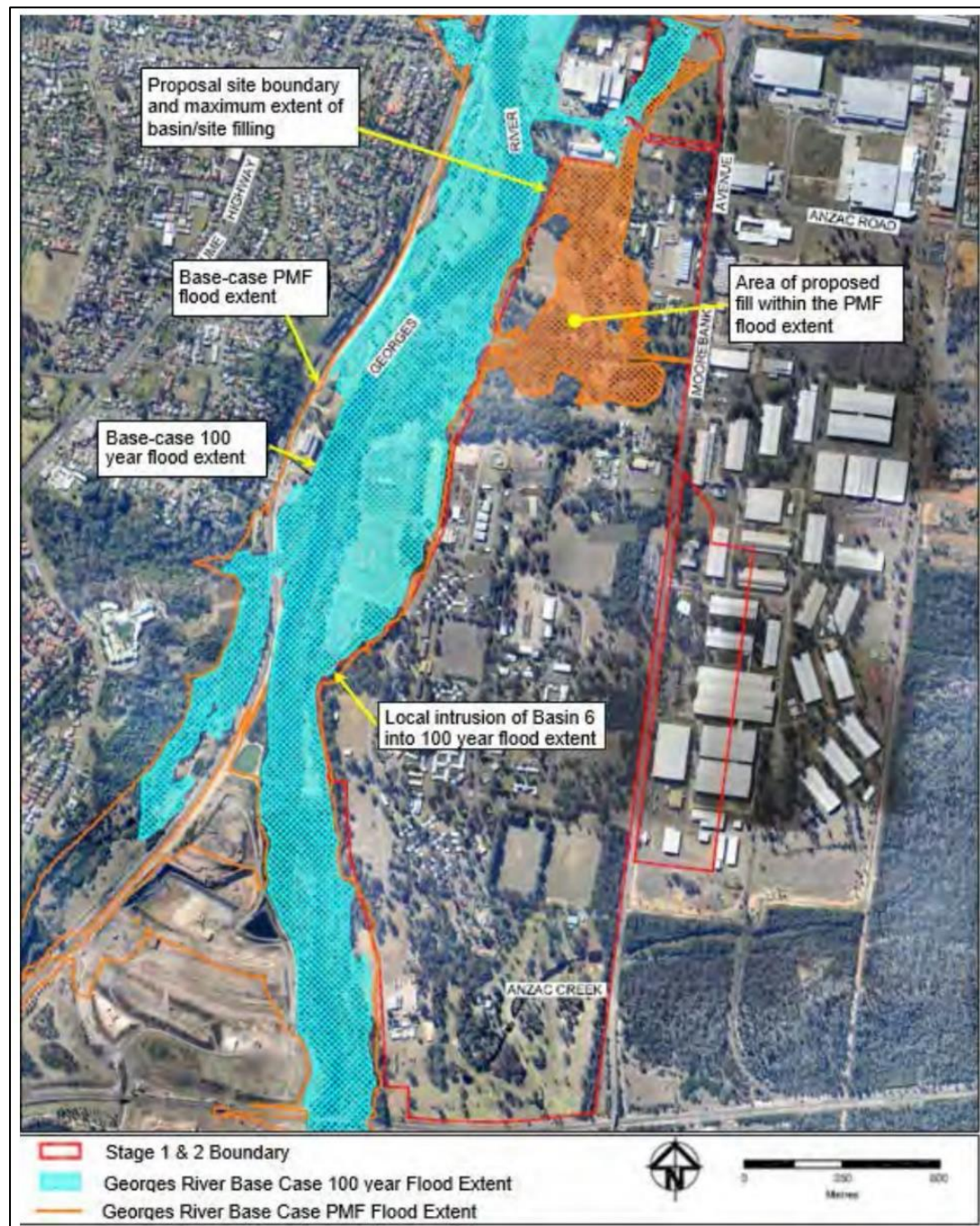


Figure 11-1: : Flooding mapping (taken from MPW Stage 2 EIS, Arcadis 2016, prepared by Liverpool City Council, 2000).

### 11.3 Assessment Methodology



### 11.3.1 Recent Environmental Assessments

#### 11.3.1.1 MPW Concept Plan

The *Surface Water Assessment* (Parsons Brinkerhoff, 2014) assessed potential stormwater and flooding impacts created by the MPW Development for both Early Works (Stage 1 construction impacts) and the “full build” (operational) scenarios. The study included assessments on local and regional flooding impacts, local stormwater catchment impacts and surface water quality impacts created by the MPW Development. The assessment was based on conceptual scenarios assuming a “worst case” scenario regarding disturbance of local surface water catchments during construction for Early Works activities and during the “full build” operational scenario (using a conceptual stormwater management plan).

Flooding impacts were assessed using a hydraulic model (HEC-RAS), while baseline water quality data were derived from previous investigations and NSW Office of Water water quality objectives and *Australian and New Zealand Environment and Conservation Council (ANZECC) Guidelines*. The investigations were primarily desktop based and included a site walkover. Input from LCC and other organisations was provided for key information relating to the local area and conditions.

Key water quantity, flooding and water quality findings of the study are discussed below.

#### Water Quantity

- The MPW Development would cause a substantial increase in the area of impervious surfaces, with subsequent risks for hydrology (flooding) and water quality.
- A drainage strategy which incorporates overland flow paths, detention basins and bioinfiltration/wetlands across the site was developed to manage this issue.
- Treated water would be discharged to the Georges River through upgraded stormwater channels.

#### Flooding

- The MPW Site has historically been affected by flooding from the Georges River and was determined to be most at risk of flooding in the lower terrace area of the eastern floodplain of the river.
- Peak 1% AEP levels were determined to be 11.7 – 10.4 mAHD along the western MPW boundary.
- An area of 23.6 ha has been a declared ‘high flood risk’ area (Figure 11-3**Error! Reference source not found.**).
- Climate change is an additional consideration that may exacerbate flooding risks.

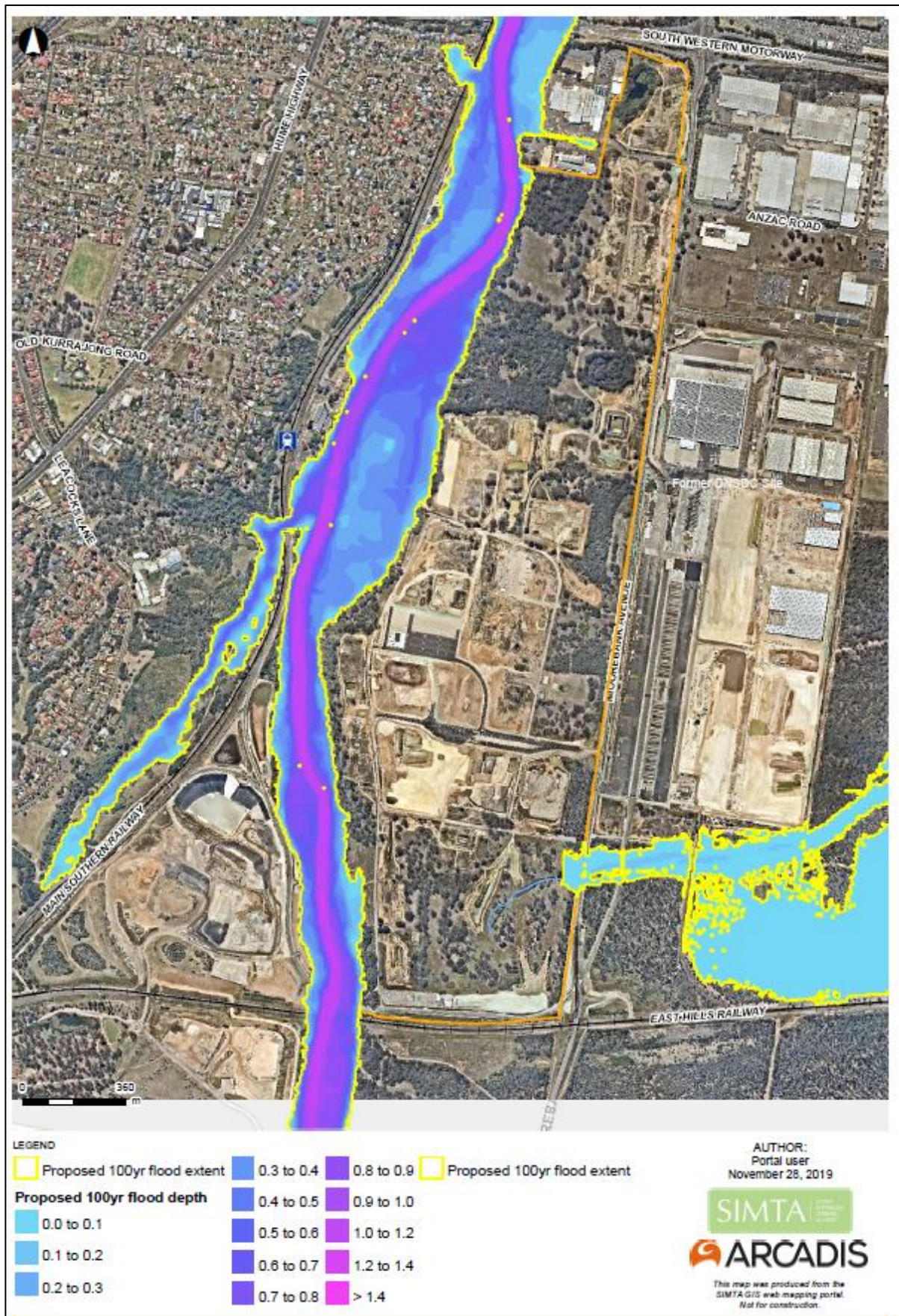


Figure 11-2: MPW Stage 2 - predicted 100 yr flood extent (Arcadis, 2019)



## Water Quality

- During construction, key activities potentially affecting stormwater quality and downstream waterbodies included mobilisation and erosion of soils on the MPW Site due to land disturbance.
- Accidental spills of chemicals and other hazardous construction materials and uncontrolled discharge of contaminants to receiving waterways, could also have an adverse impact on water quality unless carefully managed.
- Overall, the MPW Development was expected to provide water quality benefits for the Georges River due to the proposed treatment of stormwater prior to discharge, which would reduce the annual load of total suspended solids, hydrocarbons and total phosphorus discharged from the MPW Site. This was consistent with the objectives of the *ANZECC Water Quality Guidelines*.
- The MPW Development has the potential to interact with groundwater and lead to impacts such as lowering of the water table and contamination of groundwater. These impacts were noted as to be further investigated as part of the detailed design process.

### 11.3.1.2 MPW Stage 2

The *Stormwater and Flooding Environmental Assessment* (Arcadis, 2016) prepared to support the MPW Stage 2 EIS addressed potential flooding and stormwater management impacts for the MPW Stage 2 project and included:

- a flood impact assessment of MPW Stage 2 on the Georges River;
- an assessment of MPW Stage 2 in isolation from the overall Moorebank Intermodal freight precinct with respect to water quantity and quality; and
- recommendations to manage potential flooding, stormwater and flood impacts.

The key water quantity, water quality and flooding findings of the assessment are discussed below.

## Water Quantity

- The proposed detention storages should adequately mitigate the anticipated potential flow increases discharging from the post-development MPW Stage 2 development site.
- The OSD storages have been sized to control 100 year ARI flows. When considering the impact of climate change, OSD basins could accommodate potential increases in storage within the provided freeboard.
- Basins discharging to the Georges River included outlet channels designed to dissipate the energy of stormwater discharge and prevent flooding.

## Water Quality

- MUSIC modelling was used to determine the potential pollutant loads which would be generated by the operation of Stage 2 and identify mitigation measures required to reduce this load.
- Key objectives for stormwater management included:
  - maintaining and improving existing water quality;
  - protecting the aquatic environment of the downstream waterways including the Georges River;



- preventing bed and bank erosion and instability of waterways;
- providing sufficient flows to support aquatic environments and ecological processes; and
- incorporating a Water Sensitive Urban Design (WSUD) approach.
- Use of gross pollutant traps and rain gardens (bioretention systems) were identified as effective in reducing post-development pollutant loads and achieving water quality objectives. The treatment train achieves catchment specific targets of the Georges River Estuary Coastal Zone Management Plan and site specific targets contained in the MPW Stage 2 SEARs.

### Flooding

- Potential adverse flood impacts along the Georges River have been mitigated by limiting the MPW Stage 2 Site raising to areas above the 100 year SRI flood event level.
- The outcomes of HEC-RAS modelling indicated that the potential regional flood impacts of raising the MPW Site up to the 100 year ARI event level would be negligible and very limited.
- Modelling results showed that potential water levels driven by a PMF event would be effectively managed with the proposed drainage system.
- During construction of the MPE project, to avoid potential adverse flood impacts on neighbouring property, flood mitigation measures were determined to be necessary to maintain existing condition flow regimes and distributions leaving the construction area.

#### 11.3.2 The Proposal

Costin Roe (2020) reviewed stormwater and flooding impact assessments, and civil designs previously prepared for Precinct works including MPW Concept Plan and Early Works, MOD 1, and MPW Stage 2, and concluded that:

- The key measures set out in the *Stormwater Development Design Report* (SDDR) and the *Construction Soil and Water Management Plan* (CSWMP) prepared for MPW Stage 2 will manage runoff from the proposed works compound. Minor changes to drainage diversions are required to the *Erosion and Sediment Control Plan* (ESCP) to address layout changes, however sediment basin locations and arrangements set out in the CSWMP remain per approved. No additional measures are required to address operational measures.
- In accordance with the detailed flood assessment completed for MPW Stage 2, Costin Roe confirmed that the proposed compound is clear of both the 1% AEP and PMF floods and there is no impact on flooding from the development, nor impact on the development from flooding. A detailed flood assessment is not required for the Proposal.
- The effect of development to downstream rivers, wetlands, estuaries, marine waters and floodplain areas and water dependent fauna and flora (including Groundwater Dependent Ecosystems) has been completed and confirmed as part of MPW Stage 2 Approvals. The Proposal does not change or affect any of the proposed measures included in the MPW Stage 2 Approval, and so further assessments to this regard are not required.
- No additional hydrological monitoring is required for the Proposal, other than as already included under previous Approvals and applicable to the Proposal.

- The Proposal does not change or affect any water quality, water quantity, or WSUD measures to be implemented as part of the MPW Stage 2 Approval. No further water quality, water quantity, or WSUD measures or assessments are required for the Proposal, other than as already identified for MPW Stage 2.
- The Proposal footprint is not affected by any overland flow paths or external catchments and so no additional allowance for conveyance of upstream catchments is required for the Proposal.
- Site levels are generally all higher than PMF levels so the site, including the Proposal area, can be considered flood free in relation to the regional flood conditions so flood liability and risk is considered low to negligible.
- Proposed soil and water management measures applicable to the Proposal include:
  - Stormwater runoff from the MPW Stage 3 catchment is proposed to be captured and managed within Sediment Basins 6 and 8, which will be used for both the construction and operational phases of development.
  - No additional storage in the sediment basins is required to accommodate the Proposal.
  - Appropriate SEC measures will be implemented, including construction of stabilised site entry, use of sediment and/or silt fences and sandbags, construction of sediment basins and diversion banks and progressive site re-vegetation.
  - Water Cycle Management measures will be implemented to control the severity and extent of soil erosion and pollutant transport during the implementation of the Proposal.

The CSWMP and SDDR provide measures to mitigate potential stormwater and wastewater impacts, and monitoring requirements, and will be updated, as required, to accommodate MPW Stage 3 CoC. The SDDR provides methodology for earthworks.

## 11.4 Potential Impacts

### 11.4.1 Construction and Operation

The Proposal would result in similar stormwater and flooding impacts to those generated by MPW Stage 2. Given the limited scope and area affected by the Proposal, these impacts are expected to have a lesser extent to those previously identified and already addressed in the MPW Concept Plan Approval and MPW Stage 2 assessments.

A summary of potential stormwater and flooding impacts already identified and addressed in the MPW Stage 2 EIS and environmental assessments are provided in Table 10-3. There would be no physical works required as part of the proposed subdivision so no stormwater or flooding impacts would arise as a result of the Proposal. With regards to the proposed works compound and associated ancillary infrastructure, Table 11-4 identifies potential impacts that may arise during construction of these elements (i.e. during their placement/installation) and operation (i.e. use of the works compound and ancillary infrastructure).

Table 11-4: Potential construction and operational stormwater and flooding impacts resulting from this Proposal already considered and addressed in MPW Stage 2 assessments.

Potential Construction Impacts	Potential Operation Impacts
Stormwater Quantity	
<ul style="list-style-type: none"> <li>• Increase in surface water flow volume and velocity as a result of clearing, soil compaction and land disturbance.</li> <li>• Increased erosion, scouring and importation of soil into waterways and vegetation.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in surface water flow volume and velocity as a result of increased impervious area.</li> <li>• Change in flow in receiving water bodies impacting on aquatic environments and habitat.</li> </ul>
Stormwater Quality	
<ul style="list-style-type: none"> <li>• Erosion of sediment.</li> <li>• Deposition of sediment into ANZAC Creek or the Georges River.</li> <li>• Reduced water quality of receiving water bodies (increased sedimentation, turbidity, reduced BOD, pH and heavy metals).</li> <li>• Reduced suitability of aquatic environment for aquatic flora and fauna species.</li> </ul>	<ul style="list-style-type: none"> <li>• Increased potential for pollutants from impervious surface to be transported by stormwater.</li> <li>• Reduced stormwater quality.</li> <li>• Reduced water quality of receiving water bodies.</li> <li>• Reduced suitability of aquatic environment for aquatic flora and fauna species.</li> </ul>
Flooding	
<ul style="list-style-type: none"> <li>• Failure of water containment measures.</li> <li>• Rainfall event exceeding design event.</li> </ul>	<ul style="list-style-type: none"> <li>• Failure of water containment measures.</li> <li>• Rainfall event exceeding design event.</li> </ul>

Provided mitigation measures are implemented as recommended in the SWMP and the revised CEMP and OEMP, stormwater quantity is likely to be maintained and stormwater quality is likely to be improved.

Given the Proposal footprint is outside the 100 year ARI and PMF flood extent, no impacts from flooding are expected to arise as a result of the Proposal. Management of stormwater management measures (detention basins and overland flow paths) will assist in protecting the Proposal area from localised flooding.

## 11.5 Mitigation and Management

The Proposal works would be managed under the existing CEMP, the OEMP, the CSWMP and other related sub-plans prepared and approved for MPW Stage 2, with adjustments where required, to reflect the nature, scale and extent of interface with MPW Stage 2. The following sections outline specific mitigation measure requirements for this Proposal as they relate to stormwater and flooding.

### 11.5.1 Stormwater

A *Construction Soil and Water Management Plan* (CSWMP) and associated *Sediment and Erosion Control Plan* (ESCP) would be prepared for the Proposal, preliminary advice to inform these documents is provided by Costin Roe (2020). Recommendations of these plans would be implemented onsite prior to works commencing to prevent adverse impacts on stormwater quality and quantity. Management of sediment and erosion control features would be addressed in the updated CEMP and sub-plan CSWMP.

Stormwater quality improvement devices (SQIDs) would be designed to meet the site water quality objectives and targets. Ongoing operation and maintenance of SQIDs and water quality monitoring would be undertaken in accordance with the OEMP.

### 11.5.2 Flooding

In accordance with the CEMP, construction works would mitigate flooding impacts arising as follows:

- Temporary diversion channels would be provided around temporary work obstructions to allow for flow bypass.
- Site compounds, stockpiling areas, hazardous materials, machinery and equipment would be located outside the PMF extent. Given the Proposal is located in the southern portion of the MPW Site, this is not expected to be problematic.
- Stormwater detention areas would be designed and maintained as per the SWMP and CEMP (and related sub-plans).

Additionally, the Flood Emergency Response Plan (FERP) would be reviewed and revised (as required) and implemented as part of the Proposal to ensure safe and efficient evacuation can occur in the Proposal area in the event of a flood.

### 11.5.3 Revised Environmental Management Measures

Environmental Management Measures were prepared as part of the MPW Concept Plan Approval and revised for the MPW Stage 2 Approval to inform the CEMP, OEMP and sub-plans. Relevant stormwater and flooding related MPW Stage 2 REMMs would continue to apply to this Proposal to manage impacts consistent with relevant CoC and guidelines. The REMMS have been reviewed and further updated, as required, to ensure relevance to this Proposal (refer to Section 20).

## 12. Geology, Soil and Contamination

### 12.1 Approval Requirements

#### 12.1.1 SEARs

A civil works report incorporating soil, erosion and sediment controls has been prepared by Costin Roe (2020) to address the SEARs relating to soil and water management and a *Geology, Soils and Contamination Impacts Assessment* report has been prepared by JBS&G (2020) to address the SEARs relating to contamination, as relevant to the Proposal. Both reports prepared for the Proposal reviewed and assessed previous reports prepared for MPW Stage 2, as well as MPW Concept Plan reports, where required,. The reports are included as Appendix K and Appendix L of this EIS.

Table 12-1 identifies the SEARs as they relate to geology, soil and contamination, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 12-1: SEARs for the Proposal relating to geology, soil and contamination.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 7	<p><b>7. Soil and Water</b> – including but not limited to:</p> <p>An assessment of soil and water impacts for the site. The assessment must:</p> <ul style="list-style-type: none"> <li>j) identify and assess the soil characteristics and properties that may impact or be impacted by the project, including acid sulfate soils, salinity, erodibility, unstable or unsuitable ground and unrippable rock</li> <li>k) include a bulk earthworks strategy detailing the volume of spoil to be extracted from the site, planned reuse and amount of material to be imported.</li> </ul>	<p>Costin Roe (2020) determined that no bulk earthworks would be undertaken by the Proposal, which would impact soil characteristics and properties. A bulk earthworks strategy is provided in the SDDR (refer to Section 11.3.2), and additional comment regarding waste management is provided in Section 17.4. Refer to Appendix K.</p>
1 - 11	<p><b>11- Contamination</b> – including but not limited to details of remediation to be or already completed on site.</p>	<p>Completed remediation works are outlined in Sections 1.3.2 and 12.3.1.3, and Sections 2 and 3 of JBS&amp;G (2020) (Appendix L).</p> <p>A <i>Contamination Management Plan</i> (CMP) provides framework for residual contamination in previously inaccessible areas, as well as unexpected finds, refer to Section 12.3.1.3, and JBS&amp;G (2020) Section 4 (Appendix L).</p>

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential impacts resulting from changes to geology, soil and contamination arising as a result of the Proposal.

## 12.1.2 Relevant Conditions of Approval

### 12.1.2.1 MPW Concept Plan and Stage 1 Early Works Approval (MOD 1)

Table 12-2 identifies relevant CoC that apply as a result of the MPW Concept and Stage 1 SSD 5066 and as modified by MOD 1, and provides comment and/or identifies the relevant sections of this EIS where these requirements have been addressed for this Proposal.

Table 12-2: Geology, soil and contamination – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Relevant EIS Section/ Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications - Soil and Water</i>		
E21	<p>All future Development Application shall include an assessment of soil and water impacts. The assessment shall (where relevant):</p> <ul style="list-style-type: none"> <li>a) assess impacts on surface and groundwater flows, quality and quantity, with particular reference to any likely impacts on Georges River and Anzac Creek;</li> <li>b) assess flooding impacts and characteristics, to and from the Project (including rail link), with an assessment of the potential changes to flooding behaviour (levels, velocities and direction) and impacts on bed and bank stability, through flood modelling, including: <ul style="list-style-type: none"> <li>(i) hydraulic modelling for a range of flood events;</li> <li>(ii) description, justification and assessment of design objectives (including bridge, culvert and embankment design);</li> <li>(iii) an assessment of afflux and flood duration (inundation period) on property; and</li> <li>(iv) consideration of the effects of climate change, including changes to rainfall frequency and/or intensity, including an assessment of the capacity of stormwater drainage structures.</li> </ul> </li> <li>c) identify and assess the soil characteristics and properties that may impact or be impacted by the Project, including acid sulfate soils;</li> <li>d) include a contamination assessment in accordance with the guidelines made under the <i>Contaminated Land Management Act 1997</i> and in consultation with the EPA for the subject site including the Glenfield Waste Facility.</li> </ul>	<p>Comprehensive and cumulative assessments for potential construction and operation impacts on soil and water were considered as part of the MPW Concept Plan and MPW Stage 2 assessments. The MPW Stage 2 assessment has been reviewed and comment provided in consideration of this Proposal.</p> <p>The outcomes of MPW Concept, Stage 2 and the Proposal assessments in relation to geology, soils and contamination are provided in Section 12.</p> <p>Stormwater and flooding related outcomes of previous assessments are provided in Section 11.</p>
E22	<p>All future Development Application which includes construction in the vicinity of Amiens Wetland shall include advice from an independent wetland expert to determine whether it is artificial or a natural lake basin, its significance, and any recommendations on mitigation measures (if appropriate).</p> <p>E22A. All future Development Applications must demonstrate that the proposed development, including the importation and placement of fill, will not adversely impact on or be adversely impacted by long term management or monitoring of remediation required under the Stage 1 Early Works in relation to contaminated land management.</p>	<p>E22 The Proposal area is outside the catchment area for the Amiens Wetland. Further assessment is not required (refer to Section 11.2.3).</p> <p>E22A Comprehensive and cumulative assessments for potential contamination risks, including importation and</p>

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)	Relevant EIS Section/ Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications - Soil and Water</i>	

placement of fill material were considered as part of the MPW Concept Plan and MPW Stage 2 assessments. The MPW Stage 2 assessment has been reviewed and comment provided in consideration of this Proposal.

The outcomes of the MPW Concept, Stage 2 and Proposal assessment are provided in Section 12.

## 12.2 Existing Environment

### 12.2.1 Geology and Soils

A *Phase Two Environmental Site Assessment* (2014a) was prepared by Parsons Brinkerhoff and a *Post- Phase Two Environmental Site Assessment* (2015) was undertaken by Golder Associates for the MPW Concept Plan EIS. These assessments identified characteristics relating to soils and land contamination on the MPW Site prior to approved site development works:

- The MPW Site and surrounding area is underlain by tertiary fluvial deposits composed of clayey sand and clay to depths of 10 m in places. The SSFL rail corridor on the western side of the Georges River is underlain by quaternary fluvial deposits of medium grained sand, clay and silt.
- Quarrying activities undertaken on the western side of Georges River (the Glenfield Waste Facility) have altered the local geology of this area. A significant portion of the quaternary sand deposits have been removed and the resultant excavations filled with waste materials including construction and building materials, shredded car tyres and asbestos waste.
- There are two main aquifer systems on the MPW Site; a perched system with alluvial soils, and a deeper aquifer from within the bedrock. Site groundwater has is anticipated between 5.2 m to 9.1 m below ground level (BGL). Groundwater in the shallower aquifer flows towards the Georges River.
- Fill material with a general depth between 0.5 m and 1 m BGL with maximum depths of over 3.2 m BGL at certain locations, is present around the MPW Site as a result of site establishment and construction works undertaken during prior development on the MPW Site. Asbestos cement fragments were detected in surface soils on the MPW Site.
- Alluvial soils within or close to the Georges River are characterised by high ASS risk potential. There is no known ASS risk potential for the remainder of the site (Figure 12-1).



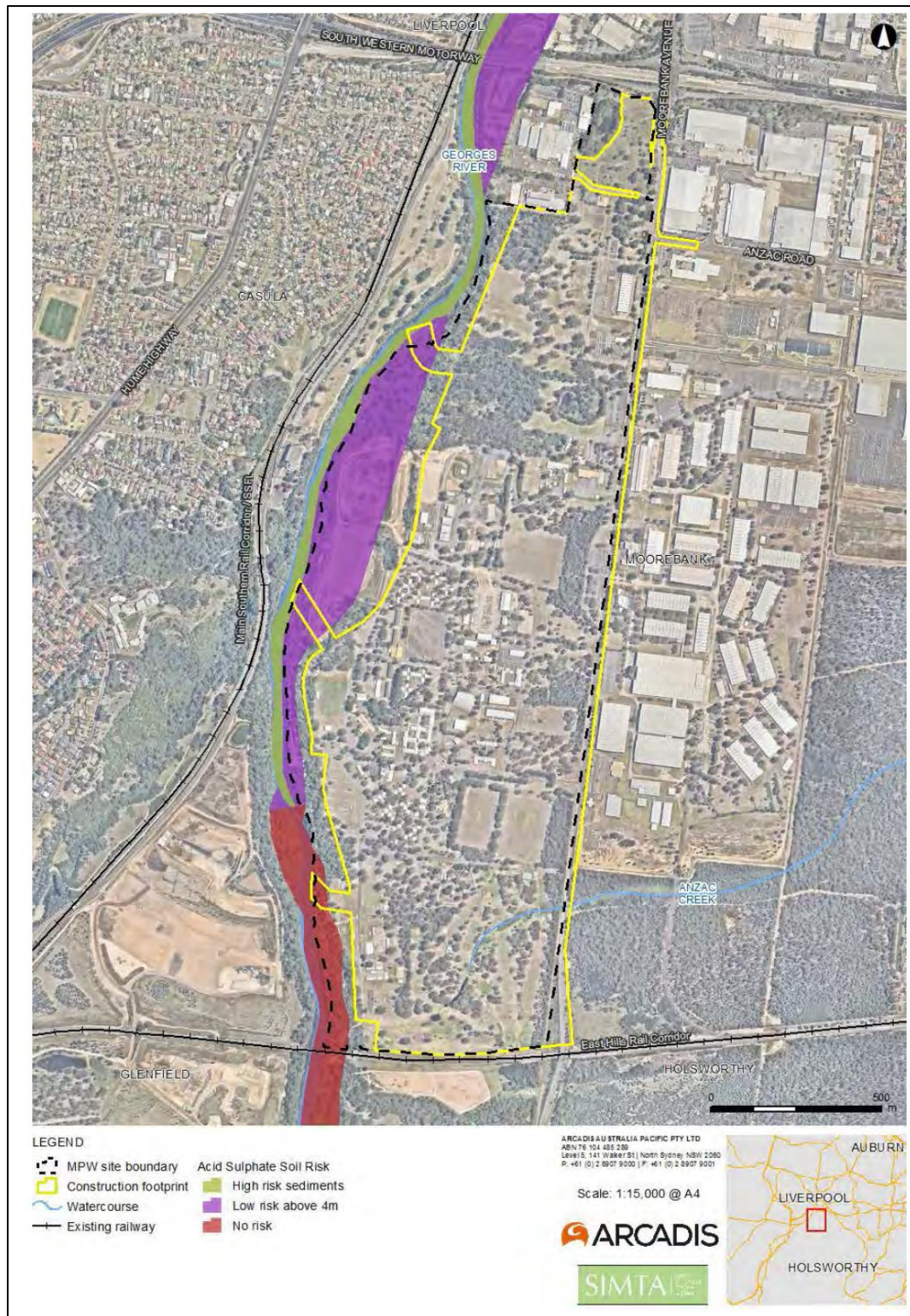


Figure 12-1: Acid sulfate soils risk potential for the MPW Site (Arcadis, 2016)

Recent approved development works have included importation of fill material (VENM and ENM), up to 3 m depth across parts of the site to facilitate site grading and levelling.

### 12.2.2 Land Contamination

Environmental site assessments (Parsons Brinkerhoff, 2014 and Golder, 2015) determined that, based on the history of the MPW Site, there was potential for subsurface contamination to have occurred as a result of prior land uses including military training, demolition and reconstruction of buildings and use and storage of potentially harmful chemicals. Potential sources of contamination on the MPW Site included:

- buried and building wastes and waste stockpiles containing hazardous materials such as asbestos, from onsite demolition activities;
- leaks from the storage/use of hazardous chemicals as well as fuels and waste oils in areas like the former bridging yard and engineering workshops;
- residual contamination from long-term use of the site as a military training facility for activities such as ammunitions training, bomb disposal and small arms firing ranges;
- residual contamination from the detonation of explosives used in military training operations; and
- ongoing site operations including the use of heavy earthmoving plant and equipment.

Potential contamination sources in surrounding lands to the MPW Site were assessed:

- ABB Site (to the north-west): An online search of the NSW OEH contaminated land record database indicated chemical wastes (such as polychlorinated biphenyl [PCB]) were present on the ABB Site. Based on the relatively high hydraulic conductivity of alluvial sands beneath the MPW Site and the inferred groundwater flow direction, there was the potential for contaminated groundwater to migrate from the adjacent ABB Site onto the MPW Site.
- DNSDC (MPE Site to the east): Contamination impacts including chemical wastes were identified in groundwater sampled from monitoring wells on the western boundary of the DNSDC Site.
- Moorebank Business Park (north of the DNSDC Site): The business park, comprising commercial premises including showrooms and warehousing was unlikely to present a potential offsite source of contamination.
- Glenfield Landfill (to the south-west): This is an active landfill and waste transfer facility, which has the potential to cause environmental impacts associated with the flow of potentially contaminated groundwater within and beneath the waste fill towards the Georges River.

## 12.3 Assessment Methodology

### 12.3.1 Recent Environmental Assessments

#### 12.3.1.1 MPW Concept Plan

The *Phase Two Environmental Site Assessment* (Parsons Brinkerhoff, 2014a) and *Post-Phase Two Environmental Site Assessment* (Parsons Brinkerhoff, 2015) consolidated knowledge from previous assessments to ground-truth and verify potential contamination issues affecting the MPW Site, to inform a *Preliminary Remediation Action Plan* and *Validation Plan* outlining site remediation work to take place as part of Early Works, and identified contamination issues remaining for future development stages.

Potential contamination issues identified on the MPW Site included:

- several localised areas of soil contamination with concentrations of hydrocarbons, dissolved metals and heavy metals detected above the adopted commercial/industrial screening criteria;
- soils with acid generating potential (i.e. potential acid sulphate soils (PASS));
- several locations containing anthropogenic fill materials including building rubble, plastics, bricks, concrete and asbestos containing materials (ACM) fragments, sheeting, and pipes/conduit; and
- areas with potentially contaminating infrastructure (underground fuel storage systems, waste oil tanks and water separators).

Overall, potential contaminants of concern on the MPW Site included:

- asbestos;
- trichloroethylene;
- perfluoroalkyl and polyfluoroalkyl substances (PFOS/PFAS);
- unexploded ordinances (UXO);
- polycyclic aromatic hydrocarbons;
- total recoverable hydrocarbons;
- heavy metals; and
- acid sulfate soils (ASS).

The studies provided the following general procedure for managing contamination issues:

- intrusive investigations prior to commencement of construction works;
- identification of contamination issues;
- remediation planning;
- regulatory approval and site auditor review (if required); and
- implementation of remediation and validation.

The reports concluded that the majority of the MPW Site was considered to have a low risk of contamination or had contaminant concentrations below the adopted commercial/industrial screening criteria. Notwithstanding the site's historical military use, UXO investigations concluded there was a very low potential for UXO occurrence on the MPW Site.

Remediation activities undertaken as part of Early Works are detailed in Section 1.3.2.

#### [12.3.1.2 MPW Stage 2](#)

The *Site Contamination Summary Report* (Golder, 2016) prepared to support the MPW Stage 2 EIS summarised the known contamination risks based on the currently available information, provided an overview of the scheduled remediation works under the approved Early Works (Stage 1) MPW Concept Plan Approval, and assessed contamination risks which required remediation and/or management during MPW Stage 2.

The key findings of the report were:

- The majority of the contamination remediation was undertaken as part of the Early Works (Stage 1).
- The exception to this were areas where active remediation was not able to be undertaken due to the presence of EECs and as such, this remediation was delayed as



it required vegetation to be cleared, subject to biobanking agreement and credit retirement.

- A review of the ASS risk maps revealed no known occurrence of ASS for the majority of the MPW Stage 2 Site, other than a high probability of ASS occurrence along the banks of the Georges River. MPW Stage 2 construction works, with the exception of the OSD channels, were unlikely to expose ASS or PASS areas given the bounds of the construction footprint.
- The following documents will be implemented to manage contamination risks during construction phases of the Project:
  - *Remediation Action Plan*;
  - *Acid Sulfate Soil Management Plan*;
  - CEMP;
  - *Remediation and Validation Reports*; and
  - *Long Term Environmental Management Plan*.
- Residual groundwater contamination, particularly PFAS impacts, was expected to exist on the site following the completion of the remediation works, and so ongoing groundwater management may be required to be implemented on the site at the conclusion of the MPW Stage 2 remediation activities. A groundwater monitoring plan would be developed at the conclusion of the MPW Stage 2 remediation activities and included within the *Long Term Environmental Management Plan* and be considered as part of the audit for the site.
- Based on the PFAS concentrations identified in the site groundwater and the evidence presented in the current literature on the bioaccumulation risks associated with PFAS, there is a risk that a complete exposure pathway exists between the PFAS source areas identified on the site and ecological receptors within the Georges River. Further assessments will be completed as part of MPW Stage 2 including monitoring and risk assessment.

#### 12.3.1.3 Remediation Works

JBS&G (2020) advised that, subsequent to the approval of MPW Stage 2, the following works relating to implementation of the site *Remediation Action Plan* (Golder, 2016) have been completed and reported in the validation report (JBS&G, 2019):

- Assessment of contamination below buildings potentially impacted by the use of pesticides and polychlorinated biphenyl (PCB) compounds
- Removal of fuel infrastructure identified on the site, including underground storage tanks, and fuel lines
- Removal of high risk inground services lines
- Removal of anthropogenic fill sites (predominately impacted by asbestos, as well as isolated hydrocarbon and heavy metal contamination impacts)
- Assessment as required for the removal of unexpected finds (principally ACM pipes and pits)
- The removal of asbestos in soils identified during site investigations, including in stockpiles
- Characterisation of excavated materials from remedial areas and preparation of waste classification reports for off-site disposal

- Completion of air monitoring during excavation, remediation, and off-site disposal of ACM and asbestos fines / fibrous asbestos impacted material
- Assessment of PFOS/PFAS in site soils and groundwater to support the remediation of the site in accordance with the *Remediation Action Plan* (Golder, 2016)
- Removal of UXO and explosive ordnance waste (EOW) waste encountered during remedial work
- Preparation of a validation report detailing the remediation and validation works in accordance with relevant guidelines and the *Remediation Action Plan*.

In addition, remediation works have been completed under the *Moorebank Precinct East Stage 1 RALP No. 1 Remediation Action Plan* (Coffey 2017) in the southern area of MPW Stage 3.

Imported fill was required during the site remediation when no other suitable material existed onsite for reuse, and finished surface levels were required to be above pre-remediation levels. For the imported fill material required to raise the level of the site, assessments were undertaken in accordance with the *Remediation Action Plan* (Golder, 2016) and documented in the validation report (JBS&G, 2019)

Areas which were remediated on the MPW Site are provided in Figure 12-2, with the exception of a soil stockpile in a restricted access location (Golf Course SP1).

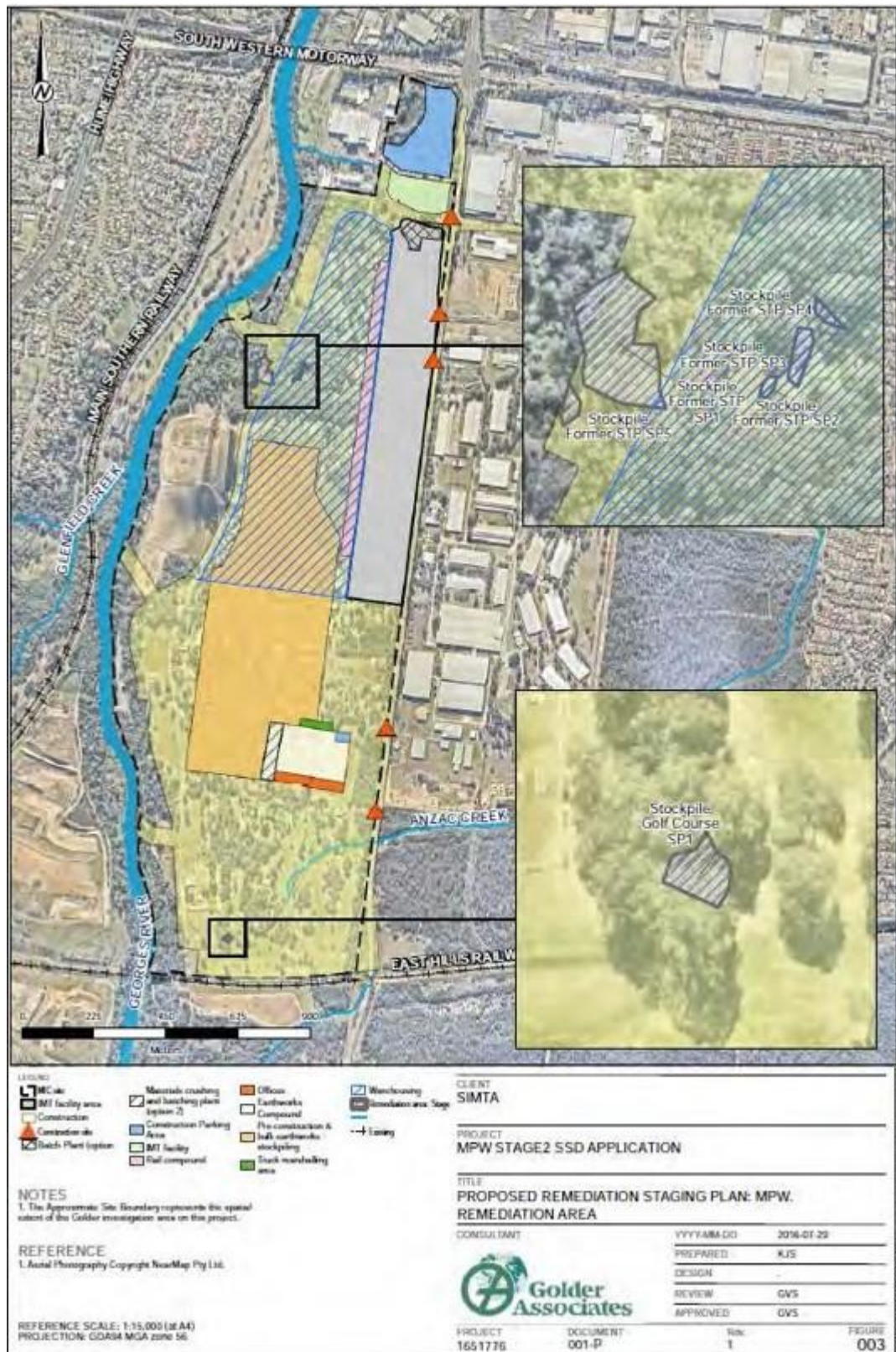


Figure 12-2: Remediation areas, MPW Site (Arcadis, 2016)

### 12.3.2 The Proposal

JBS&G (2020) reviewed previous geology, soils and contamination impact assessment reports prepared for MPW Concept and Early Works, MOD1 and MPW Stage 2, to advise regarding potential impacts in relation to the Proposal.

JBS&G noted that the entire MPW Site had been considered and assessed as part of previous assessments, and concluded that:

- Subsequent to the MPW Stage 2 Approval, remedial works undertaken in accordance with the *Remedial Action Plan* (Golder, 2016) and the *Validation Report* (JBS&G, 2019) have been completed in the southern portion of the MPW Site (refer to Section 12.3.1.3).
- The greatest risk to the site's geology and soils would be during the construction phase of the MPW Stage 2 development when significant ground disturbance would be required to level and raise the site, and during construction of internal roads and structures.
- ASS were not expected to be encountered as part of the Proposal.
- Potential sedimentation and erosion impacts will continue to be mitigated via the Construction Soil and Water Management Plan (CSWMP) such that there is no amplification or cumulative impact associated with the Proposal.
- Once constructed, the operation and maintenance of the compound would have minimal impact on soils as the site would be stabilised with suitable materials.
- All remediation within the Proposal area and identified in the RAPs was completed in 2019, with the exception of a stockpile in a restricted access location and which has been addressed in the *Contamination Management Plan* (CMP) and *Environmental Management Plan* (EMP), and so there is no further amplification or cumulative impact associated with the Proposal.

All fill material to be imported to the site to achieve the 16.6 m ADH finished surface level will be certified as clean VENM or ENM.

## 12.4 Potential Impacts

### 12.4.1 Construction and Operation

The Proposal is expected to result in similar impacts to geology, soils and contamination as those generated by MPW Stage 2. Given the limited scope and area affected by the Proposal, these impacts are expected to have a lesser extent to those previously identified and addressed in the MPW Concept Plan Approval and MPW Stage 2 documentation. In particular, impacts related to the removal of building and other infrastructure and remediation across the MPW Site have been addressed in the MPW Concept Plan Approval as part of the Early Works.

A summary of potential impacts related to geology, soils and contamination as a result of this Proposal, which have already been identified and addressed in the MPW Stage 2 EIS and environmental assessments, are provided in Table 12-3. Given no physical works are required as part of the proposed subdivision, no soils and contamination impacts will arise as a result of this Proposal. With regards to the proposed works compound and associated ancillary infrastructure, Table 12-3 identifies potential impacts that may arise during construction of



these elements (i.e. during their placement/installation) and operation (i.e. use of the works compound and ancillary infrastructure).

Table 12-3: Potential construction and operational soils and contamination impacts resulting from this Proposal already considered and addressed in MPW Stage 2 assessments.

Potential Construction Impacts	Potential Operation Impacts
<ul style="list-style-type: none"> <li>• Disturbance and exposure of ASS resulting in potential impacts on the surrounding environment.</li> <li>• Disturbance and exposure of soils, increasing the risk of erosion and sedimentation.</li> <li>• Disturbance, exposure and disposal of contaminated soil, if not managed appropriately could result in further spread of contaminants into the surrounding environment, including groundwater.</li> <li>• Contaminated soil if not handled properly has the potential to impact on the health and wellbeing of construction workers.</li> </ul>	<ul style="list-style-type: none"> <li>• Subject to successful remediation, ongoing management to minimise and avoid contamination risks is required.</li> </ul>

The *Post- Phase Two Environmental Site Assessment* (Golder, 2015) concluded that in addition to broadscale and ongoing contamination risks, the proposed MPW Stage 2 works would only impact on selected areas of land contamination not remediated by Early Works, those areas corresponding to specific retained areas of EEC.

Provided mitigation measures are employed as recommended in the revised CEMP and OEMP, including the CEMP sub-plans and the *Long Term Environmental Management Plan*, potential MPW Stage 3 geology, soils and contamination impacts could be successfully managed through implementation of appropriate mitigation measures.

The Proposal is unlikely to present any additional geology, soils or contamination environmental impacts beyond those already assessed. Further, potential soils and contamination impacts arising from MPW Stage 3 are significantly less than those identified for MPW Concept Plan and Stage 2, as there is no development associated with the interstate freight terminal or rail links, and no proposed construction or operation of warehousing. As such, the scale, nature and extent of potential MPW Stage 3 geology, soils and contamination impacts have already been assessed under MPW Stage 2 environmental assessments.

## 12.5 Mitigation Measures / Management

The Proposal works would be managed under the existing CEMP, the OEMP and related sub-plans prepared and approved for MPW Stage 2, with adjustments where required, to reflect the nature, scale and extent of interface with MPW Stage 2. Where required, the CEMP sub-plans *Soil and Water Management Plan* (SWMP), *Contamination Management Plan*, and/or *Acid Sulfate Soils Management Plan* would be updated to address and mitigate identified environmental impacts. The following sections outline specific mitigation measure requirements for this Proposal as they relate to management of soils and contamination.

### 12.5.1 Construction

#### *Soils:*

The SWMP and associated *Sediment and Erosion Control Plan* (ESCP) prepared for MPW Stage 2 works would be revised, where required, to reflect proposed MPW Stage 3 works. Recommendations of these plans would be employed onsite prior to works commencing to prevent adverse impacts on sedimentation and erosion, and will be addressed in the CEMP.

#### *Contamination:*

Site remediation works have already been assessed and approved as part of the MPW Concept Plan Approval, and as such, a separate *Remediation Action Plan* is not considered to be required for the Proposal. Contamination documentation prepared for previous Approvals would be referred to and utilised as required. The CEMP includes actions to be taken should additional contamination be identified, and will be revised and updated as required to reflect any additional contamination risks identified during site development works.

To mitigate potential contamination risks, fill material imported to the site to achieve the finished surface level of 16.6 m AHD will be certified VENM or ENM.

### 12.5.2 Operation

#### *Soils:*

Appropriate stormwater runoff and detention mitigation measures, including stormwater quality improvement devices (SQIDs) and water quality monitoring would be undertaken in accordance with the OEMP to mitigate potential ongoing sedimentation and erosion risks.

#### *Contamination:*

The OEMP would be revised and updated, where required, to ensure contamination risks are minimised through appropriate storage and handling of hazardous materials for refuelling, commercial use and maintenance/firefighting activities. The site-wide *Long Term Environmental Management Plan* would be revised, if required, to ensure that protocols for ongoing maintenance and/or monitoring are implemented appropriately.

### 12.5.3 Revised Environmental Management Measures

Environmental Management Measures were prepared as part of the MPW Concept Plan Approval and revised for the MPW Stage 2 Approval to inform the CEMP, OEMP and sub-plans. Relevant soils and contamination related MPW Stage 2 REMMs would continue to apply to this Proposal manage impacts consistent with relevant CoC and guidelines. The REMMS have been reviewed and further updated, as required, to ensure relevance to this Proposal (refer to Section 20).

## 13. Aboriginal Heritage

### 13.1 Approval Requirements

#### 13.1.1 SEARs

An Aboriginal heritage report has been prepared by Artefact (2020) which reviewed and assessed previous reports prepared for MPW Stage 2, as well as MPW Concept Plan reports, where required, to address the SEARs relating to Aboriginal heritage for the Proposal. The report is included as Appendix M of this EIS.

Table 13-1 identifies the SEARs as they relate to Aboriginal heritage, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 13-1: SEARs for the Proposal relating to Aboriginal heritage.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 8	<p><b>8. Aboriginal Heritage</b> including but not limited to:</p> <p>An assessment of the heritage impacts of the proposal. The assessment must:</p> <ul style="list-style-type: none"> <li>a) identify and describe the Aboriginal cultural heritage values that exist across the whole area that would be affected by the development and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010), and guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011)</li> <li>b) where impacts are identified, undertake and document consultation with Aboriginal people in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR</li> <li>c) assess and document impacts on Aboriginal cultural heritage values in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to the Environment, Energy and Science Group in the Department of Planning, Industry and Environment.</li> </ul>	<p>Section 13 and Appendix M</p> <p>The Proposal is located within an area identified in MPW Stage 2 heritage assessments as approved for total impact under both the MPW Stage 1 and adjacent MPE Project (Artefact, 2016), with a total loss of value as a result. Therefore, the Proposal will not result in additional impacts to those approved under MPW Stage 1 (SSD 5066), MPE Project (SSD 6766), and MPW Stage 2 (SSD 7709).</p> <p>Preparation of an Aboriginal Cultural Heritage Assessment Report (ACHAR) under the DPIE heritage assessment guidelines would not generally be triggered where there is no identified impact to Aboriginal objects, as is the case with the Proposal, and so no ACHAR is required.</p>

This Section summarises the assessments previously undertaken for the MPW Concept Approval, MPW Stage 2 and this Proposal and provides an assessment of potential impacts resulting from changes to Aboriginal heritage arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

### 13.1.2 Relevant Conditions of Approval

#### 13.1.2.1 MPW Concept Plan and Stage 1 Early Works Consent (MOD 1)

Table 13-2 identifies relevant CoC that apply as a result of the MPW Concept and Stage 1 SSD 5066 and as modified by MOD 1 and provides comment and/or identifies the relevant sections of this EIS where these requirements have been addressed for MPW Stage 3.

Table 13-2: Aboriginal Heritage – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Relevant EIS Section / Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Heritage</i>		
E19	All future Development Applications relevant to MA6 and MA7 (Scarred Trees) shall include a consideration of the Aboriginal cultural value of the trees and options for avoiding impacts and ongoing conservation measures, including evidence of consultation with Aboriginal community representatives.	The scar portions of MA6 and MA7 are proposed to be removed and relocated as part of MPW Stage 2 salvage works.  Accordingly, this assessment requirement does not apply to the Proposal.
E20	All future Development Application shall assess heritage impacts of the Proposal. The assessment shall:  a) consider impacts to Aboriginal heritage (including cultural and archaeological significance), in particular impacts to Aboriginal heritage sites identified within or near the Project should be assessed. Where impacts are identified, the assessment shall demonstrate effective consultation with Aboriginal communities in determining and assessing impacts and developing and selecting options and mitigation measures (including the final proposed measures);  b) consider impacts to historic heritage. For any identified impacts, the assessment shall:  (i) outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the measures). Mitigation measures should include (but not be limited to) photographic archival recording and adaptive re-use of buildings or building elements on site); (ii) be undertaken by a suitably qualified heritage consultant(s); and (iii) include a statement of heritage impact.	E20a) The Proposal sits entirely within the approved construction footprint of the MPW Stage 2 Project, and any potential impact to Aboriginal cultural heritage values in the Proposal area have already been assessed and approved under MPW Concept Plan Early Works and MPW Stage 2 development consents.  E20b) Not relevant to this Section but is discussed in Section 14.

### 13.2 Existing Environment

The MPW Site has been highly modified by development, including the previous use as a Defence facility, road, and sewerage and stormwater infrastructure, and establishment of hardstand and warehousing. The site would be further modified as part of the staged development of MPW Development, of which the Proposal forms the third stage.

### 13.2.1 MPW Site Characteristics

Based on the Aboriginal archaeological sensitivity model and field surveys undertaken as part of the MPW Concept Plan Approval and Stage 1 Early Works assessment (NOHC, 2014) and the MPW Stage 2 assessment (Artefact, 2016), the following key characteristics of Aboriginal heritage significance were identified at the site prior to approved site development works.

- A total of 16 Aboriginal sites or potential archaeological deposits (PADs) located in or in proximity to the MPW Site. Of these sites:
  - Four are located immediately adjacent to the MPW Site, on the western bank of the Georges River. These sites would not be impacted by works associated with the MPW Development.
  - Twelve are located within the MPW Site and would be impacted to varying degrees.
    - The MPW Development would likely directly impact nine of the identified sites (MA1, MA2, MA3, MA4, MA6, MA7, MA10, MA14 and PAD2).
    - The MPW Development would likely indirectly impact two of the identified sites (MA5 and MA9).
    - The MPW Development would not impact on MA8.
- Areas of archaeological sensitivity were found in association with the Georges River and tertiary terraces adjacent to the river.

The status of all relevant Aboriginal sites is outlined in Table 13-3 and shown in Figure 13-1.



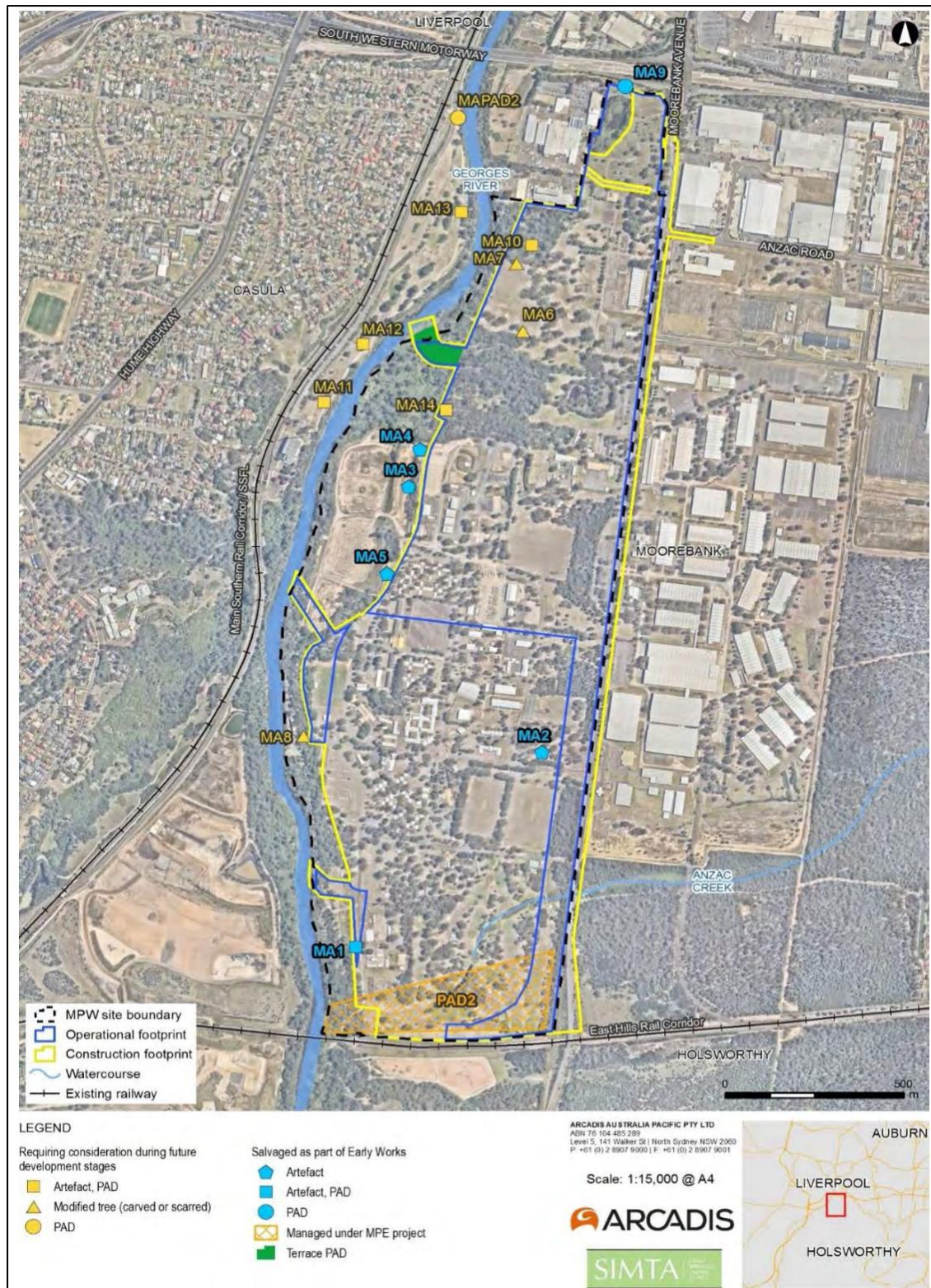


Figure 13-1: Aboriginal heritage items remaining following Early Works salvage activities (Arcadis, 2016)...



Table 13-3: Current status of relevant Aboriginal sites located on MPW Site.

Site name	AHIMS reference	Site details	Archaeological significance	Site status
MA1	45-5-4283	Three surface artefacts and PAD. Test excavation revealed low density subsurface artefact scatter and disturbed deposits.	Low	Salvaged as part of the MPW Stage 1 Early Works.
MA2	45-5-4273	Isolated surface artefact in a disturbed context.	Low	Salvaged as part of the MPW Stage 1 Early Works.
MA3	45-5-4274	Isolated surface artefact in a disturbed context.	Low	Salvaged as part of the MPW Stage 1 Early Works.
MA4	45-5-4275	Three surface artefacts in a disturbed context.	Low	Salvaged as part of the MPW Stage 1 Early Works.
MA5	45-5-4276	Three surface artefacts. Test excavation yielded a moderate density subsurface artefact scatter. Geomorphological analysis revealed relatively intact deposits.	Moderate-high	Salvaged as part of the MPW Stage 1 Early Works.
MA6	45-5-4279	Potentially culturally modified tree. Identified as part of Early Works Approval. Subsequent dendrochronological analysis attributed an age of 265-219 years placing the creation of the scar either before or shortly after the arrival of Europeans in Australia.	High	Scar portion to be salvaged and relocated as part of the MPW Stage 2 works.
MA7	45-5-7277	Potentially culturally modified tree. Identified as part of MPW Concept Design investigation. Subsequent dendrochronological analysis attributed an age of 86 years placing the creation of the scar <i>circa</i> 1928 after the area had been subsumed for military purposes. This decreases the likelihood of the scar being of cultural origin. However, Registered Aboriginal Parties (RAPs) agree that cultural scarring practices continued well into the European occupation period and age does not discount this tree from being culturally modified.	Low	While archaeological significance is low, cultural significance was assessed as high.  Scar portion to be salvaged and relocated as part of the MPW Stage 2 works.

Site name	AHIMS reference	Site details	Archaeological significance	Site status
MA8	45-5-4278	Potentially culturally modified tree. Identified as part of MPW Concept EIS investigation. This site is located outside of the MPW Stage 2 construction zone.	Moderate-high	Site remains in-situ.
MA9	45-5-4280	Initially identified as a PAD, test excavation yielded a moderate density subsurface artefact scatter. Geomorphological analysis revealed relatively intact deposits.	Moderate-high	Salvaged as part of the MPW Stage 1 Early Works.
MA10	45-5-4282	Initially identified as a PAD, test excavation yielded moderate density subsurface artefact scatter. Geomorphological analysis revealed relatively intact deposits. Additional excavation in the western portion of the site was undertaken in 2014.	Low-moderate	Site to be salvaged as part of MPW Stage 2 works.
MA11	45-5-4425	Surface artefact site and PAD (part of the MAPAD2 complex). Test excavation yielded a low density subsurface artefact scatter in a disturbed context.	Low	Site is on the western side of the Georges River. No further action to be taken as part of the MPW development.
MA12	45-5-4425	Surface artefact site and PAD (part of the MAPAD2 complex). Test excavation yielded a low density subsurface artefact scatter in a disturbed context.	Low	Site is on the western side of the Georges River. No further action to be taken as part of the MPW development.
MA13	45-5-4427	PAD site recorded on AHIMS. This site is not discussed in any of the previous reporting by NOHC (2014, 2015) for the MPW Site, or AHMS (2012, 2015) for the MPE Site.	Unknown	Site is on the western side of the Georges River. No further action to be taken as part of the MPW development.
MA14	Not registered	Test excavation identified relatively undisturbed artefacts and archaeological deposit within the area of potential.	Moderate-high	Site to be salvaged as part of MPW Stage 2 works.
MPW Stage 2 Terrace PAD	Not registered	Identified during current investigation. Results from excavation of MA10 and MA14 provide enough information to assess significance.	Moderate	Site to be salvaged as part of MPW Stage 2 works.

Site name	AHIMS reference	Site details	Archaeological significance	Site status
Tertiary Terrace	Not registered	Between MA10 and MA14. Identified by NOHC. Not actively managed under Early Works as the MPW Concept EIS placed a portion of it within a conservation zone that would not be impacted.	Moderate	Site to be salvaged as part of MPW Stage 2 works.
PAD2	Not registered	Test excavation identified a moderate density registered subsurface artefact scatter, with intact deposits present beneath an upper layer of fill. AHMS (2015) indicated this site has high research potential. AHMS (2015) excavation only targeted the eastern, southern and western margins of the PAD. OSL Dating retrieved dates of 18,000 yBP for the lower assemblage and 3-4,000 yBP for the upper assemblage.	High	Site has been managed as part of the MPE Stage 1 Approval. No further archaeological investigations to be taken as part of the MPW development.
MAPAD2	45-5-4281	Surface artefact site and PAD (part of the MAPAD2 complex. Test excavation yielded a single artefact and relatively intact subsurface deposits.	Low	Site is on the western side of the Georges River. No further action to be taken as part of the MPW development.

### 13.2.2 Heritage Salvage and Recording

An archaeological salvage strategy was prepared, in accordance with SSD 5066 for Aboriginal heritage items identified within the site (i.e. MA1, MA2, MA3, MA4, MA5 and MA9) and was approved by DP&E in July 2017. Prior to July 2017, these items were managed as exclusion zones to avoid inadvertent disturbance during remedial earthworks and demolition; no works which had the potential to impact on these items was undertaken. The salvage of these items was undertaken between 17 July and 25 August 2017.

MPW Stage 2 SSD 7709 salvage works are presently being undertaken in accordance with the approved Salvage Strategy (refer CoC B144). This salvage exercise is focussed on investigation of excavated pits and trenches between MA14 and MA10.

## 13.3 Assessment Methodology

### 13.3.1 Recent Environmental Assessments

The MPW Site has been subject to a number of Aboriginal cultural heritage assessments and investigations as part of the staged development of the site. A brief summary of the relevant assessments is provided below.

#### 13.3.1.1 MPW Concept Plan

The *Aboriginal Heritage Assessment* was prepared by Navin Officer Heritage Consultants (NOHC, 2014) for the MPW Concept Plan environmental assessment to assess the cultural heritage significance of the MPW Site and the potential impacts on Aboriginal heritage values as a result of the development of the site. The assessment included the following:

- literature and database review;
- archaeological field survey of the MPW Site;
- subsurface testing;
- an Aboriginal consultation program; and
- significance and impact assessment.

An archaeological predictive model was created, informed by a detailed background analysis of previous archaeological investigations in the region, and a site survey was undertaken in conjunction with Aboriginal communities. Consultation, involving field survey participation was undertaken with the following registered Aboriginal parties (RAPs):

- Tharawal Local Aboriginal Land Council;
- Cubbitch Barta Native Title Claimants Aboriginal Corporation;
- Darug Land Observations;
- Darug Custodian Aboriginal Corporation;
- Darug Aboriginal Cultural Heritage Assessments;
- Darug Aboriginal Landcare Incorporated;
- Banyadjaminga;
- Gandangara Local Aboriginal Land Council; and
- Tocomwall Pty Ltd.

The field survey identified five artefact sites (MA1-5), three scarred trees (MA6-8) and three potential archaeological deposits (MAPAD1, MAPAD2 and PAD2), as well as sampling three

representative landforms according to the predictive statements made for the area (MRSA1-3).

NOHC (2014) established that Early Works activities, as per the southern rail access option, would result in direct disturbance to the following recorded Indigenous heritage items within the MPW Concept Plan Approval site:

- Scarred trees MA6 and MA7;
- Artefact occurrences MA2, MA4 and MA5; and
- Portions of MA9, MA10 and MRSA2 (subsequently updated to MA14).

It was determined that impacts to Aboriginal sites would also occur from indirect ground disturbance (i.e. vehicle movements) and removal of trees, which would mainly occur during the Early Works and MPW Stage 2 development phase, if not managed or mitigated.

An interpretation strategy and salvage program was developed by Biosis (2016) and undertaken for Early Works, while further investigations were recommended for a number of items impacted by future development stages.

#### 13.3.1.2 MPW Stage 2

An *Aboriginal Heritage Impact Statement* (AHIS) was prepared by Artefact Heritage (Artefact, 2016) as part of the MPW Stage 2 EIS.

An assessment of identified Aboriginal heritage artefact sites and identified potential archaeological deposits was undertaken as part of the MPW Concept Plan Approval and consultation with registered Aboriginal parties for the MPW Stage 2 environmental assessment was completed with regards to scar trees and areas of additional impact to the tertiary terrace within the conservation area.

The assessment also considered extensions to the construction footprint within the Georges River conservation zone, a potentially sensitive area. Construction footprint extensions in the central and southern areas were considered to have a low potential for containing intact Aboriginal archaeological deposits, while the northern extension was found to have moderate archaeological potential.

The assessment identified five additional requirements for mitigation, in addition to those identified in Concept Plan EIS. These included:

- management of scar trees MA6 and MA7;
- staged salvage excavation of MPW Stage 2 Terrace PSD;
- staged salvage excavation of the tertiary terrace (between MA10 and MA14);
- salvage excavation of MA19; and
- salvage excavation of MA14.

Accordingly, the following recommendations were made:

- Scar portions of MA6 and MA7 should be removed by a qualified arborist and relocated to a property at Thirlmere.
- Staged salvage excavation should be undertaken in consultation with RAPs.
- Open area salvage excavation should be undertaken during MPW Stage 2.
- Further investigations and consultation should take place where changes to the MPW Stage 2 design occurred.
- An *Aboriginal Cultural Heritage Assessment Report* (ACHAR) should be prepared.

- An Unexpected Finds Procedure should be included in the ACHAR for the construction phase of MPW Stage 2.

A total of 20 areas and sites were initially recorded. Test excavations determined that MRSA3 and PAD3 are not indigenous archaeological sites and MA13 is of unknown archaeological significance.

Of the remaining 17 areas and sites deemed as being relevant to the MPW Stage 2 Proposal:

- Eight sites (MA1, MA2, MA3, MA4, MA7, MA11, MA12 and MAPAD2) are deemed to be of low archaeological significance.
- MA10 (also called MRSA1 and PAD1) has been assessed as having low to moderate archaeological significance.
- The MPW Stage 2 Terrace PAD and the Tertiary Terrace (between MA10 and MA14) are deemed to be of moderate archaeological potential.
- Four sites (MA5, MA8, MA9 and MA14) have been assessed as having moderate to high archaeological significance.
- One site and one area (MA6 and PAD2 respectively) have been assessed as having high archaeological significance.

As noted in Section 13.2.2 subsequent to the lodgement of the MPW Stage 2 EIS, a number of the items identified in Figure 13-1 have been salvaged in accordance with the approved Salvage Strategy.

### 13.3.2 The Proposal

Artefact (2020) reviewed previous Aboriginal heritage impact assessment reports prepared for MPW Concept and Early Works, MOD1 and MPW Stage 2, and Salvage Reports to provide advice regarding potential impacts in relation to the Proposal, and concluded that:

- The majority of recorded Aboriginal sites within the MPW Precinct have been salvaged under the MPW Stage 1 Approval.
- Four recorded sites within the vicinity of the Proposal (AHIMS ID 45-5-4273, AHIMS ID 45-5-4278, AHIMS ID 45-5-4283 and AHIMS ID 45-5-5158, and the non-registered PAD2) which may potentially be impacted by the Proposal have already been assessed under the MPW Stage 1 or MPW Stage 2 Approvals.
- The Proposal works areas are located outside of the areas previously assessed as being archaeologically sensitive landforms, which are primarily concentrated along the Georges River.
- The progressive subdivision as part of the Proposal would not involve ground-breaking activities which would impact Aboriginal heritage.
- The proposed works compound and associated infrastructure are located in an area already assessed under MPW Stage 2 heritage reports and approved for total impact with a total loss. The Proposal would not result in additional impacts to those approved under MPW Stage 1 (SSD 5066), MPE Stage 1 (SSD 6766) and MPW Stage 2 (SSD 7709).
- Preparation of an Aboriginal Cultural Heritage Assessment Report (ACHAR) under the DPIE heritage assessment guidelines would not generally be triggered where there is no identified impact to Aboriginal objects, as is the case with the Proposal, and so no ACHAR is required.



## 13.4 Potential Impacts

The Proposal works would generally be limited to surface works within areas that have previously been cleared as part of MPW Stage 1, which further limits the risk of impacts to Aboriginal archaeological remains.

The Proposal works would not result in additional impacts to heritage items or archaeological resources above that which was already assessed and approved in MPW Concept Plan and Early Works, and MPW Stage 2 Approvals. The *Construction Heritage Management Plan* (CHMP) may be revised to accommodate the Proposal where required to ensure construction impacts on Aboriginal heritage are appropriately avoided, minimised and managed. No further investigation is required for the Proposal.

### 13.4.1 Construction and Operation

The physical works that form part of the Proposal including the construction of the works compound and the ancillary works associated with the works compound are proposed for an area of the southern portion of the MPW Site, as shown in . The Proposal sits entirely within the approved construction footprint of MPW Stage 2, and any potential impact to Aboriginal cultural heritage values in the Proposal area have already been assessed and approved under MPW Concept Plan Approval, Stage 1 Early Works and MPW Stage 2 development consents. Accordingly, any impacts to Aboriginal cultural heritage values associated with the Proposal are limited to the potential for unexpected finds encountered during construction activities.

The proposed subdivision of the site does not involve any physical works and therefore would not result in any impacts to Aboriginal cultural heritage values at the MPW Site.

A summary of potential impacts relating to Aboriginal heritage are provided in Table 13-4.

Table 13-4: Potential construction and operational Aboriginal heritage impacts resulting from this Proposal already considered and addressed in MPW Stage 2 assessments.

Potential Construction Impacts	Potential Operation Impacts
<ul style="list-style-type: none"><li>• Construction activities in any of the PADs or in proximity to any artefact finds has the potential to damage or destroy Aboriginal archaeological deposits or isolated artefacts, which are culturally significant to the registered Aboriginal parties.</li><li>• Construction activities have the potential to encounter previously undiscovered Aboriginal objects, sites or places.</li></ul>	<ul style="list-style-type: none"><li>• Impacts are unlikely to result from operations.</li></ul>

The Aboriginal heritage characteristics of the MPW Site have been well documented as part of the previous development applications for the site and any approved impacts have been managed in accordance with the existing approvals. Given that the development of MPW, as approved, would result in the clearing and levelling of the entire site, the key elements of the Proposal are considered unlikely to result in additional impacts.

### 13.5 Mitigation Measures / Management

Where required, the CEMP sub-plan CHMP would be updated to address and mitigate identified Aboriginal heritage impacts in relation to the Proposal, and would include the following:

- The existing Unexpected Finds Procedure prepared as part of the MPW Stage 2 CHMP would continue to be implemented onsite throughout all construction works for the Proposal.
- Appropriate procedures would be implemented for dealing with previously unidentified Aboriginal objects (excluding human remains) include cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence, by a suitably qualified and experienced archaeologist in consultation with the Secretary and Aboriginal stakeholders.
- Appropriate procedures would be implemented for dealing with human remains, including cessation of works in the vicinity, notification of Secretary, NSW Police Force, OEH and Aboriginal stakeholders, and commitment to cease recommencing any works in the area unless authorised by the OEH and/or the NSW Police Force.

The assessment and recommendations provided in Artefact (2020) are based on the assumption that all of the recommended mitigation measures and requirements outlined for MPW Stage 1 have been considered during MPW Stage 1 and MPW Stage 2.

#### 13.5.1 Revised Environmental Management Measures

Environmental Management Measures were prepared as part of the MPW Concept Plan Approval and revised for the MPW Stage 2 Approval to inform the CEMP, OEMP and sub-plans. Relevant MPW Stage 2 REMMs would continue to apply to MPW Stage 3 to manage impacts consistent with relevant CoC and guidelines. The REMMS have been reviewed and further revised, as required, to ensure relevance to this Proposal (refer to Section 20).

## 14. Non- Indigenous Heritage

### 14.1 Approval Requirements

#### 14.1.1 SEARs

A Non-Aboriginal heritage report has been prepared by Artefact (2020) which reviewed and assessed previous reports prepared for MPW Stage 2, as well as MPW Concept Plan reports, where required, to address the SEARs relating to non-Indigenous heritage for the Proposal. The report is included as Appendix N of this EIS.

Table 14-1 identifies the SEARs as they relate to non-Indigenous heritage, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 14-1: SEARs for the Proposal relating to non-Indigenous heritage.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 9	<p><b>9. Historic Heritage</b> including but not limited to:</p> <p>An assessment of the heritage impacts of the proposal. The assessment must consider impacts to historic heritage. For any identified impacts, the assessment must:</p> <ul style="list-style-type: none"> <li>a) include a statement of heritage impact</li> <li>b) be undertaken by a suitably qualified heritage consultant(s)</li> <li>c) outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the measures). Mitigation measures should include (but not be limited to) photographic archival recording and adaptive re-use of buildings or building elements on site).</li> </ul> <p><b>Note:</b> Where historical excavation is proposed, the heritage consultant undertaking the assessment must meet the NSW Heritage Council's Excavation Director criteria.</p>	<p>Section 14 and Appendix N</p> <p>a) Section 14 and Appendix N</p> <p>b) The accompanying Non-Aboriginal Heritage Assessment report (Artefact, 2020) has been prepared by suitably qualified heritage consultants</p> <p>c) Section 14.5</p> <p>No historical excavation is proposed as part of the Proposal works.</p>

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential impacts resulting from changes to non-Indigenous heritage arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

#### 14.1.2 Relevant Conditions of Approval

##### 14.1.2.1 MPW Concept Plan and Stage 1 Early Works Consent (MOD 1)

Table 14-2 identifies relevant CoC that apply as a result of the MPW Concept and Stage 1 SSD 5066 and as modified by MOD 1 and provides comment and/or identifies the relevant sections of this EIS where these requirements have been addressed for MPW Stage 3. Condition E20 of SSD 5066 is consistent with SSD 10431 SEARs, Item 1 – 9 (refer to Section above).

Table 14-2: Non-Indigenous heritage – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Relevant EIS Section / Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Heritage</i>		
E20	<p>All future Development Application shall assess heritage impacts of the Proposal. The assessment shall:</p> <p>a) consider impacts to Aboriginal heritage (including cultural and archaeological significance), in particular impacts to Aboriginal heritage sites identified within or near the Project should be assessed. Where impacts are identified, the assessment shall demonstrate effective consultation with Aboriginal communities in determining and assessing impacts and developing and selecting options and mitigation measures (including the final proposed measures);</p> <p>b) consider impacts to historic heritage. For any identified impacts, the assessment shall:</p> <ul style="list-style-type: none"> <li>(i) outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the measures). Mitigation measures should include (but not be limited to) photographic archival recording and adaptive re-use of buildings or building elements on site);</li> <li>(ii) be undertaken by a suitably qualified heritage consultant(s); and</li> <li>(iii) include a statement of heritage impact.</li> </ul>	<p>E20a): Not relevant to this section but is discussed in Section 13.</p> <p>E20b)(i) Section 14 and Appendix N</p> <p>(ii) The accompanying Non-Aboriginal Heritage Assessment report (Artefact, 2020) has been prepared by suitably qualified heritage consultants</p> <p>(iii) Appendix N</p>

## 14.2 Existing Environment

The MPW Site has been highly modified by development, including previous use as a Defence facility, construction of roads, sewerage and stormwater infrastructure, and establishment of hardstand and warehousing.

Existing environmental conditions for the Proposal are those remaining upon completion of Early Works and progression of earthworks as part of construction activities associated with the MPW Stage 2 development.

All non-indigenous heritage items remaining onsite, following the decommissioning of the SME, were salvaged as part of MPW Stage 1 Early Works, in accordance with the *Moorebank Intermodal Terminal: non-Aboriginal cultural heritage salvage strategy*, prepared by Biosis (2016). A description of the current salvage process and archival record can be found in the *MPW 2 Aboriginal Archaeological Salvage Strategy (Artefact, January 2020)*.

### 14.2.1 Liverpool Local Environmental Plan 2008 Listed Items

A *Non-Indigenous Heritage Assessment* was prepared (Navin Officer Heritage Consultants, 2014) as part of the MPW Concept Plan environmental assessment. The assessment identified the following key characteristics regarding recorded non-indigenous heritage significance at the MPW Site and surrounding area:

- The MPW Site is not on the Commonwealth Heritage List. The MPE Site is locally listed in the Liverpool LEP 2008.

- The SME Site (the southern portion of the MPW Site) is included in the State Heritage Inventory Database (Database no. 1970180) as a complex group due to its listing on the Heritage Schedule of the Liverpool LEP 2008.
- A number of non-indigenous heritage items are located in vicinity of the MPW Site, located in the national (Register of the National Estate), State (NSW State Heritage Register) and local heritage (Liverpool LEP 2008) registers including:
  - Casula Powerhouse (former power station), in Casula (local listing);
  - two railway viaducts, in Casula (local listing);
  - Glenfield Farm Group, including the homestead, barn (former dairy and stables), in Casula (National, State and local listing);
  - Holsworthy Group, including powder magazine and former offices' mess, corporals club, internment camp, Holsworthy railway station lock-up/goal, in Moorebank (National and local listing); and
  - Kitchener House (formerly 'Arpafeelie'), Moorebank (National and local listing).

Non-indigenous heritage items addressed within MPW Early Works, and Liverpool LEP 2008 heritage items located within the vicinity of the MPW Site are provided in Figure 14-1.



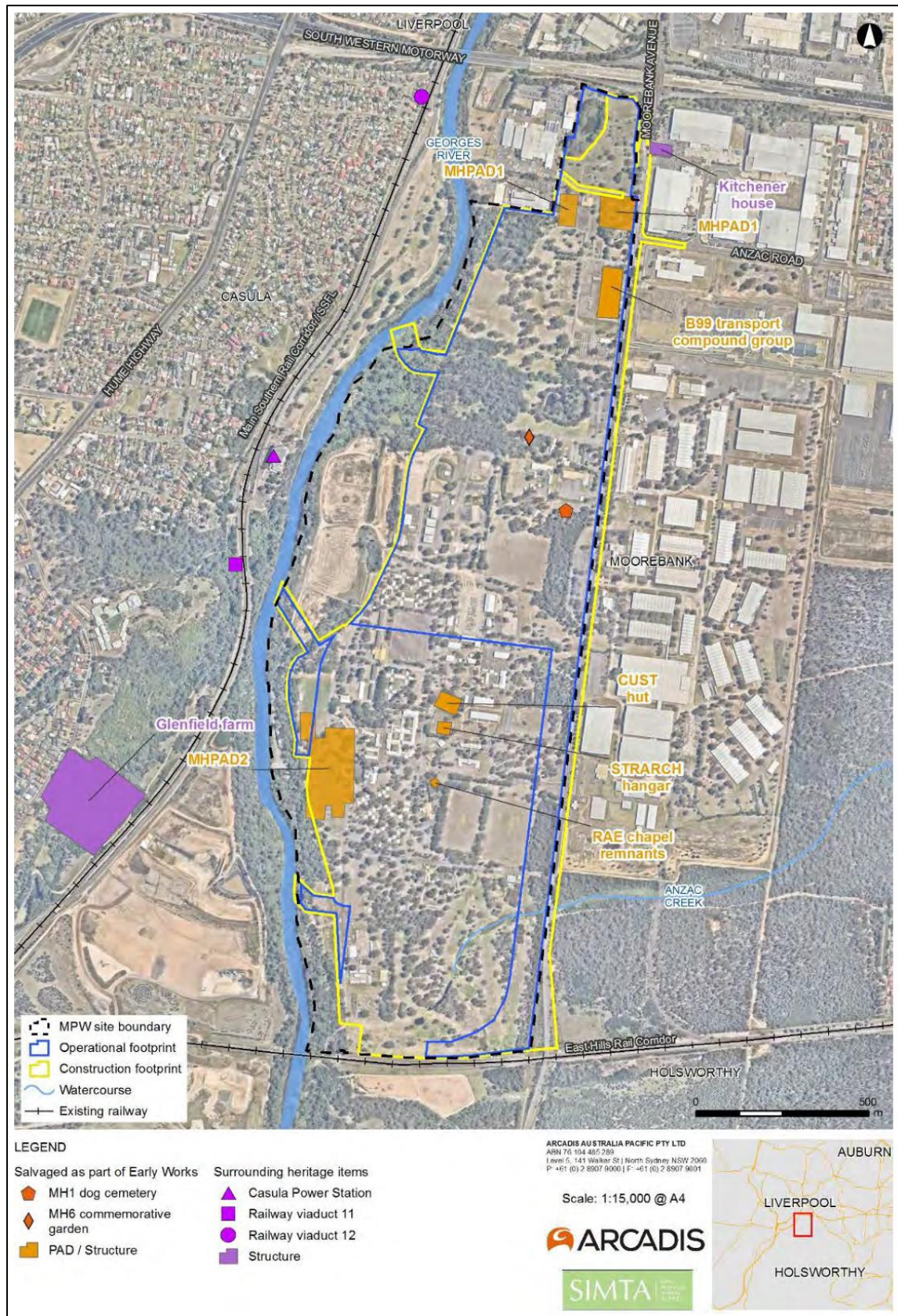


Figure 14-1: Non-indigenous and Liverpool LEP 2008 heritage items located within the vicinity of the site (Arcadis, 2016).



## 14.3 Assessment Methodology

### 14.3.1 Recent Environmental Assessments

The MPW Site has been subject to a number of non-indigenous heritage assessments and investigations as part of the staged development of the site. A brief summary of the relevant assessments is provided below.

#### 14.3.1.1 MPW Concept Plan

The *Non-Indigenous Heritage Assessment*, prepared by NOHC (2014), considered the significance and potential impact to non-indigenous heritage values within the MPW Site during Early Works and subsequent development stages of the MPW Development.

The assessment approach undertaken included the following:

- Literature and database review
- Initial field surveys of the built environment and non-built environment of the MPW Development site
- Archaeological test excavation
- Assessment of cultural landscape and social values
- Assessment of the heritage significance and heritage impacts for individual items and the Project site as a whole.

The investigations identified the following heritage and potential heritage items:

- MH1 - Explosive Detection Dog Cemetery and Memorial Recording
- MH2 - Drainage ditches (military origin)
- MH3 - Portion of light rail (not in situ)
- MH4 - Portion of light rail (not in situ)
- MH5 - Large above ground concrete slab (military origin)
- MH6 - Commemorative garden
- MH7 – Liverpool Golf Course
- CUST Hut
- RAAF STRARCH Hangar
- Transport Compound Building 99 (B99)
- Royal Australian Engineer's Chapel elements remaining following the MUR Project
- MHPAD 1: Site thought to be the location of WWI and WWII period quarters
- MHPAD 2: Site corresponds to the former location of several WWII period buildings.

The following key recommendations were made with respect to the assessment:

- A non-indigenous heritage interpretation strategy would be developed for the MPW Development to address the tangible and intangible values of the MPW Site, including consideration of commemorative signage within the area.
- An archaeological salvage program would be carried out for archaeological deposits that would be directly affected by the MPW Development.
- Consideration was to be given for items noted for archival recording above for adaptive reuse and/or relocation.

#### 14.3.1.2 MPW Stage 2

A *Non-Indigenous (Historic) Heritage Impact Assessment*, prepared by Artefact Heritage (2016), was undertaken as part of the MPW Stage 2 environmental assessment. As previously noted, all non-indigenous heritage items remaining onsite, following the decommissioning of the SME by Department of Defence, were salvaged as part of MPW Stage 1 Early Works.

The report identified that the Moorebank Cultural Landscape, which represented phases of land use from Aboriginal occupation and pre-European settlement through to today, and including various site toponyms, buildings archaeological deposits and landforms, required consideration in further design and operation of MPW Stage 2 development. Artefact (2016) determined that the net impact to the Moorebank Cultural Landscape resulting from the MPW Stage 2 Project would likely be the disturbance of archaeological deposits, removal of landscape elements, partial loss of the existing landscape setting, historical associations and the landscape's research potential. However, the retention of portions of bushland vegetation and some cultural heritage values would assist in preserving the existing cultural values of the Moorebank landscape, along with the archival recording of archaeological items disturbed as a result of construction activities.

The assessment noted that there would minor indirect impacts, generally visual, noise and amenity, to other heritage items located near the site:

- Kitchener house (listed under the Liverpool LEP 2008)
- Casula Pumphouse (listed under the Liverpool LEP 2008)
- Glenfield Farm (listed on the State Heritage Register (SHR00025) and under the Liverpool LEP 2008).

Artefact concluded that any indirect impacts to the above heritage items would be minor, and generally intermittent in the case of noise, and would not significantly impact the heritage value and characteristics of the items.

Accordingly, the assessment provided the following mitigation recommendations:

- Further detailed design incorporated the existing road names and places within the MPW Stage 2 Site to mitigate loss of significance to the Moorebank Cultural Landscape item. Continued commemoration of significant events and individuals would be considered through the naming of buildings and proposed for construction as part of the Proposal.
- The Unanticipated Discoveries Protocol (detailed in Appendix 7 of *Technical Paper 11 – European Heritage Impact Assessment* in Volume 8, MPW Concept Plan EIS) would be followed in the event that historical items or relics or suspected burials were encountered during excavation works.

The recommendations were incorporated into the CHMP.

#### 14.3.2 The Proposal

Artefact (2020) reviewed previous non-Aboriginal heritage impact assessment reports prepared for MPW Concept and Early Works, MOD1 and MPW Stage 2, to provide advice regarding potential impacts in relation to the Proposal, and concluded that:

- The Proposal works, with the exception of works undertaken within the curtilage of Australian Army Engineers Group (Item 57), would be located outside of the vicinity

of non-Aboriginal heritage items. However, the heritage item is located within an already disturbed area of the site, and potential impacts to the heritage item were approved under MPW Concept Plan and early Works.

- The main archaeological areas which may be potentially impacted by the Proposal include MHPAD2 (Local significance) and CUST Hut (Commonwealth, State and Local significance), which have already been assessed as part of the MPW Concept Plan Approval.
- The proposed construction compound and associated infrastructure would result in negligible direct and visual impacts to heritage items and archaeological areas.
- The proposed subdivision would not result in any impacts to non-Aboriginal heritage items or archaeological resources.
- A Statement of Heritage Impact is provided in Appendix N of this EIS.
- The Proposal works would not result in additional direct or visual impacts to heritage items or archaeological resources above that which was already assessed and approved in MPW Concept and Early Works, and MPW Stage 2 Approvals.

The Construction Heritage Management Plan will be revised to accommodate the Proposal to ensure construction impacts on non-Aboriginal heritage are appropriately avoided, minimised and managed. No further investigation is required for the Proposal.

## 14.4 Potential Impacts

### 14.4.1 Construction and Operation

The works that form part of the Proposal including the construction of the works compound and the ancillary works associated with the works compound are proposed for an area of the southern portion of the MPW Site, as shown in .

The Proposal sits entirely within the approved construction footprint of the MPW Stage 2 Project and any potential impact to non-indigenous heritage values in the Proposal area has already been assessed and approved as part of the MPW Concept Plan Approval, Stage 1 Early Works and MPW Stage 2 development consents.

All non-indigenous heritage items that remained following the decommissioning of the SME by Department of Defence have been salvaged or destroyed in accordance with the existing development consents for the MPW Site. Accordingly, any impacts to non-indigenous heritage values associated with the Proposal are limited to the potential for unexpected finds encountered during construction activities.

The proposed subdivision of the site does not involve any physical works and therefore would not result in any impacts to non-Aboriginal cultural heritage values at the MPW Site.

A summary of the potential impacts relating to non-indigenous heritage are provided in

Table 14-3.

Table 14-3: Potential construction and operational non-indigenous heritage impacts resulting from this Proposal already considered and addressed in MPW Stage 2 assessments.

Potential Construction Impacts	Potential Operation Impacts
<ul style="list-style-type: none"> <li>• Disturbance of archaeological deposits, demolition of structures and landscape elements and loss of access to items could result in a loss of research potential associated with non-indigenous heritage values.</li> <li>• Potential impacts on any heritage buildings to be preserved as a result of vibration during construction.</li> <li>• Potential short-term amenity impacts on surrounding heritage items (visual, noise and air) due to the location and operation of plant and equipment and vehicle movements during construction.</li> </ul>	<ul style="list-style-type: none"> <li>• Impacts are unlikely to be incurred during site operations.</li> </ul>

The non-indigenous heritage characteristics of the MPW Site have been well documented following the decommissioning of the SME Site, as part of the previous development applications for the site and any approved impacts have been managed in accordance with the existing Approvals. Given that the development of MPW, as approved, would result in the clearing and levelling of the entire site, the key elements of the Proposal are considered unlikely to result in additional impacts.

#### 14.5 Mitigation Measures / Management

Where required, the CEMP sub-plan CHMP would be updated to address and mitigate identified non-Aboriginal heritage impacts in relation to the Proposal, and would include the following:

- Ground-disturbing activities must not take place within the biodiversity area.
- Ground-disturbing activities must not take place outside the areas approved for impacts under MPW Stage 2 (SSD 7709).
- A *Non-Aboriginal Construction Heritage Management Plan* should be prepared for the Proposal. The *Non-Aboriginal Construction Heritage Management Plan* must outline non-Aboriginal heritage approvals from MPW Stage 1 (SSD 5066) and MPW Stage 2 (SSD 7709) relevant to the portion of MPW Stage 3 proposed for the temporary works compound, temporary road, permanent road and association underground utilities. The *Non-Aboriginal Construction Heritage Management Plan* must also include an unexpected finds procedure.
- All non-Aboriginal heritage approvals from MPW Stage 1 (SSD 5066) and MPW Stage 2 (SSD 7709) relevant to the MPW Stage 3 temporary works compound must be complied with.
- The temporary works compound and associated infrastructure should be removed following the completion of the works to reduce long-term visual impacts to nearby heritage items.

The existing Unexpected Finds Procedure prepared as part of the MPW Stage 2 CHMP will continue to be implemented onsite throughout all construction works for the Proposal.

#### 14.5.1 Revised Environmental Management Measures

Environmental Management Measures were prepared as part of the MPW Concept Plan Approval and revised for the MPW Stage 2 Approval to inform the CEMP, OEMP and sub-plans. Relevant MPW Stage 2 REMMs would continue to apply to MPW Stage 3 to manage impacts consistent with relevant CoC and guidelines. The REMMS have been reviewed and further revised, as required, to ensure relevance to this Proposal (refer to Section 20).



## 15. Visual Amenity, Urban Design

### 15.1 Approval Requirements

#### 15.1.1 SEARs

A visual impact assessment report has been prepared by Reid Campbell (2020) which reviewed and assessed previous reports prepared for MPW Stage 2, as well as MPW Concept Plan reports, where required, to address the SEARs relating to visual amenity and urban design for the Proposal. The Reid Campbell report is included as Appendix O of this EIS.

Table 15-1 identifies the SEARs as they relate to visual amenity, urban design and landscaping, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 15-1: SEARs for the Proposal relating to visual amenity, urban design and landscaping.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 10	<b>10. Visual Amenity, Urban Design and Landscaping</b> – including but not limited to: <ul style="list-style-type: none"><li>a) an assessment of visual impacts</li><li>b) consideration of lighting impacts in the local area, analyse and describe the contribution and impacts of the proposed facility on light spill at the local scale and to sensitive receivers</li><li>c) include details of hard and soft landscaping treatment and design (including details of suitable landscaping incorporating endemic species)</li><li>d) ensure the layout and design of the development has regard to the surrounding vehicular, pedestrian and cycling networks</li><li>e) propose management/mitigation measures to address the visual impact of the proposal.</li></ul>	Section 15 and Appendix O <ul style="list-style-type: none"><li>a) Section 15</li><li>b) Section 15.3.1.2 and Section 15.3.2.3</li><li>c) Appendix A of the VIA (which is Appendix O of this EIS)</li><li>d) Not applicable to this Proposal</li><li>e) Section 15.5</li></ul>

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential impacts resulting from changes to visual amenity, urban design and landscaping arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

#### 15.1.2 Relevant Conditions of Approval

##### 15.1.2.1 MPW Concept Plan Approval (MOD 1)

Table 15-2 identifies relevant CoC that apply as a result of the MPW Concept and Stage 1 SSD 5066 and as modified by MOD 1 and provides comment and/or identifies the relevant sections of this EIS where these requirements have been addressed for MPW Stage 3.

Table 15-2: Visual amenity, urban design – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Relevant EIS Section / Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Landscaping</i>		
E4	Development Applications for the intermodal terminal facility shall consider the effect of headlight glare on surrounding sensitive receivers.	The Proposal does not include any development works in relation to the intermodal terminal facility.
E17	<p>All future Development Applications for new built form must include detailed landscape plans identifying the vegetation to be removed or relocated and the location of replacement and additional landscaping.</p> <p>E17A. All future Development Applications must include:</p> <p>a) an assessment of the visual impact of the raised landform, built form (materials and finishes) and urban design (height, bulk and scale) including lighting and signage when viewed from residential areas; and</p> <p>b) details of measures to mitigate impacts.</p> <p>E17B. All future Development Applications must present designs that incorporate the principles of:</p> <p>a) Water Sensitive Urban Design (WSUD) and Urban Heat Island Mitigation (UHIM); and</p> <p>b) NSW Government Architect’s “Greener Places” policy</p>	<p>The UDDR, which presents a holistic approach to landscape design for the MPW Site is currently under preparation for submission to the DPIE.</p> <p>Section 15.5.3</p> <p>a) Section 15 and Appendix O</p> <p>b) Section 15.5</p> <p>E17B Refer to comment above in relation to UDDR, and Section 15.5.3</p>
E18	All future Development Applications shall include detailed landscape plans including relevant details of the species to be used in the various landscaped areas (preferably species indigenous to the area), including details of the informal native and cultural avenue plantings, and other soft and hard landscape treatments, including any pavement areas and furniture.	<p>The UDDR, which presents a holistic approach to landscape design for the MPW Site is currently under preparation for submission to the DPIE.</p> <p>Section 15.5.3</p>

## 15.2 Existing Environment

The MPW Site has been highly modified by development, including previous use as a Defence facility, construction of road, sewerage and stormwater infrastructure and establishment of hardstand and warehousing.

The Proposal Site is surrounded by land owned by SIMTA, the Department of Defence and a mix of industrial and residential uses, including:

- the MPE Site and Defence Joint Logistics Unit (DJLU) to the east;
- Commonwealth of Australia Land, predominantly bushland, to both the east and the south;
- ABB Australia operations to the north;
- existing industrial developments to the north-east;
- the East Hills Railway Line, which runs in an east-west direction, to the south;
- the residential suburb of Casula to the north-west and west, separated from the MPW Site by the Georges River and the SSFL and passenger rail line; and

- the Wattle Grove residential area (primarily low density), commercial and industrial developments and major motorways, further to the east and north of the MPW Site.

Existing environmental conditions for the Proposal are those remaining upon completion of Early Works and progression of earthworks as part of construction activities associated with the MPW Stage 2 development, which would include existing landscape and vegetation generally running along the western boundary of the site following the banks of the Georges River. This bushland is subject to a biobanking agreement (Biobanking Agreement – 341) and comprises primarily regenerated vegetation providing significant screening to surrounding areas to the north-west and west.

## 15.3 Assessment Methodology

### 15.3.1 Recent Environmental Assessments

#### 15.3.1.1 MPW Concept Plan

The *Visual Impact Assessment* (VIA), prepared by Clouston Associates (2014) as part of the MPW Concept and Stage 1 Early Works EIS (PB, 2016), included a *Landscape Character and Visual Impact Assessment* and a *Light Spill Assessment* for both the construction and operational impacts of the MPW Development. The key findings of the VIA regarding construction activities are summarised below.

- Moderate/high impacts were predicted for several viewpoints due to the height of the IMEX freight facility, and tall construction equipment such as cranes that would be visible above the tree line during construction.
- Other visible construction impacts would be associated with earthworks, clearing and vegetation removal and construction of the warehousing.
- Along Moorebank Avenue there would be localised visual impacts from construction fencing and the warehousing area would be highly visible.
- The majority of construction activities would occur during standard daytime construction hours and would not require lighting; however, some out of hours construction work may be required. Lighting would be contained and positioned to avoid light spill to surrounding areas.
- Leacock's Park and residential receptors on the elevated areas to the west of the Georges River and residential properties backing onto the SSFL have the potential to be visually impacted during the operation of the Proposal.
- For some residential locations within Casula that overlook the Proposal site, the sensitive receptors would experience a noticeable change in the brightness of the area on clear nights during operation.

Of particular importance is that the Early Works included the removal of selected vegetation and buildings on the MPW Site which altered the site's landscape and impacted views to the site.

#### 15.3.1.2 MPW Stage 2

##### Visual Impact Assessment

A *Visual Impact Assessment* (VIA) (Reid Campbell, 2016) prepared to support the MPW Stage 2 EIS aimed to identify and evaluate the visual impacts of MPW Stage 2 and included:

- an analysis of views from key viewpoints; and
- recommended management and mitigation measures to address the visual impact of the MPW Stage 2 Proposal.

The key findings of the *Visual Impact Assessment* included;

- Potential impacts of MPW Stage 2 were consistent with the Concept Plan and Stage 1 Approval.
- Proposed visual features and general amenity under MPW Stage 2 were consistent with existing industrial sites within proximity to the site.
- There was limited visual impact to nearby residential areas due to distance, existing visual barriers and undulating topography.
- There was no impact to the general visual amenity at simulated viewpoint locations in residential areas.
- The most prominent views of MPW Stage 2 would be at localised site boundary points, which were likely to be improved through enacting mitigation measures such as significant and intensive landscaping, screening and use of architectural elements.
- The impact of light spill to nearby residential properties was within the acceptable criteria of Australian Standards.

#### Light Spill Assessment

The *Light Spill Assessment* (Arcadis, 2016) prepared to support the MPW Stage 2 EIS aimed to consider lighting impacts in the local area of the MPW Stage 2 works, and analyse and describe the contribution and impacts of the proposed facility on light spill at a local scale.

The assessment included a light spill model that included pole positions, luminaire mounting heights, luminaire selection and luminaire aiming angles. The illuminance and luminous intensity were assessed during post curfew hours for both boundary 1.0 and 2.0.

The key findings of the assessment were:

- Lighting was designed to minimise any direct light spill by selecting luminaires with a horizontal front glass for the warehouse yard and internal roads.
- Lighting of MPW Stage 2 was within acceptable limits of AS4282 and would have minimal effect on the surrounding environment.
- The site complied with *AS4282- 1997 Control of the obtrusive effects of outdoor lighting*.

### 15.3.2 The Proposal

#### 15.3.2.1 Visual Impact Assessment

A qualitative assessment of potential visual impacts has been undertaken as part of the VIA (Reid Campbell, 2020) for the Proposal. The VIA considered the potential visual impacts relative to the previous assessments for the MPW Site to determine whether the assessed impact is generally in accordance with the visual impact approved as part of the previous assessments.

Key components of the Proposal were considered as part of the assessment:

1. Works compound – proposed location at the southern end of the site, and use of cranes during construction would be possibly visible to receivers in publicly accessible areas at Casula.

2. Laydown and material stockpile areas – possibly visible to receivers and publicly visible areas at Casula.
3. Ancillary earthworks – construction works, including machinery, would possibly be visible to receivers in publicly accessible areas at Casula.
4. Extension to internal permanent ring road and temporary loop road – construction works, including machinery, would possibly be visible to receivers in publicly accessible areas at Casula.

The VIA determined that potential visual impacts regarding the utilities, stormwater and drainage, and progressive subdivision components of the Proposal would be inconsequential to visual impact and did not require any further assessment.

The VIA for the Proposal considered the viewpoints adopted in the MPW Concept Plan and MPW Stage 2 assessments, and assessed the visual impact of the key Proposal components from two potentially impacted viewpoints at Casula. For each key viewpoint, the Proposal was considered using the following general criteria:

- context
- setting
- site elements
- site character
- adjacent development
- distance to view (foreground, middle ground and background)
- land use
- visual prominence of the development
- potential changes to the view setting.

For each key viewpoint, criteria were considered as they relate to the Proposal against assessment measures ‘visual adaptation’ and ‘visual sensitivity’ to determine the resulting visual impact.

The VIA concluded that regarding potential visual impacts at two publicly accessible locations at Leacock Regional Park, the Proposal’s works compound and stockpiles (approximately 4 to 6 m maximum height) would not exceed the height of the Concept Plan warehouses and container handling (approximately 13 m high), and would be screened by vegetation. Therefore, the proposed works were assessed as being generally in accordance with the approved MPW Concept Plan and Stage 2 Visual Impact Assessments.

#### 15.3.2.2 Landscape

The Landscape Design Statement (Ground Ink, 2020) determined that:

- the landscape design of the Moorebank Precinct focuses on low-water-use, native plant palette and incorporates a diverse range of canopy trees, shrubs, grasses and groundcovers, and the Precinct maintains a series of vegetated buffer zones, OSD basins, warehouse landscaping and streetscape landscaping;
- species selection favour locally-occurring plant species which reinforce the character of the existing riparian conservation areas along the Georges River;
- large native trees, endemic to the local areas, have been selected to create a visual screen to the site and minimise visual impacts from surrounding sensitive visual

receivers, whilst maintaining elevated canopy crowns to achieve clear trunks for driver and pedestrian visibility;

- pedestrian experience was considered within the landscape design to result in meandering pathways and floristic diversity, and offer varied experiences when transitioning through the development; and
- species endemic to the character of the area and existing vegetative communities have been selected to create habitat opportunities and resilient plant selections that require minimal long-term maintenance.

### 15.3.2.3 Light Spill

Reid Campbell (2020) considered light spill effects in relation to the Proposal, and determined that the Proposal would utilise similar componentry to that previously assessed for MPW Stage 2, and so would meet relevant Australian Standards through appropriate election of light source, luminaire make and aiming, as well as pole positions and height from static site lighting.

## 15.4 Potential Impacts

### 15.4.1 Construction and Operation

The impacts to visual amenity and urban design of the MPW Site have been well documented as part of the previous development applications for the site and any approved impacts have been managed in accordance with the existing Approvals. Given that the development of MPW, as approved, would result in the clearing and levelling of the entire site and construction and operation of warehousing and the interstate rail terminal, the key elements of the Proposal are considered unlikely to result in additional impacts.

The Proposal has the potential to result in similar environmental impacts, albeit generally to a lesser extent, to those previously identified and addressed in the MPW Concept Plan Approval documentation. In particular, impacts related to the removal of buildings, vegetation and other infrastructure have been addressed in the MPW Concept Plan and MPW Stage 2 Approvals. As the Proposal does not include construction of the rail link, the visual assessment does not require assessment of the rail infrastructure.

A summary of the potential impacts relating to visual (including light spill) of the Proposal is provided in Table 15-3.

Table 15-3: Potential construction and operational visual amenity and urban design impacts resulting from this Proposal already considered and addressed in MPW Stage 2 assessments.

Potential Construction Impacts	Potential Operation Impacts
<ul style="list-style-type: none"> <li>• The location of construction plant and machinery and vehicle movements have the potential to result in short term visual impacts on the surrounding area.</li> <li>• Earthworks, including stockpiling of material.</li> <li>• Installation of drainage and utilities.</li> <li>• Construction of roads.</li> <li>• Construction of the works compound.</li> <li>• The use of lighting during construction (subject to the need for this and timing of construction</li> </ul>	<ul style="list-style-type: none"> <li>• Leacock's Park (public park) and residential receptors on elevated areas to the west of the Georges River, and residential properties backing onto the SSFL would be the most likely to be potentially visually impacted by site operations.</li> <li>• An increase in sky brightness may be experienced by some residents of Casula on clear nights.</li> </ul>



## Potential Construction Impacts

## Potential Operation Impacts

activities), although unlikely, could result in some minor light spill impacts to the surrounding area.

The Proposal is unlikely to present any additional visual amenity or urban design impacts beyond those already assessed and addressed as part of the MPW Stage 2 EIS. Further, potential visual impacts arising from this Proposal are significantly less than those identified for MPW Concept Plan and Stage 2, as there is no development associated with the interstate freight terminal or rail links and no proposed construction or operation of warehousing. Further, the Proposal's works compound and stockpiles would not exceed the height of the Concept Plan warehouses and container handling and would be screened by vegetation. Those impacts that are relevant to this Proposal have largely already been assessed under MPW Stage 2 environmental assessments. Machinery and equipment similar to that already assessed will be used for the proposed MPW Stage 3 works, and so there are no anticipated additional visual impacts in relation to this Proposal.

## 15.5 Mitigation Measures / Management

The Proposal works would be managed under the existing CEMP, the OEMP and related sub-plans prepared and approved for MPW Stage 2, with adjustments where required, to reflect the nature, scale and extent of interface with MPW Stage 2. The following sections outline specific mitigation measures for the Proposal as they relate to visual impact management.

### 15.5.1 Construction

The principle impacts during the construction phase would result from the construction of roads and the works compound, installation of drainage and utilities and earthworks, including stockpiling of material. The current CEMP for MPW Stage 2 would be updated, where required, to address any additional potential visual impacts resulting from this Proposal.

Mitigation measures that will be included within the CEMP with respect to management of potential visual impacts include:

- where possible, retaining perimeter landscaping, and implementation of boundary treatments, buffers and landscape planting to provide visual screening;
- location of construction elements to minimise visual impacts, including setting back large machinery and equipment from site boundaries;
- design of construction lighting to minimise the effects of light spill on surrounding sensitive receivers;
- fence screening along public road corridors;
- design of site hoarding to consider the use of artwork or project information; and
- progressive revegetation and landscaping.

### 15.5.2 Operation

The OEMP for MPW Stage 2 will incorporate the recommendations of the MPW Stage 2 EIS with respect to visual amenity, and potential visual impacts as a result of this Proposal would be successfully managed in an updated OEMP. In particular, the OEMP would consider the following mitigation measures for this proposal:

- use of species local to the area to support and enhance local habitat values;
- use of trees to provide canopy and screening;
- design of lighting to minimise impacts on surrounding sensitive receivers;
- consideration of shields on luminaire lighting to reduce brightness; and
- minimisation of light and energy consumption in parts of the Proposal that are not active, whilst maintaining safe operation.

Mitigation measures would be implemented as recommended in the revised and updated CEMP and OEMP. Potential visual impacts resulting from this Proposal are likely to be acceptable and within Australian Standards guidelines.

#### 15.5.3 Urban Development Design Report

The *Urban Development Design Report* (UDDR) is currently under preparation for submission to the DPIE, and will provide a holistic landscape design plan for the MPW Site. The report incorporates strategies to enhance ecologically sustainable development including use of solar design and energy efficient plant and equipment, locally sourced materials and reuse of materials to avoid landfill, rainwater capture and reuse, cross ventilation, water efficient fixtures and fillings, and use of vegetation and appropriate materials to enhance green spaces and minimise urban heat island issues. The Proposal would be consistent with the landscape design of the UDDR.

#### 15.5.4 Revised Environmental Management Measures

Environmental Management Measures were prepared as part of the MPW Concept Plan Approval and revised for the MPW Stage 2 Approval to inform the CEMP, OEMP and sub-plans. Relevant visual amenity, urban design and landscaping related MPW Stage 2 REMMs would continue to apply to this Proposal to manage impacts consistent with relevant CoC and guidelines. The REMMS have been reviewed and further updated, as required, to ensure relevance to this Proposal (refer to Section 20).

## 16. Hazards and Risks

### 16.1 Approval Requirements

#### 16.1.1 SEARs

Table 16-1 identifies the SEARs as they relate to hazards and risks, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 16-1: SEARs for the Proposal relating to hazards and risks.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 12	12. <b>Hazards and Risks</b> – including but not limited to a preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33 (DoP 2011).	Section 16.3.2

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval and MPW Stage 2, and provides an assessment of potential impacts resulting from changes to hazards and risks arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

#### 16.1.2 Relevant Conditions of Approval

##### 16.1.2.1 MPW Concept Plan and Stage 1 Early Works Consent (MOD 1)

Table 16-2 identifies relevant CoC that apply as a result of the MPW Concept and Stage 1 SSD 5066 and as modified by MOD 1, and provides comment and/or identifies the relevant sections of this EIS where these requirements have been addressed for MPW Stage 3.

Table 16-2: Hazards and Risks – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October, 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October, 2019)		Relevant EIS Section/ Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Hazards and Risks</i>		
E23	<p>All future Development Application shall be accompanied by a preliminary risk screening completed in accordance with <i>State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33</i> (DoP 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the Proposal. Should preliminary screening indicate that the Proposal is ‘potentially hazardous,’ a <i>Preliminary Hazard Analysis</i> (PHA) must be prepared in accordance with <i>Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis</i> (DoP 2011) and <i>Multi-Level Risk Assessment</i> (DoP 2011). The PHA should:</p> <ul style="list-style-type: none"> <li>a) Estimate the risks from the facility;</li> <li>b) Be set in the context of the existing risk profiles for the intermodal facility and demonstrate that the Proposal does not increase the overall risk of the area to unacceptable levels; and</li> </ul>	<p>Comprehensive and cumulative assessments in relation to hazards and risk assessments were considered as part of the MPW Concept Plan and MPW Stage 2 reports. The MPW Stage 2 assessment has been reviewed in consideration of the MPW Stage 3 Proposal.</p> <p>The outcomes of the MPW Concept, Stage 2 and Stage 3 assessment are provided in Section 16. A PHA is not</p>

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October, 2019)	Relevant EIS Section/ Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Hazards and Risks</i>	
c) Demonstrate that the Proposal complies with the criteria set out in the <i>Hazardous Industry Planning Advisory Paper No. 4 – Risk Criteria for Land Use Safety Planning</i> .	required to be prepared for the Proposal.

## 16.2 Existing Environment

### 16.2.1 Proximity to Sensitive Receivers

The MPW Site is within the Liverpool LGA and approximately 2.5 km from the Liverpool city centre. It is located in the vicinity of the South-West Growth Centre and a local concentration of industrial and business centres.

The area surrounding the MPW Site comprises predominately of industrial uses as follows:

- The Holsworthy Military Area ('Holsworthy Barracks'), located south-east of MPW
- The MPE Site, formerly occupied by the DNSDC, located immediately east of the MPW Site
- Industrial and commercial uses immediately north of the MPW Site, including the ABB Australia's Medium Voltage Production Facility site
- The Glenfield Waste Facility located south-west of the site, which includes an existing waste handling facility and refuse disposal site
- The privately owned Moorebank Industrial Area is located immediately east of the MPW Site and north of Anzac Road and comprises approximately 200 ha of industrial development. This industrial area supports a range of industrial uses including freight and logistics, heavy and light manufacturing, and office and business park developments.

A number of residential suburbs are located in proximity to the MPW Site including:

- Wattle Grove (1 km east)
- Moorebank (0.6 km north-east)
- Casula (0.33 km west)
- Glenfield (0.82 km south-west).

### 16.2.2 Asbestos

An asbestos cement main for potable water is located on the east side of Moorebank Avenue and is a privately owned service that leads into the MPW Site. The main continues north along Moorebank Avenue and converts into DN100 mm Woodstave main.

All buildings onsite were removed during the Early Works and therefore no risk of asbestos within building material has been identified.

## 16.3 Assessment Methodology

### 16.3.1 Recent Environmental Assessments

#### 16.3.1.1 MPW Concept Plan

The *Preliminary Risk Assessment* (Parsons Brinckerhoff, 2014) prepared for the MPW Concept Plan EIS assessed the potential hazards and risks associated with the construction and operation of the MPW Development.

The following potential hazards were identified as arising from activities onsite during construction and operation of MPW Site:

- Gas leaks
- Loss of containment of flammable/combustible or corrosive liquids as a result of impact, unloading, operational error or equipment failure
- Vehicle accident during transport of potentially hazardous material
- Flooding as a result of extreme weather
- Inappropriate waste disposal as a result of lack of safety training and/or use of uncertified contractors.

This assessment concluded with recommendations for the implementation of management procedures, and some further investigations to address the potential risks and hazards.

Dangerous goods were identified as being explicitly excluded from the types of freight that the MPW Development would handle, and therefore would also be excluded from warehouses, freight container storage and transit areas. However, for operation of the MPW Development, a range of hazardous materials would be stored and used onsite for refuelling, commercial use and maintenance/firefighting purposes.

Screening under SEPP 33 was undertaken as part of the MPW Concept EIS for a range of dangerous goods that would be stored on the MPW Site for operational purposes. The assessment found that LNG would be the only material that would be stored or handled onsite in sufficient quantity to exceed the screening limits under SEPP 33, triggering the requirement for a *Preliminary Hazard Assessment* (PHA). The PHA found:

- The potential area of impact from the LNG storage location would be small and no potential impact to sensitive land uses or residential areas were identified.
- The storage of diesel and flammable and combustible liquids would not pose an unacceptable level of risk and would be within the recommended risk levels under the SEPP 33 guidelines.

#### 16.3.1.2 MPW Stage 2

The MPW Stage 2 EIS (Arcadis, 2016) identifies that the MPW Stage 2 development falls within the definition of a 'potentially hazardous industry' or 'potentially offensive industry' under SEPP 33. To determine if MPW Stage 2 was a potentially hazardous and/or offensive industry under SEPP 33, a screening test used the *Applying SEPP 33* guideline (DoP, 2008) to determine if a *Preliminary Hazard Assessment* (PHA) was required.

The screening test found that all dangerous goods would be stored in locations and quantities below the risk levels under SEPP 33. Consequently, it was determined that MPW Stage 2 would not pose an unacceptable level of risk to the surrounding community and therefore no

PHA is required for MPW Stage 2. As no major effects would be felt outside the MPW Site from these materials, there was considered to be little likelihood of fatality or risk to individuals or society.

### 16.3.2 The Proposal

As was determined under the MPW Concept Plan, the MPW Stage 3 development falls within the definition of a 'potentially hazardous industry' or 'potentially offensive industry' under SEPP 33, as a range of hazardous materials would be stored and used onsite for refuelling and maintenance/firefighting purposes.

A screening test undertaken in accordance with the *Applying SEPP 33* guideline (DoP, 2008) for MPW Stage 2 determined that dangerous goods would be stored in locations and quantities below the risk levels under SEPP 33, which would also be the case for the Proposal. Consequently, as was determined for MPW Stage 2, the Proposal would not pose an unacceptable level of risk to the surrounding community and therefore no PHA would be required for the Proposal.

## 16.4 Potential Impacts

### 16.4.1 Construction and Operation

The MPW Concept Plan and MPW Stage 2 assessed potential impacts relating to the development and operation of warehousing, the interstate freight terminal/freight storage and the rail-link. Given the limited scope and area affected by the Proposal, these impacts are expected to have a lesser extent to those previously identified and addressed in previous assessments.

A summary of potential relevant (i.e. to MPW Stage 3) impacts related to hazards and risks, which have been identified and addressed in the MPW Stage 2 EIS and environmental assessments are provided in Table 16-3. Given no physical works are required as part of the proposed subdivision, no impacts will arise. With regards to the proposed works compound and associated ancillary infrastructure, Table 16-3 identifies potential impacts that may arise during construction of these elements (i.e. during their placement/installation) and operation (i.e. use of the works compound and ancillary infrastructure).

Table 16-3: Potential construction and operational hazards and risks impacts resulting from this Proposal already considered and addressed in MPW Stage 2 assessments.

Potential Construction Impacts	Potential Operation Impacts
<ul style="list-style-type: none"> <li>• Accidental spill of fuel or chemicals stored onsite for machinery and equipment into the environment.</li> <li>• Unexpected interaction with contaminated soil material.</li> <li>• Unexpected interaction with asbestos.</li> <li>• Unexpected interaction with perfluoroalkyl and polyfluoroalkyl (PFAS/PFOS) in the groundwater.</li> </ul>	<ul style="list-style-type: none"> <li>• Accidental spill and loss of containment of flammable/combustible or corrosive liquids, leading to environmental (waterways, groundwater and/or soil) impacts.</li> <li>• Fire and explosion (including bushfire).</li> <li>• Vehicle movements and machinery use incidents.</li> <li>• Storage of dangerous goods (such as those for plant and vehicle maintenance).</li> <li>• Gas leak</li> </ul>



Potential hazards and risks during the construction and operation of the MPW Site, which include activities as proposed for MPW Stage 3, have already been assessed under the MPW Concept Plan's PHA. No major effects are expected to be felt outside the MPW Site from storage of potentially hazardous materials and so there was considered to be little likelihood of fatality or risk to individuals or society.

Provided mitigation measures are employed as recommended in the revised CEMP, OEMP and related sub-plans, MPW Stage 3 would not adversely impact the existing level of hazard and risk associated with the approved MPW development.

## 16.5 Mitigation Measures / Management

The proposed MPW Stage 3 works would intend to be functional under the existing CEMP, the OEMP and sub-plans documentation prepared and approved for MPW Stage 2, with adjustments where required, to reflect the nature, scale and extent of interface with MPW Stage 2. The following sections outline specific mitigation measure requirements for MPW Stage 3 as they relate to hazard and risk management.

### 16.5.1 Construction

The current CEMP for MPW Stage 2 currently incorporates the following measures to minimise hazards and risks:

- Procedure for the safe removal of asbestos
- Provision for safe operational access and egress for emergency service personnel and workers that is to be maintained at all times
- An Incident Response Plan that includes a Spill Management Procedure.

The CEMP includes actions to be taken in the event of site contamination to manage potential risks and hazards, and would be revised and updated as required to reflect any additional contamination risks identified during site development works.

### 16.5.2 Operation

The OEMP will incorporate mitigation measures to manage potential hazards and risks identified for MPW Stage 2, and would be revised and updated (if required) to manage impacts associated with MPW Stage 3. The OEMP shall continue to require:

- storage of dangerous goods be consistent with Australian Standard requirements;
- transport and handling of dangerous goods be compliant with relevant Australian Standards, the *Dangerous Goods (Road and Rail Transport) Act 2008* and the *Dangerous Goods (Road and Rail Transport) Regulation 2014*;
- contractors are appropriately trained and certified in hazard and risk management;
- appropriate fire fighting equipment is stored and maintained onsite, and appropriate training is provided to people onsite in their location and use;
- hazardous material is stored with separation distances and volumes below the thresholds as per SEPP 33; and
- site induction includes bushfire and flood emergency evacuation and response.

### 16.5.3 Revised Environmental Management Measures

Environmental Management Measures were prepared as part of the MPW Concept Plan Approval and revised for the MPW Stage 2 Approval to inform the CEMP, OEMP and sub-plans. Relevant MPW Stage 2 REMMs would continue to apply to MPW Stage 3 to manage impacts consistent with relevant CoC and guidelines. The REMMS have been reviewed and further revised, as required, to ensure relevance to this Proposal (refer to Section 20).

## 17. Other Environmental Issues

A summary of other environmental issues, which are not considered key issues, that have the potential to be evident during the construction and operation of the Proposal are described in the following sections.

### 17.1 Bushfire

#### 17.1.1 Approval requirements

##### 17.1.1.1 SEARs

A bushfire report has been prepared by Australian Bushfire Protection Planners (ABPP) (2020) which reviewed and assessed previous reports prepared for MPW Stage 2, as well as MPW Concept Plan reports, where required, to address the SEARs relating to bushfire management for the Proposal. The report is included as Appendix P of this EIS.

Table 17-1 identifies the SEARs as they relate to bushfire management, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 17-1: SEARs for the Proposal relating to bushfire management.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 16	<b>16. Bushfire Management</b> – including but not limited to: a) an assessment against the Planning for Bushfire 2006 (NSW Rural Fire Service) b) demonstrate that bushfire asset protection zones do not impact on biodiversity offset areas and the Georges River riparian corridor.	a) ABPP (2020) determined that the assessment undertaken for the MPW Concept Plan (SSD 5066) found that the aim and objectives of Planning for Bushfire Protection (PBP) 2006 had been addressed in the design of the Concept Plan proposal. The MPW Stage 3 proposal does not impact on these findings.  b) ABPP confirmed that the defendable spaces provided to the MPW Stage 3 precinct do not impact on the biodiversity offset areas and the Georges River riparian corridor.  Refer to Appendix P of this EIS.

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential impacts resulting from changes to bushfire management arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

### 17.1.1.2 MPW Concept Plan and Stage 1 Early Works Consent (MOD 1) Conditions of Consent

Table 17-2 identifies relevant CoC that apply as a result of the MPW Concept and Stage 1 SSD 5066 and as modified by MOD 1 and provides comment and/or identifies the relevant sections of this EIS where these requirements have been addressed for MPW Stage 3.

Table 17-2: Bushfire – MPW Concept Plan Approval Conditions of Approval (SSD 5066), as modified by MPW MOD 1 (30 October 2019).

MPW Concept Plan Approval - Conditions of Approval (SSD 5066) as modified by MPW Concept Plan Approval MOD 1 (30 October 2019)		Comment
<i>Schedule 4 Conditions to be Met in Future Development Applications – Bushfire</i>		
E24	<p>All future Development Application shall be accompanied by an assessment against the <i>Planning for Bushfire 2006</i> (NSW Rural Fire Service).</p> <p><b>E24A. All future Development Applications must demonstrate that bushfire asset protection zones do not impact on biodiversity offset areas and the Georges River riparian corridor.</b></p>	<p>E24: This development application is supported by a bushfire assessment that assesses the Proposal against the PBP 2006.</p> <p>E24A: As confirmed by both the MPW Stage 2 bushfire assessment, and the assessment of this Proposal, required APZ areas do not impact on biodiversity offset areas and the Georges River riparian corridor.</p> <p>Refer to Appendix P</p>

### 17.1.2 Existing Conditions

Portions of the MPW Site, primarily around the site boundaries, are impacted by Category 1 vegetation and Vegetation Buffer, as identified by Liverpool Council bushfire prone land mapping (Figure 17-1). Undeveloped land is located adjacent to west, south and east of the Proposal site, and surrounding vegetation includes slashed grassland and managed and unmanaged Dry Sclerophyll Low Open Forest. A riparian corridor is located to the west, adjacent to the Georges River.

Site topography is generally level, with a gradual fall towards the Georges River to the west.

Potential high fire threat would likely come from the conservation area (including the riparian zone) adjacent to the Georges River to the west and a moderate bushfire threat from the Commonwealth land located to the east and south of the site.



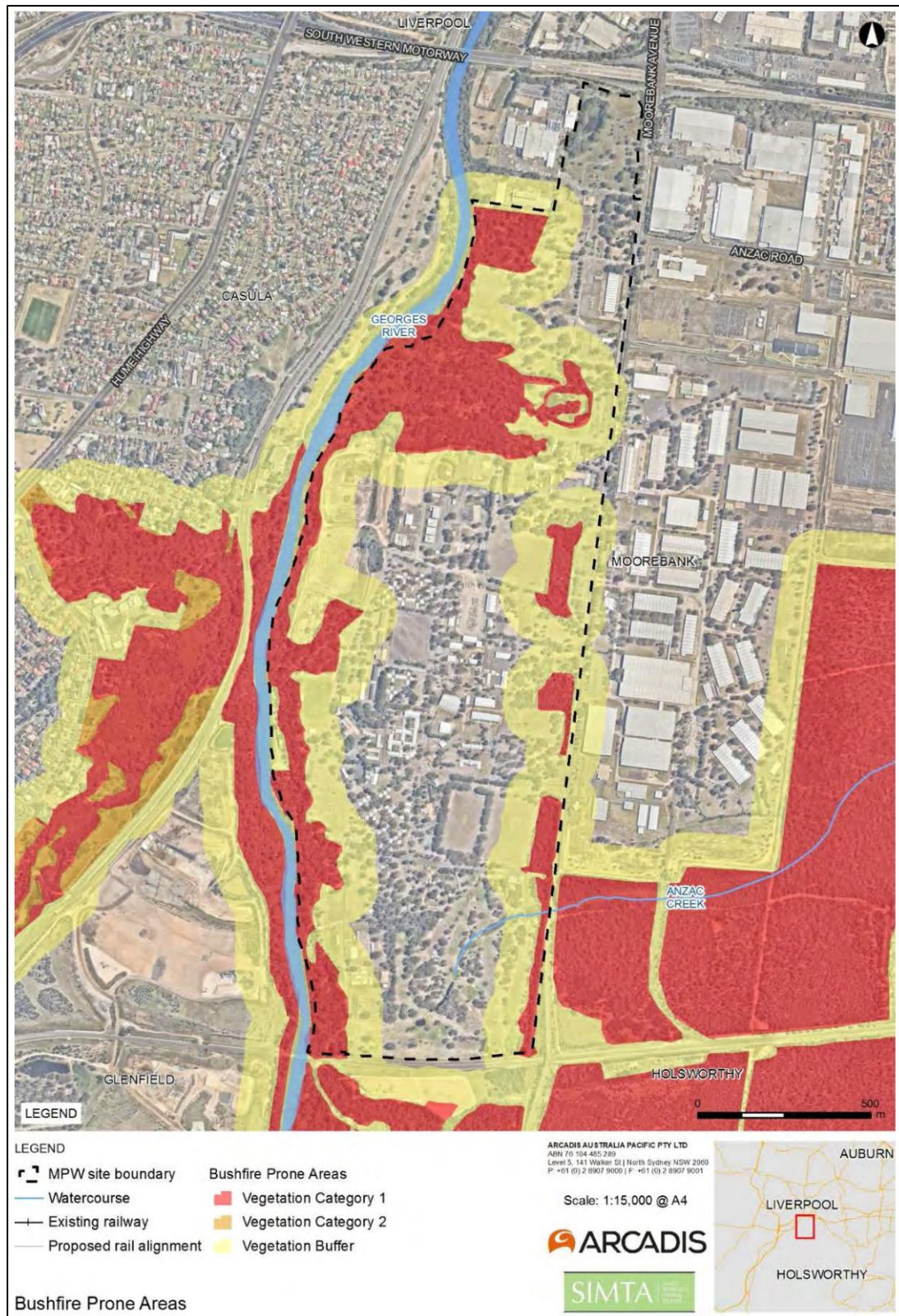


Figure 17-1: Bushfire prone land (Arcadis, 2016)

### 17.1.3 Assessment Methodology

#### 17.1.3.1 MPW Concept Plan

The MPW Concept Plan EIS included a *Hazards and Risks Assessment* (Parsons Brinkerhoff, 2014) incorporating a bushfire assessment. A *Bushfire Protection Assessment* (ABPP, 2016) was prepared for MPW Stage 2.

NSW Rural Fire Service (RFS) *Planning for Bushfire Protection 2006* (PBP 2006) guideline provides deemed-to-satisfy provisions for bushfire protection measures necessary for certain development, including: rural and residential development; Class 9 buildings that are considered “Special Fire Protection Purpose Developments”; and the construction of Class 1 to 4 and 10a (as defined by the *Building Code of Australia*) parts of a building in bushfire prone areas.

No specific deemed-to-satisfy bushfire protection provisions are provided for Class 5 to 8 and Class 10 buildings such as the buildings proposed for the works compound.

The recently developed *Planning for Bushfire Protection 2019* guidelines (to be adopted in 2020) contain deemed-to-satisfy protection provisions that are consistent with the previous 2006 RFS bushfire protection guidelines.

Key objectives and principles identified by the RFS and incorporated into the Concept Plan Approval Statement of Commitments to inform future designs include:

- Afford occupants of any building adequate protection from exposure to bush fire
- Ensure operational access and egress for emergency service personnel and residents
- Provide for ongoing management and maintenance of bushfire protection measures including fuel loads in asset protection zones.
- Ensure that utility services are adequate to meet the needs of the fire fighters.

#### 17.1.3.2 MPW Stage 2

The *Bushfire Protection Assessment* (ABPP, 2016) prepared for MPW Stage 2 detailed compliance with the specific deemed-to-satisfy objectives of PBP 2006, including:

1. adequate separation and defensible space between fixed assets and the bushfire prone vegetation;
2. safe alternate egress from the MPW Site onto Moorebank Avenue;
3. management of site vegetation to maintain minimum dry fuel loads within the defensible space and the residual land; and
4. adequate utility services to meet the needs of bushfire and structural fire-fighting requirements.

The report concluded that the aim and objectives of PBP 2006 were satisfactorily addressed for MPW Stage 2 development works.

### 17.1.4 The Proposal

ABPP (2020) confirmed that:

- The Proposal is able to continue to meet the bushfire requirements for MPW Stage 2 and is unlikely to present any additional bushfire environmental impacts beyond those already assessed. The scale, nature and extent of potential MPW Stage 3 bushfire impacts have already been assessed under MPW Stage 2 environmental assessments.



- The assessment undertaken for the MPW Concept Plan (SSD 5066) found that the aim and objectives of PBP 2006 had been addressed in the design of the Concept Plan proposal. The Proposal does not impact on these findings.
- The Proposal reduces the physical area of the site occupied from that considered in the Concept Plan (SSD 5066), therefore increasing the defensible space separation to the bushfire hazard.
- The defensible spaces provided to the Proposal precinct do not impact on the biodiversity offset areas and the Georges River riparian corridor.
- Safe, alternate access from the Proposal precinct is provided onto Moorebank Avenue and the vegetation within the defensible spaces and the residual land can be managed to maintain minimum dry fuel loads.
- Adequate utility services to meet the needs of bushfire and structural firefighting operations can be provided and the Proposal is unlikely to present any additional bushfire environmental impacts beyond those already assessed under the previous assessments.

Subject to alignment and demonstrated consistency with the *Emergency Response Plan* and the *Bushfire Emergency and Evacuation Management Plan* prepared for the MPW Site and relevant conditions from MPW Stage 2 CoC adopted for this Proposal, no further bushfire assessment is required.

Relevant MPW Stage 2 REMMs would continue to apply to MPW Stage 3 and have been reviewed and further revised as required, to reflect the nature, scale and extent of interface with this Proposal. (refer to Section 20).

## 17.2 Socio-economic

### 17.2.1 Approval requirements

#### 17.2.1.1 SEARs

Table 17-3 identifies property and infrastructure SEARs as they relate to socio-economic issues, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 17-3: SEARs for the Proposal relating to property and infrastructure.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 17	<p><b>17. Property and Infrastructure</b> – including but not limited to:</p> <p>a) assessing the impacts on affected properties and land uses, including impacts relating to access, land use, business activities, future development potential, and property acquisition</p>	Section 17.2.4

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential socio-economic impacts resulting from changes to property and infrastructure arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

### 17.2.2 Existing Conditions

The MPW Site is located wholly within Liverpool LGA and surrounded by Sydney's suburbs of Casula, Moorebank, Wattle Grove and Glenfield. Local population is expected to grow significantly over the next decade, consistent with population growth throughout Sydney. Employment levels in the locality are consistent with the Greater Sydney region.

### 17.2.3 Assessment Methodology

#### 17.2.3.1 MPW Concept Plan

An *Economic Impact Assessment* and *Social Impact Commentary Report* were prepared by Urbis (2013) as part of the EIS for the MPW Concept Plan Approval. The reports identified social and economic impacts likely to be generated by the MPW Development, as summarised in Table 17-4.

Table 17-4: Summary of social and economic impacts generated by the MPW Development (Urbis, 2013)

Potential Positive Impacts	Potential Adverse Impacts
Job creation benefits, particularly in occupational categories that were matched to the employment profile of the local population	Concerns by local residents and community groups regarding noise and vibration, air quality, visual amenity and light spill disruption and disturbance impacts during construction, and during ongoing operation of the intermodal facility
Reduction in the volume of heavy vehicle movements along the M5 corridor	Additional local and surrounding traffic in relation to workers and construction activities  Note analysis indicates that major roads and key intersections are not likely to be significantly impacted
Reduction in truck vehicle kilometres travelled across the Sydney Metropolitan Network	Potential social amenity impacts related to health and crime prevention
Improvements to freight transport efficiency, contributing beneficially to the regional and national economy	
Increase in local business trade due to additional construction workers, and increase in demand for construction related goods arising from the MPW Development works	

In general, socio-economic concerns in relation to MPW Development construction would be temporary and confined locally. Potential construction and ongoing operational MPW Development impacts identified as part of environmental assessments aim to be minimised and managed through implementation of recommendations, and ongoing community consultation.

### 17.2.4 The Proposal

The scale, nature and extent of potential socio-economic impacts associated with MPW Stage 3 have already been assessed under previous environmental assessments. A range of measures to minimise construction and operational impacts would reduce overall impacts on the surrounding community.

The MPE Project has developed Community Communication Strategies (CCSs) which guide the consultation and communication with the community and key stakeholders throughout the construction and operation stages of development. It is administered by the Community Consultative Committee. The CCSs for MPW would be revised and extended to cover and include the Proposal, to operate as single overarching strategy for the MLP precinct (refer to Section 5.2).

Once established, the Community Consultative Committee, as for MPE, would be notified throughout the course of the application and consultation would be guided by the overarching stakeholder engagement principles that have been used to inform previous consultation.

Potential impacts as a result of the Proposal would be managed, as:

- there is no change proposed to the current land ownership of the MPW Site;
- private easements over the Proposal site would maintain access and provide for electrical, water, sewer and telecommunication services;
- the proposed subdivision into nine new allotments will maintain connectivity across the intermodal precinct including vehicle and pedestrian access between all intermodal elements, utility services and drainage, and would facilitate tenant leasing registration requirements for individual warehouses by enabling the lease of buildings and facilitating the establishment of easements. The proposed subdivision would also separate the interstate freight terminal and warehousing activities in accordance with the approved MPW Concept Plan. Whilst the proposed Lots 8, 9 and 10 are intended to initially be used to facilitate works compound activities, the future intended use for proposed Lots 8, 9 and 10 is for warehousing and distribution, in accordance with the approved MPW Concept Plan;
- the Proposal does not impact the use or ownership of Moorebank Avenue, Anzac Road or Bapaume Road;
- potential traffic and transport impacts to the surrounding road network, and noise and air quality impacts to sensitive receivers would be managed through implementation of appropriate mitigation measures; and
- relevant MPW Stage 2 REMMs would continue to apply to MPW Stage 3 and have been reviewed and further revised as required to reflect the nature, scale and extent of interface with this Proposal (refer to Section 20).

### 17.3 Utilities and Servicing

Assessments to determine the capacity of existing utilities infrastructure to service the utility demands for the proposed MPW Development were prepared for MPW Stage 2. These have been reviewed to determine their applicability to the proposed MPW Stage 3 development.

#### 17.3.1 Approval Requirements

##### 17.3.1.1 SEARs

A utilities impact assessment report has been prepared by Aurecon (2020) which reviewed and assessed previous reports prepared for MPW Stage 2, as well as MPW Concept Plan reports, where required, to address the SEARs relating to utilities and servicing for the Proposal. The report is included as Appendix Q of this EIS.

Table 17-5 identifies the SEARs as they relate to utilities and servicing, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 17-5: SEARs for the Proposal relating to utilities and servicing.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 17	<p><b>17. Property and Infrastructure</b> – including but not limited to:</p> <p>b) assessing the service demand, capacity and augmentation of existing and proposed utilities and infrastructure, including any relocation as a result of the development.</p>	Section 17.3 and Appendix Q

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential impacts resulting from changes to utilities and servicing arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

### 17.3.2 Assessment Methodology

#### 17.3.2.1 MPW Concept Plan and Stage 1 Early Works (SSD 5066)

The MPW Concept EIS (Parsons Brinkerhoff, 2014) considered utilities and services provision and confirmed that the location and design of infrastructure development would be determined at future stages of the Project.

#### 17.3.2.2 Existing Conditions and MPW Stage 2 Approval

A *Utilities Summary Report* (AECOM, 2016) provided a high-level utilities summary to support MPW Stage 2 works. The report confirmed that power, potable water, wastewater, gas and telecommunications infrastructure are all present within the vicinity (or adjacent to) the MPW Site.

It further determined that:

- In order to meet expected potable water demands, private internal reticulation mains may be required to provide potable water and firefighting water supply to each building. Private boost pumps and/or onsite storage may be required within the MPW Site to ensure sufficient water is available for firefighting services.
- Sydney Water provided the Notice of Requirements for a Section 73 Certificate, outlining reticulation and sewer supply infrastructure requirements for MPW Stage 2 works.
- Extensions to water and sewer mains would be required to service the MPW Stage 2 development (which is inclusive of the MPW Stage 3 area).
- Telstra, Optus and PIPE Networks own and operate communications infrastructure adjacent to the site. Telstra has confirmed that they would be able to provide a supply to the proposed development.
- Endeavour Energy would need to install 2 x 11kV feeders to provide sufficient network to cater for the estimated peak electricity load. An upgrade to the substation, and provision of additional circuit breakers may also be required.
- Natural gas infrastructure is available adjacent to the site. However no additional gas demand was expected from the proposed MPW Stage 2 works.

- The report concluded that the existing utilities infrastructure has sufficient capacity to service the estimated increase in utility demands for the proposed MPW Stage 2 development, notwithstanding potential augmentation if required.

#### 17.3.2.3 Sydney Water Notice of Requirements for Section 73 Compliance Certificate

A Notice of Requirements for a Section 73 Compliance Certificate was provided by Sydney Water (21 May, 2015) for MPW Stage 2 (SSD 5066) confirming the reticulation and sewer supply infrastructure requirements for MPW Stage 2 works. Requirements included:

- A water main extension to be constructed from the existing 200 mm main in Moorebank Avenue in accordance with relevant technical specifications to service the development, and cross connected to the 150 mm main in Anzac Avenue.
- A sewer main extension to be constructed from the 225 mm main in Anzac Avenue to service the development in accordance with relevant technical specifications. Approval must be obtained to discharge to the proposed sewer extension.
- The property owner would be responsible for the ongoing operation and maintenance of all on-property equipment up to but excluding the boundary assembly.
- Sydney Water approval must be obtained for any adjustments or deviations to Sydney Water assets as a result of development activities.
- All required environmental approvals to be obtained prior to the commencement of extension works.

#### 17.3.3 The Proposal

The Proposal involves installation and connection to utilities and services (including water, sewer, electricity and telecommunications, as required) to support the establishment and operation of the works compound. These would be located in the permanent ring road accessway.

Given the MPW Stage 3 area and anticipated operation sits within that anticipated for MPW Stage 2 assessments, the existing utilities infrastructure has capacity to service the Proposal.

Services and utilities connections for proposed Lots 8, 9 and 10 would service the works compound, materials storage and hardstand areas. Proposed Lots 5, 6 and 7 are intended to be used for warehousing and distribution facilities and would progressively be brought online with services and utilities, as dictated by tenancy demand.

Aurecon (2020) assessed key utility infrastructure requirements for the Proposal and provided the following advice with the aim to reduce potential impacts associated with each utility:

- Potable Water – Further consultation and request of pipe records via CCTV, dilapidation records and historical information from Sydney Water Corporation (and Department of Defence if required) to confirm supply and demand is feasible and reliable throughout MPW Stage 3 works including additional service coordination by relevant stakeholders.
- Wastewater – Alternative alignments to be explored and assessed to reduce encroachment to the rail line due to minimising access during rail maintenance and operations as well as procedural requirements for application with Sydney Water Corporation in order to progress with ongoing design and construction works whilst satisfying compliance conditions.

- Communications – Obtain existing applications and or update with Telstra to confirm primary and secondary supply as well as conducting further ground investigation works and alternative proposed alignments.
- Electricity – Obtain previous consultation records and continue ongoing consultation with Endeavour Energy for progression of design and confirm associated augmentation costs.
- Natural gas - Identification of no potential impacts to the works compound as there is nil requirements for gas demand for the Proposal which is also consistent with MPW Stage 2 however in such a case supply is required, advance notice is critically required by service authority, Jemena.

Potential impacts associated with the installation and connection of existing services to MPW Stage 3 are expected to have a lesser impact than that previously identified and addressed in the MPW Concept Plan Approval and MPW Stage 2 documentation. Any potential environmental impacts relating to installation and connection of utilities not currently mitigated in the CEMP would be addressed progressively and as required in a revised CEMP.

It is envisaged that regularity with relevant MPW Stage 2 CEMP conditions would continue to be applied to MPW Stage 3, with consideration given to amending the CEMP to accommodate MPW Stage 3 conditions, as required.

The OEMP for the MPW Site would be updated to identify the entity(s) responsible for the delivery and ongoing maintenance for internal roads, pedestrian paths, landscaping, lighting of common areas, emergency services including bushfire mitigation, onsite detention (OSD) and water sensitive urban design elements.

Relevant MPW Stage 2 REMMs would continue to apply to MPW Stage 3 and have been reviewed and further revised as required, to reflect the nature, scale and extent of interface with this Proposal (refer to Section 20).

#### 17.3.3.1 Creation of Easements

Easements for access, services and drainage would be required to be established over the Proposal site. Services corridors would be established within the road verge standard allocation to provide access for already approved and future development, as required.

Easements would maintain internal connectivity and interdependencies between the individual intermodal functions within the development site, whilst providing individual lot servicing for the proposed subdivision works.

A Section 88B instrument would be created under the *Conveyancing Act* 1919 to enable the creation of affecting interests including easements, identifying the lot(s) to be burdened and the lot(s) or authority to be benefited. A draft Section 88B instrument is provided in Attachment B.

### 17.4 Waste Management

An assessment of the potential waste impacts associated with the construction and operation of the Proposal was undertaken to address the SEARs.

Although the proposed MPW Stage 3 development works would be undertaken in similar environmental conditions to those identified for MPW Stage 2, it is assumed that construction



waste generated under MPW Early Works, Stage 1, and MPW Stage 2 would be managed under previous Approvals.

#### 17.4.1 Approval Requirements

##### 17.4.1.1 SEARs

Table 17-6 identifies the SEARs as they relate to waste management, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 17-6: SEARs for the Proposal relating to waste.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 15	<p>15. <b>Waste</b> – including but not limited to:</p> <p>An assessment of liquid and/or non-liquid waste generated on the site, how it will be identified, quantified, classified, documented and disposed of. The assessment must also include a description of measures to be implemented to manage waste in accordance with the waste hierarchy.</p> <p>This assessment must include waste management measures to ensure that the proposal considers the aims, objectives and guidelines in the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021.</p>	Section 17.4

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential impacts resulting from changes to waste management arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

#### 17.4.2 Assessment Methodology

##### 17.4.2.1 MPW Stage 2

The *Waste Management Strategy* provided in the MPW Concept Plan Approval EIS (Parsons Brinkerhoff, 2014) was reviewed by Arcadis (2016) to classify and quantify potential waste generated as part of MPW Stage 2.

Two main waste streams were expected to be generated from MPW Development construction and operational activities:

1. Solid waste
2. Effluent, sewerage, wastewater and trade waste.

Potential waste streams from MPW Stage 2 construction works specifically included:

- green waste from vegetation removal; and
- hazardous solid waste, restricted solid waste, unsuitable excavated material and unexpected finds such as unexploded ordnance (UXO) during remediation and earthworks activities.

Potential waste streams from MPW Stage 2 operational works specifically included:

- green waste from landscaped areas;
- waste associated with the maintenance of plant and equipment (i.e. old parts, packaging waste and cleaning waste); and
- office and administration waste such as paper and food waste.

### 17.4.3 The Proposal

The Proposal site has been largely cleared of vegetation and infrastructure to facilitate site development in accordance with recent Approvals. The majority of the remaining site vegetation consists of remnant forest and woodland vegetation and will be cleared in accordance with approved MPW Stage 2 (SSD 7709) CoC.

#### 17.4.3.1 Waste Generating Activities

Waste generating activities identified for the MPW Stage 2 construction and operation phases which may be relevant to the proposed MPW Stage 3 works are summarised in Table 17-7.

Table 17-7: Potential MPW Stage 2 waste generating activities, which may be relevant to MPW Stage 3.

Waste Generating Activity		Waste/Resource Types
<i>Construction</i>		
Works compound	Earthworks associated with the installation of temporary sedimentation and erosion controls	VENM and/or ENM
	Earthworks associated with establishment of temporary stockpiling pads and associated temporary access roads	VENM and/or ENM
	Installation of (temporary) works compound, including amenities and office for bulk earthworks	Surplus building materials Packaging
	Installation of temporary site office administration, lunch room, amenities and other activities	Surplus building materials Residual waste Recyclable waste (containers and paper/cardboard)
	Establishment of works compound fencing and hoarding	Surplus building materials
	Construction of hardstand for staff parking, materials storage and laydown areas	VENM and/or ENM
	Construction of access roads, site entry and exit points and security	VENM and/or ENM
Subdivision	No waste generating activity	N/A
Ancillary Works	Stripping and stockpiling of topsoil by excavators and trucks	VENM and/or ENM
	Forming of new kerbs, gutters, medians and other structures	Surplus building materials Concrete
	Relocation of utilities	VENM and/or ENM
	Drainage and utilities installation	Surplus materials from drainage installation Surplus material from extension of sewer and telephone lines VENM and/or ENM
	Relocation of signage	VENM and/or ENM
	Landscaping of exposed earthworks areas	Vegetation

<i>Operation</i>		
Works compound	Site office administration, lunch room, amenities and other activities	Residual waste Recyclable waste (containers and paper/cardboard)
	Excess excavated materials or other building materials	VENM and/or ENM Surplus building materials
Subdivision	No waste generating activity	N/A
Ancillary Works	No waste generating activity	N/A

#### 17.4.3.2 Estimated quantities of waste generated

Estimated quantities of waste types generated by the Proposal during construction and operation are provided in Table 17-8.

Table 17-8: Estimated quantities of generated waste generated by the Proposal.

Waste Type	Estimated Quantity of Waste Generated	Estimated Quantity Suitable for:		
		Onsite Re-Use	Offsite Recycling or Reprocessing	Offsite Disposal
Construction and Operation				
Excavated material	Negligible	Although not able to be fully determined until construction, it is expected that the majority of this material may be able to be re-used onsite		
Concrete/asphalt roads and pavement	Although concrete and asphalt pavements will be removed during Early Works, there may be some residual pavements to be removed through the Proposal. Potential waste generated would not be able to be fully determined until construction.			
Construction/demobilisation of the construction area (current MPW Stage 2 works compound)	Dependent upon the construction planning methodology			
Surplus building materials from construction, internal fit-out, utilities extension, drainage installation, pavements, new kerbs, gutters, medians and other structures	Dependent upon construction planning methodology. Indicative waste margins are as follows: <ul style="list-style-type: none"><li>• Timber 5-7%</li><li>• Plasterboard 5-20%</li><li>• Concrete 3-5%</li><li>• Bricks 5-10%</li><li>• Tiles 2-5%</li></ul>			

Temporary sediment and erosion control	Sediment fences, hay bales, mesh and gravel inlet filters, construction exit/wash down, sand bags, geotextile inlet filters, pipes and site fences	Where feasible, temporary sediment and erosion controls may be re-used or re-processed offsite when no longer required		
Residual waste from lunch rooms and administration offices <sup>4</sup>	1,000L/day	N/A	N/A	1,000L/day
Recyclable waste from lunch rooms and administration offices <sup>1</sup>	1,000L/day	N/A	1,000L/day	N/A
Residual waste (maintenance activities)	Dependent upon maintenance scheduling and plans	N/A	N/A	Dependent upon maintenance scheduling and plans
Recyclables (maintenance activities)	Dependent upon maintenance scheduling and plans	N/A	Dependent upon maintenance scheduling and plans	N/A
Used oil	Dependent upon maintenance scheduling and plans	N/A	Dependent upon maintenance scheduling and plans	N/A
Spill kit consumables	As needs basis	N/A	N/A	As needs basis

Where liquid and/or non-liquid waste generated at the site during development is to be removed from the site, it will be classified in accordance with NSW EPA *Waste Classification Guidelines – Part 1: Classifying Waste* (2014) prior to removal from the site and directed to an appropriate waste management facility permitted to accept the materials.

#### 17.4.4 Mitigation Measures

The proposed MPW Stage 3 works would intend to be functional under the existing *Waste Management Strategy*, the CEMP, the OEMP and sub-plans documentation prepared and approved for MPW Stage 2, with adjustments made where required, to reflect the nature, scale and extent of interface with MPW Stage 3.

<sup>4</sup> This will be determined by the construction contractor. For the purpose of this report, it has been assumed that the waste generation rate for the demountable offices and lunch rooms is equivalent to the waste generation rate for standard offices. To estimate waste generation the City of Melbourne's Guidelines for Preparing a Waste Management Plan – 2015 has been utilised. According to this report, 10L of residual waste and 10L of recycling is generated per 100m<sup>2</sup> of office floor area (for standard daily operating hours). These generation rates were applied to the Building Code of Australia floor area/personnel design ratio of 50 people and a 12 hour working day for 10,000 m<sup>2</sup> office space floor area.

A summary of relevant waste management and minimisation strategies which have been previously addressed in MPW Stage 2 environmental assessments and subsequently incorporated into the CEMP and OEMP, is provided in Table 17-9.

Table 17-9: Waste management – potential relevant (i.e. to MPW Stage 3) construction and operation waste management and minimisation measures considered and addressed in MPW Stage 2 assessments, and incorporated into the CEMP and OEMP.

Construction waste	Operation Waste
<ul style="list-style-type: none"> <li>• Characterisation of construction waste streams in accordance with the NSW Waste Classification Guidelines.</li> <li>• Management of any identified hazardous waste streams.</li> <li>• Procedures to manage construction waste streams, including handling, storage, classification, quantification, identification and tracking.</li> <li>• Mitigation measures for avoidance and minimisation of waste materials, including reducing potential waste by ordering the correct quantities of materials.</li> <li>• Procedures and targets for re-use and recycling of waste materials.</li> </ul>	<ul style="list-style-type: none"> <li>• Addressing waste management requirements and goals in staff inductions.</li> <li>• Providing staff access to documentation outlining the facility's waste management requirements.</li> <li>• Locating recycling bins in kitchen areas beside general waste bins to prevent contamination of recycling.</li> <li>• Positioning paper recycling bins close to printer / photocopying equipment.</li> <li>• Minimising general waste bins at desks but providing adequate container and paper recycling to encourage sorting of recyclables.</li> <li>• Providing adequate bin storage for the expected quantity of waste.</li> <li>• Waste management planning incorporating principles of the waste hierarchy.</li> <li>• Selection of materials used in operations with recycled content, low embodied energy and durability.</li> <li>• Appropriate areas shall be provided for the storage of waste and recyclable material.</li> <li>• Standard signage on how to use the waste management system and what materials are acceptable in the recycling would be posted in all waste collection and storage areas.</li> <li>• All waste shall be collected regularly and disposed of at licensed facilities.</li> <li>• An education programme and on-going monitoring for training personnel to properly sort and transport waste into the right components and destinations.</li> <li>• Container disposal units would be provided in the area around the diesel re-fuelling station to dispose of used spills kits. These containers will be taken for disposal at an appropriately licensed facility.</li> </ul>

Waste generation would be minimised as much as possible, and construction and operation waste management and minimisation measures will be implemented to minimise waste generation and reduce potential waste to landfill.

#### 17.4.4.1 Revised Environmental Management Measures

Relevant MPW Stage 2 REMMs would continue to apply to MPW Stage 3 and have been reviewed and further revised as required, to reflect the nature, scale and extent of interface with this Proposal (refer to Section 20).

### 17.5 Ecologically Sustainable Development (ESD)

#### 17.5.1 SEARs

Table 17-10 identifies the SEARs as they relate to ESD, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 17-10: SEARs for the Proposal relating to ESD.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 19	<b>19. Ecologically Sustainable Development (ESD)</b>  The EIS must detail how the development will incorporate ESD principles in the design, construction and ongoing operation phases of the development.	Section 17.5

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential impacts resulting from changes to ESD arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

#### 17.5.2 Ecologically Sustainable Development Principles

The Proposal has been assessed against the principles of ecologically sustainable development (ESD) as required by the objectives of the EP&A Act, Section 1.3(b):

*to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment.*

Schedule 2, Section 7(4) of the EP&A Regulations defines the principles of ESD as:

*ecologically sustainable development requires the effective integration of social, economic and environmental considerations in decision-making processes. Ecologically sustainable development can be achieved through the implementation of the following principles and programs:*

- a) *Precautionary principle - namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.*

*In the application of the precautionary principle, public and private decisions should be guided by:*

- (i) *careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and*  
(ii) *an assessment of the risk-weighted consequences of various options,*



- b) *Inter-generational equity - namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,*
- c) *Conservation of biological diversity and ecological integrity - namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,*
- d) *Improved valuation, pricing and incentive mechanisms - namely, that environmental factors should be included in the valuation of assets and services, such as:*
  - (i) *polluter pays—that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,*
  - (ii) *the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,*
  - (iii) *environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*

### 17.5.3 Assessment Methodology

#### 17.5.3.1 MPW Concept Plan and Stage 1 Early Works Consent

The Concept MPW EIS (PB, 2014) discussed in detail the applicability of ESD principles to the Project and the relevance of government sustainability policies to represent best practice. Relevant sustainability policies were reviewed, and their relevance to the Project considered:

- *Energy Efficiency in Government Operations Policy (EEGO) (Australian Greenhouse Office 2007)*
- *Considerations for incorporating energy efficiency into requirements for Australian Government owned and leased buildings (Energy Efficiency Considerations, Department of Environment and Water 2006)*
- *Sustainable Procurement Guide (SEWPac 2013)*
- *ESD Design Guide – Office and Public Buildings (3rd Ed) (Department of the Environment and Water Resources 2007)*
- *Green lease schedule (Department of Climate Change and Energy Efficiency 2011)*
- *National Green Leasing Policy (Ministerial Council on Energy and the Australasian Procurement and Construction Council)*
- *Infrastructure Sustainability (IS) rating scheme for infrastructure (Infrastructure Sustainability Council for Australia)*
- *Green Star (Green Building Council of Australia)*
- *National Australian Built Environment Rating Scheme (NABERS).*

The applicability of the Project to the objectives of sustainability policies included:

- Minimum energy efficiency performance standards would be considered in the procurement of plant, equipment, fixtures and fittings.

- Detailed building design would assess operational impacts and incorporate ESD criteria considering:
  - energy;
  - water;
  - waste; and
  - indoor environment.
- Ongoing internal energy efficiency performance validation/auditing would be undertaken to confirm compliance with best practice performance standards.
- Incorporation of relevant ESD policies and guidelines into lease agreements for buildings in the Project, as appropriate.
- Ongoing consideration of relevant ESD policies and guidelines during the Project design, development, construction and operation.

Key ESD objectives have been adopted for the design, construction and operation of the Project. Environmental management and mitigation measures that would contribute to the delivery of environmental sustainability at the site include:

- Encouraging material recycling and reuse
- Waste minimisation
- Minimising heat loads from solar gain
- Maximising natural light, transparency and access
- Minimising energy use
- Minimising use of potable water and promoting use of recycled water
- Minimising greenhouse gas emissions
- Protecting the biodiversity values of the Project Site
- Protecting the heritage values of the Project Site and adjacent sites
- Providing opportunities to improve workforce and community welfare.

#### 17.5.4 ESD Assessment

MPW Stage 2 EIS (Arcadis, 2016) assessed the Project against the principles of ESD as described in Schedule 2 of the EP&A Regulations. The study area for MPW Stage 2 environmental assessments generally encompassed the entire MPW Site. The physical works and the scale, nature and extent of the potential impacts for the Proposal form part of those previously considered and assessed as part of the broader MPW Concept Plan and more detailed MPW Stage 2 environmental impact assessments. Given that, the ESD principles applied to MPW Stage 2 also therefore apply to MPW Stage 3.

It is therefore considered that the Proposal is consistent with ESD principles, as described in the following sections.

##### 17.5.4.1 Precautionary principle

The Precautionary Principle has been applied to MPW Stage 2 development works as documented in the MPW Stage 2 EIS and supporting assessments. Where potential environmental impacts have been identified, mitigation measures have been addressed and recommended for implementation. Subject to the implementation of these mitigation measures, the MPW Stage 2 supporting environmental assessments did not identify any potential impacts that may cause serious and irreversible environmental damage as a result of the MPW Development works. MPW Stage 3 is therefore consistent with the precautionary principle.

#### 17.5.4.2 Inter-generational equity

The MPW intermodal transport Project has been designed to benefit present and future generations without irreversibly compromising the health, diversity and productivity of the environment for present and future generations. The provision of the MLP will contribute to a more efficient use of the local, regional and interstate transport network and will ultimately result in an increase in local employment opportunities. Additionally, regional ESD benefits are associated with the shift toward rail freight over current road transport.

Specific mitigation measures have been developed not only to reduce potential environmental impacts, but where possible, to provide direct and flow-on economic, social and wider environmental benefits to the community.

The proposed MPW Stage 3 development would facilitate the delivery of the greater MLP Project and is therefore considered consistent with the principle of inter-generational equity.

#### 17.5.4.3 Conservation of biological diversity and ecological integrity

Comprehensive biodiversity and ecological assessments have been undertaken for both the MPW Concept and MPW Stage 2 development works to assess potential environmental impacts on local biodiversity and to provide specific mitigation measures and strategies.

Although there is limited scope for the complete retention of the site's ecological habitat and values, fundamental consideration to conserve the site's biological diversity and ecological integrity was intrinsic to the design and detail of the MPW Development. Proposed conservation areas are intended to retain significant biodiversity links and habitat connectivity whilst minimising potential fauna movement barriers.

Opportunities for beneficial impacts from energy and water conservation, waste minimisation and resource recovery have been adopted as part of the Project design to further promote conservation of site biodiversity and ecological integrity.

#### 17.5.4.4 Improved valuation, pricing and incentive mechanisms

Detailed environmental assessments have comprehensively investigated the overall residual, environmental and social costs of the MPW Development. Best practice design, management and mitigation measures have been applied to the construction and operation of the Project. Project costs to facilitate positive environmental and sustainability outcomes have been considered, including avoidance and prevention of potential impacts to air quality, noise, traffic and biodiversity. Environmental assessments also considered intangible environmental, cultural and social impacts of the Project.

#### 17.5.5 The Proposal

The CEMP, OEMP and sub-plans were developed as specific plans for Project design, construction and operational activities, and are intended to be updated on an ongoing basis as required to mitigate potential environmental impacts. These management and mitigation measures form part of the MPW Stage 2 CEMP and OEMP, which would be reviewed and, where required, updated in order to account for MPW Stage 3 CoC.

Relevant MPW Stage 2 REMMs would continue to apply to MPW Stage 3 and have been reviewed and further revised as required, to reflect the nature, scale and extent of interface with this Proposal (refer to Section 20).

## 17.6 Human Health

Potential impacts to human health may arise from activities associated with the construction and operation of the MPW Development. Human health risk assessments were prepared for MPW Stage 2 to consider potential impacts, particularly those arising from adverse impacts on noise and air quality.

### 17.6.1 Approval Requirements

Table 17-11 identifies the SEARs as they relate to human health, and where these requirements have been met within this Section or elsewhere in this EIS.

Table 17-11: SEARs for the Proposal relating to human health.

Ref No.	SEARs	Relevant EIS Sections / Comment
General Requirements	<p>The Environmental Impact Statement (EIS) must be prepared in accordance with, and meet the minimum requirements of clauses 6 and 7 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (the Regulation).</p> <p>Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.</p> <p>Where relevant, the assessment of key issues below, and any other significant issues identified in the risk assessment, must include:</p> <ul style="list-style-type: none"><li>• a health impact assessment of local and regional impacts associated with the development, including those health risks associated with relevant key issues</li></ul>	Section 17.6

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval and MPW Stage 2, and provides an assessment of potential human health impacts arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

### 17.6.2 Existing Environment

#### 17.6.2.1 Noise

The *Noise Impact Assessment* (Wilkinson Murray, 2016) determined that ambient noise levels at sensitive receivers were below EPA guidelines. Minor noise management level exceedance during earthworks may impact the sensitive receivers at Casula. Mitigation measures would be implemented to promote compliance with relevant criteria and prevent potential noise impacts.

#### 17.6.2.2 Air quality

The *Air Quality Impact Assessment* (Ramboll Environ, 2016) determined that annual average background concentrations of fine particles (PM<sub>2.5</sub>) marginally exceeded the NEPM reporting standard and were influenced by vehicle emissions and wood heaters. Regulatory wood heater compliance programs and improvements to vehicle emissions standards were expected to reduce ambient concentrations in the medium term. Nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), sulphur dioxide (SO<sub>2</sub>) and volatile organic compound (VOC)

concentrations were found to be well below the relevant impact assessment criteria, and have not exceeded general background air quality standards in the last 5 years.

### 17.6.3 Assessment Methodology

#### 17.6.3.1 MPW Concept Plan and Stage 1 Early Works Consent

A *Health Impact Assessment* (HIA) (Environmental Risk Sciences, 2014) considered potential health impacts arising from construction and operational phases of the Project and considered the economic, natural and social environments, transport, sustainability and lifestyle.

Based on completed environmental assessments, it was expected that negative impacts could be effectively mitigated through a wide range of measures, to be implemented during the design, construction and operational stages. These include:

- Incorporation of up-to-date emission control systems
- Undertaking ambient and ongoing air quality and noise monitoring
- Undertaking additional sleep disturbance noise investigations
- Adopting appropriate noise reduction measures (i.e. noise enclosures or silencers acoustic walls/barriers, or other noise control measures)
- Establishing a community hotline to facilitate appropriate community notification for out-of-hours works, and other potential issues relevant to the community
- Scheduling of Moorebank Avenue upgrade works to minimise disruption of local traffic
- Minimising heavy vehicle movements through surrounding residential areas
- Improving public transport services (i.e. bus) and upgrading pedestrian and cycleway facilities.

Additionally, the MPW Concept Plan Approval environmental assessments considered a range of socio-economic factors as they related to human health. The report evaluated the susceptibility of the community to potential health risks by comparing general regional statistical information. It concluded that it was unlikely that a particular community sub-group would experience higher exposure to health risks or be more vulnerable to potential health impacts, than the general population as a result of the MPW Site development.

The MPW Concept EIS considered potential impacts of the MPW Development on regional air quality and concluded that any changes to regional air quality as a result of the MPW Development would be negligible.

#### 17.6.3.2 MPW Stage 2 Approval

A *Human Health Risk Assessment* (HHRA) (Ramboll Environ, 2016) was prepared for MPW Stage 2 development works. The report focussed on the short and long-term health impacts, predominately arising from noise and air quality from MPW Stage 2 operational phase emissions. Demographic review of the population community and baseline health care status indicated that there were no significant differences between the Moorebank and surrounding locality and the rest of Sydney and no indication that local communities would be more vulnerable to the effects of environmental factors such as air pollution and noise.

The HHRA reviewed the *Air Quality Impact Assessment* (Ramboll Environ, 2016) and determined that there were no significant adverse health risks expected in relation to air pollutant exposure associated with the operation of MPW Stage 2. The HHRA also reviewed

the *Noise Impact Assessment* (Wilkinson Murray, 2016) and concluded that although predicted rail noise and total noise levels exceeded World Health Organisation (WHO) community noise guidelines, existing ambient noise levels were already above these guidelines and so the MPW Stage 2 development works were unlikely to have more than a minimal impact on the local sensitive receivers.

Human health risk assessments prepared for MPW Concept and Stage 2 concluded that there were no anticipated significant health effects in the short-term or long-term as a result of the Project works. Potential health risk impacts to the community for air quality or noise were considered acceptable, both in the short-term and long-term.

#### 17.6.4 The Proposal

Both the air quality and noise environmental assessments prepared for MPW Stage 2 considered potential impacts from rail, the interstate freight terminal and warehousing - none of which are proposed as part of MPW Stage 3. It is likely therefore, that air quality and noise impacts for MPW Stage 3 works represent a considerably lower level of impact to that identified in the MPW Stage 2 Approval documentation.

Given no physical works are required as part of the proposed subdivision, no impacts are anticipated.

Potential impacts to human health which may arise during the construction and operation of the works compound and associated ancillary infrastructure have already been identified and addressed in the MPW Stage 2 EIS and other environmental assessments. MPW Stage 3 is unlikely to generate any significant adverse impacts on human health additional to those already addressed in previous assessments.

Any noise or air quality exceedances can be managed by adopting appropriate mitigation measures developed as part of the MPW Stage 2 assessments and as detailed in Sections 8 and 9. A CEMP and sub-plans CNVMP and *Air Quality Management Plan* provide specific mitigation measures and management guidelines to ensure acceptable health risk outcomes, which shall apply and be integrated into the MPW Stage 3 works.

Reduced traffic volumes arising from the Proposal may result in wider regional benefits including a reduction of overall emissions, traffic congestion, and travelling times.

Relevant MPW Stage 2 REMMs would continue to apply to MPW Stage 3 and have been reviewed and further revised as required, to reflect the nature, scale and extent of interface with this Proposal (refer to Section 20).

### 17.7 Greenhouse Gas and Climate Change

#### 17.7.1 Greenhouse Gas

Fuel combustion in transportation remains the largest source of greenhouse gas (GHG) emissions in Australia, comprising 77% of Australia's total emissions. Nearly 85% of emissions produced by the transport sector are attributable to road transport (Parsons Brinkerhoff, 2014).



### 17.7.1.1 SEARs

Table 17-12 identifies the SEARs as they relate to greenhouse gas emissions and where these requirements have been met within this Section or elsewhere in this EIS.

Table 17-12: SEARs for the Proposal relating to greenhouse gas.

Ref No.	SEARs	Relevant EIS Sections / Comment
1 - 3	<p><b>3. Air Quality</b> – including but not limited to:</p> <p>A comprehensive air quality impact assessment including:</p> <p>c) an updated assessment/review of direct and indirect greenhouse gas emissions arising from this development and associated impact mitigation requirements, in reference to the Concept Plan greenhouse gas assessment.</p>	<p>An air quality report prepared by EMM (2020) reviewed and assessed previous reports prepared for MPW Stage 2, as well as MPW Concept Plan reports, where required, to address the SEARs relating to utilities and servicing for the Proposal. The report is included as Appendix I of this EIS.</p>

This Section summarises the assessments previously undertaken for the MPW Concept Plan Approval, MPW Stage 2 and this Proposal, and provides an assessment of potential impacts resulting from changes to greenhouse gas emissions arising as a result of the Proposal. Measures to mitigate impacts have also been identified where they are required.

### 17.7.1.2 Assessment Methodology

A *Greenhouse Gas Assessment* (Parsons Brinkerhoff, 2014) was prepared to support the MPW Concept EIS. The report assessed estimated potential GHG impacts for the MPW Development including the IMEX freight terminal, the interstate freight terminal, and warehousing facilities and also considered the Early Works, construction and operation phases of the MPW Development.

The main GHG associated with the MPW Development is carbon dioxide (CO<sub>2</sub>), typically emitted from the combustion of fossil fuels. In addition to CO<sub>2</sub>, standard reporting of GHG emissions include carbon dioxide equivalent (CO<sub>2</sub>-e) values:

- Methane (CH<sub>4</sub>)
- Nitrous oxides (N<sub>2</sub>O)
- Synthetic gases including hydrofluorocarbons (HCF's), sulphur hexafluoride (SF<sub>6</sub>) and tetrafluoromethane (CF<sub>4</sub>).

The report concluded that total GHG emissions for the MPW Development over the construction phase would be significantly less when compared to the total GHG emissions over the operation stage. However, implementation of appropriate mitigation measures could lead to savings with regards to both GHG emissions and operating costs.

### 17.7.1.3 The Proposal

EMM (2019) reviewed air quality impact assessments previously prepared for Precinct works including MPW Concept Plan and Early Works, MOD 1, and MPW Stage 2, and confirmed that GHG assessments were completed for construction and operation of the MPW Concept Plan and Early Works Stage1 and MPW Stage 2. The Proposal would not introduce any new or

additional GHG emission sources that were not already assessed in these previous assessments. For example, no additional diesel consumption is anticipated during construction for the Proposal beyond what has already been previously assessed.

#### 17.7.1.4 Potential Impacts

GHG and climate change impacts associated with the Proposal are expected to be less (in scope and area) than those identified and addressed for MPW Stage 2.

Given no physical works are required as part of the proposed subdivision, no impacts are anticipated to arise.

The proposed MPW Stage 3 development works largely support site construction, and some operation and maintenance activities associated with the development of the MPW Site.

The predominant source of emissions for the Proposal is from stationary energy. Potential sources of greenhouse gas emissions associated with MPW Stage 3 construction and operation works include:

##### Construction

- transportation of materials (via heavy vehicles);
- light vehicles for staff use;
- use of fuel powered construction equipment, such as earthmoving vehicles, heavy duty trucks, welders, cranes and diesel onsite generator;
- vegetation clearing, resulting in loss of carbon sequestration; and
- consumption of energy from the grid.

##### Operation

- vehicle and equipment fuel usage;
- liquified natural gas (used for heating of buildings);
- wastewater treatment; and
- refrigeration gases, including freight container refrigeration.

#### 17.7.1.5 Mitigation Measures

The overall objective to mitigate GHG emissions during the construction and operation phases is best achieved by improving operational efficiencies by implementing best practice technologies to reduce energy consumption. Many of the mitigation measures provided in the *Greenhouse Gas and Climate Change Impact Assessment* prepared by Arcadis (2016) for MPE Stage 2 are applicable to the Proposal and include:

- Infrastructure, machinery and equipment intended for long-term operation use onsite should be designed to meet appropriate standards to withstand extreme temperatures, rainfall, storms, bushfire, hail, or other extreme events
- Implementation of energy efficient guidelines for work practices including regular machinery maintenance, minimising machinery idling time, using bio-fuels where possible, and using machinery with more efficient emissions ratings
- Use of solar panels and/or green energy across the Precinct
- Where possible, use locally sourced materials to minimise emissions associated with transport
- Recycle construction waste, where possible

- Mulching/composting of cleared vegetation for reuse onsite, and revegetation to reduce carbon sink removal
- Establishing an environmental management system to provide regular and ongoing audits to progressively improve energy efficiency.

### 17.7.2 Climate Change

Climate change is likely to impact average global climate conditions, and the frequency and severity of extreme events. On a more local level, climate change is predicted to increase risks for people, economies and ecosystems including extreme weather events (storms and extreme precipitation), coastal and inland flooding, reduced water supplies, drought, heat stress and sea-level rise.

Temperature is agreed to be the most reliable indicator of climate change. Given climate change predictions, where possible, climate change risks need to be practically understood and managed.

The Concept Plan Approval Conditions do not prescribe any specific (future) assessment requirements relating to greenhouse gas and climate change.

#### 17.7.2.1 Existing Conditions

Based on historic observations and records, Sydney's warm temperate climate has changed over the last century or more, with an increase in average temperatures, especially over the last several decades.

Climate change projection scenarios have been developed by the NSW government (AdaptNSW) which are applicable to the MPW Development site in relation to:

- Temperature – More hot days and warm spells are predicted for Sydney, with fewer frosts. Mean temperatures within the Moorebank locality are predicted to increase between 0.5°C to 1 °C by 2030.
- Extreme temperatures – The average number of hot days (i.e. over 35°C) within the Moorebank locality are predicted to increase by 1 to 5 days per year between by 2030.
- Rainfall – Notwithstanding general decreases in rainfall predicted for Sydney, with higher evaporation rates and increased intensity of extreme rainfall events over the next several decades, a 0% to 5% increase in rainfall by 2030 is predicted for the Moorebank locality.
- Fire weather – the Forest Fire Danger Index is used In NSW to quantify fire weather and is based on combined observations of temperature, humidity and wind speed. Fire weather is classified as 'severe' when the Forest Fire Danger Index is greater than 50. A 0% to 0.5% decrease in the Forest Fire Danger Index is predicted for the Moorebank locality by 2030.

#### 17.7.2.2 Assessment Methodology

Climate change risks for the year 2090 were identified in the *Greenhouse Gas and Climate Change Impact Assessment* prepared by Arcadis (2016) for MPE Stage 2. Many of the potential risks remain relevant and are applicable to the Proposal. These include:

- Power outages due to increased frequency, severity and duration of extreme temperatures (moderate risk)

- Loss of structural integrity including movement/cracking/buckling of building structures, and/or failure of electrical system functionality due to increased frequency, severity and duration of extreme temperatures (moderate risk)
- Stop work events due to higher extreme temperatures (high risk);
- Increase in flooding impacts to the site due to increased frequency and severity of extreme rainfall and stormwater infrastructure/capacity failure (moderate risk)
- Increased frequency and severity of extreme storm, hail and wind events leading to debris, fallen trees and branches impacting infrastructure (structural, electrical and communications), and project operational works delays (moderate risk)
- Increased frequency, severity and duration of bushfires damaging aboveground infrastructures and generating health and safety impacts (high risk).

The report concluded that a range of adaptive responses for treatment of climate change risks should be incorporated into site management strategies to promote resilience to projected future climate change, and which are provided in Section 17.7.2.4.

#### 17.7.2.3 The Proposal

As a result of the local climate regime, the Proposal may be predisposed to the following natural hazard risks:

- Flooding – Flooding studies prepared for MPW have determined that portions of the MPW Site are subject to inundation from the Georges River during a 100 year rainfall event. Climate change may exacerbate site flooding risks through changes to rainfall frequency and/or intensity, which may affect the capacity and efficiency of stormwater infrastructure. The Proposal works lie outside of the flood affected areas.
- Bushfire – Portions of the MPW Site are identified as bushfire prone land (refer to Section 17.1). Appropriate buffer zones as defensible space have been adopted as part of the site design, and are likely to minimise potential bushfire risks to the site.
- Hail, lightening and wind from severe storms - Risks due to hail, lightening and wind from severe storms may include damage to infrastructure, machinery and construction materials, damage to electrical equipment and overhead lines and signals, and health and safety to site workers and visitors.
- Heat waves – Excessively high (or cold) temperatures may increase heat-related stress to onsite workers and visitors, overheat machinery and equipment, and delay overall Project works.

Given the limited scope and nature of the Proposal, the impacts of the Proposal on climate change is expected to be minimal and within those identified as part of the MPE Stage 2 assessment. The MPW CEMP and OEMP will incorporate the recommendations of site climate change studies to reduce the potential for adverse impacts to occur.

#### 17.7.2.4 Mitigation Measures

Arcadis (2016) provided a range of adaptive responses for treatment of climate change risks which should be incorporated into site management strategies to promote resilience to projected future climate change, which included:

- Electrical systems designed to withstand loss of structural component integrity and reduced functionality
- Preparation of management procedures for stop work events

- Nominal allowance for potential impacts due to climate change in stormwater infrastructure design
- Use of WSUD controls to maintain compliance with water quality objectives
- Appropriate plant species for landscaping selected based on their ability to tolerate projected climate change, including storm, hail and wind impacts
- Design of structures to be fire resistant, and incorporation of asset protection zones to minimise bushfire risk
- Implementing appropriate urban heat island mitigation strategies to reduce radiation impacts from buildings and hard surfaces, and including providing landscaping and green space, WSUD measures, installation of cool roofs and solar panels, use of cool building materials, and minimisation of heat generation from operations.

Mitigation measures to reduce GHG emissions and promote resilience to climate change form part of the MPW Stage 2 CEMP and OEMP, which would be reviewed and updated appropriately to account for the Proposal.

Relevant MPW Stage 2 REMMs would continue to apply to MPW Stage 3 and have been reviewed and further revised as required to reflect the nature, scale and extent of interface with this Proposal (refer to Section 20).

## 18. Cumulative Impacts

This section of the EIS examines the cumulative impacts that may arise as a result of the Proposal being development in conjunction with other developments in the vicinity, including:

- MPW Stage 1/Early Works Phase
- MPW Stage 2 works
- MPE development
- Other planned and proposed developments in the local area.

This section addresses the following SEARs that relate to cumulative impacts:

Table 18-1: SEARs for the Proposal relating to cumulative impacts.

Ref No.	SEARs	Relevant EIS Sections / Comment
General Requirements	Where relevant, the assessment of key issues below, and any other significant issues identified in the risk assessment, must include:  d) Consideration of the potential cumulative impacts due to other developments in the vicinity (completed, underway or proposed).	Section 18
3. Air Quality	A comprehensive air quality impact assessment including:  b) an assessment of cumulative impacts associated with any existing development and any developments having been granted development consent, but which have not yet commenced.	Section 9, Section 18 Appendix I
4. Traffic and Transport	The traffic assessment must provide:  h) an assessment of construction traffic impacts, which may include a draft Construction Traffic Management Plan including:  (iv) an assessment of cumulative impacts associated with other construction activities, including MPE and MPW sites under the SSD applications approved to date.	Section 7, Section 17 Appendix G

### 18.1 Existing Environment

#### 18.1.1 Precinct Development

Development works across the Precinct are well progressed in accordance with current MPW and MPE consents. Existing site conditions including works in progress, are detailed in Section 6.

#### 18.1.2 Glenfield Landfill

This proposed SSD (SSD 13\_6249) is for the development of a Materials Recycling Facility on the site of the current landfill site at Glenfield, which is located to the south-west of the MPW Site and on the western bank of the Georges River. The project involves expansion and relocation of the existing recycling facility to unfilled (virgin) land on the southern portion of the Glenfield Waste Facility site, south of the East Hills Rail Corridor.

The facility has been designed to have capacity to process and/or recycle approximately 450,000 tonnes per annum of non-putrescible waste and construction and demolition waste



for reuse in secondary markets. Vehicular access to the facility, including trucks, would be via the current main southern entry of the Facility, off Cambridge Avenue. The SEARs for the project were issued in December 2013 and the project is currently in the Response to Submissions stage of assessment.

The EIS prepared for SSD 13\_6249 assessed relevant existing and proposed projects in the area. Key cumulative impacts were determined to be in relation to traffic, dust, noise, greenhouse gas and biodiversity. Implementation of identified mitigation measures were determined to result in manageable and acceptable cumulative impacts. Although minor trip delays on Cambridge Avenue were noted, no additional significant cumulative impacts were identified. An environmental risk assessment concluded that the Glenfield Landfill project would not result in any unacceptable environmental risks.

## 18.2 Previous Cumulative Impact Assessments

Given the MPW Stage 3 development footprint lies within that of MPW Stage 2 and that no development associated with the interstate freight terminal, rail links, or proposed construction or operation of warehousing is proposed -no cumulative impacts to the bio-physical environmental and social values beyond those already considered, modelled and assessed as part of MPW Stage 2 are anticipated. Additional impacts generated as a result of the construction of the Proposal are considered to be limited to the following values:

- visual
- lighting
- traffic
- noise
- fill to final finished levels.

The MPW Stage 2 EIS (Arcadis, 2016) provided a Cumulative Impact Assessment to address requirements of the MPW Stage 2 SEARs – which closely reflect those issued for this subject Proposal. The assessment considered both construction and operational cumulative scenarios associated with the MPW Stage 2 Project and surrounding developments as identified in Section **Error! Reference source not found.** 1.3. The MPW Stage 2 cumulative assessment did not include the MPE Stage 2 Project due to planning approval progression.

An assessment of potential cumulative impacts was undertaken for MPE Stage 2 (SSD 7628), which included consideration of both the MPE and MPW Project developments and considered both construction and operation scenarios. The cumulative assessments also considered the operation of MPE Stage 2 considered throughput of 750,000 TEU and the operation of 515,000 m<sup>2</sup> warehousing across both sites.

A summary of cumulative assessments from MPW Stage 2 (Arcadis, 2016) and MPE Stage 2 (Arcadis, 2016) assessments, including cumulative visual, lighting and noise impacts, and relating to air quality and traffic, as required by the SEARs (Table 18-1) is provided in Table 18-2.

Table 18-2: Cumulative impacts identified in MPW Concept Plan and Early Works Stage 1 and MPW Stage 2 assessments, and in relation to the Proposal.

Issue	Cumulative Impacts identified in MPW Concept Plan and Early Works Stage 1 Assessment	Cumulative Impacts identified in MPW Stage 2 Assessment	Cumulative Impacts resulting from the Proposal
Air quality	<p>Cumulative impacts were assessed by combining the air emissions impacts generated from MPW Stage 2 in isolation with:</p> <ul style="list-style-type: none"> <li>existing ambient air quality; and</li> <li>approved future emission sources – including air quality impacts from construction and operation of MPE Stage 1.</li> </ul> <p>The key pollutant of concern during construction phase was identified as fugitive dust or particulate matter. During operations, the key emissions are associated with combustion of diesel fuel.</p> <p>The outcomes of cumulative air quality assessment were:</p> <ul style="list-style-type: none"> <li>Construction phase modelling results indicated that dust, total suspended particles, PM<sub>10</sub> and PM<sub>2.5</sub> emissions at sensitive receivers around the MPW Stage 2 site comply with all relevant impact assessment criteria.</li> <li>The annual average ambient concentrations of PM<sub>2.5</sub> exceeded the NEPM AAQ reporting standard. Therefore, the cumulative predictions are also above the standard at all receptors.</li> <li>However, the incremental increases in PM<sub>2.5</sub> emissions resulted in relatively minor increases to the annual average when compared to ambient concentration levels.</li> </ul>	<p>Cumulative impacts for air quality were assessed by combining air emission impacts generated from:</p> <ul style="list-style-type: none"> <li>The existing ambient air quality environment, based on baseline monitoring data collected for MPE Stage 2; and</li> <li>Approved future emission sources of air emissions near the MPE Site, and including construction and operation of MPE and MPW.</li> </ul> <p>The assessments concluded that:</p> <ul style="list-style-type: none"> <li>Dust, TSP, PM<sub>10</sub> and PM<sub>2.5</sub> emissions at sensitive receivers around the MPE Site complied with relevant impact assessment criteria. It was noted that average background concentrations of PM<sub>2.5</sub> already exceed relevant reporting standards, and so cumulative construction predictions are also above the standard at all receptors.</li> <li>Predicted concentrations of PM<sub>10</sub> and PM<sub>2.5</sub> are already in exceedance of the criteria, and were not significantly influenced as a result of the MPE and MPW developments.</li> </ul>	<p>The Air Quality Assessment prepared for the Proposal (EMM, 2020) concluded:</p> <ul style="list-style-type: none"> <li>Cumulative impacts associated with the construction and operation of the MPW Site have previously been assessed for the MPW Concept Plan and MPW Stage 2 project.</li> <li>The Proposal is consistent with the approved Concept Plan and the cumulative impact to local air quality from the Proposal is expected to be no different to what has already been assessed and approved for the MPW Site.</li> <li>The modelling for each of the previous air quality impact assessments found that the Project-only local air quality impacts were minor, when compared to existing background and impact assessment criteria. When background was added, the cumulative assessment predicted no additional exceedances of the impact assessment criteria, except for annual average PM<sub>2.5</sub>, which was caused primarily by the existing high background for PM<sub>2.5</sub> in the region</li> </ul>

Issue	Cumulative Impacts identified in MPW Concept Plan and Early Works Stage 1 Assessment	Cumulative Impacts identified in MPW Stage 2 Assessment	Cumulative Impacts resulting from the Proposal
	<ul style="list-style-type: none"> <li>Predicted concentrations of PM<sub>10</sub> and PM<sub>2.5</sub> for the operational cumulative scenario are compliant with air quality goals, except for the annual average PM<sub>2.5</sub> concentrations (for reasons as discussed above).</li> <li>All predicted concentrations of air pollutants investigated were well below the impact assessment criteria at the most affected receivers.</li> <li>The modelling results indicate that the cumulative operation of the MPW Stage 2 would comply with relevant assessment criteria. Modelling predictions indicate that the risk of adverse air quality impacts generated are low.</li> </ul>		
Traffic and Transport	<p>The cumulative construction traffic scenario assessed impacts during the peak construction period. This scenario assumed that the peak construction period for MPW Stage 2 would occur concurrently with MPE Stage 1 operation. SIDRA modelling on the predicted delays and LoS was calculated for relevant intersections and access points for the existing traffic conditions (without the Proposal) and was compared with delays and LoS for the peak construction period.</p> <p>Regarding the cumulative operational traffic assessment, the assessment analysed MPW Stage 2 operations in conjunction with the operation of MPE Stage 1 at two separate time frames: 2019 and 2029 at eight key intersections and during the AM and PM peak</p>	<p>Construction and operational cumulative scenarios including both MPE and MPE assessed potential cumulative construction impacts during the peak construction period, which would occur concurrently with construction works associated with MPE Stage 1, MPW Stage 1/Early Works, and MPW Stage 2.</p> <p>Assessments concluded that although intersection performance at Moorebank Avenue/ Heathcote Road, and M5 Motorway/ Heathcote Road was poor (LoS E to LoS F), the performance of the major intersections would be no worse than the performance expected at the intersections in 2029 without the cumulative operation of MPW Stage 2 during the AM peak period.</p>	<p>With regards to traffic and transport cumulative impacts of MPW Stage 3, Ason Group (2020) note:</p> <ul style="list-style-type: none"> <li>Cumulative assessment of both MPW and MPE construction activities has been undertaken as part of the MPW Stage 2 Construction Traffic Impact Assessment.</li> <li>The MPW Stage 3 assessment found that there was no change to proposed construction traffic generation rates.</li> <li>The assessment concluded that there was no change to the MPW Stage 2 assessment outcomes with regards to impacts on cumulative traffic generation and intersection performance.</li> </ul>

Issue	Cumulative Impacts identified in MPW Concept Plan and Early Works Stage 1 Assessment	Cumulative Impacts identified in MPW Stage 2 Assessment	Cumulative Impacts resulting from the Proposal
	<p>periods. The baseline data used for the operational assessments focussed on the estimated network performance of the surrounding area without the MPW Stage 2 development.</p> <p>The outcomes of cumulative traffic and access assessment were:</p> <ul style="list-style-type: none"> <li>• During the peak construction period, the SIDRA model predicted minor impacts to delay and LoS at all intersections assessed during both the AM and PM peak periods.</li> <li>• The upgraded Moorebank Avenue/Anzac Road intersection with the new access road to the MPW Site would operate satisfactorily at LoS C in both the morning and afternoon peak hour during the peak construction period.</li> <li>• Results for the cumulative operational traffic assessment showed that the key intersections in vicinity to the MPW Stage 2 Site, in the presence of the cumulative development and associated upgrades, would on average perform better than the predicted network without MPW Stage 2 developments or upgrades, for both 2019 and 2029 scenarios.</li> </ul>		
Noise and Vibration	<p>The cumulative noise and vibration cumulative assessment completed to support the MPW Stage 2 development considered both construction and operational scenarios. The cumulative construction noise scenario accounted for the cumulative predicted noise impacts associated with MPW Stage 2</p>	<p>The cumulative construction noise scenario included MPE Stage 2 construction activities, as well as MPW Early Works, MPE Stage 1 and MPW Stage 2 construction works.</p> <p>The highest predicted LA<sub>eq</sub>, 15 min construction noise levels at sensitive receivers were used to</p>	<p>With regards to cumulative impacts, the Noise and Vibration Assessment prepared for MPW Stage 3 (Renzo Tonin, 2020) concludes:</p> <ul style="list-style-type: none"> <li>• The construction period of MPW Stage 2 and Stage 3 will be completed concurrently with the miscellaneous</li> </ul>

Issue	Cumulative Impacts identified in MPW Concept Plan and Early Works Stage 1 Assessment	Cumulative Impacts identified in MPW Stage 2 Assessment	Cumulative Impacts resulting from the Proposal
	<p>construction activities, MPW Early Works activities and MPE Stage 1 construction works. Similarly, the cumulative operational noise assessment included the concurrent operation of MPW Stage 2 with the MPE Stage 1 Proposal. Due to the large separation distances between the MPW Stage 2 development and nearby sensitive receivers, construction and operational vibration impacts were considered unlikely.</p> <p>The outcomes of cumulative noise and vibration assessment were:</p> <ul style="list-style-type: none"> <li>• The cumulative construction noise levels results for each of the selected sensitive receivers showed that levels are anticipated to comply with the NML at all the modelled receivers, except the most sensitive receivers in Casula. The predicted exceedance by up to 2dB was however considered negligible.</li> <li>• The cumulative operational noise levels were calculated and assessed against amenity criteria at various times throughout the day (day, evening and night) at key selected noise receivers.</li> <li>• The cumulative operational noise results show that the noise levels at sensitive receivers, due to the concurrent operation of MPW Stage 2 and the MPE Stage 1 Site, would comply with the relevant amenity criteria at all times of the day.</li> <li>• When considering the Glenfield Waste Facility, it was understood that operation</li> </ul>	<p>attain a worst-case construction cumulative scenario.</p> <p>The assessments concluded that:</p> <ul style="list-style-type: none"> <li>• Cumulative construction noise levels may exceed NML by up to 2 dB, which was considered a negligible exceedance.</li> <li>• Cumulative operational noise levels at sensitive receivers would comply with relevant amenity criteria at all times of the day.</li> <li>• Due to the large separation distances between the MPE Stage 2 site and sensitive receivers, cumulative construction and operation vibration impacts were considered unlikely.</li> </ul>	<p>structural construction and finishing works phases of the MPE Project.</p> <ul style="list-style-type: none"> <li>• Considering the predicted noise levels presented in the MPW Stage 2 assessment, management of cumulative construction noise should sufficiently manage impacts on nearby sensitive receivers, with consideration of other concurrent construction projects taking place within the MPE Project.</li> </ul>

Issue	Cumulative Impacts identified in MPW Concept Plan and Early Works Stage 1 Assessment	Cumulative Impacts identified in MPW Stage 2 Assessment	Cumulative Impacts resulting from the Proposal
	was to be during working hours only, for which the cumulative assessment of the MPW Stage 2 operation was more than 10 dB below the relevant daytime amenity criteria at all sensitive receivers. It is therefore considered unlikely that the Facility would contribute to any exceedance of daytime amenity criteria.		
Visual Amenity, urban Design and Landscaping	Both the MPW and MPE Sites are effectively screened from surrounding sensitive receivers by existing vegetation. Landscaping would reduce visual impacts, and as the continued land use for the development sites was for industrial purposes, no significant cumulative visual impacts above already assessed were likely to occur as a result of the developments.	Both the MPE and MPW Sites were considered to be screened effectively from surrounding sensitive receivers by existing vegetation to the west, south and east and existing Defence and industrial areas to the north. Landscaping would also mitigate potential visual impacts. It was noted that the Precinct development was in keeping with the existing industrial nature of both sites, and so no further cumulative visual impacts were expected.	Assessments of the works compound, stockpiles, earthworks and road works determined that although some elements may possibly be visible to sensitive receivers, the development works are largely screened by vegetation, and so no cumulative visual impacts are likely to result from the Proposal.  It was noted that the utilities, stormwater and drainage, and progressive subdivision elements of the Proposal would not result in any changes to the cumulative visual impact.  Assessment of the MPW Stage 2 development determined that lighting was within acceptable limits of AS4282, and would have minimal effect on the surrounding environment.
Hazards and Risks	It was determined that the MPW Stage 2 development would not pose an unacceptable level of risk to the surrounding community, nor would any cumulative impacts be likely to arise as a result of construction or operation of the developments.	No major risks were likely to be felt outside of the MPE Site, and so it was considered unlikely that any cumulative effects would arise as result of the construction or operation of the Precinct development works.	Assessments determined that no significant risks are likely to result from the Proposal, and so no cumulative hazards and risks were likely to arise as a result of the construction or operation of the Proposal.
Biodiversity	The assessment found that the development of the three adjoining sites (MPW, MPE and Glenfield Waste Facility) would reduce or	Assessments found that:	The biodiversity assessment found that the construction and operational impacts to threatened and ecological communities in the



Issue	Cumulative Impacts identified in MPW Concept Plan and Early Works Stage 1 Assessment	Cumulative Impacts identified in MPW Stage 2 Assessment	Cumulative Impacts resulting from the Proposal
	<p>remove a range of biodiversity values, including available fauna habitat (roosting, nesting and foraging habitat), potential threatened fauna habitat, threatened plant species, listed TECs, local provenance plant species and potential seedbanks. All developments are SSD, and so appropriate biodiversity offsets and mitigation measures would be implemented to minimize further biodiversity impacts.</p>	<ul style="list-style-type: none"> <li>• No threatened flora species were identified on the MPE Site during targeted surveys, and so no cumulative impacts to threatened flora species were anticipated.</li> <li>• Potential modification and fragmenting of habitat was considered to be minimal, mainly comprising removal of marginal foraging, sheltering and roosting habitat. As a result, cumulative impacts to threatened fauna species were considered to be unlikely.</li> <li>• Clearing of 9.5 ha of critically endangered ecological community as a result of the Glenfield Waste Facility did not result in additional cumulative impacts to TEC at the MPE Site.</li> </ul>	<p>development area have already been assessed under MPW Stage 2, and the Proposal would not result in any additional loss of threatened species and ecological communities, nor would there be any additional cumulative ecological impacts as a result of the Proposal.</p>
Human health	<p>Assessments demonstrated that the combined incremental impacts to community health regarding potential air quality and noise impacts were generally low and within regulatory guidelines. The cumulative effect of the MPW Stage 2 development was expected to be negligible.</p>	<p>Assessments found that no significant cumulative risks in relation to air quality, cancer, noise, or other health issues were significantly affected by the Precinct developments.</p>	<p>No additional health assessments were prepared for the Proposal; however assessments for MPW Stage 2 determined that there was to be no significant health risk to the community as a result of the MPW Stage 2 works, and given the Proposal is within the MPW Stage 2 footprint, no significant cumulative health risks are therefore expected as a result of the Proposal.</p>

### 18.3 Fill material

Approximately 280,000 m<sup>3</sup> of unconsolidated clean fill is proposed to be imported for compaction up to final land level (16.6 m AHD) and approximately 540,000 m<sup>3</sup> of structural fill for warehouse pad completion. All imported fill will be VENM or ENM and will be retained wholly within site boundaries. Therefore, no cumulative impacts are expected to arise as a result of fill importation for the Proposal.

### 18.4 Mitigation Measures

When considering cumulative impacts, specialist studies did not identify significant additional impacts of exceedances of adopted objectives and/or criteria, and subsequently no additional mitigation measures have been identified. Therefore, mitigation measures identified for the Proposal, and which are largely consistent with mitigation measures for MPW Stage 2, are also considered to effectively manage cumulative impacts identified within this section of the EIS.

## 19. Environmental Risk Assessment

An environmental risk assessment (ERA) has been undertaken to identify potential key environmental impacts associated with the construction and operation of the Proposal, as discussed in Sections 7 through 18. A risk ranking has been assigned to each issue before and after the application of identified mitigation measures. The ERA has been undertaken to address the SEARs in relation to the assessment of environmental risks, and is summarised in Table 19-1.

Table 19-1: SEARs for the Proposal relating to ERA.

Ref No.	SEARs	Relevant EIS Sections / Comment
General requirements	<p>Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.</p> <p>Where relevant, the assessment of key issues below, and any other significant issues identified in the risk assessment, must include:</p> <ul style="list-style-type: none"> <li>adequate baseline data</li> <li>consideration of the potential cumulative impacts due to other developments in the vicinity (completed, underway or proposed)</li> <li>measures to avoid, minimise and If necessary, offset predicted impacts, including detailed contingency plans for managing any significant risks to the environment</li> <li>a health impact assessment of local and regional impacts associated with the development, including those health risks associated with relevant key issues</li> <li>justification for the use of any assessments prepared for MPW Concept Proposal and Stage 1 (SSD 5066) or MPW Stage 2 (SSD 7709).</li> </ul>	<p>Section 19</p> <p>This EIS</p> <p>Section 18</p> <p>Sections 7 to 20</p> <p>Section 17.6</p> <p>Section 3.9</p>

This section summarises the ERA undertaken for the MPW Concept Plan and MPW Stage 2 Approvals, and the Proposal.

### 19.1 ERAs for MPW Concept Plan and MPW Stage 2 Approvals

ERAs undertaken for previous Approvals identified:

1. Potential environmental impacts associated with the MPW Project.
2. Control measures and any significant residual impacts.
3. The nature and extent of environmental impacts likely to remain after the implementation of control measures.

The ERAs identified and assessed potential environmental risks associated with each application and assigned a risk rating to each of the identified impacts. Each of the potential impacts was initially ranked between low and very high, prior to implementation of mitigation measures for the identified environmental risk.

Subsequent to application of mitigation measures to ameliorate potential environmental risks, and as determined in specialist studies prepared for the applications, the ERA found that no potential environmental impact was identified as high or very high risk, and therefore

no further assessments were deemed necessary for either the MPW Concept Plan or MWP Stage 2 applications.

## 19.2 Methodology

An assessment of environmental risk associated with the Proposal has been undertaken to identify the residual environmental risk, once the identified mitigation measures to mitigate potential environmental impacts have been implemented. Based on the methodology applied in the MPW Concept Plan, a qualitative environmental risk category is assigned to each issue.

A risk category is determined based on the consideration of the likelihood of an impact occurring and the consequences of the impact occurring. The criteria for evaluating the likelihood and consequences of the potential environmental impact are identified in Table 19-2, Table 19-3, and Table 19-4.

Table 19-2: Criteria for evaluating likelihood of an impact occurring.

Level	Description	Description	Frequency of Occurrence
A	Almost certain	Expected to occur in the course of most normal circumstances	Once per month
B	Likely	Could occur in the course of most normal circumstances	Between once a month and once a year
C	Possible	May occur in the course of normal circumstances	Between once a year and once in five years
D	Unlikely	Is possible, but not likely to occur in the course of normal circumstances	Between once in five years and once in 20 years
E	Rare	May occur in exceptional circumstances	Once in more than 20 years

Table 19-3: Criteria for evaluating consequence of an impact.

Level	Category	Safety	Financial	Operational	Environmental	Community
1	Not significant	No medical control	<\$250,000	< 6 hours track closure or disruption to facility operations	Release to the environment immediately contained. No impact on native vegetation/ fauna species	No community or stakeholder complaints
2	Minor	Lost time injury occurs or medical control required	≥ \$250,000 but less than \$2,000,000	≥ 6 hours but less than 24 hours track closure or disruption to	Release to environment contained with internal assistance.	Several community or stakeholder complaints. Complaints rectified within

Level	Category	Safety	Financial	Operational	Environmental	Community
				facility operations	Short term impact on PCT vegetation/ fauna habitat – no threatened species or community impacted.	adequate timeframes.
3	Moderate	Serious injury occurs	≥ \$2M but less than \$10M	≥ 24 hours but less than 48 hours track closure or disruption to facility operations	Release to the environment contained with external assistance. Impact to PCT vegetation/ fauna habitat requiring action to correct OR minor impact on threatened species or communities.	Multiple and sustained community or stakeholder complaints. Complaints addressed after an interval. Limited media coverage of issues raised.
4	Major	Single fatality occurs	≥ \$10M but less than \$50M	≥ 2 days but less than 5 days track closure or disruption to facility operations	Pollution event with short term detrimental effect. Short term impact on threatened species or communities requiring action to correct.	Widespread community and stakeholder concern. Sustained failure to address complaints. Extensive media coverage.
5	Severe	Multiple but localised fatalities occur	≥ \$50M	≥ 5 days track closure or disruption to facility operations	Pollution event with long term detrimental effect. Long term impact on threatened species or communities requiring action to correct or possibly requiring the provision of offsets.	Ongoing and widespread community and stakeholder concern, culminating in litigation. Inability to address complaints. Extensive and sustained negative media coverage.

Table 19-4: Risk analysis categories and criteria for risk rating.

Likelihood	Consequence				
	1 – Not significant	2 - Minor	3 - Moderate	4 - Major	5 - Severe
A – Almost certain	Moderate	Moderate	High	Very high	Very high
B – Likely	Low	Moderate	High	High	Very high
C – Possible	Low	Moderate	Moderate	High	High
D – Improbable	Low	Low	Moderate	Moderate	High
E - Rare	Low	Low	Low	Moderate	High

Each potential impact was given a rating between low and very high based on the environmental impacts that could potentially result if the issue was not mitigated.

A second risk rating was applied to identified environmental issues to indicate the potential residual risk following the design development and implementation of identified mitigation and control measures that have been identified in Table 19-5.



Table 19-5: Risk assessment.

Issue	SEARs/ Key issue?	Potential Impacts	Risk ranking – Pre-mitigation	Mitigation	Risk ranking – Post-mitigation	Reference
Air quality	Yes	Increased air pollution (PM, NO <sub>2</sub> and CO) from the construction of the Proposal resulting in impacts on the environment and community	L	The measures outlined in the Air Quality Management Plan would be implemented during the construction of the Proposal to control dust and other air emissions. Relevant MPW management plans would be updated as required.	L	Section 9 Appendix I
		Increased air pollution (PM, NO <sub>x</sub> , SO <sub>2</sub> , CO and VOCs) from the operation of the Proposal resulting in impacts on the environment and community	L	The measures outlined in the Air Quality Management Plan would be implemented during the operation of the Proposal to minimise the generation of air emissions. Relevant MPW management plans would be updated as required.	L	
Traffic and Transport	Yes	Increased traffic on local and regional roads resulting in decreased level of service at key intersections and increased risk of traffic incidents during construction	M	Prior to construction, a road safety audit would be undertaken of proposed construction access and haulage routes to identify appropriate measures to mitigate any safety risks identified.	L	Section 7 Appendix G
		Increased traffic on local and regional roads resulting in decreased level of service at key intersections and increased risk of traffic incidents during operation	M	The Construction Traffic Management Plan (CTMP) and Operational Traffic Management Plan (OTMP), and other relevant management plans prepared for MPW Stage 2 will be updated for the Proposal.	L	

Issue	SEARs/ Key issue?	Potential Impacts	Risk ranking – Pre-mitigation	Mitigation	Risk ranking – Post-mitigation	Reference
				The recommended intersection improvements (to mitigate the traffic impacts of the Proposal) would perform within an acceptable LoS with no-worsening of the performance without the Proposal.		
Noise and Vibration	Yes	Increased noise and vibration levels upon adjoining receivers during construction (including nearby residential areas of Moorebank, Wattle Grove, Glenfield and Casula and sensitive land uses), impacting on the community	M	The Construction Noise and Vibration Management Plan and other relevant MPW management plans will be revised, as required and implemented to include the appropriate control measures to avoid, reduce and manage noise emissions and vibration.	L	Section 8 Appendix H
		Increased noise and vibration caused by operation of container handling equipment, locomotives and truck movements during operation of the Proposal, impacting on the community	M	The Operational Noise and Vibration Management Plan and other relevant MPW management plans will be revised, as required and implemented to include the appropriate control measures to avoid, reduce and manage noise emissions and vibration.	L	
Soil and Water	Yes	Regional and local hydrological impacts including effects on flood characteristics on and off the Proposal site  Loss of operations of the Proposal due to flooding resulting in impacts on the environment and surrounding land	L	On-site detention basins (OSDs) approved under other consents have been sized to limit peak discharges for the 100 year ARI event from the Proposal site to no greater than under existing conditions.  The Proposal site has been designed for, and would be located above the	L	Section 11 Appendix K

Issue	SEARs/ Key issue?	Potential Impacts	Risk ranking – Pre-mitigation	Mitigation	Risk ranking – Post-mitigation	Reference
				1% Annual Exceedance Probability (AEP) flood level.		
		Reduced surface water and stormwater quality resulting in impacts to the environment	M	Water Sensitive Urban Design (WSUD) measures have been identified to ensure that the Proposal would have a neutral or beneficial effect on the quality of stormwater leaving the site.	L	
		Increased erosion during construction (on and off the Proposal site) resulting in impacts to the environment	M	An Erosion and Sediment Control Plan (ESCP) would be developed and implemented to include the appropriate control measures to minimise impacts upon water quality.	L	
		Inappropriate disposal of waste materials excavated from the Proposal site and handling of material to be reused on the site, resulting in impacts on the environment and safety for site workers	M	The Bulk Earthworks Strategy, already in place for MPW Stage 2, would be progressed by the construction contractor and would outline material handling processes and stockpiling areas.  Material requiring disposal to be subject to waste classification under the <i>Waste Classification Guidelines 2014</i> (NSW EPA, 2014) and would be disposed of at an appropriate licensed facility.	L	
Aboriginal Heritage	Yes	Damage and/or destruction of Indigenous heritage items of significance	L	An unexpected finds procedure and consideration of consultation requirements and process for managing any identified Indigenous items uncovered during construction	L	Section 13 Appendix M

Issue	SEARs/ Key issue?	Potential Impacts	Risk ranking – Pre-mitigation	Mitigation	Risk ranking – Post-mitigation	Reference
				and operation to be implemented.		
Historic Heritage	Yes	Damage and/or destruction of Non-Indigenous heritage items of significance	L	No known Non-Indigenous heritage items of significance would be impacted. An unexpected finds procedure would be included in the CEMP.	L	Section 14 Appendix N
		Visual impacts on Glenfield Farm, the Casula Power Station and Kitchener House, altering the views and setting of the site	L	Landscaping on the eastern and western boundaries of the Proposal site would provide screening and minimise visual impacts from the Proposal.	L	
Visual Amenity, urban Design and Landscaping	Yes	Negative change in visual character of the Proposal site, impacting the community	M	The Proposal would be developed in accordance with a landscape management plan that reinforces the surrounding natural context and integrates the site with its broader environment.	L	Section 15 Appendix O
Contamination	Yes	Migration of contamination offsite as a result of the Proposal, resulting in impacts on the environment and community Exposure of site workers to contamination resulting in safety incidents	M	A Construction Environmental Management Plan (CEMP) would be prepared prior to commencement of construction that would identify processes to be followed in the event of an unexpected find of contamination.	L	Section 12 Appendix L
		Contamination of soils and groundwater due to spills during operation of the Proposal, resulting in impacts to the environment	M	The Operational Environmental Management Plan (OEMP) would include an Emergency Response Plan, including a Pollution Incident Response Management Plan, and a refuelling procedure that would specify procedures to follow in the	L	

Issue	SEARs/ Key issue?	Potential Impacts	Risk ranking – Pre-mitigation	Mitigation	Risk ranking – Post-mitigation	Reference
				event of a spill and refuelling, to prevent contamination.		
Hazards and Risks	Yes	Environmental and community impacts from the release of hazardous materials and dangerous goods	M	All goods at the Proposal site would be managed in accordance with the Code of Practice for storage and handling of dangerous goods (WorkCover NSW 2005) and Model Code of Practice - Labelling of Workplace Hazardous Chemicals (Safe Work Australia 2011), as a minimum.	L	Section 16
Biodiversity	Yes	Environmental impacts resulting from the permanent loss of biodiversity due to changes in hydrological function of the Proposal site and lowering of water quality, including potential impacts to groundwater dependent ecosystems	M	Design of on-site water retention to facilitate discharges to receiving waterways would match pre-construction discharges.  Installation of appropriate drainage infrastructure (OSDs), sediment and erosion controls would occur, to manage surface waters.  Gross Pollutant Traps and Rain gardens (bio- retention systems) would be installed in the base of the OSDs proposed to capture and store stormwater. This would consist of bio-filtration layers, planting and subsoil collection and drainage.	L	Section 10 Appendix J
		Environmental impacts resulting from the impacts on aquatic biodiversity due to changes in hydrological function of the Proposal site and lowering of water quality during construction	L	Installation of sediment basins and sediment fences as per the CEMP.  Update to an Erosion and Sediment Control Plan (ESCP) and Soil and Water Management Plan (SWMP)	L	

Issue	SEARs/ Key issue?	Potential Impacts	Risk ranking – Pre-mitigation	Mitigation	Risk ranking – Post-mitigation	Reference
				for management of construction activities, and other MPW management plans, as required Development of spill management and incident response measures.		
		Environmental impacts resulting from the loss of biodiversity due to weed infestation	L	The CEMP would include requirements for washdown of equipment prior to entering the construction area to remove seed and plant material. Erosion and sediment controls to be installed in accordance with ESCPs and SWMP.  A weed control program, already prepared for MPW Stage 2, would be implemented as part of the conservation management of the retained vegetation.	L	
Waste	Yes	Construction waste production	H	Measures to minimise waste would be included within the CEMP and OEMP which would be updated for the Proposal, in accordance with the recommendations in this EIS.	L	Section 17.4
		Operational waste production	L		L	
Bushfire	Yes	Risk of bushfire impacting the Proposal site and construction compounds, posing safety risk to workers	L	Design of the Proposal conforms to the management principles identified in <i>Planning for Bushfire Protection</i> (NSW RFS, 2006).  A Bushfire Management Strategy prepared for MPW Stage 2 will be updated for both the construction and operational phases of the Proposal as part of the CEMP and	L	Section 17.1
		Increased risk of bushfire ignition from construction activities and operation of the Proposal	M		L	

Issue	SEARs/ Key issue?	Potential Impacts	Risk ranking – Pre-mitigation	Mitigation	Risk ranking – Post-mitigation	Reference
				OEMP. Appropriate buffer zones would be established and maintained.		
Property and Infrastructure		Increase on service demand, capacity and augmentation of existing and proposed utilities and infrastructure as a result of the Proposal	M	The existing infrastructure would have sufficient capacity to service the estimated increase in utility demands for the Proposal, either with augmentation or in its current condition (refer to Section 17.3 and Appendix Q of this EIS).	L	Section 17.3
Subdivision	Yes	Potential uncertainty as to management responsibilities for site utilities or other common spaces	L	The OEMP, and other relevant MPW management plans will be updated, as required to provide clear management guidelines for the site.	L	Section 3.1.2
Greenhouse Gas and Climate Change	Yes	Increase in greenhouse gas emissions as a result of construction and embodied emissions in materials used	M	Mitigation measures identified for the management of Greenhouse Gas (GHG) emissions during construction would be incorporated into the CEMP	L	Section 17.7
		Potential net increase in direct and indirect greenhouse gas emissions as a result of operation	L	Mitigation measures identified for the management of GHG emissions during operations would be incorporated into the OEMP.	L	
		Increased extreme weather events, including heat waves and flooding impacting the Proposal	H	Incorporation of adaptation responses into the final design and operational procedures.	L	
Socio-economic	Yes	Disruption to the community during construction	M	The community information and awareness strategy included in the CEMP will be revised for this Proposal, which would provide for	L	Section 17.2



Issue	SEARs/ Key issue?	Potential Impacts	Risk ranking – Pre-mitigation	Mitigation	Risk ranking – Post-mitigation	Reference
				maintaining communication with the community and all relevant stakeholders throughout the construction process.		
		Community concern over impacts on environmental and health impacts associated with operation of the Proposal	H	The community information and awareness strategy included in the OEMP will be revised for the Proposal, which would enable community members to access information and provide feedback regarding the operation of the Proposal.	L	
		Employment generation and injection of significant capital into local and regional economy	L	Employment of local people and use of goods and services from local and regional suppliers would be prioritised.	L	
Human health		Increase in morbidity and mortality	M	Measures outlined in the Best Practice Reviews for air quality and noise would be implemented where reasonable and feasible for the Proposal, to minimise air quality and noise impacts.	L	Section 17.6
Cumulative impacts	Yes	Cumulative impacts on the environment and community as a result of works associated with the construction and operation of the MPE Stage 1 Proposal and the Proposal	L	Assessments on the cumulative impacts of traffic, air quality, noise and health for the scenario whereby the construction/operation of the MPE Stage 1 Proposal occurs concurrently with the construction/operation of the Proposal identified only minor cumulative impacts, therefore no	L	Section 18

Issue	SEARs/ Key issue?	Potential Impacts	Risk ranking – Pre-mitigation	Mitigation	Risk ranking – Post-mitigation	Reference
				additional mitigation measures are proposed.		

No significant environmental risks were identified resulting from the Proposal. Implementation of relevant mitigation measures will manage any potential environmental risks.

#### 19.2.1.1 Construction Environmental Management Plan (CEMP)

The MPW Stage 2 *Construction Environmental Management Plan* (CEMP) (Arcadis, 2019) and associated sub-plans currently provide the overarching framework for management of potential impacts resulting from construction activities on the site.

Any potential environmental impacts relating to construction works for the works compound and ancillary infrastructure which are not currently addressed and mitigated in the CEMP will be addressed progressively and as required in a revised CEMP and related sub-plans.

Compliance with the existing MPW Stage 2 CEMP will continue to be applied to the Proposal, with consideration given to updating and/or amending the CEMP to accommodate any additional Proposal conditions, or adding an addendum to the CEMP to clarify Proposal conditions.

#### 19.2.1.2 Operational Environmental Management Plan (OEMP)

Measures to mitigate potential environmental impacts resulting from the operation of the works compound will be provided in the yet-to-be-prepared MPW Stage 2 *Operational Environmental Management Plan* (OEMP).

Any potential environmental impacts relating to operation of the works compound which are not currently mitigated in the MPW Stage 2 OEMP will be addressed progressively and as required in a revised OEMP.

It is envisaged that compliance with relevant MPW Stage 2 OEMP and related sub-plans will continue to be applied to the Proposal, with consideration given to updating and/or amending the MPW Stage 2 OEMP to accommodate Proposal conditions, or adding an addendum to the OEMP to clarify Proposal conditions.

## 20. Revised Environmental Management Measures

Environmental Management Measures were prepared as part of the MPW Concept Plan Approval and revised for the MPW Stage 2 Approval to inform the CEMP, OEMP and sub-plans. Relevant MPW Stage 2 REMMs will continue to apply to the construction and operation elements of MPW Stage 3 to ensure compliance with relevant CoA and guidelines; the REMMS have been reviewed and further revised, as required, to ensure relevance to this Proposal (refer to Table 20-1).

Table 20-1: MPW Stage 2 Revised Environmental Management Measures (REMMs), further revised to accommodate MPW Stage 3

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
<b>0</b>	<b>General Environmental Management</b>				
0A	<p>Pre-construction works would be undertaken subject to the preparation of an <i>Environmental Work Method Statement</i> or equivalent. Pre-construction works include the following:</p> <ul style="list-style-type: none"> <li>• survey; fencing; investigative drilling, excavation or salvage</li> <li>• establishment of site compounds and construction facilities</li> <li>• installation of environmental mitigation measures</li> <li>• utilities adjustment and relocation that do not present a significant risk to the environment, as determined by the Environmental Representative</li> <li>• other activities determined by the Environmental Representative to have minimal environmental impact.</li> </ul>	Pre-Construction	Y	N/A	Y
0B	<p>The <i>Construction Environmental Management Plan</i> (CEMP) and sub-plans prepared for MPW Stage 2 (listed below) will be amended, where required, to accommodate MPW Stage 3 conditions.</p> <ul style="list-style-type: none"> <li>• <i>Preliminary Construction Traffic Management Plan</i> (PCTMP)</li> <li>• <i>Air Quality Management Plan, Erosion and Sediment Control Plans</i> (ESCPs) and <i>Bulk Earthworks Plans</i>, within the <i>Stormwater Drainage Design Drawings</i></li> </ul> <p>The CEMP prepared for MPW Stage 2 includes the following sub-plans:</p> <ul style="list-style-type: none"> <li>• <i>Construction Traffic Access Management Plan</i> (CTAMP)</li> </ul>	Construction	Y	N/A	Y

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
	<ul style="list-style-type: none"> <li>• <i>Construction Noise and Vibration Management Plan</i> (CNVMP), prepared in accordance with the <i>Interim Construction Noise Guideline</i></li> <li>• <i>Cultural Heritage Assessment Report/Management Plan</i></li> <li>• <i>Construction Air Quality Management Plan</i></li> <li>• <i>Construction Soil and Water Management Plan</i> (SWMP), prepared in accordance with <i>Managing Urban Stormwater, 4th Edition, Volume 1, (2004)</i></li> <li>• <i>Erosion and Sediment Control Plan</i></li> <li>• <i>Flood Emergency Response and Evacuation Plan</i></li> <li>• <i>UXO, EO, and EOW Management Plan</i></li> <li>• <i>Acid Sulfate Soils Management Plan</i></li> <li>• <i>Bushfire Management Strategy</i></li> <li>• <i>Community Information and Awareness Strategy</i></li> <li>• <i>Flora and Fauna Management Plan</i> (FFMP)</li> <li>• <i>Groundwater Monitoring Program</i> (GMP)</li> </ul>				
OC	<p>The <i>Operational Environmental Management Plan</i> (OEMP) and sub-plans prepared for MPW Stage 2 (listed below) will be amended, where required, to accommodate MPW Stage 3 conditions.</p> <ul style="list-style-type: none"> <li>• <i>Preliminary Operational Traffic Management Plan</i> (POTMP)</li> <li>• <i>Air Quality Management Plan</i></li> <li>• <i>Erosion and Sediment Control Plans</i> (ESCPs) and <i>Bulk Earthworks Plans</i>, within the <i>Stormwater Drainage Design Drawings</i></li> </ul> <p>The OEMP prepared for MPW Stage 2 includes the following sub-plans:</p> <ul style="list-style-type: none"> <li>• Operational Traffic Management Plan (OTMP)</li> <li>• Operational Noise and Vibration Management plan (ONVMP)</li> <li>• Air Quality Management Plan</li> <li>• Flooding and Emergency Response Plan (FERP)</li> <li>• Groundwater Monitoring Program</li> <li>• Long term Environmental Management Plan</li> </ul>	Operation	Y	N/A	Y

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
	<ul style="list-style-type: none"> <li>• <i>Pollution Incident Response Management Plan (PIRMP)</i>, including Spill Management Procedure, prepared under the EPA's <i>Environmental Guidelines: Preparation of Pollution Incident Response Management Plans</i> (EPA, 2012)</li> <li>• <i>Fire Safety and Evacuation Plan</i></li> <li>• <i>Community Information and Awareness Strategy</i></li> <li>• <i>Flora and Fauna Management Plan</i></li> <li>• <i>Emergency Vehicle Response Plan</i></li> </ul>				
<b>1</b>	<b>Traffic and Transport</b>				
1A	<p>The <i>Construction Traffic Access Management Plan (CTAMP)</i> prepared for MPW Stage details management controls to be implemented to avoid or minimise impacts to traffic, pedestrian and cyclist access, and the amenity of the surrounding environment would be amended, where required, to accommodate MPW Stage 3 conditions. The following key initiatives, included in the MPW Stage 2 CTAMP, continue to apply to MPW Stage 3:</p> <ul style="list-style-type: none"> <li>• Review of speed restrictions along Moorebank Avenue and additional signposting of speed limitations</li> <li>• Restriction of haulage routes through signage and education to ensure, where possible, that construction vehicles do not travel through nearby residential areas to access the Proposal site, in particular Moorebank (Anzac Road) or the Wattle Grove residential areas</li> <li>• Inform local residents (in conjunction with the Community Information and Awareness Strategy) of the proposed construction activities and road access restrictions that the construction traffic must adhere to and establish communication protocols for community feedback on issues relating to construction vehicle driver behaviour and construction related matters</li> <li>• Installation of specific warning signs at entrances to the construction area to warn existing road users of entering and exiting construction traffic</li> <li>• Establishing pedestrian walking routes and crossing points</li> <li>• Distribution of day warning notices to advise local road users of scheduled construction activities</li> </ul>	Construction	Y	N/A	Y

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
	<ul style="list-style-type: none"> <li>• Installation of appropriate traffic control and warning signs for areas identified where potential safety risk issues exist</li> <li>• The promotion of car-pooling for construction staff and other shared transport initiatives during the pre-construction phase</li> <li>• Facilitating emergency vehicle access to the site</li> <li>• Management of the transportation of materials to maximise vehicle loads and therefore minimise vehicle movements</li> <li>• Minimising the volumes of construction vehicles travelling during peak periods</li> <li>• Maintaining access to neighbouring properties, in particular the ABB site</li> <li>• Monitoring of traffic on Moorebank Avenue during peak construction periods to ensure that queuing at intersections does not unreasonably impact on other road users.</li> </ul>				
1B	<p>The <i>Operational Traffic Management Plan</i>, prepared for MPW Stage 2, includes the following key initiatives, and will be further amended, as required, to accommodate MPW Stage 3 conditions:</p> <ul style="list-style-type: none"> <li>• Heavy vehicle route management</li> <li>• Safety and amenity of road users and public</li> <li>• Congestion management on Moorebank Avenue</li> <li>• Road user delay management</li> <li>• Information signage, distance information and advance warning systems.</li> </ul>	Operation	Y	N/A	Y
1C	Bicycle and end of trip facilities would be provided in accordance with the <i>City of Sydney Section 3 – General Provisions</i> .	Operation	Y	N/A	N/A
1D	Importation of fill to site during construction of the Proposal is to not exceed a total of 22,000 m <sup>3</sup> of material per day. This limit is to be further reduced by an amount equivalent to any fill being imported to the MPE Stage 2 Proposal (SSD_7628) on the same day such that the combined importation of till to the Proposal site and MPE Site does not exceed 22,0000 m <sup>3</sup> on any given day.	Construction	Y	N/A	Y



No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
1E	During operation, emergency vehicle access would be managed through an <i>Emergency Vehicle Response Plan</i> developed for MPW Stage 2, and revised, as required, to accommodate MPW Stage 3 conditions.	Operation	Y	N/A	N/A
<b>2</b>	<b>Noise and Vibration</b>				
2A	<i>The Construction Noise and Vibration Management Plan</i> (CNVMP) prepared for MPW Stage 2, will give consideration to Revised Environmental Mitigation Measures (REMMs) 5A – 5B (of the MPW Concept Plan Approval (SSD 5066)).	Construction	Y	N/A	Y
2B	Ambient noise monitoring surveys undertaken within Casula, Wattle Grove and Glenfield will be continued throughout the construction and operation of the Proposal (with annual reporting of noise results up to two years beyond the completion of the Proposal).	Construction and operation	Y	N/A	Y
2C	In the event of any noise or vibration related complaint or adverse comment from the community, noise and ground vibration levels will be investigated. Remedial action will be implemented where feasible and reasonable.	Construction and operation	Y	N/A	Y
2D	Best practice noise mitigation measures will be implemented for the operational phase of the Proposal including: <ul style="list-style-type: none"> <li>• Noise monitoring (refer to mitigation measures 2B and 2C above)</li> <li>• A gate appointment system will be implemented to minimise truck loading/unloading wait times and resultant queueing. Trucks would be turned away from facility if arriving too early</li> <li>• Truck marshalling lanes would be included to minimise congestion and queueing</li> <li>• The provision of information signs and communication of MPW idle reduction policy.</li> </ul>	Operation	Y	N/A	N/A
<b>3</b>	<b>Air Quality</b>				

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
3A	<p>A <i>Construction Air Quality Management Plan</i> prepared for MPW Stage 2 (and based on the <i>Air Quality Management Plan</i>) includes the following key initiatives which will continue to apply to MPW Stage 3:</p> <ul style="list-style-type: none"> <li>• Procedures for controlling/managing dust</li> <li>• Roles, responsibilities and reporting requirements</li> <li>• Contingency measures for dust control where standard measures are deemed ineffective.</li> </ul>	Construction	Y	N/A	Y
3B	Vehicle movements will be limited to designated entries and exits, haulage routes and parking areas.	Construction	Y	N/A	Y
3C	<p>Best practice air quality mitigation measures will be implemented for the operational phase of the Proposal including:</p> <p><b>Trucks</b></p> <ul style="list-style-type: none"> <li>• Gate appointment system, truck marshalling lanes and rejection of trucks that arrive early to minimise wait times and queuing</li> <li>• Development of an anti-idle policy and communication through the provision of information signs</li> <li>• Unnecessary idling avoided through driver training and site anti-idle policy</li> <li>• Loading and unloading coordinated to minimise truck trip distances as they travel through site.</li> </ul>	Operation	Y	N/A	Y
3D	<p>In accordance with the <i>Air Quality Management Plan</i> the following key aspects would be addressed in the OEMP, and would continue to apply to the Proposal:</p> <ul style="list-style-type: none"> <li>• Implementation and communication of anti-idling policy for trucks</li> <li>• Complaints line for the community to report on excessive idling and smoky vehicles</li> <li>• Procedures to reject excessively smoky trucks visiting the site based on visual inspection.</li> </ul>	Operation	Y	N/A	Y
<b>4</b>	<b>Biodiversity</b>				

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
4A	<p>Following detailed design and before construction, detailed flora and fauna mitigation measures will be developed for the retained conservation area (proposed Lot 11) and presented as part of the CEMP. These detailed measures will incorporate the measures listed below and will apply to the retained conservation area (proposed Lot 11). The following key measures included in the CEMP prepared for MPW Stage 2 would continue to apply to MPW Stage 3:</p> <ul style="list-style-type: none"> <li>• general impact mitigation</li> <li>• staff/contractor inductions</li> <li>• vegetation clearing protocols including identification of exclusion zones</li> <li>• pre-clearing surveys and fauna salvage/translocation</li> <li>• rehabilitation and restitution of adjoining habitat</li> <li>• weed control</li> <li>• pest management</li> <li>• monitoring.</li> </ul> <p>The CEMP includes clear objectives and actions for the Proposal including how to:</p> <ul style="list-style-type: none"> <li>• minimise human interferences to flora and fauna</li> <li>• minimise vegetation clearing/disturbance</li> <li>• minimise impact to threatened species and communities</li> <li>• minimise impacts to aquatic habitats and species</li> <li>• undertake flora and fauna monitoring at regular intervals.</li> </ul>	Construction	Y	N/A	Y
4B	The vegetation exclusion zones will be marked on maps, which will be prepared by the contractor/s, and will also be marked on the ground using high visibility fencing (such as barrier mesh).	Pre-construction and Construction	Y	N/A	Y
4C	The design of temporary site fencing and any overhead powerlines will consider the potential for collision by birds and bats and minimise this risk where practicable.	Detailed design & Pre-construction	Y	N/A	Y
4D	Erosion and sediment control measures such as silt fencing and hay bales will be used to minimise sedimentation of streams and resultant impacts on aquatic habitats and water quality.	Pre-construction and Construction	Y	N/A	Y

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
4E	The CEMP (or equivalent) includes detailed measures for minimising the risk of introducing weeds and pathogens, which will be adopted for the MPW Stage 3 Proposal.	Construction	Y	N/A	Y
<b>5</b>	<b>Stormwater and Flooding</b>				
5A	<p>A <i>Soil and Water Management Plan</i> (SWMP) and <i>Erosion and Sediment Control Plan</i> (ESCP), or equivalent have been prepared for MPW Stage 2, and where required, amended in accordance with MPW Stage 3 conditions. The SWMP and ESCPs have been prepared in accordance with the principles and requirements of the Blue Book and based on the Preliminary ESCPs provided in the Stormwater and Flooding Assessment Report. The following aspects have been addressed within the SWMP and ESCPs, and would continue to apply to MPW Stage 3:</p> <ul style="list-style-type: none"> <li>• Minimise the area of soil disturbed and exposed to erosion</li> <li>• Priority should be given to management practices that minimise erosion, rather than to those that capture sediment downslope or at the catchment outlet</li> <li>• Divert clean water around the construction site or control the flow of clean water at non-erodible velocities through the construction area</li> <li>• Provision of boundary treatments around the perimeter of construction areas to minimise the migration of sediment offsite</li> <li>• Permanent or temporary drainage works (in particular OSDs) would be installed as early as practical in the construction program to minimise uncontrolled drainage and associated erosion</li> <li>• Stockpiles would be located away from flow paths on appropriate impermeable surfaces, to minimise potential sediment transportation. Where practicable, stockpiles would be stabilised if the exposed face of the stockpile is inactive more than ten days, and would be formed with sediment filters in place immediately downslope</li> <li>• Disturbed land would be rehabilitated as soon as practicable</li> <li>• The wheels of all vehicles would be cleaned prior to exiting the construction site where excavation occurs to prevent the tracking of mud. Where this is not</li> </ul>	Construction	Y	N/A	Y

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
	<p>practical, or excessive soil transfer occurs onto paved areas, street cleaning would be undertaken when necessary.</p> <ul style="list-style-type: none"> <li>• A requirement to inspect all permanent and temporary erosion and sedimentation control works prior to and post rainfall events and prior to closure of the construction area. Erosion and sediment control structures must be cleaned, repaired and augmented as required.</li> <li>• Sediment fences are to be provided around the perimeter of the site to ensure no untreated runoff leaves the site and around the existing and proposed drainage channels to minimise sediment migration into waterways and sediment basins</li> <li>• The management principles outlined in Managing Urban Stormwater (Landcom 2004) for sites with high erosion potential would be implemented.</li> </ul>				
5B	Proposal site exits will be fitted with hardstand material, rumble grids or other appropriate measures to limit the amount of material transported offsite.	Construction	Y	N/A	Y
5C	<p>The following measures will be considered during the development of construction methodology for the Proposal to mitigate flooding impacts:</p> <ul style="list-style-type: none"> <li>• For all site works, provide temporary diversion channels around temporary work obstructions to allow low and normal flows to safely bypass the work areas</li> <li>• Locate site compounds, stockpiling areas and storage areas for sensitive plant, equipment and hazardous materials above an appropriate design flood level, outside of the PMF extent at the northern section of the construction area, to be determined based on the duration of the construction work.</li> </ul>	Construction	N	N/A	Y
5D	<p>To minimise potential flood impacts during construction of the Proposal, the following measures have been implemented and documented in the SWMP prepared for MPW Stage 2, and will continue to apply to MPW Stage 3:</p> <ul style="list-style-type: none"> <li>• The existing site catchment and sub-catchment boundaries would be maintained as far as practicable</li> <li>• To the extent practicable, site imperviousness and grades should be limited to the extent of existing imperviousness and grades under existing development conditions</li> </ul>	Construction	N	N/A	Y

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
	<ul style="list-style-type: none"> <li>• Smaller detention storages that provide adequate rainfall runoff mitigation during partial construction/site development would be considered</li> <li>• Temporary structures used to convey onsite run-off during construction would be designed to accommodate flows during prolonged or intense rainfalls.</li> </ul>				
5E	A <i>Flood Emergency Response and Evacuation Plan</i> , or equivalent, have been prepared and implemented for the construction phase of MPW Stage 2 to allow work sites to be safely evacuated and secured in advance of flooding occurring at the MPW Site, and would continue to apply to MPW Stage 3. The plan has been prepared in consultation with the State Emergency Service.	Construction	N	N/A	Y
5F	Stormwater quality improvement devices would be designed to meet the performance targets identified in the <i>Stormwater and Flooding Environmental Assessment</i> prepared for MPW Stage 2, and MPW Stage 3 civil design drawings..	Operation	Y	N/A	Y
5G	Operational water quality monitoring is to be carried out and included in the OEMP with the objective of maintaining or improving existing water quality.	Operation	Y	N/A	Y
5H	A <i>Flood Emergency Response Plan</i> (FERP), prepared for MPW Stage 2 would be updated, as required, and implemented for the operational phase of the Proposal. The FERP would take into consideration site flooding and broader flood emergency response plans for the Georges River floodplains and Moorebank area. The updated FERP would also include the identification of an area of safe refuge within the Proposal site that would allow people to wait until hazardous flows have receded and safe evacuation is possible.	Operation	Y	N/A	N/A
5I	Stockpile sites established during construction are to be managed in accordance with relevant stockpile management principles and procedures already in place for the site.	Construction	Y	N/A	Y
<b>6</b>	<b>Geology, Soils and Land Contamination</b>				

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
6A	The CEMP prepared for MPW Stage 2 would be updated, as required to identify the actions to be taken should additional contamination be identified during the MPW Stage 3 development of the site (i.e. an unexpected finds protocol), and would address REMM items 8H, 8T, 8U, 8V and 8W (of the MPW Concept Plan Approval (SSD 5066)).	Construction	Y	N/A	Y
6B	The CEMP prepared for MPW Stage 2 includes a site-wide UXO, EO, and EOW management plan (or equivalent) based on the <i>UXO Risk Review and Management Plan</i> (G-Tek, 2016). This plan would be implemented to address the discovery of UXO or EOW during construction, to ensure a safe environment for all staff, visitors and contractors.	Construction	Y	N/A	Y
6C	An <i>Asbestos in Soils Management Plan</i> prepared as part of the CEMP documentation for MPW Stage 2 in accordance with the SafeWork NSW requirements, would be reviewed, as required, and adapted for the Proposal including but not limited to the: <ul style="list-style-type: none"> <li>• <i>Guidelines for Managing asbestos in or on soil</i> (2014), and</li> <li>• <i>Codes of Practice - How to Safely Remove Asbestos</i> (2011) and <i>How to Manage and Control Asbestos in the Workplace</i> (2011).</li> </ul>	Construction	Y	N/A	Y
6D	Findings within the <i>Geotechnical Interpretive Report</i> (Golder, 2016) prepared for MPW Stage 2 regarding excavations, earthworks, pavements and structural footings are to be considered during the Proposal's detailed design phase.	Detailed design	Y	N/A	Y
6E	The existing site-wide <i>Long-Term Environmental Management Plan</i> (LTEMP), such as the one established at the completion of Early Works, is to be considered during the Proposal's detailed design phase	Operation	Y	N/A	Y
6F	In order to accept fill material onto site, the following will be undertaken: <ul style="list-style-type: none"> <li>• Material characterisation reports/certification showing that the material being supplied is VENM/ENM must be provided</li> <li>• Each truck entry will be visually checked and documented to confirm that only approved materials that are consistent with the environmental approvals are allowed to enter the site. Only fully tarped loads are to be accepted by the gatekeeper. Environmental Assurance of imported fill material will be conducted to confirm that the materials comply with the <i>NSW EPA Waste Classification</i></li> </ul>	Construction	Y	N/A	Y



No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
	<i>Guidelines</i> (2014) and the Earthworks Specification for the MPW Site. The frequency of assurance testing will be as nominated by the Environmental assessor/auditor.				
6G	The CEMP prepared for MPW Stage 2, and revised, as required, to accommodate MPW Stage 3 conditions, includes an Earthworks Specification, which provides details on earthworks material criteria, handling and placement requirements, embankment and cutting formation (including foundation, batter and benching requirements), unsuitable material and bridging layer requirements, conformance testing methods and acceptance criteria (i.e. for material acceptance and compaction control).	Construction	Y	N/A	Y
6H	<ul style="list-style-type: none"> <li>In areas where placement of fill would occur to final site levels, but hardstand and warehousing is not currently proposed, exposed surfaces would be stabilised using hydroseeding, or the application of a bitumen emulsion or a similar stabilisation method.</li> </ul>	Construction	Y	N/A	Y
<b>7</b>	<b>Hazard and risk</b>				
7A	<p>The following measures have been included in the CEMP (or equivalent) prepared for MPW Stage 2, and would be adopted for MPW Stage 3 to minimise hazards and risks:</p> <ul style="list-style-type: none"> <li>Procedures for safe removal of asbestos</li> <li>Provision for safe operational access and egress for emergency service personnel and workers would be provided at all times</li> <li>An Incident Response Plan that includes a Spill Management Procedure.</li> </ul>	Construction	Y	N/A	Y
7B	<p>To minimise the risks of leakage of LNG and flammable liquids during transport:</p> <ul style="list-style-type: none"> <li>The transport of dangerous goods by road would comply with the Dangerous Goods (Road and Rail Transport) Act 2008 and the Dangerous Goods (Road and Rail Transport) Regulation 2014</li> <li>Contractors delivering the gas would be trained, competent and certified by the relevant authorities.</li> </ul>	Operation	Y	N/A	N/A

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
7C	To minimise hazards associated with venting of LNG: <ul style="list-style-type: none"> <li>• LNG storage will be designed to AS/NZS 1596-2008 standards</li> <li>• Access to the Proposal site will be restricted to authorised personnel</li> <li>• Adequate separation distances to residencies and other assets will be maintained.</li> </ul>	Operation	Y	N/A	N/A
7D	<ul style="list-style-type: none"> <li>• Storage of flammable/combustible liquids would be undertaken in accordance with AS 1940, with secondary containment in place in a location away from drainage paths.</li> </ul>	Operation	Y	N/A	N/A
<b>8</b>	<b>Visual Amenity, urban design and landscape</b>				
8A	The following mitigation measures would be implemented, where reasonable and feasible, to minimise the visual impacts of the Proposal: <ul style="list-style-type: none"> <li>• Existing vegetation around the perimeter of construction sites will be retained where feasible and reasonable</li> <li>• The early implementation of landscape planting would be considered in order to provide visual screening during the construction of the Proposal</li> <li>• Elements within construction sites would be located to minimise visual impacts as far as feasible and reasonable, i.e. setting back large equipment from site boundaries</li> <li>• Construction lighting, on both ancillary facilities and plant and equipment, would be designed and located to minimise the effects of light spill on surrounding sensitive receivers, including residential areas and the proposed conservation area</li> <li>• Re-vegetation/landscaping will be undertaken progressively</li> <li>• Where required for construction works, cut-off and directed lighting will be used and lighting location considered to ensure glare and light spill are minimised.</li> </ul>	Construction	Y	N/A	Y
8B	The following mitigation measures will be implemented, where reasonable and feasible, for the landscaping of the Proposal: <ul style="list-style-type: none"> <li>• Use of species that are local to the area</li> <li>• Use of local species as understory planting to support and enhance local habitat values</li> </ul>	Operation	Y	N/A	Y

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
	<ul style="list-style-type: none"> <li>• Use of seeds collected within the local area for planting to reinforce the genetic integrity of the region, where possible.</li> <li>• Use of trees to provide a uniform canopy cover within vegetated areas</li> </ul>				
8C	<p>The following initiatives will be implemented for mitigation of light spill:</p> <ul style="list-style-type: none"> <li>• Lighting will be designed to minimise impacts on surrounding existing and future residents and the proposed conservation zone</li> <li>• The use of shields on luminaire lighting to minimise brightness effects will be considered</li> <li>• Asymmetric light distribution-type floodlights will be selected as part of the proposed lighting design (i.e. the light is directed specifically to the task with minimal direct light spill to the surrounding area)</li> <li>• Low reflection pavement surfaces will be considered to reduce brightness</li> <li>• The quantity of light and energy consumption in parts of the Proposal site that are not active will be minimised, while retaining safe operation.</li> </ul>	Detailed design and Operation	Y	N/A	Y
<b>9</b>	<b>Indigenous Heritage</b>				
9A	An unexpected finds procedure is included in the <i>Construction Heritage Management Plan</i> and in place for the construction phase of the Proposal.	Construction	Y	N/A	Y
9B	If suspected human remains are located during any stage of the construction works, work will stop immediately, and the NSW Police and the Coroner's Office will be notified. The Office of Environment and Heritage, RAPs and an archaeologist will be contacted if the remains are found to be Aboriginal.	Construction	Y	N/A	Y
9C	Consultation with RAPs will continue throughout the life of the Proposal, as necessary. Ongoing consultation with RAPs would take place throughout the reburial of retrieved artefacts and in the event of the discovery of any unexpected Aboriginal objects.	Pre- Construction, construction and operation	Y	N/A	Y
<b>10</b>	<b>Non-Indigenous Heritage</b>				
10A	Naming of roads will consider previous School of Military Engineering (SME) street names.	Detailed Design	Y	N/A	Y

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
10B	Naming of buildings and roads (in addition to above) would consider commemoration of significant events and individuals related to the Moorebank Cultural Landscape.	Detailed Design	Y	N/A	Y
10C	An unexpected finds protocol (or equivalent) is included within the CEMP prepared for MPW Stage 2, and will be revised, as required to accommodate MPW Stage 3 conditions. If unexpected finds are identified during works, a suitably qualified archaeological consultant will be engaged to assess the significance of the finds and the NSW Heritage Council notified, and in that instance, further archaeological work or recording may be required.	Construction	Y	N/A	Y
<b>11</b>	<b>Greenhouse Gas</b>				
11A	The following mitigation measures will be implemented, where reasonable and feasible, for management of GHG emissions as part the operation of the Proposal: <ul style="list-style-type: none"> <li>• Energy efficiency design aspects would be incorporated wherever practicable to reduce energy demand</li> <li>• Energy-efficient guidelines for operational work will be considered and implemented where appropriate and regular maintenance of equipment would be undertaken to maintain fuel efficiency.</li> </ul>	Detailed design	Y	N/A	Y
11B	The following initiatives will be implemented, where reasonable and feasible, for mitigation of GHG emissions during construction: <ul style="list-style-type: none"> <li>• Construction works would be planned to minimise double handling of materials</li> <li>• Construction/transport plans would be incorporated within the CEMP to minimise the use of fuel during construction</li> <li>• Onsite vehicles would be fitted with exhaust controls in accordance with the Protection of the Environment Operations (Clean Air) Regulation 2010, as required and appropriate</li> <li>• Regular maintenance of equipment would be undertaken to maintain good operations and fuel efficiency</li> <li>• Where practicable, trucks removing waste from the site or bringing materials to the site would be filled to the maximum amount allowable, depending on the truck size and load weight, to reduce the number of traffic movements required</li> </ul>	Construction	Y	N/A	Y

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
	The mitigation measures, management strategies and abatement opportunities would be reviewed and considered where appropriate for incorporation into the CEMP to accommodate MPW Stage 3 conditions.				
<b>12</b>	<b>Waste</b>				
12A	<p>The following mitigation measures would be implemented as part of the CEMP (or equivalent) for waste management:</p> <ul style="list-style-type: none"> <li>• Characterisation of construction waste streams in accordance with the NSW Waste Classification Guidelines</li> <li>• Management of any identified hazardous waste streams</li> <li>• Procedures to manage construction waste streams, including handling, storage, classification, quantification, identification and tracking</li> <li>• Mitigation measures for avoidance and minimisation of waste materials</li> <li>• Procedures and targets for re-use and recycling of waste materials.</li> </ul>	Construction	Y	N/A	Y
12B	<p>The following mitigation measures will be implemented as part of the OEMP (or equivalent) for waste management:</p> <ul style="list-style-type: none"> <li>• Addressing waste management requirements and goals in staff inductions</li> <li>• Providing staff access to documentation outlining the facility's waste management requirements</li> <li>• Locating recycling bins in kitchen areas beside general waste bins to prevent contamination of recycling</li> <li>• Positioning paper recycling bins close to printer / photocopying equipment</li> <li>• Establishing bays or containers for recyclable waste generated through de-stuffing</li> <li>• Waste management planning incorporating principles of the waste hierarchy</li> <li>• Appropriate areas shall be provided for the storage of waste and recyclable material</li> <li>• Standard signage on how to use the waste management system and what materials are acceptable in the recycling would be posted in all waste collection and storage areas</li> <li>• All waste shall be collected regularly and disposed of at licensed facilities</li> </ul>	Detailed design and Operation	Y	N/A	N/A

No.	Mitigation measures	Implementation Stage	Applicability		
			Works compound	Subdivision	Ancillary Works
12C	<ul style="list-style-type: none"> <li>Container disposal units would be provided in the area around the diesel re-fuelling station to dispose of used spills kits. These containers would be taken for disposal at an appropriately licensed facility.</li> </ul>	Operation	Y	N	N
<b>13</b>	<b>Bushfire</b>				
13A	<p>The following actions, prepared for MPW Stage 2, will be considered for implementation, where reasonable and feasible, for mitigation of bushfire risk during construction of MPW Stage 3:</p> <ul style="list-style-type: none"> <li>A bushfire management strategy, or equivalent, prepared as part of the CEMP for MPW Stage 2 for the construction phase, will be revised, as required, to accommodate MPW Stage 3 conditions. The strategy includes: <ul style="list-style-type: none"> <li>Emergency response plans and procedures</li> <li>All site offices and temporary buildings will have a minimum setback of 10 m to bushfire prone areas</li> <li>All site offices will be accessible via access roads suitable for firefighting appliances similar to NSW Rural Fire Service category 1 tankers.</li> </ul> </li> </ul>	Construction	Y	N/A	Y
13B	<p>The following mitigation measures would be implemented during the operation of the Proposal:</p> <ul style="list-style-type: none"> <li>A bushfire management strategy, (including a fire safety and evacuation plan) or equivalent, prepared as part of the OEMP for MPW Stage 2, would be reviewed, as required, to accommodate MPW Stage 3 conditions</li> <li>Management of the landscaped areas within the Proposal site would be undertaken to maintain minimum dry fuels loads.</li> </ul>	Operation	Y	N/A	N/A
<b>14</b>	<b>Socio-economic</b>				
14A	A community information and awareness strategy prepared for MPW Stage 2 would be reviewed, as required, to accommodate MPW Stage 3 conditions.	Construction	Y	Y	Y
14B	The <i>Operational Environmental Management Plan</i> (OEMP) prepared for MPW Stage 2 would be reviewed, as required, to accommodate MPW Stage 3 conditions.	Operation	Y	Y	Y

## 21. Conclusion

This Proposal seeks approval, on behalf of the Applicant, SIMTA, for the construction and operation of the Proposal as part of the third stage of development under MPW Concept Plan and Stage 1 Early Works (SSD 5066). Approval for the MPW Development, within the MPW SSD 5066 and SSD 7709 consents and EPBC Approval (2011/6086) is considered as recognition from the Commonwealth, State and relevant authorities that the MPW Development is justified.

This EIS details the MPW Stage 3 Proposal for construction of a works compound, progressive subdivision of the MPW Site, and ancillary works. This EIS has provided justification for the Proposal, which is considered to be consistent with national and State planning policies, and is important to progress improvements to the distribution of freight within Sydney and the wider region, whilst improving operational efficiency and reducing environmental impacts directly associated with road freight movement from Port Botany along the M5 Motorway.

This EIS has been prepared to address the SEARs (SSD 10431) issued by DPIE 20 March 2020, and Schedule 4 of the Concept Plan Approval (SSD 5066) as modified, which included a comprehensive list of future environmental assessment requirements.

Key outcomes for environmental issues associated with the Proposal are provided within Sections 6 to 17 of this EIS. These Sections conclude that no significant environmental impacts would result from the construction or operation of this Proposal, and provide mitigation measures which would be implemented to further reduce the overall environmental impacts.

This Section provides an overall summary of the justification for the Proposal and a conclusion of the potential environmental impacts associated with the Proposal.

### 21.1 Proposal Justification Summary

The Proposal will facilitate development works within the MPW Site which will support infrastructure development to increase rail share for the Sydney freight distribution network. The MPW Site, once operational, will also support the construction of infrastructure to meet the catchment demand for rail and truck freight movements to the regions of South-West and Western Sydney, in accordance with National and State Government transport infrastructure commitments and policy objectives.

As approved site development works in the northern portion of MPW progress, space available for the existing construction compound and materials storage will become further constrained, and progressive construction of warehousing to accommodate tenants within proximity of the existing construction compound in the northern portion of the MPW Site is expected to further reduce available compound and materials storage space.

The proposed works compound in the south-eastern portion of the MPW would efficiently enable continuity of construction works in accordance with approved (MPW Concept Plan, Early Works, and MPW Stage 2) and future MPW Site development works (subject to future applications). The proposed works compound would provide operations and maintenance support for already approved and future MPW Site works, and including a future development application to facilitate the construction of the residual 85,000 m<sup>2</sup> warehousing GFA representing the balance of approved warehousing GFA in the MPW Concept Plan. The



MPW 3 Proposal may additionally provide some temporary capacity support to the MPE development as it progresses towards operations.

The proposed progressive subdivision, which is consistent with the intent of the original MPW Concept Plan Approval, comprises nine allotments for warehousing and distribution facilities, biodiversity conservation, interstate freight terminal, and rail corridor for completion and operation of the IMEX freight terminal and rail link. The subdivision works would separate the functions of the interstate freight terminal and facilitate tenanting of individual warehouses. A separate biodiversity conservation area would be established adjacent to the Georges River.

Ancillary works would establish permanent and temporary road access to the new works compound and would provide service and lighting to the compound and materials stores areas, and offices, amenities, kitchen/cafe facilities, and meeting and training rooms. Further, the provision of access and services to facilitate the establishment of the works compound would deliver progressive implementation of site infrastructure requirements for required subdivision works.

## 21.2 Permissibility Summary

As outlined in Section 1 of this EIS, the Proposal is consistent with the MPW Concept Plan and Early Works Approval (SSD 5066 MOD 1), which included subdivision and provision of a works compound (and associated ancillary infrastructure). Importantly, the Proposal does not compromise the intent of the Concept Plan or MPW Stage 2.

As the Proposal forms part of the development approved under the MPW Concept Plan, it is SSD in accordance with Clause 12 of *State Environmental Planning Policy (State and Regional and Development)* 2011. The Proposal is consistent with the SSD requirements under Part 4, Division 4.7 of the EP&A Act and the Matters of Consideration under Section 4.15, and Section 4 of this EIS provides an assessment of the Proposal's consistency and compliance with relevant statutory requirements.

A Clause 4.6 variation has been prepared on behalf of SIMTA (included as Appendix F of this EIS) which seeks exception to the minimum lot size development standards (Clause 4.1) of the *Liverpool Local Environmental Plan* (LEP) 2008 within the bounds of the MPW Site, in accordance with Clause 4.6 of the Liverpool LEP 2008. In accordance with Clause 4.38 (5) of the *Environmental Planning and Assessment Act* 1979 (EP&A Act), the Planning Secretary may undertake the functions of the planning proposal authority and consider this application to modify the Environmental Planning Instrument, in order to permit the carrying out of a State Significant Development.

## 21.3 Environmental Assessment

Key environmental issues relating to the Proposal's construction and operation have been identified based upon investigations and environmental assessment undertaken as part of the MPW Concept Plan Approval and MPW Stage 2 environmental assessments.

The study area for MPW Stage 2 environmental assessments generally included the entire MPW Site, including the Proposal Site. The associated physical works, and the scale, nature and extent of the potential environmental impacts for the Proposal are similar to development works already previously assessed as part of the broader MPW Concept Plan and MPW Stage 2 environmental impact assessments. Given that the MPW Stage 2 Consent

applies to the entire MPW Site, environmental assessments carried out in respect of MPW Stage 2 continue to be relevant to this Proposal. Further, activities undertaken in accordance with the Early Works Approval under the MPW Concept Plan Approval (refer to Sections 1.3.1 and 1.3.2) have substantively addressed development CoC for Aboriginal heritage, Non-Indigenous heritage, and contamination.

All works proposed to be constructed and operated in the Proposal are consistent with those in the MPW Stage 2 Approval, fall within the original approved footprint and involve no new and/or additional works or activities to those already approved in MPW Stage 2.

The proposed subdivision is anticipated to have minimal environmental impacts on the built or natural environment or surrounding community. Potential environmental impacts due to construction and establishment of the works compound and placement/installation of ancillary and infrastructure works to facilitate the works compound and the subdivision development, and operation (i.e. use of the works compound and ancillary infrastructure) have been addressed in the Sections 0 through 18.

No significant environmental impacts have been identified for the Proposal.

It is anticipated that potential construction and operation environmental impacts would be mitigated through the application of the MPW Stage 2 CEMP, OEMP and/or sub-plans, which would be reviewed to accommodate MPW Stage 3 CoC.

## 21.4 Conclusion

This EIS has been prepared to support the application for development consent for the Proposal, which is identified as an SSD, in accordance with Part 4, Division 4.7 of the EP&A Act. Potential direct and cumulative environmental impacts have been assessed as part of this EIS, and no significant environmental impacts to the built or natural environment or surrounding community have been identified. Potential environmental impacts would be mitigated or managed through the implementation of measures for the construction and operation of the Proposal.

The Proposal facilitates the development of intermodal freight terminal facilities, the link to the rail network and warehousing infrastructure, and is consistent with goals and objectives of national and State plans and strategies. As demonstrated throughout this EIS and the accompanying reports, the Proposal is therefore considered to be in the public interest.

The Proposal addresses and satisfies the SEARs and is considered consistent with Schedule 4 of the Concept Plan Approval and EBPC Approval. The Proposal complies with Part 4, Division 4.15 of the EP&A Act, and is consistent with the principles of ESD.

Overall the EIS concludes that the development as proposed is in the public interest and consent is recommended.

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Appendix A – MPW Concept Project Conditions of Approval (SSD 5066, as modified by MOD 1) and Relevant Sections of the EIS

Table A-1: MPW Concept Project SSD 5066 Conditions of Approval as modified by MPW Concept Plan Approval MOD 1, and relevant sections of the EIS.

Ref No.	MPW Concept Plan Approval SSD 5066 and MOD 1 (30 October, 2019) Condition of Approval	Relevant EIS Section(s)
<b>Schedule 4 – Conditions to be met in future development applications</b>		
<b>Operational Noise and Vibration</b>		
E1	<p>To ensure the operational noise impacts are appropriately managed, the following measures must be considered in future Development Applications:</p> <ul style="list-style-type: none"> <li>a) Best practice plant for <del>both the IMEX and interstate</del> <b>intermodal terminal facility</b>, including electronic automated container handling equipment or equipment with equivalent sound power levels;</li> <li>b) The use of automatic rail lubrication equipment in accordance with ASA Standard T HR TR 00111 ST Rail Lubrication and top of rail friction modifiers;</li> <li>c) Measures to ensure the rail cross sectional profile is maintained in accordance with ETN–01-02 Rail Grinding Manual for Plain Track to ensure the correct wheel / rail contact position and hence to encourage proper rolling stock steering;</li> <li>d) A noise barrier on the western side of the haul road;</li> <li>e) A detailed assessment of sleep disturbance impacts, including: how often noise events occur; the time of day when the occur; and whether there are any times of day when there is a clear change in the noise environment; and</li> <li>f) A risk assessment to determine if non-tonal reversing alarms can be fitted as a condition of site entry. Alternatively, site design may include traffic flow that does not require or precludes reversing of vehicles.</li> </ul>	Section 8.1.2.1
E2	<p>Development Applications for <del>both the IMEX and interstate</del> <b>intermodal terminal facility</b> shall include a report to identify:</p> <ul style="list-style-type: none"> <li>a) The extent of brake squeal across the fleet of rail vehicles that will frequently use the terminals. This should identify the number of occurrences of brake squeal, the typical noise levels associated with brake squeal (including the frequency content), and the operational</li> </ul>	Section 8.1.2.1



	<p>conditions under which brake squeal occurs (i.e. under light braking, hard braking, low / medium / high speed, effects of temperature and weather, etc.);</p> <p>b) The root cause of brake squeal, including the influence of the design, set-up and maintenance of both brake shoes and brake rigging;</p> <p>c) Possible solutions to mitigate or eliminate brake squeal, including modifications to brake rigging and alternative brake shoe designs and compounds; and</p> <p>d) Any monitoring system proposed to capture brake squeal.</p>	
<b>Locomotives</b>		
E3	Development Applications for the <del>IMEX</del> <b>intermodal terminal facility</b> shall detail how the expected port shuttle locomotives incorporate available best practice technologies.	N/A
E4	Development Applications for either the <del>IMEX or interstate</del> <b>intermodal terminal facility</b> shall consider the effect of headlight glare on surrounding sensitive receivers.	Section 15.1.2.1
<b>Rail Link</b>		
E5	Any Development Application comprising the rail link must consider maximising curve radii of the rail connection, particularly the southern tie-in to the SSFL, to minimise the potential for wheel squeal.	N/A
E6	Any Development Application comprising the rail link shall ensure the width of the rail link corridor is no greater than 20 metres in the Riparian Corridor.	N/A
E7	Any Development Application comprising the rail link shall consider fauna movement in the bridge design.	N/A
E8	Any Development Application comprising the rail link shall consider minimising potential impacts to the aquatic environment, aquatic habitats and fish passage, both in the design and construction of the bridge.	N/A
E9	Any Development Application comprising the rail link shall include an assessment of the impacts of the rail link on the Glenfield Waste Facility, including:	N/A

	<p>a) Targeted intrusive investigations to determine contamination pathways and to develop mitigation, management and/or remediation options based on those investigations;</p> <p>b) details of the quantity of landfilled waste to be removed, the location from where it will be removed, the methodology to be utilised and the estimated timeframe for the removal and reburial;</p> <p>c) proposed measures to mitigate odour impacts on sensitive receivers, including an undertaking to apply daily cover to any exposed waste in accordance with benchmark technique 33 of the document Environmental Guidelines: Solid Waste Landfills, NSW EPA 1996;</p> <p>d) details of impacts on pollution control and monitoring systems including existing groundwater and landfill gas bores and their subsequent repair/ replacement;</p> <p>e) the methodology proposed to ensure that the landfill barrier system disturbed in the removal process is replaced/ repaired to ensure its ongoing performance. The Applicant shall detail matters such as sub grade preparation and specifications, liner installation/ reinstallation procedures and construction quality assurance (CQA) procedures;</p> <p>f) a commitment to providing the EPA with a construction quality assurance report within 60 days of the completion of the works referred to in (d) above; and</p> <p>g) an overview of any access and/or materials/ equipment storage arrangements with Glenfield Waste Facility in relation to the construction of the rail link.</p> <p>h) details of any other expected or potential impacts to the licensed area and options for management and mitigation of those impacts (i.e. leachate management and surface water runoff, potential impacts on the Georges River during works, dust etc); and</p> <p>i) details of and proposed mitigation measures for the long term management of the rail link.</p>	
<b>Traffic</b>		
E10	Development Applications for <del>either the IMEX or interstate</del> <b>the intermodal</b> terminal facility shall include documentation demonstrating how Condition 14 of this approval has been satisfied.	Section 7.1.2.1
E11	All future Development Applications shall include a Traffic Impact Assessment based on background growth models developed by RMS for the Liverpool/Moorebank area (if applicable).	Section 7.1.2.1

	<b>11A. All future Development Applications must assess traffic impacts associated with fill importation and identify management measures.</b>	
E12	<b>All future Development Applications must include adequate measures to prevent heavy vehicles associated with the construction or operation of the facility from using Cambridge Avenue.</b>	Section 7.1.2.1
<b>Infrastructure Contributions</b>		
E13	<p>All future Development Application shall include:</p> <p>a) an assessment of the impacts of the project on local infrastructure, having regard to any relevant Council's Developer Contributions Plan (or equivalent document requiring developer contributions);</p> <p>b) a commitment to pay developer contributions to the relevant consent authority or undertake works-in-kind towards the provision or improvement of public amenities and services. Note: This requirement may be satisfied subject to the terms of any applicable Voluntary Planning Agreement; and</p> <p>c) a commitment to undertake vehicle monitoring on Cambridge Avenue. Should any monitoring reveal the need for improvement works within the Campbelltown LGA as a result of the proposal, the Applicant may be required to contribute towards local road maintenance or upgrades.</p>	Section 4.6.1
<b>Public Transport</b>		
E14	All future Development Applications shall consider the need for a bus stop on Moorebank Avenue (including direct pedestrian access from the warehousing to the bus stop), and associated turnaround facility suitable for a 14.5 metre long non-rear steer bus.	Section 7.1.2.1
<b>Biodiversity</b>		
E15	All future Development Applications shall consider measures to improve the condition of the riparian corridor along the western bank of the Georges River (known as the 'hourglass land').	Section 10.1.2.1

E16	<p>All future Development Applications shall include the following <b>vegetated</b> riparian corridor widths (measured <b>landward</b> from the top of bank) <b>and provide detailed drawings demonstrating compliance with this requirement:</b></p> <p>a) a minimum of 50 metres wide associated with the rail corridor; <del>and</del>  b) a minimum of 40 metres wide along the terminal site; <b>and</b>  c) <b>compliance with condition 18B.</b></p> <p><b>E16A. All future Development Applications must demonstrate that onsite detention basins are located outside the riparian corridor and the outlets have been designed to minimise impacts on the riparian corridor.</b></p> <p><b>E16B. All future Development Applications must include an assessment of the impact of the development on core Koala habitat and provide a detailed assessment of options to manage and minimise impacts.</b></p>	Section 10.1.2.1
<b>Visual Amenity, Urban Design and Landscaping</b>		
E17	<p>All future Development Applications for new built form must include detailed landscape plans identifying the vegetation to be removed or relocated and the location of replacement and additional landscaping.</p> <p><b>E17A. All future Development Applications must include:</b></p> <p>a) an assessment of the visual impact of the raised landform, built form (materials and finishes) and urban design (height, bulk and scale) including lighting and signage when viewed from residential areas; and  b) details of measures to mitigate impacts.</p> <p><b>E17B. All future Development Applications must present designs that incorporate the principles of:</b></p> <p>a) Water Sensitive Urban Design (WSUD) and Urban Heat Island Mitigation (UHIM); and  b) NSW Government Architect's "Greener Places" policy.</p>	Section 15.1.2.1
E18	<p>All future Development Applications shall include detailed landscape plans including relevant details of the species to be used in the various landscaped areas (preferably species indigenous</p>	<p>Section 10.1.2.1(Biodiversity)</p> <p>Section 15.1.2.1 (Visual Amenity)</p>

	to the area), including details of the informal native and cultural avenue plantings, and other soft and hard landscape treatments, including any pavement areas and furniture.	
<b>Heritage</b>		
E19	All future Development Applications relevant to MA6 and MA7 (Scarred Trees) shall include a consideration of the Aboriginal cultural value of the trees and options for avoiding impacts and ongoing conservation measures, including evidence of consultation with Aboriginal community representatives.	Section 13.1.2.1
E20	<p>All future Development Application shall assess heritage impacts of the proposal. The assessment shall:</p> <p>a) consider impacts to Aboriginal heritage (including cultural and archaeological significance), in particular impacts to Aboriginal heritage sites identified within or near the project should be assessed. Where impacts are identified, the assessment shall demonstrate effective consultation with Aboriginal communities in determining and assessing impacts and developing and selecting options and mitigation measures (including the final proposed measures);</p> <p>b) consider impacts to historic heritage. For any identified impacts, the assessment shall:</p> <p>(i) outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the measures). Mitigation measures should include (but not be limited to) photographic archival recording and adaptive re-use of buildings or building elements on site);</p> <p>be undertaken by a suitably qualified heritage consultant(s); and (iii) include a statement of heritage impact.</p>	<p>Section 13.1.2.1 (Aboriginal Heritage)</p> <p>Section 14.1.2.1 (Non-Indigenous Heritage)</p>
<b>Soil and Water</b>		
E21	<p>All future Development Application shall include an assessment of soil and water impacts. The assessment shall (where relevant):</p> <p>a) assess impacts on surface and groundwater flows, quality and quantity, with particular reference to any likely impacts on Georges River and Anzac Creek;</p>	Section 11.1.2.1

	<p>b) assess flooding impacts and characteristics, to and from the project (including rail link), with an assessment of the potential changes to flooding behaviour (levels, velocities and direction) and impacts on bed and bank stability, through flood modelling, including:</p> <ul style="list-style-type: none"> <li>(i) hydraulic modelling for a range of flood events;</li> <li>(ii) description, justification and assessment of design objectives (including bridge, culvert and embankment design);</li> <li>(iii) an assessment of afflux and flood duration (inundation period) on property; and</li> <li>(iv) consideration of the effects of climate change, including changes to rainfall frequency and/or intensity, including an assessment of the capacity of stormwater drainage structures.</li> </ul> <p>c) identify and assess the soil characteristics and properties that may impact or be impacted by the project, including acid sulfate soils;</p> <p>d) include a contamination assessment in accordance with the guidelines made under the Contaminated Land Management Act 1997 and in consultation with the EPA for the subject site including the Glenfield Waste Facility.</p>	
E22	<p>All future Development Application which includes construction in the vicinity of Amiens Wetland shall include advice from an independent wetland expert to determine whether it is artificial or a natural lake basin, its significance, and any recommendations on mitigation measures (if appropriate).</p> <p><b>E22A. All future Development Applications must demonstrate that the proposed development, including the importation and placement of fill, will not adversely impact on or be adversely impacted by long term management or monitoring of remediation required under the Stage 1 Early Works in relation to contaminated land management.</b></p>	<p>Section 10.1.2.1 (Biodiversity)</p> <p>Section 11.1.2.1 (Stormwater and Flooding)</p>
<b>Hazards and Risks</b>		
E23	<p>All future Development Application shall be accompanied by a preliminary risk screening completed in accordance with <i>State Environmental Planning Policy No. 33 – Hazardous and Offensive Development</i> and <i>Applying SEPP 33</i> (DoP 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the proposal. Should preliminary screening indicate that the proposal is ‘potentially hazardous,’ a Preliminary Hazard Analysis (PHA) must be prepared in accordance with <i>Hazardous Industry</i></p>	Section 16.1.2.1

	<p><i>Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis (DoP 2011) and Multi-Level Risk Assessment (DoP 2011). The PHA should:</i></p> <ul style="list-style-type: none"> <li>a) Estimate the risks from the facility;</li> <li>b) Be set in the context of the existing risk profiles for the intermodal facility and demonstrate that the proposal does not increase the overall risk of the area to unacceptable levels; and</li> <li>c) Demonstrate that the proposal complies with the criteria set out in the <i>Hazardous Industry Planning Advisory Paper No. 4 – Risk Criteria for Land Use Safety Planning</i>.</li> </ul>	
<b>Bushfire Management</b>		
E24	<p>All future Development Application shall be accompanied by an assessment against the Planning for Bushfire 2006 (NSW Rural Fire Service).</p> <p>E24A. All future Development Applications must demonstrate that bushfire asset protection zones do not impact on biodiversity offset areas and the Georges River riparian corridor.</p>	Section 17.1.1.2
<b>Building Code of Australia</b>		
E25	All future Development Applications shall demonstrate compliance with the Building Code of Australia, as relevant.	Section 1.7.1
<b>Subdivision</b>		
E26	<p>Any future Development Application for subdivision must:</p> <ul style="list-style-type: none"> <li>a) demonstrate compliance with the minimum lot size specified in the Liverpool Local Environmental Plan;</li> <li>b) demonstrate compliance with Condition 15 of this consent;</li> <li>c) include a subdivision plan showing completed estate works including but not limited to site services, internal roads, maintenance access roads, pedestrian paths, landscaping, lighting of common areas, provision for emergency services including for firefighting, onsite detention basins and stormwater treatment systems;</li> <li>d) include a detailed management and maintenance program for estate infrastructure; and</li> </ul>	Section 3.1.2.3



	e) nominate a single entity responsible for implementation of the management and maintenance program.	
<b>Staging</b>		
E27	<p>Any future Development Applications that propose staging of construction must provide details of staging which:</p> <ul style="list-style-type: none"> <li>a) describes how the development will relate to other future development stages including those on the MPE site;</li> <li>b) describes how estate infrastructure will be delivered in conjunction with warehouse construction;</li> <li>c) includes an indicative construction program for both MPW and MPE;</li> <li>d) documents how compliance with the requirements of conditions in this Schedule (Schedule 4) will be achieved; and</li> <li>e) demonstrates that estate infrastructure will be delivered prior to operation of the intermodal terminal facility, warehousing delivered in each stage, and the freight village.</li> </ul>	Section 3.7
<b>Cumulative Impacts</b>		
E28	<p>All future Development Applications must provide the timing for construction and operation on both the MPW and MPE sites and provide cumulative assessments for construction and operation on the MPW and MPE sites including, but not limited to</p> <ul style="list-style-type: none"> <li>a) traffic and access impacts;</li> <li>b) noise and vibration impacts;</li> <li>c) air quality impacts;</li> <li>d) stormwater drainage impacts;</li> <li>e) ecological impacts.</li> </ul>	<p>Section 7.1.2.1 (Traffic)</p> <p>Section 8.1.2.1 (Noise and Vibration)</p> <p>Section 9.1.2.1 (Air Quality)</p> <p>Section 11.1.2.1 (Stormwater and Flooding)</p> <p>Section 10.1.2.1 (Biodiversity)</p> <p>Section 18 (Cumulative Impacts)</p>
<b>Interaction between MPW and MPE Sites</b>		

E29	<p>Any future Development Application that proposes the use of infrastructure on the MPE site or integration of operations across the MPW and MPE sites must:</p> <ul style="list-style-type: none"> <li>a) demonstrate that there will be no overall increase in cumulative construction and operational environmental impacts;</li> <li>b) describe the relationship between similar facilities on each site such as the intermodal terminal facilities and freight villages;</li> <li>c) provide a mechanism to record the TEUs supplied and received at each of the MPW and MPE intermodal terminal facilities to demonstrate compliance with condition 7 and 8 of this consent and conditions 1.6 and 1.7 of the MPE Concept Plan (MP 10_0193) approval;</li> <li>d) provide an overall Precinct (MPW + MPE) layout and design drawings, including for: <ul style="list-style-type: none"> <li>(i) access to the Precinct,</li> <li>(ii) internal access and connections for pedestrians and vehicles including for the transfer of containers between intermodal terminal facilities and warehouses,</li> <li>(iii) public access including vehicle access between Anzac Road and Cambridge Avenue, public transport and pedestrian/cyclist connections,</li> <li>(iv) stormwater infrastructure including stormwater treatment and detention, and</li> <li>(v) landscaping and directional signage; and</li> </ul> </li> <li>e) outline management and maintenance arrangements for the use of infrastructure on the other site.</li> </ul>	<p>Section 1.5</p> <p>Section 3.1.2.6</p> <p>Section 18</p>
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Appendix B – Draft Section 88B Instrument (Norton Rose Fulbright  
Australia, 2020)



Appendix D – Secretary’s Environmental Assessment Requirements –  
SD 10431 (20 March 2020)



Appendix F – Clause 4.6 Variation – Minimum Lot Size Requirements:  
Moorebank Precinct West, Intermodal Terminal Facility  
(Aspect Environmental, 2020)

























