



Moorebank Precinct West Concept Proposal

*State Significant
Development
Modification Assessment
(SSD 5066 MOD 1)
May 2019*



May 2019

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Cover photo

Source: Concept Modification Report, June 2016

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Glossary

Abbreviation	Definition
AEP	Annual exceedance probability
Applicant	SIMTA, as Qube Holdings Limited, or anyone else entitled to act on this consent
ARI	Annual Recurrence Interval
AHD	Australian Height Datum
BAR	Biodiversity Assessment Report
Concept Approval / Concept Proposal	Approved Concept Proposal for the redevelopment of the site (SSD 5066)
Commission	Independent Planning Commission
Concept RtS	<i>Moorebank Intermodal Terminal Response to Submissions Report</i> for the Moorebank Intermodal Company by Parsons Brinckerhoff, dated May 2015
Concept SRtS	<i>Moorebank Intermodal Terminal Supplementary Response to Submissions Report</i> prepared for the Moorebank Intermodal Company by Parsons Brinckerhoff, dated August 2015
Consent	Development Consent
DA	Development Application
dB	Decibel
Department	Department of Planning and Environment
DJLU	Defence Joint Logistics Unit
DNSDC	Defence National Storage and Distribution Centre
DPI	Department of Primary Industries
EIS	<i>Moorebank Intermodal Terminal Project Environmental Impact Statement</i> for the Moorebank Intermodal Company by Parsons Brinckerhoff, dated October 2014
ENM	Excavated Natural Material
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPI	Environmental Planning Instrument
GFA	Gross Floor Area
ha	Hectares
ICNP	Interim Construction Noise Policy
IMEX	Import/export
IMT	Intermodal Terminal
INP	Industrial Noise Policy
LGA	Local Government Area
LLEP	Liverpool Local Environmental Plan

LGA	Local Government Area
LoS	Level of Service
Minister	Minister for Planning
MPE	Moorebank Precinct East
MPW	Moorebank Precinct West
NML	Noise Management Level
OEH	Office of Environment and Heritage
OSD	Onsite Detention
PMF	Probable Maximum Flood
RMS	Roads and Maritime Services
RtS	Response to Submissions
Secretary	Secretary of the Department of Planning and Environment
SEPP	State Environmental Planning Policy
SRD SEPP	<i>State Environmental Planning Policy (State and Regional Development) 2011</i>
SSD	State Significant Development
SSFL	Southern Sydney Freight Line
Stage 1 Early Works	Approved initial MPW early works for general site preparation works (SSD 5006)
Stage 2 Application	The concurrent Stage 2 SSD DA for the MPW site
TEU	Twenty-foot equivalent unit (freight container)
TfNSW	Transport for New South Wales
ToA	Terms of Approval
TSC	<i>Threatened Species Conservation Act 1995</i>
VENM	Virgin Excavated Natural Material



Executive Summary

SIMTA, as Qube Holdings Limited (the Applicant), seeks to modify the Moorebank Precinct West (MPW) Concept consent which is for an Intermodal Terminal (IMT) facility, rail connection and associated freight village and warehouse estate. The MPW site is part of a wider precinct (Moorebank Intermodal Precinct) which includes the adjacent Moorebank Precinct East (MPE) IMT facility and rail link to the Southern Sydney Freight Line (under construction), freight village and associated warehousing (construction of the first warehouse has commenced).

The Moorebank Intermodal Precinct is former Defence land located at Moorebank, within the Liverpool Local Government Area (LGA). The MPW site is bounded by the ABB site and M5 Motorway to the north, East Hills Rail Line to the south, Moorebank Avenue to the east, and the Georges River to the west. The MPE site is to the east of Moorebank Avenue with the Defence Joint Logistics Unit (DJLU) site to the north and remnant bushland, known as the 'Boot land', to the south.

As a staged State Significant Development (SSD 5066), approval of future development applications is required for construction and operation of the MPW facility. The MPW Concept consent included approval for Early Works (Stage 1 of the development), for activities such as building demolition and remediation of contaminated land. A subsequent MPW Stage 2 Application has been concurrently assessed, and seeks approval for construction and operation of the intermodal terminal facility, freight village, 215,000 m² of the approved warehousing and associated infrastructure. For the purposes of this Modification Application, the MPW Stage 2 Application is considered a 'future development application'.

The Modification Application includes importation of approximately 1,600,000 m³ of fill to raise the site generally by 2 to 3 m. Changes to the construction boundary for site access intersection works are proposed, along with changes to the development layout including the number and location of onsite detention (OSD) basins. One of the two rail terminals would be deleted and transfer of container freight between the MPW warehouses and MPE rail terminal would be permitted. The number of construction stages would reduce and the Applicant seeks the ability to subdivide the site in the future.

Engagement

The Department exhibited the Modification Application over July/ August 2016 and the Response to Submissions report (RtS) from December 2016 to February 2017. There were 365 submissions on the Modification Application (including 351 from individuals and five from local stakeholder groups) and 193 submissions on the RtS (including 182 from individuals and four from stakeholder groups). All individuals objected to the proposed modification as did most stakeholder groups. In March 2017, the Department met with community representatives who presented their concerns about the overall Moorebank Intermodal Precinct development.

Community concerns related to traffic impacts, pollution, noise, sustainability, health impacts, air quality, environment/ ecological impacts, fill importation, hours of operation, cultural/ heritage impacts, light spill and visual impacts. ABB raised concerns about potential impacts on their site including vehicle and pedestrian access, flooding and changes to contaminated groundwater depths and flows.

Matters raised by Liverpool City Council (LCC), which objected to the modification, included a lack of precinct-wide master planning and consideration of cumulative environmental impacts. Key issues raised were traffic impacts and the impact of the raised development when viewed from public open space to the west.

Comments by Government agencies related to the suitability of imported fill, direct and indirect impacts of site fill on biodiversity (including core Koala habitat), provision of an adequate vegetated riparian corridor width along the Georges River and minimising the impact of OSD basin outlets on the riparian corridor. Comments were also provided on traffic management and intersection upgrades.

Assessment

In consideration of the issues raised by the community and LCC, the Department recommends future development applications include cumulative (precinct-wide) assessments for traffic and access, noise and vibration, air quality, stormwater and ecological impacts; and design drawings for infrastructure servicing the combined MPW and MPE sites. The Department also recommends that future development applications include mitigation measures to address traffic impacts associated with fill importation, potential truck queuing on Moorebank Avenue at the DJLU and MPE intersections during transfer of containers, and visual impacts associated with the raised landform and built form.

The Department also recommends conditions that the importation of contaminated fill be prohibited, finished ground levels not exceed 16.6 m AHD, and clearing and earthworks be phased to minimise dust and erosion and associated water quality and ecological impacts. Future development applications should demonstrate development would be unaffected by residual contamination, and long term site management and monitoring (including of per- and poly-fluoroalkyl substances) would be unaffected by fill placement.

As existing water bodies/ ponds would be filled and all remnant vegetation (including canopy trees) would be removed for construction of the warehouse estate and intermodal terminal facility, the Department recommends site layout and urban design conditions to enhance the Georges River riparian corridor and support wildlife links to surrounding remnant vegetation.

The Department also recommends that future development applications incorporate Water Sensitive Urban Design and Urban Heat Island Mitigation principles and the principles contained in the NSW Government Architect's *Greener Places* policy. This is to assist in mitigating visual impacts, ensure stormwater treatment and detention infrastructure is visually and physically integrated with site landscaping, landscape amenity is provided for employees and visitors, and urban heat island effects are mitigated. These requirements would apply to MPW Stage 2, which proposes an increase in development density (i.e. 70% of the approved warehousing gross floor area compared to 50% originally assessed) on the northern half of the site.

In relation to development staging, the Department recommends that future development applications provide details on sequencing for estate infrastructure and warehouse construction and operation within the Moorebank Intermodal Precinct, and within the proposed MPW Stage 2 and future MPW Stage 3 developments. This should demonstrate that supporting estate infrastructure is delivered prior to commencement of operation of the IMT facility, warehouses and freight village.

With regard to a future development application for subdivision, the Department recommends conditions that subdivision plans show estate infrastructure and demonstrate compliance with the Liverpool Local Environmental Plan 2008 minimum lot size, show the nexus between the IMT facility and warehousing, and outline how this infrastructure would be maintained and managed.

The Department considers that pollution and health issues are addressed through the recommendations relating to dust, fill quality, long term management of contamination and stormwater treatment. Concerns regarding hours of operation are addressed through recommendations for cumulative noise impact assessments and identification of mitigation measures. Existing Concept conditions cover cultural/ heritage impacts not addressed during Early Works (Stage 1).

The proposed modification does not substantially change the nature of the development or use of the site and it supports the broader project benefits and their contribution to the public interest, including employment and shifting freight to rail thereby reducing the impact of heavy vehicles on the road network. Although there are significant matters to be assessed and resolved, the Department considers that the proposed modification is approvable subject to the recommended conditions.



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1. Introduction

This report provides an assessment of an application to modify the Moorebank Precinct West (MPW) Concept Proposal consent (State significant development consent (SSD 5066)). The MPW site and adjacent Moorebank Precinct East (MPE) concept consents are for use of the sites as intermodal terminal (IMT) facilities with associated warehousing and freight village.

The MPW Concept Modification (SSD 5066 MOD 1) amended proposal, as described in the Response to Submissions (RtS), seeks approval to modify the MPW Concept Proposal and Early Works (Stage 1) consent to permit:

- importation of approximately 1,600,000 m³ of clean fill for bulk earthworks within the site to raise existing ground levels generally by 2 to 3 m and up to 3.6 m in some locations
- expansion of the construction footprint to allow for Moorebank Avenue / Anzac Road intersection works
- transfer of containers by heavy vehicles between the MPE IMT facility and MPW warehouses
- 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 west and enlargement of the southern OSD basin
- deletion of one of the two IMTs (the import/ export (IMEX) IMT, also described as the port shuttle rail freight IMT) and associated increase in the warehousing area
- use of the interstate IMT (with additional rail track) for interstate, intrastate and IMEX freight
- increase in building heights (relative to existing ground levels) as a result of raising the site
- reduction in construction stages from four (excluding Early Works (Stage 1)) with potentially only two future development applications
- ability to subdivide as part of a future development application.

The application was lodged by the Sydney Intermodal Terminal Alliance (SIMTA), as Qube Holdings Limited (the Applicant) under section 4.55(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Note that a concurrent application was lodged to carry out Stage 2 of the MPW development to undertake the works associated with this modification. Information contained in the MPW Stage 2 Application is also referred to in this report.

As noted above, the MPW Concept consent also included Early Works (Stage 1 of the development) including building demolition and heritage impact mitigation measures, as well remediation of contaminated land and rehabilitation of the excavation/ earthmoving training area (also referred to as the 'dust bowl') shown in yellow on **Figure 1**.

The proposed modification was originally for the importation and placement of 1,600,000 m³ of fill as part of Early Works (Stage 1). However the Applicant advised that approval for this work is no longer sought as part of the Stage 1 development, with the amended modification in the RtS proposing all fill importation take place as part of a future development application (MPW Stage 2).

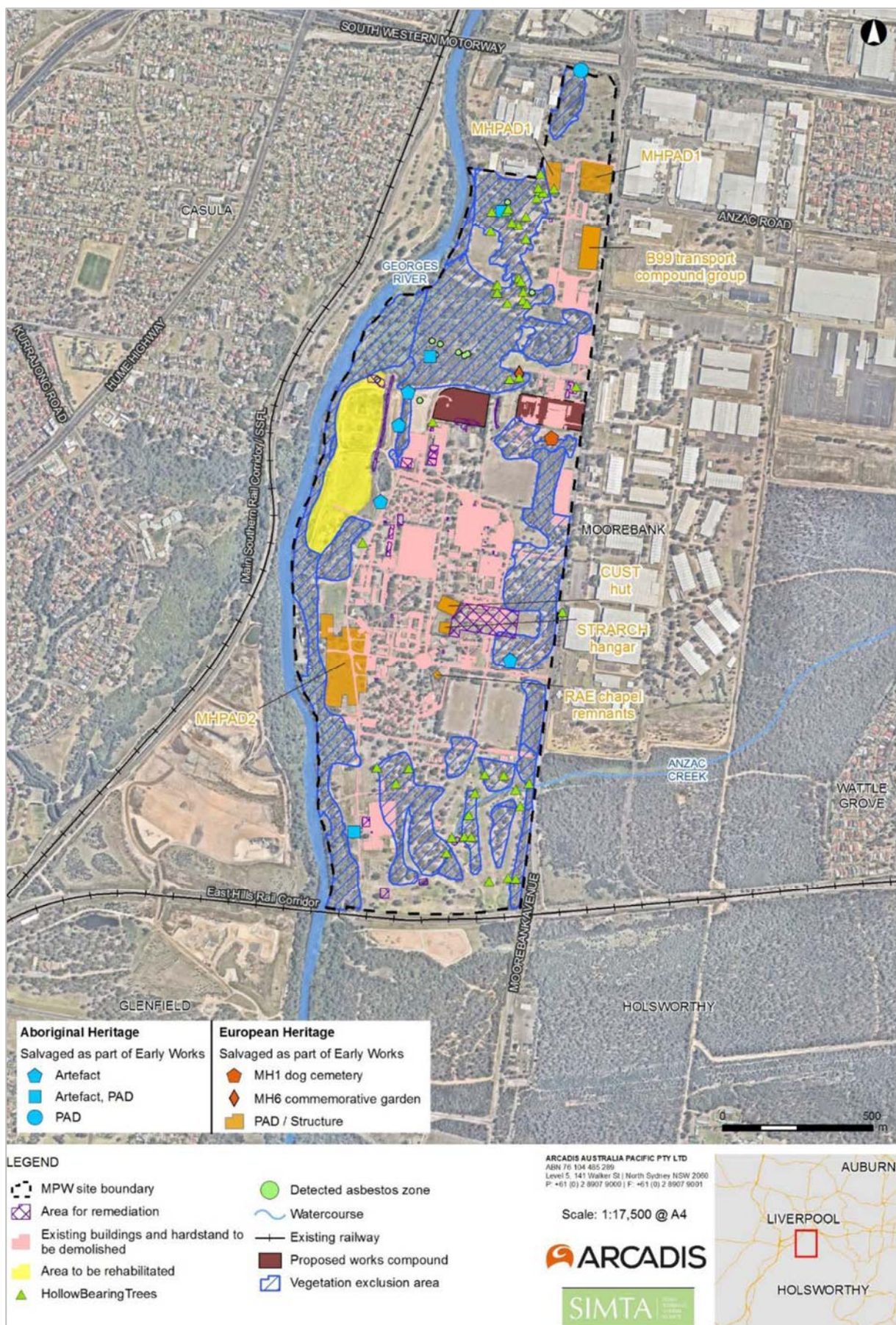


Figure 1 | MPW Early Works (source: MPW Stage 2 EIS 2016)

Freight trains from the Moorebank Intermodal Precinct would travel along the Southern Sydney Freight Line (SSFL) which is located on the western side of the Georges River adjacent to the Cumberland Line. From Sefton Junction freight trains travel along the metropolitan freight network to Enfield/ Chullora and then the Port Botany Goods Line. Port Botany is located approximately 26 km directly to the east of the site, or 33 km by road.

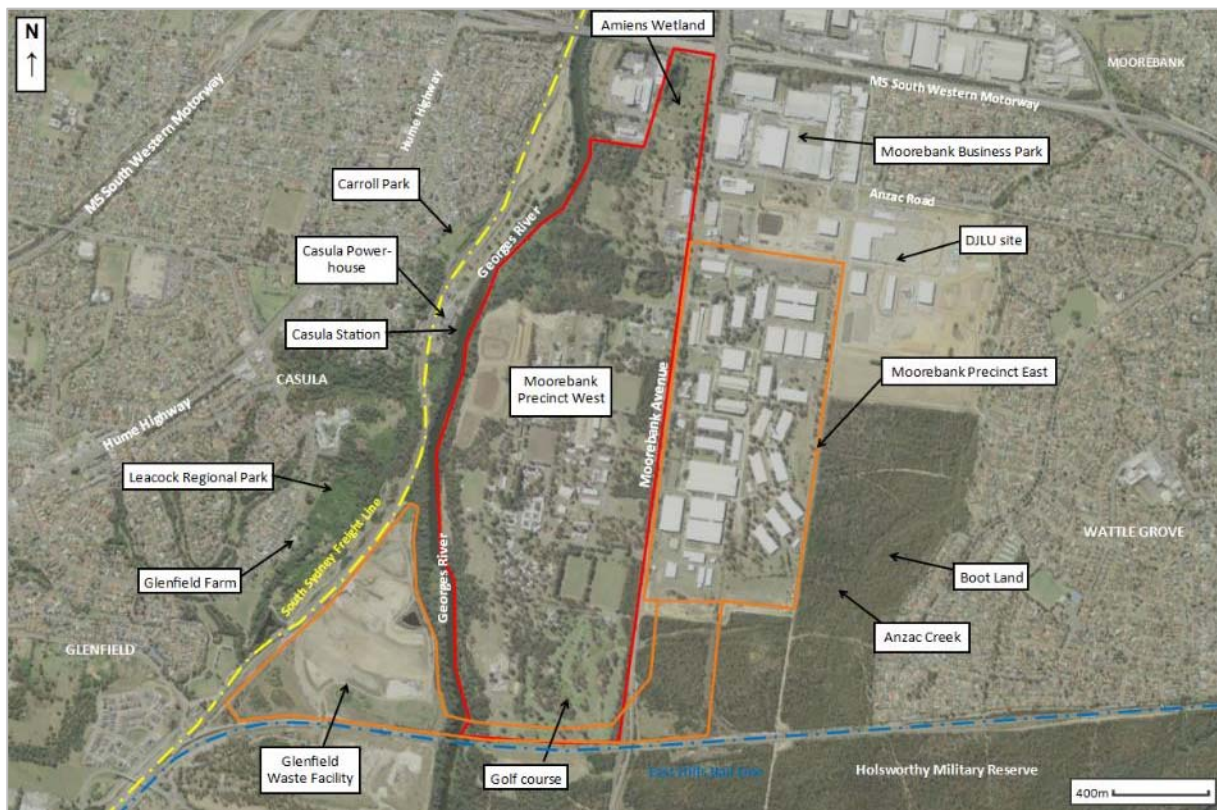


Figure 3 | Surrounding Land Uses (base map source: sixmaps)

The Applicant's justification for the modification is to provide opportunities to optimise the operation of the IMT facility, facilitate the construction process, and address flooding and drainage issues. Specific supporting information from the Applicant's RtS is summarised below:

- imported clean fill is required to achieve design grades for the east-west piped stormwater drainage system as well as overland flows to the OSD basins, with the additional/ relocated OSD basins accommodating the redistribution of flows resulting from the changed landform
- relocation of the freight village and truck parking area as shown in the Concept RtS and use of the interstate IMT to process IMEX freight would improve operational efficiencies and the additional railway track is required for the predicted demand
- due to staged development over the Moorebank Intermodal Precinct, an operational IMT on the MPE site may require offsite freight storage (i.e. use of MPW warehouses) necessitating right turns out of the MPW site onto Moorebank Avenue to access the MPE site
- subdivision (as part of a future application) is required to facilitate long-term warehouse leases as the maximum lease term for parts of a lot under Sections 23F and 23G of the *Conveyancing Act 1919* is five years
- the increase in building heights is required as the maximum 21 m permitted under the *Liverpool Local Environment Plan 2008* (LEP 2008) is measured from existing ground levels.

1.2 Approval History

On 3 June 2016 consent was granted by the then Planning Assessment Commission for the MPW Development SSD 5066. The development consent includes conditions to be met for future development applications and was for the:

- **Concept Proposal:** involving the use of the site as an intermodal facility, including rail link to the SSFL, warehouse and distribution facilities, and associated works.
- **Early Works (Stage 1):** involving the 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.

This Modification Application (MOD 1) is being assessed in parallel with the MPW Stage 2 Application (SSD 7709) which proposes construction and operation of elements of the project including:

- the importation, temporary stockpiling and placement of 1,600,000 m³ of clean fill over the entire site and construction and temporary ancillary facilities including for material crushing
- construction and 24/7 operation of an IMT facility to support a container freight throughput volume of 500,000, twenty-foot equivalent units (TEUs) per annum
- operation of the rail link to the SSFL (constructed under MPE Stage 1) and container freight movements by truck between the MPE IMT and MPW warehouses
- construction and 24/7 operation of a warehouse estate (215,000 m² GFA) on the northern part of the site
- intersection upgrades on Moorebank Avenue at Anzac Road and Bapaume Road
- construction and operation of onsite detention basins and bioretention/ biofiltration systems, and trunk stormwater drainage on the northern part of the site.

As noted earlier, the Moorebank Intermodal Precinct includes the MPE development. A summary of consents for the MPE site is provided in **Table 1**.

Table 1 | Summary of MPE Consents

Appl. No.	Application	Approval Date
MP 10_0193	SIMTA Intermodal Facility Concept Plan	29/9/2014
SSD 6766	SIMTA Intermodal Terminal Facility – Stage 1 [MPE Stage 1]: intermodal terminal facility including connection to SSFL	12/12/2016
SSD 7628	SIMTA Intermodal Terminal Facility – Stage 2 [MPE Stage 2]: warehouses and distribution facilities	31/1/2018

The MPE Concept Plan has been modified twice. The first modification was minor with MOD 2 being similar to this MPW modification and included importation of 600,000 m² of clean fill, Moorebank Avenue roadworks and reconfiguration of the internal layout. MPE Stages 1 and 2 have commenced construction and a modification to Stage 2 (MOD 1) is currently under assessment. MPE Stage 2 (MOD 1) and seeks approval for:

- internally illuminated signage and signage above 3m on buildings
- changes to the timing for road upgrade design approval and completion of upgrade works
- applying an area-based method to determine the required biodiversity offset credits for *Hibbertia puberula* subsp. *puberula*.



2. Proposed Modification

A summary of the proposed amended modification (MOD 1) compared to the MPW Concept Proposal is provided in **Table 2**. **Figure 4** shows the approved layout and **Figure 5** the modified layout.

Table 2 | Summary of MPW Concept Proposal and proposed Modification

MPW Concept Proposal	MOD 1
Importation of approximately 46,130 m ³ of fill (balanced cut and fill was previously indicated in the EIS).	Importation of approximately 1,600,000 m ³ of clean fill for bulk earthworks within the site which would raise areas within the site by up to 3.6 m.
Condition 16 states that building heights are to be a maximum of 21 m [above existing ground levels].	Increase in building heights to a maximum of 37.6 m AHD as a result of raising site.
The development consent did not identify Lot 3 DP 1197707 (DJLU site) or Anzac Road and Moorebank Avenue public road reserves as being land the subject of the development.	Expansion of construction footprint to allow for Moorebank Avenue/ Anzac Road intersection works.
Condition 15 in Schedule 2, Terms of Approval, only permits MPW warehousing to be used for activities associated with freight using the MPW rail terminal(s).	Transfer of containers by heavy vehicles between the MPW warehouses and MPE rail terminal and between the MPE rail terminal and MPW warehouses.
<p>The approved layout showed:</p> <ul style="list-style-type: none">• two rail terminals• central freight village and truck loading area servicing both rail terminals• four OSD basins (two adjacent to the conservation area).	<p>The modified layout shows:</p> <ul style="list-style-type: none">• deletion of the IMEX IMT and associated increase in the warehousing area• rearrangement of warehousing, freight village, internal roads and truck parking locations and layouts• additional (OSD) basin near the northern boundary of the site and relocation and enlargement of the southern OSD basin to the west adjacent to the conservation area.
<p>Interstate rail terminal with eight tracks, four arrival/ departure tracks, and four container handling tracks.</p> <p>Interstate rail terminal loading/ unloading up to 12 x 1800 m long trains per week.</p> <p>IMEX rail terminal loading/ unloading approximately 137 x 650 m long trains per week.</p>	<p>Combined rail terminal with additional arrival/ departure track (nine tracks in total).</p> <p>Loading/ unloading up to 30 trains per week (mix of lengths).</p>
The Concept included construction of warehousing in three phases (maximum of 150,000 m ³ in one phase) with the approved 300,000 m ³ of warehousing distributed over the entire site.	Reduction in construction stages from four (excluding Stage 1 Early Works) with potentially only two future development applications, i.e. MPW Stage 2 for construction of the IMT facility and 215,000 m ² of warehousing, with a future MPW Stage 3 for the balance of approved warehousing (85,000 m ²).
The Concept Proposal did not include subdivision.	Ability to subdivide the site as part of a future development application.

As shown in **Figure 4**, the approved MPW Concept included two IMTs, centrally located freight village and truck parking area and three OSD basins (two adjacent to the conservation area). Note that the northern basin shown in **Figure 4** is existing and is known as Amiens Wetland. **Figure 5** shows the modified layout with one IMT, the freight village and truck parking further to the north, additional OSD basin next to Amiens Wetland and the small rectangular OSD at the southern end of the site replaced with a large OSD basin to the west.

A comparison of the Concept construction and operational phases is shown in the Department's assessment (**Section 6.2.11**) along with the proposed modification to construction staging.

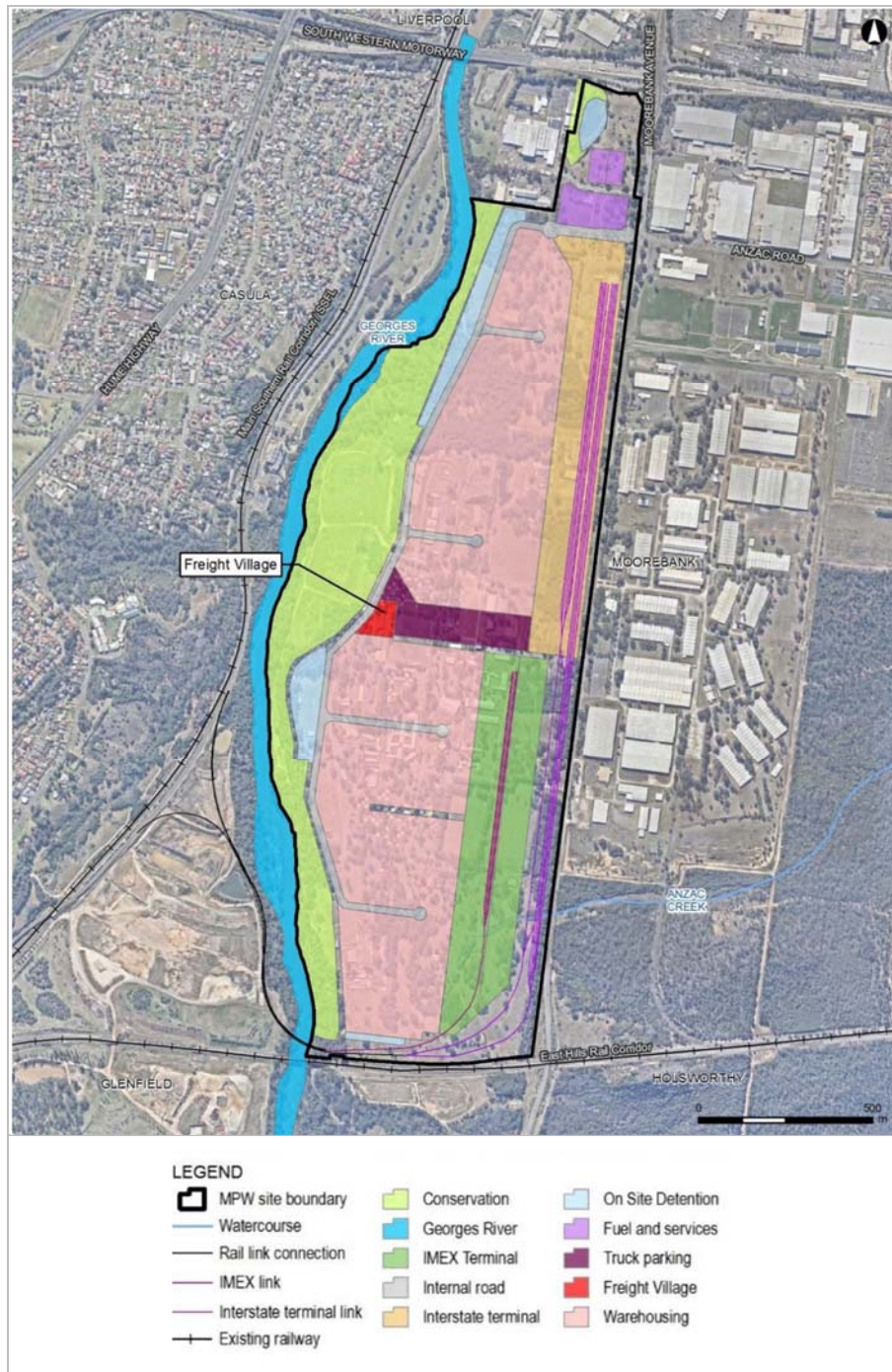


Figure 4 | Approved Layout (source: MOD RtS)

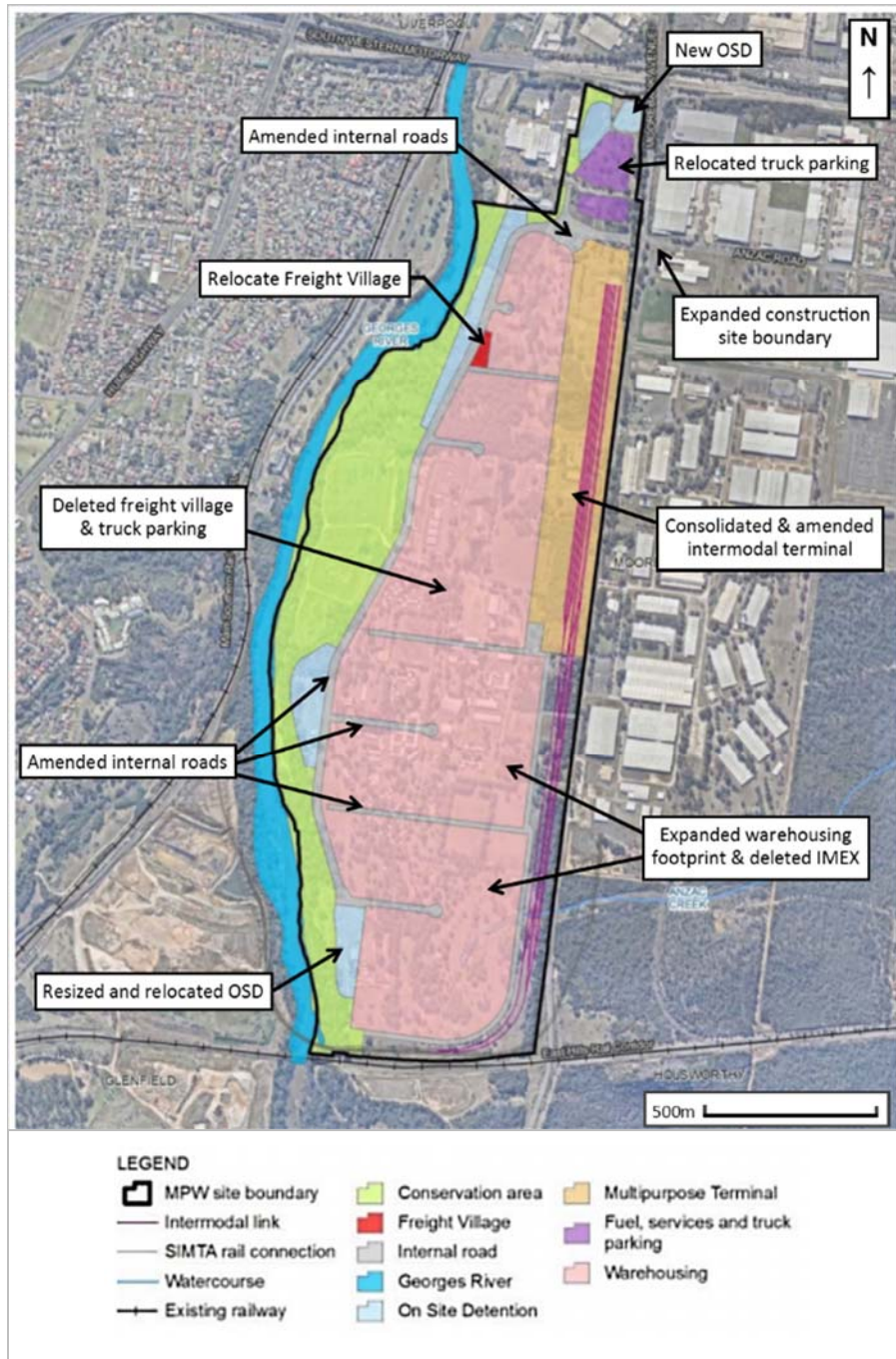


Figure 5 | Modified Layout



3. Strategic Context

The Moorebank Intermodal Precinct is identified as an 'important freight and logistics precinct' in *Building Momentum: State Infrastructure Strategy 2018-2038* (INSW 2018). The Strategy indicates that the terminal is one of the 'highest priority investments necessary to achieve a target of carrying 40 per cent of containerised traffic on rail to and from Port Botany' to alleviate existing congestion on the road network around the site.

The *Future Transport Strategy 2056* (2018) emphasises the need for safe, efficient and sustainable movement of freight, and sets a series of future directions for investigation including expanding intermodal rail capacity in Western Sydney. The subsequent *NSW Freight and Ports Plan* (2018) concludes that intermodal terminals within Greater Sydney are 'critical for increasing the utilisation of the rail freight network, particularly containers to and from Port Botany'.

The Greater Sydney Commission's *A Metropolis of Three Cities – the Greater Sydney Regional Plan*, notes that freight volumes are forecast to 'almost double in the next 40 years' and 'increasing importance [is being] placed on 24/7 supply chain operations to maintain Greater Sydney's global competitiveness.' The Plan notes that 'substantial future industrial land supply', including the Moorebank Intermodal Precinct, 'will support large-scale logistics growth'.

The Greater Sydney Commission's *Western City District Plan* states that:

Investment in potential dedicated freight corridors will allow a more efficient freight and logistics network. Moorebank Intermodal Terminal is currently under construction in western Sydney, and will provide an integrated service including interstate terminals, warehousing, retail and service offerings, and rail connection to the Southern Sydney Freight Line, which also provides dedicated freight rail access all the way to Port Botany. Transport for NSW and the Australian Government are committed to supporting efficient movement of goods close to the Moorebank Intermodal Terminal by facilitating freight rail and road access.



4. Statutory Context

4.1 Scope of Modification

The Department has reviewed the scope of the Modification Application (as amended by the RtS) and considers that the application can be characterised as a modification, as the proposed changes to the approved Concept Proposal:

- would not significantly increase the overall environmental impacts of the project as approved (while recognising there would be an increase in temporary construction impacts due to fill importation and placement)
- would involve only a small disturbance outside the already approved construction area for an intersection upgrade to provide access to the development and service the local road network
- would not alter the purpose of the proposal for an IMT facility and associated warehouse estate and accordingly the proposed modification is substantially the same development as originally approved.

Therefore, the Department is satisfied the proposed modification is within the scope of section 4.55(2) of the EP&A Act and does not constitute a new development application. Accordingly, the Department considers that the application should be assessed and determined under section 4.55(2) of the EP&A Act.

4.2 Relevant Environmental Planning Instruments

The following Environmental Planning Instruments (EPIs) are relevant to this application:

- State Environmental Planning Policy No. 19 - Bushland in Urban Areas
- State Environmental Planning Policy No.33 - Hazardous and Offensive Development
- State Environmental Planning Policy No. 44 - Koala Habitat Protection
- State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55)
- State Environmental Planning Policy (infrastructure) 2007
- Liverpool Local Environmental Plan (LLEP) 2008.

The Department undertook a comprehensive assessment against these EPIs in its original assessment of the Concept Proposal and is satisfied that the proposal remains consistent with them, except for the proposal to raise building heights above the height controls in the LLEP. The Department's assessment of the clause 4.6 variation request is discussed in **Section 6.1.8** of this report.

4.3 Consent Authority

The Minister is the consent authority under section 4.5(a) of the Act unless the Independent Planning Commission (IPC) becomes the consent authority due to the circumstances listed in clause 8A(2) of the State and Regional Development SEPP. For this application, the Commission is the consent authority because:

- Liverpool City Council made an objection; and
- there were over 25 public submissions by way of objection.



5. Engagement

5.1 Department's Engagement

In accordance with the requirements of the EP&A Act and clause 118 of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation), the Department exhibited the Modification Application from 7 July 2016 to 22 August 2016.

There were 365 submitters including 351 individuals and five local stakeholder groups. The Applicant provided a RtS report in December (dated 5 December 2016). As the RtS included an amended modification proposal (as described in **Section 2**) there was a further exhibition (in accordance with section 4.55(2) of the EP&A Act) from 14 December 2016 to 24 February 2017.

In both cases:

- the exhibition was advertised in the *Sydney Morning Herald*, *Daily Telegraph*, *Liverpool Leader* and *Campbelltown Macarthur Advertiser* (6 July 2016 for the Modification Application and 14 December 2016 for the RtS (amended modification proposal))
- the Modification Report and RtS were made available on the Department's website and at:
 - the Department's office
 - Liverpool City Council
 - Nature Conservation Council of NSW
 - Liverpool City Library (Modification Application only, as Council requested that future applications be made available at its Customer Service Centre)
 - Campbelltown City Council
 - Glenquarie Branch Library.
- previous submitters were notified and invited to make a submission along with adjoining landholders and relevant Government agencies.

There were 193 submitters on the RtS including 182 individuals and four stakeholder groups (including an adjacent business, ABB Australia Pty Limited). The Applicant prepared a Supplementary Response to Submissions (SRtS), dated 4 August 2017, which was made available on the Department's website and forwarded to the Councils and agencies that provided submissions on the RtS. The Department made a series of requests for additional information to provide clarification and inform its assessment of the proposal following agency submissions on the RtS. On 20 December 2018, the Applicant provided this additional information in a single Supplementary Information compilation: the Consolidated Assessment Clarification Responses.

On 9 March 2017, at Liverpool City Library, Department representatives met with key, long-term residents of surrounding suburbs and representatives from the following stakeholder groups:

- Better Planning Network
- Liverpool Action Group
- Residents Against Intermodal Development Moorebank (RAID)
- East Liverpool Progress Association
- Liverpool Community Independents Team.

5.2 Key Issues – Public Submissions

Most public submissions were from Liverpool LGA residents (over 80%), mostly from suburbs surrounding the proposed development. All submissions objected to the modification. Key concerns are summarised in **Table 3**.

Table 3 | Summary of key issues raised in Public Submissions on the Modification Application and RtS

Issue	% of Submissions Modification Application	% of Submissions RtS Amended Modification
Traffic Impacts	64	51
Pollution	34	28
Noise	32	22
Sustainability	29	87
Health Impacts	29	25
Air Quality	29	17
Environment/ Ecological Impacts	26	27
General Objection	12	13
Fill importation	10	16
Hours of Operation	7	5
Cultural/ Heritage Impacts	2	4
Light Spill	1	8
Visual Impacts	1	6

5.3 Key Issues – Key Community Stakeholders

Most stakeholder groups objected to the proposed modification and their submissions raised the same or similar issues to those listed in **Table 3**.

The matters raised during the key stakeholder meeting on 9 March 2017 are summarised below. They do not specifically relate to the modification but provide an overview of community concerns regarding impacts of development on both the MPW and MPE sites.

Long-term residents of surrounding suburbs

- applicability of baseline information for use in assessment of impacts of the raised site
- new landform and the effect on the riparian zone
- noise impacts - operational noise associated with the warehousing and the intermodal road, wheel squeal due to the rail entry line curve, need for containment of noise on the site/ noise walls
- visual impacts – need to screen stacked containers from view, need screening and vegetation buffers, and trees need to be planted now
- flooding from the Georges River
- traffic issues, health issues, indigenous issues, heritage issues.

Liverpool Action Group

- impact on local amenity (peace and quiet) – site in close proximity to thousands of recently built homes at Wattle Grove, Holsworthy and Moorebank and is overlooked by housing development at Casula
- main issues are flooding, remediation, noise, traffic, waste and pollution, environmental issues.

Residents Against Intermodal Development Moorebank (RAID)

- health impacts
- noise issues.

Liverpool Community Independents Team

- significant traffic issues, need for transport modelling to be reassessed, need for advice from RMS
- large number of truck movements for filling of the site compared to truck movements for building the facility
- key assumptions require closer scrutiny.

East Liverpool Progress Action Group

- no precinct-wide assessment - two separate developments (MPW and MPE)
- traffic safety - existing dangerous merge/weave operation at the junction of Moorebank Avenue and the M5 Georges River Bridge
- impacts on neighbourhood amenity
- incompatible intrusion into the Georges River natural environment
- burial of a hundred years of military history.

Better Planning Network

- need to set emission standards for trains
- questioned benefits in terms of numbers of trucks that would be moved off the M5 by the proposed development and limited employment generation
- impact on M5 intersection
- capacity of the road and rail network to accommodate the project.

5.4 Key Issues – Councils

Liverpool City Council objected to the modification and amended modification proposals and provided submissions on the Modification Application, RtS and SRtS. Fairfield City Council provided comments on the Modification Application. See summaries in **Table 4**.

Table 4 | Summary of Council Submissions

Liverpool City Council (LCC)

Modification Application

LCC objected to the creation of an intermodal freight terminal at Moorebank for the following reasons:

- the proposal would adversely impact on the local and surrounding community
- the technical reports provided with the application are inadequate
- the MPW and MPE applications should be considered together to address cumulative impacts and there should be one masterplan for the entire intermodal precinct.

The following general comments were provided on the Modification Application:

- the proposal is not 'substantially the same' as the Concept Approval and section 96(2) is not the correct planning process to assess the proposal
- the increase in truck movements would have adverse amenity impacts

- fill origin needs to be identified in order to consider vehicle routes
- increased onsite dust emissions during construction would have adverse air quality impacts
- the increased importation of fill and extended construction hours to 10 pm would have adverse noise and environmental impacts
- construction noise exceedances would be greater than predicted
- crushing and compaction should be restricted to no later than 7 pm
- the extent and timing of fill importation and earthworks is ambitious and further consideration should be given to assessing the feasibility of the works
- confirmation is required of whether the importation of fill is a 'scheduled activity' under the *Protection of the Environment Operations Act 1997*
- the Department should jointly regulate/ enforce the proposed development with the EPA
- the environmental monitoring program should incorporate qualitative and quantitative measures.

Amended Modification (RtS)

LCC generally reiterated the comments above and stated that the RtS did not respond to all of Council's comments including heritage, ecology, contamination, human health and traffic. Additional matters raised were:

- the increase in building heights would have a harmful visual impact when viewed from Casula
- the importation of fill would have an adverse visual impact on the Georges River foreshore and parkland surrounding the Casula Powerhouse
- the movement of freight between MPW and MPE would further increase traffic impacts
- inconsistencies between MPW and MPE traffic analysis and traffic modelling is unclear
- further assessment of the interaction between the MPW and MPE sites is required.

SRtS

Council reviewed the information presented in the SRtS and provided the following comments:

- there were still significant concerns about the veracity of assessments undertaken with regards to both traffic (including intersection modelling assumptions) and noise impacts (including exacerbation of impacts due to temperature inversions)
- a precinct-wide masterplan covering both the MPW and MPE IMT facilities is required to enable a vigorous and comprehensive assessment of the whole precinct to provide clarity on the overall cumulative impacts of the entire development on the surrounding area
- access to neighbouring properties, pedestrian and cycle routes and crossing points needs to be maintained and there should be provision for pedestrian movements between MPW and MPE.

Fairfield City Council (FCC)

Modification Application

FCC did not object to the proposed Modification Application and provided the following comments:

- there would not be significant traffic impacts within the Fairfield LGA
- the modification is substantially the same as the Concept Approval and would not alter the final development.

5.5 Key Issues –Government Agencies

A summary of the comments provided in Government agency submissions on the Modification Application and amended modification (RtS) (where a submission was made) are provided in **Table 5**. Where provided, **Table 5** also includes agency comments on the SRtS.

Table 5 | Summary of Government Agency Submissions

Environment Protection Authority (EPA)

Modification Application

- it is noted the requirements of the Resource Recovery Exemption will be met for fill importation
- the current conditions of the Concept Approval and Stage 1 Approval adequately cover the key environmental issues of noise and air quality.

Amended Modification (RtS)

- an EPA accredited Site Auditor should be engaged to approve the suitability of fill material and fill is required to meet the requirements of the EPA's Resource Recovery Guideline.

SRtS

- EPA advised it was satisfied with the Applicant's response.

TfNSW/RMS

Modification Application

- the Moorebank Avenue North leg right turn lane should be increased to provide additional traffic storage
- the proposed traffic light modifications need to be designed to meet RMS requirements
- submitted designs need to be in accordance with Austroads guidelines.

Amended Modification (RtS)

- condition B18 to be amended to include a Moorebank Avenue construction staging plan
- condition D21(a) to be amended to require the Construction Traffic Management Plan be prepared in consultation with RMS
- new conditions relating to traffic control, land dedication, intersection modifications, road occupancy licensing, car parking management, swept paths, vehicle movements, works and public utility responsibility and costs of works.

Note: these matters have been addressed through the MPW Stage 2 recommended conditions.

Office of Environment and Heritage (OEH)

Modification Application

- further information is required of floodplain risk management resulting from the importation of fill
- the Biodiversity Impact Assessment should include consideration of the impact of fill on nearby sensitive vegetation
- further targeted flora studies should be undertaken with particular focus on identified threatened species.

Amended Modification (RtS)

- the RtS has addressed issues relating to flooding impacts
- the location of imported fill should not indirectly impact on biodiversity values of the conservation area
- a targeted flora survey should be undertaken particularly in relation to threatened species identified in the area.

Department of Primary Industries (DPI)

Modification Application

- DPI noted the report referred to a 25 m wide riparian corridor which is not in accordance with condition E16 and that the Applicant should ensure the following minimum riparian corridor widths (measured from the top of bank):
 - 40 m along the terminal site
 - 50 m associated with the rail corridor.

Amended Modification (RtS)

- alternative options to the two OSD basins located in the south-western portion of the site should be considered
- further justification for the width of drainage channels through the riparian corridor should be provided
- the impact of the northern OSD basin on the Amiens Wetland should be confirmed
- the Construction Soil and Water Management Plan should be updated to address groundwater matters with more certainty.

SRtS

- advised matters of regulatory interest had been addressed.

NSW Heritage Council

Modification Application

- recommended a condition for an archaeological unexpected finds protocol.

Sydney Water

Modification Application

- recommended a condition requiring plans to be submitted for Sydney Water's further consideration.

Endeavor Energy

Modification Application

- provided advice on future electricity network and distribution matters.

Department of Industry Resource and Energy (DIRE)

Amended Modification (RtS)

- noted proposal would not have an impact on mineral, coal or petroleum resources.
-



6. Assessment

A number of issues raised in public submissions related to the MPW and MPE precincts generally, as opposed to the specific impacts of the proposed modification. The Department considers that some of these issues, such as the suitability of the site for the development, were considered in its assessment of the initial Concept Proposal. Consequently, the Department has considered issues specific to the proposed changes to the approved concept associated with the amended modification proposal.

The key issues identified are discussed below under the main elements of the proposed modification. The Department's recommendations to address these issues include amendment of some existing conditions and additional conditions where there is a need:

- to set proposal-wide requirements for future development
- for further assessment of impacts in future development applications due to the proposed modification.

6.1 Fill Importation

Key issues associated with fill importation are:

- removal of all remnant areas of vegetation across the 220 ha site (outside the riparian corridor/ conservation area), see **Figure 1** for extent (indicated as "vegetation exclusion area" under Early Works (Stage 1))
- increased construction traffic
- increased construction noise and vibration (trucking fill to site, rock crushing, stockpiling, placing and compacting fill)
- quality of imported fill (contamination)
- dust, erosion and sedimentation (stabilisation of stockpiles, placed fill and fill batters)
- potential impact on long term monitoring or management of contaminated land
- ecological and Urban Heat Island (UHI) impacts (all existing vegetation including canopy trees would need to be removed and permanent/ semi-permanent water bodies filled)
- visual impact, particularly when viewed from public open space and residential areas west of the site (loss of screening vegetation, higher landform and building heights, appearance of fill batters and retaining walls).

6.1.1 Construction Traffic

A comparison of construction heavy vehicle numbers presented in the Concept EIS (May 2015), Modification Report (June 2016) and MOD RtS (December 2016) are presented in **Table 6**.

The amended modification construction traffic assessment assumed:

- all trucks would access and egress the site to/ from the north via Moorebank Avenue
- no construction trucks would access/ egress to/ from the site via Anzac Road
- there would be minor truck movements via Cambridge Avenue for disposal of unsuitable material to the Glenfield Waste Facility, and these trucks would not travel to/ from beyond that facility
- MPE Stage 1 (intermodal rail terminal) would be operational

- site access would be via the Moorebank Avenue/ Chatham Avenue and Moorebank Avenue/ Anzac Road intersections
- the Moorebank Avenue/ Anzac Road intersection upgrade was completed (permanent MPW access).

Table 6 | Estimates of Construction Heavy Vehicles

	EIS	Modification Report	MOD RtS
Imported fill volume	46,130 m ³	1,600,000 m ³	1,600,000 m ³
Stage Imported	Early Works (Stage 1)	Early Works (Stage 1)	MPW Stage 2
Fill delivery hours	7 am to 6 pm weekdays 8 am to 3 pm Saturdays	6 am to 10 pm weekdays 7 am to 6 pm Saturdays	6 am to 10 pm weekdays 8 am to 6 pm s Saturdays
Timeframe for delivery	approx. 6 months	6 to 9 months	6 to 9 months
Estimated heavy vehicles movements/day	64	1490	1480
Peak hourly heavy vehicle movements	10	n/s	162

n/s = not stated

The Department notes LCC's concerns about traffic modelling assumptions, that the increased truck movements associated with fill importation would have adverse amenity impacts, the fill origin needs to be identified in order to consider vehicle routes, and cumulative impacts with heavy vehicle movements associated with the MPE site need to be assessed. Traffic impacts were also the main community concern.

As shown in **Table 6**, the proposed large increase in fill importation results in a significant increase in heavy vehicle movements. In view of this and the assumptions made in the MOD RtS traffic assessment, the Department recommends conditions that a future development application for the importation of fill includes an assessment of construction traffic impacts (including cumulative impacts taking into account construction approved for the MPE site) and identifies appropriate management measures, as impacts on Moorebank Avenue and associated intersections would vary depending on the timing of the:

- Moorebank Avenue raising, upgrade to four lanes and MPE access upgrades from Moorebank Avenue (to be constructed under MPE Stage 2)
- Moorebank Avenue/ Anzac Road intersection upgrade (to be undertaken under MPW Stage 2)
- Moorebank Avenue/ M5 intersection upgrade (to be undertaken under MPE Stage 2).
- construction on the MPE site
- approved hours for fill delivery
- period over which fill would be delivered to site.

6.1.2 Construction Noise and Vibration

An assessment of noise and vibration impacts on residential receivers was included in the Modification Report (June 2016) for the Early Works (Stage 1) combined with fill importation activities, i.e. trucking, unloading, crushing of oversized material, fill stockpiling, placement and compaction. Cumulative impacts with construction of MPE Stage 1 (rail line and terminal) were also considered.

Noise impacts outside standard construction hours were assessed, including potential sleep disturbance (e.g. due to truck tailgates slamming during unloading).

Due to the distance between the site and residential receivers, vibration impacts were considered negligible.

Predicted noise levels were compared to the Noise Management Levels (NML) established in the Concept EIS (May 2015) and the Applicant's assessment concluded the following.

- Construction noise impacts associated with the modification proposal would result in a 4 dB increase in $L_{Aeq_{15min}}$ noise levels during standard construction hours compared to the Concept EIS predictions, however, this would result in only a 1dB (negligible) exceedance of the NML for Casula.
- Construction noise levels during all identified out of hours works periods were predicted to comply with the established NML at all receivers.
- With the implementation of the mitigation measures identified for the MPW Concept Proposal, noise impacts associated with the modification were expected to be consistent with those predicted in the Concept EIS.
- Maximum noise levels at sensitive residential receivers from 6 am to 7 am on weekdays were predicted to comply with sleep disturbance screening levels, and no sleep disturbance impacts were considered likely.
- Predicted temporary increases in road traffic noise levels along Moorebank Avenue and the M5 Motorway due to heavy construction were well below 2 dB, and in accordance with the Road Noise Policy (RNP), no mitigation would be warranted.

Council was concerned that the proposed extended construction hours for fill importation and placement (compaction) and crushing of oversized material would have adverse noise and environmental impacts. Noise was also a key concern for the community and ABB (located adjacent to the MPW site).

The Department is satisfied that noise impacts can be managed through appropriate mitigation measures (which could include more restrictive hours than proposed by the Applicant) but considers that the noise assessment should be updated to reflect fill importation in conjunction with MPW Stage 2 construction and cumulative impacts with MPE construction (i.e. MPE Stage 2), as MPE Stage 1 is currently under construction.

Noting that noise and other impacts would vary depending on the programming of works on both the MPW and MPE site, the Department recommends a condition that all future development applications provide cumulative impact assessments for construction (and operation). This is further discussed in **Section 6.2**.

6.1.3 Fill Quality

The Department notes the following Applicant's Revised Environmental Management and Mitigation Measure (REMM) 8AC, included in the MOD SRtS (August 2017).

In order to accept fill material onto site, the following will be undertaken:

Material characterisation reports/certification showing that the material being supplied is VENM/ENM must be provided.

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 NSW EPA Waste Classification Guidelines and the Earthworks Specification for the MPW site. The frequency of assurance testing will be as nominated by the Environmental assessor/auditor.

The words used in the modification refer to importation of 'clean general fill'. In view of this and given remediation of the site is to be completed under Early Works (Stage 1), the Department recommends a condition that only VENM, ENM, or other material approved in writing by the EPA be brought onto the site to ensure no further treatment of contaminated material is required.

The EPA commented that an accredited Site Auditor should be engaged to approve the suitability of fill material and fill material is required to meet the requirements of the EPA's Resource Recovery Guidelines. These matters have been addressed through the recommended conditions for the MPW Stage 2 development

6.1.4 Dust, Erosion and Sedimentation

LCC raised concerns about the increase in dust emissions and that this would have adverse impacts. Air quality impacts were also a key community concern. Due to the uncertainty on when individual warehouses would be constructed on the filled site, the Department recommends a condition that vegetation clearing and earthworks (including fill importation and placement) under a future development application be phased to minimise dust impacts. The Department also recommends a condition that there is no long term stockpiling or stockpiling of imported fill for use as part of a subsequent future development application in order to:

- mitigate visual impacts
- minimise dust
- minimise the potential for erosion of stockpiles and sediment impacts on the Georges River and Anzac Creek riparian corridors and waterways.

As indicated by the shading in **Figure 6**, the placed fill would result in batters approximately 3 m high adjacent to the ABB site and riparian corridor/ conservation area between proposed OSD basins 5 and 6, and proposed OSD basins 6 and 8. It is unclear whether the layout would provide maintenance access to the toe of the batter within the site (in the case of the batter adjacent to the ABB site) or provide maintenance access without encroaching into the riparian corridor/ conservation area and associated biodiversity offset areas (refer to **Section 6.1.6** for information on offset areas).

The Department considers that there should be no impacts on adjacent lands including biodiversity offset areas and the riparian corridor, that building setbacks should allow for stabilised batters and details should be provided on the design of fill batters to ensure stability, mitigate visual impacts and provide for maintenance access.

As importation of fill is proposed under the MPW Stage 2 Application and the matters above relate to site layout and design, a condition covering these matters has been included in the MPW Stage 2 recommended conditions.

6.1.5 Contaminated Land

As noted in **Section 6.1.3**, the Early Works (Stage 1) include remediation of contaminated land with contaminants including hydrocarbons, and per- and poly-fluoroalkyl substances (PFAS) from firefighting foams, see **Figure 7** which shows areas previously used for firefighting training. This work has not been completed and the Applicant advised, in the MPW Stage 2 SRTS, that a revised PFAS Remediation Action Plan (RAP) had not been finalised for the developable portion of the site. Therefore, a long-term remediation strategy for the purposes of managing PFAS had not been prepared for approval by the Site Auditor.

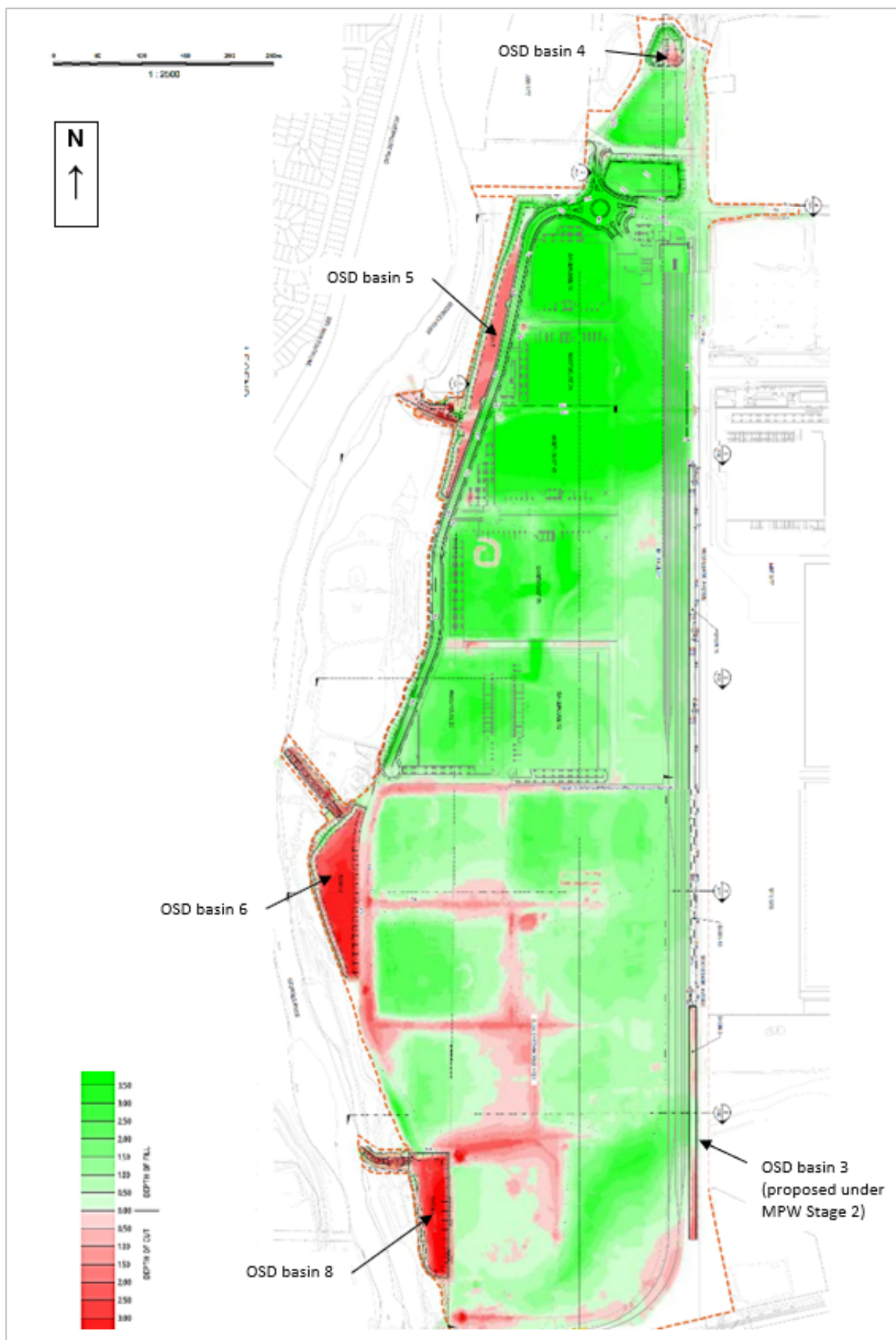
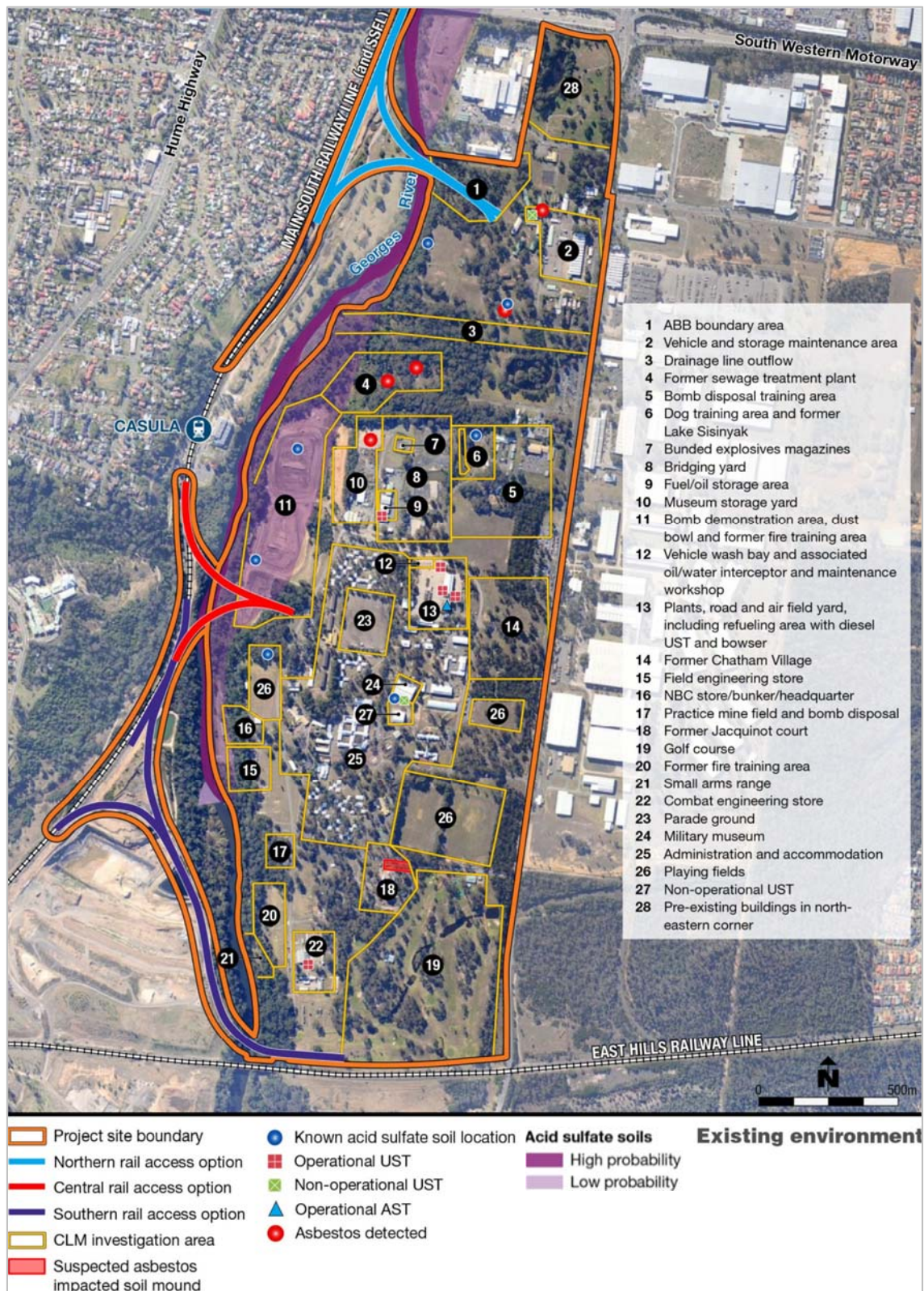


Figure 6 | Proposed Earthworks (source: MPW Stage 2 Consolidated Assessment Clarification Responses 21/12/2018)

To ensure that there are no future adverse impacts associated with contaminated soils or groundwater, the Department recommends that future development applications demonstrate that the proposed development, including the importation and placement of fill, would not adversely impact on or be adversely impacted by long term management or monitoring of the remediated land, including groundwater contaminated with PFAS.



6.1.6 Ecological Impacts

Condition D17 of the Concept consent required the preparation and implementation of a Biodiversity Offset Package as part of the Early Works (Stage 1). In its submissions on the proposed modification, OEH requested further targeted surveys.

An updated Biodiversity Assessment Report (BAR dated 20/3/2019) which included reference to Koala use trees in accordance with the latest OEH guidelines *A review of koala tree use across New South Wales* (OEH 2018) was submitted as part of the MPW Stage 2 Application. This included supplementary Koala survey results which detected Koala scats within the south-eastern boundary of the MPW site and within the adjacent Boot land (see **Figure 9**) to the east, with one Koala being recorded by infrared camera in the Boot land east of the MPE site.

OEH advised that it is likely that koalas have moved into the Moorebank Intermodal Precinct and offset areas from core Koala habitat immediately south of the East Hills Rail Line and is of the opinion the Intermodal Precinct (MPW + MPE) and offset areas are core Koala habitat.

Table 7 lists the plant community types within areas of remnant vegetation and associated endangered ecological communities (EECs). Threatened species recorded at the site are listed in **Table 8**. **Figure 8** shows the location of recorded threatened species and plant communities, **Figure 9** the results of a recent Koala survey and **Figure 10** the biodiversity offset areas.

Table 7 | Plant Community Types and Associated EECs

Plant Community Type	Endangered Ecological Community
Hard-leaved Scribbly Gum – Parramatta Red Gum heathy woodland	Castlereagh Scribbly Gum Woodland in the Sydney Basin bioregion
Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats	River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions
Parramatta Red Gum woodland on moist alluvium	Castlereagh Swamp Woodland

Table 8 | Threatened Species

Flora	Fauna
<i>Grevillia parviflora</i> subsp. <i>parviflora</i>	Eastern Bentwing-bat
<i>Hibbertia puberula</i> subsp. <i>puberula</i>	Large-footed Myotis
<i>Persoonia nutans</i>	Little Eagle
	Koala

The modification proposes fill over the entire development site, generally 2 to 3 m deep. **Figure 6** indicates fill depths as well as areas that would be excavated up to 1 m and up to approximately 3.5 m for the OSD basins.

OEH stated that the location of imported fill should not result in impacts (including indirect impacts) on the biodiversity values of the riparian corridor/ conservation area/ biodiversity offset areas. The Department's recommended conditions relating to the design of fill batters and maintenance access (for MPW Stage 2) and dust, erosion and sedimentation (as discussed in **Section 6.1.4**) would ensure there were no direct or indirect impacts on biodiversity values in these areas.

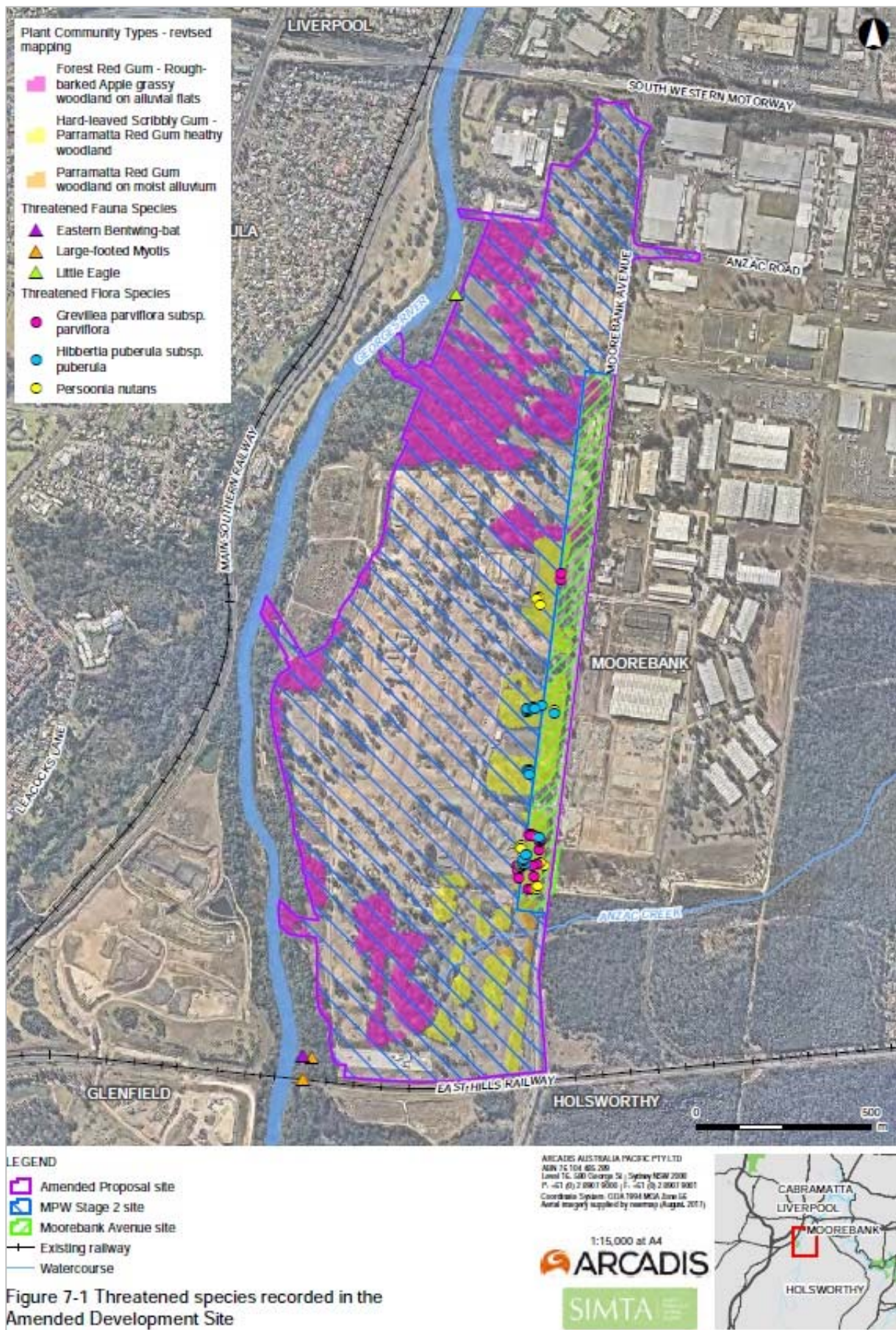


Figure 8 | Plant Communities and Threatened Flora and Fauna (source: MPW Stage 2 BAR dated 20/3/2019)



Figure 9 | Recorded Location of Koala and Koala Scats (source: MPW Stage 2 BAR dated 20/3/2019))

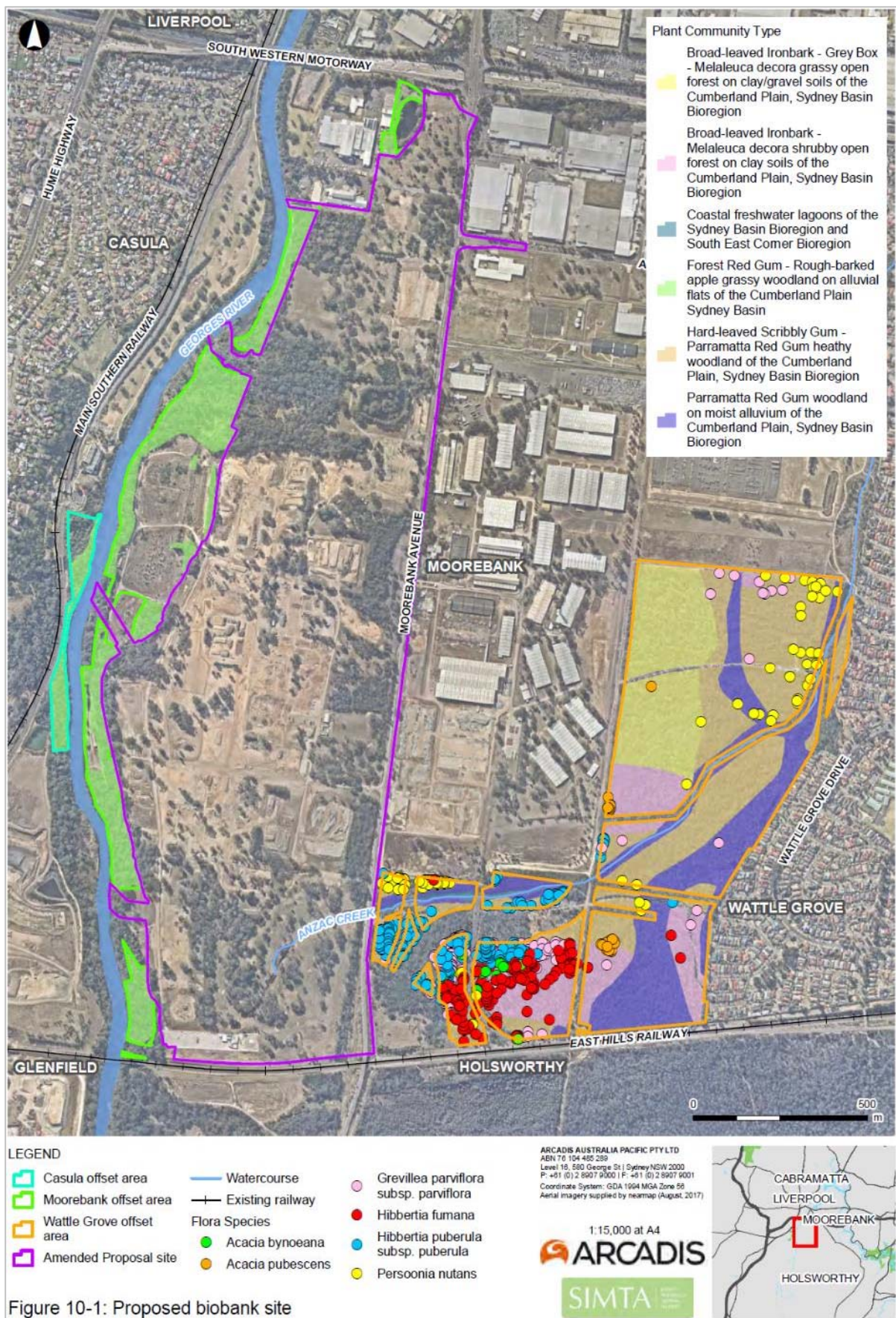


Figure 10 | Biodiversity Offset Areas (source: MPW Stage 2 BAR dated 20/3/2019)

Earthworks over the entire site would mean it would not be possible to retain any existing trees in the long term. The Department notes that the MPW Stage 2 Application proposes warehouse estate development on the northern part of the site, with warehouse development on the southern part of the site subject to a future Stage 3 development application(s). As noted in **Section 6.1.4**, the Department recommends a condition for phased vegetation clearing and earthworks which would assist in tree retention (including Koala use trees) in the short term.

The MOD SRtS REMM 6N, which was identified as 'subject to review', stated the following: *Options for maintaining habitat connectivity would be investigated, and may include establishing native vegetation and placing habitat elements such as rock piles and large woody debris under the bridge [rail bridge constructed under MPE Stage 1] to provide cover for fauna.*

In their review of the survey results which informed the updated BAR, OEH recommended the preparation of a Koala Management Plan which should consider connectivity both within the Moorebank Intermodal Precinct and with other core Koala habitat areas, and include measures to minimise the risk of harm to koalas.

The Department considers that the layout of the site must not prevent provision of vegetated wildlife corridors linking the Georges River riparian corridor and Moorebank offset area, with the Wattle Grove offset area (see **Figure 10**) and recommends a condition to this effect. In line with OEH's recommendation, the Department also recommends a condition that all future development applications include an assessment of the impact of the development on core Koala habitat and provide a detailed assessment of options to minimise impacts.

6.1.7 Urban Heat Island Effect

Urban Heat Island (UHI) effects would result from placement of fill over the site (outside the conservation area/ riparian corridor) as all existing vegetation would be cleared including canopy trees, and existing permanent/ semi-permanent water bodies would be filled.

In view of this and other factors that may lead to UHI impacts (see **Section 6.2.8**), the Department recommends a condition that all future development applications demonstrate consistency with Urban Heat Island Mitigation (UHIM) principles.

6.1.8 Visual Impacts

Although the fill depth is generally referred to as up to 3 m, Appendix D of the MOD RtS (Statement of Development Standard Exemption) refers to fill depths up to 3.6 m which is generally consistent with bulk earthworks cross-sections provided as part of the MPW Stage 2 Application.

The MPW Stage 2 RtS architectural drawings show a finished ground level of 16.6 m AHD, with warehouse roof ridge levels of 30.3 m AHD (building height of 13.7 m) and freight village roof levels below this. The only building shown as being 21 m high is the rail terminal workshop.

It is acknowledged that there could be some variation in the volume of uncompacted fill brought to the site to achieve the proposed site levels depending on the characteristics of the fill material (e.g. rock size) and compaction rates. To ensure that visual impacts are no greater than identified, the Department recommends a condition that the total volume of uncompacted fill brought to the site must not exceed 1,600,000 m³ unless it can be demonstrated in future development applications that this would not result in finished ground levels exceeding 16.6 m AHD.

Under the LLEP the maximum permitted height of buildings is 21 m as measured from existing ground levels. Clause 4.6 of the LLEP provides flexibility in applying certain development standards. The Applicant provided justification for exceeding the height development standard as part of the MOD RtS, with the reasons summarised below with reference to clause 4.6(3):

- compliance with the standard is unreasonable or unnecessary as the increase in height would be due to an increase in the landform rather than the height of the buildings
- environmental planning grounds for contravening the development standard are:
 - the warehouse built form would be unchanged
 - building setbacks would be in accordance with conditions of consent
 - there would be no additional adverse impacts on acoustic amenity
 - the visual impact category (e.g. moderate/ high as assessed in **Figure 11** and **Figure 12** from the MOD RtS) from various viewpoints would be unchanged.

The Department is satisfied that:

- the Applicant has adequately addressed clause 4.6(3) of the LLEP
- the proposed development as modified would be consistent with the objectives of the Height of Buildings standard as the increase in warehouse heights would not significantly impact on exposure to sky and light from surrounding public areas and the built form and intensity is consistent with surrounding industrial development
- the proposed development as modified would be consistent with the objectives for the IN1 General Industrial Zone which include provision of a wide range of industrial and warehouse land uses and to minimise any adverse effect of industry on other land uses
- the contravention of the development standard does not raise any matter of significance for State or regional environmental planning
- the public benefit of maintaining the development standard for the site is not considered critical as:
 - the increase in the visual impact of warehouse heights (due to fill depths) would be greatest adjacent to existing industrial development and reduce to the south adjacent to bushland (as indicated by fill depths in **Figure 6**)
 - warehousing on MPW would adjoin warehousing development on MPE hence visual impacts to the east would be dominated by the MPE development
 - a vegetated riparian buffer zone (providing some screening from public viewpoints) between the Georges River and proposed warehousing is required under Condition E16
 - the Department recommends additional conditions relating to built form, urban design and landscaping to minimise impacts (see below).

LCC raised concerns about the visual impact of the raised site when viewed from Casula including the Georges River foreshore and parkland surrounding the Casula Powerhouse Arts Centre (the former power station is of local heritage significance). The visual impact of the proposed development when viewed from Glenfield Farm was also raised by the property owner. The Glenfield Farm Group, including homestead, barn (former dairy and stables) is of State heritage significance.

Indicative views looking east towards the MPW site depicting the 21 m height limit and proposed maximum permitted building height are shown in **Figure 11** and **Figure 12**. The **Figure 11** viewpoint is located west of dense vegetation within Leacock Regional Park looking towards the location of OSD basin 6 (and vegetation clearing) proposed under the MPW Stage 2 Application. The **Figure 12** viewpoint is from Carroll Park (see **Figure 3**) to an existing, relatively large area of remnant vegetation within the MPW site. This vegetation would

be cleared under the MPW Stage 2 proposal for the 650 m long OSD basin 5 and internal roads. Preservation of a minimum 40 m wide, vegetated riparian corridor as required under Condition E16 from the top of the highest bank of the Georges River is therefore important for site screening as well as riparian habitat connectivity.



Figure 11 | Leacock Regional Park looking east towards development site (source: MOD RtS)



Figure 12 | View from Carroll Park looking east (source: MOD RtS)

It is noted that the Applicant's SRtS revised mitigation and management measures (noted as being 'subject to review') included planting of screening vegetation and measures to reduce the visual impact of the built form.

14B The following additional visual mitigation measures would be considered during detailed design.

- *Consider the siting of development to minimise vegetation clearing.*
- *Consider options for permeable tree planting adjoining buildings to reduce visual impacts and to cast shadows.*

- *Enhance vegetation adjoining water bodies.*
- *Maximise integration of the terminal facilities and the associated warehousing precinct by providing vegetation screening, way-finding throughout the Project site, breakout space for the public and staff, and visual relief.*
- *Provide additional native trees to the car park areas to maximise the opportunity for shade and to provide a landscape frontage that is scaled to complement the new buildings.*
- *Provide landscaping along Moorebank Avenue, including extensive tree and shrub planting on road frontages that provides visual relief from the industrial appearance of the warehousing, with a layered approach along the streetscape.*
- *Consider localised earth mounding and native canopy tree planting to internal landscape areas on the western side of the new buildings to mitigate visual impacts on residential areas.*
- *Choose finishes and materials that limit contrast with the surrounding landscape, with the preferred use of muted colours.*
- *Take opportunities to start early rehabilitation and supplementary planting of endemic species to the conservation area on the western boundary.*
- *Consider options for tree planting adjacent to buildings, to reduce visual impacts (while also considering any required security constraints and rail line fell distances).*
- *Consider the building design further during the detailed design process and be consistent with controls outlined in the Liverpool Development Control Plan 2008, Part 7 Development in Industrial Areas (LCC 2008c), including facade treatment, materials, building design and lighting.*

To ensure measures such as those listed in the REMMs above are incorporated in the design and layout of the site, offsite visual impacts are addressed, and amenity landscaping is provided for employees and visitors, the Department recommends that future development applications incorporate the principles set out in the NSW Government Architect Greener Places policy.

The Department also recommends a condition that future development applications include 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 include details of measures to mitigate impacts.

6.1.9 Offsite Hydrological Impacts

The MPW site is subject to flooding from the Georges River with the 1% annual exceedance probability (AEP) flood extent at the 'dust bowl' extending some 250 m into the site. The northern part of the site is also within the Probable Maximum Flood (PMF) extent, see **Figure 13**.

Approximately 25 ha in the south east of the MPW site drains to Anzac Creek. The upper reach of the ephemeral Anzac Creek and associated former Royal Australian Engineers golf course ponds are located at the southern end of the site. The Anzac Creek channel crosses Moorebank Avenue via culverts under the road and continues to the east and north-east through the Boot land. A small area of the site (less than 2 ha) drains under the East Hills Rail Line.

The majority of the site drains west to the Georges River directly, or via Moorebank Avenue. Just under half the adjacent MPE site drains through MPW to the Georges River via existing stormwater infrastructure, with the main structure (an open channel) located opposite the northern end of the MPE site (indicated by the PMF extent line in **Figure 13** which intersects Moorebank Avenue). Amiens Wetland is located in the north-eastern corner of the site and would be retained. The wetland acts as a detention basin for the M5 Motorway and adjacent catchment and discharges via a pipe to the Georges River.

ABB raised concerns about the Applicant's stormwater assessment and potential impacts on its site and operations. Issues identified by ABB included:

- the completeness, accuracy and adequacy of surface stormwater flow modelling
- proposed stormwater drainage works/ management of stormwater both during construction and operation
- effect of drainage construction, altered surface flows, and altered groundwater flows and levels on PCB contamination on the ABB site (and the need for monitoring of PCB contaminated groundwater).

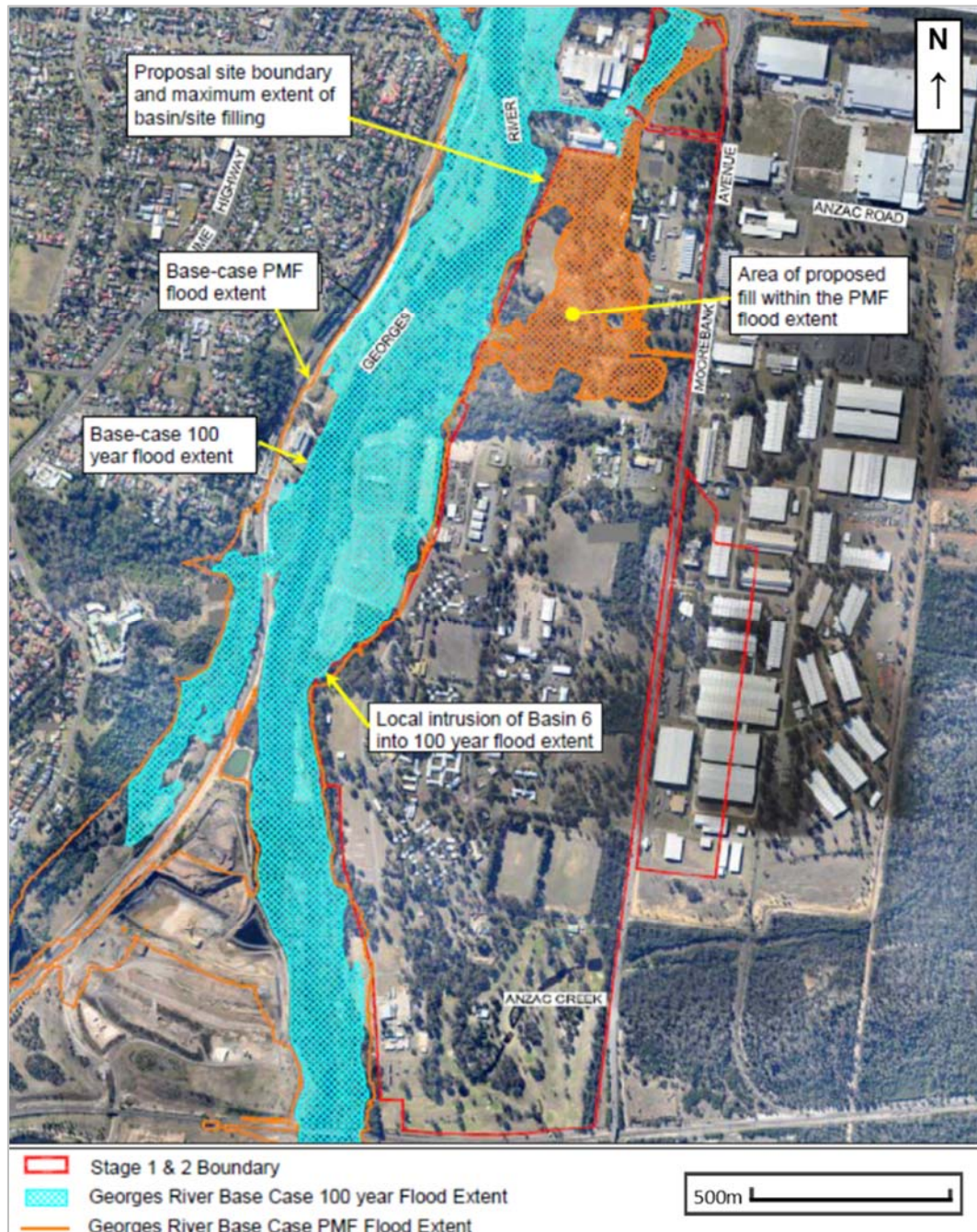


Figure 13 | Georges River Flood Extents (source: MPW Stage 2 EIS 2016, Stormwater and Flooding Assessment)

The MOD RtS did not provide an assessment of the impact of raising the site on offsite local stormwater management and flooding. The ABB site would be up to 3 m below the filled MPW site, hence overland flows to the south would be blocked. There is an existing stormwater pipe through the ABB site and, as part of the MPW Stage 2 Application, a new outlet is proposed to the Georges River within the Endeavor Energy easement which is adjacent to the ABB site.

Although the Department shares ABB's concerns, the Concept consent Condition E20 requires future development applications to assess impacts on surface flows, changes to flooding behaviour and the capacity of stormwater drainage structures. The Department is satisfied that this requirement would identify any required upgrading of stormwater infrastructure on the ABB site to minimise impacts from the placement of imported fill.

6.1.10 Operational Noise Impacts

The MOD RtS considered operational noise impacts from raising the site and predicted that they would be generally consistent with those identified in the Concept EIS. It is noted that all infrastructure and buildings would be raised, including the noise wall along the western internal road, required under Condition E1(d).

The noise assessment presented in the MOD RtS was only for MPW Stage 2 operations and assumed shielding from warehouse buildings on the MPE site outside the MPE Stage 1 footprint. It is noted that demolition of these warehouses has progressed. Despite this, the Department considers that:

- the layout of the development could be designed to minimise noise impacts on sensitive receivers
- the conservation area/ riparian corridor provides a buffer between the development and the residential area to the west and the MPE site warehouses would provide shielding to the east
- onsite mitigation measures to address any residual impacts could be identified through assessments in future development applications.

As discussed in relation to traffic impacts (**Section 6.1.1**), the Department recommends that future development applications provide cumulative (MPW + MPE) construction and operational noise impact assessments.

6.2 Revised layout, Construction Phasing and Interaction between MPW and MPE

Figure 14 shows the approved layout and modified layout with:

- expanded construction footprint at the Moorebank Avenue/ Anzac Road intersection
- larger southern OSD basin relocated adjacent to (potentially encroaching into) the riparian corridor/ conservation area
- additional OSD basin in the north-east corner
- freight village relocated further north
- amended internal road layout
- truck parking relocated to the north of the site
- one rail terminal (northern terminal with one additional arrival/ departure rail track)
- warehousing extending over the footprint of the previously approved southern rail terminal and truck parking area.

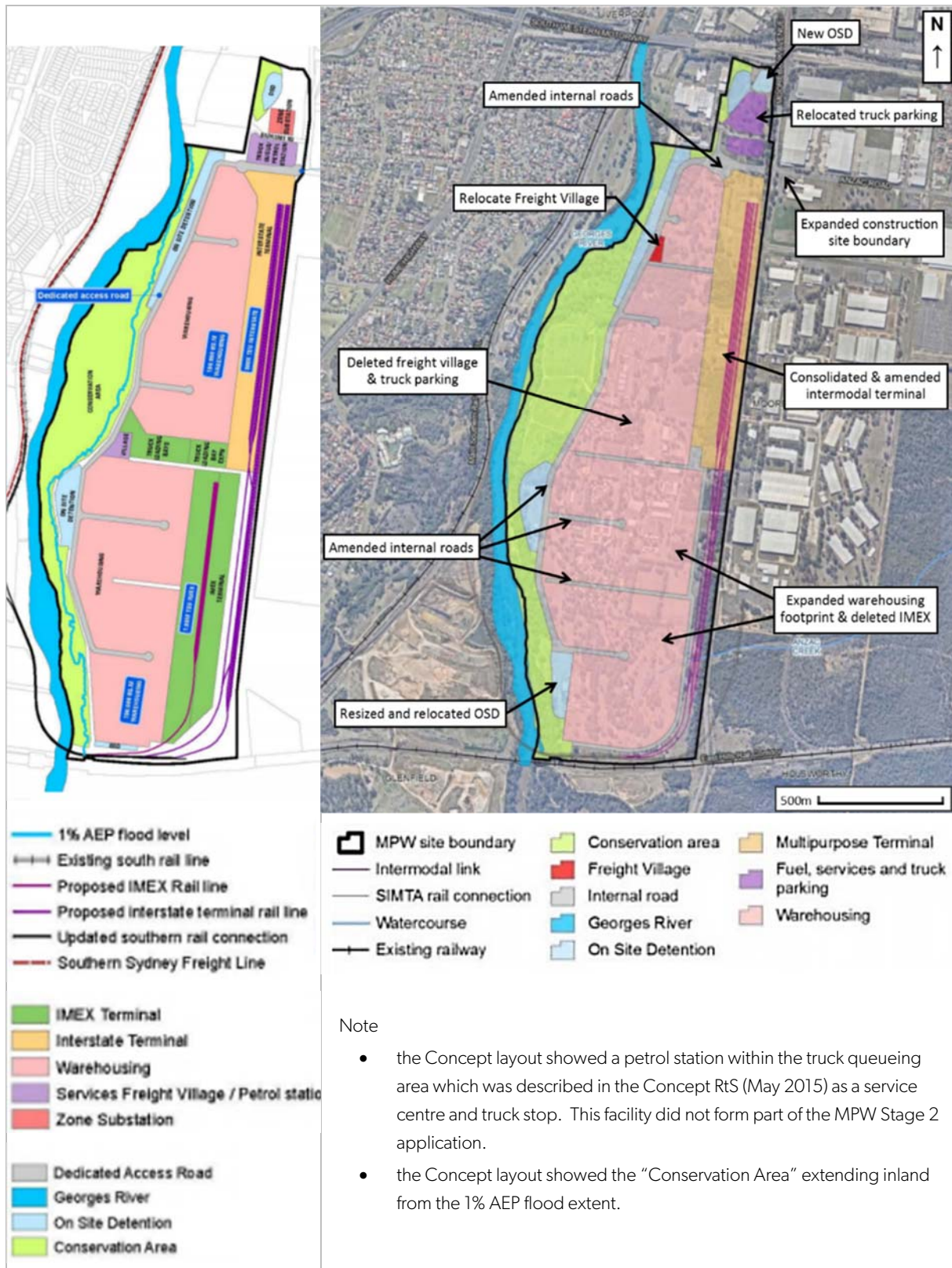


Figure 14 | Approved Layout (source: EIS Rts May 2015) and Modification Layout (source MOD SRts August 2017)

Key issues associated with the modified layout, expanded footprint and transfer of containers between the MPW and MPE sites are:

- construction traffic and access impacts due to the expanded construction footprint for the Moorebank Avenue/ Anzac Road intersection works (access to Moorebank Business Park and along the northern part of Moorebank Avenue adjacent to the DJLU site and to the ABB site)
- permanent impacts on infrastructure within the DJLU site
- removal of street trees in the vicinity of the Moorebank Avenue/ Anzac Road intersection
- impacts on Anzac Creek if stormwater from the south-east corner of the site was to be directed to the Georges River via the relocated southern OSD basin
- impacts on the Georges River riparian corridor/ conservation area due to the relocated and enlarged OSD basin and additional stormwater outlet from the new northern OSD basin
- changes to operational noise impacts due to truck access roads located on both the eastern and western sides of the site and truck parking relocated adjacent to the ABB site
- operational traffic impacts on Moorebank Avenue as a result of heavy vehicle movements between the MPW and MPE sites
- permanent alteration of vehicle access and potential safety impacts for ABB pedestrians and vehicles with access through the MPW site, rather than Bapaume Road (apart from a left exit onto Moorebank Avenue), and heavy vehicles crossing over Bapaume Road to the truck parking area
- increased operational traffic and noise impacts if an increase in the GFA of warehousing was proposed as a result of the expansion of the warehousing footprint over the location of the original southern IMT and truck parking area footprint
- increased construction and operational impacts, including UHI effects if the density of warehouse development was increased (the MPW Stage 2 Application proposes just over 70% of the approved warehouse GFA within the northern half of the site).

6.2.1 Precinct-wide Interaction and Cumulative Impacts

The proposed modification raises general issues for construction and operation of the overall Moorebank Intermodal Precinct and the Department shares LCC's concerns regarding inconsistencies in the Applicant's environmental impact assessments and agrees that precinct-wide (MPW + MPE) layouts, design drawings and cumulative impact assessments (including those relating to fill importation) are required to:

- confirm overall impacts and appropriate management and mitigation measures
- ensure the development is designed in accordance with current practice and relevant guidelines.

The Department therefore recommends three general conditions, that future development applications:

- provide details on staging of construction and operation (i.e. staging of construction and operation within MPW Stage 2 and MPW Stage 3)
- assess cumulative impacts for construction and operation (both with the MPE site and within the MPW site)
- provide an overall Precinct layout and design drawings including for access (pedestrian and vehicle), stormwater management and landscaping, describe the relationship and interaction between MPW and MPE infrastructure and outline management and maintenance arrangements.

The Department also recommends that Concept Condition E17 (Landscaping) be expanded to address visual amenity and urban design and require that all future development applications present designs that incorporate the principles of Water Sensitive Urban Design (WSUD), UHIM and the NSW Government Architect's *Greener Places* policy.

6.2.2 Construction Traffic and Access

The MOD RtS stated that:

- part of Moorebank Avenue would need to be closed from time to time for short periods
- works affecting the Moorebank Avenue carriageway would be undertaken outside peak hours
- alternative pedestrian and cyclist access would be provided as required
- access to the ABB site would be maintained at all times.

The Department is satisfied that construction traffic and access impacts can be managed through Construction Traffic and Access Plans (CTAMPs) prepared for future development applications, provided these:

- incorporate the Applicant's commitments (above)
- include RMS requirements
- address cumulative impacts as per the Department's recommendation in **Section 6.2.1**.

6.2.3 Property Impacts and Access

The sketch of the Moorebank Avenue/ Anzac Road intersection included in the MPW Stage 2 EIS (October 2016) indicated that the existing intersection geometry around the DJLU site would be maintained. Indicative intersection layout plans submitted to RMS (dated 19 December 2017) show intersection works impacting the DJLU carpark, Anzac Road reserve and the road reserve on the western side of Moorebank Avenue, as well as Bapaume Road.

It is noted that works on the DJLU site and other impacted lands would require the land owner's consent. The Department has no objection to the expanded construction footprint provided final designs are agreed to by land owners.

ABB raised concerns about the Applicant's traffic assessment and potential impacts on its site and operations including changes to the access arrangements (for both trucks and pedestrians) into and in the vicinity of the ABB site and increased traffic during both construction and operation.

As permanent changes to ABB site access would result from the proposed modification, in addition to the Applicant's commitment to maintain access to the ABB site during construction, the Department recommends that future development application conditions require provision of access to the ABB site at all times and this has been included as a recommended condition for the MPW Stage 2 Application.

The Department considers that potential safety issues associated with ABB vehicle movements and heavy vehicle movements on the MPW site can be resolved through:

- consultation with ABB
- design development and management measures identified in future development application cumulative traffic impact assessments
- operational environmental management plans.

6.2.4 Visual Impacts

It is noted that the MOD SRtS REMMs include the following (identified as 'subject to review'):

14A *Visual mitigation measures to be considered during the detailed design of the Project include:*

- *avoiding clearing of the conservation area which currently obscures and filters views into the Project site;*
- *enhancing existing native vegetation adjoining the Georges River;*
- *enhancing existing native trees with extended and consolidated planting; and*
- *conserve the natural character and streetscape along Moorebank Avenue and allow for effective landscaping.*

Expanding the construction footprint for the Moorebank Avenue/ Anzac Road intersection would result in the removal of street trees. The Department considers that these impacts can be mitigated by replacement planting and the preparation of detailed landscape plans for future development applications, as required under Conditions E17 and E18.

6.2.5 Riparian Corridor Buffer Width

In its submission on the Modification Application, DPI noted that the proposal included a 25 m wide riparian corridor and that this was not in accordance with Condition E16 which requires a minimum of 40 m along the site. The Applicant's RtS stated that this would be increased to 40 m.

It is noted that there is no consistent description of the buffer zone or buffer distance between the Georges River and proposed development. Documentation refers to the "conservation area", "riparian corridor" and "offset area". The Concept EIS RtS (May 2015) states that the conservation area extends east of the 1% AEP flood extent line as shown in **Figure 14**. As the 1% AEP flood extent line was not included in the layout provided in the MOD RtS it is unclear whether this is still the case.

DPI's *Controlled Activities on Waterfront Land - Guidelines for riparian corridors on waterfront land* define the riparian corridor as:

- the channel which comprises the bed and banks of the watercourse (to the highest bank) and
- the vegetated riparian zone (VRZ) adjoining the channel.

To eliminate any doubt as to compliance with Condition E16 and the location of the landward extent of the riparian corridor, the Department recommends that future development applications provide detailed drawings demonstrating provision has been made for a minimum 40 m vegetated riparian zone from the top of the bank of the Georges River and that this requirement form part of Condition E16.

6.2.6 Riparian Corridor Connectivity

The revised layout for the OSD basins would result in at least one additional stormwater outlet to the Georges River, i.e. outlet from the new northern basin and outlet from the relocated southern basin if this was previously intended to discharge to Anzac Creek.

In response to the amended modification (RtS), DPI commented that the impacts on riparian corridor connectivity along the Georges River resulting from an additional basin outlet were significantly larger than those outlined in the Concept EIS and alternative options should be considered. If the southern basin was necessary, further detail and justification of the width of outlet channels should be provided and options investigated to minimise impacts on the river bank profile and riparian connectivity.

LEGEND

- MPW site boundary
- Watercourse
- Existing railway
- Proposed rail alignment
- Bushfire Prone Areas
 - Vegetation Category 1
 - Vegetation Category 2
 - Vegetation Buffer

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Scale: 1:15,000 @ A4

ARCADIS

SIMTA

Bushfire Prone Areas

Map Labels: CASULA, GEORGES RIVER, ANZAC ROAD, MOOREBANK, ANZAC CREEK, GLENFIELD, HOLSWORTHY, AUBURN, LIVERPOOL, HOLSWORTHY

MPW Concept Proposal (SSD 5066 MOD 1) | Modification Assessment Report

The area mapped as Category 1 contains the vegetation prone to bushfire and a 100 m buffer zone. Rehabilitation/ revegetation (e.g. within the 'dust bowl') may increase the extent of bushfire prone land. Measures to protect the proposed development from this risk would include a suitable defendable space (Asset Protection Zone (APZ)) and vegetation management within the APZ to reduce fuel loads.

To protect biodiversity values, reflect the Applicant's measures to protect and enhance native vegetation along the Georges River (see **Section 6.2.4**) and ensure habitat connectivity, the Department recommends conditions for future development applications that require:

- bushfire asset protection zones to have no impacts on offset areas and the Georges River riparian corridor
- OSD basins to be located outside of the riparian corridor
- OSD outlets to be designed to minimise impacts on the riparian corridor.

6.2.7 Stormwater Design and Management

As noted in **Section 6.1.9**, stormwater from a large part of the MPE site currently drains through an open culvert on the MPW site to the Georges River and the south-eastern corner of the MPW site drains to Anzac Creek. The modified layout does not show onsite detention on the south-eastern side of the MPW site. Stormwater drawings submitted as part of the MPW Stage 2 Application show two long, narrow OSD basins within the MPW site:

- one taking stormwater from the MPE site and discharging to the open culvert on the MPW site
- one taking water from the MPW site and discharging to Anzac Creek.

Management of MPW and MPE stormwater would require the construction, operation and maintenance of treatment systems to protect water quality in the Georges River and Anzac Creek as well as the construction, operation and maintenance of onsite detention for flood mitigation purposes.

As it appears the management of stormwater is to be integrated across the entire Moorebank Intermodal Precinct, the Department recommends that future development applications provide overall precinct design drawings for stormwater treatment and detention infrastructure as part of the general condition referred to in **Section 6.2.1**.

The MOD SRTS REMMs include the following stormwater system design and management measures, noting that some measures were mandatory (M) commitments by the Applicant, with some being 'subject to review' (SR).

- Q6 *Opportunities for planting of detention basins with native aquatic emergent plants and fringing trees would be explored in the detailed design of the Project and, if practicable, implemented so that they would provide similar habitat in the medium term to that lost through the removal of existing basins [water bodies/ ponds] (SR).*
- 9X *A stormwater treatment system would be implemented, incorporating sedimentation and bio-filtration basins upstream of the stormwater detention basins (M).*
- 9Y *Use of onsite infiltration would be incorporated into the design through the distribution of swale drains and rain gardens across the Project site (M).*
- 18S *Where possible, rainwater harvesting and surface water runoff management would be utilised for watering of gardens and landscaping (SR).*

The MOD RtS states that the proposed OSD basins do not increase the overall volume of the site OSD basins. Assuming the relocated southern basin would have a similar volume to the original basin, the Department supports the expanded footprint provided this does not encroach into the riparian corridor. This design is preferable to the long, narrow and presumably deep southern basin shown in the approved layout.

The Department's view is that this, and the other OSD basins and stormwater treatment systems, should be designed in accordance with WSUD principles (as per the recommended addition to Condition E17) to:

- visually and physically integrate with site landscaping
- contribute to positive urban design outcomes
- mimic natural water treatment processes
- minimise impacts on the riparian corridor
- maintain flows from the site to Anzac Creek
- recognise the resource value of stormwater
- reflect the Applicant's REMMs.

6.2.8 Development Density

The assessments undertaken for the Concept EIS were based on, amongst other matters, proposed gross floor areas (GFAs) for warehousing. However, as these GFAs were not specified in the Concept consent, the Department recommends the following condition.

The maximum GFAs for the following uses apply:

- (a) 300,000 m² for the warehousing and distribution facilities
- (b) 800 m² for the freight village.

In addition to an increase in operational impacts such as traffic and noise, any substantial increase in the overall warehousing floor area would result in an increase in hard surfaces and a corresponding decrease in landscaped area and the area available for stormwater treatment. Warehouse development proposed under MPW Stage 2 (215,000 m² of the approved 300,000 m² GFA) is shown within the northern half of the site which would be a substantial increase in density in this location and result in increased UHI impacts. This would not have been envisaged at the time of the Concept consent.

In view of this, the Department recommends (as per **Section 6.2.1**) that Condition 17 be expanded to require all future development applications to present designs that incorporate the principles of WSUD, UHIM and the NSW Government Architect's *Green Spaces* policy. The general recommended condition in **Section 6.2.1** is also relevant to this issue as it requires overall Precinct layouts including for stormwater infrastructure and landscaping. In addition, Condition E16 requires the Applicant to demonstrate that all development and infrastructure (apart from the OSD basin outlets) is outside the riparian corridor.

6.2.9 Operational Traffic

If an increase in warehousing GFA was proposed as a result of the expansion of the warehousing footprint over the original southern rail terminal footprint, environmental impacts including cumulative traffic impacts would increase. As noted earlier, the Department recommends a general condition that all future development applications provide cumulative assessments for construction and operation of the overall Moorebank Intermodal Precinct.

Condition 1.12 of the MPE Concept approval states that "The warehousing and distribution facilities must only be used for activities associated with freight using the [MPE] rail intermodal." The MOD RtS states that modification

of the MPE Concept Plan is not sought, hence the proposed interaction between the MPW and MPE sites would be restricted to the transfer of container freight to and from the MPE rail terminal and MPW warehouses.

It is also stated that there would be no increase in approved freight throughput for MPW or MPE as the TEU throughput would be measured at whichever terminal was supplying/ receiving freight to/ from the MPW warehouses.

Condition E12 of the Concept consent prohibits heavy vehicles associated with the MPW site using Moorebank Avenue south, with the intent of preventing heavy vehicle movements along Cambridge Avenue. The Department does not object in principle to the proposed interaction between the MPW and MPE sites and recommends the wording of Condition E12 be amended to allow south bound movements along Moorebank Avenue, while maintaining the prohibition on heavy vehicle use of Cambridge Avenue.

The proposed transfer of containers between the MPW and MPE sites would result in an increase in traffic volumes at, and in between, the MPW and MPE site entrances. As the distance between the site entrances is only 400 m and this stretch of Moorebank Avenue also includes the DJLU signalised entrance, there is potential for truck queueing at intersections and impacts on public use of Moorebank Avenue by vehicles and pedestrians.

The MOD RtS only considered traffic impacts on the Moorebank Avenue/ Anzac Road intersection and only in relation to development proposed under MPW Stage 2 (215,000 m² GFA of warehousing). The MOD RtS reported the increase in vehicle movements between the MPW and MPE sites in percentage terms as follows:

- 20% to 26% increase during peak hour in 2019 [assuming the Moorebank Avenue/ Anzac Road intersection upgrade was completed] and that the intersection would operate at a Level of Service (LoS) C (satisfactory performance)
- due to the predicted increase in background traffic volumes, assuming vehicle movements between MPW and MPE did not increase [i.e. remained at MPW Stage 2 operational levels], the contribution of heavy vehicle movements during peak hour between the two sites would reduce and in the year 2029 the intersection would operate at a LoS D (at capacity).

As potential impacts on Moorebank Avenue through traffic and impacts on the Moorebank Avenue/ MPE and DJLU intersections were not assessed as part of the Modification Application, the Department's recommended general condition (see **Section 6.2.1**) would ensure that future development applications include:

- assessment of cumulative traffic impacts
- demonstration that overall cumulative construction and operational impacts would not increase
- show public access arrangements including vehicle access between Anzac Road and Cambridge Avenue, public transport and pedestrian/cyclist connections.

6.2.10 Operational Noise

The proposed rearrangement of uses is generally consistent with the Concept Proposal and within the same development footprint apart from:

- the Moorebank Avenue/ Anzac Road intersection upgrade which would result in a reduction in the buffer distance between the road carriageway and the building on the northwestern corner of the DJLU site
- the truck parking area which would be an additional noise source at the northern end of the site (adjacent to the ABB site).

These uses are removed from residential receivers and the Department considers that design and mitigation measures could be employed to address any localised increase in noise impacts associated with heavy vehicle movements.

The combined MPW rail terminal would include an additional arrive/ departure track, and loading/ unloading facilities for up to 30 trains per week (based on a mix of 1800 m long intra/ interstate trains and 650 m long IMEX trains). Combining the rail terminals on the MPW site and permitting transfer of containers to and from the MPE rail terminal would not result in offsite changes to rail noise impacts as:

- there would be no overall increase in the combined number of trains using the rail connection to access the MPW and MPE sites
- the combined throughput is capped by Conditions 7 and 8 of the MPW Concept Proposal and Early Works (Stage 1) consent and Conditions 1.6 and 1.7 of the MPE Concept Plan Approval.

To ensure compliance with the conditions above, the Department's recommended general condition on the interaction between the MPW and MPE sites requires that future development applications identify a mechanism to record the TEU throughput at each rail terminal.

6.2.11 Reduction in Construction Phases

Reducing construction stages through potentially only two future development applications could result in additional impacts and an increase in the magnitude of impacts predicted, due to an increase in the area of disturbance and intensity of construction at any one time. The bulk of development is proposed under MPW Stage 2 (clearing, earthworks and fill placement, construction of the IMT facility and 215,000 m² of warehousing) with a future MPW Stage 3 application for the balance of the approved warehousing. The MOD RtS briefly discussed the impacts of staging in relation to the overall impacts of the completed development, i.e. that they are consistent. The Department notes that the phases presented in the Concept RtS (see **Figure 16**):

- impacted smaller areas of the site at any one time
- progressed from south to north (the MPW Stage 2 Application shows warehouse construction progressing from north to south, see **Figure 17**)
- showed sequential infrastructure and warehouse estate construction and operation
- included concurrent operation of completed warehousing and construction of subsequent warehouse phases.

The Department does not consider that adequate information was presented in the MOD RtS on:

- the sequencing of warehouse construction and supporting estate infrastructure within the overall proposed MPW Stage 2 development and the subsequent Stage 3 development
- concurrent warehouse operation and construction within stages
- operation of MPW Stage 2 and construction of MPW Stage 3.

In addition, the Department does not consider reliance on the Concept EIS assessment of impacts adequate because:

- the staged construction footprints have changed, construction activities have changed (fill importation and placement), the layout has changed and interaction between the MPW and MPE sites is proposed
- cumulative impacts need to be assessed using updated construction programs for both the MPW and MPE sites.

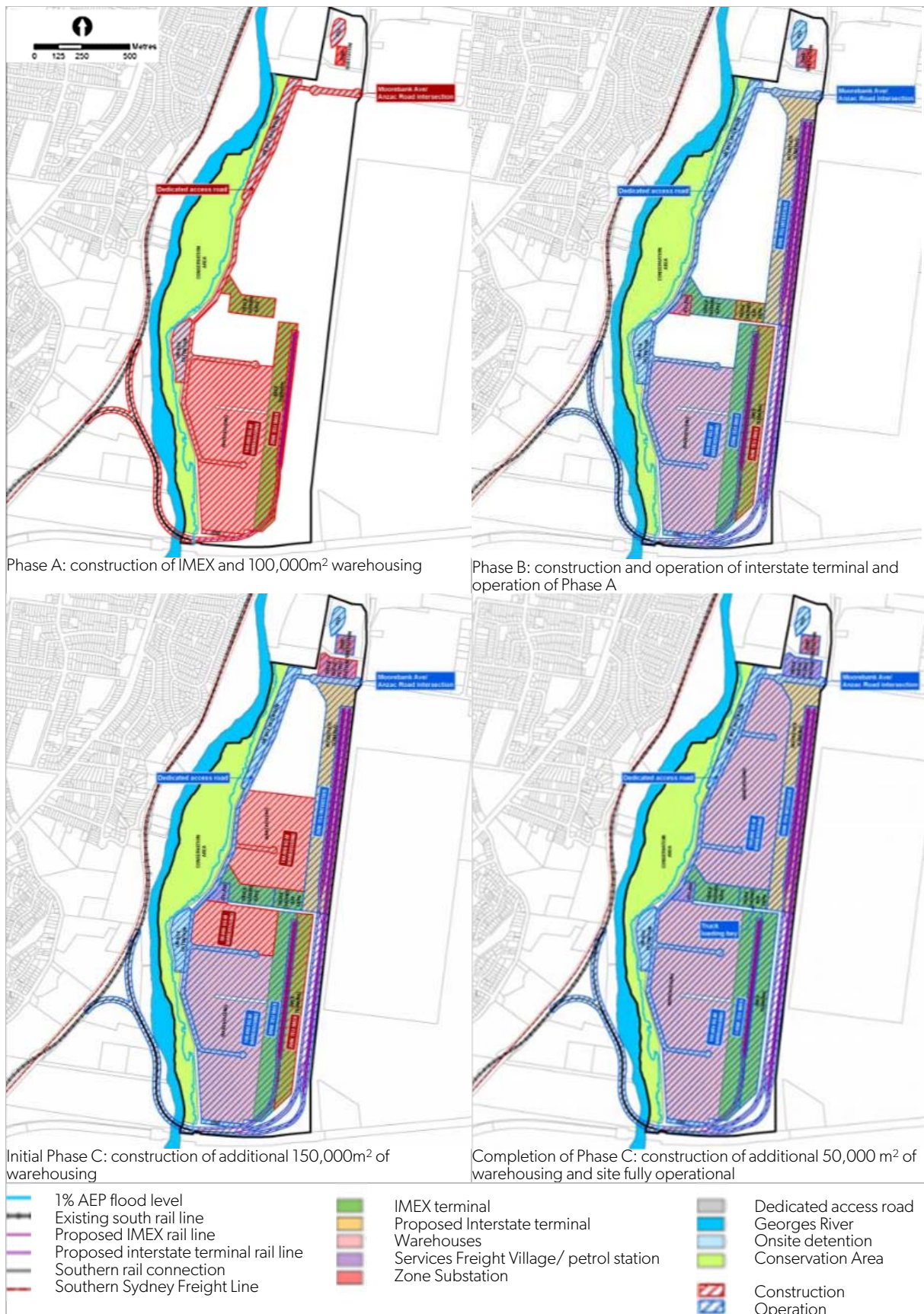


Figure 16 | Concept Staging (Source Concept SRtS August 2015)

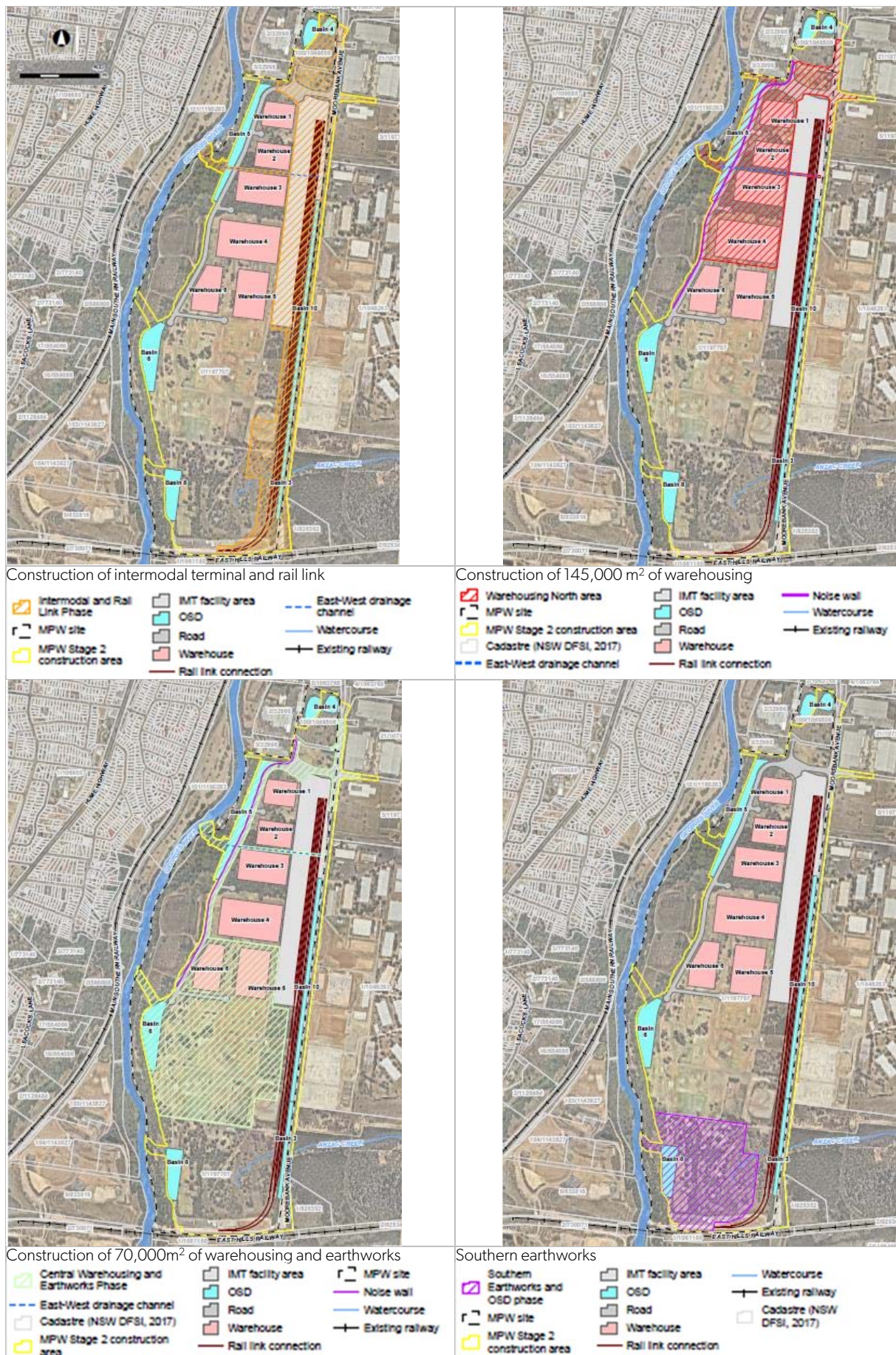


Figure 17 | Modification Staging (source: Additional Information Response, Arcadis 14/03/2017)

As noted in **Section 6.2.1**, the Department recommends a general condition requiring provision of staging details for all future applications. This condition also includes a requirement to document how the staging of development complies with all Concept conditions including those recommended for this Modification Application, e.g:

- phased vegetation clearing and earthworks
- assessment of traffic impacts associated with fill importation.

6.3 Subdivision

The Department does not object in principle to subdivision as part of a future development application, however, notes that under the LLEP, the minimum lot size for the MPW site is currently 120 ha. The entire MPW site is approximately 220 ha.

As noted in **Sections 6.2.5** and **6.2.7**, the MPW site is located adjacent to land containing native vegetation with a high bushfire risk and discharges runoff to the Georges River and Anzac Creek. Ongoing operation of the MPW site would require maintenance and other actions to manage internal roads and site services, bushfire risk, landscaping, biodiversity values, stormwater quality and stormwater detention.

In addition to compliance with the LLEP, the Department recommends a condition that any future development application for subdivision:

- demonstrates compliance with Condition 15, i.e. that the nexus between the intermodal terminal and warehousing is maintained
- includes a subdivision plan showing estate infrastructure including for firefighting (e.g. hydrants)
- provides a management and maintenance program for estate infrastructure
- nominates a single entity responsible for implementing the management and maintenance program.



7. Evaluation

The Department has reviewed the Modification Report, MOD RtS and MOD SRtS and assessed the merits of the proposed modification, taking into consideration advice from the public authorities, including Council. Issues raised in public submissions have been considered and all environmental issues associated with the proposal have been thoroughly addressed.

The Department's assessment of the modification concludes that:

- additional requirements in the Concept consent 'Terms of Approval' are necessary to ensure the site is designed and developed to protect ecological values and local amenity
- additional detail is required on the precinct-wide design, particularly for stormwater treatment and detention
- further assessment is required as part of future development applications to update predicted impacts, taking into account precinct-wide activities (i.e. construction and operation on both the MPW and MPE sites)
- additional management and mitigation measures are required to address potential environmental impacts and community concerns.

In relation to the importation of fill, the Department recommends a staged approach to clearing and filling the site, limits on the type and quantity of fill to be imported, and that there be no long term stockpiling or impacts on site remediation (part of MPW Stage 1 works).

As all vegetation within the developable area would be cleared, the Department recommends setbacks from the riparian corridor, provision for wildlife corridors and minimising impacts on core Koala habitat.

To address the additional visual impact of the raised landform, the Department recommends additional consideration of built form, urban design and landscaping including WSUD. The Department also recommends the design of the development incorporates UHIM principles and those provided in the NSW Government Architect's *Green Spaces* policy.

While there is no objection the transfer of containers between the MPW warehouses and the MPE intermodal rail terminal, the Department recommends the prohibition on heavy vehicle movements along Cambridge Avenue remain.

The Department recommends further assessment of the impacts of the proposed reduction in construction phases and provision of staging details. The Department also recommends that any subdivision application should comply with the LLEP minimum lot size, demonstrate the nexus between the intermodal terminal and warehousing, provide a management and maintenance program for estate infrastructure, and nominate a single entity responsible for implementing the program.

The proposed modification does not substantially change the nature of the development or use of the site and it supports the broader project benefits and their contribution to the public interest, including employment and shifting freight to rail thereby reducing the impact of heavy vehicles on the road network.

Although there are significant matters to be assessed and resolved as part of future development applications for the design, construction and operation of the MPW site, the Department considers that the proposed modification is approvable subject to the recommended conditions of consent. This assessment report is hereby presented to the Commission for determination.

Recommended by:



Dominic Crinnion

Team Leader

Ports and Water Assessments

Recommended by:



David Gainsford

Executive Director

Priority Projects Assessments



Appendices

Appendix A – List of Documents

1. Environmental Impact Statement
http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7722
2. Submissions
http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7722
3. Applicant's Response to Submissions
http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7722
4. Submissions on the Response to Submissions
http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7722
5. Supplementary Response to Submissions
http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7722
6. Applicant's Consolidated Assessment Clarification Responses
http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7722

Appendix B – Consolidated Consent

Appendix C – Notice of Modification