200 Aldington Road Industrial Estate - Lot F Construction Environmental Management Plan

State Significant Development (SSD-10479 & SSD-79300218)

Prepared for Stockland Fife Kemps Creek Pty Ltd

March 2025

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Approved by



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14 March 2025

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Abbreviations

Acronym	Description
ACHMP	Aboriginal and Cultural Heritage Management Plan
BC Act	*Biodiversity Conservation Act 2016*
CAQMP	Construction Air Quality Management Plan
CEMP	Construction Environmental Management Plan
CCCHS	Community Consultation and Complaints Handling Strategy
CNVMP	Construction Noise and Vibration Management Plan
CTMP	Construction Traffic Management Plan
CPESC	Chartered Professional Erosion and Sediment Control
DPHI	NSW Department of Planning, Housing and Infrastructure
EIS	Environmental Impact Statement
ESCP	Erosion and Sediment Control Plan
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPA	Environmental Protection Agency
ER	Environmental Representative
FFMP	Flora and Fauna Management Plan
GFA	Gross Floor Area
ha	hectare
km	kilometre
LGA	Local Government Area
MRPWG	Mamre Road Precinct Working Group
NSW	New South Wales
NRAR	Natural Resources access Regulator
PCC	Penrith City Council
SFKC	Stockland Fife Kemps Creek Pty Ltd (a joint venture between Fife Capital and Stockland Managed entities)
UCP	Unexpected Contamination Protocol
WM Act	*Water Management Act 2000*
WHS Act	*Work Health and Safety Act 2011*
WSA	Western Sydney International (Nancy-Bird Walton) Airport

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1 Introduction

This Construction Environmental Management Plan (CEMP) has been prepared for implementation by Stockland Fife Kemps Creek Pty Ltd (SFKC) (and its contractors) for the construction of the 200 Aldington Road Industrial Estate Lot F building (the Project). The Project is located in Kemps Creek, New South Wales, 2178, within the Penrith Local Government Area (LGA).

The following documents have been reviewed and applicable information incorporated into this CEMP:

- Environmental Impact Statement (EIS) (including technical reports), prepared by Ethos Urban, dated 11 November 2020
- SSDA-10479 dated 5 May 2023
- Mamre Road Precinct Development Control Plan 2021 (the DCP)
- 200 Aldington Road Industrial Estate Construction Environmental Management Plan V4.0 (EMM, 2023)
- Scoping Report - Land Use and Internal Fit Out - Lot F, 200 Aldington Road Industrial Estate (Ethos Urban, 2024)
- Planning Secretary's Environmental Assessment Requirements (SEARs) - Cardboard Manufacturing Facility – 200 Aldington Road Industrial Estate Lot F (SSD-7930028 issued 12 February 2025)

1.1 Project background

An Environmental Impact Statement (EIS) was submitted to the Department of Planning and Environment (DPE) for a Concept State Significant Development (SSDA) Application under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), on behalf of SFKC (a joint venture between Fife Capital and Stockland Managed entities). It relates to the concept approval (in accordance with Section 4.22 of the EP&A Act and Stage 1 works for the proposed industrial hub of land at 106–228 Aldington Road, Kemps Creek (200 Aldington Road). The approved SSDA provides approval for the following development:

- 323,530 square metres (m^2) of warehouse gross floor area (GFA).
- 17,010 m^2 of ancillary office GFA.
- Thirteen (13) individual development lots for warehouse buildings with associated hardstand areas and two lots for drainage infrastructure purposes (each including a bio-retention basin).
- Construction of the Lot F warehouse (warehouse W5) as part of Stage 1 works.
- Roads including:
    - internal road layouts
    - southern road connection to Aldington Road
    - northern boundary road (half road corridor) connecting to Aldington Road
    - road connections to adjoining landholdings to the north and east.
- Provision for 1,510 car parking spaces.

- Associated concept site landscaping.
- Construction of the Lot F building (warehouse W5) comprises of:
  - lot area of 78,423 m^2
  - GFA of 51,027 m^2
  - 250 car spaces
  - internal plant and equipment for the cardboard manufacturing process.

This CEMP and sub plans have been prepared for the construction of the Lot F building only.

Since the approval of SSD-10479, a tenant has been identified for the Lot F building. The tenant intends on using the site and any structure built upon the site for the processing and distribution of cardboard products. The original approved land use for Lot F (Warehouse 5), under SSD-10479, was as a "warehouse building". The building to be used for cardboard processing and manufacturing is deemed "industry". As such, SFKC have prepared and submitted a Scoping Report and request for SEARs to account for the land-use change and internal fit-out change of the Lot F building. SEARs were received on 12 February 2025 (SSD-79300218) for "Fit out and use of the Stage 1 building (Lot F) approved under SSD-10479 for the purposes of the manufacture and distribution of cardboard products".

It is noted, that if the development is approved, the development description for Stage 1 of SSD 10479 in Schedule 1 of the consent would be modified to permit industry as a use within the approved building.

In addition to the Lot F land-use and fit-out SSDA, a Section 4.55 Modification Application to SSD-10479 will be submitted to Department of Planning, Housing and Infrastructure (DPHI) to seek approval for design amendments to the approved Lot F building W5 to suit the requirements of the tenant.

The 200 Aldington Road Industrial Estate Construction Environmental Management Plan 4.0 (EMM, 2023), referred to as the Stage 1 CEMP from here after, included environmental management requirements for Stage 1 works approved under SSD-10479 as listed below. The Stage 1 CEMP was approved by the Department of Planning and Environment (DPE), now DPHI on 23 September 2023. Stage 1 works include:

- demolition and clearing of all existing built form structures
- drainage and infill of existing farm dams and any ground dewatering
- clearing of all existing vegetation
- subdivision of the site into 15 individual lots
- bulk earthworks including 'cut and fill' to create flat development platforms for the warehouse buildings, and site stabilisation works (if required)
- roadworks and access infrastructure, including an interim access road and temporary junction with Aldington Road
- stormwater and drainage works including stormwater basins, diversion of stormwater lines, gross pollutant traps and associated swale works
- sewer and potable water reticulation
- inter-allotment, road and boundary retaining walls

- Lot F building (Warehouse 5) construction.

Stage 1 works, including earthworks, drainage, service installation and roadworks across the 200 Aldington Road estate are currently ongoing with Lot F building construction expected to commence in Q2 2025. The Stage 1 main civil works contractor will prepare the Lot F building area and provide hand-over of the Lot F area as a stabilised bare-earth pad prior to the Lot F building Construction Contractor commencing.

Although Lot F building construction works are included within the Stage 1 CEMP, this Lot F CEMP has been prepared to provide focussed direction to the reader for the environmental management requirements for the Lot F building construction. It is noted that the Stage 1 CEMP must still be implemented and that this document is supplementary to the Stage 1 CEMP. The approved Stage 1 CEMP has been used as a template to develop this Lot F building CEMP.

Figure 1.1 shows a land application map for the Mamre Road Precinct DCP, including the 200 Aldington Road site location.

Figure 1.2 shows the location of Lot F within the 200 Aldington Road estate.

Figure 1.3 shows an aerial image with an indicative outline of the Lot F site. The image was taken on 17/05/2024 by MetroMap and shows that vegetation has been removed from the site.

1.2 Purpose

This CEMP and sub plans have been prepared to describe how SFKC and associated contractors, satisfy the requirements of the Conditions of Consent (CoC) during the construction of the 200 Aldington Road Lot F building.

In accordance with CoC E1, management plans have been prepared in accordance with relevant guidelines, and also include:

a) detailed baseline data; (where appropriate)

b) details of:

   i) the relevant statutory requirements (including any relevant approval, licence or lease conditions)

   ii) any relevant limits or performance measures and criteria

   iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures

c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria

d) a program to monitor and report on the:

   i) impacts and environmental performance of the Stage 1 development

   ii) effectiveness of the management measures set out pursuant to paragraph (c) above

e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible

f) a program to investigate and implement ways to improve the environmental performance of the Stage 1 development over time

g) a protocol for managing and reporting any:

i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria)

ii) complaint

iii) failure to comply with statutory requirement

h) a protocol for periodic review of the plan.

This CEMP and sub plans have been prepared in accordance with the conditions of consent and the mitigation measures identified in the EIS. The CoC that relate to this CEMP and associated subplans are listed below. It is noted that some environmental risks, as assessed under the 200 Aldington Road Stage 1 EIS, do not apply to Lot F building construction. Therefore, certain CEMP sub-plans are not relevant and not required for Lot F building construction and as such they have been excluded from this document or reduced to relevant extracts only.

It is noted that as this Lot F CEMP is supplementary to the Stage 1 CEMP. Any and all commitments made within the Stage 1 CEMP still apply to Lot F building construction works.

Where any changes to conditions or new conditions relevant to this CEMP are introduced by the approval of SSD-79300218 or Modification 4, this CEMP would be updated accordingly.

Table 1.1 Construction Environmental Management Plans CoC

Condition reference	Consent condition	Where addressed
E2	The Applicant must prepare a Construction Environmental Management Plan (CEMP) for the Stage 1 development in accordance with the requirements of condition E1 (listed above) and to the satisfaction of the Planning Secretary.	This CEMP – noting Lot F is approved as part of Stage 1 and this Lot F building CEMP is supplementary to the Stage 1 CEMP
E3	As part of the CEMP required under condition E2 of this consent, the Applicant must include the following:	This CEMP
	a) Construction Traffic Management Plan (see condition D1)	Section 4.1 and Appendix A
	b) Erosion and Sediment Control Plan (see condition D22)	Section 4.2 and Appendix B
	c) Dam Decommissioning Strategy (see condition D37)	Section 4.6
	d) Salinity Management Plan (see condition D38)	Section 4.2 and Appendix C (Stage 1 Management Plan included)
	e) Construction Noise and Vibration Management Plan (see condition D51)	Section 4.3 and Appendix D
	f) Construction Air Quality Management Plan (see condition D64)	Section 4.4 and Appendix E
	g) Aboriginal Cultural Heritage Management Plan (see condition D67)	Section 4.5
	h) Fauna Management Plan (see condition D75)	Section 4.6 and Appendix J (Stage 1 Management Plan included)
	i) Wildlife Management Plan (see Condition D76)	Section 4.6 and Appendix J (Stage 1 Management Plan included)

Condition reference	Consent condition	Where addressed
	j) Vegetation Management Plan (see condition D79)	Section 4.6 and Appendix J (Stage 1 Management Plan included)
	k) Unexpected Contamination Finds Procedure (see condition D83)	Section 4.2 and Appendix G
	l) Community Consultation and Complaints Handling	Section 0 and Appendix K

i Mamre Road Precinct Development Control Plan 2021

The Project site is within the Mamre Road Precinct, and therefore the relevant controls of the DCP have been considered in this CEMP and applied to the construction phase of the Project. Applicable controls outlined in the DCP have been incorporated into this CEMP and subplans.

1.3 Objectives

The objectives of this CEMP are to:

- establish procedures to minimise the potential for environmental harm and/or environmental nuisance
- assign responsibility for the implementation, management and review process and to ensure all Project personnel understand individual roles and responsibilities
- ensure Project personnel understand incident and emergency response procedures
- provide a monitoring program to monitor the effective nature of controls as they are implemented during construction
- demonstrate that all statutory requirements and conditions of approval have been met.

An overview of the Project is provided in Section 1.1, while a detailed description of the Project is provided in Section 2. The requirements of the Project approval and where they are met in this CEMP are shown in Table 1.1. Agency consultation requirements for each Sub-plan are outlined in the respective Sub-plans where required.

Implementing the CEMP and sub-plans will minimise impacts to the environment whilst meeting the requirements of the CoC, Compliance Tracking and Environmental Audit Program, the EIS and all applicable legislation. SFKC and contractors will achieve environmental outcomes on the project through the application of the Management System (MS).

The Lot F building CEMP is applicable to all staff contractors and sub-contractors associated with the construction of the Lot F building.

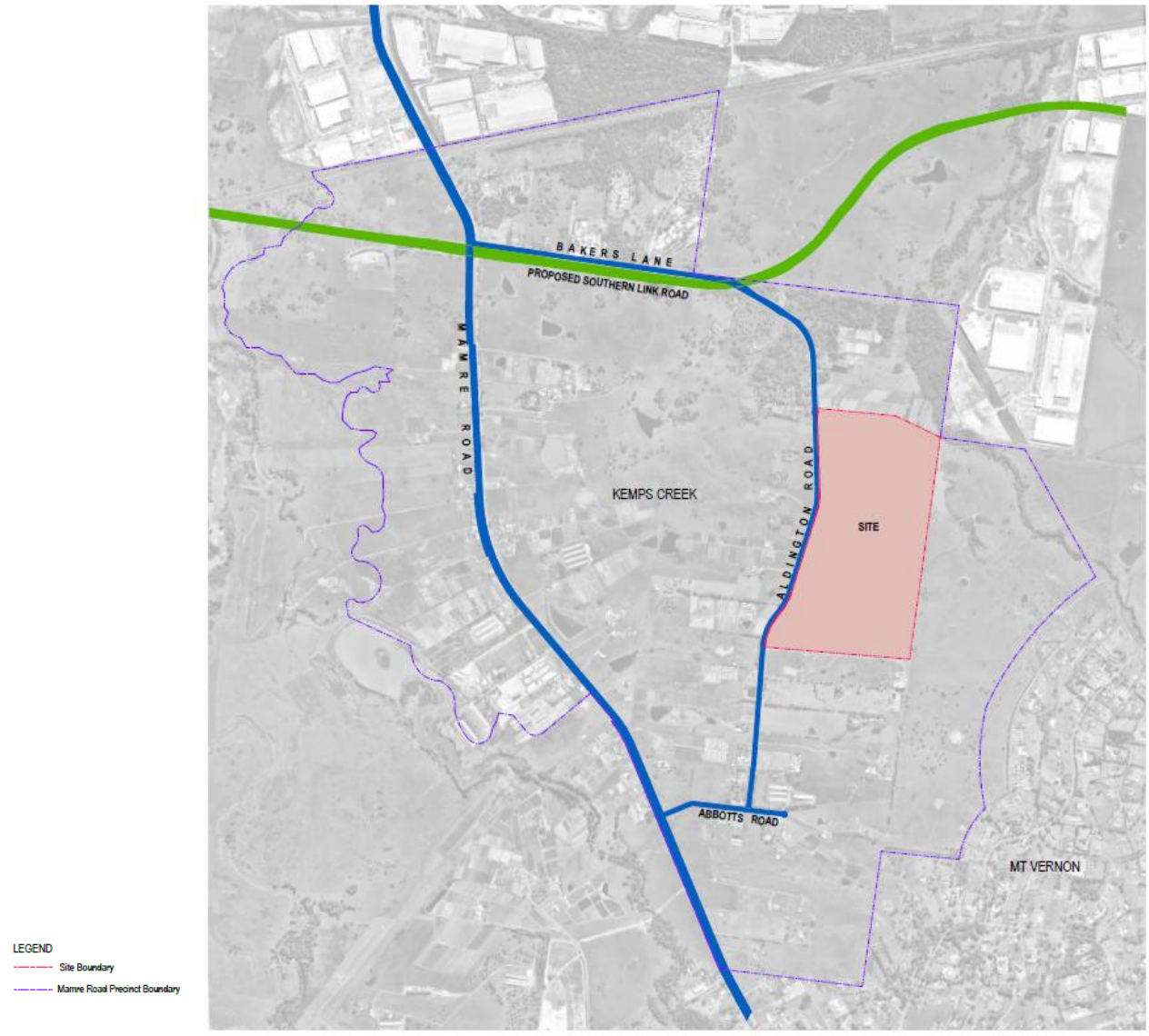
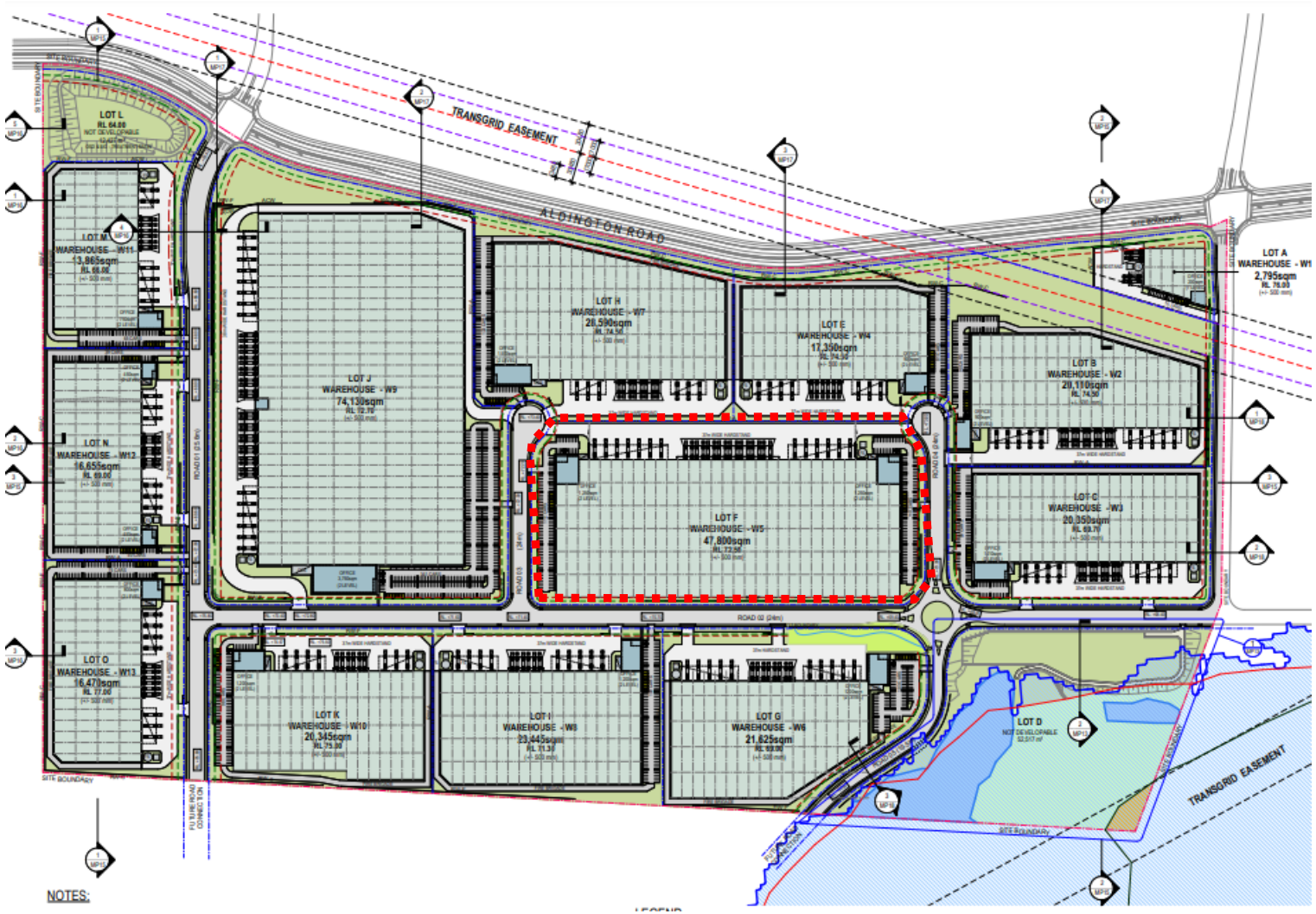


Figure 1.1 Land application map for the Mamre Road Precinct DCP and site location



Source: Stockland Fife kemps Creek (2022)

Figure 1.2 Lot F boundary within the wider context of the 200 Aldington Road Estate as shown in Original Concept Master Plan approved under SSD-10479



Source: Metromap 17/05/2024

Figure 1.3 Aerial image with indicative outline of Lot F - taken during Stage 1 Earthworks

2 Project overview

2.1 Location

The Project site is located at 200 Aldington Road, Kemps Creek, NSW. The Estate comprises a total area of approximately 72 hectares (ha), Lot F is approximately 7.4 ha. The site is located approximately 5 kilometres (km) north-west of the future Western Sydney (Nancy-Bird Walton) Airport, 13 km south-east of the Penrith CBD and 40 km west of the Sydney CBD (refer to Figure 1.1). The site is located within the Mamre Road Precinct (MRP) as identified by the State Environmental Planning Policy (Industry and Employment) 2021.

2.2 Construction staging and activities

The construction of the Lot F building will occur in the following phases:

1. Mobilise to site.
2. In ground works (services and foundations).
3. Above ground works (structure and services).
4. Fit out and external works.
5. Testing and commissioning.
6. Completion and handover.

For context, staging of the wider Project under SSD-10479, including construction of the Lot F building, is proposed as follows:

- 1a – Bulk earthworks
- 1b – Infrastructure including all roads, services (telecommunication, electrical, potable water, wastewater, recycled water and stormwater) and landscaping
- 1c – **Construction on Lot F (building)**, naturalised trunk drainage channel on Lot G and interim stormwater management
- 1d – Remove temporary access roads, finalise lot boundaries.

Other stages from 2 to 12 are proposed to be subject to separate consents for development of the remainder of the lots.

A summary of construction activities is provided in Table 2.1. SFKC and contractors will undertake consultation activities in accordance with the processes outlined in the CCCHS (see Appendix K).

Table 2.1 Construction activities

Stage	Summary of activities	Timing
Mobilise to site	• Site establishment, including Lot boundary temporary fencing and erection of signage. • Establishment of site compound and Lot stockpile area (note, spoil from the Lot may be stored elsewhere on the Project in Consultation between the Contractor and SKFC. • Establishment of site access points, traffic management measures. • Installation of erosion and sediment controls.	On approval of the CEMP – target Q2 2025
In ground works (services and foundations)	• Installation of services required for building. • Detailed/minor site earthworks as required. • Piling works for warehouse building. • Form Reo Pour for foundations and warehouse base slabs.	Q2 2025 – Q4 2025
Above ground works (structure and services)	• Installation of frame, roof, walls cladding, doors and windows. • Installation of internal services.	Q2 2025– Q2 2026
Fit out and external works	• Installation of warehouse specific infrastructure. • Warehouse and office fit out. • Installation of lot drainage. • Permanent site fencing. • Car parking. • Landscaping.	Q3 2025– Q2 2026
Testing and commissioning	• Testing and commissioning of building, associated infrastructure and services.	Q2 2026
Completion and handover	• Practical completion prior to operation.	Q2 2026

2.3 Plant and equipment

Plant and equipment that would be utilised during construction include, but would not be limited to:

- delivery trucks
- generator
- forklift
- mobile crane
- backhoe
- Positrak
- grinder
- excavators
- light vehicles
- pumps
- compressors

- hydraulic hammers
- demolition and scrap metal recycling equipment
- compactor
- auger drill rig
- front end loader
- concrete saw/power saws
- concrete trucks
- concrete pumps
- piling rig
- hand tools
- power saws
- roller
- slurry trenching machine/vac truck
- water cart or water trailer
- scissor lifts.
- lighting tower.

2.4 Construction hours

In accordance with CoC D48, working hours for earthworks and construction must be undertaken between:

- Monday to Friday: 7:00 am to 6:00 pm
- Saturday: 8:00 am to 1:00 pm.

In accordance with CoC D49 works undertaken outside of these hours, be undertaken under the following circumstances:

- works that are inaudible at the nearest sensitive receivers
- works agreed to in writing by the Planning Secretary
- for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons, or
- where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

2.5 Construction site access

The Construction Traffic Management Plan (CTMP) see Appendix A, outlines a two-stage access strategy.

Access to the site will be as follows:

- All traffic must approach the site from the north along Mamre Road, turning left onto Abbotts Road and then accessing the site via Aldington Road. A proposed temporary road has been constructed to provide access for Stage 1 and the initial phases of Lot F building construction, while the site's long-term road network is delivered and the ultimate connections to Aldington Road are completed.
- All traffic must exit the site along Abbotts Road and head south along Mamre Road (towards Kemps Creek). Mamre Road intersection will be upgraded, with signals installed allowing access to Aldington Road.
- The long-term strategy will see access to Aldington Road via the site's internal industrial roads to both the south and north of Project. Once a permanent intersection is delivered, the temporary roadway will be removed.

Refer to the CTMP (Appendix A) for further detail.

2.6 Key construction contact details

Key contacts for the Project are provided in the table below.

Table 2.2 Key construction contact details

Contact/agency	Reason	Contact number
Development Manager (Estate) - Fife Capital	Complaints, incidents	Richard Harris 0408 865 947
Development Manager (Lot F) – Fife Capital	Complaints, incidents	Martin Charteris 0423 773 236
Construction Manager	Complaints, incidents	TBC
Community Liaison Officer – Fife Capital	Liaison	Richard Harris 0408 865 947
Environmental Representative (ERSED or approved alternative)	Non-compliance with consent condition (environmental/noise/traffic)	Carl Vincent 0424 203 046
Alternative Environmental Representative	Non-compliance with consent condition (environmental/noise/traffic)	Richard Peterson 0429227775
Project Information Number	Complaints/issues/enquiries	TBC
Penrith City Council	Traffic/access (local roads)	(02) 4732 7777
DPHI	Non-compliance, regulatory advice	1300 420 596
DPI Fisheries	Aquatic ecology	1300 550 474
TfNSW	Traffic/access (Mamre Road)	131700
SafeWork NSW	Notifiable incidents	131 050
NSW EPA	Pollution Incident	131 555

Contact/agency	Reason	Contact number
NSW Police	In case of fire, medical or police emergency. For pollution incidents that present an immediate threat to human health or property.	000
Fire and Rescue NSW		
NSW Ambulance		
Nepean Hospital	Medical incidents	(02) 4734 2000
Crime stoppers	Incidents such as theft, crime, car crash, non-threatening injuries	1800 033 111
Police Assistance Line		131 444
Poison Information Centre	Toxicology advice	131 126
IXOM (Chemical industry)	Incidents relating to transport, storage, and use of chemical products	1800 033 111
Deerubbin Local Aboriginal Land Council (LALC)	Aboriginal cultural heritage	(02) 4724 5600
Darug Custodian Aboriginal Corporation		0415 770 163
Kamilaroi Yankuntjatjara Working Group		0434 545982

2.7 Mamre Road Precinct Working Group and nearby projects

A number of projects have commenced construction or have been determined by DPHI within the MRP. These construction projects include other industrial estates, a data centre, waste processing facility and a temple and cultural precinct. Ongoing construction works, undertaken by multiple parties, within a precinct area may have cumulative impacts such as traffic, noise and dust.

Of particular note are a number of projects surrounding the 200 Aldington Road site including:

- Hindu Temple at 242 Aldington Road Kemps Creek (DA17/1247) located directly to the south of 200 Aldington Road
- Westlink Industrial Estate at 290-308 Aldington Road, 59-62 Abbotts Road and 63 Abbotts Road, Kemps Creek (SSD-9138102) located to the south of 200 Aldington Road
- Oakdale West Stage at 2 Aldington Road, Kemps Creek (SSD-10397) located to the north-west of 200 Aldington Road
- Oakdale West Stage 5 at 2-18 Aldington Road, Kemps Creek (SSD-22191322) located to the north-west of 200 Aldington Road.

The Mamre Road Precinct Working Group (MRPMG) has been established to coordinate management of construction works across the Mamre Road Precinct, to mitigate cumulative impacts to the community and environment and to encourage innovation and information sharing between contractors.

The purpose of the working group is to consult and coordinate construction works within the MRP to assist with managing and mitigating potential cumulative environmental impacts.

The working group must:

- comprise at least one representative of the SFKC, the Projects Environmental Representative, and relevant consent holders in the MRP

- meet periodically throughout the year to discuss, formulate, and implement measures or strategies to improve monitoring, coordination of the approved industrial developments in the MRP
- regularly inform Council, TfNSW, Sydney Water and the Planning Secretary of the outcomes of these meetings and actions to be undertaken by the working group
- review the performance of approved industrial developments in the MRP and identify trends in the data with respect to cumulative construction traffic, erosion and sediment control, noise, stormwater management and waterway health objectives under the MRP DCP
- review community concerns or complaints with respect to environmental management
- identify interim traffic safety measures to manage construction traffic and how these measures will be coordinated, communicated, funded, and monitored in the MRP
- provide the Planning Secretary with an update and strategies, if a review under subclause (d) and (e) identifies additional measures and processes are required to be implemented by the working group.

The MRPWG is focussed on reducing cumulative impacts across the wider MRP area through collaboration and consultation between contractors and Government agencies, sharing goals and outcomes. For instance, as a shared commitment a Driver's Code of Conduct has been established that minimised traffic noise, traffic disruption and ensures truck drivers use agree haulage routes to mitigate impacts to the community.

At the time of writing, the MRPWG is attended by the companies listed within Table 2.3.

Table 2.3 Mamre Road Precinct Working Group members

Company	Development / SSD
Mirvac Projects Pty Ltd	SSD-10448
ESR Developments (Australia) Pty Ltd	SSD-9138102
Stockland Fife Kemps Creek Pty Ltd	SSD-10479
GPT Pty Ltd	SSD-10272349
Barings Real Estate Australia	SSD-17641789

3 Environmental management framework

3.1 Roles and responsibilities

The roles and responsibilities relevant to the Project are summarised in Table 3.1.

Table 3.1 Roles and responsibilities

Role	Company	Responsibilities
Community Engagement Representative	Principal (SFKC)	• Receive and respond to enquiries and complaints. • Ensure complaints register is updated. • Respond to community complaints. • Working with SFKC and Contractor to identify the cause and solution to complaints. • Provide the ER with documentation requested to perform ER functions (Condition C34). • Provide monthly reports. • Participate in MRP Working Group where required. • Attend community and stakeholder meetings, as required. • Ensure Project website is current (Condition E17).
Project Manager	Principal (SFKC)	• Receive and respond to enquiries and complaints. • Ensure complaints register is updated. • Respond to community complaints. • Working with SFKC and Contractor to identify the cause and solution to complaints. • Provide the ER with documentation requested to perform ER functions (Condition C34). • Provide monthly reports. • Participate in MRP Working Group where required. • Attend community and stakeholder meetings, as required. • Ensure Project website is current (Condition E17).
Environmental Representative	ER or approved alternative	• Receive and respond to communication from the Planning Secretary. • Inform the Planning Secretary on matters specified in the terms of this consent. • Consider and recommend (to SFKC) any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community. • Review CEMP required under the Conditions of consent. • Regularly monitor the implementation of the CEMP. • Undertake site visits audits and inspections. • Participate in the MRP Working Group (see Condition A12). • As requested by the Planning Secretary assist the DPE in the resolution of community complaints. • Responding to the community regarding environmental performance. • be available to the team to assist in the resolution of complaints where required. • Prepare and submit Environmental Representative Monthly Report.
Construction Manager	Contractor	• Provide support in the response to enquiries and complaints and ensure required actions are implemented. • Provide information for reports, as required.
Site Supervisor	Contractor	• Provide support in the response to enquiries and complaints where required. • Report any community interactions (e.g. local community, media) to the Community Engagement Representative. • Assist with the implementation of the CCCHS.

Role	Company	Responsibilities
Site Environmental Representative	Contractor	• Implementation of the CEMP on site. • Assist the ER in the implementation of environmental requirements. • Assist with the annual review of the CEMP and subplans.
All Project personnel	Contractor and sub-contractors	• Adhere to requirements of this CCCHS. • Report any community interactions (e.g. local community, media) to the project Community Engagement Representative.

3.2 Statutory requirements

The Project must be carried out in accordance with:

- the conditions of consent as per SSD-10479, including any modifications
- the conditions of consent as per SSD-79300218, once approved
- all written directions from the Planning Secretary
- the EIS
- the approved plans
- this CEMP and sub-plans
- the Stage 1 CEMP and sub-plans.

The Project is required to adhere to the relevant requirements of the Acts and their subordinate legislation identified in the table below.

Table 3.2 Statutory requirements

Act	Statutory instrument	Regulatory authority	Applicability
State			
Biodiversity Conservation Act 2016 (BC Act)	Biodiversity Conservation Regulation 2017	NSW DCCEEW	Protection of threatened species, populations and communities and their habitats.
Contaminated Land Management Act 1997 (CM Act)	Contaminated Land Management Regulation 2013	NSW EPA	Identifies and control contaminated land and investigation requirements.
Environmental Planning and Assessment Act 1979 (EP&A Act)	Environmental Planning and Assessment Regulation 2000	DPHI	Modification to the Project scope requiring modification to the Development Approval.
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	Environment Protection and Biodiversity Conservation Regulations 2000	DCCEEW	Protection of biodiversity and conservation matters.
Fisheries Management Act 1994 (FM Act)	Fisheries Management (General) Regulation 2019	DPI (Fisheries NSW)	Controls works within waterways.
Heritage Act 1977	Heritage Regulation 2012	NSW DCCEEW	Protection of cultural heritage items.

Act	Statutory instrument	Regulatory authority	Applicability
National Parks and Wildlife Act 1974	National Parks and Wildlife Regulation 2019	NSW DCCEEW	Protection of Aboriginal objects and sites. Duty to notify in the event that an Aboriginal object is uncovered.
Protection of the Environment and Operations Act 1997 (POEO Act)	Protection of the Environment Operations (Waste) Regulation 2014	NSW EPA	Pollution incidents that have caused or give rise to material harm.
Roads Act 1993	*Law Reform Commission Act 1975*	TfNSW	Financing, maintenance, construction and operation of roads.
Sydney Water Act 1994 (NSW)	Sydney Water Regulation 1994	Sydney Water	Relates to the supply of water, the provision of sewerage and stormwater drainage systems and the disposal.
Waste Avoidance and Resource Recovery Act 2001	Waste exemptions under the POEO administration regulation	NSW EPA	Controls waste management and allows for resource recovery under exemptions.
Water Management Act 2000 (WM Act)	Water Management (General) Regulation 2018	Natural Resources Access Regulator (NRAR)	For the protection, conservation and ecologically sustainable development of the water sources of the State, and for other purposes.
Work Health and Safety Act 2011 (WHS Act)	Work Health and Safety Regulation 2017	SafeWork NSW	Controls safety requirements for work sites in NSW.

3.2.1 Standards, codes and guidelines

The following standards, codes and guidelines are applicable to the construction of the Project:

- Australian Standards:
  - Australian Standard AS1940-2004 *The storage and handling of flammable and combustible liquids*
  - Australian Standard AS1742.9:2018 *Manual of Uniform Traffic Control Devices – Bicycle Facilities, Cycling Aspects of Austroads Guides*
  - Australian Standard AS 1055:2018 Acoustics – *Description and measurement of environmental noise*
- NSW EPA Waste Classification Guidelines
- Interim Construction Noise Guideline (DECC 2009)
- Managing Urban Stormwater: Soils and Construction – Volume 1: Blue Book (Landcom, 2004)
- Guidelines for Controlled Activities on Waterfront Land (reference)
- National Airports Safeguarding Framework, Managing the Risk of Wildlife Strikes in the Vicinity of Airports (NASAG, 2012)
- Planning for Bushfire Protection (NSW RFS, 2019).

Other relevant Standards, Codes and Guidelines are listed within the management plans found in Appendix A to Appendix J.

3.3 Inductions and environmental training

All personnel (including contractors and sub-contractors) are required to attend a compulsory site induction that includes an environmental component prior to commencement on-site. This is to ensure all personnel involved in the Project are aware of the requirements of the CEMP. All Project staff will be made aware of the site-specific environmental controls through a site induction, and pre-start meetings/toolbox talks prior to the commencement of work.

3.3.1 Site specific induction

The site induction will include (but not limited to) key aspects:

- purpose and objectives of the CEMP
- roles and responsibilities, including due diligence and duty of care
- appropriate behaviour when interacting with the local community and stakeholders
- overview of environmental risks and specific locations of environmental and cultural significance
- the scope of legislative requirements and other licences and approvals
- key environmental management and controls stipulated in the CEMP and sub plans
- workplace health and safety issues, including high-risk activities and associated safeguards
- potential environmental emergencies on site and the emergency response, locations and training in the use of emergency spill kits
- construction hours
- driver code of conduct and haulage routes
- importance of erosion end sediment controls
- unexpected finds (heritage and contamination)
- procedures for notifying and reporting incidents and complaints.

Site inductions will be recorded, including details of topics discussed, attendees and duration. Copies of the site inductions will be stored in a register and signed attendance sheets will be filed.

In accordance with Condition D70 prior to the commencement of earthworks, SFKC (or it's contractor where delegated) undertake Aboriginal cultural heritage induction training for all staff and contractors. The training must outline the obligations of staff and contractors under the *National Parks and Wildlife Act 1974* and the conditions of this consent. SFKC will ensure any new staff or contractors receive the induction training prior to commencing works on the site.

3.3.2 Toolbox talks

Toolbox talks will be held weekly and tailored to specific environmental issues relevant to the upcoming works. Topics to be discussed will include (but not limited to):

- erosion and sediment control

- traffic issues
- weed management and site hygiene protocols
- flora and fauna management
- waste management
- pollution management
- hours of work.

3.3.3 Pre-start meetings

Pre-start meetings will be conducted daily prior to commencement of works. Topics to be discussed will include (but not limited to):

- daily work activities
- safe work practices
- environmental controls
- no-go zones/restricted work areas
- hazards
- any other information which may be relevant to the day's work.

3.4 Incident and non-compliance

3.4.1 Incidents

Incidents may comprise (but not limited to):

- serious injuries requiring urgent medical help
- there are threats to property or life
- criminal activity, e.g. you have witnessed a serious crime or accident
- sewer or water service breaks which result in offsite pollution
- electricity service faults
- fires and explosions
- release of pollutants, e.g. release of sediment into watercourse, chemical spill
- trucks not entering site as per access route specified in the CTMP.

i Pollution incidents

Pollution incidents may comprise (but are not limited to):

- pollution, or potential pollution of waterbodies
- discharges of waters from site not in accordance with approval requirements
- major dust generating event
- excessive mud tracking on roads outside of the Lot F boundaries
- uncontrolled releases of chemicals, paint or fuels
- a spill that causes pollution to land/soils
- excessive noise from vehicles, transport or construction activities near people's residence or workplace, especially outside of standard work hours.

Where a pollution incident has caused or is threatening to cause 'Material harm to the environment', the regulatory agencies must be notified immediately and without delay (see Section 3.4.4). As defined in Section 147 of the *Protection of the Environment Operations Act 1997* (POEO Act):

> (a)…harm to the environment is material if:
>
> > (i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
> >
> > (ii) It results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and
>
> (b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

3.4.2 Incidents and non-compliance handling procedure

In the event of an incident/near-miss, the following steps should be taken:

1. **Stop** works in the area and if safe to do so ensure the safety of personnel within the vicinity.
2. **Notify** relevant persons, e.g. emergency services or construction manager.
3. **Isolate** the risk or hazard, e.g. turn off machinery/plant, implement immediate site controls, set up exclusion zone.
4. **Report** and notify relevant persons (e.g. project manager, regulatory agencies).

3.4.3 Corrective actions

Corrective actions may be triggered by an incident or non-compliance and will include immediate steps taken to control the event, as well as development of additional controls to prevent reoccurrence.

Corrective actions should be prioritised on the following hierarchy of controls:

1. **Elimination** – can activities and processes be eliminated to reduce the risk of reoccurrence?

2. **Substitution** – can activities be substituted with another activity of lesser risk?

3. **Isolation** – can you isolate the hazard from any person exposed to it?

4. **Engineering controls** – can you reduce the risk of reoccurrence through engineering changes?

5. **Administrative controls** – can a change in work practices, additional training or additional checks reduce the risk?

6. **Personal Protective Equipment (PPE)** – i.e. reinstate sed fence/signage for no go area.

Corrective actions will be documented on the Incident and Non-compliance Form and be assigned to the appropriate personnel for close out. The Site Environmental Representative will be responsible for managing and overseeing the implementation of corrective actions on-site and ensuring appropriate documentation is completed and filed for record keeping. Records of all incidents and non-compliances and associated corrective actions are to be provided to the project manager.

3.4.4 Regulatory agency notification

i Material harm pollution incident

Incidents that causes or threatens material harm must be notified to the relevant authorities immediately and without delay. This includes the EPA, DPHI, Council, Local Department of Health, Worksafe NSW and Fire and Rescue. The contact details are provided in Table 2.2.

A person engaged as an employee in carrying out an activity must, immediately and without delay, after the person becomes aware of the incident (see Section 3.4.1i), notify the relevant authorities. The management team must notify the principal contractor and the Environmental Representative as soon as possible verbally and commence action to control the pollution event where safe to do so.

The Project Manager is responsible for notifying the appropriate regulatory authority and other response agencies in accordance with the requirements stipulated in Part 5.7 of the POEO Act.

A written report on the incident. (s148 of POEO Act, CoC E10, C34) is required to be prepared in accordance with Section 3.4.6.

3.4.5 Non-compliances notification

A non-compliance refers to the failure to comply with a condition of consent (e.g. exceedance of the impact assessment criteria and performance criteria for noise and vibration), including failure to meet any time requirements specified by a Condition. A non-compliance also refer to the failure to meet the requirements of an approved management plans.

Non-compliance may be identified through routine weekly inspections, impromptu site inspections, via the CEMP review and audit process or following an incident or a complaint. The Site Environmental Representative is responsible for investigation and management of corrective and preventive actions in the event of non-compliance. Non compliances must be reported to the Planning Secretary via the Major Projects website within seven days of SFKC becoming aware of the non- compliance (as per CoC E11).

As per CoC-E12, a non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

As per CoC-E13, a non-compliance which has been notified as an incident does not need to also be notified as a non-compliance

3.4.6 Notification requirements

i Incident report requirements

Immediately and without delay after an incident is identified, the project team must supply the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a notification of the incident addressing all requirements listed below (in accordance Appendix 5 CoC#4):

a) a phone call to the relevant agencies with a record kept of the call date and time

b) an email on the same day including:

   i) a summary of the incident including its location and nature

   ii) outcomes of an incident investigation, including identification of the cause of the incident

   iii) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence

   iv) details of any communication with other stakeholders regarding the incident

c) written notification within 7 days of the incident as per Section 3.4.6 ii.

ii Written incident notification requirements

The Planning Secretary must be notified in writing via the Major Projects website immediately after SFKC becomes aware of an incident (as per CoC E10, Section 3.4.6i). Appendix 5 of the CoC state that notification must be submitted to the Planning Secretary via the Major Projects website include:

a) identify the development and application number

b) provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident)

c) identify how the incident was detected

d) identify when the applicant became aware of the incident

e) identify any actual or potential non-compliance with conditions of consent

f) describe what immediate steps were taken in relation to the incident

g) identify further action(s) that will be taken in relation to the incident

h) identify a project contact for further communication regarding the incident.

The Planning Secretary must be notified in writing via the Major Projects website within 7 days of the incident occurring in accordance with Appendix 5 of the CoC.

If notification is not completed within 7 days of the event the notification process is still required to be completed.

3.5 Complaints response

3.5.1 Responsibility

The Project Manager will be responsible for investigating, recording and closing out any complaints received in accordance with the CCCHS (refer to Appendix K). The complaints register will be maintained for the duration of construction.

3.5.2 Complaints handling procedure

Should complaints be received from the public in relation to the Project, they will be managed in accordance with Complaints Response Handling Procedure outlined in the CCCHS (refer to Appendix K).

3.5.3 Complaints register

A complaints register will be maintained and contain the details listed in the CCCHS. The complaints register will be made publicly available through the project's website (refer to CoC E17) the project website and be updated on a monthly basis.

3.5.4 Dispute resolution

The dispute resolution procedure is outlined in the CCCHS (refer to Appendix K). This will be implemented for the duration of the project.

4 Environmental management

The following section outlines the management strategies to be implemented for minimising impacts on the environment which may occur as a direct result of construction activities. Elements to be covered include:

- general
- traffic management
- erosion and sediment control
- stormwater management
- soil management
- waste management.

Environmental Management sub-plans specifically relevant to the construction of the Lot F building have been prepared and are attached as appendices to this CEMP.

Sub-plans include:

- Construction Traffic Management Plan (refer to Appendix A)
- Primary Erosion and sediment Control Plan (refer to Appendix B)
- Construction Noise and Vibration Management Plan (refer to Appendix D)
- Construction Air Quality Management Plan (refer to Appendix E)
- Unexpected Contamination Protocol (refer to Appendix G)
- Community Consultation and Complaints Handling Strategy (refer to Appendix K)
- Waste Management Plan (refer to Appendix H).

Environmental Management sub-plans partially relevant to the construction of the Lot F building that have been prepared and approved as part of Stage 1 have been included in this CEMP for ease of reference. These sub-plans include:

- Salinity Management Plan (refer to Appendix C)
- Flora and Fauna Management Plan (refer to Appendix J).

The applicable controls required in the Mamre Road DCP have been incorporated into the relevant sub-plans as required.

As this document is supplementary to the Stage 1 CEMP, any sub-plans included within the Stage 1 CEMP apply as relevant to Lot F works. This Lot F CEMP will not contain the following sub-plans as they are not strictly relevant to Lot F building construction works:

- Aboriginal Cultural Heritage Management Plan – The works will commence on an earth pad prepared by the Stage 1 contractor, which does not contain any in-situ materials. The works will not occur in Area 3 as identified within the Aboriginal Cultural Heritage Assessment Report prepared by Biosis dated 20 September 2021. As such, risk of impact to Aboriginal places, objects or items is low and can be managed under an Unexpected Heritage Finds Procedure. Refer to Appendix F.

- Flora and Fauna Management Plan - The works will commence on an earth pad prepared by the Stage 1 contractor. There will be no existing threatened flora or fauna species, threatened ecological communities habitat, or vegetation remaining on the site. As such, management of flora and fauna is not relevant to the Lot F building construction. Weeds management will occur as outlined in Section 4.6.

4.1 Traffic and access

The Construction Traffic Management Plan (CTMP) prepared by Ason Group (refer to Appendix A), has been prepared in accordance with CoC D1. The CTMP ensure safe and efficient movement of vehicles and pedestrians on to, off and around the site, whilst minimising disruptions/impacts and maintaining a safe environment for both vehicular and pedestrian traffic. The Lot F CTMP is to be read in conjunction with the Stage 1 CEMP.

All site access is via Abbotts Road, with different access points during stages of the devolvement refer to CTMP – Appendix A for full details. Table 4.1 indicates where each condition has been addressed.

Table 4.1 Traffic and access conditions

Condition reference	Condition consent	Where addressed
D1	D1. Prior to the commencement of construction of the development, the Applicant must prepare a Construction Traffic Management Plan for the development to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by condition E2 and must: a) be prepared by a suitably qualified and experienced person(s) b) be prepared in consultation with Council and TfNSW c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction for both on-site and external road upgrade and construction works to: i) ensure access to the site and road safety and network efficiency is maintained ii) manage cumulative construction traffic from other concurrent construction works within the Mamre Road Precinct iii) address necessary interim traffic safety controls and management measures, including consideration of any traffic control measures required to manage traffic entering Mamre Road in the period before Mamre Road/Abbotts Road intersection construction is complete d) detail heavy vehicle routes, access and parking arrangements e) include a Driver Code of Conduct to: i) minimise the impacts of earthworks and construction on the local and regional road network ii) minimise conflicts with other road users iii) minimise road traffic noise iv) ensure truck drivers use specified routes, including entering and exiting Mamre Road via Abbotts Road and not Bakers Lane f) include a program to monitor the effectiveness of these measures g) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.	CEMP Appendix A CTMP
D2	The Applicant must: h) not commence construction until the Construction Traffic Management Plan required by condition D1 is approved by the Planning Secretary i) implement the most recent version of the Construction Traffic Management Plan approved by the Planning Secretary for the duration of construction.	Noted

Condition reference	Condition consent	Where addressed
Parking		
D15	The Applicant must provide sufficient parking facilities on-site in accordance with the MRP DCP, including for heavy vehicles and for site personnel, to ensure that traffic associated with the development does not utilise public and residential streets or public parking facilities.	CEMP Appendix A CTMP

4.2 Soils, water and hydrology

Where imported soils are required the SFKC and subcontractors must, ensure that only engineered fill materials, Virgin Excavated Natural Material (VENM) or Excavated Natural Material (ENM) are used. All other materials must be assessed and approved in writing before being brought onto site. Accurate records will be kept of the type of imported fill and the volumes imported, these records will be made available to the Planning Secretary or other statutory agency upon request. A Spoil Import Procedure is included in Appendix I.

The Primary Erosion and Sediment Control Plan (ESCP) prepared by EMM (refer to Appendix B), has been written in accordance with CoC D22 (and includes CoC D37). The ESCP will be implemented to minimise the potential impacts to existing soils and waterways. The Primary ESCP is the overarching plan for the control of erosion and sediment control at the commencement of works on the site. Progressive Erosion and Sediment Control Plans (PESCPs) will be created, updated and reviewed as the Lot F construction works progress to ensure controls are relevant to works and erosion and sedimentation risks.

There are no dams remaining on the Lot F site following Stage 1 earthworks and therefore no dam decommissioning is required as part of the Lot F building construction works.

Only minor earthworks will occur as part of the Lot F building construction. The earthworks will occur within site won and imported soils used to form the Lot F building pad. As such, the risk of encountering saline soils is minimal. Saline soils will be managed under the Stage 1 Salinity Management Plan, included within Appendix C for reference.

Soil, water and hydrology conditions of consent are listed in Table 4.2 below.

Table 4.2 Soils, water and hydrology conditions

Condition reference	Condition consent	Where addressed
D21	The Applicant must: j) ensure that only VENM, ENM, or other material approved in writing by EPA is brought onto the site k) where possible, source fill material from within the MRP l) keep accurate records of the volume and type of fill to be used m) make these records available to the Planning Secretary upon request.	CEMP Section 4.2 Spoil Import Procedure Appendix I

Condition reference	Condition consent	Where addressed
D22	Prior to the commencement of earthworks for the development, the Applicant must design and detail the erosion and sediment control measures for the site to ensure the construction phase IWCM controls in the MRP DCP are achieved. Detailed Erosion and Sediment Control Plans (ESCP) and drawings must: a) be prepared by a Chartered Professional Erosion and Sediment Control (CPESC) specialist b) be prepared in accordance with Managing Urban Stormwater: Soils and Construction – Volume 1: Blue Book (Landcom, 2004) and with the WSUD design principles set out in the Technical Guidance for Achieving Wianamatta South Creek Stormwater Management Targets (NSW Government, 2022) c) include: i) each major phase of earthworks and construction including catchment plans and calculations and sizing for all major drainage and sediment controls for each phase ii) the type of sediment basin, details of all functional components and calculations demonstrating compliance with the DCP d) demonstrate the timing and sequencing of earthworks will be managed to ensure the construction phase stormwater quality targets can be met e) detail the timing, methods and performance requirements for stabilisation of disturbed areas f) detail measures to manage external catchment flows and dispersive soils g) details of how the proposed erosion controls outlined in the plan will be monitored to ensure management remains effective h) detail measures to protect passively irrigated street trees during construction works, if these are installed before construction is completed i) be included in the CEMP required by Condition E2.	Appendix B ESCP
D23	The Applicant must: a) not commence earthworks until the Erosion and Sediment Control Plan required by condition D22 is approved by the Planning Secretary b) implement the most recent version of the Erosion and Sediment Control Plan approved by the Planning Secretary for the duration of earthworks and construction.	Appendix B ESCP
D24	The Environmental Representative, appointed in accordance with condition C34, shall make a written statement to the Planning Secretary confirming the erosion and sediment controls are operational, prior to the commencement of bulk earthworks and other construction activities required for Stage 1. The Environmental Representative must also verify that disturbed areas have been adequately stabilised at the completion of earthworks.	Appendix B ESCP
D25	The Applicant must ensure delivery and operation of all construction phase erosion and sediment controls on the site are supervised and certified by a CPESC. Monthly audits are to be completed by CPESC and kept on record for the duration of the construction and an additional 12 months following completion of construction works.	Appendix B ESCP
D30	The Applicant must: a) not commence earthworks until the design required by Condition D29 is approved by the Planning Secretary b) ensure construction of the trunk drainage infrastructure is supervised and certified by a suitably qualified chartered professional engineer with experience in modelling, design and supervision of WSUD systems c) implement the trunk drainage infrastructure approved by the Planning Secretary prior to the commencement of operation of the first warehouse building.	Noted

Condition reference	Condition consent	Where addressed
Stormwater Management Plan		
D32	The Applicant must: a) not commence operation of the Stage 1 development until the Stormwater Management Plan required by Condition D31 is approved by the Planning Secretary b) implement the most recent version of the Stormwater Management Plan approved by the Planning Secretary for the duration of the development.	Noted, in separate plan Approval from DPHI received 5 October 2023
Dam Decommissioning Strategy		
D37	Prior to commencement of construction of the Stage 1 Development, the Applicant must prepare a Dam Decommissioning Strategy to the satisfaction of the Planning Secretary. The Dam Decommissioning Strategy must form part of the CEMP required by condition E2. The Applicant must implement the most recent version of the Dam Decommissioning Strategy for the duration of construction.	Not relevant to Lot F works
Salinity Management Plan		
D38	The Applicant must prepare a Salinity Management Plan, which must form part of the CEMP in accordance with Condition E2, that addresses all aspects of the Stage 1 development. The Applicant must implement the most recent revision of the Salinity Management Plan for the duration of construction.	Stage 1 Salinity Management Plan – Appendix C

4.3 Noise and vibration

The Construction Noise and Vibration Management Plan (CNVMP) prepared by SLR Consulting (refer to Appendix D), has been written in accordance with CoC D51. The CNVMP will be implemented to minimise the potential impacts from noise and vibration from the project. The mitigation measures listed in Table 4.3 should be implemented by SFKC and sub-contractors.

Table 4.3 Noise and vibration conditions

Condition reference	Condition consent	Where addressed
Construction Noise Limits		
D50	The Stage 1 development must be constructed to achieve the construction noise management levels detailed in the Interim Construction Noise Guideline (DECC, 2009) (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the CNVMP required by Condition D51.	Appendix D CNVMP

Condition reference	Condition consent	Where addressed
Construction Noise and Vibration Plan		
D51	The Applicant must prepare a Construction Noise and Vibration Management Plan (CNVMP) for the Stage 1 development to the satisfaction of the Planning Secretary. The CNVMP must form part of a CEMP in accordance with condition E2 and must: c) be prepared by a suitably qualified and experienced noise expert whose appointment has been endorsed by the Planning Secretary d) describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009) (as may be updated or replaced from time to time) e) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers f) include strategies that have been developed with the community for managing high noise generating works g) describe the community consultation undertaken to develop the strategies in condition D51(d) h) include a complaints management system that would be implemented for the duration of the development.	Appendix D CNVMP
D52	The Applicant must: a) not commence construction of the Stage 1 development until the CNVMP required by condition D51 is approved by the Planning Secretary b) implement the most recent version of the CNVMP approved by the Planning Secretary for the duration of construction.	Noted
Road traffic Noise		
D58	Prior to the commencement of construction of the Stage 1 development, the Applicant must prepare a Driver Code of Conduct and induction training for the development to minimise road traffic noise. The Applicant must update the Driver Code of Conduct and induction training for construction and operation and must implement the Code of Conduct for the life of the development.	Appendix D CNVMP
Vibration criteria		
D59	Vibration caused by construction at any residence or structure outside the site must be limited to: a) for structural damage, the latest version of DIN 4150-3 (1992-02) *Structural vibration - Effects of vibration on structures* (German Institute for Standardisation, 1999) b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: a technical guideline (DEC 2006) (as may be updated or replaced from time to time).	Appendix D CNVMP
D60	Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition D59.	Appendix D CNVMP
D61	The limits in conditions D59 and D60 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved as part of the CEMP required by condition E2 of this consent.	Appendix D CNVMP

4.4 Air quality

An air quality impact assessment (AQIA) was prepared by Wilkinson Murray Limited (2021) as part of the EIS submission and revised as the project evolved. The report provides an assessment of the Project's impact upon air quality during the construction and operational phases. Earth works required for Stage 1 of the development will be the longest stage of works and have the most impact on air quality. Lot F building construction works will have minimal air quality impacts.

The Construction Air Quality Management Plan (CAQMP) prepared by EMM (refer to Appendix E), has been written in accordance with CoC D64. The AQMP will be implemented to minimise the potential impacts on air quality from the project. No monitoring was recommended by the AQIA; however, dust depositional gauges and real-time monitoring have been included within the CAQMP as a key outcome of ongoing consultation with DPHI and the Mamre Road Precinct Working Group. This applies to SFKC and contractors to monitor conditions and performance of site controls. The mitigation measures listed will be implemented by SFKC and sub-contractors.

Dust monitoring results at the boundaries of the Lot will be used to determine the effects of construction on air quality. This information will be used in conjunction with the Stage 1 monitoring to gain insight into Lot F specific air quality management performance. Monthly reporting of the data will be completed to ensure compliance, any exceedance will be investigated to determine the cause and prevention.

SFKC will ensure that the latest version of the CAQMP will be implemented. It is noted that the Lot F CAQMP is supplementary to the Stage 1 CAQMP which was approved by DPHI as part of the Stage 1 CEMP on 7 Sept 2023. Air quality must be managed in a holistic manner across the site to address cumulative impacts of the Stage 1 estate wide works and Lot specific works, taking into account the activities and risks each represent.

The conditions of consent that relate to air quality are shown in Table 4.4.

Table 4.4 Air quality conditions

Condition reference	Condition consent	Where addressed
D62	Dust Minimisation – The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.	Appendix E CAQMP
D63	During construction, the Applicant must ensure that: a) exposed surfaces and stockpiles are suppressed by regular watering b) all trucks entering or leaving the site with loads have their loads covered c) trucks associated with the Stage 1 development do not track dirt onto the public road network d) public roads used by these trucks are kept clean e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.	Appendix E CAQMP
D64	Prior to the commencement of construction of the Stage 1 development, the Applicant must prepare a Construction Air Quality Management Plan (CAQMP) to the satisfaction of the Planning Secretary. The CAQMP must form part of the CEMP required by condition E2 and must: a) be prepared by a suitably qualified and experienced person(s) b) be prepared in consultation with owners of nearby residential properties (including those still occupied for residential use in the MRP), include evidence of this consultation, details of any issues raised and how the plan has responded to any issues raised during consultation c) detail and rank all emissions from all sources during construction of the development, including particulate emissions d) describe a program that is capable of evaluating the performance of the construction and determining compliance with key criteria, including installation of dust deposition gauges at neighbouring existing residences (where agreed with the landowner) or on the site boundary e) identify the control measures that will be implemented for each emission source f) nominate the following for each of the proposed controls: i) key performance indicator ii) monitoring method iii) location, frequency and duration of monitoring iv) outline procedures that will be implemented in relation to: – record keeping – reporting to the Environmental Representative	Appendix E CAQMP

Condition reference	Condition consent	Where addressed
	– complaints register – response procedures – compliance monitoring g) detail contingency measures to be implemented to reduce any exceedances of relevant performance indicators or criteria and include a timetable for implementation.	
D65	The Applicant must: a) not commence construction until the CAQMP required by condition D64 is approved by the Planning Secretary b) implement the most recent version of the CAQMP approved by the Planning Secretary for the duration of construction c) offer to enter into an agreement with a neighbouring landowner, that may involve at-property treatment, if a complaint is received from that landowner and a non-compliance is confirmed by dust monitoring. Evidence of any agreement must be provided to the Planning Secretary.	Noted. The Lot F CAQMP is supplementary to the Stage 1 CAQMP which was approved by DPHI as part of the Stage 1 CEMP on 7 Sept 2023 Appendix K CCCHS
D66	Odour Management – The Applicant must ensure the development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).	Appendix E CAQMP

4.5 Aboriginal and cultural heritage

Lot F construction will commence on a bare earth pad, prepared by the Stage 1 contractor. The pad will be constructed from site won spoil from across the site and imported fill. As such, existing disturbance is high and the likelihood of in-situ Aboriginal cultural materials remaining is very low. Furthermore, Lot F works will not occur on or within the vicinity of the Potential Archaeological Deposit within Area 3 as identified within the Aboriginal Cultural Heritage Assessment Report prepared by Biosis dated 20 September 2021. As such, a Lot F specific Aboriginal and Cultural Heritage Management Plan (ACHMP) has not been prepared for Lot F works.

To mitigate residual risks, SKFC will undertake appropriate inductions for all staff and contractors working on site in accordance with Condition D70. Furthermore, an Unexpected Heritage Finds Procedure is to be implemented where potential Aboriginal cultural materials are encountered during Lot F works. An Unexpected Heritage Finds Procedure is included in Appendix F.

As this Lot F CEMP is supplementary to the Stage 1 CEMP, the Stage 1 ACHMP which forms Appendix F of the Stage 1 CEMP applies as an overarching document. The Stage 1 ACHMP was prepared by EMM and was written in accordance with CoC D67. The ACHMP was approved by DPE as part of the Stage 1 CEMP on 7 Sept 2023.

The conditions of consent that relate to Aboriginal and Culture Heritage are shown in Table 4.5.

Table 4.5 Aboriginal and cultural heritage conditions

Condition reference	Condition consent	Where addressed
D67	Before the commencement of any earthworks or construction works for the development, the Applicant must prepare an ACHMP to protect and manage potential archaeological deposits in the northeastern part of the site (Area 3). The plan must form part of the CEMP required by condition E2 and must: a) be prepared by a suitably qualified and experienced expert in consultation with the Registered Aboriginal Parties b) be submitted to the satisfaction of the Planning Secretary prior to earthworks or construction of any part of the development c) describe the measures to protect Area 3 in the northeastern part of the site from development impacts and in perpetuity d) detail an archaeological salvage methodology developed in consultation with the RAPs and in accordance with the *Aboriginal Cultural Heritage Assessment Report* prepared by Biosis dated 20 September 2021, for any parts of Area 3 where impacts cannot be avoided e) detail long term care arrangements developed in consultation with the RAPs for any salvaged artefacts.	Not relevant to Lot F works. Refer to the Stage 1 CEMP - Appendix F ACHMP Approved by DPHI 7 September 2023
D68	The Applicant must: a) not commence earthworks or construction until the ACHMP is approved by the Planning Secretary b) implement the most recent version of the ACHMP approved by the Planning Secretary for the duration of the development.	Noted
D69	**Archaeological Salvage –** Prior to the commencement of any earthworks or construction works that may impact on Area 3, as detailed in the Aboriginal Cultural Heritage Assessment Report prepared by Biosis dated 20 September 2021, the Applicant must undertake archaeological salvage in accordance with the ACHMP required by Condition D25.	Not relevant to Lot F works
D70	**Site Induction –** Prior to the commencement of earthworks, the Applicant must prepare and implement Aboriginal cultural heritage induction training for all staff and contractors. The training must outline the obligations of staff and contractors under the *National Parks and Wildlife Act 1974* and the conditions of this consent. The Applicant must ensure any new staff or contractors receive the induction training prior to commencing works on the site.	Section 3.3.1
D71	**Unexpected Finds Protocol –** If any item or object of Aboriginal heritage significance is identified on site: all work in the immediate vicinity of the suspected Aboriginal item or object must cease immediately; a 10 m wide buffer area around the suspected item or object must be cordoned off; and Heritage NSW must be contacted immediately.	Appendix F
D72	Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the *National Parks and Wildlife Act 1974* (NSW).	Appendix F

4.6 Flora and fauna

Lot F construction will commence on a bare earth pad, prepared by the Stage 1 contractor. The pad will be constructed from site won spoil from across the site and imported fill. As such, existing site disturbance is high and there is no vegetation or significant habitat remaining on the Lot F site. Figure 1.3 is an aerial image, taken during Stage 1 earthworks on 17/05/2024 that shows full site clearance prior to Lot F works commencing. As residual flora and fauna related risks are negligible no Flora and Fauna Management Plan (FFMP) is required for Lot F building construction. Residual risks associated with weed management and wildlife management (e.g. birds temporarily using any sediment basins on site) would be managed at an estate wide level through the Stage 1 CEMP – FFMP. The Stage 1 FFMP was written in accordance with written in accordance with CoC D74-80 and approved by DPE as part of the Stage 1 CEMP on 7 September 2023. A copy of the Stage 1 FFMP is included in Appendix J for reference.

The conditions of consent that relate to Flora and Fauna are shown in Table 4.6.

Table 4.6 Flora and fauna conditions

Consent Reference	Consent condition	Where addressed
D74	Prior to, and during, construction works the Applicant must implement the mitigation measures recommended in Table 27 of the Biodiversity Development Assessment Report prepared by Eco Logical Australia Pty Ltd, dated 22 June 2022.	Refer to Stage 1 FFMP
D75	Prior to the demolition of structures and commencement of earthworks, the Applicant must prepare a Fauna Management Plan (FMP) for the Stage 1 development, in accordance with the recommendations of the Biodiversity Development Assessment Report prepared by Eco Logical Australia Pty Ltd, dated 22 June 2022. The FMP must form part of the CEMP in accordance with condition E2 and detail procedures for fauna surveys prior to demolition, clearing and dam dewatering works and detail fauna relocation procedures.	Not relevant to Lot F works
D76	Prior to the commencement of construction, a Wildlife Management Plan must be prepared and be submitted to the Planning Secretary. The Plan must specify monitoring activities to assess the attractant nature of the development and provide trigger-based management actions to mitigate emerging risks to operations of the Western Sydney Airport.	Refer to Stage 1 FFMP Appendix J which includes a WMP
D77	The Wildlife Management Plan must form part of the CEMP required by Condition E2 and the Applicant must implement the Wildlife Management Plan for the duration of construction and operation.	Refer to Stage 1 FFMP Appendix J which includes a WMP
D78	**Protection of Retained Vegetation** The Applicant must protect retained vegetation on site with fencing to avoid impacts during construction and operation of the development.	Not relevant to Lot F works
D79	**Vegetation Management Plan – Riparian Corridor** Prior to the commencement of any clearing or construction works, the Applicant must prepare a Vegetation Management Plan (VMP) in accordance with the Riparian Assessment prepared by Eco Logical Australia (ref. 20SYD-16452, dated 22 June 2022) and in accordance with the prepared in accordance with the requirements of NSW Natural Resources Assessment Regulator and the Department of Planning and Environment, to the satisfaction of the Planning Secretary. The VMP must form part of the CEMP in accordance with condition E2 and detail procedures for the rehabilitation and conservation of native vegetation and habitat and maintenance of the VMP area.	Not relevant to Lot F works
D80	Within six months of the commencement of operation, the Applicant must complete the revegetation of the riparian corridor in accordance with the VMP prepared in accordance with Condition D40. The Applicant must implement the most recent version of the VMP for a maintenance period of up to five years following the completion of the establishment phase of the VMP.	Not relevant to Lot F works Refer to Stage 1 FFMP Appendix J for revegetation
D37	Prior to commencement of construction of the Stage 1 Development, the Applicant must prepare a Dam Decommissioning Strategy to the satisfaction of the Planning Secretary. The Dam Decommissioning Strategy must form part of the CEMP required by condition E2. The Applicant must implement the most recent version of the Dam Decommissioning Strategy for the duration of construction.	Not relevant to Lot F works

4.7 Community engagement

The Community Consultation and Complaints Handling Strategy (CCCHS) prepared by EMM (refer to Appendix K), has been written in accordance with CoC E3 (including C37–C38). The CCCHS will be implemented to ensure that the community and stakeholders are engaged during all stages of construction. The MRPWG will be regularly consulted to ensure that a cumulative impacts or works within the area can be managed effectively.

The conditions of consent related to the community engagement are shown in Table 4.7.

Table 4.7 Community engagement - Conditions of approval requirements

Condition reference	Consent condition	Where addressed
A12	Mamre Road Precinct Working Group – for the duration of construction works for each Stage of the development under the Concept Proposal, and until all components of the development are operational, the Applicant must participate in the MRPWG with relevant consent holders in the MRP to the satisfaction of the Planning Secretary (see Condition 37).	Appendix K CCCHS
C37	Within three months of the commencement of construction of the Stage 1 Development and until all components of the Stage 1 development are constructed and operational, the Applicant must establish and participate in a working group, or join and participate in an existing working group, with relevant consent holders in the MRP, to the satisfaction of the Planning Secretary. The purpose of the working group is to consult and coordinate construction works within the MRP to assist with managing and mitigating potential cumulative environmental impacts. The working group must: a) comprise at least one representative of the Applicant, the Applicant's ER, and relevant consent holders in the MRP b) meet periodically throughout the year to discuss, formulate, and implement measures or strategies to improve monitoring, coordination of the approved industrial developments in the MRP c) regularly inform Council, TfNSW, Sydney Water and the Planning Secretary of the outcomes of these meetings and actions to be undertaken by the working group d) review the performance of approved industrial developments in the MRP and identify trends in the data with respect to cumulative construction traffic, erosion and sediment control, noise, stormwater management and waterway health objectives under the MRP DCP e) review community concerns or complaints with respect to environmental management f) identify interim traffic safety measures to manage construction traffic and how these measures will be coordinated, communicated, funded, and monitored in the MRP g) provide the Planning Secretary with an update and strategies, if a review under subclause (d) and (e) identifies additional measures and processes are required to be implemented by the working group.	Appendix K CCCHS
C38	Three (3) months prior to completion of construction of all components of the Stage 1 development, the Applicant is eligible to exit the working group required under condition C37. The Applicant must: a) consult with the Planning Secretary b) provide confirmation that all components of the Stage 1 development are operational c) advise on the date of the proposed exit.	Appendix K CCCHS
E3	As part of the CEMP required under condition E2 of this consent, the Applicant must include the following: 1. Community Consultation and Complaints Handling.	Appendix K CCCHS

Condition reference	Consent condition	Where addressed
E17	**Access to information** At least 48 hours before the commencement of construction of the Stage 1 development and for the life of the development, the Applicant must: a) make the following information and documents (as they are obtained or approved) publicly available on its website: – the documents referred to in condition A1 of this consent – all current statutory approvals for the development – all approved strategies, plans and programs required under the conditions of this consent – regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent – a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs – a summary of the current stage and progress of the development – contact details to enquire about the development or to make a complaint – complaints register, updated monthly – the Compliance Report of the development – any other matter required by the Planning Secretary b) keep such information up to date, to the satisfaction of the Planning Secretary.	Appendix K CCCHS

4.8 Waste management

As per Appendix 4 of the CoC waste disposal and management will be in accordance with the recommendations of the Construction and Operational Waste Management Plan (WMP) prepared by Land & Groundwater Consulting and dated March 2025 (refer to Appendix H).

The construction phase waste will be managed through implementation of the CEMP.

The *Waste Avoidance and Resource Recovery Act 2001* (will guide waste management on site) ensuring that resource management options are considered against a hierarchy of:

- avoidance of unnecessary resource consumption
- resource recovery (including reuse, recycling, reprocessing, and energy recovery)
- disposal.

The approach to the steps in the waste hierarchy most relevant to the Project is briefly described below.

4.8.1 Reduce or avoid

Reducing or avoiding the generation of waste is of primary importance to the Project. The following approach will be adopted:

- Consider construction options that have a higher waste reduction capacity than alternatives.
- Order material/goods with minimal packaging or request suppliers to remove packaging from site.
- Accurately estimate materials required to minimise wastage of product.

4.8.2 Reuse and recycling

Waste separation and segregation will be promoted on-site to facilitate reuse and recycling as a priority of the waste management program as follows:

- Segregate waste onsite – waste materials, including spoil and building waste, will be separated onsite into dedicated bins/areas for either reuse onsite or collection by a waste contractor and transported to offsite facilities.
- Separate waste offsite – wastes will be deposited into one bin where space is not available for placement of multiple bins, and the waste will be sorted offsite by a waste contractor.
- Where feasible and reasonable, secondary waste material will be used in construction.
- Implement measures for reducing demand on water resources.

4.8.3 Waste handling and storage

Where waste is required to be handled and stored onsite prior to onsite reuse or offsite recycling / disposal, the following measures will apply:

- Spoil, topsoil and mulch will be stockpiled onsite in allocated areas, where appropriate, and mitigation measures for dust control and surface water management will be implemented in accordance with the ESCP (and CAQMP). Due to space constraints on Lot F – these materials may be stored elsewhere within the 200 Aldington Road Estate in consultation between SFKC and the contractor.
- Liquid wastes will be stored in appropriate containers in bunded areas until transported offsite. Bunded areas will have the capacity to hold 110% of the liquid waste volume for bulk storage or 120% of the volume of the largest container for smaller packaged storage.
- Hazardous waste will be managed by the appropriately qualified and licensed contractors, in accordance with the *Environmentally Hazardous Chemicals Act 1985* and the EPA waste disposal guidelines. Any unexpected, contaminated materials will be addressed using the Unexpected Contamination Finds Procedure Appendix G.
- All other recyclable or non-recyclable wastes will be stored in appropriate covered receptacles (e.g. bins or skips) in appropriate locations onsite and subcontractors commissioned to regularly remove/empty the bins to approved disposal or recycling facilities.
- Waste storage locations will be accessible and allow sufficient space for storage and servicing requirements. The positions of the designated waste holding areas on site will change according to building works and the progression of the development, but must consider visual amenity, OH&S and accessibility in their location selection.

4.9 Waste classification and disposal

4.9.1 Spoil from land-based construction activities

Where waste cannot be avoided, reused or recycled it will be classified and appropriately disposed of. The classification of waste will be undertaken in accordance with the NSW Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014). This document identifies six classes of waste: Special, Liquid, Hazardous, Restricted Solid, General Solid (putrescible) and General Solid (non-putrescible) and describes a six-step process to classifying waste.

The general classification principles are as follows:

- If a special waste is mixed with another waste, the waste must be managed to meet the requirements of both the special wastes and the other class of waste.
- If asbestos waste is mixed with any other class of waste, all of the waste must be classified as asbestos waste.
- If liquid waste is mixed with hazardous or solid waste and retains the defined characteristics of liquid waste, it remains liquid waste.
- Two or more classes of waste must not be mixed in order to reduce the concentration of chemical contaminants. Dilution is not an acceptable waste management option.
- Where practicable, it is desirable to separate a mixture of wastes before classifying them.

Table 4.8 summarises indicative solid and liquid waste streams that would be generated during construction, including examples of these waste streams and anticipated waste classifications.

Consistent with the resource management hierarchy under the *Waste Avoidance and Resource Recovery Act 2001*, solid wastes would be reused and recycled where feasible and reasonable. Construction waste would be disposed of at appropriate licenced facilities.

Table 4.8 Indicative solid and liquid waste streams generated (non-spoil)

Waste stream	Examples	Likely waste classification
Aggregates – crushed rock/concrete	Concrete	General solid waste (non-putrescible)
Hazardous wastes	Asbestos, heavy metals	Hazardous waste and/or special waste
General construction wastes	Timber formwork, scrap metal, steel, concrete, plasterboards, packaging materials	General solid waste (non-putrescible)
Wastes from the operation and maintenance of construction vehicles and equipment	Adhesives, lubricants, waste fuels, oils, engine coolant, batteries, hoses, tyres	Hazardous waste
General wastes from site offices	Putrescibles (food waste), paper, cardboard, plastics, glass, printer cartridges	General solid waste (putrescible and non-putrescible)

4.9.2 Land-based waste disposal

The disposal of waste is to be treated as a last resort. Waste disposal will be in accordance with the *Protection of the Environment Operations Act 1997* and the *Waste Avoidance and Resource Recovery Act 2001*.

Wastes that are unable to be reused or recycled will be disposed of offsite to an appropriately licensed waste facility following classification. Licensed waste facilities in the vicinity of the Project may be utilised during construction.

This includes waste transported for reuse, recycling, disposal or stockpiling.

SFKC and contractors would provide an accurate description of the waste, include evidence that the waste facility has the appropriate planning consent and confirm the waste delivery arrangements with the landholder prior to transporting materials to the receiving facility.

Further details (and waste volumes) can be found in the Construction and Operational Waste Management Plan (LG Consult) found in Appendix H.

4.10 General

General construction and environmental management controls are provided in Table 4.9.

Table 4.9 General construction environmental management

Environmental management control	Person responsible	Timing / frequency	Reference/ notes
General			
All employees, contractors (and sub-contractors) must attend a site induction where they will be made aware of and instructed to comply with the conditions of consent and the requirements of this CEMP.	Project Manager	Prior to works	Condition D70
Implement Stormwater Management Plan	Project Manager	Prior to works	Condition D31
Lighting			
The lighting associated with the development will be screened and directed in such a, manner that it does not create a nuisance to surrounding properties or the public road network.	Project Manager	Construction	Condition D43
Signage			
Prior to the commencement of construction of the Stage 1 Lot F building building, the Applicant must submit a Signage Strategy to the satisfaction of the Planning Secretary. The Signage Strategy must demonstrate that proposed signage is consistent with Chapter 3 of *State Environmental Planning Policy (Industry and Employment) 2021* and the MRP DCP, including limiting illumination of signage or measures to control lighting impacts from illuminated signs.	Project Manager	Prior to the commencement of warehouse building	Condition D44

5 Monitoring, inspections and auditing

5.1 Environmental monitoring

Monitoring will be undertaken to evaluate the effectiveness of environmental controls and implementation of this CEMP, and to address approval requirements. The monitoring requirements for required aspects are included in the relevant environmental management sub plans. The Environmental Representative will be advised of any construction phase non-compliance from monitoring and details reported in accordance with the environmental incident reporting process.

Where a non-compliance is detected or monitoring results are outside of the expected range and are directly attributable to the Project (influenced by factors under the direct control of the Project, e.g. noise from construction equipment), the process described in Section 3.4 will be implemented.

The timing for any improvement will be agreed between Environmental Representative and the Management team based on the level of risk (e.g. a significant risk will require immediate action).

All environmental monitoring equipment shall be maintained and calibrated according to manufacturer's specifications and appropriate records kept.

5.2 Environmental inspections

Regular site inspections will be undertaken to assess the ongoing effectiveness and suitability of the Project's environmental controls. The site environmental inspections will cover:

- high risk activities and processes
- work in environmentally sensitive areas
- site preparedness for adverse weather conditions, including adequacy of environmental controls and availability of emergency equipment.

Copies of site inspection reports completed by the project staff will be kept with the Project records, any actions identified during the inspections shall be closed out within the agreed timeframes. These timeframes will be dependent on the nature of the required corrective action and the environmental risk associated with the outstanding action as determined by the site environmental representative and the ER.

If any maintenance and/or deficiencies in environmental controls or in the standard of environmental performance are observed, they should be raised with the site supervisor for corrective action. Inspections records will include details of any maintenance required, the nature of the deficiency, any actions required and an implementation priority and how they were closed out.

Wet weather inspections: to ensure that the site is prepared for wet weather events (rainfall greater than 25 mm rain within a 24-hour period), all erosion sediment controls should be inspected pre and post wet weather events, to determine the effectiveness of the environmental controls.

The ER is required to undertake independent site inspections at regular intervals, typically weekly, except where project risks justify a greater or lesser frequency. The frequency of inspections will be agreed with SFKC, and will be made known to DPHI by the ER. It is noted that the ER may seek advice from DPHI in regard to the frequency of inspections. These inspections are the responsibility of the ER to co-ordinate and are separate to inspections covered by this plan.

The ER may be required to undertake additional inspections as appropriate in response to incidents and non-compliances. The ER may also undertake other site inspection activities as part of project specific environmental coordination or reference groups.

The ER must be present during an indicative period of high-risk project activities identified in the proponent's environmental risk assessment or CEMP, and specific activities as considered necessary by the ER or DPHI. The ER must provide a report of site inspections conducted in their monthly reports to DPHI.

As noted, SFKC will agree the frequency of regular inspections and provide access for the ER to undertake their duties.

5.3 Records

All Project related documentation will be maintained in a professional management system, all records must be filed and easily obtained and provided if requested by the Planning Secretary. Documents stored within the system will include (but not limited to):

- copies of relevant planning approvals and documents, licences and permits
- all completed induction forms and visitor sign-on register
- records of routine environmental inspections
- volumes and types of fill imported to the site
- records of audits by CPESC
- records of any environmental incidents, complaints and non-compliances.

5.4 Reporting

The reports listed in Table 5.1 will be prepared during the delivery of the Project.

Table 5.1 Reporting requirements

Report/form/checklist	Prepared by	Timing	Distributed to
Environmental monitoring and inspection checklists	Site Environmental Representative	As scheduled by the ER	Environmental Representative and Project Manager
Environmental monthly report	Site Environmental Representative	Monthly	Records kept and made available upon request
CPESC audits of erosion and sed control	CPESC	Monthly	Kept on record for the duration of construct (and for 12 months) CoC D25
Environmental Representative Report	Environmental Representative	Monthly	SFKC, DPHI Major Projects Portal
Compliance report	Site Environmental Representative	Within 6 months of commencing (annually) (Coc E14) Refer to Section 5.5.	Major Projects Portal
Incident/non-compliance			
Incident reports	Site Environmental Representative	Notification immediately and without delay. Refer to Section 3.4.6.	Major Projects Portal
Non-compliance report	Site Environmental Representative	Report prepared within seven days of the noncompliance. Refer to Section 3.4.6.	Major Projects Portal

5.5 Compliance reporting and auditing

Within six months after the commencement of construction of the Stage 1, and in the same month each subsequent year for the duration of construction works, SFKC will submit a Compliance Report to the Planning Secretary reviewing the environmental performance of the development to the satisfaction of the Planning Secretary. Lot F building works will be assessed and included as part of the Compliance Report for the estate.

Compliance Reports must be prepared in accordance with the Compliance Reporting Post Approval Requirements (Department 2020) and in accordance with CoC E14 must:

a) identify any trends in the monitoring data

b) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies

c) describe what measures will be implemented over the next year to improve the environmental performance of the development.

5.5.1 Environmental Representative Monthly Reporting

The ER will be responsible for the preparation and submission of a monthly report to DPHI and any other relevant government agencies.

ER monthly reports must be concise, report by exception and focus on the key environmental or compliance issues for the relevant reporting period. The ER report must be separate and independent from any inspection report otherwise produced by the proponent or those involved in the delivery of construction of the project. It is recommended that the ER include recent photographs that illustrate the environmental performance or project stage in monthly reports. The format and content of the ER report is to be agreed with the Department and as a minimum, must contain the following information for the relevant reporting period:

- construction activities carried out during the reporting period
- proposed upcoming construction works where known
- ER activities undertaken during the reporting period including: – site inspections – audits undertaken as part of the ER role
- a summary of community consultation undertaken by the proponent and complaints received
- evaluation of environmental performance, including any incidents or non-compliances
- an analysis of lessons learnt and opportunities identified for improvement
- any changes to the project, including changes to: – CEMP, AFMPs and sub plans
- any meetings attended by the ER
- summary of documentation issued by the ER, including: – any advice or requests – corrective action requests or non-compliance reports – out of hours works approval(s) – other, such as certifications and minor ancillary facilities approvals
- closing remarks.

The monthly reports will form the basis of discussion at the regular joint ER and Department meetings.

A copy of the report will be provided to SFKC prior to lodgment.

6 Review and improvement

Strategies, plans and programs required under this CEMP will be reviewed at least annually, the Planning Secretary will be made aware of any changes or updates to the plans as required by CoC E8-E9.

This CEMP is a live document and will undergo reviews and amendments as necessary. Reviews will generally be undertaken in the following circumstances:

- If there is a change in the scope of the project.
- Prior to commencement of construction to ensure any relevant conditions of consent and/or other approval, licence or permit requirements are incorporated.
- If there is a need to improve environmental controls to protect environmental values.
- If there is an increase or introduction of a new environmental risk or impacts.

The Site Environmental Representative will be responsible for reviewing the CEMP and the Project Manager is responsible for approving these changes.

Appendix A

Construction Traffic Management Plan

EMM
creating opportunities



Draft Construction Traffic Management Plan

200 Aldington Road Industrial Estate, Kemps Creek

11/03/2025
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-	27/02/2025	Draft	S. Bandaranayake	S. Bandaranayake
01	11/03/2025	Issue	S. Bandaranayake	S. Bandaranayake

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1 Introduction

1.1 Overview

Ason Group has been engaged by Stockland Fife Kemps Creek Trust (SFKC) to prepare this Draft Construction Traffic Management Plan (CTMP) to support the application in relation to State Significant Development (SSD) 79300218. The SSD relates to a proposed industrial development at the 200 Aldington Road Industrial Estate, Kemps Creek (the Site).

This Draft CTMP details the proposed construction management strategies which would provide for the safe and efficient completion of the proposed works while minimising construction traffic impacts on the surrounding road network and public road network users.

From the outset, it is noted that the future CTMP, once implemented, will be designed to be updated over time as additional details in regard to the construction proposal are revised / finalised as is standard in any major construction project. All such updates would be completed in consultation with Penrith City Council (Council) in whose Local Government Area (LGA) the Site lies; and / or with the relevant authorities such as Transport for NSW (TfNSW) where special road occupancy or the like are required.

Importantly, Ason Group has been responsible for the preparation of this Draft CTMP, which has been prepared with reference to all available information in regard to the project, and all relevant CTMP preparation guidelines. The implementation of the recommendations and strategies detailed in this CTMP are the strict responsibility of SKFC and / or the designated construction Project Manager once appointed.

1.2 Proposed Development

The SSD application seeks approval for:

- An industrial facility with a Site Area of 78,423m^2, comprising:
  - 51,027m^2 Warehouse GFA
  - 2,500m^2 Main Office GFA
  - 126m^2 Dispatch Office GFA
  - 314m^2 Production Office #1 GFA
  - 63m^2 Production Office #1 GFA
- Provision of:
  - 200m^2 Wastewater Room
  - 402m^2 Waste Room
  - Loading Zone
  - Hardstand
- Operation 24 hours a day 7 days a week.

The Lot F site plan is presented below.

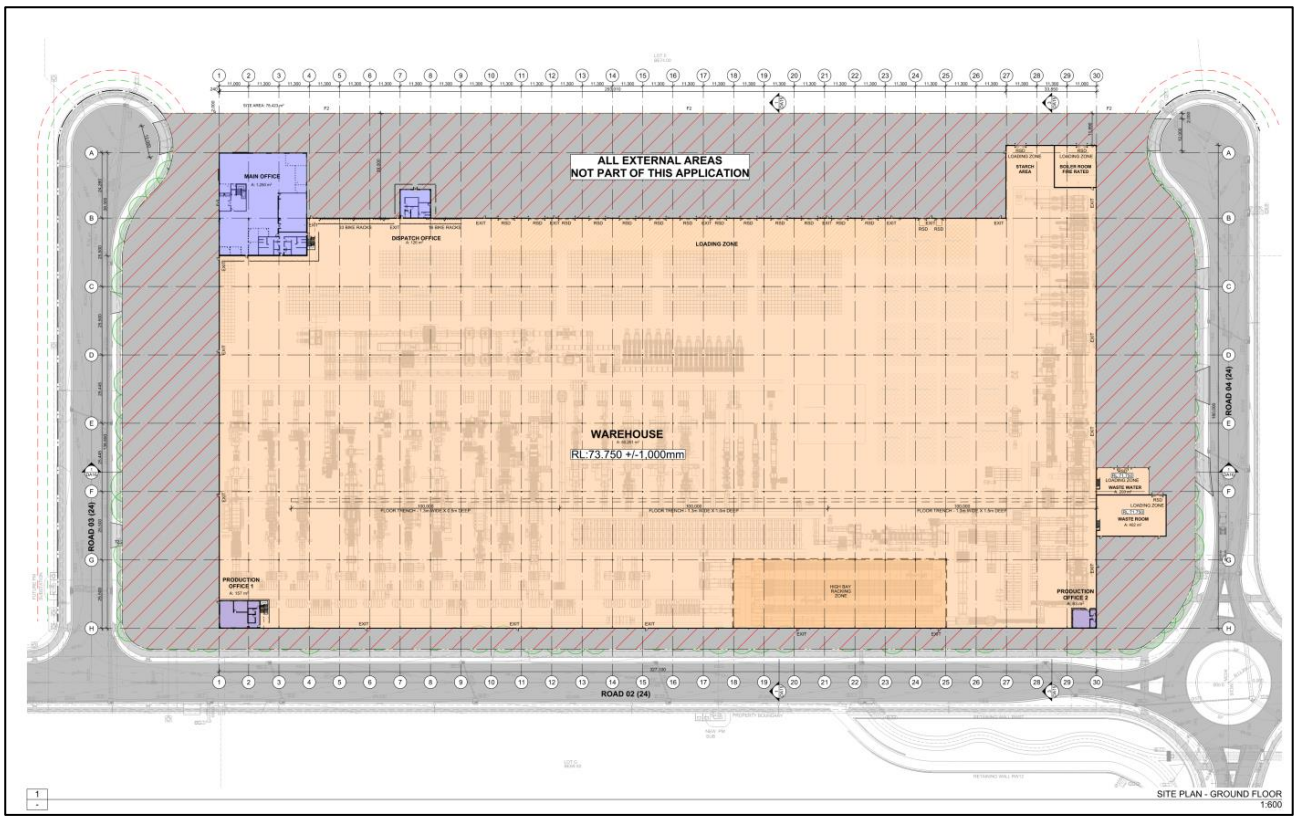


Figure 1: Proposed Masterplan

2 The Site

2.1 Site Location

The wider Estate is located within Mamre Road Precinct (MRP) and has an area of approximately 72 hectares (ha), with an approximately 1.2km of direct frontage to Aldington Road.

The Site is located approximately 5km north-west of the future Western Sydney International (Nancy-Bird Walton) Airport (WSA), 13km south-east of the Penrith CBD and 40km west of the Sydney CBD. A Site and Location Plan is presented in **Figure 2.**

The subject site, Lot F, is located towards the centre of the Estate, to the west of the future north-south industrial collector (Road 02) required by the MRP DCP.

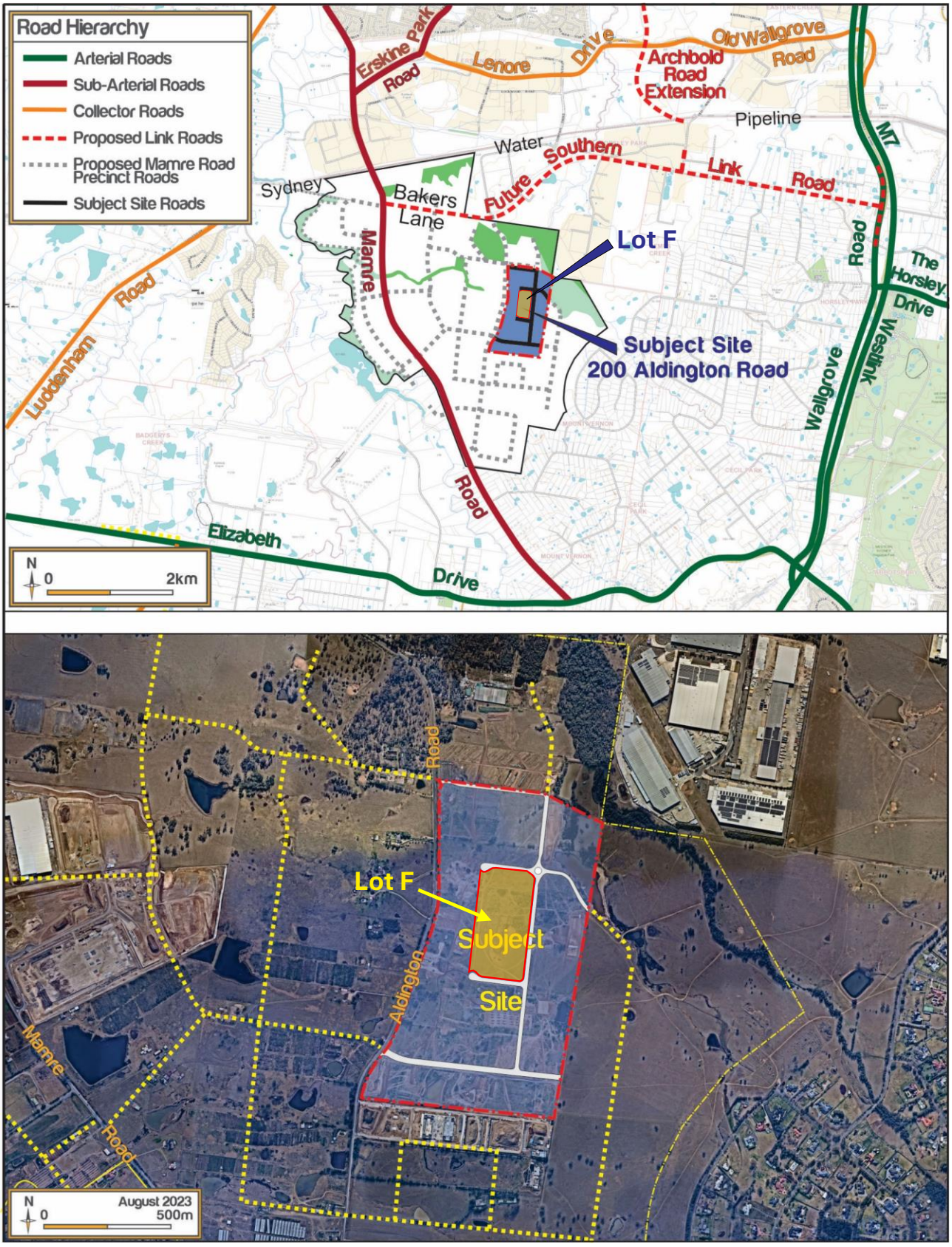


Figure 2: Site Location & Road Hierarchy

2.2 Road Network

Key roads in the vicinity of the Site are shown in **Figure 2**, and include:

- Westlink M7 Motorway: M7 Motorway is a high-capacity road link of state significance and was built to accommodate future traffic growth in the Western Sydney region. It provides a key north-south link between the M2 Motorway to the north and the M5 Motorway to the south as part of the Sydney orbital road network. A major interchange between the M7 Motorway and M4 Western Motorway is located approximately 3.5 km north of the Site, which connects the Sydney CBD and western Sydney suburbs. The M7 Motorway provides 4 lanes (2 lanes per direction, divided carriageway) and has a posted speed limit of 100 km/h
- Erskine Park Road: Erskine Park Road is a sub-arterial road which generally runs north-south between the Great Western Highway and M4, and Mamre Road respectively; it also links east to the M7 via Lenore Drive. Erskine Park Road provides 2 traffic lanes in each direction, and has a posted speed limit of 70km/h.
- Elizabeth Drive: An TfNSW classified main road (MR 535) that runs in an east-west direction to the south of the site. Elizabeth Drive in the vicinity of the site generally provides 2 lanes (1 lane per direction) and has a posted speed limit of 80km/h. This road forms the Site's southern frontage and provides a vital link between Westlink M7 Motorway and The Northern Road.
- Mamre Road: Mamre Road is an arterial road servicing traffic between the Great Western Highway and M4 to the north and Elizabeth Drive to the south. In the vicinity of the Site, Mamre Road generally provides 2 lanes for two-way traffic, with additional through movement and turning infrastructure at key intersections to the north through the Erskine Park and Mamre West industrial precincts, and at Elizabeth Drive to the south. Mamre Road has a posted speed limit of 80km/h in the vicinity of the Site. TfNSW has confirmed road upgrades will be undertaken for Mamre Road between Elizabeth Drive and Luddenham Road.
- Bakers Lane: Bakers Lane is a local access that runs east-west (to the east of Mamre Road) and currently provides access for a number of rural residential, educational and retirement sites. Bakers Lane provides 1 traffic lane in each direction and has a posted speed limit of 60km/h, with School Zone restrictions (40km/h during school peaks) adjacent to the Trinity Primary School and Emmaus College.

Further to the above, it is clear that the Site is well located in regard to immediate access to the local and sub-regional road network. **Figure 3** shows the Site context with specific reference to the current TfNSW Restricted Access Vehicle (RAC) routes, which allow for up to 25m/26m B-Double combinations. It is expected that Aldington Road and Abbotts Road will be gazetted as a B-Double route following road upgrades.

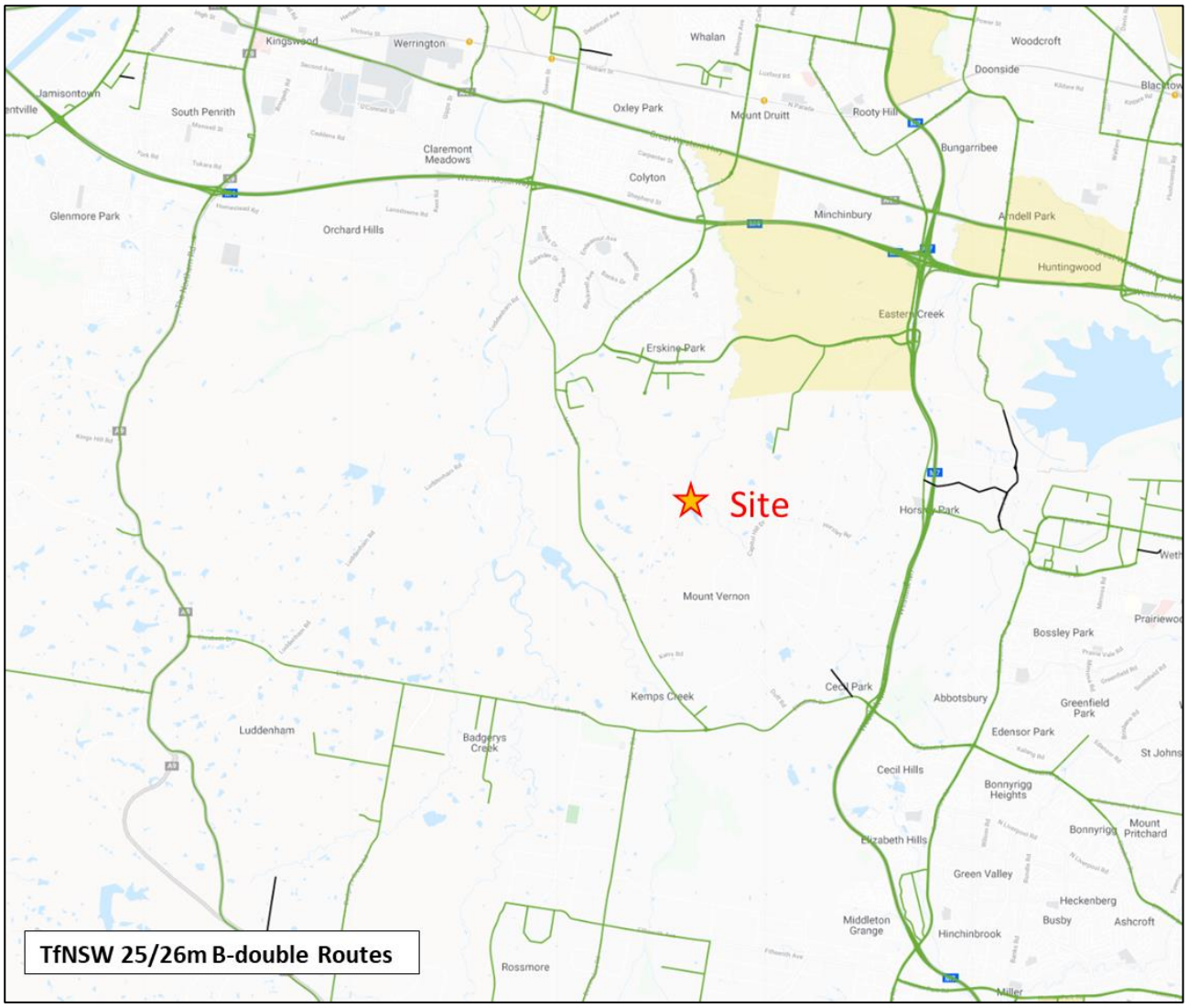


Figure 3: TfNSW Approved 25/26m B-Double Routes

3 Overview of Construction Works

3.1 Other Construction Activities

It is acknowledged that construction of the development will coincide with other construction activity for other developments within the Mamre Road Precinct (MRP). In addition, construction activity would also arise from road upgrades being delivered by others (Aldington Road & Abbotts Road).

Noting that the construction works are subject to the relevant approvals processes, it is very difficult to ascertain which activities would overlap. Further, each construction project would be subject to its own site-specific strategy, informed by the contractors. Finally, there are multiple variables that impact progress of construction activities (i.e. weather delays). Therefore, it is not feasible to accurately forecast which stages would overlap, and the trip generation association with each project.

Nevertheless, the currently active planning projects have been reviewed to understand those which may coincide with construction of the Site. The development works most critical to the project are shown in **Figure 4** As this Site itself is located along Aldington Road, construction activities will contribute to cumulative impacts alongside other developments in this corridor. All construction traffic for these sites will need to use the Mamre Road / Abbotts Road intersection for access to Mamre Road, reinforcing the need for coordinated management of traffic impacts.

Beyond individual construction sites, the following road upgrades may coincide with construction works for this development:

- LOG-E Works: SKFC has collaborated with other landowners on road upgrades to Abbotts Road and Aldington Road, including the upgrade of the Mamre Road intersection and the delivery of three signalised intersections along Aldington Road.
- LOG-N Works: While upgrades are proposed landowners, construction vehicles associated with this development are not expected to use the road network being upgraded under LOG-N. This is mentioned here for completeness but is not anticipated to impact this development's construction activities.

The LOG-E road works are expected to commence in advance of construction of the Site. Notably, as part of the construction staging strategy approved for the Mamre Road / Abbotts Road intersection upgrade, temporary signals will be installed as a construction traffic management measure[1].

Noting that these road works are approved, they are expected to commence in advance of construction of the Site. Therefore, both routes out of Aldington Road will be controlled via the signalised intersections. As such, it is expected that the cumulative construction volumes can be adequately managed.

Further information of each of the relevant development sites is provided below.

[1] https://www.planningportal.nsw.gov.au/major-projects/projects/mod-5-external-road-upgrades

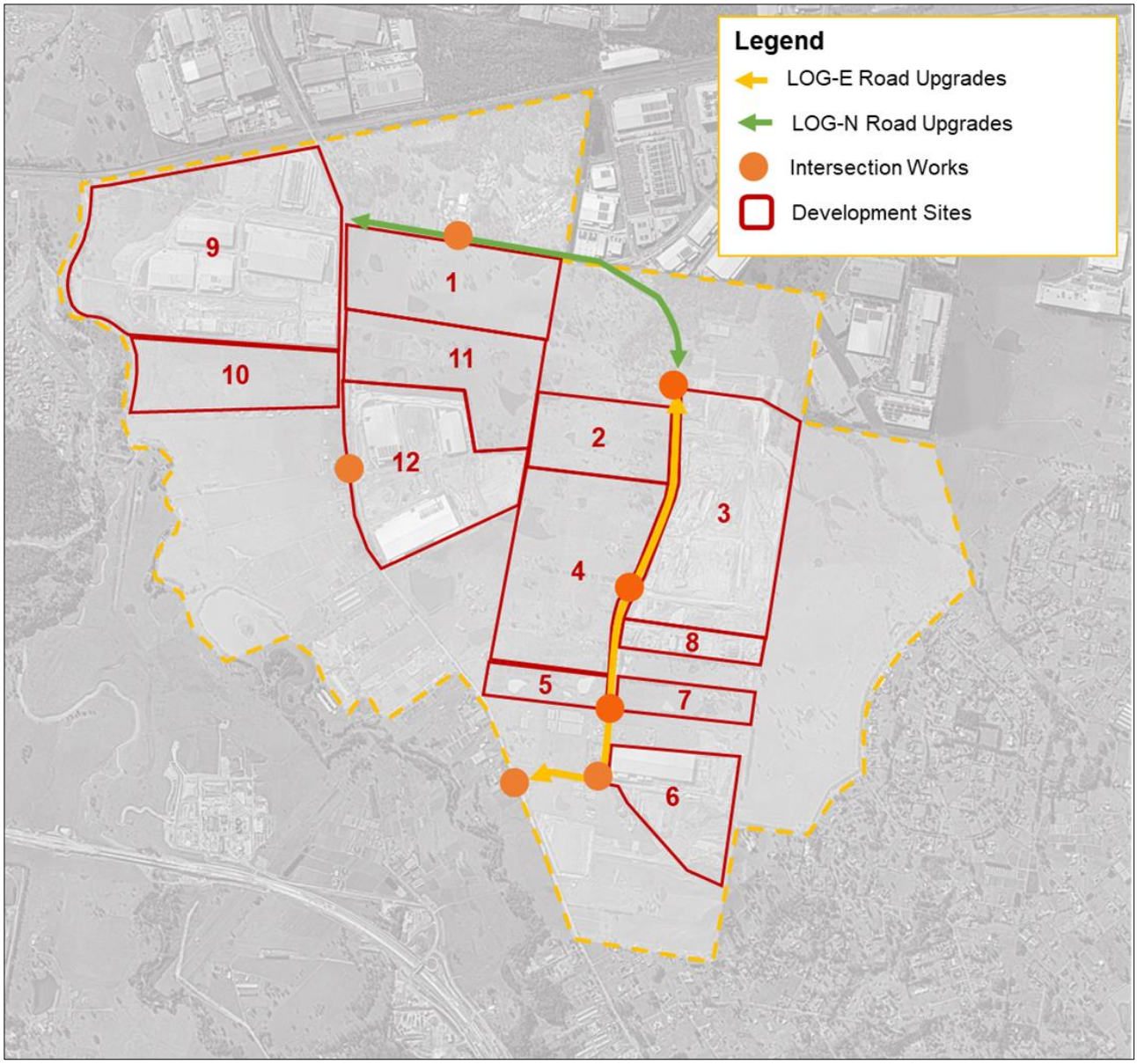


Figure 4: 2026 MRP Road Network and Development Sites

With reference to Figure 4, the relevant development sites within the MRP and respective approval status is outlined in **Table 1**.

As shown, all the sites are at various stages of construction. Sites 9 and 12 are in the advanced stages of construction, and are likely to be much less intensive than the sites yet to commence. It is expected that most of the construction activities associated with these sites would be largely complete by the time construction on the Site starts.

The other notable sites would be Site 10 and 11, which are yet to commence construction. While development consent has been provided to these developments, it is understood that the post-DA approvals are still ongoing. Therefore, it is very difficult to ascertain when the works would commence.

Nevertheless, the key consideration for the cumulative traffic impacts will be the Mamre Road and Bakers Lane intersection. This intersection has recently been upgraded and therefore, it is anticipated that the cumulative construction activities (which typically generate less traffic than operational development) would be accommodated by the existing intersection.

At the time of preparation of the CTMP for implementation, the cumulative construction activities would need to be reviewed.

TABLE 1: STATUS OF MAMRE ROAD PRECINCT DEVELOPMENT SITES

No.	Application No Note 1	Site	Status Note 1	Construction Status
1	SSD-30628110	Summit at kemps Creek (Subject Site)	Response to Submissions	Subject to approvals
2	SSD-32722834	113-153 Aldington Road	Response to Submissions	Subject to approvals
3	SSD-10479	200 Aldington Road Estate (Stage 1)	Approved	Under Construction
4	SSD-17552047	Edge South Industrial Estate 141-251 Aldington Road	Response to Submissions	Subject to approvals
5	SSD-23480429	Westgate Industrial Estate 253-267 Aldington Road	Response to Submissions	Subject to approvals
6	SSD-9138102 (Stage 1)	Westlink Industrial Estate	Approved	Under Construction
7	PL23_0027	270 Aldington Road	Application Submitted	Subject to approvals
8	DA17/1247	Public Place of Worship 230 - 242 Aldington Road	Deferred Commencement	Under Construction
9	SSD-9522	The Yards	Approved	Under Construction
	SSD-10101987	Kemps Creek Data Centre		Nearing Completion
	SSD-25725029	ARDEX Warehouse and Manufacturing Facility		Nearing Completion
	DA22/1172	Probiotic Warehouse Facility		Nearing Completion
	DA22/0671	Cargoline Warehouse		Nearing Completion
10	DA23_0067	Yiribana West Logistics Estate	Approved	Construction yet to commence
11	SSD-10272349	Yiribana East Logistics Estate	Approved	Construction yet to commence
12	SSD-10448	Aspect Industrial Estate (AIE) Stage 1, Warehouse 1	Approved	Operational
		AIE Stage 1, Warehouse 3		Constructed
	SSD-46516461	AIE Stage 2, Warehouse 9		Operational
	SSD-58257960	AIE Stage 3, Warehouse 2		Construction yet to commence
	SSD-60513208	AIE Stage 4, Warehouse 8		Construction yet to commence

Note 1: Application number and status relate to current planning submissions. This will be updated to reflect any modification applications at the time of preparing the final Construction Traffic Management Plan.

3.2 Staging and Duration of Works

While there is no Contractor engaged for the works proposed under SSD-79300218, for the purposes of the preliminary CTMP, staging and duration of works has been based on similar developments in the area. Based on this, it is anticipated that construction works for the preliminary stages would commence approximately 6 months from the date of this report, subject to authority approvals and inclement weather delays.

The following summarises key aspects of the construction phases:

- Equipment staging and early works are set to have a duration of 4 weeks.
- General construction works are estimated to continue concurrently with completion of the warehouse structure and services within 6 months.

3.3 Construction Hours

The type of work being undertaken will remain consistent throughout the duration of construction and associated activities. All works are expected to be undertaken within the following hours:

- Monday to Friday (other than Public Holidays): 7:00am – 6:00pm.
- Saturday: 8:00am – 1:00pm
- Sunday & Public Holidays: No works to be undertaken.

Any work to be undertaken outside of the standard construction hours will be required to obtain an Out of Hours (OOH) approval; any such works would necessarily be undertaken in accordance with the appropriate OOH protocols and approval processes.

3.4 Site Access

3.4.1 Construction Vehicle Access

All construction vehicles will enter and depart the Site from / to Aldington Road and access Mamre Road by way of Abbotts Road to the south of the Site; to avoid conflict with School peak periods.

It is anticipated that the largest vehicle accessing the Site would be a 19.6m Truck & Dog combination.

The following **Figure 5** shows the indicative Site access location and **Figure 6** details the likely key access strategy into the routes between the Site and the regional road network.

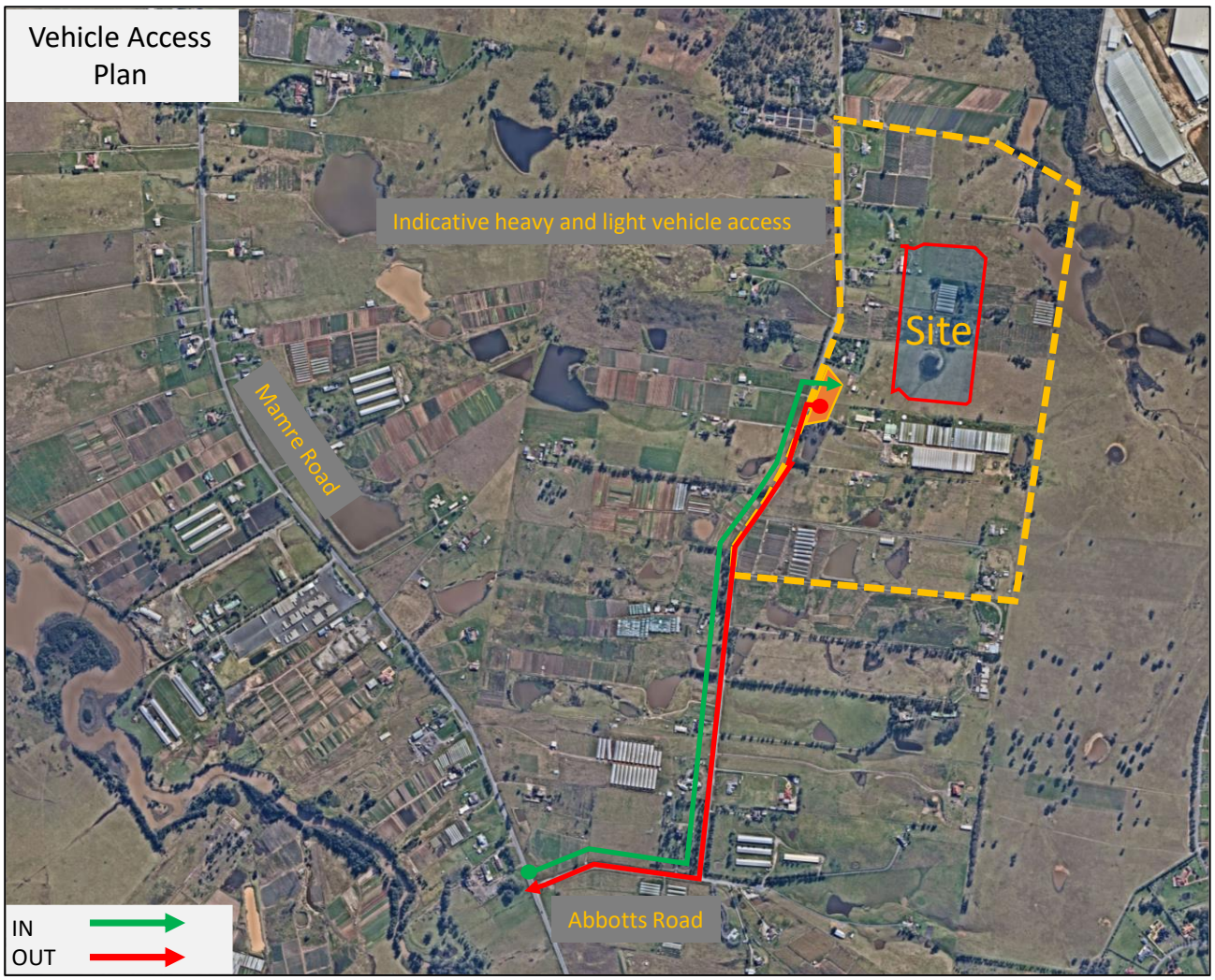


Figure 5: Indicative Vehicle Access Plan

3.4.2 Emergency Vehicle Access

Emergency vehicle access to and from the Site will be available at all times while the Site is occupied by construction workers; emergency protocols during the works will be developed by the Project Manager for inclusion within the final CTMP.

3.4.3 Pedestrian Access

There are currently no pedestrian amenities or footpaths along Aldington Road adjacent to the Site. However, the grassed verge on both sides of the road remains usable for any pedestrian that may wish to walk use it.

Further to the above, while there is no expectation of pedestrians crossing the future construction access road, pedestrian safety will be managed through the provision of appropriate signage and pedestrian barriers. Construction personnel will also be able to access the Site by foot via a secure access gate along

the access road, though with all construction staff (and vehicle) parking to be provided within the Site there is again little potential for such pedestrian demand.

3.5 Construction Vehicle Access Routes

As discussed, all construction vehicles will enter and exit the Site via Aldington Road.

It is anticipated that all heavy vehicles will access Site via the following routes:

- Arrival Trips:
  - Route 1: From M4 Western Motorway, southbound along Mamre Road and left into Abbotts Road. Continue on to Aldington Road and right into Site.
  - Route 2: From Westlink M7, westbound on Old Wallgrove Road, Lenore Drive and Erskine Park Road, then south along Mamre Road and left into Abbotts Road. Continue on to Aldington Road and right into Site.
- Departure Trips:
  - Route 1: From the Site, left onto Aldington Road then south on Mamre Road to Elizabeth Drive and left to the M7 Motorway and sub-regional routes to the east.
  - Route 2: From the Site, left onto Aldington Road then south on Mamre Road to Elizabeth Drive and right to Badgerys Creek and The Northern Road to the west.

These routes are shown in **Figure 6**.

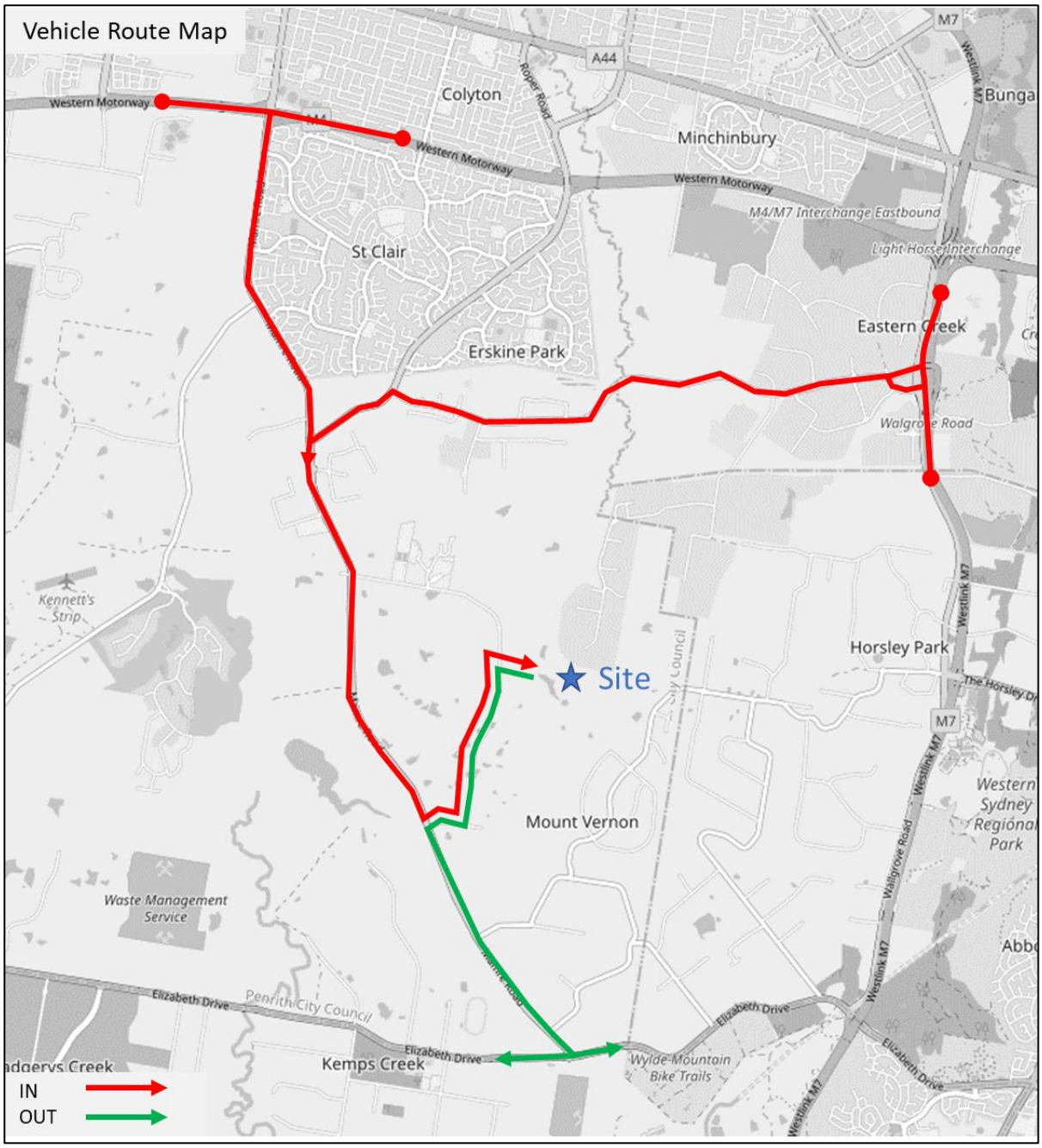


Figure 6: Construction Vehicle Routes

A copy of the approved routes will be distributed by the Project Manager to all drivers as part of their induction process.

In the event that an oversized or over-mass vehicles is required to travel to and / or from the Site, a permit from TfNSW and / or the National Heavy Vehicle Register (NHVR) will be required prior to arrival to the site. Notwithstanding, this CTMP relates to general construction which does not seek the use of oversize vehicles; a separate application would be submitted if such access is required.

3.6 Fencing Requirements

Security fencing will be erected along the entire boundary of the Site and will be maintained for the duration of the construction works to ensure that unauthorised persons are kept out of the Site.

Site access gates would be provided at the access driveway which would remain closed at all times outside of the permitted construction hours.

3.7 Materials Handling

All material loading will be undertaken wholly within the Site, and all construction equipment, materials and waste will similarly be strictly kept within the Site.

While not anticipated, should any materials handling (or other constructed related activity) be required from the public roadway (i.e. Aldington Road) then prior approval shall be sought and obtained from the appropriate authorities.

3.8 Additional Site Management

Although it is not expected, in the event that any Site construction traffic management outside of that described in the implemented CTMP is required, the Project Manager will be required to notify adjacent properties of any temporary traffic restrictions (or the like) at least fourteen (14) days in advance.

3.9 Road Occupancy

The potential exists for future road occupancy requirements to facilitate the construction of any further upgrades to Aldington Road and the intersection of Mamre Road and Abbotts Road.

Road occupancy permits will necessarily be procured prior to starting intersection construction works, while a detailed intersection-specific CTMP would be prepared in consultation with Council and TfNSW to ensure traffic along Aldington Road would continue to operate adequately during any such occupancy period.

3.10 CTMP – Monitoring & Review Process

This CTMP has been prepared referencing the existing Site conditions. Consultation with Council, TfNSW and neighbouring developments will continue to be undertaken to ensure that the cumulative traffic impacts of construction within the area do not adversely impact the operations of the neighbouring developments or the local road network.

4 Assessment of Traffic & Transport Impacts

4.1 Construction Vehicle Traffic Generation

Table 2 provides a breakdown of potential vehicle movements throughout the proposed works (to be confirmed by Contractor once appointed, based on similar projects in area):

TABLE 2: MOVEMENT OVERVIEW

Stage	Early Works	General Construction
Period	**Week 1 to 4**	**Week 4 to 30**
Maximum on-site at any one time	15	50 – 250
Truck Frequency (Maximum movements per day)	10 (5 in / 5 out)	300 (150 in / 150 out)
Peak Hour Heavy Vehicle Movements	2 (1 in / 1 out)	30 (15 in / 15 out)
Largest Vehicle Size	Truck & Dog	Truck & Dog

4.1.1 Light Vehicle Movements

It is anticipated that a peak construction workforce of up to 250 workers on-site at any one time (based on the specific constructions tasks being undertaken). Light vehicle traffic generation would generally be associated with construction staff movements to and from the Site, including Project Managers, trade and general employees.

With respect to the potential impacts of light vehicle traffic, the overwhelming majority of trips would occur in the short workforce arrival and departure periods, being (based on the proposed construction hours) 6:30am – 7:00am and 6:00pm – 6:30pm respectively; as such, staff vehicle trips would not coincide with the road network or school peak hours.

4.1.2 Heavy Vehicle Movements

As indicated in **Table 2,** the construction phases are estimated to generate a peak demand for up to 300 truck movements per day (150 vehicles arriving / 150 vehicles departing).

The latter stages of the bulk earthworks (excavation) are expected to overlap with general construction activities. However, the peak heavy vehicle movements associated with earthworks during this time would be around 150 movements per day (75 in / 75 out). With earthworks coming to an end, the peak volumes would be lower.

During this overlapping period there could be 400-450 heavy vehicle movements per day. The majority of these movements would be expected to be outside of the road network peak hours, with construction activities / strategies seeking to avoid road network peak times.

On average, it is expected there would be an approximate 30 truck movements during the peak hours (15 vehicles arriving / 15 vehicles departing), which equates to 1 movement every 2 minutes.

Vehicle movements into the Site will be unfettered to ensure no queuing onto the road network.

4.2 Vehicle Management

4.2.1 Principles

In accordance with TfNSW requirements, all vehicles transporting loose materials would have the entire load covered and/or secured to prevent any large items, excess dust or dirt particles depositing onto the roadway during travel to and from the Site.

Further to covering/securing the load to prevent deposits onto the roadway, a Shaker Grid is proposed and installed at the point of vehicle egress to minimise the risk of dirt tracking out onto Aldington Road.

4.2.2 Construction Staff Parking

All construction staff and contractors will be required to park wholly within the Site, noting that there will be significant area available (at all times) to meet the peak parking demand.

5 Traffic Control

5.1 Traffic Control

The TfNSW guide “Traffic Control at Worksites” (TCAW) manual contains standard traffic control plans (TCPs) for a range or work activities. The manual’s objective is to maximise safety by ensuring traffic control at worksites complies with best practice.

The TfNSW TCAW outlines the requirements for a Vehicle Movement Plan (VMP) for construction works such as proposed; a VMP is a diagram showing the preferred travel paths for vehicles associated with a work site entering, leaving or crossing the through traffic stream. A VMP should also show travel paths for trucks at key points on routes remote from the work site such as places to turn around, accesses, ramps and side roads.

Regarding construction work on roads with an average daily total (ADT) in excess of 1,500 vehicles, approach speeds of between 60 km/hr and 80 km/hr, with truck movements > 20 veh/shift, and sight distance is less than 2d, (where d equals the posted speed limit and in this instance the sight distance is required to be up to 120 metres), it would be expected for the following to be required by the TfNSW TCAW:

- A detailed Traffic Control Plan (TCP) with Traffic controllers.
- A VMP.
- Warning Signs required during shifts.

5.2 Authorised Traffic Controller

An authorised Traffic Controller(s) is to be present on-site throughout the proposed works. Responsibilities of the Traffic Controller will include:

- The supervision of all construction vehicle movements into and out of site at all times,
- The supervision of all loading and unloading of construction materials during the deliveries in the construction phase of the project, and
- Pedestrian management, to ensure that adverse conflicts between vehicle movements and pedestrians do not occur, while maintaining radio communication with construction vehicles at all times.

6 Monitoring & Communication Strategies

6.1 Development of Monitoring Program

The development of a program to monitor the effectiveness of this CTMP shall be established by the Project Manager and should consider scheduled reviews as well as additional reviews should construction characteristics be substantially changed. All and any reviews of the CTMP should be documented, with key considerations expected to include:

- Tracking heavy vehicle movements against the estimated heavy vehicle flows during the works.
- The identification of any shortfalls in the CTMP, and the development of revised strategies / action plans to address such issues.
- Ensuring that all TCPs are updated (if necessary) by “Prepare a Work Zone Traffic Management Plan” card holders to ensure they remain consistent with the set-up on-site.
- Regular checks to ensure all loads are departing the Site covered as outlined within this CTMP.

6.2 Communications Strategy

A Communications Strategy shall be established by the Project Manager for implementation throughout the construction works; this strategy will outline the most effective communication methods to ensure adequate information within the community and assist the Project Team to ensure the construction works have minimal disruption on the road network. The Communications Strategy will include:

- The erection of appropriate signage providing advanced notice of works and any traffic control measures to be implemented.
- Written notices to surrounding landowners (and tenants) likely to be directly affected by the works, prior to commencement.

Ongoing communication is also required so that all stakeholders are kept up to date of works and potential impacts.

7 Summary

This Draft CTMP has been prepared to ensure appropriate traffic management is undertaken during construction of the industrial development.

Ultimately, this CTMP report has been prepared with regard to the management principles outlined in the TfNSW Traffic Control at Worksites Manual (2018) and AS1742.3, and per the detailed strategies outlined in the Draft CTMP are recommended for adoption at the Site.

In summary the following measures are recommended:

- Traffic control would be required to manage and regulate construction vehicle traffic movements to and from the Site during construction.
- All vehicles transporting loose materials will have the load covered and/or secured to prevent any items depositing onto the roadway during travel to and from the Site.
- All vehicles are to enter and depart the Site in a forward direction, with reverse movements to occur only within the Site boundary.
- All contractor parking is to be contained wholly within the Site, and.
- Pedestrian and cyclist traffic along the Site frontage will be managed appropriately at all times.

In summary, the Draft CTMP report is proposed in accordance with the TfNSW TCAW.

Appendix B

Erosion and Sediment Control Plan

EMM
creating opportunities

CONSTRUCTION NOTES:

1. THIS EROSION AND SEDIMENT CONTROL PLAN (PESCP) MUST BE READ IN CONJUNCTION WITH THE PRIMARY EROSION AND SEDIMENT CONTROL PLAN AND SEEC 2022 HES BASIN DESIGN REPORT.
2. NUMBERING (1,2,3) INDICATES ORDER OF WORKS AND CONTROL IMPLEMENTATION.
3. CONTROLS SHOWN ON PLAN ARE INDICATIVE ONLY. EXACT LOCATION WILL BE MODIFIED TO SUIT CONDITIONS AND FUNCTION PROVIDED THEY ARE LOCATED WITHIN CLEARING LIMITS AND APPROVAL LIMITS.
4. CONTROLS WILL BE INSPECTED FOLLOWING RAINFALL CAUSING RUNOFF, WHEN RAINFALL IS PREDICTED AND AT A MINIMUM WEEKLY.
5. 'CLEAN WATER' FLOW IS TO BE MAINTAINED AROUND THE SITE WITH SEPARATION BETWEEN CONSTRUCTION OR 'DIRTY' WATERS IF RUN-ON WATER CATCHMENTS ARE PRESENT.
6. 'CLEAN WATER' DIVERSION CHANNELS WILL BE SIZED TO CONVEY THE 1:2 YR ARI STORM EVENT WHERE TOPOGRAPHY AND CLEARING LIMITS PERMIT.
7. DISTURBANCE TO SLC 6 AND 7 LANDS (TABLE 2) SHALL AVOID HIGH RAINFALL EROSIVITY PERIODS IDENTIFIED IN TABLE 1.
8. 'DIRTY WATER' FLOW TO SEDIMENT CONTROLS IS TO BE MAXIMISED THROUGH THE USE OF DIVERSION BANKS, CUT OFF DRAINS.
9. SEDIMENT TRAPS ARE TO BE MANAGED IN ACCORDANCE WITH THE PRIMARY EROSION AND SEDIMENT CONTROL PLAN AND DEWATERING EWMS.
10. 'DIRTY WATER' THAT CAN NOT BE DIRECTED TO SEDIMENT BASIN MUST BE DIVERTED TO LOCAL TYPE 2 AND TYPE 3 SEDIMENT CONTROL MEASURES.
11. DEWATERING IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE PRIMARY EROSION AND SEDIMENT CONTROL PLAN AND DEWATERING EWMS.
12. MUDTRACKING ONTO ALDINGTON ROAD WILL BE MINIMISED BY THE USE OF STABILISED EXITS AND A WHEEL WASH BAY. ANY DEPOSITED SEDIMENT WILL BE REMOVED.
13. DUST WILL BE MONITORED VISUALLY TO ENSURE DUST DOES NOT EXCEED VEHICLE TRAY HEIGHT. DUST WILL BE CONTROLLED BY THE USE OF SOIL STABILISING POLYMERS, WATER CARTS, REDUCE SPEED LIMITS AND LIMITING EARTHWORKS DURING EXCESSIVELY DRY AND/OR WINDY CONDITIONS.
14. DISTURBED AREAS ARE TO BE PROGRESSIVELY REVEGETATED WITH STERILE COVER CROP OR PERMANENT REVEGETATION DESIGN. TEMPORARY CONTROLS ARE TO REMAIN UNTIL SITE IS STABILISED (70% SOIL SURFACE COVER) IN ACCORDANCE WITH THE TIMINGS IN TABLE 3.
15. THIS PLAN IS TO BE REVISED AS SITE CONDITIONS OR CONSTRUCTION METHODS DETERMINE.

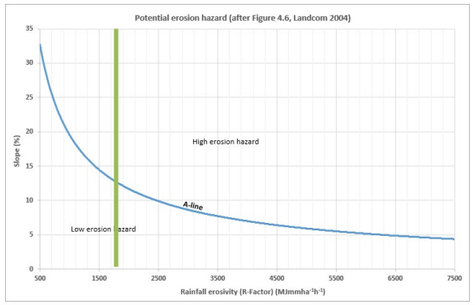
Table 3 - Target C factors and timing

Lands	Target C-factor	Description
Waterways and other areas subjected to concentrated flows, post construction	0.05	A target C factor of 0.05 (approx. 70% soil surface cover) to be achieved ten (10) days from completion of construction and prior to exposure to concentrated flows.
All lands, including waterways and stockpiles during construction	0.15	A target C factor of 0.15 (approx. 50% soil surface cover) to be achieved twenty (20) working days of inactivity or from completion of construction.
Stockpiles, post construction	0.10	A target C factor of 0.10 (approximately 60% soil surface cover) to be achieved ten (10) working days from completion of construction.

SOIL LOSS CLASS:

SOIL LOSS CLASS (SLC)	CALCULATED SOIL LOSS T/HA/YR	EROSION HAZARD
1	0–150	VERY LOW
2	151–225	LOW
3	226–350	LOW-MODERATE
4	351–500	MODERATE
5	501–750	HIGH
6	751–1,500	VERY HIGH
7	>1,500	EXTREMELY HIGH

EROSION HAZARD:



Catchment	Basin M Rev 3	Basin M Rev 4	Basin J Rev 3	Basin J Rev 4	Basin G Rev 3	Basin G Rev 4	Basin H Rev 3	Basin H Rev 4	Basin B Rev 3	Basin B Rev 4a
Catchment area (ha)	14.5	**11.8**	11.44	**No Change**	6.99	**6.9**	3.65	Now in Catchment B (7ha)	21.3	**13.6**
IECA sediment basin size (m^3)	2165.6	**1850.2**	1794.0		1197.6	**1197.8**	720.4	NA	2995	**3001**
Peak Flow	0.556 m^3/s	**0.593 m^3/s**	TBA	TBA	TBA	**0.391 m^3/s**	TBA	NA	TBA	**0.667 m^3/s**

Table 1 - Project high and low rainfall erosivity periods

SLC	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1-4	L	L	L	L	L	L	L	L	L	L	L	L
5	L	L	H	H	H	H	L	L	L	L	L	L
6	H	H	H	H	H	H	H	H	H	H	L	L
7	H	H	H	H	H	H	H	H	H	H	H	H

Table 2 - Soil loss calculations to determine soil loss classes

Slope %	1	5	10 (NA)	14 (NA)	20(NA)	25 (NA)	30 (NA)
R-Factor (Primary ESCP section 3.6.1)	1,892	1,892	1,892	1,892	1,892	1,892	1,892
K-Factor (Loch et al. 1998)	0.071	0.071	0.071	0.071	0.071	0.071	0.071
LS-Factor (Landcom 2004)	0.19	1.19	2.81	4.61	7.32	9.51	11.6
Area	1	1	1	1	1	1	1
P-Factor (Landcom 2004)	1.3	1.3	1.3	1.3	1.3	1.3	1.3
C-Factor (Landcom 2004)	1	1	1	1	1	1	1
Soil loss (t/ha/y)	**106**	**208**	491	842	1278	1661	1769

PREPARED BY/REVIEWED BY	REVISION
Wayne Walshe CPESC 8111	4a
DATE 28 October 2024	**COMMENTS**

EMM creating opportunities

COVER PAGE

200 ALDINGTON ROAD KEMPS CREEK PROGRESSIVE EROSION AND SEDIMENT CONTROL PLAN (Clearing, stripping and initial cut to fill phases)

WET WEATHER SHUTDOWN PREPAREDNESS:

INSPECTION EROSION AND SEDIMENT CONTROL MEASURES 24 HOURS PRIOR TO PREDICTED RAINFALL AND UNDERTAKE ANY NECESSARY MAINTENANCE (TRIGGERED IF 60% CHANCE OF 10 MM OF RAIN).

ENSURE SUFFICIENT QUANTITIES OF SOIL POLYMER, SILT FENCE AND APPROVED COAGULANTS AND/OR FLOCCULANTS.

ENSURE ALL SITE TURBID RUNOFF IS DIRECTED TO SEDIMENT CONTROL MEASURES.

ENSURE THE STABILISED CONSTRUCTED EXIT IS FREE FROM ACCUMULATED SOIL AND MUD. REMOVE AND REPLACE WITH CLEAN ROCK AS NECESSARY.

APPLY SOIL POLYMER TO ANY EXPOSED SOIL PARTICULARLY STOCKPILES (10% solution @1J/m^2).

APPLY APPROVED COAGULANTS AND/OR FLOCCULANTS TO THE INLET DRAINS TO SEDIMENT BASIN.

ENSURE ANY CHEMICALS AND HYDROCARBON CONTAINERS ARE PLACED IN BUNDED AREAS OR ON BUNDED PALLETS.

INSPECT CONTROL MEASURES DURING AND AFTER RAINFALL.

Table 3 IECA sediment basin and catchment characteristics

Sediment basin	Length to width ratio (X:1)	Catchment area (m^2)	Volume (m^3)	Flow (m^3/s)	Main bay minimum area A_s (m^2)	Main bay minimum depth - D_F (m)	Main bay minimum settling depth - D_s (m)	Approximate basin width - W_s (m)	Approximate basin length (m)	Settling zone volume - V_s (m^3)	Basin storage (soil) volume (m^3)	Average width of minimum floc depth WSF (m)	Minimum spillway width = WSF (m)	Minimum forebay area (m2)	Forebay width (m)	Forebay length (m)	Forebay minimum depth (m)
Basin M	3	14.5	2165.6	0.694	2372	0.6	0.6	30.42	91.26	1665.6	500	30.42	30.42	277.6	30.42	9.13	1
Basin J	3	11.44	1794	0.575	2300	0.6	0.6	27.69	83.07	1380	414	27.69	27.69	230	27.69	8.31	1
Basin G	3	6.76	1197.6	0.384	1536	0.6	0.6	22.63	67.88	921.6	276	22.63	22.63	153.6	22.63	6.79	1
~~Basin H~~	~~3~~	~~6.19~~	~~1097.8~~	~~0.352~~	~~1408~~	~~0.6~~	~~0.6~~	~~21.66~~	~~64.99~~	~~844.8~~	~~253~~	~~21.66~~	~~21.66~~	~~140.8~~	~~21.66~~	~~6.50~~	~~1~~
~~Basin FS~~	~~3~~	~~3.65~~	~~720.4~~	~~0.231~~	~~924~~	~~0.6~~	~~0.6~~	~~17.55~~	~~52.65~~	~~554.4~~	~~166~~	~~17.55~~	~~17.55~~	~~92.4~~	~~17.55~~	~~5.26~~	~~1~~
~~Basin FN~~	~~3~~	~~3.46~~	~~683.6~~	~~0.219~~	~~876~~	~~0.6~~	~~0.6~~	~~17.09~~	~~51.26~~	~~525.6~~	~~158~~	~~17.09~~	~~17.09~~	~~87.6~~	~~17.09~~	~~5.13~~	1
Basin B	3	31.6	3012	0.29	2372	0.6	0.6	35.19	105.58	2229.6	669	35.19	35.19	371.6	35.19	10.56	1
~~Basin B1~~	~~3~~	~~21.3~~	~~2898.6~~	~~0.929~~	~~3800~~	~~0.6~~	~~0.6~~	~~35.19~~	~~105.58~~	~~2229.6~~	~~669~~	~~35.19~~	~~35.19~~	~~371.6~~	~~35.19~~	~~10.56~~	~~1~~

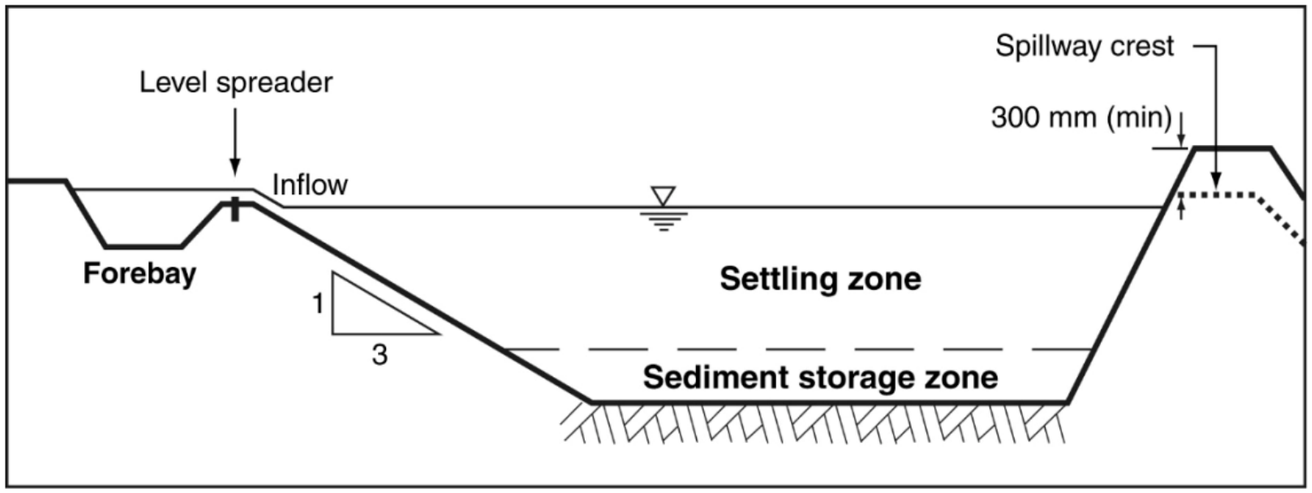
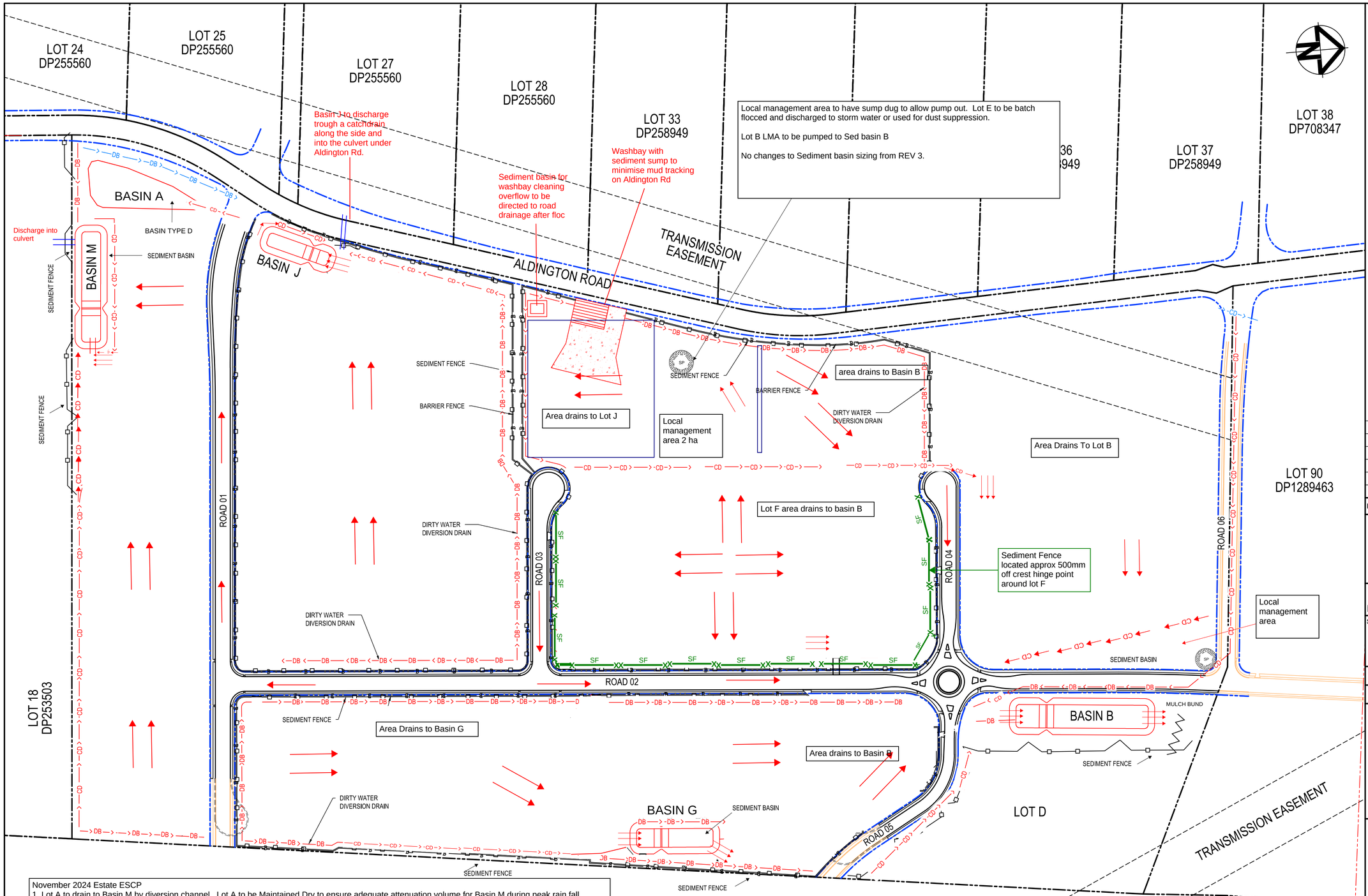


Figure 2 IECA long section of a typical type B basin



November 2024 Estate ESCP

1. Lot A to drain to Basin M by diversion channel. Lot A to be Maintained Dry to ensure adequate attenuation volume for Basin M during peak rain fall.
2. Basin J outlet to be redirected to Lot A or off site as a clean water drain. Site conditions will require this to be assessed as earthworks progress.
3. Lot F, J, G, M, N and O should all be treated with soil binder to reduce dust emissions and improve water quality during rain events.
4. Washdown sump should be fitted with automated floc unit to allow for improved discharge quality or reuse in the wheel wash.
5. Lot G diversion to be maintained to direct the southern half of the lot to Basin G.
6. Lot F, E and B will report to Basin B. Capacity must be no lees than 3000m3 (main bay) additional sumps will act as attenuation for Basin B. Drainage pathways will change as earthworks continue in the area.
7. Lot C. (NE corner) Lift in progress will allow water from this area to drain to Basin B. Ensure drainage pathways are maintained.
8. Lots that are not likely to have construction commence in the next 6 months should be stabilised by Topsoiling and Hydromulching to mitigate dust and dirty water generation.
9. Farm Dam now Decommissioned. Lot A will act as replacement Attenuation for the SW corner of the Estate.
10. Basin B capacity will increase over the following months as the retaining walls are built. Additional sumps in the catchment will attenuate flows to Basin B by reducing catchment to the Basin by approximately 50% to allow construction of final basin infrastructure in the area.
11. Monthly catchment analysis will continue until landform has been completed.

Sediment basin Sizing attached,.

LEGEND

- EXISTING BOUNDARY
- EXISTING EASEMENT
- PROPOSED BOUNDARY
- FUTURE WORKS BY OTHERS
- SEDIMENT FENCE
- CATCH DRAIN - DIRTY WATER
- DIVERSION BANK - DIRTY WATER
- DIVERSION BANK - CLEAN WATER
- CATCH DRAIN - CLEAN WATER
- BARRIER FENCE
- SEDIMENT FENCE
- PROPOSED SITE ACCESS GATE
- STABILISED ENTRY/EXIT WITH WHEEL WASH
- UNSEALED ROAD
- SEDIMENT BASIN
- SEDIMENTSUMP
- SUMP PIT

Issue	Description	Date
P1	ISSUED FOR APPROVAL	03-04-24

0 50 100 150m

1 : 2000 @ A1

Status: PRELIMINARY ONLY
NOT TO BE USED FOR CONSTRUCTION

A1

Scales	1 : 2000	Drawn JS	
		Designed JH	
Height Datum	AHD	Checked DF	
Grid	GDA2020	Approved LB	

Client19-609-SKC242-ERO AND SED WHOLE SITE STAGING.dwg

Stockland

FIFECAPITAL

Civil Engineers and Project Managers

at&l

Level 7, 153 Walker Street
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Project

PROPOSED INDUSTRIAL DEVELOPMENT
200 ALDINGTON
SSD10479 MOD2

Title

EROSION AND SEDIMENT CONTROL PLAN
WHOLE SITE STAGING

Drawing No.	Project No.	Issue
19-609-SKC242	19-609	P1

100mm on Original

Date Plotted: 3 Apr 2024 - 02:15PM File Name: F:\19-609 FKC\6.0 Drgs\Civil\Sketches\19-609-SKC242-ERO AND SED WHOLE SITE STAGING.dwg V1

Appendix C

Stage 1 Salinity Management Plan (approved 7/09/2023)

EMM
creating opportunities

Head Office
6/7 Millennium Court
Silverwater NSW 2128

Melbourne Office
4/95 Salmon Street
Port Melbourne VIC 3207

Brisbane Office
3/22 Palmer Avenue
Murarrie QLD 4172

Newcastle Office
9/103 Glenwood Dr
Thornton NSW 2322

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22 June 2023
Ref: A101023.1725.LTR1.v2f

Debbie Franzen
Design Project Manager, AT&L
Level 7 153 Walker Street
North Sydney NSW 2060
E: debbie.f@atl.net.au
M:0426807259

RE: Industrial Estate, 200 Aldington road Kemps Creek – Construction – Salinity Management Plan

Dear Ms Franzen,

ADE Consulting Group Pty Ltd (ADE) has been requested by AT&L (the Client) to provide a construction Salinity Management Plan for 200 Aldington Road Industrial Estate (ARIE).

This letter presents the Construction Salinity Management Plan (CSMP) for the proposed 200 Aldington Road Industrial Estate development located at 200 Aldington Road, Kemps Creek NSW (the Site).

The plan has been prepared to address the requirements in NSW Government Department of Planning and Environment for 200 Aldington Road Industrial Estate (SSD-10479).

This plan is prepared for the whole ARIE and generally adheres to the requirements stipulated in the overarching Construction Environmental Management Plan (CEMP).

1 Background

This Salinity, Aggressivity, and Sodicity Management Plan has been developed to determine the salinity, aggressivity and sodicity at the proposed industrial estate at 200 Aldington Road, Kemps Creek, NSW 2178, within Lots 20-23 in DP 255560 and Lots 30-32 in DP 258949. The area subject to the investigation is approximately 72.09 hectares. Refer to **Appendix A** for site figures.

ADE understands that the site is to be upgraded for the full property frontage and will include kerb & gutter, street drainage, path paving, landscaping, and undergrounding of all utility assets (Figure 1). An overview of proposed Stage 1 works include:

- Demolition and clearing of all existing built form structures;
- Drainage and infill of existing farm dams and any ground dewatering;

- Clearing of all existing vegetation;
- Bulk earthworks including 'cut and fill' to create flat development platforms for the warehouse buildings, and site stabilization works (if required);
- Roadworks and access infrastructure;
- Stormwater and drainage work including stormwater basins, diversion of stormwater lines, gross pollutant traps and associated swale works;
- Unlined sediment control basins that will store water during construction (refer to Appendix B for Erosion and Sediment Control Plans);
- Sewer and potable water reticulation;
- Inter-allotment, road and boundary retaining walls;
- Subdivision of the site into 15 individual lots; and
- Construction of a warehouse building with a total of 50,930 sqm of GFA, including: 48,430 sqm of warehouse GFA, 2,500 sqm of ancillary office GFA, 231 car parking spaces.

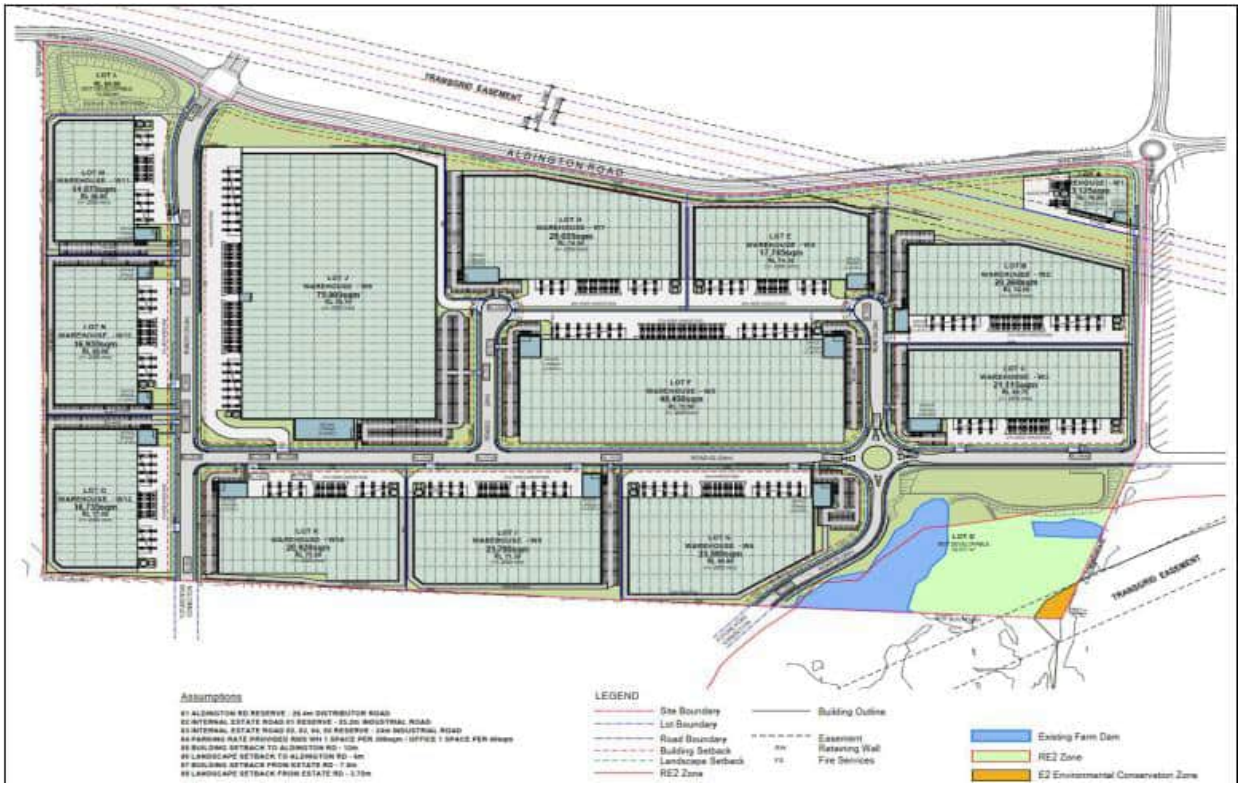


Figure 1; Concept Plan for 200 Aldington Road Industrial Estate

2 OBJECTIVES

The objective of the Construction Salinity Management Plan (CSMP) is to effectively manage site salinity, to minimise the effect of the proposed development on the salinity processes and to protect the proposed development from salinity damage. All works are to conform with the Western Sydney Salinity Code of Practice June 2003.

3 STATUTORY REQUIREMENTS

The conditions of Development Consent (SSD 10479) include.

D38. The Applicant must prepare a Salinity Management Plan, which must form part of the CEMP in accordance with Condition **E2**, that addresses all aspects of the Stage 1 development. The Applicant must implement the most recent

revision of the Salinity Management Plan for the duration of construction.

The development aspects covered by the plan.

- a Concept Proposal for staged development of an industrial estate comprising 13 buildings and associated offices covering 340,540 square metres (m^2) of gross floor area for industrial, warehouse and distribution uses; and
- a Stage 1 development comprising clearing and bulk earthworks across the estate, intersection works and road upgrades, construction of internal roads, utilities and stormwater infrastructure, construction, fit-out and operation of one warehouse building and subdivision of the site into 15 lots.

4 Existing Site Conditions

4.1 Salinity Mapping

Department of Infrastructure, Planning and Natural Resources (DIPNR) map of Salinity Potential in Western Sydney (2002) shows moderately salinity potential within the ARIE site.

4.2 Environmental Setting

The site lies on the western side of the Sydney Basin before the Blue Mountains. The Douglas Partners PSI (2019) identified that the area is underlain by Triassic age Bringelly Shale from the Wianamatta Group. The formation comprises shale, carbonaceous claystone, laminate, fine to medium grained lithic sandstone and some minor coal bands. The Northeastern corner of the project has underlying fluvial sediments of Quaternary age, primarily being made up of fine-grained sands, silts, and clays.

Localised surface water flow direction at the site is expected to flow towards an unnamed tributary to the north-east and then into Ropes creek. Regionally, the surface water flows are expected to flow to the north-east following the natural slope of the gullies into Ropes Creek then onto South Creek which flows into the Nepean River.

Topsoils observed on site ranged from 0.3-0.5mbgl, which consisted mostly of sandy clays and medium clays with an estimated saturated hydraulic conductivity of 0.36 to 36 mm/hr. The underlying natural strata consisted of medium to heavy clays with an estimated saturated hydraulic conductivity of 0.0036 to 3.6 mm/hr.

A review of the NSW Government Office of Environment and Heritage Acid Sulfate Soils Risk mapping indicates that the site is classed as having 'no known occurrence of acid sulfate soil'.

5 Previous salinity investigations (DP, PSI 2019, and ADE SASA 2022, 21.1994).

Douglas Partners PSI (2019) inferred moderate salinity potential for the site as Ropes Creek to the north-east has known salinity and high salinity potential around the primary creek line based on Map of Salinity Potential in Western Sydney (2002). It was noted that the mapping is based on soil type, surface level and general groundwater considerations and, as such, is approximate only.

In March 2022, ADE conducted a Salinity, Aggressivity and Sodicity Assessment (SASA) at 200 Aldington Road, Kemps Creek, NSW (ADE SASA1, 2022). Of sixty samples collected in total by DP (2019) and ADE (2022), 24 were classified as non-saline, 25 as slightly saline, 10 as moderately saline and one as very saline. The very saline soil observed was in the north-eastern area of the site, which generally conforms to the salinity potential mapping. Soils were identified to be non-aggressive to concrete and non-aggressive to steel. Of the 15 samples analysed for sodicity, eight were characterised as sodic and seven were characterised as highly sodic. Most of the highly sodic soil observed was in the southern area of the site and the sodic soil was located in the northern area of the site.

The salinity, aggressivity, and sodicity levels were considered naturally occurring features of the local landscape. ADE concluded that, provided that appropriate management techniques are utilised, they are not considered to be significant impediments to the proposed development.

6 Construction Salinity Management Strategies – Mitigation Measures

6.1 Development Components

This SMP addresses the components of the proposed development at construction stage for the permanent works.

Salinity management regarding the following development components are provided in the following sections:

- Earthworks;
- Imported soil;
- Gardens and landscaped areas;
- Roads, footpaths and hardstand areas;
- Surface water, stormwater and drainage;
- Durability of concrete structures in contact with the ground; and
- Durability of steel structures in contact with the ground.

6.2 Earthworks

ADE understands the proposed earthworks will comprise up to approximately 15 m deep cut and 9 m deep fill in some areas. The construction of the earthworks should consider the following strategies:

- Importation of soil as per Section 6.3 of this letter.
- Vegetation cover should be estimated and maintained on permanent batters upon completion to control erosion.
- The final surface of all areas of the development should be graded to prevent the ponding of surface water.
- Erosion control of temporary batters, stockpiles and disturbed areas should be planned prior to undertaking the earthworks and implemented during the earthworks. Consideration should be given to:
    - Grading and sealing partially completed surfaces;
    - Installation of clearly visible fencing and traffic control measures to prevent unnecessary trafficking of areas and ensuring site disturbance;
    - Establishing set vehicular access points and roads; and
    - Protecting stockpiles (temporary vegetation or mulching) where these are to be left in place for long durations.
- Sediment control shall be implemented by means of sediment traps and silt fencing where considered necessary.
- Dust suppression using water carts will avoid over-watering and only use sufficient water to manage dust rise.
- Surface ponding will be avoided during dust suppression.
- Water used for construction purposes (e.g. to achieve adequate compaction rates) will be applied sparingly.

6.3 Importation of Soil

It may be required to import soil onto site. Materials to be imported to site should be assessed for suitability for the intended use. Very high to high saline soils shall not be imported to site.

6.4 Salinity Testing

Salinity testing shall be undertaken on imported soil and in accordance with “Site Investigations for Urban Salinity”, Department of Land and Water Conservation (2002). Material with ECe > 8 dS/m; i.e. very high to high saline shall not be imported.

6.5 Gardens and Landscaped Areas

The proposed development will result in the majority of the site comprising roads, footpaths, and hardstand areas. Garden and landscaped areas are likely to be of limited extent. The construction of the gardens and landscaped areas should consider the following:

- Irrigation of rehabilitated or landscaped areas will utilize low-water-use fixtures such as drippers, sub- surface irrigation or similar. Water will be applied sparingly and only in quantities sufficient to promote plant growth. Subsoil moisture will be physically checked (through visual observation) regularly during irrigation to ensure watering rates are not excessive.
- Selection of plant species should consider the soil conditions, including moderate salinity, relatively poor fertility and clayey low permeability soil profiles. Promotion of successful revegetation is likely to require use of nutrient rich topsoil. Saline topsoils should not be imported to site.
- Potential for water logging should be minimised by:
    - Adopting plant species with minimal watering requirements.
    - Adopting 'waterwise' gardening principles.
    - Minimising use of potable water in landscaped areas.
    - Properly designed and implemented irrigation systems.
    - Establishment of perennial species and deep-rooted trees.

6.6 Roads, Footpaths and Hardstand Areas

The construction of roads, footpaths and hardstand areas should consider the following measures:

- Roads, footpath and hardstand surfaces should be graded, and the grades maintained at all times to prevent ponding of surface water at locations where this can result in infiltration into the underlying soils (e.g. pavement joints).
- Connections between the roads, footpath and hardstand surfaces and the surface water and stormwater drainage infrastructure should be designed, constructed and maintained to restrict infiltration1 into underlying soils.
- Services that are to be located below the roads, footpath and hardstand surfaces should be installed, where practical, at the time of construction.
- Provision for a damp-proof course or membrane beneath slabs should be considered by the slab designer.

6.7 Surface Water, Stormwater and Drainage

The design and construction of surface water, stormwater and drainage measures should consider the following:

- Disturbance of natural drainage patterns should be reduced. Where these are disturbed or altered appropriate artificial drainage should be installed.
- Stormwater and surface water should be managed to restrict infiltration.
- Temporary water retaining structures used during construction should be managed to restrict infiltration.
- Stormwater and surface water infrastructure should be designed and constructed to minimise the likelihood of leakage.
- Guttering and down pipes should be connected and maintained.
- Surface water runoff should be directed around all exposed surfaces, temporary stockpiles and landscaped areas
- Disturbance to the natural hydrological system shall be minimised by maintaining good surface drainage and reducing water logging on the site
- Groundwater recharge is to be minimised to the extent it does not adversely impact groundwater dependent ecosystems downstream.

6.8 Durability of Concrete Structures in Contact with The Ground

In designing structural concrete elements in contact with the ground the design should consider the results of the salinity assessment and the durability requirements in AS2159:2009 Piling "Design and Installation" and AS3600:2018 "Concrete Structures".

Both these standards provide guidance on minimum concrete grade/strength and minimum cover requirements. Based on the salinity and aggressivity test results (ref. ADE, 21.1994 SASA1.v2f, dated 23 March 2022), it is recommended that:

- The design of structural concrete members in contact with the ground (excluding piles) adopt a "B1" exposure classification as defined in AS3600:2009
- The design of concrete cast in situ piles adopt a "mild" classification as defined in AS2159:2009.

6.9 Durability of Steel Structures in Contact with the Ground

Table 6.5.2(C) of Australian Standard AS2159:2009, Piling – Design and Installation provides criteria for exposure classification for steel piles based on resistivity, soil and groundwater pH, and chlorides in soil and groundwater. On the basis of soil chlorides, resistivity and pH testing completed we assess the exposure classification for steel piles in the soil to be "Non-aggressive".

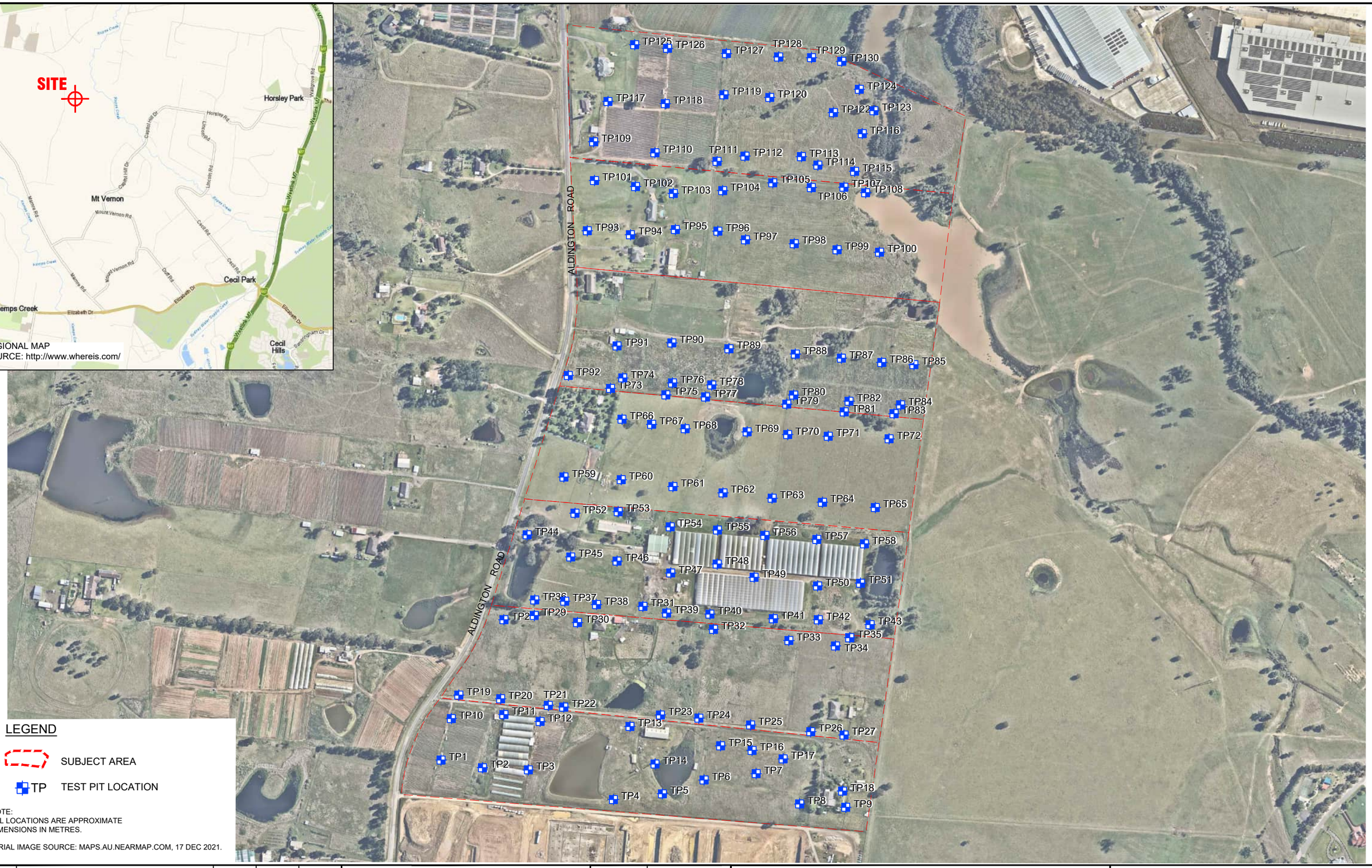
7 CLOSURE

Implementation of this SCMP within the overall site CEMP will ensure impacts of this development on salinity will be minimised.

Santo Ragusa
Principal Environmental Consultant

APPENDIX A – AERIAL FIGURES

REGIONAL MAP
SOURCE: http://www.whereis.com/



LEGEND

SUBJECT AREA

TP TEST PIT LOCATION

NOTE:
ALL LOCATIONS ARE APPROXIMATE
DIMENSIONS IN METRES.

AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM, 17 DEC 2021.

revision	no.	description	drawn	approved	date
	A	FIRST ISSUE	MC	HN	19/01/22

0 55 110 165 220 275
SCALE 1:5500 @A3 METRES

drawn	MC
approved	HN
date	19/01/2022
scale	AS SHOWN
original size	A3

client: FIFE CAPITAL

project: DETAILED SITE INVESTIGATION
LOT 20-32 ALDINGTON ROAD
KEMPS CREEK, NSW

title: SAMPLE LOCATION AND SITE LOCATION PLAN

project no: 21.1994_DSI | figure no: FIGURE 3 | rev: A

ADE CONSULTING GROUP
Sydney Office
ADE Consulting Group Pty Ltd
Unit 6 / 7 Millennium Court, Silverwater, NSW 2128
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PLOT DATE: 20/01/2022 23:30:09 DWG FILE: W:_NEW DELTEK PROJECTS ENV\21.1994 FIFE CAPITAL DSI (KEMPS CREEK) HN_6 WORKING DOCUMENTS_4 CAD (MC)\21.1994_DSI.DWG



LEGEND

- SUBJECT AREA
- 1 TEST PIT LOCATION (DOUGLAS PARTNERS, 2019)
- 1 SURFACE SAMPLE LOCATION (DOUGLAS PARTNERS, 2019)

NOTE:
ALL LOCATIONS ARE APPROXIMATE
DIMENSIONS IN METRES.

AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM, 17 DEC 2021.

revision	no.	description	drawn	approved	date
	A	FIRST ISSUE	MC	HN	19/01/22

0 55 110 165 220 275
SCALE 1:5500 @A3 METRES

drawn	MC
approved	HN
date	19/01/2022
scale	AS SHOWN
original size	A3

client: FIFE CAPITAL

project: DETAILED SITE INVESTIGATION
LOT 20-32 ALDINGTON ROAD
KEMPS CREEK, NSW

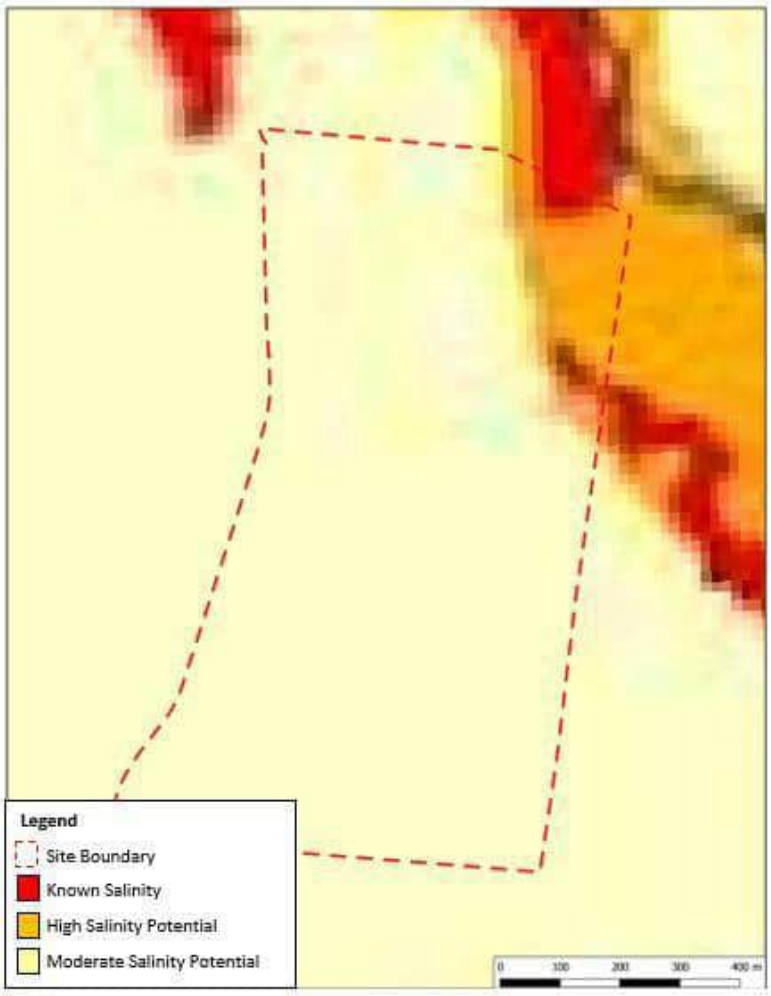
title: PREVIOUS SAMPLE LOCATION

project no: 21.1994_DSI | figure no: FIGURE 4 | rev: A

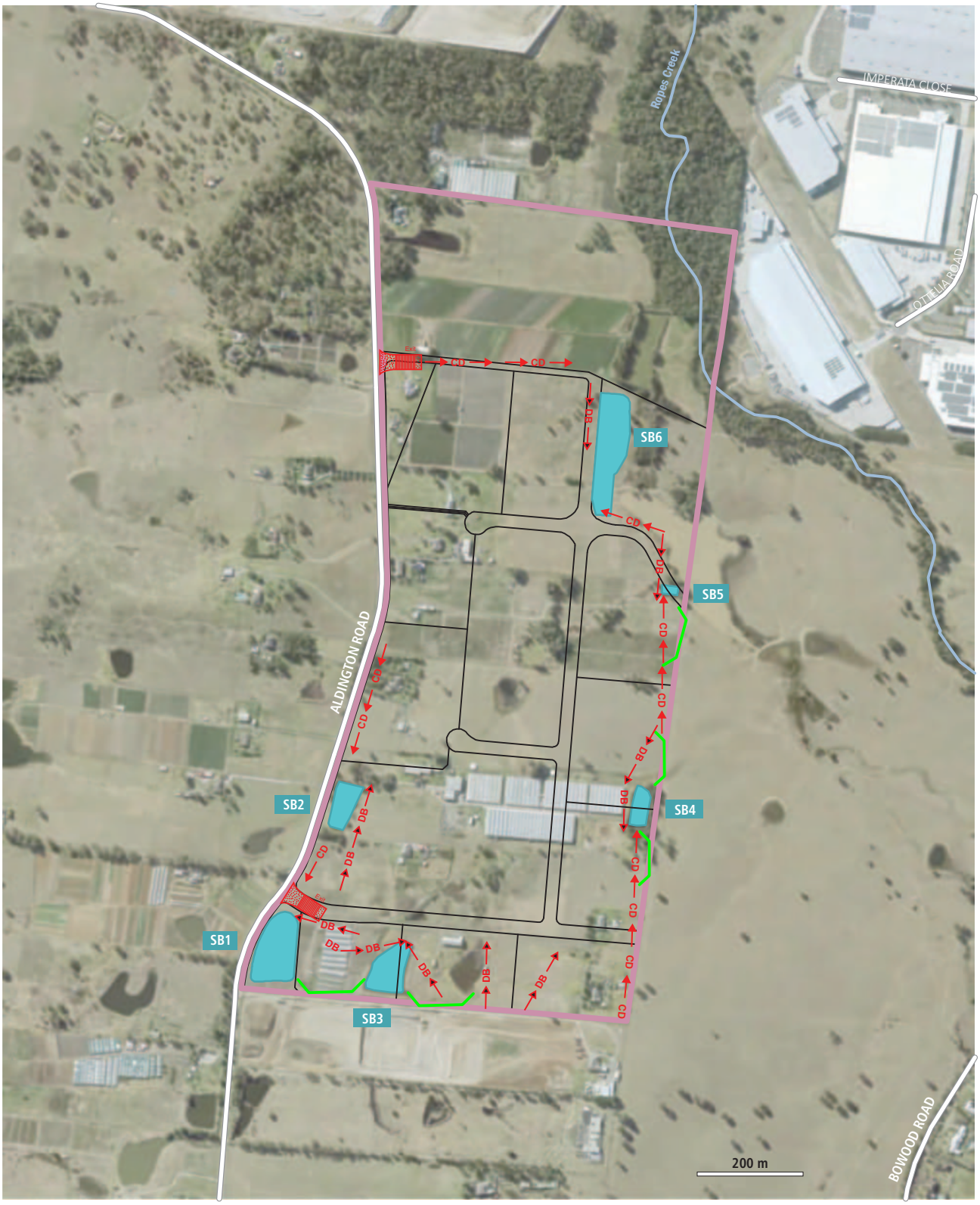
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PLOT DATE: 10/02/2022 16:28:24 DWG FILE: W:_NEW DELTEK PROJECTS ENV\21.1994 FIFE CAPITAL DSI (KEMPS CREEK) HN_6 WORKING DOCUMENTS_4 CAD (MC)\21.1994_DSI_1.DWG

Figure 3. Salinity Mapping.



APPENDIX B – EROSION AND SEDIMENT CONTROL PLANS



LEGEND

- Project boundary
- Design boundaries
- Sediment basin

CONTROL MEASURES

- CD — Catch drain
- DB — Diversion bank
- Silt fence

Exit — Stabilised construction exit with shaker grid and cross bank

EMM creating opportunities

Earthworks Phase – Erosion and sediment control plan

200 Aldington Road Industrial Estate Kemps Creek



LEGEND

- Existing boundary
- Existing easement
- Proposed boundary
- Proposed retaining wall – fill
- Proposed retaining wall – cut
- Interallotment retaining wall
- Interallotment retaining wall
- Boundary fence

CONTROL MEASURES

- CD — Catch drain
- Exit — Stabilised construction exit with shaker grid and cross bank

Appendix D

Construction Noise and Vibration Management Plan

EMM
creating opportunities

200 Aldington Road Industrial Estate

Stage 1 Lot F Warehouse
Construction Noise and Vibration Management Plan

Stockland Fife Kemps Creek Pty Ltd

Level 12, 89 York Street,
Sydney NSW 2000

Prepared by:

SLR Consulting Australia

Tenancy 202 Submarine School
Sub Base Platypus, 120 High Street
North Sydney NSW 2060, Australia

SLR Project No.: 610.31010.00000

5 March 2025

Revision: v1.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
v1.0	12 August 2024	Antony Williams	Steven Luzuriaga	Antony Williams
v1.1	5 March 2025	Antony Williams	Steven Luzuriaga	Antony Williams

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Stockland Fife Kemps Creek Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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Appendices

Appendix A Acoustic Terminology
Appendix B Construction Information
Appendix C Evidence of Consultation

Acronyms and Abbreviations

AS	Australian Standards
ARIE	200 Aldington Road Industrial Estate
BAPS	Bochasanwasi Shri Akshar Purushottam Swaminarayan Sanstha
BS	British Standard
CEMP	Construction Environmental Management Plan
CMP	Construction Management Plan
CNVG	Construction Noise and Vibration Guideline
CNVIA	Construction Noise and Vibration Impact Assessment
CNVMP	Construction Noise and Vibration Management Plan
dB	Decibel
dBA	A-weighted decibel (referenced 20 µPa)
DPHI	Department of Planning, Housing and Infrastructure
EIS	Environmental Impact Statement
EPA	NSW Environment Protection Authority
ICNG	Interim Construction Noise Guideline
ISO	International Organization for Standardization
kHz	Kilohertz
LAeq	Equivalent continuous noise level, providing a representation of the cumulative level of noise exposure over a defined period.
m	Metres
Master Plan	Concept Master Plan
NIA	Noise Impact Assessment
NMLs	Noise Management Levels
NPfI	Noise Policy for Industry
NSW	New South Wales
SLR	SLR Consulting Australia Pty Ltd
SSD	State Significant Development
SSDA	State Significant Development Application
TfNSW	Transport for NSW

1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Stockland Fife Kemps Creek Pty Ltd (SKFC) to prepare a Construction Noise and Vibration Management Plan (CNVMP) for construction works associated with the development of 200 Aldington Road, Kemps Creek, NSW.

This CNVMP addresses the potential noise and vibration impacts associated with the construction of Lot F.

Construction noise and vibration impacts from the project were previously assessed in:

- The Noise Impact Assessment prepared by White Noise Acoustics as part of the SSD-10479 application, reference '*Report 20141_200819, Revision 8*', dated August 2022 (the SSDA NIA).
- The Stage 1 CNVMP prepared by SLR Consulting, reference *'610.31010.00000-R01-v1.2 – Stage 1: Demolition, Earthworks and Infrastructure Works – Construction Noise and Vibration Management Plan'*, dated August 2023 (the Stage 1 CNVMP).

Specific acoustic terminology is used in this report. An explanation of common acoustic terms is provided in **Appendix A**.

SLR is suitably qualified to produce this CNVMP and SLR staff are members of the Australian Acoustical Society (AAS). SLR is also a member firm of the Association of Australasian Acoustical Consultants (AAAC).

1.1 Procedure for Implementing this CNVMP

This general procedure will be followed in order to implement this CNVMP:

1 Review the requirements of the Development Consent Conditions relevant to construction noise and vibration (refer to **Section 3.0**), the location of the nearest sensitive receivers (refer to **Section 2.1**) and the applicable Noise Management Levels (NMLs) (refer to **Section 5.1.1**).

2 Prior to commencement of construction phases/activities, confirm the assumptions regarding construction activities/locations/equipment/methodology detailed in **Section 6.0** are accurate and remain valid. Where different methodology or equipment is proposed, further validation of the predicted noise levels will be undertaken in accordance with **Section 8.2**.

3 Review the predicted noise levels for the proposed construction activities (refer to **Section 7.1** and any updated assessment undertaken in step 2) to confirm the predicted impacts for each activity. Each activity has "worst case" noise level predictions using the noisiest equipment for that activity.

4 Where the noise impacts are predicted to be:

- Below the relevant NMLs – undertake best practice noise management measures to minimise noise impacts
- Above the NMLs – implement all feasible and reasonable noise mitigation and management measures relevant to that activity (refer to **Section 8.0**) to reduce the impacts (to below the NMLs where possible). Measures considered/implemented must be documented for inclusion in the Construction Contractor's Monthly Report.

- Above 75 dBA – implement mitigation and management measures for highly noise affected receivers as per **Section 8.0** including consideration of respite periods, duration respite, and alternative accommodation. Consultation with the individual highly noise affected residences must be undertaken to discuss the appropriate mitigation/respite solution for high noise works and must be documented for inclusion in the Construction Contractor's Monthly Report.

5 Review the minimum working distances for vibration intensive plant (refer to **Section 5.3.2**) and the vibration assessment results (refer to **Section 7.2**). Where vibration intensive plant is proposed to be used within the minimum working distances of vibration sensitive structures/receivers implement feasible and reasonable mitigation and management measures as per **Section 8.0**.

6 Undertake noise and/or vibration monitoring in accordance with **Section 8.2**, where required.

7 Where works are required out of the standard construction hours, additional assessment and documentation must be prepared for approval by the Planning Secretary (refer to **Section 6.2**).

8 Resolve any noise/vibration issues during construction works as per the contingency plan (refer to **Section 8.5**), and document and report incidents and complaints as per the requirements in **Section 8.0**.

2.0 Development Overview

200 Aldington Road Industrial Estate (ARIE) is legally described as Lots 20-23 in DP 255560 and Lots 30-32 in DP 258949, which is located on the east side of Aldington Road, Kemps Creek, with an area of approximately 72.08 hectares (ha) within the Penrith Local Government Area.

The estate has around 1,242 m of direct frontage to Aldington Road with one proposed signalised intersection providing vehicular access to the southern side of the development, with a three-way junction (designed for future signalised 4 way intersection) providing access to the northern side of the development. Until the connection of Aldington Road to the future Southern Link Road (located to the north) is constructed, the access to Aldington Road will be provided from Abbots Road.

The site is located approximately 4 km north-west of the future Western Sydney Nancy-Bird Walton Airport, 13 km south-east of the Penrith CBD and 40 km west of the Sydney CBD.

The site is part of the Broader Western Sydney Employment Area and is zoned land under the State Environmental Planning Policy (Industry & Employment) 2021 (SEPP 2021).

The ARIE and surrounding receivers are shown in **Figure 1**, as taken from the Stage 1 CNVMP. The ARIE Master Plan design in shown **Figure 2** and the Lot F development is shown in **Figure 3**.

It is noted that many of the nearest receivers have been demolished as part of works on other adjacent SSDAs since completion of the Stage 1 CNVMP. Receivers which have been demolished have been removed from the assessment.



Scale: 1:13,000 at A4
Coordinate System: GDA2020 / MGA zone 56

Drawn Date: 05-Mar-2025
Project Number: 610.031758.00003

Data Source:
Nearmap Imagery

DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.

SITE LOCATION AND SURROUNDING RECEIVERS

FIGURE 1

H:\Projects-SLR\610-SnS\SYD\610.31010.00000 200 Aldington Road, KRP\06 SLR Data\05 Modelling\07 MOD 4 Lot F\610.31010 MOD 4 Inputs.qgz

Figure 2 ARIE Master Plan Design

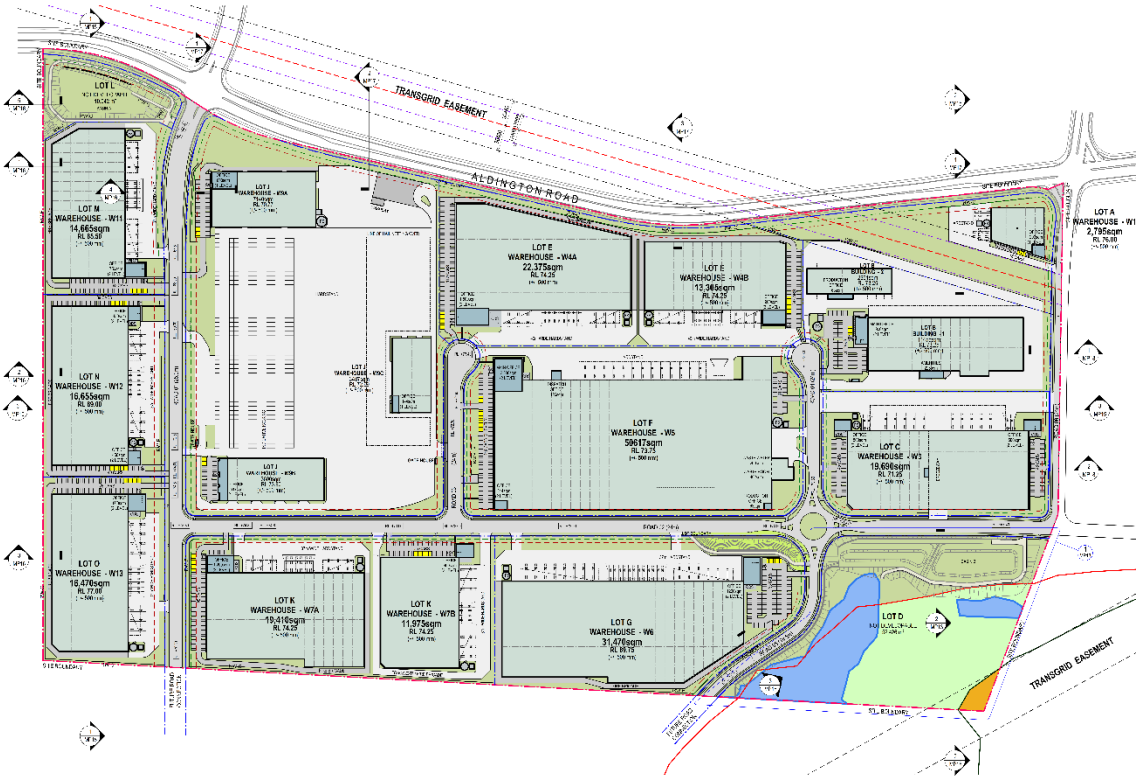
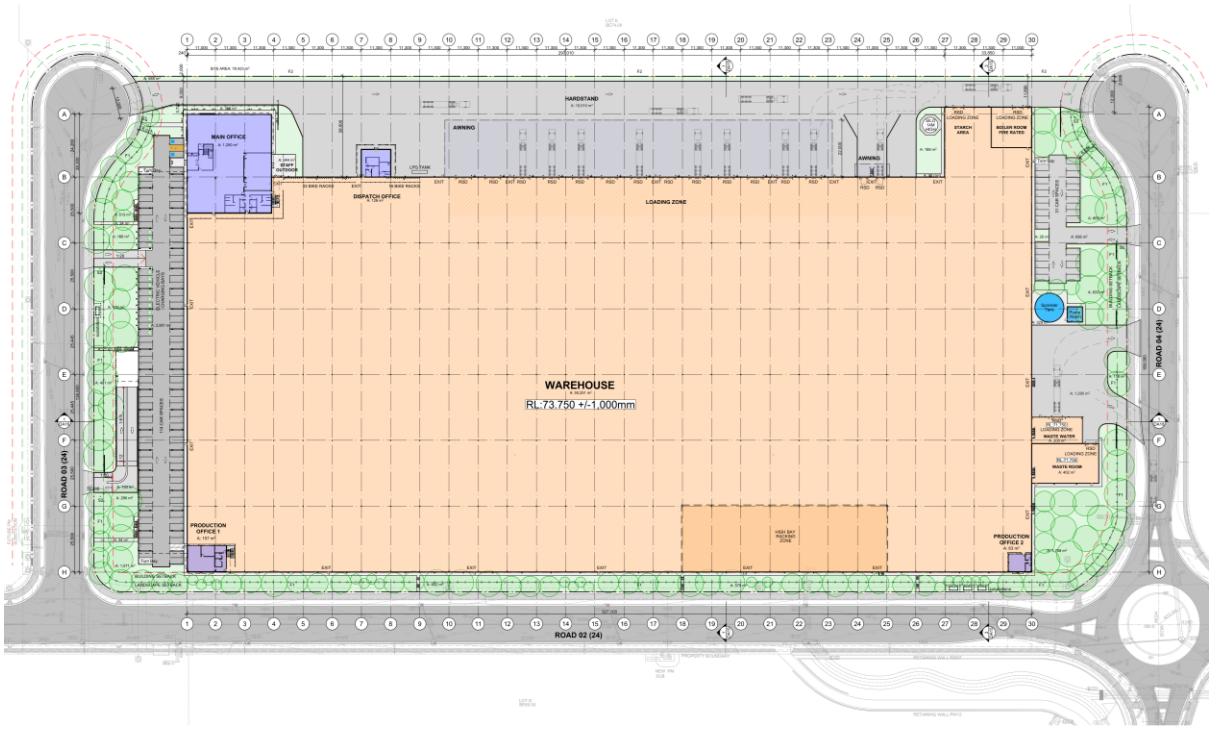


Figure 3 Lot F Development



2.1 Nearest Sensitive Receivers

The nearest receivers surrounding the site are detailed in **Table 1** and shown in **Figure 1**.

It is noted that many of the nearest receivers have been demolished as part of works on other adjacent SSDAs. Receivers which have been demolished have been removed from the assessment.

Table 1 Nearest Sensitive Receivers

ID#	Address[1]	Type	Status
C1	54-72 Aldington Road	Commercial	-
R2	74-78 Aldington Road	Residential	Demolished
C3	90-104 Aldington Road	Commercial	Demolished
R4	53 Aldington Road	Residential	-
R5	99-111 Aldington Road	Residential	Demolished
R6	113-127 Aldington Road	Residential	Demolished
R7	129-139 Aldington Road	Residential	Demolished
R8	141-153 Aldington Road	Residential	Demolished
R9	155-167 Aldington Road	Residential	Demolished
R10	169-181 Aldington Road	Residential	Demolished
R11	183-197 Aldington Road	Residential	Demolished
R12	201-217 Aldington Road	Residential	Demolished
R13	219-233 Aldington Road	Residential	Demolished
R14	235-251 Aldington Road	Residential	Demolished
R15	253-267 Aldington Road	Residential	Demolished
R16	258-270 Aldington Road	Residential	-
C17	230-242 Aldington Road	Commercial	Demolished
R18	53-59 Bowood Road, Mount Vernon	Residential	-
I19	29 Ottelia Road	Industrial	-
R20	199 Aldington Road	Residential	Demolished
R21	269 Aldington Road	Residential	-
R22	284-288 Aldington Road	Residential	-
R23	282 Aldington Road	Residential	-
R24	61 Bowood Road, Mount Vernon	Residential	-
R25	69-81 Bowood Road, Mount Vernon	Residential	-
R26	83-87 Bowood Road, Mount Vernon	Residential	-
R27	89-93 Bowood Road, Mount Vernon	Residential	-
R28	95-99 Bowood Road, Mount Vernon	Residential	-
BAP1,2,3[3]	BAPS Temple	Place of Worship	Currently under construction

Note 1: All addresses are in Kemps Creek NSW unless stated otherwise.

Note 2: Demolished receivers have been removed from the assessment.

Note 3: The BAPS Temple is currently under construction. The temple has been conservative assumed to be operational during the construction of Lot F.

3.0 Development Consent

This CNVMP has been prepared to accompany the Construction Environmental Management Plan (CEMP) for the construction and fitout of Lot F.

The Development Consent for the project was approved by Minister for Planning and Public Spaces in SSD 10479 dated March 2023. The conditions relevant to this CNVMP are reproduced in **Table 2**.

Table 2 Development Consent Conditions

Development Consent	Where Addressed
Protection of Public Infrastructure	
C12. Before the commencement of construction of the development, the Applicant must: a) consult with the relevant owner and provider of services that are likely to be affected by the Stage 1 development to make suitable arrangements for access to, diversion, protection and support of the affected infrastructure; b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and c) submit a copy of the dilapidation report to the Planning Secretary and Council	**Section 8.1**
Operation of Plant and Equipment	
C24. All plant and equipment used on site, or to monitor the performance of the Stage 1 Development, must be: d) Maintained in a proper and efficient condition; and e) Operated in a proper and efficient manner.	**Section 8.1**
Mamre Road Precinct Working Group	
C37. Within three months of the commencement of construction of the Stage 1 Development and until all components of the Stage 1 development are constructed and operational, the Applicant must establish and participate in a working group, or join and participate in an existing working group, with relevant consent holders in the MRP, to the satisfaction of the Planning Secretary. The purpose of the working group is to consult and coordinate construction works within the MRP to assist with managing and mitigating potential cumulative environmental impacts. The working group must: a) comprise at least one representative of the Applicant, the Applicant's ER, and relevant consent holders in the MRP; b) meet periodically throughout the year to discuss, formulate and implement measures or strategies to improve monitoring, coordination of the approved industrial developments in the MRP; c) regularly inform Council, TfNSW, Sydney Water and the Planning Secretary of the outcomes of these meetings and actions to be undertaken by the working group; d) review the performance of approved industrial developments in the MRP and identify trends in the data with respect to cumulative construction traffic, erosion and sediment control, noise, stormwater management and waterway health objectives under the MRP DCP; e) review community concerns or complaints with respect to environmental management; f) identify interim traffic safety measures to manage construction traffic and how these measures will be coordinated, communicated, funded and monitored in the MRP; and	**Section 8.8**

<table>
<tr><th>Development Consent</th><th>Where Addressed</th></tr>
<tr><td>g) provide the Planning Secretary with an update and strategies, if a review under subclause (d) and (e) identifies additional measures and processes are required to be implemented by the working group.</td><td></td></tr>
<tr><td colspan="2">Hours of Work</td></tr>
<tr><td>D48. The Applicant must comply with the hours detailed in Table 5, unless otherwise agreed in writing by the Planning Secretary.
Table 5 Hours of Work
<table>
<tr><th>Activity</th><th>Day</th><th>Time</th></tr>
<tr><td>Earthworks and construction</td><td>Monday – Friday
Saturday</td><td>7 am to 6 pm
8 am to 1 pm</td></tr>
</table></td><td>Section 6.2</td></tr>
<tr><td>D49. Work outside of the hours identified in condition D48 may be undertaken in the following circumstances:
a) works that are inaudible at the nearest sensitive receivers;
b) works agreed to in writing by the Planning Secretary;
c) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or
d) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.</td><td>Section 6.2</td></tr>
<tr><td colspan="2">Construction Noise Limits</td></tr>
<tr><td>D50. The Stage 1 development must be constructed to achieve the construction noise management levels detailed in the Interim Construction Noise Guideline (DECC, 2009) (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the CNVMP required by condition D51.</td><td>Section 1.1, 5.0, 7.1 and 8.0</td></tr>
<tr><td colspan="2">Construction Noise and Vibration Management Plan</td></tr>
<tr><td>D51. The Applicant must prepare a Construction Noise and Vibration Management Plan (CNVMP) for the Stage 1 development to the satisfaction of the Planning Secretary. The CNVMP must form part of a CEMP in accordance with condition E2 and must:
a) be prepared by a suitably qualified and experienced noise expert whose appointment has been endorsed by the Planning Secretary;
b) describe procedures for achieving the noise management levels in EPA’s Interim Construction Noise Guideline (DECC, 2009) (as may be updated or replaced from time to time);
c) describe the measures to be implemented to manage high noise generating works, such as piling, in close proximity to sensitive receivers;
d) include strategies that have been developed with the community for managing high noise generating works; and
e) describe the community consultation undertaken to develop the strategies in condition D51(d).
f) include a complaints management system that would be implemented for the duration of the development.</td><td>This CNVMP
Section 1.0
Section 1.1
Section 8.0
Refer to CEMP and Section 8.4
Refer to CEMP and Section 8.4
Section 8.3</td></tr>
<tr><td>D52. The Applicant must:
a) not commence construction of any relevant stage until the CNVMP required by condition D51 is approved by the Planning Secretary; and
b) implement the most recent version of the CNVMP approved by the Planning Secretary for the duration of construction.</td><td>This CNVMP
Section 9.0</td></tr>
</table>

Development Consent	Where Addressed
Vibration Criteria	
D59. Vibration caused by construction at any residence or structure outside the site must be limited to: a) for structural damage, the criteria set in the latest version of DIN 4150-3:2016-12 Vibration in Buildings – Part 3: Effects on Structures (German Institute for Standardisation, 2016); and b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: a technical guideline (DEC, 2006) (as may be updated or replaced from time to time).	**Section 5.3, 7.2**, **8.1** and **8.2**
D60. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition D59.	**Section 7.2**, **8.1**, and **8.2**
D61. The limits in conditions D59 and D60 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved as part of the CEMP required by condition E2 of this consent.	Conditions D59 and D60 apply.
Environmental Management	
Management Plan Requirements E1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include: a) detailed baseline data; b) details of: i. the relevant statutory requirements (including any relevant approval, licence or lease conditions); ii. any relevant limits or performance measures and criteria; and iii. the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria; d) a program to monitor and report on the: i. impacts and environmental performance of the development; and ii. effectiveness of the management measures set out pursuant to paragraph (c) above; e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; f) a program to investigate and implement ways to improve the environmental performance of the development over time; g) a protocol for managing and reporting any: i. incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); ii. complaint; iii. failure to comply with statutory requirements; and h) a protocol for periodic review of the plan. ***Note**: the Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans*	This CNVMP **Section 4.0** **Section 3.0** **Section 5.0** **Section 7.0** and **8.0** **Section 8.0** **Section 8.2** **Section 8.5** **Section 9.0** **Section 8.5** **Section 8.3** **Section 8.5** **Section 9.0**

Development Consent	Where Addressed
Revision of Strategies, Plans and Programs	
E8. Within three months of: a) the submission of a Compliance Report under condition E14; b) the submission of an incident report under condition E10; c) the approval of any modification of the conditions of this consent; or d) the issue of a direction of the Planning Secretary under condition A1(b) which requires a review, the strategies, plans and programs required under this consent must be reviewed, and the Planning Secretary must be notified in writing of the outcomes of any review.	**Section 9.0**

4.0 Existing Environment

Unattended noise monitoring was completed as part of previous acoustic assessments in August and October 2020, prior to commencement of construction.

The measured noise levels have been used to determine the existing noise environment and to set the criteria used to assess the potential impacts from the project. The noise monitoring equipment continuously measured existing noise levels in 15-minute periods during the daytime, evening and night-time.

The noise monitoring locations are shown in **Figure 1** and the results are summarised in **Table 3**.

Table 3 Summary of Unattended Ambient Noise Levels

ID	Address	Measured Noise Levels (dBA)					
		Background Noise (RBL)			Average Noise (L_{Aeq})		
		Day	Evening	Night	Day	Evening	Night
L01	Lot 32 DP258949	35 (30 actual)	30 (29 actual)	30 (25 actual)	42	40	33
L02	Lot 18 DP253503	35 (32 actual)	31	30	50	35	35
L03	Lot 56 DP259135	35 (34 actual)	33	30 (29 actual)	44	41	41

Note 1: The assessment periods are the daytime which is 7 am to 6 pm Monday to Saturday and 8 am to 6 pm on Sundays and public holidays, the evening which is 6 pm to 10 pm, and the night-time which is 10 pm to 7 am on Monday to Saturday and 10 pm to 8 am on Sunday and public holidays. See the NSW EPA Noise Policy for Industry (NPfI).

Note 2: Monitoring at locations L01 and L02 taken from White Noise Acoustics report 20141_200819_Noise Impact Assessment_BW_R8c dated 26 August 2022. Monitoring at location L03 taken from SLR report 610.19127-R02-v1.3 dated 1 October 2020.

Note 3: The *Noise Policy for Industry* minimum RBLs have been applied where appropriate.

5.0 Assessment Criteria

5.1 Interim Construction Noise Guideline

The NSW *Interim Construction Noise Guideline* (ICNG) is used to assess and manage impacts from construction noise on residences and other sensitive land uses in NSW.

The ICNG contains procedures for determining project specific Noise Management Levels (NMLs) for sensitive receivers based on the existing background noise in the area. The 'worst-case' noise levels from construction of a project are predicted and then compared to the NMLs in a 15-minute assessment period to determine the likely impact of the project.

The NMLs are not mandatory limits, however, where construction noise levels are predicted or measured to be above the NMLs, feasible and reasonable work practices to minimise noise emissions are to be investigated.

Residential Receivers

The ICNG approach for determining NMLs at residential receivers is shown in **Table 4**.

Table 4 ICNG NMLs for Residential Receivers

Time of Day	NML $L_{Aeq(15minute)}$	How to Apply
Standard Construction Hours Monday to Friday 7:00 am to 6:00 pm Saturday 8:00 am to 1:00 pm No work on Sundays or public holidays	Noise affected RBL[1] + 10 dB	• The noise affected level represents the point above which there may be some community reaction to noise • Where the predicted or measured $L_{Aeq(15minute)}$ is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level • The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details
	Highly Noise Affected 75 dBA	• The Highly Noise Affected (HNA) level represents the point above which there may be strong community reaction to noise • Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restructuring the hours that the very noisy activities can occur, taking into account: ○ Times identified by the community when they are less sensitive to noise (such as before and after school for works near schools or mid-morning or mid-afternoon for works near residences ○ If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times
Outside Standard Construction Hours	Noise affected RBL + 5 dB	• A strong justification would typically be required for works outside the recommended standard hours • The proponent should apply all feasible and reasonable work practices to meet the noise affected level • Where all feasible and reasonable practises have been applied and noise is more than 5 dB above the noise affected level, the proponent should negotiate with the community

Note 1: The RBL is the Rating Background Level and the ICNG refers to the calculation procedures in the NSW *Industrial Noise Policy* (INP). The INP has been superseded by the NSW EPA *Noise Policy for Industry* (NPfI).

'Other Sensitive' Land Uses and Commercial Receivers

The ICNG NMLs for 'other sensitive' non-residential land uses are shown in **Table 5**.

Table 5 NMLs for 'Other Sensitive' Receivers

Land Use	Noise Management Level $L_{Aeq(15minute)}$ (dBA) (Applied when the property is in use)	
	Internal	External
Classrooms at schools and other educational institutions	45	55[1]
Worship	45	55[1]
Commercial	-	70
Industrial	-	75

Note 1: It is assumed that these receivers have windows partially open for ventilation which results in internal noise levels being around 10 dB lower than the external noise level.

Sleep Disturbance

A method for assessing sleep disturbance is contained in the NPfI. Although the NPfI sleep disturbance criteria relates to industrial noise, it is also considered relevant for reviewing potential impacts from construction noise as a screening criteria to identify the need for further assessment. The NPfI notes that a detailed maximum noise level assessment should be undertaken where a project results in night-time noise levels which exceed 52 dBA L_{AFmax} or the prevailing background level plus 15 dB, whichever is the greater.

Works will be undertaken during standard daytime construction hours, in accordance with Condition D48. For works required during out of hours periods, and approved under Conditions D48 and D49, the sleep disturbance screening level of night-time RBL plus 15 dB will be applied.

5.1.1 NML Summary

The NMLs for the project have been determined in accordance with the requirements of the ICNG and are shown in **Table 6**.

Table 6 Project Specific Noise Management Levels (dBA)

Receiver Type	NML ($L_{Aeq(15minute)}$ – dBA)				Sleep Disturbance Screening Level (L_{Amax} dBA)
	Standard Construction Hours (RBL+10dB)	Out of Hours[2] (RBL+5dB)			
	Daytime[1]	Daytime	Evening	Night-time	Night-time
Residential	45	40	35	35	52
Educational	55	55 (when in use)			-
Worship[3]	55	55 (when in use)			-
Commercial	70	70 (when in use)			-
Industrial	75	75 (when in use)			-

Note 1: Daytime out of hours is 7 am to 8 am and 1 pm to 6 pm on Saturday, and 8 am to 6 pm on Sunday and public holidays.

Note 2: Works will be undertaken during standard daytime construction hours. Where out of hours works are required and are approved by the Planning Secretary, the out of hours NMLs apply. No such works are considered in this assessment.

Note 3: The BAPS Temple is currently under construction. The temple has been conservative assumed to be operational during the construction of Lot F.

5.2 Construction Road Traffic Noise Guidelines

The potential impacts from construction traffic on public roads are assessed under the NSW EPA *Road Noise Policy* (RNP).

An initial screening test is first applied to evaluate if existing road traffic noise levels are expected to increase by more than 2.0 dB as a result of construction traffic. Where this is considered likely, further assessment is required using the RNP base criteria shown in **Table 7**.

Table 7 RNP Criteria for Assessing Construction Vehicles on Public Roads

Road Category	Type of Project/Land Use	Assessment Criteria (dBA)	
		Daytime (7 am – 10 pm)	Night-time (10 pm – 7 am)
Freeway/ arterial/ sub-arterial roads	Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	$L_{Aeq(15hour)}$ 60 (external)	$L_{Aeq(9hour)}$ 55 (external)
Local roads	Existing residences affected by additional traffic on existing local roads generated by land use developments	$L_{Aeq(1hour)}$ 55 (external)	$L_{Aeq(1hour)}$ 50 (external)

Traffic volumes during construction of the project are expected to be up to around 120 light vehicles and 60 heavy vehicles per day. As such, it is anticipated that construction traffic would result in a relatively minimal increase (ie less than 2.0 dB) in the overall traffic noise levels along the construction haulage routes. As such, construction traffic noise impacts have not been assessed further.

5.3 Construction Vibration Criteria

The effects of vibration from construction work can be divided into three categories:

- Those in which the occupants of buildings are disturbed (**human comfort**). People can sometimes perceive vibration impacts when vibration generating construction work is located close to occupied buildings. Vibration from construction work tends to be intermittent in nature and the EPA's *Assessing Vibration: a technical guideline* (2006) provides criteria for intermittent vibration based on the Vibration Dose Value (VDV), as shown in **Table 8**.
- Those where building contents may be affected (**building contents**). People perceive vibration at levels well below those likely to cause damage to building contents. For most receivers, the human comfort vibration criteria are the most stringent and it is generally not necessary to set separate criteria for vibration effects on typical building contents. Exceptions to this can occur when vibration sensitive equipment, such as electron microscopes or medical imaging equipment, are in buildings near to construction work. No such equipment has been identified in the study area.

- Those where the integrity of the building may be compromised (**structural/cosmetic damage**). If vibration from construction work is sufficiently high, it can cause cosmetic damage to elements of affected buildings. Industry standard cosmetic damage vibration limits are specified in British Standard BS 7385 and German Standard DIN 4150. The limits are shown in **Table 9** and **Table 11**.

Table 8 Human Comfort Vibration – Vibration Dose Values for Intermittent Vibration

Building Type	Assessment Period	Vibration Dose Value[1] ($m/s^{1.75}$)	
		Preferred	Maximum
Critical Working Areas (eg operating theatres or laboratories)	Day or night-time	0.10	0.20
Residential	Daytime	0.20	0.40
	Night-time	0.13	0.26
Offices, schools, educational institutions and places of worship[2]	Day or night-time	0.40	0.80
Workshops	Day or night-time	0.80	1.60

Note 1: The VDV accumulates vibration energy over the daytime and night-time assessment periods, and is dependent on the level of vibration as well as the duration.

Note 2: BAPS Temple will not be operational during the construction period applicable to the Stage 1 CNVMP.

Table 9 Cosmetic Damage – BS 7385 Transient Vibration Values for Minimal Risk of Damage

Table 10 Transient Vibration Guide Values - Minimal Risk of Cosmetic Damage

Line	Type of Building	Peak Component Particle Velocity in Frequency Range of Predominant Pulse	
		4 Hz to 15 Hz	15 Hz and Above
1	Reinforced or framed structures Industrial and heavy commercial buildings	50 mm/s at 4 Hz and above	
2	Unreinforced or light framed structures Residential or light commercial type buildings	15 mm/s at 4 Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Note 1: Where the dynamic loading caused by continuous vibration may give rise to dynamic magnification due to resonance, especially at the lower frequencies where lower guide values apply, then the guide values may need to be reduced by up to 50%.

Table 11 Cosmetic Damage – DIN 4150 Guideline Values for Short-term Vibration on Structures

Group	Type of Structure	Guideline Values Vibration Velocity (mm/s)				
		Foundation, All Directions at a Frequency of			Topmost Floor, Horizontal	Floor Slabs, Vertical
		1 to 10 Hz	10 to 50 Hz	50 to 100 Hz	All frequencies	All frequencies
1	Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40	20
2	Residential buildings and buildings of similar design and/or occupancy	5	5 to 15	15 to 20	15	20
3	Structures that, because of their particular sensitivity to vibration, cannot be classified as Group 1 or 2 **and** are of great intrinsic value (eg heritage listed buildings)	3	3 to 8	8 to 10	8	20[1]

Note 1: It may be necessary to lower the relevant guideline value markedly to prevent minor damage.

5.3.1 Heritage Buildings or Structures

Heritage listed buildings and structures should be considered on a case-by-case basis but as noted in BS 7385 should not be assumed to be more sensitive to vibration, unless structurally unsound. Where a heritage building is deemed to be sensitive, the more stringent DIN 4150 Group 3 guideline values in **Table 11** can be applied.

No heritage buildings have been identified in the vicinity of the Site.

5.3.2 Minimum Working Distances for Vibration Intensive Works

Minimum working distances for typical vibration intensive construction equipment are provided in the TfNSW *Construction Noise and Vibration Guideline* (CNVG) and are shown in **Table 12**.

The minimum working distances are for both cosmetic damage (from BS 7385 and DIN 4150) and human comfort (from the NSW EPA Vibration Guideline). They are based on empirical data which suggests that where works are further from receivers than the quoted minimum distances then impacts are not considered likely.

The minimum working distances for human comfort relate to continuous vibration. For most construction activities, vibration emissions are intermittent and for this reason, higher vibration levels occurring over shorter periods are allowed.

Table 12 Recommended Minimum Working Distances from Vibration Intensive Equipment

Plant Item	Rating/Description	Minimum Distance		
		Cosmetic Damage		Human Response (NSW EPA Guideline)
		Residential and Light Commercial (BS 7385)	Heritage Items (DIN 4150, Group 3)	
Vibratory Roller	<50 kN (1–2 tonne)	5 m	11 m	15 m to 20 m
	<100 kN (2–4 tonne)	6 m	13 m	20 m
	<200 kN (4–6 tonne)	12 m	15 m	40 m
	<300 kN (7–13 tonne)	15 m	31 m	100 m
	>300 kN (13–18 tonne)	20 m	40 m	100 m
	>300 kN (>18 tonne)	25 m	50 m	100 m
Small Hydraulic Hammer	300 kg (5 to 12 t excavator)	2 m	5 m	7 m
Medium Hydraulic Hammer	900 kg (12 to 18 t excavator)	7 m	15 m	23 m
Large Hydraulic Hammer	1,600 kg (18 to 34 t excavator)	22 m	44 m	73 m
Vibratory Pile Driver	Sheet piles	2 m to 20 m	5 m to 40 m	20 m
Piling Rig – Bored	≤ 800 mm	2 m (nominal)	5 m	4 m
Jackhammer	Hand held	1 m (nominal)	3 m	2 m

6.0 Assessment Methodology

The potential construction noise levels from the project have been predicted to the surrounding receivers using the ISO 9613-2 algorithm in SoundPLAN, implemented in accordance with ISO 17534-3. The noise model includes ground topography, ground type, buildings and representative worst-case noise sources from the project.

6.1 Works Description

6.1.1 Work Scenarios

Representative scenarios have been developed to assess the likely impacts from the various construction phases of the project. These scenarios are shown in **Table 13** together with a high-level description of each works activity.

Details of the items of plant that would be used during each scenario, together with corresponding sound power levels, are in **Appendix B**.

Table 13 Construction Scenario Descriptions

Ref.	Equipment	Description
W1	Site establishment	Install temporary offices and facilities (including temporary service connections), environmental and safety controls, temporary boundary fencing, access points, signage
W2	Stage 1	Service works – relocation and/or protection of existing services as necessary, installation of noise services associated with Lot F includes any drainage
W3	Stage 2	Detailed site earthworks – minor adjustments to ground surface levels
W4	Stage 3	Preparation of foundations and retaining walls
W5	Stage 4	Construct warehouse and office buildings
W6	Stage 5	Civil finishing works and landscaping
W7	Stage 6	Building fit-out, service connections and commissioning

Construction is expected to commence in October 2024 and be complete in April 2026.

6.2 Hours of Construction

Condition D48 of the Development Consent requires construction activities to be undertaken during the following hours:

- 7:00 am to 6:00 pm, Mondays to Fridays
- 8:00 am to 1:00 pm on Saturdays
- At no time on Sundays or Public Holidays

Works outside of these hours may only be undertaken in the following circumstances (as noted in Condition D49):

- Works that are inaudible at the nearest sensitive receivers
- Works agreed to in writing by the Planning Secretary
- For the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons

- Where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

Works that are inaudible at the nearest receivers would typically be limited to fitout works inside fully enclosed buildings. Where noisier internal works or any external works are required out-of-hours, a Construction Noise Impact Statement (CNIS) must be prepared detailing the proposed out of hours works activities, predicted noise and vibration impacts, and proposed mitigation and management measures. CNIS for out-of-hours works, where required, will be provided to the Planning Secretary for approval.

7.0 Construction Assessment

7.1 Construction Noise

The predictions are representative of the highest noise levels that could potentially be experienced at the surrounding receivers when the works are at the closest point. For most construction activities, it is expected that the construction noise levels would frequently be lower than those predicted, as the noise levels presented are based on all items of equipment in each scenario being used concurrently and occurring at the nearest point of the site to each receiver.

The assessment shows the predicted impacts based on the exceedance of the NMLs, as per the categories in **Table 14**.

The assessment uses 'realistic worst-case' scenarios to determine the impacts from the noisiest 15-minute period that are likely to occur for each work scenario, as required by the ICNG. The impacts represent construction noise levels without mitigation applied.

It is noted that the BAPS Temple is currently under construction. The temple has been conservatively assumed to be operational during the construction of Lot F.

Table 14 Exceedance Bands and Impact Colouring

Exceedance of NML	Subjective Classification	Impact Colouring
No exceedance	Negligible	
1 to 10 dB	Low impact	
11 dB to 20 dB	Moderate impact	
21 dB to 30 dB	High impact	
Highly Noise Affected[1]	Highly Noise Affected	

Note 1: Greater than 75 dBA at residential receivers.

The predicted noise impacts for the assessed construction scenarios are shown in **Table 15**. A noise contour map of the worst-case results are shown in **Appendix B**.

Table 15: Construction Noise Predictions at Sensitive Receivers

Receiver	NML (dBA)	Predicted $L_{Aeq(15minute)}$ Construction Noise Impact (dBA)						
		W1 – Site establishment	W2 – Stage 1 Service works	W3 – Stage 2 Detailed site earthworks	W4 – Stage 3 Foundations and retaining walls	W5 – Stage 4 Construct warehouse and offices	W6 – Stage 5 Civil finishing works	W7 – Stage 6 Building fit out and commissioning
C1	70	42	38	43	43	42	36	31
R4	45	45	41	46	46	44	39	33
R16	45	40	36	41	41	40	34	29
R18	45	37	33	38	38	37	31	26
I19	75	42	38	43	43	42	36	31
R21	45	34	30	35	35	34	28	23
R22	45	37	33	38	38	37	31	26
R23	45	35	31	36	36	35	29	24
R24	45	37	33	38	38	37	31	26
R25	45	38	34	39	39	38	32	27
R26	45	38	34	39	39	37	32	26
R27	45	38	34	39	39	38	32	27
R28	45	37	33	38	38	37	31	26
BAPS 1	55	38	34	39	39	38	32	27
BAPS 2	55	37	33	38	38	37	31	26
BAPS 3	55	42	38	43	43	42	36	31

The assessment of the worst-case construction noise levels shows:

- Noise levels at the surrounding receivers are expected to comply with the NMLs during the majority of works.
- Low impact exceedances of 1 dB are predicted at one residential receiver (ie R4 to the north-west) during the two noisiest construction activities (ie 'W3 – Stage 2 Detailed site earthworks' and 'W4 – Stage 3 Foundations and retaining walls'). Noise levels at all other residential receivers are predicted to be below the NMLs.
- Noise levels and impacts are expected to be highest when noise intensive equipment such as a pneumatic hammer are being used.
- The highest predicted noise level at any residential receiver is 46 dBA. The highest predicted level at any 'other sensitive' receiver is 43 dBA at the BAPS Temple.
- Individual receivers would be subject to a large range of worst-case impacts, depending on how far from the works they are. The highest impacts would be apparent when works occur closest to the receiver. Noise level would be significantly lower when works move further away from a particular receiver, or when less noisy equipment is in use.

Feasible and reasonable construction noise mitigation measures should be applied where exceedances of the NMLs are predicted. Construction noise mitigation and management measures are discussed in **Section 8.0**.

7.2 Construction Vibration

The major potential sources of vibration from the proposed construction activities would likely be during 'W1 – Site establishment' when vibratory rollers are being used.

Vibration offset distances have been determined from the CNVG minimum working distances for cosmetic damage and human comfort (see **Table 12**) and the assessment for a vibratory roller is summarised in **Figure 4**.

The figure show that the distance between the construction work and the nearest sensitive receivers is sufficient for all receiver buildings to be outside of the cosmetic damage and human comfort minimum working distances for vibration intensive equipment.

Figure 4 Construction Vibration – 12 T Vibratory Roller



8.0 Mitigation and Management Measures

The ICNG acknowledges that due to the nature of construction works it is inevitable that there will be impacts where construction is near to sensitive receivers. Noise levels during construction of Lot F are generally expected to comply with the management levels. The worst-case noise impacts are predicted to be 'low' at only one receiver (R4, 113-53 Aldington Road, Kemps Creek), during the two noisiest activities. Works are also limited to daytime hours.

Preliminary construction noise mitigation and management measures were included in Section 10 of the SSDA NIA. More detailed mitigation and management measures are described in this section.

Community notification has been undertaken in accordance with the Community Consultation and Complaints Handling Strategy (refer to Appendix I of the CEMP).

All appropriate feasible and reasonable mitigation measures will be applied to the work to minimise the potential impacts, as far as practicable.

8.1 Standard Mitigation and Management Measures

The mitigation and management measures that would be applied to the project are detailed in **Table 16**.

Table 16 Environmental Management Controls for Construction Noise and Vibration

Measure	Person Responsible	Timing / Frequency	Reference / Notes
Project Planning			
Use quieter and less vibration emitting construction methods where feasible and reasonable.	Project Manager	Ongoing	Best practice
Works will be completed during standard daytime construction hours outlined in **Section 6.2**.			
Truck routes to site will be limited to major roads.			
Site Layout			
Compounds and worksites will be designed to promote one-way traffic and minimise the need for vehicle reversing.	Project Manager	Ongoing	Best practice
Where practicable, work compounds, parking areas, and equipment and material stockpiles will be positioned away from noise-sensitive locations and take advantage of existing screening from local topography.			
Documentation of how site layout has been considered to reduce noise impacts must be provided to the Contractor's Project Manager. This must occur any time there are significant changes to the site layout.			
Equipment that is noisy will be started away from sensitive receivers			

Measure	Person Responsible	Timing / Frequency	Reference / Notes
Training			
Training will be provided to all personnel on noise and vibration requirements for the project. Inductions and toolbox talks to be used to inform personnel of the location and sensitivity of surrounding receivers.	Project Manager	Ongoing	Best practice
Plant and Equipment Source Mitigation			
All plant and equipment must be maintained in a proper and efficient condition, operated in a proper and efficient manner, and feature standard noise amelioration measures where applicable (refer Consent Condition C24).	Project Manager	Ongoing	Best practice, Condition C24
Where practicable, tonal reversing alarms (beepers) will be replaced with non-tonal alarms (squawkers) on all equipment in use (subject to occupational health and safety requirements).			
Noisy equipment will be sited behind structures that act as barriers, or at the greatest distance from the noise-sensitive area. Equipment will be oriented so that noise emissions are directed away from any sensitive areas, where possible.			
Noise generating equipment will be regularly checked and effectively maintained, including checking of hatches/enclosures regularly to ensure that seals are in good condition and doors close properly against seals.			
Noise monitoring spot checks of equipment will be completed to ensure individual items are operating as expected			
Dropping materials from a height will be avoided.			
Loading and unloading will be carried out away from noise sensitive areas, where practicable.			
Trucks will not queue outside residential properties. Truck drivers will avoid compression braking as far as practicable.			
Truck movements will be kept to a minimum, ie trucks are fully loaded on each trip.			
Screening			
The layout of the site will take advantage of existing screening from local topography, where possible. Site huts, maintenance sheds and/or containers will be positioned between noisy equipment and the affected receivers.	Project Manager	Ongoing	Best practice
Complaints Management			
Where complaints are received, work practices will be reviewed and feasible and reasonable practices implemented to minimise any further impacts. Refer to **Section 8.3**.	Communications and Community Liaison Representative	Ongoing	Best practice
Monitoring			

Measure	Person Responsible	Timing / Frequency	Reference / Notes
Noise and/or vibration monitoring will be conducted (as appropriate) when noise/vibration intensive works are being undertaken in close proximity to sensitive receivers.	Environmental Coordinator	Ongoing	Best practice
Noise and/or vibration monitoring will be conducted (as appropriate) in response to any complaints received to verify that levels are not substantially above the predicted levels.			
Refer to **Section 8.2** for full details of monitoring requirements.			
Vibration			
If vibration generating works are required within the minimum cosmetic damage working distances (refer **Table 12**) and considered likely to exceed the criteria: - Different construction methods with lower source vibration levels will be investigated and implemented, where feasible - Attended vibration measurements will be undertaken at the start of the works to determine actual vibration levels at the item. Works will cease if the monitoring indicates vibration levels are likely to, or do, exceed the relevant criteria.	Environmental Coordinator	Ongoing	Best practice, Conditions D59, D60 and C12(b)
Where works are required within the cosmetic damage minimum working distances (refer **Table 12**), building condition surveys and public infrastructure dilapidation surveys (refer Condition C12(b)) will be completed before and after the works to ensure no cosmetic damage has occurred.			

8.2 Monitoring

Condition E1(d) requires management plans to include a program to monitor and report on the impacts and environmental performance of the development.

8.2.1 Confirmation of Construction Activities Prior to Commencement

Prior to commencement of construction, the methodology and equipment will be reviewed to confirm that the assumptions in this CNVMP remain valid. Where different methodology or equipment is proposed, further validation of the predicted noise levels will be undertaken to ensure that the proposed mitigation measures are anticipated to be sufficient.

8.2.2 Construction Noise Monitoring

Where feasible, validation of noise levels during high noise works must be measured in advance of commencement of the works, ie test measurements of the equipment undertaking the works for a short period prior full commencement of the works.

Verification monitoring is required to be undertaken prior to the commencement of any proposed out-of-hours works, to verify that construction noise and vibration are consistent with the predictions in this noise assessment, and to ensure that mitigation and management of construction noise and vibration is appropriate for receivers affected by the works. This should be done by undertaking measurements of the equipment required for the works for a short period (during standard construction hours) prior to full commencement of the works.

Attended noise monitoring will also be undertaken in response to any formal complaints. All monitoring will be completed by suitably qualified acoustic specialists. The location and extent of attended monitoring will be determined in consultation with project staff and would be dependent on the activities taking place. A noise monitoring report will be prepared after each attended monitoring survey.

It is also recommended that periodic attended noise measurements be conducted by a competent project team member at representative receiver or site boundary locations to monitor noise levels. This should be done on a monthly basis, and more frequently when significant new plant and equipment arrive on site.

The routine monitoring will take place during the expected noisiest construction periods and be representative / indicative of the impacts at the potentially affected sensitive receivers. A monthly monitoring report will be prepared summarising the measurement results and any relevant site activity observations.

All items of acoustic instrumentation utilised will be designed to comply with IEC 61672.1-2013 *Electroacoustics – Sound level meters* (AS IEC 61672) and carry current calibration certificates.

Real-time noise monitoring will be used on site during construction to ensure noise levels are in line with the predictions. The noise monitoring equipment would be moved around the site as needed based on various factors, including the location and type of works being completed, the prevailing wind direction and the construction activities being completed on other nearby sites (ie the BAPS Temple, Aldington Road Upgrade, construction at The Edge, etc).

8.2.3 Construction Vibration Monitoring

Where vibration intensive works (such as rockbreaking, vibratory rolling or plate compacting) are required within the minimum working distances of sensitive receivers or structures (refer to **Section 5.3.2**), vibration will be monitored continuously for the duration of works within the minimum working distances.

Attended vibration measurements will be undertaken at the start of vibration intensive works within the minimum working distances to confirm the levels of vibration are below the applicable vibration limits (refer to **Section 5.3**).

Geophones will be installed by an acoustic consultant at the closest points of the sensitive structure to the vibration intensive works to continuously monitor vibration for the duration of the works. Should the works location change, the geophones will be relocated to remain at the closest point of the structure to the works.

The vibration monitoring equipment will have visible and audible alarms installed where operators of equipment can see/hear them:

- A warning vibration level of two-thirds (66%) of the applicable vibration limit will trigger a ‘warning’ alarm if exceeded.
- A ‘halt work’ alarm will trigger if vibration is measured equal to the applicable vibration limit. Actions to be carried out if the exceedance alarms are triggered are detailed in **Section 8.5**.

Vibration monitoring data will be downloaded and reported at the following timeframes:

- Monthly during works (at a minimum)
- Within one week of an exceedance of the vibration limit alarm level
- Upon completion of vibration monitoring.

All items of vibration instrumentation will be designed to comply with applicable guidelines and carry current calibration certificates.

8.2.4 Monitoring Reports

Noise and/or vibration monitoring reports will be provided to the Environmental Representative (ER) and distributed in accordance with the requirements of the Consent Conditions. Monitoring reports would include the following details, at a minimum:

- Noise/vibration monitoring/measurement locations
- Date, time and length of noise monitoring/measurements
- Weather conditions during the measurements
- Name and position of personnel undertaking measurements
- Construction activities being undertaken during measurements
- Locations of construction equipment and distance from monitoring location
- Measured L_{Aeq} and L_{Amax} noise levels during construction works (for each activity) along with a comparison to the predicted noise levels (noise monitoring only)
- Measured L_{A90} background noise level in absence of the construction works (noise monitoring only)
- Measured vibration levels during construction works (for each activity) along with a comparison to the relevant vibration criteria (vibration monitoring only)
- Measured vibration levels and relevant details of any of exceedance of the warning vibration level or vibration limits (vibration monitoring only)
- Measured background vibration level in absence of the construction works (vibration monitoring only)
- Operator observations noting any extraneous noise/vibration sources or other points of relevance.

8.3 Complaints Management

Condition D51(f) requires the CNVMP to include a complaints management system to be implement for the duration of the development.

The complaints handling procedure is described in Appendix I of the CEMP. This procedure is intended to ensure that the issues are addressed and that appropriate corrective action is identified and implemented as necessary.

Where a complaint is identified to be in relation to construction noise or vibration, the following points should be noted:

- The Project Manager will investigate the complaint in order to determine whether a criterion exceedance has occurred or whether noise has occurred unnecessarily.
- If excessive or unnecessary noise/vibration have been caused, corrective action will be planned and implemented by the construction contractor.

- Complainants will be informed by the Project Manager that their complaints are being addressed, and (if appropriate) that corrective action is being taken.
- Follow up monitoring or other investigations will be carried out by the Project Manager and the construction contractor to confirm the effectiveness of the corrective action.
- Complainants will be informed of the implementation of the corrective action that has been taken to mitigate the adverse effects.

8.4 Consultation Strategy to Manage High Noise Generating Works

Prior to commencement of works, consultation is required to be conducted with surrounding noise sensitive receivers to develop a suitable strategy for managing high noise generating works. A record of consultation carried out with surrounding receivers is included in **Appendix C**.

As detailed in **Section 7.1**, no 'high impact' exceedances of the NMLs are predicted at any of the surrounding receivers during any of the works and no receivers are predicted to be Highly Noise Affected (>75 dBA). As such, it is considered that there are no high noise generating works near sensitive receivers and consent conditions D51(d) and (e) do not require specific measures to be implemented.

Notwithstanding, the strategy for managing high noise generating works (should they occur), developed in consultation with receivers noted in **Appendix C**, comprises the following:

- Prior notification of commencement of works
- Provision of site contact details in the event of any concerns regarding noise & vibration from site works
- Provided an opportunity for receivers to personally advise any specific concerns regarding nature, timing or duration of noise generating works
- Timing & duration of any high noise generating works can be adjusted (where feasible and reasonable) in consultation with the receiver following site notification identifying any concerns.

8.5 Contingency Plan

Condition E1(e) requires management plans to include a contingency plan to manage any unpredicted impacts and their consequences.

The following contingency management plan, shown in **Table 17**, would be used to manage noise and vibration impacts that are higher than expected.

Any incident or non-compliance shall be handled and reported in accordance with the CEMP.

The following events constitute an incident in terms of noise and vibration:

- Trigger of Condition Red for noise impacts during the standard construction hours detailed in **Section 6.2**.
- Any works occurring outside the standard construction hours, where those works do not meet the allowable circumstances, including being agreed in writing by the Planning Secretary.
- Trigger of Condition Red for vibration impacts at sensitive receivers.

Table 17 Contingency Management Plan

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
Noise impacts at sensitive receiver locations	Trigger	Noise levels do not exceed applicable NMLs	Noise levels exceed applicable NMLs	Noise levels exceed Highly Noise Affected criteria (75 dBA)
	Response	On-going best practice management measures to minimise noise emissions	Undertake all feasible and reasonable mitigation and management measures to minimise noise impacts (aiming to achieve NMLs)	Works exceeding the Highly Noise Affected criteria will be managed in accordance with the strategies for high-noise generating works determined through community consultation, as detailed in **Section 8.4**.
Vibration impacts at sensitive receiver locations	Trigger	Vibration intensive works undertaken outside minimum working distance for the specific equipment in use	Vibration intensive works undertaken within minimum working distance for the specific equipment in use	Vibration levels exceed applicable vibration limits
	Response	On-going best practice management measures to minimise vibration emissions	Undertake vibration monitoring for the duration of the works to confirm vibration levels.	Stop work. Undertake all feasible and reasonable mitigation and management measures to ensure vibration levels are below applicable limits. If vibration levels cannot be kept below applicable limits then a different construction method or equipment must be utilised.

8.6 Internal Audits

Periodic internal audits will be conducted to ensure that the development consent conditions and commitments and environmental management controls outlined in this CNVMP are being properly implemented. Audits are to be conducted in accordance with Section 5.5 of the CEMP.

8.7 Roles and Responsibilities

Overall roles and responsibilities relating to the project are included in Section 3.1 of the CEMP. The key responsibilities specifically for noise and vibration management are as follows:

8.7.1 Contractor's Project Manager

- Ensuring appropriate resources are available for the implementation of this CNVMP
- Assessing data from inspections and providing project-wide advice to ensure consistent approach and outcomes are achieved
- Providing necessary training for project personnel to cover noise and vibration management

- Reviewing and update of this CNVMP, where necessary
- Commissioning suitably qualified consultants to complete attended noise and vibration monitoring when required by this CNVMP.
- Ensuring competent project team members undertake routine attended noise measurements required by this CNVMP.
- Assessing and (as required) mitigating risks of high noise and vibration levels before commencing works and ensuring that the appropriate controls are implemented
- Ceasing works in the event of excessive noise and vibration generation
- In the event that a noise or vibration complaint is received, implementing the procedure outlined in **Section 8.3**.

8.7.2 Site Environmental Representative

- Coordinating noise and/or vibration monitoring program, where required
- Reviewing control measures in accordance with the CNVMP
- Identifying and reporting any high or non-compliant noise and vibration emissions.

8.7.3 All Workers on Site

- Observing any noise and vibration emission control instructions and procedures that apply to their work
- Taking action to prevent or minimise noise and vibration emission incidents
- Identifying and reporting noise and vibration emission incidents.

8.8 Potential Cumulative Impacts in Mamre Road Precinct

Cumulative impacts can be caused by the compounding effects of multiple projects in an area, and by the accumulation of effects from past, current and future activities as they arise.

Cumulative construction noise impacts can occur where multiple work activities are being completed near to a particular receiver at the same time.

The construction of Lot F forms part of the construction of the Aldington Road Industrial Estate, which is part of the wider Mamre Road Precinct. There is potential for receivers in the area to be subject to increased construction impacts due to cumulative construction of the various stages of Aldington Road Estate, and also from the cumulative construction of the various development sites within the Mamre Road Precinct.

In response to this, the Mamre Road Precinct (MRP) Working Group has been established which includes the following members (which are the main developers in the MRP):

- Mirvac Project Pty Ltd (SSD-10448)
- ESR Developments (Australia) Pty Ltd (SSD-9138102)
- Stockland Fife Kemps Creek Pty Ltd (SSD-10479)
- GPT Pty Ltd (SSD-10272349)
- Barings Real Estate Australia (SSD-17641789)

The MRP Working Group (as required by Condition C37) aims to ensure regular communication and cooperation between the main developers of the MRP, with shared commitments across the group (such as a Driver Code of Conduct and regular noise/vibration monitoring, where appropriate) to ensure that potential cumulative impacts from the MRP are minimise as far as possible.

9.0 Review and Improvement of Noise Management Plan

Condition E1(f) requires management plans to include a program to investigate and implement ways to improve the environmental performance of the development over time.

Reviews, investigations, and improvements to this plan and the environmental performance shall be undertaken in accordance with the CEMP.

This CNVMP will be reviewed, and if necessary, updated in the following circumstances:

- Significant changes to the equipment, machinery and plant operated within the site
- Where it is identified via monitoring that the performance of the project is not meeting the objectives of the CNVMP
- When required by Condition E8.

All employees and contractors will be informed of any revisions to the CNVMP by Site Management during toolbox talks. The most recent version of the CNVMP as approved by the Planning Secretary, will be implemented for the duration of construction works.

Appendix A Acoustic Terminology

200 Aldington Road Industrial Estate

Stage 1 Lot F Warehouse
Construction Noise and Vibration Management Plan

Stockland Fife Kemps Creek Pty Ltd

SLR Project No.: 610.31010.00000

5 March 2025

1. Sound Level or Noise Level

The terms 'sound' and 'noise' are almost interchangeable, except that 'noise' often refers to unwanted sound.

Sound (or noise) consists of minute fluctuations in atmospheric pressure. The human ear responds to changes in sound pressure over a very wide range with the loudest sound pressure to which the human ear can respond being ten million times greater than the softest. The decibel (abbreviated as dB) scale reduces this ratio to a more manageable size by the use of logarithms.

The symbols SPL, L or LP are commonly used to represent Sound Pressure Level. The symbol LA represents A-weighted Sound Pressure Level. The standard reference unit for Sound Pressure Levels expressed in decibels is 2 x 10^{-5} Pa.

2. 'A' Weighted Sound Pressure Level

The overall level of a sound is usually expressed in terms of dBA, which is measured using a sound level meter with an 'A-weighting' filter. This is an electronic filter having a frequency response corresponding approximately to that of human hearing.

People's hearing is most sensitive to sounds at mid frequencies (500 Hz to 4,000 Hz), and less sensitive at lower and higher frequencies. Different sources having the same dBA level generally sound about equally loud.

A change of 1 dB or 2 dB in the level of a sound is difficult for most people to detect, whilst a 3 dB to 5 dB change corresponds to a small but noticeable change in loudness. A 10 dB change corresponds to an approximate doubling or halving in loudness. The table below lists examples of typical noise levels.

Sound Pressure Level (dBA)	Typical Source	Subjective Evaluation
130	Threshold of pain	Intolerable
120	Heavy rock concert	Extremely noisy
110	Grinding on steel	
100	Loud car horn at 3 m	Very noisy
90	Construction site with pneumatic hammering	
80	Kerbside of busy street	Loud
70	Loud radio or television	
60	Department store	Moderate to quiet
50	General Office	
40	Inside private office	Quiet to very quiet
30	Inside bedroom	
20	Recording studio	Almost silent

Other weightings (eg B, C and D) are less commonly used than A-weighting. Sound Levels measured without any weighting are referred to as 'linear', and the units are expressed as dB(lin) or dB.

3. Sound Power Level

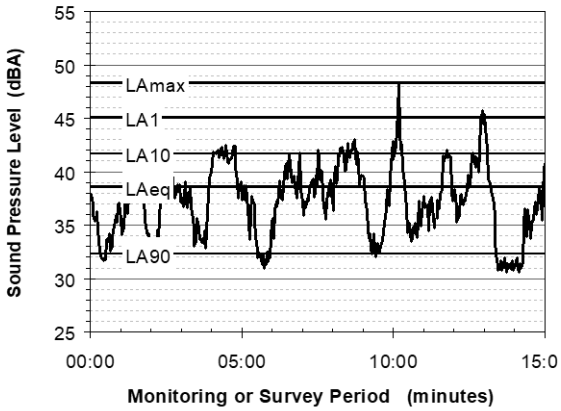
The Sound Power of a source is the rate at which it emits acoustic energy. As with Sound Pressure Levels, Sound Power Levels are expressed in decibel units (dB or dBA), but may be identified by the symbols SWL or LW, or by the reference unit 10^{-12} W.

The relationship between Sound Power and Sound Pressure is similar to the effect of an electric radiator, which is characterised by a power rating but has an effect on the surrounding environment that can be measured in terms of a different parameter, temperature.

4. Statistical Noise Levels

Sounds that vary in level over time, such as road traffic noise and most community noise, are commonly described in terms of the statistical exceedance levels LAN, where LAN is the A-weighted sound pressure level exceeded for N% of a given measurement period. For example, the LA1 is the noise level exceeded for 1% of the time, LA10 the noise exceeded for 10% of the time, and so on.

The following figure presents a hypothetical 15 minute noise survey, illustrating various common statistical indices of interest.



Of particular relevance, are:

LA1 The noise level exceeded for 1% of the 15 minute interval.

LA10 The noise level exceeded for 10% of the 15 minute interval. This is commonly referred to as the average maximum noise level.

LA90 The noise level exceeded for 90% of the sample period. This noise level is described as the average minimum background sound level (in the absence of the source under consideration), or simply the background level.

LAeq The A-weighted equivalent noise level (basically, the average noise level). It is defined as the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound.

5. Frequency Analysis

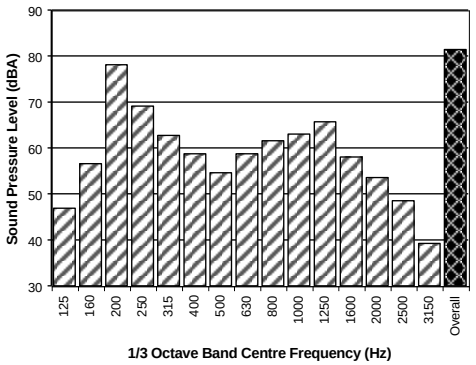
Frequency analysis is the process used to examine the tones (or frequency components) which make up the overall noise or vibration signal.

The units for frequency are Hertz (Hz), which represent the number of cycles per second.

Frequency analysis can be in:

- Octave bands (where the centre frequency and width of each band is double the previous band)
- 1/3 octave bands (three bands in each octave band)
- Narrow band (where the spectrum is divided into 400 or more bands of equal width)

The following figure shows a 1/3 octave band frequency analysis where the noise is dominated by the 200 Hz band. Note that the indicated level of each individual band is less than the overall level, which is the logarithmic sum of the bands.



6. Annoying Noise (Special Audible Characteristics)

A louder noise will generally be more annoying to nearby receivers than a quieter one. However, noise is often also found to be more annoying and result in larger impacts where the following characteristics are apparent:

- **Tonality** - tonal noise contains one or more prominent tones (ie differences in distinct frequency components between adjoining octave or 1/3 octave bands), and is normally regarded as more annoying than 'broad band' noise.
- **Impulsiveness** - an impulsive noise is characterised by one or more short sharp peaks in the time domain, such as occurs during hammering.
- **Intermittency** - intermittent noise varies in level with the change in level being clearly audible. An example would include mechanical plant cycling on and off.
- **Low Frequency Noise** - low frequency noise contains significant energy in the lower frequency bands, which are typically taken to be in the 10 to 160 Hz region.

7. Vibration

Vibration may be defined as cyclic or transient motion. This motion can be measured in terms of its displacement, velocity or acceleration. Most assessments of human response to vibration or the risk of damage to buildings use measurements of vibration velocity. These may be expressed in terms of 'peak' velocity or 'rms' velocity.

The former is the maximum instantaneous velocity, without any averaging, and is sometimes referred to as 'peak particle velocity', or PPV. The latter incorporates 'root mean squared' averaging over some defined time period.

Vibration measurements may be carried out in a single axis or alternatively as triaxial measurements (ie vertical, longitudinal and transverse).

The common units for velocity are millimetres per second (mm/s). As with noise, decibel units can also be used, in which case the reference level should always be stated. A vibration level V, expressed in mm/s can be converted to decibels by the formula 20 log (V/Vo), where Vo is the reference level (10^{-9} m/s). Care is required in this regard, as other reference levels may be used.

8. Human Perception of Vibration

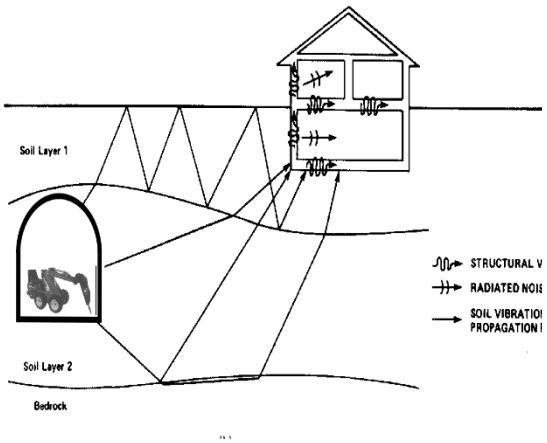
People are able to 'feel' vibration at levels lower than those required to cause even superficial damage to the most susceptible classes of building (even though they may not be disturbed by the motion). An individual's perception of motion or response to vibration depends very strongly on previous experience and expectations, and on other connotations associated with the perceived source of the vibration. For example, the vibration that a person responds to as 'normal' in a car, bus or train is considerably higher than what is perceived as 'normal' in a shop, office or dwelling.

9. Ground-borne Noise, Structure-borne Noise and Regenerated Noise

Noise that propagates through a structure as vibration and is radiated by vibrating wall and floor surfaces is termed 'structure-borne noise', 'ground-borne noise' or 'regenerated noise'. This noise originates as vibration and propagates between the source and receiver through the ground and/or building structural elements, rather than through the air.

Typical sources of ground-borne or structure-borne noise include tunnelling works, underground railways, excavation plant (eg rockbreakers), and building services plant (eg fans, compressors and generators).

The following figure presents an example of the various paths by which vibration and ground-borne noise may be transmitted between a source and receiver for construction activities occurring within a tunnel.



The term 'regenerated noise' is also used in other instances where energy is converted to noise away from the primary source. One example would be a fan blowing air through a discharge grill. The fan is the energy source and primary noise source. Additional noise may be created by the aerodynamic effect of the discharge grill in the airstream. This secondary noise is referred to as regenerated noise.

Appendix B Construction Information

200 Aldington Road Industrial Estate

Stage 1 Lot F Warehouse
Construction Noise and Vibration Management Plan

Stockland Fife Kemps Creek Pty Ltd

SLR Project No.: 610.31010.00000

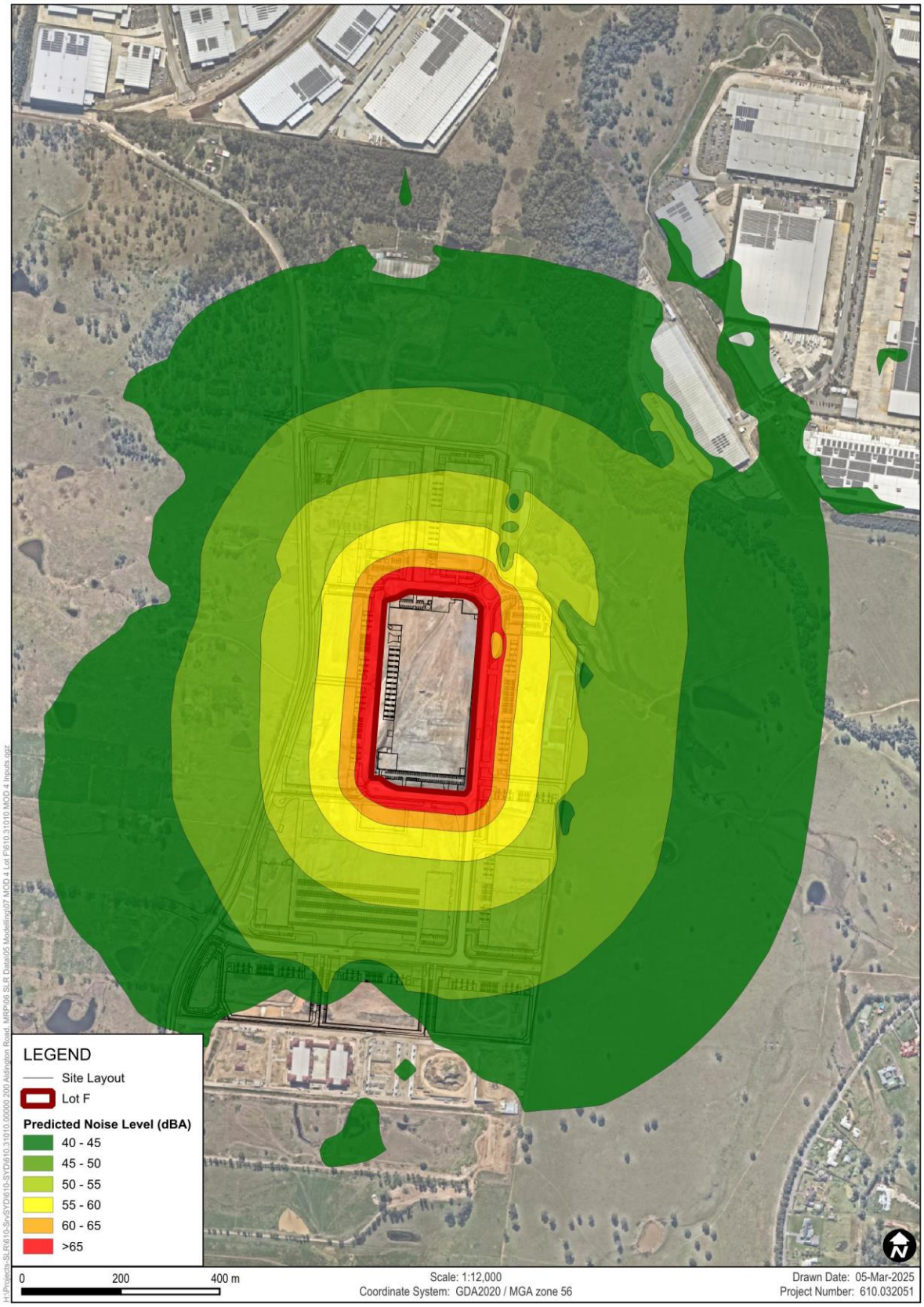
Construction Equipment

Equipment Item		Back Hoe (7.5 tonne JCB)	Circular Saw[1]	Concrete Mixer Truck	Concrete Pump	Elevated Working Platform	Excavator (22 tonne)	Hand Tools	Mobile Crane - Franna	Piling - Bored	Pneumatic hammer[1]	Roller - Vibratory (12 tonne)[1]	Semi Trailer	Suction Truck	Truck	Ute
SWL $L_{Aeq(15min)}$[2]		102	106	103	106	97	99	94	98	111	114	109	106	100	107	98
Estimated on-time in any 15-min		15	15	7.5	7.5	15	7.5	15	7.5	7.5	5	15	5	15	5	15
SWL L_{Amax}		111	114	112	109	102	105	100	106	118	122	117	112	109	115	106
Ref	**Scenario**															
W1	Site establishment	X					X					X				
W2	Stage 1 - Service works	X					X	X							X	
W3	Stage 2 - Detailed site earthworks	X					X	X			X			X	X	
W4	Stage 3 - Foundations and retaining walls			X	X		X	X		X					X	
W5	Stage 4 - Construct warehouse and offices		X	X	X	X		X	X				X		X	
W6	Stage 5 - Civil finishing works and landscaping							X							X	X
W7	Stage 6 - Building fit out							X								X

Note 1: Equipment classed as 'annoying' in the ICNG and requires a 5 dB correction.

Note 2: Sound power level data is taken from the DEFRA Noise Database, TfNSW *Construction and Vibration Guideline* and TfNSW *Construction Noise and Vibration Strategy*.

Noise Contour Map



Appendix C Evidence of Consultation

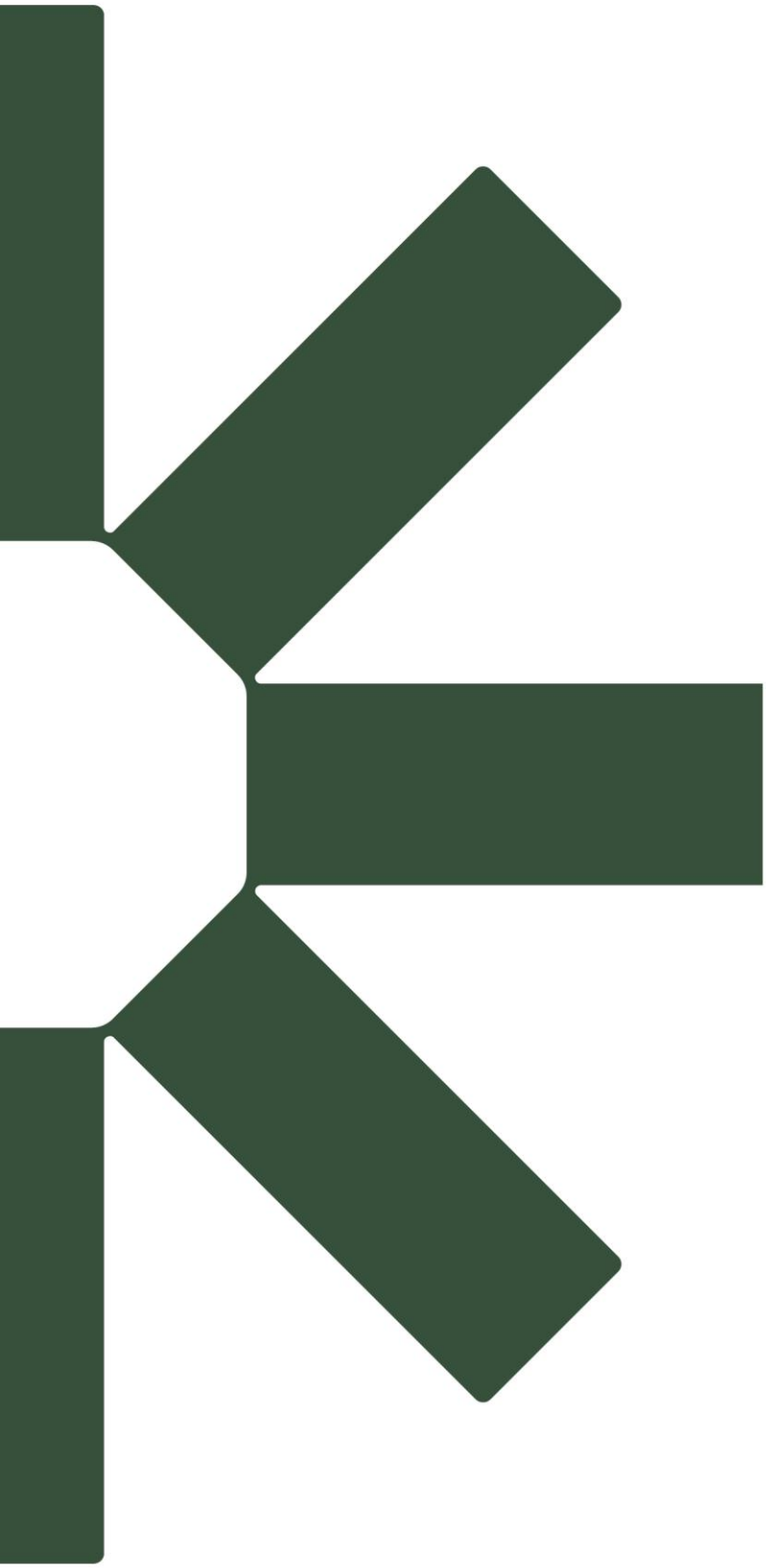
200 Aldington Road Industrial Estate

Stage 1 Lot F Warehouse
Construction Noise and Vibration Management Plan

Stockland Fife Kemps Creek Pty Ltd

SLR Project No.: 610.31010.00000

5 March 2025



Making Sustainability Happen

Appendix E

Construction Air Quality Management Plan

EMM
creating opportunities

200 Aldington Road Industrial Estate Lot F

Construction Air Quality Management Plan

Prepared for Stockland Fife Kemps Creek Pty Ltd

March 2025

200 Aldington Road Industrial Estate Lot F

Construction Air Quality Management Plan

Stockland Fife Kemps Creek Pty Ltd

E240368 RP1

March 2025

Version	Date	Prepared by	Reviewed by	Comments
V1	7 August 2024	Francine Manansala, Daniel Keegan	Francine Manansala, David Bone	Initial version submitted for review
V2	23 August 2024	Daniel Keegan	Francine Manansala, David Bone	Updated for client comments
V3	13 March 2025	Daniel Keegan	Daniel Keegan	Updated for change in final land use

Approved by



Daniel Keegan
Associate Environmental Engineer
13 March 2025

Level 10 201 Pacific Highway
St Leonards NSW 2065
ABN: 28 141 736 558

This report has been prepared in accordance with the brief provided by Stockland Fife Kemps Creek Pty Ltd and, in its preparation, EMM has relied upon the information collected at the times and under the conditions specified in this report. All findings, conclusions or recommendations contained in this report are based on those aforementioned circumstances. The contents of this report are private and confidential. This report is only for Stockland Fife Kemps Creek Pty Ltd's use in accordance with its agreement with EMM and is not to be relied on by or made available to any other party without EMM's prior written consent. Except as permitted by the Copyright Act 1968 (Cth) and only to the extent incapable of exclusion, any other use (including use or reproduction of this report for resale or other commercial purposes) is prohibited without EMM's prior written consent. Except where expressly agreed to by EMM in writing, and to the extent permitted by law, EMM will have no liability (and assumes no duty of care) to any person in relation to this document, other than to Stockland Fife Kemps Creek Pty Ltd (and subject to the terms of EMM's agreement with Stockland Fife Kemps Creek Pty Ltd).

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Acronyms and abbreviations

AQIA	Air Quality Impact Assessment
BC Act	Biodiversity Conservation Act 2016
CAQMP	Construction Air Quality Management Plan
CM	Construction Manager
CEMP	Construction Environmental Management Plan
CCCHS	Community Consultation and Complaints Handling Strategy
CNVMP	Construction Noise and Vibration Management Plan
CTMP	Construction Traffic Management Plan
DCP	Mamre Road Precinct Development Control Plan 2021
EIS	Environmental Impact Statement
ESCP	Erosion and Sediment Control Plan
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	Environmental Protection Agency
ER	Environmental Representative
GFA	Gross Floor Area
ha	hectare
km	kilometre
LGA	Local Government Area
m	metre
MRP	Mamre Road Precinct
NRAR	Natural Resources Access Regulator
PCC	Penrith City Council
SFKC	Stockland Fife Kemps Creek Pty Ltd
SSD(A)	State Significant Development (Application)

1 Introduction

This Construction Air Quality Management Plan (CAQMP) has been prepared for implementation by Stockland Fife Kemps Creek Pty Ltd (SFKC) (a joint venture between Fife Capital and Stockland Managed entities) for the construction of Lot F, at 106–288 Aldington Road Kemps Creek (200 Aldington Road Industrial Estate, Lot 200 DP 1285691). For the purposes of this CAQMP, 200 Aldington Road Industrial Estate is referred to as 'the site' and Lot F itself (the subject of this AQMP) is referred to as 'the Project'. This CAQMP is a sub-plan relating to the overall Construction Environmental Management Plan (CEMP) for the site.

The site is located in Kemps Creek, New South Wales 2178, within the Penrith Local Government Area (LGA). The site comprises a total area of approximately 72 hectares (ha). The site is located approximately 5 kilometres (km) north-west of the future Western Sydney (Nancy-Bird Walton) Airport, 13 km south-east of the Penrith CBD and 40 km west of the Sydney CBD (refer Figure 1.1 with Lot F highlighted in red). The site is located within the Mamre Road Precinct (MRP) as identified by the State Environmental Planning Policy (Industry and Employment) 2021.

The following documents have been reviewed and relevant information incorporated into this CAQMP:

- Environmental Impact Statement (EIS), prepared by Ethos Urban, dated 11 November 2020
- Response to submissions report (RTS), prepared by Ethos Urban, dated 9 May 2022
- Conditions of Consent – State Significant Development (SSD) SSD-10479, as amended
- Air Quality Impact Assessment (AQIA) Rev C, prepared by Wilkinson Murray, dated 4 February 2021
- Mamre Road Precinct Development Control Plan 2021 (the DCP).
- Scoping Report - Land Use and Internal Fit Out - Lot F, 200 Aldington Road Industrial Estate (Ethos Urban, 2024)
- Planning Secretary's Environmental Assessment Requirements (SEARs) - Cardboard Manufacturing Facility – 200 Aldington Road Industrial Estate Lot F (SSD-7930028 issued 12 February 2025)

The document has been prepared by Daniel Keegan of EMM Consulting Pty Limited (EMM). Daniel is an experienced environmental engineer with more than 15 years' experience in environmental management and monitoring. A copy of Daniel's CV is included as Appendix A.

The document has been reviewed by Francine Manansala of EMM. Francine has over 16 years of environmental consulting experience specialising in air quality. Her areas of expertise include emission and dispersion modelling. Francine has been responsible for the detailed technical work on air quality assessments for various sectors and industries, including road transport, mining and odour. Francine has also led various air quality and/or odour assessment projects for industrial activities, greenhouse gas assessments, air quality monitoring, air quality management plans, NPI reporting, auditing, and risk-based construction works. A copy of Francine's CV is included in Appendix A.

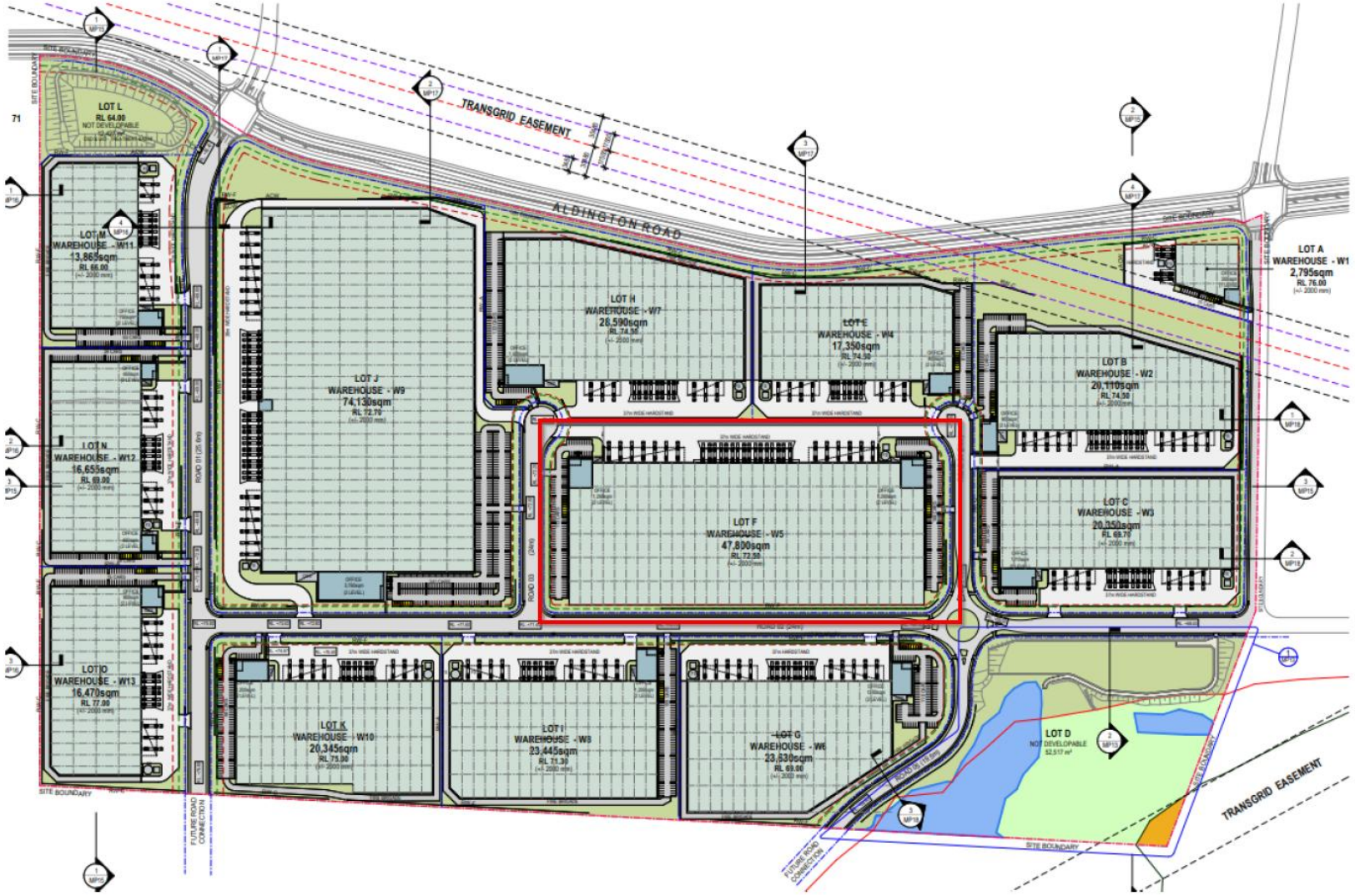


Figure 1.1 Approved concept master plan

1.1 Project overview

An Environmental Impact Statement (EIS) for the site was submitted to the Department of Planning and Environment (DPE) for a Concept State Significant Development Application (SSDA) under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), on behalf of SFKC. Following exhibition of the EIS, a response to submissions report was prepared and additional information requested by DPE provided. The site was approved with conditions in May 2023.

Since the approval of SSD-10479, a tenant has been identified for the Lot F building. The tenant intends on using the site and any structure built upon the site for the processing and distribution of cardboard products. The original approved land use for Lot F (Warehouse 5), under SSD-10479, was as a "warehouse building". The building to be used for cardboard processing and manufacturing is deemed "industry". As such, SFKC have prepared and submitted a Scoping Report and request for SEARs to account for the land-use change and internal fit-out change of the Lot F building. SEARs were received on 12 February 2025 (SSD-79300218) for "Fit out and use of the Stage 1 building (Lot F) approved under SSD-10479 for the purposes of the manufacture and distribution of cardboard products".

It is noted, that if the development is approved, the development description for Stage 1 of SSD 10479 in Schedule 1 of the consent would be modified to permit industry as a use within the approved building.

This CAQMP has been prepared for the construction of the Lot F building (Warehouse 5) which is comprised of:

- lot area of 78,423 m^2
- GFA of 51,027 m^2
- 250 car spaces
- internal plant and equipment for the cardboard manufacturing process.

In addition to the Lot F land-use and fit-out SSDA, a Section 4.55 Modification Application to SSD-10479 will be submitted to Department of Planning, Housing and Infrastructure (DPHI) to seek approval for design amendments to the approved Lot F building W5 to suit the requirements of the tenant.

The 200 Aldington Road Industrial Estate Construction Environmental Management Plan 4.0 (EMM, 2023) includes the 200 Aldington Road Industrial Estate Construction Air Quality Management Sub-Plan V4.0 (EMM, 2023). These documents include environmental management requirements relating to air quality for Stage 1 works approved under SSD-10479 as listed below. The Stage 1 CEMP was approved by the Department of Planning and Environment (DPE), now the (DPHI) on 23 September 2023. Stage 1 works include:

- demolition and clearing of all existing built form structures
- drainage and infill of existing farm dams and any ground dewatering
- clearing of all existing vegetation
- subdivision of the site into 15 individual lots
- bulk earthworks including 'cut and fill' to create flat development platforms for the warehouse buildings, and site stabilisation works (if required)
- roadworks and access infrastructure, including an interim access road and temporary junction with Aldington Road

- stormwater and drainage works including stormwater basins, diversion of stormwater lines, gross pollutant traps and associated swale works
- sewer and potable water reticulation
- inter-allotment, road and boundary retaining walls
- Lot F building (Warehouse 5) construction.

Stage 1 works, including earthworks, drainage, service installation and roadworks across the 200 Aldington Road estate are currently ongoing with Lot F building construction expected to commence in Q2 2025. The Stage 1 main civil works contractor will prepare the Lot F building area and provide hand-over of the Lot F area as a stabilised bare-earth pad prior to the Warehouse Construction Contractor commencing.

Although Lot F building construction works are included within the Stage 1 CEMP and CAQMP, this Lot F CAQMP has been prepared to provide focussed direction to the reader for the environmental management requirements for the Lot F building construction. It is noted that the Stage 1 CAQMP must still be implemented and that this document is supplementary to the Stage 1 CAQMP. The approved Stage 1 CAQMP has been used as a template to develop this Lot F building CAQMP.

1.2 Air quality impact assessment

An AQIA was prepared by Wilkinson Murray as part of the EIS submission for the site. The report (Wilkinson Murray 2021) provides an assessment of the site's predicted impacts upon air quality during the construction and operational phases. Earth works required for Stage 1 of the development will be the longest stage of works and have the most impact on air quality.

The report states that the potential dust impacts from the proposed works is considered to have a **low risk** of both dust soiling and human health impacts for the earthworks and for haulage (track-out) phases. The potential risk for the other stages of construction will be either low or negligible given that the worst-case scenario (earthworks and associated haulage) has been considered.

Monitoring recommendations for the project in the report were:

- daily on-site and off-site inspections, where receptors are nearby, to monitor dust
- records of inspection results made available to relevant authorities
- regular dust soiling checks of surfaces such as street furniture, cars and window
- specific real-time dust monitoring is not necessary for this project.

In August 2023 Wilkinson Murray prepared a letter addressing potential air quality impacts as a result of SSDA 10479 – MOD1. The letter concluded that the modification was not likely to result in material changes to potential air quality impacts identified in the EIS and that air quality emissions could be managed through appropriate dust controls.

2 Purpose and objectives

2.1 Purpose

The purpose of this CAQMP is to describe how SFKC and its contractors will manage potential air quality and odour impacts during the construction of the Project. This CAQMP has been prepared to address the applicable statutory requirements and aims to ensure that the commitments in the planning approval are met with regard to air quality and odour control.

2.2 Objectives

The main objective of the CAQMP is to ensure that air quality and odour impacts from the construction of the Project, are minimised. This requires that all mitigation and management measures relevant to air quality and odour impacts are properly implemented.

To achieve the objectives SFKC and its contractors will:

- ensure that appropriate controls and procedures are implemented during construction activities to address air quality and odour impacts from the Project
- ensure that appropriate measures are implemented to address the relevant conditions outlined in Table 3.1
- implement relevant legislation and other requirements detailed in Section 3 of this CAQMP.

2.3 Targets

The following targets have been established for the management of air quality and odour impacts during the Project:

- ensure compliance with the relevant legislative requirements
- ensure that air quality complaints from the community and stakeholders are managed in accordance with the Complaints Management System, as detailed within the Community Consultation and Complaints Handling Strategy (CCCHS)
- ensure that training on best practice air quality management is provided to all construction personnel through site inductions
- provide effective management of dust, odour and other emissions during construction to minimise risks to human health and the environment.

3 Environmental requirements

3.1 Legislation

Legislation and regulatory requirements relevant to air quality and odour for this Project include:

- *Environmental Planning and Assessment Act 1979* (EP&A Act)
- *Protection of the Environment Operations Act 1997* (POEO Act)
- Protection of the Environment Operations (Clean Air) Regulation 2010 (POEO Clean Air Regulation).

3.2 Guidelines and standards

The main guidelines, specifications and policy documents relevant to this plan include:

- Guidance on the assessment of dust from demolition and construction (IAQM, 2014)
- AS 3580.1.1:2016 Methods for sampling and analysis of ambient air. Part 1.1: Guide to siting air monitoring equipment
- AS 3580.10.1-2003 Methods for sampling and analysis of ambient air. Determination of particulate matter – Deposited matter – Gravimetric method
- Approved methods for the sampling and analysis of air pollutants in NSW (NSW EPA, 2022)
- National Environment Protection Council (NEPC), National Environment Protection (Ambient Air Quality) Measure, 2003b.

3.3 Conditions of consent

This CAQMP forms part of the CEMP (all subplans have been written to comply with CoC E1) and has been prepared in accordance with condition C24 and D62 – D66 of the development consent for SSD 10479. The condition requirements and where they have been addressed in this report are summarised in Table 3.1.

Table 3.1 Conditions of approval

Condition reference	Consent condition	Section addressed in this report
C24	**Operation of Plant and Equipment -** All plant and equipment used on site, or to monitor the performance of the Stage 1 development, must be: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Table 7.1
D62	**Dust Minimisation -** The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.	Section 7
D63	During construction, the Applicant must ensure that: (a) exposed surfaces and stockpiles are suppressed by regular watering; (b) all trucks entering or leaving the site with loads have their loads covered;	Section 7

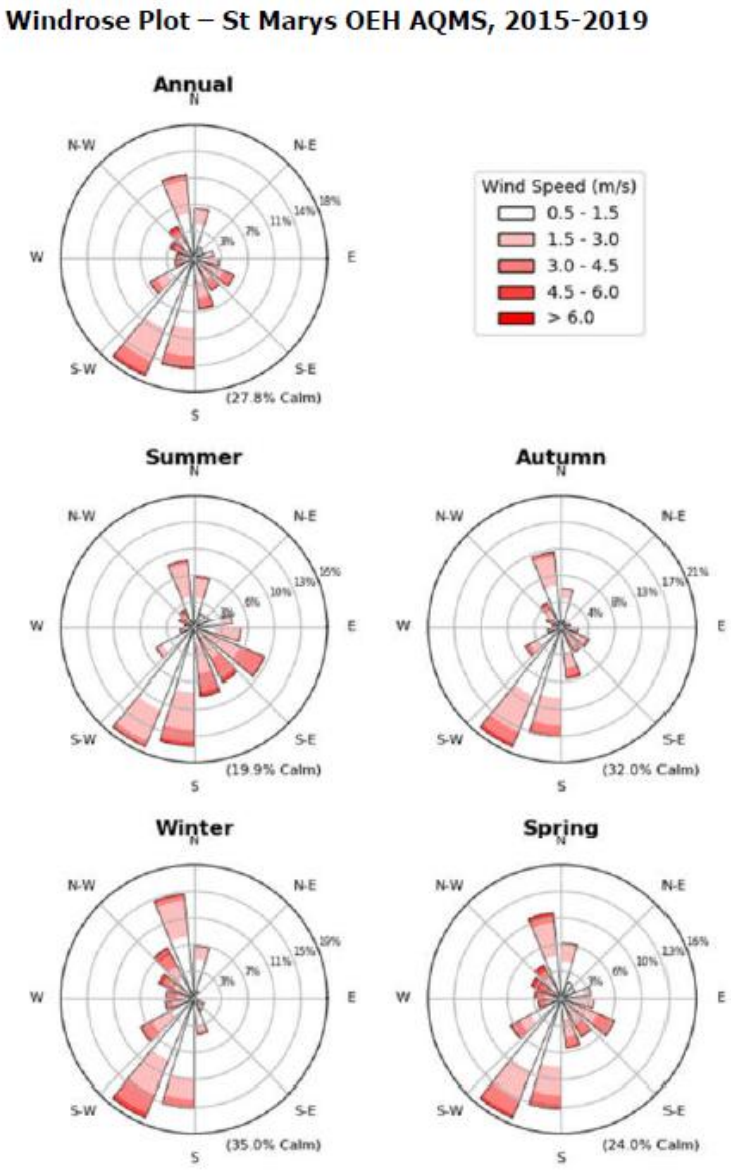
Condition reference	Consent condition	Section addressed in this report
	(c) trucks associated with the Stage 1 development do not track dirt onto the public road network; (d) public roads used by these trucks are kept clean; and (e) land stabilisation works are carried out progressively on site to minimise exposed surfaces.	
D64	Prior to the commencement of construction of the Stage 1 development, the Applicant must prepare a Construction Air Quality Management Plan (CAQMP) to the satisfaction of the Planning Secretary. The CAQMP must form part of the CEMP required by condition E2 and must:	The Stage 1 CAQMP was prepared and approved prior to the commencement of Construction. This Lot F CAQMP is supplementary to the Stage 1 CAQMP.
	(a) be prepared by a suitably qualified and experienced person(s);	Appendix A
	(b) be prepared in consultation with owners of nearby residential properties (including those still occupied for residential use in the MRP), include evidence of this consultation, details of any issues raised and how the plan has responded to any issues raised during consultation;	Appendix B Section 5.1
	(c) detail and rank all emissions from all sources during construction of the development, including particulate emissions;	Section 6
	(d) describe a program that is capable of evaluating the performance of the construction and determining compliance with key criteria, including installation of dust deposition gauges at neighbouring existing residences (where agreed with the landowner) or on the site boundary;	Section 5.3, Section 5
	(e) identify the control measures that will be implemented for each emission source; and	Section 7
	(f) nominate the following for each of the proposed controls:	Section 5
	(i) key performance indicator;	
	(ii) monitoring method;	
	(iii) location, frequency and duration of monitoring;	
	(g) outline procedures that will be implemented in relation to:	CCCHS
	(i) record keeping;	
	(ii) reporting to the Environmental Representative;	
	(iii) complaints register;	
	(iv) response procedures; and	
	(v) compliance monitoring.	
	(h) detail contingency measures to be implemented to reduce any exceedances of relevant performance indicators or criteria and include a timetable for implementation.	Section 7
D65	The Applicant must:(a) not commence construction until the CAQMP required by condition D64 is approved by the Planning Secretary;	Noted. The Stage 1 CAQMP was approved 23 September 2023 and construction has commenced. This Lot F CAQMP is supplementary to the Stage 1 CAQMP.
	(b) implement the most recent version of the CAQMP approved by the Planning Secretary for the duration of construction; and	Refer to CCCHS, complaints procedures.
	(c) offer to enter into an agreement with a neighbouring landowner, that may involve at-property treatment, if a complaint is received from that landowner and a non-compliance is confirmed by dust monitoring. Evidence of any agreement must be provided to the Planning Secretary.	
D66	**Odour Management -** The Applicant must ensure the development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).	Section 7

4 Existing climate data

Meteorological conditions strongly influence air quality. Most significantly, with respect to dust and particulate matter (PM), wind speed and wind direction affect the dispersion of air pollutants.

Observations of wind speed and direction from the Office of Environment and Heritage (OEH) air quality monitoring station (AQMS) at St Marys have been selected to represent typical wind patterns in the area surrounding the site. The St Marys AQMS is located approximately 6.2 km north-west from the centre of the site. The AQMS is located on a residential property approximately 160 m from Mamre Road, Kemps Creek.

Based on the representative data averaged for the period 2015 to 2019, winds within the south to south-west and north-west to north are most common in all four seasons. This data has been presented below in the wind rose plots.



Source Wilkinson Murray (2021)

5 Monitoring program and reporting

5.1 Monitoring program

All site personnel will be informed (through the site induction) that they must minimise dust on site for the health and safety of themselves and the surrounding community. Visual dust monitoring will be the responsibility of all site personnel, works creating dust plumes should be brought to the attention of the site supervisor, who will implement mitigation measures to avoid further dust plumes.

There are currently four dust deposition gauges installed on the boundaries of the site (i.e. 200 Aldington Road). In addition, up to two real-time particulate matter monitors proposed adjacent to the dust deposition gauges.

SFKC is proposing to install up to four dust deposition gauges on the boundary of Lot F. Dust deposition gauges will be installed and monitored by a contractor, who will supply a monthly report against the criteria listed in Table 5.3.

In addition, real-time dust monitors will also be installed at the Lot F boundary. These monitors will be used to collect continuous PM_{10} and $PM_{2.5}$ monitoring data.

All monitoring will be undertaken in accordance with the Approved Methods for the Sampling and Analysis of Air Pollutant in NSW (NSW EPA 2022).

The monitoring and inspection requirements for the Project are outlined in Table 5.1. The corresponding activities will occur for the duration of construction, as appropriate.

Table 5.1 Monitoring and inspection method

Project monitoring method	Record	Responsibility	Frequency
Dust deposition monitoring at boundary of construction footprint at four locations.	Monthly dust deposition rates.	Site Supervisor	Monthly
Real-time dust monitors.	Real-time particulate matter (PM_{10}, $PM_{2.5}$) concentrations.	Site Supervisor	Continuous
Weekly site inspections to ascertain the effectiveness of implemented controls, including any observed dust plumes originating from the work site and/or activities observed outside of the Project that may impact on dust levels near sensitive receivers.	Weekly inspection record.	Site Supervisor	Weekly
Erosion Sediment Control Plan – weekly inspections to ensure all mitigation measure are in place.	Weekly inspection record.	Site Supervisor	Weekly
Meteorological data including daily rainfall, hourly temperature, relative humidity, wind (direction and speed) and barometric pressure.	Daily rainfall records from closest BoM station.	Site Manager (Contractor)	Daily
Visual observations during daily site surveillance to ascertain the effectiveness of implemented dust and air quality controls, including any observed dust plumes originating from the work site and/or activities observed outside of the Project that may impact on dust levels.	Work Records, recording daily activities and Strong winds - where wind in excess of 40 km/h, work may be halted if causing dust concerns. Complaints records.	Site Supervisor	Daily
Dailly site inspections to ensure dust management controls are being implemented and to record the presence of odour.	Daily Inspection Record.	Site Engineer	Daily

5.1.1 Real-time monitoring

The 2021 Wilkinson Murray AQIA report for the site noted that specific real-time dust monitoring was not necessary. It has since been established by an independent audit conducted on behalf of DPHI, that real-time monitoring would be beneficial for ongoing emission management and incident determination for the Project. SFKC has proposed to install up to two real-time, continuous particulate matter monitors for the site (see Section 5.2) to be used for ongoing emission management and incident determination.

A trigger action response plan (TARP) will be prepared to assist with the management of operational air pollution emissions. The real-time air quality monitoring data will be used in combination with real-time meteorological conditions to inform operational emission management actions at the Project site. An email and SMS alert system to support appropriate responses will be implemented.

Location-specific TARP trigger levels will be determined with the input of the air quality consultant (EMM) and ER following the commissioning of the monitors.

5.1.2 Air quality TARP

To ensure that air quality is managed in accordance with this plan the following actions will be taken:

- Real time air quality triggers to be set for PM2.5 and PM10 in line with NSW EPA hourly averages https://www.airquality.nsw.gov.au/air-quality-in-my-area
- One to two real time monitors will be placed in the prevailing wind direction on Lot F to provide insight into inter-lot dust generation.
- A 3-stage trigger and response program has been developed and is provided in Table 5.2.
- Where regional air quality data is shown to be in the Extremely Poor category for the region cease all dust generating works.

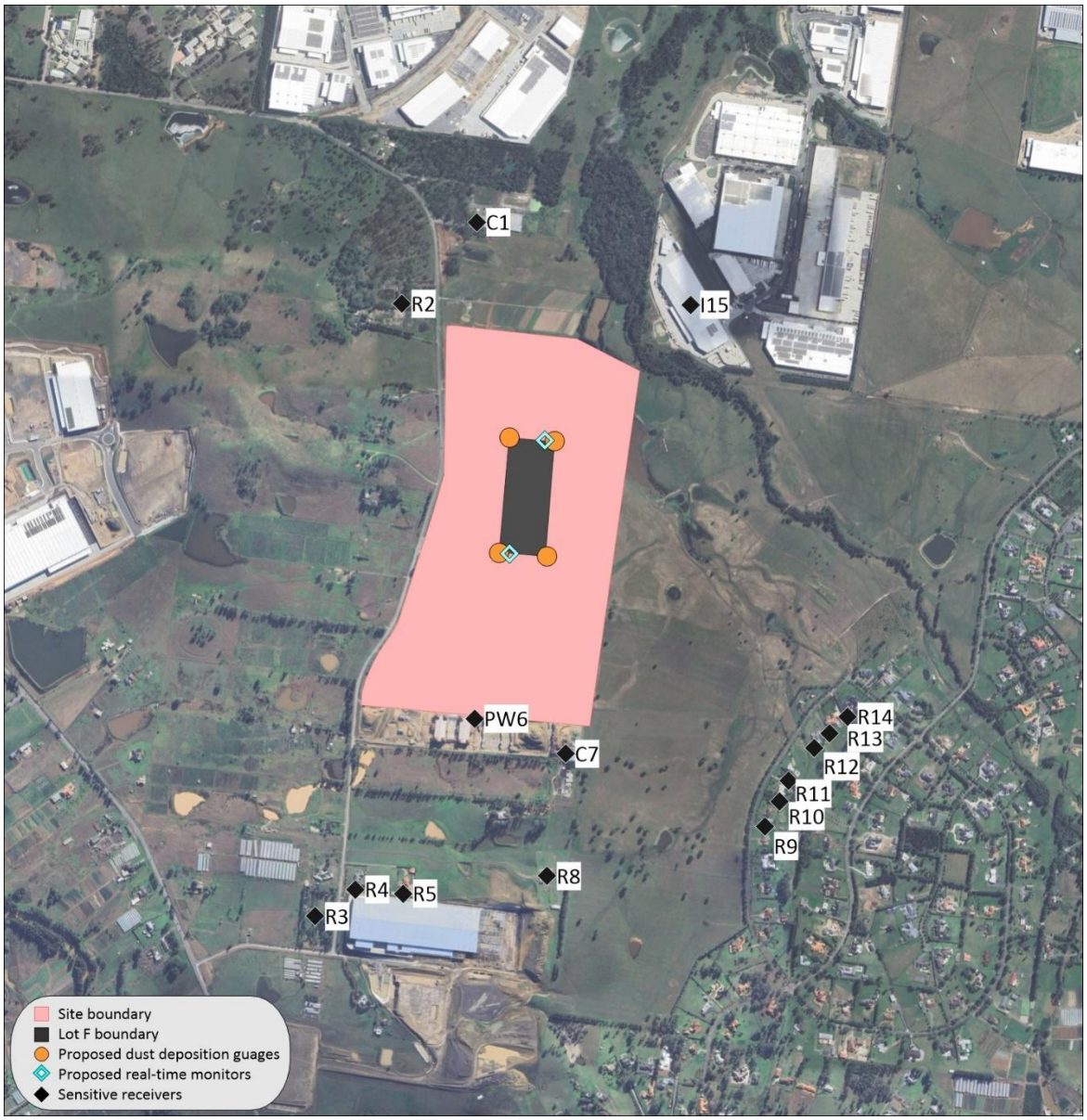
Table 5.2 Air Quality TARP

Stage	Trigger	Action
PM 2.5		
1	>25 µg/m^3 over 3 consecutive hours	Monitor activities for visible dust and check regional air quality. Where regional data is similar to site data continue works and monitor data
2	>50 µg/m^3 over 3 consecutive hours	Increase controls such as water carts and sprays. Continue to monitor data. Where regional data is similar to site data continue works and monitor data
3	>100 µg/m^3	Review dust generating works and examine up wind vs downwind monitors. Where downwind data is more than 100ug/m3 above upwind data cease dust generating activities until levels return to below 100ug/m3. Where data exceeds 300ug/m3, cease all dust generating activities.
PM 10		
1	>50 µg/m^3 over 3 consecutive hours	Monitor activities for visible dust and check regional air quality. Where regional data is similar to site activities continue to monitor works
2	>100 µg/m^3 over 3 consecutive hours	Increase controls such as water carts and sprays. Continue to monitor data. Where regional data is similar to site activities continue to monitor works
3	>200 µg/m^3	Review dust generating works and examine up wind vs downwind monitors. Where downwind data is more than 200ug/m3 above upwind data cease dust generating activities until levels return to below 200ug/m3. Where data exceeds 200ug/m3, cease all dust generating activities.

5.2 Monitoring locations

Figure 5.1 presents the Project in relation to the site boundary, sensitive receivers, and the proposed dust deposition and real-time PM monitor locations.

Up to four dust deposition gauges and up to two real-time PM monitors are proposed at the locations indicated on Figure 5.1. The proposed locations take into account the dominant wind patterns described in Section 4 and the closest surrounding sensitive receivers. The exact number and locations of the real-time monitors will be confirmed by the site once investigated.



Note: Sensitive receiver prefixes – C = commercial, R = residential, PW = place of worship, I = industrial.

Figure 5.1 Sensitive receiver locations and dust monitoring sites (at July 2024)

5.3 Impact assessment criteria

Air quality impact assessment criteria are benchmarks set to protect the general health and amenity of the community in relation to air quality. The criteria presented in *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (EPA 2017) is consistent with the *National Environment Protection (Ambient Air Quality) Measure* (NEPM) (National Environment Protection Council 2016).

Dust deposition gauges and real-time particulate monitors are proposed around the Project boundary (see Figure 5.1). The impact assessment criteria for pollutants that are relevant are summarised in Table 5.3 from the AQIA, (Wilkinson Murray 2021).

Dust will be sampled and reported during construction. Concerns raised with regards to dust levels, along with the annual review of the CAQMP, will be used to assess if the criteria and the monitoring methods are appropriate for the Project. Dust deposition and continuous particulate matter monitoring will continue until at least 70% ground cover is achieved across 80% of the disturbed footprint, (to be assessed by the ER).

Twelve months from the commencement of operation of the first lot developed, a review of the dust monitoring requirements will be undertaken to assess any ongoing monitoring.

Table 5.3 Impact assessment criteria

Pollutant	Averaging period	Impact	Criteria
Particulate matter ≤ 10 µm (PM_{10})	Annual	Total	25 µg/m^3
	24-hour	Total	50 µg/m^3
Particulate matter ≤ 2.5 µm ($PM_{2.5}$)	Annual	Total	8 µg/m^3
	24-hour	Total	25 µg/m^3
Deposited dust (DD)	Annual	Total	4 g/m^2/month
	Annual	Incremental	2 g/m^2/month

The AQIA (Wilkinson Murray 2021) states that the potential dust impacts from the proposed works is considered to have a **low risk** of both dust soiling and human health impacts for earthworks and for haulage (track-out). The AQIA concludes that '*Specific real-time dust monitoring is not necessary for this project*'. However, to ensure that the project is maintaining best practice with respect to air quality, dust deposition and real-time particulate matter monitors are proposed to monitor air quality during the construction phase.

5.4 Key performance indicators

Key performance indicators include:

- visible dust limited on site
- reduce the amount of dust complaints received
- all complaints from the community and stakeholders are managed in a timely manner (as detailed within the Community Consultation and Complaints Handling Strategy (CCCHS))
- site personnel are educated (via tool box talks) on best practice to avoid dust being generated from the site
- monthly dust results are under the monitoring criteria
- prompt contingency measure implemented to reduce / investigate any exceedances.

6 Environmental aspects and impacts

6.1 Construction activities

6.1.1 Air quality

The main Project construction activities that could result in the generation of dust and particulate matter (PM) include:

- detailed earthworks and excavation
- spoil/material handling, including stockpiling, material loading and material haulage
- pile breaking for pile cap installation
- wind erosion of exposed areas and temporary stockpiles
- vehicle movements over unpaved surfaces (including unsealed access roads)
- tracking of dirt from construction vehicles onto public roads.

Other sources of air pollutants during construction include diesel exhaust from construction vehicles and equipment, and the handling and/or storage of fuel and other chemicals.

It is worth noting, however, that emissions to the atmosphere during construction are expected to be temporary and relatively short-lived.

6.1.2 Odour

Project construction activities that could result in odour emissions (or gases more generally) include:

- excavations of organic or contaminated materials
- sealing works / asphalt
- road line/parking bay marking.

6.2 Factors affecting emissions and impacts.

The potential for impacts of construction on air quality and odour will depend primarily on:

- the existing air quality environment and location of the receivers
- the nature, extent, and magnitude of the construction activities (and emissions).

Several environment factors also have the potential to affect the likelihood of dust emissions during construction. These include:

- wind direction – determines whether dust and PM are transported in the direction of receivers
- wind speed – governs the potential suspension and dispersion of dust and particulate matter
- soil type – more erodible soil types have a higher dust emission potential
- soil moisture – increased soil moisture reduces soil or dust erosion potential

- rainfall or dew – rainfall or heavy dew that wets the surface of the soil and reduces the risk of dust generation
- evaporation – dries out the surface of the soil and leads to increased risk of dust generation
- exposed surfaces – during construction non-vegetated surfaces will be exposed prior to revegetation, which is a key factor influencing dust emissions.

7 Management measures

Construction associated with the Project has the potential to impact air quality in areas within, and adjacent to, the construction footprint. To avoid, mitigate and/or minimise these potential impacts, a range of control measures can be implemented. This section outlines the management measures provided in the AQIA (Wilkinson Murray 2021) to mitigate impacts to air quality during the construction phase of the Project.

The Project site is located within the Mamre Road Precinct (MRP), and therefore the relevant controls of the DCP have been considered in this CAQMP and must be applied to the construction phase of the Project.

The applicable controls provided in the DCP have been summarised in Table 7.1 below.

Table 7.1 Air quality management measures

Control	Timing	Responsibility	Source
General			
Plan site layout so that machining and dust generating activities are minimised and located away from receptors, as far as possible.	Pre-construction	Project Manager	Section 7.1 of the AQIA
Avoid site runoff of water or mud, (addressed in the ESCP)	Construction	Project Manager	Section 7.1 of the AQIA
Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If being re-used, keep materials covered.	Construction	Project Manager	Section 7.1 of the AQIA
Cover, seed, or fence stockpiles to prevent wind erosion. (Further details contained within the ESCP)	Construction	Project Manager	Section 7.1 of the AQIA
Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate speed limits enforced to reduce generation of dust.	Construction	Project Manager	Section 7.1 of the AQIA
Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	Construction	Project Manager	Section 7.1 of the AQIA
Progressively stabilise earthworks on completion of work areas to limit exposed loose materials in accordance with the ESCP	Construction	Project Manager	Section 7.1 of the AQIA
Construction vehicles, traffic and haulage			
Ensure all vehicles switch off engines when stationary (no idling vehicles).	Construction	Project Manager	Section 7.1 of the AQIA
Impose and signpost a maximum-speed-limit of 25 km/h on surfaced and 15 km/h on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided).	Construction	Project Manager	Section 7.1 of the AQIA
Use water-assisted dust sweeper(s) on the access and local roads, as necessary.	Construction	Project Manager	Section 7.1 of the AQIA
Avoid dry sweeping of large areas.	Construction	Project Manager	Section 7.1 of the AQIA
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	Construction	Project Manager	Section 7.1 of the AQIA

Control	Timing	Responsibility	Source
Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.	Construction	Project Manager	Section 7.1 of the AQIA
Record all inspections of haul routes and any subsequent action in a site logbook.	Construction	Project Manager	Section 7.1 of the AQIA
Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).	Construction	Project Manager	Section 7.1 of the AQIA
Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.	Construction	Project Manager	Section 7.1 of the AQIA
Access gates to be located at least 10m from receptors where possible.	Construction	Project Manager	Section 7.1 of the AQIA
All plant and equipment used on site will be maintained in a proper and efficient condition.	Construction	Project Manager	Condition C24
All plant will be operated in a proper and efficient manner to avoid dust generation	Construction	Project Manager	Condition C24
Communications			
Develop and implement a stakeholder communications plan that includes community engagement before work commences on site; and - displays the name and contact details of the Responsible Person accountable for air quality and dust issues on the site boundary. - displays the head or regional office contact information.	Pre-construction	Project Manager	Section 7.1 of the AQIA
Mamre Road Precinct Working Group - Hold regular meetings with any other high-risk construction sites within 500 m of the site boundary to ensure plans are coordinated	Construction	Community Liaison	Section 7.1 of the AQIA
Complaints and incident management			
Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.	Construction	Project Manager	Section 7.1 of the AQIA
Make the complaints log available to relevant authorities including the Council, EPA etc.	Construction	Project Manager	Section 7.1 of the AQIA
Record any exceptional incidents that cause dust and/or air emissions (including odour), either on or off site, and the action taken to resolve the situation in the logbook.	Construction	Project Manager	Section 7.1 of the AQIA
Monitoring			
Undertake daily on-site inspection, where receptors are nearby, to monitor dust. Record inspection results and make available to relevant authorities. This should include regular dust soiling checks of surfaces such as cars, and window.	Construction	Project Manager	Section 7.1 of the AQIA

Control	Timing	Responsibility	Source
Conduct dust deposition monitoring in accordance with AS 3580.10.1 – 2003 Methods for sampling and analysis of ambient air. Determination of particulate matter – Deposited matter – Gravimetric method. Locations for monitoring are identified in Figure 4.2. Conduct continuous real-time particulate matter monitoring (method to be confirmed). Locations for monitoring are identified in Figure 5.1. Monitoring is to be continued until 70% cover is reached over 80% of the site as determined by the ER. Monitoring data will be analysed and reviewed on a regular basis for ongoing emission management and incident determination. Measured concentrations will be compared against the impact assessment criteria outlined in Table 5.3 and the TARP and key performance indicators discussed in Section 5.4.	Construction	Project Manager	Best Practice

7.1 Community consultation and complaints

SFKC has developed a Community Consultation and Complaints Handling Strategy (CCCHS) which outlines key stakeholders and the engagement strategies to be adopted prior to and during construction works. Consultation with the surrounding community was undertaken in May 2023, (refer to Appendix B). The local community was notified of the up-and-coming works and provided with contact details to raise any concerns they may have with the project team. At the time of the consultation no further concerns were raised.

Community feedback and complaints relating to local air quality will be dealt with in accordance with the Project CCCHS. The Complaints Response Handling procedure is clearly outlined the CCCHS found in Appendix I of the CEMP.

SFKC will undertake consultation activities in accordance with the processes outlined in the CCCHS.

7.2 Training

All employees, contractors and utility staff working on site will undergo site induction training that would include air quality and odour impact management issues. The induction training will address elements related to air quality and odour management including:

- typical construction activities that may impact air quality and odour
- air quality and odour mitigation and management measures
- incident response, management and reporting
- community complaints response and reporting
- specific responsibilities to minimise air quality impacts on sensitive receivers.

Further details regarding staff induction and training are outlined in the CEMP.

7.3 Record keeping and reporting

The site supervisor will maintain daily records of construction activities and the weather conditions that effect work on the site (i.e. extreme weather events/ bushfires). Weekly environmental site inspections (refer to the CEMP) will monitor visual and deposited dust generated from work on the project, the locations of stockpiles in relation to sensitive receivers, the monitoring of dust generating activities and ensuring that the dust deposition gauges are in place and operating.

A monthly report summarising the dust deposition gauge results against the criteria listed above will be provided to the Environmental Representative. In the event of an exceedance further investigation will be required and provided within the monthly report. Wind direction, work records and weather data will be obtained and used to determine if the dust was generated from the project site. Further investigation should be undertaken to determine if the results were affected by external factors outside of the projects control (e.g. bushfire, dust storm or dust plume created from works on adjoining land). Monthly reporting will be provided to the Environmental Representative.

Community dust complaints will be recorded as part of the CCCHS, site supervisor will be notified of the complaint and investigate that cause of the dust concerns a soon as possible. Mitigation measures will be implemented to prevent further concerns. Results from dust deposition gauges can assist in determining the cause of dust concerns. In accordance with condition of consent D65c, where a complaint has been received by a neighbouring landowner and the dust monitoring confirms that the project is at fault, the Planning Secretary must be notified of any written agreements with the neighbouring landowners.

8 Review and improvement

A review of the CEMP, sub-plans and monitoring programs will be undertaken during construction as required. These reviews will be completed to determine the efficiency of the monitoring program and any required changes necessary to ensure compliance.

This Program will be further developed and revised to address changes in the environmental management process. Circumstances which may trigger updating of the Program may include:

- changes to design, construction, work methods, legislation, or policy
- incidents, complaints or non-compliance
- changes identified by continuous improvement
- changes to key management plans that are relevant
- where additional monitoring measures are identified.

8.1 Continuous Improvement

Monitoring data will be reviewed throughout the construction period, to assess the number of sampling locations and/or the information that it provides. The data will be reviewed for appropriateness following 12 months of construction monitoring.

Continuous improvement of this Program will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets (refer to Section 2 of the CAQMP).

The continuous improvement process will be designed to:

- identify areas of opportunity for improvement of environmental management and performance
- determine the cause or causes of non-conformances and deficiencies
- develop and implement a plan of corrective and preventative action to address any non-conformances
- verify the effectiveness of the corrective and preventative actions
- document any changes in procedures resulting from process improvement
- make comparisons with objectives and targets.

8.2 Update and amendment

Updates and amendments to this CAQMP must first be approved by Environmental Representative and then may require to be submitted to the Planning Secretary for approval via the Planning Portal website.

A copy of the updated Program and changes will be distributed to all relevant stakeholders and changes implemented immediately.

References

Australian Government (2021) National Environment Protection (Ambient Air Quality) Measure (AAQNEPM). https://www.legislation.gov.au/Series/F2007B01142

IAQM 2014, Assessment of dust from demolition and construction, published by the Institute of air quality Management, London, January 2014. http://iaqm.co.uk/text/guidance/construction-dust-2014.pdf

NSW EPA (2022). Approved Methods for the Sampling and Analysis of Air Pollutant in NSW. NSW Environment Protection Authority, Parramatta. https://www.epa.nsw.gov.au/your-environment/air/industrial-emissions/sampling-analysing-air-emissions/approved-methods-sampling-analysing-air-pollutants

Wilkinson Murray Pty Limited (2021 Version C) 200 Aldington Road Industrial Estate Air Quality Impact Assessment technical report for the RTS.

Zephyr Environmental (2024), Independent Air Quality Audit, Fife Stockland – 200 Aldington Road Kemps Creek, June 2024.

Appendix A
Curriculum vitae

EMM
creating opportunities



Daniel Keegan

Associate Environmental Engineer
EMM Consulting Pty Limited

Professional Overview

Daniel has more than 15 years of experience as an environmental engineer and has worked on a range of projects in both the environmental management and water engineering fields. The roles that Daniel has undertaken include environment and sustainability advisory for rail and coal handling facilities during construction, and large-scale stormwater and sewer system planning, modelling and design as a water engineer.

Daniel is experienced in engaging with a variety of stakeholders, including government agencies and approval authorities. Daniel is experienced in the delivery of State Significant Infrastructure projects, including compliance tracking and implementation of Planning Approval requirements as an Alternate ER on Inland Rail.

Daniel has a keen interest in sustainability. In particular, Daniel is interested in developing effective methods to incorporate sustainability measures that achieve positive financial, environmental and social outcomes.

Qualifications and licences

Bachelor of Environmental Engineering (Hons), University of Newcastle, 2006

SAI Global Environmental Auditor

Infrastructure Sustainability Accredited Professional (ISAP)

Specialisation

Construction environmental management and compliance

Asset delivery

Infrastructure sector

Representative experience

Inland Rail Narromine to Narrabri Alternate Environmental Representative

- Review of documents against conditions of approval
- Site inspections to monitor implementation of approved plans and conditions of approval
- Meetings with agencies and other stakeholders
- Prepare monthly reports on activities in accordance with the Environment Representative Protocol and Conditions of approval
- Assist the ER as required

Sydney Metro, Sydenham Station and Junction (CSSI), Environmental Manager (Client - Sydney Metro)

- Providing environmental management advice for the project and supporting the project team to ensure works are delivered in an environmentally sound and sustainable manner
- Obtaining approvals from and liaising with government agencies
- Ensuring compliance with the Environmental Protection Licence, Planning Approvals and environmental legislation
- Collaborating with the Sustainability Manager to achieve sustainability targets under the IS rating scheme
- Undertaking regular environmental audits on other Laing O'Rourke projects, and reporting outcomes to the Australian Hub Environmental Leader
- Coaching and mentoring graduates on technical matters and career development

Nyngan to Cobar Water Pipeline Replacement Project Environmental Studies, Project Coordinator (Client WINSW)

- Project coordination and advice, utilising water engineering and environmental management knowledge, for various environmental studies undertaken to inform the Nyngan to Cobar water pipeline replacement project Review of Environmental Factors
- Technical review of environmental studies

Wickham Transport Interchange Project (Part 5.1), Senior Environmental and Sustainability Advisor (Client - TfNSW)

- Providing environmental management advice for the project and supporting the project team to ensure works are delivered in an environmentally sound and sustainable manner
- Implementing the TfNSW Sustainable Design Guidelines (SDGs) and the Infrastructure Sustainability Council of Australia (ISCA) IS Rating Scheme to achieve sustainable outcomes for the project
- Ensuring compliance with Environmental Protection Licence, Conditions of Approval and environmental legislation
- Developing environmental training material for both staff and the general workforce

Wickham Transport Interchange Enabling Works Project (Part 5.1), Environmental Coordinator (Client - TfNSW)

- Providing environmental management advice for the project and supporting the project team to ensure works were delivered in an environmentally sound and sustainable manner
- Implementing the TfNSW Sustainable Design Guidelines (SDGs)
- Ensuring compliance with Environmental Protection Licence, Conditions of Approval and environmental legislation
- Developing environmental training material for both management and the general workforce

NCIG Coal Export Terminal 3 (Part 3A), Environmental Officer (Client - NCIG)

- Advising on environmental management aspects such as subcontractor audits for environmental compliance
- Undertaking site inspections

- Reviewing contractor Environmental Management Plans
- Writing management plans
- Environmental monitoring and reporting
- Fauna management, erosion and sediment control, pollution incident responses

Water Engineering (Client - various)

- Drainage and sewer modelling and design for West Gosford Interchange
- Drainage and sewer modelling and design for various Defense projects
- Drainage modelling and design for Sydney Airport upgrades
- Drainage modelling and design for various industrial developments
- Sewer modelling and strategic planning for various inland NSW towns (Forbes, Parkes)
- Design of drainage systems for Councils utilizing the principles of Water Sensitive Urban Design

M1 Pacific Motorway Extension to Raymond Terrace, Environmental Consultant (Client – TfNSW and John Holland Gamuda Australia Joint Venture)

- Developing post approval environmental documentation such as Low Impact Work Approvals, Ancillary Facility Site Establishment Management Plans, Minor Ancillary Approvals, Unexpected Finds Procedures, Staging Report, Construction Environmental Management Plan and Sub-Plans and Construction Monitoring Programs
- Reviewing and tracking compliance
- Coordinating technical teams to deliver post approval documentation relating to aspects that require specialist advice (i.e. ecology, water engineering, heritage).
- Programming of deliverables and budget management.



Francine Manansala

Associate Air Quality
EMM Consulting Pty Limited

Professional Overview

Francine has over 16 years of environmental consulting experience specialising in air quality. Her areas of expertise include emission and dispersion modelling.

Francine has been responsible for the detailed technical work on air quality assessments for various sectors and industries, including road transport, mining and odour. She has undertaken the modelling work for several major road infrastructure projects, including the three stages of WestConnex and associated projects, as well as several large open-cut coal mines in the Gunnedah and Hunter regions.

Francine has also led various air quality and/or odour assessment projects for industrial activities, greenhouse gas assessments, air quality monitoring, air quality management plans, NPI reporting, auditing, and risk-based construction works. She has recently led Climate Change Risk Assessments (CCRA) and has experience in providing clients with advice on the Safeguard Mechanism.

Qualifications and licences

Bachelor of Arts majoring in Resource and Environmental Management, Macquarie University, 2008

CASANZ Certified Air Quality Professional (CAQP)

President of the Clean Air Society Australia & New Zealand (CASANZ)

Specialisation

Emission and dispersion modelling

Greenhouse gas assessments

Air quality monitoring

Air quality management plans

NPI reporting

Risk based construction works

Climate change risk assessment

Representative experience

Air quality impact assessments

- Western Harbour Tunnel and Beaches Link, air quality assessments, Sydney NSW (Jacobs)
- Sydney Gateway project, air quality assessment, Sydney NSW (WSP/GHD)
- F6 Extension – Stage 1, air quality assessment, Sydney NSW (AECOM)
- WestConnex - M4 East, New M5 and M4-M5 Link, air quality assessments, Sydney NSW (Sydney Motorway Corporation)
- Dartbrook Open Cut Project, air quality assessment, Dartbrook NSW (Australian Pacific Coal Limited)
- Shenhua Watermark coal project, air quality impact assessment, Breeza NSW (Shenhua Watermark)

Technical air quality guidance

- Good Practice Guide for the Assessment and Management of Air Pollution from Road Transport Projects (CASANZ)
- Optimisation of the application of GRAL in the Australian context, Sydney NSW (Roads and Maritime Services)
- GRAL model guidance for Brisbane City Council (BCC)

Transport and infrastructure

- CPB Contractors, BAM, Ghella and UGL Joint Venture - Cross River Rail Southern Portal worksite - emissions and dispersion modeling of activities at the Southern Portal and Woolloongaba Cross River Rail construction sites, QLD
- Model comparison study, Sydney NSW (Roads and Maritime Services)
- Iron Cove Link portal study, Sydney NSW (Roads and Maritime Services)
- Lane Cove Tunnel ventilation investigation, Sydney NSW (Roads and Maritime Services)
- Review and quality checking of TRAQ (Tool for Roadside Air Quality), Sydney NSW (Roads and Maritime Services)
- Lane Cove Tunnel: a comparison of monitoring data before and after construction of the tunnel and an assessment of impacts, Sydney NSW (Roads and Maritime Services)
- Sydney Airport air quality master plan, Sydney NSW (Sydney Airport Corporation Limited)
- Port Macquarie Airport Parallel Taxiway air quality impact assessment, Port Macquarie NSW (King & Campbell Pty Ltd)
- Construction Dust Assessment for the Olympic Dam South and Roxby Downs West Accommodation Villages, Adelaide SA (BHP Billiton Olympic Dam Corporation Pty Ltd)

Mining and extractive

- Eva Copper Mine Pty Ltd - Eva Copper Project - AQIA for the proposed Eva Copper Project, northwest QLD
- Queensland Pacific Metals - Townsville Energy Chemicals Hub – AQIA and GHG assessments completed for a proposed laterite ore refinery south of Townsville
- QPM Pacific Metals Pty Ltd - Proposed new interim storage facility at Port of Townsville - prediction of air quality impacts from the new storage facility at the Port of Townsville, QLD
- Upper Hunter regional primary particle model, NSW (NSW Environment Protection Authority)
- ACARP Project C26024: Coal mine particulate emission factor validation, Sydney NSW (ACARP)
- Mount Owen Continued Operations, air quality impact assessment, Upper Hunter Valley NSW (Glencore)

- Boggabri, Tarrawonga, Maules Creek Emissions Estimation, Upper Hunter Valley NSW (Idemitsu Australia Resources and Whitehaven Coal Limited)
- Rocky Hill Coal Project, air quality impact assessment, Rocky Hill NSW (RW Corkery)
- Stratford Coal Mine extension, air quality impact assessment, Stratford NSW (Gloucester Coal & Resources Strategies)
- South Keswick Quarry, air quality impact assessment, South Keswick NSW (Regional Hardrock Pty Ltd)
- Bylong Coal Project, air quality impact assessment, Bylong NSW (KEPCO Bylong Australia Pty Ltd)

Industrial emissions

- Perilya North Mine stacks modelling, Perilya NSW (Leuhr Filter)
- Allied Mills food ingredient site upgrade, air quality assessment, Tamworth NSW (Allied Mills Pty Ltd)
- Wollert brickworks, air quality assessment, Wollert VIC (Austral Bricks)
- Orica Kooragang Island release incident, air quality assessment, Kooragang Island NSW (Orica Limited)

Odour assessment

- Wilsonton retail development, odour impact assessment (FKG Group)
- Box Hill, Schofields and West Schofields Precinct Planning, odour impact assessments, Box Hill/Schofields NSW (Department of Planning and Environment)
- Proposed East Tahmoor residential rezoning, odour impact assessment, East Tahmoor NSW (Wollondilly Shire Council)
- Several residential development projects in Tahmoor, odour impact assessments, Tahmoor NSW (Wollondilly Shire Council)
- Several residential development projects in Leppington/Austral, odour impact assessments, Leppington and Austral NSW (Cardno, Liverpool Council and private developers)
- Four Lanterns Estate, odour impact assessment, Leppington NSW (Aspen Group)
- Leppington Childcare Centre, odour impact assessment, Leppington NSW (The Great Indoors)
- KFC Manly, odour impact assessment, Manly NSW (Cardno)

Air quality management plans

- Boral Geelong Clinker and Slag Grinding Facility, air quality management plan (Boral Cement Ltd)
- Dubbo Quarry air quality and greenhouse gas management plan (Holcim Pty Ltd)
- Vopak Port Botany Project: Site B Expansion Stage B4A, air quality management plan (Vopak)

Publications

Over 100 technical reports and papers. Details are available on request. Selected publications:

- Manansala, F, Boulter, P, Barnett, J & Kurz, C 2017, Optimisation of the application of GRAL in the Australian context. Report AQU-NW-012-21062: http://www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0011/125030/ACTAQ-GRAL-optimisation-MAIN.pdf
- Boulter, P & Manansala, F 2014, Lane Cove Tunnel ventilation investigation, report prepared for NSW Roads and Maritime Services, September 2014. Pacific Environment, North Sydney.
- Manansala, F, Boulter, P & Barnett, J 2014–2018, WestConnex M4 East, New M5 and M4-M5 Link – Environmental Impact Statements. Technical Working Paper: Air Quality. NSW Roads and Maritime Services.
- Manansala, F, Boulter, P, Barnett, J & Kurz, C 2017, Performance of the GRAMM-GRAL model system in the vicinity of an urban arterial road. Paper presented at the *23rd International Clean Air and Environment Conference*, Brisbane, Queensland, 15-18 October 2017.
- Barnett, J, Manansala, F 2013, 'The NSW EPA 'Dust Stop: Pollution reduction program' for coal mines – an overview and analysis', paper presented at the CASANZ Conference, Sydney, NSW, September 2013
- Manansala, F, Holmes, K 2011, Review of the air quality monitoring and modelling predictions before and after the opening of the Lane Cove Tunnel, Sydney, paper presented at the *CASANZ Conference*, Auckland, New Zealand, August 2011.

Appendix B
Consultation records

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Table B.1 Record of consultation SSD 10479, 200 Aldington Road Estate

Date	Timing	Location	Name	Details	Outcome
22/05/2023	Prior to commencement of construction	53 Aldington Road, (Lot 38) Kemps Creek (north west of site)	Ted and partner	Met with the Owner & occupant of 53 Ald to notify them we are starting works in the next month. Provided them with contact details for any enquiries.	No concerns / No unresolved issues. Will notify if issues arise during construction.
22/05/2023	Prior to commencement of construction	129 Aldington Road, Kemps Creek (west of site)	Sam J	Met with occupant and notified we will me commencing earthworks on site in the following weeks.	No concerns / No unresolved issues. Will notify if issues arise during construction.
22/05/2023	Prior to commencement of construction	141 Aldington Road, Kemps Creek (west of site)	Mr Orlovic	Met with owner, notified them of commencement of works on 200A and provided contact details.	No concerns / No unresolved issues. Will notify if issues arise during construction.
22/05/2023	Prior to commencement of construction	Oakdale East (to north east of site) – freight company	Representative	Notified representative of owner on commencement of earthworks in following weeks. Provided contact details to man occupying front desk.	No concerns / No unresolved issues. Will notify if issues arise during construction.
23/05/2023 and prior	Prior to commencement of construction	Lot 18 BAPS Temple (southern boundary)	David Ashcroft PM, Samir Patel (Owners Rep)	Met with occupant and notified we will be commencing earthworks on site in the following weeks.	No concerns / No unresolved issues. Will notify if issues arise during construction.
31/5/23 and prior	Prior to commencement of construction	Capital Hill Estate (farmland to east of site)	Capital hill estate/JWP (engr)	Discussed by phone with David Johnstone (consultant) and Dino Selagrio (owner)	No concerns, but if any issues with dust or otherwise will advise.
24/06/24	Prior to commencement of construction	200 Aldington Road, Kemps Creek	NSW DPHI	Air quality audit report prepared on behalf of the NSW DPHI for the project (Zephyr 2024).	Six recommendations made as a result of the audit related to monitoring, dust management measures, and communication.

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Appendix F

Unexpected Heritage Finds Procedure

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F.1 Unexpected Finds Procedure Heritage

This section outlines the unexpected finds protocol to be applied during the construction phase of the project. The unexpected finds protocol should be applied to the discovery of previously unidentified items or objects of Aboriginal or archaeological significance found within the project area, in addition to human remains.

F.1.1 Non-Aboriginal, Aboriginal or archaeological finds

If any item or object of Non-Aboriginal, Aboriginal or archaeological significance are found, the following steps must be undertaken:

1. STOP WORKS – immediately cease all works and do not move or disturb the find.

2. NOTIFY – notify the Project Manager and Heritage NSW immediately to arrange for representatives to inspect the Project. If human remains are found, the NSW Police must also be notified.

3. MANAGE – management will involve securing the find by erecting a no-go zone, i.e. a 10 m buffer area around the suspected item or object.

4. ASSESS – finds must not be moved until they are assessed by a qualified archaeologist.

5. REPORT – the Environmental Representative or Project Manager will be responsible for completing any reporting requirements including those required by Heritage NSW.

If any archaeological relics of a Historic Heritage nature are uncovered during earthworks or construction, then all works must cease immediately in that area. Unexpected finds must be evaluated and recorded in accordance with the requirements of Heritage NSW.

Work in the immediate vicinity of an Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the *National Parks and Wildlife Act 1974.*

F.1.2 Human Remains

In the event human remains are found, the following steps must be undertaken:

1. STOP WORKS – immediately cease all works and do not move or disturb the remains.

2. NOTIFY - notify the NSW Police on 000 as soon as practicable and provide details of the remains and the location. The NSW Heritage Environmental Line on 131 555 should also be notified in the event the remains are Aboriginal Ancestral.

3. RECOMMENCEMENT – works are not to recommence unless authorised in writing by Heritage NSW.

Appendix G

Unexpected Contamination Finds Procedure

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G.1 Unexpected Finds Procedure - Contamination

The Unexpected Finds Procedure for Contamination must be followed should unexpected contamination or asbestos (or suspected contamination) be excavated or otherwise discovered. In accordance with Environmental Management Measures, this unexpected finds procedure has been prepared with consideration of the *Guideline for the Contamination of Management – Factsheet 12* (TfNSW, 2013) and Management of road construction and maintenance wastes Issue 1 (June 2016).

G.1.1 Likelihood of contamination

The following indicates the presence of potentially contaminated material; where material is uncovered which displays some or all of these characteristics, stop works and notify the Site Supervisor:

- Unusual odour from soils that are not detected in other similar areas.
- Discolouration or staining of soil or rock.
- Seepage of unusual liquids from soil or rock.
- Unusual odours, sheen or colour on groundwater and/or surface water.
- Unexpected underground storage tanks, buried drums or machinery, etc.
- Potential asbestos containing materials.

Where these factors are identified, the material is considered to be possibly contaminated and the flowchart is to be followed.

G.1.2 Asbestos

An unexpected asbestos find occurs when asbestos containing materials (ACM) are found on site. In the event of an unexpected asbestos find, the below steps are to be followed along with the flowchart:

1. The area is to be demarcated, works in the area to cease and workers warned.
2. Notify the Safety and Contractor's Environmental Manager.
3. Ensure the soil and potential asbestos remain damp with dust suppression or covered where water cannot be accessed.
4. Arrange for testing of the suspected ACM and monitoring of the area by approved subcontractors (if required).
5. An asbestos removalist is to be engaged to provide recommendations to treat the area, as required.
6. A clearance certificate is required from the asbestos removalist to confirm that the area is to be made safe.

The Environment Representative will be consulted prior to any material being removed off-site to ensure it is classified in accordance with the NSW EPA Waste Classification requirements. Refer to flow chart for clear steps to follow.

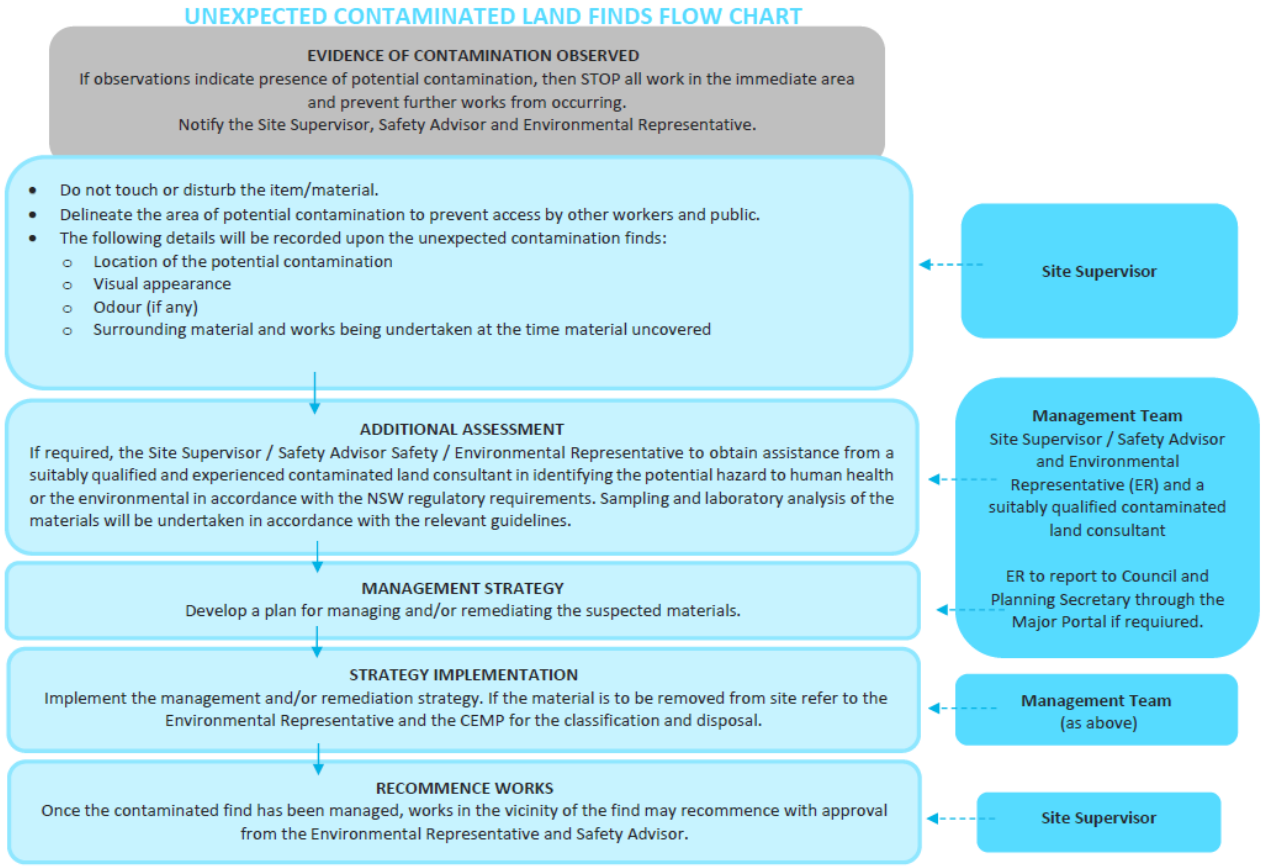


Figure G.1 Unexpected contaminated land finds flow chart

G.1.3 Assessment of unexpected finds

The sampling strategy for the characterisation and validation of an 'unexpected find' must be prepared by a suitably qualified specialist and in accordance with requirements of the consent and regulatory guidelines (e.g. *Sampling Design Guidelines Contaminated Sites* (EPA 1995)). The intent of the sampling is to determine the nature of the substance/material found and whether is it hazardous. It should then be determined if the substance/material exists in concentrations which could cause an unacceptable risk to human health and or the environment.

G.1.4 Validation sampling of unexpected finds

Validation inspection and possible sampling/analysis is required to be undertaken to demonstrate that unexpected finds have been managed to a standard suitable for the proposed land use. In the event unexpected, contaminated material is found the following sampling schedule is outlined in Table G.1 below.

Table G.1 Validation sampling and analytical schedule

Validation area	Sampling frequency	Analytes
Excavations formed by the removal of unexpected finds	Minimum of 1 validation sample per 10 m linear of wall and 1 m depth, minimum of 1 validation sample per 100 m^2 area for the base (10 m grid)	As appropriate, based on the characteristics of the find

Validation area	Sampling frequency	Analytes
Contaminated material requiring disposal offsite	TBD based on circumstances	TPH/BTEX, PAHs, heavy metals, OCP/PCBs, asbestos and TCLP (if required), or as appropriate based on the characteristics of the find
Residual soils underneath stockpiles where contaminated material has been stored	Minimum of 1 sample per 10 m grid	As appropriate, based on the characteristics of the find

Note: All samples analysed for asbestos validation / re-use purposes (including ENM) will be 500 mL samples in accordance with WA DOH (2009) guidelines and analysed in accordance with AS 4964-2004. Asbestos samples for waste disposal purposes will be 50 g samples.

G.1.5 Remediation or removal from site

Contaminated material must be documented, and the quantities determined, a suitably qualified specialist must advise on the appropriate action to be taken. Any material identified as contaminated must be disposed of in accordance with the POEO Act and its associated regulations. Details of the final disposal location and the results of any associated testing must be submitted to the Planning Secretary prior to removal of the contaminated material from the Project.

Appendix H
Waste Management Plan

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Land & Groundwater Consulting Pty Ltd
ABN 65 162 117 928

Stockland Fife Kemps Creek Pty Limited

Waste Management Plan
Cardboard Manufacturing Facility
(SSD-79300218)

Lot F, 200 Aldington Road
Kemps Creek, NSW

11 March 2025

Stockland Fife Kemps Creek Pty Limited

Waste Management Plan
Cardboard Manufacturing Facility
(SSD-79300218)

Lot F, 200 Aldington Road
Kemps Creek, NSW

11 March 2025

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1. Introduction

1.1 Background

Land & Groundwater Consulting Pty Ltd (LG) has been commissioned by Stockland Fife Kemps Creek Pty Limited (the Applicant) to prepare this Waste Management Plan (WMP) in response to the Planning Secretary's Environmental Assessment Requirements (SEARs) for the 200 Aldington Road Industrial Estate – Lot F (SSD-79300218) received on Wednesday 12th February 2025.

The site is currently legally described as Lot F approved under State Significant Development (SSD) 10479, comprising a total area of approximately 78,423 m^2. The site location and layout are shown in **Figures 1** and **2**, respectively.

Specifically, this WMP addresses the following SEARs and NSW EPA comments on existing EIS:

Table 1 – Summary of SEARs and EPA Comments

SEAR	EPA Comment	Report Reference
Details of the quantities and classification of all waste streams to be generated on site during the development.		Sections 4.1 and 4.2.
Details of waste storage, handling and disposal during the development.		Sections 5.3, 6.3, 6.4, 7.1, 7.2 and 7.3.
Details of the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the NSW *Waste and Sustainable Materials Strategy 2041*.		Sections 5.1, 5.2, 6.1 and 6.2.
Appendix A, Section 3.1.b – Identify, characterise and classify the following in accordance with the EPA's *Waste Classification Guidelines (2014)*: i. all waste that will be generated		Sections 7.1, 7.2, and 7.3.

SEAR	EPA Comment	Report Reference
onsite through excavation, demolition or construction activities, including proposed quantities of the waste; ii. all waste that is to be removed to an offsite location, including proposed quantities. Include the commitment to ensure this waste is taken to a facility that can lawfully receive it.		
	Section 6.1 – Assess and describe all aspects of waste generation, management and disposal associated with the proposed development.	Sections 4.1 and 4.2 (waste generation). Sections 5.1, 5.2, 5.3, 6.1, 6.2, 6.3 and 6.4 (management) Sections 7.1, 7.2, and 7.3 (disposal).
	Section 6.2 – Demonstrate compliance with all regulatory requirements outlined in the POEO Act and associated waste regulations.	Sections 3.1 to 3.8
	Section 6.7 – Identify the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*. Available at: https://www.epa.nsw.gov.au/your- environment /recycling-and-reuse/warr-strategy.	Sections 5.1, 5.2, 6.1 and 6.2.

1.2 Objectives

The objectives of the WMP are:

- To document the procedures that will be undertaken to manage the wastes generated as part of the development works;
- To provide details of the quantities and classification of waste and wastewater (if any) to be generated onsite;
- To provide details on waste storage, handling and disposal (including the location of waste storage and management facilities); and
- To provide details of the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the *NSW Waste and Sustainable Materials Strategy 2041.*

2. Project Summary

2.1 Development Application

The application seeks approval for a change-of-use to the facility, from warehousing and distribution to manufacturing. This is to facilitate a customer that works in cardboard manufacturing.

Under this SSDA, there are no physical changes proposed to the facility as these have been captured in the MOD-4 application. As such, this SSDA relates solely to the use of the facility.

2.2 Development Areas

The proposed development areas and GFA are as follows (refer **Figure 2**):

- **Total Building Area**
  - Total Building Area: 51,027 m^2.
- **Warehouse GFA**
  - Warehouse: 48,024 m^2.
- **Office GFA**
  - Ancillary Office: 2,500 m^2.
  - Dispatch Office: 126 m^2.
  - Production Office 1: 314 m^2.
  - Production Office 2: 63 m^2.

2.3 Project Schedule

The application seeks approval for a change-of-use to the facility, from warehousing and distribution to manufacturing. This is to facilitate a customer that works in cardboard manufacturing.

Under this SSDA, there are no physical changes proposed to the facility as these have been captured in the MOD-4 application (refer CWMP for MOD-4):

It is anticipated that construction waste will be stored in allocated areas of the site (refer **Figure 3**) and generated during the following fit-out work stages:

- Staging of plant and equipment for fit-out; and
- Installation of fit-out equipment, including services reticulation.

All operational waste producing activities such as cardboard goods production, packaging material, servicing of equipment and employee amenities will be located within the warehouse.

Cardboard scrap (by-product from cardboard goods production) will be collected in a caged floor trench (300 m long) and then transported via conveyor belt to a cardboard baler/compactor (International Press & Shear, Model AT-765-HS) located in the waste room, adjacent to the north eastern side of the warehouse. The extruded compacted cardboard bales will be stacked on pallets momentarily, and then loaded directly with forklift or a bale clamp (without pallet) into a tautliner or a container, prior off-site disposal to a licenced facility. The compacted cardboard bales will be stacked in a designated storage area, within the waste room (refer **Figure 4**), and collected by a regulated waste contractor on a daily basis.

Waste containers will comprise colour coded skip bins, which will be utilised to dispose off any general waste and recycling waste. The skip bins will be located within a designated waste storage area, within the waste room (refer **Figure 4**), and collected by a regulated waste contractor on a weekly basis.

It is estimated that the operation of the manufacturing and warehouse facility will require approximately 70 kL/day of recycled freshwater. This estimated volume of recycled freshwater is considered critical for supplying the boiler, as well as other processes (such as printing) which will occur in the production area. Also, it is anticipated that approximately 50 kL/day of operational wastewater will be generated. Due to the anticipated volume of wastewater being generated each day a separate wastewater room is proposed which will house a wastewater treatment plant. It is

currently proposed to install a wastewater treatment plant from Teknic with a maximum storage capacity of approximately 2,000 L.

3. Waste Regulatory Framework

3.1 Protection of the Environment Operations Act 1997

Wastes in NSW are classified for disposal or transport into categories. It is the responsibility of those who generate the waste to classify it into groups that pose risks to the environment and human health facilitates their management and appropriate disposal.

All material to be removed from the site (including associated activities such as classification) will be undertaken in strict accordance with the requirements of the POEO Act 1997. Such requirements include:

- Ensuring waste is classified appropriately and in accordance with relevant guidelines;
- Waste materials are disposed of to appropriately licensed facilities; and
- Other materials are removed to facilities lawfully able to accept such materials.

3.2 Waste Avoidance and Resource Recovery Act 2001

The Waste Avoidance and Resource Recovery (WARR) Act 2001 establishes the waste hierarchy to ensure that resource management options are considered against the following priorities:

1. Avoidance – actions to reduce the amount of waste generated and undertaking activities;
2. Resource Recovery – which includes reuse, reprocessing, recycling and energy recovery, consistent with the most efficient use of the recovered resources; and
3. Disposal – an "end-of-pipe" option that must be carefully undertaken to minimise any negative environmental outcomes.

The objectives of the WARR Act 2001 include:

- To encourage the most efficient use of resources;
- To minimise the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste;

- To ensure that industry shares with the community the responsibility for reducing; and
- To ensure the efficient funding of waste and resource management planning, programs and service delivery.

3.3 Protection of the Environment Operations (Waste) Regulation 2014

The Regulation encourages the recovery of resources from waste by issuing both general and specific resource recovery exemptions. Where no general exemption is available for the intended use, a specific exemption may be issued after an application is made to the NSW EPA. Specific exemptions are not publicly available.

The Regulation makes requirements relating to non-licensed waste activities and waste transporting. The proposed works on the site will not require to be licensed. Section 48 of the Regulation requires that wastes are stored in an environmentally safe manner. It also stipulates that vehicles used to transport waste must be covered when loaded.

The Regulation exempts certain waste streams from the full waste tracking and record keeping requirements. Waste tracking is required only for industrial and hazardous wastes.

3.4 Better Practice Guidelines 2012

The NSW EPA (2012) *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012* promotes efficient waste minimisation and resource recovery for commercial and industrial facilities and is used as a benchmark document when assessing waste production rates within Australia.

Better practice waste management systems in commercial buildings may incorporate any, or all, of the following:

- Garbage services to manage residual wastes (those not collected by a dedicated recycling or organics collection service).
- Recycling services to manage dry recyclable materials. These materials may vary from building to building, but generally cover recyclable materials generated in a typical business, including office paper, cardboard, plastic film, metals and

recyclable containers.

- Organics services to manage garden and food organics, which may include a bin-based collection system or onsite composting.
- Bulky waste services to manage bulky items, such as furniture and fit-out materials.
- Special waste services for items such as toner cartridges, batteries, fluorescent lights, mobile phones and chemicals.

3.5 NSW Waste and Sustainable Materials Strategy 2041

As well as waste reduction and recycling, Stage 1: 2021-2027 of NSW Waste and Sustainable Materials Strategy 2041, focuses on the environmental benefits and economic opportunities in how we manage our waste.

The main "targets" in the Strategy are as follows:

- Target 1: Reduce total waste generated by 10% per person by 2030 (for assessment of proposed measures refer Sections 5.1 and 6.1 of this report).
- Target 2: Have an 80% average recovery rate from all waste streams by 2030 (for assessment of proposed measures refer Sections 5.2 and 6.2 of this report).
- Target 3: Significantly increase the use of recycled content by governments and industry (for assessment of proposed measures refer Sections 5.1 and 6.1 of this report).
- Target 4: Phase out problematic and unnecessary plastics by 2025 (for assessment of proposed measures refer Sections 5.1 and 6.1 of this report).
- Target 5: Halve the amount of organic waste sent to landfill by 2030 (for assessment of proposed measures refer Sections 5.2 and 6.2 of this report).

The Strategy also includes the following recycling targets (as relevant to the proposed works at the site)[1]:

[1] *NSW Waste and Sustainable Materials Strategy 2041*, NSW DPIE, June 2021.

- Plastic litter reduction target of 30% by 2025.
- Introduce a new overall litter reduction target of 60% by 2030.

3.6 Waste Classification Guidelines 2014

Soil materials proposed to be disposed offsite (if any) shall be assessed, classified and managed in accordance with the NSW EPA (2014) *Waste Classification Guidelines, Part 1: Classifying Waste*.

3.7 Mamre Road Precinct Development Control Plan 2021

In accordance with Section 4.5 (Waste Minimisation and Management) of the Mamre Road Precinct Development Control Plan (DCP) 2021, one of the objectives of the DCP is to assist in reducing Penrith's ecological footprint by encouraging the diversion of waste from landfill.

The Mamre Road Precinct DCP has been prepared in accordance with the *Waste Avoidance and Resource Recovery Act 2001* and came into effect in November 2021.

3.8 SSD-10479 Development Consent 2023

In accordance with Sections D87 to D91 (Waste) of the SSD-10479 Development Consent 2023, the WMP must describe the handling, storage and disposal of all waste streams generated on site, consistent with the *Protection of the Environment Operations Act 1997, Protection of the Environment Operations (Waste) Regulation 2014 and the Waste Classification Guideline* (Department of Environment, Climate Change and Water, 2009). The SSD-10479 Development Consent came into effect in May 2023.

4. Estimated Waste

4.1 Construction Waste

The estimated construction waste quantities are summarised in **Table 2**.

Table 2 – Estimated Construction Waste

Type of Waste Generated	Reuse	Recycling	Disposal	Method of on-site reuse, contractor and recycling outlet and /or waste depot to be used
	Estimate Volume (m^3) or Weight (t)	Estimate Volume (m^3) or Weight (t)	Estimate Volume (m^3) or Weight (t)	
Excavated materials	0 m^3	0 m^3	0 m^3	N/A (if disposal applies refer S. 3.6 and 7.1)
Green waste	0 m^3	0 m^3	0 m^3	N/A
Bricks/pavers	0 m^3	0 m^3	0 m^3	N/A
Tiles	0 m^3	0 m^3	0 m^3	N/A
Concrete	0 m^3	<0.2 m^3	0 m^3	Recycling Management Centre
Plasterboard	0 m^3	<0.2 m^3 (offcuts)	0 m^3	Recycling Management Centre
Asbestos	0 m^3	0 m^3	0 m^3	N/A
Metal – specify	0 m^3	<0.5 m^3 (offcuts)	0 m^3	Recycling Management Centre
Timber - specify	0 m^3	0 m^3	0 m^3	N/A
Other waste – specify (eg. paints, PVC tubing)	0 m^3	0 m^3	<2 m^3	Waste Management Centre
Packaging (used pallets, pallet wrap)	0 m^3	<0.5 m^3	0 m^3	Recycling Management Centre
Containers (cans, plastic, glass)	0 m^3	<0.2 m^3	0 m^3	Recycling Management Centre
Paper/cardboard	0 m^3	<0.2 m^3	0 m^3	Recycling Management Centre
Total	**0 m^3**	**<1.8 m^3**	**<2 m^3**	

4.2 Operational Waste

The estimated weekly operational waste quantities for Lot F are provided in **Table 3**.

Table 3 – Estimated Weekly Operational Waste

Type of Waste Generated	Reuse	Recycling	Disposal	Method of on-site reuse, contractor and recycling outlet and /or waste depot to be used
	Estimate Volume (m^3) or Weight (t)	Estimate Volume (m^3) or Weight (t)	Estimate Volume (m^3) or Weight (t)	
Excavated materials	0 m^3	0 m^3	0 m^3	N/A
Green waste	0 m^3	0 m^3	0 m^3	N/A
Bricks/pavers	0 m^3	0 m^3	0 m^3	N/A
Tiles	0 m^3	0 m^3	0 m^3	N/A
Concrete	0 m^3	0 m^3	0 m^3	N/A
Plasterboard	0 m^3	0 m^3	0 m^3	N/A
Asbestos	0 m^3	0 m^3	0 m^3	N/A
Metal – specify	0 m^3	0 m^3	0 m^3	N/A
Timber - specify	0 m^3	0 m^3	0 m^3	N/A
Other waste – specify (eg. paints, PVC tubing)	0 m^3	0 m^3	<34 m^3 (GSW)	Waste Management Centre
Packaging (used pallets, pallet wrap)	0 m^3	<2 m^3	0 m^3	Recycling Management Centre
Containers (cans, plastic, glass)	0 m^3	<2 m^3	0 m^3	Recycling Management Centre
Paper/cardboard (cardboard scrap)	0 m^3	<3,064 m^3	0 m^3	Recycling Management Centre
Trade wastewater	0 m^3	0 m^3	<350,000 L = <350 m^3 per week	Sewer Discharge (Refer Section 4.2.1)
Total	**0 m^3**	**<3,068 m^3**	**<34 m^3 + <350,000 L = <350 m^3**	

4.2.1 Trade Wastewater

It is anticipated that a Trade Waste Agreement with Sydney Water will be necessary based on the proposed trade wastewater system and volumes.

Approximately 70 kL/day of potable (or recycled) water will be required for the tenant's operation. This includes:

- Water to supply the boiler which creates the steam necessary for the corrugation process;
- Water used for other processes such as printing which occur in the production area; and
- Water to wash out the plant and equipment in between orders.

The potable (or recycled) water used to wash out the plant and equipment is transferred from the production areas to an underground tank, approximately 50 kL in volume. In washing the plant and equipment, this water will collect a low concentration of paint and adhesives, and as a result must be treated prior to discharging from the property. The water is therefore pumped to the treatment plant in the wastewater room, where it is treated and discharged to the sewer system via a Trade Waste Agreement with Sydney Water. The tenant currently has a Trade Waste Agreement with Sydney Water for another facility in Sydney and proposes to maintain the same water quality criteria and discharge rates prior to discharging to Sydney Water's sewer assets (refer Consent No. 29017, Property Number 4501408).

We have considered the intention of the POEO Act (under Item 32 of Schedule 1) to identify waste generation via printing, packaging and visual communications, and any subsequent requirement to obtain an EPA License if at any time more than 5 tonnes of prescribed waste is stored. Our conclusion is that the residual water described above is similar in nature to stormwater that is stored in an on-site detention system, rather than a prescribed waste that risks significant harm to the environment, and therefore should not be considered Scheduled Activity.

The weekly wastewater to be discharged to sewer from wastewater treatment system is anticipated to be approximately <350,000 L/week.

An example of the proposed wastewater treatment system is provided in **Appendix A** and an extract of existing trade waste agreement with Sydney Water is presented in **Appendix B**.

5. Construction Waste Reduction Plan

5.1 Waste Reduction Measures

Waste-type-specific reduction measures will be employed during construction, with the following specific procedures:

- Applying practical building designs and construction techniques, including construction staging and ordering pre-cut materials at the required sizes;
- Appropriate sorting and segregation of construction wastes to ensure efficient recycling of wastes;
- Selecting construction materials taking into consideration to their long lifespan and potential for reuse;
- Ordering materials to size and ordering pre-cut and prefabricated materials;
- Reuse of formwork (where possible);
- Planned work staging;
- Reducing packaging waste on-site by returning packaging to suppliers where possible, purchasing in bulk, requesting cardboard or metal drums rather than plastics, requesting metal straps rather than shrink wrap and using returnable packaging such as pallets and reels;
- Careful on-site storage, sorting and separation of different waste products, especially for waste appropriate for recycling and reuse;
- Returning certain waste products (e.g. packaging) to the suppliers where possible.
- Acquiring materials and goods from waste reducing sources (e.g., recycled materials, fit for purpose packaging, leased equipment and machinery).
- Subcontractors informed of site waste management procedures; and
- Coordination and sequencing of various trades.

5.2 Beneficial Reuses

The anticipated beneficial reuses of construction waste are summarised as follows:

- All solid waste timber, concrete, tiles and rock that cannot be reused or recycled will be taken to an appropriate facility for treatment to recover further resources or for disposal to landfill in an approved manner;
- All asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with SafeWork Authority and EPA requirements;
- Portable, self-contained toilet and washroom facilities will be provided at the site and will be regularly emptied and serviced by a suitably qualified contractor;
- Provision for the collection of batteries, fluorescent tubes and other recyclable resources will be provided onsite to enable offsite recycling;
- Drink container recycling should be provided onsite or these items sorted offsite for recycling at an appropriately licensed facility;
- All garbage will be disposed of via a council approved system; and
- Opportunities for materials exportation and reuse with other local construction operations will be investigated.

5.3 Waste Storage Locations

Waste storage locations will be accessible and allow sufficient space for storage and servicing requirements. These locations will also be flexible in order to cater for change of use throughout the construction and operational stages.

Where space is restricted, dedicated stockpile areas are to be delineated on the site, with regular transfers to dedicated skip bins for sorting. The positions of the designated waste holding areas on site will change according to building works and the progression of the development, but must consider visual amenity, OH&S and accessibility in their selection.

All waste placed in stockpile areas/skips for disposal or recycling shall be adequately contained to ensure that the waste does not fall, blow, wash or otherwise escape from the site. Appropriate siting of waste stockpile locations will take into account slope and drainage factors to avoid contamination of stormwater drains during rain events.

Waste/recycling storage locations will be assigned during the construction works and will provide adequate space to accommodate all waste and recycling bins associated with the construction (up to approximately 2 x 2,000 L bins) (refer **Figure 3**). Recycling bins must be accessible to all construction employees and must be clearly sign posted and colour coded to ensure segregation of waste and recycling is effective. Waste containers are to be kept clean and in a good state of repair.

6. Operational Waste Reduction Plan

6.1 Waste Reduction Measures

Waste-type-specific reduction measures will be employed during development operation, with the following specific procedures:

- Provision of take back services to clients, flattening cardboard waste, recycle collection in offices and tearooms in order to reduce waste further along the supply chain;
- Re-work/re-packaging of products prior to local distribution to reduce waste arising;
- Review of packaging design to reduce waste but maintain 'fit for purpose';
- Investigating leased office equipment and machinery rather than purchase and disposal;
- Establish systems with in-house and with supply chain stakeholders to transport products in re-useable packaging where possible;
- Development of 'buy recycled' purchasing policy;
- Flatten or bale cardboard to reduce number of bin lifts required;
- Providing recycling collections within each of the offices and tearooms (e.g. plastics, cans and glass); and
- Hiring of qualified contractors for handling waste removal properly informing sub-contractors of waste management procedures.

6.2 Beneficial Reuses

The anticipated beneficial reuses of operational waste are summarised as follows:

- Cardboard, paper, plastic, glass, cans and pallets and containers will be reused/recycled offsite;
- Provision for the collection of batteries, fluorescent tubes and other recyclable resources will be provided on site to enable offsite recycling;

- All waste materials that cannot be reused or recycled will be taken to an appropriate facility for treatment to recover further resources or for disposal to landfill in an approved manner;
- Waste oil (if any) used in equipment maintenance will be recycled or disposed of in an appropriate manner; and
- Opportunities for materials exportation and reuse with other local industrial operations will be investigated. This will have two benefits: minimising energy through reduction of material reprocessing, encouraging material reuse.

6.3 Waste Storage Locations

Designated waste storage areas will be provided within the waste room, adjacent to the north eastern side of the warehouse, where the general waste bins, general recycling bins, and compacted cardboard bales will be stored prior to collection (refer **Figure 4**). Sufficient clearance will be necessary to enable collection vehicles to access the locations of bin storage. Where possible collection times should not coincide with peak operational delivery schedules however the designated area identified will not interfere with operational truck movements.

The construction of locations for garbage storage are to comply with BCA (Building Code of Australia) requirements and Australian Standards, including CoC requirements for screening and fencing.

The waste/recycling storage areas will be constructed of an adequate size to accommodate all waste and recycling bins and bales associated with the development. Recycling bins must be accessible to all employees and must be clearly sign posted and colour coded to ensure segregation of waste and recycling is effective.

Sufficient space will be provided for the segregation and storage of varying waste types including provision for the collection of fluorescent tubes, smoke detectors, e-wastes and other recyclable resources.

Sufficient space will also be provided for reuse items such as crates and pallets for occupational safety purposes.

Doors/gates to the waste storage locations will be able to be opened from the outside and wide enough to allow for easy passage of waste/recycling containers.

Waste collection areas should allow for manoeuvring of a rear loading vehicle truck of typical sizes between 8.8 m to 9.25 m long x 2.6 m wide truck, and 3.6 m head clearance.

6.4 Waste Collection and Servicing

Onsite collection is the preferred option with a waste truck able to enter and exit the site in a forward direction. Dedicated loading dock areas should be provided for the waste vehicle to prop while collections occur.

Private contractors using up to a 9.25 m MRV rear loading waste vehicle should enter the site via internal access road and reverse into the waste loading dock. The contractor should retrieve empty and return bins to/from the bin store at the time of collection then exit the site in a forward direction.

Litter spread is to be managed by ensuring garbage and recycling bins are not overloaded, and lids are always closed.

The private collection contractor's agreement should require their pickup of any waste that spills from the bins during collections.

Estimated waste collection frequency and number of recipients are summarised as follows:

Table 4 – Waste Collection Frequency and Number of Recipients

Waste Stream	Collection Frequency	Number of Recipients
General Waste	1 x Weekly	2 x 1,100 L, 1 x 30,000 L Bins
General Recycling Waste	1 x Weekly	2 x 1,100 L Bins
Compacted Cardboard Bales	1 x Daily	72 x 800 kg Bales

7. Waste Classification and Removal

7.1 Waste Classification

All liquid and non-liquid wastes generated during development construction works (if any) shall be classified in accordance with the requirements of NSW EPA (2014) *Waste Classification Guidelines, Part 1: Classifying Waste*.

Samples shall be collected by appropriately trained and experienced personnel from stockpiled or in-situ waste materials by the use of a hand trowel. The hand trowel shall be thoroughly decontaminated using phosphate free detergent and distilled water between each sampling location.

During the collection of soil samples, features such as seepage, discolouration, staining, odours and other indications of contamination should be noted on the field documentation.

Collected soil samples shall be immediately transferred to sample containers of appropriate composition (glass jars). Sample labels shall record job number; sample identification number; and date and time of sampling.

Sample containers shall be transferred to a chilled ice box for sample preservation prior to and during shipment to the testing laboratory. A chain-of-custody form should be completed and forwarded with the samples to the testing laboratory.

Soil samples shall be analysed by both a primary and secondary (independent check) laboratory, both of which shall be NATA accredited for the required analyses. In addition, the laboratories will also be required to meet the environmental consultant's own internal quality assurance requirements.

The analytical data shall be compared against the waste criteria contained in NSW EPA (2014) *Waste Classification Guidelines, Part 1: Classifying Waste* for heavy metals, TRHs, BTEX, PAHs, total pesticides (OCPs and OPPs), PCBs and TCLP in benzo(a)pyrene, lead and nickel. A summary of the criteria is provided in **Table 5**.

Table 5 – Summary of Waste Classification Criteria

Contaminant	General [1]	Restricted [1]	General [2]	Restricted [2]	General [3]	Restricted [3]
	CT1	CT2	SCC1	SCC2	TCLP1	TCLP2
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(µg/L)	(µg/L)
Heavy metals						
Arsenic	100	400	500	2000	5.0	20
Cadmium	20	80	100	400	1.0	4
Lead	100	400	1500	6000	5	20
Mercury	4	16	50	200	0.2	0.8
Nickel	40	160	1050	4200	2	8
BTEX						
Benzene	10	40	18	72	0.5	2
Toluene	288	1152	518	2073	14.4	57.6
Ethylbenzene	600	2400	1080	4320	30	120
Xylenes (total)	1000	4000	1800	7200	50	200
Petroleum Hydrocarbons						
C_6-C_9	N/A	N/A	650	2600	N/A	N/A
C_{10}-C_{36}	N/A	N/A	10000	40000	N/A	N/A
PAHs						
Benzo(a)pyrene	0.8	3.2	10	23	0.04	0.16
PAHs (total)	N/A	N/A	200	800	N/A	N/A
Pesticides (total)	N/A	N/A	250	1000	N/A	N/A
PCBs (total)	N/A	N/A	<50	<50	N/A	N/A

Notes:

1. Contaminant threshold values for classifying waste by chemical assessment without the leaching (TCLP) test (Table 1) – NSW EPA (2014) *Waste Classification Guidelines, Part 1: Classifying Waste*.

2. Specific contaminant concentration (SCC) values for classifying waste by chemical assessment (Table 2) – NSW EPA (2014) *Waste Classification Guidelines, Part 1: Classifying Waste*.

3. Leachable concentration (TCLP) values for classifying waste by chemical assessment (Table 2) – NSW EPA (2014) *Waste Classification Guidelines, Part 1: Classifying Waste*.

7.2 Waste Transporting

All wastes removed from the site shall be transported in accordance with relevant road and transportation regulatory requirements. Where required (depending on the classification of the wastes), appropriately licensed transport contractors shall be used.

The appointed transporters shall be responsible for ensuring they are appropriately licensed to:

- Carry the particular type of waste; and
- Transport the materials to an appropriately licensed facility.

Where the waste is classified as Restricted Waste or Hazardous Waste, the transporter is required to carry (subject to a number of exceptions) appropriately completed waste data forms with each load, and provide a copy to the waste facility to which the waste is taken.

7.3 Waste Receipts

Stockland Fife Kemps Creek Pty Limited should ensure that a permanent record of receipts, for the removal of both liquid and solid waste from the subject site, be kept and maintained up to date at all times. Such records would be made available to authorised person upon request.

8. Conclusions

Based on the assessment and findings of this WMP the following conclusions are provided:

- It is considered that this WMP provides adequate guidance for waste management during site construction and operational works;
- The details of the quantities and classification of waste to be generated onsite are provided in Sections 4.1 and 4.2 of this WMP;
- The details on waste storage, handling and disposal (including the location of waste storage and management facilities) are provided in Sections 5.3, 6.3, 6.4, 7.1 and 7.2 of this WMP; and
- The details of the measures (including mitigation measures) that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the *NSW Waste and Sustainable Materials Strategy 2041* are provided in Sections 5.1, 5.2, 6.1 and 6.2 of this WMP.

9. Limitation Statement

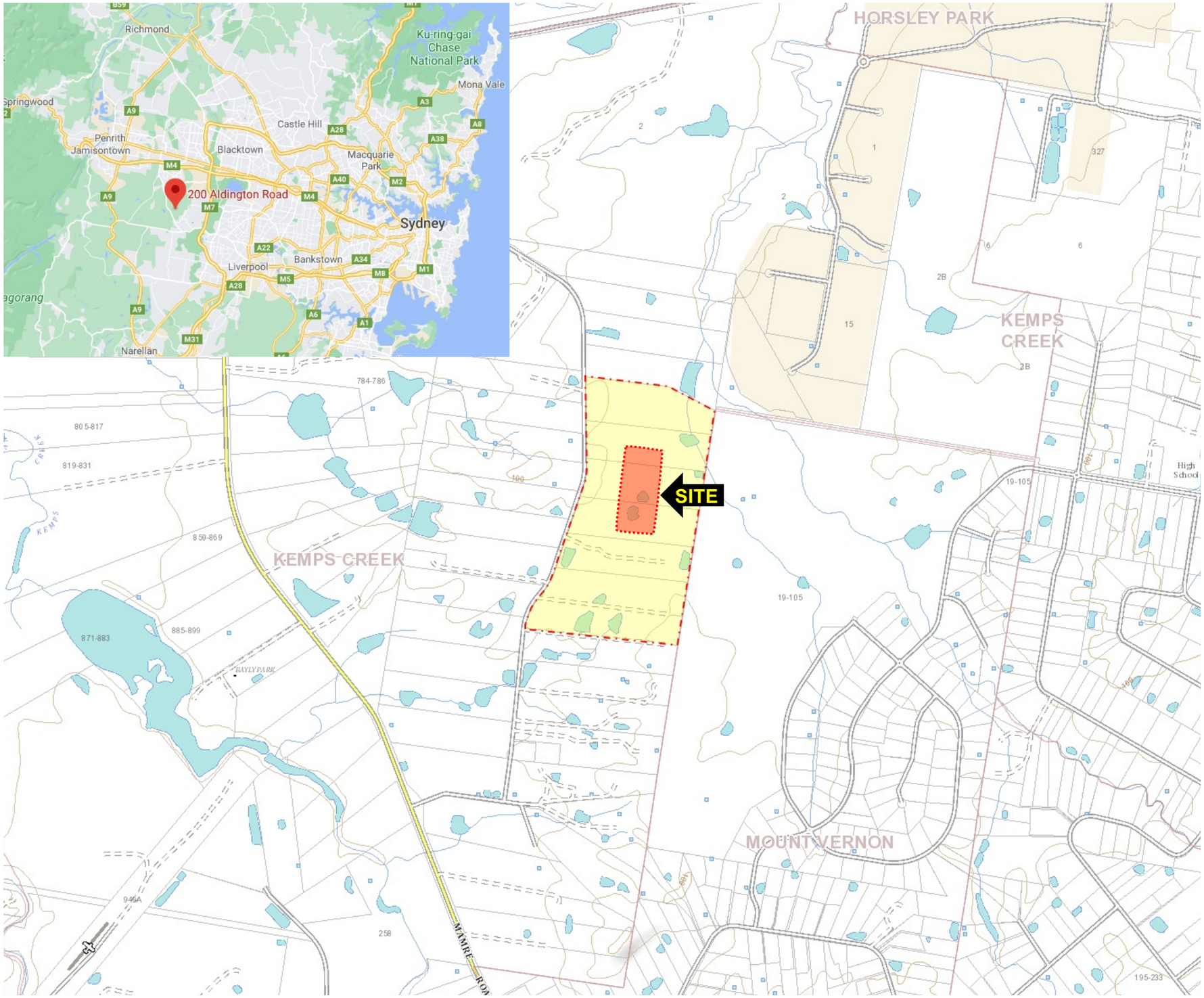
This report has been prepared for use by Stockland Fife Kemps Creek Pty Limited who commissioned the works in accordance with the project brief only and has been based in part on information obtained from other parties. The advice herein relates only to this project and all information provided should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose. Additionally, this report has been based on data documented by other parties in previous reports.

LG Consult accepts no liability for use or interpretation by any person or body other than Stockland Fife Kemps Creek Pty Limited. This report should not be reproduced without prior approval by Stockland Fife Kemps Creek Pty Limited, or amended in any way without prior approval by LG Consult, and should not be relied upon by other parties, who should make their own enquires.

Waste quantities and sources are based on documents made available to LG consult by Stockland Fife Kemps Creek Pty Limited.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein.

Figures



SCALE: **DRAWN TO SCALE AS SHOWN**

Not To Scale

NORTH

LEGEND:

SSD Boundary

Site Boundary

Image courtesy of Google & Six Maps

REV:	**A**
DATE:	**11/03/25**
DRAWN:	**GP**
APPROVED:	**GP**
STATUS:	**Final**
DWG NO:	

CLIENT: **Stockland Fife Kemps Creek**

PROJECT: **Lot F, 200 Aldington Road Kemps Creek, NSW**

PROJECT NUMBER: LG2427.02

TITLE: **Site Location Plan**

FIGURE: **1**

A4

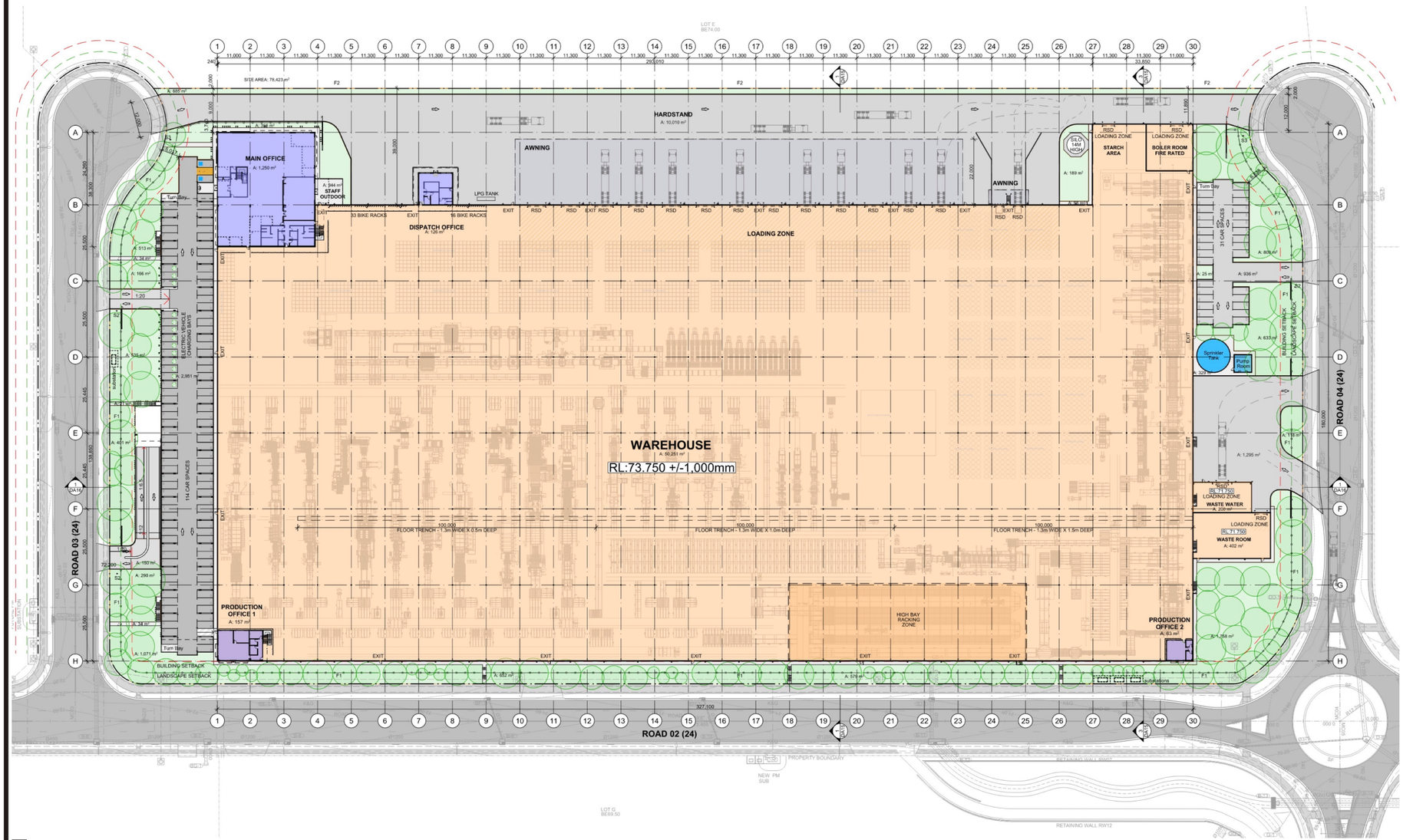


Image courtesy of DTA Architects

SCALE: **DRAWN TO SCALE AS SHOWN**

Not To Scale

N

LEGEND:

Site Boundary

REV:	**A**
DATE:	**11/03/25**
DRAWN:	**GP**
APPROVED:	**GP**
STATUS:	**Final**
DWG NO:	

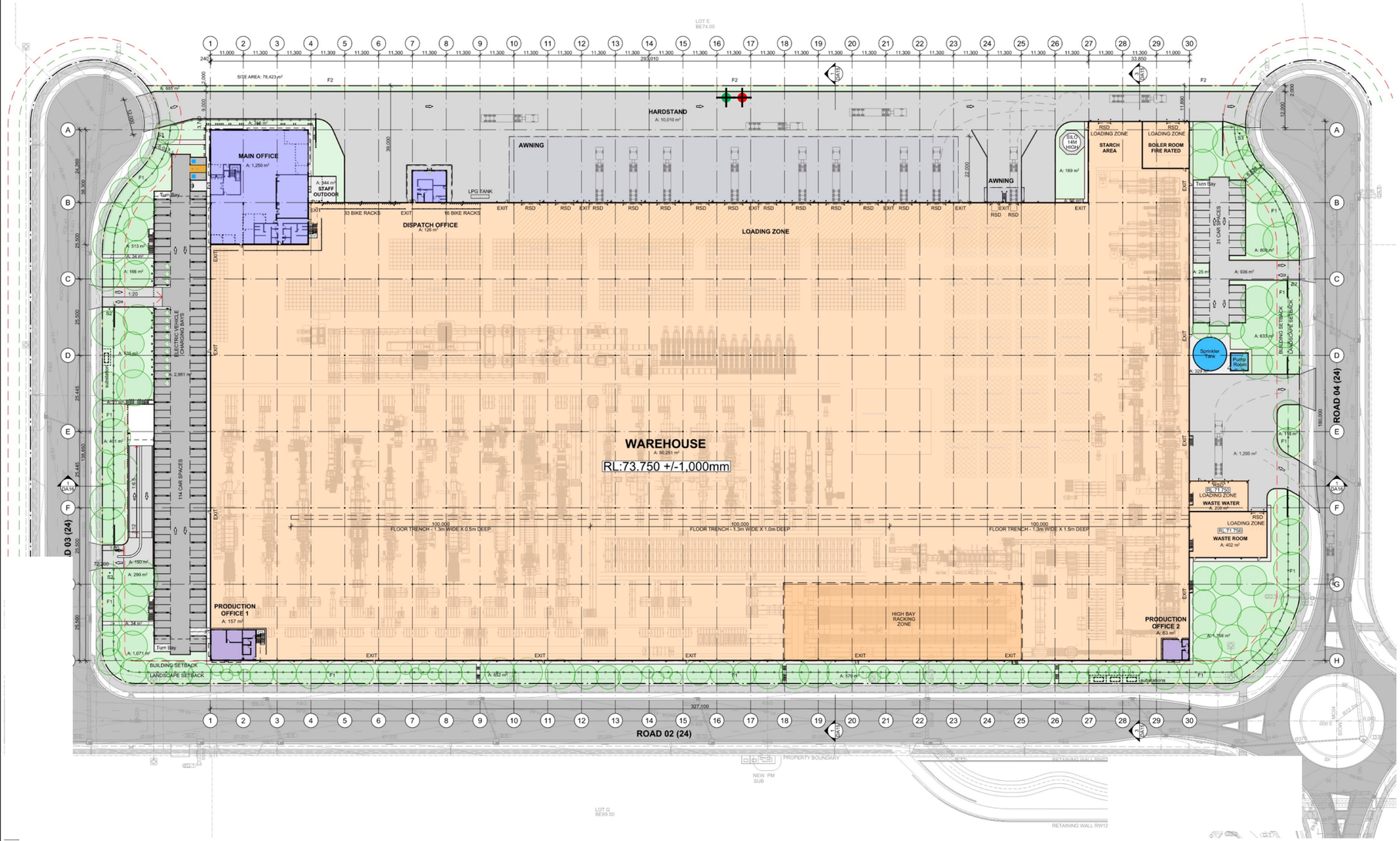
CLIENT: **Stockland Fife Kemps Creek**

PROJECT: **Lot F, 200 Aldington Road Kemps Creek, NSW**

PROJECT NUMBER: LG2427.02

TITLE: **Proposed Development Layout**

FIGURE: **2** A4



SCALE: **DRAWN TO SCALE AS SHOWN**

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N

LEGEND:

- Site Boundary
- 2000 L Mobile Garbage Bin (MGB) for General Garbage
- 2000 L MGB for Recycling

Image courtesy of DTA Architects

REV:	**A**
DATE:	**11/03/25**
DRAWN:	**GP**
APPROVED:	**GP**
STATUS:	**Final**
DWG NO:	

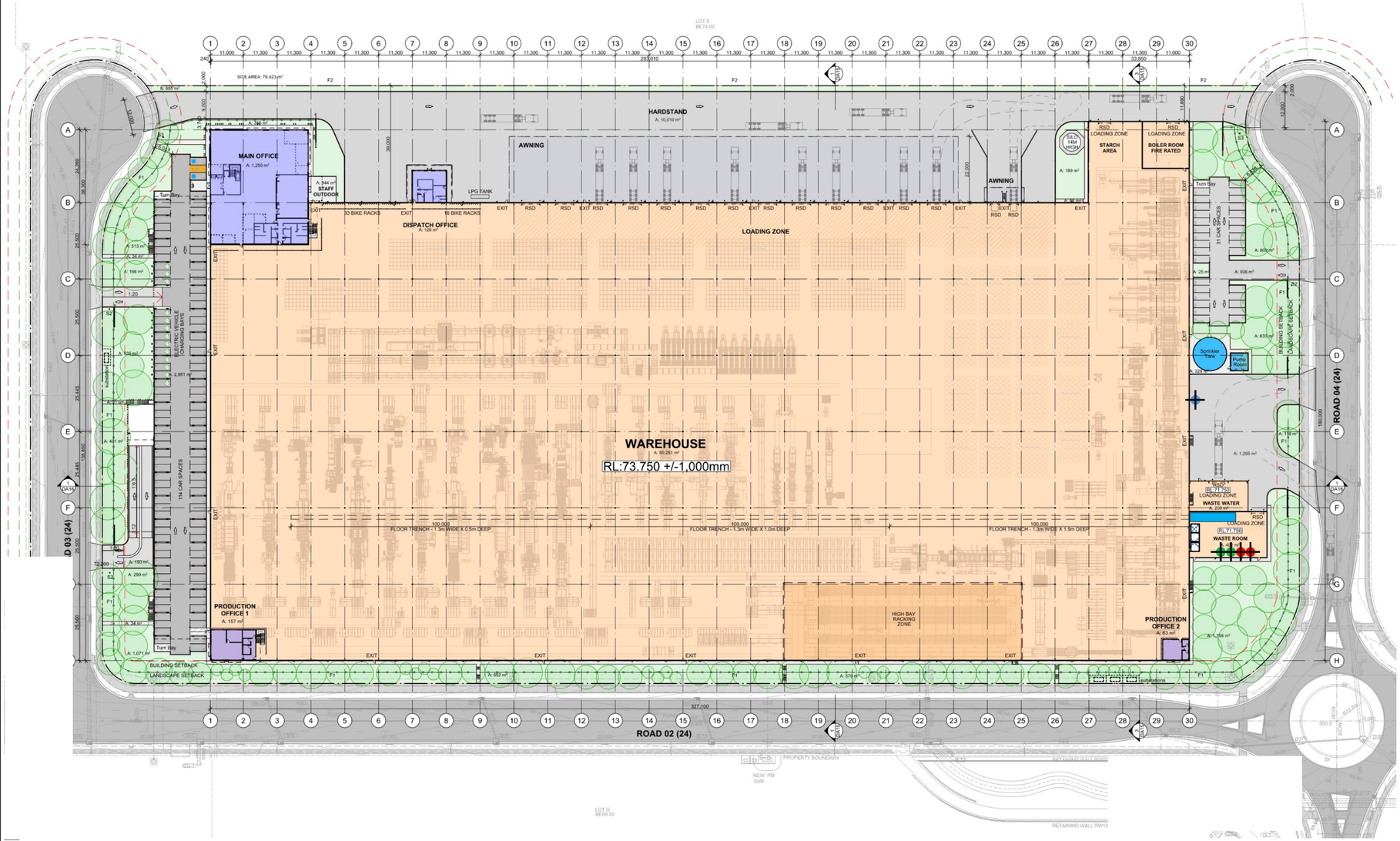
CLIENT: **Stockland Fife Kemps Creek**

PROJECT: **Lot F, 200 Aldington Road Kemps Creek, NSW**

PROJECT NUMBER: LG2427.02

TITLE: **Construction Waste Bin Plan**

FIGURE: **3** A4



SCALE: **DRAWN TO SCALE AS SHOWN**

Not To Scale

N

LEGEND:

- Site Boundary
- 1100 L MGB for General Garbage
- 1100 L MGB for Recycling
- 30000 L Roll-on/Roll-off for 'Other' General Waste
- Carboard Compactor Equipment
- Carboard Bale Collection Pallet

Image courtesy of DTA Architects

REV:	**A**
DATE:	**11/03/25**
DRAWN:	**GP**
APPROVED:	**GP**
STATUS:	**Final**
DWG NO:	

CLIENT: **Stockland Fife Kemps Creek**

PROJECT: **Lot F, 200 Aldington Road Kemps Creek, NSW**

PROJECT NUMBER: LG2427.02

TITLE: **Operational Waste Bin Plan**

FIGURE: **4** A4

Appendix A – Example of Proposed Wastewater Treatment System

TEKNIC

TEKNIC | ECOTECHNOLOGIES
WARAK Group Company

[redacted]

[redacted]

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Pol. El Olivar, Nave 13 Crta de Logroño Km 8,3 50011 ZARAGOZA

EORI-ES-B42732800

0. INTRODUCTION

[redacted] requests a budget for the implementation of a "turnkey" system for the treatment of the effluents generated in a corrugated board production facility.

TEKNIC ECOTECHNOLOGIES, SL is the environmental engineering specialist in the integral water cycle of the WARAK Group, multidisciplinary engineering with more than 25 years of experience in corrugated sector.

With more than 70 references of corrugated WWT worlwide, TEKNIC is made up of a group of professionals with extensive experience of more than 20 years. So...

Why **TEKNIC?**

- experienced team specially in corrugated sector
- maximum European quality standards
- worldwide implementations based on 4.0 technologies and “connected data”
- each Project is a new specific case with detailed and a particular engineering design.

BASIS OF THE TECHNICAL PROPOSAL

Based on the typology of the activity and the data of the different referred flows, a first estimation of design has been made to be confirmed in next commercial steps with the Property according to final decision factors such as available space, final requirements, local scope of supply, etc.

The following are identified as MAIN DESIGN FACTORS:
- Minimum space availability
- Maximum safety and ergonomics at work for operators.
- Strict compliance criteria marked by the relevant legislation and discharge authorization
- Maximum durability and robustness of equipment taking into account continuous work, weather conditions, etc. Possibility of moving the installation.
- Operating cost

1. DESING DATA

1.1 INCOMING WATER

PARAMETER	INCOMING VALUE (BUFFER TANK)
Daily Flow	35 m^3/day
pH*	6-8,5
BOD5	<4500 mg/L
SS	<1500 mg/L
N-Ammonia	<200 mg/L
Grease	<100 mg/L
Conductivity	<2000 microS/cm2
Al, B, Ba	To be defined

Note: influent numbers -except daily flow- are TEKNIC assumptions according to its experience in the cardboard production industry and they will be reconfirmed in case of interest on the project.

1.2 EFFLUENT REQUIREMENTS

Substance	LTADM (kg/day)	MDM (kg/day)	Standard (mg/L)
Aluminium	0.08	0.50	100
Boron	0.14	0.48	100
Barium	0.0013	0.003	5
Biochemical Oxygen Demand	11.70	23.00	
Formaldehyde	0.1515	0.50	30
Grease	0.13	0.38	110
Ammonia	0.35	1.00	100
Suspended Solids	6.10	19.80	600

Note: requirements for the effluent are defined in terms of instant measures (concentration mg/l) but also as daily and yearly mass balance which are definitely much more restrictive.

Metals (Ba, B and Al) and grease are to be removed by primary (ph-ch) treatment.
Biologically, BOD and specially Ammonia LTADM trully mean very low standar concentrations impossible to reach exclusively by ph-ch plants and seriously challenging conventional biological approaches.
Porposed MBR system is aiming a theoretical 0 mg/l (<5mg/l) of BOD and almost 100% of ammonia removal ratio (<10mg/l) **→ TEKNIC combined treatemt process and -specially- MBR system guarantees the final requirements.**

2. PROCESS DESCRIPTION

It is assumed that the water will reach the installation area of the treatment plant by means of the customer (pumped or gravity).
The Property has an underground volumen of 50m3 for the inks water and it is suggested that the starch water arrives from a different well by a differentiated pipe in order to control the ratio ink/glue to the WWT plant.
Pumps (ink and glue) and pit levels could (should) be controlled by our system if control signals are provided by the Property in our control board.

- TEKNIC installation starts in a control/pumping buffer of 10m3 already in the treatment plant area.
- from there, the water will pass to a physico-chemical system for the removal of suspended solids by flotation
- the water will eventually receive an MBR biological treatment to remove soluble organic and nitrogenous matter reaching the more strict requirements for dumping or reusing.

2.0 CONTROL AND PUMPING BUFFER

A first mixed (by air) 10m3 fiberglass flat/cylinder/open tank is planned to receive the water (ink and glue water if required)
A pressure switch will provide a level analogic signal of this tank to be managed by the PLC.
As it has been said, the plant will better control (or at least give on/off authorization) to the incoming pumps (ink and glue from the factory).
Mixing system is conceived as an extension of the main biological aeration system, so that no specific additional items are required.

2.1 DAF. DISSOLVED AIR FLOTATION.

After the homogenization process, the water shall be subjected to a physic-chemical flotation treatment whereby suspended solids and oils (hypothetically) contained therein shall be removed in percentages greater than 90%, in addition to the part of COD not soluble -inherent in these solids and fats-.

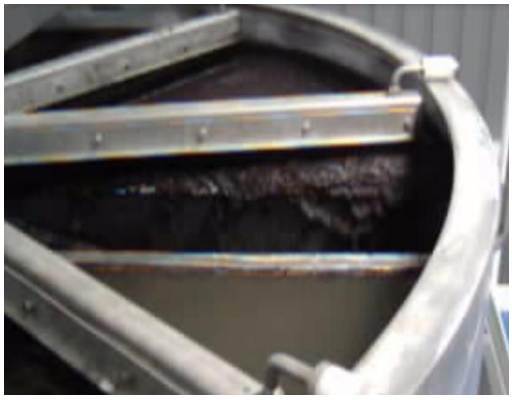
TEKNIC DAF description:

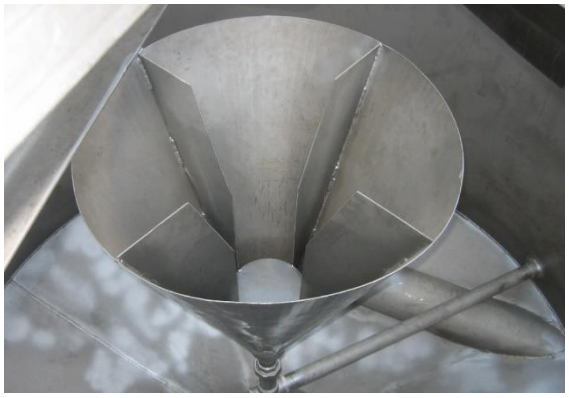
- TEKNIC design flotators work mainly with a unique pressured main line wherein both the chemicals (creating the flocks) and air are dissolved with a total contact between flocks and bubbles.

- TEKNIC circular shape of the float offers the following advantages.
* the maximum possible real float area compared to rectangular flotators where a large part of the surface is not for floating but a scraping area.
* since the upstream flow of water/flock/dissolved air mixture is permanently below the flotation zone (unlike rectangular floats) the percentage of solids that end up decanting instead of being removed by the scraper is minimal. The system has -in any case- a lower purge system by EV.

- TEKNIC high mass load capacity allows long stop periods of the scraper (which works with frequency variator and with configuration of time ON and time OFF) = high thickening process that can reach dryness ratios of 4-7%
- Complete manufacture in 304 stainless steel available in 316.
- digital pressure control (P 4-20mA transducer) to alert in case of low/high line pressure.







The special geometry of the cell and its expansion zone cause the bubble-flock to follow an upward flow to the top of the cell, forming a layer of sludge. The clarified water is extracted from the bottom of the cell by communicating vessels and discharged by gravity into a small buffer to be pumped to the next step (biological reactor).

The sludge is removed from the cell by rotating scraper, driven by a gear motor, which has timing and frequency variation to optimize the thickening and dryness of the sludge. The sludge is discharged onto a hopper that leads it by gravity directly to the sludge conditioning tank prior to the dewatering process by press filter.

2.2 BIOLOGICAL SYSTEM

The following factors have been considered in the selection of the most appropriate technology:

- Water with degradable organic content but with slow kinetics.
- Relatively low daily flow rates.
- Exigent requirements
- Expensive m2 → small footprint. Export project → minimize assembly and commissioning times.
- CAPEX and OPEX optimization criteria
- Robustness, expandability, adaptability to variable conditions (more depuration capacity (kgs of contamination/day), more m3/day of treatment (referred to an equivalent pollution charge) or more demanding limits

Based on the information provided by the client, the type of water to be purified and the requirements and reusing options, an MBR technology (Biological membrane reactor) with ceramic ultrafiltration skid is proposed, whose main advantages are:

- Optimum quality of the output effluent: with a very high rate of degradation of the organic matter and a total elimination of suspended and colloidal solids.
- Minimal investment of space due to the high efficiency of the treatment, derived from the high concentration of biomass (up to 25gr/l) which reduces the volume of the reactor between 2 and 5 times in regard to conventional systems.
- Stability: less susceptible to changes in flow rate, organic load and/or temperature. Quick recovery of output parameters after peaks, toxics or accidental spills.
- Minimal investment in civil works, limited only to the execution of the reactor floor. Low sludge generation due to the high “sludge age” with which the biological membrane reactor works.
- Elimination of filamentous bulking. Solid-liquid separation after biological treatment by means of filtering membranes and not by sedimentation.
- Simple possibility of extending the biological process by adding filtration modules.
- Short start-up and recovery periods.

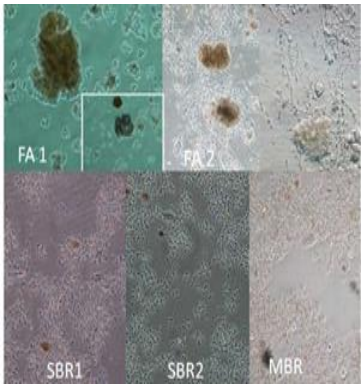
2.2.1 DESCRIPCIÓN DE LA TECNOLOGIA MBR

The MBR membrane ultrafiltration system allows -as an essential point to highlight- the obtaining of an optimal quality in the discharged water, superior to conventional systems. The main difference lies in its efficient system of solid-liquid separation: separation of the biomass from the water by the UltraFiltration membrane (instead of being sedimented in a decanter). That means the capacity to work with high concentrations of microorganisms (SSLM of 10-25 g/l versus 3-4 g/l in conventional activated sludge) and therefore an intensification of the elimination of organic matter compared to other alternatives on the market.

The presence of organic load with slow degradation kinetics makes intensive treatment necessary. In conventional systems (activated sludge) this results in very high volume reactors. The high biomass density at which MBR systems operate allows the reactor volume to be reduced by 2 to 5 times compared to conventional systems, resulting in higher organic matter removal yields.

Another significant advantage of the membrane system with respect to other solid-liquid separation systems (decanters/floats) is the reliability and ease of control of the biomass concentration in the reactor, together with the elimination of problems arising from settiling such as filamentous bulking, foaming, etc.

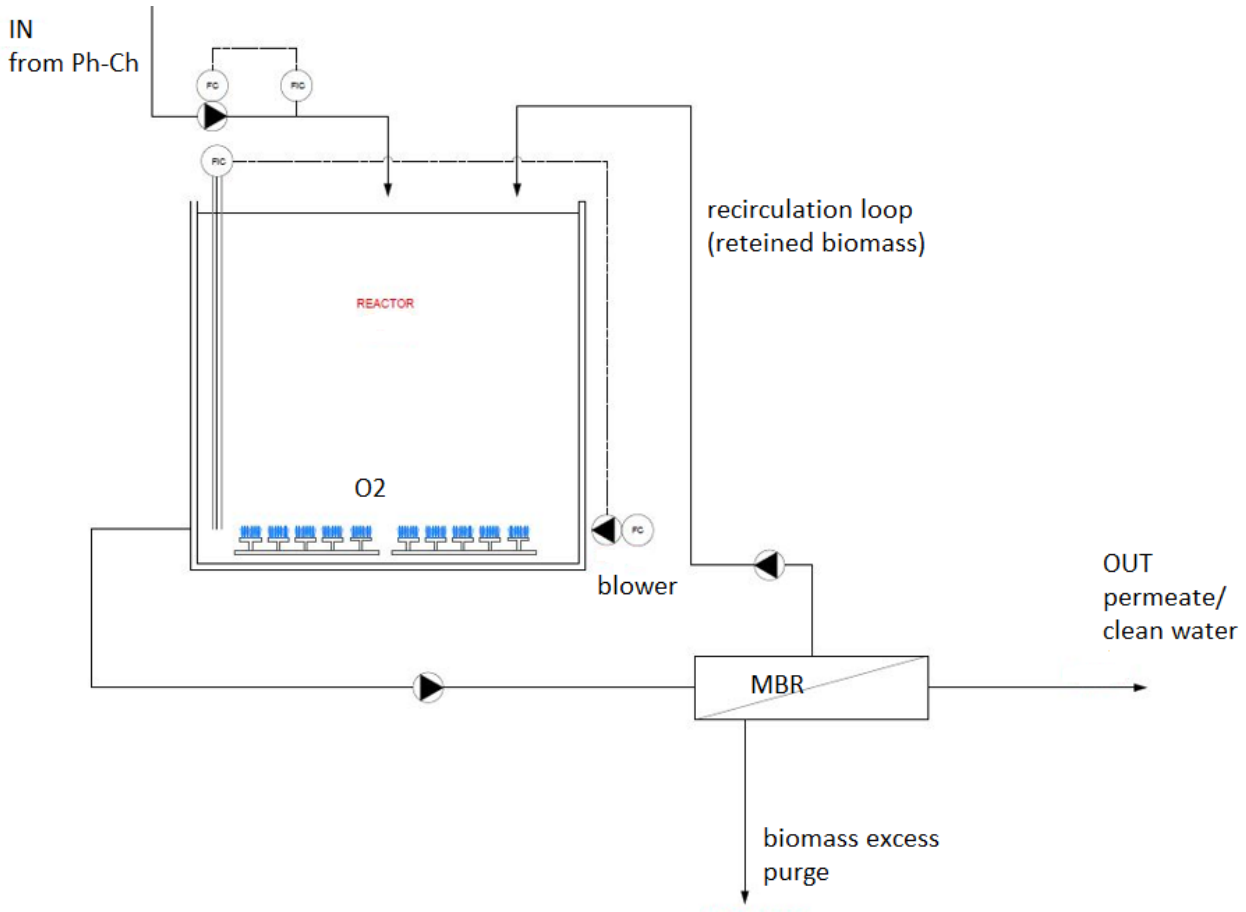
The complete retention of biosolids and colloidal substrate with the membranes, together with the control of the “sludge (biomass) age”, gives the possibility to work with retention times and sludge ages that guarantee a greater metabolization of organic matter which finally leads to a minimum growth of biomass (minimum sludge excess production).







The MBR system with external configuration membranes offered here, can be schematic as shown below:



As shown in the diagram above, the system consists of the following elements:
- aerated bioreactor, where biological degradation of organic matter is carried out;
- the membrane skid itself, where solid-liquid separation occurs (feeding and recirculation pumps, instruments, electrovalves, etc. included).

The bioreactor consists of a tank that is supplied with enough oxygen for microorganisms growth and degradation of organic matter. In this case, the proposed oxygenation system consists of a blowing group that introduces air into the reactor through a fine bubble diffuser grille.
A centrifugal pump located outside the reactor (in the skid) introduces the sludge (biomass) liqueur into the membrane system. This pump generates velocity and flow pressure conditions suitable for the tangential filtration of the liqueur mixture and its separation into two currents, the permeate and the biological sludge.

The basis of this filtration is the generation of a constant pressure difference (gradient) between the inlet and outlet of the membranes, so that a filtering speed is obtained that prevents the formation of a solid cake on the surface of the membrane, at the same time that constant outflow flows are obtained, allowing a high level of control of the biological system.

The permeate constitutes the purified final discharge free of biosolids and colloidal matter and with high quality levels.

The system is automatically self-cleaned (when it detects breaks in its operation of more than 2 hours) by passing water in the normal flow direction. This cleaning is done periodically and allows maintaining the proper hydrodynamic conditions of filtration, in addition to extending the life of the membrane bodies.
The characteristics of the membranes and their high strength allow these cleanings to be carried out occasionally with acid or alkaline solutions (ph 0-14) also automatically adding a small amount of these products in the CIP that incorporates the system for self-cleaning.

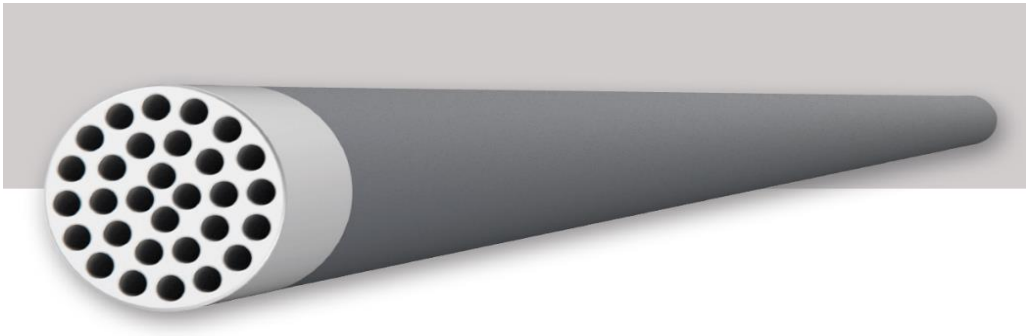
2.2.2 CERAMIC MEMBRANES ADVENTAGES

Ceramic membranes have the following advantages:

- Less fouling: due to the high hydrophilicity of the membranes, as well as the surface finish achieved, the initial chemical and bacterial adsorption processes are minimized, in such a way that the filling and biofouling processes are delayed or avoided.
- Robustness and Reliability: highly resistant to extreme conditions of pH (1-14) and temperature (up to 90ºC), as well as to the attack of solvents, oxidants and other chemicals. In addition, thanks to the diameter of the channels, fluids with high concentrations of suspended solids can be filtered, and the need for pretreatments and safety pre-filters is minimized.
- Cost/life cycle ratio: competitive with organic membranes. Superior quality is no more expensive as it is compensated by a much longer life (3-5 times higher than organic membranes), as well as lower operating costs associated with:

• 40% less in maintenance/operation
• 30% less replacement membranas
• 20% less in sludge treatment and management

CERAMIC MEMBRANES	
Materials:	Carrier SiC Membrane ZrO2
Assembly configuration:	Multitubular with circular channels
Pore size	60 nm
P max/operation	5 bar TMP / 3 bar TMP
Tªmax	Hasta 800ºC (limitante por componentes)
pH tolerance	0-14
Filtration surface /unit	0,33 m2
Nº channels	30



2.2.3 MEMBRANES HOUSING

HOUSING MODULE	
Materials module	SS AISI 304
Nº membranes/module	99
Filtration surface/module	32,7 m2



2.2.4 FILTRATION SKID

Filtration systems are composed of the following elements:

- Module with corresponding membrane housing
- CIP cleaning system.
- in-feed pump/Recirculation pump
- Security prefilter.
- Flow meters, sensors, instrumentation, connections and fittings.
- Steel frame.





MEMBRANE SKID	
Aplication	MBR
Membrane configuration	Ceramic multitubular Csi /ZrO2
Nºmodules / nºmembranes	1 housing x 99 membranes
Skid length	2.100 mm.
Skid maximum height	2.540 mm.
Skid width	1.200 mm.
Total weight (empty)	1.600 kgs
Pressure	0-5 bar
Power supply	400 VAC III + T
Installed Power (skid + blower)	19 kws

2.2.5 BIOLOGICAL DESIGN

Nº de Reactors	1
Type of Reactor	CSTR
Geometry	Cylindrical flat base open top
Reactor volumen (m^3)	75
Useful Volumen (m^3)	70
Diameter (m)	4
Total height (m)	6
Water line height (m)	4.2-5,7
Security volumen (m)	0,3
Hydraulic Retention Time HRT (horas)	32-40h

Design Tª	20 – 30ºC
Biomass concentration (g SSLM -biomass-/L)	10-20
Mass load	0,05-0.12
Oxygen demand (Kgs O_2/day)	50-70

NOTE 1 Removal of nitrogenous matter. Need for nutrients

Based on the analytical data provided by the customer and the requirements for the discharge, nitrogen is surplus while phosphorus may be provided in the form of phosphoric acid (no specific info).

It is proposed from the beginning that the system be able to carry out not only the nitrification of the present ammonium (conversion into nitrates) but also the denitrification (conversion of that nitrate into N2 atmospheric gas) which is carried out under anoxic conditions, generating alternation of operation of the blower.

In the anoxia phases (blower stop) the biomass is kept in suspension facilitating the degassing of the N2 gas generated by means of a submerged mechanical agitator that during the aeration periods stays logically stationary.

NOTE 2 Excess of biological sludge:

The biological activity required for the degradation of the carbonaceous and nitrogenous matter has as its final reaction the transformation into CO2, H2O and NO3 (which may be denitrified to N2 in case the regulation regulates Ntotal instead of ammoniacal).

The reaction is completed by the production of additional biomass which is gradually increasing in concentration and must be controlled between design values.

In MBR systems, as mentioned above, this value can reach values of 16-18gr/l but in any case periodically there must be a purge of the system which basically consists of the extraction of a certain amount of the biological mixture from the reactor.

A rough estimation (many factors affecting) results in 200-300 l/day of purge from the biological system. The MBR skid switches two electrovalves automatically to execute this purge which is drained to the sludge tank to be dewatered together with the DAF sludge in the press filter.

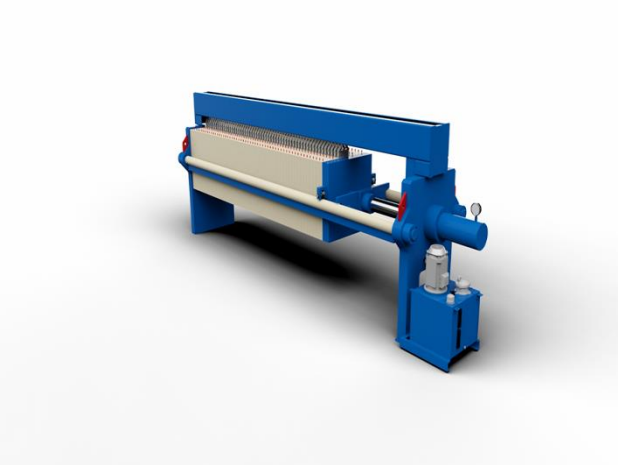
2.3 DEWATERING SYSTEM

Both processes -physical/chemical and biological- produce as a result of their purification action, a residual sludge.

The aim is to minimise their volume and weight and thereby their associated costs. The most widely used solution in the cardboard sector for the sludge dewatering is a system based on filter press that mechanically (pneumatic pump exerting pressure against the filter press) is able to reach dryness of up to 35-40% Dry matter.

It is therefore proposed a buffer sludge tank that will receive the sludge produced in the flotation process and also occasional purges from the biological.

The Filter Press (optionally automatic or semi-automatic) will receive the conditioned sludge from this buffer by means of a pneumatic pump.





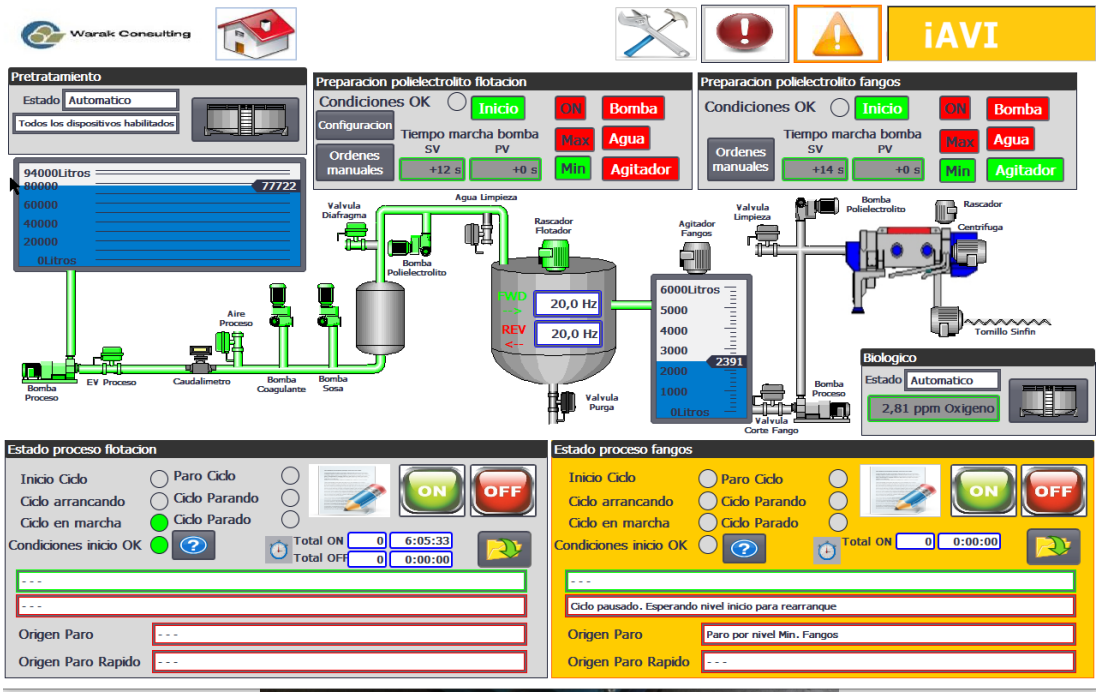
2.4 CONTROLS.

All electro-mechanical elements that make up the installation described above are controlled from a central control panel equipped with a PLC.

Siemens PLC software provides an automatic operation of the installation, controlling at all times the state of the process (on/off status of equipment, analog signals of instruments and measurable parameters), as well as the start and stop of the plant, alarms and malfunction, etc.

Operator Interface is a color touch screen that facilitates the operation (12"). Both PLC and HMI could be inserted into the local network (if the Property has an ethernet connection) and remotely controllable for both internal maintenance/operation and Teknic assistance.

MBR system has its own auxiliar local control panel, also equipped with a PLC and HMI connected with the master one.



In addition, TEKNIC standarts includes the hardware (PLC, gateways, router) to enable the TELEMETRY AND MONITORING service for use of the Property and/or TEKNIC services of monitoring and assistance that customer deems necessary.

This system is based on:
1.- enable access in internal network of factory or external (in safe conditions with device SECOMEA, EWON or similar) to the control screens of the plant itself, to be able to make checks (visualization) and also modifications (activation/deactivation of remote equipment, etc.). This service also allows to receive all kinds of alarms and notices by e-mail to the customer's designed operator and also to our staff, if so determined.
2.- use the online platform, capable from any device with internet connection, which collects, stores and processes all the data collected by the plant (flow rates, pressures, O2, N, pH, operating status of each device, etc.), in addition to images from webcams, if desired.

The advantages of this service are:
- allows the monitoring of the WWT plant by the operators of the Property from any terminal with Internet access (PC, Tablet, Mobile...) accessing both the instantaneous and historical data, in numerical and graphic form, being able to obtain reports, traceability, etc.

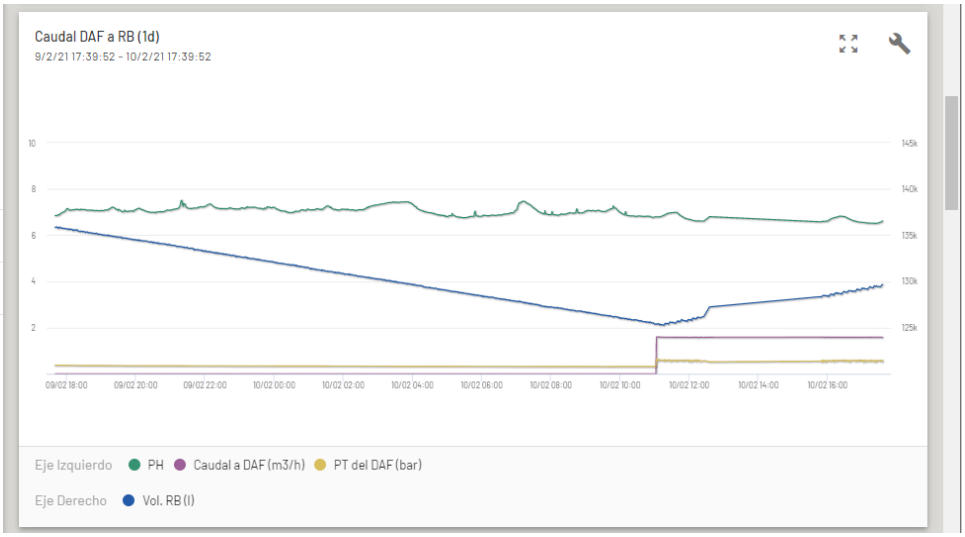
- system alarm email referral service to the staff indicated by the Property (and to Teknic staff depending on the contracted service).

- Increases Operator Supervision Monitoring 24/7
    *Data accessible online on any device
    *All variables in a single web environment
    *Possibility (function of the contracted service) of Alarms via e-mail, SMS etc

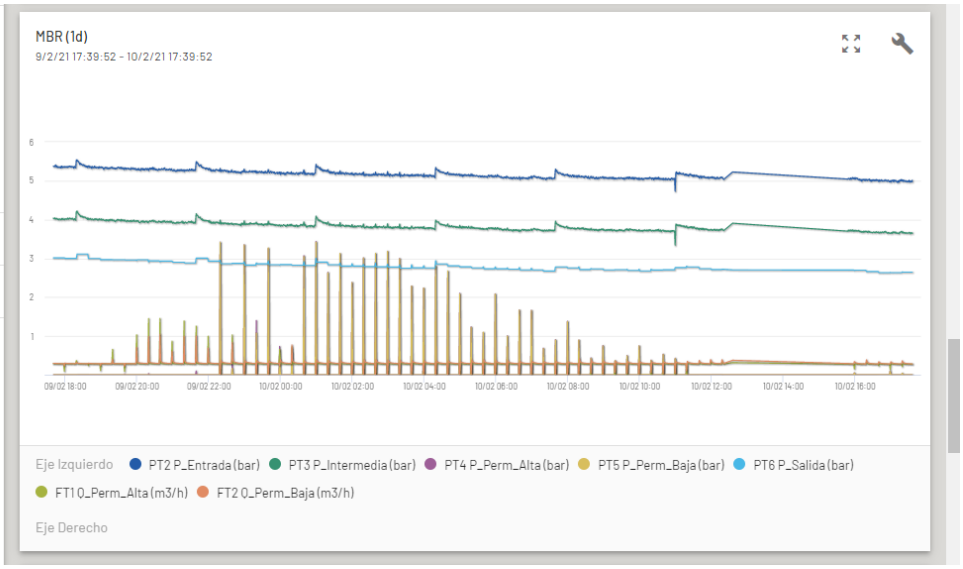
- Streamlines Operator Analysis, automating typical searches and data processing

- Prevents the control system from becoming limited or obsolete, keeping the data and events in an external system.
    *Central server with its own support and maintenance
    *Ready to give service and unlimited space
    *System in continuous development and evolution
    *Parallel data storage online, offline, alarms, notes, synoptics, webcams
    *Combined display of any type of data

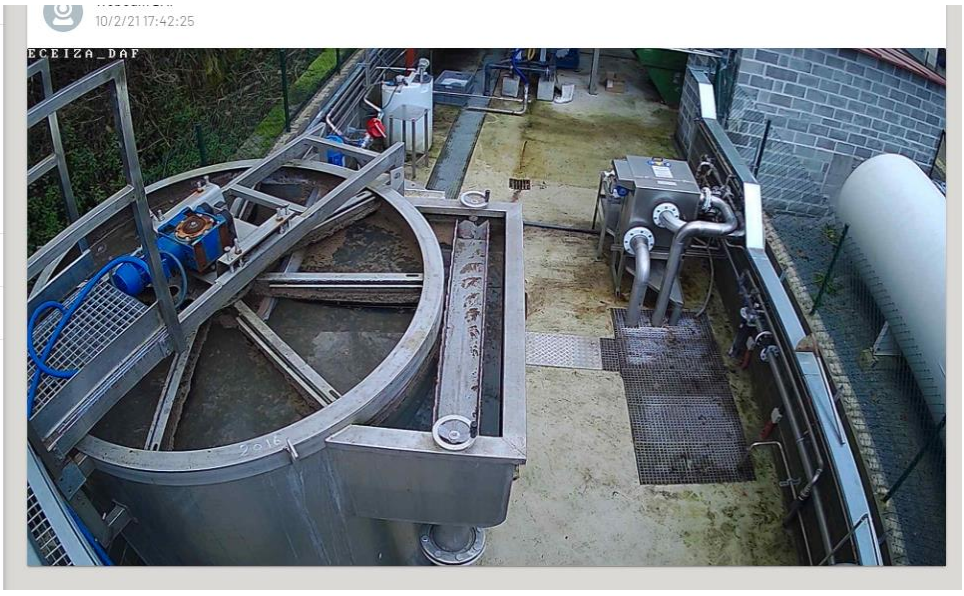
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Appendix B – Extract of Existing Trade Waste Agreement with Sydney Water

Schedule 1 Trade wastewater which may be discharged

Subject to public disclosure

1. Trade wastewater substances

(a) **You** may discharge **trade wastewater** into **our wastewater system** in a manner so that the substance characteristics of the **trade wastewater** are of a type and discharged at a rate, level or concentration equal to or less than that described in this schedule.

(b) **You** must not discharge **trade wastewater** into **our wastewater system** in a way that the **trade wastewater** discharged:

i. contains, possesses or produces a substance characteristic not provided in, or which may be determined as being contrary to that described in this schedule

ii. is at or of a rate, level, or concentration not provided in, or which may be determined as being contrary to, that described in this schedule.

Substance	LTADM (kg/day)	MDM (kg/day)	Standard (mg/L)
ALUMINIUM	0.08000	0.50000	100.000
BORON	0.14000	0.48000	100.000
BARIUM	0.00130	0.00300	5.000
BIOCHEMICAL OXYGEN DEMAND	11.70000	23.00000	
FORMALDEHYDE	0.15150	0.50000	30.000
COPPER	0.00000	0.00000	5.000
GREASE	0.13000	0.38000	110.000
AMMONIA (AS N)	0.35000	1.00000	100.000
SUSPENDED SOLIDS	6.10000	19.80000	600.000

Reconciliation procedures

Long term average daily mass:

The **long term average daily mass (LTADM)** is a twelve-month arithmetic average of all **daily mass** discharges as calculated for each **composite sample**. Calculate the **daily mass** discharged for each of the above substances, and check this against the above **LTADM** (kg/day) based on the average concentrations of substances discharged (mg/L) over any 24-hour period as determined from **composite samples**, obtained by either the **customer** (according to schedule 2) or **Sydney Water**, or a combination of sample results by both.

Multiply this average concentration (mg/L) by the total discharge (kL) as recorded by **your** discharge flow meter over the 24-hour period, to calculate the **daily mass** of substances discharged (kg). Exceeding the **LTADM** does not constitute a **breach**.

Acceptance standard:

Determine the **composite sample** concentration for each of the above substances, and check these against the above **acceptance standard** (mg/L) for each sample obtained. Exceeding the **acceptance standard** constitutes a **breach** and will also incur an increased **quality charge** as detailed in schedule 3.

Determine the discrete sample concentration for each of the substances identified at schedule 2, 2(b) and check these against the above **acceptance standard** (mg/L) for each sample obtained. Exceeding

the **acceptance standard** constitutes a **breach**.

Maximum daily mass:

Calculate the **daily mass** discharged for each of the above substances, and check this against the above **maximum daily mass (MDM)** (kg/day), based on average concentrations of substances discharged (mg/L) over any 24-hour period as determined from **composite samples**, obtained by either **you** (according to schedule 2) or **us**, or a combination of sample results by both.

Multiply this average concentration (mg/L) by the total discharge (kL) as recorded by **your** discharge flow meter over the 24-hour period to calculate the **daily mass** of substances discharged (kg). Exceeding the **MDM** constitutes a **breach**.

2. The trade wastewater discharged must always have the following properties

Temperature	-	Not to exceed 38° Celsius.
Colour	-	Determined on a system-specific basis.
pH	-	Within the range 7.0 to 10.0.
Fibrous material	-	None which could cause an obstruction to **our wastewater system**.
Gross solids (other than faecal)	-	A maximum linear dimension of less than 20 mm, a maximum cross section dimension of 6 mm, and a quiescent settling velocity of less than 3 m/h.
Flammability	-	Where flammable and/or explosive substances may be present, **you** must demonstrate to **our** satisfaction that there is no possibility of explosions or fires occurring in **our wastewater system**. The flammability of the discharge must never exceed 5% of the **lower explosive limit (LEL)** at 25° Celsius.

Appendix I
Spoil Import Procedure

EMM
creating opportunities

I.1 Introduction

SFKC may import spoil for use on the Project. Spoil may be imported from outside the project area in accordance with Condition D21 which states:

> The Applicant must:
>
> a) ensure that only VENM, ENM, or other material approved in writing by EPA is brought onto the site;
>
> b) where possible, source fill material from within the MRP;
>
> c) keep accurate records of the volume and type of fill to be used; and
>
> d) make these records available to the Planning Secretary upon request.

It is noted that "*other material approved in writing by the EPA*" will include appropriate materials as approved under a NSW EPA Resource Recovery Order/Exemption. The Exemptions contain conditions that consumers must meet to use resource recovery waste, including conditions that specify requirements regarding how to reuse or apply the waste, as well as record-keeping, reporting and other requirements.

This procedure relates to the importation of spoil from an environmental perspective only. This procedure does not include any management measures, testing requirements, etc. for spoil from an engineering perspective.

I.2 Establishment of spoil management registers

SFKC will create an Imported Spoil Source Register. The register will contain the following information as a minimum:

a) Supplier details (company name, company representative contact details)

b) Location of spoil to be imported – full address of facility

c) EPL Number of facility (where applicable)

d) Type of Material to be imported (e.g. VENM, ENM, etc.)

e) Location of testing certificates/classification reports on SFKC system

f) Confirmation spoil meets requirements of Condition D21

g) Date testing occurred as per certificates

h) When testing certificates/classification reports need to be updated by the supplier (if relevant)

i) Where spoil will be imported to on the Project site

j) Intended use on the project site

k) Date importation commenced

l) Date importation was completed

m) Total volume of material imported

n) Any signs of contamination reported

o) Reference to Site Spoil Delivery Register.

SFKC would also implement a Site Spoil Delivery Register to record spoil deliveries to site. The register would contain the following as a minimum:

a) Truck licence plate number

b) Entry time

c) Exit time

d) Origin of truck

e) Material type

f) Quantity of material (volume)

g) Location of stockpiling or application on site

h) Docket number related to load.

To ensure these registers are compatible with each other, those maintaining the Imported Spoil Source Register, ordering material and maintaining the Site Spoil Delivery Register must work in a collaborative manner.

I.3 Protocol

Once the appropriate spoil management registers are established, SFKC may commence the spoil import protocol.

1. **Identify sources of spoil**. As a priority, sources of spoil within the Mamre Road Precinct will be pursued. Where spoil sourced from the MRP is not available or does not meet the requirements of Condition D21, spoil sources from outside of the MRP may be considered. To minimise greenhouse gas emissions impacts to local communities, spoil sourced from nearby sites should be favoured.

2. **Gather appropriate documentation**. When identifying a source of spoil that may be imported to the Project, SFKC will request testing certificates and a report from the supplier that classifies the material. The classification must confirm that the spoil meets the criteria as required by Condition D21.

   It is noted that some testing certificates/ Resource Recovery Order classifications provided by suppliers are related to stockpiles or waste streams that require frequent updating (further testing and updated classification reports). SFKC will work with suppliers to ensure that testing/classification reports are kept up to date. Refer to Record Keeping section below for more information on maintaining records.

3. **Communication**. Once the appropriate information is gathered and recorded within the Imported Spoil Source Register, site crews may be briefed on upcoming spoil importation and directed to use the Site Spoil Delivery Register.

4. **Import spoil**. Importation of spoil may commence. When off-loading spoil, an appropriately trained spotter should be available to inspect for any signs of contamination, such as asbestos fragments. Where signs of contamination are observed, the material should be made safe and the Site Supervisor notified. Testing of suspected contaminated materials must occur. Where contamination is confirmed (i.e. there is an exceedance to allowable limits of a contaminate as per the NSW EPA Resource Recovery Order/Exemption) the NSW EPA and supplier will be notified.

I.4 Record keeping

All records will be maintained for a period of at least 6 years. Records to be maintained include the following, as a minimum:

- Any testing certificates/classifications received from a supplier.
- Imported Spoil Source Register.
- Site Spoil Delivery Register.
- Disposal dockets.
- Related incident reports/site inspection records.
- Records of any reporting to the NSW EPA or DPHI.

Records must be made available to DPHI upon their request.

I.5 Incidents and non-compliances

Refer to Section 3.4 of the CEMP for management of incidents and non-compliances.

Appendix J

Stage 1 Flora and Fauna Management Plan (approved 7/09/2023)

EMM
creating opportunities

200 Aldington Road Industrial Estate

Flora and Fauna Management Plan

Prepared for Fife Kemps Creek Pty Ltd

June 2023

200 Aldington Road Industrial Estate

Flora and Fauna Management Plan

Fife Kemps Creek Pty Ltd

E210906 RP1

June 2023

Version	Date	Prepared by	Approved by	Comments
V1	9 May 2023	Wendy Mason	David Bone	Draft for comment
V2	19 May 2023	Wendy Mason	David Bone	Final for ER comment
V3	16 June 2023	David Bone	David Bone	Final for submission

Approved by



David Bone
Associate Director
16 June 2023

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Abbreviations

Abbreviation	Description
Aerotropolis SEPP	State Environmental Planning Policy (Western Sydney Aerotropolis) 2020
BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016*
BDAR	Biodiversity development assessment report
CEMP	Construction Environmental Management Plan
CCCHS	Community Consultation and Complaints Handling Strategy (CCCHS)
CNVMP	Construction Noise and Vibration Management Plan
CTMP	Construction Traffic Management Plan
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EPBC Act	Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*
EP&A Act	NSW *Environmental Planning and Assessment Act 1979*
FFMP	Flora and Fauna Management Plan
GFA	Gross floor area
Ha	Hectares
Km	Kilometres
LGA	Local government area
PCTs	Plant community types
SSDA	State Significant Development Application
TECs	Threatened ecological communities
VMP	Vegetation Management Plan

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1 Introduction

This Flora and Fauna Management Plan (FFMP) has been prepared for implementation by Fife Kemps Creek Pty Ltd (FKC) (and its contractors) for the construction of the 200 Aldington Road Industrial Estate (the Project). The Project is located in Kemps Creek, New South Wales 2178, within the Penrith Local Government Area (LGA).

The following documents have been reviewed and applicable information incorporated into this FFMP:

- Environmental Impact Statement (the EIS), prepared by Ethos Urban, dated 11 November 2020
- SSD 10479 conditions of consent
- Biodiversity Development Assessment Report (BDAR), prepared by Eco Logical V6, dated 22 June 2022
- Biodiversity Certification Letter, prepared by Narla Environmental, dated 18 November 2022
- Riparian Assessment, prepared by Eco Logical V6, dated 22 June 2022
- Mamre Road Precinct Development Control Plan, dated November 2021 (the DCP).

1.1 Project overview

An Environmental Impact Statement (EIS) has been submitted to the Department of Planning and Environment (DPE) for a Concept State Significant Development (SSDA) Application under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), on behalf of Fife Kemps Creek Pty Ltd (a joint venture between Fife Capital and Stockland Managed entities). It relates to the concept approval (in accordance with Section 4.22 of the EP&A Act and Stage 1 works for the proposed industrial hub of land at 106–228 Aldington Road, Kemps Creek (200 Aldington Road). The amended SSDA seeks approval for the following development:

- 323,530 sqm of warehouse gross floor area (GFA)
- 17,010sqm of ancillary office GFA
- 13 individual development lots for warehouse buildings with associated hardstand areas and two lots for drainage infrastructure purposes (each including a bio-retention basin)
- roads including:
    - internal road layouts
    - southern road connection to Aldington Road
    - northern boundary road (half road corridor) connecting to Aldington Road
    - road connections to adjoining landholdings to the north and east
- provision for 1,510 car parking spaces
- associated concept site landscaping.

The CEMP and sub plans have been prepared for the progressive delivery of site preparation, earthworks and infrastructure works for Stage 1 which comprises the following activities:

- demolition and clearing of all existing built form structures
- drainage and infill of existing farm dams and any ground dewatering
- clearing of all existing vegetation
- subdivision of the site into 15 individual lots
- construction of a warehouse building with a total of 50,300 sqm of GFA, including:
    - 47,800 sqm of warehouse GFA
    - 2,500 sqm of ancillary office GFA
    - 222 car parking spaces
- bulk earthworks including 'cut and fill' to create flat development platforms for the warehouse buildings, and site stabilisation works (if required)
- roadworks and access infrastructure, including an interim access road and temporary junction with Aldington Road
- stormwater and drainage works including stormwater basins, diversion of stormwater lines, gross pollutant traps and associated swale works
- sewer and potable water reticulation
- inter-allotment, road and boundary retaining walls.

1.2 BDAR and Biodiversity Certification

A Biodiversity Development Assessment Report (BDAR) was prepared by Eco Logical (2022a), as part of the EIS submission. An additional BDAR report was prepared by Eco Logical Australia (dated 22 September 2021) in response to submissions following public exhibition of the project.

Subsequently the Cumberland Plain Conservation Plan (CPCP) was finalised.

A Bio-certification letter was required by the Secretary's Environmental Assessment Requirements (SEARs) for further clarification. Narla Environmental Pty Ltd was commissioned by FKC to prepare a Biodiversity Certification (Bio-certification) letter to accompany a Development Application for the proposed development at 200 Aldington Road, Kemps Creek Appendix D.

Narla has undertaken a review of the Subject Land and can confirm that all areas to be developed fall under Part 8 of the BC Act, which provides for a streamlined biodiversity assessment process for areas of land that are proposed for development. The Site is mapped in the Cumberland Plain Conservation Plan as the 'Western Sydney Aerotropolis' and 'Certified Urban capable land' (Figure 2.1). Chapter 13 of the State *Environmental Planning Policy (Biodiversity and Conservation) 2021* applies to proposed developments on bio-certified land.

Section 8.4(2) of the BC Act states that for "Development (including State Significant Development) under Part 4 of the *Environmental Planning and Assessment Act* (1979) (EP&A Act), an assessment of the likely impact on biodiversity of development on biodiversity certified land is not required for the purposes of Part 4 of the EP&A Act". As such, no further impact assessment under the BC Act of threatened species, populations or ecological communities is required.

1.3 Riparian Assessment

A Riparian Assessment was prepared by Eco Logical (2022b), as part of the submission. The report determines potential impacts on the riparian and aquatic ecology of the Project from the removal of Dam 1 to 8 and Dam 10 and makes recommendations to mitigate those impacts. This also includes impacts to mapped watercourse and riparian corridors within the site.

2 Site description

2.1 Site location

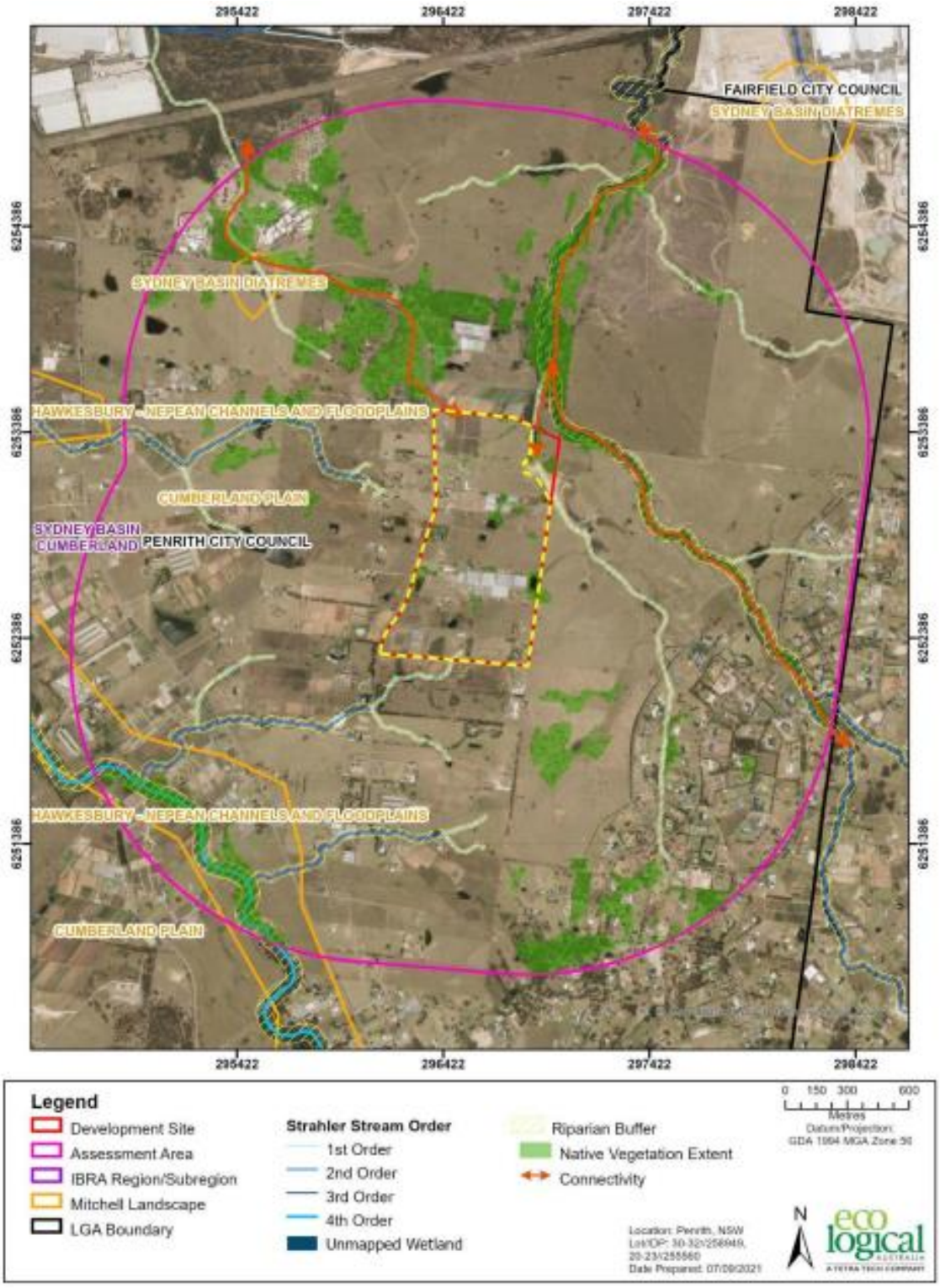
The Project site is located at 200 Aldington Road, Kemps Creek, NSW. The site comprises seven separate allotments with a total area of approximately 72 hectares (ha). The site is located approximately 5 kilometres (km) north-west of the future Western Sydney International (Nancy-Bird Walton) Airport (WSA), 13 km south-east of the Penrith CBD and 40 km west of the Sydney CBD (refer Figure 2.1).

2.2 Construction staging and activities

A summary of construction staging, and associated activities is provided in Table 2.1**Error! Reference source not found.**.

Table 2.1 Construction activities

Stage	Summary of activities	Timing
Pre-construction activities	• Site establishment, including site boundary fencing, erection of signage and establishment of no-go areas. • Establishment of site compound and stockpile sites. • Establishment of site access points, traffic management measures. • Installation of erosion and sediment controls. • Pre-clearance surveys and marking fauna habitat trees prior to clearing works. • Clearing of all existing vegetation, including grubbing activities and removal of vegetation off-site.	On approval of the CEMP
Demolition	• Demolition and clearing of all existing built form structures.	Completed under CDCs
Drainage and earthworks	• Drainage and infill of existing farm dams and any ground dewatering. • Subdivision of the site into 15 individual lots. • Bulk earthworks including 'cut and fill' to create flat development platforms for the warehouse buildings, and site stabilisation works (if required). • Stripping, stockpiling and management of topsoil and unsuitable materials.	On issue of SWC for bulk earthworks (duration 12 months)
Construction	• Construction of warehouse building, including ancillary office and car parking spaces. • Roadworks and access infrastructure. • Stormwater and drainage works including stormwater basins, diversion of stormwater lines, gross pollutant traps and associated swale works. • Sewer and potable water reticulation. • Inter-allotment, road and boundary retaining walls.	6 months after commencement of Bulk Earthworks
Post-construction	• Rehabilitation. • Demobilisation of plant and equipment. • Site clean-up.	18 months after commencement



Source: Biodiversity Development Assessment Report, ecological, 22 September 2021

Figure 2.1 Site location

3 Conditions of approval

This FFMP forms part of the Construction Environmental Management Plan (CEMP) and has been prepared in accordance with condition D74 to D80 of the development consent for SSD-10479. The condition requirements and where they have been addressed in this report are summarised in Table 3.1.

Table 3.1 Flora and fauna consent conditions of SSD-10479

Number	Consent condition	Where addressed in this report
D74	Prior to, and during, construction works the Applicant must implement the mitigation measures recommended in Table 27 of the Biodiversity Development Assessment Report prepared by Eco Logical Australia Pty Ltd, dated 22 June 2022.	This FFMP Chapter 5 and Appendix B
D75	Prior to the demolition of structures and commencement of earthworks, the Applicant must prepare a Fauna Management Plan (FMP) for the Stage 1 development, in accordance with the recommendations of the Biodiversity Development Assessment Report prepared by Eco Logical Australia Pty Ltd, dated 22 June 2022. The FMP must form part of the CEMP in accordance with condition E2 and detail procedures for fauna surveys prior to demolition, clearing and dam dewatering works and detail fauna relocation procedures.	This FFMP Chapter 5 and Appendix B
D76	Prior to the commencement of construction, a Wildlife Management Plan must be prepared and be submitted to the Planning Secretary. The Plan must specify monitoring activities to assess the attractant nature of the development and provide trigger-based management actions to mitigate emerging risks to operations of the Western Sydney Airport.	Appendix F – WMP
D77	The Wildlife Management Plan must form part of the CEMP required by Condition E2 and the Applicant must implement the Wildlife Management Plan for the duration of construction and operation.	Appendix F – WMP
D78	**Protection of Retained Vegetation** The Applicant must protect retained vegetation on site with fencing to avoid impacts during construction and operation of the development.	Appendix A Vegetation Management Plan
D79	**Vegetation Management Plan – Riparian Corridor** Prior to the commencement of any clearing or construction works, the Applicant must prepare a Vegetation Management Plan (VMP) in accordance with the Riparian Assessment prepared by Eco Logical Australia (ref. 20SYD-16452, dated 22 June 2022) and in accordance with the prepared in accordance with the requirements of NSW Natural Resources Assessment Regulator and the Department of Planning and Environment, to the satisfaction of the Planning Secretary. The VMP must form part of the CEMP in accordance with condition E2 and detail procedures for the rehabilitation and conservation of native vegetation and habitat and maintenance of the VMP area.	Appendix A Vegetation Management Plan
D80	Within six months of the commencement of operation, the Applicant must complete the revegetation of the riparian corridor in accordance with the VMP prepared in accordance with Condition D40. The Applicant must implement the most recent version of the VMP for a maintenance period of up to five years following the completion of the establishment phase of the VMP.	Appendix A Vegetation management Plan

4 Site assessment

The following section outlines the findings of desktop and field surveys conducted to support the biodiversity development assessment report (BDAR), submitted as part of the Environmental Impact Statement, dated 11 November 2020.

4.1 Biodiversity Development Assessment Reports

To support the State Significant Development Application (SSDA), a Biodiversity Development Assessment Report (BDAR) was prepared by Eco Logical Australia (dated 15 October 2020) which describes the biodiversity values within the development site; the impacts and outlines the measures to be taken to avoid, minimise and mitigate impacts to the Plant Community Types and threatened species habitat present within the development footprint and development site.

The BDAR report was updated by Eco Logical Australia (dated 22 September 2021) in response to submissions following public exhibition of the project and again to respond to amendments to the development resulting from changes following the adoption of the DCP. Final dated 22 June 2022.

A Bio-certification letter was required by the Secretary's Environmental Assessment Requirements (SEARs). Narla Environmental was commissioned by FKC to prepare a Biodiversity Certification (Bio-certification) letter to accompany a Development Application for the proposed development at 200 Aldington Road, Kemps Creek.

No further impact assessment under the BC Act of threatened species, populations or ecological communities is required for the development.

4.2 Threatened flora and fauna species

Habitat assessments were undertaken during the field survey to determine the likelihood of threatened flora and fauna species occurring within the site. Habitat assessments for fauna species involved a search of hollow bearing trees within the site in addition to searches for evidence of fauna foraging such as chewed cones and sap trees or roosting habitat.

Section 8.4(2) of the BC Act states that for "Development (including State Significant Development) under Part 4 of the *Environmental Planning and Assessment Act (1979)* (EP&A Act), an assessment of the likely impact on biodiversity of development on biodiversity certified land is not required for the purposes of Part 4 of the EP&A Act". As such, no further impact assessment under the BC Act of threatened species, populations or ecological communities is required for the project.

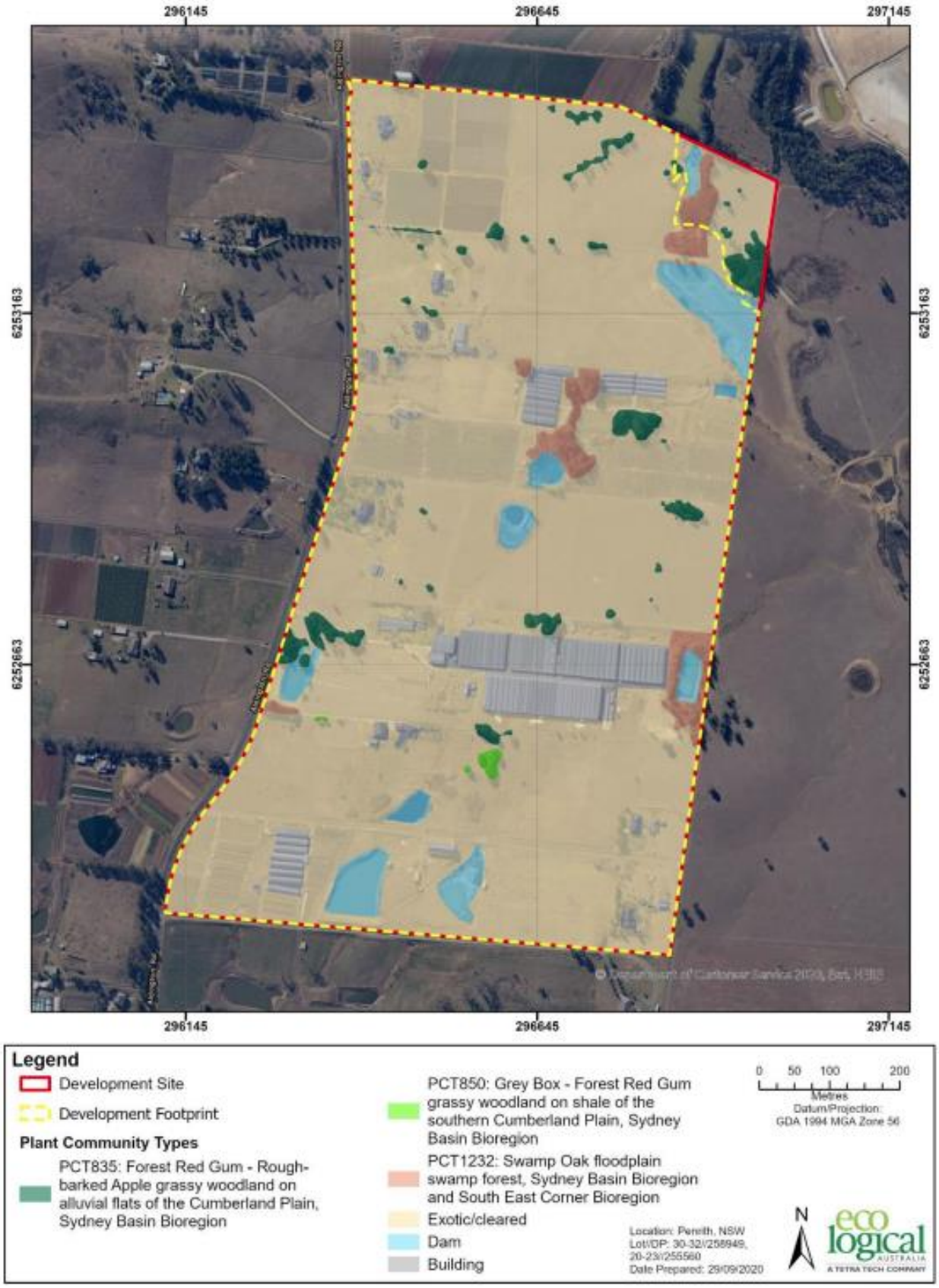


Figure 4.1 PCTs within the site

5 Management measures

This section outlines the management measures to be implemented during construction and includes mitigation measures identified in Table 27 of the BDAR report by Eco Logical Australia (22 June 2022).

The Project has been designed to avoid and minimise impacts to flora and fauna where possible and is located within an area of predominately non-native vegetation.

Table 5.1 Management measures

Control Measure	Timing	Responsibility	Source
Prior to dam dewatering an appropriately qualified and licensed ecologist is required to survey the water body and advise on dewatering to allow capture and relocation or euthanising of fauna present. See Appendix B Dam dewatering strategy.	Pre construction	Contractor Project Ecologist	Table 27 of BDAR
Pre-demolition inspections of human made structures for microbats is required. If microbats are detected, exclusion measures will be implemented prior to demolition as directed by the ecologist.	Pre construction	Project Manager	Table 27 of BDAR
A pre-clearance assessment prior to any clearing of native vegetation is to be undertaken by an appropriately qualified and licensed ecologist to ensure that habitat features for arboreal mammals, roosting and hollow-using birds, bats and reptiles are identified prior to clearing activites. All habitat elements are to be clearly marked prior to clearing.	Prior to clearing	Contractor Project Ecologist	VMP
A site assessment for potential risk of pathogens in the project area will be undertaken by the Ecologist during pre-clearing surveys. The site assessment will identify and describe or map potential pathogen-containing vegetation areas. DPI guidelines will be referred to for the most up-to-date hygiene protocols for each pathogen and for the most recent locations of contamination. Testing from a National Association of Testing Authorities (NATA) approved laboratory may be required where potential risk areas are identified to confirm the presence of pathogens in the soil and/or water.	Pre construction	Contractor Project Ecologist	Weed Mgt Plan Section 4
A weed eradication management plan is to be implemented prior to and during constriction. Refer to Appendix C of this FFMP. Monitoring of weed and/or pathogen infestations will occur as part of the routine weekly environmental inspections to determine the effectiveness of management controls. The identified presence of any weeds and/or pathogens and the necessary management actions will be noted on the Environmental Inspection Checklist. Dedicated inspections will be carried out on a monthly basis during clearing and earthworks phases and then at least every six months for the remainder of construction.	Prior to and during construction	Construction Manager Site Environmental Representative	Table 27 of BDAR Condition D92 of SSD10479

Table 5.1 Management measures

Control Measure	Timing	Responsibility	Source
Earthworks around subject trees are to be undertaken in the presence of a qualified arborist or ecologist who may provide additional on-site advice. • Machine digging within the root mass of the subject tree be minimised and where possible hand digging be undertaken. • Any exposed roots of the subject tree should be wrapped and protected during exposure and be replaced in a similar position prior to disturbance. • Inspection of retained trees by a qualified person should be conducted at 6 and 12 months after development completion of works.	Construction	Contractor Project Ecologist	VMP Section 4.3.2
Tree clearing			
Where feasible, tree felling of hollow bearing trees and other potential fauna habitat elements should be undertaken outside of spring and summer (main breeding season for native birds and microbats). If this is not possible, strict pre-clearing protocols must be observed when removing tree hollows.	During clearing	Contractor Ecologist	Table 27 of the BDAR
Where identified habitat elements are required to be removed, clearing will be in accordance with the following procedure: • Area around the habitat element is to be cleared and the habitat element left for a minimum of 24 hours • On the day of removal the ecologist or licensed fauna handler must be present • Ecologist to survey habitat immediately prior to clearing (within 24 hours of clearing) • The habitat element will be bumped, knocked or ripped around to create vibration in the element to be removed • Equipment will cease work until given the all clear to proceed with removal by the ecologist or fauna handler • Remove habitat element as gently as possible and allow ecologist or fauna handler to inspect the habitat element • Once given the all clear by the ecologist of fauna handler, complete removal of element • Any captured fauna will be released in adjacent bushland by the ecologist when safe to do so. Any injured fauna will be taken to a veterinary clinic for assessment and rehabilitation. All fauna to be relocated in accordance to Translocation of Threatened Fauna in NSW.			
All trees within the footprint will be removed. Given the tree species present, and the young age of many potential hollow bearing trees it is not anticipated that nest boxes to replace habitat features will be required. However, should pre-clearing surveys identify habitat for threatened fauna species across the project area, nest boxes would be installed in larger trees to be retained in the VMP area prior to clearing commencing. Pre-clearance and clearance survey to be undertaken by suitably qualified and licensed ecologists.	Prior to clearing	Ecologist Contractor	Table 27 of the BDAR

Table 5.1 Management measures

Control Measure	Timing	Responsibility	Source
Temporary fencing and signage to be installed at the edge of the development site to prevent entry into the adjacent retained vegetation.	Construction	Construction Manager Environmental Representative	Table 27 of the BDAR
Boundaries of the impact area to be clearly delineated with heavy duty fencing, retained areas marked with "No Go" signage, in particular in the areas adjacent to PCT 835 which is being retained. The area to be delineated is shown as a black dotted line 5m from the top of bank along the edge of the Vegetation Management Area shown on Figure 5.1	Entirety of construction phase	Construction Manager Environmental Representative	Table 27 of the BDAR
Wildlife Management			
A weekly inspection of project area to assess if there is a potential for any nuisance animals (i.e. flocking birds) on site. Where identified work with management team to ensure that all steps are taken to deter flocking birds (more than 6 of one species) from congregating on site (including the correct disposal of food scraps and rubbish from site). Adoption of wildlife deterrent technologies to reduce bird populations may be considered where issues are identified and will be targeted according to the specific species present.	Entirety of construction phase	Construction Manager Environmental Representative	CoA D75 Wildlife Mgt Plan Appendix F
Erosion and sedimentation			
Install permanent sediment barriers and erosion control during and post construction to prevent runoff into adjacent creek lines and wetlands, maintain controls throughout construction and undertake regular inspections (weekly – or daily if raining). Refer ESCP for details	Entirety of Project	Construction Manager	Section 2.2.5 of the BDAR
Water usage			
All water being used onsite during construction (e.g. dust management, cleaning, processes) is to be managed appropriately on site in accordance with the primary erosion and sediment control plan in Appendix B of the CEMP.	Entirety of Project	Construction Manager Project Manager	Table 27 of the BDAR

Table 5.1 Management measures

Control Measure	Timing	Responsibility	Source
Hygiene protocols			
Hygiene protocols to prevent the spread of weeds or pathogens between infected areas and uninfected areas in accordance with Weed Management Plan (Appendix C). Prior to plant arriving on site a weed and seed declaration is required as part of the plant pre-start process when arriving on site. Any plant or equipment arriving on site which contains soil material or has not been cleaned will require cleaning offsite, prior to being accepted. Prior to leaving site plant will be cleaned onsite of soil and plant material to avoid transfer of pathogens and seeds to other sites. The cleaning of plant will be captured on the initial pre-start when plant is onboarded to the work site. Once on site cleaning is not required for weed and seed protocols until the equipment leaves the site.	Entirety of project	Construction Manager Environmental Representative	Table 27 of the BDAR Condition D92 of SSD10479
Environmental inductions			
All staff working on the project will undertake an environmental induction as part of their site induction. Site briefings should be updated based on phase of the work. This environmental induction will include items such as: • site environmental procedures (vegetation management, sediment and erosion control, exclusion fencing) • what to do in case of environmental emergency (chemical spills, fire, injured fauna) • key contacts in case of environmental emergency • what to do in the case of finding a threatened species • what to do in the case of finding fauna on the site.	All staff working onsite	Project Manager and all site personnel	Table 27 of the BDAR

5.1 Invasive species

There is potential for invasive exotic flora species to be spread within and outside of the site. This could occur from the movement of construction vehicles, plant and equipment through the site and onto adjoining land. The introduction of invasive species, vermin and pests may result in the loss of biodiversity and habitat value, smothering of native juvenile plants, harbouring of feral animals and alteration of vegetation structure and riparian function. Mitigation measures will be implemented to reduce to spread of invasive species across the site, including the washdown of vehicles, plant and equipment when entering and existing the site and regular surveillance of the site for vermin and pests.

Landscape maintenance works will be required through the construction and operational phases to ensure existing weed species growing on-site are controlled. This includes the ongoing maintenance and weeding of re-vegetated areas.

Regular surveillance of the site for the presence of vermin and pests will be undertaken and documented on the weekly inspection. Actions will be taken to control vermin and pests as required by licensed contractors.

5.2 Protected areas

5.2.1 'No go' areas

Areas of native vegetation that are to be retained are to be clearly delineated as 'no go' areas, including the fencing and signage of these areas. This includes areas adjacent to isolated patches of PCT 835 which are required to be retained. Where fencing is required in close proximity to identified Aboriginal Cultural areas, consultation with the project archaeologist and adherence to the requirements of the ACHAR will be required prior to works being undertaken in these areas.

Other 'no-go areas' as identified in the EIS will be clearly marked and avoided during the construction phase, including areas that hold archaeological potential (refer ACHMP Appendix F of the CEMP). Access to these areas will be in accordance with the protocols in the ACHMP as directed by a qualified archaeologist.

5.2.2 Vegetation management area

A vegetation management area will be retained in the north-east corner of the site (refer Figure 5.1). This area contains an existing wetland environment downstream of Dam 11, which experiences inundation during high rainfall events. It also contains a damp area and small isolated pools which form during high rainfall events.

This area will facilitate the movement of fauna between the Ropes Creek riparian corridor and adjacent riparian corridors outside of the site boundary, which would otherwise be impacted by disturbance to the Ropes Creek riparian corridor. This will ensure connectivity between riparian corridors in addition to the genetic exchange of habitat amongst riparian corridors.

The following mitigation measures should be implemented when managing the vegetation management area:

- any disturbance to terrestrial or riparian vegetation in this area must be avoided
- higher disturbance activities (including permanent disturbance areas for retaining wall construction, repair of erosion, fencing and stormwater works are to be located only within the areas identified on Figure 5.1. Works such as refuelling, stockpiling and other ancillary facilities are to be undertaken as far away from the vegetation management area as possible (more than 20m) to avoid disturbance to vegetation and fauna which rely on the Ropes Creek riparian corridor for refuge, roosting, navigation, foraging and breeding
- a five metre construction buffer must be established around the vegetation management area prior to the commencement of the construction phase.

This area will be planted in accordance with the approved Vegetation management Plan on completion of the construction phase.

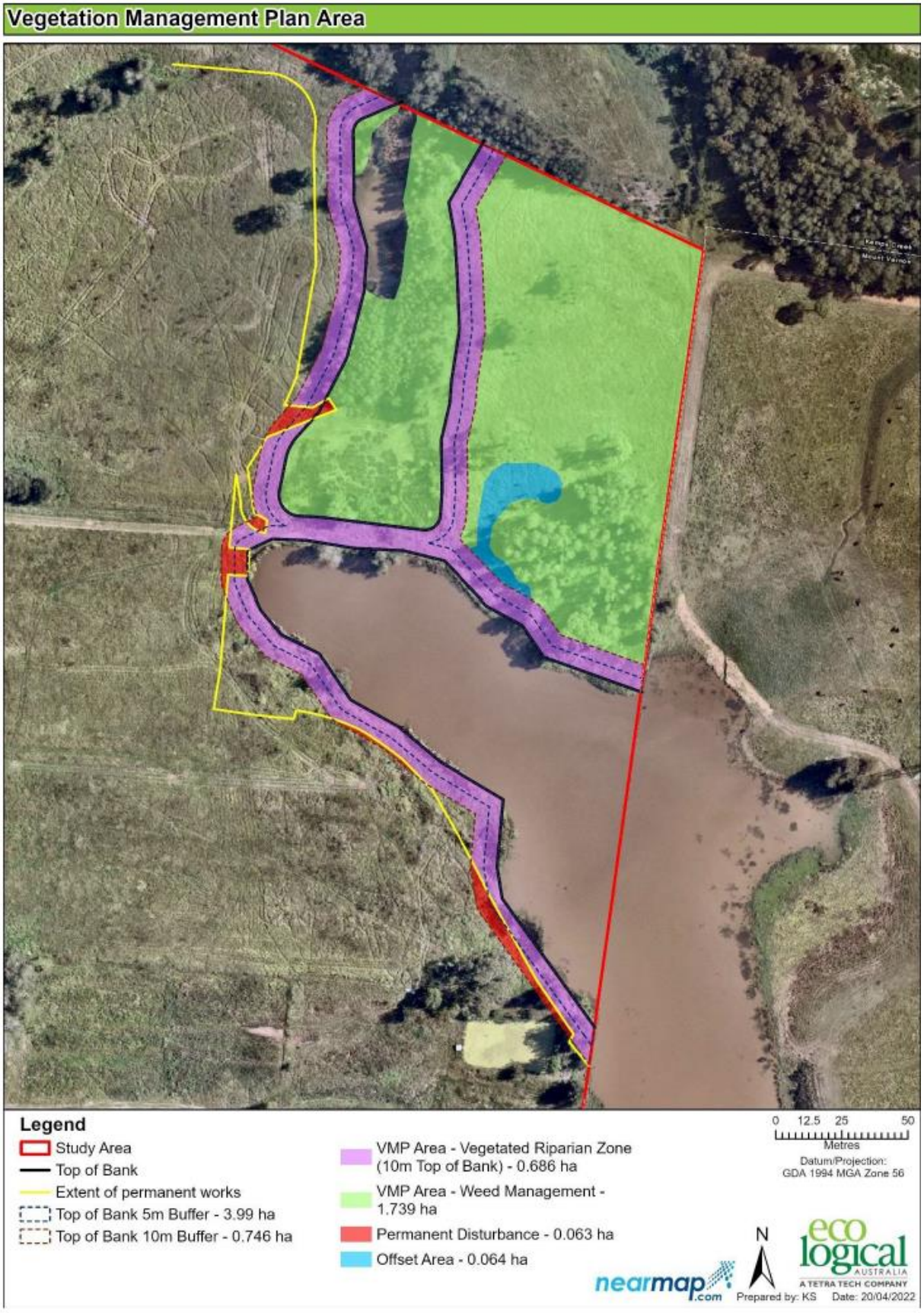


Figure 5.1 Project overview showing vegetation management area

References

Ecological 2022a, *200 Aldington Road Industrial Estate – Biodiversity Development Assessment Report*, prepared by Eco Logical Australia Pty Ltd for Fife Kemps Creek Trust.

Ecological 2022b, *200 Aldington Road Industrial Estate – Riparian Assessment*, prepared by Eco Logical Australia Pty Ltd for Fife Kemps Creek Trust.

Narla Environmental, Biodiversity Certification Letter, prepared by, dated 18 November 2022

Appendix A
Vegetation management plan

EMM
creating opportunities

200 Aldington Road Industrial Estate

Vegetation Management Plan

Prepared for Fife Kemps Creek Trust

August 2023

200 Aldington Road Industrial Estate

Vegetation Management Plan

Fife Kemps Creek Trust

E210906 RP1

August 2023

Version	Date	Prepared by	Approved by	Comments
V1	20 April 2023	Wendy Mason	David Bone	Draft for internal comment
V2	18 May 2023	Wendy Mason	David Bone	Final for submission to ER
V3	16 June 2023	David Bone	David Bone	Final for approval
V4	9 August	Wendy Mason	David Bone	Addressing waterfront land

Approved by



David Bone
Associate Director
09 August 2023

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This report has been prepared in accordance with the brief provided by Fife Kemps Creek Trust and has relied upon the information collected at the time and under the conditions specified in the report. All findings, conclusions or recommendations contained in the report are based on the aforementioned circumstances. The report is for the use of Fife Kemps Creek Trust and no responsibility will be taken for its use by other parties. Fife Kemps Creek Trust may, at its discretion, use the report to inform regulators and the public.

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Abbreviations

Abbreviation	Description
Aerotropolis SEPP	State Environmental Planning Policy (Western Sydney Aerotropolis) 2020
BAM	Biodiversity Assessment Method
BC Act	*Biodiversity Conservation Act 2016*
BDAR	Biodiversity development assessment report
CEMP	Construction Environmental Management Plan
CCS	Community Communication Strategy
CNVMP	Construction Noise and Vibration Management Plan
CTMP	Construction Traffic Management Plan
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
EPBC Act	Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*
EP&A Act	NSW *Environmental Planning and Assessment Act 1979*
FFMP	Flora and Fauna Management Plan
GFA	Gross floor area
Ha	Hectares
Km	Kilometres
LGA	Local government area
PCTs	Plant community types
SSDA	State Significant Development Application
TECs	Threatened ecological communities
VMP	Vegetation Management Plan

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1 Introduction

This Vegetation Management Plan (VMP) has been prepared for implementation by Fife Kemps Creek Trust (FKC) (and its contractors) for the construction of the 200 Aldington Road Industrial Estate (the Project). The Project is located in Kemps Creek, New South Wales 2178, within the Penrith Local Government Area (LGA).

The following documents have been reviewed and applicable information incorporated into this VMP:

- Environmental Impact Statement (the EIS), prepared by Ethos Urban, dated 11 November 2020
- SSDA-10479
- Biodiversity Development Assessment Report (BDAR), prepared by Eco Logical, dated 15 October 2020
- Riparian Assessment, prepared by Eco Logical, dated 15 October 2020
- Mamre Road Precinct Development Control Plan, dated November 2021 (the DCP)
- National Airport Safeguarding Framework

1.1 Project overview

1.1.1 Background/context

This VMP forms a Request for Additional Information for the proposed Concept State Significant Development Application for a new industrial estate on land 106–228 Aldington Road, Kemps Creek.

The EIS for the project was placed on public exhibition between 18 November 2020 and 15 December 2020. During this period, a total of 18 submissions were received. These submissions were addressed and subsequent amendments to the project were made, as outlined in the Response to Submissions Report (dated 23 March 2021) prepared by Ethos Urban.

In written correspondence dated 28 April 2021, it was requested that FKC provide a further response to additional commentary raised by DPE, as well as additional comments raised by public authorities in their review of the first Response to Submissions Report. This was responded to via a second a Response to Submissions Report outlined by Ethos Urban (dated 22 September 2021).

Additional correspondence was received from DPE dated 15 November 2021 which has necessitated updates and additional information, as contained within this report.

1.1.2 Summary of the project for which development consent is now sought

An Environmental Impact Statement (EIS) has been submitted to the Department of Planning and Environment (DPE) for a Concept State Significant Development (SSDA) Application under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), on behalf of Fife Kemps Creek Pty Ltd (a joint venture between Fife Capital and Stockland Managed entities). It relates to the concept approval (in accordance with Section 4.22 of the EP&A Act and Stage 1 works for the proposed industrial hub of land at 106–228 Aldington Road, Kemps Creek (200 Aldington Road). The amended SSDA seeks approval for the following development:

- 323,530 sqm of warehouse gross floor area (GFA)
- 17,010sqm of ancillary office GFA
- 13 individual development lots for warehouse buildings with associated hardstand areas and two lots for drainage infrastructure purposes (each including a bio-retention basin)

- roads including:
    - internal road layouts
    - southern road connection to Aldington Road
    - northern boundary road (half road corridor) connecting to Aldington Road
    - road connections to adjoining landholdings to the north and east
- provision for 1,510 car parking spaces
- associated concept site landscaping.

The CEMP and sub plans have been prepared for the progressive delivery of site preparation, earthworks and infrastructure works for Stage 1 which comprises the following activities:

- demolition and clearing of all existing built form structures
- drainage and infill of existing farm dams and any ground dewatering
- clearing of all existing vegetation
- subdivision of the site into 15 individual lots
- construction of a warehouse building with a total of 50,300 sqm of GFA, including:
    - 47,800 sqm of warehouse GFA
    - 2,500 sqm of ancillary office GFA
    - 222 car parking spaces
- bulk earthworks including 'cut and fill' to create flat development platforms for the warehouse buildings, and site stabilisation works (if required)
- roadworks and access infrastructure, including an interim access road and temporary junction with Aldington Road
- stormwater and drainage works including stormwater basins, diversion of stormwater lines, gross pollutant traps and associated swale works
- sewer and potable water reticulation
- inter-allotment, road and boundary retaining walls.

1.2 Biodiversity Development Assessment Report

A Biodiversity Development Assessment Report (BDAR) was prepared by Eco Logical (2020a), as part of the EIS submission. The report provides an assessment of the Project's impact upon biodiversity values within the site, including any impacts to plant community types (PCTs) and threatened species habitat. Recommendations are provided to avoid, minimise and mitigate any impacts to biodiversity values.

1.3 Riparian Assessment

A Riparian Assessment was prepared by Eco Logical (2020b), as part of the submission. The report determines potential impacts on the riparian and aquatic ecology of the Project from the removal of Dam 1 to 8 and Dam 10 and makes recommendations to mitigate those impacts. This also includes impacts to mapped watercourse and riparian corridors within the site.

Waterfront Land – Guidelines for vegetation management plans on waterfront land'. This VMP utilizes the results of this approved document and formalizes the planting plans and maintenance requirements for the riparian area approved.

1.4 National Airports Safeguarding Framework (NASF)

NASF guidelines version 3.1.4 (2014) have been taken into consideration within this VMP. The existing bushland areas and watercourse already provide wildlife habitat. The proposed VMP works will enhance the existing habitat particularly around the riparian edge. A Wildlife Management and Monitoring Plan has been prepared which contains mitigation strategies for wildlife. This can be found in Attachment F of the Flora and Fauna Management Plan.

2 Site description

2.1 Site location

The Project site is located at 200 Aldington Road, Kemps Creek, NSW. The site comprises seven (7) separate allotments with a total area of approximately 72 hectares (ha). The site is located approximately 5 kilometres (km) north-west of the future Western Sydney International (Nancy-Bird Walton) Airport (WSA), 13 km south-east of the Penrith CBD and 40 km west of the Sydney CBD (refer Figure 2.1).

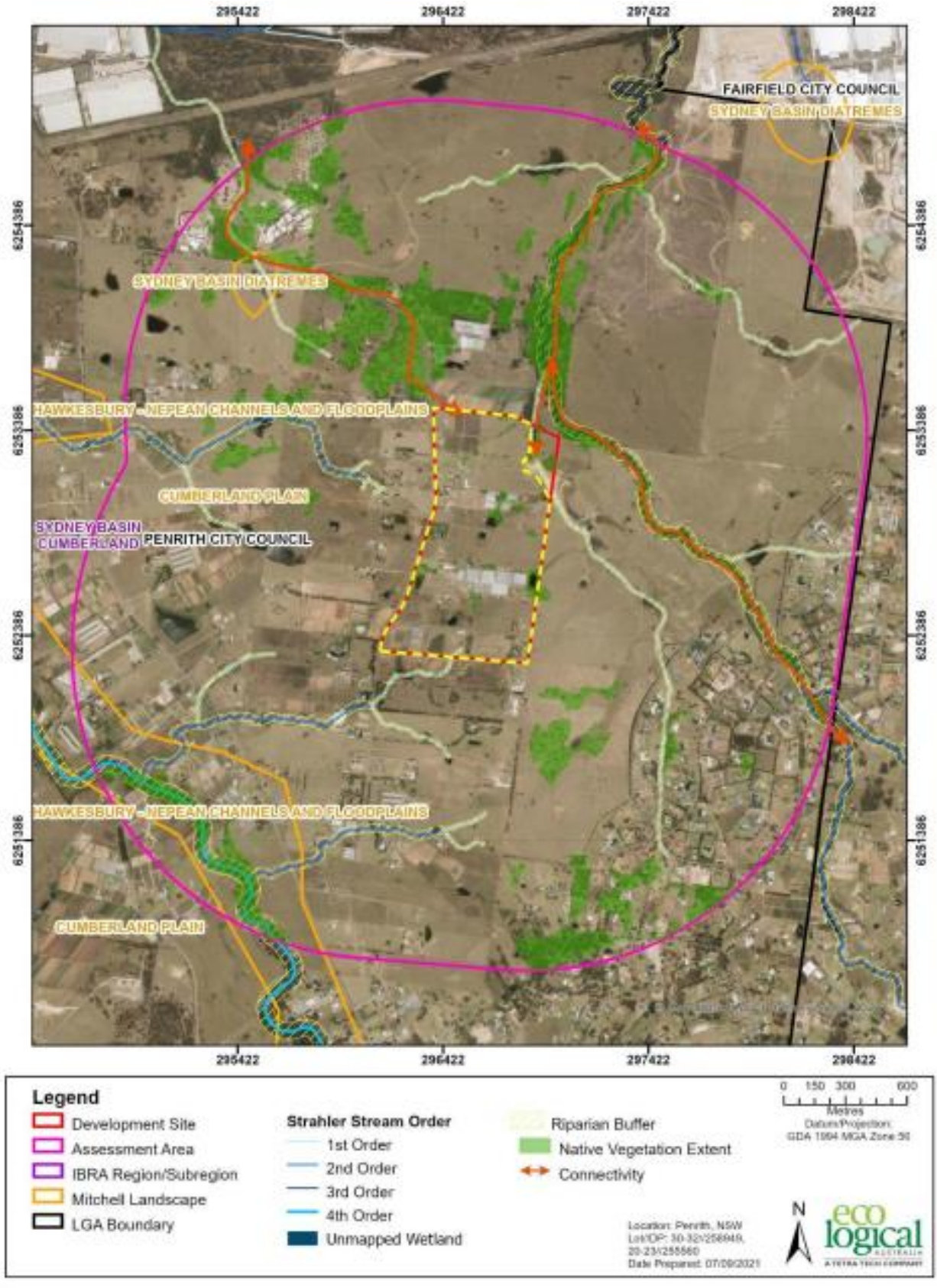
The site is located within the Mamre Road Precinct as identified by the State Environmental Planning Policy (Western Sydney Employment Area) 2009 (the SEPP). The Mamre Road Precinct will be a world-class industrial area, primarily catering for warehousing and logistics on larger consolidated land parcels close to the Western Sydney Airport. The Precinct will accommodate an intermodal terminal serviced by the planned Western Sydney Freight Line and a dedicated freight road network, and has convenient and quick access to the M12 and Elizabeth Drive. Connectivity to the broader Western Sydney Employment Area will be improved.

2.2 Construction staging and activities

A summary of construction staging, and associated activities is provided in Table 2.1.

Table 2.1 Construction activities

Stage	Summary of activities	Timing
Pre-construction activities	• Site establishment, including site boundary fencing, erection of signage and establishment of no-go areas. • Establishment of site compound and stockpile sites. • Establishment of site access points, traffic management measures. • Installation of erosion and sediment controls. • Pre-clearance surveys and marking fauna habitat trees prior to clearing works. • Clearing of all existing vegetation, including grubbing activities and removal of vegetation off-site.	On approval of the CEMP
Demolition	• Demolition and clearing of all existing built form structures.	Completed under CDCs
Drainage and earthworks	• Drainage and infill of existing farm dams and any ground dewatering. • Subdivision of the site into 13 individual lots. • Bulk earthworks including 'cut and fill' to create flat development platforms for the warehouse buildings, and site stabilisation works (if required). • Stripping, stockpiling and management of topsoil and unsuitable materials.	On issue of SWC for bulk earthworks (duration 12 months)
Construction	• Construction of warehouse building, including ancillary office and car parking spaces. • Roadworks and access infrastructure. • Stormwater and drainage works including stormwater basins, diversion of stormwater lines, gross pollutant traps and associated swale works. • Sewer and potable water reticulation. • Inter-allotment, road and boundary retaining walls.	6 months after commencement of Bulk Earthworks
Post-construction	• Rehabilitation. • Demobilisation of plant and equipment. • Site clean-up.	18 months after commencement



Source: Biodiversity Development Assessment Report, ecological, 22 September 2021

Figure 2.1 Site location

2.2.1 Vegetation Management Area

A vegetation management area will be retained in the north-east corner of the site (refer Figure 2.2). This area contains an existing wetland environment downstream of Dam 11, which experiences waterflow during high rainfall events. It also contains a damp area and small isolated pools which form during high rainfall events.

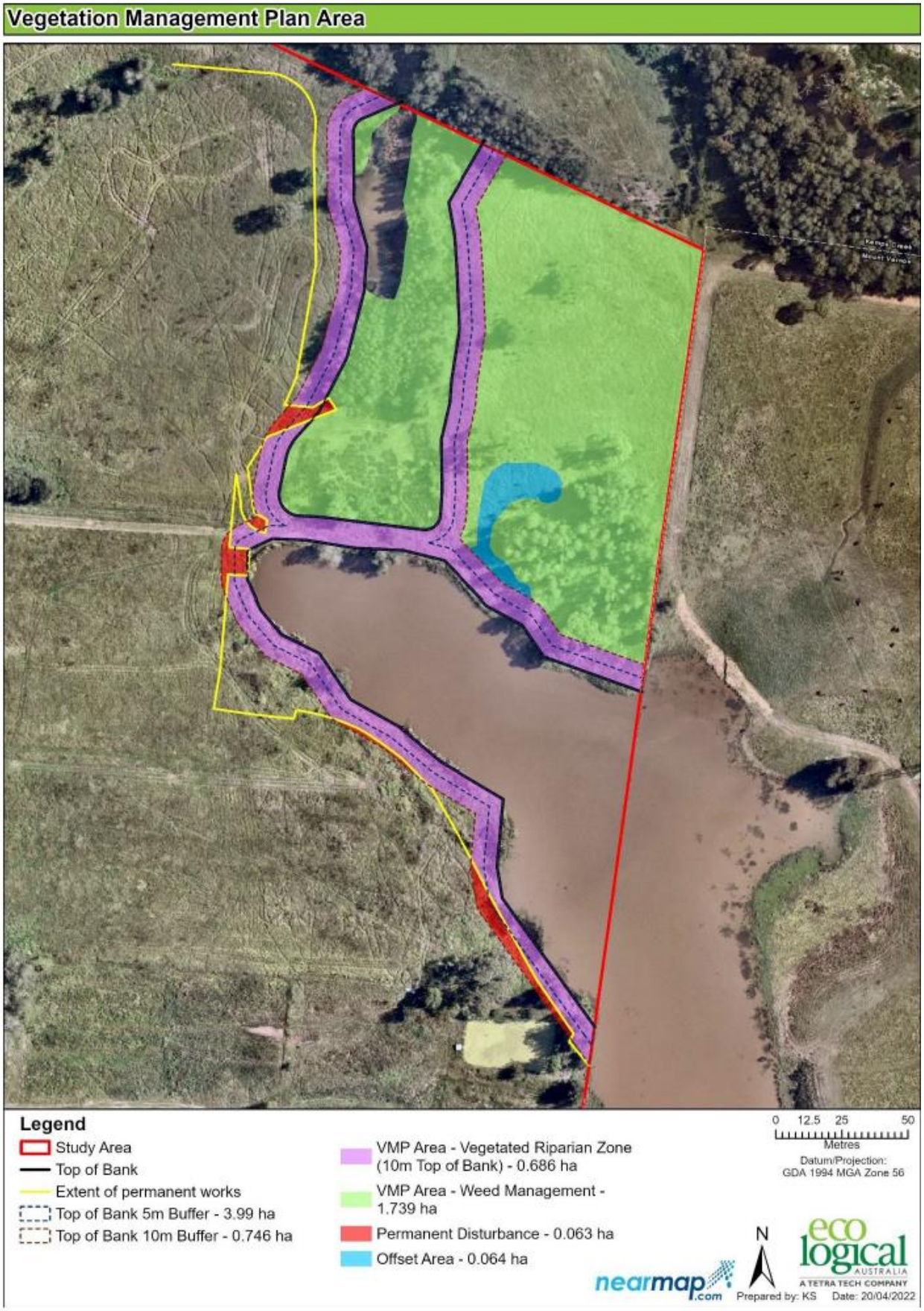
This area will facilitate the movement of fauna between the Ropes Creek riparian corridor and adjacent riparian corridors outside of the site boundary, which would otherwise be impacted by disturbance to the Ropes Creek riparian corridor. This will ensure connectivity between riparian corridors in addition to the genetic exchange of habitat amongst riparian corridors.

The following mitigation measures should be implemented when managing the vegetation management area:

- Any disturbance to terrestrial or riparian vegetation in this area must be avoided.
- Higher disturbance activities are to be located as far from the vegetation management area as possible to avoid disturbance to fauna which rely on the Ropes Creek riparian corridor for refuge, roosting, navigation, foraging and breeding.
- A 5 m construction buffer must be established around the vegetation management area prior to the commencement of the construction phase.
- Native species should be planted to provide habitat for fauna and provide stability to the outer banks of the 1st order waterbody which runs through the area.

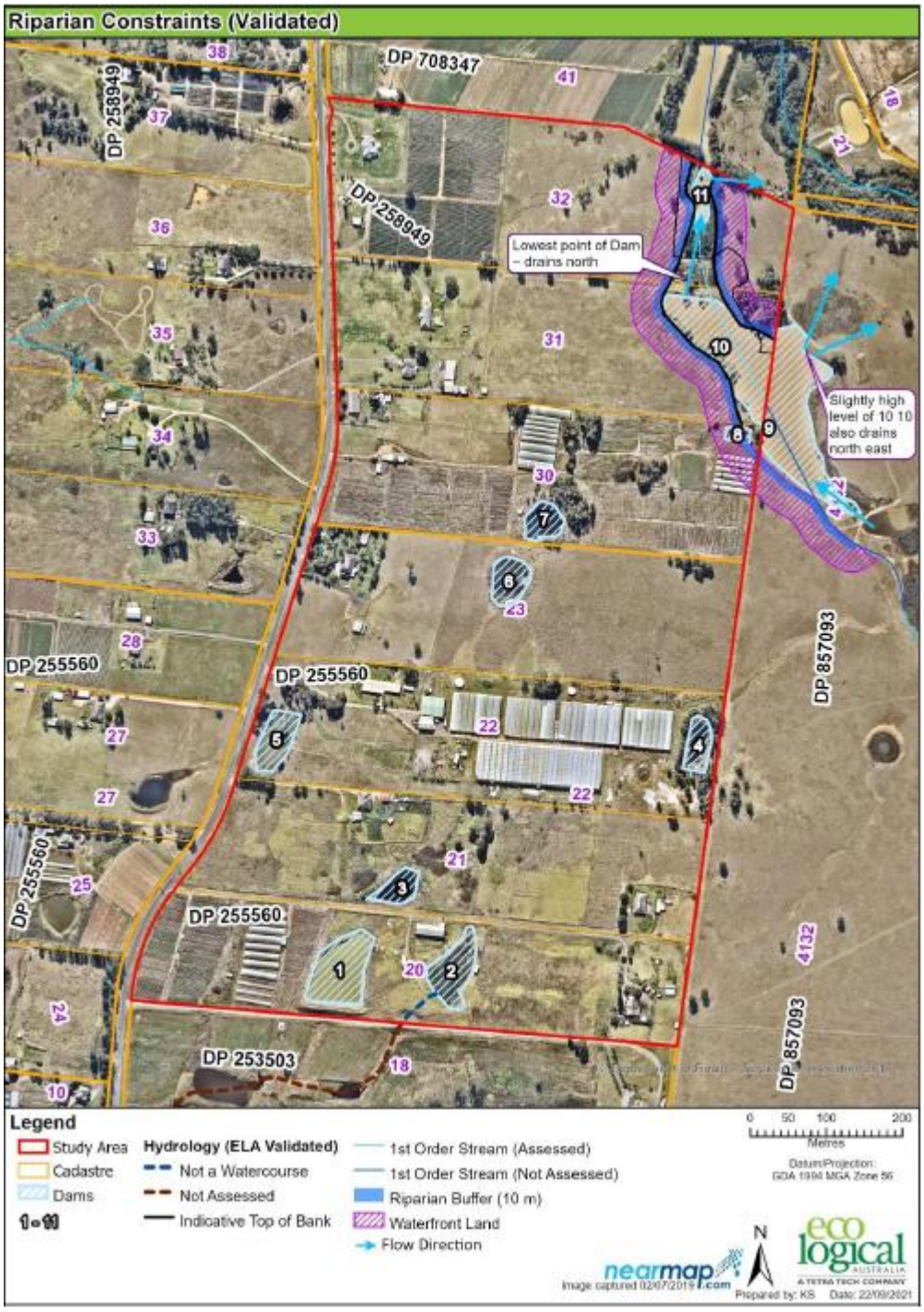
A Weed Eradication and Management Plan has been prepared (refer to Attachment C of the Flora and Fauna Management Plan) and outlines the weed control measures during and after construction for areas outside of the VMP works. The Weed Eradication and Management Plan includes specific measures to manage the spread of weeds on known populations of the following threatened flora species: *Acacia bynoeana, Cynanchum elegans, Dillwynia tenuifolia, Genoplesium baueri, Grevillea juniperina subsp. juniperina, Grevillea parviflora subsp. parviflora, Persoonia nutans* and *Pultenaea parviflora.*

Note: these species have not been identified within site.



Source: Ecological 2020b

Figure 2.2 Project overview showing vegetation management area



Source: Ecological 2020b

Figure 2.3 Waterfront land within the study area

3 Conditions of approval

This VMP forms part of the Construction Environmental Management Plan (CEMP) and has been prepared in accordance with condition D78 – D80 of the development consent for SSD-10479. The condition requirements and where they have been addressed in this report are summarised in Table 3.1 below.

Table 3.1 Flora and fauna consent conditions of SSD- 10479

Number	Consent condition	Where addressed in this report
D78	**Protection of Retained Vegetation** The Applicant must protect retained vegetation on site with fencing to avoid impacts during construction and operation of the development.	Section 4.3.2
D79	**Vegetation Management Plan – Riparian Corridor** Prior to the commencement of any clearing or construction works, the Applicant must prepare a Vegetation Management Plan (VMP) in accordance with the Riparian Assessment prepared by Eco Logical Australia (ref. 20SYD-16452, dated 22 June 2022) and in accordance with the requirements of NSW Natural Resources Assessment Regulator and the Department of Planning and Environment, to the satisfaction of the Planning Secretary. The VMP must form part of the CEMP in accordance with condition E2 and detail procedures for the rehabilitation and conservation of native vegetation and habitat and maintenance of the VMP area.	This VMP
D80	Within six (6) months of the commencement of operation, the Applicant must complete the revegetation of the riparian corridor in accordance with the VMP prepared in accordance with Condition D40. The Applicant must implement the most recent version of the VMP for a maintenance period of up to five years following the completion of the establishment phase of the VMP.	Condition 79 (and D40 referred to within refers to operational phase.

Controlled activities carried out in, on or under waterfront land are regulated by the Water Management Act 2000 (WM Act). The fact sheet issued by the Department of Primary and Environment (DPE) Controlled activities – Guidelines for vegetation management plans on waterfront land (DPE, 2022) lists the criteria to be addressed within a VMP. The criteria and where they have been addressed within this VMP is listed within Table 3.2 below.

Table 3.2 Vegetation management plan criteria for waterfront land

Criteria	Where addressed in this report
An appropriate width for the riparian corridor should be identified by consulting either the development consent, the relevant environmental planning instrument or the department's Guidelines for riparian corridors. The VMP should consider the full width of the riparian corridor and its functions including accommodating fully structured native vegetation.	Appendix E of FFMP
Maps or diagrams which clearly identify the riparian corridor; the existing vegetation; the vegetation to be retained; the vegetation to be cleared; the footprint of construction activities; and areas of proposed revegetation etc. should be prepared.	Attachment A - Page 8
The location of the bed and banks or foreshore of waterfront land and the footprint of the riparian corridor should be clearly identified. Vegetated riparian zones must be indicated.	Figure 2.3 and Appendix E of FFMP
Photographs of the site should be supplied and photo points should be identified. To assist with future monitoring and reporting requirements, the photo points should be identified by GPS coordinates or by survey. This is particularly important for large-scale earthworks or extractive industries.	Appendix E of FFMP Figure 4 – Map Table 6 - Location

Table 3.2 Vegetation management plan criteria for waterfront land

Criteria	Where addressed in this report
Measures for controlling long-term access and encroachments (bollards, fences, etc.) into the riparian corridor should be identified.	Section 5.4
Vegetation species composition, planting layout and densities should be identified. The required mix of plant species relates to the actual community to be emulated and the size of the area or areas to be rehabilitated but mature vegetation communities are generally well structured, comprising trees, shrubs and groundcovers species. Planting densities should achieve quick vegetative cover and root mass to maximise bed and bank stability along the subject watercourse.	Attachment A
Costs associated with high-density planting will be recovered through reduced maintenance costs for weeding or replacement planting in the maintenance period specified in the controlled activity approval (CAA).	Section 4.3.3
Seed or plant sources should be identified. Where possible, native plants and seed sources of local provenance should be used.	Attachment A
Exotic vegetation should be avoided. The use of exotic species for temporary soil stabilisation is permitted provided they are sterile, non-invasive and easily eradicated when permanent vegetation is established.	Section 5.1 Attachment A
Details of the planting program, rehabilitation methods and staging should be provided. Techniques such as hydro-seeding, direct seeding, brush matting or assisted natural regeneration may be considered.	Section 4
Maintenance requirements should extend for a minimum of 2 years after the completion of works or until such time as a minimum 80% survival rate of each species planted and a maximum 5% weed cover for the treated riparian corridor-controlled activity is achieved.	Section 6.3
Project tasks should be defined and described, including a schedule detailing the sequence and duration of works necessary for the implementation of the VMP.	This VMP
Costings for the implementation of all components and stages of the work including materials, labour, watering, maintenance which includes plant replacement, monitoring and reporting should be prepared.	Costs TBC once plans are approved.
Processes for monitoring and review, including a method of performance evaluation should be identified. This should include replacing plant losses, addressing deficiencies, problems, climatic conditions and successful completion of works.	Section 6
Regular reporting on the implementation and status of works covering progress, success or failures and completion should be provided. The number and duration of reporting periods will be identified in the CAA. Works as executed plans and reports detailing how the components of the VMP have been implemented will be required prior to the release of any security held by the department.	Section 6.3 Section 6.4
Security such as bank guarantees may be required before a controlled activity involving the implementation of a VMP is commenced. The amount of security is usually based on the costings provided.	N/A

4 Management Strategies

4.1 Proposed Works

The proposed works outlined by this document and the supporting planting plans incorporate the removal of existing noxious weeds, protection of existing vegetation and the control of erosion.

The intent is to retain the existing pasture grass and native vegetation over much of the site. Areas around the dam within the VMP area are to be mass planted with native grasses, groundcovers and shrubs and scattered trees as part of the VMP works.

The proposed works will ensure noxious weeds found within the VMP area are removed and prevented from spreading within the site and into neighbouring lots.

4.2 Objectives

- Maintain and manage the existing native trees.
- Provide supplementary tree planting, (Completed as part of VMP works).
- Mass plant areas disturbed by civil works, (Completed as part of VMP works).
- Remove noxious weeds.
- Ongoing control of noxious weeds.
- Stabilise areas where weeds have been removed and allow pasture grass to establish.
- Stabilise areas that have been eroded and allow pasture grass to establish.
- Maintain areas of archaeological significance.

4.3 Strategies

4.3.1 Weed Removal

Weed species identified as occurring within the subject site are outlined in Table 4.1. The removal and monitoring of these species is essential to enable the long term viability of the existing vegetation and prevent of further infestation. Follow-up weed control will be undertaken in accordance with the Weed Management Plan (Attachment C of the FFMP).

Table 4.1 Weed species identified in the management area

Species Name	Common Name
Juncus acutus	Spiny Rush
Senecio madagascariensis	Fireweed

Note: These species have been taken from plot/transect data plots 1 and 5 contained within the biodiversity report prepared by Eco logical. All weed management will be in accordance with Attachment C of the FFMP.

4.3.2 Tree protection

- Earthworks around subject trees are to be undertaken in the presence of a qualified arborist or ecologist who may provide additional on-site advice.
- Machine digging within the root mass of the subject tree be minimised and where possible hand digging be undertaken.
- Any exposed roots of the subject tree should be wrapped and protected during exposure and be replaced in a similar position prior to disturbance.
- Inspection of retained trees by a qualified person should be conducted at 6 and 12 months after development completion of works.

No earthworks are likely to be undertaken beneath existing trees, however should they occur, the Contractor shall fence off trees to be retained and protected where required prior to any construction work being undertaken. Protective fencing offsets shall be determined using AS 4970-2009 Protection of Trees on Development Sites. Generally fencing shall be offset the radial distance from the trunk calculated at 12 x the trunk diameter when measured at 1.4 m high.

There shall be no stockpiling of materials or machinery entering identified vegetation protection zones.

4.3.3 Revegetation

Currently the site is mainly comprised of pasture grasses and two areas of native vegetation. The areas of native vegetation and pasture areas noted as weed management areas are to be cleared of weed and maintained weed free over the maintenance period. The 10 m wide riparian area is to be cleared of weeds shall be revegetated using native grasses, groundcovers shrubs and trees to maintain sufficient ground cover and aid in preventing the return and establishment of problem weed species seedlings. All weed management will be in accordance with Attachment C of the FFMP.

5 Initial Works

5.1 Weed Removal

5.1.1 Scope of Works

Weed removal and ongoing management in conjunction with erosion control is required throughout the area in order to ensure the success of revegetated areas. Upon inspection the most dominant and vigorous weed species identified on site was *Juncus acutus* and *Senecio madagascariensis.*

All weed management will be in accordance with Attachment C of the FFMP.

Pasture grass cover shall be retained to prevent erosion and limit the regrowth of target weed species.

5.1.2 Management Activities

The primary focus shall be the removal of noxious weeds found on site. Weed control works shall be undertaken in accordance with Attachment C of the FFMP.

The below mentioned techniques have been selected for application in this situation due to suitability to this site. The below mentioned points shall be taken into consideration by the contractor at all times:

1. Temporary fencing and signage to be installed at the edge of the VMP works areas to prevent entry.

2. Areas of native vegetation that are to be retained are to be clearly delineated as 'no go' areas, including the fencing and signage of these areas. This includes areas adjacent to isolated patches of PCT 835 which are required to be retained.

3. Other 'no-go areas' as identified in the EIS should be avoided during the construction phase, including areas that hold archaeological potential (refer page 79 of the EIS).

4. Install permanent sediment barriers and erosion control during and post construction to prevent runoff into adjacent creek lines and wetlands, maintain controls throughout construction and undertake regular inspections (weekly – or daily if raining).

5. Phytophthora control measures must be undertaken from the commencement of the project to minimise the risk of spread and to the site. The following guidelines should be followed: https://www.rbgsyd.nsw.gov.au/science/plants/pestsdiseases/phytophthora-dieback/disinfection-procedures. http://www.environment.gov.au/biodiversity/invasivespecies/publications/management-phytophthora-cinnamomibiodiversity-conservation.

6. There is potential for invasive exotic flora species to be spread within and outside of the site. This could occur from the movement of construction vehicles, plant and equipment through the site and onto adjoining land. The introduction of invasive species may result in the loss of biodiversity and habitat value, smothering of native juvenile plants, harbouring of feral animals and alteration of vegetation structure and riparian function. Mitigation measures identified in the Weed Management Plan in Attachment C of the FFMP should be implemented to reduce to spread of invasive species across the site.

7. Landscape maintenance works will be required through the construction and operational phases. This includes the ongoing maintenance of re-vegetated and protected areas.

8. Vehicles, machinery and building refuse should remain only within the development site and disposed of at an appropriate waste management facility. Weed management to be undertaken where required and in accordance with the Weed Management Plan, Attachment A of the FFMP. In particular, machinery work on or nearby dams are required to be washed down in order to prevent the spread of chytrid fungus into or from the development site. If water trucks are being used for dust control, implement procedures such as daily cleaning of the water truck and equipment.

9. The revegetation team shall take all due care to minimise disturbance to existing desirable vegetation and land surrounding.

10. The contractor shall keep records of all herbicide applications and use only registered and accepted herbicides.

11. Appropriate herbicide training shall be undertaken ensuring all safety precautions are adhered to at all times.

12. The contractor shall ensure any spray drift is kept to an absolute minimum.

13. Herbicide control shall be undertaken when weeds are actively growing.

14. The contractor shall take all care not to poison existing desirable vegetation when undertaking herbicide control methods.

15. The correct herbicide shall be selected and used appropriately to ensure effective results on all weeds.

16. Do not undertake herbicide control when native vegetation is under stress. E.g. periods of extreme hot or cold weather.

17. All herbicide spraying is to be undertaken using only the Knap-Sack spray apparatus. All other methods of herbicide application are not to be used onsite unless discussed and approved in writing by the Landscape Architect.

18. Herbicide control is not to be used within or near water courses. The contractor shall obtain all required permits prior to use of herbicides near any water course.

19. Weed removal shall be carried out as described utilising weed removal techniques outlined in Attachment A of the FFMP.

20. Should the contractor feel that techniques selected in this report will prove un-effective or inefficient; the contractor shall notify the landscape architect nominating alternative procedures for review and discussion.

5.2 Planting Techniques

5.2.1 Scope of Works

Revegetation shall commence as soon as practicable and where applicable upon completion of initial weed removal.

5.2.2 Management Activities

Minor sediment and erosion control measures may be required on batters and fills. Erosion and sediment control will be carried out in accordance with Managing Urban Stormwater: Soils and Construction commonly known as The Blue Book (Landcom 2006) and local council requirements and the procedures contained in the Erosion and Sediment Control plan (CEMP, Appendix F).

Plants found to be dead or dying shall be replaced under general maintenance. Maintenance activities shall be continued throughout the 5 year period and include:

- weeding
- spot spraying
- watering
- monitoring of losses from heat or other factors
- poor growth
- animal and construction damage.

5.3 Erosion and Sediment Control

5.3.1 Scope of Works

Many factors that occur on site throughout construction phases have the potential to contribute to erosion and unnecessary damage to both the site itself and adjoining land. Factors that may cause adverse effects can include: storage of fill, removal of selected trees and surrounding grass cover in open areas and to a lesser extent, weed control and revegetation. It is important to understand the adverse effects caused due to erosion and sedimentation. In some cases areas some distance from the initial disturbance may be affected by actions elsewhere on site.

Soil stabilisation works will be implemented as per the Erosion and Sediment Control plan (CEMP, Appendix F).

5.4 Control of Access

All areas being re vegetated shall be fenced/marked off to ensure that machinery, stockpiling of materials, access tracks, service layouts and general construction activity is prevented from accessing these areas. Protective fencing shall remain erected until construction works are complete for that particular stage.

It is often difficult to enforce this over large sites with numerous parties working on the site, however with the proper fencing, site supervision and site meetings/induction will ensure the best method to ensure the protection of these areas.

The VMP area is below the road and can only be accessed via a maintenance track around basin B, it is within a separate lot dedicated to water management and environmental purposes and not subject to development.

The development also requires an operational management plan that includes a landscape management plan which will include the VMP area. Specific measures appropriate to the protection of this area and maintenance activities will be included in this operational plan.

6 Ongoing Maintenance

6.1 General

The time allocated to maintenance shall be varied according to the stage of the development. The Landscape Maintenance schedule includes but is not limited to the prescribed instructions. The maintenance contractor shall perform additional tasks should they be required.

6.2 Weed and Pest Control

6.2.1 Scope

Ongoing monitoring, maintenance and weed control shall be undertaken in accordance with the Weed Management Plan in Attachment C of the FFMP All areas found to have weed infestations shall be monitored and treated thoroughly for a minimum of 5 years. Newly exposed or disturbed areas (due to initial weed removal) will be subject to new weed growth and shall require continued weed removal procedures, monitoring and maintenance throughout this period.

The contractor shall undertake weed removal as required on a regular basis in order to maintain a weed free environment.

6.2.2 Management Activities

Undertake adequate weed control measures on any non-desirable plants or weeds as required in accordance with the Weed Management Plan in Attachment C of the FFMP.

Regularly remove, by hand, rubbish that may occur throughout the area and dispose of in a suitable manner.

The maintenance contractor must keep records of each chemical application. Details are to include location, target identification, operators name, treatment date and time, risk assessment including prevailing conditions and product and equipment used and application rates.

6.3 Monitoring, Maintenance and Plant Establishment

6.3.1 Scope

On going monitoring and establishment is important to establish and retain high quality, successful vegetation cover and minimise weed re-infestation. The contract shall include an establishment and maintenance period to cover the full 5 year period. During this period Monitoring sessions would indicate the specific maintenance requirements for the site. Such maintenance is likely to involve (but not necessarily be restricted to):

- control of noxious weeds
- watering as required
- control of pests or diseases
- fauna damage
- correction of any significant nutrient deficiencies
- replacement of failed plantings
- correction of any bank/slope instability or erosion problems

- general health and vigour
- any other unanticipated problems.

Regular monitoring shall be undertaken for addressing the performance criteria as outlined. The sessions will need to be more frequent in the early stages following planting, the frequency decreasing with time:

- the developer shall submit annual reports detailing works undertaken, the results of that work, identifying future works programs and making and necessary recommendations to enhance the VMP.

The frequency and duration of monitoring should be flexible, and re-assessed following each session. However, as an initial guide, monitoring is likely to be required:

- monthly for the first 6 months
- once every 3 months for the following 18 months
- once every 12 months for the following 36 months
- subsequent years if required. Frequency to be discussed. At this time a decision could be made as to whether monitoring can be discontinued.

If it is necessary to increase or decrease monitoring at any given time the contractor shall discuss options with the landscape architect.

6.3.2 Management Activities

Vegetation maintenance activities shall include:

- weeding, as per the Weed Management Plan in Attachment C of the FFMP
- watering
- monitoring of losses from heat or other factors
- poor growth
- animal and construction damage
- unsuitable species
- plants found to be dead or dying shall be replaced under general maintenance
- where erosion occurs, re-instate soil and stabilise with additional planting.

Upon completion of the 5 year landscape establishment contract a report is to be prepared by the contractor to record the results and actions identified throughout each monitoring and maintenance session. The report shall be submitted to the Landscape Architect.

The report is to be inclusive of but not be limited to; up to date photographs of areas treated, current progress or issues encountered, providing viable options for the remedy of any such issues, an outline of future maintenance and monitoring activities, any recommended amendments to the proposed program and reason for proposed amendments.

6.4 Checklists and Logs

6.4.1 Scope

A Landscape Maintenance Schedule is made part of this specification. The contractor shall review this schedule as required and complete all applicable items on the list in intervals as specified.

6.4.2 Management Activities

The contractor shall keep a log of all maintenance undertaken on site. Details included within the log shall include date, time, work undertaken and any relevant responses/recommendations with respect to work undertaken. Submit log records to the site superintendent within 24 hours of being requested to do so.

Table 6.1 Management Activities

Task	Description
1	Remove litter and other refuse.
2	Correct and control erosion.
3	Replace lost, stolen or any dead plants.
4	Encourage native wildlife and control feral animals.
5	Remove undesirable species that produce excessive shade or dominate the plant mix.
6	Weed control and removal.
7	Maintain vegetation to comply with APZ requirements as nominated in the bushfire report.

References

DPE 2022, Controlled activities – Guidelines for vegetation management plans on waterfront land (Fact Sheet), prepared by Department of Planning and Environment

Ecological 2020a, *200 Aldington Road Industrial Estate – Biodiversity Development Assessment Report*, prepared by Eco Logical Australia Pty Ltd for Fife Kemps Creek Trust

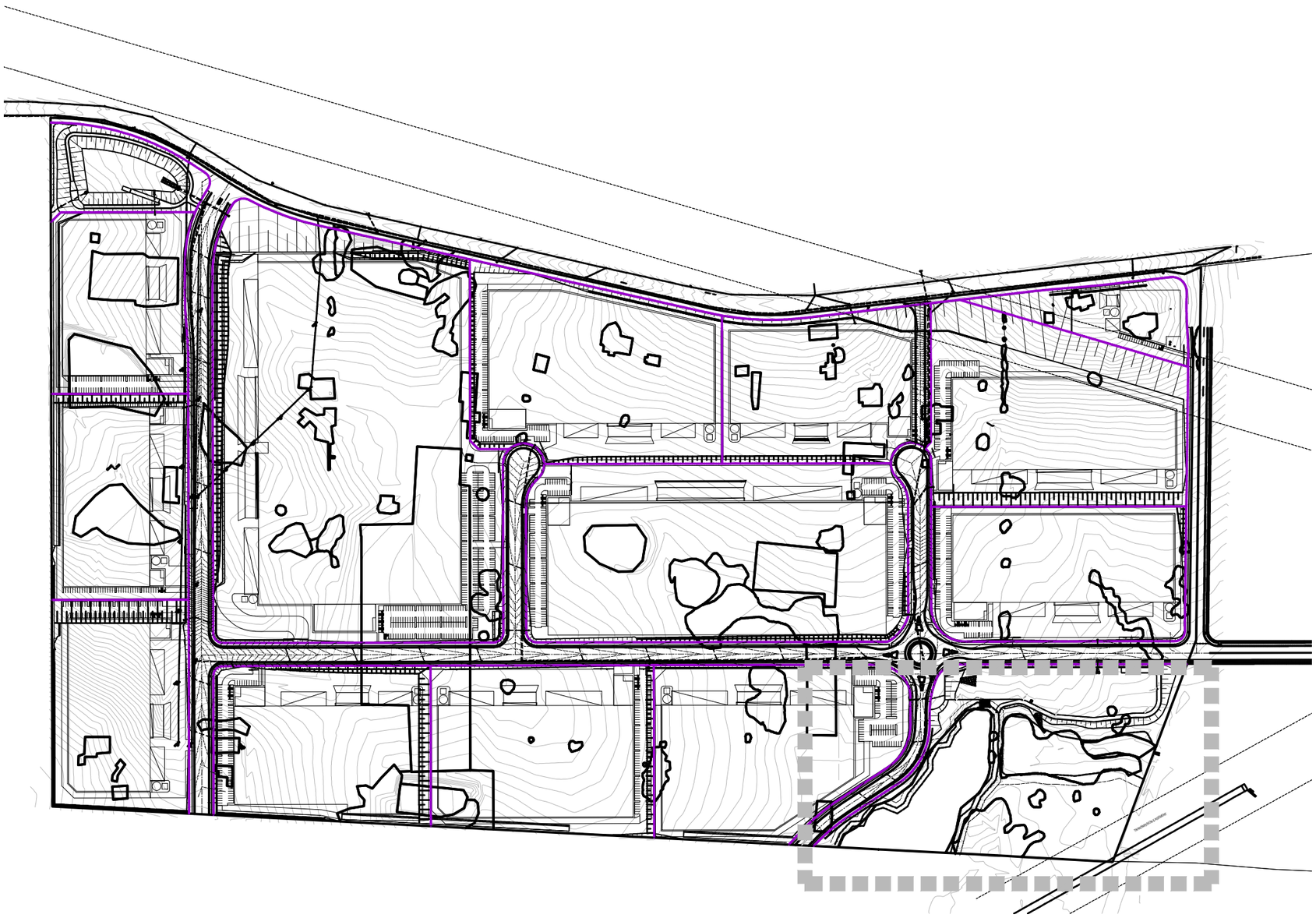
Ecological 2020b, *200 Aldington Road Industrial Estate – Riparian Assessment*, prepared by Eco Logical Australia Pty Ltd for Fife Kemps Creek Trust

Attachment A

Planting plans

EMM
creating opportunities

A.1 Planting plans



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Revisions		
Issue	Details	Date
A	Draft Issue	04.03.22
B	For Approval	25.03.22
C	For Approval	20.04.22

Client:
Fife Kemps Creek Trust

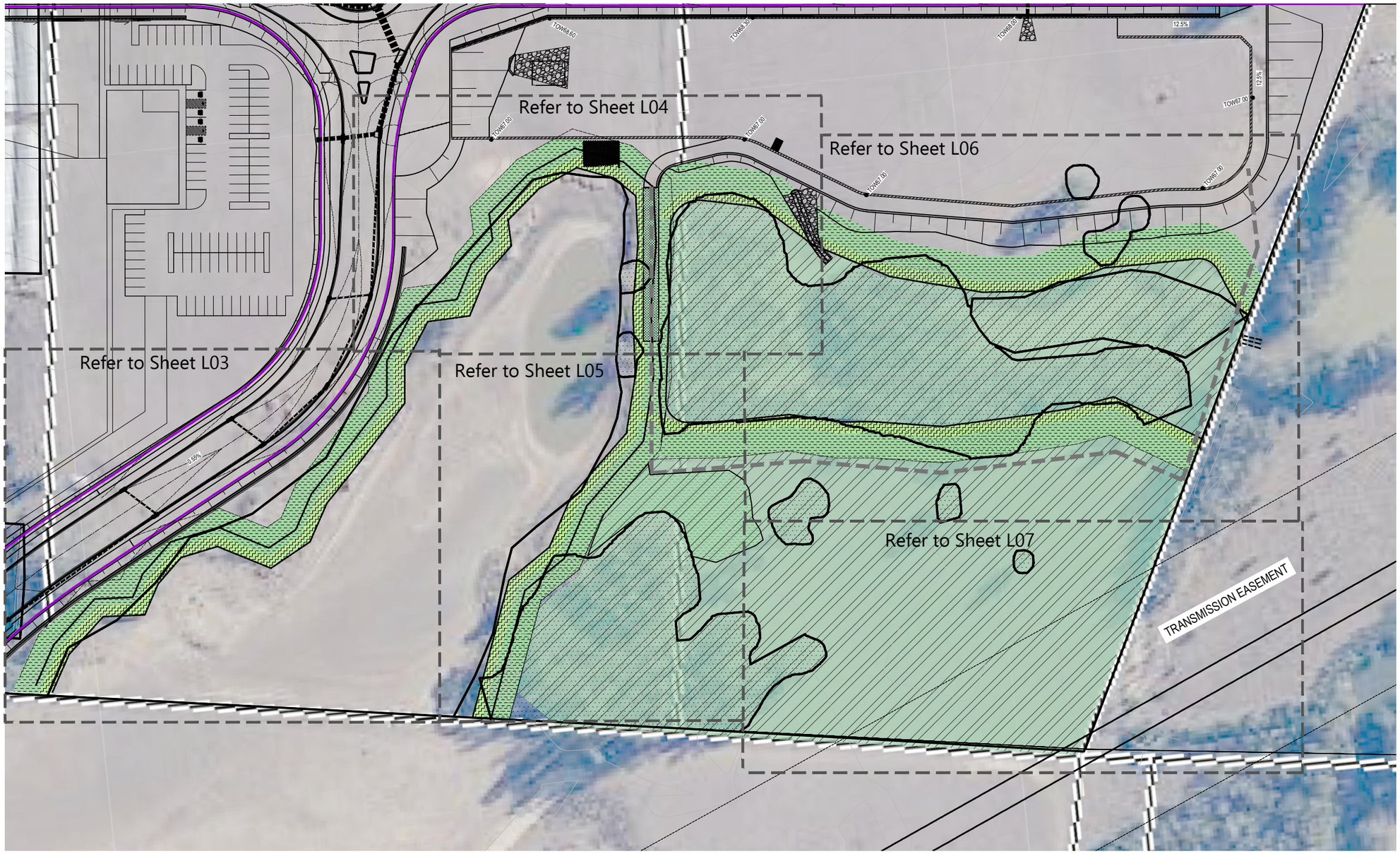
Project:
200 Aldington Road
Industrial Estate

Title:

Vegetation Management Plan Overall Site Plan

Site: 200 Aldington Road, Kemps Creek
Date: 20 April 2022
Job No: E210906
Revision: C
Sheet: 01

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Client:
Fife Kemps Creek Trust

Project:
200 Aldington Road
Industrial Estate

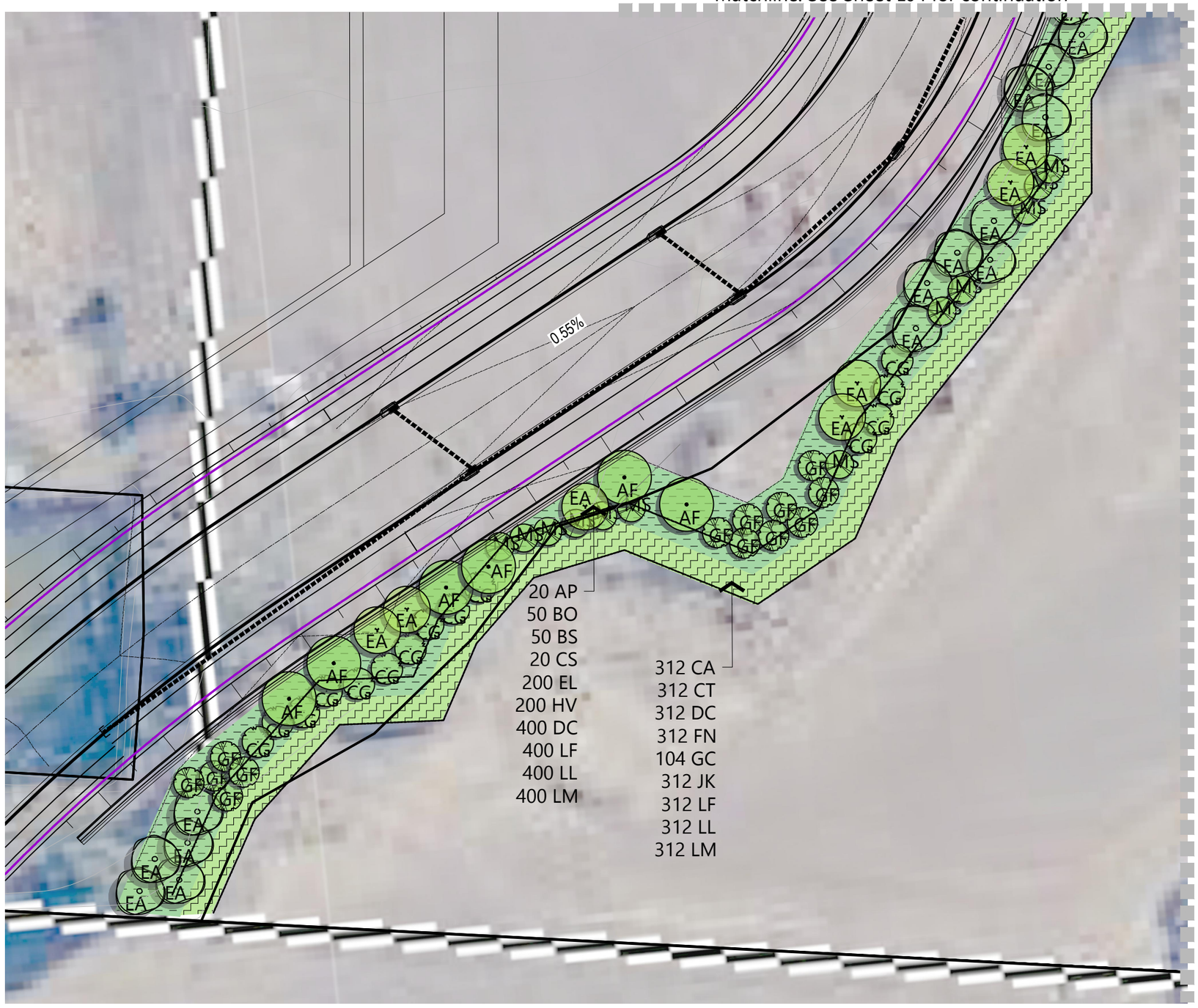
Title:

Vegetation Management Plan Drawing Schedule

Site: 200 Aldington Road, Kemps Creek
Date: 20 April 2022
Job No: E210906
Revision: C
Sheet: 02

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Matchline. See Sheet L04 for continuation



Matchline. See Sheet L05 for continuation

LEGEND

- Proposed Trees
- VMP Weed Management Area (No Planting)
- Water Edge Planting (Zone A)
- Mid and Upper Bank (Zone B)
- Existing Vegetation
- Turf Maintenance Access (Cynodon dactylon)
- Proposed Walking Track

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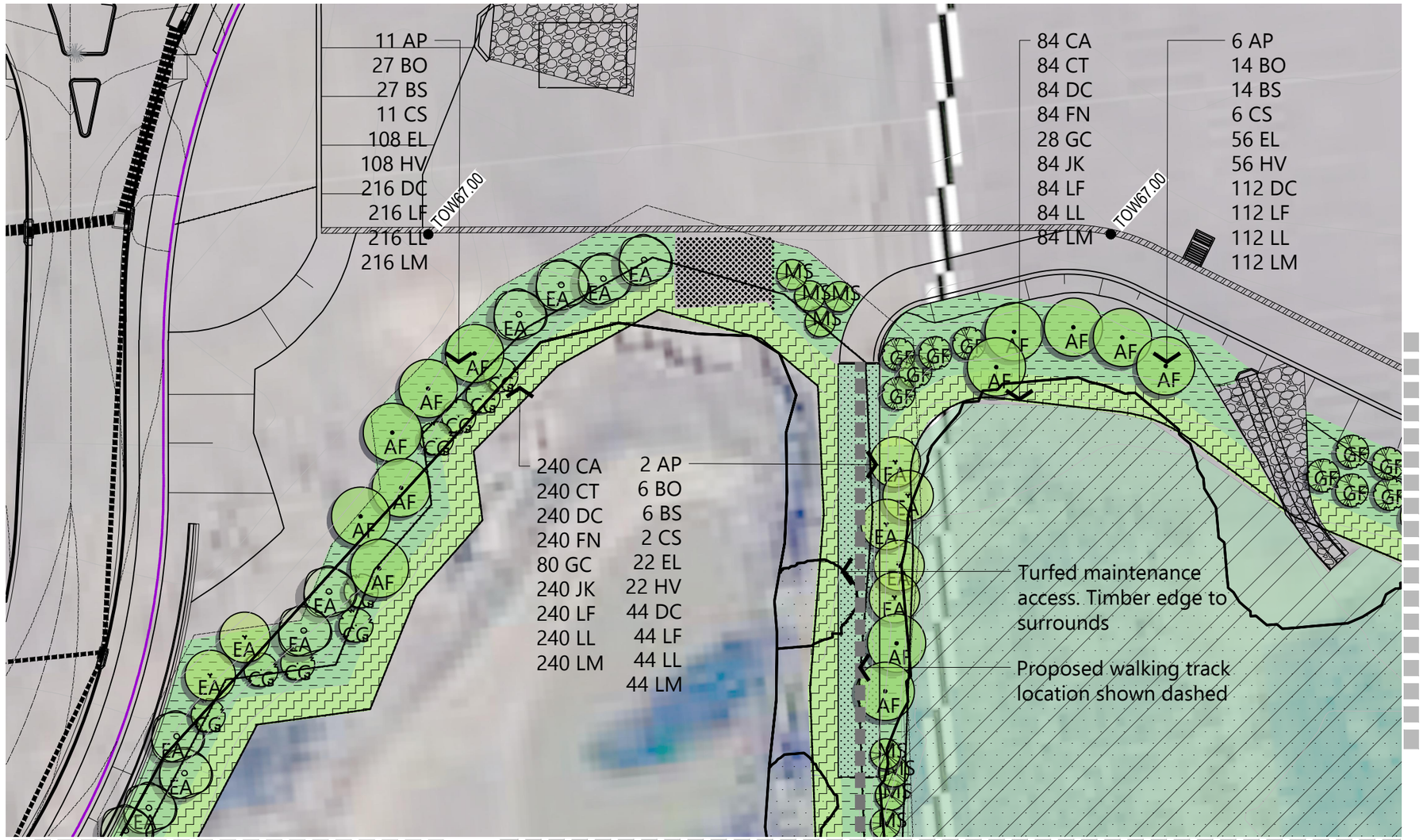
Project:
200 Aldington Road
Industrial Estate

Title:

Vegetation Management Plan Planting Plan 1

Site: 200 Aldington Road, Kemps Creek
Date: 20 April 2022
Job No: E210906
Revision: C
Sheet: 03

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Matchline. See Sheet L03 for continuation

Matchline. See Sheet L05 for continuation

LEGEND

- Proposed Trees
- VMP Weed Management Area (No Planting)
- Water Edge Planting (Zone A)
- Mid and Upper Bank (Zone B)
- Existing Vegetation
- Turf Maintenance Access (Cynodon dactylon)
- Proposed Walking Track

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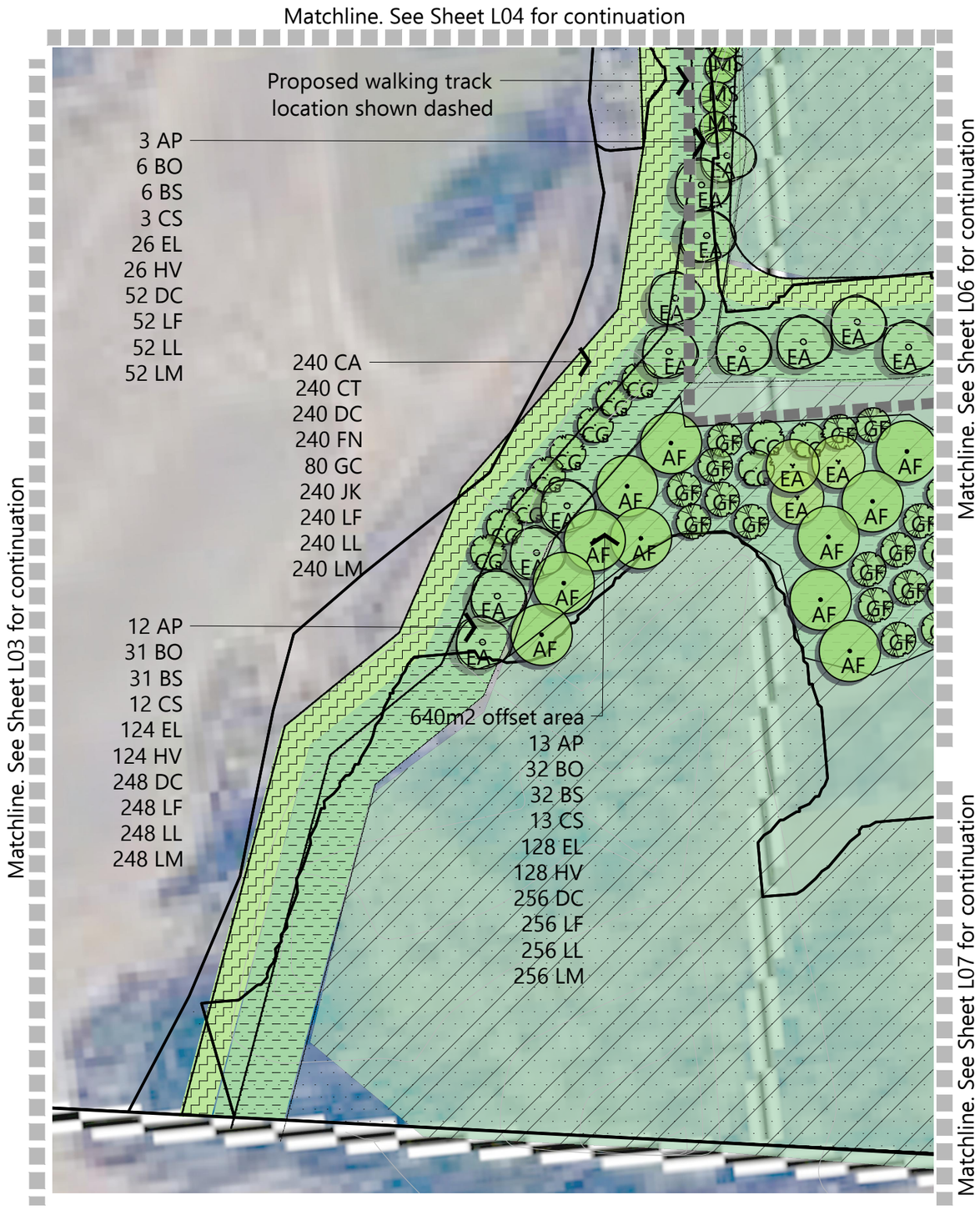
Client:
Fife Kemps Creek Trust

Project:
200 Aldington Road
Industrial Estate

Title:
Vegetation Management Plan
Planting Plan 2

Site: 200 Aldington Road, Kemps Creek
Date: 20 April 2022
Job No: E210906
Revision: C
Sheet: 04

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LEGEND

- Proposed Trees
- VMP Weed Management Area (No Planting)
- Water Edge Planting (Zone A)
- Mid and Upper Bank (Zone B)
- Existing Vegetation
- Turf Maintenance Access (Cynodon dactylon)
- Proposed Walking Track

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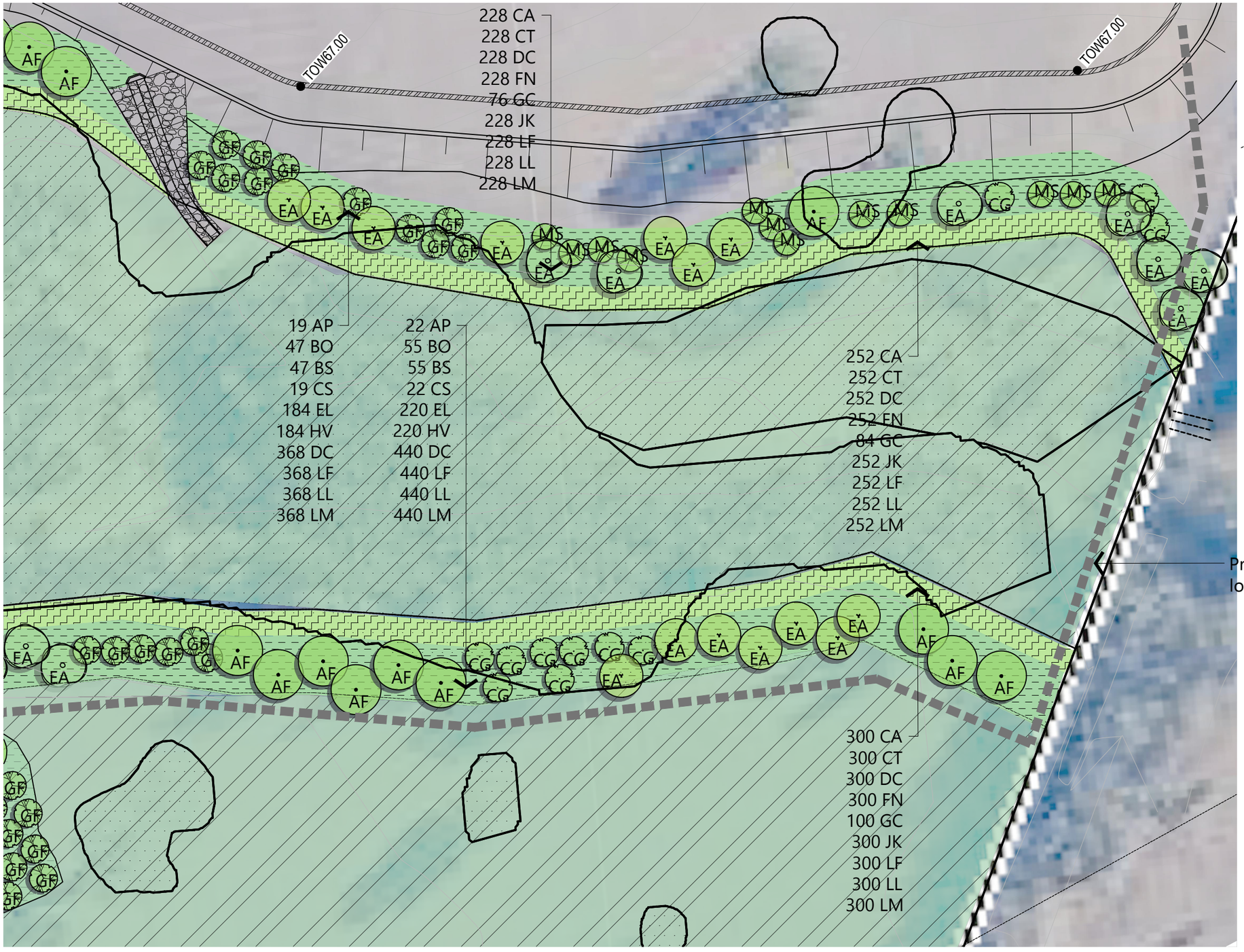
Project:
200 Aldington Road
Industrial Estate

Title:

Vegetation Management Plan Planting Plan 3

Site: 200 Aldington Road, Kemps Creek
Date: 20 April 2022
Job No: E210906
Revision: C
Sheet: 05

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Matchline. See Sheet L04 for continuation

Matchline. See Sheet L05 for continuation

Matchline. See Sheet L07 for continuation

LEGEND

- Proposed Trees
- VMP Weed Management Area (No Planting)
- Water Edge Planting (Zone A)
- Mid and Upper Bank (Zone B)
- Existing Vegetation
- Turf Maintenance Access (Cynodon dactylon)
- Proposed Walking Track

Proposed walking track location shown dashed

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Scale 1 : 500 @ A3

Revisions		
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Client:
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Project:
200 Aldington Road
Industrial Estate

Title:

Vegetation Management Plan Planting Plan 4

Site: 200 Aldington Road, Kemps Creek
Date: 20 April 2022
Job No: E210906
Revision: C Sheet: 06

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Matchline. See Sheet L06 for continuation

Matchline. See Sheet L05 for continuation



LEGEND

- Proposed Trees
- VMP Weed Management Area (No Planting)
- Water Edge Planting (Zone A)
- Mid and Upper Bank (Zone B)
- Existing Vegetation
- Turf Maintenance Access (Cynodon dactylon)
- Proposed Walking Track

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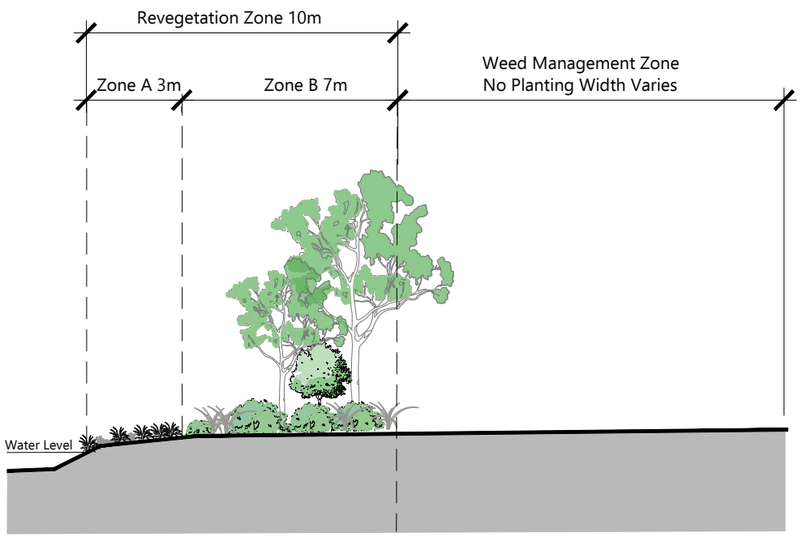
Project:
200 Aldington Road
Industrial Estate

Title:

Vegetation Management Plan Planting Plan 5

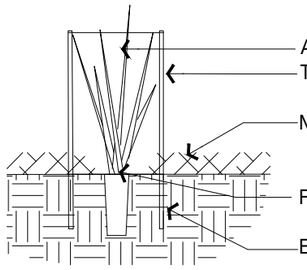
Site: 200 Aldington Road, Kemps Creek
Date: 20 April 2022
Job No: E210906
Revision: C Sheet: 07

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Typical section through riparian zone and management area

Scale 1:200 @ A3



Tubestock Planting

Scale NTS @ A3

Zone A - Edge Planting Zone

CA	*Carex appressa*	Rush	Viro Tube	6m^2	1356
CT	*Cyperus trinervis*	Flat Sedge	Viro Tube	6m^2	1356
DC	*Dianella caerulea*	Flax Lily	Viro Tube	6m^2	1356
FN	*Ficinia nodosa*	Knobby Club Rush	Viro Tube	6m^2	1356
GC	*Gahnia clarkei*	Sword Rush	Viro Tube	2m^2	452
JK	*Juncus usitatus*	Common Rush	Viro Tube	6m^2	1356
LF	*Lomandra filiformis*	Wattle Matt Rush	Viro Tube	6m^2	1356
LL	*Lomandra longifolia*	Matt Rush	Viro Tube	6m^2	1356
LM	*Lomandra multiflora*	Matt Rush	Viro Tube	6m^2	1356

Zone B - Canopy Tree Layer

AF	*Angophora floribunda*	Rough Barked Apple	50mm Tube	0.2m^2	41
CG	*Casuarina glauca*	Swamp She-Oak	50mm Tube	0.2m^2	45
EA	*Eucalyptus amplifolia*	Cabbage Gum	50mm Tube	0.2m^2	74
GF	*Glochidion ferdinandi*	Cheese Tree	50mm Tube	0.2m^2	58
MS	*Melaleuca stypheloides*	Spiny Leaved Paperbark	50mm Tube	0.2m^2	33

Zone B - Shrub and Groundcover Layer

AP	*Acacia parramattensis*	Parramatta Wattle	50mm Tube	0.2m^2	108
BO	*Breynia oblongifolia*	Coffee Bush	50mm Tube	0.5m^2	263
BS	*Bursaria spinosa*	Blackthorn	50mm Tube	0.5m^2	263
CS	*Callistemon salignus*	Willow Leaved Bottlebrush	50mm Tube	0.2m^2	108
EL	*Eustrephus latifolius*	Wombat Berry	50mm Tube	2m^2	1068
HV	*Hardenbergia violacea*	Native Sarsparilla	50mm Tube	2m^2	1068

Zone B - Native Grass Layer

DC	*Dianella caerulea*	Flax Lily	Viro Tube	4m^2	2136
LF	*Lomandra filiformis*	Wattle Matt Rush	Viro Tube	4m^2	2136
LL	*Lomandra longifolia*	Matt Rush	Viro Tube	4m^2	2136
LM	*Lomandra multiflora*	Matt Rush	Viro Tube	4m^2	2136

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Fife Kemps Creek Trust

Project:
200 Aldington Road
Industrial Estate

Title:
Vegetation Management Plan- Details and Plant Schedule

Site: 200 Aldington Road, Kemps Creek
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Appendix B
Dam dewatering plan

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B.1 Dam Dewatering Plan

This Dam Dewatering Plan (DDP) has been prepared for implementation by Fife Kemps Creek Pty Ltd (FKC) (and its contractors) for the construction of the 200 Aldington Road Industrial Estate (the Project). The Project is located in Kemps Creek, New South Wales 2178, within the Penrith Local Government Area (LGA). This DDP outlines the management measures to be applied to the removal of Dam 1 to 8 and Dam 10 (refer Figure B.1).

The following documents have been reviewed and applicable information incorporated into this DDP:

- *Environmental Impact Statement*, prepared by Ethos Urban, dated 11 November 2020
- SSDA 10479
- *Riparian Assessment*, prepared by Eco Logical, dated 22 June 2022
- *Detailed Site Investigation* (V2d) prepared by ADE Consulting Group December 2022
- *Mamre Road Precinct Development Control Plan 2021* (the DCP).

B.2 Site assessment

B.2.1 Method

As part of the Riparian Assessment (Eco Logical 2022), a literature review and field survey were completed by aquatic ecologists from Eco Logical. This literature included review of the following databases and guidelines:

- BioNet/Atlas of NSW Wildlife (DPIE 2020)
- Protected Matters Search Tool (DAWE 2020)
- Native Vegetation of the Sydney Metropolitan Area v.3 (OEH 2016)
- SIXMaps
- hydroline spatial data from the Water Management (General) Regulation 2018
- *Policy and Guidelines for Fish Habitat Conservation and Management* (DPI 2013)
- *Guidelines for Controlled Activities on Waterfront Land – Riparian Corridors* (NRAR 2018).

The field survey was undertaken on 20 July 2020 by an aquatic ecologist from Eco Logical. The purpose of the field survey was to determine if watercourses on site met the definition of a river under the NSW *Water Management Act 2000* (WM Act), in addition to assessing the condition and extent of riparian and aquatic habitat.

As part of the Detailed Site Investigation (ADE, Dec 2022) soil and surface water samples were taken by ADE Consultants. Surface water samples were collected on 28 November 2022 from 9 ponds/dams located on the site. These samples were analysed and results compared to the NEPM 2013 Groundwater Investigation Levels (GILS) Criteria for freshwater.

B.2.2 Fauna and flora findings

In total,11 dams were located within the site (refer Figure B.1). As summarised in Table B.1, aquatic fauna and flora species were observed in several of the dams.

Table B.1 Aquatic fauna and flora species within dams

Dam number	Aquatic fauna	Aquatic flora	Removal (Y/N)
1	No aquatic fauna observed	Floating macrophytes (*Azolla pinnata*)	Y
2	No aquatic fauna observed	Emergent *Typha orientalis* plus submerged macrophytes	Y
3	No aquatic fauna observed	Typha orientalis	Y
4	No aquatic fauna observed	Emergent macrophytes including *Ludwigia peploides* (Water Primrose) and *Persicaria decipiens* (Knotweed) and floating *Azolla pinnata*	Y
5	No aquatic fauna observed	Submerged macrophytes in the form of *Vallisneria australis* (Ribbonweed)	Y
6	Eurasian Coots and frogs could be heard calling	*Ludwigia peploides* and *Eleocharis sphacelata* within the dam	Y
7	Frogs heard calling.	*Persicaria decipiens*	Y
8	Pied cormorant	No aquatic flora observed	Y
9	No aquatic fauna observed	No aquatic flora observed	N
10	No aquatic fauna observed	*Typha orientalis, Lemna* sp. and *Ludwigia peploides* on the edges of the dam	Y
11	Long finned eel	Typha orientalis in the middle of the dam	N

The literature review identified two mapped watercourses within the site, including an unnamed first order tributary of Kemps Creek located near the southern boundary, and Ropes Creek located near the north-eastern boundary.

A defined channel was not present for either tributary of Kemps Creek or Ropes Creek along the mapped locations, and therefore the tributaries were assessed to not meet the definition of a river under the *Water Management Act 2000.*

In the north-east corner of the site, a wetland environment is present downstream of Dam 11. Waterflow is likely to only occur through this area during high flow events. A damp area is located upstream of Dam 11 which would be inundated following heavy rainfall. Small, isolated pools are also located within this area.

B.2.3 Water quality findings

5 water samples showed exceedance in copper and 6 showed exceedances in mercury when compared to the NEPM 2013 Groundwater Investigation Levels (GILS) Criteria for freshwater. The DSI report recommends the water is removed safety and not discharged to surrounding freshwater courses.

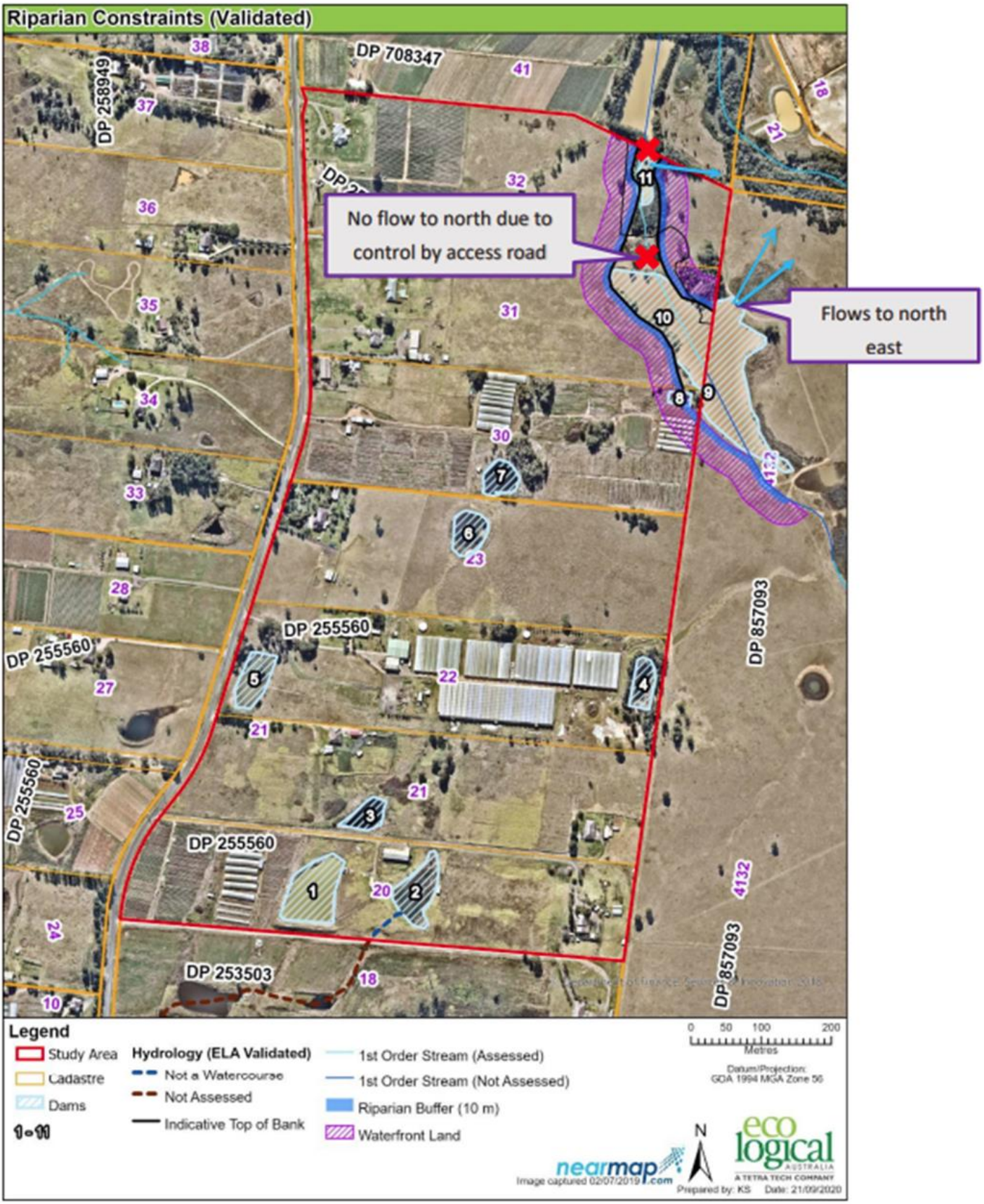


Figure B.1 **Water courses within the site**

B.3 Management measures

This section summarises the management measures provided in the Riparian Assessment (Eco Logical 2022) to mitigate impacts to riparian vegetation during stage 1 works. Management measures provided Section 5.2 of the Riparian Assessment (Eco Logical 2022) have been identified in Table B.2 below. The Project site is located within the Mamre Road Precinct, and therefore the relevant controls of the DCP have been considered in this Dam Dewatering Plan and must be applied to the construction phase of the Project. The applicable controls provided in the DCP have been summarised in Table B.2 below.

Table B.2 Management measures

Action	Timing	Responsibility	Source
To ensure aquatic species are protected during the dam decommissioning process, the aquatic ecologist in charge of fauna relocation should possess the following licenses/permits: • Section 37 *Fisheries Management Act 1994* (for fish), issued by NSW Department of Primary Industries – Fisheries. • Animal Research Authority (for the welfare of all animals), issued by the Secretary's Animal Care & Ethics Committee. This Authority describes permitted euthanasia techniques (e.g. for Redfin Perch and sick or diseased fauna).	During dam decommissioning	Construction Manager/ Aquatic ecologist	Section 5.2.3 of the Riparian Assessment
The aquatic ecologist is to notify NSW Fisheries of the activity 48 hours prior to fish relocation (unless an agreement is in place), including locations of dewatered and relocation sites.	Prior to dewatering	Construction Manager/ Aquatic ecologist	Section 5.2.3 of the Riparian Assessment
The dewatering schedule should allow time for fish rescue, especially during the final 0.3 m water depth (to be advised by Aquatic Ecologist). Fauna should be captured in one day, so pumps need to be of adequate size and placed in an area free from mud and debris (e.g. inside excavator bucket or screened sump pit).	Prior to dewatering	Construction Manager/ Aquatic ecologist	Section 5.2.3 of the Riparian Assessment
Native fish healthy enough for relocation are to be contained and transported in an aerated tub/bucket/tank to an appropriate dam/lake/waterhole/creek. It is recommended that native species are relocated to a nearby dam or creekline with landholder's permission. NSW Fisheries advise that the host location should be large enough to accommodate additional fish, especially predatory eels. If a large number of predatory fish such as *Anguilla reinhardtii* are captured during the aquatic fauna relocation process, an additional release point may be required.	Duration of project	Construction Manager/ Aquatic ecologist	Section 5.2.3of the Riparian Assessment
Prior to any earthworks commencing on site, an Erosion and Sediment Control Plan to be implemented. Refer ESCP for details.	Prior to works commencing/ duration of project	Construction Manager/ Environmental representative	Section 5.2.1 of the Riparian Assessment SSD10479 condition D22
Discharge water during dam dewatering activities to land not surrounding watercourse to prevent contamination of freshwater.	During dewatering of dam	Construction Manager	DSI (ADE V2d 2022) Section 12.1 Recommendations

Appendix C
Weed management plan

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200 Adlington Road Industrial Estate

State Significant Development (SSD-10479) Weed and Pathogen Management Plan

Prepared for Fife Kemps Creek Trust

May 2023

200 Adlington Road Industrial Estate

State Significant Development (SSD-10479) Weed and Pathogen Management Plan

Fife Kemps Creek Trust

E210906 RP1

May 2023

Version	Date	Prepared by	Approved by	Comments
V1	18 May 2023	Wendy Mason	David Bone	

Approved by



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This report has been prepared in accordance with the brief provided by Fife Kemps Creek Trust and has relied upon the information collected at the time and under the conditions specified in the report. All findings, conclusions or recommendations contained in the report are based on the aforementioned circumstances. The report is for the use of Fife Kemps Creek Trust and no responsibility will be taken for its use by other parties. Fife Kemps Creek Trust may, at its discretion, use the report to inform regulators and the public.

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Appendices

Appendix A Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022 – Priority Weeds

Appendix B Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022 – Other Weeds of Regional Concern

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1 Introduction

1.1 Purpose

Construction works have the potential to cause the spread or importation of weeds and pathogens. Activities including vegetation clearing, soil disturbance, erosion and sediment control, vehicle movements, inadequate rehabilitation/revegetation of disturbed areas and inappropriate topsoil management have been identified as potential risks in weed and pathogen management.

This Weed Eradication Management Plan has been prepared to identify the presence of key weed species and pathogens across the project area, and to outline the processes required to control and prevent their potential spread. It has been prepared in accordance with the *Biosecurity Act 2015* and the *Greater Sydney Regional Strategic Weed Management Plan 2017–2022*. Priority weeds and other weeds of regional concern are also attached to this Plan (Appendix A and Appendix B respectively).

The purpose of this Plan is to:

- Identify the pathogens and key weed species and their distribution across the project area.
- Prevent the introduction and spread of weeds and pathogens throughout construction works.
- Establish an inspection and reporting framework for weeds and pathogens during construction.
- Set out performance criteria for the management of weeds and pathogens.

It is noted, the following threatened flora species: Acacia bynoeana, Cynanchum elegans, Dillwynia tenuifolia, Genoplesium baueri, Grevillea juniperina subsp. juniperina, Grevillea parviflora subsp. parviflora, Persoonia nutans and Pultenaea parviflora were not confirmed within the Project area.

1.2 Scope

This plan details control measures to be implemented throughout the construction phases of the project. This plan focuses on weed control prior to vegetation clearance, weed management during clearing, and progressive weed control throughout construction.

Operational weed management will be incorporated into landscaping and facility maintenance plans.

1.3 Induction/training

All site personnel (including sub-contractors) will be inducted in this plan and the existence of priority and other weeds in the project area. Training will also include requirements to inspect machinery and clean footwear to prevent the spread of weeds, and measures to identify and prevent the introduction or spread of *Phytophthora cinnamomi* (Root Rot).

Training will include inductions, toolbox talks, pre-starts and targeted training sessions as required.

1.4 Roles and responsibilities

The Environmental Site Representative is responsible for ensuring the effective implementation of this Plan and for the training of site personnel in the requirements of this plan.

The Environmental Site Representative will advise and co-ordinate appropriate weed removal and control techniques for each weed species and for pathogens.

All persons entering the site are responsible for preventing the spread of weeds and pathogens within the project area.

1.5 Review

This Plan will be updated throughout construction to include any new weed or pathogen findings and subsequent management measures required. This plan will be reviewed in accordance with the continuous improvement process described in Chapter 8 of the CEMP.

2 Weeds and pathogens in the Early Works area

2.1 Weeds

The *Greater Sydney Regional Strategic Weed Management Plan 2017–2022* identifies priority weeds and other regional weeds of concert for the Greater Sydney Region, including the Liverpool, Fairfield and Penrith Local Government Areas (LGAs). The WeedWise website and associated app (https://weeds.dpi.nsw.gov.au/) also provides details on weed identification, control options and biosecurity duty. This website and app will be utilised to inform the identification, status and management options required.

2.1.1 Priority weeds in the Greater Sydney Region

State level determined priority weeds and regionally determined priority weeds, as identified in the *Greater Sydney Regional Strategic Weed Management Plan 2017–2022*, are provided in Appendix A and Appendix B of this plan. Management requirements for weeds, whether that be specific regulatory measures (state level priorities) or outcomes to demonstrate compliance with the General Biosecurity Duty (regional priority weeds), are also detailed in Appendix A and Appendix B.

The outcomes applied to a particular weed depend on factors such as the biology and ecology of the weed, the land use(s) in which it occurs, the distribution in the region and size of the infestation, potential pathways for infestation and others. These factors were taken into account in determining the suite of outcomes to demonstrate compliance with the General Biosecurity Duty and strategic responses. These obligations apply to all private and public landholders in the region.

2.1.2 Other regional weeds of concern list

Attachment 2 of the *Greater Sydney Regional Strategic Weed Management Plan 2017–2022* (Appendix B) outlines other priority weeds identified by the Greater Sydney Regional Weed Committee in consultation with the community. These are species for which a consistent and/or collaborative approach to management will provide the best outcome across the region. Weeds identified within Attachment 2 of the *Greater Sydney Regional Strategic Weed Management Plan 2017–2022* (Appendix B) are also subject to the General Biosecurity Duty and may be a focus for local management plans and coordinated campaigns by the community and other stakeholder groups in the region.

2.1.3 Weed identification and mapping

Detailed weed identification and mapping of project site and adjacent areas will be undertaken by an Ecologist during pre-clearing surveys, prior to the commencement of construction.

The Ecologist will then update this Weed Eradication Management Plan with a detailed list of all weed species identified during the pre-clearing. The Ecologist will include details of the weed species including photographs, detailed descriptions and known locations. The detail to be provided will also include the weed status in accordance with Attachments 1 and 2 of the *Greater Sydney Regional Strategic Weed Management Plan 2017–2022*.

This information will be disseminated to site personnel during training and induction.

2.2 Pathogens

Pathogens that have been identified to potentially occur in the Project area include:

- Soil-borne pathogen *Phytophthora cinnamomi* (Phytophthora)
- *Austropuccinia psidii* which causes the disease Myrtle rust
- *Batrochytridium dendrobatidis* (Chytrid (Frog) fungus)
- Psittacine beak and feather disease (PBFD).

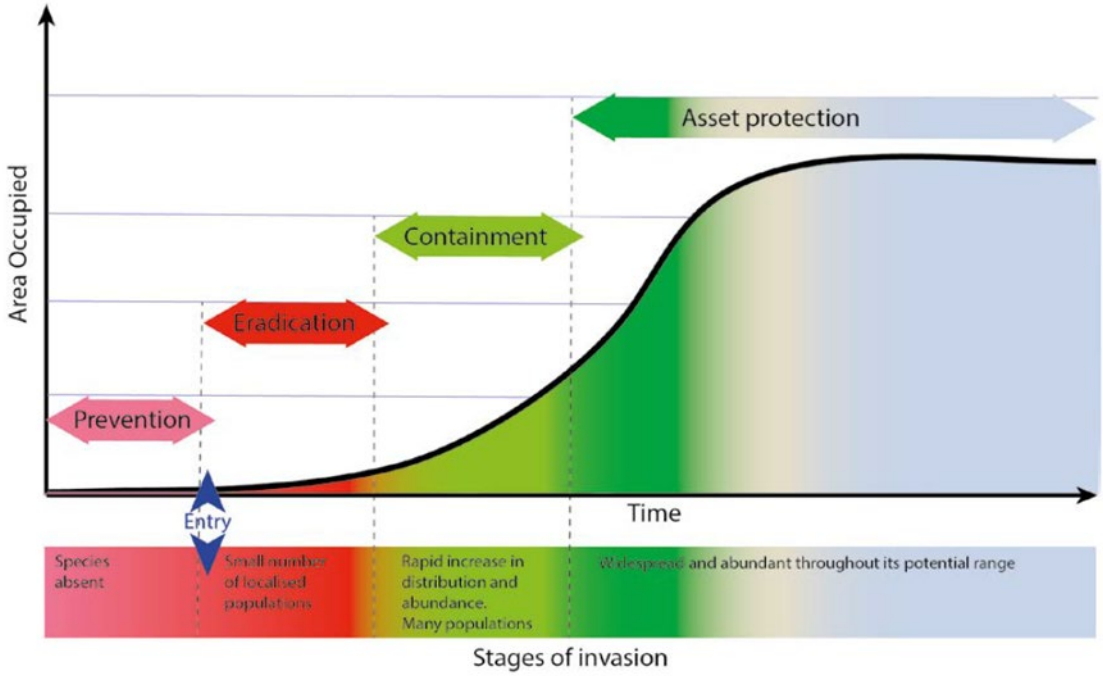
Identification and/or fact sheets on each pathogen identified as having the potential to occur within the project area or with the potential to be introduced to the area will be prepared for use in toolbox talks and pre-start meetings especially during the initial clearing and earthworks periods.

3 Weed management procedure

3.1 Approach to weed management

In NSW all plants are regulated with a general biosecurity duty under the *Biosecurity Act 2015* to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.

Figure 3.1, from the *Greater Sydney Regional Strategic Weed Management Plan 2017–2022*, illustrates the invasion process for weeds from arrival to widespread establishment and shows that the effort and resources required to control a weed rise with time and area occupied. Managing weeds earlier rather than later is more effective. The asset protection phase shown in Figure 3.1 illustrates the shift in the focus from controlling a weed species to limiting the impact it may have on important assets.



Source: *Greater Sydney Regional Strategic Weed Management Plan 2017–2022*

Figure 3.1 Weed invasion curve

Further detail of the management categories identified in Figure 3.1 is provided in Table 3.1.

Table 3.1 Regional weed management categories

Category	Objective	Weed Characteristics
Prevention	To prevent the weed species arriving and establishing in the region.	These species are not known to be present in the region. They have a high to very high weed risk (highly invasive and high threat) and have a high likelihood of arriving in the region due to potential distribution and/or an existing high-risk pathway.
Eradication	To permanently remove the species and its propagules from the region OR to destroy infestations to reduce the extent of the weed in the region with the aim of local eradication.	These species are present in the region to a limited extent only and the risk of re-invasion is either minimal or can be easily managed. They have a high to very high weed risk and high feasibility of coordinated control.
Containment	To prevent the ongoing spread of the species in all or part of the region.	These species have a limited distribution in the region. Regional containment strategies aim to prevent spread of the weed from an invaded part of the region (core infestation), and/or exclude the weed from an uninvaded part of the region (exclusion zone).
Asset Protection	To prevent the spread of weeds to key sites/assets of high economic, environmental and social value, or to reduce their impact on these sites if spread has already occurred.	These weed species are widespread and unlikely to be eradicated or contained within the wider regional context. Effort is focussed on reducing weed threats to protect priority high value assets.

3.2 Site weed assessment

The Ecologist will undertake an inspection of the site with the project to assess the area for weeds. Weed assessments will occur:

- as part of the pre-clearing survey
- prior to drainage works
- during regular site inspections
- when a potential weed infestation has been identified.

The weed assessment will involve the following activities:

- identify and describe or map weed infested areas
- include photographic guide to identifying common weed species
- identify surrounding land uses and sensitive environmental areas
- determine weed management priorities and objectives in accordance with Attachments 1 and 2 of the *Greater Sydney Regional Strategic Weed Management Plan 2017–2022*.

3.3 Establish weed control measures

3.3.1 Prevention of weed spread/importation

Environmental controls will be implemented in consultation with the Ecologist to prevent the spread or introduction of weeds within the project footprint. Controls will include:

- map and mark areas that are infested with weeds as an exclusion zone with fencing and signage to limit access by personnel and vehicles
- install wheel wash and rumble grids
- provide boot wash down facilities
- program works from least to most weed infested areas, where possible.

3.3.2 Determine weed control/removal methods

Weed control methods include mechanical, physical and chemical techniques. The suitability of control techniques will vary depending on the target weed species and the desired outcomes. The Ecologist will advise on the most appropriate weed treatment methodology and timing.

3.3.3 Implement weed control/removal methods

Weed control methods will be implemented under guidance from the Ecologist. Methods will include:

- use of mechanical weed control methods such as slashing or mowing
- controlled use of herbicides to avoid the development of herbicide resistance
- mowing/slashing of areas infested with weeds before they seed to reduce the propagation of new plants
- separate weeds from native vegetation where native vegetation is to be used for mulch
- topsoil recovered from areas of low weed infestation will be stockpiled separately
- remove weeds immediately onto suitable trucks and dispose of without stockpiling
- following weed removal, any exposed areas will be stabilised and/or rehabilitated to reduce erosion and minimise the potential for further weed invasion.

3.3.4 Bush regeneration techniques

Bush regeneration teams shall begin treating smaller areas of retained vegetation (see Attachment A of the FFMP) by moving from weed free areas through to more densely infested areas. Follow-up control shall be undertaken on a regular basis after primary control has been completed. The following techniques are recommended by the [NPWS] National Trust, NSW National Parks and Wildlife Service and Australian Association of Bush Regenerators:

- cut and paint
- the use of herbicides
- hand pulling
- mechanical removal and clearing.

Should the contractor propose to remove weeds mechanically an access point is to be nominated. All disturbed ground is to be made good as soon as practicable after initial weed removal has been completed.

Once initial treatment has occurred follow up cut and paint will be required to ensure any remaining plants are treated. Should any plants be found that are small enough to pull out successfully by hand this is preferred. Ensure that all roots are removed. Hand pulling techniques are outlined below.

All disturbed ground is to be made good as soon as practicable after initial weed removal has been completed.

Once initial treatment has occurred follow up cut and paint will be required to ensure any remaining plants are treated. Should any plants be found that are small enough to pull out successfully by hand this is preferred. Ensure that all roots are removed. Hand pulling techniques are outlined below.

i Hand pulling

Hand removal will be required most probably after initial treatment and will be used in the event of new seedling emergence which will have recolonised after initial removal. Hand removal shall be employed ensuring that all roots are removed as described below.

- Hand pulling is best undertaken when the soil profile is moist to ensure full and ease of removal and reduced soil disturbance.
- Apparent seeds and fruit are to be removed and placed in a bag for removal and disposal off site.
- Firmly take hold of the seedling at ground level, pull and manipulate backwards and forwards until it releases cleanly. If the plant is held too high it may break resulting in root material left behind in the soil. Remaining plant material may re- establish in this instance.
- All roots remaining within the soil shall be removed.
- Should the seedling have a spreading root system, roots will require individual removal.
- All seedlings and hand pulled weeds are to be placed in a bag, removed from site and disposed of sensibly.

ii Woody weeds

- cut and paint (woody weeds to 10 cm basal diameter]
- stem injection
- frilling or chipping.

Notes:

- Deciduous plants should be treated in spring and autumn when leaves are fully formed.
- For multi-stemmed plants, inject or chip below the lowest branch or treat each stem individually.
- Herbicides must be injected immediately before plant cells close (within 30 seconds) and translocation of herbicide ceases.

iii Vines and scramblers

- hand removal
- stem scraping.

Notes:

- Take hold of one runner and pull towards yourself.
- Check points of resistance where fibrous roots grow from the nodes.
- Cut roots with a knife or dig out with a trowel and continue to follow the runner.
- The major root systems need to be removed manually or scrape/cut and painted with herbicide.
- Any reproductive parts need to be bagged.
- Scrape 15 to 30 cm of the stem with a knife to reach the layer below the bark/outer layer; and immediately apply herbicide along the length of the scrape.

iv Underground reproductive structures

Hand removal of plants with a taproot

- Remove and bag seeds or fruits.
- Push a narrow trowel or knife into the ground beside the tap root, carefully loosen the soil and repeat this step around the taproot.
- Grasp the stem at ground level, rock plant backwards and forwards and gently pull removing the plant.
- Tap the roots to dislodge soil, replace disturbed soil and pat down.

Crowning:

- Remove and bag stems with seed or fruit.
- Grasp the leaves or stems together so the base of the plant is visible.
- Insert the knife or lever at an angle close to the crown.
- Cut through all the roots around the crown.
- Remove and bag the crown.

Stem swiping:

- Remove any seed or fruit and bag.
- Using a herbicide applicator, swipe the stems/leaves.

Herbicide treatment

- Isolated spray with ‘Glyphosate’.

3.3.5 Pesticide use

The use of pesticides must be in accordance with the NSW *Pesticides Act 1999*, other relevant legislation, label directions, any relevant industry codes of practice.

The Environmental Site Representatives will ensure that a Pesticide Application Record is completed and public notifications made in accordance with relevant legislation where required, such as where pesticides are to be used in areas that could be accessed by members of the public.

The notification does not need to be completed if all of the following are satisfied:

- The pesticide is, or is part of a product that is widely available to the general public at retail outlets.
- The pesticide is only applied by hand or by using hand-held equipment.
- If applied outdoors on any single occasion, in quantities of no more than 5 L/5 kg of concentrated product or 20 L/20 kg of the ready-to-use product or, if applied indoors, in quantities of no more than 1 L/1 kg of concentrated product or 5 L/5 kg of the ready-to-use product.

Public notification of pesticide use will be in accordance with guidelines whenever pesticides are used adjacent to, or across the road from a public place or private property. Appropriate environmental management measures will be implemented where pesticides are proposed to be used to avoid or minimise impacts on adjoining properties.

Any spraying of priority weeds must avoid damage to adjacent native vegetation and to prevent overspray entering waterways or adjoining properties. Only pesticides registered for use near water may be used near any waterways.

The following measures will be implemented whenever pesticides are to be used adjacent to, or across the road from, a “sensitive place”:

- use of mechanical means of pest control (such as mowing or slashing) where feasible, or
- use of hand-held application of pesticides where mechanical means of pest control are not feasible.

Pesticide application will be appropriately scheduled. Pesticides will not be applied:

- on hot days when plants are stressed
- after seed has set
- within 24 hours of rain or when rain is imminent
- when winds will cause drift of pesticides into non-target areas.

All personnel managing and using pesticides must receive appropriate training and hold an appropriate licence prior to commencing work.

3.3.6 Ongoing management of weeds

Measures for the ongoing management of weeds will be implemented, including the following:

- Minimise soil disturbance within weed infested areas.
- Ensure topsoil imported onto site is free of weed propagules.
- Regularly inspect and clean machinery, vehicles and footwear using installed facilities.
- Wash down the wheels of all construction plant before transportation to the site.
- Keep records of all screening checks and subsequent actions taken.
- Securely cover loads of weed-contaminated material during transportation.

- Avoid use of weeds as mulch.
- Avoid re-use vegetation or topsoil containing weed material on site unless appropriately treated.
- Monitor disturbed and rehabilitated sites for presence of weeds.

3.4 Weed disposal

Weeds and topsoil potentially containing weed propagules will be removed and disposed of at a suitable landfill location in accordance with the requirements of Penrith Council and the *Biosecurity Act 2015*. Exotic plant species will be removed, bagged (or appropriately segregated) and disposed offsite to a licensed landfill facility.

4 Pathogen management procedure

4.1 Site pathogen assessment

A site assessment for potential risk of pathogens in the project area will be undertaken by the Ecologist during pre-clearing surveys. The site assessment will identify and describe or map potential pathogen-containing vegetation areas. DPI guidelines will be referred to for the most up-to-date hygiene protocols for each pathogen and for the most recent locations of contamination.

Testing from a National Association of Testing Authorities (NATA) approved laboratory may be required where potential risk areas are identified to confirm the presence of pathogens in the soil and/or water.

4.2 Establish pathogen control measures

4.2.1 Prevention of introduction or spread of pathogens

Pathogens can be spread on footwear, vehicles and machinery, particularly during wet weather or in wet conditions. Controlling the introduction and spread of pathogens that have the potential to harm the environment is a high priority. Environmental controls will be implemented in consultation with the Ecologist to prevent the spread or introduction of pathogens to the project area. Controls will include:

- map and mark areas that are infested with pathogens as an exclusion zone with fencing and signage to limit access by personnel and vehicles
- install rumble grids
- provide boot wash down facilities
- program works from uninfected areas to infected areas, where possible.

4.2.2 Determine pathogen prevention/control methods

Management measures for pathogens can include planning or awareness measures, exclusion measures and containment measures. The suitability of control techniques will vary depending on the pathogen and will be determined on advice from the Ecologist and best practice guidelines. Best practice protocols include:

- Minimise work during excessively wet or muddy conditions.
- Provide parking and turn-around points on hard, well-drained surfaces.
- Restrict vehicles to designated tracks, trails and parking areas.
- Restrict personnel to designated tracks and trails.
- Personnel working in an infected site should shower and launder clothes before moving to another vegetated site.
- Use disinfectant or gloves when handling frogs and only handle frogs when necessary.
- Ensure vehicles and footwear are free of soil before entering or exiting the site (i.e. directed to wash down area before entering or exiting the site).
- Use a certified supply of plants and soil that is disease-free.

- Hygiene protocols, such as use of disposable suits, will be used where site personnel are required to work in areas identified as containing pathogens that are located in the vicinity of threatened flora or fauna or Endangered Ecological Communities (EECs).
- Removed infected vegetation will be securely wrapped in bags prior to disposal.

4.3 Material disposal

Disposal of infected material will vary depending on the pathogen in the affected material.

Where materials are known or suspected to be affected by *Phytophthora*, the material will be retained within the contaminated area. Stockpiles of mulch, topsoil and fill material will be separated to avoid potential contamination and spread.

Plant material infected with Myrtle Rust will be buried on site if possible and will not be disposed of at another vegetated site. Buried material sites will be recorded on maps to prevent re-exposure. Where material is unable to be buried, advice will be sought from NSW Environment, Energy and Science (EES) or other agencies.

To avoid cross contamination of frogs with *Chytrid*, project personnel and contractors will avoid, where possible, transferring water between two or more separate waterbodies.

5 Inspection, monitoring and reporting

Monitoring of weed and/or pathogen infestations will occur as part of the routine weekly environmental inspections to determine the effectiveness of management controls. The identified presence of any weeds and/or pathogens and the necessary management actions will be noted on the Environmental Inspection Checklist.

A weed and pathogen monitoring program will be implemented as follows:

- Inspection of the general condition of the project area including identification of additional weeds and pathogens or reduction in the occurrence of weeds and pathogens.
- Assessment of the effectiveness of weed and pathogen treatments, where implemented.
- Suggest modifications to weed and pathogen treatments where they are noted to be ineffective.
- Provide a schedule to re-apply treatments if previous treatments are not fully effective.
- Conduct mapping and fixed point photographs of the active project area and adjoining impacted areas.

Dedicated inspections will be carried out on a monthly basis during clearing and earthworks phases and then at least every six months for the remainder of construction. The Environmental Site Representative will report the results of each monitoring inspection against the weed and pathogen management of this plan.

An action plan will be prepared, where required, to manage any ongoing weed and pathogen problems identified by inspections.

Appendix A

Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022 – Priority Weeds

EMM
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A1.1 State level determined priority weeds

State Priority Weed Objective – PREVENTION: *The following weeds are currently not found in the state, pose significant biosecurity risk and prevention of the biosecurity risk is a reasonably practical objective.*	
Species	**Biosecurity Act requirements & Strategic Response in the region**
All species of vascular plant (Tracheophyta)	**Mandatory Measure (Division 8, Clause 34)** *Duty to notify on importation of plants into the State:* (1) A person must not import a species of vascular plant (Tracheophyta) into the State if the species is not currently present in the State unless the person has, at least 20 working days before the plant is imported into the State, notified the species of plant and its proposed location within the State. (2) The notification is to be given to the Secretary and is to be given in accordance with Part 6. (3) A species of plant is taken not to be present in the State if the National Herbarium of New South Wales does not show it as being present in the State. Note. See http://plantnet.rbgsyd.nsw.gov.au/. **Regional Strategic Response:** Manage in accordance with the New Weed Incursion Plan.
Gamba grass - *Andropogon gayanus*	**Prohibited Matter (Part 4, Biosecurity Act, 2015):** A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence. **Regional Strategic Response:** Manage in accordance with the New Weed Incursion Plan.
Pond apple - *Annona glabra*	
Bridal veil creeper - *Asparagus declinatus*	
Kochia - *Bassia scoparia (*excluding subsp. *trichophylla)*	
Spotted knapweed - *Centaurea stoebe* subsp.*australis*	
Black knapweed - *Centaurea x moncktonii*	
Siam weed - *Chromolaena odorata*	
Koster's curse - *Clidemia hirta*	
Rubber vine - *Cryptostegia grandiflora*	
Anchored water hyacinth - *Eichhornia azurea*	
Hawkweed - *Hieracium* spp (all species)	
Hydrocotyl/Water pennywort - *Hydrocotyle ranunculoides*	
Lagarosiphon - *Lagarosiphon major*	
Frogbit / Spongeplant - *Limnobium* spp. (all species)	
Yellow burrhead - *Limnocharis flava*	
Miconia - *Miconia* spp. (all species)	
Mikania vine - *Mikania micrantha*	

<table>
<tr><th colspan="2">State Priority Weed Objective – PREVENTION:
The following weeds are currently not found in the state, pose significant biosecurity risk and prevention of the biosecurity risk is a reasonably practical objective.</th></tr>
<tr><th>Species</th><th>Biosecurity Act 2015 requirements & Strategic Response in the region</th></tr>
<tr><td>Mimosa - Mimosa pigra</td><td rowspan="9">Prohibited Matter (Part 4, Biosecurity Act, 2015): A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence.

Regional Strategic Response: Manage in accordance with New Weed Incursion Plan.</td></tr>
<tr><td>Eurasian water milfoil - Myriophyllum spicatum</td></tr>
<tr><td>Mexican feather grass - Nassella tenuissima (syn. Stipa tenuissima)</td></tr>
<tr><td>Broomrape - Orobanche spp. (all species except the native O. cernua var. australiana and O. minor)</td></tr>
<tr><td>Water soldier - Stratiotes aloides</td></tr>
<tr><td>Witchweed - Striga spp. (except the native S. parviflora)</td></tr>
<tr><td>Water caltrop - Trapa spp. (all species)</td></tr>
<tr><td>Karoo acacia - Vachellia karroo (syn. Acacia karroo)</td></tr>
<tr><td>Prickly acacia - Vachellia nilotica (syn. Acacia nilotica)</td></tr>
<tr><td>Parthenium Weed - Parthenium hysterophorus</td><td>Prohibited Matter (Part 4, Biosecurity Act, 2015): A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence.
Mandatory Measure (Division 8, Clause 35, Biosecurity Regulation, 2017) - Parthenium weed carriers – machinery and equipment
(1) This clause applies to the following equipment:
(a) grain harvesters (including the comb or front),
(b) comb trailers (including the comb or front),
(c) bins used for holding grain during harvest operations
(d) augers or similar equipment used for moving grain
(e) vehicles used for transporting grain harvesters
(f) vehicles used as support vehicles with grain harvesters and that have been driven in paddocks during harvest operations, and
(g) mineral exploration drilling rigs and vehicles used for transporting those rigs.
(2) A person must not import into the State from Queensland any equipment to which this clause applies
Regional Strategic Response: Manage in accordance with the New Weed Incursion Plan.</td></tr>
<tr><td></td><td></td></tr>
</table>

State Priority Weed Objective – ERADICATION: *The following weeds are present in limited distribution and abundance in some parts of the state. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.*	
Species	***Biosecurity Act 2015* requirements & Strategic Response in the region**
Boneseed *-Chrysanthemoides monilifera subspecies monilifera*	***Biosecurity (Boneseed) Control Order 2017*** **6. Control measures for owners and occupiers of land** Pursuant to section 62(1)(b) of the Act, an owner or occupier of land in the Boneseed Control Zone on which there is Boneseed must: (a) notify the local control authority for the area if the Boneseed is part of a new infestation on the land: i) as soon as practicable after becoming aware of the new infestation; ii) verbally or in writing; iii) giving the following: (1) the person's full name and contact number; (2) the location of the Boneseed, including the property identification code for the land (if this is known); and (3) any other information reasonably requested by the local control authority; and (b) immediately destroy all Boneseed on the land; (c) ensure that subsequent generations of Boneseed are destroyed; and (d) the land is kept free of Boneseed. (e) The owner or occupier does not need to comply with (a) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. **7. Control measures for persons dealing with carriers** Pursuant to section 62(1)(b) of the Act, a person who deals with a carrier of Boneseed in the Boneseed Control Zone, in circumstances where the person knows or ought reasonably to know of the presence of Boneseed on the land or in or on the carrier, must: (a) ensure that Boneseed (including any seed and propagules) is not moved from the land; and (b) immediately notify the local control authority for the area: i) as soon as practicable after becoming aware of the presence of Boneseed; ii) verbally or in writing; iii) giving the following: (1) the person's full name and contact number; (2) the location of the Boneseed, including the property identification code for the land (if this is known); and iv) any other information reasonably requested by the local control authority. (c) The person who deals with a carrier of Boneseed does not need to comply with (b) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. ***Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017)***: A person must not move, import into the State or sell. **Regional Strategic Response:** • manage in accordance with New Weed Incursion Plan • detailed surveillance and mapping to locate infestations • high level analysis of pathways to identify potential introduction areas and prevention options • implement quarantine and/or hygiene protocols, and • monitor progress towards eradication

State Priority Weed Objective – ERADICATION: *The following weeds are present in limited distribution and abundance in some parts of the state. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.*	
Species	***Biosecurity Act 2015* requirements & Strategic Response in the region**
Chinese violet - Asystasia gangetica	***Biosecurity (Chinese violet) Control Order 2019*** **6. Control measures for owners and occupiers of land** Pursuant to section 62(1)(b) of the Act, an owner or occupier of land in the Chinese violet Control Zone on which there is Chinese violet must: (a) notify the local control authority for the area if the Chinese violet is part of a new infestation on the land: i) as soon as practicable after becoming aware of the new infestation; ii) verbally or in writing; iii) giving the following: (1) the person's full name and contact number; (2) the location of the Chinese violet, including the property identification code for the land (if this is known); and (3) any other information reasonably requested by the local control authority; and (b) immediately destroy all Chinese violet on the land; (c) ensure that subsequent generations of Chinese violet are destroyed; and (d) the land is kept free of Chinese violet. (e) The owner or occupier does not need to comply with (a) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. **7. Control measures for persons dealing with carriers** Pursuant to section 62(1)(b) of the Act, a person who deals with a carrier of Chinese violet in the Chinese violet Control Zone, in circumstances where the person knows or ought reasonably to know of the presence of Chinese violet on the land or in or on the carrier, must: (a) ensure that Chinese violet (including any seed and propagules) or matter suspected to be or contain Chinese Violet (including any suspected seeds and propagules) is not moved from the land; and (b) immediately notify the local control authority for the area: i) as soon as practicable after becoming aware of the presence of Chinese violet; ii) verbally or in writing; iii) giving the following: (1) the person's full name and contact number; (2) the location of the Chinese violet, including the property identification code for the land (if this is known); and iv) any other information reasonably requested by the local control authority. (c) The person who deals with a carrier of Chinese violet does not need to comply with (b) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. **Regional Strategic Response:** • manage in accordance with New Weed Incursion Plan

State Priority Weed Objective – ERADICATION: *The following weeds are present in limited distribution and abundance in some parts of the state. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.*	
Species	***Biosecurity Act 2015* requirements & Strategic Response in the region**
Parkinsonia - *Parkinsonia aculeata*	***Biosecurity (Parkinsonia) Control Order 2017*** **6. Control measures for owners and occupiers of land** Pursuant to section 62(1)(b) of the Act, an owner or occupier of land in the Parkinsonia Control Zone on which there is Parkinsonia must: (a) notify the local control authority for the area if the Parkinsonia is part of a new infestation of Parkinsonia on the land: i) as soon as practicable after becoming aware of the new infestation; ii) verbally or in writing; iii) giving the following: (1) the person's full name and contact number; (2) the location of the Parkinsonia, including the property identification code for the land (if this is known); and (3) any other information reasonably requested by the local control authority; and (b) immediately destroy all Parkinsonia on the land; and (c) ensure that subsequent generations of Parkinsonia are destroyed; and (d) the land is kept free of Parkinsonia. (e) The owner or occupier does not need to comply with (a) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. **7. Control measures for persons dealing with carriers** Pursuant to section 62(1)(b) of the Act, a person who deals with a carrier of Parkinsonia in the Parkinsonia Control Zone, in circumstances where the person knows or ought reasonably to know of the presence of Parkinsonia on the land or in or on the carrier, must: (a) ensure that Parkinsonia (including any seed and propagules) is not moved from the land; and (b) immediately notify the local control authority: i) as soon as practicable after becoming aware of the presence of Parkinsonia; ii) verbally or in writing; iii) giving the following: (1) the person's full name and contact number; (2) the location of the Parkinsonia, including the property identification code for the land (if this is known); and iv) any other information reasonably requested by the local control authority. (c) The person who deals with a carrier of Parkinsonia does not need to comply with (b) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. ***Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017):*** A person must not move, import into the State or sell. **Regional Strategic Response:** Manage in accordance with the New Weed Incursion Plan.

State Priority Weed Objective – ERADICATION: *The following weeds are present in limited distribution and abundance in some parts of the state. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.*	
Species	***Biosecurity Act 2015* requirements & Strategic Response in the region**
Tropical soda apple - *Solanum viarum*	***Biosecurity (Tropical Soda Apple) Control Order 2017*** **6. Control measures for owners and occupiers of land** Pursuant to section 62(1)(b) of the Act, an owner or occupier of land in the Tropical Soda Apple Control Zone on which there is Tropical Soda Apple must: (a) notify the local control authority for the area if the Tropical Soda Apple is part of a new infestation of Tropical Soda Apple on the land: i) as soon as practicable after becoming aware of the new infestation; ii) verbally or in writing; iii) giving the following: (1) the person's full name and contact number; (2) the location of the Tropical Soda Apple, including the property identification code for the land (if this is known); and (3) any other information reasonably requested by the local control authority; and (b) destroy all Tropical Soda Apple on the land, including fruit; and (c) ensure that subsequent generations of Tropical Soda Apple are destroyed; and (d) that the land is kept free of Tropical Soda Apple. (e) The owner or occupier does not need to comply with (a) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. **7. Control measures for persons dealing with carriers** Pursuant to section 62(1)(b) of the Act, a person who deals with a carrier of Tropical Soda Apple in the Tropical Soda Apple Control Zone, in circumstances where the person knows or ought reasonably to know of the presence of Tropical Soda Apple on the land or in or on the carrier, must: (a) ensure that Tropical Soda Apple (including any seed and propagules) is not moved from the land; and (b) immediately notify the local control authority for the area: i) as soon as practicable after becoming aware of the presence of Tropical Soda Apple; ii) verbally or in writing; iii) giving the following: (1) the person's full name and contact number; (2) the location of the Tropical Soda Apple, including the property identification code for the land (if this is known); and iv) any other information reasonably requested by the local control authority. (c) The person who deals with a carrier of Tropical Soda Apple does not need to comply with (b) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. **Regional Strategic Response:** Manage in accordance with the New Weed Incursion Plan

State Priority Weed Objective – CONTAINMENT: *These weeds are widely distributed in some parts of the state. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed these weeds is reasonably practicable.*	
Land area where requirements apply	***Biosecurity Act 2015* requirements & Strategic Response in the region**
Alligator Weed - *Alternanthera philoxeroides*	
A biosecurity zone, to be known as the alligator weed biosecurity zone, is established for all land within the State except land in the following regions: (a) Greater Sydney, (b) Hunter (but only in respect of land in the local government area of City of Lake Macquarie, City of Maitland, City of Newcastle or Port Stephens).	***Biosecurity Regulation 2017 - Part 5, Division 2 (Biosecurity Zone)*** An owner or occupier of land in the alligator weed biosecurity zone on which there is the weed *Alternanthera philoxeroides* (Alligator weed) must: (a) if the weed is part of a new infestation of the weed on the land, notify the local control authority for the land as soon as practicable in accordance with Part 6, and (b) eradicate the weed or, if that is not practicable, destroy as much of the weed as is practicable and suppress the spread of any remaining weed. ***Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017):*** A person must not move, import into the State or sell. **Regional Strategic Response:** Refer Appendix 1.2 Containment.
Bitou Bush - *Chrysanthemoides monilifera* subsp. *rotundata*	
A biosecurity zone, to be known as the bitou bush biosecurity zone, is established for all land within the State except land within 10 kilometres of the mean high water mark of the Pacific Ocean between Cape Byron in the north and Point Perpendicular in the South.	***Biosecurity Regulation 2017 - Part 5, Division 3 (Biosecurity Zone)*** An owner or occupier of land in the bitou bush biosecurity zone on which there is the weed *Chrysanthemoides monilifera* subsp. *rotundata* (Bitou bush) must: (a) if the weed is part of a new infestation of the weed on the land, notify the local control authority for the land as soon as practicable in accordance with Part 6, and (b) eradicate the weed or, if that is not practicable, destroy as much of the weed as is practicable and suppress the spread of any remaining weed. ***Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017):*** A person must not move, import into the State or sell. **Regional Strategic Response:** Manage in accordance with NSW Threat Abatement Plan and Saving Our Species.

State Priority Weed Objective – CONTAINMENT: *These weeds are widely distributed in some parts of the state. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed these weeds is reasonably practicable.*	
Land area where requirements apply	***Biosecurity Act 2015* requirements & Strategic Response in the region**
Water Hyacinth *Eichhornia crassipes*	
A biosecurity zone, to be known as the water hyacinth biosecurity zone, is established for all land within the State except land in the following regions: (a) Greater Sydney or North Coast, (b) North West (but only land in that region that is in the local government area of Moree Plains), (c) Hunter (but only land in that region that is in the local government area of City of Cessnock, City of Lake Macquarie, Mid-Coast, City of Maitland, City of Newcastle or Port Stephens), (d) South East (but only land in that region that is in the local government area of Eurobodalla, Kiama, City of Shellharbour, City of Shoalhaven or City of Wollongong).	***Biosecurity Regulation 2017 - Part 5, Division 4 (Biosecurity Zone)*** An owner or occupier of land in the water hyacinth biosecurity zone on which there is the weed *Eichhornia crassipes* (Water hyacinth) must: (a) if the weed is part of a new infestation of the weed on the land, notify the local control authority for the land as soon as practicable in accordance with Part 6, and (b) eradicate the weed, or if that is not practicable, destroy as much of the weed as is practicable and suppress the spread of any remaining weed. ***Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017):*** A person must not move, import into the State or sell. **Regional Strategic Response:** See Appendix 1.2 Containment.

State Priority Weed Objective – ASSET PROTECTION (Whole of State): *These weeds are widely distributed in some areas of the State. As Weeds of National Significance, their spread must be minimised to protect priority assets.*	
Species	***Biosecurity Act 2015* requirements & Strategic Response in the region**
Madeira vine - *Anredera cordifolia*	***Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017):*** A person must not import into the State or sell. **Regional Strategic Response:** Identify priority assets for targeted management. # Refer Appendix 1.2 Prevention. † Refer Appendix 1.2 Eradication. †† Refer Appendix 1.2 Containment. ‡ Refer Appendix 1.2 Asset Protection.
Asparagus weeds - *Asparagus aethiopicus, †A. africanus, A. asparagoides* including the Western Cape form*, *A. plumosus,* and *A. scandens*	
‡Cabomba - *Cabomba caroliniana*	
‡Scotch/English broom - *Cytisus scoparius* subsp. *scoparius*	
‡Cat's Claw Creeper - *Dolichandra unguis-cati*	
Cape/Montpellier broom - *Genista monspessulana*	
Flax-leaf broom - *Genista linifolia*	
#Hymenachne - *Hymenachne amplexicaulis*	
Bellyache bush - *Jatropha gossypiifolia*	
Lantana - *Lantana camara*	
African boxthorn - *Lycium ferocissimum*	
Chilean needle grass - *Nassella neesiana*	
††Serrated tussock - *Nassella trichotoma*	
Opuntia- *Opuntia* spp., *Cylindropuntia* spp., *Austrocylindropuntia* spp. (Excludes *O. ficus- indica*)	
Mesquite - *Prosopis* spp.	
Blackberry - *Rubus fruticosus agg. (Blackberry except the varietals Chester Thornless, Dirksen Thornless, Loch Ness, Silvan, Black Satin, Murrindindi, Smooth Stem, Thornfree and Chehalem)*	
Sagittaria - *Sagittaria platyphylla*	
†Willows - *Salix* spp.(excludes *S.babylonica*, *S.X calodendron* & *S. x reichardtiji*)	
††Salvinia - *Salvinia molesta*	
Fireweed - *Senecio madagascariensis*	
Silver-leaf nightshade - *Solanum elaeagnifolium*	
Athel pine - *Tamarix aphylla*	
††Gorse - *Ulex europaeus*	

A1.2 Regional priority weeds

Regional Priority Weed Objective – PREVENTION: *The following weeds are currently not found in the Greater Sydney region, pose significant biosecurity risk and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.*	
Coral creeper - *Barleria repens*	
East Indian hygrophila - *Hygrophila polysperma*	
Giant devil's fig - *Solanum chrysotrichum*	
Giant rats tail grass - *Sporobolus pyramidalis*	
Hymenachne - *Hymenachne amplexicaulis*	
Nodding thistle - *Carduus nutans*	
Spanish broom - *Spartium junceum*	
Water lettuce - *Pistia stratiotes*	
Water star grass - *Heteranthera zosterifolia*	
White blackberry / Mysore raspberry - *Rubus niveus*	
Outcomes to demonstrate compliance with the GBD	**Strategic response in the region**
• The plant is eradicated from the land and the land is kept free of the plant. • Land managers mitigate the risk of the plant being introduced to their land. • The plant or parts of the plant are not traded, carried, grown or released into the environment. • Local Control Authority is notified if the plant is found on the land	• Implement quarantine and/or hygiene protocols • Undertake high risk sites & pathways analysis to identify potential introduction areas and preventative options • Have a collaborative rapid response protocol in place ***Supporting documents:*** New Weed Incursion Plan (includes rapid response protocol) Look, Learn, Act Community awareness program

Regional Priority Weed Objective – ERADICATION: *The following weeds are present in limited distribution and abundance. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.*	
Outcomes to demonstrate compliance with the GBD	**Strategic response in the region**
Black willow - *Salix nigra*	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • ***The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation, 2017):*** A person must not move, import into the State or sell.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations.
Chinese knotweed - *Persicaria chinensis*	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations.
Climbing asparagus - *Asparagus africanus*	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • ***The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation, 2017):*** A person must not move, import into the State or sell.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations.
Glory lily – *Gloriosa superba*	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations.
Grey sallow – *Salix cinerea*	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • ***The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation, 2017):*** A person must not move, import into the State or sell.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations.

Regional Priority Weed Objective – ERADICATION: *The following weeds are present in limited distribution and abundance. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.*	
Outcomes to demonstrate compliance with the GBD	**Strategic response in the region**
Groundsel bush - Baccharis halimifolia	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations. • Implement quarantine and/or hygiene controls
Hygrophila - *Hygrophila costata*	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations.
Kei apple - *Dovyalis caffra*	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations.
Kidney leaf mud plantain - *Heteranthera reniformis*	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations. • Implement quarantine and/or hygiene protocols.
Kudzu - *Pueraria lobata*	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations. • Implement quarantine and/or hygiene protocols.
Leaf cactus - *Pereskia aculeata*	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations. • Implement quarantine and/or hygiene protocols.

Regional Priority Weed Objective – ERADICATION: *The following weeds are present in limited distribution and abundance. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.*	
Outcomes to demonstrate compliance with the GBD	**Strategic response in the region**
Ming fern - *Asparagus macowanii var. zuluensis*	
• The plant is eradicated from the land and the land is kept free of the plant. • Land managers mitigate the risk of the plant being introduced to their land. • Local Control Authority is notified if the plant is found on the land. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Destruction of all infestations where feasible. • Detailed surveillance and mapping to locate all infestations. • High level pathways analysis to identify potential introduction areas and preventative options. • Implement quarantine and/or hygiene protocols. • Monitor progress towards eradication.
Mysore thorn - *Caesalpinia decapetala*	
• The plant is eradicated from the land and the land is kept free of the plant. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations. • Implement quarantine and/or hygiene protocols.
Sicilian sea lavender - *Limonium hyblaeum*	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations. • Implement quarantine and/or hygiene protocols.
Sicklethorn - *Asparagus falcatus*	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations. • Implement quarantine and/or hygiene protocols.
Skunk vine - *Paederia foetida*	
• The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Destruction of all infestations where feasible. • Manage in accordance with New Weed Incursion Plan. • Detailed surveillance and mapping to locate all infestations. • Implement quarantine and/or hygiene protocols.

Regional Priority Weeds objective – CONTAINMENT: *These weeds are widely distributed in the region. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed by these weeds is reasonably practicable.*		
Land area where requirements apply	**Outcomes to demonstrate compliance with the GBD**	**Strategic response in the region**
African olive - *Olea europaea* subsp. *cuspidata*		
An ***exclusion zone*** is established for all lands in the Blue Mountains local government area and lands to the west of the Nepean River in the Penrith local government area. The remainder of the region is classified as the ***core infestation area***.	**Whole region:** • The plant or parts of the plant are not traded, carried, grown or released into the environment. **Within Exclusion zone:** • The plant is eradicated from the land and the land is kept free of the plant. **Within Core infestation:** • Land managers prevent spread from their land where feasible. • Land managers reduce the impact on priority assets.	**Whole region:** • Implement quarantine and/or hygiene protocols. • Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives. • Monitor change in current distribution to ensure containment of spread. **Within Exclusion zone:** • Destruction of all infestations, aiming at local eradication where feasible **Within Core infestation:** • Identify priority assets for targeted management.
Alligator weed - *Alternanthera philoxeroides*		
An ***exclusion zone*** is established for all lands in the Blue Mountains local government areas. The remainder of the region is classified as the ***core infestation area.***	**Whole region:** • Land managers prevent spread from their land where feasible. **Within Exclusion zone:** • The plant is eradicated from the land and the land is kept free of the plant. **Within Core infestation:** • Land managers mitigate the risk of the plant being introduced to their land. • Land managers reduce the impact on priority assets. ***The following legislative requirement also applies:*** **Mandatory Measure (Division 8, Clause 33):** A person must not move, import into the State or sell. Note a Biosecurity Zone applies to this species under Part 5 of Division 2 of the *Biosecurity Regulation 2017*. However this does not apply to the Greater Sydney region.	**Blue Mountains LGA:** • Destruction of all infestations, where feasible. • Implement quarantine and/or hygiene protocols. **Remainder of region:** • Implement quarantine and/or hygiene protocols. • Manage in accordance with the Priorities for the control of Alligator Weed in the Sydney Region.

Regional Priority Weeds objective – CONTAINMENT:		
Land area where requirements apply	**Outcomes to demonstrate compliance with the GBD**	**Strategic response in the region**
Asparagus fern - Asparagus virgatus		
An ***exclusion zone*** is established for the whole of the region except Central Coast local government area. Central Coast local government area is classified as the ***core infestation area.***	**Whole region:** • Land managers mitigate the risk of the plant being introduced to their land. • The plant or parts of the plant are not traded, carried, grown or released into the environment. • Local Control Authority is notified if the plant is found on the land. **Within Exclusion zone:** • The plant is eradicated from the land and the land is kept free of the plant. **Within Core infestation:** • Land managers prevent spread from their land where feasible. • Land managers reduce the impact on priority assets.	• Destruction of all infestations where feasible. • Monitor change in current distribution to ensure containment of spread.
Gorse - *Ulex - europaeus*		
An ***exclusion zone*** is established for the Blue Mountains local government area. The remainder of the region is classified as the ***core infestation area***.	**Whole region:** • Land managers mitigate the risk of the plant being introduced to their land. • The plant or parts of the plant are not traded, carried, grown or released into the environment. **Within Exclusion zone:** • The plant is eradicated from the land and the land is kept free of the plant. **Within Core infestation:** • Land managers prevent spread from their land where feasible. ***The following legislative requirement also applies: Mandatory Measure (Division 8, Clause33, Biosecurity Regulation, 2017):*** A person must not move, import into the State or sell.	• Destruction of all infestations, aiming at local eradication where feasible. • Detailed surveillance and mapping to locate all infestations. • Implement quarantine and/or hygiene protocols. • Monitor progress towards eradication.

Regional Priority Weeds objective – CONTAINMENT:		
Land area where requirements apply	**Outcomes to demonstrate compliance with the GBD**	**Strategic response in the region**
Holly-leaved senecio - *Senecio glastifolius*		
An ***exclusion zone*** is established for the whole of the region except the Royal National Park. The Royal National Park is classified as the ***core infestation area***.	**Whole region:** • Land managers mitigate the risk of the plant being introduced to their land. • The plant or parts of the plant are not traded, carried, grown or released into the environment. • Local Control Authority is notified if the plant is found on the land. **Within Exclusion zone:** • The plant is eradicated from the land and the land is kept free of the plant. **Within Core infestation:** • Land managers prevent spread from their land where feasible. • Land managers reduce the impact on priority assets.	• The plant should be fully and continuously suppressed and destroyed • Monitor change in current distribution to ensure containment of spread.
Horsetails - *Equisetum* spp.		
An ***exclusion zone*** is established for whole of region except Northern Beaches local government area. The Northern Beaches local government area is classified as the ***core infestation area.***	**Whole region:** • Land managers mitigate the risk of the plant being introduced to their land. • Local Control Authority is notified if the plant is found on the land. • The plant or parts of the plant are not traded, carried, grown or released into the environment. **Within Exclusion zone:** • The plant is eradicated from the land and the land is kept free of the plant. **Within Core infestation:** • Land managers prevent spread from their land where feasible.	• Destruction of all infestations, where feasible. • Monitor change in current distribution to ensure containment of spread.

Regional Priority Weeds objective – CONTAINMENT:		
Land area where requirements apply	**Outcomes to demonstrate compliance with the GBD**	**Strategic response in the region**
Salvinia - *Salvinia molesta*		
An ***exclusion zone*** is established for the whole of the region except the Georges and Hawkesbury-Nepean Rivers and their tributaries. The Georges and Hawkesbury-Nepean Rivers and tributaries are classified as the ***core infestation area***.	**Whole region:** • Land managers mitigate the risk of the plant being introduced to their land. **Within Exclusion zone:** • The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. **Within Core infestation:** • Land managers prevent spread from their land where feasible. ***The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation, 2017):*** A person must not move, import into the State or sell.	• The plant should be fully and continuously suppressed and destroyed • Monitor change in current distribution to ensure containment of spread.
Sea spurge - *Euphorbia paralias*		
An ***exclusion zone*** is established for whole of region except Sutherland local government area. Sutherland local government areas is classified as the ***core infestation area.***	**Whole region:** • Land managers mitigate the risk of the plant being introduced to their land. • The plant or parts of the plant are not traded, carried, grown or released into the environment. **Within Exclusion zone:** • The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. **Within Core infestation:** • Land managers prevent spread from their land where feasible.	• Destruction of all infestations, where feasible. • Detailed surveillance and mapping to locate all infestations. • High level pathways analysis to identify potential introduction areas and preventative options. • Implement quarantine and/or hygiene protocols. • Monitor progress towards eradication.

Regional Priority Weeds objective – CONTAINMENT:		
Land area where requirements apply	**Outcomes to demonstrate compliance with the GBD**	**Strategic response in the region**
Senegal tea - *Gymnocoronis spilanthoides*		
An ***exclusion zone*** is established for the whole of the region except Central Coast LGA, Royal National Park and the Hawkesbury-Nepean River and its tributaries. Central Coast LGA, Royal National Park and the Hawkesbury-Nepean River and its tributaries are classified as the ***core infestation area***.	**Whole region:** • Land managers mitigate the risk of the plant being introduced to their land. • The plant or parts of the plant are not traded, carried, grown or released into the environment. • Local Control Authority is notified if the plant is found on the land. **Within Exclusion zone:** • The plant is eradicated from the land and the land is kept free of the plant. **Within Core infestation:** • Land managers prevent spread from their land where feasible.	• The plant should be fully and continuously suppressed and destroyed • Monitor change in current distribution to ensure containment of spread.
Serrated tussock - *Nassella trichotoma*		
An ***exclusion zone*** is established for all lands in the region, excluding areas comprising Wollondilly and Camden local government areas, which will be known as the ***core infestation area***.	**Whole region:** • Land managers mitigate the risk of the plant being introduced to their land. • The plant or parts of the plant are not traded, carried, grown or released into the environment. • Local Control Authority is notified if the plant is found on the land. **Within Exclusion zone:** • The plant is eradicated from the land and the land is kept free of the plant. **Within Core infestation:** • Land managers prevent spread from their land where feasible. ***The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation, 2017):*** A person must not move, import into the State or sell.	• Monitor change in current distribution to ensure containment of spread. • Promote best practice principles to landholders, including a range of control techniques for integrated weed management; maintaining competitive vegetation/crops/pastures, hygiene and property management plans. **Within Exclusion zone:** • The plant should be fully and continuously supressed and destroyed.

Regional Priority Weed Objective – CONTAINMENT:		
Land area where requirements apply	**Outcomes to demonstrate compliance with the GBD**	**Strategic response in the region**
Tiger pear - Opuntia aurantiaca		
An exclusion zone is established for the whole of the region except Blacktown and Wollondilly local government areas. Blacktown and Wollondilly local government areas are classified as the core infestation area.	**Whole region:** • Land managers prevent spread from their land where feasible. • Local Control Authority is notified if the plant is found on the land. **Within Exclusion zone:** • The plant is eradicated from the land and the land is kept free of the plant. **Within Core infestation:** • Land managers mitigate the risk of the plant being introduced to their land • Land managers reduce the impact on priority assets. ***The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33):*** A person must not move, import into the State or sell.	• Destruction of all infestations, where feasible. • Monitor change in current distribution to ensure containment of spread.
Water poppy - *Hydrocleys nymphoides*		
An ***exclusion zone*** is established for all lands (and waters) in the region, excluding areas comprising the Hacking River Catchment, which will be known as the ***core infestation area***.	**Whole region:** • The plant or parts of the plant are not traded, carried, grown or released into the environment. **Within Exclusion zone:** • The plant is eradicated from the land and the land is kept free of the plant. • Local Control Authority is notified if the plant is found on the land. **Within Core infestation:** • Land managers mitigate the risk of the plant being introduced to their land. • Land managers prevent spread from their land where feasible.	• Monitor change in current distribution to ensure containment of spread. • Promote best practice principles to landholders, including a range of control techniques for integrated weed management; maintaining competitive vegetation/crops/ pastures, hygiene and property management plans. **Within Exclusion zone:** • The plant should be fully and continuously supressed and destroyed.

Regional Priority Weed Objective – ASSET PROTECTION:	
Outcomes to demonstrate compliance with the GBD	**Strategic response in the region**
Cat's claw creeper - *Dolichandra unguis-cati*	
• Land managers prevent spread from their land where feasible. • Land managers mitigate the risk of the plant being introduced to their land. • Land managers reduce the impact on priority assets. • The plant or parts of the plant are not traded, carried, grown or released into the environment. ***The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33):*** A person must not move, import into the State or sell.	• The plant should be fully and continuously suppressed and destroyed • Identify priority assets for targeted management • Promote best practice principles to landholders, including a range of control techniques for integrated weed management; maintaining competitive vegetation/crops/pastures, hygiene and property management plans.
Cabomba - *Cabomba caroliniana*	
• Land managers mitigate the risk of the plant being introduced to their land. • The plant or parts of the plant are not traded, carried, grown or released into the environment. ***The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33):*** A person must not move, import into the State or sell.	• The plant should be fully and continuously suppressed and destroyed • Implement quarantine and/or hygiene protocols.
Giant reed – *Arundo donax*	
• Land managers mitigate the risk of the plant being introduced to their land. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• The plant should be fully and continuously suppressed and destroyed • Implement quarantine and/or hygiene protocols.
Green cestrum - *Cestrum parqui*	
• Land managers mitigate the risk of the plant being introduced to land used for grazing of livestock. • Land managers prevent spread from their land where feasible. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• The plant should be fully and continuously suppressed and destroyed on grazing land • Implement quarantine and/or hygiene protocols.
Ludwigia - *Ludwigia peruviana*	
• Land managers mitigate the risk of the plant being introduced to their land. • Land managers prevent spread from their land where feasible. • Land managers reduce the impact on priority assets. • The plant or parts of the plant are not traded, carried, grown or released into the environment. • Local Control Authority is notified if the plant is found on the land.	• The plant should be fully and continuously suppressed and destroyed. • Identify priority assets for targeted management.

Regional Priority Weed Objective – ASSET PROTECTION:	
Outcomes to demonstrate compliance with the GBD	**Strategic response in the region**
Pampas grass - *Cortaderia species*	
• Land managers mitigate the risk of the plant being introduced to their land. • Land managers prevent spread from their land where feasible. • Land managers reduce the impact on priority assets. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• The plant should be fully and continuously suppressed and destroyed. • Identify priority assets for targeted management
Scotch/English Broom - *Cytisus scoparius*	
• Land managers mitigate the risk of the plant being introduced to their land. • Land managers reduce the impact on priority assets. ***The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33):*** A person must not move, import into the State or sell.	• The plant should be managed in accordance with a regional best practice guide identifying assets to be protected, including the Greater Blue Mountains World Heritage Area and Sydney water supply catchment lands.
Singapore daisy - *Sphagneticola trilobata*	
• Land managers mitigate the risk of the plant being introduced to their land. • Land managers reduce the impact on priority assets. • The plant or parts of the plant are not traded, carried, grown or released into the environment.	• Manage in accordance with New Weed Incursion Plan • Implement quarantine and/or hygiene protocols. • Identify priority assets • Promote best practice principles to landholders, including a range of control techniques for integrated weed management; maintaining competitive vegetation/crops/pastures, hygiene and property management plans.
Water hyacinth - *Eichhornia crassipes*	
• Land managers prevent spread from their land where feasible. • The plant or parts of the plant are not traded, carried, grown or released into the environment. ***The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33):*** A person must not move, import into the State or sell. Note a Biosecurity Zone applies to this species under Part 5 of Division 2 of the *Biosecurity Regulation 2017*. However this does not apply to the Greater Sydney region.	• Develop and implement Community Campaign • Promote best practice principles to landholders, including a range of control techniques for integrated weed management; maintaining competitive vegetation/crops/pastures, hygiene and property management plans.

Appendix B

Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022 – Other Weeds of Regional Concern

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Appendix 2: Other weeds of regional concern

The following table recognises that whether a plant is a weed depends on the location, and that some plants grown as crops may function as weeds in other land uses. For example, kikuyu is a valuable pasture grass in grazing paddocks but is an invasive weed in the natural environment ie. bushland and National parks. Agapanthus are very popular garden plants, often used as border plants or to hold low banks. However, agapanthus are also known to invade roadsides, bushland and waterways.

Weeds listed in Appendix 2 include species known to occur in the Greater Sydney region as well as species not currently known to occur but at risk of moving into the region in the future. They have been identified as a potential risk in some (not all) situations. Many of the species pose potential risks to biodiversity (i.e. the environment), for example if they were to spread to or be found in a National Park. Some of the species pose potential risks to agriculture and some of the weeds pose potential risks to human health. In most situations this is when ingested but can also include risks associated with asthma and other allergic reactions.

This plan recognises that many weeds are already so well established that they can only be managed and will never be eradicated from the region. The species included in Appendix 2 may warrant resources for control or management programs, or occur in neighbouring regions and are a priority to keep out of the region. Inclusion on the list may assist Local Control Authorities and/or land managers prioritise action in certain circumstances where it can be demonstrated the weed poses a threat to the environment, agriculture and/or the community/ human health.

The *Biosecurity Act 2015* provides powers to Local Control Authorities to take action in relation to these weeds in particular circumstances, for example where a weed threatens a high value asset and prevention, elimination or reduction of the risk is feasible and reasonable.

Common name	Scientific name	Asset/value at risk
Aaron's Beard, Rose-of-Sharon	*Hypericum calycinum*	Environment
African lovegrass	*Eragrostis curvula*	Environment
African marigold	*Cineraria lyratiformis*	Environment
Agapanthus	*Agapanthus praecox subsp. orientalis*	Environment
American Cotton Palm, Cotton Palm, California fan palm.	*Washingtonia filifera*	Environment
Apple of Sodom	*Solanum linnaeanum*	Environment, Agriculture, Community amenity
Arrowhead	*Sagittaria calycina* var. *calycina*	Environment, Agriculture, Community amenity
Arum lily	*Zantedeschia aethiopica*	Human health, Environment
Awabuki sweet viburnum	*Viburnum odoratissimum* var *awabuki*	Environment
Balloon vine	*Cardiospermum grandiflorum*	Environment
Banana passionfruit	*Passiflora tarminiana*	Environment
Beach daisy	*Arctotheca populifolia*	Environment, Community amenity

Common name	Scientific name	Asset/value at risk
Berberis, Barberry	*Berberis aristata, B. darwini* and *B. thunbergii*	Environment
Billardieria, Bluebell creeper	*Billardiera heterophylla*	Environment
Black cherry, Wild black cherry	*Prunus serotina*	Environment
Black locust	*Robinia pseudoacacia*	Environment, Human health
Blue heliotrope	*Heliotropium amplexicaule*	Agriculture
Blue hound's tongue	*Cynoglossum creticum*	Agriculture
Blue morning glory	*Ipomoea indica*	Environment, Human health
Blue stars	*Aristea ecklonii*	Environment
Bokhara	*Melilotus albus*	Environment
Box elder	*Acer negundo*	Environment
Brazilian button flower	*Centratherum punctatum*	Environment
Brazilian cherry	*Eugenia uniflora*	Environment
Broad leaf pepper	*Schinus terebinthifolius*	Environment
Buckthorn	*Rhamnus alaternus*	Environment
Buffel grass	*Cenchrus ciliaris*	Environment
Burr ragweed	*Ambrosia confertiflora*	Agriculture, human health
Bushman's Poison, Hottentot's-poison, Poison arrow plant, Wintersweet	*Acokanthera oblongifolia*	Agriculture
Camphor laurel	*Cinnamomum camphora*	Environment, Agriculture, Human health
Cane needle grass	*Nassella hyalina*	Agriculture
Cape honeysuckle	*Tecoma capensis*	Environment
Cape ivy	*Delairea odorata*	Environment
Cape tulip	*Moraea flaccida*	Environment, Agriculture
Cassia, Senna	*Senna pendula*	Environment
Cherry guava	*Psidium cattleyanum*	Environment, Agriculture
Chinese celtis/ Chinese hackberry	*Celtis sinensis*	Environment, Agriculture
Chinese elm	*Ulmus parvifolia*	Environment
Chinese tallow	*Triadica sebifera*	Environment
Climbing nightshade, Brazillian nightshade	*Solanum seaforthianum*	Environment, Human health
Coastal morning glory	*Ipomoea cairica*	Environment
Cockspur coral tree	*Erthrina crista-galli*	Environment
Cocos palm	*Syagrus romanzoffiana*	Environment
Coffee bush, Leucaena	*Leucaena leucocephala*	Environment, Community amenity
Common morning glory	*Ipomoea purpurea*	Environment, Agriculture
Coolatai grass	*Hyparrhenia hirta*	Environment, Agriculture
Coral Berry	*Ardisia crenata*	Environment
Coral tree, Common coral tree	*Erythrina* x *sykesii*	Environment
Corky passionflower	*Passiflora suberosa*	Environment
Cotoneaster	*Cotoneaster* spp	Environment

Common name	Scientific name	Asset/value at risk
Creeping lantana, trailing lantana	*Lantana montevidensis*	Environment, Agriculture
Crofton weed	*Ageratina adenophora*	Environment, Agriculture
Cumbungi	*Typha latifolia*	Environment
Day-lily, Kwanso	*Hemerocallis fulva*	Environment
Dense waterweed, Leafy elodea, Egeria, Anacharis, Brazilian elodea	*Egeria densa*	Environment, Community amenity
Dipogon, Dolichos pea,	*Dipogon lignosus*	Environment
Dutchmans pipe	*Aristolochia elegans*	Environment
Espartillo, Broad-kernel espartillo	*Amelichloa caudata* (syn. *Achnatherum caudatum*)	Environment, Agriculture
Espartillo – narrow kernel	*Amelichloa brachychaeta*	Environment, Agriculture
European olive	*Olea europaea subsp. europaea*	Environment
Firethorn	*Pyracantha* spp.	Environment
Fishbone fern	*Nephrolepis cordifolia*	Environment
Formosa lily, Taiwan lily	*Lilium formosanum*	Environment
Fountain grass	*Pennisetum setaceum*	Environment
Foxglove tree, Empress tree	*Paulownia tomentosa*	Environment
Galenia	*Galenia pubescens*	Environment, Agriculture
Giant Parramatta grass (GPG)	*Sporobolus fertilis*	Environment, Agriculture
Ginger lily	*Hedychium gardnerianum*	Environment
Golden rain tree	*Koelreuteria elegans*	Environment
Golden wreath wattle	*Acacia saligna*	Environment
Harrisia cactus	*Harrisia* spp.	Environment
Himalayan honeysuckle	*Leycesteria formosa*	Environment
Holly, English holly	*Ilex aquifolium*	Environment
Honey locust	*Gleditsia triacanthos*	Environment, Agriculture
Indian hawthorn	*Rhaphiolepis indica*	Environment
Japanese climbing Fern	*Lygodium japonicum*	Environment
Japanese hawthorn, Yeddo hawthorn	*Rhaphiolepis umbellata*	Environment
Japanese honeysuckle	*Lonicera japonica*	Environment
Keriberry	*Rubus rugosus*	Environment
Kikuyu	*Pennisetum clandestinum*	Environment
Long leaf water primrose	*Ludwigia longifolia*	Environment, Agriculture, Community amenity
Lote tree, Nettle tree,Mmediterranean hackberry	*Celtis australis*	Environment
Mahonia, Chinese Holly	*Berberis lomariifolia*	Environment
Mexican water lily, Yellow water lily	*Nymphaea mexicana*	Environment
Mimosa bush, Briar bush, Yellow mimosa	*Vachellia farnesiana*	Environment, Agriculture
Mirror bush, Mirror plant	*Coprosma repens*	Environment

Common name	Scientific name	Asset/value at risk
Mistflower	*Ageratina riparia*	Environment, Agriculture
Monkey's comb	*Pithecoctenium crucigerum*	Environment
Montbretia	*Crocosmia x crocosmiiflora*	Environment
Mossman river grass	*Cenchrus echinatus*	Environment
Moth vine, Moth plant	*Araujia sericifera*	Environment
Mother of millions	*Bryophyllum* spp.	Environment, Agriculture, Human health
New Zealand flax	*Phormium tenax*	Environment
Ochna	*Ochna serrulata*	Environment
Onion Grass	*Romulea rosea*	Environment, Agriculture
Orange jessamine, Murraya	*Murraya paniculata*	Environment
Osage orange	*Maclura pomifera*	Environment
Ox-eye daisy	*Leucanthemum vulgare*	Environment
Pampas lily of the valley	*Salpichroa origanifolia*	Environment
Paper mulberry	*Broussonetia papyrifera*	Environment
Paterson's curse	*Echium plantagineum*	Environment, Agriculture, Human health
Patula pine, Mexican weeping pine	*Pinus patula*	Environment
Pellitory, Asthma weed	*Parietaria judaica*	Environment, Human health
Periwinkle, Blue periwinkle	*Vinca major*	Environment
Phoenix palm, Canary Island date palm	*Phoenix canariensis*	Environment
Pink trumpet vine	*Podranea ricasoliana*	Environment
Privet spp.	*Ligustrum sinense, Ligustrum lucidum, Ligustrum vulgare*	Environment, Human health
Radiata pine, Pine wildings	*Pinus radiata*	Environment
Rattleseed pod, Rattlepod	*Crotalaria lunata*	Environment
Red ludwigia	*Ludwigia repens*	Environment, Agriculture, Community amenity
Reed canary grass	*Phalaris arundinacea*	Environment
Reed sweet grass	*Glyceria maxima*	Environment
Rhizomatous bamboo, Black bamboo	*Phyllostachys nigra*	Environment
Rhizomatous bamboo, Fishpole bamboo, Yellow bamboo	*Phyllostachys aurea*	Environment
Rhodes grass	Chloris gayana	Environment
Rhus tree	*Toxicodendron succedaneum*	Human health
Rush	*Juncus articulatus*	Environment
Rush	*Juncus effusus*	Environment
Scotch, Illyrian thistles	*Onopordum acanthium, O. Illyricum* and *O. acaulon*	Agriculture
Sedge, Cyperus	*Cyperus teneristolon*	Environment, Agriculture
Spanish heath	*Erica lusitanica*	Environment
Spiderwort, Moss inch plant	*Tradescantia cerinthoides*	Environment

Common name	Scientific name	Asset/value at risk
Spiny burrgrass - longispinus	*Cenchrus longispinus*	Environment, Agriculture, Human health
Spiny rush, Spike rush, Sharp rush	*Juncus acutus*	Environment
St John's wort	*Hypericum perforatum*	Environment, Agriculture
Sweet briar	*Rosa rubiginosa*	Agriculture
Sweet vernal-grass	*Anthoxanthum odoratum*	Environment, Agriculture
Tall wheat grass	*Thinopyrum ponticum*	Environment
Tangier Pea	*Lathyrus tingitanus*	Environment
Telegraph Weed	*Heterotheca grandiflora*	Environment
Trad	*Tradescantia fluminensis*	Environment
Tree of heaven	*Ailanthus altissima*	Environment, Human health
Turkey rhubarb	*Acetosa sagittata*	Environment
Tussock paspalum, Blue grass	*Paspalum quadrifarium*	Environment
Tutsan	*Hypericum androsaemum*	Environment
Umbrella tree	*Schefflera actinophylla*	Environment
Viper's bugloss	*Echium vulgare*	Agriculture
Watsonia	*Watsonia meriana*	Environment
Whisky grass	*Andropogon virginicus*	Environment
White jasmine, Chinese jasmine	Jasminum polyanthum	Environment
Wild poinsettia	*Euphorbia cyathophora*	Environment
Wild tobacco bush	*Solanum mauritianum*	Environment, Agriculture
Yellow bells, Golden bells	*Tecoma stans*	Environment, Agriculture
Yorkshire fog	*Holcus lanatus*	Environment

Appendix D
Biodiversity certification

EMM
creating opportunities

Fife Kemps Creek Pty Ltd

Narla Environmental Pty Ltd
www.narla.com.au
(02) 9986 1295
PO Box 406 Mona Vale
NSW 1660

18th November 2022

To whom it may concern,

Narla was commissioned by Fife Kemps Creek Pty Ltd ('the Applicant') to prepare this Biodiversity Certification (Bio-certification) letter to accompany a Development Application for the proposed development at 200 Aldington Road, Kemps Creek 2178 (Lot 20/DP 255560; Lot 21 /P 255560; Lot 22/DP 255560; Lot 23/DP 255560 and Lot 30/DP 258949; between 144-248 Aldington Road, Kemps Creek), hereafter referred to as the 'Subject Land' (**Figure 1**). The Subject Land covers an area of approximately 72.09ha, and mostly comprised of rural housing, cleared vegetation with small pockets of native vegetation communities also present.

The findings of this report are based on the determination made within the Biodiversity Development Assessment Report (BDAR) original prepared by Eco Logical (2022) for the project, as well as other project documents.

Response to SEARs

This Bio-certification letter is required by the Secretary's Environmental Assessment Requirements (SEARs). **Table 1** identifies the SEARs and relevant reference within this report.

Table 1. SEARs and Relevant Reference.

SEARs Item	Report Reference
Biodiversity: – If the development is on biodiversity certified land, provide information to identify the site (using associated mapping) and demonstrate the proposed development is consistent with the relevant biodiversity measure conferred by the biodiversity certification.	Narla Environmental (2022) Bio-certification Letter Report for 200 Aldington Road, Kemps Creek 2178 (Draft v1.0.)

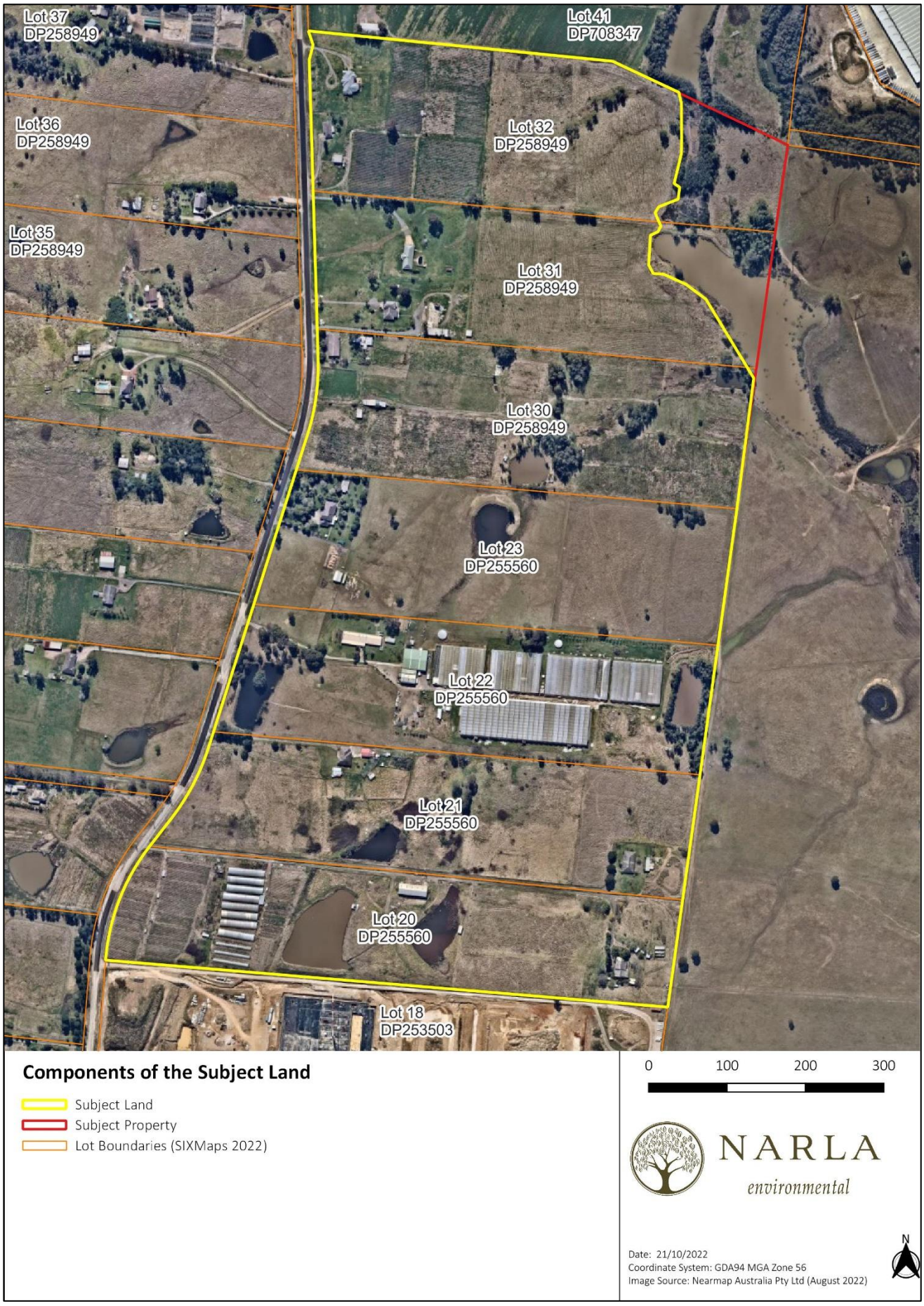


Figure 1 The location of the Subject Land.

Biodiversity Certification

The Department of Planning and Environment (DPE) maintains a register of orders conferring biodiversity certification as required by section 9.7(f) of the Biodiversity Conservation Act 2016 (BC Act) and section 126ZU of the repealed Threatened Species Conservation Act (TSC Act). Chapter 13 of State Environmental Planning Policy (Biodiversity and Conservation) 2021, is listed within the aforementioned register.

Narla has undertaken a review of the Subject Land and can confirm that all areas to be developed fall under Part 8 of the BC Act, which provides for a streamlined biodiversity assessment process for areas of land that are proposed for development. The Site is mapped in the Cumberland Plain Conservation Plan as the 'Western Sydney Aerotropolis' and 'Certified Urban capable land' (**Figure 2**). Chapter 13 of the State Environmental Planning Policy (Biodiversity and Conservation) 2021 applies to proposed developments on bio-certified land.

Section 8.4(2) of the BC Act states that for 'Development (including State Significant Development) under Part 4 of the Environmental Planning & Assessment Act (1979) (EP&A Act), an assessment of the likely impact on biodiversity of development on biodiversity certified land is not required for the purposes of Part 4 of the EP&A Act. As such, no further impact assessment under the BC Act of threatened species, populations or ecological communities is required for the proposed development.

State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 13 Part 13.5 of the State Environmental Planning Policy (Biodiversity and Conservation) 2021 contains controls for development on certified urban capable land. The area proposed for development is mapped as 'certified urban capable land' and therefore the controls of this Part apply. Section 13.15 states for Asset protection zones that:

- Development consent must not be granted to development involving an asset protection zone on certified urban capable land unless the asset protection zone is located wholly on certified urban capable land.

Section 3.16 states that development consent must not be granted to development on certified urban capable land unless the consent authority has considered whether the development is consistent with the Cumberland Plain Conservation Plan Mitigation Measures Guideline. Mitigation measures for the Western Sydney Aerotropolis are described in 'Appendix E. Species and TEC-specific mitigation measures' of the Cumberland Plain Conservation Plan and are discussed in **Table 2** below.

Table 2. Mitigation measures under SEPP (Biodiversity and Conservation) 2021 that must be complied with by the proposed development.

Mitigation Measure	Applicable to the Proposed Development?
Retain large trees (including dead trees but excluding noxious weeds) (≥50cm DBH) during precinct planning where possible and avoid impacts to soil within the dripline of these trees during construction.	The majority of native trees with a DBH >50cm will be retained within the Subject Property. These trees occur within the north eastern extent of the Subject Property as part of a patch of remnant vegetation that provides connectivity with vegetation to the north. Select native trees with a DBH >50cm occur within the development footprint and will be removed to facilitate the proposed development. Soil around the patch of native trees (>50cm DBH) in the north east that are to be retained will not be disturbed during construction.

Mitigation Measure	Applicable to the Proposed Development?
Retain areas of high density Proteaceae shrubs where possible, particularly along riparian corridors.	The proposed development has been designed and sited to largely avoid impacting the native vegetation in the riparian corridor that occurs in the north eastern corner of the Subject Property. A Vegetation Management Plan (VMP) has been prepared (EMM 2022) and will be implemented to ensure-going habitat management including, weed management, native flora plantings and maintenance for this area.
Undertake preconstruction surveys prior to removal or disturbance (seasonally dependent, before torpor) to human made structures to ensure any roosting habitat for microbat species including mine shafts, storm water tunnels, old or derelict buildings, bridges and culverts, are retained where possible.	Prior to construction, the applicant should commission the services of a qualified and experienced Ecologist Consultant (minimum 3 years' experience) with a minimum tertiary degree in Science, Conservation, Biology, Ecology, Natural Resource Management, Environmental Science or Environmental Management. The Ecologist must be licensed with a current Department of Primary Industries Animal Research Authority permit and New South Wales Scientific License issued under the BC Act. The Ecologist will be commissioned to undertake a pre-clearing survey within the roof cavity of existing buildings prior to demolition to determine the location of any microbat roost sites and relocate microbats if required. If a breeding colony is present, microbat relocation and demolition should be undertaken outside of the breeding season.
Modify pest control techniques implemented during construction and operation of the development and under the pest control strategy to reduce the risk of secondary poisoning (e.g. from Pindone or second-generation rodenticides)	Pest control techniques are to be described in the Construction Environmental Management Plan (CEMP) and aim to reduce the risk of secondary poisoning.
Establish a 100m minimum setback for development around flying fox camps. The setback area should be maintained free of flying fox roosting habitat.	No flying fox camps were identified during site assessment conducted by Eco Logical in 2020 or 2021 within 100m of the proposed development.
Raptor nests require a 500m circular setback from nest locations in undisturbed bushland or 250m for nests adjacent to existing development. Owl nests require a 100m circular setback from nest locations	No raptor or owl nests were identified during site assessment conducted by Eco Logical in 2020 or 2021, within 250m of existing development within the Subject Property.
Incorporate best-practice site hygiene protocols to manage the potential spread of pathogens, such as Phytophthora and myrtle rust within or adjacent to potential habitat for relevant species.	*Phytophthora cinnamomic* (Phytophthora) and *Austropuccinia psidii* (Myrtle Rust) are introduced plant pathogens with a distribution often linked to human activity. Sites off/ adjacent to human disturbance (roads, tracks etc.) have higher risk of dieback from these fungal diseases. The CEMP and VMP detail best practice hygiene protocols for controlling the spread of these pathogens.
Consult with relevant land managers to implement critical actions for Cumberland Plain land snail under	Targeted surveys for Cumberland Plain Land Snail were conducted by Eco Logical in 2021 and no

Mitigation Measure	Applicable to the Proposed Development?
the Save our Species program (EES, 2020) on public land adjacent to urban development during construction and operation of the development, taking into account relevant guidance in the weed control implementation strategy and the fire management strategy.	Cumberland Plain Land Snails were identified. It was concluded that the habitat within the development site associated with this species is considered substantially disturbed such that this species was considered unlikely to occur within the development site (Eco Logical 2022). The VMP prepared of this project details actions in the adjacent habitat to the north east of the proposed development. These actions include weed control and habitat improvement.
Implement 'open structure design' when designing structures such as roads adjacent to known populations of Cumberland Plain land snail where possible, consistent with the critical actions for this species under the Save our Species program (EES 2020)	No roads are being built adjacent to known populations of Cumberland Plain Land Snail. Targeted surveys were conducted by Eco Logical in 2021 and no Cumberland Plain Land Snails were identified with it being concluded that the habitat within the development site associated with this species is considered substantially disturbed such that this species was considered unlikely to occur within the development site (Eco Logical 2022).
Manage weeds for flora populations and habitat adjacent to urban and infrastructure development during construction and operation of the development, considering relevant guidance in the weed control implementation strategy.	The VMP details weed management in the adjacent vegetation to the north east of the proposed development.
Consult with managers of land containing known populations or habitat for relevant species to mitigate indirect impacts from fire during construction and operation of the development, considering guidance in the fire management strategy	No threatened species populations occur within areas adjacent to the proposed development.
Consult with land managers of land containing known populations or habitat for relevant species to mitigate indirect impacts from human disturbance during construction and operation of the development, including controlling public access, managing maintenance activities such as mowing and slashing, and managing rubbish dumping. Additionally, for *Pimelea spicata* ensure weed management activities involving the use of herbicides will minimise risks and maintain the species	No threatened species populations occur within areas adjacent to the proposed development. Appropriate herbicide use is described in the VMP.
When implementing mitigation measures to manage indirect impacts to Cooks River/ Castlereagh Ironbark Forest, undertake mitigation in accordance with Best Practice Guidelines: Cooks River/ Castlereagh Ironbark Forest (NSW DECC, 2008) within and adjacent to the TEC.	No Cooks River/ Castlereagh Ironbark Forest will be impacted by the proposed development.

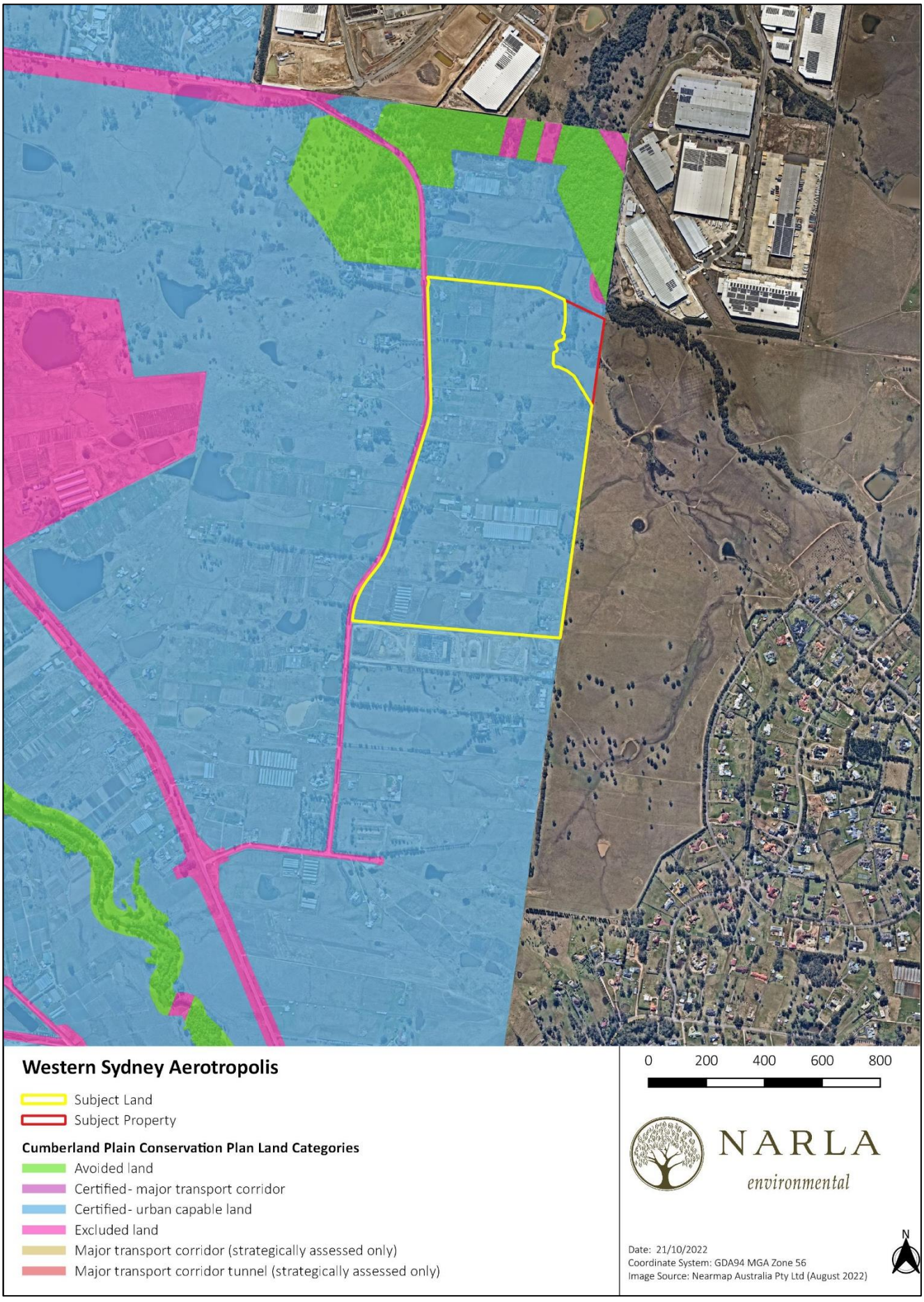


Figure 2. Cumberland Plain Conservation Plan - Biodiversity Certification (State Environmental Planning Policy (Biodiversity and Conservation) 2021).

Commonwealth Strategic Assessment (EPBC Act)

The department is currently pursuing Commonwealth approval for the CPCP under Part 10 of the Environment Protection and Biodiversity Conservation Act 1999. Landholders can submit development applications, seek subdivision or start master planning. However, development that will have a significant impact on matters of national environmental significance (MNES) on certified - urban capable land cannot commence until the Commonwealth CPCP approval is in place. If MNES will not be significantly impacted, then the development may proceed subject to other relevant environmental and planning approvals being obtained.

The Biodiversity Development Assessment Report (BDAR) prepared by Eco Logical (2022) for the project states that none of the native Plant Community Types (PCTs) identified within the development footprint were found to correspond to any threatened ecological communities listed under the EPBC Act, therefore no further assessment under this act is required.

The following EPBC Act listed threatened fauna considered to have potential to occupy the Subject Land were assessed for potential impacts resulting from the proposed development, within the BDAR prepared by Eco Logical (2022):

- *Anthochaera phrygia* (Regent Honeyeater)
- *Pteropus poliocephalus* (Grey-headed Flying-fox)
- *Lathamus discolor* (Swift Parrot)
- *Litoria aurea* (Green and Golden Bell Frog)
- *Phascolarctos cinereus* (Koala)
- *Gallinago hardwickii* (Latham's Snipe).

Assessments of the Commonwealth Significant Impact Criteria wwere undertaken for the above species and it was concluded that the project is unlikely to have a significant impact on any of the EPBC Act listed species (Appendix A).

Fisheries Management Act 1994

Biodiversity certification does not apply in relation to threatened species, populations and ecological communities under Part 7A of the Fisheries Management Act 1994.

Regardless, the proposed development will not:

- Impact on a waterway mapped as 'Key Fish Habitat';
- Harm marine vegetation; or
- Require, dredging of the bed and land reclamation of a Key Fish Habitat Creek.

Conclusion

As the Subject Land is situated on Bio-certified land, no further impact assessment under the BC Act of threatened species, populations or ecological communities is required for the proposed development.

Narla is satisfied that the proposed development has been appropriately located within areas of lower ecological value where possible and the implementation of the proposed Vegetation Management Plan will see native species restored and weeds controlled- minimising impacts on local biodiversity values.

Yours sincerely,

Chris Moore,
General Manager/ Senior Ecologist,
Narla Environmental Pty Ltd

Appendix A EPBC Assessment of Significant Impacts (Extracted from BDAR prepared by Eco Logical 2022, for 200 Aldington Road Kemps Creek).

3.4.1.1 Forest birds *(Anthochaera phrygia* (Regent Honeyeater) *and Lathamus discolor* (Swift Parrot)*)*

The Regent Honeyeater and Swift Parrot are both listed as critically endangered under the EPBC Act. The distribution and habitat associations of this threatened species are presented in Appendix C:. Due to similar habitat requirements of these species, a single test was undertaken for both. These species were not recorded within the development site during survey. The proposed action will impact 2.8 ha of potential foraging habitat for both the Regent Honeyeater and Swift Parrot. The development site is not included within the DPIE mapped breeding areas for the threatened species (as accessed on BOAMS on 6 July and 23 September 2020).

Criterion	Question	Response
An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility of the following:		
1)	will the action lead to a long-term decrease in the size of a population *Note: A 'population of a species' is defined under the EPBC Act as an occurrence of the species in a particular area.*	The Regent Honeyeater and Swift Parrot comprise single populations of each respective species (DAWE 2020c). The proposed action will not affect breeding habitat for either threatened species but will remove 2.8 ha of vegetation, including potential foraging habitat. Given the proximity of suitable habitat in connective vegetation within the assessment area and beyond, the removal of this potential foraging habitat would not lead to the long-term decrease in the size of a population of either species.
2)	will the action reduce the area of occupancy of the species	The proposed action would reduce the amount of potential foraging habitat for these species by up to 2.8 ha. Neither species are known to occupy the development site, but the Regent Honeyeater and Swift Parrot may occasionally forage within the development site. Both the Regent Honeyeater and Swift Parrot are recorded as travelling long distances and would likely utilise the potential foraging habitat outside of the development site on feeding forays.
3)	will the action fragment an existing population into two or more populations	The proposed action will not fragment an existing population into two or more populations.
4)	will the action adversely affect habitat critical to the survival of a species	The National Recovery Plan for the Regent Honeyeater lists habitat critical to the survival of the species as: "any breeding or foraging areas where the species is likely to occur. Any newly discovered breeding or foraging locations". The National Recovery Plan for the Swift Parrot 2011 lists priority habitats as those which are used for nesting, by large proportions of the population, repeatedly between seasons or for prolonged periods of time. Based on the records of these species observed within 5 km of the development site (2 Regent Honeyeater, 0 Swift Parrot), the development site is not considered habitat critical to the survival of either species. Furthermore, similar foraging habitat is available directly adjacent to the development site.
5)	will the action disrupt the breeding cycle of a population	The proposed action will not disrupt the breeding cycle of either threatened species given that no breeding habitat will be affected by the proposed action and suitable

Criterion	Question	Response
		foraging habitat is available adjacent to the development site.
6) i	will the action modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposed action will remove 2.8 ha of vegetation, including foraging habitat for the Regent Honeyeater and Swift Parrot. It is unlikely that the extent of this vegetation removal will cause either species to decline because suitable habitat is available adjacent to the development site.
6) ii	will the action result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	The proposed action is unlikely to result in the establishment of an invasive species that is harmful to either threatened species.
7)	will the action introduce disease that may cause the species to decline	The proposed action is unlikely to introduce disease that may cause either threatened species to decline.
8)	will the action interfere with the recovery of the species	The proposed action will remove suitable foraging habitat for these species; however this will not interfere substantially with recovery objectives listed in their National Recovery Plans. The proposed action will not affect any breeding habitat and suitable foraging habitat is available adjacent to the development site.
Conclusion	Is there likely to be a significant impact?	No. The proposed action is unlikely to have a significant impact on the Regent Honeyeater or Swift Parrot for the following reasons: • No known breeding habitat will be removed by the proposed action. • Extensive areas of more suitable foraging habitat for these highly mobile species is available adjacent to the development site.

3.4.1.2 *Pteropus poliocephalus* (Grey-headed Flying-fox)

The Grey-headed Flying-fox is listed as vulnerable under the EPBC Act. The distribution and habitat associations of this threatened species are presented in Appendix C:. This species was not identified within the development site during survey. The proposed action will impact 2.8 ha of native vegetation, some of which comprises suitable foraging habitat for this species. No camps were identified within the development site, the nearest Grey-headed Flying-fox camp is located approximately 11 km east of the development site at Wetherill Park and has a count of 500-2,499 individuals. No camps will be affected by the proposed action.

Criterion	Question	Response
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:		
1)	lead to a long-term decrease in the size of an important population of a species *Note: An 'important population' is a population that is necessary for a species' long-term survival and recovery.*	No roosting habitat (camps) will be affected by the proposed action. The proposed action will affect 2.8 ha of native vegetation, some of which comprises suitable foraging habitat for the Grey-headed Flying-fox. The Grey-headed Flying-fox is recorded as travelling long distances (up to 50 km) on feeding forays. Given the proximity of more suitable habitat in connective vegetation within the assessment area, the removal of this potential foraging habitat would not lead to the long-term decrease in the size of an important population of Grey-headed Flying-fox.
2)	reduce the area of occupancy of an important population	The proposed action would affect 2.8 ha of potential foraging habitat for this species. The Grey-headed Flying-fox is not known to occupy the development site in the form of a camp but may occasionally forage within the development site. The Grey-headed Flying-fox is recorded as travelling long distances on feeding forays and would likely utilise the potential foraging habitat outside of the development site.
3)	fragment an existing important population into two or more populations	According to the Draft Recovery Plan for the Grey-headed Flying-fox 2017, "the Grey-headed Flying-fox is considered to be a single, mobile population with individuals distributed across Queensland, New South Wales, Victoria, South Australia, Tasmania and the ACT." The proposed action will not fragment an existing important population into two or more populations. No camps will be affected by the proposed action and other areas of foraging habitat are available for this highly mobile species within the region.
4)	adversely affect habitat critical to the survival of a species *Note: 'Habitat critical to the survival of a species or ecological community' refers to areas that are necessary:* • *for activities such as foraging, breeding, roosting, or dispersal* • *for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of*	The Draft Recovery Plan for the Grey-headed Flying-fox 2017 identifies 'a continuous temporal sequence of productive foraging habitats, linked by migration corridors or stopover habitats, and suitable roosting habitat within nightly commuting distance of foraging areas' as habitat critical to the survival of the species. The proposed action will affect 2.8 ha of native vegetation, some of which may represent habitat critical survival to this species. However, this impact is considered unlikely to have an adverse effect given that the species is recorded as travelling long distances (50 km) on feeding forays and similar habitat is available adjacent to the development site.

Criterion	Question	Response
	the species or ecological community, such as pollinators) • *to maintain genetic diversity and long term evolutionary development, or* • *for the reintroduction of populations or recovery of the species or ecological community.*	
5)	disrupt the breeding cycle of an important population	The proposed action will not disrupt the breeding cycle of the Grey-headed Flying-fox given that no camps will be affected by the proposed action and suitable foraging habitat is available adjacent to the development site.
6)	modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposed action will affect 2.8 ha of vegetation, including foraging habitat for the Grey-headed Flying-fox. It is unlikely that the extent of this vegetation removal will cause the species to decline because suitable habitat is available adjacent to the development site.
7)	result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The proposed action is unlikely to result in the establishment of an invasive species that is harmful to the Grey-headed Flying-fox.
8)	introduce disease that may cause the species to decline, or	Grey-headed Flying-fox are reservoirs for the Australian bat lyssavirus, Hendra Virus and Menangle virus, and can cause clinical disease and mortality in Grey-headed Flying-fox. The proposed action would not increase the incidence of this disease.
9)	interfere substantially with the recovery of the species.	The proposed action will remove suitable foraging habitat for this species; however this will not interfere substantially with recovery objectives listed in the Draft National Recovery Plan for the Grey-headed Flying-fox 2017. The proposed action will not affect any camps and suitable foraging habitat is available adjacent to the development site.
Conclusion	Is there likely to be a significant impact?	No. The proposed action is unlikely to have a significant impact on the Grey-headed Flying-fox for the following reasons: • No camps will be removed by the proposed action. • More suitable foraging habitat for this highly mobile species is available adjacent to the development site.

3.4.1.3 Litoria aurea (Green and Golden Bell Frog)

The Green and Golden Bell Frog is listed as vulnerable under the EPBC Act. The distribution and habitat associations for this threatened species are presented in Table 16. Targeted survey was not undertaken for this species, however the development site contains 0.34 ha of potential habitat for this species, associated with dams with *Typh*a sp.

Criterion	Question	Response
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:		
1)	Lead to a long-term decrease in the size of an important population of a species *Note: An 'important population' is a population that is necessary for a species' long-term survival and recovery.*	The proposed action will impact up to 0.34 ha of potential habitat for the Green and Golden Bell Frog in the form of farm dams and associated vegetation. Based on the records of this species observed within 5 km of the development site (1 record), the proposed action would not lead to the long-term decrease in the size of an important population of Green and Golden bell Frog.
2)	Reduce the area of occupancy of an important population	The action would reduce the potential area of occupancy available for this species by removing up to 0.34 ha of potential habitat. However, given the number of records and marginal quality of potential habitat, it is considered unlikely that an important population would occupy this area.
3)	Fragment an existing important population into two or more populations	The proposed action will not fragment an existing population into two or more populations.
4)	Adversely affect habitat critical to the survival of a species *Note: 'Habitat critical to the survival of a species or ecological community' refers to areas that are necessary:* • *for activities such as foraging, breeding, roosting, or dispersal* • *for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)* • *to maintain genetic diversity and long-term evolutionary development, or* • *for the reintroduction of populations or recovery of the species or ecological community.*	The proposed action would impact 0.34 ha of native vegetation and associated dams that represent potential habitat. The area of potential habitat to be impacted is of marginal quality and only one individual has been recorded within 1 km of the development site. Therefore, it is unlikely that the proposed action will adversely affect potential habitat to the detriment of the survival of the species.
5)	Disrupt the breeding cycle of an important population	The proposed action is unlikely to result in the loss of a large number of individuals that would disrupt the life cycle of this species.
6)	Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposed action will decrease the availability of habitat for the species within the development site by 0.34 ha. However, it is unlikely that the extent of this habitat removal will cause the species to decline because similar habitat is

Criterion	Question	Response
		available within the assessment area and only one individual is known from the region.
7)	Result in an invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	A number of invasive fish species, especially *Gambusia holbrooki* (Eastern Mosquitofish), have been identified as main threats to the Green and Golden Bell Frog. The proposed action is unlikely to result in harmful invasive species becoming established in existing habitat for the Green and Golden Bell Frog.
8)	Introduce disease that may cause the species to decline	Infection with *Batrachochytrium dendrobatidis* (Chytrid Fungus) is listed as a main threat to the Green and Golden Bell Frog. The proposed action is unlikely to introduce the Chytrid Fungus.
9)	Interfere substantially with the recovery of the species	The proposed action will remove potential habitat for this species. However, the action will not interfere substantially with the recovery of the species.
Conclusion	Is there likely to be a significant impact?	No. The proposed action is unlikely to have a significant impact on the Green and Golden Bell Frog for the following reasons: • The 0.34 ha of potential Green and Golden Bell Frog habitat to be removed is considered marginal in quality. • Similar habitat is available within the assessment area.

3.4.1.4 *Phascolarctos cinereus* (Koala)

The Koala is listed as vulnerable under the EPBC Act. The distribution and habitat associations of this threatened species are presented in Table 16. This species was not identified within the development site during survey. The proposed action will affect 2.8 ha of native vegetation, some of which comprises suitable foraging habitat for this species. No breeding habitat will be affected by the proposed action.

Criterion	Question	Response
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:		
1)	lead to a long-term decrease in the size of an important population of a species *Note: An 'important population' is a population that is necessary for a species' long-term survival and recovery.*	The proposed action will affect 2.8 ha of native vegetation, some of which contains potential foraging habitat for the Koala. No evidence of breeding habitat was detected within the development site during survey. This impact would not lead to a long-term decrease in the size of a population of the species, given the proximity of similar habitat adjacent to the development site.
2)	reduce the area of occupancy of an important population	The proposed action would affect up to 2.8 ha of native vegetation, some of which represents potential foraging habitat for this species. The Koala is not known to occupy the development site but may occasionally forage within the development site.
3)	fragment an existing important population into two or more populations	The proposed action will not fragment an existing important population into two or more populations.
4)	adversely affect habitat critical to the survival of a species *Note: 'Habitat critical to the survival of a species or ecological community' refers to areas that are necessary:* • *for activities such as foraging, breeding, roosting, or dispersal* • *for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)* • *to maintain genetic diversity and long term evolutionary development, or* • *for the reintroduction of populations or recovery of the species or ecological community.*	No habitat critical to the survival has been identified for this species. The development site contains feed trees considered foraging habitat for this species, however this habitat is not considered critical to the survival of the species. Furthermore, the development site is not mapped under the Koala Habitat Protection SEPP 2019. The proposed action may affect up to 2.8 ha of native vegetation, some of which represents potential foraging habitat for this species, however similar habitat is available adjacent to the development site.
5)	disrupt the breeding cycle of an important population	The proposed action will not disrupt the breeding cycle of the Koala given that no breeding habitat will be affected by the proposed action and suitable foraging habitat is available adjacent to the development site.

Criterion	Question	Response
6)	modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposed action will affect up to 2.8 ha of native vegetation, including foraging habitat for the Koala. It is unlikely that the extent of this vegetation removal will cause the species to decline because suitable, more extensive habitat is available adjacent to the development site.
7)	result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The proposed works are unlikely to result in the establishment of an invasive species in the habitat of the Koala.
8)	introduce disease that may cause the species to decline, or	The action is unlikely to introduce disease that would cause this species to decline.
9)	interfere substantially with the recovery of the species.	The Approved Conservation Advice for this species identifies the following main threats: loss and fragmentation of habitat, vehicle strike, disease and predation by dogs. The proposed action will impact foraging habitat; however the action is unlikely to exacerbate these threats to the extent that it would interfere substantially with the recovery of the species.
Conclusion	Is there likely to be a significant impact?	No. The proposed action is unlikely to have a significant impact on the Koala for the following reasons: • No breeding habitat will be impacted by the action. • More suitable habitat for this species is available adjacent to the development site.

3.4.1.5 Gallinago hardwikii (Latham's Snipe)

Latham's Snipe is listed as a migratory species under the EPBC Act. The distribution and habitat associations for this threatened species are presented in Table 16. This species was not identified within the development site during survey, however the proposed development will remove farm dams which represent foraging and roosting habitat for this species. Latham's Snipe does not breed in Australia.

Criterion	Question	Response
An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:		
1)	Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species *Note: An area of 'important habitat' for a migratory species is:* • *habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species, and/or* • *habitat that is of critical importance to the species at particular life-cycle stages, and/or* • *habitat utilised by a migratory species which is at the limit of the species range, and/or* • *habitat within an area where the species is declining.*	The proposed action will affect dams considered potential foraging and roosting habitat for Latham's Snipe. The species does not breed in Australia. Latham's Snipe prefers bodies of fresh water that contain low, dense vegetation which provides shelter for roosting purposes. The structure and composition of the fringing vegetation is a high determinant in the suitability of the habitat for foraging and roosting purposes. The dams within the development site are only considered marginal habitat for this species.
2)	Result in invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species	Predation by *Vulpes* (European Red Fox) is considered a threat to Latham's Snipe. The proposed action is unlikely to exacerbate predation of Latham's Snipe by the European Red Fox.
3)	Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species *Note: Listed migratory species cover a broad range of species with different life cycles and population sizes. Therefore, what is an 'ecologically significant proportion' of the population varies with the species (each circumstance will need to be evaluated). Some factors that should be considered include the species' population status, genetic*	The global population of Latham's Snipe is estimated to be between 25,000 and 100,000 individuals (DAWE 2020c). The species' extent of occurrence is estimated at 300,000 km^2 and the area of occupancy at 3000 km^2. An area of habitat is considered important if it supports >1% of the current population. Given only four individuals have been recorded within 5 km of the development site, the development site is not considered important habitat or likely to support a significant proportion of the population. Latham's Snipe does not breed in Australia but migrates after the breeding season anywhere between July – November, leaving by February. The species migrates to Australia for foraging and roosting purposes and would rely on the resources in the development site only occasionally.

Criterion	Question	Response
	distinctiveness and species specific behavioural patterns (for example, site fidelity and dispersal rates). *'Population', in relation to migratory species, means the entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries including Australia.*	
Conclusion	Is there likely to be a significant impact?	No. The proposed action is unlikely to have a significant impact on Latham's Snipe for the following reasons: • The action will not affect breeding habitat for the species • The habitat in the development site is considered marginal and would only be used occasionally in a transient manner by species • The species is highly mobile and will readily move roosting locations as habitat becomes less / more suitable • The species' range is widespread and the proposed action would not impact the species at the extent of its range.

Appendix E
Riparian assessment

EMM
creating opportunities

200 Aldington Road Industrial Estate - Riparian Assessment

Fife Kemps Creek Trust

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Template 2.8.1

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Abbreviations

Abbreviation	Description
CBD	Central Business District
CEMP	Construction Environmental Management Plan
ELA	Eco Logical Australia Pty Ltd
EP&A Act	*Environmental Planning and Assessment Act 1979*
FM Act	*Fisheries Management Act 1994*
GFA	Gross Floor Area
Hawkesbury Nepean SREP	*Sydney Regional Environmental Plan No. 20 – Hawkesbury Nepean River*
NRAR	Natural Resources Access Regulator
Penrith LEP	*Penrith Local Environmental Plan 2010*
RC	Riparian corridor
SEARs	Secretary's Environmental Assessment Requirements
SEPP WSEA	*State Environmental Planning Policy (Western Sydney Employment Area) 2009*
SSDA	State Significant Development Application
ToB	Top of Bank
VMP	Vegetation Management Plan
VRZ	Vegetated Riparian Zone
WM Act	*Water Management Act 2000*

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Executive Summary

This Riparian Assessment is required to support a State Significant Development Application (SSDA) for Aldington Road Industrial Estate, located at 106-228 Aldington Road, Kemps Creek. This report determines potential impacts on the riparian and aquatic ecology from the proposed development and makes recommendations to mitigate those impacts.

This Riparian Assessment has been prepared to assess the development's impact on the mapped watercourses and riparian corridors on site, as per the Secretary's Environmental Assessment Requirements (SEARs) issued in July 2020 which require *'an assessment of the development's impacts on the riparian corridor and wetland on site, including detailed interface management measures'.*

Two mapped watercourses are located in the development area. The site survey identified that the 1st order watercourse at the south of the site did not meet the definition of a 'river' under the *Water Management Act 2000* (WM Act). The 1st order watercourse in the north east of the site was likely to meet the definition of a 'river' under the WM Act due to the defined nature of the watercourse upstream of the study area, however the flow path does not follow that of the mapped hydroline.

There were 11 farm dams identified within and adjacent to the study area. Most of these had limited aquatic habitat and eight are to be removed as part of the proposed development. The dam in the northern-most section of the site had moderate levels of aquatic habitat and was representative of a wetland environment. This dam will be retained after development, and the surrounding vegetation managed to maintain habitat values.

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1. Introduction

1.1 Background / context

This Riparian Assessment forms a Request for Additional Information for the proposed Concept State Significant Development Application for a new industrial estate on land at 106 – 228 Aldington Road, Kemps Creek.

The EIS for the project was placed on public exhibition between 18 November 2020 and 15 December 2020. During this period, a total of 18 submissions were received. These submissions were addressed and subsequent amendments to the project were made, as outlined in the Response to Submissions Report (dated 23 March 2021) prepared by Ethos Urban.

In written correspondence dated 28 April 2021, it was requested that FKC provide a further response to additional commentary raised by DPE, as well as additional comments raised by public authorities in their review of the first Response to Submissions Report. This was responded to via a second a Response to Submissions Report outlined by Ethos Urban (dated 22 September 2021).

Additional correspondence was received from DPE dated 15 November 2021 which has necessitated updates and additional information, as contained within this report.

1.2 Summary of the project for which development consent is now sought

Consent is sought for the following development. It represents minor amendments and does not represent a significant material change to what was previously proposed under the second RTS Report (22 September 2021).

- A concept masterplan with an indicative total building area of 342,865 sqm, comprising:
  - 325,865 sqm of warehouse gross floor area (GFA);
  - 17,010 sqm of ancillary office GFA;
  - 13 individual development lots for warehouse buildings with associated hardstand areas and two lots for water management infrastructure purposes (each including a bio-retention basin);
  - Roads, including:
    - Internal road layouts;
    - Southern road connection to Aldington Road;
    - Northern boundary road (half road corridor) connecting to Aldington Road;
    - Road connections to adjoining landholdings to the north and east;
  - Provision for 1,517 car parking spaces; and
  - Associated concept site landscaping.
- Detailed consent for progressive delivery of site preparation, earthworks and infrastructure works (i.e., Stage 1 works) on the site, including:
  - Demolition and clearing of all existing built form structures;
  - Drainage and infill of existing farm dams and any ground dewatering;

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- Clearing of existing vegetation;
- Subdivision of the site into 15 individual lots;
- Construction of a warehouse building with a total of 50,300 sqm of GFA, including:
  - 47,800 sqm of warehouse GFA;
  - 2,500 sqm of ancillary office GFA; and
  - 222 car parking spaces.
- Bulk earthworks including 'cut and fill' to create level development platforms for the warehouse buildings, and site stabilisation works (if required);
- Roadworks and access infrastructure, including an interim access road and a temporary junction with Aldington Road;
- Stormwater works including stormwater basins, diversion of stormwater;
- Utilities services including sewer and potable water reticulation
- Road and boundary retaining walls.

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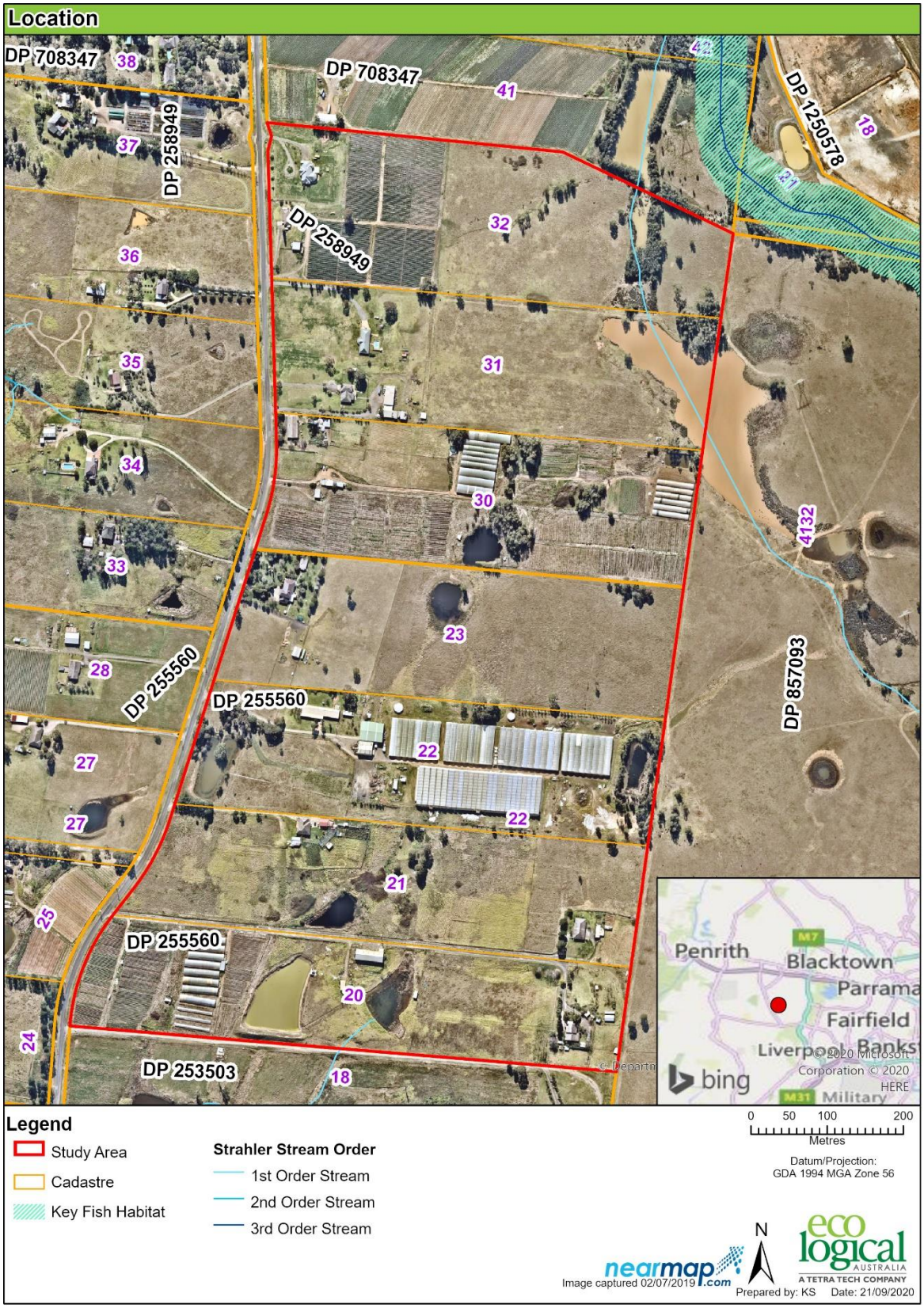


Figure 1: Location map with hydroline and Strahler stream order

2. Legislative Context

The specific riparian and aquatic regulatory requirements and policies were reviewed to determine their application to the proposed development.

- *Fisheries Management Act 1994*
- Policy and Guidelines for Fish Habitat Conservation and Management (2013 update) (Fairfull, 2013)
- NSW *Water Management Act 2000* (WM Act) and Guidelines for controlled activities on waterfront land – Riparian corridors (NRAR, 2018)
- *Water Management Act 2000*
- *Water Management (General) Regulation 2018*
- *State Environmental Planning Policy (Western Sydney Employment Area) 2009.*

2.1 Fisheries Management Act 1994

The *Fisheries Management Act 1994* (FM Act) governs the management of fish and their habitat in NSW. The FM Act applies to waterways defined as 'key fish habitat' and threatened fish species, and therefore requires a separate assessment from the NSW *Biodiversity Conservation Act 2016* (BC Act). The objectives of the FM Act are to conserve fish stocks and key fish habitats, conserve threatened species, populations and ecological communities of fish and marine vegetation and to promote ecologically sustainable development. The FM Act also regulates activities involving dredging and / or reclamation of aquatic habitats, obstruction of fish passage, harming marine vegetation and use of explosives within a waterway.

In accordance with Part 4, Division 1.7, Section 4.41 (b) of the EP&A Act, applications for separate permits under Sections 201, 205 or 219 of the FM Act are not required for SSD, but the offset policy relating to loss of key fish habitat still applies under the FM Act. In order to inform a comparative and acceptable assessment of impacts to aquatic habitat, the regulatory framework of the FM Act and associated guidelines have been adopted for this assessment.

2.2 Policy and guidelines for fish habitat conservation and management

The Policy and guidelines for fish habitat conservation and management (Fairfull, 2013) (herein referred to as the 'Policy') is a supplementary document that outlines the requirements and obligations under the FM Act and the *Fisheries Management (General) Regulation 2010* and was developed to maintain and enhance fish habitat and assist in the protection of threatened species. The Policy provides a definition of key fish habitat (KFH) and guidance for assigning a classification of waterways for fish passage (Table 1). It also guides sensitivity ratings of the KFH types present, which determines the potential disturbance and offsetting required for development (Table 2) and informs the types of crossing infrastructure suitable for the creek line (Table 3).

The Policy classifies waterways into three types of key fish habitat. While the tributary of Ropes Creek within the SSD area is likely to be considered a Type 3 KFH habitat using the descriptions outlined in Table 3, the guidelines note that 1st and 2nd order streams on gaining streams are not considered key

fish habitat unless they are known habitat for threatened aquatic species. The main drainage line of Ropes Creek, approximately 270 m downstream of the site, is mapped as key fish habitat.

Table 1: Key Fish Habitat and associated sensitivity classification scheme (Fairfull, 2013)

Key fish habitat and associated sensitivity classification scheme (for assessing potential impacts of certain activities and developments on key fish habitat types)	
TYPE 1 – Highly sensitive key fish habitat:	**TYPE 2 – Moderately sensitive key fish habitat:**
Posidonia australis (strapweed)	*Zostera, Heterozostera, Halophila* and *Ruppia* species of seagrass beds <5 m^2 in area
Zostera, Heterozostera, Halophila and *Ruppia* species of seagrass beds >5 m^2 in area	Mangroves
Coastal saltmarsh >5 m^2 in area	Coastal saltmarsh <5 m^2 in area
Coral communities	Marine macroalgae such as *Ecklonia* and *Sargassum* species
Coastal lakes and lagoons that have a natural opening and closing regime (i.e. are not permanently open or artificially opened or are subject to one off unauthorised openings)	Estuarine and marine rocky reefs
Marine park, an aquatic reserve or intertidal protected area	Coastal lakes and lagoons that are permanently open or subject to artificial opening via agreed management arrangements (e.g. managed in line with an entrance management program)
SEPP 14 coastal wetlands, wetlands recognised under international agreements (e.g. Ramsar, JAMBA, CAMBA, ROKAMBA wetlands), wetlands listed in the Directory of Important Wetlands of Australia	Aquatic habitat within 100 m of a marine park, an aquatic reserve or intertidal protected area
Freshwater habitats that contain in-stream gravel beds, rocks greater than 500 mm in two dimensions, snags greater than 300 mm in diameter or 3 metres in length, or native aquatic plants	Stable intertidal sand/mud flats, coastal and estuarine sandy beaches with large populations of in-fauna
Any known or expected protected or threatened species habitat or area of declared 'critical habitat' under the FM Act	Freshwater habitats and brackish wetlands, lakes and lagoons other than those defined in TYPE 1
Mound springs	Weir pools and dams up to full supply level where the weir or dam is across a natural waterway
	TYPE 3 – Minimally sensitive key fish habitat may include:
	Unstable or unvegetated sand or mud substrate, coastal and estuarine sandy beaches with minimal or no in-fauna
	Coastal and freshwater habitats not included in TYPES 1 or 2
	Ephemeral aquatic habitat not supporting native aquatic or wetland vegetation

Table 2 Classifications and characteristics of waterway class

Classification	Characteristics of waterway class
CLASS 1 **Major key fish habitat**	Marine or estuarine waterway or permanently flowing or flooded freshwater waterway (e.g. river or major creek), habitat of a threatened or protected fish species or 'critical habitat'.
CLASS 2 **Moderate key fish habitat**	Non-permanently flowing (intermittent) stream, creek or waterway (generally named) with clearly defined bed and banks with semi-permanent to permanent waters in pool or in connected wetland areas. Freshwater aquatic vegetation is present. TYPE 1 and 2 habitats present.
CLASS 3 **Minimal key fish habitat**	Named or unnamed waterway with intermittent flow and sporadic refuge, breeding or feeding areas for aquatic fauna (e.g. fish, yabbies). Semi-permanent pools form within the waterway or adjacent wetlands after a rain event. Otherwise, any minor waterway that interconnects with wetlands or other CLASS 1-3 fish habitats.
CLASS 4 **Unlikely key fish habitat**	Waterway (generally unnamed) with intermittent flow following rain events only, little or no defined drainage channel, little or no flow or free-standing water or pools post rain events (e.g. dry gullies or shallow floodplain depressions with no aquatic flora present).

Table 3: Watercourse crossings (Fairfull, 2013).

Preferred waterway crossing type in relation to waterway class		
Waterway classification	**Minimum Recommended Crossing Type**	**Additional Design Information**
CLASS 1 **Major key fish habitat**	Bridge, arch structure or tunnel	Bridges are preferred to arch structures.
CLASS 2 **Moderate key fish habitat**	Bridge, arch structure, culvert[1] or ford	Bridges are preferred to arch structures, box culverts and fords (in that order).
CLASS 3 **Minimal key fish habitat**	Culvert[2] or ford	Box culverts are preferred to fords and pipe culverts (in that order).
CLASS 4 **Unlikely key fish habitat**	Culvert[3], causeway or ford	Culverts and fords are preferred to causeways (in that order).

[1] High priority given to the 'High Flow Design' procedures presented for the design of these culverts—refer to the "Design Considerations" section of Fairfull and Witheridge (2003).

[2] Minimum culvert design using the 'Low Flow Design' procedures; however, 'High Flow Design' and 'Medium Flow Design' should be given priority where affordable—refer to the "Design Considerations" section of Fairfull and Witheridge (2003).

[3] Fish friendly waterway crossing designs possibly unwarranted. Fish passage requirements should be confirmed with NSW DPI.

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2.3 Water Management Act 2000

The main objective of the WM Act is to manage NSW water in a sustainable and integrated manner that will benefit current generations without compromising future generations' ability to meet their needs. The WM Act is administered by the Natural Resources Access Regulator (NRAR) and establishes an approval regime for activities within waterfront land, defined as the land 40 m from the highest bank of a river, lake or estuary.

The WM Act defines a river as:

a. *any watercourse, whether perennial or intermittent and whether comprising a natural channel or a natural channel artificially improved, and*
b. *any tributary, branch or other watercourse into or from which a watercourse referred to in paragraph (a) flows, and*
c. *anything declared by the regulations to be a river.*

For the purposes of paragraph (c) of the definition of 'river' in the Dictionary to the Act, the following are declared to be a river as per the *Water Management (General) Regulation 2018* (WM Regulation):

> *any watercourse, whether perennial or intermittent, comprising an artificial channel that has changed the course of the watercourse, any tributary, branch or other watercourse into or from which a watercourse referred to in paragraph (a) flows.*

In accordance with Part 4, Division 1.7, Section 4.41 (g) of the EP&A Act, a water use approval under Section 89, a water management work approval under Section 90 or an activity approval (other than an aquifer interference approval) under Section 91 of the WM Act is not required for SSD.

However, in order to inform a comparative and acceptable assessment of riparian impacts, the regulatory framework of the WM Act and associated guidelines have been adopted for this assessment.

NRAR's *Guidelines for Controlled Activities on waterfront land—Riparian corridors* (NRAR, 2018) outline the need for a Vegetated Riparian Zone (VRZ) adjacent to the channel to provide a transition zone between the terrestrial environment and watercourse. This vegetated zone helps maintain and improve the ecological functions of a watercourse whilst providing habitat for terrestrial flora and fauna. The VRZ plus the channel (bed and banks of the watercourse to the highest bank) constitute the 'riparian corridor' (Figure 2). NRAR recommends a VRZ width based on watercourse order as classified under the Strahler System of ordering watercourses and using Hydroline Spatial Data which is published on the department's website (Table 4).

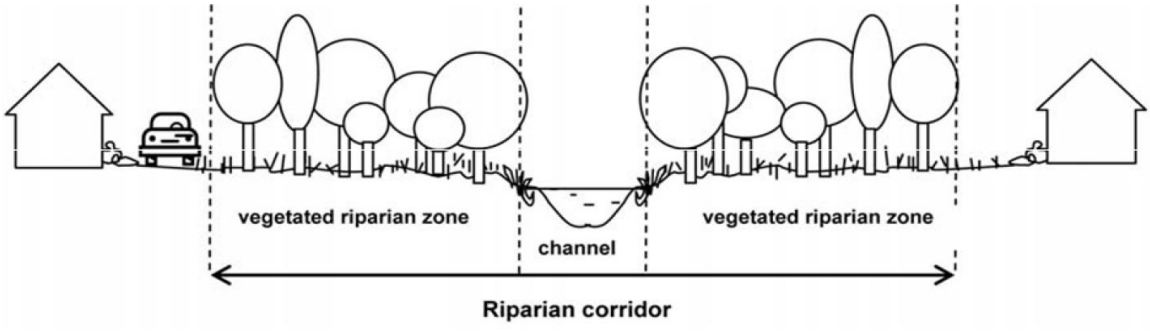


Figure 2: Vegetated Riparian Zone and watercourse channel comprising the riparian corridor (NRAR, 2018).

Table 4: Recommended riparian corridor widths relative to Strahler Order (NRAR 2018)

Watercourse type	VRZ width (each side of watercourse)	Total riparian corridor width
1st order	10 m	20 m + channel width
2nd order	20 m	40 m + channel width
3rd order	30 m	60 m + channel width
4th order and greater (includes estuaries, wetlands and any parts of rivers influenced by tidal waters)	40 m	80 m + channel width

Certain works are permissible within the riparian zone (Table 5). Non-riparian uses are consistent with NRAR's guidelines in the outer 50% of the VRZ as long as compensation (1:1 offset) is achieved within the site. The outer VRZ that is impacted must be offset elsewhere on site using the 'averaging rule' (Figure 3).

Table 5: Riparian corridor (RC) matrix of permissible use (NRAR 2018)

Stream order	Vegetated Riparian Zone (VRZ)	RC off-setting for non RC uses	Cycleways and paths	Detention basins		Stormwater outlet structures and essential services	Stream realignment	Road crossings		
				Only within 50% outer VRZ	Online			Any	Culvert	Bridge
1st	10m	●	●	●	●	●	●	●		
2nd	20m	●	●	●	●	●		●		
3rd	30m	●	●	●		●			●	●
4th +	40m	●	●	●		●			●	●

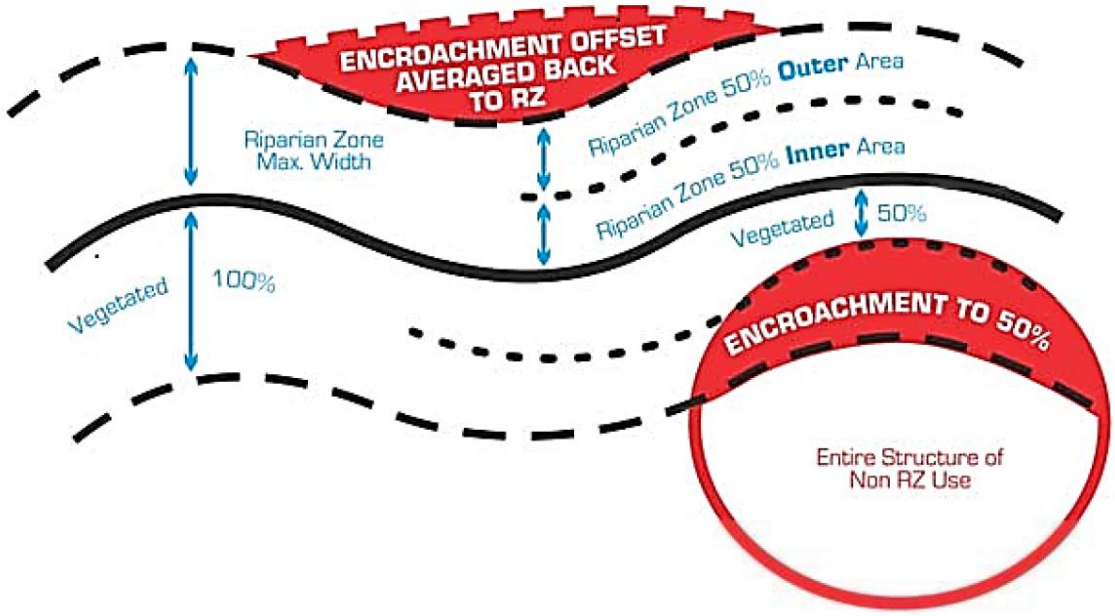


Figure 3: Riparian 'averaging rule' for offsetting encroachment into the outer 50% of the VRZ (NRAR 2018).

Furthermore, NRAR's *Guidelines for Controlled Activities on waterfront land—Riparian corridors* (NRAR 2018) provides for a streamlined assessment for development that meets pre-determined criteria.

2.4 NSW Wetlands Policy

The NSW Wetlands Policy (DECCW, 2010) aims to provide for the protection, ecologically sustainable use and management of NSW wetlands. Wetlands include lakes, lagoons, estuaries, rivers, floodplains, swamps, bogs, billabongs, marshes, coral reefs and seagrass beds. For the sustainable management of wetlands, the NSW Government adopts 12 principles to guide decision-making. The themes of these 12 principles include:

- Catchment scale
- Water regimes
- Floodplain connectivity
- Wetlands of significance
- Land management practices
- Cultural values
- Rehabilitation
- Climate change
- Research
- Protection and offsetting
- Cooperation and incentives
- Monitoring and reporting.

Mitigation measures outlined in Section 5.2 of this impact assessment are in line with the policy's guiding principles.

2.5 State Environmental Planning Policy (Western Sydney Employment Area) 2009

The *State Environmental Planning Policy (Western Sydney Employment Area) 2009* (SEPP WSEA) was amended following the adoption of the Mamre Road Precinct Plan. A number of clauses within the SEPP WSEA are applicable to the proposed development of the Aldington Road development, including Part 6 Clauses 33H,33I and 33L.

The impacts of the proposed development relevant to these clauses of the SEPP WSEA are discussed in Section 5.3.4.

2.6 Mamre Road Development Control Plan

The DCP contains controls specific to riparian zone protection and management. As assessment of the consistency of the proposed development with the DCP is provided in chapter 5.

3. Methods

3.1 Literature and data reviews

The following literature and data sources were reviewed prior to undertaking the field survey:

- BioNet/Atlas of NSW Wildlife database search for a 10 km radius (DPIE, 2020)
- EPBC Act Protected Matters Search Tool 5 km database search (DAWE 2020)
- The Native Vegetation of the Sydney Metropolitan Area v.3 (OEH 2016)
- Aerial mapping (SIXMaps)
- Water Management (General) Regulation 2018 hydroline spatial data 1.0
- Fisheries NSW Policy and Guidelines for Fish Habitat Conservation and Management (2013 update) (Fairfull 2013)
- Guidelines for controlled activities on waterfront land – Riparian corridors (NRAR, 2018).

3.2 Field survey methods

The Strahler stream order classification was extracted from the DPI Hydroline Spatial Data. A field survey was conducted by ELA Aquatic Ecologist Claire Wheeler on 20 July 2020 to determine if the watercourses on site met the definition of a 'river' under the WM Act and determine the current condition and extent of riparian and aquatic habitat:

1. Definition of a 'river' under the WM Act – Waterways within the SSDA boundary were assessed to determine if they met the definition of a 'river' using definitions outlined in section 2.3 of this report.

2. Riparian habitat assessment - An assessment of riparian condition and recovery potential was conducted for the waterways. This assessment considered native vegetation cover, connectivity and quality, bed and bank stability and habitat diversity.

3. Aquatic habitat assessment - The quality of aquatic habitat was examined, including vegetation structure and regeneration, weed infestation, woody debris, fish habitat, patch size and connectivity potential.

4. Existing Environmental Conditions

Within and adjacent to the development area were eleven farm dams, most of which had limited riparian and/or fringing vegetation surrounding them and poor aquatic habitat values. These dams have been numbered in Figure 4 and are described in Table 6. Dams 9 and 10 are connected following heavy rain and high flow, however are two separate dams in low flow and dry conditions. Examination of aerial photos and overland flow paths identified that that these two dams are quite likely fed by two different catchments – Dam 9 from flow to the south east of the study area and Dam 10 from overland flow from the west within the study area. It is important to note that this environment is highly modified and the waterbodies and watercourses in the north east of the site are not representative of their original flow paths.

The study area had been the subject of significant disturbance in the past, with a number of small irrigation channels constructed across various lots to service the market gardens within the properties.

DPI mapping showed two unnamed watercourses within the study area (Figure 1); a 1st order tributary of Kemps Creek in the south of the site and a 1st order tributary of Ropes Creek in the north east of the site.

The 1st order watercourse mapped within the south of the development area had no indicative features of a waterway (such as defined bed and banks or geomorphic features such as erosion and deposition) observed along the length of this mapped watercourse within the SSD boundary.

The mapped 1st order watercourse in the north east corner originated upstream of the development area and flowed in a roughly northerly direction.

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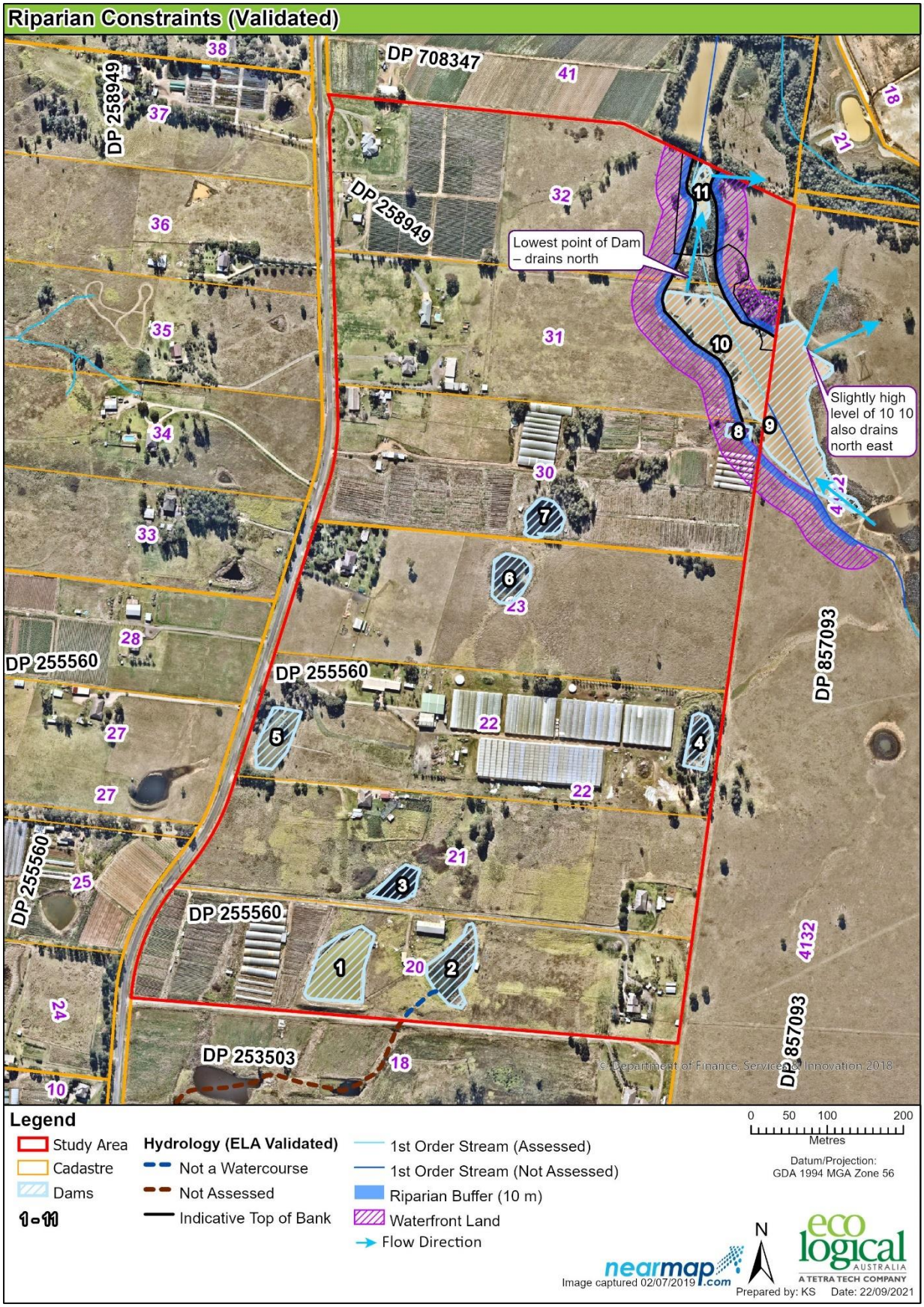


Figure 4: Validated watercourses within study area

Table 6: Dams within and adjacent to study area

Dam number	Description	Aquatic fauna observed	Aquatic flora observed	Representative photo
1	Dam 1 covered an area of approximately 5,600 m^2 and was surrounded by pasture grasses. There was no fringing vegetation surrounding the dam and the banks of the dam was relatively steep.	No aquatic fauna observed.	Floating macrophytes (*Azolla pinnata*).	
2	Dam 2 covered an area of approximately 2,300 m^2. No grease, oil or sheen was observed on the water's surface. On the northern and southern sides of the dam, it was fringed with dense *Typha orientalis* (Cumbungi).	No aquatic fauna observed.	Emergent *Typha orientalis* plus submerged macrophytes.	
3	Dam 3 covered an area of approximately 1,700 m^2. Two thirds of the edge of the dam were covered in dense *Typha orientalis* with exotic species such as *Rubus fruticosus* (Blackberry), *Cestrum parqui* (Green Cestrum) and pasture grasses growing alongside the remaining edge of the dam	No aquatic fauna observed.	*Typha orientalis.*	

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Dam number	Description	Aquatic fauna observed	Aquatic flora observed	Representative photo
4	Dam 4 covered an area of approximately 1,800 m^2 and was actively used for irrigation of nearby vegetable crops. The dam was surrounded on all sides by *Casuarina* sp. and had some areas of dense *Typha orientalis* on the southern side of the dam.	No fauna observed.	Emergent macrophytes including *Ludwigia peploides* (Water Primrose) and *Persicaria decipiens* (Knotweed) and floating *Azolla pinnata*.	
5	Dam 5 covered an area of approximately 1,700 m^2 and was partially surrounded by *Casuarina* sp. Evidence of soil pugging by stock was seen on the northern side of the dam.	No fauna observed.	Submerged macrophytes in the form of *Vallisneria australis* (Ribbonweed).	
6	Dam 6 covered an area of approximately 875 m^2 and on the southern side of the dam there was a large area of *Juncus* sp. where it appeared that the area was constantly damp and supported the growth of these species.	Eurasian Coots and frogs could be heard calling.	*Ludwigia peploides* and *Eleocharis sphacelata* within the dam.	

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Dam number	Description	Aquatic fauna observed	Aquatic flora observed	Representative photo
7	Dam 7 covered an area of approximately 1,700 m^2. The dam was located approximately 100 m downstream of dam 6, however there was no defined channel observed between these two dams.	Frogs heard calling.	*Persicaria decipiens.*	
8	Dam 8 covered an area of approximately 650 m^2. There were a few *Eucalyptus* sp. on the edge of the dam however it was predominantly surrounded by exotic vegetation including *Rubus fruticosus, Senecio madagascariensis* and pasture grasses.	Pied cormorant.	No aquatic flora observed.	
9	Dam 9 was on the adjacent lot outside of the study area but is in the flow path of the mapped 1st order watercourse. This dam is connected to dam 10 when full.	No aquatic fauna observed.	No aquatic flora observed.	Not available

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Dam number	Description	Aquatic fauna observed	Aquatic flora observed	Representative photo
10	Dam 10 covered an area of approximately 7,800 m^2. Erosion was observed on some parts of the bank of the north western side of the dam and there was little shrub or canopy vegetation surrounding the dam that would provide bank stability.	No aquatic fauna observed	*Typha orientalis, Lemna* sp. and *Ludwigia peploides* on the edges of the dam.	
11	Dam 11 covered an area of approximately 3,750 m^2. The dam was surrounded by a narrow-vegetated buffer of *Casuarina* sp., with *Juncus acutus* and *Typha orientalis.* Woody debris within the waterbody was present and some of the *Casuarina* sp. on the edge of the waterbody had roots exposed above the water level and undercut in some areas, which would provide good refuge for aquatic fauna.	Long finned eel.	*Typha orientalis* in the middle of the dam	

4.1 Mapped watercourses

4.1.1 Kemps Creek tributary

DPI mapping showed an unnamed first order tributary of Kemps Creek within the study area at the southern boundary of Lot 20 DP 255560.

The site inspection identified that there was no defined channel downstream of Dam 2 in the location where a watercourse was mapped on the hydroline dataset. There was an overland flow path that had been channelled towards Dam 1 through a section of concrete pipe. Downstream of the dam there was dense pasture grasses but no defined bed or bank or evidence of geomorphic processes such as erosion and deposition (Figure 5 to Figure 8). A pipe was observed at the southern boundary of the SSD area (Figure 8) to channel the flow into the property to the south. The mapped watercourse within the south of the site does not meet the definition of a 'river' under the WM Act.



Figure 5: Upstream extent of mapped Kemps Creek tributary, looking north east



Figure 6: Upstream extent of mapped Kemps Creek tributary, looking south west



Figure 7: Downstream extent of mapped Kemps Creek tributary, looking north east



Figure 8: Downstream extent of mapped Kemps Creek tributary, looking south west.

4.1.2 Ropes Creek tributary

The mapped watercourse within the north east area of the site is located through Dams 10 and 11. Although this is a highly modified system, water flowing out of Dam 10 would flow to Dam 11. This area is shown in Figure 9 to Figure 15.

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Figure 9: Dam 10, looking south east



Figure 10: Dam 10, looking south



Figure 11: Boundary fence in between Dams 9 and 10, looking south east



Figure 12: Top of dam wall on northern side of Dam 10, looking west.



Figure 13: No defined channel between Dam 9 and 10, looking north.

On the downstream side of Dam 11, it was evident that a channel had been blocked at some point to create a dam, however the dam now resembled a wetland environment. There is unlikely to be any low flows moving through this section of watercourse other than in high flow events. Immediately upstream of Dam 11 was a damp area that would be inundated following heavy rain. There were small isolated

pools of water within this area in amongst the dense *Juncus acutus* (Figure 14 and Figure 15) and evidence of pugging from cattle.



Figure 14: Area between upstream of Dam 11 and northern side of Dam 10, looking north



Figure 15: Isolated pools of water between Dams 10 and Dam 11, looking south

5. Impact assessment

The proposed development at Aldington Road will involve the establishment of an industrial precinct, including two on-site detention and water quality improvement basins. The FKC Estate Master Plan (SBA Architects, 1/9/2021, Issue N (Appendix A)) has been used to identify potential impacts to the riparian and aquatic habitat and water quality as a result of the proposed development. The development will require removal of Dams 1-8, construction of two water quality basins and the establishment of a managed vegetated zone to maintain aquatic and terrestrial habitat within the north east corner of the site (see Figure 16).

This section describes:

- potential impacts.
- mitigation measures to ensure potential impacts are avoided or minimised.
- Consistency with legislation and policy.

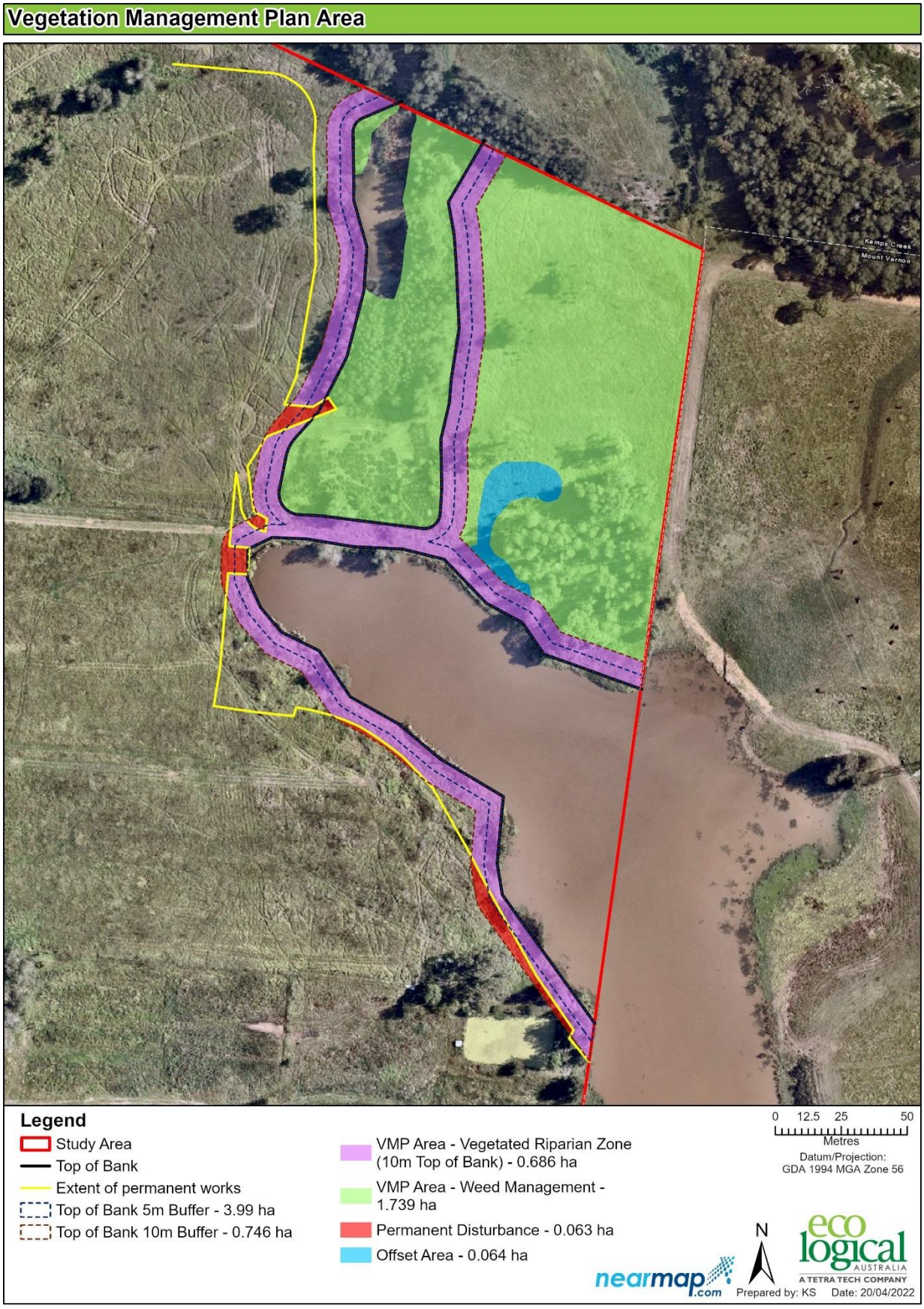


Figure 16: Proposed development extent in relation to riparian zone

5.1 Potential Impacts

5.1.1 Removal of farm dams

As outlined in section 4 of this report, Dams 1 -8 are not connected to any watercourses that meet the definition of a 'river' under the WM Act, nor do they appear to be providing good habitat for aquatic fauna due to the lack of instream and fringing vegetation and woody debris. Mitigation measures provided in section 5.2 of this report outline the process for decommissioning these dams to ensure that there is little, if any, impact to aquatic fauna currently residing in these dams.

Dams 9, 10 and 11 are all retained as part of the proposed development (Figure 16).

5.1.2 Surface erosion and sedimentation

Any clearing of vegetation or earthworks within the existing riparian zone of the 1st order tributary of Ropes Creek could result in lack of soil stability. This may cause surface erosion (sheet and gully erosion) and transportation of sediment overland into the downstream waterway of Ropes Creek. Impacts may include increased water turbidity, which could harm fish, and disrupt light penetration through the water column and impact on primary (plant) production, with flow on effects through the food web. Increased sediment loads may settle in downstream pools, causing a loss of deep habitat, promotion of dense reeds and changes to hydrologic connectivity. Sediment could also smother naturally rocky areas, resulting in a loss of habitat where macroinvertebrates shelter in the spaces between rocks.

5.1.3 Weed Invasion

Where disturbance from construction associated with the proposed development results in bare ground or increased sunlight penetration into currently-vegetated riparian areas, there is the potential for invasion of exotic flora species. The movement of construction vehicles in and around the riparian area can also act as a vector for weed propagules. Impacts include introduction of new weeds to the area and extended penetration of weeds into native plant communities. This may result in a loss of biodiversity and habitat value, smothering of native juvenile plants, harbouring of feral animals and alteration of vegetation structure and riparian function.

5.1.4 Increase velocity of surface water runoff

The construction and ongoing use of impervious surfaces can impact on the velocity of water entering the creekline where impermeable surfaces are constructed over existing vegetation (e.g. proposed car parks). Impacts may include changes to instream flow velocity which can change the aquatic habitat for macroinvertebrates and other small aquatic fauna (e.g. some macroinvertebrates and macrophytes prefer slow water), increased bank erosion from fast discharge resulting in bed and bank erosion, loss of riparian vegetation, loss of edge habitat and sedimentation of downstream environments.

5.2 Mitigation measures

5.2.1 Construction Environmental Management Plan

A Construction Environmental Management Plan (CEMP) has been prepared to minimise impacts on the environment. This CEMP includes an Erosion and Sediment Control Plan, prepared in accordance with *The Blue Book – Managing Urban Stormwater: Soils and Construction* (Landcom, 2004) and will be implemented prior to works, with the aim of achieving an outcome of 'no visible turbid plumes migrating

through the waterway'. The Plan must include, as a minimum, the locations and type of erosion and sediment controls to be erected.

5.2.2 Vegetation Management Plan

A Vegetation Management Plan (VMP) has been prepared and includes methods for establishment and maintenance of the Vegetation Management Area. Initial weed control would be required to limit the impact of the widespread weed species that are currently growing onsite. The revegetated areas will then require ongoing maintenance to ensure areas remain relatively weed free.

The VMP is to specify high-density planting to provide bank stabilisation following construction of the batters around the basins.

The VMP is to provide for management actions over an initial 5 years with review and evaluation to inform management of the subsequent five years. Annual reports are to be prepared for the first five years and submitted to the consent authority.

The proposed VMP area is shown in Figure 16. And is consistent with the NRAR Guidelines.

5.2.3 Dam Dewatering Plan

A Dam Dewatering Plan (DDP) has been prepared. Implementation of the Dam Dewatering Plan is to minimise harm to native aquatic fauna during decommissioning of the farm dams. The DDP will specify how different species likely to be encountered will be handled and where native species are to be relocated to. To ensure aquatic species are protected during the dam decommissioning process, the aquatic ecologist in charge of fauna relocation should possess the following licenses/permits:

- Section 37 *Fisheries Management Act 1994* (for fish), issued by NSW Department of Primary Industries - Fisheries
- Animal Research Authority (for the welfare of all animals), issued by the Secretary's Animal Care & Ethics Committee. This Authority describes permitted euthanasia techniques (e.g. for Redfin Perch and sick or diseased fauna).

The aquatic ecologist is to notify NSW Fisheries of the activity 48 hours prior to fish relocation (unless an agreement is in place), including locations of dewatered and relocation sites.

The dewatering schedule should allow time for fish rescue, especially during the final 0.3 m water depth (to be advised by Aquatic Ecologist). Fauna should be captured in one day, so pumps need to be of adequate size and placed in an area free from mud and debris (e.g. inside excavator bucket or screened sump pit).

Native fish healthy enough for relocation are to be contained and transported in an aerated tub/bucket/tank to an appropriate dam/lake/waterhole/creek. It is recommended that native species are relocated to a nearby dam or creekline with landholder's permission. NSW Fisheries advise that the host location should be large enough to accommodate additional fish, especially predatory eels. If a large number of predatory fish such as *Anguilla reinhardtii* are captured during the aquatic fauna relocation process, an additional release point may be required.

5.3 Consistency with planning framework

5.3.1 Water Management Act 2000

The principle legislation relevant to watercourses and riparian corridors discussed in Section 2.3 is the WM Act, which has the objective to provide sustainable and integrated management of the waterways of the state. The field visit concluded that the southern-most first order watercourse did not meet the definition of a 'river' under the WM Act, as there was no defined channel, evidence of bed and banks or geomorphic processes.

The mapped watercourse within the north of the site is considered a river for the purposes of the WM Act due to connected nature of Dam 9 to upstream waterbodies, however this is a highly modified environment.

The revised design maintains the existing watercourse through the north east corner of the site. The existing unvegetated 'riparian zone' has an area of 0.74 ha. A minor incursion of 0.063 ha will occur but will be offset through the rehabilitation of 0.064 ha of vegetation and in addition to the revegetaton of 0.68 ha of riparian zone and weed management over 1.73 ha.

As shown in Figure 17, a portion of Dam 10's catchment will re-directed to Stormwater Basin B and then into Dam 11. The total catchment area of Dam 10 is currently around 255.9 ha and the area of the catchment to be redirected is 28.3 ha. This equates to approximately 11% of the total catchment area of Dam 10. It is not anticipated that this will have a significant impact on downstream environments and both dams eventually drain to Ropes Creek.

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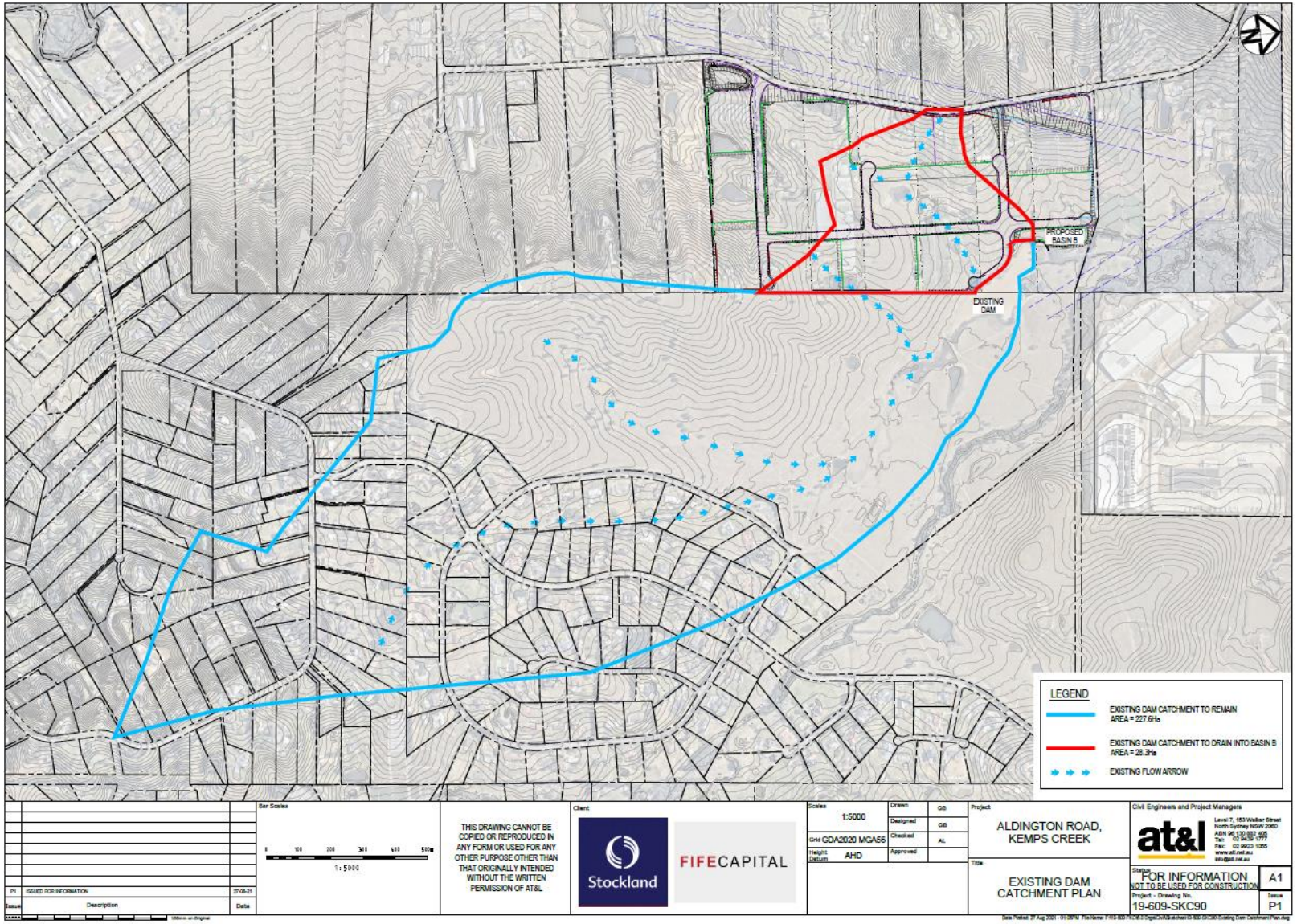


Figure 17: Portion of Dam 10 catchment (red outline) that will be directed through Dam 11 prior to draining to Ropes Creek.

5.3.2 Fisheries Management Act 1994

A review of the NSW Fisheries Spatial Portal found that there was no Freshwater Fish Community Status assigned to the tributary of Ropes Creek within the site, however the main reach of Ropes Creek adjacent and downstream of the development site was rated as 'fair'.

A search of the Commonwealth Protected Matters database, Department of Planning, Industry and Environment (DPIE) BioNet database, NSW Department of Primary Industries Primefacts and Fisheries Threatened Species distribution maps (Riches et al, 2016) identified three species of aquatic fauna with potential to be found within the study area (Table 7). As there are no records within the Ropes Creek catchment and a lack of suitable habitat on site, it is unlikely that these species would be found within the proposed development area.

Table 7: Likelihood of occurrence table for aquatic species

Scientific Name	Common Name	FM Act	EPBC Act	Habitat Associations	Records within 5 km and catchment	Likelihood of occurrence
Archaeophya adamsi	Adams Emerald Dragonfly	E		Adam's Emerald Dragonfly larvae have been found in narrow, shaded riffle zones with moss and abundant riparian vegetation (often closed canopy) in small to moderate sized creeks with gravel or sandy bottoms. Adult dragonflies generally fly away from the water to mature before returning to breed. Males fly actively at breeding sites and often guard a territory. Females probably lay their eggs into the water.	0	No, no suitable habitat within development area.
Maccullochella peelii	Murray Cod		V	The Murray Cod occurs naturally in waterways of Murray-Darling Basin in warm water habitats from clear, rocky streams to slow flowing turbid rivers and billabongs. They prefer habitats with submerged woody debris that provide protected spawning areas.	0	No, no suitable habitat and no records within 5 km of site.
Macquaria australasica	Macquarie Perch	E	E	Habitat for this species is bottom or mid-water in slow-flowing rivers with deep holes, typically in the upper reaches of forested catchments with intact riparian vegetation. Macquarie Perch also do well in some upper catchment lakes. In some parts of its range, the species is reduced to taking refuge in small pools which persist in midland–upland areas through the drier summer periods.	0	No, no suitable habitat and no records within 5 km of site.
Prototroctes maraena	Australian Grayling	E	V	Historically, this species inhabited coastal streams from the Grose River southwards through NSW, VIC and TAS. On the mainland, this species has been recorded from rivers flowing east and south of the main dividing range. This species spends only part of its	0	No, no suitable habitat and no records within 5 km of site.

Scientific Name	Common Name	FM Act	EPBC Act	Habitat Associations	Records within 5 km and catchment	Likelihood of occurrence
				lifecycle in freshwater, mainly inhabiting clear, gravel-bottomed streams with alternating pools and riffles, and granite outcrops. Grayling migrate between freshwater streams and the ocean and as such it is generally accepted to be a diadromous species (migratory between fresh and saltwaters).		

Note: E = Endangered, V= Vulnerable.

5.3.3 Environment Protection and Biodiversity Conservation Act 1999

The Protected Matters search (DAWE, 2020) identified that there are no Wetlands of International Importance or Nationally Important Wetlands within 5 km of the study area.

5.3.4 Mamre Road DCP – Riparian Provisions

The following table describes the consistency of the proposed development with the riparian corridor provisions of the Mamre Road Precinct DCP.

Table 8: Mamre Road DCP Consistency

Control	Proposed Plan
Mapped Riparian Corridors (Field-Validated)	
1) Within a mapped riparian corridor (field-validated), as identified in Figure 2, existing native vegetation is to be retained, rehabilitated and managed in accordance with the controls below, except where clearing is required for essential infrastructure e.g. roads.	Design retains the watercourse and riparian zone of watercourses shown in Figure 2 of the DCP.
Avoiding Modifications to Natural Waterbodies	
2) Modifications to a natural (or historic) waterbody and waterfront land requires the approval of Natural Resources and Assessment Regulator (NRAR), including the enhancement of the ecological outcomes of the watercourse, hydrological benefits and ensure the long-term geomorphic stability of the watercourse.	There are no natural watercourses on site as all have been highly modified. Historic waterbodies (ie farm dams) in the north east have been retained in their current form. Other farm dams are proposed to be removed.
Protection and Enhancement of Riparian Corridors	
3) Waterways of Strahler Order 2 and higher will be maintained in a natural state, including the maintenance and restoration of riparian area and habitat, such as fallen debris.	There are no Strahler 2 watercourses on site.
4) Where a development is associated with or will affect a waterway of Strahler Order 2 or higher, rehabilitation will occur to return that waterway to a natural state.	There are no Strahler 2 watercourses on site.

Control	Proposed Plan
5) Waterway crossings such as bridges are to be maintained to retain ecological connectivity and water quality.	No new waterway crossings are proposed.
6) Road crossings across a waterway of Strahler Order 2 or higher are to be designed to minimise impacts to vegetated riparian area and species movements in accordance with NSW Department of Primary Industries- Fisheries requirements to maintain fish passage	No new waterway crossings are proposed. An existing dam wall controls flow from Dam 10 to Dam 11. This dam wall is retained as it provides access to the north east corner of the property.
7) Where development is unavoidable within riparian areas or waterfront lands, the development application shall demonstrate that potential impacts on water quality, aquatic habitat, and riparian vegetation will be negligible or offset in accordance with the vegetated riparian zone and offsetting requirements as specified NRAR Guidelines for Controlled activities on waterfront land - riparian corridors (May 2018).	Development is avoided within riparian corridors other than some very minor incursions into the vegetated riparian zone. The incursion has been more that adequately offset via implementation of a VMP in the north east corner of the site.
8) All riparian corridors should comprise a vegetated riparian zone along each side of the watercourse/channel.	A VMP provides for this outcome.
9) The vegetated riparian zone shall be vegetated with fully structured native vegetation (trees, shrubs and groundcover species).	The VMP provides for the structure of vegetation in the riparian zone.
10) Riparian areas along Kemps Creek and Ropes Creek shall retain Proteaceae shrubs providing habitat and connectivity for the Eastern Pygmy Possum *Cercartetus nanus*.	The VMP provides for the structure of vegetation in the riparian zone.
11) Activities within the vegetated riparian zone, such as cycleways and paths, detention basins, stormwater management devices and essential services, must comply with the 'riparian corridor matrix' in the NRAR Guidelines.	The proposed stormwater basin B adjoins a first order watercourse, but is not on-line. This is allowable under the NRAR Guidelines.
12) The number of vehicular and pedestrian watercourse crossings should be minimised and designed in accordance with the NRAR Guidelines.	No new crossings are proposed.
13) Private and public fencing should avoid intersecting across riparian corridors.	No fences are proposed across the waterway.
14) Bushfire asset protection zones should be located outside the vegetated riparian zones.	Yes. See Bushfire Assessment.
15) Appropriate widths for vegetated riparian zones are dependent on the stream order in accordance with the Strahler methodology. Stream width shall be measured either in accordance with the 'Waterfront Land Tool' as developed by the NRAR, or from the top of the highest bank on both sides of the channel/watercourse. Enhancement of riparian corridors should: o Respond to the hydrological regime of the drainage area for watercourse treatments;	The proposed VMP will provide a VRZ of 10m measured from the top of bank. Where works extend into the 10m VRZ, riparian offsets are provided as per NRAR Guidelines.

Control	Proposed Plan
○ Replicate the natural watercourse through creation of a meandering channel; ○ Simulate natural stream bank and bed substrate having regard to riparian requirements and flow velocities to sustain vegetation groupings; ○ Minimise ongoing maintenance through channel and stream bed design; ○ Establish functional riparian zones and natural stream channels; ○ Maintain or create a full assemblage of local indigenous vegetation with natural in-stream obstructions; ○ Minimise damage to channel banks and vegetation from storm flow events; and Ensure that the channel has the capacity to support flood flows having regard to the steepness of the catchment and stream channel morphology.	
16) Where a development proposal would significantly affect Key Fish Habitat and/or threatened fish, applicants must include an Aquatic Ecological Environmental Assessment in accordance with the Fisheries Management Act 1994.	No Key Fish Habitat will be impacted.
17) Water holding structures (e.g. farm dams) more than 0.1ha in area or 3ML in volume within 3km of the approach boundary to Western Sydney Airport, are to be avoided unless appropriate wildlife strike assessment and design/maintenance controls are implemented, to ensure there is no attraction for water-favouring fowl.	See Stormwater Assessment
18) Dams proposed for retention must be subject to a geotechnical investigation to determine the safety of the structure with respect to surrounding land uses.	See Stormwater Assessment
Development Adjacent Riparian Corridors	
19) Where development immediately abuts a riparian corridor, development shall be located and designed to minimise environmental impact to the riparian corridor. Consideration must be given to issues such as surveillance, built form and design, landscaping, opportunity for public interfaces, where appropriate, and protection from bushfire threat	See Landscape Plan

6. Conclusions

This Riparian Assessment has been prepared to assess the development's impact on the mapped watercourses and riparian corridors on site, as per the Secretary's Environmental Assessment Requirements (SEARs) issued in July 2020 which require *'an assessment of the development's impacts on the riparian corridor and wetland on site, including detailed interface management measures'.*

Following re-design of the development in the north eastern corner of the site, existing farm dams and the watercourse identified in the Mamre Road DCP are being retained and will have vegetated riparian zones in accordance with a proposed Vegetation Management Plan. The redesign ensures the riparian outcomes of the development are consistent with he structure plan in the DCP and the Precinct Plan.

Eight farm dams will be removed in accordance with a proposed Dam Dewatering Plan to be prepared prior to commencement of construction.

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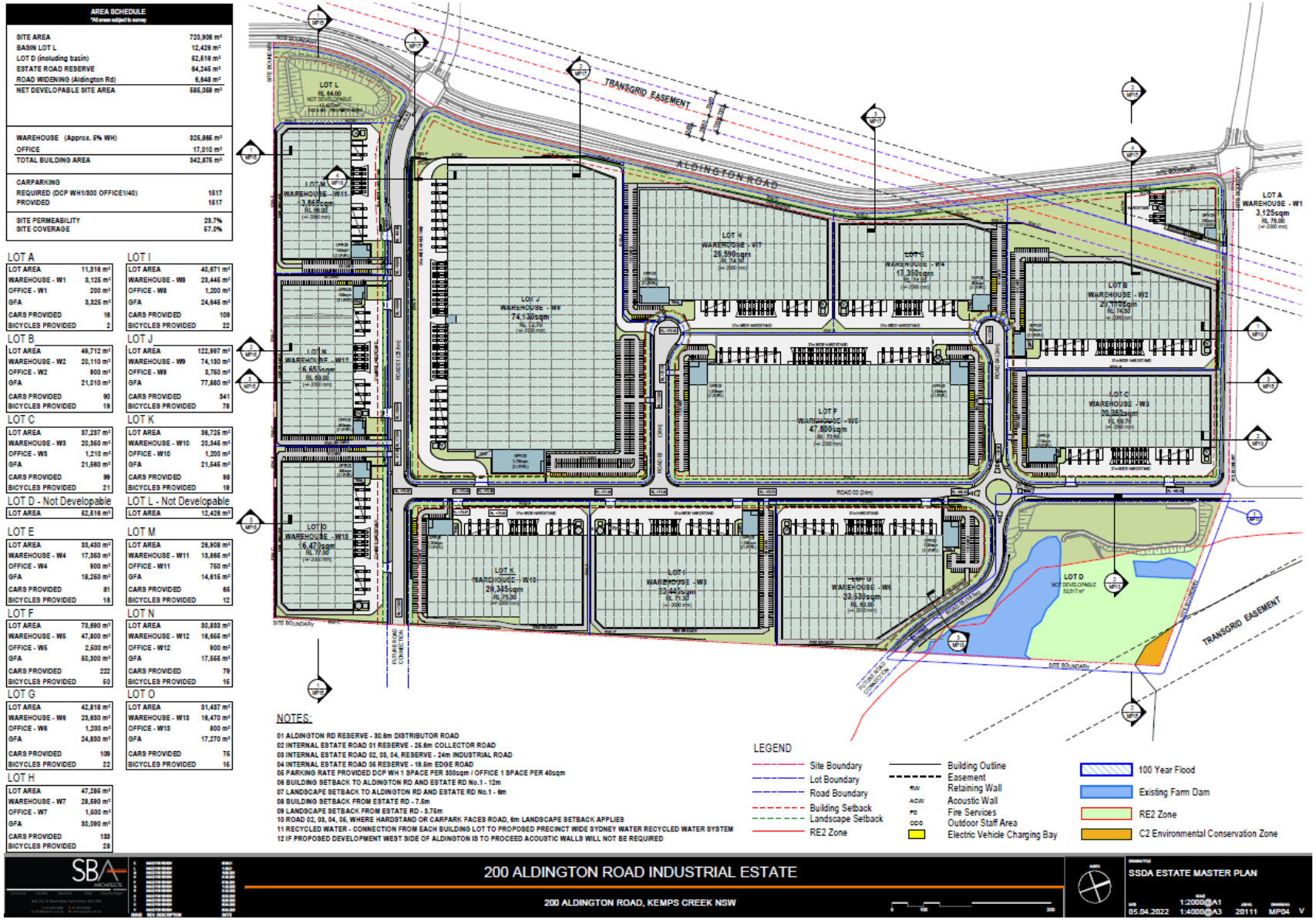
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Appendix A Master Plan

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AREA SCHEDULE
*All areas subject to survey
SITE AREA 720,906 m²
BASIN LOT L 12,428 m²
LOT D (inlouding basin) 62,518 m²
ESTATE ROAD RESERVE 64,245 m²
ROAD WIDENING (Aldington Rd) 8,848 m²
NET DEVELOPABLE SITE AREA 586,068 m²
WAREHOUSE (Approx. 6% WH) 326,866 m²
OFFICE 17,010 m²
TOTAL BUILDING AREA 342,876 m²
CARPARKING
REQUIRED (DCP WH1/300 OFFICE1/40) 1517
PROVIDED 1517
SITE PERMEABILITY 28.7%
SITE COVERAGE 57.0%
LOT A
LOT AREA 11,318 m²
WAREHOUSE - W1 9,125 m²
OFFICE - W1 200 m²
GFA 9,325 m²
CARS PROVIDED 18
BICYCLES PROVIDED 2
LOT B
LOT AREA 49,712 m²
WAREHOUSE - W2 20,110 m²
OFFICE - W2 900 m²
GFA 21,010 m²
CARS PROVIDED 90
BICYCLES PROVIDED 19
LOT C
LOT AREA 37,287 m²
WAREHOUSE - W3 20,360 m²
OFFICE - W3 1,210 m²
GFA 21,560 m²
CARS PROVIDED 99
BICYCLES PROVIDED 21
LOT D - Not Developable
LOT AREA 62,518 m²
LOT E
LOT AREA 33,430 m²
WAREHOUSE - W4 17,360 m²
OFFICE - W4 900 m²
GFA 18,260 m²
CARS PROVIDED 81
BICYCLES PROVIDED 18
LOT F
LOT AREA 73,690 m²
WAREHOUSE - W5 47,800 m²
OFFICE - W5 2,500 m²
GFA 50,300 m²
CARS PROVIDED 222
BICYCLES PROVIDED 50
LOT G
LOT AREA 42,818 m²
WAREHOUSE - W6 23,680 m²
OFFICE - W6 1,200 m²
GFA 24,880 m²
CARS PROVIDED 109
BICYCLES PROVIDED 22
LOT H
LOT AREA 47,286 m²
WAREHOUSE - W7 28,590 m²
OFFICE - W7 1,500 m²
GFA 30,090 m²
CARS PROVIDED 133
BICYCLES PROVIDED 28
LOT I
LOT AREA 40,671 m²
WAREHOUSE - W8 23,445 m²
OFFICE - W8 1,200 m²
GFA 24,645 m²
CARS PROVIDED 109
BICYCLES PROVIDED 22
LOT J
LOT AREA 122,997 m²
WAREHOUSE - W9 74,130 m²
OFFICE - W9 3,750 m²
GFA 77,880 m²
CARS PROVIDED 341
BICYCLES PROVIDED 78
LOT K
LOT AREA 36,725 m²
WAREHOUSE - W10 20,345 m²
OFFICE - W10 1,200 m²
GFA 21,545 m²
CARS PROVIDED 88
BICYCLES PROVIDED 19
LOT L - Not Developable
LOT AREA 12,428 m²
LOT M
LOT AREA 26,908 m²
WAREHOUSE - W11 19,866 m²
OFFICE - W11 750 m²
GFA 14,616 m²
CARS PROVIDED 66
BICYCLES PROVIDED 12
LOT N
LOT AREA 30,883 m²
WAREHOUSE - W12 16,656 m²
OFFICE - W12 900 m²
GFA 17,556 m²
CARS PROVIDED 79
BICYCLES PROVIDED 16
LOT O
LOT AREA 31,487 m²
WAREHOUSE - W13 16,470 m²
OFFICE - W13 800 m²
GFA 17,270 m²
CARS PROVIDED 76
BICYCLES PROVIDED 16
TRANSGRID EASEMENT
ALDINGTON ROAD
LOT A WAREHOUSE - W1 3,125sqm
LOT B WAREHOUSE - W2 20,110sqm
LOT C WAREHOUSE - W3 20,360sqm
LOT D NOT DEVELOPABLE 62,517m²
LOT E WAREHOUSE - W4 17,360sqm
LOT F WAREHOUSE - W5 47,800sqm
LOT G WAREHOUSE - W6 23,680sqm
LOT H WAREHOUSE - W7 28,590sqm
LOT I WAREHOUSE - W8 23,445sqm
LOT J WAREHOUSE - W9 74,130sqm
LOT K WAREHOUSE - W10 20,345sqm
LOT L NOT DEVELOPABLE 12,428m²
LOT M WAREHOUSE - W11 3,865sqm
LOT N WAREHOUSE - W12 6,655sqm
LOT O WAREHOUSE - W13 6,470sqm
SITE BOUNDARY
ROAD 01 (28m)
ROAD 02 (24m)
ROAD 03 (24m)
ROAD 04 (24m)
ROAD 05 (24m)
ROAD 06 (24m)
ROAD 07 (24m)
ROAD 08 (24m)
ROAD 09 (24m)
ROAD 10 (24m)
ROAD 11 (24m)
ROAD 12 (24m)
EXTERNAL ROAD CONNECTION
NOTES:
01 ALDINGTON RD RESERVE - 30.6m DISTRIBUTOR ROAD
02 INTERNAL ESTATE ROAD 01 RESERVE - 25.6m COLLECTOR ROAD
03 INTERNAL ESTATE ROAD 02, 03, 04, RESERVE - 24m INDUSTRIAL ROAD
04 INTERNAL ESTATE ROAD 06 RESERVE - 19.6m EDGE ROAD
05 PARKING RATE PROVIDED DCP WH 1 SPACE PER 300sqm / OFFICE 1 SPACE PER 40sqm
06 BUILDING SETBACK TO ALDINGTON RD AND ESTATE RD No.1 - 12m
07 LANDSCAPE SETBACK TO ALDINGTON RD AND ESTATE RD No.1 - 6m
08 BUILDING SETBACK FROM ESTATE RD - 7.5m
09 LANDSCAPE SETBACK FROM ESTATE RD - 5.75m
10 ROAD 02, 03, 04, 05, WHERE HARDSTAND OR CARPARK FACES ROAD, 6m LANDSCAPE SETBACK APPLIES
11 RECYCLED WATER - CONNECTION FROM EACH BUILDING LOT TO PROPOSED PRECINCT WIDE SYDNEY WATER RECYCLED WATER SYSTEM
12 IF PROPOSED DEVELOPMENT WEST SIDE OF ALDINGTON IS TO PROCEED ACOUSTIC WALLS WILL NOT BE REQUIRED
LEGEND
Site Boundary
Lot Boundary
Road Boundary
Building Setback
Landscape Setback
RE2 Zone
Building Outline
Easement
Retaining Wall
Acoustic Wall
Fire Services
Outdoor Staff Area
Electric Vehicle Charging Bay
100 Year Flood
Existing Farm Dam
RE2 Zone
C2 Environmental Conservation Zone
SBA ARCHITECTS
200 ALDINGTON ROAD INDUSTRIAL ESTATE
200 ALDINGTON ROAD, KEMPS CREEK NSW
SSDA ESTATE MASTER PLAN
05.04.2022
1:2000@A1
1:4000@A3
20111
MP04
V



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Appendix F
Wildlife management plan

EMM
creating opportunities

F.1 Conditions of approval

This Wildlife Management Plan (WMP) forms part of the Construction Environmental Management Plan (CEMP) and has been prepared in accordance with condition D76 and D77 of the development consent for SSD-10479.

The condition requirements are listed below in Table F.1.

Table F.1 Wildlife Management consent conditions of SSD-10479

Number	Consent condition	Where addressed
D76	Prior to the commencement of construction, a Wildlife Management Plan must be prepared and be submitted to the Planning Secretary. The Plan must specify monitoring activities to assess the attractant nature of the development and provide trigger-based management actions to mitigate emerging risks to operations of the Western Sydney Airport.	This WMP. Note: Stage 1 – of construction is planned be finished before the operation of Western Sydney Airport.
D77	The Wildlife Management Plan must form part of the CEMP required by Condition E2 and the Applicant must implement the Wildlife Management Plan for the duration of construction and operation.	This WMP.

F.2 Background

F.2.1 Draft Western Sydney Aerotropolis Wildlife Management Assessment Report

The Draft Western Sydney Aerotropolis (WSA) Wildlife Management Assessment Report was prepared by Avisure and commissioned by the Western Sydney Planning Partnership to assist in the preparation of the Draft Western Sydney Aerotropolis Precinct Plan 2020.

The report was commissioned to identify the appropriate framework for the assessment of wildlife safeguarding and to present methods to manage the potential increased attraction of wildlife by future development. It is important to note that wildlife safeguard conflicts with the vision of the parkland city and utilisation of the blue and green grid, as revegetation and habitat restoration is likely to attract wildlife (Avisure, 2020).

Therefore, wildlife safeguarding is to be addressed through on-going monitoring, assessment and mitigation activities. This approach has been taken into consideration when preparing the wildlife management plan.

This WMP outlines the management measures to be applied during the phases of construction of the Project to monitor wildlife and ensure safe relocation and or management if required. The management plan will be updated as the project moves into the operational phase of the project.

F.2.2 Aviation wildlife risks

i Landscaping

Landscaping and street trees have the potential to attract a variety of bird and bats species. The Wildlife Management Plan will monitor the attractant nature of this vegetation and if strike species are detected actions will be undertaken reduce the attractant nature of the vegetation.

Of particular concern are plants that attract flying-foxes (Pteropus species), large birds such as cockatoos and ibis, and flocks of birds such as corellas and galahs who may establish large communal roosts and foraging territories.

ii Stormwater detention basins

The proposed development includes two on site detention ponds. These basins are designed to drain within 9–12 hours of a storm and will remain dry between storms. This is in line with the requirements identified in the WSA Wildlife Management Report, which states retention areas should fully drain within 24–48 hours (Avisure, 2020). Stormwater detention basins have a high wildlife attraction risk, however due to the fast-draining design these areas within the proposed development are unlikely to attract large numbers of waterbirds.

iii Industrial land use

The proposed concept masterplan includes the provision of 13 lots to support industrial and warehouse developments. Stage 1 includes a single warehouse building and associated carparking. The primary attracting potential is waste storage and disposal, a Waste Management Plan (LG Consult, 2022) has been prepared for the proposed development to mitigate the risk of waste attracting wildlife and vermin.

F.3 Wildlife management

The site manager must complete a weekly inspection of project area to assess if there is a potential for any nuisance animals (i.e. flocking birds) on site. Should monitoring identify flocking birds (more than 6 of one species) are congregating on site steps must be taken to deter congregation including the correct disposal of food scraps and rubbish from site. Adoption of wildlife deterrent technologies to reduce bird populations may be considered where issues are identified and will be targeted according to the specific species present.

Wildlife relocation/emergencies can be a dangerous activity and untrained responders may cause harm to themselves or the animal. Do not attempt to rescue or relocate a native animal if you don't have the proper skills and appropriate licenses to handle fauna. Keep the animal from harm by traffic, construction equipment etc and contact a wildlife handler. You should only attempt to rescue a sick, injured or orphaned native animal not capable of fending for itself if it is safe for both you and the animal.

This is because:

- incorrect handling and transport methods can be stressful for the animal and lead to further injury
- animals are often situated in dangerous locations such as on powerlines or beside busy roads
- many animals can cause serious injuries and even death, for example, venomous snakes, birds of prey, adult kangaroos or koalas, or animals carrying diseases, such as flying foxes (also called fruit bats).

F.3.1 Regular wildlife monitoring surveys

Monitoring and managing wildlife attractants are a key strategy in discouraging wildlife around airports. The monitoring records maintained by the Project Ecologist can be used to develop the Landscape Management Plans that are required to be submitted prior to operations and are to be developed in accordance with Condition D40a) ii) These plans will detail the open water management requirements and flora species to be planted on-site that are suitable in relation to wildlife management in proximity to the future Western Sydney Airport.

During the initial construction period monitoring will be undertaken by the project ecologist on a 6 monthly basis, to assess wildlife on the project including the sediment basins to mitigate emerging risks to operations of the Western Sydney Airport (under construction until 2026).

Table F.2 Wildlife monitoring plan

Potential attractant	Monitoring task	Frequency	Time of year	Notes
Construction (whole site)	Bird survey	Six monthly	N/A	Establish baseline data to guide future landscaping.
Landscaping and street trees	Diurnal Bird survey Nocturnal Megabat surveys	Six monthly (following completion of landscaping)	N/A Megabat survey must be in summer	Survey to focus on flowering plants.
Ponded water including sediment ponds and detention basins	Bird survey	Six monthly	N/A	Survey should be conducted after a rainfall event.

In order to develop targeted and effective wildlife management measures, an understanding how wildlife use the changing landscape is important. Through ongoing and standardised monitoring techniques, data on usage will be accumulated and measures adapted to suit the data obtained.

Records shall be maintained for 10 years as a minimum.

The project ecologist shall review information released by the Western Sydney Aerotropolis to ensure the latest guidance is followed.

i Commencement of airport operations

Airport operations are planned to commence operations in 2026. This means that the risk of bird strike will only commence in 2026 or on commencement of operation of the airport. Monitoring and mitigation measures should be reviewed periodically to adapt to the changing airport profile.

ii Trigger points

The project ecologist will analyse the monitoring data annually to determine trends. The trigger points are not yet determined and will be based on information gathered over time and research from the WSA.

Note: The highest risk strike species are identified by WSA are Megabats, Galahs, Ibis, and Lapwings.

iii Mitigation measures

Additional mitigation measures that may be required, include:

- Netting of waterbodies.
- Installation of bird deterrents, including sonic and visual deterrents.
- Vegetation management including the removal of fruits, nests, perches and entire trees.
- Installation of exclusionary devices such as netting or anti perching spikes.

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Appendix K

Community Consultation and Complaints Handling Strategy

EMM
creating opportunities

Lot 200 Aldington Road Kemps Creek Industrial Estate

Community Consultation and Complaints Handling Strategy - Lot F

Prepared for Stockland Fife Kemps Creek Pty Ltd

March 2025

Lot 200 Aldington Road Kemps Creek Industrial Estate

Community Consultation and Complaints Handling Strategy - Lot F

Stockland Fife Kemps Creek Pty Ltd

E240368 RP1_CCCHS

March 2025

Version	Date	Prepared by	Reviewed by	Comments
V1	7 August 2024	D. Keegan	D. Bone	Submitted for comment
V2	21 August 2024	D. Keegan	D. Bone	Updated for client comment
V3	13 March 2025	D. Keegan	D. Keegan	Changed for final land use

Approved by



Daniel Keegan
Associate Environmental Engineer
13 March 2025

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This report has been prepared in accordance with the brief provided by Stockland Fife Kemps Creek Pty Ltd and, in its preparation, EMM has relied upon the information collected at the times and under the conditions specified in this report. All findings, conclusions or recommendations contained in this report are based on those aforementioned circumstances. The contents of this report are private and confidential. This report is only for Stockland Fife Kemps Creek Pty Ltd's use in accordance with its agreement with EMM and is not to be relied on by or made available to any other party without EMM's prior written consent. Except as permitted by the Copyright Act 1968 (Cth) and only to the extent incapable of exclusion, any other use (including use or reproduction of this report for resale or other commercial purposes) is prohibited without EMM's prior written consent. Except where expressly agreed to by EMM in writing, and to the extent permitted by law, EMM will have no liability (and assumes no duty of care) to any person in relation to this document, other than to Stockland Fife Kemps Creek Pty Ltd (and subject to the terms of EMM's agreement with Stockland Fife Kemps Creek Pty Ltd).

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Abbreviations

Acronym	Definition
CCCHS	Community Consultation and Complaints Handling Strategy
CEMP	Construction Environmental Management Plan
DPHI	Department of Planning, Housing and Infrastructure
EIS	Environmental Impact Statement
EPA	Environmental Protection Authority (NSW)
SSFKC	Stockland Fife Kemps Creek Pty Ltd L (a joint venture between Fife Capital and Stockland Managed entities)
ha	hectare
GFA	Gross floor area
LALC	Local Aboriginal Land Council
km	Kilometre
LGA	Local Government Area
MRP	Mamre Road Precinct
MRPWG	Mamre Road Precinct Working Group
NRAR	Natural Resources Access Regulator
PCC	Penrith City Council
TfNSW	Transport for NSW (formerly RMS)
SSD	State Significant Development
sqm	Square metre
WSA	Western Sydney International (Nancy-Bird Walton) Airport

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1 Introduction

1.1 Background

This Community Consultation and Complaints Handling Strategy (CCCHS) has been prepared for the 200 Aldington Road Industrial Estate Lot F Construction works (the Project). The Project site is located at 200 Aldington Road, Kemps Creek, New South. The site is located within the Penrith Local Government Area (LGA) and forms part of the Mamre Road Precinct (MRP) which sits within both the Western Sydney Employment Area to the east of the Western Sydney Aerotropolis.

The site is located approximately 5 kilometres (km) north-west of the future Western Sydney International (Nancy-Bird Walton) Airport (WSA), 13 km south-east of the Penrith CBD and 40 km west of the Sydney CBD.

The Project is a staged development, and this CCCHS relates to Stage 1 of the Project, comprising estate-wide earthworks, infrastructure and services, construction, fit-out and operation of the Stage 1 warehouse building on Lot F.

A separate CCCHS has been developed for Stage 1 Development under as approved under SSD-10479 (refer to Appendix I of the Stage 1 Development Construction Environmental Management Plan (EMM, 2023)). This CCCHS has been developed for the proposed works on Lot F within 200 Aldington Road, Kemps Creek and is supplementary to the Stage 1 CCCHS.

Table 1.1 Conditions of Approval requirements

Condition reference	Consent condition	Where addressed
A12	**Mamre Road Precinct Working Group** - For the duration of construction works for each stage of the development under the Concept Proposal, and until all components of the development are operational, the Applicant must participate in the Mamre Road Precinct Working Group (MWRPG) with relevant consent holders in the MRP to the satisfaction of the Planning Secretary (see Condition C37).	Section 4.4
C37	Within three months of the commencement of construction of the Stage 1 Development and until all components of the Stage 1 development are constructed and operational, the Applicant must establish and participate in a working group, or join and participate in an existing working group, with relevant consent holders in the MRP, to the satisfaction of the Planning Secretary. The purpose of the working group is to consult and coordinate construction works within the MRP to assist with managing and mitigating potential cumulative environmental impacts. The working group must: (a) comprise at least one representative of the Applicant, the Applicant's ER, and relevant consent holders in the MRP; (b) meet periodically throughout the year to discuss, formulate, and implement measures or strategies to improve monitoring, coordination of the approved industrial developments in the MRP; (c) regularly inform Council, TfNSW, Sydney Water and the Planning Secretary of the outcomes of these meetings and actions to be undertaken by the working group. (d) review the performance of approved industrial developments in the MRP and identify trends in the data with respect to cumulative construction traffic, erosion and sediment control, noise, stormwater management and waterway health objectives under the MRP DCP. (e) review community concerns or complaints with respect to environmental management (f) identify interim traffic safety measures to manage construction traffic and how these measures will be coordinated, communicated, funded, and monitored in the MRP; and (g) provide the Planning Secretary with an update and strategies, if a review under subclause (d) and (e) identifies additional measures and processes are required to be implemented by the working group.	Section 4.4

Condition reference	Consent condition	Where addressed
C38	Three (3) months prior to completion of construction of all components of the Stage 1 development, the Applicant is eligible to exit the working group required under condition C37. The Applicant must: (a) consult with the Planning Secretary; (b) provide confirmation that all components of the Stage 1 development are operational; and (c) advise on the date of the proposed exit.	Section 4.4
E3	As part of the CEMP required under condition E2 of this consent, the Applicant must include the following: (l) Community Consultation and Complaints Handling.	This CCCHS
E17	**Access to Information** At least 48 hours before the commencement of construction of the Stage 1 development and for the life of the development, the Applicant must: (a) make the following information and documents (as they are obtained or approved) publicly available on its website: i) the documents referred to in condition A1 of this consent; ii) all current statutory approvals for the development; iii) all approved strategies, plans and programs required under the conditions of this consent; iv) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent; v) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs; vi) a summary of the current stage and progress of the development; vii) contact details to enquire about the development or to make a complaint; viii) complaints register, updated monthly; ix) the Compliance Report of the development; x) any other matter required by the Planning Secretary; and (b) keep such information up to date, to the satisfaction of the Planning Secretary.	Section 4.3

1.2 Project overview

Stockland Fife Kemps Creek Pty Ltd (SSFKC) has obtained a development consent from the Department of Planning, Housing and Infrastructure (DPHI) for an industrial estate known as 200 Aldington Road, Kemps Creek (SSD-10479). Approval was made under Part 4 of the NSW Environmental Planning and Assessment Act 1979 (*EP&A Act*), relating to the concept approval (in accordance with Section 4.22 of the *EP&A Act*) of Stage 1 works for the proposed industrial hub of land at 106–228 Aldington Road, Kemps Creek (200 Aldington Road).

Since the approval of SSD-10479, a tenant has been identified for the Lot F building. The tenant intends on using the site and any structure built upon the site for the processing and distribution of cardboard products. The original approved land use for Lot F (Warehouse 5), under SSD-10479, was as a "warehouse building". The building to be used for cardboard processing and manufacturing is deemed "industry". As such, SFKC have prepared and submitted a Scoping Report and request for SEARs to account for the land-use change and internal fit-out change of the Lot F building. SEARs were received on 12 February 2025 (SSD-79300218) for "Fit out and use of the Stage 1 building (Lot F) approved under SSD-10479 for the purposes of the manufacture and distribution of cardboard products".

It is noted, that if the development is approved, the development description for Stage 1 of SSD 10479 in Schedule 1 of the consent would be modified to permit industry as a use within the approved building.

In addition to the Lot F land-use and fit-out SSDA, a Section 4.55 Modification Application to SSD-10479 will be submitted to Department of Planning, Housing and Infrastructure (DPHI) to seek approval for design amendments to the approved Lot F building W5 to suit the requirements of the tenant.

This CCCHS relates to the construction of Lot F works which include:

- lot area of 78,423 m^2
- GFA of 51,027 m^2
- 250 car spaces
- internal plant and equipment for the cardboard manufacturing process
- services, including drainage
- landscaping.

1.2.1 Construction activities

Prior to the commencement of construction works for Lot F infrastructure, works will occur under the Stage 1 Development approval. The site will be fully cleared of vegetation and bulk earthworks will have been completed.

Construction will be staged as follows:

- **Site establishment** - install temporary offices and facilities (including temp service connections), environmental and safety controls, temp boundary fencing, access points, signage.
- **Phase 1** - Service works - relocation and/or protection of existing services as necessary, installation of new services associated with Lot F including any drainage.
- **Phase 2** - Detailed site earthworks - minor adjustments to ground surface levels.
- **Phase 3** - Piling and base slab construction.
- **Phase 4** - Construct warehouse and office buildings.
- **Phase 5** - Civil finishing works and landscaping.
- **Phase 6** - Building fit-out, service connections and commissioning.

Some stages may occur concurrently.

1.3 Community consultation strategy scope

This CCCHS identifies key stakeholders and describes communication tools used to facilitate communication between SFKC and key stakeholders during construction of the Project. It also provides a program for monitoring, reporting, and evaluating of the effectiveness of community consultation.

This CCCHS has been informed by the following documents:

- Conditions of Consent SSD 10479
- EIS and submissions

- Stage 1 Development – CEMP – Appendix I – Community Communication and Complaints Handling Strategy
- Scoping Report - Land Use and Internal Fit Out - Lot F, 200 Aldington Road Industrial Estate (Ethos Urban, 2024)
- Planning Secretary's Environmental Assessment Requirements (SEARs) - Cardboard Manufacturing Facility – 200 Aldington Road Industrial Estate Lot F (SSD-7930028 issued 12 February 2025)

2 Roles and responsibilities

The roles and responsibilities for implementation of the CCCHS are outlined in Table 2.1.

Table 2.1 Roles and responsibilities

Role	Company	Responsibilities
Community Engagement Representative	Principal (SFKC)	• Receive and respond to enquiries and complaints. • Ensure complaints register is updated. • Respond to community complaints. • Working with SFKC and Contractor to identify the cause and solution to complaints. • Provide the ER with documentation requested to perform ER functions (Condition 34). • Provide monthly reports. • Participate in MRPWG where required. • Attend community and stakeholder meetings, as required. • Ensure Project website is current (SSD-10479 Condition E17).
Project Manager	Principal (SFKC)	• Receive and respond to enquiries and complaints. • Ensure complaints register is updated. • Respond to community complaints. • Working with SFKC and Contractor to identify the cause and solution to complaints. • Provide the ER with documentation requested to perform ER functions (Condition 34). • Provide monthly reports. • Participate in MRPWG where required. • Attend community and stakeholder meetings, as required. • Ensure Project website is current (SSD-10479 Condition E17).
Construction Manager	Contractor	• Provide support in the response to enquiries and complaints and ensure required actions are implemented. • Provide information for reports, as required.
Site Supervisor	Contractor	• Provide support in the response to enquiries and complaints where required. • Report any community interactions (e.g. local community, media) to the Community Engagement Representative. • Assist with the implementation of the CCCHS.
Environmental Representative	ER or approved alternative	• Receive and respond to communication from the Planning Secretary. • Inform the Planning Secretary on matters specified in the terms of this consent. • Participate in the MRPWG (SSD-10479 see condition C37). • As requested by the Planning Secretary assist the DPHI in the resolution of community complaints. • Responding to the community regarding environmental performance. • be available to the team to assist in the resolution of complaints where required.
All Project personnel	Contractor and sub-contractors	• Adhere to requirements of this CCCHS. • Report any community interactions (e.g. local community, media) to the project Community Engagement Representative.

3 Key stakeholders and potential issues

3.1 Key stakeholders

The following categories of stakeholders are relevant to the Project:

- State and local government agencies and representatives – including local representatives and government agencies responsible for the regulation of the Project.
- Utility providers – telecommunications, water, electricity, etc.
- Surrounding landholders – landholders adjoining the Project site.
- Indigenous stakeholders – traditional owner groups, local land councils and other Indigenous organisations.
- Business operators and representatives – business operators and representatives in the local area which may experience indirect impacts on business operations.
- Local community – residents and visitors within the Project area which may have an interest in the Project.
- Special interest groups – community organisations and groups.
- Educational facilities – schools and early learning centres.

The key stakeholders which are affected by the Project or have an interest in the Project are summarised in Table 3.1. Key stakeholders will be consulted throughout the construction phase of the Project, as required.

Table 3.1 Key stakeholders

Key stakeholders	Issues/potential issues/interests	Aim of engagement
State and local government agencies and representatives		
Department of Planning, Housing and Infrastructure (DPHI)	Compliance with conditions of consent Construction timing Environmental management and monitoring, condition monitoring, development staging	Consult/Inform
Environment Protection Authority (EPA)	Pollution incidents Licence requirements	Inform
Department of Primary Industries (DPI) Fisheries	Impacts to aquatic ecology	Inform
TfNSW	Traffic and access, road closures, road safety	Consult/inform
DPI Agriculture		Inform
NSW DCCEEW - Heritage NSW	Impacts to cultural heritage – Aboriginal objects, archaeological finds	Inform
Natural Resources Access Regulator (NRAR)	Impacts to riparian corridors and waterfront land	Inform
Penrith City Council	– traffic management, landscaping, road design and construction, piped stormwater network; staging	Consult /Inform
Sydney Water	Water, Sewer, MRP Stormwater Scheme	Consult

Key stakeholders	Issues/potential issues/interests	Aim of engagement
NSW Police	Emergency and incident response; crime and safety; provide feedback on relevant management plans	Inform
NSW Ambulance Service		
NSW Rural Fire Service (NSW RFS)		
Utility providers		
Endeavour Energy	Engagement during construction	Inform
Transgrid	Engagement during construction	Inform
Surrounding landholders		
Landholders along Aldington Road	Traffic/access impacts, noise impacts	Consult/inform
Properties which abut the Project site boundary incl Pazit Pty Ltd (CHE) to east	Traffic/access impacts; noise impacts, landscaping, storm water management	Consult/inform
Indigenous Stakeholders		
Deerubbin Local Aboriginal Land Council (LALC)	Aboriginal archaeological impacts; impacts to Aboriginal cultural heritage	Consult /Inform
Darug Custodian Aboriginal Corporation		
Kamilaroi Yankuntjatjara Working Group		
Business operators		
Goodman Property Services (Aust) Pty	Noise /dust impacts	Inform
Western Sydney Airport (when operational)	Wildlife hazards	Inform
Oakdale East Industrial Estate	Noise impacts	Consult/inform
Mamre Road Precinct Working Group (MRPWG)	Traffic, access, cumulative impacts of development	Collaborate, coordinate, monitor, review and collectively inform stakeholders
Local community		
Road users	Traffic and access impacts, road safety	Inform
Special Interest Groups		
Catholic Healthcare Emmaus Retirement Village	Potential traffic impacts from construction	Inform
Educational facilities		
Little Smarts Early Learning Centre	Potential traffic impacts on surrounding road network, noise, and dust	Inform
Trinity Primary School		
Emmaus Catholic College		

3.2 Potential issues

Potential issues which may be experienced by stakeholders include (but are not limited to) those identified in Table 3.2.

Table 3.2 Potential issues

Factor/impact	Description of potential issues	Mitigation and management measures
Air quality	• dust generation from construction activities and emissions from plant, equipment, and vehicles • complaints from the community • negative media coverage • damage to Company reputation	• The Lot F CEMP contains specific measures to manage these impacts. These management plans have been informed by EPA standards and guidelines. • Implementation of monitoring in accordance with the CEMP; and notification to relevant stakeholders, as required.
Noise and vibration	• noise from construction, lack of notification to affected stakeholders • noise impacts resulting from operation of machinery and equipment during earthworks and construction • vibration impacts resulting from construction activities • complaints from neighbouring landholders • negative media coverage • damage to Company reputation	• The Lot F CEMP contains specific measures to manage these impacts. These management plans have been informed by EPA standards and guidelines. • Sensitive receivers and affected stakeholders will be consulted prior to actions likely to generate high levels of noise or vibration. • Site induction to cover noise mitigation and management measures and obligations. • Toolbox talk and pre-start meetings to discuss noise mitigation and management measures where additional training/awareness is required, e.g. in response to community complaints.
Traffic and access impacts	• during the EIS exhibition, stakeholders raised concerns regarding the traffic impacts • traffic and access disruptions to day-to-day operations for schools, road users and the local community • traffic congestion along Aldington Road and surrounding road network • disruptions, delays, temporary detours, changes to traffic conditions, and vehicle access to and from the Project site • impacts to landholders and businesses in the locality • damage to existing pavement • increased safety risk on local roads from heavy/oversized vehicles	• The Lot F CEMP contains specific measures to manage these impacts, including the development and implementation of a Driver Code of Conduct to be adhered to by all vehicle operators undertaking works in relation to the site. • Implement measures outlined in the Construction Traffic Management Plan including left in/left out of Abbotts Road and no construction traffic to use Bakers Lane and drivers code of conduct. • Management of maintenance on behalf of Penrith City Council (PCC) to ensure adequate road condition maintained during construction. • Ensure that all drivers to and from the site comply with NSW traffic regulations. • MRPWG will be used to discuss any accumulative impacts and how they can be managed.
Vegetation removal	• removal of significant vegetation • displacement of native and invasive fauna.	• The Lot F CEMP contains specific measures to manage these impacts.
Erosion & sediment control Water quality	• construction could result in impacts to local water quality, associated with sediment laden runoff and bulk earth works	• The Lot F CEMP contains specific measures to manage these impacts in accordance with the relevant MRP DCP controls and commitments within the SSD-10479 consent package.
Visual	• concerns regarding impacts to visual amenity in the locality	• Construction to occur in accordance with the approved design and conditions of consent. • Community engagement and notification, as required for affected landholders and MRPWG.

Factor/impact	Description of potential issues	Mitigation and management measures
Business impact	• during the EIS exhibition, local businesses raised concern of traffic impacts during construction	• Construction Environmental Management Plan. • MRPWG will be used to discuss any accumulative impacts and how they can be managed.
Cultural heritage	• potential impacts to undiscovered Aboriginal artefacts or relics, or other heritage sites • loss of cultural heritage values	• Site induction to address cultural heritage issues and management measures. • Implement Unexpected Finds Protocol. • Engagement with relevant Registered Aboriginal Parties and Councils. • Implementation of Cultural Heritage Management Plan.
Rehabilitation	• potential for site stabilisation and rehabilitation failure	• Landscape Plans.
Construction fatigue	• Potential for stakeholders to suffer from construction fatigue due to large scale of development in the area • Uncertainty over the source of impacts	• This CCCHS and the participation in MRPWG, with other developers to coordinate management methods, responses, and consultation.
Cumulative impacts	• Potential for impacts to be magnified due to large number of development sites in the area	• Participation in MRPWG, with other developers to manage and mitigate cumulative environmental impacts.

4 Community engagement

4.1 Objectives

The objectives of community and stakeholder engagement are to:

- ensure clear, timely and accurate information is provided to key stakeholders
- ensure key stakeholders have access to relevant Project information through a range of communication tools
- ensure key stakeholders are informed about progress and major works relating to the Project
- ensure affected stakeholders are informed of potential impacts and timing through advance notification
- actively engage with the key stakeholders and encourage feedback
- minimise complaints from stakeholders
- ensure Project enquiries and complaints are managed and resolved in an efficient manner
- comply with the relevant community consultation requirements outlined in the Conditions of Consent.

4.2 Site induction

All Project personnel will undertake a site-specific induction which will cover general environmental awareness training and responsibilities under the CEMP and sub-plans (refer Section 3.3 of the CEMP).

The site induction will also cover aspects of community and stakeholder management, including:

- protocols for reporting complaints and enquiries
- appropriate behaviour when interacting with the local community and stakeholders.

4.3 Communication tools and activities

The communication tools and activities to be applied to the construction phase are outlined in Table 4.1.

Table 4.1 Communication tools and activities

Communication tools and activities	Target audience	Description
Direct contact	Adjoining landholders, surrounding businesses and the MRPWG.	Telephone calls, face-to-face meetings, emails, letters.
Project email address	Local community, adjoining landholders, business operators.	A dedicated email address will be established and maintained to keep key stakeholders informed about the Project and enable stakeholders to provide feedback and make enquiries about the Project.
Project website	Local community, adjoining landholders, business operators.	A dedicated website to provide information on the Project, including a general overview of the Project and contact details and information as required by the Conditions of Consent E17.

Communication tools and activities	Target audience	Description
Signage	Local community, adjoining landholders, surrounding business operators.	Site signage will be clearly displayed (including site contact details). Signage will be erected on Aldington Road and surrounds for management of any traffic diversions/disruptions.
Notification letters and emails	Adjoining landholders, Government representatives.	Letter drop/email notification to inform directly affected stakeholders of commencement of works, work hours.
Consultation records	Government representatives.	Records of consultation will be documented and be made available to the Planning Secretary upon request.

4.4 Mamre Road Precinct Working Group

SFKC participate in the MRPWG as required under SSD-10479 Condition C37.

The purpose of the working group is to consult and coordinate construction works within the MRP to assist with managing and mitigating potential cumulative environmental impacts.

The working group must:

- comprise has at least one representative of the SFKC, the Projects Environmental Representative, and relevant consent holders in the MRP
- meet periodically throughout the year to discuss, formulate, and implement measures or strategies to improve monitoring, coordination of the approved industrial developments in the MRP
- regularly inform Council, TfNSW, Sydney Water and the Planning Secretary of the outcomes of these meetings and actions to be undertaken by the working group
- review the performance of approved industrial developments in the MRP and identify trends in the data with respect to cumulative construction traffic, erosion and sediment control, noise, stormwater management and waterway health objectives under the MRP DCP
- review community concerns or complaints with respect to environmental management
- identify interim traffic safety measures to manage construction traffic and how these measures will be coordinated, communicated, funded, and monitored in the MRP
- provide the Planning Secretary with an update and strategies, if a review under subclause (d) and (e) identifies additional measures and processes are required to be implemented by the working group.

4.5 Notification procedures

4.5.1 Regulatory Notification

A summary of key regulatory notification protocols is provided in Table 4.2. All environment incident notifications will be management in accordance with the CEMP.

Table 4.2 Regulatory notification

Stakeholder to notify	What to notify	When to notify	Responsibility to notify
DPHI	Commencement of construction	DPHI will be notified in writing at least 1 month prior to the commencement of construction.	Project Manager
DPHI	Commencement of operation	DPHI will be notified in writing at least 1 month prior to the commencement of operation.	Project Manager
DPHI	Details of any non-compliance	Notify the Planning Secretary in writing via the Major Projects website, within 7 days after becoming aware of any non-compliance with the development Conditions of Consent.	Project Manager
DPHI	Details of any incident	Notify the Planning Secretary in writing via the Major Projects website immediately after becoming aware of an incident.	Project Manager
Public	Project Information on website	At least 48hrs before commencement of construction.	Project Manager
Heritage NSW NSW Police	Material suspected of being a European or Aboriginal culturally significant (e.g. site, artefact, or relic)	Immediately upon discover of any archaeological/culturally significant site or relic that are encountered. NSW Police are to be notified immediately upon discovery of human remains.	Project Manager
NSW EPA	Details of pollution incident – who, what, when, where, how, any other supporting information (e.g. photos)	Immediately upon identified of pollution incident causing or threatening material harm to the environment in accordance with the CEMP.	Project Manager

4.5.2 Community notification

Community notifications will be required throughout the course of the Project, these notifications aim to inform stakeholders of any works that may impact upon the community. Community notification events are listed in Table 4.3. All environment incident notifications will be management in accordance with the CEMP.

Table 4.3 Community notification

Notification	Notification procedure	Responsibility
Community notification	• Commencement/completion of works or any other significant project milestones. • Changes to traffic/access i.e. changes or disruptions to local business access. • Out of hours work/extended hours of work. • Medium – high noise construction activities. • High vibration impacts. • Changes or disruptions to utility services. The notification must identify types and durations of works which may generated high-impact noise or disrupt traffic flows during works scheduling. The Project contact details must be included on the notification to provide the community with a way to raise any concerns. Project website will provide updated on project development.	Project Manager

4.6 Enquiries procedure

The community can make enquires through the project website, contact details are visible on signage at entry points to the project (and on project boundaries). The enquiries procedure is outlined in Table 4.4.

Table 4.4 Enquires procedure

Action	Responsibility	Timing
Acknowledge the enquirer of receipt of the enquiry (where contact details are provided)	Project Manager	24 hours (or as soon as practicable)
For phone enquiries - provide a verbal response to enquirer within 24 hours (unless the enquirer is notified/agrees otherwise) advising when response can be expected	Project Manager	
Seek advice/information from relevant Project personnel and issue response to enquirer within 24 hours	Project Manager	
Record details in the Complaints and Enquiries Database within 24 hours of receiving the enquiry;	Project Manager	
Ensure all relevant detail are included in the Complaints and Enquiries Database	Project Manager	
Report to Environmental Representative on any enquiries received and responses/resolution.	Project Manager	Monthly

4.7 Complaints procedure

The complaints procedure is outlined in Table 4.5.

Table 4.5 Complaints procedure

Action	Responsibility	Timing
Acknowledge receipt of the complainant within 2 hours (where contact details have been provided)	Project Manager	24 hours (or as soon as practicable)
Seek advice/information from relevant Project personnel. All urgent matters should be forwarded promptly and dealt with in the most efficient manner to ensure the complaint is addressed as quickly as reasonably practicable	Project Manager	
Advise the complainant of the resolution and how it has been closed out	Project Manager	
Document all actions in the Complaints and Enquiries Register within 48 hours	Project Manager	48 hours
Follow up with complainant (if necessary) to ensure that corrective actions are satisfactory.	Project Manager	1 week

Where a complainant indicates they are not satisfied with the response provided, the Community Engagement Representative and SFKC Project Manager shall meet to discuss additional actions. Where the complainant is still not satisfied, refer to the dispute resolution process in Section 4.9.

The Community Engagement Representative will report monthly to the Environmental Representative on any complaints received, responses and resolution.

4.8 Complaints register

A Complaints and Enquiries register will be maintained for the duration of the Project. For each complaint received, the following information will be recorded in the register:

- date and time of the complaint
- details of the complainant, including number of people affected in relation to the complaint
- nature of the complaint
- any actions taken to address the complaint, including responses provided to address the complaint such as written, or transcript of verbal response is provided
- verification of the closeout of the complaint, including whether a resolution was reached, with or without mediation
- details of any follow up with the complainant.

Upon request, the Complaints Register will be provided to the Secretary in accordance with Condition of consent.

4.9 Dispute resolution

In the event a complaint is unable to be resolved between the complainant and the relevant Project personnel, a third-party mediator may be used to assist with the resolution of the dispute.

The dispute resolution process is as follows:

- Third party mediator reviews complaint and responses provided.
- Third party mediator determines that the response is either satisfactory or mediation is required.
- In either case, third-party mediator must contact the complainant to advise if they are closing the complaint or if they will initiate the mediation process.
- Mediation will occur at a time and date agreed between the third-party mediator and the complainant (preferably in-person). The third-party mediator and SFKC Project Manager must attend to meeting. Any other relevant Project personnel required to attend the meeting will be at the discretion of the SFKC Project Manager.
- Following the mediation meeting, the third-party mediator will advise of any additional actions required or whether the Third-party mediator is satisfied that the matter has been resolved.
- Any additional information must be recorded in the Complaints Register and closed out.

5 Monitoring, reporting and evaluation

Monitoring, reporting and evaluation will be carried out to measure the effectiveness of consultation and engagement and responses to complaints and enquiries. Opportunities for improvement will be sought on a continuous basis; and an annual review of the CCCHS will be completed to formally make changes where required.

5.1 Monitoring

Monitoring the performance of this CCCHS will be undertaken based on the following, starting from the date of Construction commencement.

Table 5.1 Monitoring data

Monitoring parameter	Reason for monitoring	Performance criteria	Frequency
Total number of complaints and theme of these	Indicative of impact of project on community and type of impact	A reduction in number of complaints relative to previous period (once baseline established)	Quarterly (every 3 months)
Complaints relating to lack of consultation	Indicative of effectiveness of communication tools	Reduction in complaints relative to previous period (once baseline established)	Quarterly (every 3 months)
Enquiries relating to information previously made available	Indicative of effectiveness of communication tools	Reduction in complaints relative to previous period (once baseline established)	Quarterly (every 3 months)
Response timeframes	Timely responses and rectification of issues will improve relationship with stakeholders.	Enquiries and complaints acknowledged and responded within agreed timeframes. Acknowledgment within 48hrs. Response to urgent maters within 48 hours of receipt, non -urgent maters responded within 5 days.	Quarterly (every 3 months)

5.2 Reporting

5.2.1 Community engagement register

All records of stakeholder engagement will be recorded in the Community Engagement Register. This will include the following details:

- relevant parties involved/engaged, including name and contact details
- time and date of engagement
- communication tool/type of engagement
- summary of engagement, including written evidence or verbal transcript.

5.2.2 Monthly reporting

A monthly report summarising key stakeholder engagement activities will be prepared by the Community Engagement Representative. This report will be provided to the Environmental Representative for inclusion in the monthly environmental reporting. The following information may be provided:

- Number of complaints and enquiries received.
- Summary of stakeholder engagement activities (e.g. number of notifications issued).

5.3 Evaluation and review

This CCCHS is a live document and is subject to ongoing review and updates for the duration of the Project.

Evaluation and review will be undertaken in accordance with the CEMP. Continuous improvement will be achieved via the ongoing evaluation of environmental performance and effectiveness of this CCCHS against the Conditions of Consent and legislative requirements.

Revisions to this CCCHS may result from:

- design/construction changes
- following an incident or near miss
- environmental audits
- amendments to the Conditions of Consent
- changes to company procedures or systems
- following a community complaint.

6 Emergency and key contacts

A summary of emergency and key contacts is provided in Table 6.1 below.

Table 6.1 Emergency and key contacts

Contact/Agency	Reason	Contact number
Development Manager (Estate) - Fife Capital	Complaints, incidents	Richard Harris 0408 865 947
Development Manager (Lot F) – Fife Capital	Complaints, incidents	Martin Charteris 0423 773 236
Construction Manager	Complaints, incidents-	TBC
Community Liaison Officer – Fife Capital	Liaison	Richard Harris 0408 865 947
Environmental Representative (or approved alternative)	Non-compliance with consent condition (environmental / noise/ traffic)	Carl Vincent 0424 203 046
Project Information Number	Complaints/issues/enquiries	TBC
Penrith City Council	Traffic / access (local roads)	(02) 4732 7777
DPHI	Non-compliance, change to project, regulatory advice	1300 420 596
DPI Fisheries	Aquatic ecology	1300 550 474
TfNSW	Traffic / access (Mamre Road)	131700
SafeWork NSW	Notifiable incidents	131 050
NSW EPA	Pollution Incident (air, noise, water, waste)	131 555
NSW Police	In case of fire, medical or police emergency. For pollution incidents that present an immediate threat to human health or property.	000
Fire and Rescue NSW		
NSW Ambulance		
Nepean Hospital	Medical incidents	(02) 4734 2000
Crime stoppers	Incidents such as theft, crime, car crash, non-threatening injuries	1800 033 111
Police Assistance Line		131 444
Poison Information Centre	Toxicology advice	131 126
IXOM (Chemical industry)	Incidents relating to transport, storage, and use of chemical products	1800 033 111
Deerubbin Local Aboriginal Land Council (LALC)	Aboriginal cultural heritage	(02) 4724 5600
Darug Custodian Aboriginal Corporation		0415 770 163
Kamilaroi Yankuntjatjara Working Group		0434 545982

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