OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

Building 2B
SSD 10397

Prepared for:

Goodman Property Services (Aust) Pty Ltd

The Hayesbery

1-11 Hayes Road

Rosebery NSW 2018

Australia

SLR Ref: 630.30156-R01
Version No: -v7.0
November 2021

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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Goodman Property Services (Aust) 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.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
630.30156-R01-v7.0	30 November 2021	Samuel McDonald	Renae Gifford	
630.30156-R01-v6.0	23 November 2021	Samuel McDonald	Renae Gifford	
630.30156-R01-v5.0	21 October 2021	Samuel McDonald	Renae Gifford	
630.30156-R01-v4.0	27 September 2021	Samuel McDonald	Renae Gifford	
630.30156-R01-v3.0	19 August 2021	Samuel McDonald	Renae Gifford	
630.30156-R01-v2.0	18 August 2021	Samuel McDonald	Renae Gifford	
630.30156-R01-v1.0	21 July 2021	Samuel McDonald	Renae Gifford	

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1 Introduction

1.1 Development Background

Goodman Property Services (Aust) Pty Ltd (Goodman) obtained Development Consent SSD 7348 for the staged development of Oakdale West Industrial Estate (Oakdale West) comprising a warehousing and a distribution hub at Kemps Creek in Western Sydney (**Figure 1**).

SSD 7348 incorporates the approval of a 'Concept Proposal' to guide the future development of the estate and consent for the 'Stage 1 Development'. The Stage 1 Development included the construction of the proposed Compass Drive (previously known as the Western North South Link Road (WNSLR)), site-wide bulk earthworks, estate wide basins, and lead-in services. It also includes infrastructure and associated services, landscaping, and construction and use approval for Stage 1 (**Figure 2**).

Stage 2 Development (hereafter referred to as [Building 2B]) is the next stage of development to occur at Oakdale West following the approval of Stage 1 under SSD 7348. Stage 2 was approved by the Department of Planning, Industry and Environment (DPIE) in April 2020 under SSD 10397 and involves establishing a warehouse and distribution facility at Lot 2B within Stage 2 (**Figure 3**).

Building 2B has a site area of 149,266 m^2 and comprises four key components:

- Single warehouse and office building consisting of four levels to a height of 26 metres, providing a Gross Floor Area (GFA) of 206,968 m^2 and Gross Lettable Area (GLA) of 200,668 m^2;
- Parking (truck and car); and
- Fit-out and use approval including racking and automated distribution hub infrastructure and loading bays.

The site has approval to operate 24 hours per day seven days a week.

At the time of preparing this document, there has been two (2) modifications to SSD 10397. In summary, the modifications comprised of:

- Mod 1 – approved on the 23 September 2020 for revisions to architecture plans and construction hours; and
- Mod 2 – approved on the 4 May 2021 for minor design changes to approved plans, including addition of two solar energy inverter enclosures on the northern and southern elevations, respectively, and increase in height of perimeter security fencing from 2.1 m to 2.4 m.

A copy of Development Consent SSD 10397 is attached as **Appendix A**.

This Operational Environmental Management Plan (OEMP) has been prepared to specifically address the activities associated with the operation of Building 2B at Lot 2B in Precinct 2 (**Figure 2**). Reference should also be made to the *Oakdale West Industrial Estate Operational Environmental Management Plan – Master Plan* (SLR 2021) which details management requirements applicable to all developments within the Estate relevant to Stage 1.

For the purposes of this document, the development is described in *Oakdale West Industrial Estate Concept Plan and Stage 1 Modification (MOD 3 SSD 7348), Stage 2 Development Application (SSD 10397) Environmental Impact Statement* (EIS) prepared by GHD (2020) and *SSD 10397 Mod 1, Oakdale West Stage 2 – s.4.55(1a) Application to Modify Architecture Plans and Construction Hours* (Goodman 2020*), SSD 10397 Mod 2, Oakdale West Stage 2 – S.4.55(1a) Application to Modify Architecture Plans And Condition B8* (Goodman 2021), including all Specialist Assessments and other Appendices.

The OEMP has been prepared with consideration to the *Guideline for the Preparation of Environmental Management Plan*s (Department of Infrastructure, Planning and Natural Resources 2004).

Figure 1 Oakdale West Estate Master Plan

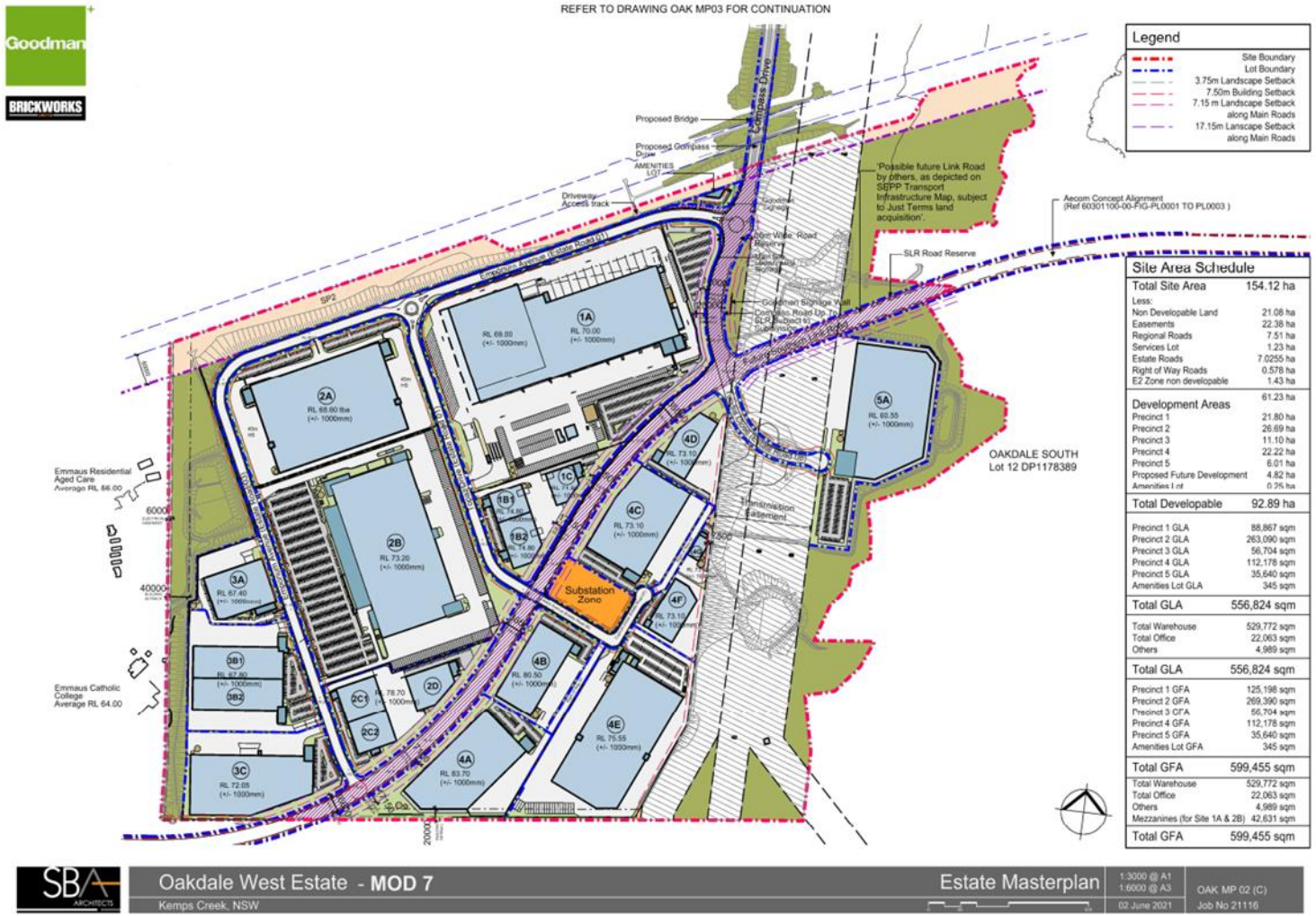


Figure 2 Oakdale West Staging Plan

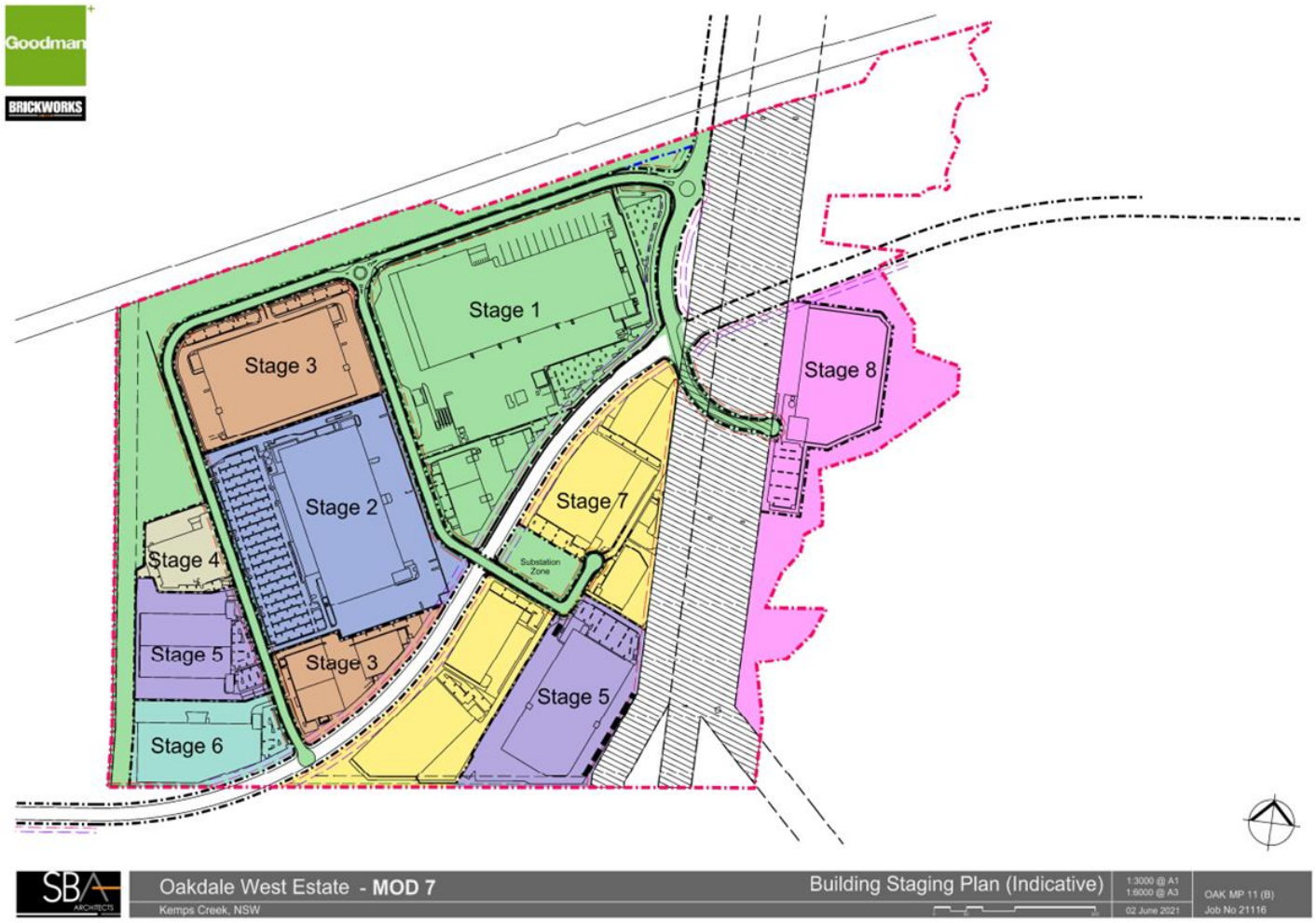
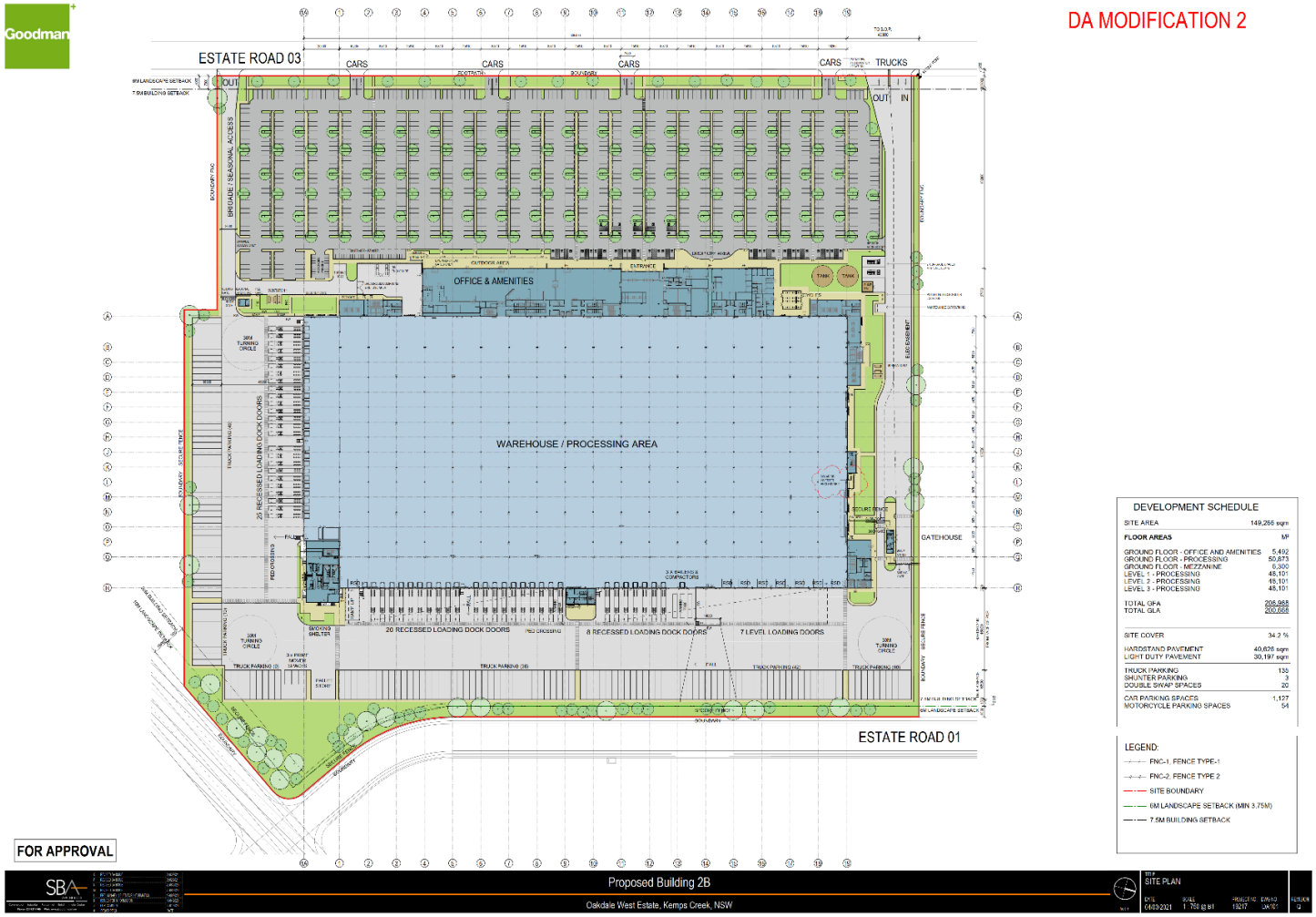


Figure 3 Building 2B Layout



1.2 Operational Environmental Management Plan

1.2.1 Scope

This OEMP has been prepared to satisfy Conditions C1 and C5-7 of Development Consent SSD 10397 in relation to Oakdale West Building 2B. The specific requirements of this consent condition, along with where these requirements have been addressed within this document, are listed in **Table 1**.

Table 1 OEMP Scope

Condition	Section
C1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	
a) 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;	i. Section 2.2 ii. Section 3 iii. Refer to specialist management plans
b) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 3
c) 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;	Section 4
d) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 5
e) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 6
f) 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	i. Section 2.5 ii. Section 2.6 iii. Section 2.5
g) a protocol for periodic review of the plan.	Section 6
C5. The Applicant must prepare an Operational Environmental Management Plan (OEMP) in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary	This Plan
C6. As part of the OEMP required under Condition C5 of this consent, the Applicant must include the following:	
a) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;	Section 2.1

Condition	Section
b) describe the procedures that would be implemented to: i. keep the local community and relevant agencies informed about the operation and environmental performance of the development; ii. receive, handle, respond to, and record complaints; iii. resolve any disputes that may arise; iv. respond to any non-compliance; v. respond to emergencies; and	i. Section 4.2 ii. Section 2.6 iii. Section 2.7 iv. Section 2.5 v. Section 2.5
c) include the following environmental management plans: i. Operational Traffic Management Plan (OTMP) (see Condition B17). ii. Noise Validation Monitoring (see Condition B26)	i. Section 3.3 ii. Section 3.2
C7. The Applicant must: a) not commence operation until the OEMP is approved by the Planning Secretary; and b) operate the development in accordance with the OEMP approved by the Planning Secretary (and as revised and approved by the Planning Secretary from time to time).	Noted

1.2.2 Objectives

The objectives of this OEMP are to guide and assist in ensuring:

- The Stage 2 Operational Environmental Management requirements under SSD Consent 10937 are undertaken and adhered to in line with the relevant consent conditions;
- Establish the framework for managing and mitigating the potential for adverse environmental impacts as a result of the operation of Building 2B at Oakdale West;
- Clearly and concisely document the commitments made in the EIS (GHD 2020) and Response to Submissions (RTS) and SSD 10397 Modification Reports (as listed in **Section 1.1**), including relevant management plans, that are required to be implemented with during operation;
- Demonstrate to DPIE how the applicant proposes to meet all of its regulatory obligations including those outlined in the Conditions of Consent;
- Clearly and concisely document the conditions imposed by SSD 10397 that are required to be implemented and/or complied with during operation; and
- Assist to establish Building 2B at Oakdale West in a manner that avoids (where possible) or minimises impact to the surrounding environment and populace.

It is noted that this OEMP does not address workplace health and safety (WHS) requirements. These are managed in accordance with Goodman's Current Work, Health & Safety Policy .

2 Environmental Management Framework

2.1 Roles and Responsibilities

The key personnel responsible for environmental management at Building 2B at Oakdale West are listed in **Table 2**.

Table 2 Personnel Responsible for Environmental Management

Company and Role	Responsibilities
Goodman's Representative	• Ensure the tenant's representative is made aware of their obligations of the OEMP are appropriately implemented and maintained. • Advise and assist the tenant in the implementation of the OEMP, as required.
Tenant's Representative	• Ensure that the obligations of this OEMP are implemented and communicated to all relevant parties. • Implement the Complaints and Incident Handling Procedures, as required.
Tenants/employees/contractors	• Ensure familiarity, implementation and compliance with this OEMP and appended management plans. • Support the company's commitment to environmental management and compliance. • Work in a manner that will not harm the environment or impact on surrounding receptors. • Report all environmental incidents and complaints to the Goodman's Representative without delay. • Report any inappropriate operational and/or environmental management practices to the Goodman's Representative without delay.

The contact details of the key personnel responsible for the environmental management of Building 2B are as follows:

Role	Name/ Position	Contact Details
Goodman's Representative	Michael Trotnar – Senior Building Manager	Mob: 0409 999 447
Tenant's Representative	Tom Alexander – Asset Manager	Mob: 0466 576 701

2.2 Statutory Requirements

The Development will be constructed in accordance with SSD 10397 and also in accordance with the documents referenced under Condition A2 of the Consent:

- The EIS (GHD 2020) and RTS;
- The development layout plans and drawings attached to the Development Consent as Appendix 1, which have been sourced from the EIS (GHD 2020);
- The management plans and mitigation measures (attached to the Development Consent as Appendix 3)

If there is any inconsistency between the plans and documentation referred to in Condition A2, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of SSD 10397 prevail to the extent of any inconsistency.

The consent conditions applicable to the operation of Building 2B are listed in **Appendix B**. (**N.B**. The administrative conditions and conditions relating to the construction phase have not been included in **Appendix B**, only those conditions specific to site operation have been included).

2.3 Community Enquiries

Relevant contact details, including a phone number for community enquiries, will be included on Goodman's website. All community enquiries should be forwarded to Goodman's Representative.

2.4 Environmental Training

It is responsibility of Goodman's Representative to ensure all Tenant Representatives and maintenance contractors engaged by Goodman are appropriately inducted and aware of their general obligations under this OEMP. It is then the responsibility of the respective Tenant Representatives to ensure all other employees and contractors are appropriately inducted and aware of their obligations under the OEMP. It is also the responsibility of the Tenant Representatives to conduct regular "toolbox talks" to ensure continuing awareness of environmental management expectations and responsibilities as applicable to their operations.

The topics to be covered during the induction and toolbox talks include:

- General site maintenance and management expectations and requirements;
- Familiarisation with site environmental controls;
- The environmental management commitments and responsibilities in this OEMP (including appended management plans);
- Appropriate response and management of environmental incidents (for example, a chemical spill) in accordance with the incidents protocol in **Section 1.1**;
- Appropriate response and management of complaints received from the public, government agencies or other stakeholders in accordance with the complaints protocol in **Section 1.1**; and
- Waste minimisation principles (see **Section 3.5**).

Records of all training undertaken should be recorded and maintained in an Environmental Training Register to maintain consistency and for audit purposes.

2.5 Incident and Non-Compliance Response and Handling Procedure

For the purposes of this OEMP, SSD 10397 describes an 'incident' as an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance. SSD 10397 describes a 'non-compliance' as an occurrence, set of circumstances or development that is a breach of the consent.

As per Section 147 of the *Protection of the Environment Operations Act 1997* (POEO Act), SSD 10397 defines material harm as:

> *…harm that:*
>
> *a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or*
>
> *b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such 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).*

It is noted that incidents relating to workplace health and safety (WHS) are not addressed by this OEMP. WHS incidents are managed in accordance with Goodman's Current Work, Health & Safety Policy.

2.5.1 Objective

To ensure that any environmental incident caused by or relating to the operation of Building 2B is effectively responded to, and any resulting adverse environmental impact is promptly prevented or effectively managed.

2.5.2 Responsibility

Goodman's Representative is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an environmental incident and SSD 10397 non-compliance. The induction is outlined in **Section 2.4** and should be used to ensure all tenant's representatives are aware of and understand their obligations for incident response. It is the responsibility of the respective Tenant Representatives to ensure all other employees and contractors are aware of the incident management response and handling procedures.

All tenant employees and contractors are to:

- Notify Tenant Representative once aware of any hazard or potential hazard that may result in an environmental incident, regardless of the nature or scale;
- Take immediate action to notify the Goodman Representative of any environmental incident; and
- Take immediate action (where it is safe to do so) to prevent, stop, contain and/or minimise any adverse impact associated with an incident.

2.5.3 Notification Requirements

2.5.3.1 Incidents

Section 147 of the *Protection of the Environment Operations Act 1997* (POEO Act) defines material harm as:

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.

Notification responsibilities for incidents that have caused or threatened to cause material harm to the environment are detailed in Section 148 of the POEO Act. In summary, these are broadly categorised as:

Duty of an employee or any person undertaking an activity:

Any person engaged as an employee or undertaking an activity at Building 2B will, immediately after becoming aware of any potential incident (even if outside of normal business hours), notify their respective tenant representative of the incident and all relevant information about it. If the Tenant Representative is unavailable, the Goodman's Representative must be contacted. Tenant Representative and the Goodman Representative will be available 24 hours a day, seven days a week and have the authority to stop or direct works.

Duty of an employer or occupier of the premises to notify:

The employer or occupier of the premises on which the incident occurred, who is notified (or otherwise becomes aware of) of the incident, must immediately notify the relevant authorities about the incident and all relevant information.

Under the POEO Act, "relevant authority" means any of the following:

- The appropriate regulatory authority – the Environment Protection Authority (EPA);
- If the EPA is not the appropriate regulatory authority – the local authority for the area in which the pollution incident occurs (i.e. Council);
- NSW Public Health Unit;
- SafeWork NSW; and
- Fire and Rescue NSW

Table 3 lists the contact details for these authorities. The person reporting the pollution incident will provide the following key details:

- Location of the pollution incident/emergency;
- Nature of the pollution incident/emergency;
- Their name and contact details; and
- Details of any required assistance.

Table 3 Regulatory Authority Contact List

Regulatory Authority / Stakeholder	Key Contact	Contact Details	
Department of Planning, Industry and Environment (DPIE)	Main switchboard	Email: information@planning.nsw.gov.au	
Environment Protection Authority (EPA)	Environment Line	131 555 info@environment.nsw.gov.au	
	Head office (Sydney)	02 9995 5000	
Penrith City Council	Main switchboard	02 4732 777 council@penrith.city	
Water NSW	Main switchboard	1300 662 077 Customer.Helpdesk@waternsw.com.au	
	Incident Notification Number – 24 hours	1800 061 069	
NSW Public Health Unit	Sydney Local Health District	Business hours: 1300 066 055 After hours: 02 9515 6111	
SafeWork NSW	Incident Notification Hotline	131 050 Select Option 3 to report a "Serious Incident or Fatality" – this will result in the incident being recorded and the appropriate person being contacted.	
Emergency Services	NSW Police NSW Fire and Rescue NSW Ambulance Service	131 444 1300 729 579-	In case of emergency – 000

In accordance with Condition C10 of Development Consent SSD 10397, Goodman is required to provide written notification to DPIE following any incident as defined by the POEO Act. The procedure for notification will be as follows

- Tenant's representative is to immediately provide written notification to the Goodman Representative when they become aware of an environmental incident/potential incident.
- When Goodman becomes aware of this environmental incident/potential incident, they will notify DPIE immediately.
- Tenant's Representative will provide a written incident notification to the Goodman Representative within 5 calendar days.
- The Goodman Representative will review and submit the written incident notification to DPIE within 7 calendar days from the original notification to Goodman.
- Tenant's Representative will provide a written incident report within 25 calendar days to Goodman Representative in accordance with Section 2.5.4 item 3 of this report.
- Goodman Representative will review and submit the written incident report to DPIE within 30 calendar days from the notification of the original event occurrence.

2.5.3.2 Non-Compliances

In accordance with Condition C11 of SSD 10397, the DPIE will be notified in writing to compliance@planning.nsw.gov.au within seven days of becoming aware of any non-compliance. Non-compliances will be treated with the incident notification procedure identified in Section 2.5.3.1.

Conditions C12 and C13 of SSD 10397 states a non-compliance notification will 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.

A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

2.5.4 Incidents and Non-Compliance Handling Procedure

Upon becoming aware of an incident and/or non-compliance, the procedure outlined below will be followed.

1. **Preventative Action**

   Where possible and safe to do so, immediate action will be taken to prevent, stop, contain and/or minimise the environmental impact of the incident and/or non-compliance.

   In the unlikely event that an incident and/or non-compliance requires the evacuation of the site, actions will be completed in accordance with evacuation procedures. All employees and contractors are to be made aware of the location of emergency assembly areas through site inductions and signage.

2. **Assistance**

   If adequate internal resources are not available and the incident and/or non-compliance threatens public health, property or the environment, it is essential that Fire and Rescue NSW be contacted by telephoning “000” for emergency assistance.

   Contacting Fire and Rescue NSW does not negate the notification requirements in **Section 2.5.3**.

3. **Notify**

   Under the provisions of the POEO Act, there is a duty to notify any incident that has caused or threatens to cause material harm to the environment and all relevant information about the incident. The specific duties to notify are outlined above in **Section 2.5.3**.

   In the event of a serious incident or emergency, it is more than likely that Fire and Rescue NSW will take control and manage the required investigation and remedial activities. Any instructions issued will be strictly adhered to.

   Condition C10 and Appendix 4 of Development Consent SSD 10397 requires that the DPIE and other relevant authorities be provided with a written incident notification via email within seven day of the incident.

   A written notification will:

   - Identify the development and application number;
   - Provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
   - Identify how the incident was detected;

- Identify when the Applicant became aware of the incident;
- Identify any actual or potential non-compliance with conditions of consent;
- Describe what immediate steps were taken in relation to the incident;
- Identify further action(s) that will be taken in relation to the incident; and
- Identify a contact for further communication regarding the incident.

Non-compliances will be notified in accordance with **Section 2.5.3.2**.

4. Investigate

Undertake immediate investigative work to determine the cause of the incident and/or non-compliance.

5. Remedial Action

Undertake appropriate remedial action to address the cause of the incident and/or non-compliance and mitigate any further environmental impact. In some instances, outside resources such as specialist contractors/consultants may be required.

6. Record

It is imperative that an honest assessment of the situation is carried out and documented in order to minimise the potential for similar events in the future. On this basis, every incident is to be recorded in an Incident Report Form (**Appendix E**). A copy of the completed report will be maintained for at least five years.

Condition C10 and Appendix 5 of Development Consent SSD 10397 requires that a detailed incident report be provided to the DPIE within 30 days of the incident occurring.

The Incident Register will include:

- A summary of the incident;
- Outcomes of an incident investigation, including identification of the cause of the incident;
- Details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
- Details of any communication with other stakeholders regarding the incident.

All non-compliances are recorded in accordance with Condition C12 of SSD 10397.

7. Preventative Action

Once the incident and/or non-compliance has been suitably handled, appropriate measures will be identified and implemented to reduce the possibility of re-occurrence.

2.5.5 Incident and Non-Compliance Register

Records of all incidents and non-compliances will be maintained in Goodman's incident register system. Details of all incidents and complaints will be retained for at least five years after the event to which they relate.

2.5.6 Minor Environmental Incidents

There is the possibility of minor environmental incidents occurring as part of this project. SLR have defined a 'Minor Environmental Incident' as an incident where there has been no potential or actual material harm to the

environment (see 'material harm' definition outlined in **Section 2.6.3**). Examples may include excessive dust impacts sighted by the project team or a small contained hydrocarbon spill that does not leave a site boundary and are cleaned up without residual on-site environmental harm (RMS 2018).

Minor environmental incidents will still be handled under the process outlined in **Section 2.6.4** except there will be no requirement for government notification. All minor or major incidents will be recorded in the Incident Register. A minor incident does not constitute a non-compliance with the Development Consent.

2.6 Complaints Response and Handling Procedure

2.6.1 Objective

To ensure that all environmental complaints in relation to the operation of Building 2B are promptly and effectively received, handled and addressed.

2.6.2 Responsibility

Goodman's Representative is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an environmental complaint. The induction outlined in **Section 2.5** should be used to ensure the Tenant Representative is aware of and understand their obligations for complaint response. It is the responsibility of the Tenant Representative to ensure all other employees and contractors are aware of the complaints response and handling procedures.

All employees and contractors will immediately notify their respective Tenant Representative following a complaint, either verbal or written. The Tenant Representative will then contact Goodman's Representative in regard to the matter.

2.6.3 Handling Procedure

Upon becoming aware of a complaint, the protocol outlined below must be followed.

1. **Record and Acknowledge**

   Any employee who take receipt of a complaint, either verbal or written, are to immediately notify the tenant representative who will then contact the Goodman's Representative.

   In the normal course of events, the first contact for complaints will usually be made in person or by telephone.

   The complainant's name, address and contact details, along with the nature of the complaint, will be requested. If the complainant refuses to supply the requested information, a note will be made on the form and complainant advised of this.

2. **Assess and Prioritise**

   The Goodman's Representative will prioritise all complaints by considering the seriousness of the complaint including risk to health and safety and will attempt to provide an immediate response via phone or email.

3. **Investigate**

   A field investigation will be initiated in an attempt to confirm details relevant to the complaint and the cause of the problem. Any monitoring information and/or records at and around the time of the complaint will be reviewed for any abnormality or incident that may have resulted in the complaint.

   If the complaint is due to an incident, the notification requirements and handling procedures outlined in **Section 2.7** must be followed.

4. **Action or Rectify**

   Once the cause of the complaint has been established, every possible effort will be made to undertake appropriate action to rectify the cause of the complaint and mitigate any further impact. The Goodman's

Representative will assess whether the complaint is founded or unfounded and delegate the remediation of the issue to the tenant representative for action, as required.

5. **Inform**

The Goodman's Representative will oversee the rectification of the issue and respond to the complainant once the issue has been resolved. The complainant will be provided with a follow up verbal response on what action is proposed. Where a complaint cannot be resolved by the initial or follow-up verbal response, a written response will be provided to the complainant.

6. **Record**

It is imperative that an honest assessment of the situation is carried out and documented in order to minimise the potential for similar complaints in the future. On this basis, every complaint received is to be recorded in the Complaint Form. A copy of the completed form should be maintained for at least five years.

7. **Preventative Action**

Once the complaint has been suitably handled, appropriate measures should be identified and implemented to negate the possibility of re-occurrence.

2.6.4 Complaints Register

A Complaints Register is to be maintained for Building 2B. The register should contain the following:

- A copy of the environmental complaint handling procedure contained in **Section 2.7.3**;
- A separate reference sheet containing the contact details for Goodman's Representative and the Tenant Representative;
- Blank hard copies of the Complaint Form;

Copies of all completed Complaint Report, which are to be maintained for at least five years after the event to which they relate; and

- The Complaint Register will be either kept on site as hard copy or maintained digitally in soft copy, as appropriate to site operations.

2.7 Dispute Resolution

In the event that a dispute arises between Goodman and Council or a public authority, in relation to an applicable requirement in this consent or relevant matter relating to the operation of Building 2B, either party may refer the matter to the Planning Secretary for resolution. The Planning Secretary's determination of any such dispute will be final and binding on the parties.

In the case of a dispute between Goodman and a community member/complainant, either party may refer the matter to the DPIE and/or relevant regulatory authority for consideration, advice and/or negotiation. If the matter escalates, a third party mediator may be required.

2.8 Consultation

Council

In accordance with Condition B17 a) of Development Consent SSD 10397, a copy of the Operational Traffic Management Plan (OTMP) was emailed to Penrith City Council (Council) on 9 August 2021 and again on the 13 August 2021 for review and feedback. Council responded on the 17 August 2021 advising that the OTMP had been reviewed and required minor revisions. The OTMP has since been revised and is included in **Appendix D**.

Transport for New South Wales

In accordance with Condition B17 a) of Development Consent SSD 10397, a copy of the OTMP was emailed to Transport for New South Wales (TfNSW) on 16 July 2021 for review and feedback. TfNSW responded on 19 August 2021 advising that the OTMP had been reviewed and TfNSW required it to be revised (see **Section 1.6** of the OTMP for further details). The OTMP has since been revised and is included as **Appendix D**.

Department of Planning Industry and Environment

Following receipt of comments from DPIE the OTMP was revised on the 20 October 2021 to update the Drivers Code of Conduct and again on the 23 November 2021 to update a Development Consent SSD 10397 condition number reference. The revised OTMP is included as **Appendix D**.

A copy of all consultation correspondence is appended as **Appendix I**.

3 Environmental Management Commitments

Environmental aspects with the potential to be impacted by Building 2B at Oakdale West are addressed in the following sub-sections. These issues have specific regulatory requirements (imposed by Development Consent SSD 10397) and/or are considered to have the highest potential to result in a non-compliance with a legislative requirement or generate community complaints.

3.1 General

Table 4 lists the general environmental controls that will be implemented throughout the life of the development to minimise the potential for adverse impacts on the local environmental and surrounding receptors.

Table 4 General Environmental Management Controls

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
All reasonable and feasible measures will be implemented to prevent and minimise, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.	X	X		Ongoing	SSD 10397 Condition A1
All plant and equipment will be maintained and operated in a proper and efficient manner.		X			SSD 10397 Condition A20
All licences, permits, and approvals/consents will be obtained prior to Lease commencement.	X			Prior to commencing and ongoing	SSD 10397 Advisory Notes AN1
All licences, permits, and approvals/consents required for the tenant's specific operational purposes will be obtained and maintained as required post lease approval.		X		Ongoing post lease commencement	
All signage and fencing will be erected in accordance with the plans in the EIS and RTS.	X	X		Prior to commencing	SSD 10397 Condition B7
All fencing along building frontages must be located behind the landscape setbacks and not along the front boundary. The fencing must be a maximum height of 2.1 meter and open style.				Ongoing	SSD 10397 Condition B8
Building 2B will operate within the hours outlined in the consent.		X		Ongoing	SSD 10397 Condition B21

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
All monitoring records will be maintained to demonstrate compliance with the OEMP, including: • Site environmental inspection reports; • Environmental monitoring data; • Internal and external audit reports; • Reports of environmental incidents, environmental, associated actions taken, and follow up actions; • Minutes of management review meetings; and • Induction and training records.	X			Ongoing	Best Practice
Tenant Representative and maintenance contractors engaged by Goodman are appropriately inducted and aware of their general obligations under this OEMP.	X			Ongoing	OEMP Section 2.5
The incidents and complaints management strategies contained within **Sections 2.6 and 2.7** will be implemented to ensure that any incidents and/or complaints relating to the construction activities are promptly and effectively addressed.	X			Ongoing	OEMP Sections 2.6 and 2.7.

3.2 Noise

Operational noise at Building 2B at Oakdale West will be managed in accordance with the operational noise limits implemented by Condition B23 of Development Consent SSD 10397 and replicated in **Table 5**. Note noise criteria implemented by Condition B23 of Development Consent SSD 10397 are void at all receivers to the south of Building 2B due to noise agreements which have been put in place. MOD 7 seeks to update the receivers to reflect the current design of Building 2B.

Table 5 Operational Noise Limits

Location	Day	Evening	Night	
	$L_{Aeq\ (15\ minute)}$	$L_{Aeq\ (15\ minute)}$	$L_{Aeq\ (15\ minute)}$	L_{AMax}
N1 Emmaus Village Residential	44	43	41	52
N3 Kemps Creek – nearest residential property	39	39	37	52
N4 & N5 Kemps Creek – other residences	39	39	37	52
All other non-associated residences	40[2]	35[2]	35[2]	52
N2 Emmaus Catholic College (school)	When in use: 45 $L_{eq\ (1h)}$			

Notes:

1. Noise generated by the development is to be measured in accordance with the relevant procedures and modifications, including certain meteorological conditions, of the Noise Policy for Industry (EPA 2017). Refer to the plan in Appendix 2 for the location of residential sensitive receivers.

2. or background + 5 dB, whichever is higher.

A *Mechanical Services Environmental Noise Review* (**Appendix C**) was undertaken to predict and assess noise from the operation of the proposed mechanical services plant for Building 2B. Predictions indicated that the rooftop mechanical plant and services would comply with the noise limits in **Table 5**.

Noise validation monitoring was undertaken during November 2021 to assess compliance of the rooftop mechanical plant against criteria within Condition B25 of SSD 10397. The noise validation report is included within **Appendix C** of this plan**.**

Notwithstanding this, noise validation monitoring undertaken in accordance with Condition B26 of SSD 10397 will be undertaken within 6 months of operations commencing.

The environmental management controls in **Table 6** will be implemented to minimise the potential for adverse noise emissions from the operation of Building 2B.

Table 6 Environmental Management Controls for Noise

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
The noise limits outlined in **Table 5** will be complied with.		X		Ongoing	SSD 10397 Condition B23
The noise limits in **Table 5** will not apply to receiver N3, N4 and N5 if the Applicant has a Noise Agreement with the relevant landowner to exceed the noise limits, and the Applicant has provided written evidence to the Planning Secretary that an agreement is in place.		X		If required	SSD 10397 Condition B24
Noise validation monitoring to confirm the rooftop mechanical plant and services comply with the predictions in the EIS in accordance with Condition B26.	X			Within 6 months of commencing operation	SSD 10397 Condition B26
All plant and equipment will be maintained and operated in a proper and efficient manner.		X		Ongoing	SSD 10397 Condition A20
Where practicable, all roller doors will be kept closed during the night-time period.		X		Ongoing	Best practice
Outdoor fixed plant installed as part of the Base Building will be enclosed where possible.		X		Ongoing	Best practice

3.3 Traffic

Operational traffic at Building 2B at Oakdale West will be managed in accordance with the Operational Traffic Management Plan (OTMP) prepared by Ason (2021 version 7) and attached as **Appendix D**.

The approved traffic generation rates for Building 2B outlined within Condition A7 of the SSD 10397 is 935 vehicle trips (1,870 total vehicle movements) during the day, evening and night, on the public road network.
The environmental management controls in **Table 7** will be implemented to further minimise the potential for adverse impact associated with operational traffic at Building 2B at Oakdale West.

Table 7 Environmental Management Controls for Traffic

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
All traffic will use the Compass Drive (previously known as Western North South Link Road), and the future Southern Link Road, to access the site and will not use Bakers Lane or Aldington Road.		X		Ongoing	SSD 10397 Condition B14
The swept path of the longest vehicle entering and exiting the site, as well as manoeuvrability through the site, will be accordance with the relevant Austroads guidelines.			X		SSD 10397 Condition B19(b)

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
Vehicles will not queue on the public road network.		X			SSD 10397 Condition B19(c)
Heavy vehicles and bins will not park on local roads or footpaths.					SSD 10397 Condition B19(d)
All vehicles will be wholly contained on site before stopping.					SSD 10397 Condition B19(e)
All loading and unloading of materials will be carried out on Site.					SSD 10397 Condition B19(f)
The turning areas in the car parks will be kept clear of any obstacles, including parked cars, at all times.					SSD 10397 Condition B19(g)
Sufficient parking facilities will be available on site for heavy vehicles and for site personnel and will not utilise public and residential streets or public parking facilities.		X		Ongoing	SSD 10397 Condition B20

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
Pedestrian access to on-site hardstand areas used by heavy vehicles will be restricted as far as practicable for safety purposes.				As required	OTMP Section 4.1
All drivers of Goodman Tenanted facilities will operate vehicles in a manner consistent with the requirements of applicable Work Health and Safety (WHS) legislation and other business specific policies.		X		Ongoing	OTMP Section 4.2
All commercial vehicle drivers of Goodman Tenanted facilities will be familiar with the Driver Code of Conduct.				Prior to entering the site	
A maximum speed limit of 20km or lower shall be implemented for all vehicles on-site.				Ongoing	

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
Any posted speed signage within the site (private roads) should not replicate the design and appearance of the regulatory speed limit signage (a number within the red circle).				Ongoing	OTMP Section 4.2
Application will be submitted to the National Heavy Vehicle Regulator (NHVR) prior to any vehicles larger than the approved maximum B-double, including oversized configurations, accessing the site.				Prior to accessing site	OTMP Section 4.2.1
Trucks and approved B-doubles will access the site in accordance with the OTMP.				Ongoing	OTMP Section 4.2.2 and 4.2.3
Loading and unloading activities will not obstruct general vehicle access or circulation. Trucks will only be parked onsite when undertaking loading/unloading.					OTMP Section 4.4

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
Loading and unloading will only be undertaken onsite.					OTMP Section 4.4
Waste service vehicles and bins will not be parked on local roads or footpaths.					OTMP Section 4.5
Temporary / unplanned work areas and temporary pedestrian paths will be physically separated from vehicle movements by way of traffic cones, bollards and/or temporary pedestrian fencing.				As required	OTMP Section 4.6
A Transport Emergency Response Plan (TERP) is required prior to transport of any Dangerous Goods. A TERP will be prepared by the Tenant involved in the transport of Dangerous Goods to/from the individual businesses within Oakdale West.					OTMP Section 4.7
Drivers of Goodman Tenanted facilities will adhere to the Driver Code of Contact stipulated in Appendix B of the OTMP.				Ongoing	OTMP Section 4.8 and Appendix B

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
Vehicles will not to be parked on-street.					
Drivers will ensure that trailers are parked within their designated areas and will not park trailers within circulation roadways and access roads (incl. emergency vehicle access roads).					OTMP Section 5.2
Management of respective Lots will remain the responsibility of the respective property's owner to ensure that no vehicles associated with business operations are parked on-street.	X	X			

3.4 Air Quality

Air quality impacts associated with the operational phase of Building 2B are anticipated to be negligible, with the main source of emissions likely to be exhaust emissions from heavy vehicles idling on-site. There is potential for wheel-generated dust from vehicles entering and exiting the site, however the local public road network and internal roads are all sealed.

The environmental controls in **Table 8** will be implemented to further minimise the potential for adverse air quality impacts associated with operational activities at Building 2B at Oakdale West.

Table 8 Environmental Management Controls for Air Quality

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
All reasonable steps to minimise dust generated will be undertaken during all works.		X		Ongoing	SSD 10397 Condition B38
All vehicles and mobile plant will be switched off (i.e. not left idling) when not in use for an extended period of time.					Best practice

3.5 Waste

As required by Condition B43 of SSD 10397, the Waste Management Plan (WMP) (SLR, 2021) prepared as part of the EIS will be implemented during the operation of Building 2B. A copy of the WMP is attached as **Appendix E**.

The environmental management controls in **Table 9** will be implemented to minimise the potential for adverse waste impacts from the operation of Building 2B.

Table 9 Environmental Management Controls for Waste

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
Waste will be secured and maintained within designated waste storage areas at all times and will not leave the site onto neighbouring public or private properties.		X		Ongoing	SSD 10397 Condition B42
The WMP will be implemented for the duration of operation.					SSD 10397 Condition B43
All wastes to be taken offsite will be assessed and classified in accordance with the latest version of EPA's *Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014)*					SSD 10397 Condition B44
Only waste generated at the site will be received for storage, treatment, processing, reprocessing, or disposal.					SSD 10397 Condition B45
Waste management performance will contribute to the overall NSW State targets for recycling outlined in the current *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*.					WMP Section 6.1

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
If additional collection services are required these will be organised with a private waste contractor who can provide additional bins and take collected waste to an off-site licenced facility.				As required	WMP Section 6.3
Paper and carboard recycling will be sent directly from the ground floor warehouse to the baler.					WMP Section 6.3.2
Garden organic waste will be taken by a landscaping contractor who will dispose of it at an off-site licenced facility.					WMP Section 6.3.2
Interim storage units will be provided for general waste and recyclables on each floor in buildings three storeys or greater. All waste material will be transported to the central waste storage unit at the end of each day by the site cleaners.					WMP Section 6.4 and 6.7
Sufficient space will be provided in Building 2B for the segregation and storage of large and bulky items. This includes broken pallets, broken storage units, e-waste and other materials that cannot be disposed of in the general or recyclable waste stream.		X			WMP Section 6.4.3
The Tenant's Representative will consider organising a skip on a monthly basis or as required to remove bulky waste items or engage a contractor to collect and transport these items for reuse, recycling or disposal at an EPA licensed facility.		X		As required	

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
In the unlikely event of hazardous waste generation, hazardous waste is to be placed in specialised containment bins and if removal is required consultation with the EPA and Council will be undertaken prior to removal.				As required	
Removal of any hazardous water will be undertaken by appropriately licensed specialised services.				As required	
Waste audits to quantify actual waste generation rates.				Approximately one month after commencing operation.	
Recycling bales will be stored indoors and for no longer than two weeks until collection.				Ongoing	WMP Section 6.4.4
Recycling bales will be managed in accordance with Section 6.4.4 of the WMP.					
Waste storage areas will include the features described Section 6.6 of the WMP.					WMP Section 6.6
Any waste and recycling compaction locations will incorporate measures to ensure best practice waste management and compliance with Council requirements, as outlined in section 6.7 of WMP.					WMP Section 6.7
Compactors and bins will be positioned in locations accessible to waste collection vehicles and be serviced directly. When servicing OWE, all vehicles are to service the site in a clockwise circulation.					
Waste avoidance measures will be implemented in accordance with Section 6.8.1 of the WMP.					WMP Section 6.8.1

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
Waste re-use opportunities that will be used at Building 2B include establishing systems with in-house and supply chain stakeholders to transport products in re-useable packaging where possible.		X			WMP Section 6.8.2
Waste recycling opportunities will be taken in accordance with Section 6.5.3 of the WMP.					WMP Section 6.8.3
Waste management initiatives and management measures will be clearly communicated to employees, customers and cleaners to improve waste avoidance and resource recovery.		X			WMP Section 6.9
Waste signage and communication strategies will be implemented in accordance with Section 6.9 and 6.10 of the WMP.					
All contracts made with cleaners, Tenant Representative and contractors are to clearly explain waste management system and identify roles and responsibilities at Building 2B.	X				
It is the responsibility of the Tenant Representative to implement the WMP and a responsibility of the employees and cleaners to ensure that they comply with the WMP at all times.		X			WMP Section 6.9 and 6.10
The Tenant Representative will routinely check waste sorting and storage areas for cleanliness, hygiene and safety.					
Bulk bins will be checked by the Tenant Representative to ensure that no overflow occurs.					

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenant Representative	Penrith City Council		
The Tenant Representative will ensure all monitoring and audit results are well documented and carried out as specified in the WMP.					
Operational Waste management responsibilities will be allocated in accordance with Table 19 in Section 6.12 of the WMP.					

3.6 Stormwater

The environmental controls in **Table 10** will be implemented to ensure the effective management of stormwater at Building 2B at Oakdale West.

Table 10 Environmental Management Controls for Stormwater

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenants Representative	Penrith City Council		
Operation will comply with section 120 of the POEO Act, which prohibits the pollution of waters.		X		Ongoing	SSD 10397 Condition B32
The stormwater management system will be operated in accordance with Condition B36.	X				SSD 10397 Condition B36
All stormwater drainage infrastructure on the site, including bio-retention basins, shall remain under the care, control and ownership of the registered proprietor of the lots.					SSD 10397 Condition B37
Water storage basins and stormwater infrastructure owned and managed by Goodman will be managed and maintained in accordance with the manufacturers specifications.	X				Best practice

3.7 Landscaping and Visual Amenity

The visual amenity and landscaping at Building 2B will be maintained in accordance with the overarching Oakdale West Landscape Management Plan (LMP) (Scape Design 2021) attached as **Appendix F**.

The environmental controls in **Table 11** will be implemented to minimise the visual impact of Building 2B.

Table 11 Environmental Management Controls for Visual Amenity

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenants Representative	Penrith City Council		
All landscaping implemented as part of Building 2B, as shown in the developed Landscape Plan will be maintained for the life of the development. Re-planting and rehabilitation works will be undertaken if any aspect of the landscaping has not been successful.	X			Ongoing	SSD 10397 Condition B3(c)
Lighting will comply with the latest version of AS 4282.	X	X			
Lighting will be mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.					SSD 10397 Condition B5
Any security cameras will be directed away from adjacent private properties.					SSD 10397 Condition B6
All signage and fencing will be erected in accordance with the plans in the RTS.					SSD 10397 Condition B7
A Maintenance Logbook will be maintained in accordance with Section 5.2.7 of the LMP.	X				LMP Section 5.2.7
All maintenance works will be undertaken in accordance with Section 5.3 of the LMP.					LMP Section 5.3

3.8 Biodiversity

Building 2B will be comply with the requirements of the Flora and Fauna Management Plan (FFMP) (Ecoloqique 2021). This FFMP has been developed in accordance with SSD 7348 which was developed as a sub-plan with the Oakdale West OEMP.

3.9 Hazard, Risk and Emergency

A Bushfire Protection Assessment has been prepared by Australia Bushfire Protection Planners Pty Limited (2020) and is attached as **Appendix G**.

Table 12 lists the management strategies for hazards, risks and emergencies as required by SSD 10397.

Table 12 Environmental Management Controls for Hazard, Risk and Emergency

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenants Representative	Penrith City Council		
Dangerous Goods will be stored in accordance with Condition B47.				Ongoing	SSD 10397 Condition B47
Chemicals, fuels and oils will be stored in bunded areas in accordance with relevant Australian Standards and/or the Storing and Handling of Liquids: Environmental Protection – Participants Manual (Department of Environment and Climate Change 2007).		X			SSD 10397 Condition B48
In the event of an emergency, the contact details in **Table 3** will be contacted.					Section 2.6.3
Appropriate firefighting equipment will be provided as required for the safety of persons and property.					Best Practice
In the event of a major spill, the actions listed in **Section 2.6** will be implemented.		X			Section 2.6
The actions specified on the relevant safety data sheets (SDS) will be implemented in the event of a minor spill/incident of a potentially hazardous material.					Best practice
Spill kits will be provided and maintained on site.		X			

3.10 Sustainability

A Sustainability Management Plan (SMP) has been prepared by SLR (2020d) to accompany the EIS and is attached as **Appendix H**. The SMP outlines the sustainability mitigation measures to ensure the long-term sustainability of resource use through more efficient and cost-effective energy use practices.

The sustainability controls in **Table 13** will be implemented during the operation of Building 2B.

Table 13 Environmental Management Controls for Hazard, Risk and Emergency

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenants Representative	Penrith City Council		
Energy efficient measures should be implemented as described in **Section 6** of the SMP (**Appendix I**).		X		Ongoing	SMP Section 6
All sustainable measures will be commissioned and tuned once construction is complete to ensure all services operate to their full potential and as designed.	X			Prior to operation	SMP Section 8
Electrical equipment will be maintained to Australian Standards to ensure unnecessary energy wastage is minimised.		X		Ongoing	SMP Section 8.1.2
Roof access will be available for third party access to roof for carry out necessary maintenance as required.	X	X			
A Building Users Guide will be prepared to provide details regarding everyday operation of the building and will include energy minimisation initiatives.					

4 Monitoring and Reporting

4.1 Monitoring and Inspections

Table 14 summarises the monitoring requirements for the operation of Building 2B as set out in SSD 10397 and relevant management plans.

Table 14 Monitoring and Inspections Requirements

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenants Representative	Penrith City Council		
General					
Compliance monitoring and reporting will be undertaken in accordance with the Compliance Monitoring and Reporting Program (SLR 2020).	X			As required	SSD 10397 Condition C14
All monitoring will be undertaken in accordance with Division 9.4 of Part 9 of the EP&A Act.				Ongoing	SSD 10397 Condition C17
Regular site inspections will be undertaken to ensure that the OEMP is being implemented and environmental management measures are maintained.				Ongoing	Compliance Monitoring and Reporting Program (SLR 2020)
Noise					
Noise validation monitoring to confirm the rooftop mechanical plant and services comply with the predictions in the EIS in accordance with Condition B26.	X	X		Within 6 months of commencing operation	SSD 10397 Condition B26

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenants Representative	Penrith City Council		
Traffic					
The OTMP will be reviewed.	X	X		Annually	OTMP Section 6.1
Access points will be surveyed to review traffic generation.					
Dirt on the public road network will be monitored.			X	Quarterly for first 2 years of operation then annually	
All loads entering and leaving the site will be monitored.		X		Ongoing	
Waste					
Visual assessment of bins prior to collection will be undertaken by Management in the first few months of being operational to ensure the waste management system is sufficient for the development's needs.		X		Prior to collection in first few months	WMP Section 6.11
Audit and visual assessment of bins prior to collection will be undertaken by Management ongoing to ensure WMP provisions are being maintained.				Half-yearly basis	
Bins will be monitored to ensure no overfilling occurs.				Ongoing	WMP Section 6.12
Signage will be monitored and maintained to ensure it remains clean, clear and applicable.					WMP Section 6.12

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenants Representative	Penrith City Council		
The cleanliness of waste and recycling storage rooms and the cleaning/daily transfer of bins by cleaners will be inspected on a regular basis.		X		Ongoing	WMP Section 6.12
All waste storage areas and waste management equipment will be inspected on a regular basis.					
Sustainability					
Sub-metering will be implemented for all major consuming processes or items of equipment including sub-metering for all loads greater than 100 kVA.		X		Ongoing	SMP Section 8.1.2
Energy saving procedures will be routinely checked					

4.2 Reporting

Table 15 summarises the reporting requirements for the operation of Building 2B as set out in SSD 10397 and relevant management plans.

Table 15 Reporting Requirements

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenants Representative	Penrith City Council		
General Environmental Performance					
Compliance monitoring and reporting will be undertaken in accordance with the Compliance Monitoring and Reporting Program (SLR, 2019).	X			As required	SSD 10397 Condition C14
Compliance Reports of the Development will be carried out in accordance with the Compliance Reporting Post Approval Requirements (DPIE 2018).				As set out in the DPIE guidelines	SSD 10397 Condition C15

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenants Representative	Penrith City Council		
Each Compliance Report will be made publicly available.				No later than 60 days after submitting it to the DPIE and notify the DPIE in writing at least 7 days before this is done.	SSD 10397 Condition C16
Regular reporting on environmental performance will be uploaded on the dedicated website as per the reporting arrangements in any plans or programs approved under the conditions of SSD 10397.				Ongoing	SSD 10397 Condition C18
Incident / Non-Compliance Reporting					
A written incident notification will be emailed to the DPIE at compliance@planning.nsw.gov.au and include the requirements outlined in Appendix 4 of SSD 10397.	X			Immediately (within 24hrs of becoming aware of the incident)	SSD 10397 Condition C10 and Appendix 4

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenants Representative	Penrith City Council		
A detailed incident report will be provided to the Planning Secretary and include the requirements outlined in Appendix 4 of SSD 10397.				Within 30 days of the incident occurring	
The DPIE will be notified of any non-compliance in writing to compliance@planning.nsw.gov.au				Within 7 days of becoming aware of the non-compliance	SSD 10397 Condition C11
A register of all complaints and non-compliances will be kept.				For at least 5 years	Best practice
Traffic					
A road quality dilapidation report will be prepared and reported to Council, where appropriate.	X			As required	OTMP Section 6.1
Waste					
All personal to report any urgent issues associated with waste or recycling management.	X	X		Immediately	WMP Section 6.1
Sustainability					

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenants Representative	Penrith City Council		
Energy Management Plan should be updated to reflect changes to the Energy Management System and to promote continual improvement of energy management.	X			Annually	SMP Section 8.1.1
Review of actual building energy and water consumption to verify that all systems are performing at their optimum efficiency and ensure that the Energy Management Plan is sufficient for the development's needs.				Within the first few months of operation then quarterly	

4.3 Auditing

Table 16 summarises the Audit requirements for the operation of Building 2B as set out in SSD 10397 and relevant management plans.

Table 16 Auditing Requirements

Environmental Management Control	Person Responsible			Timing / Frequency	References / Notes
	Goodman's Representative	Tenants Representative	Penrith City Council		
Waste					
Waste audits to quantify actual waste generation rates.		X		Approximately one month after commencing operation.	WMP Section 6.4.3
Sustainability					
Energy audit and management review.		X		Half-yearly basis	SMP Section 8.1.1

5 Contingency Management Plan

Table 17 lists the actions to be implemented if inspections, monitoring and/or auditing indicate that the mitigation measures listed in **Section 3** and the specialist management plans are not effective in managing environmental impacts.

Table 17 Contingency Plan

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
Operation Movements	Trigger	Visual monitoring of all traffic movements within the Site does not detect unsafe movement of traffic and risk to persons and property	Monitoring of all traffic movements within the Site detects unsafe movement of traffic and risk to persons and property	Monitoring of all traffic movements within the Site identifies several unsafe movements of traffic and risk to persons and property
	Response	Visual monitoring to continue daily as part of an ongoing process.	Review needed to address persistent unsafe movements. Modification of traffic controls to self-enforce appropriate vehicle manoeuvres within the site.	Condition Amber responses, plus the following additional responses; • Direct cessation of unsafe movements. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.
	Trigger	Following periods of adverse weather conditions (e.g., a significant heavy rain event), internal roads/aisles have been inspected prior to vehicle traffic use and no issues found	Internal roads / aisles have been inspected following adverse weather conditions and minor issues found (small pot holes, dirt / debris, or pooling water)	Internal roads / aisles have been inspected following adverse weather conditions and major issues found (failed road integrity, large diameter pot holes, fallen light poles or trees)
	Response	No further action required until next adverse weather event.	Any impediments to access roads will be cleared. Maintenance teams to repair any pot holes and remove excess water when expected traffic volumes are lowest.	Condition Amber responses, plus Install a detour around any unsafe obstacle to ensure safety for all motorists and/or pedestrians.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
Operational Traffic Movements	Trigger	Parking occupancy less than provided on-site capacity	Parking bay requirements are within 90% of the provided spaces	Parking requirements exceed parking spaces provided.
	Response	No response required. Continue monitoring program	Review and investigate parking rates and where appropriate, implement additional remediation measures such as: • Undertake additional parking reviews to determine cause of higher limit parking space issues in more detail. • Review OTMP and update where necessary. • Provide additional training to tenants to provide information on lowering parking demands.	Condition Amber responses, plus the following additional responses; • Temporary halting of activities and resuming when conditions have improved. • Provide incentives for car pooling and utilising active transport measures.
	Trigger	No unsafe pedestrian movements identified.	Pedestrian behaviour identified to be risky and unsafe.	Site design/operations identified to place pedestrians in unsafe situations and multiple near miss events

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
	Response	No response required. Continue monitoring program	Review needed to address persistent unsafe movements. Modification of traffic controls to self- enforce appropriate vehicle manoeuvres within the site.	Condition Amber responses, plus the following additional responses; • Direct cessation of unsafe movements by amending design of Site. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.
	Trigger	Operational traffic volume is in accordance with permissible and programmed volume constraints	Operational traffic volumes are within 90% of the permissible volume constraints	Operational traffic volumes exceed permissible volume constraints
	Response	This operational traffic volume review shall be completed monthly for the first 6 months of operation and bi-annually thereafter.	Review and investigate operational activities, and where appropriate, implement additional remediation measures such as: • Undertake review of the Site's traffic generation in more detail. • Review OTMP and update where necessary. • Provide additional training to Tenant's Representative.	Condition Amber responses, plus the following additional responses; • Temporary halting of activities and resuming when conditions have improved. • Surveys of accesses shall be required to allow enforcement of site-specific thresholds. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.
	Trigger	Loading / service bays are within operational constraints	Loading / service bays are within 90% of capacity	Loading / service bays exceed capacity.
	Response	No response required. Continue monitoring program	Review and investigate operational	Condition Amber responses, plus the following additional responses;

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
			activities, and where appropriate, implement additional remediation measures such as: • Drivers be provided with additional training and an extra copy of the Driver Code of Conduct. • Provision of additional training to the tenants should be provided to ensure the most appropriate schedule can be created.	• Approved traffic thresholds to be enforced for the peak periods • Review OTMP and update where necessary. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.
Queuing	Trigger	No queuing identified at the Site access.	Queuing identified at the Site access.	Queuing identified on the public road as a direct result from activities within the Site.
	Response	No response required. Continue monitoring program.	Review the delivery schedules prepared by the tenant. Drivers be provided with additional training and an extra copy of the Driver Code of Conduct. Provision of additional training to the Tenant's Representative should be provided to ensure the most appropriate schedule can be created.	Condition Amber responses, plus the following additional responses; • Approved traffic thresholds to be enforced for each sub-tenancy. • Review OTMP and update where necessary. • Notify the planning secretary within 7 business day of becoming aware of a non-compliance.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
Incidents	Trigger	No incidents observed or reported.	Near miss or minor incident occurred within the carriageway of OWE which did not require medical attention (such as tripping on raised footpath).	Major incident occurred within the carriageway of OWE which did not require medical attention (such as being hit by a truck while exiting a Site).
	Response	No action required at this stage, however continual reinforcement to all tenants to report all incidents shall continue.	Near miss to be reported to the appropriate Incident to be reported to Tenant's Representative and Estate Coordinator, for immediate remedy.	Condition Amber responses, plus the following additional responses; • Temporary halting of activities and resuming when incident has been remedied. • Incident to be reported to Site Manager and Estate Coordinator. • Review OTMP and update where necessary. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.
Noise	Trigger	Operational noise levels are below specified noise criteria.	Operational noise levels are 1-2 dB above the specified noise criteria.	Operational noise levels are >2 dB above the specified noise criteria.
	Response	No action. Continue ongoing monitoring activities.	Review and investigate noisy operational activities, and where appropriate, implement additional remediation measures such as: • Undertake additional noise reviews to determine cause of higher limit noise issues in more detail. • Review OTMP (and other sub-plans) and update where necessary.	Condition Amber responses, plus the following additional responses; • Undertake additional noise surveys to review cause in more detail. • Surveys of each tenancy shall be required to allow enforcement of site-specific thresholds. • Review OTMP and update where necessary. • Provide additional training to Tenant's Representative to provide information on lowering noise emissions. • Notify the planning secretary within 7 days of becoming aware of a non-compliance.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
			• Provide additional training to tenants to provide information on lowering noise emissions.	
Irrigation	Trigger	Irrigation system operating at optimum frequency.	Irrigation system yet to be installed.	Irrigation system fails.
	Response	No response required. Continue to monitor.	Provide additional hand watering until system is installed.	Provide additional hand watering until system is repaired. The irrigation system must be fully functional at all times to ensure that all plants, trees and lawns receive adequate water at optimal frequency.
Plant failure	Trigger	No significant plant failure is present. Monitoring verifies that there is <5% of plants failing.	Monitoring verifies there is plant failure at a rate between 5-10%.	Monitoring verifies there is plant failure at a rate greater than 10%.
	Response	No response required. Continue to monitor.	If the cause of failure is due to a controllable situation then correct situation prior to replacing plants. All planting areas are to be free of grass and weed. Replace plants with one of similar size and quality and identical species of variety of the ones failed.	If the cause of failure is due to a controllable situation then correct situation prior to replacing plants. All planting areas are to be free of grass and weed. Replace plants with one of similar size and quality and identical species of variety of the ones failed.
Revegetation failure	Trigger	Revegetation is growing to desired design surface levels.	Monitoring verifies that weed emergence has occurred.	Monitoring verifies that weed emergence and plant failure has occurred.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
	Response	No response required. Continue to monitor.	Refer to LMP for monitoring requirements once problem has been identified. Possible solutions include the removal of weeds as per Section 5.3.7 of the LMP.	Refer to LMP for monitoring requirements once problem has been identified. Possible solutions include removal of weeds and re-seeding of revegetation cover crop as per Section 5.3.7 of the LMP.
Slope failure	Trigger	No significant erosion is present that would constitute a safety hazard. Monitoring and inspection indicates that there are significant erosion features present.	Monitoring and inspections indicate the development of erosion features up to 200mm deep.	Monitoring and inspections indicate erosion features greater than 200mm deep.
	Response	No response required. Continue to monitor.	A suitably trained person to inspect the site. Investigate opportunities to install water management infrastructure to address erosion. Remediate as appropriate.	Undertake a review of the drainage of the area and provide recommendations to appropriately remediate the erosion. Remediate as soon as practicable.
Wildlife protection	Trigger	No unexpected wildlife is encountered in the estate.	Unexpected uninjured wildlife is encountered in the estate.	Unexpected injured/deceased wildlife is encountered in the estate.
	Response	Continue OEMP implementation.	Stop Work Procedure: • Stop Work / Prevent personnel and contractors from entering area where fauna encountered	Stop Work Procedure: • Stop Work / Prevent personnel and contractors from entering area • Tenant Representative to notify the Goodman Representative • Goodman Representative to immediately contact WIRES or other relevant wildlife carer.

Key Element	Trigger / Response	Condition Green	Condition Amber	Condition Red
			• Tenant Representative to notify relevant Goodman Representative • Goodman Representative to assess if animal can be encouraged to leave site voluntarily and safely or if WIRES or wildlife carer is required to capture and relocate animal.	
Waste	Trigger	Monitoring/Inspections/Audits show waste and recycling is managed/segregated as per WMP and best practice	Monitoring/Inspections/Audits show waste and recycling management/segregation could be improved.	Monitoring/Inspections/Audits show waste and recycling management/segregation is poor and needs immediate improvement.
	Response	Continue to implement the WMP.	Undertake additional staff training and re-examine signage.	Undertake additional staff training, re-examine signage, review collection services provided and the WMP.
Bushfire	Trigger	No bushfire or bushfire prone weather.	Bushfire prone weather during summer.	Bushfire in the vicinity of the site.
	Response	Continue OEMP implementation.	Ensure grass is kept short and vegetation is minimal at the site. Weather is to be monitored twice daily for chance of bushfire.	Stop work and contact NSW Fire and Rescue on '000'. Evacuate the site as directed by NSW Fire and Rescue.

6 OEMP Review

The OEMP will be reviewed, and if necessary, updated within three months of the following:

- The submission of a Compliance Report under Condition C15;
- Submission of an incident report under Condition 10;
- The approval of any modification of the conditions of this consent; or
- The issue of a direction of the Planning Secretary under condition (a) which requires a review.

As per Condition C9 the revised documents will be sent to DPIE within 6 weeks of review. All employees and contractors will be informed of any revisions to the OEMP by the Goodman Representative.

7 References

Ason (2021) Oakdale West Operational Management Plan

Australia Bushfire Protection Planners Pty Limited (2020) Bushfire Protection Assessment

Ecologique (2021) Flora and Fauna Management Plan Oakdale West Industrial Estate

Scope Design (2021) Oakdale West Landscape Management Plan

SLR (2020) Compliance and Monitoring and Reporting Program Oakdale West Building 2B

SLR (2021) Oakdale West Sustainability Management Plan

SLR (2021) Oakdale West Waste Management Plan

APPENDIX A

Development Consent SSD 10397

Consolidated Consent

As delegate of the Minister for Planning and Public Spaces under delegation executed on 26 April 2021, I approve the Development Application referred to in Schedule 1, subject to the conditions specified in Schedule 2.

These conditions are required to:

- prevent, minimise or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

Joanna Bakopanos
A/Director
Regions, Industry Assessments Team

Sydney 4 May, 2021 File: EF21/2471

SCHEDULE 1

Application Number:	SSD 10397
Applicant:	Goodman Property Services (Aust) Pty Ltd
Consent Authority:	Minister for Planning and Public Spaces
Site:	Lot 11 DP 1178389 2 Aldington Road, Kemps Creek NSW 2178
Development:	Oakdale West Estate Stage 2 Development including construction, subdivision, fitout, operation and use of a four-level automated warehouse, associated office space, internal roads and parking.

Modified by SSD-10397-MOD-1	23 September 2020	Minor design changes to approved plans, including addition of fire stairs on northern elevation
Modified by SSD-10397-MOD-2	4 May 2021	Minor design changes to approved plans, including addition of two solar energy inverter enclosures on the northern and southern elevations, respectively, and increase in height of perimeter security fencing from 2.1 m to 2.4 m

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DEFINITIONS

Applicant	Goodman Property Services (Aust) Pty Ltd, or any person carrying out any development to which this consent applies
Certifying Authority	A person who is authorised by or under section 6.17 of the EP&A Act to issue Part 6 certificates
CEMP	Construction Environmental Management Plan
CAQMP	Construction Air Quality Management Plan
Conditions of this consent	Conditions contained in Schedule 2 of this document
Consent Authority	The relevant consent authority for development in accordance with the EP&A Act
Construction	The carrying out of works for the purpose of the development, including detailed earthworks, erection of building 2B, internal fit-out and construction of associated infrastructure permitted by this consent
Council	Penrith City Council
CTMP	Construction Traffic Management Plan
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
Demolition	The deconstruction and removal of buildings, sheds and other structures on the site
Department	NSW Department of Planning, Industry and Environment (DPIE)
Development	The development described in the EIS and RtS, referred to as Stage 2 development in the Oakdale West Estate, including construction and operation of a four-storey warehouse and associated office space and infrastructure, as shown on the plans in **Appendix 1**
DA	Development Application submitted in accordance with the EP&A Act
EIS	The Environmental Impact Statement titled *Oakdale West Industrial Estate Concept Plan and Stage 1 Modification and Stage 2 Development Application Environmental Impact Statement*, prepared by GHD dated January 2020, including any additional information provided by the Applicant in support of the application
Environment	Includes all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
Evening	The period from 6 pm to 10 pm
Feasible	Feasible relates to engineering considerations and what is practical to build
Fibre ready facility	As defined in Section 372W of the *Telecommunications Act 1997*
GLA	Gross lettable area
GFA	Gross floor area
Heritage	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement
Heritage item	An item as defined under the *Heritage Act 1977* (NSW), and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the *National Parks and Wildlife Act 1974* (NSW), the World Heritage List, or the National Heritage List or Commonwealth Heritage List under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), or anything identified as a heritage item under the conditions of this consent
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance *Note: "material harm" is defined in this consent*
Land	Has the same meaning as the definition of the term in section 1.4 of the EP&A Act
Material harm	Is harm that:

	a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such 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)
Minister	NSW Minister for Planning and Public Spaces (or delegate)
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
MOD 1	The modification application and supporting documentation, including *SSD 10397 MOD 1, Oakdale West Stage 2 – S.4.55(1A) Application to Modify Architecture Plans*, dated 2 September 2020
MOD 2	The modification application and supporting documentation, including *SSD 10397 MOD 2, Oakdale West Stage 2 – S.4.55(1A) Application to Modify Architecture Plans and Condition B8*, dated 4 March, 2021
Monitoring	Any monitoring required under this consent must be undertaken in accordance with section 9.40 of the EP&A Act
NCC	National Construction Code
Night	The period from 10 pm to 7 am on Monday to Saturday, and 10 pm to 8 am on Sundays and Public Holidays
Non-compliance	An occurrence, set of circumstances or development that is a breach of this consent
OEMP	Operational Environmental Management Plan
Operation	The use of building 2B for storage and distribution of goods upon completion of construction as described in the EIS
OTMP	Operational Traffic Management Plan
OWE	Oakdale West Estate including the approved Concept Plan for 22 warehouse buildings and associated infrastructure and Stage 1 development including bulk earthworks across the site, construction and operation of 3 warehouses and the West-North-South Link Road, as described in the development consent SSD 7348, approved on 13 September 2019, as modified
PCA	Principal Certifying Authority in accordance with the EP&A Act
Planning Secretary	Planning Secretary under the EP&A Act, or nominee
POEO Act	*Protection of the Environment Operations Act 1997* (NSW)
Reasonable	Means applying judgement in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements.
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting
RMS	(former) NSW Roads and Maritime Services (now TfNSW)
RtS	The Response to Submissions titled *Oakdale West Estate SSD 7348 MOD 1, 2, 3 Consolidated Response to Submissions* prepared by Goodman dated 25 March 2020
Sensitive receivers	A location where people are likely to work, occupy or reside, including a dwelling, school, hospital, office or public recreational area
Site	The land defined in Schedule 1
SLR	Proposed Southern Link Road as shown in the WSEA SEPP and the document titled *Broader WSEA SLRN Options Refinement Report* prepared by AECOM, 2014
TfNSW	Transport for New South Wales
Vicinity of the site	Bakers Lane, Kemps Creek
Waste	Has the same meaning as the definition of the term in the Dictionary to the POEO Act
Water Pipelines	Two Sydney drinking water pipelines located on land owned by Water NSW along the northern boundary of the site

WNSLR	Western North-South Link Road as shown in the WSEA SEPP and approved under the OWE development consent SSD 7348
WSEA	Western Sydney Employment Area
WSEA SEPP	State Environmental Planning Policy (Western Sydney Employment Area) 2009
Year	A period of 12 consecutive months

SCHEDULE 2

PART A ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

A1. In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.

TERMS OF CONSENT

A2. The development may only be carried out:

(a) in compliance with the conditions of this consent;

(b) in accordance with all written directions of the Planning Secretary;

(c) in accordance with the EIS and RTS;

(d) in accordance with MOD 1;

(e) in accordance with MOD 2;

(f) in accordance with the Development Layout in **Appendix 1**; and

(g) in accordance with the management and mitigation measures in **Appendix 3**.

A3. Consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to:

(a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary; and

(b) the implementation of any actions or measures contained in any such document referred to in condition A3.

A4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition (c). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition (c), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

LIMITS OF CONSENT

Lapsing

A5. This consent lapses five (5) years after the date from which it operates, unless the development has physically commenced on the land to which the consent applies before that date.

A6. The total area of warehousing and office space at the development must not exceed a maximum gross lettable area of 200,700 square metres.

A7. The Applicant must ensure construction of the development does not generate more than 935 vehicle trips (1,870 total vehicle movements) during the day, evening and night, on the public road network.

Note: This condition does not apply to construction vehicles using the West-North-South Link Road.

A8. The Applicant must keep accurate records of the number of vehicles entering or leaving the site, for the duration of construction and provide these records to the Planning Secretary on request.

A9. The development must be consistent with the development controls in the OWE, as shown in **Table 1**.

Table 1 *Development Controls*

Development Aspect	Control
Minimum building setbacks from:	
• Southern Link Road	20 m
• Western North-South Link Road	20 m
• Local estate Roads	7.5 m
• Western site boundary	40 m

Development Aspect	Control
• Southern site boundary	20 m (excluding parking areas)
Rear boundary setbacks within the estate	5 m
Side boundary setbacks within the estate	0 m, subject to compliance with fire rating requirements
Building height – Building 2B	28 m
Minimum lot size	5,000 m^2
Minimum frontage	40 m (excluding cul-de-sacs) 35 m minimum lot width at the building line
Site coverage	Maximum of 65 per cent (excluding awnings)

NOTIFICATION OF COMMENCEMENT

A10. The date of commencement of each of the following phases of the development must be notified to the Department in writing, at least one month before that date:

(a) construction, excluding any early pre-construction works, such as installation of erosion and sediment controls or laydown of construction materials; and

(b) operation.

A11. If the construction or operation or decommissioning of the development is to be staged, the Department must be notified in writing at least one month before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.

EVIDENCE OF CONSULTATION

A12. Where conditions of this consent require consultation with an identified party, the Applicant must:

(a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and

(b) provide details of the consultation undertaken including:

(i) the outcome of that consultation, matters resolved and unresolved; and

(ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.

STAGING, COMBINING AND UPDATING STRATEGIES, PLANS OR PROGRAMS

A13. With the approval of the Planning Secretary, the Applicant may:

(a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);

(b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and

(c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).

A14. If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.

A15. If approved by the Planning Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.

PROTECTION OF PUBLIC INFRASTRUCTURE

A16. Before the commencement of construction, the Applicant must:

(a) consult with the relevant owner and provider of services that are likely to be affected by the 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 Aldington Road and Abbotts Road (between the site and Mamre Road), including roads, gutters and footpaths; and

(c) submit a copy of the dilapidation report the Planning Secretary and Council.

A17. Unless the Applicant and the applicable authority agree otherwise, the Applicant must:

(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development, including but not limited to, Bakers Lane, Aldington Road and Abbotts Road; and

(b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development, including but not limited to, Bakers Lane, Aldington Road and Abbotts Road.

STRUCTURAL ADEQUACY

A18. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the National Construction Code (NCC).

Note:

- *Under Part 6 of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.*

COMPLIANCE

A19. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.

OPERATION OF PLANT AND EQUIPMENT

A20. All plant and equipment used on site, or to monitor the performance of the development must be:

(a) maintained in a proper and efficient condition; and

(b) operated in a proper and efficient manner.

EXTERNAL WALLS AND CLADDING

A21. The external walls of all buildings including additions to existing buildings must comply with the relevant requirements of the NCC.

A22. Before the issue of a Construction Certificate and an Occupation Certificate, the Applicant must provide the Certifying Authority with documented evidence that the products and systems proposed for use or used in the construction of external walls including finishes and claddings such as synthetic or aluminium composite panels comply with the requirements of the NCC.

A23. The Applicant must provide a copy of the documentation given to the Certifying Authority to the Planning Secretary within seven days after the Certifying Authority accepts it.

UTILITIES AND SERVICES

A24. Before the construction of any utility works associated with the development, the Applicant must obtain relevant approvals from service providers.

A25. Before the commencement of operation of the development, the Applicant must obtain a Compliance Certificate for water and sewerage infrastructure servicing of the site under section 73 of the *Sydney Water Act 1994* (NSW).

A26. Before the issue of a Subdivision or Construction Certificate for the development, the Applicant (whether or not a constitutional corporation) is to provide evidence, satisfactory to the Certifying Authority, that arrangements have been made for the provision of communication facilities to the development.

A27. The Applicant must demonstrate that the carrier has confirmed in writing they are satisfied that the fibre ready facilities are fit for purpose.

A28. The Applicant must comply with the requirements of Endeavour Energy for the location and design of the pad-mounted substations for the development. The Applicant must submit evidence of compliance prepared by a Level 3 Accredited Service Provider to the satisfaction of Endeavour Energy, prior to the commencement of construction.

A29. The Applicant must obtain any other relevant approvals from Endeavour Energy, prior to the commencement of construction.

SUBDIVISION

A30. The Applicant shall subdivide the site generally in accordance with the subdivision plan included in the EIS.

WORKS AS EXECUTED PLANS

A31. Before the issue of the final Occupation Certificate, works-as-executed drawings signed by a registered surveyor demonstrating that the stormwater drainage and finished ground levels have been constructed as approved, must be submitted to the PCA.

APPLICABILITY OF GUIDELINES

A32. References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent.

A33. However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, when issuing directions under this consent in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.

ADVISORY NOTES

AN1. All licences, permits, approvals and consents as required by law must be obtained and maintained as required for the development. No condition of this consent removes any obligation to obtain, renew or comply with such licences, permits, approvals and consents.

PART B ENVIRONMENTAL PERFORMANCE CONDITIONS

VISUAL AMENITY

Building Design

B1. The Applicant must construct Building 2B in accordance with the EIS and RTS and as shown on the figures in **Appendix 1**.

Landscape Plan

B2. Prior to the commencement of construction of Building 2B, the Applicant must prepare a detailed Landscape Plan in consultation with Council and to the satisfaction of the Planning Secretary. The Landscape Plan must:

(a) detail the plant species and layouts for all areas of the development;

(b) include a diverse mix of species to provide canopy trees and understorey planting, to assist in achieving the objectives of Council's Cooling the City Strategy;

(c) detail monitoring and maintenance procedures, including irrigation requirements.

B3. The Applicant must:

(a) not commence construction of Building 2B until the Landscape Plan is approved by the Planning Secretary.

(b) must implement the most recent version of the Landscape Plan approved by the Planning Secretary; and

(c) maintain the landscaping and vegetation on the site in accordance with the approved Landscape Plan for the life of the development. If the monitoring carried out as part of condition B2 indicates that any aspect of the landscaping has not been successful, the Applicant must undertake replanting and rehabilitation works, as reasonably practicable.

Reflectivity

B4. The visible light reflectivity from building materials used in the façades and roof of the warehouse building must be designed to minimise glare. A report demonstrating compliance with these requirements is to be submitted to the satisfaction of the Certifying Authority prior to the issue of a Construction Certificate.

Lighting and Security Cameras

B5. The Applicant must ensure the lighting associated with the development:

(a) complies with the latest version of AS 4282-1997 – *Control of the obtrusive effects of outdoor lighting* (Standards Australia, 1997); and

(b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.

B6. The Applicant must ensure any security cameras or illuminated signage installed as part of the development are directed away from adjacent private properties.

Signage and Fencing

B7. All signage and fencing must be erected in accordance with the development plans included in the EIS and RTS.

Note: This condition does not apply to temporary construction and safety related signage and fencing.

B8. All fencing along building frontages must be located behind the landscape setbacks and not along the front boundary. The fencing must be a maximum height of ~~2.1~~ 2.4 metres, ~~and~~ be an open style and coloured dark grey or black.

TRAFFIC, ACCESS AND PARKING

Roadworks

B9. Prior to any use of Aldington Road and Abbotts Road for construction traffic, the Applicant must submit a Construction Traffic Management Plan (CTMP) to the satisfaction of Council. The CTMP shall be:

(a) prepared in accordance with Council's Engineering Construction Specification for Civil Works

(b) be prepared by a suitably qualified consultant with appropriate training and certification from TfNSW;

(c) be approved by Council, prior to any construction traffic using Aldington Road and Abbotts Road;

(d) include but not be limited to:

(i) swept path analysis at critical points (bends and intersections) along the entire Aldington Road / Abbotts Road route for the largest proposed vehicle to use this route;

(ii) a detailed road safety audit of the Aldington Road / Abbotts Road route that factors the increase in traffic volumes (both in light & heavy vehicles), and proposes measures such that the road can safely accommodate this increase (including upgrades to road infrastructure, signage and line marking

treatments, vehicle length restrictions and temporary traffic control measures during the construction period);

(iii) left-in, left-out restrictions at the intersection with Mamre Road for construction vehicles.

B10. The CTMP and any proposed measures must be to the satisfaction of Council and will be subject to Local Traffic Committee and Council approval.

B11. Prior to any works (infrastructure, signage and line marking) that are on or affect a local road, a Section 138 *Roads Act, 1993* application shall be lodged and approved by Council. All works shall be carried out in accordance with the Roads Act approval, and Council's specification, guidelines and best engineering practice.

B12. The Applicant must provide written evidence to the satisfaction of the Planning Secretary, demonstrating the roadworks required by condition B9 and B10 have been completed to the satisfaction of Council, prior to using Abbotts Road and Aldington Road for construction access.

Construction Access

B13. The Applicant must ensure:

(a) no fill material is transported to the site via Bakers Lane or Aldington Road;

(b) construction traffic does not use Bakers Lane during the hours of 8 am – 9.30 am and 2.30 pm – 4 pm, Monday to Friday when schools are in use, to avoid conflict with peak school traffic on Bakers Lane;

(c) construction traffic only uses Abbotts Road and Aldington Road to access the site during the hours of 8 am – 9.30 am and 2.30 pm – 4pm, Monday to Friday, when schools are in use, subject to Conditions B9 and B12; and

(d) all construction traffic associated with the development ceases to use Bakers Lane and Aldington Road when the Western North-South Link Road opens to traffic.

Operational Access

B14. The Applicant must ensure all traffic associated with operation of the development accesses the site from the Western North-South Link Road, and the future Southern Link Road, and does not use Bakers Lane or Aldington Road.

Construction Traffic Management Plan

B15. Prior to the commencement of construction of the development, the Applicant must prepare a Construction Traffic Management Plan (CTMP) to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by condition C2 and must:

(a) be prepared by a suitably qualified and experienced person(s);

(b) be prepared in consultation with Council, TfNSW, Mamre Anglican School, Emmaus Catholic College, Emmaus Catholic Care Village and Trinity Catholic Primary School;

(c) detail specific measures to manage construction traffic to avoid school drop-off and pick-up times (8 am – 9.30 am and 2.30 pm – 4 pm, Monday to Friday), when the schools are in use, and Higher School Certificate exam periods, including any temporary infrastructure arrangements and traffic safety measures;

(d) detail the measures to be implemented to ensure road safety and network efficiency during construction, including scheduling deliveries of heavy plant and equipment outside of peak periods, or during school holidays where possible;

(e) detail heavy vehicle routes, access and parking arrangements;

(f) include a Driver Code of Conduct to:

(i) minimise the impacts of construction on the local and regional road network;

(ii) minimise conflicts with other road users;

(iii) minimise road traffic noise, particularly during night-time periods; and

(iv) ensure truck drivers use specified routes;

(g) include a program to monitor the effectiveness of these measures; and

(h) detail procedures for early notification for residents and the community (including local schools), of any potential disruptions to routes.

B16. The Applicant must:

(a) not commence construction of the development until the CTMP required by condition B15 is approved by the Planning Secretary; and

(b) implement the most recent version of the CTMP approved by the Planning Secretary for the duration of construction.

Operational Traffic Management Plan

B17. The Applicant must prepare an Operational Traffic Management Plan (OTMP) for the development. The OTMP must form part of the OEMP required by condition C5 and must:

(a) be prepared by a suitably qualified and experienced expert, in consultation with Council and TfNSW;

(b) detail the numbers and frequency of truck movements, sizes of trucks, vehicle routes and hours of operation;

(c) include measures to maintain road safety and network efficiency;

(d) detail measures to minimise noise from development related traffic, including, procedures for receiving and addressing complaints from the community about development related traffic and noise;

(e) include a Driver's Code of Conduct that addresses:

(i) designated routes, ensuring no use of Bakers Lane or Aldington Road for operational access;

(ii) travelling speeds and adherence to site-specific speed limits;

(iii) procedures to ensure drivers adhere to designated heavy vehicle routes; and

(iv) procedures to ensure drivers implement safe driving practices.

B18. The Applicant must:

(a) not commence operation of the development until the OTMP required by condition B17 is approved by the Planning Secretary; and

(b) implement the most recent version of the OTMP approved by the Planning Secretary for the duration of operation.

Operating Conditions

B19. The Applicant must ensure:

(a) all access points, internal driveways, turning areas and parking are designed and constructed in accordance with the latest version of *AS 2890.1:2004 Parking facilities off-street car parking* (Standards Australia, 2004) and *AS 2890.2:2002 Parking facilities Off-street commercial vehicle facilities* (Standards Australia, 2002);

(b) the swept path of the longest vehicle entering and exiting the site, as well as manoeuvrability through the site, is in accordance with the relevant Austroads guidelines;

(c) the development does not result in any vehicles queuing on the public road network;

(d) heavy vehicles and bins associated with the development are not parked on local roads or footpaths in the vicinity of the site;

(e) all vehicles are wholly contained on site before being required to stop;

(f) all loading and unloading of materials is carried out on site;

(g) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times.

Parking

B20. The Applicant must provide sufficient parking facilities on site 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.

NOISE

Hours of Work

B21. The Applicant must comply with the hours detailed in **Table 2**, unless otherwise agreed in writing by the Planning Secretary.

Table 2 *Hours of Work*

Activity	Day	Time
Construction	Monday – Sunday	6 am to 10 pm
Concrete works (internal to building only)	Monday – Sunday	3 am to 10 pm
Operation	Monday – Sunday (including public holidays)	24 hours

Note: Concrete works (internal to building only) include concrete pours inside Building 2B, following the installation of all building walls and the building roof.

B22. Works outside of the hours identified in condition B21 may be undertaken in the following circumstances:

(a) works that are inaudible at the nearest sensitive receivers;

(b) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or

(c) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

Operational Noise Limits

B23. The Applicant must ensure that noise generated by operation of the development does not exceed the noise limits for the OWE, as shown in **Table 3**.

Table 3 *Noise Limits dB(A)*

Location	Day $L_{Aeq(15\ minute)}$	Evening $L_{Aeq(15\ minute)}$	Night $L_{Aeq(15\ minute)}$	Night L_{AMax}
N1 Emmaus Village Residential	44	43	41	52
N3 Kemps Creek – nearest residential property	39	39	37	52
N4 & N5 Kemps Creek – other residences	39	39	37	52
All other non-associated residences	40[2]	35[2]	35[2]	52
N2 Emmaus Catholic College (school)	**When in use**: 45 $L_{eq(1h)}$			

Notes:

1. *Noise generated by the development is to be measured in accordance with the relevant procedures and modifications, including certain meteorological conditions, of the Noise Policy for Industry (EPA, 2017). Refer to the plan in Appendix 2 for the location of residential sensitive receivers.*
2. *or background + 5 dB, whichever is higher.*

B24. The noise limits in **Table 3** do not apply to receivers N3, N4 & N5 if the Applicant has Noise Agreement/s with the relevant landowner/s to exceed the noise limits, and the Applicant has provided written evidence to the Planning Secretary that agreement/s are in place.

Design and Validation

B25. The Applicant shall design and install all rooftop mechanical plant and services to ensure cumulative noise levels do not exceed 37 dB(A) at the western site boundary or 41 dB(A) at the southern site boundary. The Applicant shall provide written evidence to the satisfaction of the Planning Secretary, prior to the commencement of operation, confirming that rooftop mechanical plant and services have been installed to achieve these noise levels.

B26. Within 6 months of the commencement of operation, the Applicant must undertake noise validation monitoring to confirm the rooftop mechanical plant and services comply with the predictions in the EIS, to the satisfaction of the Planning Secretary. If the results of monitoring show that noise from the development is exceeding the noise limits in Condition B23, the Applicant must investigate and implement all reasonable and feasible noise mitigation measures to achieve compliance.

Construction Noise

B27. The Applicant must implement all feasible and reasonable noise mitigation measures to minimise construction noise from the development. Any activities that could exceed the construction noise management levels detailed in the *Interim Construction Noise Guideline* (DECC, 2099), must be identified and managed in accordance with the Construction Noise Management Plan required by condition B30.

B28. The Applicant must maintain the temporary noise curtain installed adjacent to Emmaus Catholic Care Village for the duration of construction, unless otherwise agreed with the Planning Secretary, or until such time as the permanent noise wall shown in **Appendix 2** is completed.

B29. The Applicant must maintain a real-time noise monitor at the western boundary of the site for the duration of construction. Where monitoring identifies any exceedance of the construction noise management levels, the Applicant must implement further feasible and reasonable mitigation measures to reduce construction noise levels. The environmental representative for the OWE must review and provide the results of noise monitoring to the Planning Secretary on request, including details of the measures taken to minimise noise to ensure compliance with the noise goals.

Construction Noise Management Plan

B30. The Applicant must prepare a Construction Noise Management Plan (CNMP) for the development to the satisfaction of the Planning Secretary. The CNMP must form part of the CEMP in accordance with condition C2 and must:

(a) be prepared by a suitably qualified and experienced noise expert;

(b) be approved by the Planning Secretary prior to the commencement of construction;

(c) 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;

(d) describe the measures to be implemented to manage noise generating activities during sensitive periods, including evenings, night-time and on Sundays, including but not limited to:

(i) maintenance of the temporary noise curtain along the western boundary of the Emmaus Catholic Care Village for the duration of construction;

(ii) minimising coinciding use of multiple high noise generating equipment;

(iii) orienting noisy equipment away from the sensitive receivers on the western boundary;

(iv) ensuring concrete trucks for internal concreting works (between 3 am and 6 am) are located to the east of Building 2B to maximise noise shielding for the Emmaus Catholic Care Village;

(v) ensuring all equipment has non-tonal reversing alarms;

(vi) regular maintenance and compliance checks of plant and equipment;

(vii) consultation with adjacent sensitive receivers prior to and during construction;

(e) include measures to minimise noise from construction vehicles on the public road network and on site, including but not limited to, a Driver Code of Conduct and induction training for drivers to minimise road traffic noise;

(f) include a monitoring program that:

(i) includes quarterly attended noise monitoring at the nearest sensitive receivers to determine compliance with the construction noise management levels in the *Interim Construction Noise Guideline*;

(ii) evaluates and reports on the effectiveness of the noise management measures;

(iii) includes procedures to relocate, modify, mitigate or stop work to ensure compliance with the construction noise management levels; and

(g) include procedures for recording and responding to complaints.

B31. The Applicant must:

(a) not commence construction of the development until the CNMP required by condition B30 is approved by the Planning Secretary; and

(b) implement the most recent version of the CNMP approved by the Planning Secretary for the duration of construction.

SOILS AND WATER

Discharge Limits

B32. The development must comply with section 120 of the POEO Act, which prohibits the pollution of waters.

Erosion and Sediment Control

B33. The Applicant must prepare an Erosion and Sediment Control Plan (ESCP) for the development to the satisfaction of the Planning Secretary. The ESCP must from part of the CEMP required by condition C2 and must:

(a) be prepared by a suitably qualified and experienced person(s);

(b) be generally consistent with the Erosion and Sediment Control Plan(s) for the OWE;

(c) include detailed erosion and sediment controls developed in accordance with the relevant requirements of *Managing Urban Stormwater: Soils and Construction – Volume 1: Blue Book* (Landcom, 2014) guideline; and

(d) include procedures for maintaining erosion and sediment controls in efficient working order for the duration of construction, to ensure the development complies with condition B32.

B34. The Applicant must:

(a) not commence construction of the development until the ESCP required by condition B33 is approved by the Planning Secretary; and

(b) implement the most recent version of the ESCP approved by the Planning Secretary for the duration of construction.

B35. The Applicant must install the erosion and sediment control measures approved in accordance with Condition B34, prior to the commencement of construction.

Stormwater Management System

B36. The Applicant must install and operate a stormwater management system for the development, to the satisfaction of the Planning Secretary. The system must:

(a) be designed by a suitably qualified and experienced person(s);

(b) be generally consistent with the *Civil, Stormwater and Infrastructure Services Report,* prepared by AT&L, dated January 2020;

(c) be in accordance with applicable Australian Standards and Penrith City Council's *Design Guidelines for Engineering Works*, *Water Sensitive Urban Design Policy December 2013* and *Water Management Development Control Plan*;

(d) ensure peak stormwater flows from the site do not exceed pre-development flows in any downstream areas for all rainfall events up to and including the 1 in 100-year average recurrence interval;

(e) ensure peak stormwater flows from the site do not exceed existing flows in the Water NSW drainage lines and water pipelines corridor; and

(f) incorporate rainwater harvesting measures to supplement non-potable water demand for the development.

B37. All stormwater drainage infrastructure on the site, including bio-retention basins, shall remain under the care, control and ownership of the registered proprietor of the lots.

AIR QUALITY

Dust Minimisation

B38. The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent.

B39. 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 development do not track dirt onto the public road network; and

(d) public roads used by these trucks are kept clean.

Construction Air Quality Management Plan

B40. Prior to the commencement of construction, the Applicant must update the Construction Air Quality Management Plan (CAQMP) for the OWE, to include the development. The updated CAQMP must:

(a) be prepared by a suitably qualified and experienced person(s);

(b) identify the control measures to be implemented to minimise emissions from all construction sources;

(c) detail procedures for measuring the performance of the control measures and triggers for implementing additional reasonable and feasible measures, if required, to minimise emissions; and

(d) include procedures for complaints handling and response.

B41. The Applicant must:

(a) not commence construction of the development until the updated CAQMP required by condition B40 is approved by the Planning Secretary; and

(b) implement the most recent version of the CAQMP approved by the Planning Secretary for the duration of construction.

WASTE MANAGEMENT

Waste Storage

B42. Waste must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.

Waste Management Plan

B43. The Applicant must implement the Waste Management Plan (WMP) in the EIS for the duration of construction and operation of the development.

Statutory Requirements

B44. The Applicant must assess and classify all liquid and non-liquid wastes to be taken off site in accordance with the latest version of EPA's *Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014)* and dispose of all wastes to a facility that may lawfully accept the waste.

B45. Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal.

BUSHFIRE PROTECTION

B46. The Applicant shall ensure the development complies with:

(a) the relevant provisions of *Planning for Bushfire Protection 2006*;

(b) the construction standards and asset protection zone requirements recommended in the Oakdale Industrial Estate - West Bushfire Protection Assessment, prepared by Australian Bushfire Protection Planners Pty Ltd, dated September 2016 and updated 13 January 2020; and

(c) *AS2419.1 – 2005 Fire Hydrant Installations* for firefighting water supply.

HAZARDS AND RISK

Dangerous Goods

B47. The quantities of dangerous goods stored and handled at the site must be below the threshold quantities listed in the Department of Planning's *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33* at all times.

Bunding

B48. The Applicant must store all chemicals, fuels and oils used on site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's *Storing and Handling of Liquids: Environmental Protection – Participants Manual* (Department of Environment and Climate Change, 2007).

HERITAGE

Unexpected Finds Protocol

B49. If any item or object of Aboriginal heritage significance is identified on site:

(a) all work in the immediate vicinity of the suspected Aboriginal item or object must cease immediately;

(b) a 10 m wide buffer area around the suspected item or object must be cordoned off; and

(c) the Biodiversity and Conservation Division of the Department must be contacted immediately.

B50. 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).

B51. If any archaeological relics are uncovered during construction of the development, then all works in the immediate vicinity of the relic must cease immediately. Unexpected finds must be evaluated and recorded in accordance the requirements of Department of Premier and Cabinet, Heritage Division.

COMMUNITY ENGAGEMENT

B52. The Applicant must consult with the community regularly throughout the development, including consultation with the nearby sensitive receivers identified in **Appendix 2**, relevant regulatory authorities, Registered Aboriginal Parties and other interested stakeholders. Community engagement shall be undertaken in accordance with the Community Communication Strategy for the OWE.

PART C ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Management Plan Requirements

C1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:

(a) 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;

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

(c) 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;

(d) 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;

(e) a program to investigate and implement ways to improve the environmental performance of the development over time;

(f) 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

(g) 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.*

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

C2. The Applicant must prepare a Construction Environmental Management Plan (CEMP) in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary. The CEMP must be reviewed by the Environmental Representative for the OWE to ensure it is consistent with the requirements of this consent and the relevant requirements of the OWE consent.

C3. As part of the CEMP required under Condition C2 of this consent, the Applicant must include the following:

(a) Construction Traffic Management Plan (see Condition B15);

(b) Construction Noise Management Plan (see Condition B30);

(c) Erosion and Sediment Control Plan (see Condition B33);

(d) Construction Air Quality Management Plan (see Condition B40)

(e) Community Consultation and Complaints Handling.

C4. The Applicant must:

(a) not commence construction of the development until the CEMP is approved by the Planning Secretary; and

(b) carry out the construction of the development in accordance with the CEMP approved by the Planning Secretary and as revised and approved by the Planning Secretary from time to time.

OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

C5. The Applicant must prepare an Operational Environmental Management Plan (OEMP) in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary.

C6. As part of the OEMP required under Condition C5 of this consent, the Applicant must include the following:

(a) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;

(b) describe the procedures that would be implemented to:

(i) keep the local community and relevant agencies informed about the operation and environmental performance of the development;

(ii) receive, handle, respond to, and record complaints;

(iii) resolve any disputes that may arise;

(iv) respond to any non-compliance;

(v) respond to emergencies; and

(c) include the following environmental management plans:

(i) Operational Traffic Management Plan (see Condition B17); and

(ii) Noise Validation Monitoring (see Condition B26).

C7. The Applicant must:

(a) not commence operation until the OEMP is approved by the Planning Secretary; and

(b) operate the development in accordance with the OEMP approved by the Planning Secretary (and as revised and approved by the Planning Secretary from time to time).

REVISION OF STRATEGIES, PLANS AND PROGRAMS

C8. Within three months of:

(a) the submission of a Compliance Report under condition C15;

(b) the submission of an incident report under condition C10;

(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 (a) which requires a review,

the strategies, plans and programs required under this consent must be reviewed, and the Department must be notified in writing that a review is being carried out.

C9. If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review.

Note: *This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.:*

REPORTING AND AUDITING

Incident Notification, Reporting and Response

C10. The Planning Secretary must be notified in writing to compliance@planning.nsw.gov.au immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 4.

Non-Compliance Notification

C11. The Planning Secretary must be notified in writing to compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of any non-compliance.

C12. 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.

C13. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

Compliance Reporting

C14. No later than 6 weeks before the date notified for the commencement of operation, a Compliance Monitoring and Reporting Program prepared in accordance with the Compliance Reporting Post Approval Requirements (Department 2018) must be submitted to the Planning Secretary.

C15. Compliance Reports of the development must be carried out in accordance with the Compliance Reporting Post Approval Requirements (Department 2018).

C16. The Applicant must make each Compliance Report publicly available no later than 60 days after submitting it to the Planning Secretary and notify the Planning Secretary in writing at least 7 days before this is done.

Monitoring and Environmental Audits

C17. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance reporting and independent auditing.

Note: *For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.*

ACCESS TO INFORMATION

C18. At least 48 hours before the commencement of construction until the completion of all works under this consent, including rehabilitation and remediation, 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 A2 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) the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged;

(v) minutes of CCC meetings;

(vi) 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;

(vii) 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;

(viii) a summary of the current stage and progress of the development;

(ix) contact details to enquire about the development or to make a complaint;

(x) a complaints register, updated monthly;

(xi) the Compliance Report of the development;

(xii) audit reports prepared as part of any Independent Audit of the development and the Applicant's response to the recommendations in any audit report;

(xiii) any other matter required by the Planning Secretary; and

(b) keep such information up to date, to the satisfaction of the Planning Secretary.

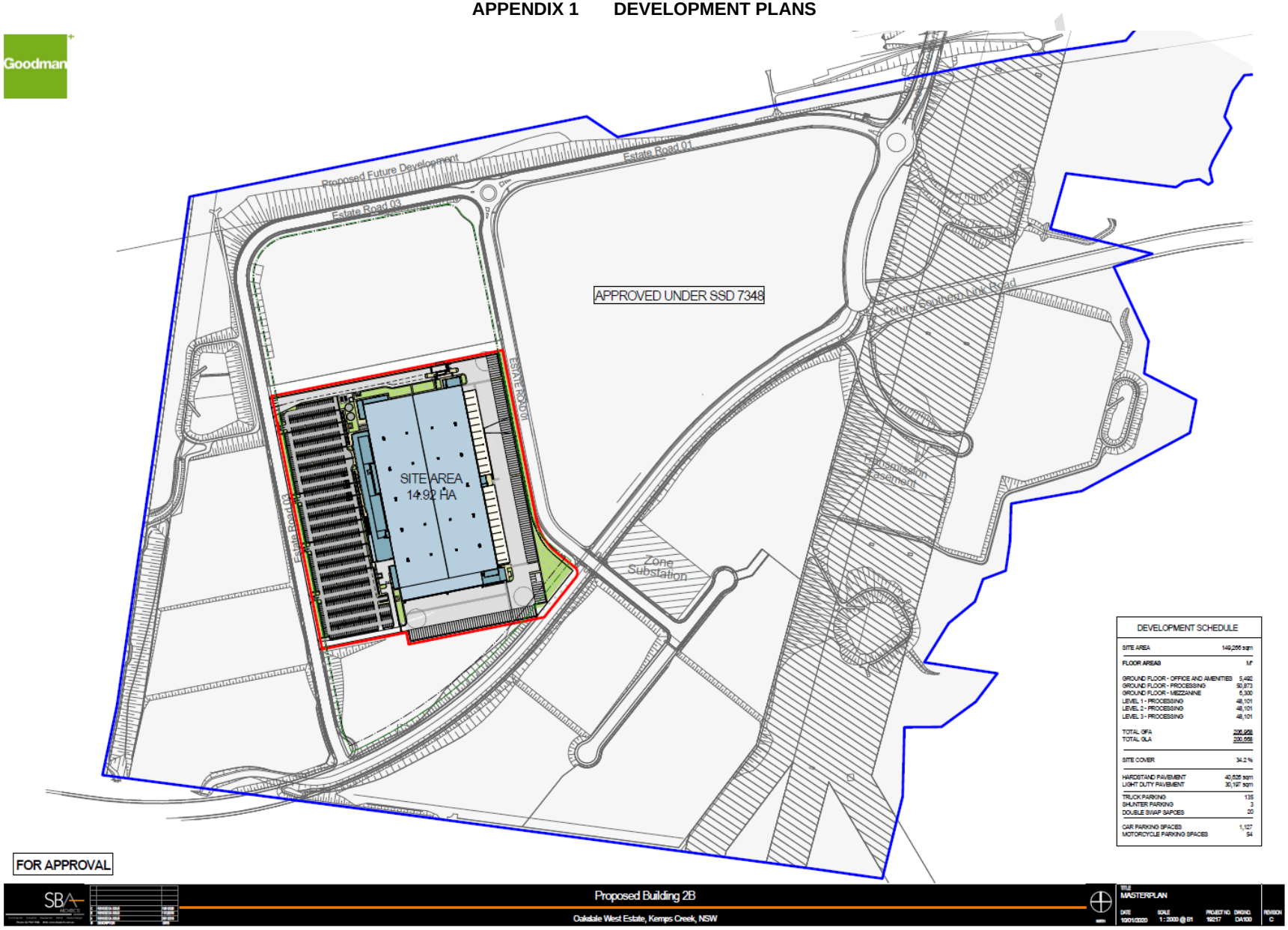


Figure 1: Location Plan

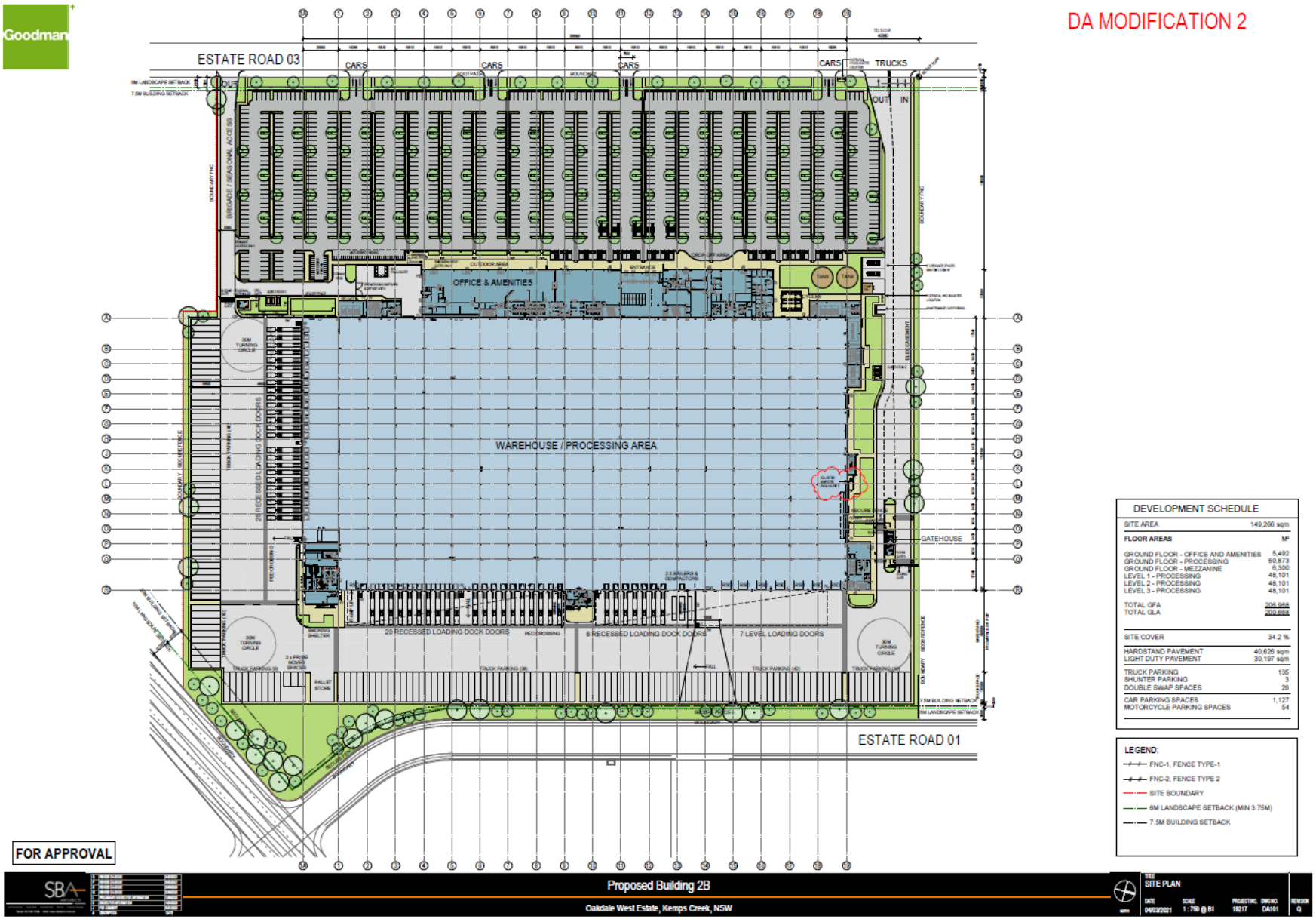


Figure 2: Landscape and Ground Floor Plan (Mod 2 – Plan 1 of 4)

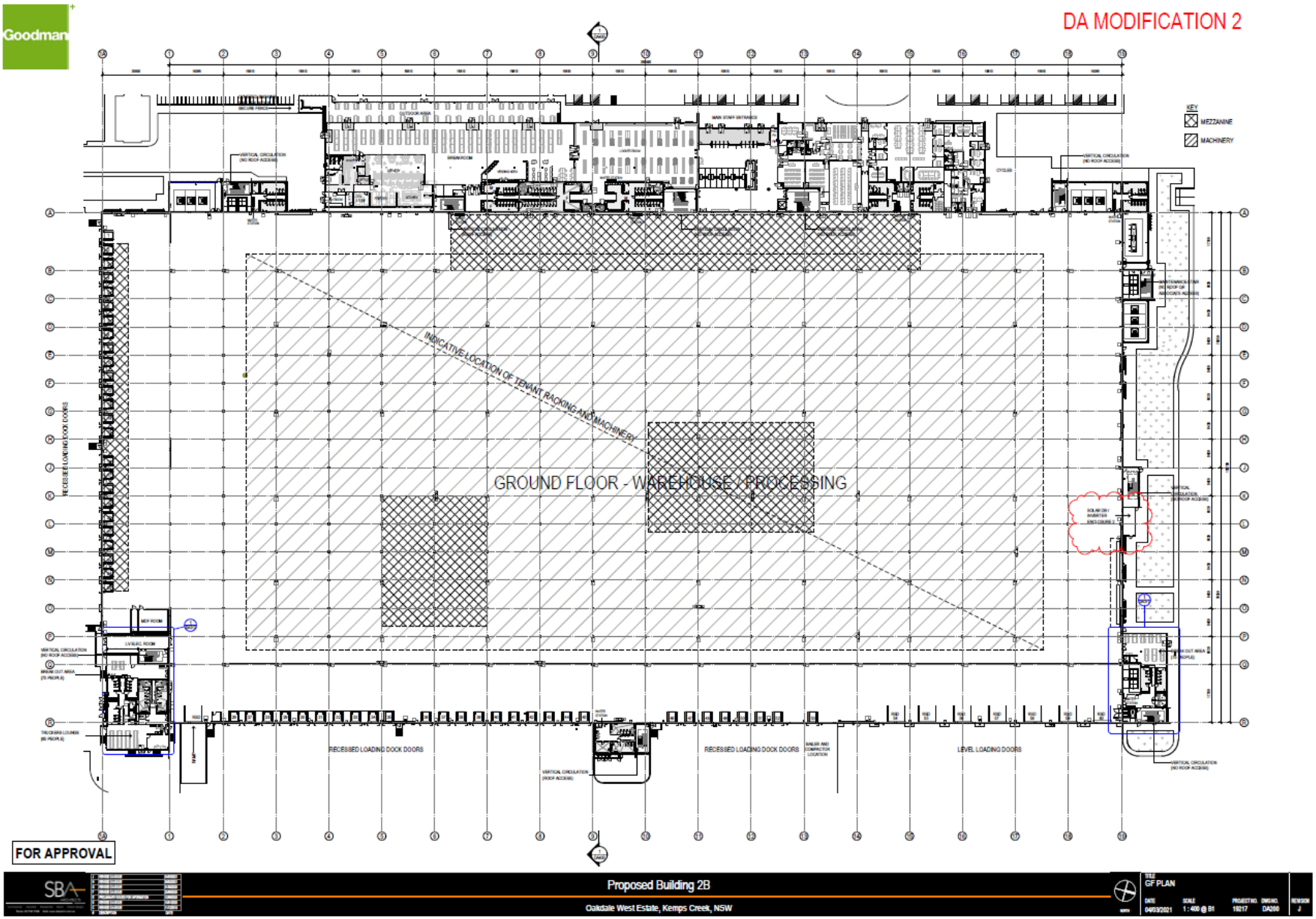


Figure 3: Typical Floor Plan (Mod 2 – Plan 2 of 4)

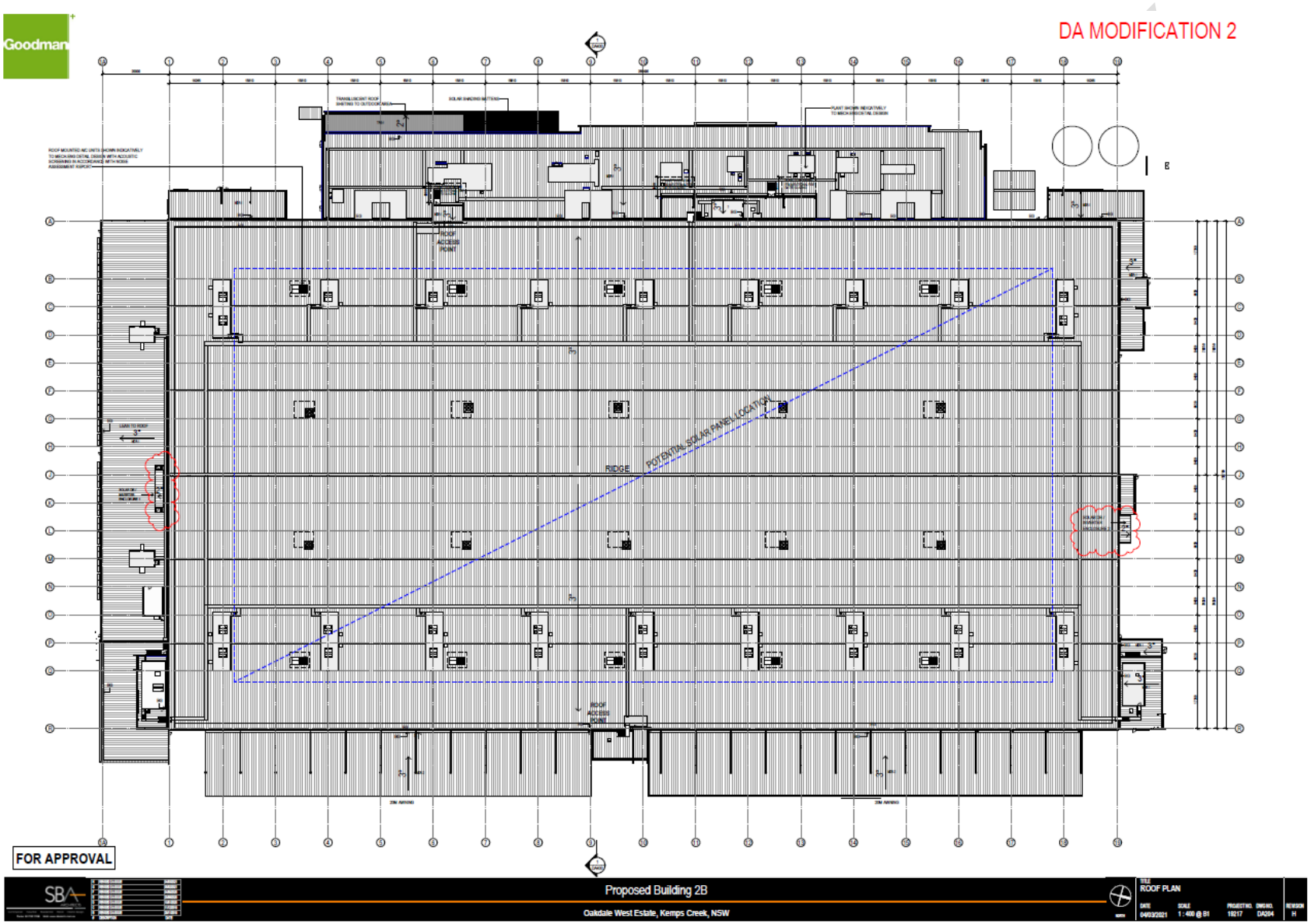


Figure 4: Roof Plan (Mod 2 – Plan 3 of 4)

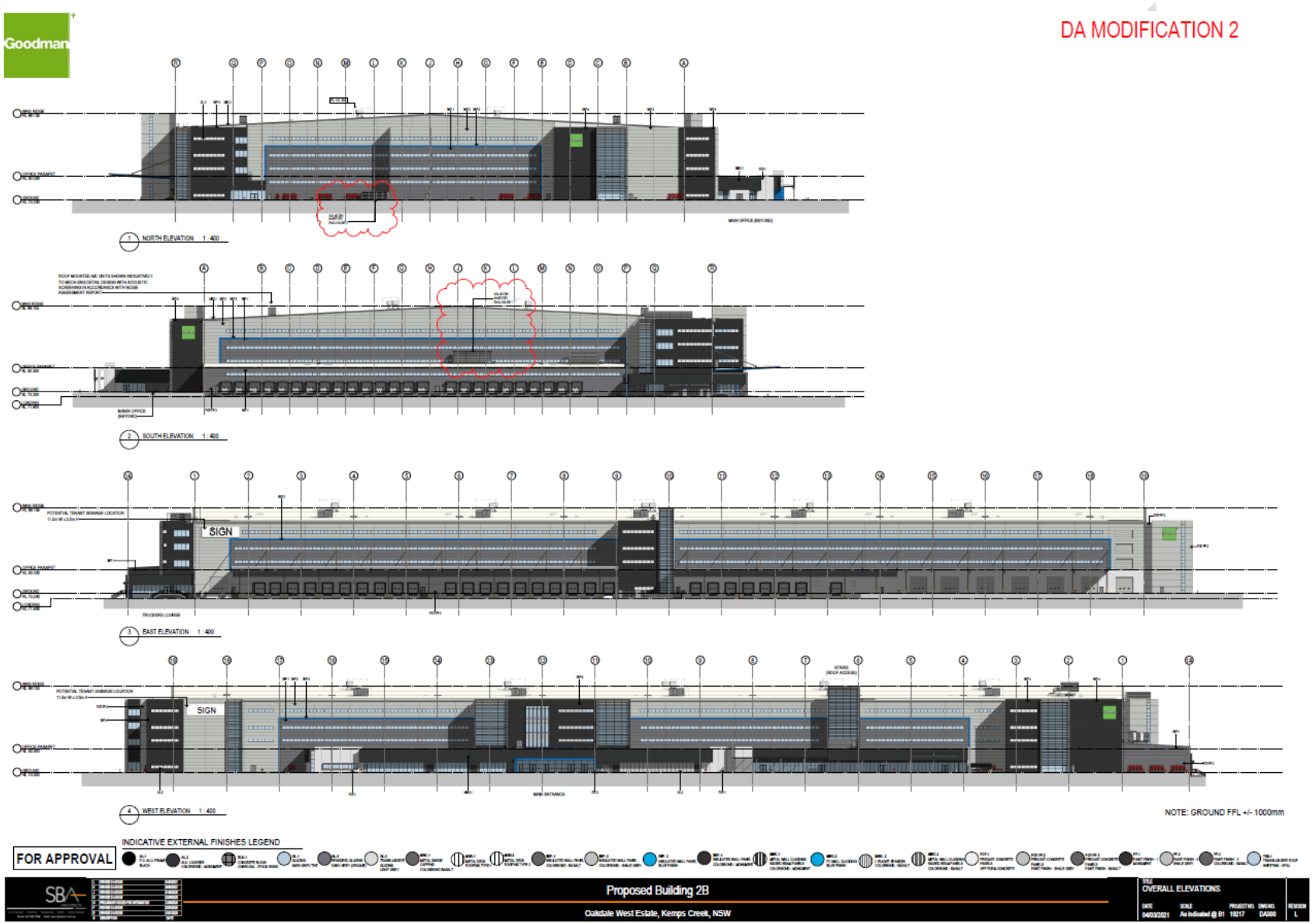


Figure 5: Elevations (Mod 2 – Plan 4 of 4)

APPENDIX 2 NOISE RECEIVERS AND NOISE WALL LOCATIONS

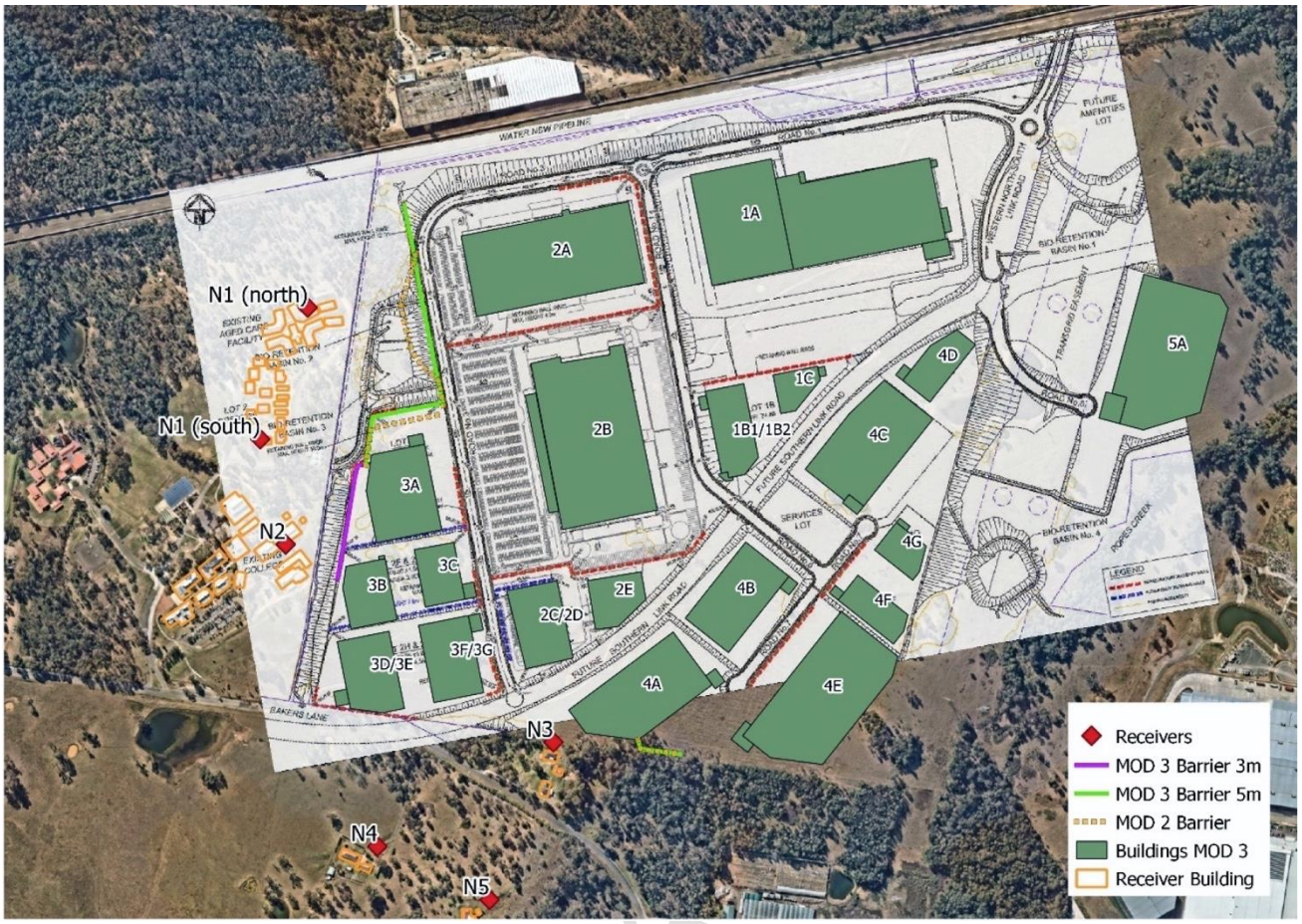


Figure 6: Noise Receivers and Noise Wall Locations

9.2.2 Operational Environmental Management Plan

An overarching OEMP has been prepared for the OWE to guide the ongoing operations of the site once development is completed. This document would capture standard and specific operational management measures addressing issues such as:

- Control of noise and air emissions
- Biodiversity and vegetation management
- Management of water and waste
- Emergency procedures and protocols
- Engagement with adjoining landowners
- Sustainability and energy efficiency
- Compliance and approvals
- Environmental management and reporting.

The OEMP was be prepared prior to the commencement of operations at the site and would continue to be reviewed as each stage and Lot of the OWE is completed and becomes operational.

9.3 Consolidated mitigation measures

Table 9-1 provides a consolidated summary of the proposed environmental management and mitigation measures for the proposal.

Table 9-1 Summary of safeguards and mitigation measures

Issue	Mitigation measures
General	• Preparation of updated CEMP for OWE Stage 2 Development and MOD 3 to Concept Proposal • Preparation of updated OEMP for for Stage 2 Development
Visual amenity	• The existing vegetation on the eastern, southern and western boundary be retained where possible to assist filtering views to the proposed buildings, additional landscaping to be included to provide a further buffer • The proposed landscape design provides sufficient visual mitigation of the development by creating a 40 metre vegetated embankment with extensive tree and understorey planting along the western boundary bordering Emmaus Catholic College and Emmaus Village • Landscaped embankment along the western boundary will be completed six months post commencement of the estate infrastructure works
Traffic and transport	• Temporary use of Bakers Lane until WNSLR is operational • Alternate Stage 2 construction vehicle route via Aldington Road/Abbotts Road during school peak hours • Ban Right-Out movements at Abbotts Road/Mamre Road intersection (left-in/left-out only)

Issue	Mitigation measures
Noise and vibration	• Detailed CTMP including minor upgrade works to Aldington Road / Abbotts Road in line with plans provided. • Detailed Construction Noise and Vibration Management Plan • Vibratory rollers and plate compactors have the potential to be operated within 20 m and within the recommended safe working distances of structures in Emmaus Village, Emmaus Catholic School and immediately adjacent to the south boundary in Kemps Creek. Locations for vibration intensive equipment should be reviewed during the preparation of the site specific Construction Noise and Vibration Management Plans (CNVMPs) for construction works adjacent to the most affected receivers. • Noise Agreements in place with N3, N4, and N5. • Construction hours to be 3.00am - 10.00pm (with works to occur between 3am and 7am limited to concrete works internally) • Where construction noise levels are predicted to be above the NMLs, all feasible and reasonable work practices are investigated to minimise noise emissions. • If construction noise levels are still predicted to exceed the NMLs, potential noise impacts would be managed via site specific construction noise management plans, to be prepared during the detailed design phase. • Noise barriers possessing surface mass of no less than 15 kg/m^2 to be installed at the locations and to the heights detailed in Appendix H and shown on Figure 7-19. Construction of noise barriers as shown in Figure 7-19. • On-site speed limits of 25 km/hour for heavy vehicles and 40 km/hr for light vehicles to be imposed. • During detailed design, Lot 2B rooftop mechanical services plant to be reviewed to ensure that cumulatively emissions are controlled to not exceed LAeq,15min 37 dBA at the western site boundary or LAeq,15min 41 dBA at the southern site boundary. The inclusion of silencers/attenuators and/or barrier solutions may be considered to ensure these acoustic design standards are achieved, as confirmed by noise modelling. • Subject to the findings of further detailed design, the provision of mechanical ventilation systems to receivers N4 and N5 to be considered, to enable windows to be closed without compromising internal air quality/amenity. • Cumulative sound power levels of fixed plant for each building within the OWE to be limited to 95dBA • Further assessment of potential operational noise impacts to be undertaken in respect of any specific operations proposed within the OWE with an atypical noise profile.

Issue	Mitigation measures
Soil and water	• All stormwater drainage within the lot 2B will be the responsibility of Goodman. • Finished Floor Levels (FFL) of proposed buildings within the precinct (separate approval) to have minimum 500mm freeboard to 100 year overland flows. • A gross pollutant trap (GPT) will be installed within Lot 2B on the final downstream stormwater pit prior to discharging. As these GPT's will be located on-lot as they will be owned and maintained by Goodman. The GPT will capture 90% of Gross Pollutants from Lot 2B as per water sensitive urban design guidelines. • all design, documentation, installation and maintenance of sediment and erosion controls will be in accordance with the correct requirements • a SWMP will be prepared for the construction phase of the development • site inspection and maintenance specified in Section 5.2 of the report provided in Appendix I • sediment basin maintenance, including drainage within 5 days, implementation of flocculation when the 5 day target cannot be met.
Waste management	• Detailed Construction Waste Management Plan and Waste Management Plan • Installation of a baler and compactor in Lot 2B
Biodiversity	• Preparation of a Flora and Fauna Management Plan for the site to inform the CEMP and OEMP as relevant to manage potential impacts to biodiversity during construction and operation. • Implement a Vegetation Management Plan for the restoration and rehabilitation and ongoing management of 4.2 ha of Riparian Corridor adjacent to Ropes Creek. • Ongoing management of retained native vegetation to be in accordance the Vegetation Management Plan • Ongoing maintenance and management of other areas of planted native vegetation including road batters, embankments and bio-retention basins in accordance with the Landscape Management Plan.
Air quality	• CEMP to include standard air quality control measures, contingency plans and response procedures and suitable reporting and performance monitoring procedures. • CEMP to include standard odour mitigation measures for construction including keeping excavation surfaces moist, covering excavation faces and/or stockpiles, use of soil

Issue	Mitigation measures
	vapour extraction systems and regular monitoring of discharges as appropriate. • Specific operations proposed within the OWE with the potential for generation of odour would be subject to further assessment. • Further assessment of potential air quality impacts to be undertaken in respect of any specific operations proposed within the OWE with an atypical air emissions profile.
Energy efficiency	• all purchased electricity and energy which is consumed by stationary equipment on site • energy consumed by mobile equipment (e.g. forklifts) • sub-metering should be implemented for all major energy consuming processes or items of equipment including sub-metering for all loads greater than 100 kVA • electrical equipment should be maintained to Australian Standards. • Detailed Energy Management Plan - updated regularly An energy audit and management review on a half-yearly basis to identify: • if employees are following energy savings procedures correctly • if additional employee training is needed • if signage and procedures need to be re-examined • to identify opportunities for improvement.
BCA	• Preparation of the Performance Solutions and corresponding fire safety measures during detailed design to ensure compliance with BCA and International Fire Engineering Guidelines
Flooding	• OSD designed to ensure that development does not increase stormwater peak flows in downstream areas for events up to and including 1:100 year ARI • OSD designed to mitigate post-development flows to pre-development flows for peak ARI events • Finished floor levels to have minimum 500mm freeboard to 100 year overland flows • Flood impacts on Transgrid easement would be mitigated through minor compensatory earthworks on the floodplain to convey locally diverted flows. These works are detailed in the civil drawings at Appendix J.
Heritage	• Implementation of unexpected finds procedure

Issue	Mitigation measures
	• Archaeological salvage excavation and monitoring to be undertaken in the presence of relevant Aboriginal stakeholders prior to ground disturbance and excavation work in identified areas. • Results of detailed archaeological excavation and any suitable salvaged materials to be managed in accordance with the NPW Act and direction from relevant Aboriginal stakeholders.
Fire safety	• Preparation of Performance Solutions and fore safety measures will be presented in the building design phase
Bushfire	• The downpipe/stormwater system to the internal box gutters shall be sized to provide a self flushing of combustible materials from the roof/gutter. This shall include increased fall in the box gutters to the sumps; • any operable windows shall be fitted with aluminium/stainless steel mesh flyscreens having a maximum mesh aperture size of 2mm; • access doors [PA and Vehicle] to the buildings shall be fitted with seals that seal the bottom, stiles and head of the door against the opening/frame to prevent the entry of embers into the building. Particular attention shall be given to the gap at the head of the curtain of the roller doors, where mohair type seals can be used; • External timber doors shall be fitted with a stainless steel/Colorbond kick plate of 400mm high on the outside of the door; • External glazed doors and windows shall comply with the requirements for glazing less than 400mm above finished ground level; paths / pavement and elevated roofs; • Any external vents, grilles and ventilation louvres shall have stainless steel mesh with a maximum aperture of 2mm square fitted to prevent the entry of embers into the building or be fitted with a louvre system which can be closed in order to maintain a maximum aperture or gap of no more than 2mm. • Roof ventilators shall be fitted with stainless steel flymesh [2mm aperture] to prevent the entry of embers into the building or be fitted with a louvre system which can be closed in order to maintain a maximum aperture or gap of no more than 2mm.

APPENDIX 4 INCIDENT NOTIFICATION AND REPORTING REQUIREMENTS

WRITTEN INCIDENT NOTIFICATION REQUIREMENTS

1. A written incident notification addressing the requirements set out below must be emailed to the Department at the following address: compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under condition C10 or, having given such notification, subsequently forms the view that an incident has not occurred.
2. Written notification of an incident must:
   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; and
   h. identify a project contact for further communication regarding the incident.

INCIDENT REPORT REQUIREMENTS

3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Applicant must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.
4. The Incident Report must include:
   a. a summary of the incident;
   b. outcomes of an incident investigation, including identification of the cause of the incident;
   c. details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
   d. details of any communication with other stakeholders regarding the incident.

APPENDIX B

Relevant Conditions of Consent

Consent Condition	Section Addressed
Schedule 2 – PART A – Administrative Conditions	
Obligation to Minimise Harm to the Environment	
A1. In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.	Section 3.1
Terms of Consent	
A2. The development may only be carried out: (a) in compliance with the conditions of this consent; (b) in accordance with all written directions of the Planning Secretary; (c) in accordance with the EIS and RTS; (d) in accordance with the Development Layout in Appendix 1; and (e) in accordance with the management and mitigation measures in Appendix 3.	Section 2.2
A3. Consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to: (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary; and (b) the implementation of any actions or measures contained in any such document referred to in condition A3.	Noted
A4. The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition (c). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition (c), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.	Noted
Limits of Consent	
A11. If the construction or operation or decommissioning of the development is to be staged, the Department must be notified in writing at least one month before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.	Noted
Evidence of Consultation	
A12. Where conditions of this consent require consultation with an identified party, the Applicant must: (a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and (b) provide details of the consultation undertaken including: (i) the outcome of that consultation, matters resolved and unresolved; and (ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.	Section 2.8

Consent Condition	Section Addressed
A13. With the approval of the Planning Secretary, the Applicant may: (a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program); (b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and (c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).	Noted
A14. If the Planning Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.	Noted
A15. If approved by the Planning Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.	Noted
Protection of Public Infrastructure	
A17. Unless the Applicant and the applicable authority agree otherwise, the Applicant must: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development, including but not limited to, Bakers Lane, Aldington Road and Abbotts Road; and (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development, including but not limited to, Bakers Lane, Aldington Road and Abbotts Road.	Noted
Structural adequacy	
A18. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the National Construction Code (NCC). *Note:* • *Under Part 6 of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.* • *Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.*	Noted
Compliance	
A19. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.	Section 2.4
Operation of Plant and Equipment	
A20. All plant and equipment used on site, or to monitor the performance of the development must be: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Section 3.1

Consent Condition	Section Addressed
Applicability of Guidelines	
A32. References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent.	Section 2.2
SCHEDULE 2 – Part B – Environmental Performance Conditions	
VISUAL AMENITY	
Landscape Plan	
B3. The Applicant must: (c) maintain the landscaping and vegetation on the site in accordance with the approved Landscape Plan for the life of the development. If the monitoring carried out as part of condition B2 indicates that any aspect of the landscaping has not been successful, the Applicant must undertake replanting and rehabilitation works, as reasonably practicable.	Section 3.7
Signage and fencing	
B7. All signage and fencing must be erected in accordance with the development plans included in the EIS and RTS. *Note: This condition does not apply to temporary construction and safety related signage and fencing.*	Section 3.1
TRAFFIC AND PARKING	
Operational Access	
B14. The Applicant must ensure all traffic associated with operation of the development accesses the site from the Western North-South Link Road, and the future Southern Link Road, and does not use Bakers Lane or Aldington Road.	Section 3.3 (Now Compass Drive - previously known as Western North South Link Road)
Operational Traffic Management Plan	
B18. The Applicant must: (b) implement the most recent version of the OTMP approved by the Planning Secretary for the duration of operation.	Section 3.3
Operating Conditions	
B19. The Applicant must ensure: (c) the development does not result in any vehicles queuing on the public road network; (d) heavy vehicles and bins associated with the development are not parked on local roads or footpaths in the vicinity of the site; (e) all vehicles are wholly contained on site before being required to stop; (f) all loading and unloading of materials is carried out on site; (g) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times.	Section 3.3
Parking	
B20. The Applicant must provide sufficient parking facilities on site 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.	Section 3.3
NOISE	
Hours of Work	

<table>
<tr><th>Consent Condition</th><th>Section Addressed</th></tr>
<tr><td>B21. The Applicant must comply with the hours detailed in Table 2, unless otherwise agreed in writing by the Planning Secretary.
Table 2 Hours of Work
<table>
<tr><th>Activity</th><th>Day</th><th>Time</th></tr>
<tr><td>Construction
Concrete works (internal to building only)</td><td>Monday – Sunday
Monday – Sunday</td><td>6 am to 10 pm
3 am to 10 pm</td></tr>
<tr><td>Operation</td><td>Monday – Sunday (including public holidays)</td><td>24 hours</td></tr>
</table>
Note: Concrete works (internal to building only) include concrete pours inside Building 2B, following the installation of all building walls and the building roof.</td><td>Section 3.2</td></tr>
<tr><td>B22. Works outside of the hours identified in condition B21 may be undertaken in the following circumstances:
(a) works that are inaudible at the nearest sensitive receivers;
(b) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or
(c) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.</td><td>Section 3.2</td></tr>
<tr><td colspan="2">Operational Noise Limits</td></tr>
<tr><td>B23. The Applicant must ensure that noise generated by operation of the development does not exceed the noise limits for the OWE, as shown in Table 3.
Table 3 Noise Limits dB(A)
<table>
<tr><th>Location</th><th>Day $L_{Aeq(15\ minute)}$</th><th>Evening $L_{Aeq(15\ minute)}$</th><th>Night $L_{Aeq(15\ minute)}$</th><th>Night L_{AMax}</th></tr>
<tr><td>N1 Emmaus Village Residential</td><td>44</td><td>43</td><td>41</td><td>52</td></tr>
<tr><td>N3 Kemps Creek – nearest residential property</td><td>39</td><td>39</td><td>37</td><td>52</td></tr>
<tr><td>N4 & N5 Kemps Creek – other residences</td><td>39</td><td>39</td><td>37</td><td>52</td></tr>
<tr><td>All other non-associated residences</td><td>40[2]</td><td>35[2]</td><td>35[2]</td><td>52</td></tr>
<tr><td>N2 Emmaus Catholic College (school)</td><td colspan="4">When in use: 45 $L_{eq(1h)}$</td></tr>
</table>
Notes:
1. Noise generated by the development is to be measured in accordance with the relevant procedures and modifications, including certain meteorological conditions, of the Noise Policy for Industry (EPA, 2017). Refer to the plan in Appendix 2 for the location of residential sensitive receivers.
2. or background + 5 dB, whichever is higher.</td><td>Section 3.2</td></tr>
<tr><td>B24. The noise limits in Table 3 do not apply to receivers N3, N4 & N5 if the Applicant has Noise Agreement/s with the relevant landowner/s to exceed the noise limits, and the Applicant has provided written evidence to the Planning Secretary that agreement/s are in place.</td><td>Section 3.2</td></tr>
<tr><td colspan="2">Design and Validation</td></tr>
<tr><td>B26. Within 6 months of the commencement of operation, the Applicant must undertake noise validation monitoring to confirm the rooftop mechanical plant and services comply with the predictions in the EIS, to the satisfaction of the
Planning Secretary. If the results of monitoring show that noise from the development is exceeding the noise limits in Condition B23, the Applicant must investigate and implement all reasonable and feasible noise mitigation measures to achieve compliance.</td><td>Section 3.2</td></tr>
<tr><td colspan="2">SOIL AND WATER</td></tr>
<tr><td colspan="2">Discharge Limits</td></tr>
<tr><td>B32. The development must comply with section 120 of the POEO Act, which prohibits the pollution of waters.</td><td>Section 3.6</td></tr>
<tr><td colspan="2">Stormwater Management</td></tr>
<tr><td>B37. All stormwater drainage infrastructure on the site, including bio-retention basins, shall remain under the care, control and ownership of the registered proprietor of the lots.</td><td>Section 3.6</td></tr>
</table>

Consent Condition	Section Addressed
WASTE MANAGEMENT	
Waste Storage	
B42. Waste must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.	Section 3.5
Waste Management Plan	
B43. The Applicant must implement the Waste Management Plan (WMP) in the EIS for the duration of construction and operation of the development.	Section 3.5
Statutory Requirements	
B44. The Applicant must assess and classify all liquid and non-liquid wastes to be taken off site in accordance with the latest version of EPA's Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014) and dispose of all wastes to a facility that may lawfully accept the waste.	Section 3.5
B45. Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal.	Section 3.5
Bushfire Protection	
B44. The Applicant shall ensure the development complies with: (c) AS2419.1 – 2005 Fire Hydrant Installations for firefighting water supply	Section 3.9
HAZARD AND RISK	
Dangerous Goods	
B47. The quantities of dangerous goods stored and handled at the site must be below the threshold quantities listed in the Department of Planning's Hazardous and Offensive Development Application Guidelines – Applying SEPP 33 at all times.	Section 3.9
Bunding	
B48. The Applicant must store all chemicals, fuels and oils used on site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's Storing and Handling of Liquids: Environmental Protection – Participants Manual (Department of Environment and Climate Change, 2007).	Section 3.9
HERITAGE	
Unexpected Finds Protocol	
B49. If any item or object of Aboriginal heritage significance is identified on site: (a) all work in the immediate vicinity of the suspected Aboriginal item or object must cease immediately; (b) a 10 m wide buffer area around the suspected item or object must be cordoned off; and (c) the Biodiversity and Conservation Division of the Department must be contacted immediately.	Section 5
B50. 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).	Section 5
B51. If any archaeological relics are uncovered during construction of the development, then all works in the immediate vicinity of the relic must cease immediately. Unexpected finds must be evaluated and recorded in accordance the requirements of Department of Premier and Cabinet, Heritage Division.	Section 5

Consent Condition	Section Addressed
Community Engagement	
B52. The Applicant must consult with the community regularly throughout the development, including consultation with the nearby sensitive receivers identified in Appendix 2, relevant regulatory authorities, Registered Aboriginal Parties and other interested stakeholders. Community engagement shall be undertaken in accordance with the Community Communication Strategy for the OWE.	Section 5
SCHEDULE 2 - PART C – Environmental Management, Reporting and Auditing	
ENVIRONMENTAL MANAGEMENT	
Management Plan Requirements	
C1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include: (a) 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; (b) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria; (c) 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; (d) 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; (e) a program to investigate and implement ways to improve the environmental performance of the development over time; (f) 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 (g) 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.*	Section 1.2
Operational Environmental Management Plan	
C7. The Applicant must: (b) operate the development in accordance with the OEMP approved by the Planning Secretary (and as revised and approved by the Planning Secretary from time to time).	Section 1.2
Revision of Strategies, Plans and Programs	

Consent Condition	Section Addressed
C8. Within three months of: (a) the submission of a Compliance Report under condition C15; (b) the submission of an incident report under condition C10; (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 (a) which requires a review, the strategies, plans and programs required under this consent must be reviewed, and the Department must be notified in writing that a review is being carried out.	Noted
C9. If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review. ***Note**: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.*	Noted
REPORTING AND AUDITING	
Incident Notification, Reporting and Response	
C10. The Planning Secretary must be notified in writing to compliance@planning.nsw.gov.au immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 4.	Section 2.5
Non-Compliance Notification	
C11. The Planning Secretary must be notified in writing to compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of any non-compliance.	Section 2.5
C12. 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.	Section 2.5
C13. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	Section 2.5
Compliance Reporting	
C14. No later than 6 weeks before the date notified for the commencement of operation, a Compliance Monitoring and Reporting Program prepared in accordance with the Compliance Reporting Post Approval Requirements (Department 2018) must be submitted to the Planning Secretary.	Section 4.1
C15. Compliance Reports of the development must be carried out in accordance with the Compliance Reporting Post Approval Requirements (Department 2018).	Noted
C16. The Applicant must make each Compliance Report publicly available no later than 60 days after submitting it to the Planning Secretary and notify the Planning Secretary in writing at least 7 days before this is done.	Section 4.1
Monitoring and Environmental Audits	

Consent Condition	Section Addressed
C17. Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance reporting and independent auditing. ***Note:*** *For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.*	Section 4.1
Appendix 4 – Incident Notification and Reporting Requirements	
1. A written incident notification addressing the requirements set out below must be emailed to the Department at the following address: compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under condition C10 or, having given such notification, subsequently forms the view that an incident has not occurred.	Section 2.5
2. Written notification of an incident must: 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; and h. identify a project contact for further communication regarding the incident.	Section 2.5
3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Applicant must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.	Section 2.5
4. The Incident Report must include: a. a summary of the incident; b. outcomes of an incident investigation, including identification of the cause of the incident; c. details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and d. details of any communication with other stakeholders regarding the incident.	Section 2.5

APPENDIX C

Noise Validation Monitoring

Preliminary Noise Validation Monitoring Report

DESIGN ADVICE

MARSHALL DAY Acoustics

Project:	Project Waratah	**Document No.:**	DA 001		
To:	Qanstruct (Aust) Pty Ltd	**Date:**	16 March 2020		
Attention:	Tim Nimmo	**Cross Reference:**			
Delivery:	tnimmo@qanstruct.com.au	**Project No.:**	20200211		
From:	Lachlan Deen	**No. Pages:**	10	**Attachments:**	No
Subject:	Mechanical services environmental noise review				

Hi Tim,

Qanstruct have requested Marshall Day Acoustics (MDA) undertake an assessment of environmental noise due to the operation of proposed mechanical services plant serving the office warehouse of the BWU2 – Project Waratah development in Kemps Creek, NSW.

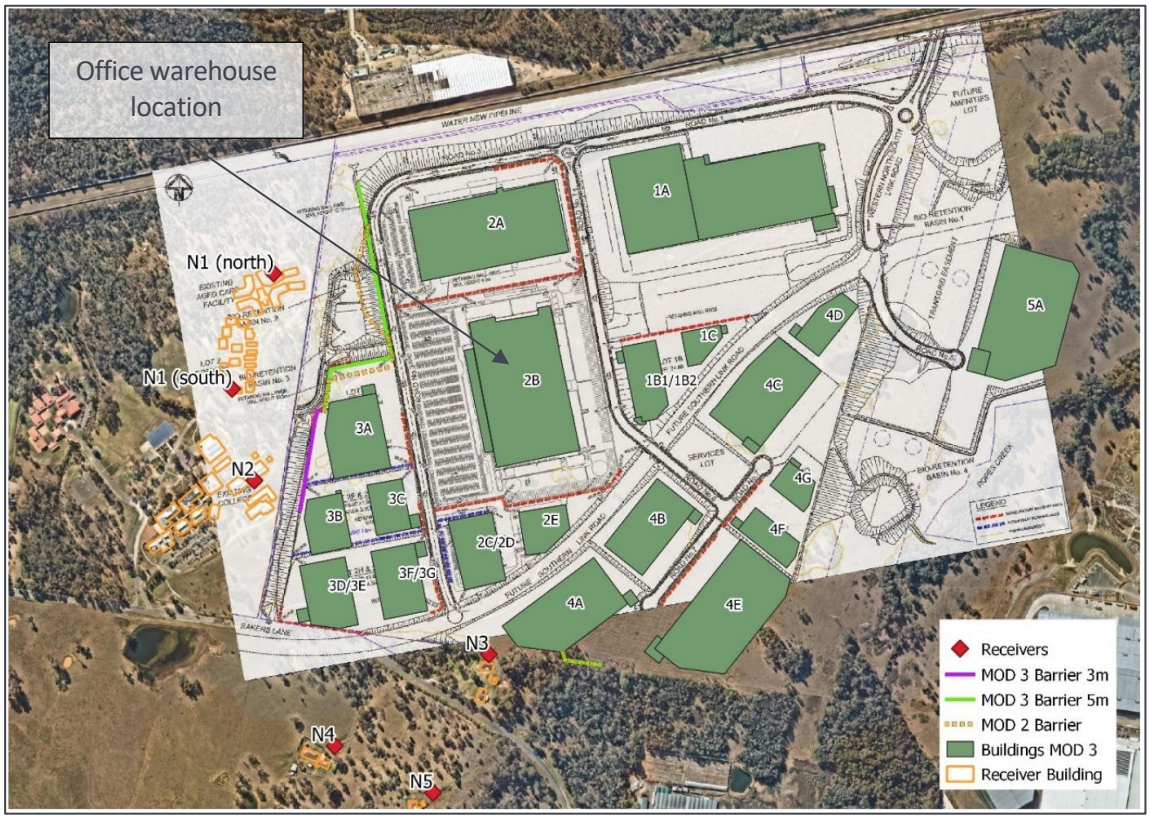
This document presents a summary of our review of mechanical services environmental noise.

Our review has been based on preliminary mechanical services information provided by ACOR Consultants on 10 March 2020 as attached in Appendix A, and the *Oakdale West Estate Noise & Vibration Assessment* prepared by Wilkinson Murray (report no. 19440 version F dated 13 January 2020) herein referred to as the Wilkinson Murray report.

SITE AND BUILDING DESCRIPTION

Figure 1 shows the layout of the facility and the locations of nearest noise sensitive receivers as identified in Figure 1-1 of the Wilkinson Murray report.

Figure 1: Office warehouse location layout (Figure 1-1 of the Wilkinson Murray report)



The office warehouse that is the subject of this review is located at site 2B.

It has been assumed that the mechanical services may operate at full capacity at any time of the day. This is consistent with the assumptions in section 4.2 of the Wilkinson Murray report.

Preliminary mechanical services details and sound power levels have been provided to MDA for this review, which have been attached in Appendix A1. The sound power level spectra assumed for roof-mounted mechanical services has been provided in Appendix A2.

NOISE CRITERIA

The office warehouse facility is subject to noise limits nominated in the Planning Permit for the development. Figure 2 presents an extract from the Wilkinson Murray report presenting the applicable noise limits.

Figure 2: Operational noise limits from the Wilkinson Murray report

3.1 Approved Noise Limits (SSD 7348)

Conditions B18 and B19 of SSD 7348 include operational noise limits for the site as follows:

B18 The Applicant shall ensure the Development does not exceed the noise limits in Table 3 at the receiver locations N1, N2, N3, N4 and N5 shown on the plan in Appendix 5.

Table 3: Noise Limits dB(A)

Location	Day	Evening	Night	
	LAeq(15 minute)	LAeq(15 minute)	LAeq(15 minute)	LA1(1 minute)
N1 Emmaus Village Residential	44	43	41	51
N3 Kemps Creek – nearest residential property	39	39	37	47
N4 & N5 Kemps Creek – other residences	39	39	37	47
Location	**When in Use**			
N2 Emmaus Catholic College (school)	35 (internal)			

Note: Noise generated by the Development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the Noise Policy for Industry, EPA 2017.

B19. The noise limits in Table 3 do not apply to receiver N3 if the Applicant has a Noise Agreement with the relevant landowner to exceed the noise limits, and the Applicant has provided written evidence to the Planning Secretary that an agreement is in place.

It is understood that a Noise Agreement between the applicant and receiver N3 has been put in place and submitted to DPIE. As such, the criteria in Condition B18 of the Development Consent SSD 7348 are not applicable at receiver N3.

The locations of receivers N1, N2, N3, N4 and N5 are shown in Appendix 5 of the Development Consent SSD 7348 and in Figure 1-1.

We expect the operation of the mechanical services to result in relatively steady noise levels at the noise sensitive receivers. We therefore expect that compliance with the $L_{Aeq(15\ minutes)}$ criteria would also result in compliance with the $L_{A1(1\ minute)}$ night-time criteria that apply to spikes in noise levels.

The above noise limits apply to the cumulation of all industrial noise sources from the facility, including all industrial buildings and vehicles moving on the site. We therefore recommend designing mechanical services to result in noise levels at receiver locations that are below the noise limits noted above to allow for the contribution of noise from other sources.

MECHANICAL SERVICES NOISE PREDICTIONS

Noise modelling

To predict noise levels from the office warehouse at nearby dwellings, a 3-dimensional digital noise model of the site and surrounding environment was created using SoundPLAN proprietary modelling software (version 8.1).

Geometry data for the model has been sourced from Geoscience Australia's ELVIS service[1], public aerial photography and office warehouse building heights defined in SBA Architects' Elevation drawing BWU2-SBA-WH-WE-DR-AR-240 rev P5 dated 19 February 2020.

Noise sources have been placed 1.5 m above roof surfaces. Noise receivers have been placed 1.5 m above ground level.

The geometries in the model are simplified representations of the built environment that have been configured to a level of detail that is appropriate for noise calculation purposes.

The elevation data used for noise model indicated that the current topography of the site features significant elevation changes. We expect the site will be graded as development progresses. Therefore, changes to the existing site terrain data were made to remove unrealistic topographical features that would otherwise shield receivers from rooftop mechanical noise sources.

The noise model has indicated that residents will be shielded from some units by the building envelope elements including the lower office level roof and the pitched warehouse roof.

For this review, it has been assumed that surrounding buildings within the estate have not been constructed, therefore, no surrounding buildings have been included in the model. In reality, it is expected that these buildings will provide additional acoustic shielding of nearby noise sensitive receivers and therefore lower mechanical services noise.

Figure 3 and Figure 4 show a 3-D view of the terrain between the receivers and the office warehouse.

[1] Elevation data dated July 2019 sourced from Geoscience Australia's Elevation Information System (ELVIS), https://elevation.fsdf.org.au/ accessed 12 March 202

Figure 3: Modelling view of the office warehouse to the east from western receivers

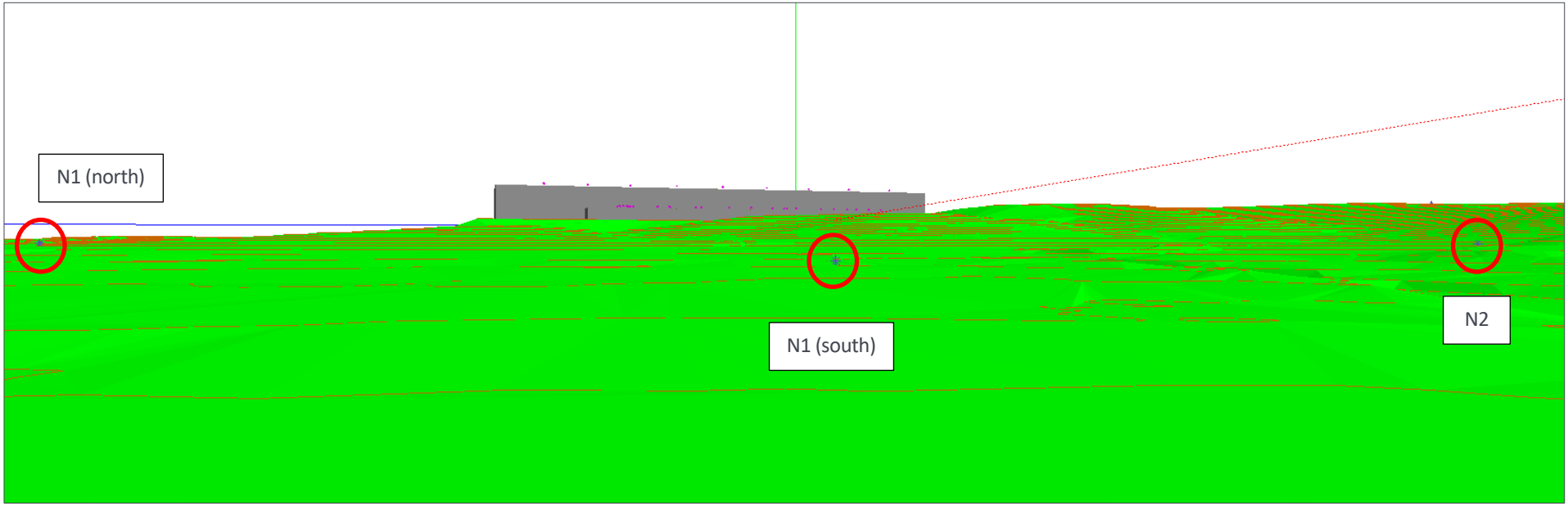
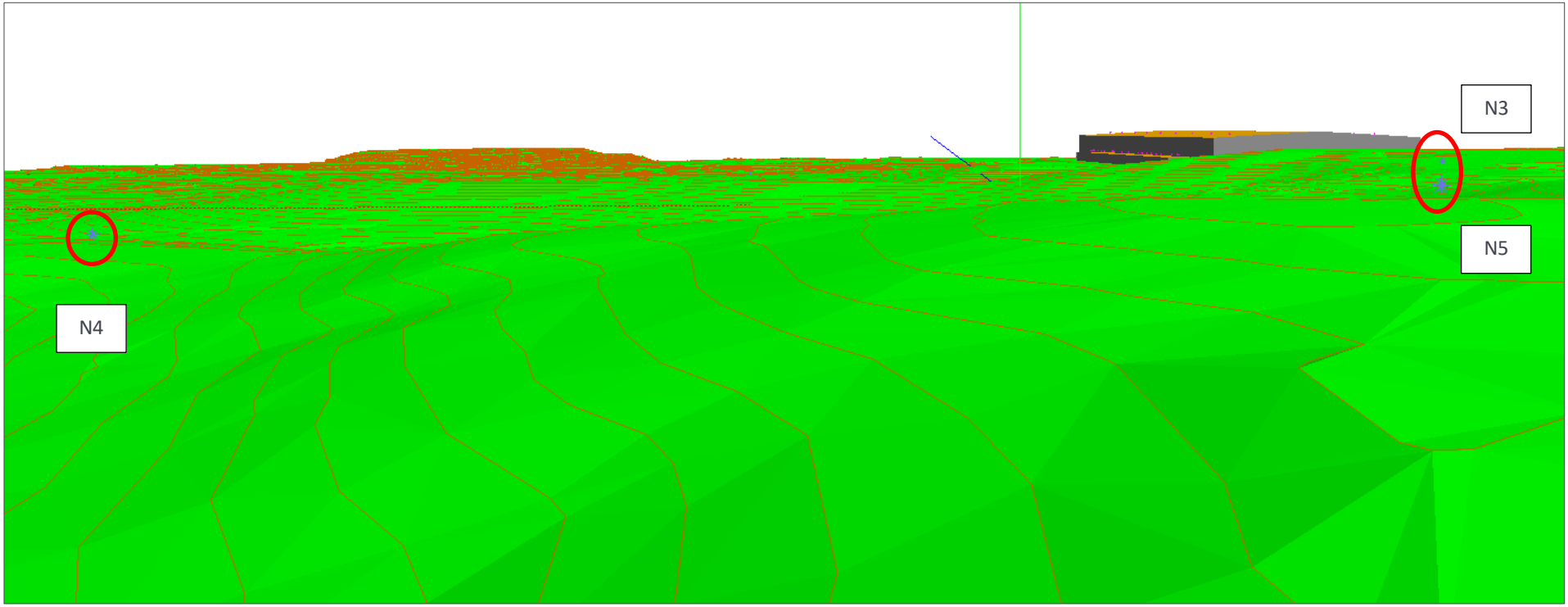


Figure 4: 3-D noise model view of the office warehouse to the north from southern receivers



The SoundPLAN digital model has been used to calculate noise levels using the International Standard *ISO 9613-2: 1996 Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation* (ISO 9613-2). ISO 9613-2 is a general environmental noise calculation standard that has been used extensively throughout Australia, New Zealand, and Europe since its publication in 1996.

The implementation of ISO 9613-2 within proprietary noise modelling software enables multiple sound transmission paths, including reflected and screened paths, to be accounted for in the calculated noise levels. It is noted that the ISO 9613 predicts noise levels for meteorological conditions which favour the propagation of noise to a receiver.

Predicted noise levels

Table 1 presents the predicted noise levels at the nearest noise sensitive receivers.

Table 1: Predicted noise levels

Receiver	Predicted noise level, dB $L_{Aeq(15\ minutes)}$
N1 (north) – Emmaus Village Residential	31
N1 (south) – Emmaus Village Residential	31
N2 – Emmaus Catholic School	31
N3 – 20 Aldington Road	30
N4 – 1 Aldington Road	29
N5 – 25 Aldington Road	27

MECHANICAL SERVICES NOISE ASSESSMENT

Residential receivers

Table 2 presents our assessment of office warehouse mechanical services noise levels at residential receivers against day (highest) and night (lowest and most stringent) noise limits.

Table 2: Assessment of noise levels at residential receivers

Receiver	Predicted noise level, dB $L_{Aeq(15\ minutes)}$	Compliance with day limit	Compliance with night limit
N1 – Emmaus Village Residential	31	Compliant. Satisfies limit by 13 dB which provides significant allowance for contribution of noise from trucks and any other industry.	Compliant. Satisfies limit by 10 dB which provides significant allowance for contribution of noise from trucks and any other industry.
N3 – 20 Aldington Road We understand the noise limits do not apply to this receiver.	30	Compliant. Satisfies limit by 9 dB which provides sufficient allowance for contribution of noise from trucks and any other industry.	Compliant. Satisfies limit by 7 dB which provides sufficient allowance for contribution of noise from trucks and any other industry.
N4 – 1 Aldington Road	29	Compliant. Satisfies limit by 10 dB which provides significant allowance for contribution of noise from trucks and any other industry.	Compliant. Satisfies limit by 8 dB which provides sufficient allowance for contribution of noise from trucks and any other industry.
N5 – 25 Aldington Road	27	Compliant. Satisfies limit by 12 dB which provides significant allowance for contribution of noise from trucks and any other industry.	Compliant. Satisfies limit by 10 dB which provides significant allowance for contribution of noise from trucks and any other industry.

The predicted noise levels were well below the day and night noise limits at all receivers and we consider that the noise levels provide sufficient allowance to account for the cumulative contribution of noise from trucks moving on site and additional noise from other nearby industry.

On this basis, our calculations indicate that additional noise mitigation measures such as rooftop noise barriers are not required.

Our assessment has not allowed for corrections due to tonal characteristics of mechanical services. Therefore, we recommend that units that are free of tonal characteristics are selected.

Location N2 Emmaus Catholic College

An external noise level of 31 dB $L_{Aeq(15\ minutes)}$ has been predicted outside the school buildings.

It is widely accepted that noise entering a room with an open window will generally be reduced by approximately 10 dB. Therefore, we would expect an internal noise level of 21 dB L_{Aeq} due to the operation of the office warehouse mechanical services.

The internal noise limit of 35 dB $L_{Aeq(15\ min)}$ would be satisfied by 14 dB and it is expected that noise from trucks moving on the site and from any future industry is likely to be inaudible within classrooms.

We trust that the above meets your requirements at this time. Please feel free to contact us if you have any queries.

Regards,

Lachlan Deen

APPENDIX A MECHANICAL SERVICES INFORMATION

A1 Mechanical services information

TYPICAL AC UNIT
ACTRON AIR
PVK2000T
SOUND POWER LEVEL (L>T) 83.2 dB(A)

ROOFTOP MECHANICAL UNIT PLATFORM 8840 X 5500

ROOFTOP MECHANICAL UNIT PLATFORM 17700 X 5500

ALLOW 50mm CLEARANCE FOR DUCT FLANGE DURING INSTALLATION

AC-WH-08 AC-WH-09 AC-WH-10 AC-WH-11 AC-WH-12 AC-WH-13 AC-WH-14 AC-WH-15 AC-WH-16 AC-WH-17 AC-WH-18

900x900 553x1953 803x1953

REFER TO DRAWING ME-235

REFER TO DRAWING ME-236

REFER TO DRAWING ME-237

REFER TO DRAWING ME-238

AC-WH-19 AC-WH-20 AC-WH-21 AC-WH-22 AC-WH-23 AC-WH-24 AC-WH-25 AC-WH-26 AC-WH-27 AC-WH-28 AC-WH-29 AC-WH-30 AC-WH-31 AC-WH-32 AC-WH-33 AC-WH-34 AC-WH-35 AC-WH-36

VCD

NOT FOR CONSTRUCTION

This drawing has been assigned an electronic code that signifies the drawing has been checked and approved by: WM

Issue	Description	Date	Drawn	Approved
P4	PRELIMINARY ISSUE	05/03/2020	WB	WM
P3	PRELIMINARY ISSUE	27/02/2020	WB	WM
P2	PRELIMINARY ISSUE	19/02/2020	SS	WM
P1	PRELIMINARY ISSUE	11/02/2020	SS	WM

North

Client: Goodman

Project Manager:

Architect: SBA ARCHITECTS — Commercial | Industrial | Residential | Retail | Interior Design — Phone: 02 9929 9988 Web: www.sbaarch.com.au

ACOR Consultants Pty Ltd
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ACOR CONSULTANTS ENGINEERS| MANAGERS| INFRASTRUCTURE PLANNERS | DEVELOPMENT CONSULTANTS

Project: PROJECT WARATAH

OAKDALE WEST ESTATE,
HORSLEY PARK NSW

Drawing Title: MECHANICAL SERVICES WAREHOUSE ROOF EQUIPMENT

Drawn	Date	Scale @ B1	Q.A. Check	Date
SS	FEB 2020	1 : 400	WM	
Designed	Project No.	Dwg No.		Issue
WM	SY100979	BWU2-ACR-SI-GF-DR-ME-105		P4

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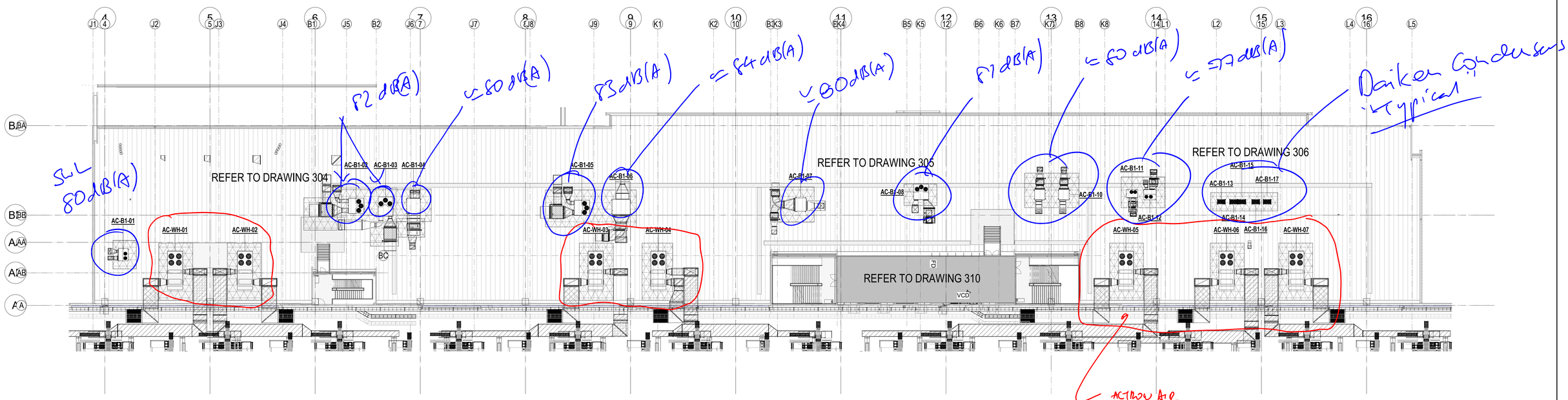

NOT FOR CONSTRUCTION

This (Type) has been assigned an electronic code that signifies the drawing has been checked and approved by: WM

Issue.	Description	Date	Drawn	Approved
P4	PRELIMINARY ISSUE	05/03/2020	WB	WM
P3	PRELIMINARY ISSUE	27/02/2020	WB	WM
P2	PRELIMINARY ISSUE	19/02/2020	SS	WM
P1	PRELIMINARY ISSUE	11/02/2020	SS	WM

0 1cm at full size 10cm 20cm

North

Client: Goodman

Project Manager

Architect: SBA ARCHITECTS — Commercial Industrial Residential Retail Interior Design — Phone: 02 9929 9988 Web: www.sbaarch.com.au

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Project: PROJECT WARATAH
OAKDALE WEST ESTATE,
HORSLEY PARK NSW

Drawing Title: MECHANICAL SERVICES
OFFICE ROOF EQUIPMENT

Drawn	Date	Scale @ B1	Q.A. Check	Date
SS	02/11/20	1 : 250	WM	
Designed	Project No.	Dwg No.		Issue
WM	SY100979	BWU2-ACR-SI-RF-DR-ME-107		P4

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A2 Assumed sound power levels

Table 3: Assumed octave band sound power levels, dB L_w

	Octave Band Centre Frequency (Hz)						
Description	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**
AC-WH Active Air PKV2000T units – 83 dB L_{Aw}	79	79	81	80	79	75	71
AC-B1 units – 77 dB L_{Aw}	73	73	75	74	73	69	65
AC-B1 units – 80 dB L_{Aw}	76	76	78	77	76	72	68
AC-B1 units – 81 dB L_{Aw}	77	77	79	78	77	73	69
AC-B1 units – 82 dB L_{Aw}	78	78	80	79	78	74	70
AC-B1 units – 83 dB L_{Aw}	79	79	81	80	79	73	71
AC-B1 units – 84 dB L_{Aw}	80	80	82	81	80	74	72
Typical Daikin unit assumption – 76 dB L_{Aw}	76	75	77	75	70	67	63

Pre-Operation Noise Validation Monitoring Report

RWDI Australia Pty Ltd (RWDI)
Level 4, 272 Pacific Highway
Crows Nest, NSW, 2065, Australia

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November 29, 2021
Qanstruct (Aust) Pty Ltd
Attn: Christopher Cunico
Suite 1302/ 68 York Street,
Sydney, NSW 2000
ccunico@quanstruct.com.au
M: +61 417 005 477

Re: Oakdale West Estate 2B – Compliance Testing

Dear Chris

We refer to the following documents:

- NSW Department of Planning, Industry and Environment (DPiE) Oakdale West Estate Stage 2 Development (SSD 10397) - Consolidated Consent, dated 4 May 2021 (OWE CC)

The Conditions of Consent in the OWE CC include the following:

Design and Validation

B25. The Applicant shall design and install all rooftop mechanical plant and services to ensure cumulative noise levels do not exceed 37 dB(A) at the western site boundary or 41 dB(A) at the southern site boundary. The Applicant shall provide written evidence to the satisfaction of the Planning Secretary, prior to the commencement of operation, confirming that rooftop mechanical plant and services have been installed to achieve these noise levels.

Site inspection and measurements were conducted at Oakdale West Estate 2B (OWE2B) on Wednesday 23 November between 7.30pm and 9.30pm. The purpose of the inspection was to measure operational mechanical plant and services noise, with respect to the Condition B25 noise limits described above.

Attended measurement locations are shown in Figure . The western location (A02) represented the western most point practical with regard to site access. The southern location (A01) represents the southernmost point accessible free from extraneous construction vehicle noise occurring at the southern boundary.

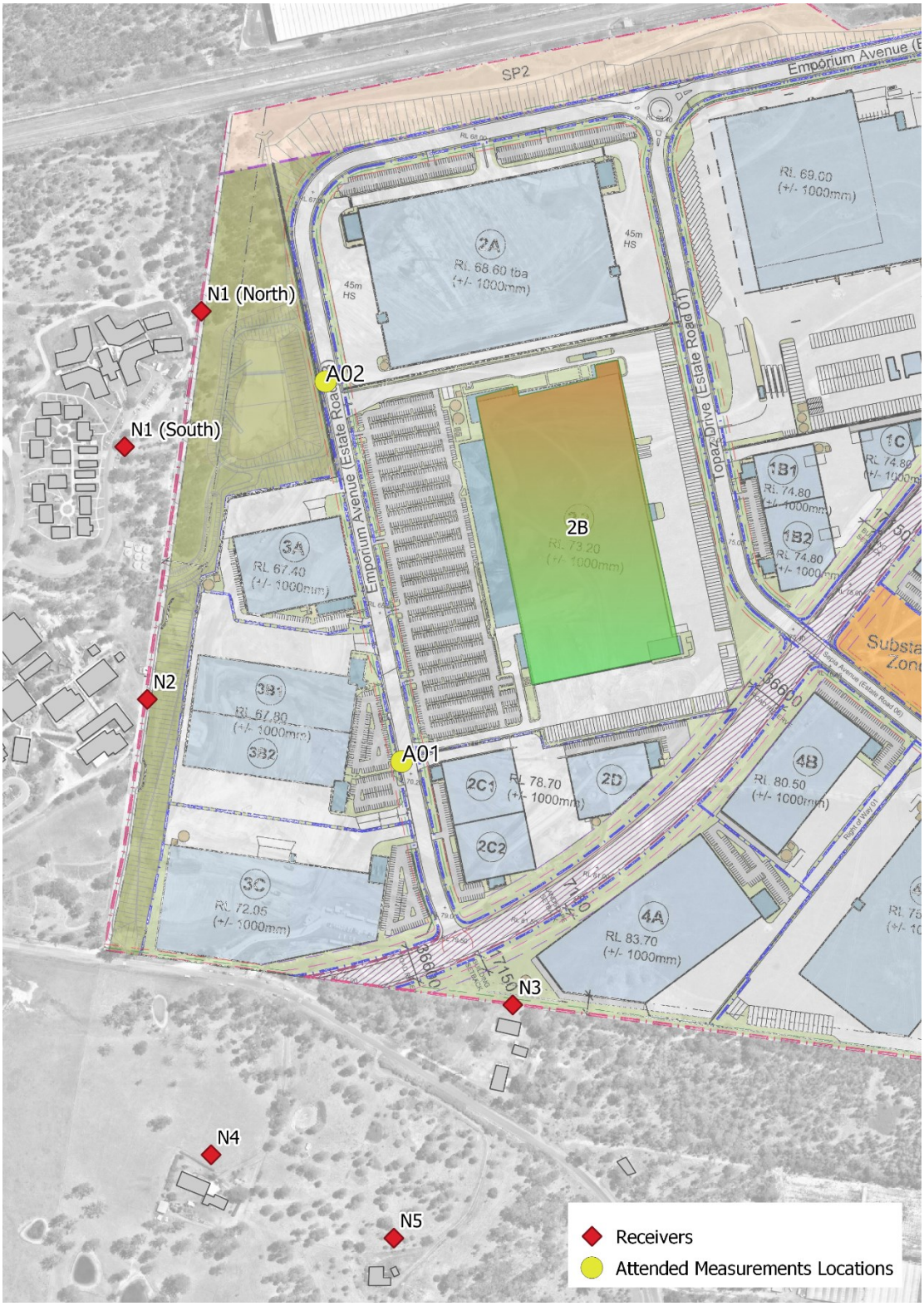

Figure 1 Attended Measurement Locations

All measurements were conducted using a NTi Type XL2 sound level meter (SLM). This SLM is a type approved system offering Class 1 performance according to IEC 61672-1:2013 *Electroacoustics – Sound level meters – Part 1: Specifications* and has current with National Association of Testing Authorities, Australia requirements (NATA) calibrated and has current calibration with National Association of Testing Authorities, Australia requirements (NATA) calibrated to IEC 61672-3:2013 *Electroacoustics – Sound level meters – Part 3: Periodic* tests.

The A-weighting filter of the meter was selected, and the time weighting was set to "Fast". The field calibration of the meter was checked before and after the measurements with a Brüel & Kjær Type 4231 sound level calibrator (SLC) and no significant drift was noted. This SLC is a Class 1 calibrator according to AS IEC 60942-2004 Electroacoustics – Sound calibrators and has been calibrated to the same Standard. The NTi Type XL2 and Brüel & Kjær Type 4231 hold current laboratory calibrations in accordance with NATA and our in-house Quality Assurance Procedures.

Results of the 15-minute operator attended measurements are summarised in Table 1.

Table 1 Attended Measurement Results (15-minute)

Location	Date / Start Time / Weather	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emissions and Typical Maximum Noise Levels
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
A01 – Southern boundary	24/11/21 9:01 pm 18 c 1.9 m/s south	49	45	41	36	39	Aircraft fly-by (occasional) 48 Insect noise (consistent HF) 33-35 Bird noise (occasional) 43-44 OWE 2B rooftop mechanical services 32-34 Estimated OWE rooftop mechanical services contribution **32 $L_{Aeq,\ 15\ min}$**
A02 - Western boundary	24/11/21 9:19 pm 18 c 1.9 m/s south	68	52	45	39	45	Heavy construction vehicle pass-by 72 Aircraft fly-by (occasional) 50-55 Bird noise (occasional) 50 Insect noise (consistent) 36-37 Water drainage 37-38 Distant unidentifiable industry/traffic hum (50Hz dominant) OWE 2B rooftop mechanical services 37 -39 Estimated OWE rooftop mechanical services contribution **38 $L_{Aeq,\ 15\ min}$**

The measured noise levels and the noise modelling conducted previously were used to determine the noise levels at each reference position. The following assessment of compliance against Condition B25 is presented in Table 2.

Table 2 Assessment against Condition B25

Location / Receivers	Attended Measurement Location	Measured OWE contribution, $L_{Aeq, 15\ min}$	Calculated OWE contribution at site boundary, $L_{Aeq, 15\ min}$	Condition B25 Noise Limit, dBA	Compliance
Southern Boundary (N3, N4, N5)	A01	32	31	41	Yes
Western boundary (N1, N2)	A02	38	35	37	Yes

To verify the compliance demonstrated above unattended noise logging data was analysed from 'SX210 – Village' and 'SX212 – South' at the locations presented in Figure 2.

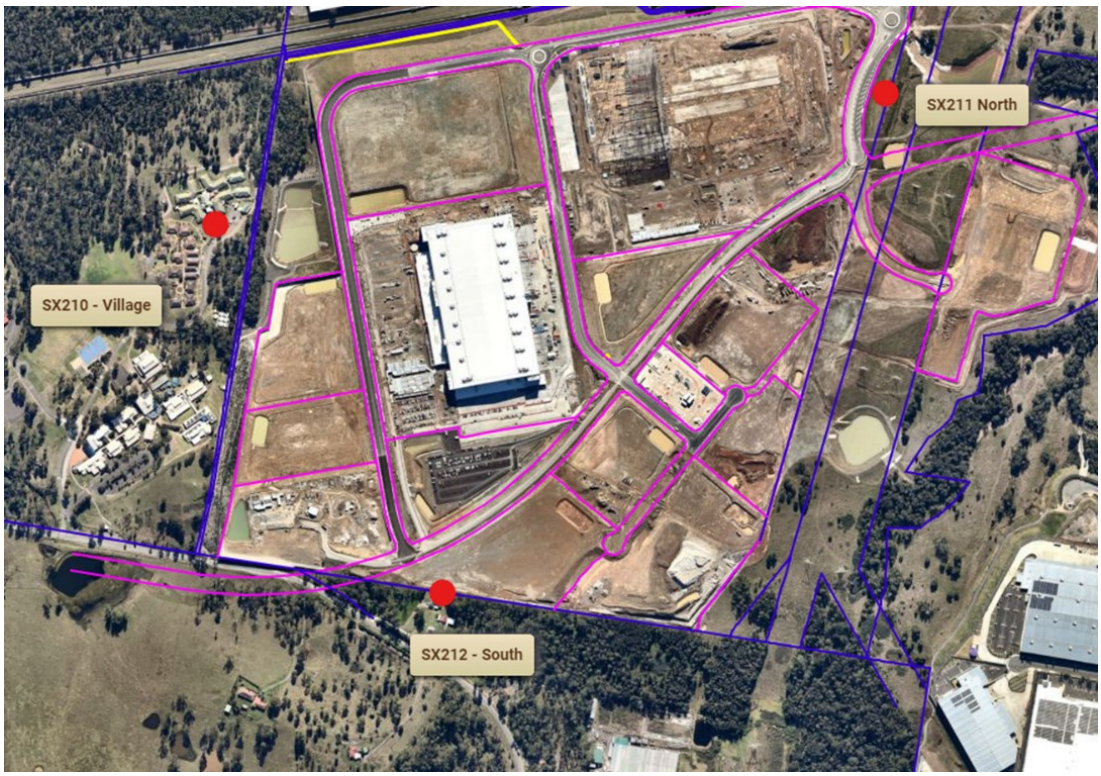

Figure 2 Noise Logger Locations

To ensure rooftop mechanical plant and services noise contributions were below the noise limit criteria described above; noise logging data was reviewed while all rooftop mechanical plant and services were turned 'off' and then compared with the level with all services turned 'on'. The resulting noise level analysis is presented in Table 3.

Table 3 Noise Logger Data Analysis against Condition B25

Location / Receivers	All OWE rooftop plant and services 'off', $L_{Aeq, 1\ min}$	All OWE rooftop plant and services 'on', $L_{Aeq, 5\ min}$	Maximum OWE rooftop plant and services contribution, dBA	Condition B25 Noise Limit, dBA	Compliance
SX212 – South (N3, N4, N5)	44	45	40	41	Yes
SX210 – Village (N1, N2)	43	42	34	37	Yes

It should be noted that the results from unattended monitoring represent a maximum possible contribution from OWE rooftop plant as influence from other extraneous sources cannot be guaranteed.

Based on the above we can confirm that the development is operating in accordance with Condition B25 of the OWE CC.

Yours sincerely

Dave Perry, MArch (Sci), BA (TvnPrd), MAAS
Project Engineer
RWDI Australia Pty Ltd

APPENDIX D

Operational Traffic Management Plan

Operational Traffic Management Plan

Building 2B – Oakdale West Estate

Building 2B – Oakdale West Precinct
23/11/2021
1086r05

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Document Control

Project No	1086r05
Project	Building 2B – Operational Traffic Management Plan
Client	Goodman Property Services (Aust) Pty Ltd
File Reference	1086r05v6 OTMP SSD 10397, OWE

Revision History

Revision No.	Date	Details	Author	Approved by
-	31/03/2021	Draft	J. Laidler	
1	07/04/2021	Issue I	J. Laidler	J. Laidler
2	12/08/2021	Issue II	O. Hashmi	Ali Rasouli
3	12/08/2021	Issue III	J. Laidler	J. Laidler
4	24/09/2021	Issue IV	J. Laidler	J. Laidler
5	19/10/2021	Issue V	J. Laidler	J. Laidler
6	20/10/2021	Issue VI	J. Laidler	J. Laidler
7	23/11/2021	Issue VII	J. Laidler	J. Laidler

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Glossary

Acronym	Description
AGRD	Austroads Guide to Road Design
AGTM	Austroads Guide to Traffic Management
CC	Construction Certificate
Compass Drive	Previously known as the Western North South Link Road (WNSLR)
Council	Penrith Council
CTMP	Construction Traffic Management Plan
DA	Development Application
DCP	Development Control Plan
DoS	Degree of Saturation
DPIE	Department of Planning, Industry and Environment
FSR	Floor space ratio
GFA	Gross Floor Area
HRV	Heavy Rigid Vehicle (as defined by AS2890.2:2018)
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
MOD	Section 4.55 Modification (also referred as a S4.55)
MRV	Medium Rigid Vehicle (as defined by AS2890.2:2018)
NHVR	National Heavy Vehicle Regulator
OC	Occupation Certificate
RMS Guide	Transport for NSW (formerly Roads and Traffic Authority), Guide to Traffic Generating Developments, 2002
S4.55	Section 4.55 Modification (also referenced as MOD)
S96	Section 96 Modification (former process terminology for an S4.55)
SRV	Small Rigid Vehicle (as defined by AS2890.2:2018)
TCP	Traffic Control Plan
TDT 2013/04a	TfNSW Technical Direction, Guide to Traffic Generating Developments – Updated traffic surveys, August 2013
TfNSW	Transport for New South Wales
TIA	Transport Impact Assessment
TIS	Transport Impact Statement
veh/hr	Vehicle movements per hour (1 vehicle in & out = 2 movements)
WNSLR	Western North South Link Road (Refer also Compass Drive)

1 Introduction

1.1 Overview

Ason Group has been engaged by Goodman Property Services (Aust) Pty Ltd to prepare an Operational Traffic Management Plan (OTMP) in relation to Building 2B, within the Oakdale West Estate (OWE, or the Estate).

The Proposal for Building 2B consists of 206,968m^2 GFA (200,668m^2 GLA) of combined warehouse and office floorspace. A breakdown of the key development details is provided below.

TABLE 1 BUILDING 2B DETAILS

Building (GLA)	Warehouse	195,176m^2
	Office	5,492 m^2
Parking Provisions	Car	1,127 Spaces
	Motorcycle	128
	Bicycle	54
Docks	Loading Bays	61

The proposed parking provision of Building 2B as outlined above readily satisfies the minimum parking requirements (788 spaces) outlined in Condition B13 of the approval.

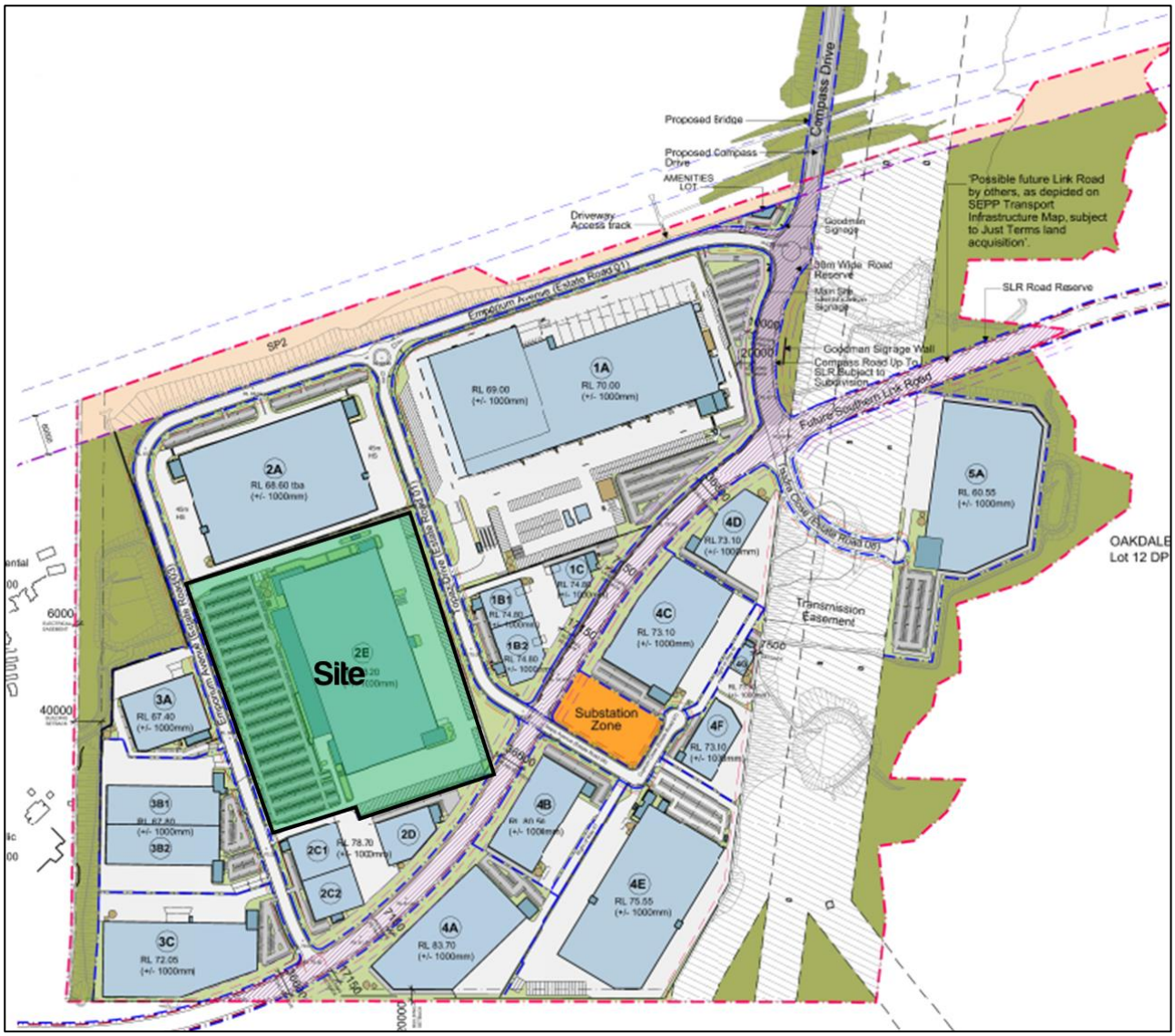


Figure 1: OWE Context Showing Building 2B

This OTMP is in response to Condition B17 (and in response to C5) of the Oakdale West Estate Stage 2 Development (SSD 10397), dated 9 April 2020. **Table 2** outlines these conditions.

TABLE 2 CONDITIONS OF CONSENT

Condition		Response
B17	The Applicant must prepare an Operational Traffic Management Plan (OTMP) for the development. The OTMP must form part of the OEMP required by condition C5 and must:	
(a)	be prepared by a suitably qualified and experienced expert, in consultation with Council and TfNSW;	Consultants from Ason Group are suitably qualified Traffic Engineers. Council and TfNSW shall be consulted following preparation of this plan, with relevant updates (if required) made following that consultation.
(b)	detail the numbers and frequency of truck movements, sizes of trucks, vehicle routes and hours of operation;	Hours of operation – refer Section 2.3. Warehouse 2B will operate 24/7. Section 2.5 outlines the maximum permissible vehicle size, truck routes and all approved B-double truck routes. The Site has been designed for access by 26m B-doubles. Larger vehicles shall be subject to separate permit approvals via the National Heavy Vehicle Regulator; a process that requires separate endorsement by Council outside the scope of this OTMP.
(c)	include measures to maintain road safety and network efficiency;	Refer to Section 6.2 for measures to maintain road safety and network efficiency.
(d)	detail measures to minimise noise from development related traffic, including, procedures for receiving and addressing complaints from the community about development related traffic and noise;	Requirements within the Driver Code of Conduct (Section 5) mandate that drivers are to be cognisant of the noise and emissions requirements. Additionally, Section 6.2 includes requirements that each tenant shall manage their own business to minimise additional traffic and noise.
(e)	include a Driver's Code of Conduct that addresses: (i) designated routes, ensuring no use of Bakers Lane or Aldington Road for operational access; (ii) travelling speeds and adherence to site-specific speed limits; (iii) procedures to ensure drivers adhere to designated heavy vehicle routes; and (iv) procedures to ensure drivers implement safe driving practices.	A driver Code of Conduct can be found in Section 4.8. The drivers code of conduct addresses ways to minimise the impacts on the road network, with other road users, ensure truck routes are utilised and to manage pedestrian movements which all stem from following the NSW road rules.
B18	The Applicant must:	
(a)	not commence operation of the development until the OTMP required by condition B17 is approved by the Planning Secretary; and	Noted.
(b)	implement the most recent version of the OTMP approved by the Planning Secretary for the duration of operation.	Noted - the most up to date version of the approved OTMP shall be implemented at all times, once operational. Any updates to this OTMP shall be communicated to relevant stakeholders, including Council, TfNSW, DPIE and building tenants.

1.2 Additional Authority Comments

Following the review of the draft CTMP (P1640r02v2, dated 26 Aug 2021), TfNSW provided additional comments that are outlined below;

TABLE 3: ADDITIONAL COMMENTS

Reference	Authority Comment	Response
1	Setting out of Building 2B's designated routes, ensuring no use of Bakers Lane or Aldington Road for operational access, in a clear manner as required by Condition B17.(e).(i). (Please include a visual to illustrate this for the avoidance of doubt with readers)	An illustrated map of the approved route to and from the Site has been included within the Drivers Code of Conduct. This Code is located within Appendix B of this report.
2	Procedures to ensure Drivers adhere to designated heavy vehicle routes as required by Condition B17.(e).(iii). (Please include a visual to illustrate this for the avoidance of doubt with readers)	The relevant procedures to ensure drivers adhere to the designated routes have been included within the Drivers Code of Conduct (Appendix B). They outline that all vehicle drivers to Site must be made aware of the access requirements, and that if any vehicles access the Site via Bakers Lane / Aldington Road, then they will no longer be approved to drive to Site.

1.3 Background

An Estate-wide (or Framework) OTMP has been prepared which outlines the general access restrictions and other traffic and parking management requirements applicable to ALL developments within the Estate. That Framework OTMP also identifies the approved traffic generation threshold applicable to the wider Estate which is informed by this and other site-specific OTMPs.

Stage 2 (to which this OTMP addresses) relates to the construction, fit out and operation of a four-level warehouse (Warehouse 2B) within the Oakdale West Estate, and was granted approval on 9 March 2020. Subsequently, MOD 1 approval was granted on 25 September 2020, which included minor design changes and amended fire stair locations.

Further background can be found online, either via the Major Projects website[1] or Goodman's *Oakdale West Planning*[2] page.

1.4 Purpose of this Report

The purpose of this OTMP is in response to condition C6 (c) (i) (as outlined above) and other requirements. It provides guidance in relation to the parking and traffic management arrangements for the Estate with an overall objective to ensure safe and efficient movement of vehicles and personnel. This plan details the following:

[1] https://www.planningportal.nsw.gov.au/major-projects/project/2592
[2] https://au.goodman.com/oakdale-industrial-estate/oakdale-west-planning

- Thresholds for the type, frequency and number of trucks within the Estate (and to Site),
- Detail the access and parking arrangements to ensure no queuing on the public road network,
- Appropriate internal traffic controls and signage,
- Driver Code of Conduct,
- Proposed crossings and signage for safe movement of pedestrians between designated carpark to the office areas,
- Details in relation to governance and administration of the plan.

1.5 Exclusions

This OTMP does not cover the following:

- Traffic and pedestrian management associated with construction activities. Reference should be made to relevant Construction Traffic Management Plans (CTMP) or Traffic Control Plans (TCPs) specific to those works, as required.
- Traffic and parking management within the broader Estate area. For overarching Estate OTMP controls, refer to the Framework OTMP prepared separately.
- Transport of Dangerous Goods is not covered by this OTMP. A Transport Emergency Response Plan (TERP) is required prior to transport of any Dangerous Goods. It is expected that such plans will be prepared by the Tenant involved in the transport of Dangerous Goods to/from the individual businesses within the Estate.

1.6 Liaison with Transport for New South Wales (TfNSW)

The OTMP has been provided to TfNSW on 4 August 2021 by Goodman Property Services (Aust) Pty Ltd. TfNSW has provided the following feedback (on 5 August 2021):

- "Any posted speed signage within the site (private roads) should not replicate the design and appearance of the regulatory speed limit signage (a number within the red circle)."

This comment has been addressed in **Section 4.2** of this OTMP.

1.7 References

In preparing this Plan, reference is made to the following:

- Ason Group, Operational Traffic Management Plan, Oakdale West Industrial Estate – Framework Traffic Management Plan, dated 28 March 2021 (Framework OTMP Report)
- Ason Group, Traffic Impact Assessment Report – Oakdale West Industrial Estate, Stage 2 Development Application – SSD 10397, dated 27 March 2020 (Building 2B Traffic Report)
- Ason Group, Traffic Impact Assessment Report – Oakdale West Industrial Estate – SSD 7348 Modification 3 & SSD 10397 Stage 2 Development Application, dated 15 January 2020 (Stage 2 Traffic Report)
- Department of Planning & Environment, Assessment Report – Oakdale West Stage 2 Development, State Significant Development Modification (SSD 7348 MOD 3) & State Significant Development Application (SSD 10397), March 2020
- Department of Planning & Environment, Development Consent, 9 April 2020
- National Transport Commission, Australian Code for the Transport of Dangerous Goods by Road & Rail, Edition 7.5, dated 2017.
- RMS Technical Direction TDT 2013/04a, Guide to Traffic Generating Developments – Updated traffic surveys (RMS Guide TDT 04a)
- Roads and Maritime Services (RMS), Guide to Traffic Generating Developments (RMS Guide)
- TransGrid, TransGrid Easement Guidelines – Third Party Development

2 Estate Details

2.1 Estate Overview

OWE is a warehouse and industrial development precinct situated in Kemps Creek. The Precinct lies within a series of strategic growth corridors including the Western Sydney Growth Centre and Broader Western Sydney Employment Areas and is intended to be serviced by Compass Drive (previously known as the Western North South Link Road, WNSLR).

A total development floor area of 599,455m^2 is to be provided by the industrial buildings within the Estate, as outlined by the approved Concept Plan (SSD 7348 MOD 6).

Figure 2 below provides the context of the Estate with regard to existing road systems.

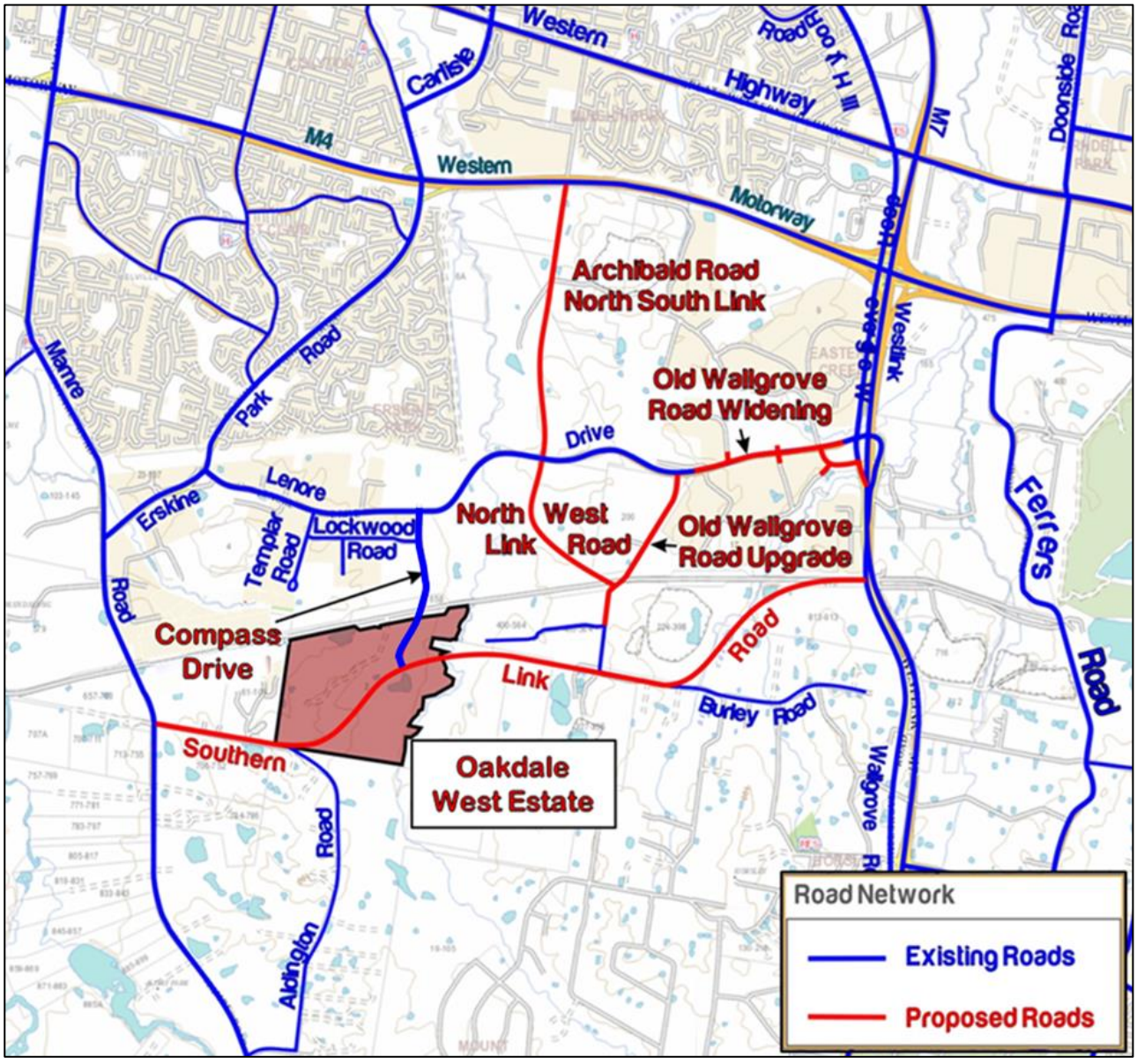


Figure 2: Site Appreciation and Road Hierarchy

All access to the Estate is provided via Compass Drive. Vehicles will travel along Old Wallgrove Road from the M4 or Lenore Drive, before heading south on Compass Drive and onto the internal estate roads.

An existing proposal with regards to the construction of the Southern Link Road (SLR) will form a connection with Mamre Road to the west and Wallgrove Road to the east.

2.2 Building 2B Overview

The Stage 2 SSD (SSD-10397) applies to Building 2B, with Modification 2 being the latest updates. Building 2B is an industrial warehouse development with ancillary office to be operated by Amazon. Key details of the site have been detailed previously within Figure 2.

Figure 3 below presents a plan illustrating the proposed development showing the general layout of the warehouse and associated traffic circulation, loading, and parking areas.

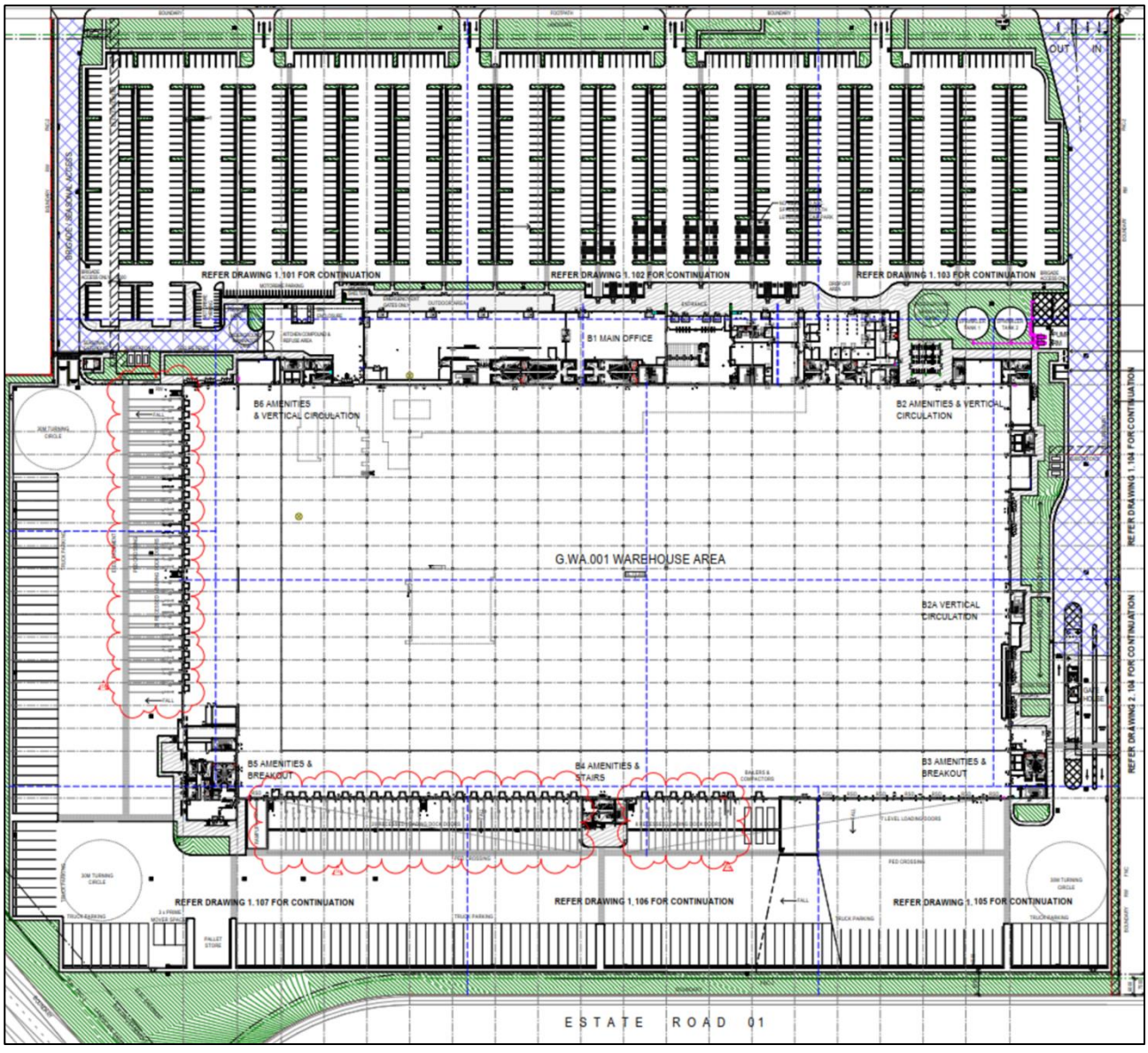


Figure 3: Building 2B Site Plan.

2.3 Hours of Operation

The broader Estate will be operational 24 hours a day, 7 days a week.

In this respect, Building 2B Warehouse is also intended to operate 24 hours a day, 7 days a week. The AM and PM shifts periods are indicated to occur as follows.

TABLE 4 BUIILDING 2B SHIFT TIMINGS

Shift Type		Start	Finish
Day (AM) Shift	Inbound Deliveries	07:00 AM	05:30 PM
	Outbound Deliveries	07:30 AM	06:00 PM
Night (PM) Shift	Inbound Deliveries	06:00 PM	06:30 AM
	Outbound Deliveries	06:30 PM	07:00 AM

2.4 Estate-wide Facilities

Refer to the Framework OTMP (1507r02v3 Framework OTMP Oakdale West Estate) for details regarding the on-street pedestrian, cyclist, road and public transport infrastructure.

2.5 Approved Estate Vehicle Movements

The approved volumes for Building 2B have been outlined within Condition A7 of the Conditions. The transport and traffic projections underpinning Building 2B is a daily peak generation of 1,870 veh/hr.

For clarity, 1 veh/hr (or veh/day) relates to the number of vehicle movements rather than simply the number of vehicles. As such, 1 vehicle in & out equates to 2 vehicle movements.

2.6 Site Access Arrangements

A primary entry and exit access crossover for commercial vehicles (trucks) is located at the northern boundary of the Site, facilitating access and egress movements for vehicles up to 26.0m B-Doubles.

A secondary exit only crossover is also provided adjacent to the southern boundary, facilitating seasonal movements for 4 weeks of the year only as an exit for vans and small trucks.

A copy of the Warehouse Plan and access crossovers have been provided in **Figure 4**.

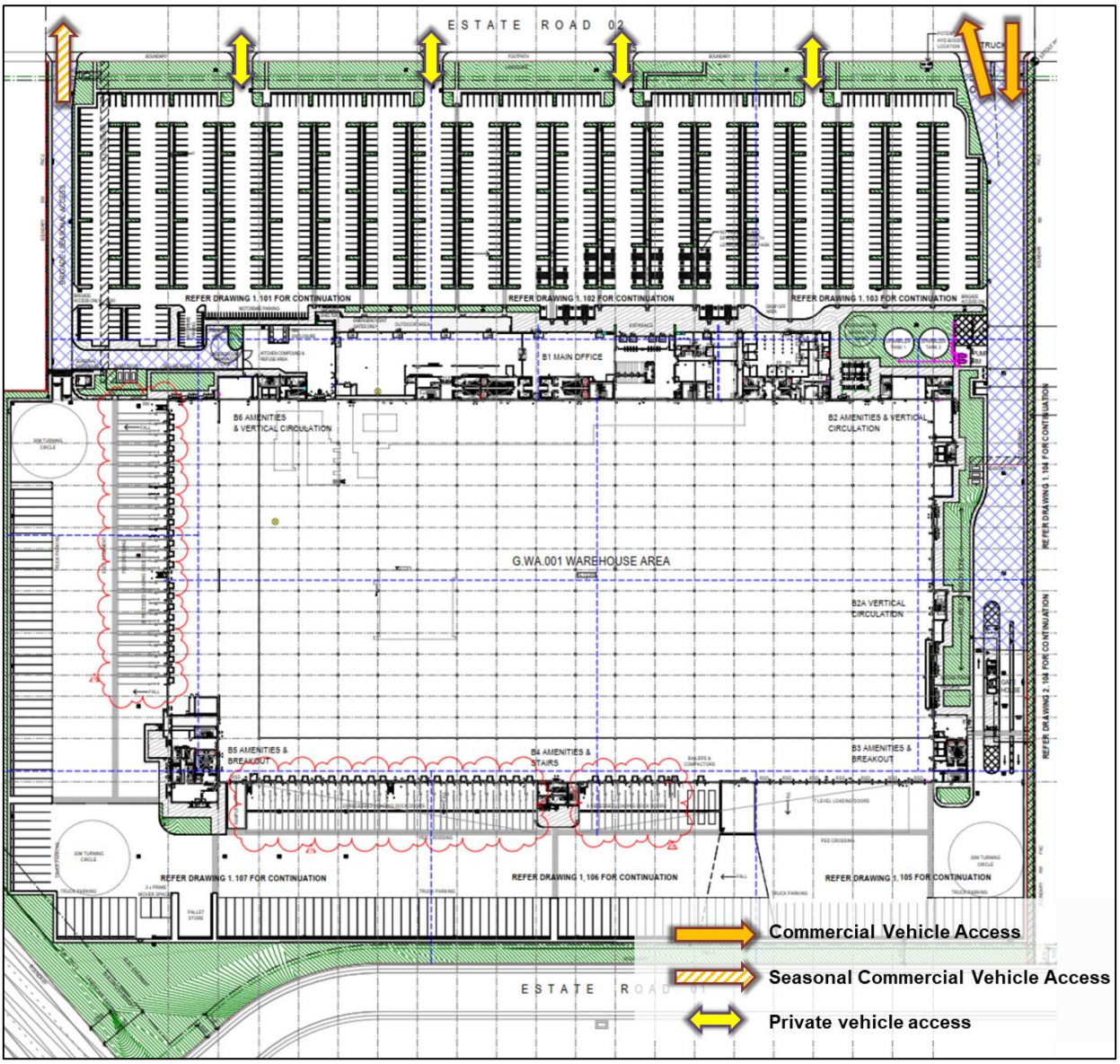


Figure 4: Warehouse Plans & Access

3 Statutory Requirements

A summary of the relevant conditions of approval – relating to operational traffic and parking management – for Oakdale West (Concept Plan, Stage 1 and Stage 2 works) are summarised below.

TABLE 5 SSD 10397 APPROVAL - COMPLIANCE TABLE

Requirement	Reference
ADMINISTRATIVE CONDITIONS	
The total area of warehousing and office space at the development must not exceed a maximum gross lettable area of 200,700 square metres.	A6 (SSD 10397-Mod-1)
The Applicant must ensure construction of the development does not generate more than 935 vehicle trips (1,870 total vehicle movements) during the day, evening and night, on the public road network.	A7 (SSD 10397-Mod-1)
ENVIRONMENTAL PERFORMANCE CONDITIONS	
The Applicant must ensure all traffic associated with operation of the development accesses the site from the Western North-South Link Road, and the future Southern Link Road, and does not use Bakers Lane or Aldington Road	B14 (SSD 10397-Mod-1)
The Applicant must prepare an Operational Traffic Management Plan (OTMP) for the development. The OTMP must form part of the OEMP required by condition C5 and must: a) be prepared by a suitably qualified and experienced expert, in consultation with Council and TfNSW. b) detail the number and frequency of trucks, sizes of trucks, vehicle routes and hours of operation. c) include measures to maintain road safety and network efficiency. d) detail measures to minimise noise from development related traffic, including, procedures for receiving and addressing complaints from the community about development related traffic and noise; e) include a Driver's Code of Conduct that addresses: (i) designated routes, ensuring no use of Bakers Lane or Aldington Road for operational access; (ii) travelling speeds and adherence to site-specific speed limits; (iii) procedures to ensure drivers adhere to designated heavy vehicle routes; and (iv) procedures to ensure drivers implement safe driving practices.	B17 (SSD 10397-Mod-1)
a) not commence operation of Stage 1 until the OTMP required by condition C6 (c) (i) is approved by the Planning Secretary; and b) implement the most recent OTMP approved by the Planning Secretary for the duration of operation	B18 (SSD 10397-Mod-1)
The Applicant must ensure: (a) all access points, internal driveways, turning areas and parking are designed and constructed in accordance with the latest version of AS 2890.1:2004 Parking facilities off-street car parking (Standards Australia, 2004) and AS 2890.2:2002 Parking facilities Off-street commercial vehicle facilities (Standards Australia, 2002); (b) the swept path of the longest vehicle entering and exiting the site, as well as manoeuvrability through the site, is in accordance with the relevant Austroads guidelines; (c) the development does not result in any vehicles queuing on the public road network;	B19 (SSD 10397-Mod-1)

<table>
<tr><td>(d) heavy vehicles and bins associated with the development are not parked on local roads or footpaths in the vicinity of the site;
(e) all vehicles are wholly contained on site before being required to stop;
(f) all loading and unloading of materials are carried out on site;
(g) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times.</td><td></td></tr>
<tr><td>The Applicant must provide sufficient parking facilities on site 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.</td><td>B19 (SSD 10397-Mod-1)</td></tr>
<tr><td>The Applicant must comply with the hours detailed in Table 5, unless otherwise agreed in writing by the Planning Secretary.

<table><tr><th>Activity</th><th>Day</th><th>Time</th></tr><tr><td>Construction

Construction Works (internal building only)</td><td>Monday – Sunday

Monday – Sunday</td><td>6 am to 10 pm

3 am to 10 pm</td></tr><tr><td>Operation</td><td>Monday – Sunday (including public holidays)</td><td>24 hours</td></tr></table></td><td>B21 (SSD 10397-Mod-1)</td></tr>
<tr><td>Works outside of the hours identified in condition B21 may be undertaken in the following circumstances:
(a) works that are inaudible at the nearest sensitive receivers;
(b) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or
(c) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.</td><td>B22 (SSD 10397-Mod-1)</td></tr>
<tr><td>The Applicant must implement the Waste Management Plan (WMP) in the EIS for the duration of construction and operation of the development.</td><td>B43 (SSD 10397-Mod-1)</td></tr>
<tr><td colspan="2">ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING</td></tr>
<tr><td>The Applicant must prepare an Operational Environmental Management Plan (OEMP) in accordance with the requirements of condition C1 and to the satisfaction of the Planning Secretary.</td><td>C5 (SSD 10397-Mod-1)</td></tr>
<tr><td>As part of the OEMP required under Condition C5 of this consent, the Applicant must include the following:
(a) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
(b) describe the procedures that would be implemented to:
(i) keep the local community and relevant agencies informed about the operation and environmental performance of the development;
(ii) receive, handle, respond to, and record complaints;
(iii) resolve any disputes that may arise;
(iv) respond to any non-compliance;
(v) respond to emergencies; and
(c) include the following environmental management plans:
(i) Operational Traffic Management Plan (see Condition B17); and
(ii) Noise Validation Monitoring (see Condition B26).</td><td>C6 (SSD 10397-Mod-1)</td></tr>
</table>

The Applicant must: (a) not commence operation until the OEMP is approved by the Planning Secretary; and (b) operate the development in accordance with the OEMP app	C7 (SSD 10397-Mod-1)
The Planning Secretary must be notified in writing to compliance@planning.nsw.gov.au immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 4	C10 (SSD 10397-Mod-1)
The Planning Secretary must be notified in writing to compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of any non-compliance.	C11 (SSD 10397-Mod-1)
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.	C12 (SSD 10397-Mod-1)
A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	C13 (SSD 10397-Mod-1)
No later than 6 weeks before the date notified for the commencement of operation, a Compliance Monitoring and Reporting Program prepared in accordance with the Compliance Reporting Post Approval Requirements (Department 2018) must be submitted to the Planning Secretary	C14 (SSD 10397-Mod-1)
Compliance Reports of the development must be carried out in accordance with the Compliance Reporting Post Approval Requirements (Department 2018).	C15 (SSD 10397-Mod-1)
The Applicant must make each Compliance Report publicly available no later than 60 days after submitting it to the Planning Secretary and notify the Planning Secretary in writing at least 7 days before this is done	C16 (SSD 10397-Mod-1)

Refer to the Department of Planning & Environment's Major Project Assessments website[3] for a full list of all conditions of approval.

[3] https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-10397%2120200414T230931.162%20GMT

4 Traffic Management Plan

4.1 Pedestrian Management

Pedestrian access to the hardstand areas used by heavy vehicles shall be restricted, as far as practicable, for safety purposes. Pedestrian exclusion areas should be clearly signposted with appropriate signage (example below).

In the event that pedestrian access is required within truck manoeuvring areas, high visibility vests and other personal protective clothing shall be worn at all times. Where possible, temporary work areas within commercial vehicle manoeuvring areas should be clearly delineated by way of traffic cones and/or temporary barriers.

It should be noted that pedestrians have right-of-way when crossing driveways, therefore all vehicles turning into a development will be required to give-way to pedestrians when entering or exiting individual Lots.

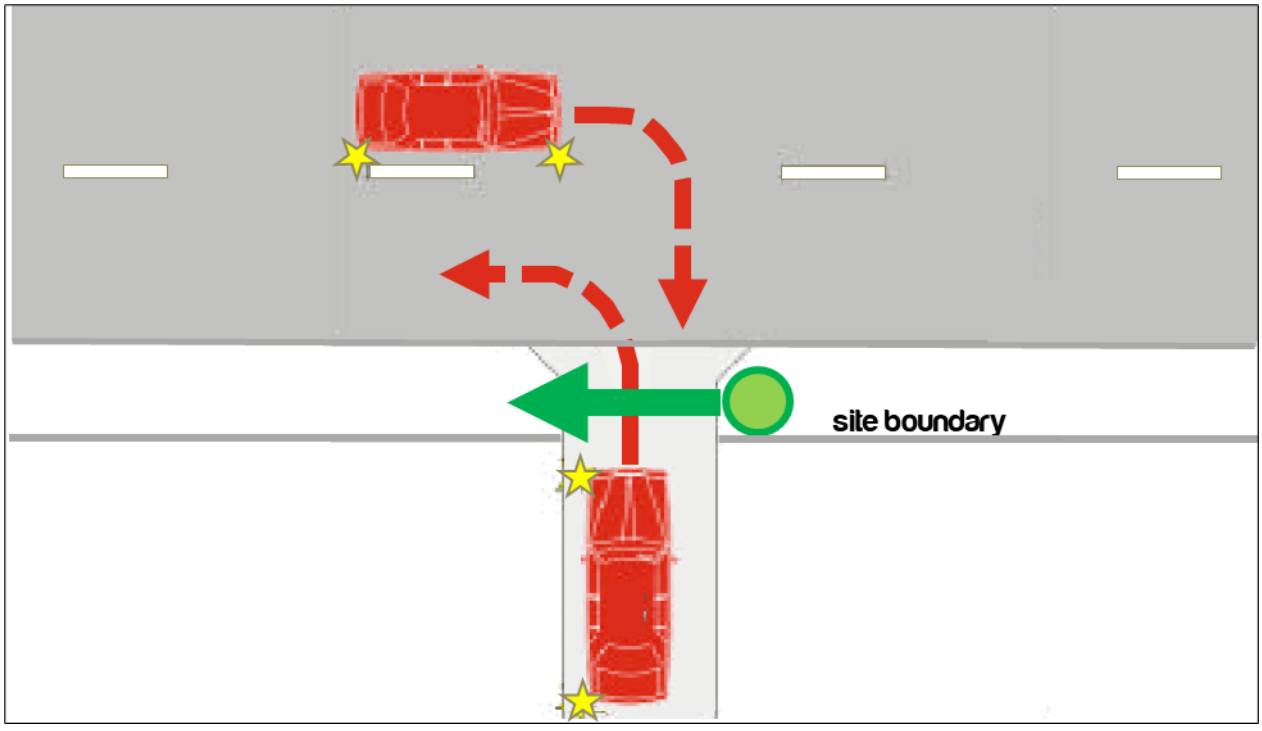


Figure 5: Pedestrian/cyclist Priority of Movement at Site Access

4.2 Vehicle Management

All drivers are to operate vehicles in a manner consistent with the requirements of applicable Work Health and Safety (WHS) legislation and other business specific policies.

All commercial vehicle drivers are to be familiar with the Driver Code of Conduct – outlined in Section 6- before attending the Estate.

The Site access driveways and hardstand area has been designed for use by vehicles up to and including 26 metre B-doubles, as demonstrated in the swept path analysis attached as **Appendix A**.

All vehicles on-site (including car park and loading areas) shall be subject to maximum speed limit of 20km/hr at all times. Lower limits (i.e., 10km/hr) may be imposed, at the discretion of tenants.

It is also important to note that any posted speed signage within the site (private roads) should not replicate the design and appearance of the regulatory speed limit signage (a number within the red circle).

4.2.1 Maximum Vehicle Size

As indicated in above, maximum vehicle size expected to access Building 2B is a 26.0 metre B-double. In the event a larger vehicle — including oversize vehicle configurations — wishes to access the Site, a separate application shall be submitted to the NHVR and approved prior to any vehicle arriving to Site.

4.2.2 Truck Access Routes

All drivers shall access the Site from Compass Drive and Lenore Drive, has been outlined within **Figure 6**. From that point, heavy vehicles are to use the Classified Road network wherever possible, with the use of local Council roads only as necessary.

At all times, drivers are to adhere to the applicable Road Rules and the Drivers Code of Conduct outlined in Section 6.

All drivers accessing the Site (and Estate in general) shall adhere to the following access management measures:

- Vehicles turning right into driveways or side roads shall do so from as close to the centreline of the carriageway.

  Note - if turning from a two-lane road - the RMS Heavy Vehicle Driver Handbook states that vehicles 7.5 metres or longer with a DO NOT OVERTAKE TURNING VEHICLE sign displayed on the back can turn right from the lane on the immediate left of the far-right lane.
- Heavy vehicles (in excess of 4.5 Tonne GVM) or long vehicles (over 7.5 metres in length) must not stop on a length of road outside a built-up area, except on the shoulder of the road.

  In a built-up area where parking is permitted (for vehicles lighter than 4.5 Tonne GVM and under 7.5 metres in length), they must not stop for longer than one hour (buses excepted). For more information on where vehicles can stand or park, refer to the Road Users' Handbook.

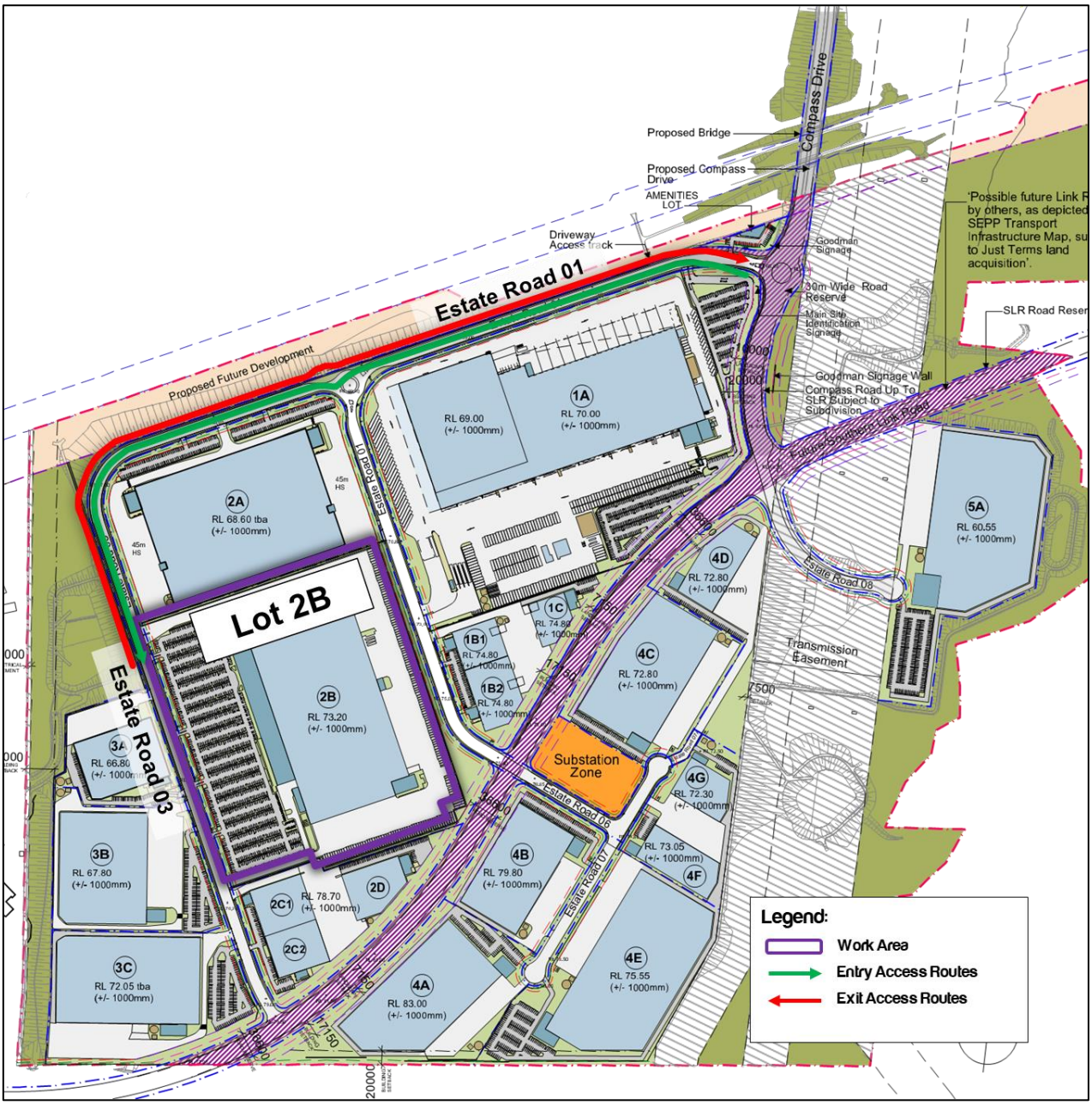


Figure 6: Building 2B Access Routes.

Further to the above, the on-site circulation within Building 2B shall provide access for Fire trucks, Side loading and dedicated unhitching areas as outlined below in **Figure 7**.

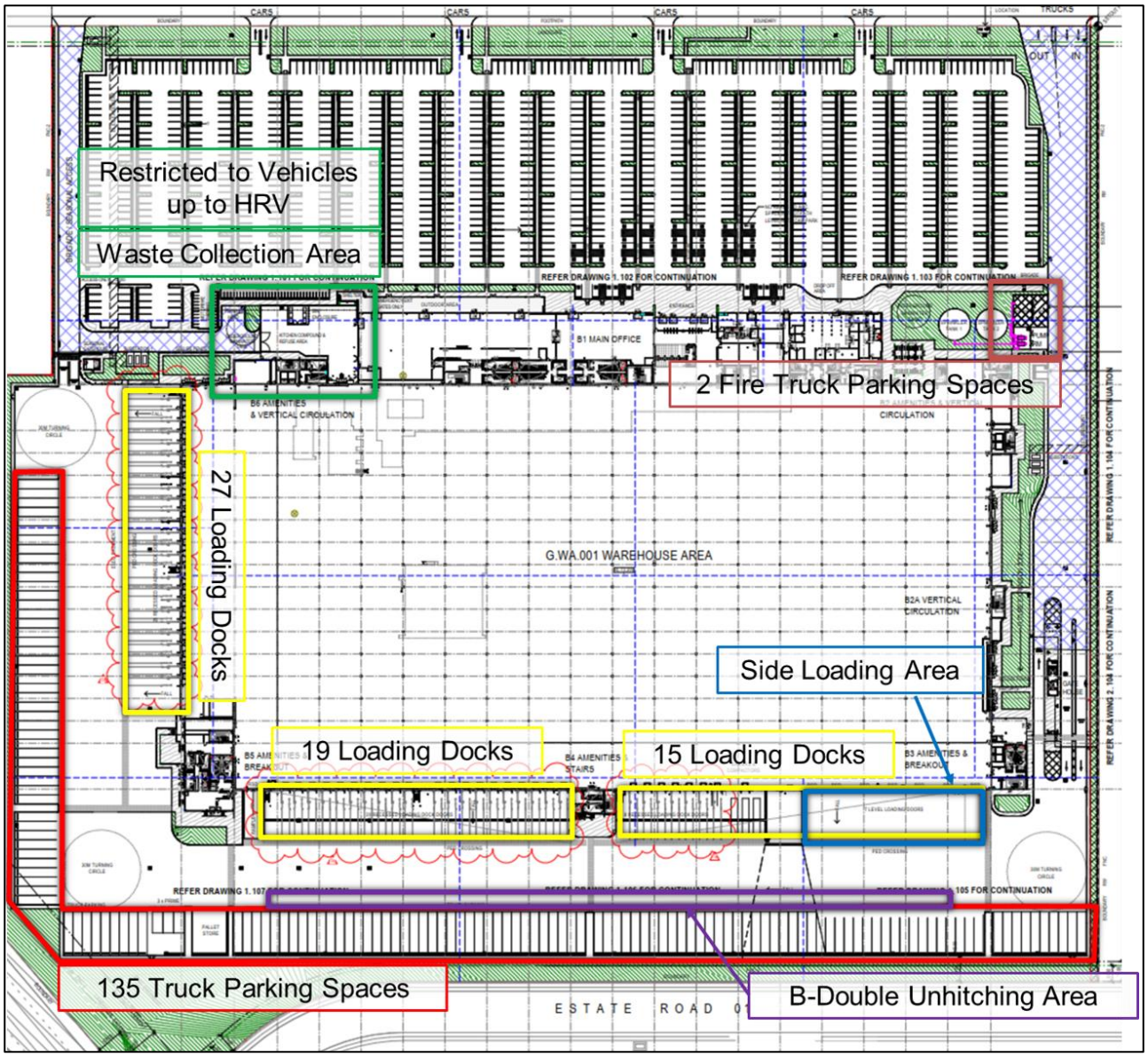


Figure 7: Heavy Vehicle Parking and Loading Areas

4.3 Vehicle Queuing

As outlined in Section 3.5, the development has a threshold of 160 commercial vehicle movements per day , with an on-street peak of 14 trucks.

The access driveway from Estate Road 03 and the internal heavy vehicle circulation area provides sufficient capacity to readily accommodate these vehicle arrivals without any on-street queueing. In addition, a schedule for deliveries of materials and goods will be established prior to that day. Therefore, at no stage shall queueing occur on the public road network.

AT NO STAGE ARE VEHICLES TO QUEUE ON-STREET.

4.4 Loading and Unloading of Materials

Sufficient area shall be set aside on-site for the loading and unloading of goods without obstructing general vehicle access or circulation. Trucks SHALL ONLY be parked on-site when they are undertaking unloading/loading activities within their designated loading docks.

Swept path analysis demonstrating required manoeuvring areas for on-site loading bays are provided in **Appendix A**, which confirms possible movements for the nominated truck sizes.

Furthermore, the vehicle queuing guidelines outlined within Section 4.3 mandate that at no stage will loading or unloading materials occur off-site. All trucks entering or leaving the site with loads have their loads covered to ensure that no vehicle will track dirt, debris or other fallen materials onto the public road network.

4.5 Service Vehicle Access Routes

Waste service vehicles and the associated bins are not to be parked on local roads or footpaths and must remain within the Site at all times. Figure 7 illustrates the location of the waste service collection point (highlighted in green).

4.6 Temporary or Unplanned Works

Construction works, and associated traffic management measures are not covered by this plan. Notwithstanding, any traffic and pedestrian control in relation to temporary or unplanned works shall be designed in accordance with AS1742 and/or the TfNSW Traffic Control at Work Sites manual, as appropriate.

Where practicable, work areas and temporary pedestrian paths (if applicable) should be physically separated from vehicle movements by way of traffic cones, bollards and/or temporary pedestrian fencing.

4.7 Dangerous Goods

A Transport Emergency Response Plan (TERP) is required prior to transport of any Dangerous Goods. It is expected that such plans will be prepared by the Tenant involved in the transport of Dangerous Goods to/from the individual businesses within the Estate. Accordingly, transport of Dangerous Goods is not covered by this OTMP.

It is expected that any TERP would, as a minimum, be in accordance with the 2012 Emergency Response Guidebook or HB76: 2010 Dangerous Goods – Initial Emergency Response Guide.

4.8 Driver Code of Conduct

Reference should be made to the Drivers Code of conduct has been provided within **Appendix B**.

5 Parking Management

5.1 On-site Car Parking

In accordance with the condition B20, “the Applicant must provide sufficient parking facilities on site 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”.

Therefore, parking rates for the wider Estate have been provided in accordance with the 2019 SSD approval. The rates are as follows:

- 1 space per 300 m^2 for Warehouse; and
- 1 space per 40 m^2 for Office.

Application of the approved SSDA rates to the floor areas has been summarised below:

TABLE 6 CAR PARKING PROVISION

Land Use	Yield	Requirement	Provision
Warehouse / Distribution	195,176	651	
Office	5,492	137	
Total	**200,668**	**788**	**1,127**

The approved provision of parking provided exceeds the nominal parking requirement, thereby complying with the approved car parking rates, which are a minimum.

5.2 On-street Parking

On-street parking is generally restricted; and shall adhere to all signposted parking controls at all times.

Vehicles are NOT to be parked on-street.

Drivers will ensure that trailers are parked within their designated areas and will not park trailers within circulation roadways and access roads (incl. emergency vehicle access roads). Management of respective Lots shall remain the responsibility of the respective property’s owner to ensure that no vehicles associated with Building 2B are parked on-street.

6 Plan Administration

6.1 Plan Maintenance

This Plan shall be subject to ongoing review and will be updated as necessary in response to monitoring activities, changing requirements or in response to any documented WHS issues. In particular, a review of this Plan may be required where a new business occupies a tenancy and has different operational requirements to that envisaged under this Plan (refer to Section 2.3). Where a change of businesses does not alter the underlying characteristics of the operation, no change to this plan would be required.

As a minimum, ongoing review of the OTMP shall occur annually. All and any reviews undertaken should be documented, however key considerations regarding the review of the OTMP shall be:

- Annual surveys of the Estate access points to review traffic generation.
- Quarterly condition review in relation to dirt on public roadways for the first 2 years of operation. Following that, review can occur annually as part of the ongoing review cycle.
- Regular checks undertaken to ensure all loads are entering and leaving site covered.
- A dilapidation report shall be undertaken every periodically to assess the condition of the road and note whether there has been any reduction in quality of the road. This report shall be forwarded to Council for appropriate action, where deemed necessary.

6.2 Monitoring Requirements

To ensure the effectiveness of this OTMP, various monitoring requirements have been established and expected to form part of the monitoring plan required to be included as part of the overarching OEMP.

A comprehensive contingency plan shall be established and included in the overarching OEMP. In relation to transport and parking, the following measures are to be included in that overarching plan. In addition to the Framework OTMP monitoring requirements, the following site-specific ones shall apply.

TABLE 7 CONTINGENCY PLAN

Risk		Condition Green	Condition Amber	Condition Red
Operational Movements	**Trigger**	Visual monitoring of all traffic movements within the Site does not detect unsafe movement of traffic and risk to persons and property	Monitoring of all traffic movements within the Site detects unsafe movement of traffic and risk to persons and property	Monitoring of all traffic movements within the Site identifies several unsafe movements of traffic and risk to persons and property
	Response	Visual monitoring to continue daily as part of an ongoing process.	• Review needed to address persistent unsafe movements. • Modification of traffic controls to self-enforce appropriate vehicle manoeuvres within the site.	Condition Amber responses, plus the following additional responses; • Direct cessation of unsafe movements. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.
	Trigger	Following periods of adverse weather conditions (e.g., a significant heavy rain event), internal roads/aisles have been inspected prior to vehicle traffic use and no issues found	Internal roads / aisles have been inspected following adverse weather conditions and minor issues found (small pot holes, dirt / debris, or pooling water)	Internal roads / aisles have been inspected following adverse weather conditions and major issues found (failed road integrity, large diameter pot holes, fallen light poles or trees)
	Response	No further action required until next adverse weather event.	• Any impediments to access roads will be cleared. • Maintenance teams to repair any pot holes and remove excess water when expected traffic volumes are lowest.	Condition Amber responses, plus the following additional responses; • Install a detour around any unsafe obstacle to ensure safety for all motorists and/or pedestrians.
	Trigger	Parking occupancy less than provided on-site capacity	Parking bay requirements are within 90% of the provided spaces	Parking requirements exceed parking spaces provided.
	Response	No response required. Continue monitoring program	Review and investigate parking rates and where appropriate, implement additional remediation measures such as: • Undertake additional parking reviews to determine cause of higher limit parking space issues in more detail. • Review OTMP and update where necessary.	Condition Amber responses, plus the following additional responses; • Temporary halting of activities and resuming when conditions have improved. • Provide incentives for car pooling and utilising active transport measures.

			• Provide additional training to tenants to provide information on lowering parking demands.	
	Trigger	No unsafe pedestrian movements identified.	Pedestrian behaviour identified to be risky and unsafe.	Site design/operations identified to place pedestrians in unsafe situations and multiple near miss events
	Response	No response required. Continue monitoring program	• Review needed to address persistent unsafe movements. • Modification of traffic controls to self-enforce appropriate vehicle manoeuvres within the site.	Condition Amber responses, plus the following additional responses; • Direct cessation of unsafe movements by amending design of Site. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.
	Trigger	Operational traffic volume is in accordance with permissible and programmed volume constraints	Operational traffic volumes are within 90% of the permissible volume constraints	Operational traffic volumes exceed permissible volume constraints
	Response	This operational traffic volume review shall be completed monthly for the first 6 months of operation and bi-annually thereafter.	Review and investigate operational activities, and where appropriate, implement additional remediation measures such as: • Undertake review of the Site's traffic generation in more detail. • Review OTMP and update where necessary. Provide additional training to tenants.	Condition Amber responses, plus the following additional responses; • Temporary halting of activities and resuming when conditions have improved. • Surveys of accesses shall be required to allow enforcement of site-specific thresholds. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.
	Trigger	Loading / service bays are within operational constraints	Loading / service bays are within 90% of capacity	Loading / service bays exceed capacity.
	Response	No response required. Continue monitoring program	Review and investigate operational activities, and where appropriate, implement additional remediation measures such as:	Condition Amber responses, plus the following additional responses; • Approved traffic thresholds to be enforced for the peak periods

			• Drivers be provided with additional training and an extra copy of the Driver Code of Conduct. • Provision of additional training to the tenants should be provided to ensure the most appropriate schedule can be created.	• Review OTMP and update where necessary. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.
	Trigger	Service bays are not restricted and being utilised as intended.	Vehicles other than service vehicles are stopped within the service area	Vehicles other than service vehicles are consistently parked within the service area
	Response	No response required. Continue monitoring program	Review and investigate operational activities, and where appropriate, implement additional remediation measures such as: • Drivers be provided with additional training and an extra copy of the Driver Code of Conduct. • Provision of additional training to the tenants should be provided to ensure the most appropriate schedule can be created.	Condition Amber responses, plus the following additional responses; • Review OTMP and update where necessary. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.
	Trigger	No vehicles parked adjacent to TransGrid access	Vehicle stopped adjacent to TransGrid access	Vehicle parked adjacent to, and blocking, TransGrid access
	Response	No response required. Continue monitoring program	• Vehicle and driver to be moved from blocking the access. • Provision of additional training to the tenants should be provided to ensure TransGrid easement is not to be restricted. • Drivers be provided with additional training and an extra copy of the Driver Code of Conduct.	Condition Amber responses, plus the following additional responses; • Review OTMP and update where necessary. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.
Queueing	**Trigger**	No queuing identified at the Site access	Queuing identified at the Site access	Queuing identified on the public road as a direct result from activities within the Site.

Incidents	**Response**	No response required. Continue monitoring program	Review the delivery schedules prepared by the tenant. • Drivers be provided with additional training and an extra copy of the Driver Code of Conduct. • Provision of additional training to the tenants should be provided to ensure the most appropriate schedule can be created.	Condition Amber responses, plus the following additional responses; • Approved traffic thresholds to be enforced for each sub-tenancy. • Review OTMP and update where necessary. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.
	Trigger	No incidents observed or reported	Near miss or minor incident occurred within the carriageway of OWE which did not require medical attention (such as tripping on raised footpath)	Major incident occurred within the carriageway of OWE which did not require medical attention (such as being hit by a truck while exiting a Site)
	Response	No action required at this stage, however continual reinforcement to all tenants to report all incidents shall continue.	Near miss to be reported to the appropriate Incident to be reported to Site Manager and Estate Coordinator, for immediate remedy.	Condition Amber responses, plus the following additional responses; • Temporary halting of activities and resuming when incident has been remedied. • Incident to be reported to Site Manager and Estate Coordinator. • Review OTMP and update where necessary. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.
Noise	**Trigger**	Operational noise volume is in accordance with permissible and programmed volume constraints	Operational noise volumes are within 90% of the permissible volume constraints	Operational traffic volumes exceed permissible volume constraints
	Response	No action. Continue ongoing monitoring activities.	Review and investigate noisy operational activities, and where appropriate, implement additional remediation measures such as: • Undertake additional noise reviews to determine cause of higher limit noise issues in more detail.	Condition Amber responses, plus the following additional responses; • Undertake additional noise surveys to review cause in more detail. • Surveys of each tenancy shall be required to allow enforcement of site-specific thresholds.

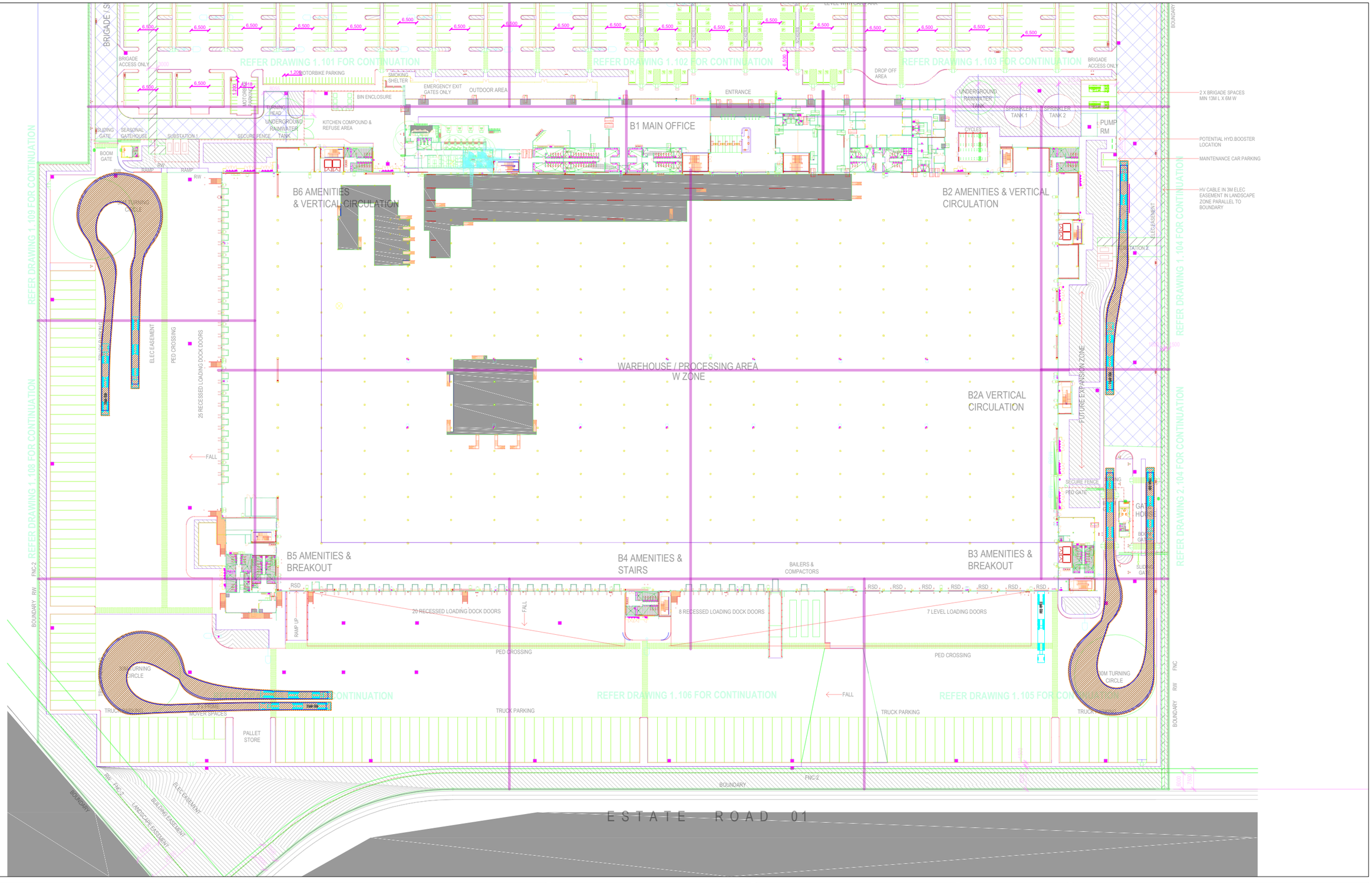
			• Review OTMP (and other sub-plans) and update where necessary. • Provide additional training to tenants to provide information on lowering noise emissions.	• Review OTMP and update where necessary. • Provide additional training to tenants to provide information on lowering noise emissions. • Notify the planning secretary within 7 business days of becoming aware of a non-compliance.

6.3 Key Responsibilities

Management of Building 2B shall ensure:

- All staff are provided with sufficient training to undertake the required tasks. This includes responsibility for measures to ensure that all staff and visitors are familiar with the Estate wide OTMP and will comply with the site specific OTMP.
- That all vehicles will not, in any manner, be knowingly overloaded.
- Operational noise levels remain nominal. In the event that noise is exceeded, then the tenant should undertake all feasible and reasonable mitigation and management measures to ensure noise levels are within acceptable levels. If noise levels cannot be kept below applicable limits, then a different operation method or equipment must be utilised.
- All vehicles transporting loose materials will 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.
- Vehicles must be wholly within site before being required to stop, as well as loading and unloading materials.
- Loading areas and turning areas within site will be kept clear at all times.
- All vehicles must enter and exit the Site in a forward direction.
- Management must not, by their actions or requirements, force or coerce employees or drivers to break the law.
- Management shall notify the Planning Secretary in writing of any non-compliance. This 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.
- Management shall prepare a Compliance Monitoring and Report Program and submit to the Planning Secretary no later than 6 weeks before the commencement of operation of the Site.

Appendix A. Swept Path Analysis



Revision notes:

Rev:	Date:	Notes:

For information purposes only - not for construction

Drawn By: M TANGONAN

Client: Goodman Property Services

Project: P1086 OWE - Project Waratah

Drawing Title: Hardstand Circulation - U-Turn 26m B-Double

Date: 4-Dec-19

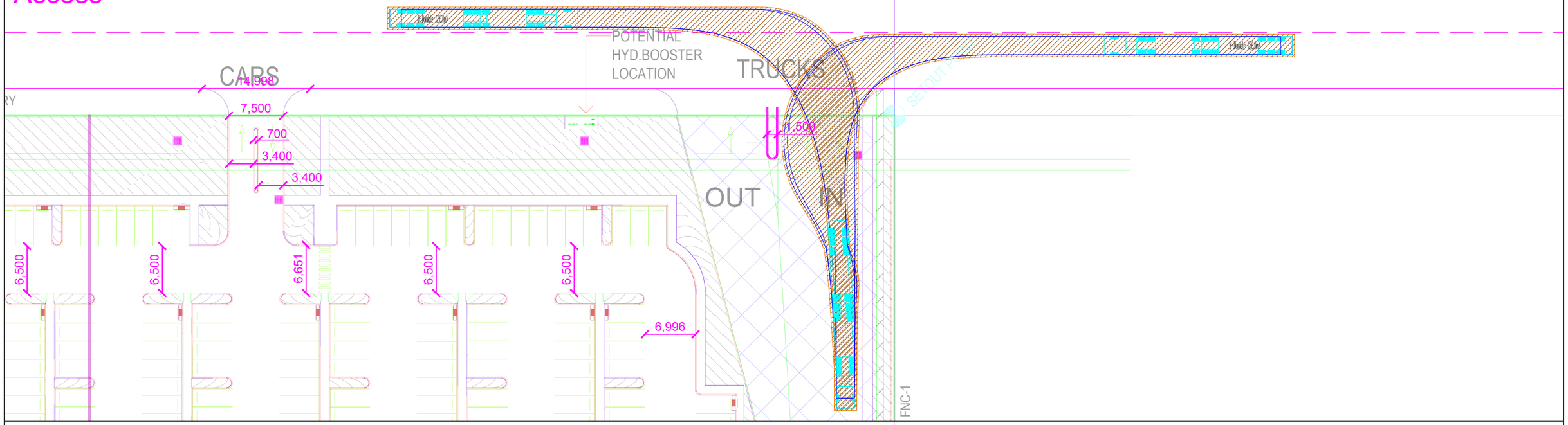
Scale @ A3: NTS

Drawing Number: AG00

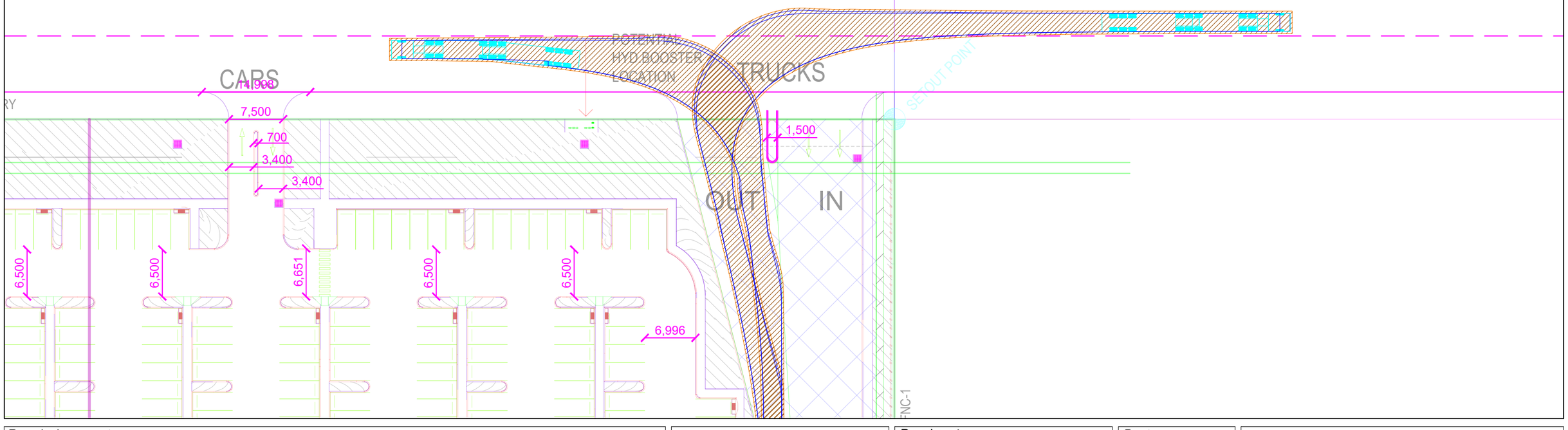
asongroup
Suite 5.02, Level 5, 1 Castlereagh Street
Sydney NSW 2000
info@asongroup.com.au

Main Gate Crossover

Access



Egress



Revision notes:

Rev:	Date:	Notes:

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Drawn By: M TANGONAN

Client: Goodman Property Services

Project: P1086 OWE - Project Waratah

Drawing Title: Main Gate Crossover 26m B-Double

Date: 4-Dec-19

Scale @ A3: NTS

Drawing Number: AG01

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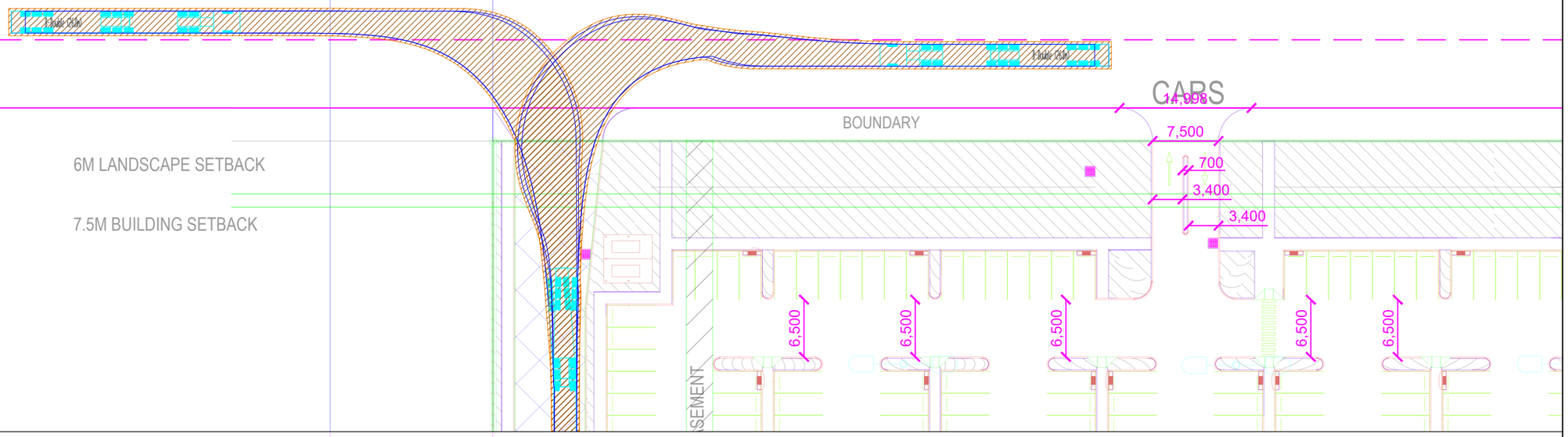
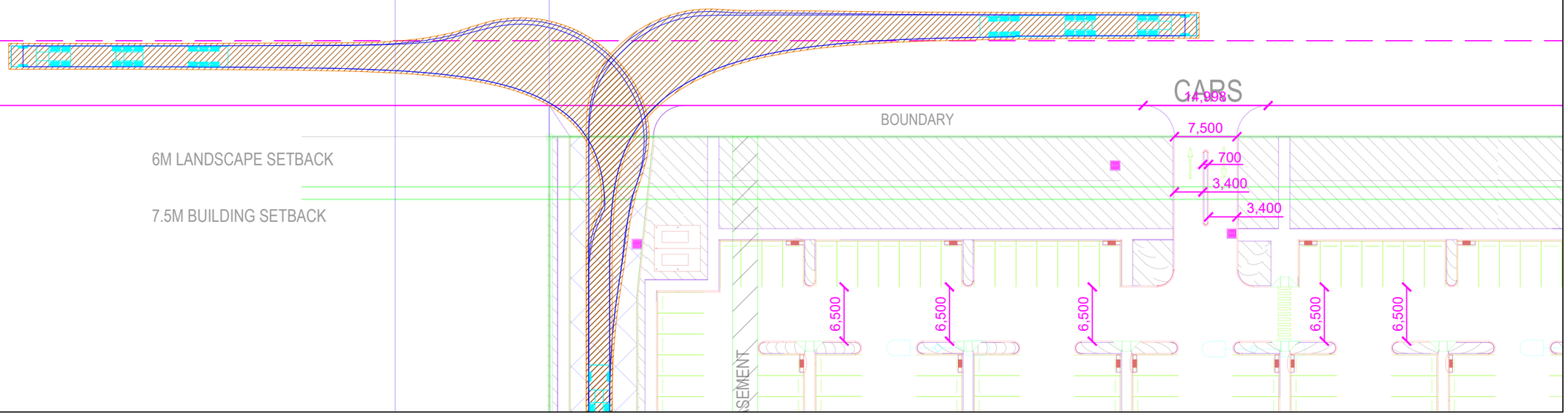
info@asongroup.com.au

Seasonal Gate Crossover

Access



Egress



Revision notes:

Rev:	Date:	Notes:

For information purposes only - not for construction

Drawn By: M TANGONAN

Client: Goodman Property Services

Project: P1086 OWE - Project Waratah

Drawing Title: Seasonal Gate Crossover B-Double (26m)

Date: 4-Dec-19

Scale @ A3: NTS

Drawing Number: AG02

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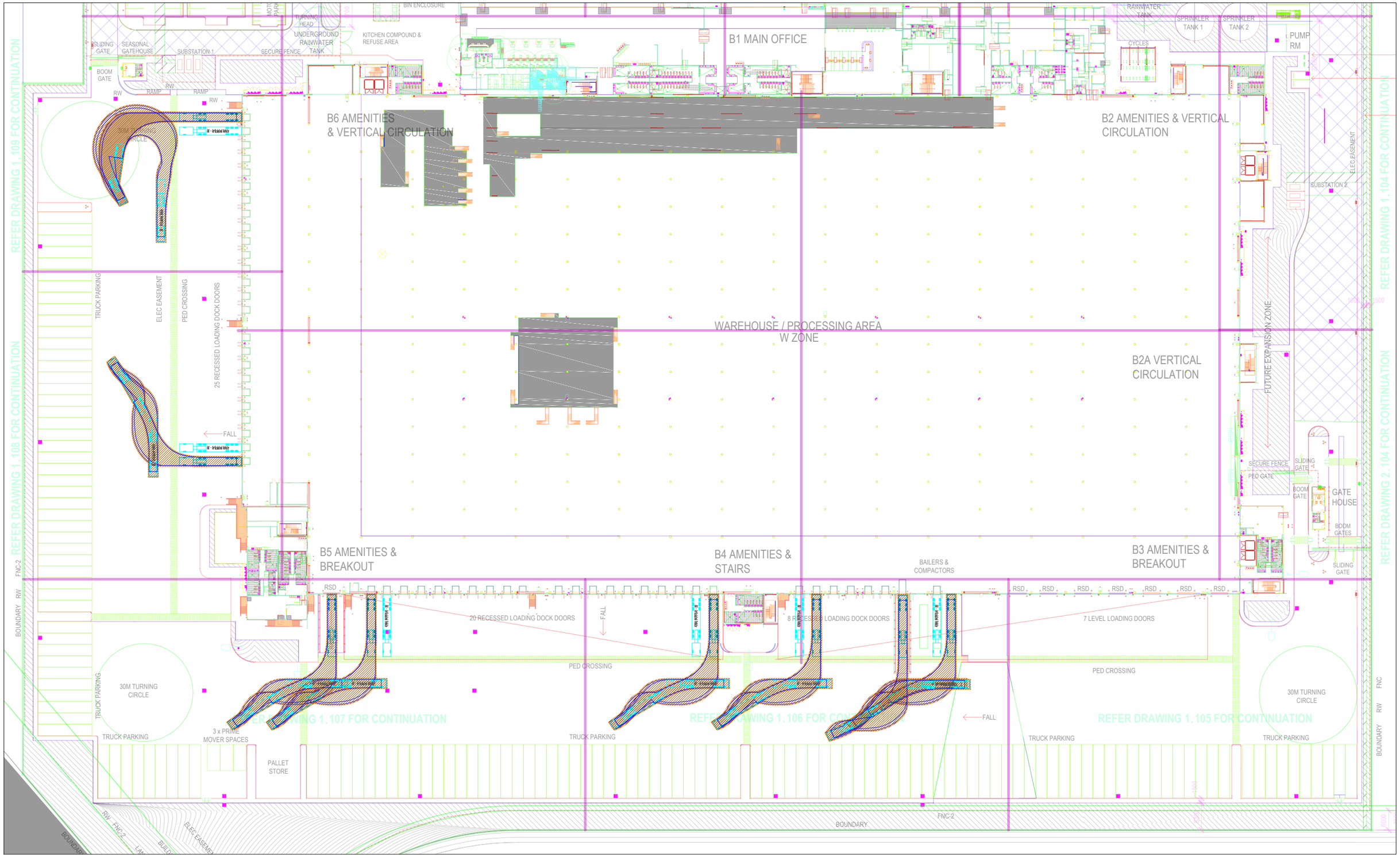

Revision notes:

Rev:	Date:	Notes:

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Drawn By: M TANGONAN

Client: Goodman Property Services

Project: P1086 OWE - Project Waratah

Drawing Title: Dock Accesses 19m AV

Date: 4-Dec-19

Scale @ A3: NTS

Drawing Number: AG03

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Bin Enclosure

Sprinkler Tanks & Pump Room Access

6,500
6,500
6,500
6,500

REFER DRAWING 1.101 FOR CONTINUATION

1,200
MOTORBIKE PARKING
4918
MOTORBIKE PARKING
8055
8700
SMOKING SHELTER
BIN ENCLOSURE
TURNING HEAD
UNDERGROUND RAINWATER TANK
KITCHEN COMPOUND & REFUSE AREA
SECURE FENCE
B6 AMENITIES & VERTICAL CIRCULATION

500
NTINUATION
BRIGADE ACCESS ONLY
13985
21245
SPRINKLER TANK 2
PUMP RM
22665
BOUNDARY
UATION

Revision notes:

Rev:	Date:	Notes:

For information purposes only - not for construction

Drawn By: M TANGONAN

Client: Goodman Property Services

Project: P1086 OWE - Project Waratah

Drawing Title: Bin & Sprinkler Tank Access / Egress 12.5m HRV (Specialist Fire Appliance, Garbage Truck)

Date: 4-Dec-19

Scale @ A3: NTS

Drawing Number: AG04

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Sydney NSW 2000
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REFER DRAWING 1.101 FOR

MOTORBIKE PARKING

MOTORBIKE PARKING

8055

8700

TURNING HEAD

UNDERGROUND RAINWATER TANK

KITCHEN COMP

REFUSE AREA

TATION 1

SECURE FENCE

Revision notes:

Rev:	Date:	Notes:

For information purposes only - not for construction

Drawn By:
M TANGONAN

Client:
Goodman Property Services

Project:
P1086
OWE

Drawing Title:
Waratah - Turning Bay
MRV (8.8m)

Date:
4-Dec-19

Scale @ A3:
NTS

Drawing Number:
AG06

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Appendix B. Drivers Code of Conduct

Drivers operating on Estate Roads shall adhere to safe driving policies as outlined below in the Driver Code of Conduct (the Code).

Objectives of the Code

- To minimise the impact of the development on the local and regional road network;
- Minimise conflict with other road users;
- Minimise road traffic noise during night-time hours;
- Ensure truck drivers use specified routes; and
- Manage/control pedestrian movements.

Code of Conduct

The code of conduct requires that all drivers must:

- Demonstrate safe driving and road safety activities.
- Comply with all traffic and road legislation.
- Adhere to site signage and instructions.
- Only enter and exit the site via the allocated entry and exit points.

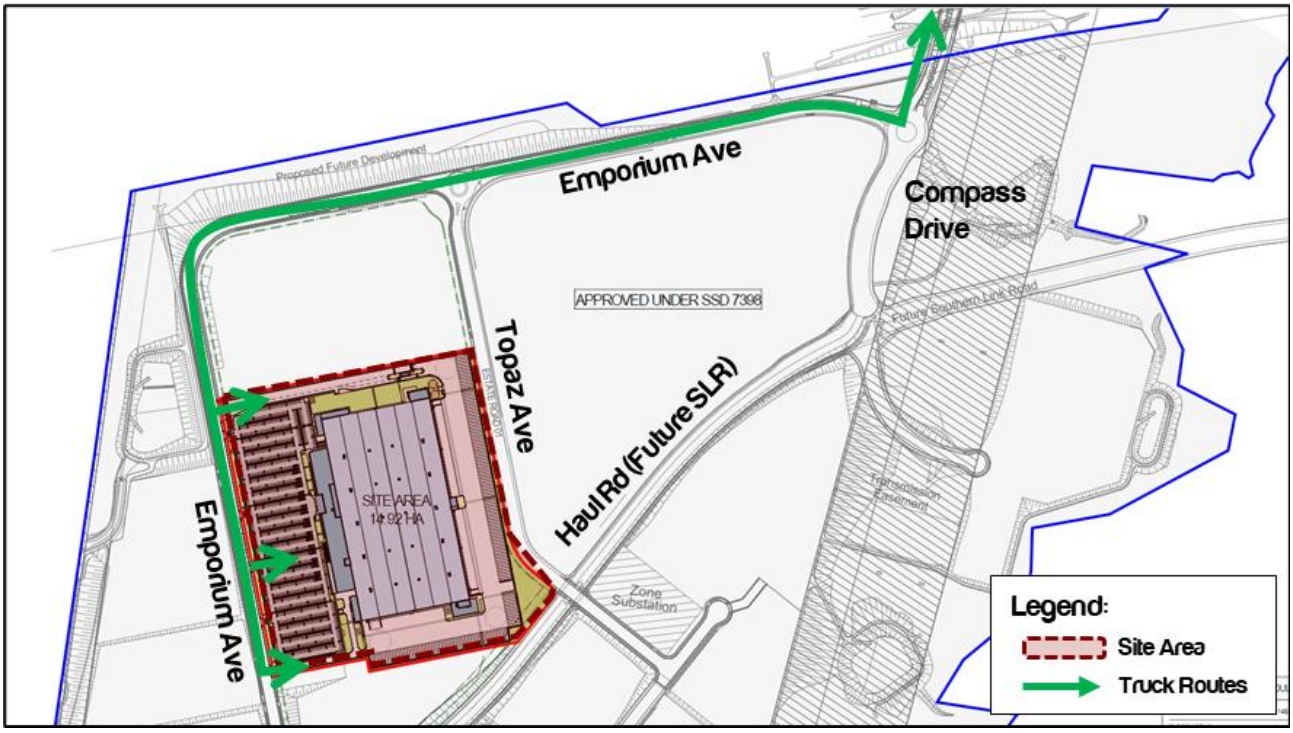
Drivers undertaking any of the following will be in a breach of conduct, result in administrative action and potential removal from Building 2B and the broader Oakdale West Estate:

- Reckless or dangerous driving causing injury or death.
- Driving whilst disqualified or not correctly licensed.
- Drinking or being under the influence of drugs while driving
- Failing to stop after an incident.
- Loss of demerit points leading to suspension of licence.
- Any actions that warrant the suspension of a licence
- Exceeding the speed limit in place on any permanent or temporary roads

The above activities shall be enforced by licence checks, random drug and alcohol testing, and review of any community / enforcement feedback.

Driver Routes

All drivers must abide with the following route to and from the Site. As such at no time shall a vehicle access the Site via Bakers Lane or Aldington Road for operational use.



Management Team Responsibilities

Management (operator / manager / scheduler) is responsible to take all steps necessary to ensure drivers are as safe as possible and will not require staff to drive under conditions that are unsafe.

Management is to achieve this by undertaking the following:

- Ensure that all drivers adhere to the designated heavy vehicle routes as required by the route designated above, and in accordance with Condition B17 (e) (iii). If a driver access the Site contrary to the approved routes, then approval to drive to and from the Site will be revoked by Management.
- Ensure that the Management is responsible for ensuring no breaches of road transport laws, and to make sure that any actions or inactions taken by Management do not contribute to or encourage breaches of the NHVR.
- Ensuring all work related vehicles are well maintained and that the equipment enhances driver, operator and passenger safety by way of:
  - Daily prestart inspections for all vehicles and associated equipment.
  - All vehicles must be fitted with reverse alarms.
  - Ensure all operators on-site have a current verification of competency (VOC) for their current driver's licence of the appropriate class.
  - Ensure maintenance requirements are met.
- Identify driver training needs and arranging appropriate training or re-training. This may include operator assessment as part of all inductions.

- Encouraging Safe Driving behaviour by:
  - Ensure rosters and schedules do not require drivers to exceed driving hours regulations or speed limits;
  - Keep records of drivers' activities, including work and rest times;
  - Ensure Drivers do not work while impaired by fatigue or drive in breach of their work or rest options;
  - Ensuring any Tenant is informed if their staff become unlicensed.
  - Not covering or re-imbursing staff speeding or other infringement notices.
  - Ensuring Legal use of mobile phones in vehicles while driving only and that illegal use is not undertaken.
- Encouraging better fuel efficiency by:
  - Use of other transport modes or remote conferencing, whenever practical.
  - Providing training on, and circulating information about, travel planning and efficient driving habits.

Driver Responsibilities

All drivers accessing Building 2B and the broader Oakdale West Estate must:

- Be responsible and accountable for their actions when operating a company vehicle or driving for the purposes of work.
- Be cognisant of the noise and emissions requirements imposed within the OEMP, and in a broader sense, the NSW/ Australian Road Rules.
- Display the highest level of professional conduct when driving a vehicle at work.
- Ensure they have a current Australian State or Territory issued driver licence for the class of vehicle they are driving, and this licence is to be carried.

- Immediately notify their supervisor or manager if their drivers' licence has been suspended, cancelled, or has had limitations applied.
- Comply with all traffic and road legislation at all times.
- Assess hazards while driving and demonstrate appropriate care.
- Regularly check the oil, tyre pressures, radiator and battery levels of company vehicles they regularly used.
- Obey all on-site signposted speed limits and comply with directions of traffic control supervisors in relation to movements in and around temporary or fixed work areas.
- Not drive outside of the approved heavy vehicle routes. All drivers must obey weight, length and height restrictions imposed by the National Heavy Vehicle Regulator, and other Government agencies. Heavy Vehicles shall adhere to the routes outlined in Section 4.2.2.
- Be aware that at no time may a tracked vehicle be permitted or required on a paved road.
- Never drive under the influence of alcohol or drugs, including prescription and over the counter medication if they cause drowsiness –to do so will merit disciplinary measures.
- Wear a safety seat belt at all times when in the vehicle.
- Avoid distraction when driving –the driver will adjust car stereos/mirrors etc. before setting off or pull over safely to do so.
- Report any near-hits, crashes and scrapes to their manager, including those that do not result in injury.

- Report infringements to a manager at the earliest opportunity.
- Report vehicle defects to a manager prior to the next vehicle use.
- Adhere to the authorised site access and egress routes.
- Follow speed limits as imposed within the estate.
- Take reasonable care for his or her own personal health and safety.
- Not adversely, by way of actions or otherwise, impact on the health and safety of other persons.
- Notify their employer if they are not fit for duty prior to commencing their shift.
- Ensure all loads are safely covered and / or restrained, as necessary.
- Ensure no dirt or debris from the vehicles is tracked on to the public road network.
- Operate their vehicles in a safe and professional manner, with consideration for all other road users.
- Not use mobile phones when driving a vehicle or operating equipment. If the use of a mobile device is required, the driver shall pull over in a safe and legal location prior to the use of any mobile device.
- Advise management of any situations in which the driver knows, or thinks, may present a threat to workplace health and safety.
- Drive according to prevailing conditions (such as during inclement weather) and reduce speed, if necessary.
- Have a valid Container Wright Declaration if they are to move freight containers.

Crash or incident Procedure

In the event of a crash or other incident whilst driving:

- Stop your vehicle as close to it as possible to the scene, making sure you are not hindering traffic. Ensure your own safety first, then help any injured people and seek assistance immediately if required.
- Ensure the following information is noted:
  - Details of the other vehicles and registration numbers
  - Names and addresses of the other vehicle drivers.
  - Names and addresses of witnesses.
  - Insurers details
- Give the following information to the involved parties:
  - Name, address and company details
- If the damaged vehicle is not occupied, provide a note with your contact details for the owner to contact the company.
- Ensure that the police are contacted should the following circumstances occur:
  - If there is a disagreement over the cause of the crash.
  - If there are injuries.
  - If you damage property other than your own.
- As soon as reasonably practical, report all details gathered to your manager.

APPENDIX E

Waste Management Plan

OAKDALE WEST ESTATE

Waste Management Plan

Prepared for:

Goodman Property Services (Aust) Pty Ltd
The Hayesbery
1-11 Hayes Road
Rosebery NSW 2018 Australia

SLR Ref: 610.15612-R03
Version No: -v2.0
July 2021

PREPARED BY

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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Goodman Property Services (Aust) 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.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
610.15612-R03-v2.0	13 July 2021	Celine El-Khouri	Andrew Quinn	Andrew Quinn
610.15612-R03-v1.0	16 March 2021	Celine El-Khouri	Andrew Quinn	Andrew Quinn

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1 Introduction

1.1 Overview

SLR Consulting Australia Pty Ltd (SLR Consulting) was commissioned by Goodman Property Services (Aust) Pty Ltd (the Client) to prepare a waste management plan (WMP) for the construction and operation of Precinct 1 to Precinct 5 consisting of warehouse and distribution facilities located at Oakdale West, Horsley Park (the Development), as part of the Oakdale West Operational Environmental Management Plan in accordance with Condition D131 of SSD 7348.

The Development was previously approved under a Development Application (DA) submission in accordance with the Secretary's Environmental Assessment Requirements (SEARs) for the State Significant Development (SSD 15_7348) application.

Further details on the Development are provided in **Section 2**. The following WMP has been prepared based on architectural drawings provided by the Client (Refer **Appendix A**).

The WMP is prepared in accordance with all previous Modifications for SSD 7348. The latest Modification for SSD 7348 is MOD 6. The relevant condition of the SEARs for SSD 7348 MOD 6 is addressed in this report as shown in **Table 1**.

Table 1 SSD 7348 MOD 6 Conditions for Waste Management

SSD 7348 MOD 2 Conditions	Relevant Sections in this WMP
Details of the quantities and classification of waste streams generated during construction and operation and proposed storage, handling and disposal requirements.	Sections 5 Sections 6

1.2 Scope

This WMP applies to the construction and on-going operation of the Development. The provisions contained in the WMP must be implemented at all stages of the Development.

- See **Section 5** for the Construction WMP.
- See **Section 6** for the Operational WMP.

1.3 Objective

The principal objective of this WMP is to identify all potential wastes likely to be generated at the development site during construction and operational phases of the Development, including a description of how waste would be handled, processed and disposed of, or re-used or recycled, in accordance with Penrith City Council's (Council) requirements.

The specific objectives of this WMP are as follows:

- To encourage the minimisation of waste production and maximisation of resource recovery.
- To ensure the appropriate management of contaminated and hazardous waste.
- To assist in ensuring that any environmental impacts during the operational life of the Development comply with Council's development consent conditions and other relevant regulatory authorities.

1.4 Review of WMP

This WMP is not a static document. It is a working document that requires review and updating to ensure ongoing suitability for the proposed on-going operations at the site.

This WMP should be reviewed and updated:

- to remain consistent with waste and/or landfill regulations and guidelines
- should changes be made to site waste and recycling management, or
- to take advantage of new technologies, innovations and methodologies for waste or recycling management.

Changes made to the WMP, as well as the reasons for the changes made, should be documented by the site operator as part of the review process.

Copies of the original waste management plan (SLR, 2016), as well as all future versions of the WMP, should be retained by the site operator.

2 Project Description

2.1 Overview of Proposed Development

The Client is developing the Oakdale West site (Lot 11 in DP 1178389) at Erskine Park for the purposes of providing a warehouse and distribution complex. The Oakdale West site is a precinct in the wider Oakdale Estate development and forms part of a progressive development designed to make Oakdale a regional distribution park of warehouses, distribution centres and freight logistics facilities.

The Oakdale West project is a staged development which includes bulk earthworks, civil works and the construction of infrastructure and stormwater management.

The Oakdale West site is a 154 ha site located in the Oakdale Estate, a 421 ha area of land in the Western Sydney Employment Area. The size of the site remains unchanged since the previous WMP was prepared. Oakdale West Estate is the third of four stages of the broader Oakdale Estate under the management of Goodman Limited.

Oakdale West is a greenfield site previously used for stock grazing. The surrounding areas are primarily rural in nature, but, the area to the north is becoming more industrial. Land uses in the surrounding area include:

- Rural, including grazing and market gardens, and rural residential to the south-east, south and west.
- Sydney Water Pipeline and industrial land to the north, including industrial zones at Eastern Creek to the north and Erskine Park to the north-west.
- To the west, land uses include a number of sensitive uses such as an aged care facility (Catholic Health Care) and three schools named Mamre Anglican School, Emmaus Catholic College and Trinity Primary School. Other land uses include recreational and sporting facilities.

The Development will be developed in five stages, where each stage corresponds to the development of a precinct.

2.1.1 Overview of proposed construction work

The construction of the Development is anticipated to include the following tasks:

- Staged bulk earthworks across the whole site
- Staged trunk infrastructure for the site
- Staged subdivision
- Landscaping and public domain works, and
- Staged development comprising the construction of the warehouse and distribution facilities in each precinct.

2.1.2 Overview of proposed operations

Each of the five precincts within the Development contains several warehouses, with each warehouse consisting of the following:

- Mezzanine levels

- Adjoining offices for each warehouse
- Hardstand areas,
- Light duty areas,
- Small vehicle, heavy vehicle and bicycle parking areas, and
- Landscaping areas.

A site plan for the Development is provided in **Figure 1**.

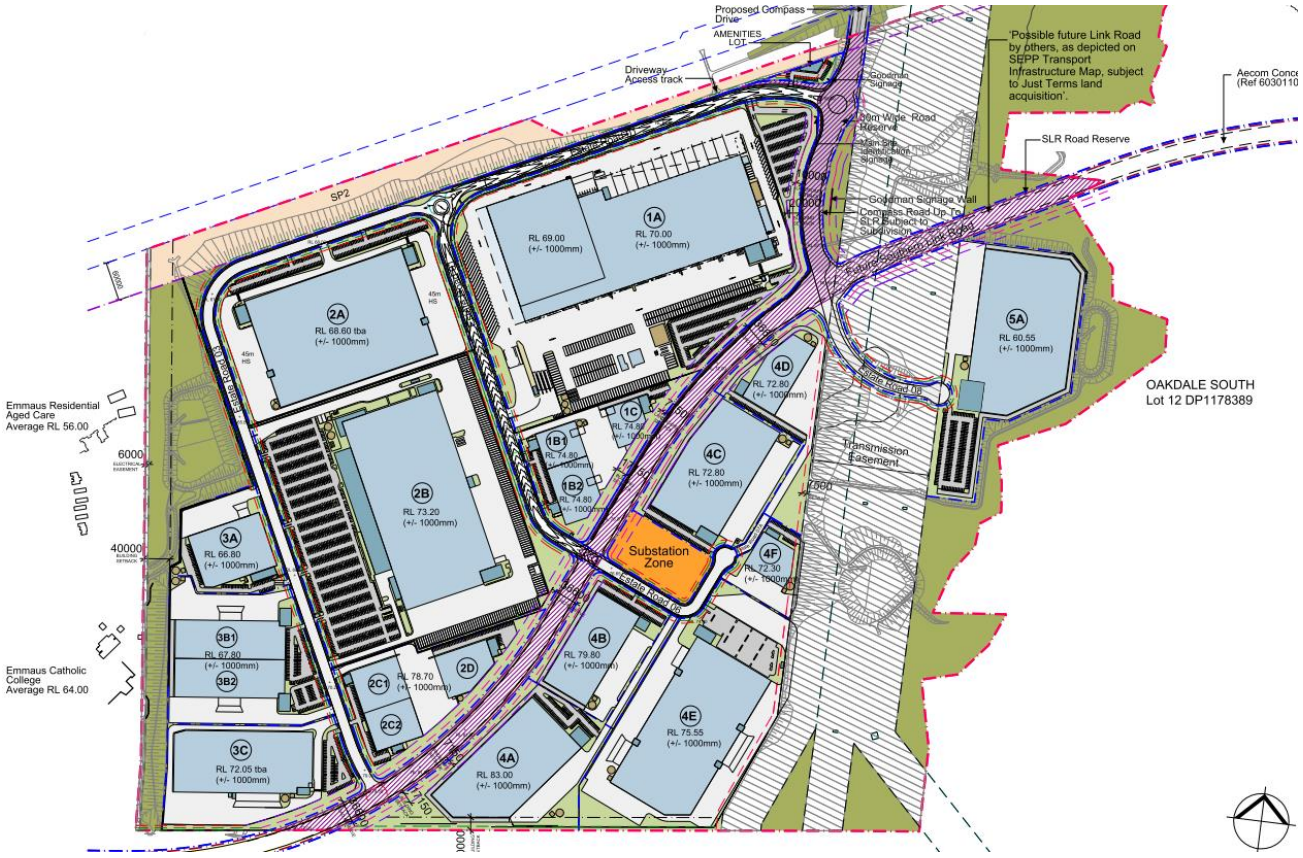

Figure 1 Site Plan

3 Better Practice Waste Management and Recycling

3.1 Waste Management Hierarchy

This WMP has been prepared in line with the waste management hierarchy (**Figure 2**), which summarises the objectives of the *Waste Avoidance and Resource Recovery Act 2001.*

The waste management hierarchy comprises the following principles, from most to least preferable:

- Waste **avoidance**, prevention or reduction of waste generation. Achievable through better design and purchasing choices.
- Waste **reuse**, reuse without substantially changing the form of the waste.
- Waste **recycling**, treatment of waste that is no longer usable in its current form to produce new products.
- Energy **recovery**, processing of residual waste materials to recover energy.
- Waste **treatment**, reduce potential environmental, health and safety risks.
- Waste **disposal**, in a manner that causes the least harm to the natural environment.

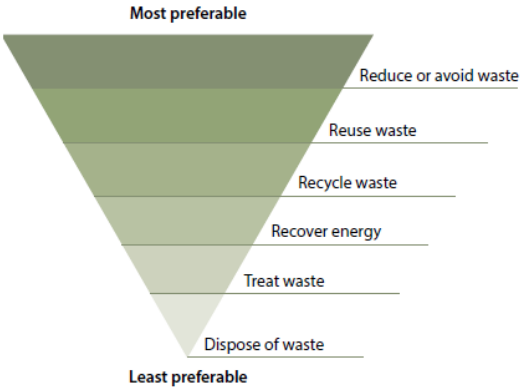

Image from NSW EPA (2014) NSW Waste Avoidance and Resource Recovery Strategy 2014-21.

Figure 2 Waste management hierarchy

3.2 Benefits of Adopting Better Practice

Adopting better practice principles in waste minimisation offers significant benefits for organisations, stakeholders and the wider community. Benefits from better practice waste minimisation include:

- Improved reputation of an organisation due to social and environmental responsibility.
- Lowered consumption of non-renewable resources.
- Reduced environmental impact, for example, pollution, from materials manufacturing and waste treatment.
- Reduced expenses from lower waste disposal.
- Providing opportunities for additional revenue streams through beneficial reuse.

4 Waste Legislation and Guidance

The legislation and guidance outlined in **Table 2** below should be referred to during the demolition, construction and operational phases of the Development.

Table 2 Legislation and guidance

Legislation and Guidance	Objectives
Council legislation and guidelines	
Secretary Environmental Assessment Requirements (SEARs)	SEARs provide the addition requirements that must be completed when a critical state significant infrastructure project is submitted in a DA in NSW. The objective of SEARs submissions is to achieve better environmental outcomes by focusing on environmentally sensitive areas and areas of the greatest community concern. The provisions of the SEARs must be met for DA approval including the provision of a construction and operational waste management plan. This Development was previously approved under the SEARS for SSD 15_7348.
Penrith Local Environmental Plan (LEP) 2010[1]	The Penrith LEP came into force for the entire Penrith local government area on 25 February 2015 and provides the legal framework of the Penrith Development Control Plan, including land use and development permitted in a set zone. The LEP also contains provisions to conserve local heritage and protect sensitive land.
Penrith Development Control Plan (DCP) 2014[2]	The Penrith DCP came into effect on 17 April 2015 and supports provision of the LEP planning controls by providing detailed planning and design guidelines. The DCP has been prepared in accordance with the *Waste Avoidance and Resource Recovery Act 2001*. One of the objectives of the DCP is to assist in reducing Penrith's ecological footprint by encouraging the diversion of waste from landfill. This WMP specifically addresses Part C5 – Waste Management of the DCP.
Waste Strategy 2017-2026, Penrith City Council	Council's waste strategy sets out the waste management targets for the Penrith local government area including working towards reduced waste generation and increased landfill diversion. The strategy was prepared in consultation with the community and informed by waste audit results. The strategy defines the actions required to reach the targets, including actions for waste diversion from landfill, resource recovery, technology innovation, community education and resource recovery facilities.
State and National legislation and guidelines	
Building Code of Australia (BCA) and relevant Australian Standards	The BCA has the aim of achieving nationally consistent, minimum necessary standards of relevant health and safety, amenity and sustainability objectives efficiently.
Council of Australian Governments National Construction Code 2016	The National Construction Code 2016 sets the minimum requirements for the design, construction and performance of buildings throughout Australia.
NSW EPA's Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012	These better practice guidelines present information on waste minimisation and resource recovery as well as information on commonly used waste management provisions. The guidelines also provide benchmarks for assessing waste production rates in Australia.
NSW EPA (2014) NSW Waste Avoidance and Resource Recovery Strategy 2014-21	The *NSW Waste Avoidance and Resource Recovery Strategy 2014-21* is aimed at ultimately "improving environment and community well-being by reducing the environmental impact of waste and using resources more efficiently" by presenting a framework intended to avoid and reduce waste generation, increase recycling, divert more waste from landfill, manage problem wastes better, reduce litter and reduce illegal dumping.

[1] https://legislation.nsw.gov.au/#/view/EPI/2010/540

[2] https://www.penrithcity.nsw.gov.au/building-development/planning-zoning/planning-controls/development-control-plans

Legislation and Guidance	Objectives
NSW EPA Resource Recovery Orders and Resource Recovery Exemptions	The NSW EPA has issued a number of resource recovery orders and resource recovery exemptions under the POEO (Waste) Regulation 2014 for a range of wastes that may be recovered for beneficial re-use. These wastes typically include those from demolition and construction works, as well as operational wastes such as food waste. • Resource recovery orders present conditions which generators and processors of waste must meet to supply the waste material for beneficial re-use. • Resource recovery exemptions contain the conditions which consumers must meet to use waste for beneficial re-use.
NSW EPA's Waste Classification Guidelines 2014	The NSW EPA *Waste Classification Guidelines* assists waste generators to effectively manage, treat and dispose of waste to ensure the environmental and human health risks associated with waste are managed appropriately and in accordance with the *POEO Act 1997* and is associated regulations.
Protection of the Environment Operations Act (POEO) 1997 and *Amendment Act 2011*	The *POEO Act 1997* and *POEO Amendment Act 2011* are administered by the NSW Environment Protection Authority (NSW EPA) to enable the NSW Government to establish instruments for setting environmental standards, goals, protocols and guidelines. They outline the regulatory requirements for lawful disposal of wastes generated during the demolition, construction and operational phases of a development, as well as the system for licencing waste transport and disposal.
Waste Avoidance and Resource Recovery Act 2001	The *Waste Avoidance and Resource Recovery Act 2001* aims to promote waste avoidance and resource recovery and repeals the *Waste Minimisation and Management Act 1995*. Specific objectives of the *Waste Avoidance and Resource Recovery Act 2001* include: • encouraging efficient use of resources • minimising the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste • ensuring industry and the community share responsibility in reducing/dealing with waste, and • efficiently funding of waste/resource management planning, programs and service delivery. As of 2016, the addition to the Act of Part 5 defines the legislative framework for the "Return and Earn Container Deposit Scheme" whereby selected beverage containers can be returned to State Government authorities for a monetary refund.

5 Construction Waste Management

While this WMP is prepared as part of the Oakdale West Operational Environmental Management Plan, indicative information is provided below on the waste management requirements for the construction stage of the Development.

Construction stages of developments have the greatest potential for waste minimisation.

Key construction activities will include construction of warehouse buildings, offices and other associated buildings and infrastructure as specified in **Section 2.1.2**.

5.1 Targets for Resource Recovery

The performance of each new development should contribute to the following target from the NSW EPA (2014) *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*:

- 75 % of total construction and demolition waste recycled, increasing to 80 % by 2021.

Additionally, in the interests of Council's additional commitments to waste management controls, the construction and excavation procedures should endeavour to reach the following outlined target from the DCP:

- Reduce the volume of demolition, construction and fit out waste, including excavation, going to landfill by 76%.

It is anticipated that the waste minimisation measures in the following sections will assist the Project to meet these targets. Waste reporting and audits can be used to determine the actual percentage of wastes that are being, or have been, recycled during the demolition and site preparation stage of the Project.

5.2 Waste Streams and Classifications

The Development is likely to generate the following broad waste streams:

- excavation material
- construction wastes
- plant maintenance waste
- packaging waste
- green waste from site clearing activities, and
- work compound waste from on-site employees.

A summary of likely waste types generated from site preparation and construction activities, along with their waste classifications and proposed management methods, is provided in **Table 3**.

For further information on how to classify a waste type refer to the NSW EPA (2014) *Waste Classification Guidelines*[3]. Further information on managing site preparation and construction wastes is available from the NSW EPA website[4].

[3] Available online from https://www.epa.nsw.gov.au/your-environment/waste/classifying-waste/waste-classification-guidelines

[4] http://www.epa.nsw.gov.au/your-environment/waste/industrial-waste/construction-demolition

Table 3 Potential waste types, classifications and management methods

Waste Types	NSW EPA Waste Classification	Proposed Management Method
Construction		
Sediment fencing, geotextile materials	General solid waste (non-putrescible)	Reuse at other sites where possible or disposal to landfill
Concrete	General solid waste (non-putrescible)	Off-site recycling for filling, levelling or road base
Bricks and pavers	General solid waste (non-putrescible)	Off-site recycling; Cleaned for reuse, rendered over or crushed for landscaping or driveway use
Gyprock or plasterboard	General solid waste (non-putrescible)	Off-site recycling or returned to supplier
Sand or soil	General solid waste (non-putrescible)	Off-site recycling
Metals such as fittings, appliances and bulk electrical cabling	General solid waste (non-putrescible)	Off-site recycling
Conduits and pipes	General solid waste (non-putrescible)	Off-site recycling
Timber	General solid waste (non-putrescible)	Off-site recycling; *Treated*: reused for formwork, bridging, blocking, propping or second hand supplier; *Untreated*: reused for floorboards, fencing, furniture, mulched second hand supplier
Doors, Windows, Fittings	General solid waste (non-putrescible)	Off-site recycling at second hand supplier
Insulation material	General solid waste (non-putrescible)	Off-site disposal
Glass	General solid waste (non-putrescible)	Off-site recycling; glazing or aggregate for concrete production
Asbestos	Hazardous waste	Off-site disposal
Fluorescent light fittings and bulbs	Hazardous waste	Off-site recycling or disposal; contact *FluoroCycle* for more information[5]
Paint	Hazardous waste	Off-site recycling, Paintback collection[6] or disposal
Synthetic Rubber or carpet underlay	General solid waste (non-putrescible)	Off-site recycling; reprocessed and used in safety devices and speed humps
Carpet	General solid waste (non-putrescible)	Off-site recycling or disposal; reused for landscaping, insulation or equestrian uses
Plant Maintenance		

[5] http://www.fluorocycle.org.au/ or http://www.environment.gov.au/settlements/waste/lamp-mercury.html

[6] https://www.paintback.com.au/

Waste Types	NSW EPA Waste Classification	Proposed Management Method
Empty oil and other drums or containers, such as fuel, chemicals, paints, spill clean ups	Hazardous waste: Containers were previously used to store Dangerous Goods (Class 1, 3, 4, 5 or 8) and residues have not been removed by washing or vacuuming. General solid waste (non-putrescible): Containers have been cleaned by washing or vacuuming.	Transport to comply with the transport of Dangerous Goods Code applies in preparation for off-site recycling or disposal at licensed facility
Air filters and rags	General solid waste (non-putrescible)	Off-site disposal
Oil filters	Hazardous waste	Off-site recycling
Batteries	Hazardous waste	Off-site recycling; Contact the Australian Battery Recycling Initiative[7] for more information
Packaging		
Packaging materials, including wood, plastic, including stretch wrap or LLPE, cardboard and metals	General solid waste (non-putrescible)	Off-site recycling
Wooden or plastic crates and pallets	General solid waste (non-putrescible)	Reused for similar projects, returned to suppliers, or off-site recycling. Contact *Business Recycling* for more information[8]
Work Compound and Associated Offices		
Food Waste	General solid (putrescible) waste	Compost on site. Alternatively dispose to landfill with general garbage
Recyclable beverage containers, including glass and plastic bottles, aluminium cans and steel cans	General solid waste (non-putrescible)	Co-mingled recycling at off-site licensed facility or at a local NSW container deposit scheme 'Return and Earn' off-site licensed facility[9]
Clean paper and cardboard	General solid waste (non-putrescible)	Paper and cardboard recycling at off-site licensed facility
General domestic waste generated by workers including soiled paper and cardboard, food stuffs and polystyrene	General solid waste (non-putrescible) mixed with putrescible waste	Disposal at landfill

5.3 Construction Waste Generation Rates

The Construction Site Manager will need to specify the types and quantities of wastes produced during construction and on this basis, the numbers and capacity of skip bins can be determined.

[7] http://www.batteryrecycling.org.au/home

[8] http://businessrecycling.com.au/search/

[9] http://returnandearn.org.au/

In the absence of readily available construction waste generation rates from Council, SLR has adopted the 'Factory' and 'Office' waste generation rates from Appendix A of The Hills Development Control Plan (DCP) 2012 for estimating the type and quantities of waste generated from construction of the Development. The waste generation rates listed in the Hills DCP include '2 Bedroom', '3 Bedroom', 'Block of Flats', 'Factory' and 'Office'. SLR has adopted the 'Factory' and 'Office' rates to measure waste expected from the Development, as the construction of a factory and office is the most relevant in representing the construction of the industrial warehouse and office precinct. The waste generation rates are shown in **Table 4.**

Table 4 Waste generation rates applied to the Development's construction

Rate Type	Floor Area (m^2)	Waste types and quantities (m^3)						
		Timber	Concrete	Bricks	Gyprock	Sand or Soil	Metal	Other
Factory	1,000	0.25	2.10	1.65	0.45	4.80	0.60	0.50
Office	1,000	5.1	18.8	8.5	8.6	8.8	2.75	5

These waste generation rates are used to estimate the waste generated from the construction of the Development. These estimates are provided in **Table 5.**

5.3.1 Estimation of Waste Quantities

Using the estimated areas of the offices, warehouses and other infrastructure mentioned in **Section 2.1.2** and the construction waste generation rates shown in **Table 4,** SLR has calculated the estimated waste quantities for the Development components. The generation rates for 'Factory' are applied to calculate the waste quantities from the construction of the warehouse, mezzanine and other building areas and the rates for 'Office' are applied to calculate the waste quantities from the construction of the offices. These are presented below in **Table 5**. The areas quoted in **Table 5** are based on areas provided by the Client[10]. In the absence of dimensions and areas for hardstand and light duty spaces in each Precinct, SLR is unable to calculate the waste quantities generated from the construction of those areas.

Actual waste tonnage and composition will vary, however this estimate is provided so that the Construction Site Manager can make provision for on-site or off-site re-use and recycling opportunities.

Table 5 Anticipated types and estimated quantities of construction waste

Project Component		Area (m^2)	Waste types and quantities (m^3)						
			Timber	Concrete	Brick	Gyprock	Sand and Soil	Metal	Other
Precinct 1	Warehouses	80,858	25	170	135	40	390	50	45
	Offices	4,004	25	80	35	35	40	15	25
	Mezzanines	36,331	10	80	60	20	175	25	20
	Outbuildings	4,004	5	10	10	5	20	5	5
Precinct 2	Warehouses	254,064	65	535	420	115	1220	155	130
	Mezzanines	6,300	5	15	15	5	35	5	5
	Offices	8,947	50	170	80	80	80	25	45
	Gatehouse	80	5	5	5	5	5	5	5
Precinct 3	Warehouses	52,000	15	110	90	25	250	35	30

[10] Areas provided in a spreadsheet from Goodman titled '21116_SSDA_MOD_7_Masterplan_Area Schedule_2021_REV_P1'

Project Component		Area (m^2)	Waste types and quantities (m^3)						
			Timber	Concrete	Brick	Gyprock	Sand and Soil	Metal	Other
	Offices	3,573	20	70	35	35	35	10	20
Precinct 4	Warehouses	108,097	30	230	180	50	520	65	55
	Offices	5,212	30	100	45	45	50	15	30
Precinct 5	Warehouses	33,943	10	75	60	20	165	25	20
	Offices	1,697	10	35	15	15	15	5	10
Totals		**599,109**	**305**	**1,685**	**1,185**	**495**	**3,000**	**440**	**445**

Waste estimates have been rounded up to the nearest 5 m^3.

A waste management plan form provided by Council is attached in **Appendix B**. The form is also available on Council's website[11]. This is to be updated by the Site Manager once waste streams, estimated quantities, and final disposal locations and recycling services have been identified.

Excavated spoil, if any, is to be classified by an appropriately experienced environmental consultant and separated into contaminated materials, if any, uncontaminated fill or ENM. Refer to **Section 5.6** for management of stockpiles. Uncontaminated fill or ENM should be retained on site and managed appropriately for beneficial re-use for filling earthworks. As a last resort, remaining uncontaminated fill of ENM is to be sent off-site to a licenced facility in accordance with the Protection of the Environment Operations (Waste) Regulation 2014.

For contaminated material management, refer **Section 5.6.4** of this WMP.

5.4 Waste Avoidance Measures

In accordance with Council's DCP and better practice waste management, the Building Designer should:

- Select materials with low embodied energy properties that suit the Project, such as:
  - prefabricated components and recycled materials, such as recycled steel and glass-wool insulation;
  - concrete with slag and fly ash content; and
  - fittings and furnishings that incorporate recycled materials and have been certified as sustainable or environmentally friendly by a recognised third-party certification scheme.
- Reduce the use of PVC.
- Choose construction materials with a longer lifespan and/or high potential for re-use.
- Use low formaldehyde wood products, post-consumer reused timber, Forest Stewardship Council-certified timber, wood plastic composite or recycled plastic timber substitute.
- Select pre-finished materials and prefabricated frames, trusses and cladding.
- Design for the use of modular components and standard material sizes.
- Integrate existing trees and shrubs in the landscape plan and design for the new Development.
- Design for deconstruction, rather than demolition.

The Building Contractor should:

[11] https://www.penrithcity.nsw.gov.au/images/documents/forms/Waste_Management_Plan_Application_Form.pdf

- Estimate required quantities of materials to reduce over-purchasing and excess materials.
- Include approximate quantities of materials in a purchasing policy to ensure correct quantities are purchased.
- Arrange delivery of materials on an 'as needed' basis to mitigate material degradation by weathering or moisture damage.
- Arrange to return excess materials to suppliers where possible and practicable.
- Reduce packaging waste by:
    - returning packaging to suppliers where possible and practicable
    - 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.
- Reduce unnecessary excavation and site disturbance.
- Ensure subcontractors are informed of and implement site waste management procedures.

5.5 Re-use, Recycling and Disposal

The Building Contractor should:

- Sort and segregate demolition and site preparation wastes to ensure efficient recycling of wastes.
- Store wastes on site appropriately to prevent cross-contamination and/or mixing of different waste types.
- Re-use formwork where appropriate.
- Recycle or dispose of waste oil in an appropriate manner.
- Retain roofing material cut-offs for re-use.
- Retain used crates for storage purposes unless damaged.
- Recycle cardboard, glass and metal wastes.
- Return packaging to suppliers where possible and practicable.
- Recycle or dispose of solid waste timber, brick, concrete, asphalt and rock, where such waste cannot be re-used on site, to an appropriately licenced construction and demolition waste recycling facility or an appropriately licenced landfill.
- Dispose of all asbestos and/or hazardous wastes in accordance with SafeWork NSW and NSW EPA requirements.
- Deliver batteries and florescent lights to drop off-site recycling facility.

5.5.1 Site Specific Procedures

The Construction Site Manager will also consider implementation of the following procedures:

- all used crates will be stored for reuse unless damaged

- all cardboard waste is to be recycled via on-site recycling compactors which shall be collected by an appropriate recycling contractor
- all glass and metals that can be economically recycled will be
- colour bond roof material off cuts to be stockpiled on site for reuse or recycling
- waste concrete will be disposed of at a crushing/recycling plant where practicable
- waste bricks will be crushed and utilised on site. All half or damaged bricks will be stored on site to be removed for offsite crushing and recycling
- excavation material will be reused on-site where possible with all excess reused on other projects or sold
- All other solid waste including bitumen paving, tile, timber, rock and soil will be taken to an appropriate materials recycling facility and/or landfill site and processed in an approved manner, and
- All garbage will be disposed of via a council approved system.

5.6 Waste Storage and Servicing

5.6.1 Waste Segregation

Waste materials produced from site preparation activities are to be segregated and stored separately on site, with clear signage identifying the purpose of different storage areas. It is anticipated that the site will have available space provided by the Building Contractor for separate storage in separate skip bins and/or appropriately managed stockpiles, of the following waste types:

- Bricks, concrete and scrap metal
- Metal and steel, if any, in a condition suitable for recycling at metal recycling facilities
- Timber
- Glass
- Hardstand rubble
- Excavation spoil, uncontaminated, if present
- Contaminated excavation spoil, if present
- Hazardous waste, if present
- Paper and cardboard
- Recyclable general waste, and
- Non-recyclable general waste.

If there is insufficient space onsite for full segregation of waste types, the Building Contractor is to consult with waste or recycling collection facilities to confirm which waste types may be co-mingled prior to removal from the site.

Areas designated for waste storage should:

- allow unimpeded access by site personnel and waste disposal contractors
- not be located on footpaths, public reserves and street gutters without Council approval

- employ adequate environmental management controls, for example, consideration of slope, drainage and proximity relative to waterways, stormwater outlets and vegetation, to prevent off-site migration of waste materials and/or contamination from the waste, and
- not present hazards to human health or the environment.

In accordance with Council's DCP, the WMP should identify the areas that will be used on site for the storage of materials, including areas designated for the separation of recyclables and disposal. It is recommended that the drawings for the Project are revised to indicate stockpiling and waste storage areas, with consideration of the recommendations noted above. This WMP should be revised to reflect these drawing updates.

5.6.2 Servicing and Record Keeping

The frequency of the waste removal will, in most cases, be dictated by the volume of material being deposited into each of the dedicated skips. Skips and bins are to be checked on a daily basis by the Site Manager to ensure that no overflow occurs. If skips and bins are reaching capacity, removal and replacement should be organised for the next 24 hours. All skips and bins leaving the site will be covered with a suitable tarpaulin to ensure that the spillage of wastes from the skips whilst in transit is eliminated.

The Building Contractor should:

- arrange for suitable waste collection contractors to remove the site preparation waste from site
- ensure waste bins are not filled beyond recommended filling levels
- ensure that all bins and loads of waste materials leaving site are covered
- maintain waste disposal documentation detailing, at a minimum:
    - Descriptions and estimated amounts of all waste materials removed from site.
    - Details of the waste and recycling collection contractor(s) and facilities receiving the waste or recyclables.
    - Records of waste and recycling collection vehicle movements, for example date and time of loads removed, licence plate of collection vehicles, disposal dockets from receiving facility.
    - Waste classification documentation for materials disposed to off-site recycling or landfill facilities.
- ensure lawful waste disposal records are available for inspection by regulatory authorities such as Council, SafeWork NSW or NSW EPA if required, and
- remove waste during hours approved by Council.

In accordance with Council's DCP Section C5, Part 5.3.1, Council officers may ask to be presented with weighbridge dockets and invoices for waste disposal and recycling services for the Project. Weighbridge dockets and invoices are to be kept on site at all times.

5.6.3 Space and Amenity

Waste storage areas will be accessible, present at all times and allow sufficient space for storage and servicing requirements. The storage areas will also be flexible in order to cater for change of use throughout the Project.

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 and/or 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 and allow manoeuvring space to facilitate ease of collection and safety.

Waste containers are to be kept clean and in a good state of repair.

5.6.4 Contaminated or Hazardous Waste Management

During the site preparation and construction phases, SLR recommends that a qualified and certified contractor is engaged to remove all contaminated or hazardous materials, for example, asbestos, and dispose of all contaminated or hazardous waste at an appropriately licenced facility.

All asbestos and other hazardous waste must be handled according to appropriate legislation and regulation including the Work Health and Safety Regulation 2011.

In accordance with Council's DCP, hazardous waste management at the site may require a licence from the EPA and approval from Council. If hazardous waste is identified for removal, Council and NSW EPA are to be consulted prior to undertaking any hazardous waste removal.

5.7 Signage

Standard signage is to be posted in all waste storage and collection areas. All waste containers should be labelled correctly and clearly to identify stored materials.

Signs approved by the NSW EPA for labelling of waste materials are available online[12] and should be used where applicable. A selection of signs prepared by NSW EPA is provided in **Figure 3**.

Figure 3 Examples of NSW EPA labels for waste skips and bins

5.8 Training and Awareness

All staff, including sub-contractors and labourers, employed during the demolition and construction phases of the Development must undergo induction training regarding waste management for the Development.

Induction training is to cover, as a minimum, an outline of the WMP including:

[12] NSW EPA approved waste materials signage http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm

- legal obligations
- emergency response procedures on site
- waste storage locations and separation of waste
- litter management in transit and on site
- the implications of poor waste management practices
- correct use of general purpose spill kit, and
- responsibility and reporting, including identification of personnel responsible for waste management and individual responsibilities.

It is the responsibility of the Contractor or site operator to notify Council of the appointment of waste removal, transport or disposal contractors.

5.9 Monitoring and Reporting

The following measures are to be undertaken to improve demolition and construction waste management and to provide reliable waste generation figures:

1. Conduct waste audits of current projects where feasible.
2. Note waste generated and disposal methods.
3. Look at past waste disposal receipts.
4. Record this information to track waste avoidance, reuse and recycling performance and to help in waste estimations for future waste management plans.

Records of quantities of waste re-used, recycled or disposed to landfill are to be maintained by the Building Contractor. Council's DCP Section C5, Part 5.3.1 states that evidence, such as weighbridge dockets or receipts, verifying recycling and/or disposal must be available for presentation to Council if requested.

Daily visual inspections of waste storage areas will be undertaken by site personnel and inspection checklists and logs recorded for reporting to the Site Manager on a weekly basis or as required. These inspections will be used to identify and rectify any resource and waste management issues.

Waste audits are to be carried out by the Building Contractor to gauge the effectiveness and efficiency of waste segregation procedures and recycling and reuse initiatives. Where audits show that the above procedures are not carried out effectively, additional staff training will be undertaken and signage re-examined.

5.10 Roles and Responsibilities

All personnel have a responsibility for their own environmental performance and compliance with all legislation. It will be the responsibility of the Building Contractor to implement the WMP, and an employee and subcontractor responsibility to ensure that they comply with the WMP at all times.

Where possible, an Environmental Management Representative should be appointed for the Development. Suggested roles and responsibilities are provided in **Table 6**.

Table 6 Construction waste management responsibility allocation

Responsible Person	General Tasks
Construction Site Manager	Ensuring plant and equipment are well maintained.
	Ordering only the required amount of materials.
	Keeping materials segregated to maximise reuse and recycling.
	Ultimately responsible for routinely checking waste sorting and storage areas for cleanliness, hygiene and safety issues, contaminated waste materials, and also ensuring that all monitoring and audit results are well documented and carried out as specified in the WMP.
Environmental Management Representative or equivalent role	Approaching and establishing the local commercial reuse of materials where reuse on-site is not practical.
	Establishing separate skips and recycling bins for effective waste segregation and recycling purposes.
	Ensuring staff and contractors are aware of site requirements.
	Provision of training of the requirements of the WMP and specific waste management strategies adopted for the Development.
	Contaminated waste management and approval of off-site waste transport, disposal locations and checking licensing requirements.
	Approval of off-site waste disposal locations and checking licensing requirements.
	Assessment of suspicious potentially contaminated materials, hazardous materials and liquid wastes.
	Monitoring, inspection and reporting requirements.

Daily visual inspections of waste storage areas may be delegated to other on-site staff. All subcontractors will be responsible for ensuring that their work complies with the WMP through the project induction and contract engagement process.

6 Operational waste management

Ineffective waste management for commercial premises can lead to environmental pollution, offensive odours, litter, attraction of vermin and occupational safety and hygiene problems.

Effective waste management reduces costs through the reuse of resources and minimisation of fees associated with removal, transportation and disposal of waste, and improves environmental outcomes locally, regionally and globally.

Effective waste management is achieved through the implementation of a WMP for the operational life of the Development.

6.1 Targets for Resource Recovery

The waste management performance of each new development should contribute to the overall NSW State targets for recycling outlined in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*. The targets include increasing waste diverted from landfill to 75% and recycling 70% of commercial, industrial and municipal solid waste[13]. Each commercial and industrial development has the ability to contribute to this NSW State target through an effective waste management plan.

It is anticipated that the waste minimisation measures in the following sections will assist the Development to meet the state's targets. Waste reporting and audits can be used to determine the actual percentage of waste that are being, or have been, recycled during operation.

6.2 Waste Streams and Classifications

The operation of the Project will generate the following broad waste streams:

- domestic wastes generated by employees, including food wastes
- bulk packaging wastes, including polystyrene, plastic wrapping and cardboard boxes
- office waste
- garden organic waste from landscaped areas
- bulky waste items such as furniture and e-waste, and
- stores, plant and general maintenance wastes.

From the site inception meeting, SLR understands the Development's waste will primarily be general wastes, paper and cardboard and plastic wrapping.

Potential operational waste types, their associated waste classifications, and management methods are provided in **Table 7.** For further information on how to determine a waste's classification, refer to the NSW EPA (2014) *Waste Classification Guidelines*.[14] Suggestions for recycling drop off locations and contacts can be found on https://businessrecycling.com.au/ for each waste type.

[13] https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/wastestrategy/140876-warr-strategy-14-21.pdf?la=en&hash=EC6685E6624995242B0538B18C2E80C0CA2E51B3

[14] Available online from https://www.epa.nsw.gov.au/your-environment/waste/classifying-waste/waste-classification-guidelines

Table 7 Potential operational waste types, classifications and management methods

Waste Types	NSW EPA Classification	Proposed Management Method
General Operations		
Clean paper	General solid (non-putrescible) waste	Paper recycling at off-site licensed facility
Cardboard and bulky cardboard boxes	General solid (non-putrescible) waste	Cardboard recycling at off-site licensed facility
Recyclable containers including glass and plastic bottles, aluminium cans and steel cans	General solid (non-putrescible) waste	Recycling at off-site licensed facility Some containers that attract a deposit under the NSW Government's *Return and Earn Scheme*, may be separated by staff or contactors for redemption.
Food waste	General solid (putrescible) waste	Donate, if suitable; alternatively compost on or off-site or dispose to landfill with general garbage
Batteries	Hazardous waste	Off-site recycling. Contact the Australian Battery Recycling Initiative for more information
Mobile Phones	Hazardous waste	Off-site recycling. Contact Mobile Muster for more information
Clothes	General solid (non-putrescible) waste	Off-site reuse or recycling such as donations to St Vincent's De Paul
Bulky polystyrene	General solid (non-putrescible) waste	Off-site recycling or disposal at landfill
Furniture	General solid (non-putrescible) waste	Off-site reuse or disposal to landfill
E-waste	Hazardous waste	Off-site recycling
Printer toners and ink cartridges	Hazardous waste	Storage on-site, off-site recycling; free disposal box or bags and pickup service exists for printer toners and ink cartridges
General garbage, including non-recyclable plastics	General solid (putrescible and non-putrescible) waste	Disposal at landfill
Maintenance		
Glass other than containers	General solid (non-putrescible) waste	Off-site recycling
Light bulbs and fluorescent tubes	Hazardous waste	Storage on-site; off-site recycling or disposal. Contact FluoroCycle[15] or Lamp Recyclers[16] for more information
Empty oil, paint drums and chemical containers	Hazardous waste if containers used to store Dangerous Goods (Class 1, 3, 4, 5 or 8) and residues have not been removed by washing or vacuuming. General solid (non-putrescible) waste if containers cleaned by washing or vacuuming.	Storage on-site or transported to off-site recycling or disposal at licensed facility. Transport to comply with the transport of Dangerous Goods Code.
Garden organics including lawn mowing, tree branches, hedge cuttings, leaves	General solid (non-putrescible) waste	Reuse on-site or contractor removal for recycling at licenced facility

15 https://www.fluorocycle.org.au/

16 https://www.lamprecyclers.com.au/

6.3 Operational Waste Generation Rates

SLR has adopted the 'Offices' and 'Warehouse' waste generation rates from Council's DCP Industrial, Commercial and Mixed-Use Waste Management Guidelines for estimating the type and quantities of waste generated from the operational activities of the Development. The operational waste generation rates used are shown below in **Table 8**.

Table 8 Waste generation rates applied to the operations of the Project

Type of Premises	General Waste Generation (L/100 m²/day)	Recycling Generation (L/100 m²/day)
Warehouse	10	10
Offices	10	10

Using the waste generation rates in **Table 8** above, the approximate weekly waste quantities for the Project have been calculated and are presented in **Sections 6.3.1.** The operational waste quantities were additionally calculated based on the below assumptions:

- The floor areas are as provided by the Client[17]
- A week comprising seven days of operation, and
- General recycling consisting of approximately 60% paper and cardboard, and 40% other recycling[18].

SLR understands that large quantities of the recycling stream will include pallets and plastic and cardboard packaging waste. To minimise packaging waste generated in the recyclables stream, it is recommended that packing waste is returned to the suppliers where possible. Standard pallets are recommended to be returned to their owners and non-standard and broken pallets are to be stockpiled and collected as required by a private waste contractor.

Additionally, it is anticipated that a substantial amount of the general waste stream will consist of food waste. As per Council's DCP, food scraps should be placed in specialised food waste bins and collected on a regular basis. To minimise food waste in the general waste stream, it is recommended that the food is donated, composted on site, or sent off-site to a composting facility.

If additional collection services are required, such as secured document destruction, these can be organised with a private waste contractor who can provide additional bins and take collected waste to an off-site licenced facility.

6.3.1 Operational waste types and quantities

The estimated quantities of operational waste generated by the Development are shown in **Table 9**. Operational waste quantities for Precinct 1 are addressed the waste management plan recently prepared by SLR for the Precinct 1 Modification application (SLR, Oakdale West Estate, Waste Management Plan, 9 February 2021, 610.1516-R02-v6.0) and have been included in **Table 9**.

[17] Areas provided in a spreadsheet from Goodman titled '21116_SSDA_MOD_7_Masterplan_Area Schedule_2021_REV_P1'

[18] https://www.epa.nsw.gov.au/~/media/EPA/Corporate%20Site/resources/warrlocal/140442-audits-2011.ashx

Based on the anticipated operations of distribution, comingled recycling, that consists of wastes such as drink containers and other plastics, is anticipated to be minimal and primarily generated from the office areas. Hence the recycling breakdown of 60% paper and cardboard, and 40% other recycling has only been considered for the office spaces where comingled recycling will be generated. Mezzanine levels have not been included as these areas are anticipated to be used for storage and will only generate minimal quantities of waste.

Table 9 Estimated quantities of operational general waste and recycling for the Development

Warehouse	Location	Area (m²)	General Waste (L/week)	Recycling Paper and Cardboard (L/week)	Recycling Other (L/week)
Precinct 1					
Warehouse 1A	Warehouse	68,160	143,150	143,150	
	Office	2,646	1,855	1,855	
Warehouse 1B1	Warehouse	3,658	68,075	68,075	
	Office	461	7,700	7,700	
Warehouse 1B2	Warehouse	5,472	350	350	
	Office	461	11,515	11,515	
Warehouse 1C	Warehouse	80,292	350	350	
	Office	3,940	6,335	6,335	
Precinct 2					
Warehouse 2A	Warehouse	44,000	30,800	18,480	-
	Office	2,400	1,680	1,015	700
Warehouse 2B	Warehouse	195,174	136,640	82,005	-
	Office	5,572	3,920	2,345	1,575
Warehouse 2C	Warehouse	9,885	6,930	4,165	-
	Office	680	490	315	210
Warehouse 2D	Warehouse	5,005	3,535	2,135	-
	Office	375	280	175	105
Precinct 3					
Warehouse 3A	Warehouse	10,000	7,000	4,200	-
	Office	1,000	700	420	280
Warehouse 3B1 & 3B2	Warehouse	21,000	7,000	4,200	-
	Office	2,100	700	420	280
Warehouse 3C	Warehouse	21,000	14,700	8,820	-
	Office	473	350	210	140
Precinct 4					
Warehouse 4A	Warehouse	25,678	17,990	10,815	-
	Office	1,197	840	525	350
Warehouse 4B	Warehouse	12,968	9,100	5,460	-
	Office	1,197	840	525	350
Warehouse 4C	Warehouse	22,798	15,960	9,590	-
	Office	1,197	840	525	350

Warehouse	Location	Area (m²)	General Waste (L/week)	Recycling Paper and Cardboard (L/week)	Recycling Other (L/week)
Warehouse 4D	Warehouse	6,924	4,865	2,940	-
	Office	363	280	175	105
Warehouse 4E	Warehouse	35,700	24,990	15,015	-
	Office	1,050	735	455	315
Warehouse 4F	Warehouse	4,030	2,835	1,715	-
	Office	208	175	105	70
Precinct 5					
Warehouse 5A	Warehouse	33,943	23,765	14,280	-
	Office	1,697	1,190	735	490

Waste quantity estimates have been rounded up to the nearest 5 L.

'Other Recycling': comingled recycling excluding paper and cardboard.

Due to the anticipated quantity of operational general waste and recycling, a baler is recommended to be used for the storage compaction of paper and cardboard waste and a general waste compactor for the storage and compaction of general waste for several warehouses listed above. Based on an assumed compaction ratio for 1:3[19] for general waste compactors and 1:10[20] for paper and cardboard balers, the compacted waste volumes generated by selected warehouses have been calculated and are shown in **Table 10** below. The warehouses that have not been incorporated in **Table 10** below will use general waste and recycling bins instead, as based on the quantities shown in **Table 9**, the bins will be sufficient for those warehouses.

Table 10 Compacted operational waste and recycling quantities for the Development

Warehouse	Compacted (m³/week)	
	General Waste	Paper and Cardboard Recycling
Warehouse 2A	-	1.95
Warehouse 2B	46.85	8.44
Warehouse 3C	-	0.90
Warehouse 4A	-	1.13
Warehouse 4C	-	1.01
Warehouse 4E	-	1.55
Warehouse 5A	-	0.02

Additionally, the Development is anticipated to produce minimal quantities of garden organics. Less than 100 L of garden organics are estimated to be generated per week. This waste will be taken by a landscaping contractor who will dispose of it at an off-site licenced facility.

19 https://wasteinitiatives.com.au/products/waste-compactors/

20 https://cdn2.hubspot.net/hubfs/5089498/Orwak%20Brochures/Orwak%20Selection%20Guide_nz.pdf

6.4 Waste Storage and Servicing Requirements

6.4.1 Waste Storage Area Size

For each building that is a part of the Development, the waste storage area must be large enough to adequately store all quantities of operational waste and recycling between collections. Interim storage units are to be provided for general waste and recyclables on each floor in buildings three storeys or greater. All waste material will be transported from these units to the central waste storage area at the end of each day by the site cleaners.

All waste storage room calculations have considered the bin dimensions listed in Council's DCP and SLR's database on compactors and balers, as outlined in **Table 11**.

Table 11 Dimensions and approximate footprint of bins

Dimension	Height (mm)	Depth (mm)	Width (mm)	Footprint (m^2)
1,100 L Bin	1,330	1,240	1,090	1.35
1.5 m^3	1,190	1,080	2,070	2.24
3 m^3	1,540	1,520	2,060	3.13
25 m^3 compactor		6,850	2,500	17.13
Baler	2,170	1,400	1,890	2.65
500 kg bales	800	1,100	1,200	1.32

To allow for ready movement of bins into and out of the bin storage area, the bin storage area is to provide a floor area of at least twice the total minimum bin GFA. This can also act as a contingency in the event of spikes in waste generation. Additionally, in accordance with Council's DCP, an additional 0.2 m is to be permitted between the bins to allow for manoeuvrability. This has been considered in the calculation of the waste storage area for each of the buildings in the Development. The waste storage areas are shown in **Table 12**. The waste storage areas for Precinct 1 are addressed the waste management plan recently prepared by SLR for the Precinct 1 Modification application (SLR, Oakdale West Estate, Waste Management Plan, 9 February 2021, 610.1516-R02-v6.0) and have been included in **Table 12.**

The recommended storage areas do not include consideration for the storage of bulky and hazardous waste. For the additional storage space for bulky and hazardous waste, refer to **Section 6.4.2**.

The estimated number of bins required for weekly storage of operational waste and recycling generated by the Development are based on:

- The estimated quantities of operational waste and recycling as shown in Table 9 and Table 9Table 10
- Bin dimensions from the Council's DCP as shown in **Table 11**
- Garbage collection frequency of once per week for warehouse 2B
- Garbage collection frequency of five times per week for all other warehouses
- Paper and cardboard recycling collection frequency of once per week for warehouses 2A, 2B, 3C, 4A, 4E and 5A
- Paper and cardboard recycling collection frequency of three times per week for all other warehouses, and
- Other recyclables collection frequency of once per week for all warehouses.

Table 12 Summary of waste storage for the Development

Location	Bins Required			Total Number of Bins	Recommended Storage Area (m²)
	General Waste	Paper and Cardboard Recycling	Comingled Recycling		
Precinct 1					
Warehouse 1A	1 x 35 m³ compactor	2 x balers	2 x plastic film compactors	0	External storage
Warehouse 1B1	1 x 4,500 L 1 x 240 L	2 x 3,000 L 1 x 240 L		5	25.0
Warehouse 1B2	1 x 4,500 L 1 x 240 L	2 x 3,000 L 1 x 240 L		5	25.0
Warehouse 1C	1 x 3,000 L 1 x 240 L	1 x 4,500 1 x 240 L		4	20.0
Precinct 2					
Warehouse 2A	3 x 3 m³	1 x baler	1 x 1.5 m³	4	31.5
Warehouse 2B	1 x 25 m³ compactor	1 x baler	1 x 3 m³	1	53.7
Warehouse 2C	2 x 1,100 L	2 x 1,100 L	1 x 660 L	5	16.6
Warehouse 2D	1 x 3 m³	1 x 1,100 L	1 x 1,100 L	3	12.8
Precinct 3					
Warehouse 3A	2 x 1,100 L	2 x 1,100 L	1 x 1,100 L	5	13.5
Warehouse 3B1 & 3B2	2 x 1,100 L	2 x 1,100 L	1 x 1,100 L	5	13.5
Warehouse 3C	2 x 3 m³	1 x baler	1 x 1,100 L	3	23.7
Precinct 4					
Warehouse 4A	2 x 3 m³	1 x baler	1 x 1.5 m³	3	25.2
Warehouse 4B	1 x 3 m³	2 x 1,100 L	1 x 1,100 L	4	16.1
Warehouse 4C	2 x 3 m³	1 x baler	1 x 1,100 L	3	23.7
Warehouse 4D	1 x 3 m³	1 x 1,100 L	1 x 1,100 L	3	12.8
Warehouse 4E	2 x 3 m³	1 x baler	1 x 660 L	5	24.0
Warehouse 4F	1 x 1.5 m³	1 x 1.5 m³	1 x 1,100 L	3	12.8
Precinct 5					
Warehouse 5A	2 x 3 m³	1 x baler	1 x 1,100 L	3	24.0

6.4.2 Bulky and Hazardous Waste Management

As outlined in the Penrith DCP, additional storage space for the bulky waste stream must be provided. This stream includes broken pallets, broken storage units, e-waste and other materials that cannot be disposed of in the general or recyclable waste stream.

Council's guidelines do not provide storage area dimensions for bulky waste. In the absence of dimensions provided by Council, SLR has adopted storage area dimensions for bulky waste presented in The City of Sydney's Guidelines for Waste Management in New Developments. These are applied as they are the most recent recommendations for bulky waste storage that have been provided in guidelines for new developments in NSW and are applicable to non-residential developments. The recommended space for storing bulky wastes should be at least:

- 4 m^2 for developments between 100 m^2 and 2,000 m^2, and
- An additional 4m^2 for developments over 2,000 m^2 and for every 20,000 m^2 of office space.

In addition to the recommended waste storage area noted in **Table 12**, the total waste storage area recommended for the Development is identified in **Table 13** and includes the recommended storage area for bulky waste.

Table 13 Total recommended storage area for operations for the Development

Precinct	Location	Recommended Storage Area (m^2)		
		Waste and Recycling	Bulky waste	Total Storage Area
Precinct 1	Warehouse 1A	External storage	8	External storage
	Warehouse 1B1	25.0	8	33.0
	Warehouse 1B2	25.0	8	33.0
	Warehouse 1C	20.0	8	28.0
Precinct 2	Warehouse 2A	31.5	8	39.5
	Warehouse 2B	53.7	8	61.7
	Warehouse 2C	16.6	8	24.6
	Warehouse 2D	12.8	8	20.8
Precinct 3	Warehouse 3A	13.5	8	21.5
	Warehouse 3B1 & 3B2	13.5	8	21.5
	Warehouse 3C	23.7	8	31.7
Precinct 4	Warehouse 4A	25.2	8	33.2
	Warehouse 4B	16.1	8	24.1
	Warehouse 4C	23.7	8	31.7
	Warehouse 4D	12.8	8	20.8
	Warehouse 4E	24.0	8	32.0
	Warehouse 4F	12.8	8	20.8
Precinct 5	Warehouse 5A	24.0	8	31.7

Management may consider organising a skip as required to remove bulky waste items or engage a contractor to collect and transport these items for reuse, recycling or disposal at an EPA licensed facility.

In the unlikely event of hazardous waste generation, SLR also recommends using this space to separate and manage hazardous waste. In accordance with Council's DCP, hazardous waste management at the site must be placed in specialised containment bins and may require a licence from the EPA and approval from Council. If hazardous waste is identified for removal, Council and NSW EPA are to be consulted prior to undertaking any hazardous waste removal. Removal is to be undertaken by appropriately licensed specialised services.

SLR recommends that waste audits be undertaken approximately one month into the operational phase of the Development to quantify actual waste generation rates. The assessment of generated waste quantities will be influenced by management, employee and tenant attitudes to recycling and disposal, and the adequacy of signage and education provided for occupants.

6.4.3 Compactor Management

The waste produced by the Development will be stored in waste compactors. The compactors will be stored externally to the warehouses. Waste is to be taken directly to the compactors. As such, no designated waste storage area will be required.

The Development may choose to have general landfill waste and comingled recycling bins present and positioned in easily accessible areas throughout the offices for effective recycling results. Waste and recyclables from each holding area in the premises must be transferred to the centralised compaction area.

The waste and recycling compaction location should also incorporate measures to ensure best practice waste management and compliance with Council requirements, including:

- Screening from public view for visual amenity, noise control and odour control.
- Positioning away from public view, where possible.
- Flexibility in design to allow future uses, operational changes and tenancy changes.
- Positioning and design with the consideration for both the potential traffic hazards caused by the waste collection and the ease of access for tenants and contractors.
- Food scraps are to be placed in specialised containment bins.
- The construction of additional garbage areas, rooms and equipment are to comply with Building Code of Australia (BCA) requirements and Australian Standards.
- All waste areas are to be kept clean and odour and vermin free. It is the responsibility of the Operations Manager or equivalent personnel to check each area for cleanliness, hygiene and health and safety issues.
- The compactors are to be positioned in locations accessible to waste collection vehicles and be serviced directly.

6.4.4 Recycling Bale Management

It is important to note that bales of recyclable material are susceptible to degradation by exposure to the elements and vermin. Therefore, recycling bales should be stored indoors for no longer than two weeks until collection. An indoor bale storage area for the Development should:

- Be clean and well-maintained
- Be of sufficient size to store the required number of bales
- Be sufficiently lighted with vermin control measures
- Have appropriate security measures to prevent theft of bales, and
- Be equipped with a high-volume sprinkler system to retard the spread of fire.

The bales themselves should be stored with the following considerations:

- Bales should be placed on storage pallets, not directly on the floor or ground

- Bales should be stacked and secured in accordance with relevant SafeWork Australia Codes of Practice, and any other relevant legislation or guidance to prevent bales from presenting a risk of harm to workers
- Bales should not be stacked too close to sprinkler systems to avoid compromising the effectiveness of the fire suppression system, and
- Although not generally recommended, if bales are stored outdoors, they should be covered with plastic sheeting, or similar, as protection from exposure to the elements.

In accordance with better practice management and to reduce packaging waste generation, it is recommended that packaging materials are returned to the suppliers through the services of the supplier delivery trucks, allowing the reduction of waste further along the supply chain.

6.5 Waste Avoidance, Reuse and Recycling Measures

Some examples of how the reduction, re-use and recycling of waste can be achieved are listed below.

6.5.1 Waste Avoidance

Waste avoidance measures that could be used at the Development include:

- Participating in take-back services to suppliers to reduce waste further along the supply chain
- Avoiding printing where possible
- Review of packaging design to reduce waste but maintain 'fit for purpose'
- Providing ceramic cups, mugs, crockery and cutlery rather than disposable items
- Purchasing consumables in bulk to avoid unnecessary packaging
- Presenting all waste reduction initiatives to staff as part of their induction program, and
- Investigating leased office equipment and machinery rather than purchase and disposal.

6.5.2 Reuse

Possible re-use opportunities that could be used at the Development include establishing systems with in-house and supply chain stakeholders to transport products in re-useable packaging where possible.

6.5.3 Recycling

Possible recycling opportunities that could be used at the Development include:

- Collecting and recycling e-waste
- Flatten or bale cardboard to reduce number of bins required
- Paper recycling trays provided in office areas for scrap paper collection and recycling
- Collecting printer toners and ink cartridges in allocated bins for appropriate contractor recycling, and
- Development of 'buy recycled' purchasing policy.

6.6 Signage

Signs which clearly identify waste management procedures and provisions to staff and visitors should be distributed around the Development. Key signage considerations are:

- Clear and correct labelling on all waste and recycling bins, indicating the correct type or types of waste that can be placed into a given bin, as shown in **Figure 4**
- Signposts and directions to location of waste storage areas
- Clear signage in all waste storage areas to instruct users how to correctly separate waste and recycling
- Maintaining a consistent style colour scheme and system for signs throughout the Development, and
- Emergency contact information for reporting issues associated with waste or recycling management.

Colour-coded and labelled bin lids are necessary for identifying bins. All signage should conform to the relevant Australian Standard and use labels approved by the NSW EPA[21]. The design and use of safety signs for waste rooms and enclosures should comply with Australian Standard AS 1319 Safety Signs for the Occupational Environment and clearly describes the types of materials designated for each bin.

Figure 4 Example of bin labels for operational waste

6.7 Communication strategies

Waste management initiatives and management measures should be clearly communicated to building managers, owners, employees, customers and cleaners. Benefits of providing this communication include:

- improved satisfaction with services
- increased ability and willingness to participate in recycling
- improved amenity and safety
- improved knowledge and awareness through standardisation of services
- increased awareness or achievement of environmental goals and targets
- reduced contamination of recyclables stream
- increased recovery of recyclables and organics material, if implemented, and
- greater contribution to targets for waste reduction and resource recovery, the environment and heritage conservation.

[21] NSW EPA waste signage and label designs http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm

To realise the above benefits, the following communication strategies should be considered:

- Use consistent signage and colour coding throughout the Development. Examples of signage are provided in **Section 6.6**
- Ensure all staff are trained in correct waste separation and management procedures
- Provide directional signage to show location of and routes to waste storage areas
- General waste and co-mingled recycling bins should be clearly labelled and colour-coded to ensure no cross contamination, where applicable
- Employees and cleaners should adhere to the WMP for compliance, in consultation with Management; and
- Repair signs and labels promptly to avoid breakdown of communications.

6.8 Monitoring and Reporting

Audit and visual assessment of bins prior to collection should be undertaken by Management in the first few months of being operational to ensure the waste management system is sufficient for the Development's needs, and also on a half-yearly basis to ensure WMP provisions are being maintained.

Where audits show that recycling is not carried out effectively, additional staff training should be undertaken by Management and signage re-examined.

6.9 Roles and Responsibilities

All contractors that are made with cleaners, tenants and building managers are to clearly explain the Development's waste management system and identify roles and responsibilities.

It should be the responsibility of Management to implement the WMP and a responsibility of the employees and cleaners to ensure that they comply with the WMP at all times. Management should routinely check waste sorting and storage areas for cleanliness, hygiene and safety, and also ensure all monitoring and audit results are well documented and carried out as specified in the WMP. An outline of waste management responsibilities is presented in **Table 14**.

Table 14 Operational waste management responsibility allocation

Responsible Person	General Tasks
Management	Ensure the WMP is implemented throughout the life of the operation.
	Update the WMP on a regular basis (e.g. annually) to ensure the Plan remains applicable.
	Undertake liaison and management of contracted waste collections.
	Organise internal waste audits on a regular basis.
	Manage any complaints and non-compliances reported through waste audits etc.
	Perform inspections of all waste storage areas and waste management equipment on a regular basis.
	Organise cleaning and maintenance requirements for waste management equipment.
	Monitor bins to ensure no overfilling occurs.
	Ensure effective signage, communication and education is provided to alert visitors, employees and cleaners about the provisions of this WMP and waste management equipment use requirements.
	Monitor and maintain signage to ensure it remains clean, clear and applicable.

Responsible Person	General Tasks
	Ensure waste and recycling storage rooms are kept tidy.
	Ensure that regular cleaning and daily transfer of bins is being undertaken by the cleaners
	Ultimately responsible for the management of all waste management equipment, cleaning requirements, waste transfer and collection arrangements.
Cleaners and Staff	Removal of general waste, recyclables, cardboard waste and hazardous waste from floor areas for transfer to centralised waste and recycling collection rooms on a daily basis or as required.
	Cleaning of all bins and waste and recycling rooms on a weekly basis or as required.
	Compliance with the provisions of this WMP.
Gardening Contractor, as applicable	Removal of all garden organics waste generated during gardening maintenance activities for recycling at an off-site location or reuse as organic mulch on landscaped areas.

APPENDIX A

Architectural Drawings

Goodman

BRICKWORKS LIMITED

REFER TO DRAWING OAK MP03 FOR CONTINUATION

Legend

- Site Boundary
- Lot Boundary
- 3.75m Landscape Setback
- 7.50m Building Setback
- 7.15 m Landscape Setback along Main Roads
- 17.15m Lanscape Setback along Main Roads

Site Area Schedule

Total Site Area	**154.12 ha**
Less:	
Non Developable Land	21.08 ha
Easements	22.38 ha
Regional Roads	7.51 ha
Services Lot	1.23 ha
Estate Roads	7.091 ha
E2 Zone non developable	1.43 ha
	60.72 ha
Development Areas	
Precinct 1	21.80 ha
Precinct 2	26.69 ha
Precinct 3	11.10 ha
Precinct 4	22.73 ha
Precinct 5	6.01 ha
Proposed Future Development	4.82 ha
Amenities Lot	0.25 ha
Total Developable	**93.40 ha**
Precinct 1 GLA	88,867 sqm
Precinct 2 GLA	263,090 sqm
Precinct 3 GLA	55,573 sqm
Precinct 4 GLA	113,309 sqm
Precinct 5 GLA	35,640 sqm
Amenities Lot GLA	345 sqm
Total GLA	**556,824 sqm**
Total Warehouse	528,963 sqm
Total Office	23,432 sqm
Others	4,,429 sqm
Total GLA	**556,824 sqm**
Precinct 1 GFA	125,198 sqm
Precinct 2 GFA	269,390 sqm
Precinct 3 GFA	55,573 sqm
Precinct 4 GFA	113,309 sqm
Precinct 5 GFA	35,640 sqm
Amenities Lot GFA	345 sqm
Total GFA	**599,455 sqm**
Total Warehouse	528,963 sqm
Total Office	23,432 sqm
Others	4,429 sqm
Mezzanines (for Site 1A & 2B)	42,631 sqm
Total GFA	**599,455 sqm**

PRELIMINARY

SBA ARCHITECTS

Oakdale West Estate - **MOD 7**

Kemps Creek, NSW

Estate Masterplan

1:3000 @ A1
1:6000 @ A3

0 60 300

23 Feb 2021

OAK MP 02 (P1)

Job No 21116

APPENDIX B

Council Waste Management Plan Form

WASTE MANAGEMENT PLAN
DEMOLITION, CONSTRUCTION AND USE OF PREMISES

If you need more space to give details, you are welcome to attach extra pages to this form.

PLEASE COMPLETE ALL PARTS OF THIS FORM THAT ARE RELEVANT TO YOUR DEVELOPMENT APPLICATION (DA).

IF YOU NEED MORE SPACE TO GIVE DETAILS, YOU ARE WELCOME TO ATTACH EXTRA PAGES TO THIS FORM.

Council will assess the information you provide on this form along with your attached plans. We will take into account the types and volumes of waste that could be produced as a result of your proposed development, and how you are planning to:

- minimise the amount of waste produced
- maximise re-use and recycling
- store, transport and dispose of waste safely and thoughtfully.

APPLICANT DETAILS

First name: Goodman Property Services (Aust)

Surname:

Postal Address

Street No.: 1-11

Street name: Hayes Road

Suburb: Rosebery

Post code: 2018

Contact phone number:

Email address:

DETAILS OF YOUR PROPOSED DEVELOPMENT

Street No.: 2

Street name: Aldington Road

Suburb: Kemps Creek

Post code: 2178

What buildings and other structures are currently on the site?

The site is currently vacant

Briefly describe your proposed development

The proposed development consists of five industrial warehouse and office precincts in the Oakdale West Industrial Estate site. Precinct 1 to 5 will each consist of several warehouse buildings with ancillary offices, truck and car parking areas and associated site hardstands, and minor landscaping areas, a sprinkler tank and a pump room.

Applicant Signature:

Date:

PENRITH CITY COUNCIL

SECTION 1: DEMOLITION

*Please include details on the plans you submit with this form, for example location of on-site storage areas/ containers, vehicle access point/s.

Materials		Destination		
		Re-use and recycling		Disposal
Material	Estimated volume (m^2 or m^3)	ON-SITE* Specify proposed re-use or on-site recycling	OFF-SITE Specify contractor and recycling facility	Specify contractor and landfill site
Excavation (eg soil, rock)				
Green waste				
Bricks	No demolition required			
Concrete				
Timber (Please specify type/s)				
Plasterboard				
Metals (Please specify type/s)				
Other				

SECTION 2: CONSTRUCTION

*Please include details on the plans you submit with this form, for example location of on-site storage areas/ containers, vehicle access point/s.

Materials		Destination		
		Re-use and recycling		Disposal
Material	Estimated volume (m^2 or m^3)	ON-SITE* Specify proposed re-use or on-site recycling	OFF-SITE Specify contractor and recycling facility	Specify contractor and landfill site
Excavation (eg soil, rock)	3,000	Please refer to Section 5 of the attached		
Green waste				
Bricks	1,185			
Concrete	1,685			
Timber (Please specify type/s)	305			
Plasterboard	495			
Metals (Please specify type/s)	440			
Other	1445			

SECTION 3: WASTE FROM ON-GOING USE OF PREMISES

If relevant, please list the type/s of waste that may be generated by on-going use of the premises after the development is finished.	Expected volume (average per week)
Please refer to Section 6 of the attached waste management plan for further detail	

SECTION 4: ON-GOING MANAGEMENT OF PREMISES

If relevant, please give details of how you intend to manage waste on-site after the development is finished, for example through lease conditions for tenants or an on-site caretaker/manager. Describe any proposed on-site storage and treatment facilities. Please attach plans showing the location of waste storage and collection areas, and access routes for tenants and collection vehicles.

Please refer to Section 6 of the attached waste management plan for further detail

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APPENDIX F

Landscape Management Plan

Scape Design Pty Ltd
ABN: 79 568 162 276
Suite 5, 15 The Corso, Manly 2095 NSW
office@scapedesign.com.au
NATSPEC Subscriber Number: 15125307

Oakdale West Estate (OWE)
Landscape Management Plan

Prepared by: Scape Design Pty Ltd
Prepared for: Goodman Property Services

DA MOD 6

Revision Schedule

Revision	Date	Issued by
03	08/01/19	HW & CH
04	12/06/19	HW & CH
05	25/06/19	MF & CH
06	17/07/19	HW & CH
07	20/08/19	MF & CH
08	21/08/19	MF & CH
09	20/09/19	MF & CH
10	04/10/19	MF & CH
11	31/10/19	MF & CH
12	14/11/19	MF & CH
13	30/03/20	MF & CH
14	12/08/20	MF & CH
15	29/10/20	MF & CH
16	12/02/21	CH

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2 CONDITIONS

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Visual Amenity			
Condition No.		Condition	Action
D35. Prior to the commencement of construction of Stage 1, the Applicant must prepare a Landscape Management Plan (LMP), to the satisfaction of the Planning Secretary. The plan must form part of the CEMP in accordance with Condition D119 and the OEMP in accordance with Condition D130 and must:	(a)	*be prepared in consultation with Council*	**Refer to Section 3.1.4** for Council Consultation
	(b)	*detail procedures for the retention of existing native vegetation in the north-western corner of the Site and protection of this vegetation from construction impacts*	Refer to Oakdale West Estate - Flora and Fauna Management Plan *and* Erosion and Erosion and Sediment Control Plan Refer to **Section 4.3.1** of this LMP for species specific vegetation management.
	(c)	*include visual impact mitigation measures for construction including but not limited to:* *(i) the location of site sheds, compounds and machinery parking areas, avoiding the western and southern side boundaries, or other locations highly visible from adjacent residential properties.* *(ii) procedures for progressive grassing of exposed soil, as soon as reasonably practical after disturbance, focusing on the areas where building construction will occur at a later stage*	(i) Refer to Construction Environmental Management Plan *and* **Section 4.3.2** for location of construction facilities operations. (ii) Refer to **Section 4.3.2** of this LMP for procedures of progressive grassing techniques.
	(d)	*detail the works required to construct the landscape bund along the western boundary of the Site, as shown on Figure 5 in Appendix 2, including provision for the landscaping to incorporate mature tree (no less than 75 litre pot size)*	Refer to **Section 4.3.3** of the LMP
	(e)	*include a schedule of works which prioritises the construction of the landscape bund along the western boundary of the Site, as shown on Figure 5 in Appendix 2.*	Refer to **Section 4.3.3** of the LMP

	(f)	*include a program for implementing the landscape bund as soon as reasonably practicable and no later than prior to operation of Stage 1.*	Refer to **Section 4.3.3** of this LMP
	(g)	*describe the integration of landscaping with fixed elements, including retaining walls and noise walls*	Refer to **Section 4.3.3** of this LMP
	(h)	*describe the monitoring and maintenance procedures to ensure the success of the landscaping work over the life of the Development.*	Refer to **Section 5** of this LMP
	(i)	*update the LMP to include modifications to the western bund, bio-retention basin 2/3 and the noise wall approved under MOD 3.*	Refer to **Section 4.3.3** of this LMP
D36. The applicant must:	(a)	*not commence construction of Stage 1 until the LMP is approved by the Planning Secretary*	N/A
	(b)	*must implement the most recent version of the LMP approved by the Planning Secretary*	Noted
	(c)	*Include the monitoring and maintenance procedures contained in the LMP within the OEMP required in accordance with Condition D130*	N/A
Landscaping			
D37. The Applicant must complete the landscape bund along the western boundary of the Site as shown on Figure 5 in Appendix 2 within six months of commencing any construction including bulk earthworks.	-	-	Refer to **Section 4.3.3** of this LMP

D38. The Applicant must maintain all landscaping implemented as part of Stage 1, as shown on Figure 5 in Appendix 2, for the duration of the Development. If the monitoring carried out as part of Condition D35 indicates that any aspect of the landscaping has not been successful, the Applicant must undertake re-planting and rehabilitation works, as soon as reasonably practicable.	-	-	Refer to Section 5 of this LMP for maintenance requirements. Refer to Section 5.3.1 of this LMP for requirements of unsuccessful planting
Management Plan Requirements			
D118. Management plans required under this must be prepared in accordance with relevant guidelines, and include:	(a)	*details of:* *(i) the relevant statutory requirements (including any relevant approval, license 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, Stage 1 or any management measures*	*(i, ii)* In relation to landscape softworks, the following Australian Standards are applicable and have guided all landscape works: AS 4419-1998 Soils for landscaping and garden use, AS 4970-2009 Protection of existing trees on development sites (where not covered by council requirements) and AS 2303-2015 Tree stock for landscape use. *(iii)* Refer to this LMP for more information.
	(b)	*a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria*	All landscape works have been designed using relevant Australian Standards as a guiding point. Refer to this LMP for more information.
	(c)	*a program to monitor and report on the:* *(i) impacts and environmental performance of Stage 1* *(ii) effectiveness of the management measures set*	(i) Refer to Section 6 of this LMP for maintenance and monitoring schedule *(ii)* Refer to Section 6 of this LMP for maintenance and monitoring schedule

		out pursuant to paragraph (b) above	
	(d)	*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*	Refer to **Section 6.5 of this LMP** for the contingency management plan
	(e)	*a program to investigate and implement ways to improve the environmental performance of Stage 1 over time*	Refer to **Section 5.3 and Section 6 of this LMP** for maintenance and monitoring requirements and schedules
	(f)	*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*	Completed in CEMP
	(g)	*a protocol for periodic review of the plan*	Completed in CEMP

3 INTRODUCTION

3.1 GENERAL

3.1.1 GENERAL CONDITIONS

Contract: Oakdale West Estate (OWE)

Local Council(s): Penrith City Council

3.1.2 DRAWING REFERENCE

All landscape plans, details and specifications included in the project documents should be read in conjunction with the Landscape Management Plan. All structural and civil works components of the landscape design should be referenced to engineers' details and specifications. Read the Landscape Management Plan in conjunction with these packages. If in doubt about any details or if conflicts are found in the documents, seek advice.

3.1.3 WORKMANSHIP AND MATERIALS

All landscape works must be carried out by a competent, trained and qualified landscape contractor who is experienced in horticultural practices, landscape construction and planting techniques.

The landscape contractor must hold a current Building Contractors License and/or be a financial member of LNA Landscape Association NSW & ACT or equivalent organisations in other states.

3.1.4 COUNCIL CONSULATION

Queries and consultation with Penrith City Council (PCC) have been resolved as per the table below:

Query	Penrith City Council (PCC) Advice	Action
-	-	No action required

3.2 DESCRIPTION

3.2.1 SITE LOCATION

The Oakdale West Estate is located in the Penrith Local Government Area (LGA) at the far south-western extent of the WSEA. The site is bound to the north by the Water NSW Pipeline and to the east by the Ropes Creek riparian corridor. Land along the eastern boundary of the site is also affected by a transmission easement associated with TransGrid infrastructure.

Other boundaries interface with adjoining rural lands used for a mix of rural-residential, agricultural. Emmaus Catholic College and Emmaus Retirement Village is located to the west of the site. To the east of the site is Goodman's Oakdale South estate.

3.2.2 PURPOSE OF LANDSCAPE MANAGEMENT PLAN

This Landscape Management Plan (LMP) has been developed as per the Development Consent for the Oakdale West Estate works specifically.

4 SITE MANAGEMENT

4.1 ENVIRONMENTAL ASPECTS

4.1.1 DESCRIPTION

The Landscape Management plan seeks to manage potential visual impacts as a result of operational activities that may affect local and regional visual receptors. These impacts need to be managed to minimise impacts to sensitive visual receptors, and satisfy the conditions of the DA.

4.2 OBJECTIVES & PERFORMANCE CRITERIA

4.2.1 OBJECTIVES

The objectives of this LMP include:

- *ensuring that the conditions of the DA and Goodman Landscape standards are met*
- *managing the visual impacts of the project to comply with the landscape performance criteria*
- *ensuring the visual and landscape treatments are consistent with the ecological revegetation works described in the Oakdale West Estate – Flora & Fauna Management Plan*

4.3 MANAGEMENT ACTIONS

4.3.1 RETENTION OF EXISTING ENVIRONMENT

Existing vegetation retention

Procedures detailing how existing native vegetation in the north western corner of the Site will be protected from construction impacts are provided for in the "Oakdale West Estate - Terrestrial Flora and Fauna Management Plan" (écologique, June 2019).

Generally, clearly marked and identified No-Go zones are to be stablished with star pickets and parawebbing, with site-wide vegetation clearing minimised where possible. Trees that are to be retained are to have a 2x dripline exclusion zone where no motor vehicles are to be operated. Compaction of soil and trampling of tree roots by machinery may lead to the damage and death of retained trees and should be avoided. All site offices, compounds and stockpile areas are to be located within the limits of clearing or otherwise away from No-Go zones. Construction vehicle movements are to be restricted to the haul road network or previously disturbed areas, and should not enter into retained vegetation areas beyond the approved impact areas. At no point is cleared vegetation to be bulldozed into adjacent bushland retained beyond the limits of clearing. These areas will be under the supervision of the project ecologist.

Sediment and erosion control measures are to be installed prior to earthworks and maintained for the duration of the works in accordance with the Project's CEMP. Prior to soul disturbance, appropriate boundary sediment controls shall be installed around all biodiversity management areas and other isolated areas of remnant vegetation to be retained. Stockpiles are not to be placed within No-Go zones and shall be located at least 5 metres from existing vegetation, concentrated water flow areas, roads and hazard areas. Earth banks are to be constructed on the upslope side to divert water

around stockpiles. Further information on sediment and erosion control can be found in the "Oakdale West Estate - Terrestrial Flora and Fauna Management Plan" and the "Erosion and Sediment Control Plans"

Trees to be Retained and Protected

Refer to *Oakdale West Estate - Flora and Fauna Management Plan* for information and requirements relating to existing trees to be protected.

Tree protection measures must be in accordance with Australian Standard AS4970-2009 Protection of trees on development sites.

Any "Site works" including the demolition of existing structures or the entrance onto the site with any machinery for excavation, demolition or large-scale rubbish removal requires protection measures to be installed. These protection measures must be installed prior to the commencement of any site work in accordance with Australian Standard AS4970-2009 Protection of trees on development sites.

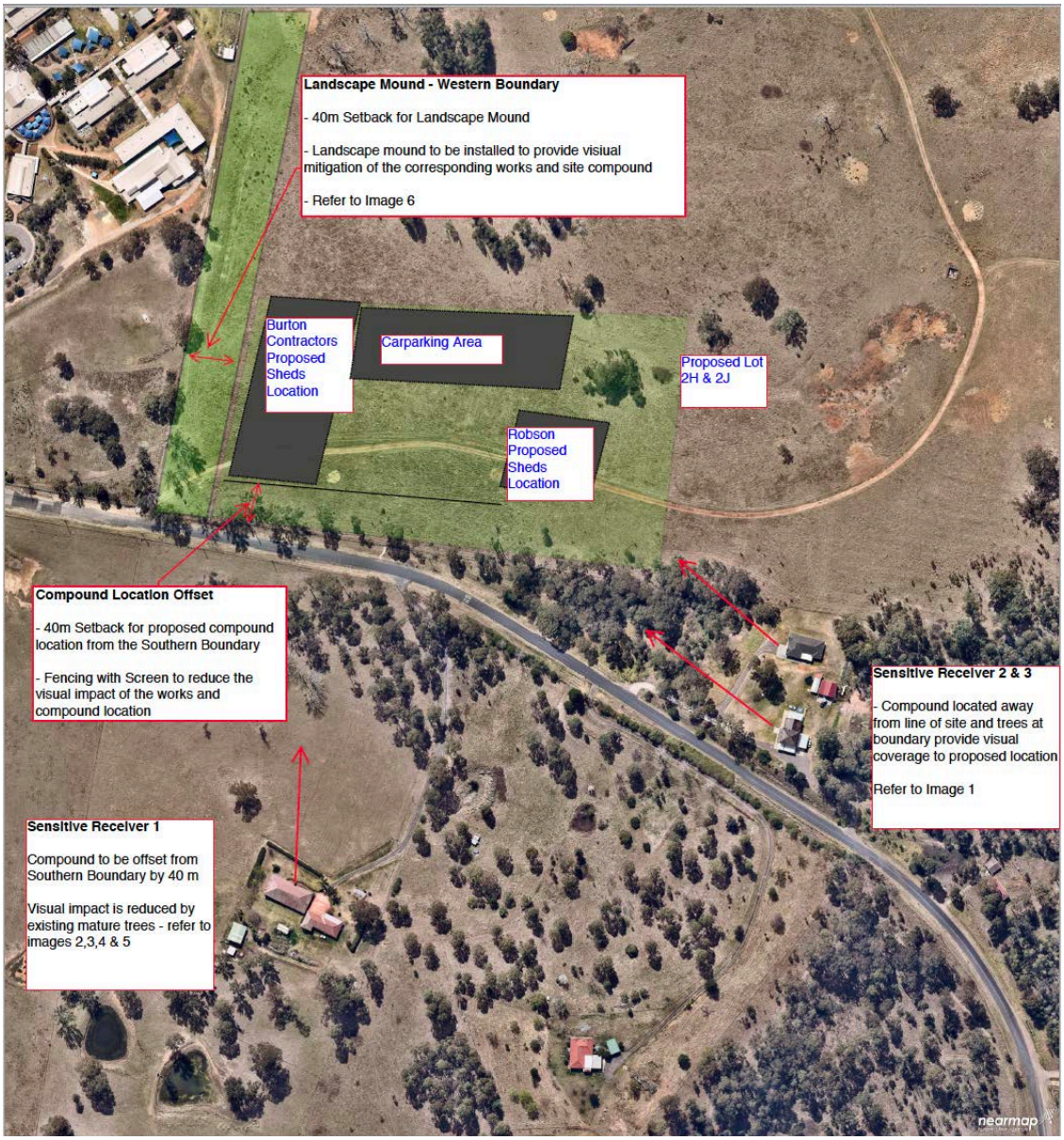
- *Identify and mark trees and shrubs to be retained using a suitable non-injurious, easily visible and removable means of identification.*
- *Protect from damage the trees and shrubs to be retained, including those beyond the site area, both above and below the ground.*
- *If a tree becomes damaged during the works or it is proposed to perform work on a tree, give written notice immediately and obtain instructions.*
- *Keep the area of the drip-line free from construction material and debris. Do not place bulk materials and harmful materials under or near trees.*
- *Do not place spoil from excavations against tree trunks.*
- *Prevent wind-blown materials such as cement from harming trees and plants.*
- *Do not remove topsoil from, or add topsoil to, the area within the drip-line of trees.*

Where existing vegetation is to be retained, that vegetation must be protected from soil compaction, root, trunk and limb damage, soil contamination and changes in surface levels that affect the health of the vegetation.

4.3.2 TEMPORARY LANDSCAPE MANAGEMENT

Site compound access must be suitable in all weather conditions. Therefore, the main site compound is located just North of the Southern site boundary, near Bakers Lane.

The compound is identified below.



Site compounds along the southern site boundary have been offset by 40m to ensure minimal visual impact.

Image 1 – Proposed Compound Location: Taken at the nominated bulk earthworks level looking towards Sensitive Receiver 2 and 3. Existing trees provide visual amenity to the proposed compound location.

Image 2 – Proposed Compound Location: Taken at the nominated bulk earthworks level looking towards sensitive receiver 1. Existing trees provide visual amenity to the proposed compound location.

Image 3 – Proposed Compound Location: Taken at the nominated bulk earthworks level looking towards sensitive receiver 1. Existing trees provide visual amenity to the proposed compound location.

Image 4 – Proposed Compound Location: Taken at the nominated bulk earthworks level looking towards sensitive receiver 1. Existing trees provide visual amenity to the proposed compound location.

Image 5 – Proposed Compound Location: Taken at the nominated bulk earthworks level looking towards sensitive receiver 1. Existing trees provide visual amenity to the proposed compound location.

Image 6 – Proposed Compound Location: Taken from proposed compound location towards Western Boundary. Existing levels are currently higher than the proposed pad bulk level. Landscape Bund to provide visual amenity and reduce the visual impact of works adjacent to school. Further detail of the Landscape Bund is located in the Section 4.3.3 of this LMP.

As part of the Soil and Water Management measures implemented by 'The Contractor', the topsoil that is stripped from the site will be stockpiled adjacent in berms adjacent to the tops/toes of batters. Once the earthworks batters in both cut and fill situations are complete, the topsoil will be placed back on these batters and revegetated as required. For completed building pad footprints, 'The Contractor' is to apply a stabilisation polymer with green dye to improve visual amenity of the Site, whilst simultaneously suppressing dust and erosion from exposed soil.

Landscape management actions to mitigate the construction of site sheds, compounds, and machinery parking areas fall into a temporary landscape treatment. The procedures for these treatments require progressive grassing on exposed soils following construction (after disturbance).

Progressive grassing involves seeding, which must be carried out within 2 days of completion of soil preparation, or in the case of inadequate weather conditions, as soon as reasonably practicable after preparation of earthworks. Seed mixture is to be agitated continuously during application, where it is to be applied uniformly over the whole surface. A minimum thickness must be achieved to ensure successful seed germination and growth. Further detail of progressive grassing techniques can be found within the Landscape Specification and Drawings Packages.

As outlined in the Visual Impact Assessment, generally visual impacts of site construction are minimal with the western edge being the main exception. As a result, a landscape bund is to be completed early on in the Projects timeline. Further detail of the Landscape Bund is located in the Section 4.3.3 of this LMP, and further information about visual impacts can be found in the "Visual Impact Assessment".

Refer to Detail 03-01-03 – L.CD.600 for pasture grass revegetation.

Refer to Section 7.1 and 7.2 in Appendices for referenced Landscape Specification and Drawings.

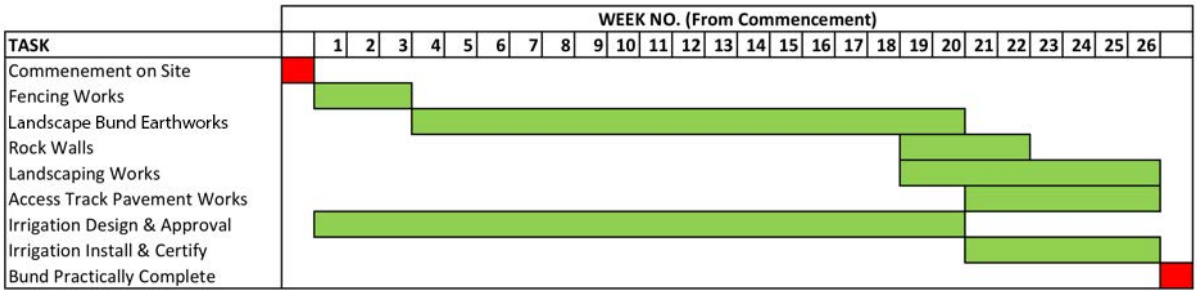
4.3.3 PERMANENT LANDSCAPE MANAGEMENT

Landscape Bund

The major screening element to be constructed will be the environmental bund along the western boundary of the site.

Once the site is established and environmental protections are in place, the new western boundary fence with snake barrier adjacent the school will be installed. Earthworks will commence to provide the spoil material for the western bund which will be formed, shaped, landscaped and irrigated, with a commitment made that this will be complete within 6 months of commencing earthworks on site, and prior to operation of Stage 1. Vegetation on this landscape bund is to incorporate mature trees that are no less than 75 litre in pot size. For further information regarding landscape bund implementation refer to the table below and Construction Management Plan.

Target Programme for Western Landscape Bund
Oakdale West Estate



Further detail of the landscape bund can be found within the Oakdale West Estate Landscape Drawings (Refer to Section 3 on Landscape Drawing L.CD.501 and detail 08-02-08 on Landscape Drawing L.CD.601).

Integration of landscaping with fixed elements

The Integration of fixed elements and the landscape within the Oakdale West Estate (OWE) include elements such as:

Bio Retention Basins No.'s 2, 3, 4 and 5
Bio Retention Basins are to have a 1m turf strip at the top of the batter to ensure the hinge point is covered as this is a critical erosion area. Below this, the basins are to be vegetated with RM3 'Pasture Grass Revegetation Mix'. Refer to Landscape detail 03-01-02 on L.CD.600 and Section 4.8 under Landscape – Planting in the Landscape Specification for further details. Refer to Section 7.1 and 7.2 in Appendices for referenced Landscape Specification and Drawings.

Drainage Culverts
All drainage culverts are to be finished as per the CIVIL ENG. Drawings. Monitor maintenance requirements at the interface of all drainage culverts & gutters (Section 5 of this LMP).

Entry Signage
Entry signage is typically to be installed within TF1 – Turf Rolls. Monitor Maintenance requirements of lawn care with interface elements (Section 5 of this LMP).

Fencing& Gates
All fencing and gates are to be finished as per the CIVIL ENG. Drawings. Monitor Maintenance requirements with lawn care at fence and gate interfaces (Section 5 of this LMP).

Maintenance and Access Tracks
Typically, the maintenance tracks around the Bio Basins are to be revegetated with RM1A/B & RM3. Refer to Landscape detail 03-01-02 and 03-01-03 on L.CD.600 for further details

Noise Walls
Noise walls are typically to be installed within TF1– Turf Rolls or revegetation mixes (seed). Monitor maintenance requirements of lawn care, hydroseeding and their interfaces (Section 5 of this LMP).

Planted Verges (Excluding Turfing)
Where road medians and verges are to be planted, 250mm of mulch only is to be used next to kerbing. Refer to Landscape detail 03-02-20 on L.CD.600 for further details.

Retaining Walls

Retaining walls and balustrading are to be finished as per CIVIL ENG. Drawings. Planting at the top of RW09 is inclusive of spill over species (PM4B) these are to be planted at the front of the top of the wall. PM4B is also to be planted at the base of the wall as a buffer between the outlet swale and RW09. Refer to Section 4 on Landscape Drawing L.CD.501 for further detail.

5 VISUAL AND LANDSCAPE TREATMENTS

5.1 GENERAL

5.1.1 QUALITY

This section of the Landscape Management Plan describes the procedures to ensure the success of the landscaping work over the life of the development.

All landscaped areas must be maintained to the approval of the principal and landscape architect.

5.1.2 APPROACH

A proactive approach to all landscape tasks must be adopted to ensure that the appearance of the landscape as a whole is highly presentable at all times.

5.1.3 REQUIREMENTS

Contractors must submit annual routine landscape maintenance program to the Project Superintendent, Landscape Manager and/or the Landscape Architect within two weeks of the contract commencement date.

It is the contractor's responsibility to ensure the success of the landscaping work over the establishment period of the development.

5.2 MAINTENANCE PROGRAMS

5.2.1 GENERAL CONDITIONS

The Contractor shall rectify all defects during installation that become apparent in the works during the defect's liability period (18 months).

The Contractor shall maintain the contract areas by the implementation of industry accepted horticultural practices between the date of practical completion and the date of final completion (18 months).

The landscape maintenance works shall include, but not be limited to the following:

- *Replacing failed plants*
- *Pruning*
- *Herbicides/Insect and pest control*
- *Fertilizing*
- *Maintaining mulch*
- *Mowing*
- *Watering/Irrigation*
- *Weeding*
- *Rubbish removal; and Cleaning of the surrounding areas.*
- *Timber stakes and ties*

Ongoing maintenance: Ongoing maintenance facilitated by the Owner's corporation. Goodman is to contract the management of all landscape areas. The standard specification and reporting requirements of this contract are located in Goodman's Landscape Guidelines. Refer to Section 7.3 in Appendices for further detail.

Safety: Safety procedures/ plans are to be documented for review by Principal prior to commencement of work.

Failure to maintain the landscape planting in a healthy condition may result in the Principal arranging for the maintenance work to be carried out by others at your expense.

5.2.2 AREAS DEFINED IN LANDSCAPE MAINTENANCE PLAN

Hard and Soft Landscape works to be maintained throughout the maintenance program includes all landscape areas including the landscape bund and street trees.

5.2.3 PROTECTION OF PERSONS AND PROPERTY

Temporary works: Provide and maintain required barricades, guards, fencing, shoring, temporary roadways, footpaths, signs, lighting, watching and traffic flagging.

Accessways, services: Do not obstruct or damage roadways and footpaths, drains and watercourses and other existing services in use on or adjacent to the site. Determine the location of such services.

Property: Do not interfere with or damage property which is to remain on or adjacent to the site, including adjoining property encroaching onto the site, and trees.

5.2.4 RECTIFICATION

Accessways, services: Rectify immediately any obstruction or damage to roadways and footpaths, drains and watercourses and other existing services in use on or adjacent to the site. Provide temporary services whilst repairs are carried out.

Property: Rectify immediately any interference or damage to property which is to remain on or adjacent to the site, including adjoining property encroaching onto the site, and trees.

5.2.5 EXISTING SERVICES

General: Attend to existing services as follows:

- *If the service is to be continued, repair, divert or relocate. Submit proposals.*
- *If the service crosses the line of a required trench, or will lose support when the trench is excavated, provide permanent support for the existing service. Submit proposals.*
- *If the service is to be abandoned, remove redundant parts, and make safe.*

Proposals: Submit proposals for action to be taken with respect to existing services before starting this work. Minimise the number and duration of interruptions.

5.2.6 ACCESS FOR MAINTENANCE

Requirement: Provide access for maintenance of plants and equipment.

Standards: Conform to the relevant requirements of AS 1470, AS 1657, AS/NZS 1892.1, AS 2865 and AS/NZS 3666.1.

Work Health and Safety: Conform to the requirements of the applicable Work Health and Safety regulations for all temporary and permanent works.

Protection from injury: Protect personnel from injury caused by contact with objects including those that are sharp or protrude at low level.

5.2.7 LOGBOOK

Ensure a Maintenance Logbook is recorded to demonstrate that maintenance work has been undertaken and what materials, including chemical materials, have been used throughout the maintenance and establishment period.

The logbook must include the date of visit, maintenance works completed, maintenance works in progress and maintenance works required. The logbook must give details of damaged, dead or missing plants and show their locations on the relevant sheets of the Drawings.

Use the logbook to identify chemicals used as well as the reason for their use. Submit the initial logbook for inspection prior to Practical Completion and again at the end of the Defects Liability Period as a prerequisite for granting Practical and Final Completion Certificates.
Record all major events and activities in the logbook. Ensure the logbook is available for inspection on request.

5.3 MAINTENANCE WORKS

5.3.1 PLANT CARE

Planting: Ensure the general appearance and presentation of the landscape and the quality of plant material at date of practical completion is maintained for the full planting establishment period. Trees, shrubs and groundcovers shall at all times display healthy growth. Spent flower heads or stalks shall be removed immediately following flowering.

All shrubs, hedges, ground covers and trees must be trimmed into shape as required to an acceptable presentation standard.

Excessive foliage impacting onto roads, paths, fencing and lighting must be pruned during all site visits. Leaf litter and or all cuttings should be removed from all gardens and site each visit and disposed of at contractor's cost. Any dead or dying plants/shrubs should be removed and replaced with same or comparable species. The Landscape Manager must be consulted when large trees need to be removed and or replaced. The contractor will maintain each plant in a healthy condition to increase the visual appeal of the gardens.

Replacements: Replace failed, dead and/or damaged plants at maximum 3-week intervals as necessary throughout the full plant establishment period. Replacement plants shall be in a similar size and quality and identical species or variety to the plant that has failed. Replacement of plants shall be at the cost of the Contractor unless advised otherwise. If the cause of the failure is due to a controllable situation then correct the situation prior to replacing plants.
Keep all planting areas as specified and free of grass and weed.

Carry out grass and weed removal at intervals of not more than four (4) weeks and ensure that weeds do not flower to form seed heads.
For those species listed by the relevant local government authority as noxious under the Biosecurity Act 2015 take action as required by that local Government Authority (Penrith City Council). Refer to the Flora and Fauna Management Plan (FFMP) for further information regarding Weed Management and Mitigation Measures.

5.3.2 PRUNING

General: Prune to the Pruning schedule and AS 4373.

Any pruning requested by the Landscape Architect shall be performed, including any pruning of damaged growth or miscellaneous pruning considered as beneficial to the condition of the plants. All pruning works shall be undertaken in a manner equal to acceptable horticultural practice.

Pruning to ensure pathways, roads, lighting and services such as fire hydrants, overhead services and signs are kept clear from encroaching growth of plant material at all times.

- *Remove all damaged, dead or diseased wood by pruning to the nearest lateral shoot or active bud with a neat clean cut*
- *No more than 40mm - 50mm of new growth present on hedges at any time*
- *Remove all spent or dead flower heads from plants following flowering*
- *Prune young shrubs for shape by pinching out the growing tips to encourage lateral bushy growth*
- *Hedging shall be carried out to appropriate plants within garden beds. This should be carried out on a regular basis so as to avoid cutting back into 'old wood' in order to achieve the desired form.*
- *All existing hedges on site to be maintained*
- *Removal of suckers from base of trunks*
- *Formative pruning of trees to allow effective canopy development and retain natural or desired shape of the tree*
- *Pruning cuts shall be made and close to the bud at a 45° angle to ensure that any water is shed away from the bud*

5.3.3 SPRAYING

Responsibility for insect and disease control: Contractor

Period of treatment: Until the problem has been eliminated.

Chemical spray: Apply outside of normal working hours.

Avoid spraying:

- *whenever possible*
- *in the case of wet weather*
- *if wet weather is imminent*
- *if target plants are still wet after rain*
- *during windy weather*
- *if adjacent desirable species are too close to the target plants to be avoided.*

Do not spray where herbicide could fall into a watercourse or when wind conditions could cause drift outside the area to be treated or onto desirable plants.

After spraying, lop any dead weeds flush with the ground surface and dispose of the cuttings. Remove by hand any weeds which cannot be controlled by herbicide. Ensure that the entire weed including all roots is removed. Dispose of the weeds off site.

Immediately report to the Project superintendent/landscape manager any evidence of intensive weed infestation, insect attack or disease amongst plant material. Submit all proposals to apply chemicals and obtain approval before starting this work.

When approved, spray with herbicide, insecticide, fungicide as appropriate in accordance with the manufacturers' recommendations. Record in the logbook all relevant details of spraying activities including:

- *Product brand / manufacturer's name*
- *Chemical / product name*
- *Chemical contents*
- *Application quantity and rate*
- *Date of application and location*
- *Results of application*

5.3.4 FERTILISING

Soil tests: Take samples from planting beds areas and conduct tests.

Fertilising: Base the fertilisation program on the soil testing results. Fertilise trees once every two years. Generally, apply an all-purpose fertiliser of N:P: K (nitrogen: phosphorus: potassium) 10:4:6 at recommended rates. Alternatively apply 12-month slow release fertiliser (such as Nutricote) at the manufacturer's recommended rate. Apply all-purpose fertiliser to shrubs annually in two bands and cultivated into the soil 100 mm deep.

Record in the logbook all relevant details of fertilizing including:

- *Product brand / manufacturer's name*
- *Fertilizer / product name*
- *Application quantity and rate*
- *Date of Application and Location*

5.3.5 STAKES, TIES, TREEGUARDS AND ROOT BARRIERS

Stakes
Generally: If plants are unable to be self-supported or if stakes are damaged, stake or restake the plants

Material: Hardwood, straight, free from knots or twists, pointed at one end.

Installation: Drive stakes into the ground at least one third of their length, avoiding damage to the root system.

Stake sizes and quantities:
- *For plants ≥ 2.5 m high: Three 50 x 50 x 2400 mm stakes per plant.*

- *For plants 1 to 2.5 m high: Two 50 x 50 x 1800 mm stakes per plant.*
- *For plants < 1 m high: One 38 x 38 x 1200 mm stake per plant.*

Ties
General: Provide ties fixed securely to the stakes, one tie at half the height of the main stem, others as necessary to stabilise the plant. Attach ties loosely so as not to restrict plant growth.

Tie types:
- *For plants ≥ 2.5 m high: Two strands of 2.5 mm galvanized wire neatly twisted together, passed through reinforced rubber or plastic hose, and installed around stake and stem in a figure eight pattern.*
- *For plants < 2.5 m high: 50 mm hessian webbing stapled to the stake.*

Marker stakes
Material: Timber offcuts 25 x 25 x 1200 mm. Dip the top 200 mm in white paint.
Installation: Drive firmly into the ground at least 300 mm from the plant. Do not tie to the plant.

Location of marker stakes:
- *Trees in grass: Mark each tree.*
- *Rip line planting areas: Mark each rip line at every fifth plant along the line.*

Trunk protection/Tree guards
Collar guards: 200 mm length of 100 mm diameter agricultural pipe split lengthways.
Removal: If plants are robust with well-developed systems and are strong enough to no longer require support, remove stakes and ties at the end of the planting establishment period (Defects Liability Period).

- Adjust and replace as required to ensure plants remain correctly staked.

- Repair any tree ties that have been broken and replace any missing stakes.

- Maintain the tree guards around each plant so that the natural plant growth is not impeded or restricted. Replace damaged and missing tree guards as soon as practicable after being identified.

- Remove tree guards progressively as plants mature and where it is deemed that the tree guard provides no further benefit to the establishment of the plant.

Root Barriers
Type/ location: Street Trees Refer Detail 08-02-22 on L.CD.601 City Green 'ReRoot' 600mm Depth

Supplier: City Green. Ph: +61 1300 066 949

https://citygreen.com/products/reroot/

5.3.6 MULCHED SURFACES

The contractor is required to maintain all areas of mulch cover within garden beds. Displaced mulch should be returned to the garden beds wherever possible. All areas of mulch cover must be packed to a depth of 75mm. If replacement of mulch is required, the contractor must notify the Landscape Manager and provide quotation for approval. Specific mulch must be approved prior to installation.

5.3.7 HYDROMULCHING

General: Maintain temporary and permanent grassing areas.

Weeding: Remove weeds that emerge in newly established hydroseeded/hydromulched areas.

Reseeding: Repair topsoil, supplementing if necessary, to achieve design surface levels. Reseed over the course of the contract to maintain required densities and repair bare patches.

Watering: Until germination, keep the surface damp and the topsoil moist but not waterlogged.

After germination: Water to maintain a healthy condition, progressively hardened off to the ambient climatic conditions

5.3.8 MOWING AND TOPDRESSING

Mow and edge all turf areas and remove all grass clippings. Do not mow if there is litter, roadside rubbish and debris left on the turf as the litter may be transformed into confetti-like pieces after mowing.

Unless directed otherwise, the cut grass height must not be less than 35 mm or greater than 75 mm. Do not remove more than 50% of the height of the uncut grass at any one time. The upper limit may be varied to account for terrain, species of grass and presence of debris.
Clippings may remain where they fall, except for those that fall on road surfaces, line drains, footways or paved areas where they must be swept clear.

Lawn care
Lawn areas, including nature strips must be neatly mown and edged weekly in the high season (summer months), fortnightly in the low season (winter months), or weekly if required due to abnormal weather condition. All clippings must be removed from the site. All lawns must be fertilized once a year with an approved lawn fertilizer.

Interface Issues
Where landscape treatments requiring lawn care interface fixed elements such as signage, fencing and walling ensure optimal care to avoid damaging the fixed element.

5.3.9 IRRIGATION & WATERING

Maintain the irrigation system to sure that each individual plant receives the required amount of water to maintain healthy growth, adjust and rectify as required.

Provide additional hand watering, if irrigation system fails or is yet to be installed.
Undertake watering at two-day intervals for four weeks after completion of each planting area.

The irrigation system must be fully functional at all times to ensure that all plants, trees and lawns receive adequate water at optimal frequency. The system should be tested during each site visit to ensure proper operation timing is set correctly. Adjustments must be made where necessary.

It is the contractor's responsibility to submit a bi-monthly report throughout the defect's liability period. This report should include a comprehensive report on the operational function of the system.

Notification as to when the system is in need of major repair must be done so immediately as the cost of major repairs to the system can be claimed as variation to the contract price and should be invoiced separately.

When water restrictions prevent the use of the irrigation system, arrangements must be made by the contractor to provide an alternative system of watering. Under no circumstances should plant stock be allowed to perish through lack of water.

Locations of water supply points have been marked indicatively on Landscape Drawings; all irrigation supply conduits are subject to Sydney Water Approval.

5.3.10 EROSION CONTROL MEASURES

Where necessary, maintain the erosion control devices in a tidy and weed free condition and reinstate as necessary to ensure control measures are effective where deemed necessary. Refer to the **Erosion and Sediment Control Plan** for erosion control measures.

5.3.11 FINAL CLEANING

Lamp and filter replacement and the like are dealt with in the various SERVICES worksections.

General: Before practical completion, clean throughout, including interior and exterior surfaces exposed to view. Clean debris from the site, roofs, gutters, downpipes and drainage systems. Remove waste and surplus materials.

The contractor shall target weeds that are capable of producing a major infestation of unwanted plants by seed distribution. Whenever possible, time weed removal to precede flowering and seed set.

Samples: Remove non-incorporated samples, prototypes and sample panels.

5.3.12 REINSTATEMENT

General: Before practical completion, clean and repair damage caused by installation or use of temporary work and restore existing facilities used during construction to original condition.

5.3.13 ADJOINING PROPERTY

Evaluation: At practical completion, for properties described in the Adjoining properties to be Recorded schedule inspect the properties with the project superintendent, recording any damage that has occurred since the pre-commencement inspection.

5.3.14 REMOVAL OF PLANT

General: Within 10 working days after practical completion, remove temporary works and construction plant no longer required. Remove the balance before the end of the defect's liability period.

5.3.15 URGENT WORKS

Not with standing anything to the contrary in the Contract, the Project Superintendent may instruct the Contractor to perform urgent maintenance works that place the completed contract works at risk.

If the Contractor fails to carry out the work within seven (7) days of such notice, the Project Superintendent (or representative) reserves the right without further notice to employ others to carry out such urgent and specified work and charge the cost to the Contractor.
Such work shall include but not limited to the inspection and clearing of drains in the pavement and gardens.

5.4 COMPLETION

A final inspection shall be made by the Project Superintendent, Contractor and Landscape Architect before the completion of the Plant Establishment Maintenance Period (Defects Liability Period).

Any items requiring rectification shall be repaired before completion of the relevant works and finally approved prior to certification.

Maintenance requirements should extend for a minimum of 18 months after the completion of works (i.e. Practical Completion or PC). Prior to handover, the contractor(s) is/are required to submit all maintenance records, progress reports and a final monitoring report. The final monitoring report shall provide a summary of all works undertaken during the plant establishment period.

6 MAINTENANCE SCHEDULES

The following Maintenance Schedule is only applicable to the 'Defects Liability Period' and/or 'Establishment Period'.

6.1 MAINTENANCE REPORT SCHEDULE

General

Landscape Maintenance Schedule, Landscape Maintenance Procedure Schedule and Landscape Specification are to be read in conjunction with one another

Task	Activity	Frequency						Action
		D	W	F	M	3-6M	Y	
1	Logbook				x		x	Complete a logbook entry when at site and at a minimum every two weeks. Upon request, make the logbook available for inspection. Submit copies of new entries in the logbook to the Contract Administrator on a monthly basis. Maintenance requirements should extend for a minimum of 1 year after the completion of works or until such time as a minimum 80% survival rate for all plantings and a maximum five percent (5%) weed cover for the treated riparian corridors, basins and verge/median planting is achieved.
2	Planting and Replacement			x	x			Inspect planting every 2 weeks and remove spent flowers and dead stalks as they become apparent. Inspect and replace failed plants within 2 weeks of observation of failure. Match species with original planted sizes and location of new with old.
3	Pruning			x				Inspect every 2 weeks and prune as necessary to remove dead wood.

								Pruning should Improve plant shape and promote healthy new growth.
4	Spraying			x				Inspect every 2 weeks and action as necessary. Do not spray if other nonchemical methods will satisfy the need to remove pests. Spray for disease control only when absolutely necessary.
5	Fertilising					x		Fertilise gardens every 3 months or in accordance with fertiliser manufacturer's directions.
6	Stakes and Ties			x			x	Inspect every 2 weeks, adjust and/or replace as necessary but remove as plants mature and are able to support themselves.
7	Mulching			x			x	Inspect and replace mulch deficiencies within 2 weeks of observation. Prior to placing new mulch aerate the soil by fork turning to a depth of at least 100mm, roughly level the soil and then place mulch. Do not disturb major plant roots while aerating soil. It can be expected that mulch will have significantly broken-down after an estimated 12-month period following initial application. It is therefore, recommended that all mulch beds are topped-up with a 50mm layer of woodchip/leaf mulch (Compliant with AS 4454) at this stage. This should be accompanied by a topdressing application of a 9-month, slow release, low phosphorous fertilizer to ensure that semi-established plantings do not suffer as a result of potential nitrogen draw-down that may be associated with the application of the 50mm mulch layer at yearly period.
8	Hydroseeding		x		x		x	Remove weeds monthly that emerge in newly established hydroseeded/hydromulched areas.

								Reseed monthly over the course of the contract to maintain required densities. Water until germination, keep the surface damp and the topsoil moist but not waterlogged. After germination: Water to maintain a healthy condition, progressively hardened off to the ambient climatic conditions
9	Mowing and Topdressing			x	x	x		Summer fortnightly. Winter monthly. Top-dress 6 monthly.
10	Irrigation and Watering	x		x				Water when and where necessary every day at site and at least every 2 weeks generally. Do not allow soil and plants to dehydrate. Allow for prolonged rain, windy and dry periods. Water in the early morning or late afternoon to avoid excessive evaporation during the heat of the day.
11	Erosion Control Measures							Refer to the **Erosion and Sediment Control Plan** for erosion control measures.
12	Final Cleaning		x				x	Inspect and remove litter immediately upon observation. Leave no waste on site. Dispose of waste material at a designated waste disposal site. All herbaceous weeds should be managed to be at very-low percentage cover levels, (as a minimum), or better. Pasture grasses should be prevented from spreading into any bushland zones by applying a spot glyphosate herbicide spray application on the 1-metre wide buffer zone, on a monthly basis or as required. Maintenance weeding for a period of 12 months after the completion of primary works with an increase in maintenance hours occurring throughout the warmer growing months.

13	Urgent Works		x					Complete within 1 week (7 days) of notification. Inspect and clear drains as required.

* Key: D – Daily, W – Weekly, F – Fortnightly, M – Monthly, 3-6M – Quarterly or Half Yearly, Y – Yearly

6.2 MAINTENANCE PROCEDURE SCHEDULE

Maintenance Scope of Works

The Maintenance procedure schedule should be used as a check list of tasks when in attendance

Week	Spring (Sep, Oct, Nov)	Summer (Dec, Jan, Feb)	Autumn (Mar, April, May)	Winter (June, July, Aug)
1	Mow and trim lawns	Mow lawns, weed	Mow Lawns	Weed
2	Weed; trim and adjust trees and shrubs	Weed; mow lawns, trim and adjust trees and shrubs	Weed; mow lawns, trim and adjust trees and shrubs	Mow and trim lawns Trim and adjust trees and shrubs
3	Mow and fertilise lawns; treat plant material for insects and disease	Mow lawns; weed; treat plant material for insects and disease	Mow and trim lawn	Weed
4	Weed; topdress, condition lawns and oversow bare patches; issue logbook	Weed; mow and trim lawns; issue logbook	Weed; mow lawns; issue logbook	Mow lawns; issue logbook
5	Fertilise all trees and shrubs in garden beds; mow and trim lawns	Mow lawns; weed	Mow lawns	Mow lawns
6	Weed; inspect mulch for deficiencies in cover; check and adjust irrigation	Mow lawns; check and adjust irrigation	Weed; inspect mulch for deficiencies in cover; check and adjust irrigation	Mow and trim lawns; treat for insects and disease; check and adjust irrigation
7	Reinstate mulch as required; treat plant material for insects and disease; mow lawns	Mow lawns; weed	Reinstate mulch as required; mow, trim and fertilise lawns	Weed
8	Weed; inspect condition of paving and furniture; issue	Mow and trim lawns; inspect condition of paving &	Weed; inspect condition of paving and furniture; issue	Mow lawns; Inspect condition of paving and furniture; issue

	logbook	furniture; issue logbook	logbook	logbook
9	Mow and trim lawns	Mow lawns; treat plant material for insects and disease	Mow lawns	Weed
10	Weed; mow lawns	Mow and topdress lawns	Weed; treat plant material for insects and disease	Mow and trim lawns
11	Mow and fertilise lawns; trim and adjust trees and shrubs	Mow lawns; trim and adjust lawns; weed	Weed	Mow lawns; treat plant material for insects and disease
12	Weed; mow lawns; treat plant material for insects and disease	Mow, trim & fertilise lawns	Weed	Mow lawns; treat plant material for insects and disease
13	Check and adjust irrigation; mow lawns; issue logbook	Check and adjust irrigation; mow lawns; weed; issue logbook	Check and adjust irrigation; mow lawns; weed; issue logbook	Check and adjust irrigation; weed; issue logbook

6.3 IRRIGATION SCHEDULE

The following Irrigation Schedule is only applicable to the 'Defects Liability Period' and/or 'Establishment Period'.

Irrigation Maintenance Schedule

The Irrigation Maintenance Schedule should be used as a check list of minimum attendance

Task	Timeframe
Filters – Mainline	Monthly
Electrical Source Output (auto system)	Monthly
Controller (automatic system)	Monthly
Operation – Progression	Monthly
Activation of Valves	Monthly
Timing of Stations	Bi-Annually
Time and Day Readings	As Required
Exterior Appearance	Bi-Annually
Valve Operation	Bi-Annually
Open/Close Weeping	As Required
Sprinkler Operation	As Required
Rotaries – Clogged Nozzles	Bi-Monthly
Plant Obstructed Pattern	Bi-Monthly
Arc Coverage	Bi-Monthly

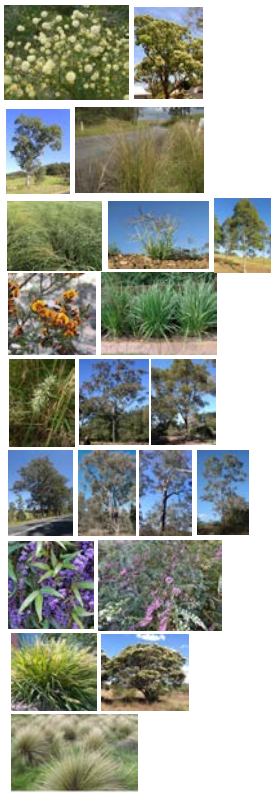
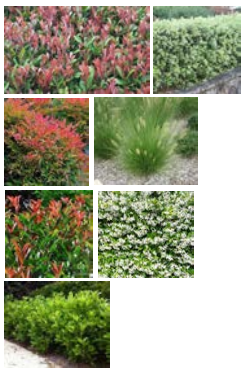
Radius Adjustment	Bi-Monthly
Pop-up Action	Bi-Monthly
Riser Seal Leaks	Bi-Monthly
Set to Grade	Bi-Monthly
Coverage Pressure	Bi-Monthly
Rotational Speed	Bi-Monthly
Clogged Screens	Bi-Monthly
Head Damage	Bi-Monthly
Piping	Bi-Monthly
Leaks – Broken of Cracked	As Needed
Poor Welding or Threading	As Needed
Connection	As Needed
Clogged Piping	As Needed
Irrigation Report	Bi-Monthly

6.4 PRUNING SCHEDULE

The contractor is to prune all plants or shrubs species as required to satisfy Goodman's presentation standard. Pruning should be carried out on a 'needs-basis' specific to each plant. Pruning should be carried out to encourage new growth that will result in a dense canopy density. No more than 30mm of new growth should be seen before pruning takes place. All plant pruning should be carried out using best horticultural techniques. No hedging of native grasses permitted at any time.

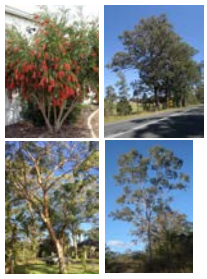
6.4.1 PRUNING SCHEDULE – OAKDALE WEST ESTATE (OWE)

Plant Mix	Shape/description	Critical issues	Pruning Frequency	Planting Palette
PM2	Native Screen Planting *Acacia decurrens* *Acacia implexa* *Aristida ramosa* *Cymbopogon refractus* *Dichelachne micrantha* *Eucalyptus crebra* *Eucalyptus moluccana* *Eucalyptus tereticornis* *Melaleuca decora* *Themeda triandra*	Native Grasses Drought tolerant, low water and fertiliser requirements. Shrubs/Groundcovers Drought tolerant, low water and fertiliser requirements. General Trees Plant in moist soils and ensure sufficient water when young	Native Grasses Remove spent flowers and any dieback. Only prune to maintain safe access. Shrubs/Groundcovers Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access. Trees Prune during flower dormancy and to encourage dense canopy	

Plant Mix	Shape/description	Critical issues	Pruning Frequency	Planting Palette
PM3A	Verge Planting *Gazania tomentosa* *Hibbertia scandens* *Trachelospermum jasminoides* *Trachelospermum jasminoides 'Tricolor'*	**Shrubs/Groundcovers** Drought tolerant, low water and fertiliser requirements.	**Shrubs/Groundcovers** Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access.	
PM4A	Mound Planting *Acacia falcata* *Angophora floribunda* *Angophora subvelutina* *Bothriochloa decipens* *Bursaria spinosa* *Chloris truncata* *Corymbia maculata* *Daviesia ulicifolia* *Dianella revolute* *Echinopogon caespitosus* *Eucalyptus crebra* *Eucalyptus eugenioides* *Eucalyptus fibrosa* *Eucalyptus moluccana* *Eucalyptus pilularis* *Eucalyptus tereticornis* *Hardenbergia violacea* *Indigofera australis* *Lomandra longifolia* *Melaleuca decora* *Poa labillardieri*	**Native Grasses** Drought tolerant, low water and fertiliser requirements. **Shrubs/Groundcovers** Drought tolerant, low water and fertiliser requirements. **General Trees** Plant in moist soils and ensure sufficient water when young	**Native Grasses** Remove spent flowers and any dieback. Only prune to maintain safe access. **Shrubs/Groundcovers** Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access. **Trees** Prune during flower dormancy and to encourage dense canopy	
PM4B	Shrub and Groundcover Planting *Acmena smithii 'Minor'* *Metrosideros thomasii* *Nandina domestica 'Gulf Stream'* *Pennisetum alopecuroides 'Nafray'* *Photinia x fraseri 'Red Robin'* *Trachelospermum jasminoides* *Viburnum odoratissimum*	**Native Grasses** Drought tolerant, low water and fertiliser requirements. **Shrubs/Groundcovers** Drought tolerant, low water and fertiliser requirements.	**Native Grasses** Remove spent flowers and any dieback. Only prune to maintain safe access. **Shrubs/Groundcovers** Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access.	

Plant Mix	Shape/description	Critical issues	Pruning Frequency	Planting Palette
PM5	Basin Planting *Carex appressa* *Dianella longifolia* *Imperata cylindrica* *Juncus usitatus* *Lomandra longifolia*	**Native Sedges/Grasses** Tolerates periods of water inundation. If pruning for safe access is required never prune more than 1/3 of leaf total length.	**Native Sedges** Remove spent flowers and any dieback. Only prune to maintain safe access.	
PM7A	Feature Planting *Doryanthes excelsa* *Lorapetalum chinense rubrum 'China Pink'*	**Shrubs/Groundcovers** Drought tolerant, low water and fertiliser requirements.	**Shrubs/Groundcovers** Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access.	

Revegetation Mix	Shape/description	Critical issues	Pruning Frequency	Planting Palette
RM1A & RM1B	Native Grasses and Groundcovers on Fill Embankment/Cut Batter *Aristida vagans* *Austrostipa ramosissima* *Chloris truncata* *Cymbopogon refractus* *Danthonia tenuior* *Dichelachne micrantha* *Entolasia stricta* *Eragrostis brownii* *Imperata cylindrica* *Poa labillardieri* *Themeda australis*	**Native Grasses** Drought tolerant, low water and fertiliser requirements. **Shrubs/Groundcovers** Drought tolerant, low water and fertiliser requirements.	**Native Grasses** Remove spent flowers and any dieback. Only prune to maintain safe access. **Shrubs/Groundcovers** Prune after flowering to remove spent flowers, encourage healthy growth and maintain safe access.	
RM3	Pasture Grasses *Cynodon dactylon (Royal Bengal Couch)*	**Annual / Perennial Grasses** Quick growing and soil stabilising species, ensure complete coverage of area and eradicate any competing undesirable species.	N/A	

Tree Mix	Shape/description	Critical issues	Pruning Frequency	Planting Palette
Tree Mix 1	Street Trees *Callistemon viminalis 'Hannah Ray'* *Eucalyptus fibrosa* *Eucalyptus puncata* *Eucalyptus tereticornis*	**Street Trees** Plant in moist but well drained soils with full or partial sun.	**Trees** Prune during flower dormancy, to encourage dense canopy and maintain safe access.	
Tree Mix 2	General Trees *Angophora floribunda* *Corymbia maculata* *Eucalyptus crebra* *Eucalyptus fibrosa* *Eucalyptus moluccana* *Eucalyptus tereticornis*	**General Trees** Plant in moist but well drained soils with full or partial sun.	**Trees** Prune during flower dormancy, to encourage dense canopy and maintain safe access.	
Tree Mix 3	Mound Trees *Angophra costata* *Eucalyptus amplifolia* *Eucalyptus crebra* *Eucalyptus fibrosa* *Eucalyptus moluccana* *Eucalyptus tereticornis*	**Mound Trees** Plant in moist but well drained soils with full or partial sun. Ensure sufficient water when young.	**Trees** Prune during flower dormancy, to encourage dense canopy and maintain safe access.	
Tree Mix 4	Feature Street Trees *Magnolia grandiflora 'Exmouth'* *Pyrus calleryana 'Bradford'*	**Feature Street Trees** Plant in moist soils and ensure sufficient water when young. Mulch in summer to retain high moisture levels and fertilise in spring to enhance floral display.	**Trees** Prune during flower dormancy, to encourage dense canopy and maintain safe access.	

6.5 CONTINGENCY MANAGEMENT PLAN

Contingency Management Plan – Oakdale West Estate

Key Element	Trigger/ Response	Condition Green	Condition Amber	Condition Red
Irrigation	**Trigger**	Irrigation system operating at optimum frequency.	Irrigation system yet to be installed.	Irrigation system fails.

Key Element	Trigger/ Response	Condition Green	Condition Amber	Condition Red
	Response	No response required. Continue to monitor.	Provide additional hand watering until system is installed.	Provide additional hand watering until system is repaired. The irrigation system must be fully functional at all times to ensure that all plants, trees and lawns receive adequate water at optimal frequency.
Plant Failure	Trigger	No significant plant failure is present. Monitoring verifies that there is <5% of plants failing.	Monitoring verifies there is plant failure at a rate between 5% -10%.	Monitoring verifies there is plant failure at a rate greater than 10%.
	Response	No response required. Continue to monitor.	If the cause of failure is due to a controllable situation then correct situation prior to replacing plants. All planting areas are to be free of grass and weed. Replace plants with one of similar size and quality and identical species. of variety of the ones failed.	If the cause of failure is due to a controllable situation then correct situation prior to replacing plants. All planting areas are to be free of grass and weed. Replace plants with one of similar size and quality and identical species. of variety of the ones failed.
Revegetation Failure	Trigger	Revegetation is growing to desired design surface levels	Monitoring verifies that weed emergence has occurred.	Monitoring verifies that weed emergence and plant failure has occurred.
	Response	No response required. Continue to monitor.	Refer to LMP for monitoring requirements once problem has been identified. Possible solutions include the removal of weeds as per Section 5.3.7 of this LMP.	Refer to LMP for monitoring requirements once problem has been identified. Possible solutions include removal of weeds and re-seeding of revegetation cover crop as per Section 5.3.7 of this LMP.

Key Element	Trigger/ Response	Condition Green	Condition Amber	Condition Red
Slope Failure	Trigger	No significant erosion is present that would constitute a safety hazard or compromise the capability of supporting the end land use. Monitoring verifies there are no gully or tunnel erosion features, or rill erosion >200mm deep.	Monitoring verifies there is gully or tunnel erosion features, or rill erosion 200mm deep.	Monitoring verifies there is gully or tunnel erosion features, or rill erosion > 200mm deep.
	Response	No response required. Continue to monitor.	A suitably trained person to inspect the site. Investigate opportunities to install water management infrastructure to address erosion. Remediate as appropriate.	Undertake a review of the drainage of the area and provide recommendations to appropriately remediate the erosion. Remediate as soon as practicable.

7 APPENDICES

7.1 REFERENCED LANDSCAPE DRAWINGS

7.2 REFERENCED LANDSCAPE SPECIFICATION

Quantity of Soil Additive

Plant Size	Quantity
"Viro-Tube"	Nil
"Forestry Tube"	20 grams
"Semi Advanced"	40 grams
"Advanced"	80 grams
"Super Advanced"	400 grams
"Semi Mature"	One kilogram

3.8 STAKES AND TIES

Stakes

Material: Hardwood, straight, free from knots or twists, pointed at one end.

Installation: Drive stakes into the ground at least one third of their length, avoiding damage to the root system.

Stake sizes:

- For plants ≥ 2.5 m high: Three 50 x 50 x 2400 mm stakes per plant.
- For plants 1 to 2.5 m high: Two 50 x 50 x 1800 mm stakes per plant.
- For plants < 1 m high: One 38 x 38 x 1200 mm stake per plant.

Ties

General: Provide ties fixed securely to the stakes, one tie at half the height of the main stem, others as necessary to stabilise the plant. Attach ties loosely so as not to restrict plant growth.

Tie types:

- For plants ≥ 2.5 m high: Two strands of 2.5 mm galvanized wire neatly twisted together, passed through reinforced rubber or plastic hose, and installed around stake and stem in a figure of eight pattern.
- For plants < 2.5 m high: 50 mm hessian webbing stapled to the stake.

Trunk protection

Collar guards: 200 mm length of 100 mm diameter agricultural pipe split lengthways.

3.9 SEED PREPARATION

Where site conditions are not suitable for the pre-treatment and mixing of native and grass seed, this work may be done off site in conditions conducive for this purpose.

HOLD POINT	
Process Held:	Use of seed pre-treated off site.
Submission Details:	At least 3 working days prior to delivery, submit the accompanying certificate showing the species, variety, weight and place of pre-treatment.
Release of Hold Point:	The Principal will consider the submitted documents and may inspect the seed prior to authorising the release of the Hold Point.

Pre-treatment to Assist Germination

Where hot water is the specified pre-treatment, place the seed in a calico bag together with camphor granules as an insect repellent at the rate of 50 g per 10 litres of water. Immerse the bag in hot water with temperature of around 90ºC for a minimum period of 60 minutes and then remove from the water, drain and allow to dry. When dry, mix the treated seed with the remaining seed and broadcast when conditions are suitable.

Seed that has been pre-treated must be used within five days of pre-treatment.

Where proprietary products are used to assist germination, use as recommended by the manufacturer.

Preparation for Hydromulching, Hydroseeding and Straw Mulching

Storage tanks, containers and equipment to be used in hydromulching, hydroseeding and straw mulching must be clean and free of contamination from previous operations.

Table– Application Rates for Materials

Material	Rate per Hectare
Hydromulching	
Water	35,000 litres
Organic fertiliser: pelletised poultry manure	250 kg
Seed	See Planting Schedule
Cellulose fibre mulch: – Sugar cane mulch, mixed with 20% (by weight) of shredded paper – Wood fibre mulch	 3,500 kg 2,500 kg
Binder: granulated 'Guar gum'	60 kg
Biodegradable green dye	As recommended
Hydroseeding	
Water	20,000 litres
Organic fertiliser: pelletised poultry manure	250 kg
Seed	See Planting Schedule
Biodegradable green dye	As recommended
Straw mulching	
Straw	5,000 kg
Binder – Undiluted residual bitumen emulsion – Granulated 'Guar gum'	 2,500 litres 100 kg

Produce hydromulch / hydroseed slurry mixtures by adding the specified materials into the tank and agitate until a homogenous blend is obtained.

Sowing Methods

Unless otherwise shown on the Drawings, sow areas with slopes of 5 to 1 or flatter, using one of the following methods:

- dry sowing
- for small areas only, by hand.

Unless otherwise shown on the Drawings, sow areas with slopes steeper than 5 to 1 in any direction, using one of the following methods:

- hydroseeding and straw mulching
- hydromulching
- for rock face batters, hydroseeding
- for small areas only, by hand.

Stepped batters must be topsoiled as described and hydroseeded or hydromulched.

WITNESS POINT	
Process Witnessed:	Sowing
Submission Details:	Notify the Principal, not less than 5 clear working days prior to the intended time of sowing, giving details of the area to be sown.

3.10 DRY SOWING

Undertake dry sowing using either:

- a tractor drawn seed drill to place seed at a depth of 5 mm
- a spreader followed immediately by a single pass with an unweighted diamond harrow.

Where practicable, tractor passes with the seed drill or harrow must follow finished surface contours. Distribute seed and fertiliser evenly over the areas to be sown at the rates specified. Apply fertiliser concurrently with the seeding operation.

Gauge the application rate of the seed mix to ensure an even distribution over the areas sown, in accordance with the nominated rates. Maintain records of measurements and calculations to determine actual distribution rates for each lot.

Hydromulching and Hydroseeding

Carry out hydromulching / hydroseeding within 2 days of completion of soil preparation or, if delayed by weather conditions, as soon as weather conditions permit.

Agitate continuously the slurry to maintain a uniform consistency during application.

The sprayed hydromulch layer within 48 hours of application must have a minimum thickness at any location of 5 mm when using sugar cane mulch (mixed with shredded paper), or 2 mm when using wood fibre.

Straw Mulching

The straw mulch must comprise the materials and application rates set out in Table R178.1.

Apply the straw mulch uniformly using a purpose-made blower unit. Incorporate the emulsion as a spray into the air stream of the mulch blower or apply it in a separate operation within 12 hours from the application of straw mulch.

The straw mulch layer within 48 hours of application must have a minimum thickness at any location of 25 mm.

Weather Conditions for Hydroseeding, Hydromulching and Straw Mulching

Do not apply hydroseeding, hydromulching and straw mulching:

- when winds exceed 15 km/hr
- when temperatures exceed 37°C
- where the surface is too wet
- during rain periods or when rain appears imminent.

Signposting

Supply and install information signs approximately 1,500 x 600 mm stating, "NATIVE PLANT REGENERATION AREA—PLEASE KEEP OFF", including the requisite posts, brackets and fittings, where shown on the Drawings or as directed by the Principal. Support each sign at a height of 1.5 metres on two 75 mm dia steel posts set in concrete 500 mm deep into the ground at a distance of 900 mm apart.

Property	A	B	C
	Refer detail 03-02-21		
Supplier	ANL Ph: 131458		

Refer to detail 03-02-21

4.54.6VEGETATION OF OPEN DRAINS

Preparation of Surface

Treat weed infestation without using herbicides.

Where shown on the Drawings or directed by the Principal, apply the following protective treatment immediately to all or part of the surface to be vegetated.

Lining with Organic Fibre Mesh (Jute)

Where shown on landscape drawings, lay the runs of the mesh along the direction of water flow.

Slot the upstream end of the mesh into a trench 150 mm wide by 150 mm deep and pin the mesh to the base of the trench at 200 mm centres. Backfill the trench with soil and compact by foot.

Lay the mesh taut and evenly over the soil surface without any air pockets but do not stretch it.

Overlap adjacent runs of mesh by 100 mm with the higher run lapped over the lower.

Pin the mesh along the sides of each run at 500 mm centres and along the middle of each run at 1 m centres.

End overlaps must be 150 mm wide with the higher run end lapped over the start of the lower and pinned at 200 mm centres.

Refer to detail 03-02-04 & 03-02-19

4.64.7TURFING FOR SLOPES AND OPEN DRAIN AREAS

Turfing for Slopes and Open Drain Areas

Place turf on slopes and open drain areas where shown on the Drawings or where directed by the Principal.

Keep the turf moist at all times during transport and site storage and lay it in its final position as early as possible after delivery. Turf must be laid within 24 hours of delivery.

Prepare the surface areas to be turfed to the desired grades and levels. Surface levels (before turfing) for areas adjacent to kerbs must finish 35mm below the top of kerb to allow for turf thickness.

Remove loose rock and any extraneous material from these areas.

For slopes with gradient 5 to 1 or flatter, lightly tyne the existing ground surface to a depth of 50mm and then install 25mm of topsoil to act as turf underlay. Rake the soil to provide an even surface for the turf.

Unroll the turf and lay them in parallel strips abutting at all ends and edges of the rolls. Spread additional topsoil to fill all joints and hollows, and where necessary, lightly roll the surface of the newly laid turf.

For open drains areas and slopes with gradients steeper than 5 to 1, tyning of the ground surface is not required. Butt runs of turf hard against each other and place the turf perpendicular to the direction of water flow. Pin turf into position at 500 mm centres.

Refer to detail 03-02-04 & 03-02-19

4.74.8COVER CROP

Cover Crop Schedule

Species	Application Rate (kg/ha)
Cynodon dactylon (Royal Bengal Couch) – or similar	350.0

~~Coolabah Oats~~	~~7.0~~
~~Eclipse Rye~~	~~16.0~~
~~Secale cereal 'Sterile' (Sterile Rye Corn)~~	~~3.0~~
Note: Include cover crop species in ALL revegetation mixes. ~~, modify mixes depending upon seasonal availability~~	
Sub-Total	~~29~~50.0

Regularly overspray the stockpiles to maintain a dense coverage of cover crop sufficient to minimise weed colonisation.

Where weed cover becomes greater than 5% of the stockpile surface, eradicate weeds and then re-seed disturbed areas with cover crop.

Seeding must not be applied between the months of May – August due to dormancy.

Refer to details 03-01-02, 03-01-03

~~4.8~~4.9 PLANT MATERIAL

Refer drawing L.CD.700

Refer to details 03-01-02, 03-01-03, 01-05-01, 03-02-01, 03-02-02, 03-02-03

~~4.9~~4.10 AREAS DISTURBED BY CONTRACTOR

Restore areas outside the limits of the Works which are disturbed by you (such as areas for compounds, material storage, access and haul roads) with vegetation in accordance with the requirements of this Specification.

7.3 GOODMAN MAINTENANCE GUIDELINES

Appendix 2 | Specification

system again to re-flush if blockages are apparent and re-seal tube ends

Commissioning

The entire system should be tuned and tested to deliver an adequate amount of water to all plants and turf. Test the system in the presence of the Landscape Architect and/or irrigation designer to facilitate the issue of a Certificate of Practical Completion.

Maintain the system for the duration of the establishment maintenance period as detailed elsewhere in the specification. Replace any faulty, broken or stolen components. Leave the system operating as if it was newly installed upon acceptance of the completed work.

Maintenance

General

Gardens, lawns and landscaped areas must be maintained to Goodman's presentation standard and condition at all times. Goodman places a heavy emphasis on a high standard of landscaping to support their market image.

Plants and shrubs should be cultivated to maintain optimal growth while individual plants that don't thrive should be replaced with healthy specimens. Plants and shrubs should be pruned appropriately to promote growth. Where necessary, all plants should be dead headed to maintain optimal appearance.

Weeds should be removed at all visits while measures should be taken to discourage weed growth. Weeds must be removed from all garden beds, fence lines and surrounding areas, all paved areas and walkways, construction joints and any entrance areas. All large weeds should be removed by hand, small weeds are to be sprayed with appropriate industrial strength weed killer with blue dye additive.

A prophylactic chemical weeding program should be implemented. Goodman Building Manager must be notified and approve any application of chemical weed treatment. The contractor must specify the type of chemical weed treatment product used, where it was used and quantity used. The contractor must submit a certificate or signed documentation received from chemical weed treatment supplier confirming application of chemical treatment to Goodman Landscape Manager. Spraying is to occur during non-office hours to reduce any health hazard for occupants of the commercial offices or industrial estates.

Every effort must be made to ensure that all plants are adequately watered at all times. When irrigation is not permitted, alternative methods of watering should be discussed with the Building Manager.

A proactive approach must be adopted to ensure that appearance of the landscape as a whole is highly presentable at all times. Recommendations on new plant or shrub specimen, landscape design, modifications etc should be made to Goodman Landscape Manager where opportunities exist to enhance the appearance of the landscape generally or in specific areas.

Contractors must submit annual routine landscape maintenance program to Goodman Landscape Manager within two weeks of contract commencement date.

Lawn care

Lawn areas, including nature strips must be neatly mown and edged weekly in the high season (summer months), fortnightly in the low season (winter months), or weekly if required due to abnormal weather condition. All clippings must be removed from the site.

All lawns must be fertilized once a year with an approved lawn fertilizer.

Tree shrub and plant care

All shrubs, hedges, ground covers and trees must be trimmed into shape as required to an acceptable Goodman presentation standard. Flowering plants/ shrubs should be pruned to promote optimal flowering at the appropriate times.

Excessive foliage impacting onto roads, paths, fencing and lighting must be pruned during all site visits.

Leaf litter and or all cuttings should be removed from all gardens and site each visit and disposed of at contractor's cost.

Any dead or dying plants/shrubs should be removed and replaced with same or comparable species. Goodman Landscape Manager must be consulted when large trees need to be removed and or replaced.

The contractor will maintain each plant in a healthy condition to increase the visual appeal of the gardens.

Appendix 2 | Specification

Remove faded leaves, fronds and flowers to encourage new growth.

The contractor will prune all plants or shrubs species as required and satisfy Goodman's presentation standard. Pruning should be carried out on a 'needs-basis' specific to each plant. Pruning should be carried out to encourage new growth that will result in a dense canopy density. No more than 30mm of new growth should be seen before pruning takes place. All plant pruning should be carried out using best horticultural techniques. No hedging of native grasses permitted at any time.

Replacement of any plant or shrub which may die, fail to thrive, or are damaged due to contractors negligence must be replaced by the contractor without cost to Goodman. The replacement plant or shrub must be of a similar size, quality and identical species or variety to the plant or shrub which has failed, unless otherwise directed by Goodman Landscape Manager

Where plants fail due to vandalism, or where plants are stolen, the cost of replacement of the plants will be met by Goodman.

Mulch

The contractor is required to maintain all areas of mulch cover within garden beds. Displaced mulch should be returned to the garden beds wherever possible. All area of mulch cover must be packed to a depth of 75mm. If replacement of mulch is required, the contractor must notify Goodman Landscape Manager and provide quotation for approval. Specific mulch must be approved by Goodman representative prior to installation.

Irrigation

The irrigation system must be fully functional at all times to ensure that all plants, trees and lawns receive adequate water at optimal frequency. The system should be tested during each site visit to ensure proper operation timing is set correctly. Adjustments must be made where necessary.

It is the contractors responsibility to submit a monthly report to Goodman which includes a comprehensive report on the operational function of the system.

Goodman Landscape Manager must be notified when the system is in need of major repair. The cost of major repairs to the system can be claimed as variation to the contract price and should be invoiced separately.

When water restrictions prevent the use of the irrigation system, arrangements must be made by the contractor to provide an alternative system of watering. Under no circumstances should plant stock be allowed to perish through lack of water.

Herbicide / pesticide application

Apply pesticide treatment to lawn areas to eliminate weeds/pests and diseases as soon as any attack is noticed. At any given time no more than 2% may be effected by weeds/pests and diseases. Spraying must occur during non-office hours to reduce any health hazard for occupants of the commercial offices or industrial estates. Do not use pesticides near streams, ditches, wetlands, or shorelines.

Rubbish

All rubbish generated by landscaping maintenance activities and from garden beds must be removed from the site at each visit and deposited at an approved waste collection depot at contractor's cost.

General rubbish accumulating within the driveways, car parks etc. will be removed by the landscape contractor on each weekly visit.

Fertilizing

Apply slow-release fertiliser in liquid form or in pellet form to all plants as required to maintain healthy growth conditions.

Fertilising of individual trees, individual palms, garden beds containing shrubs and groundcovers, and lawns should occur as required by individual species to maintain healthy growth conditions. All garden plants are to be fertilised in March and September of every year.

Seasol or other seaweed extract type fertilises and/or Dynamic Lifter or other organic fertiliser in pelletised form should be used. Do not use soluble fertilizers near streams, ditches, wetlands, or shorelines. Do not use blood and bone. All fertiliser is to be odourless.

Turf topdressing

The contractor is to review the condition of lawn areas to assess the need to provide topdressing. If topdressing is required, the contractor must report to Goodman Landscape Manager for approval. Premium topdressing mix must be 80% sand and 20% soil.

Appendix 2 | Specification

Repairs

Any repairs required to lawn areas should occur immediately following notification of the extent of works and approval to proceed by Goodman Landscape Manager.

Restaking

Where trees, palms, or shrubs require staking during plant establishment, the contractor will ensure that staking remains intact and rigid for its intended purpose. Staking that has failed must be repaired immediately to ensure no plant stress from winds.

Garden edging

The contractor is to review the condition of garden bed edging and ensure that no damage, sinking, or lifting has occurred. If any repair is required, contractor must notify Goodman Landscape Manager for approval. Contractor is to ensure that all garden edging is maintained in original condition.

Planters

The maintenance of any planter box (especially on-slab) requires careful attention to ensure that the waterproofing element is not affected. Any work done within planter box must be by hand. Neither machinery nor tools are to be used within any planter box that may cut and damage the waterproofing elements. The contractor will replenish soil nutrients and fertilisers in each planter box on a regular basis to ensure healthy continual growth of any plant species.

Letterboxes / directory boards

The contractor is to clean and wipe down directory boards and letter boxes at the entrance to the property and remove unwanted material (this is limited to a height accessible by ladder).

All hedges or shrubbery near directory boards must be kept trimmed, so that clear visual recognition by any emergency services can be ascertain the clear address of the site or direction to any part of the site.

Drains

All grated stormwater drains or strip drains in all car park levels and driveways zones must be inspected monthly and cleared of accumulation of debris, leaves and soil, so that there is no hindrance or impediment of their correct operation as stormwater drains.

All grated stormwater drains or strip drains in all gardens, lawn zones and pavement areas must be inspected weekly or after storms and maintained free of and accumulation of debris, leaves and soil, so that there is no hindrance or impediment of their correct operation as stormwater drains.

Any drains grate or section of strip drains that is rusted, faulty or may constitute a hazard to the site's tenants or visitors must be reported to Goodman Landscape Manager. Recommendation and replacement cost is to be submitted to Goodman Landscape Manager for approval.

Equipment

The contractor will supply all necessary equipment required to conduct landscape maintenance in the most efficient manner and with minimal interruption to tenants. All necessary equipment will be tested and tagged to comply with all relevant OH&S legislation and regulations.

Supervision / communication

Contractor is to appoint one point of contact (Supervisor/Operation Manager) to represent the contractor for the term of the agreement. The nominated point of contact should provide regular supervision to the on-site staff undertaking the works. Goodman anticipates that this supervisor should attend all sites as a minimum weekly to ensure presentation standards and workmanship is within required KPI's. The supervisor will also to attend site meetings with the relevant Goodman Landscape Manager to inspect the site and review any landscape maintenance issues and or variations each month.

A works report will be required to be filled out by the contractor and sent to Goodman, including relevant information regarding the following (Photos, Summary of works for period, works to be completed next month, safety issues, enhancement ideas, general issues). This report should be forwarded to Goodman on a monthly basis.

APPENDIX G

Bushfire Protection Assessment

UPDATED

BUSHFIRE PROTECTION ASSESSMENT

FOR THE OAKDALE WEST SSD 7348 MODIFICATION 3
AND THE
SSD 10397 STAGE 2 DEVELOPMENT APPLICATION

OAKDALE INDUSTRIAL ESTATE - WEST

ON LOT 11 in DP 1178389

KEMPS CREEK

FOR GOODMAN PROPERTY SERVICES (AUST) PTY LTD

Australian Bushfire Protection Planners Pty Limited

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Bushfire Mitigation Consultants

UPDATED

BUSHFIRE PROTECTION ASSESSMENT

FOR THE OAKDALE WEST SSD 7348 MODIFICATION 3

&

THE PROPOSED SSD 10397 STAGE 2 DEVELOPMENT APPLICATION

ON
LOT 11 in DP 1178389

KEMPS CREEK

FOR

GOODMAN PROPERTY SERVICES (AUST.) PTY LTD

Report Number	Document	Preparation Date	Issue Date	Directors Approval
B193412 - 7	Final	05.11.2019	13.01.2020	*G.L.Swain*

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BACKGROUND

Australian Bushfire Protection Planners Pty Limited, at the request of *Goodman Property Services (Australia) Pty Ltd,* undertook the bushfire consultancy to inform the State Significant Development Application (SSDA – Reference SSD 7348) for the staged development of the Oakdale West Estate (OWE) on the bushfire protection measures required for the development of the proposed Oakdale West Estate (OWE) on Lot 11 in DP 1178389 Kemps Creek, here-in known as the 'development site'.

The aim of the proposed OWE development is to integrate with the broader Oakdale Estate to create a high quality warehouse and logistics estate which maximises the employment generating potential of the land to create an efficient, attractive and high quality employment zone for Western Sydney.

SSDA 7348 for OWE incorporated a Master Plan to guide the staged development of the OWE and a Stage 1 Development Application.

Development Consent was issued under Section 4.38 of the *Environmental Planning & Assessment Act 1979* on the 13th September 2019 for a Concept Proposal including:

- Concept layout of 22 warehouse buildings providing 476,000 square metres of gross floor area and ancillary offices, built over five development stages;
- Concept layout of development lots, internal roads, drainage, landscaping and biodiversity offsets;
- Development controls.

A Stage 1 Development Application including:

- Bulk earthworks across all five stages including retaining walls and noise walls;
- Construction and operation of three warehouse buildings in Precinct 1 (1A, 1B and 1C);
- West-North-South Link Road and associated subdivision;
- Estate roads 1, 2, 6 and the eastern part of road 7;
- Service infrastructure to Precinct 1, including drainage, power, sewer, water and telecommunications;
- Landscaping of Stage 1, the western site boundary, West-North-South Link Road, estate roads 1, 2 .6 and the eastern part of road 7 and detention basins;
- Subdivision of Stage 1 lots and road infrastructure; and
- Stormwater drainage infrastructure for Lots 2A and 2B.

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B20 – Bushfire Protection of Schedule B – Conditions for the Concept Proposal requires the Applicant to ensure that the Development complies with:

a. The relevant provisions of *Planning for Bushfire Protection 2006;*

b. The construction standards and asset protection zone requirements recommended in the Oakdale Industrial Estate – West Bushfire Protection Assessment prepared by ABPP, dated September 2016; and

c. AS2419.1 – 2005 for fire-fighting water supply.

Goodman is seeking modification to the approved Concept Plan with a MOD 3 Application (SSD 7398 MOD 3) and approval for the Stage 2B Development Application being lodged with the Department of Planning, Industry & Environment (SSD 10397).

Chapter One of this report examines the proposed SSD 7348 MOD 3 layout for consistency with the bushfire protection requirements of B20 – Bushfire Protection of Schedule B – Conditions for the Concept Proposal.

Chapter Two of this report examines the compliance of the SSD 10397 Stage 2B Application with the relevant provisions of *Planning for Bushfire Protection 2006.*

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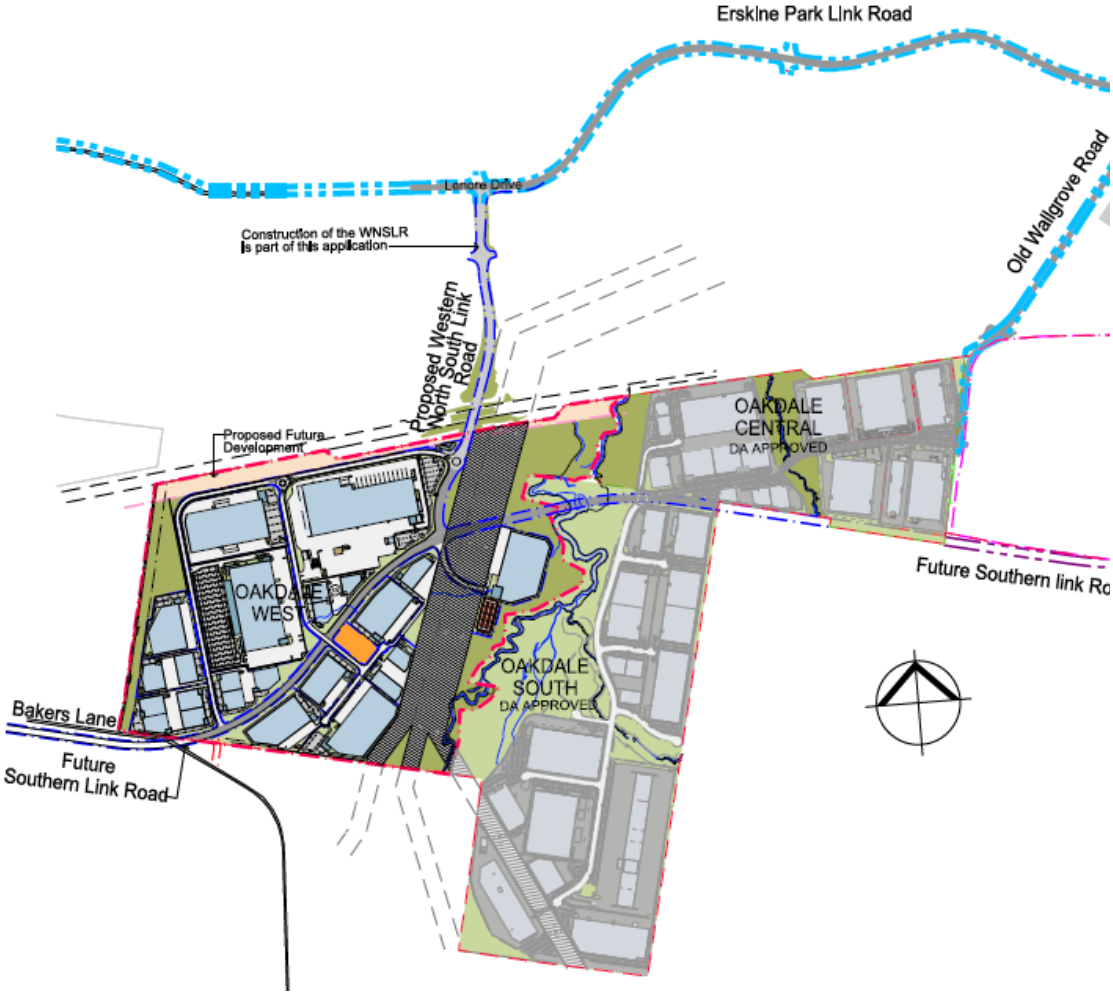
CHAPTER ONE – SSD 7348 MODIFICATION 3 APPLICATION

The site is known as Oakdale West and comprises the third stage of four stages within the broader 'Oakdale Estate' under the management of Goodman Property Services (Aust.) Pty Ltd Limited – refer to Figure 1 – Oakdale Estate.

Figure 1 – Oakdale Estate



The development site an irregular shaped parcel which is mainly located to the west of Ropes Creek. The development site is largely zoned IN1 – General Industrial under the WSEA SEPP but also includes large areas of land zoned E2 – Environmental Protection, associated with the Ropes Creek riparian corridor.

The Penrith Council Bushfire Prone Land Map indicates that the Kemps Creek corridor contains Category 1 Bushfire Prone Vegetation with Category 1 vegetation occupying the land to the south and west of the site. The vegetation within the site is mapped as Category 2 Bushfire Prone Vegetation.

Therefore, measures are required to be provided to minimise bushfire risk on the proposed development in accordance with the provisions of *Planning for Bushfire Protection 2006.*

Figure 2 on Page 6 provides a copy of the Bushfire Protection Measures Plan approved under the Concept Plan Approval. Figure 3 on Page 7 provides a copy of the bushfire protection measures proposed for the SSD 7348 MOD 3 layout.

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Figure 2 - Oakdale West Estate 2019 Approved Masterplan showing Defendable Space widths to the future buildings.

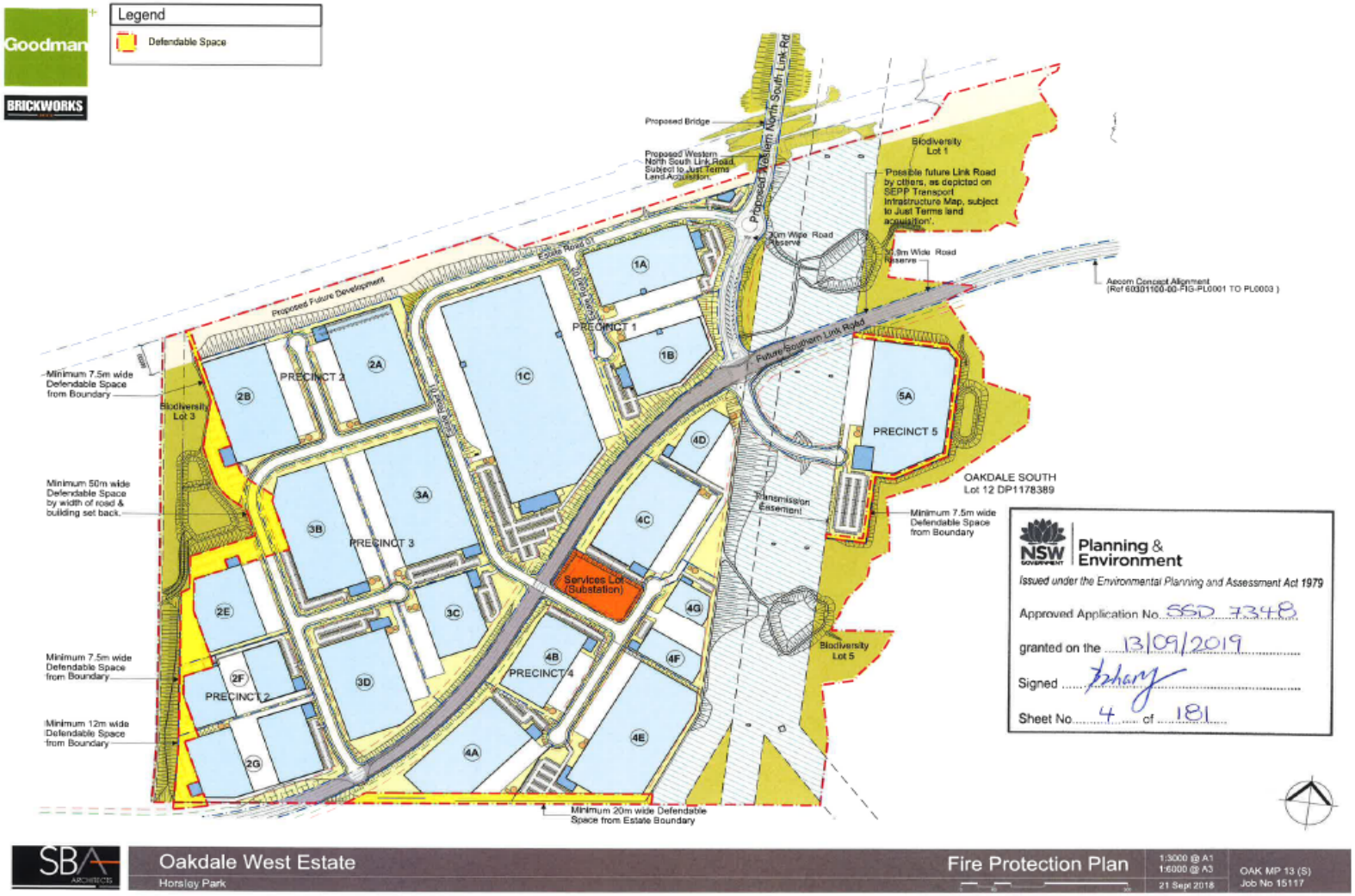

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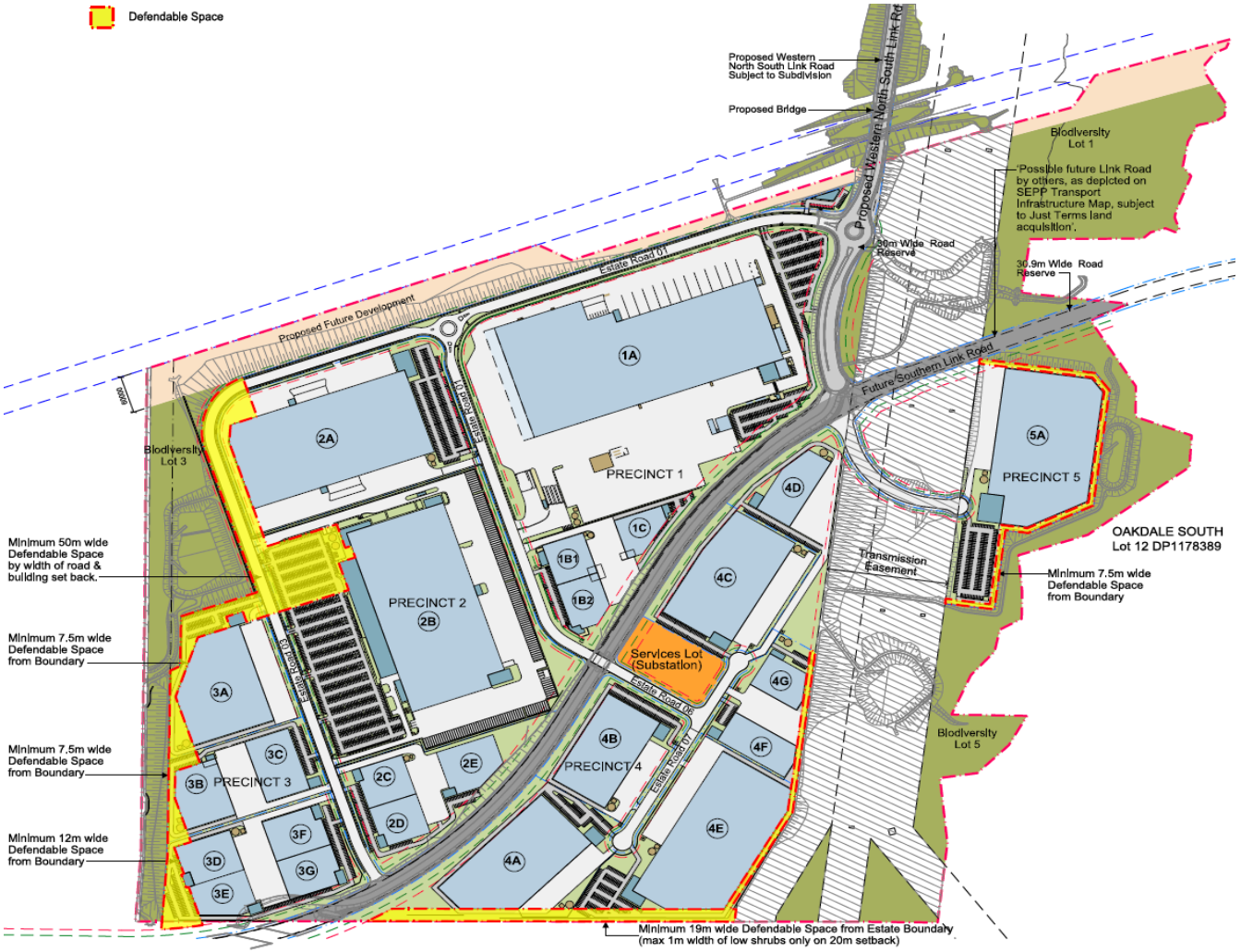
Figure 3 - Oakdale West Estate Masterplan SSD 7348 MOD 3 showing Defendable Space widths to the future buildings.



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I have reviewed the Oakdale West Estate Master Plan SSD 7348 Modification 3 and confirm that the bushfire protection measures are consistent with the measures provided in the approved Concept Plan and Consent Condition B20 – Bushfire Protection of Schedule B – Conditions for the Concept Proposal.

Graham Swain,
Managing Director,
Australian Bushfire Protection Planners Pty Limited
13.01.2020

Fire Protection Association Australia Member No: 48781

CHAPTER TWO – SSD 10397 STAGE 2 DEVELOPMENT APPLICATION

Australian Bushfire Protection Planners Pty Limited has been commissioned by *Goodman Property Services (Aust.) Pty Ltd* to prepare a Bushfire Protection Assessment that provides advice on the bushfire protection measures required for the construction of the proposed warehouse building 2B within the SDD 10397 Stage 2 Precinct on Lot 11 in DP 1178389 Kemps Creek.

Development Consent was issued under Section 4.38 of the *Environmental Planning & Assessment Act 1979* on the 13th September 2019 for a Concept Proposal and a Stage 1 Building Approval contained the following condition relating to the construction of buildings within Stage 1 of the estate.

B91 – Bushfire Protection of Schedule D – Conditions for the Stage 1 requires the Applicant to ensure that the Development complies with:

a. The relevant provisions of *Planning for Bushfire Protection 2006;*

b. The construction standards and asset protection zone requirements recommended in the Oakdale Industrial Estate – West Bushfire Protection Assessment prepared by ABPP, dated September 2016; and

c. AS2419.1 – 2005 for fire-fighting water supply.

In recognition that this condition will prevail over the SSD 10397 Stage 2 Precinct I have reviewed the Stage 2 layout against the relevant provisions of *Planning for Bushfire Protection 2006* and construction standards and asset protection zone requirements recommended in the Oakdale Industrial Estate – West Bushfire Protection Assessment prepared by ABPP, dated September 2016, and confirm:

1. The location of Building 2B within the Stage 2 Precinct exceeds the width determined in Table 2 of the ABPP report.

   This width removes the chance of flame contact on the building - therefore satisfying Section 4.3.6(f) of *Planning for Bushfire Protection 2006.*

2. The management of the defendable space shall be in accordance with Strategy 2 of the ABPP report;

3. In accordance with Strategy 3 of the ABPP report the fire-fighting water supply to the proposed building shall comply with the Building Code of Australian (BCA) and Australian Standard A.S. 2419.1 – 2005.

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4. In accordance with Strategy 4 – Table 4, Building 2B shall be constructed to comply with Section 3 and Section 5 (BAL 12.5) of A.S. 3959 – 2009 – *'Construction of Buildings in Bushfire Prone Areas'* and the following additional construction standards shall apply:

   - The downpipe/stormwater system to the internal box gutters shall be sized to provide a self flushing of combustible materials from the roof/gutter. This shall include increased fall in the box gutters to the sumps;

   - Any operable windows shall be fitted with aluminium/stainless steel mesh flyscreens having a maximum mesh aperture size of 2mm;

   - Access doors (PA and Vehicle) to the building shall be fitted with seals that seal the bottom, stiles and head of the door against the opening/frame to prevent the entry of embers into the building. Particular attention shall be given to the gap at the head of the curtain of the roller doors, where mohair type seals can be used;

   - External timber doors shall be fitted with a stainless steel/Colorbond kick plate of 400mm high on the outside of the door;

   - External glazed doors and windows shall comply with the requirements for glazing less than 400mm above finished ground level; paths / pavement and elevated roofs;

   - Any external vents, grilles and ventilation louvres shall have stainless steel mesh with a maximum aperture of 2mm square fitted to prevent the entry of embers into the building or be fitted with a louvre system which can be closed in order to maintain a maximum aperture or gap of no more than 2mm.

   - Roof ventilators shall be fitted with stainless steel flymesh (2mm aperture) to prevent the entry of embers into the building or be fitted with a louvre system which can be closed in order to maintain a maximum aperture or gap of no more than 2mm.

5. In accordance with Strategy 4 of the ABPP report there shall be prepared for Building B2 a Bushfire Evacuation & Emergency Plan (BEEP).

6. In accordance with Strategy 5 of the ABPP report access to the bushfire prone vegetation shall be provided either by a perimeter road or by vehicular access to the building or parking areas that are incorporated into the defendable space setbacks.

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The access provisions shall satisfy the NSW Rural Fire Service and Fire & Rescue NSW appliance requirements.

Figure 4 on Page 12 is a plan of the Stage 2 Precinct showing the location and extent of the Defendable Space provided to the west of Building 2B.

Figure 5 on Page 13 is the Site Plan for the proposed Warehouse Building on site 2B within the Stage 2 Precinct.

Graham Swain
Managing Director,
Australian Bushfire Protection Planners Pty Limited.
13.01.2020

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Figure 4 – Plan of the Stage 2 Precinct showing the location and extent of the defendable space to the west of SSD 10397 Stage 2 Building 2B.

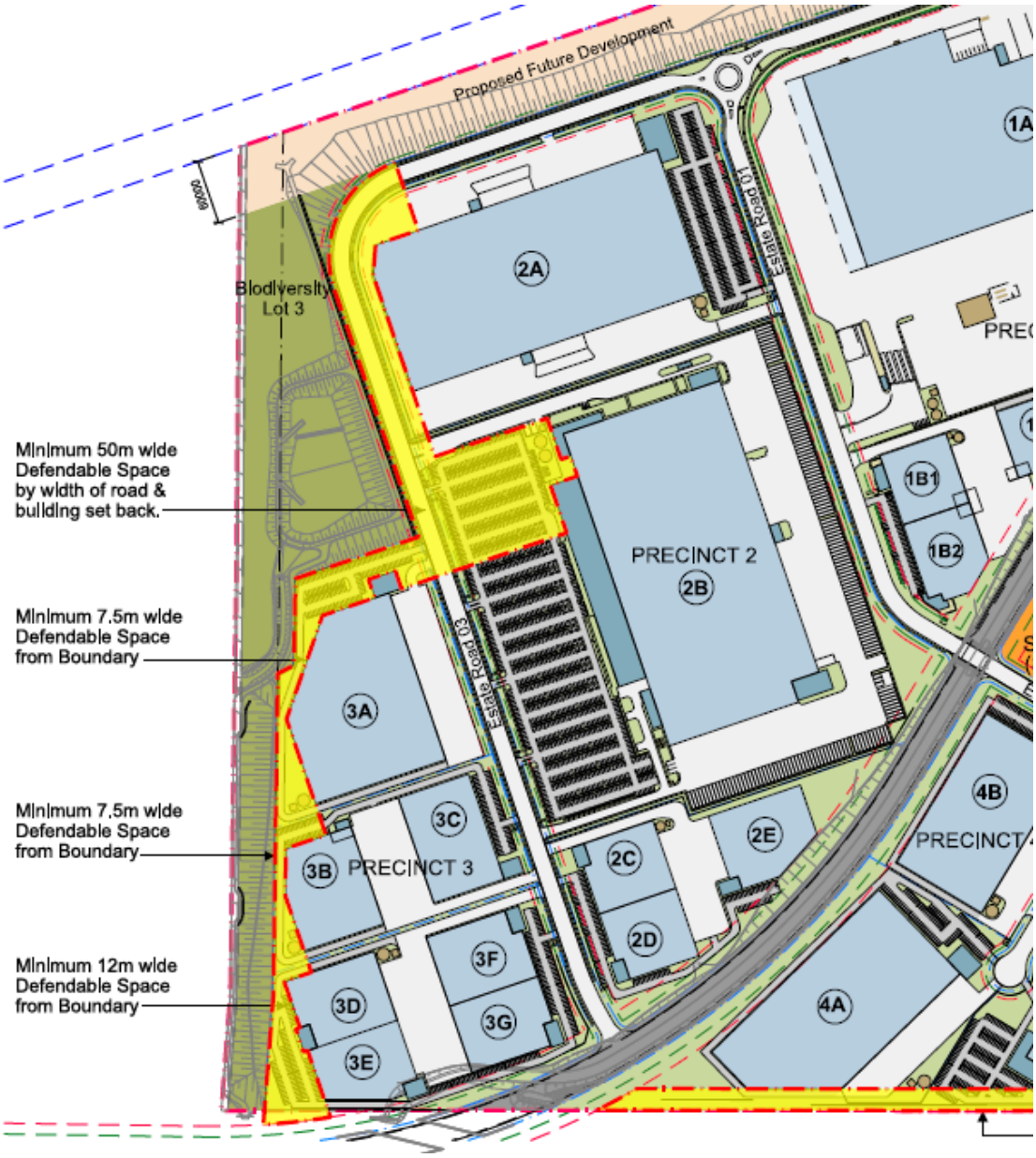

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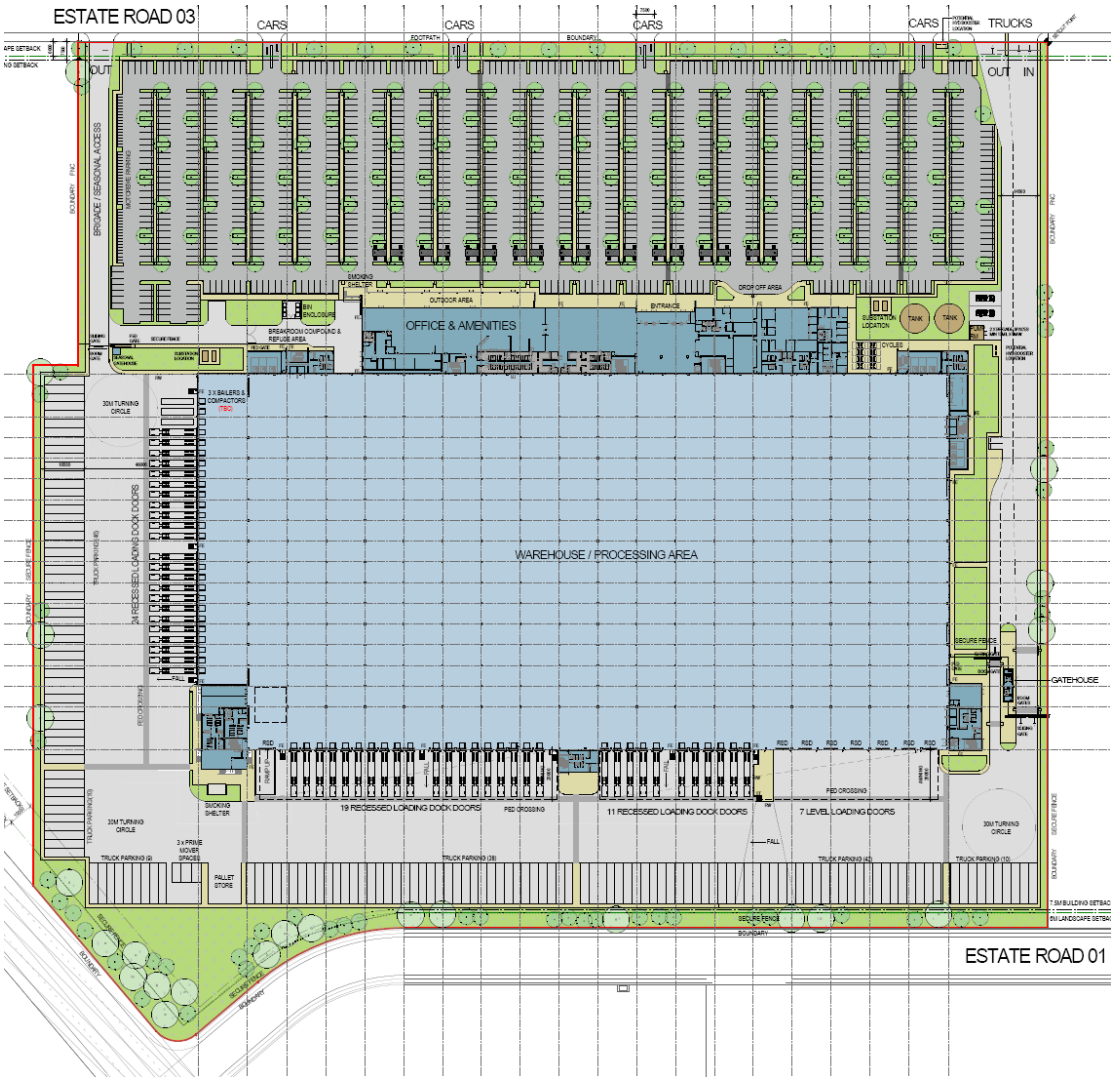
Figure 5 – Site Plan for the proposed Warehouse Building on Site 2B within the Stage 2 Precinct of the Oakdale West Estate.



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APPENDIX H

Sustainability Management Plan

global environmental solutions

Sustainability Management Plan

Oakdale West Estate

Stage 2 MOD 3

Report Number: 610.19170 R2

13 January 2020

Goodman Property Services

Level 17

60 Castlereagh Street

Sydney NSW

Version: v1.1

Sustainability Management Plan

Oakdale West Estate

Stage 2 MOD 3

PREPARED BY:

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DOCUMENT CONTROL

Reference	Status	Date	Prepared	Checked	Authorised
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610.19170-R2	V1.0	12 December 2019	Dr. Hamidul Islam Horatio Cai	Dr. Neihad Al-Khalidy	Dr. Neihad Al-Khalidy

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APPENDIX A: LIGHTING CALCUATION

APPENDIX B: WATER CALCUATION

1 INTRODUCTION

SLR Consulting Australia Pty Ltd (SLR Consulting) has been commissioned by Goodman Property Services to prepare a Sustainability Management Plan (SMP) for the site preparation, construction and operational activities of Modification 3 (MOD 3) and the Stage 2 development of Oakdale West industrial Estate (the Project).

The SMP has been undertaken in accordance with the Secretary's Environmental Assessment Requirements (SEARs) for the State Significant Development (SSD 10397 and SSD 7348 MOD 3) application.

2 OBJECTIVES

The principal objective of this Sustainability Management Plan is to identify all potential energy savings that may be realised during the operational phase of the Project, including a description of likely energy consumption levels and options for alternative energy sources such as solar power in accordance with Penrith City Council (Council) requirements.

The specific objectives of this plan are as follows:

- To encourage energy use minimisation through the implementation of energy efficiency measures.
- To promote improved environmental outcomes through energy management.
- To ensure the appropriate management of high energy consumption aspects of the Project.
- To identify energy savings procedures for overall cost reduction, greenhouse gas emission reduction and effective energy management.
- To assist in ensuring that any environmental impacts during the operational life of the development comply with Council's development consent conditions and other relevant regulatory authorities.
- To ensure the long term sustainability of resource use through more efficient and cost effective energy use practices for the life of the development.

3 SUSTAINABILITY MANAGEMENT GUIDELINES AND LEGISLATION

3.1 Building Code of Australia

The Building Code of Australia (BCA) is produced and maintained by the Australian Building Codes Board (ABCB) on behalf of the Australian Government with the aim of achieving nationally consistent, minimum necessary standards of relevant health and safety, amenity and sustainability objectives efficiently. The BCA contains mandatory technical provisions for the design and construction of BCA class buildings.

Volume 1, Section J of the BCA (2016) outlines energy efficiency provisions required for BCA class buildings (including Class 7b Warehouses and Class 5 Offices). There are eight (8) Deemed-to-Satisfy subsections, J1 to J8, that focus on separate aspects of energy efficiency as follows:

- J1 - Building Fabric (i.e. the ability of the roof, walls and floor to resist heat transfer).
- J2 - External Glazing (i.e. the resistance to heat flow and solar radiation of the glazing).
- J3 - Building Sealing (i.e. how well parts of a building are sealed to ensure comfortable indoor environments are efficiently maintained).
- J4 - Air Movement (i.e. the provision of air movement for free cooling, in terms of opening and breeze paths).

  Note: This subsection has been removed from the most current version.
- J5 - Air Conditioning and Ventilation Systems (i.e. the efficiency and energy saving features of heating, ventilation and air-conditioning systems).
- J6 - Artificial Lighting and Power (i.e. power allowances for lighting and electric power saving features)
- J7 - Hot Water Supply (i.e. the efficiency and energy saving features of hot water supply)
- J8 - Access for Maintenance (i.e. access to certain energy efficiency equipment for maintenance purposes)

3.2 Secretary's Environmental Assessment Requirements (SEARs)

The SEARs of the Oakdale Site states:

- ***Greenhouse Gas and Energy Efficiency*** *– including an assessment of the energy use on-site, and demonstrate the measures to be implemented to ensure the proposal is energy efficient.*

4 PROJECT DESCROPTION

Goodman Property Services (Aust) Pty Ltd is developing the Oakdale West site at Lot 11 in DP 1178389 in Erskine Park. This site is primarily a greenfield site and will be comprised of industrial warehouses and office precincts, including internal roads, car parking spaces and hardstand.

The Oakdale West site is a precinct within the wider Oakdale Estate development and forms part of a progressive development designed to make Oakdale a regional distribution park of warehouses, office facilities and distribution centres.

The project is a staged development which includes bulk earthworks, civil works and the construction of infrastructure and stormwater management.

The site has received a Concept and Stage 1 consent for implementation of the masterplan. Modifications 1 and 2 to that consent are currently under assessment by NSW Department of Planning, Infrastructure and Environment (DPIE).

The works for the proposed Stage 2 SSDA requires an alteration to the existing masterplan, identified as MOD 3. Under MOD 3, Stage 2 will relate to the development of building 2B.

4.1 Overview of Proposed Development

The overall Oakdale West Estate is a 154 hectare (ha) site located within the Oakdale Estate, a 421 ha area of land within the Western Sydney Employment Area. Oakdale West Estate is the third of four stages of the broader Oakdale Estate under the management of Goodman Limited.

Oakdale West is essentially a Greenfield site at present which has been used for stock grazing. The surrounding areas are primarily rural in nature, but, the area to the north is becoming more industrial. Land uses in the surrounding area include:

- Rural (grazing, market gardens, etc) and rural residential to the south-east, south and west.
- Sydney Water Pipeline and industrial land to the north (industrial zones at Eastern Creek to the north and Erskine Park to the north-west).
- To the west land uses include a number of sensitive uses such as an aged care facility (Catholic Health Care) and three schools: Mamre Anglican School, Emmanual Catholic College and Trinity Primary School. Other land uses include recreational and sporting facilities.

Oakdale West Estate will be developed in stages with the stage 2B including:

- A four-storey warehouse building;
- An ancillary office;
- A mezzanine;
- The amenities required for site operation including Estate Road 03, fencing, utilities, safety and communications infrastructure, and
- Truck and car parking areas and associated site hardstand.

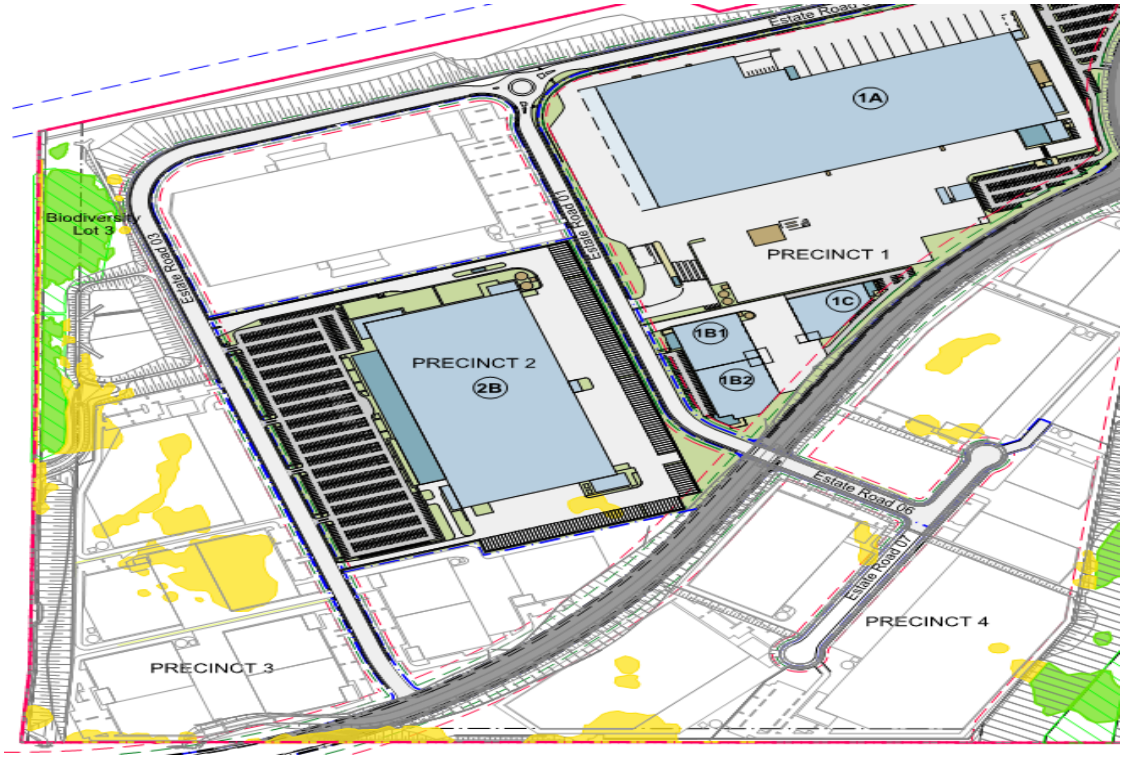
The Stage 2 has a site area of 149,266 m2 and a GLA area of 200,668 m^2. Building areas and development schedule are outlined in Table 1:

Table 1 Outlined Areas

Site	Unit and Area
Site Area	149,266 m^2
Ground Level - Processing	50,873 m^2
Ground Level – Mezzanine	6,300
Level 1 to Level 3	48,101 m^2 per level
Office	5,492 m^2
Hardstand Pavement	40,626 m^2
Light duty pavement	30,197 m^2
Truck parking	135
Double swap spaces	20
Shunter parking	3
Car parking	1127

The stage 2 development is shown in **Figure 2** to **Figure 4**.

Figure 1 Overview of the Oakdale West Estate showing Precinct 2 Development Area



Source: SBA Architects (2019)

Figure 2 Oakdale West Estate, Stage 2 Development

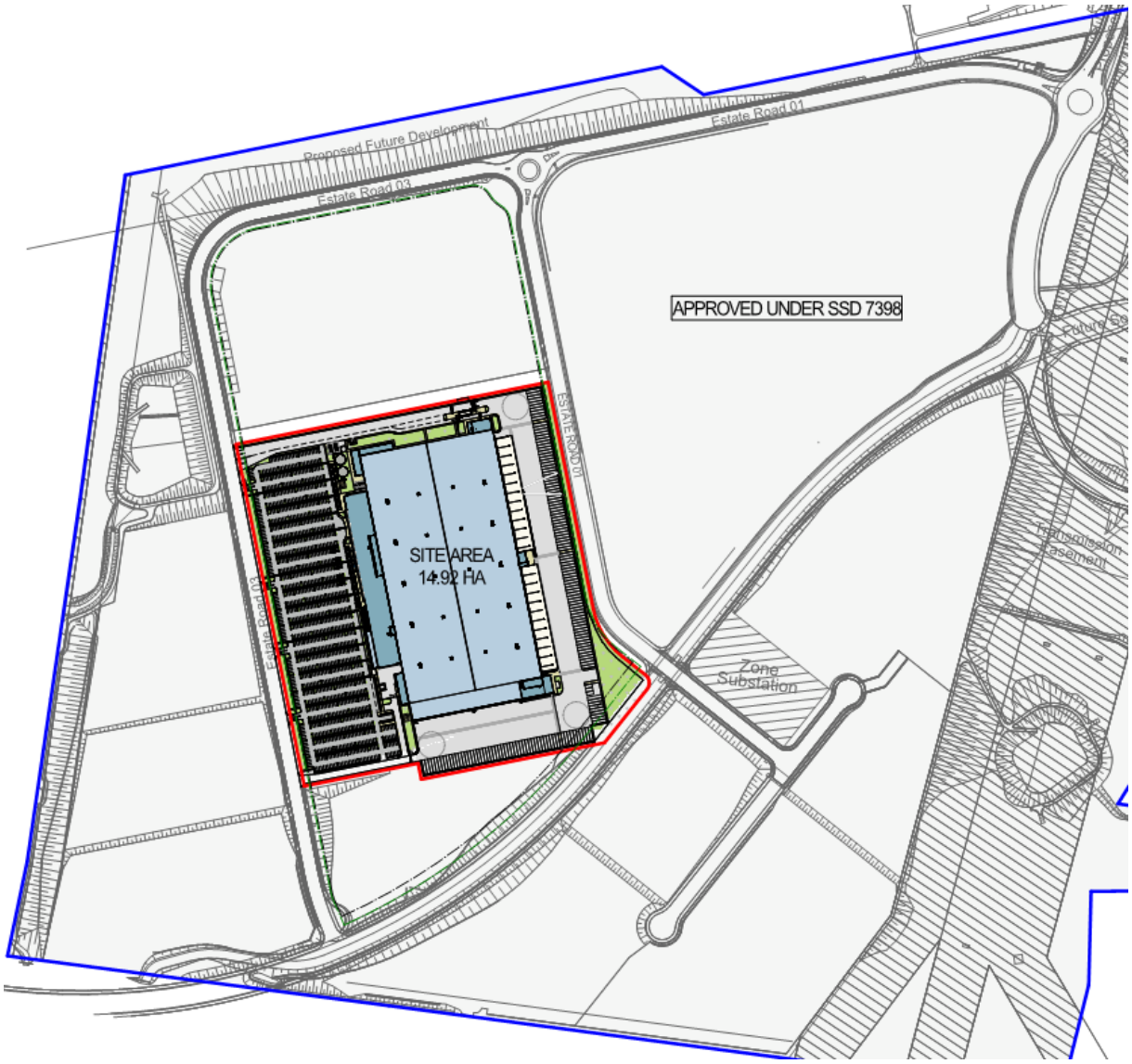


Figure 3 Oakdale West Estate, 3D Image of Stage 2B

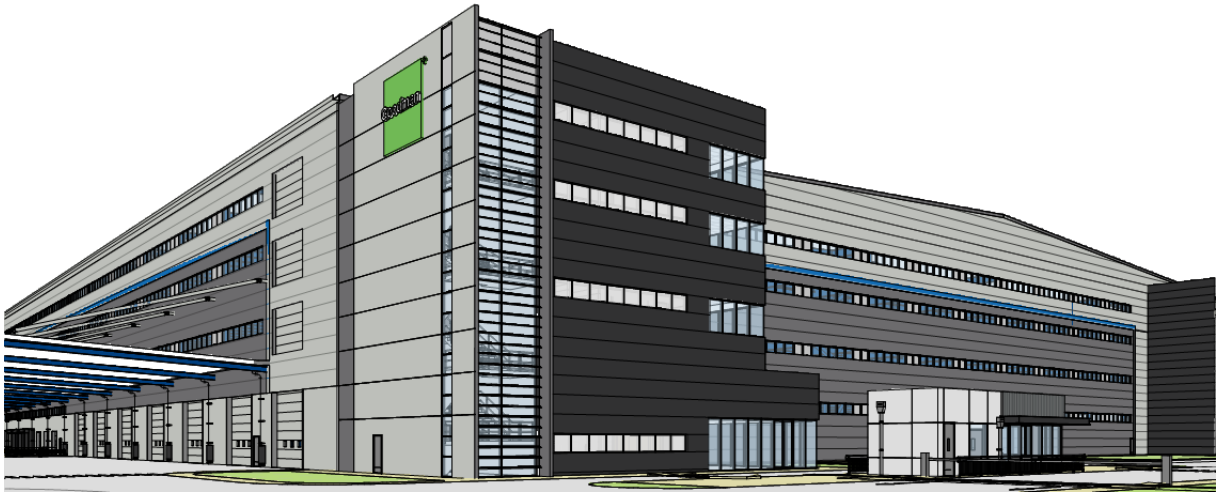
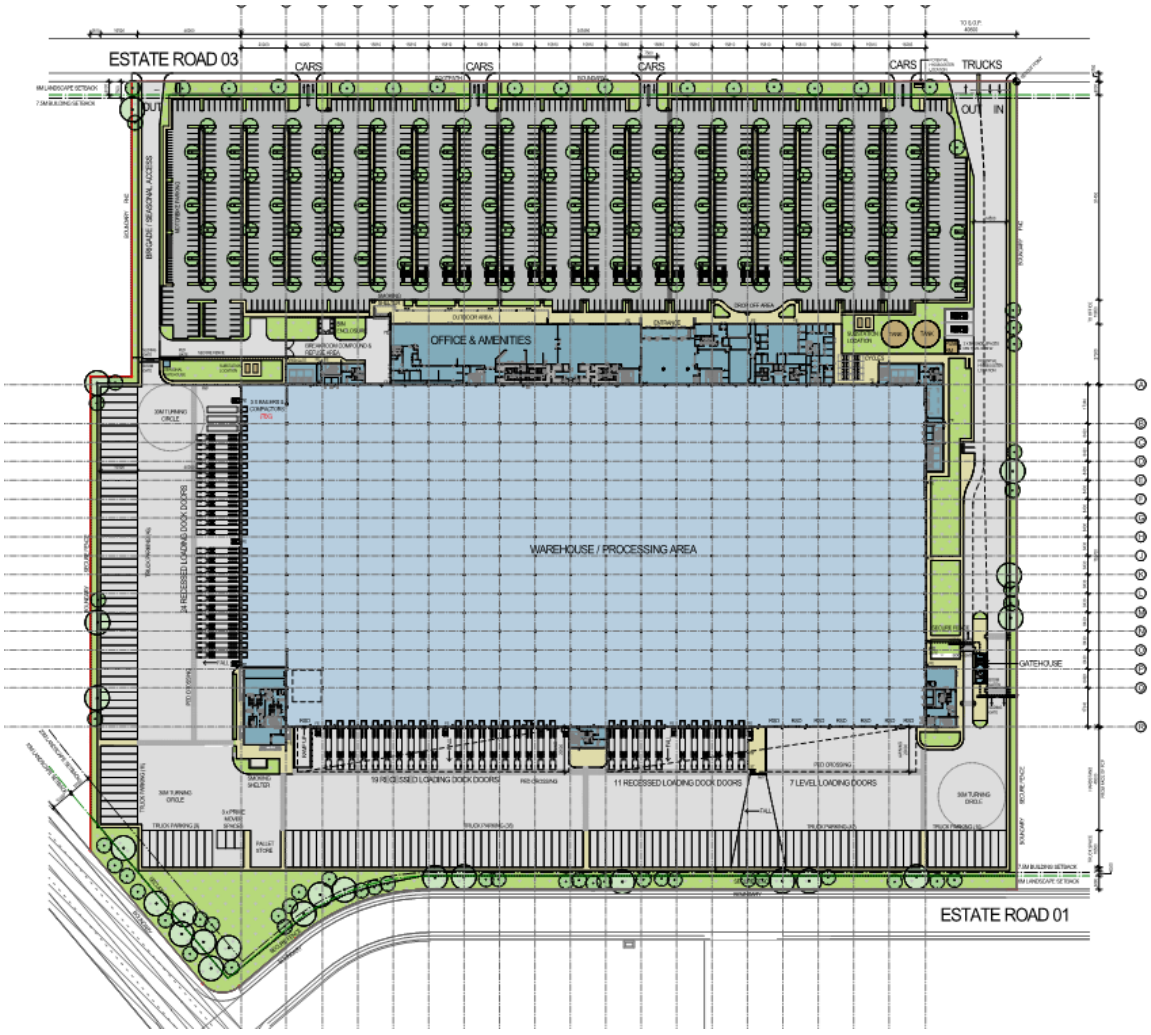


Figure 4 Site Plan - Warehouse and office & Amenities



5 OPERATIONAL ENERGY MANAGEMENT

Ineffective energy management for industrial and commercial premises can lead to unnecessary growth in greenhouse gas emissions and consumption of natural resources. Effective energy management reduces costs through the use of energy efficiency measures and improves environmental outcomes locally, regionally and globally.

Effective energy management is achieved through the implementation of a Sustainability Management Plan (SMP) for the operational life of the Project.

5.1 Identified Major Energy Use Components

Major energy use components of the Project Site have been identified below based on information available within the Project Design Brief.

- Lighting (include natural and artificial lighting and shading).
- Air Conditioning.
- Power.

5.2 Energy Sources

The main source of energy for the proposed site is electricity, but it is also proposed to have gas available at the site as required.

6 PROPOSED SUSTAINABLE MEASURES

The following Sustainability Management Plan (SMP) and Energy Efficiency measures are recommended based on the following project documentation:

Document Type	Document Number	Issue Date
Architectural Drawings	OAK MP 01-14	29/11/2019
Architectural Drawings	DA000 to 002	10/01/2020
Architectural Drawings	DA100 to 102	10/01/2020
Architectural Drawings	DA200 to 204	10/01/2020
Architectural Drawings	DA210 to 214	10/01/2020
Architectural Drawings	DA300, 400 & 410	10/01/2020
Performance Package AR Sortable Design Criteria v20.1.1	V201.1.1	October 2019

Table 2 Summary of Assessment

Objective	Proposed Target	Proposed Strategy	Project Implementation	Comments
Design and Management • Documentation of design intent and expected outcomes. • Appropriate commissioning.	• Communicate sustainability initiatives and operation to building users. • Commissioning and building tuning required by contractors and reviewed for 12 months after completion.	• Provision of Building Users Guide. • Investigate costs and viability of commissioning and building tuning requirements and appointing an independent commissioning agent. • Independent consultant to perform quarterly tuning of fire, mechanical, electrical and hydraulic services.	✓ ✓ ✓	SLR recommends the preparation of a Building User Guide that enables building users to optimise the building's environmental performance. A sub-contractor will be engaged to maintain the facility in accordance with the operations and maintenance manuals during the 12 month defects liability period.
Façade Performance • Optimised façade performance.	• Achieve minimum performance requirements under NCC Section J1 and J2. • Reduce heat gain through the warehouse façade.	• Meet or exceed NCC Section J1 and J2 façade performance for conditioned spaces. • Light coloured roofing with high reflectivity and appropriate insulation to reduce solar heat gain into the warehouse. • Daylight: evenly spaced translucent roof sheeting to warehouses areas. • Performance glazing in office spaces appropriate to the window size and orientation.	✓ ✓ ✓ ✓	• NCC Section J report needs to be prepared by a qualified ESD consultant. • This warehouse will comply with all the requirements specified within the report during construction stage. • Colourbond roof sheeting which has a higher solar reflectivity is proposed; • As per project NCC Section J report.

Objective	Proposed Target	Proposed Strategy	Project Implementation	Comments
Social sustainability • Consider design with due regard to occupant satisfaction in accessibility, usability, Indoor air quality and public space utility.	• High level of occupant satisfaction. • Provide external as well as internal comfort.	• Flexibility of space for potential future configurations.	✓	The design will incorporate open plan workspaces, offices, client rooms, meeting rooms, lunch room and outdoor seating area
		• Use of Low VOC paints, carpets and sealants.	✓	Low VOC paints, carpet and sealant will be used
		• Consider using dense planting to screen the outdoor areas from the docks to increase visual amenity.	✓	Selection of endemic and low maintenance landscaping species
		• Consider occupant user control eg A/C systems, glare reducing strategies, lighting etc.	✓	Both AC and lighting control is provided to offices and warehouses.

Objective	Proposed Target	Proposed Strategy	Project Implementation	Comments
Minimising Transport Impact • Consider location with links to public transport and employee services. • Consider location to reduce operational transport. • Consider the impact of industrial trucks on local traffic.	• Reward drivers of fuel efficient vehicles by providing spaces for small cars and or motorbikes. • Provide alternatives to single-occupancy vehicles. • Reduce operational fuel consumption through close proximity to major arterial roads. • Reduce the impact of operational traffic on local communities.	• Consider providing 10% of total parking spaces for small cars and 5% for motorbikes situated near the office entrance. • The site is located within close proximity (<5km) to both the M7 and M4 motorways. • The roads linking the site to the motorways are predominantly used for industrial traffic, as such the traffic is unlikely to impact on local areas.	✓ ✓ ✓	54 Motorcycle Parking Spaces are provided. Refer Architectural Drawings Due to the location of the site, it is considered that staff bicycle riding will be unlikely, although if staff surveys indicate a preference for cycling, consider appropriate amenities. Car park numbers and provision for disabled parking are provided be in accordance with Consent Authority requirements.

Objective	Proposed Target	Proposed Strategy	Project Implementation	Comments
Optimising IEQ • Optimise natural light to work environment. • Optimise fresh air ventilation. • Consider Thermal Comfort of occupants. • Consideration of noise transference in space planning. • Minimise use of materials that emit volatile organic compounds. • Create a pleasant working environment.	• Daylight: Daylight Factor (DF) of at least 2% at finished floor level under a uniform sky for at least 60% of the GLA. • Thermal comfort: 95% of office areas have PMV levels between -1 and +1 for 98% of the year; Warehouse spaces include passive thermal comfort strategies. • Finishes: 95% of all paints, adhesives & sealants and all carpet and flooring to be low-VOC finishes; use low-formaldehyde wood products. • Electric lighting levels: 95% of GLA has a lighting system that is flicker free and has a maintained illuminance of no more than 25% above those recommended in AS1680.2.4, 2.1 and 0.1. • Reduce visual glare.	• Daylight: rationalised glazing to offices; high performance glass. • Thermal comfort: Office envelope and HVAC system designed to meet thermal comfort requirements; • Provide sufficient roof and wall insulation to the air conditioned spaces; • Finishes: Specify and track correct finishes and wood products. • Provide pleasant indoor and outdoor breakout spaces with sufficient daylight and plants. • Lighting: Good light fixtures and well-designed layout. • Ventilation: Consider increased fan and duct sizing. • Provide sufficient shading and blinds with rationalised glazing for visual and thermal comfort.	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	High performance glazing to all air-conditioned areas will be considered to satisfy NCC Section J requirements Refer Section 6.3.1 of this report for proposed set up temperatures Roof and External Wall insulation as per the NCC requirements LED lighting and lighting controls to warehouse and offices. Adequate ventilation will be supplied in accordance with AS1668. Shown on the Architectural Drawings

Objective	Proposed Target	Proposed Strategy	Project Implementation	Comments
Minimising Energy Use • Consider passive design to minimise energy use such as orientation, ventilation, shading and floor plate design. • Appropriate sizing of plant and equipment in heating and cooling, lighting, control systems, • Building management systems and renewable energy sources. • Reduce reliance on connection to grid electricity and gas.	• Target a 20% reduction in Greenhouse gas emissions. • Energy sub-metering for all major uses greater than 100kVa; linked to monitoring system. • High efficiency warehouse lighting and controls. • Reduce energy for water heating. • Integrated building management. • Consider renewable energy generation for a portion of energy consumption and/or consider future-proofing the building for future installation. • Reduce urban heat island effect and heat load through the roof by providing a highly reflective roof. • Reduce office equipment load from 20W/m² to 15W/m². • Optimise insulation for energy and thermal comfort.	• Roof Insulation, External Wall Insulations, Reduced Glazing area and associated heat loss in winter. • Air conditioned to warehouse spaces. • Consider office air conditioning temperature set-points for an increased comfort band. • Provide energy efficient T5 lighting, with zoning and automatic controls where reasonable. • Consider LED lighting strategies and advanced controls. • Consider a solar hot water system with gas boost • Sub-metering: install appropriate metering; develop metering and tracking strategy to allow for self-assessment, problem solving and ongoing improvements during operations • Use roofing material that has a high Solar Reflective Index • Investigate current insulation design and determine proposed options.	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	Shown on the Architectural Drawing Design brief sets the temperature - Refer Section **6.3.1** of this report. LED lighting and lighting controls to warehouse and offices. Sub meters for major energy/water uses in the offices and warehouses. Colourbond roof sheeting which has a higher solar reflectivity is proposed. As per project NCC Section J report.

Objective	Proposed Target	Proposed Strategy	Project Implementation	Comments
Choosing Materials • With consideration to energy inputs in manufacture. • Toxicity. • Consequential impacts – rain forest timbers. • Regional or local manufacturer employment support.	• Reduce steel and cement in internal slab (10% reduction in embodied energy). • Reduce embodied energy in concrete and plasterboard elements. • Consider 95% of timber to be AFS or FSC certified. • Reduce emissions associated with insulation and refrigerant. • Reduce environmental impact of materials for tiling, awning.	• Jointless fibre reinforced slab. • Use pre-cast concrete panels with recycled content.	✓ ✓	To minimise the environmental impacts of materials used by encouraging the use of materials with a favorable lifecycle assessment based on the following factors: - Fate of material - Recycling / re-use - Embodied energy - Biodiversity - Human health - Environmental toxicity - Environmental responsibility.

Objective	Proposed Target	Proposed Strategy	Project Implementation	Comments
Minimising Waste • By clever design. • Contracted to builder as a requirement on site for construction waste. • During the life of the building. • And in dealing with building end of life options.	• Reduce construction waste going to landfill by 90%. • Reduce operational waste going to landfill. • Consider a design that can be disassembled at the end of the building's life.	• Contractor is to develop and implement a Waste Management Plan and track all waste going offsite to show that 90% of all construction waste is re-used or recycled. • Waste storage and recycling facilities to be provided for different operational recycling streams such as paper, glass, plastics, metals, food waste etc. Consider operational waste plans and training for staff to provide incentive to reduce waste.	✓ ✓	SLR recommends more than 70% of the predicted construction waste arising from development can be re-used (on-site or at another development) or recycled off-site. Refer project Waste Management Plan. The following waste avoidance measures are recommended in the Waste Management Plan for the Project: - Provision of take back services to clients to reduce waste further along the supply chain;
Water Conservation and Reuse • Monitoring of meters to track use. • Timely maintenance of fixtures and fittings. • Water sensitive landscape design. • Source potable water alternatives such as rain water harvesting, grey and black water treatment.	• Reduce potable water in internal fixtures. • Reduce potable water for irrigation. • Water efficient operation of appliances. • Utilise rainwater and/or recycled water.	• Water efficient sanitary taps and toilets. • Water efficient and drought tolerant landscaping. • Water and energy efficient dishwasher. • Rainwater collection for toilets, irrigation and truck wash down.	✓ ✓ ✓ ✓	Low flow fixtures and fitting including taps and shower heads Selection of endemic and low maintenance landscaping species SLR recommends water efficient dishwashers 25 kL Rainwater tanks have been proposed for rainwater harvesting and re-use for landscape irrigation and flushing of toilets.

Objective	Proposed Target	Proposed Strategy	Project Implementation	Comments
Land Use and Ecology Impact • Consider local biodiversity impacts of flora and fauna. • Look to specialist advice on land in development.	• Encourage biodiversity. • Reduce light pollution from the site. • Consider reducing impact of stormwater flows off the site into the natural watercourses including Ropes Creek adjacent to the site.	• Install indigenous plating appropriate to the area and the adjacent biodiversity lots. • Design external lighting to avoid emitting light into the night sky or beyond the site boundary. • Consider integrated stormwater management to minimise the impact on receiving waters of flow volumes and pollution content, eg bioswales, bio retention, OSD tanks and treatment. • Consider permeable concrete/paving for staff parking areas and footpaths, etc.	✓ ✓ ✓ ✓	Selection of endemic and low maintenance landscaping species LED lights have been proposed for all external lights to avoid emitting light The warehouse sustainability objectives include: - Reduce the impact of stormwater runoff and improve quality of stormwater runoff - Achieve best practice stormwater quality outcomes - Incorporate water sensitive urban design principles.

6.1 Baseline and Proposed Energy Consumption

A NCC Sections J Deem-to-Satisfy compliant building is used as the baseline building for energy consumption savings. NCC Section J provides the minimum requirement for energy efficiency and it is predicted that the proposed development will have more than 42.3% energy reduction (Refer **Section 6.7** for energy simulation results) via:

- All luminaire shall be low energy LED type.
- Warehouse lighting is generally to be zonally controlled via motion sensor.
- Office lighting shall be controlled via dual technology infrared/ultrasonic sensor.
- Daylight harvesting function to office with external windows.
- Efficient air conditioning system.

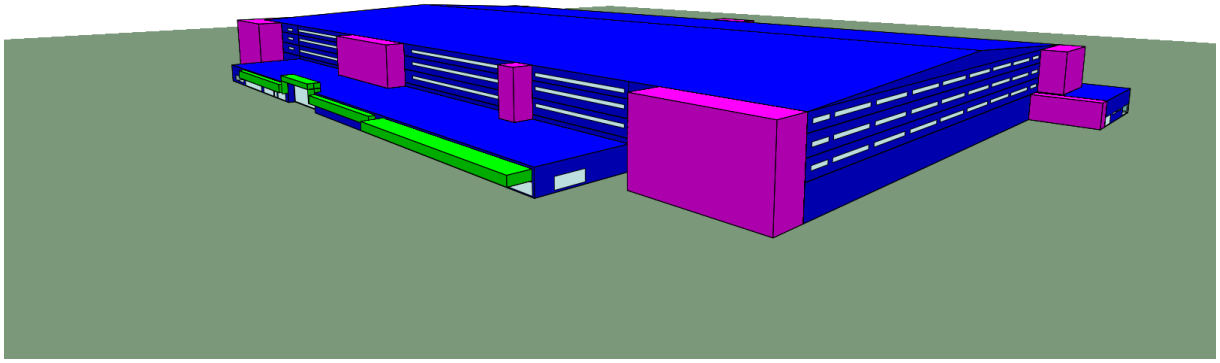
All building information and associated parameters are listed in the following sections of this report.

6.2 Energy Calculation of the Proposed and Reference Buildings

The Energy Simulation Program used in this study is the IES computer program Virtual Environment 2019(VE). The program is based on the ASHRAE response factor and the modifications included utilising Australian weather data and including building materials more appropriate to those used in Australia and enabling the input of metric data.

- SLR Consulting Pty Ltd (SLR) supports a perpetual license of the Energy Simulation Software package IES <VE>.
- IES <VE> has passed the BESTEST (ASHRAE Standard 140) external validation process.
- The weather data from ACADS-BSG NSW Richmond Test Reference Year (TRY) is used for the modelling.
- IES<VE> assesses U-Value, SHGC, and shade coefficient when evaluating the effect of glazing.
- Detailed warehouse operating schedules are not available at this stage. Therefore, NCC standard building operating profiles such as occupancy, lighting, air conditioning and equipment were adopted for warehouse and office area.
- At least 100 kW of PV system has been proposed for the warehouse.

Figure 5 Proposed Warehouse in IES Model



6.3 Artificial Lighting

In Section J6 of the NCC, the requirement for the total lighting power load within the proposed spaces of a building is to be no greater than a maximum illumination power load, measured in Watts (W). The maximum allowable building illumination power load is based on the total illumination power load calculated for each space.

For artificial lighting, the aggregate design illumination power load must not exceed the sum of the allowances. This may be obtained by multiplying the area of each space by the maximum illumination power density (as found in Table J6.2a of the NCC 2016 Volume One). The maximum illumination density for a storage warehouse is 10 W/m² as per Table J6.2a of the NCC 2016 Volume One.

The proposed warehouses will adopt the following energy efficiency measures to reduce the lighting energy consumptions:

Office lighting

- LED fitting for offices.
- Occupancy sensors to low occupancy areas e.g. office, toilets and lunch room.
- Lighting will be dimmable up to 10% when daylight allows, or area is vacated.

Warehouse lighting

- LED fitting for warehouse.
- Occupancy sensors to low occupancy areas.

Outside lighting

- LED external lighting for all outside areas.
- External lighting will be controlled via daylight sensor (photocell).

Electrical lighting is the major energy reduction component for warehouse with a large footprint.

The lighting calculation for NCC reference building is based on the maximum illumination power density specified within NCC Table J6.2A as below:

- Warehouse = 10 W/m^2
- Offices = 9 W/m^2

The electrical lighting layout of the proposed building is not provided at the time of preparing this report. It is assumed the maximum design lighting power density will be achieved as below:

- Warehouse = 6 W/m^2
- Offices = 5 W/m^2

Therefore, the proposed building is likely to achieve a 40.2% lighting energy reduction when compared with reference building. Detailed calculation is shown in **Appendix A**.

6.4 Mechanical Air-Conditioning

The mechanical service design is not available at this stage. Performance Package AR sortable Design Criteria has specified the following system types for the proposed building:

- Offices - Dedicated VRF/VRV system with heat recovery units
- Warehouses – Single zone packaged rooftop units with economiser

6.4.1 Air-conditioning temperature control and set point

Air-conditioning temperature control is summarised in Table 3.

Table 3 AC Unit Temperature Control Range

Space Type	Temperature Control Range (°C)
Offices	21 to 24°C BD
Warehouse	16 to 27°C BD

6.4.2 Air-conditioning energy efficiency requirements

2016 NCC Section J5.2e has specified the minimum energy efficiency ratios requirements for package air conditioning equipment.

Table 4 BCA Unitary Plant Requirement

Office Equipment	Minimum energy efficiency ratio	
	NCC Requirement	Proposed System[1]
Cooling	2.7	3.5
Heating	2.7	3.5

Note 1: Detailed Mechanical design is not available at this stage. It is assumed that the proposed VRF/VAV system will achieve the performance requirements above.

Warehouse Equipment	Energy Efficiency Ratio (EER)	
	NCC Requirement	Proposed System[1]
Cooling Efficiency	2.7	12.0 -Units below (70Kw)
Heating Efficiency	2.7	11.6 -Units above (70Kw)

Note 1: The AR Sortable Design Criteria has specified the above system performance to the warehouse.

Details or NCC Section J5 certification demonstrating compliance will need to be submitted with the application for a Construction Certificate.

6.5 Building Fabric Requirements

Part J1 to J3 of the BCA Section J contains the requirements of the Deemed-to-Satisfy compliance of the building fabric. The purpose of this subsection is to ensure that the building fabric will provide sufficient thermal insulation to minimise heating and cooling loads placed on the building and the commensurate energy consumption HVAC systems servicing internal building spaces.

All fabrics of the proposed building shall comply with 2016 NCC Section J. Project Section J report will need to be submitted with the application for a Construction Certificate.

6.6 Domestic Hot Water (DHW)

The BCA specifies the thermal efficiency for hot water systems to be at least 80%. The solar hot water reticulation system shall be provided to all faucets' fittings, equipment and apparatus within the development. Hot water will be generated from the roof mounted solar water packaged plant.

With the installation of water efficient fixture, the hot water consumption will be decreased and thus the domestic hot water usage will also decrease. If the domestic hot water usage is less than the energy required to heat to the water also decreases. Moreover, the supplement natural gas consumption will be reduced by using the proposed solar hot water system.

The energy simulation in this analysis is assumed both reference and proposed building are using same gas fired boiler for DHW. The actual energy consumption will be reduced once solar hot water is adopted for the proposed building.

6.7 Simulation Results

The predicted Total Energy Consumed annually by the reference building and the proposed building with the reference services is summarised in **Table 5**.

The reference and proposed building with reference services temperature is within the range 16°CDB to 27°CDB for 100% of the plant operation time.

Table 5 Comparison of Annual Energy Consumption between the reference and proposed building

Electricity Usage	**Reference building (MWh)**	**Proposed building (MWh)**
Heating	679.7	204.2
Cooling	1432.9	442.0
Auxiliary	150.1	150.1
Lighting	29760.9	17804.6
Equipment	Same	Same
DHW	Same	Same
PV System	-	-123.8
Total	**32023.6**	**18477.1**

The energy consumptions of equipment, warehouse ventilation fans and domestic hot water (DHW) are specific to the tenant's application. Therefore, it is assumed they will be the same as the NCC reference building energy consumption.

By implementing all energy efficiency measures described in **Section 6**, the project is predicted to achieve a 42.3% GHG emission reduction when compared with NCC reference building.

7 POTABLE WATER CONSUMPTION

The project will have several sustainable water saving measures, including:

- 25 kL rainwater reuse and reticulation system – Rainwater will be harvested from the roof and reuse for irrigation and toilet flushing. The reticulation will be a separate system to the domestic cold water with domestic water top up in the event of insufficient rainfall.
- Use of water saving plumbing devices.
- Water sensitive landscape design.

Further to above sustainable water measures, the following items are considered during the detailed design stage:

- Water efficient sanitary taps and toilets – install higher WELS Rating sanitary fixtures such as 4 stars for water taps, urinals and toilet.
- Water and energy efficient dishwashers with minimum 4 star WELS water rating.

By installing 4-star water efficient sanitary taps, urinals and toilets combined with the proposed rainwater harvesting facility the proposed development will reduce its potable water demand by approximately 37%. The quantities of each water fittings are assumed from the drawing and listed in **Appendix B**.

8 MONITORING AND REPORTING

All sustainable measures will be implemented into the project need to be commissioned and tuned once the project is completed, to ensure all services operate to their full potential and as designed.

As specified within the Tenant Base Building Specification, the building tuning will be provided by service contractors and overseen by an independent assessor, at least once a month within the Defects Liability Period (DLP) period to ensure that services are operating effectively and efficiently. Monthly reports to be provided to the tenant for DLP.

8.1.1 Energy Review and Audit

An energy usage review should be undertaken within the first few months of operation to ensure the Energy Management Plan is sufficient for the development's needs. A breakdown of energy usage per month at the Project Site will help to measure the development's baseline energy use and assess what appliances, equipment and processes are consuming energy.

An energy review is also necessary for the assessment of energy utilisation to further identify opportunities for improvement. Energy usage data obtained during the review process may be used to establish key performance indicators and annual energy targets for the Project.

Energy usage to be included in the review should include all purchased electricity and energy which is consumed by stationary equipment on site. Energy consumed by mobile equipment (e.g. forklifts) should also be examined as this will identify variations in warehouse operation efficiency. (Refer to 'Guidelines for Energy Savings Action Plans' (2005) (as developed by the former Department of Energy, Utilities and Sustainability) for reporting templates and further information.)

An energy audit and management review should also be undertaken on a half-yearly basis to ensure employees are following energy savings procedures correctly. Where audits show that energy savings procedures are not carried out effectively, additional employee training should be undertaken and signage and procedures re-examined.

The Energy Management Plan should be progressively improved and updated on an annual basis, or as required, to reflect changes to the Energy Management System and to promote continual improvement of energy management at the Project Site.

8.1.2 Energy Metering and Monitoring

To enable effective review of energy usage by the project, sub-metering should be implemented for all major energy consuming processes or items of equipment including sub-metering for all loads greater than 100 kVA.

Electrical equipment should be maintained to Australian Standards to ensure unnecessary energy wastage is minimised. Roof access system is proposed for third party access to roof for carry out necessary maintenance as required.

In accordance with the Goodman's Industrial Building Specification, a Building Users' Guide is to be prepared for the Project. The Building Users' Guide provides details regarding the everyday operation of a building and should include energy minimisation initiatives such as natural ventilation strategies, user comfort control, maintenance of air conditioning units and other electrical devices to ensure maximum operating efficiency, and lighting zoning strategies.

An effective Building Users' Guide will ensure that:

- Facility managers understand in detail their responsibilities for the efficient operation of the facility and any additional building tuning necessary to continuously improve energy management.

- Maintenance contractors understand how to service the particular systems to maintain reliable operations and maximum energy efficiency.
- Employees understand energy minimisation procedures and working limitations required to maintain design performance for energy efficiency.
- Future fit-out / refurbishment designers understand the design basis for the building and the systems so that these are not compromised in any changes.

8.2 Roles and Responsibilities

It is the responsibility of the facility manager to routinely check energy savings procedures are undertaken correctly (i.e. lighting turned off while areas of the development are not in use). The facility manager should also ensure all monitoring and audit results are well documented and carried out as specified in the Energy Management Plan.

Senior management should also be involved in energy management planning as an indication of the organisation's commitment to the Energy Management Plan.

9 CONCLUSION

SLR Consulting Australia Pty Ltd (SLR Consulting) has been engaged by Goodman Property Limited (Goodman) to provide a Sustainability Management Plan (SMP) for Stage 2 MOD 3 establishing warehouse and office facility within a portion of Precinct 2 at Oakdale West Estate development.

The SMP has been undertaken in accordance with the Secretary's Environmental Assessment Requirements (SEARs) for the State Significant Development (SSD 10397 and SSD 7348 MOD 3) application.

- ***Greenhouse Gas and Energy Efficiency*** *– including an assessment of the energy use on site, and demonstrate what measures would be implemented to ensure the proposal is energy efficient.*

The principal objective of this Sustainability Management Plan is to identify all potential energy savings that may be realised during the operational phase of the project, including a description of likely energy consumption levels and options for alternative energy sources such as PV solar power.

A BCA Sections J Deem-to-Satisfy compliant building is used as the baseline building for energy consumption savings. BCA Section J provides the minimum requirement for energy efficiency and it is expected that the proposed development will operate energy efficiently via:

- At least 100 kW PV Solar Installation;
- Daylight controlled fluorescent/LED lighting for the warehouse instead of metal halide, resulting in a considerable energy reduction and reduced maintenance;
- Motion sensors to all LED lights within the warehouse, and offices;
- Roof and external wall insulation as per the NCC requirements;
- High performance glazing to all air-conditioned areas or minimum NCC requirements;
- Passive solar design for external outdoor areas;
- High efficient air conditioning system;
- Power sub-metering to enable continued review of power consumption for the offices, and warehouse;
- Selection of endemic and low maintenance landscaping species;
- 25 kL rainwater tank for rainwater harvesting and re-use for landscape irrigation and toilet flushing;
- Low water flow fixtures and fittings including taps and shower heads;
- Low VOC paints, carpet and sealant and
- Other measures are detailed in report.

By implementing all energy efficiency measures described in Section 6 of this report, the project is predicted to achieve a 42.3% GHG emission reduction when compared with NCC reference building.

By installing 4-star water efficient sanitary taps, urinals and toilets combined with the proposed rainwater harvesting facility the proposed development will reduce its potable water demand by approximately 37%.

In conclusion, the relevant ESD initiatives and Energy Efficiency measures outlined in this report are incorporated into the proposed building and development details. The proposed ESD initiatives will help to achieve significant reductions in the energy required by the development both in building and operation.

Building tuning will be conducted by builder and SLR Consulting recommends that a quarter reviews of actual building energy and water consumption be carried out once the warehouses are operational to check the actual energy usage and energy savings and verify that all systems are performing at their optimum efficiency. This will provide an opportunity for the systems to be tuned to optimise time schedules to best match occupant needs and system performance while satisfying the sustainability target for the project.

10 CLOSURE

This report has been prepared by SLR Consulting Australia Pty Ltd with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of Goodman Property Services. 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 Consulting.

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

APPENDIX A: LIGHTING CALCUATION

BCA Lighting Requirements Oakdale West Stage 2 MOD 3								
BCA Comply Building	**BCA Requirements**		**Area**	**Operating Hrs**	**Lighting Control**			**Total Annual Energy Consumption (kWh)**
	Warehouse Ground Level (W/m2)	10	50873	Monday to saturday 24 hours	Motion Detector, Daylight Sensor	0.9	0.6	2406496
	Warehouse* (Level 1 - Level 3) (W/m2)	10	144303	Monday to saturday 24 hours	Motion Detector, Daylight Sensor	0.9	0.6	6826109
	Offices W/m2	9	5492	Monday to saturday 24 hours	Motion Detector	0.9	1	389690
	Mezzanines	10	6300	Monday to saturday 24 hours	Motion Detector, Daylight Sensor	0.9	0.6	298015
			206968				**Total**	**9920311**
							kWh/m2	**47.93**

* Area per Level = 48,101 m2

Proosed Lighting - Oakdale West Stage 2 MOD 3								
BCA Comply Building	**BCA Requirements**		**Area**	**Operating Hrs**	**Lighting Control**			**Total Annual Energy Consumption (kWh)**
	Warehouse Ground Level (W/m2)	6	50873	Monday to saturday 24 hours	Motion Detector, Daylight Sensor	0.9	0.6	1443898
	Warehouse (Level 1 - Level 3) (W/m2)	6	144303	Monday to saturday 24 hours	Motion Detector, Daylight Sensor	0.9	0.6	4095665
	Offices W/m2	5	5492	Monday to saturday 24 hours	Motion Detector	0.9	1	216495
	Mezzanines	6	6300	Monday to saturday 24 hours	Motion Detector, Daylight Sensor	0.9	0.6	178809
			206968				**Total**	**5934867**
							kWh/m2	**28.68**

APPENDIX B: WATER CALCUATION

WATER SAVINGS CALCULATION

Table C1 - Number of fixtures

Area	Toilets	Urinal	Basins	Showers
Amenities	256	46	221	8
Total	256	46	221	8
Assume 70% of toilet water usage is supplied by rainwater				
Fraction not supplied by RWH	0.3			

Table C2 - Results

No water saving measures		**Max water usage rate** [1]	
Toilet	Adopt 3* Average Flush Usage in Table C3	1024	L/s
Tap	Adopt 3* Tap Usage in Table C3	1989	L/s
Urinal	Adopt 3* Urinal Usage in Table C3	92	L/s
Water reuse measures (4*) with RWH		**Max water usage rate** [1]	
Toilet	Adopt 4* Average Flush Usage in Table C3	896	L/s
Tap	Adopt 4* Tap Usage in Table C3	1657.5	L/s
Urinal	Adopt 4* Urinal Usage in Table C3	69	L/s
Water reuse measures (5*) with RWH		**Max water usage rate** [1]	
Toilet	Adopt 5* Average Flush Usage in Table C3	768	L/s
Tap	Adopt 5* Tap Usage in Table C3	1326	L/s
Urinal	Adopt 5* Urinal Usage in Table C3	46	L/s
	3* with RWH	**4* with RWH**	**5* with RWH**
Improvement Percentage (%) [3]	**25**	**37**	**49**

APPENDIX I

Consultation

Penrith City Council

Operational Traffic Management Plan

Lachlan O'Reilly

From: Alasdair Cameron
Sent: Wednesday, 18 August 2021 11:48 AM
To: Stephen Masters
Cc: Lachlan O'Reilly
Subject: RE: Oakdale West - Estate Framework OTMP and the site specific OTMP for Building 2B

Many thanks Steve,
We will update the plans to correct the errors and submit to the department.
Many thanks for your input.

Regards
Alasdair

From: Stephen Masters <stephen.masters@penrith.city>
Sent: Tuesday, 17 August 2021 11:34 PM
To: Alasdair Cameron <Alasdair.Cameron@goodman.com>
Subject: Oakdale West - Estate Framework OTMP and the site specific OTMP for Building 2B

Hi Alasdair,

I have reviewed both the Estate Framework OTMP and the site specific OTMP for Building 2B and can advise that they are generally acceptable to Council however there are a number of typos within the documents that relate to the Oakdale South Estate (e.g access to the estate, bus routes, Ottelia Road etc). I have highlighted some of the text in the attached documents. May I request that the operational plans be updated to reflect the Oakdale West Industrial Estate.

Please telephone me tomorrow to discuss.

Regards

Stephen Masters
Senior Engineer – Major Developments

E Stephen.Masters@penrith.city
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PO Box 60, PENRITH NSW 2751
www.visitpenrith.com.au
www.penrithcity.nsw.gov.au

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CITY COUNCIL

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From: Alasdair Cameron
Sent: Friday, August 13, 2021 8:11:17 AM
To: Stephen Masters <stephen.masters@penrith.city>
Subject: RE: Oakdale West Industrial Estate- Operational Traffic Management Plan Consultation.

HI Steve,
Sorry to be a pain but have you had a chance to look at this.
Also the additional traffic management plan for 2B

Regards
Alasdair

FW: Oakdale West Estate Stage 2 Development SSD 10397 Operational Traffic Management Plan Consultation.

AC Alasdair Cameron <Alasdair.Cameron@goodman.com>
To Stephen Masters
Cc Stephanie Partridge; Kym Dracopoulos; Luke Ridley; Lachlan O'Reilly; Ben Milner; Graham Pinney

1086r04v1 OTMP Building 2B, OWE.pdf
5 MB

Hi Steve,
In addition to the estate wide OTMP.

We also have consultation requirements specific to the Lot 2B consent.

Condition B17 of consent for SSD10397 (Oakdale West Estate Stage 2 Development) requires us to consult with council on the Operational Traffic Management Plan (OTMP) prior to the operational stage of development:

We'd therefore be grateful if you're able to review the OTMP (see attached) and provide us any comments you may have. A 'no comment' response would satisfy the consultation requirements if you have no feedback.

We would be extremely grateful if you provide this proof of consultation no later than **13 August 2021**
Please let me know if you have any questions. Thank you for your help.

Regards
Alasdair

From: Alasdair Cameron
Sent: Monday, 9 August 2021 11:38 AM
To: Stephen Masters <stephen.masters@penrith.city>
Subject: FW: Oakdale West Industrial Estate- Operational Traffic Management Plan Consultation.

HI Steve

We're hoping to commence the operational phase at Oakdale West soon.

Condition D69a of consent for SSD7348 (Oakdale West) requires us to consult with council on the Operational Traffic Management Plan (OTMP) prior to the operational stage of development:

Operational Traffic Management Plan

D69A The Applicant must prepare an Operational Traffic Management Plan (OTMP) for Stage 1. The OTMP must form part of the OEMP required by condition D130 and must:

(a) be prepared by a suitably qualified and experienced expert, in consultation with Council and TfNSW;

(b) detail the numbers and frequency of truck movements, sizes of trucks, vehicle routes and hours of operation;

(c) include measures to maintain road safety and network efficiency;

(d) detail measures to minimise traffic noise, including procedures for receiving and addressing complaints from the community about Stage 1 related traffic and noise;

(e) include a Driver's Code of Conduct that addresses:

(i) travelling speeds and adherence to site-specific speed limits;

(ii) procedures to ensure drivers adhere to designated heavy vehicle routes; and

(iii) procedures to ensure drivers implement safe driving practices.

We'd therefore be grateful if you're able to review the OTMP (see attached) and provide us any comments you may have. A 'no comment' response would satisfy the consultation requirements if you have no feedback.

We would be extremely grateful if you provide this proof of consultation.
Please let me know if you have any questions. Thank you for your help.

Regards
Alasdair

Transport for New South Wales

Operational Traffic Management Plan

Re: Oakdale West Industrial Estate- Operational Traffic Management Plan Consultation.

AC

Alasdair Cameron <Alasdair.Cameron@goodman.com>
To Pahee Rathan; Malgy Coman
Cc Malgy Coman; Lachlan O'Reilly; Laura Van putten; Raymond Tran

Many thanks.
We have incorporated your comments.

Regards
Alasdair

From: Pahee Rathan <Pahee.RATHAN@transport.nsw.gov.au>
Sent: Thursday, August 19, 2021 10:14:30 AM
To: Alasdair Cameron <Alasdair.Cameron@goodman.com>; Malgy Coman <Malgy.COMAN@transport.nsw.gov.au>
Cc: Malgy Coman <Malgy.COMAN@transport.nsw.gov.au>; Lachlan O'Reilly <Lachlan.OReilly@goodman.com>; Laura Van putten <Laura.VAN.PUTTEN@transport.nsw.gov.au>; Raymond Tran <Raymond.TRAN@transport.nsw.gov.au>
Subject: RE: Oakdale West Industrial Estate- Operational Traffic Management Plan Consultation.

Hi Alasdair,

The attached response was provided in 5 August 2021.

If you like to discuss this matter further, please contact Ray Tran. Contact detail is in the attached email.

Regards
Pahee

Pahee Rathan
A/Senior Manager Land Use Assessment
Planning and Programs
Greater Sydney
Transport for NSW

T 02 8849 2219 | **M** 0417 246 510
Level 5 27 Argyle Street Parramatta NSW 2150

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acknowledge the traditional owners and custodians of the land in which I work and pay my respects to Elders past, present and future.

From: Alasdair Cameron [mailto:Alasdair.Cameron@goodman.com]
Sent: Wednesday, 18 August 2021 3:43 PM
To: Pahee Rathan <Pahee.RATHAN@transport.nsw.gov.au>; Malgy Coman <Malgy.COMAN@transport.nsw.gov.au>
Cc: Malgy Coman <Malgy.COMAN@transport.nsw.gov.au>; Lachlan O'Reilly <Lachlan.OReilly@goodman.com>
Subject: RE: Oakdale West Industrial Estate- Operational Traffic Management Plan Consultation.

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi Pahee,
To date we have not received response to our consultation request.

We take it that you have no comments on the submitted plan.

We confirm that we have adopted your comments regarding the building 2B OTMP attached.

If you have any queries please do not hesitate to contact me.

Regards
Alasdair

Goodman
Alasdair Cameron
Senior Project Manager - Infrastructure

Direct: +61 2 9230 7289
Mobile: +61 402 458 226
Alasdair.Cameron@goodman.com
info-au@goodman.com
www.goodman.com

The Hayesbery
1-11 Hayes Road
Rosebery NSW 2018
Australia

From: Alasdair Cameron
Sent: Monday, 9 August 2021 11:37 AM
To: Pahee Rathan <Pahee.RATHAN@transport.nsw.gov.au>; Malgy Coman <Malgy.COMAN@rms.nsw.gov.au>
Subject: FW: Oakdale West Industrial Estate- Operational Traffic Management Plan Consultation.

HI Pahee and Malgy,
Can we get a response to the below please.

Regards
Alasdair

From: Alasdair Cameron
Sent: Friday, 16 July 2021 8:29 AM
To: Pahee Rathan <Pahee.RATHAN@transport.nsw.gov.au>
Cc: Kym Dracopoulos <Kym.Dracopoulos@goodman.com>; Luke Ridley <Luke.Ridley@goodman.com>; Lachlan O'Reilly <Lachlan.OReilly@goodman.com>
Subject: Oakdale West Industrial Estate- Operational Traffic Management Plan Consultation.

Dear Pahee,

We're hoping to commence the operational phase at Oakdale West soon.

Condition D69a of consent for SSD7348 (Oakdale West) requires us to consult with TfNSW on the Operational Traffic Management Plan (OTMP) prior to the operational stage of development:

Operational Traffic Management Plan

D69A The Applicant must prepare an Operational Traffic Management Plan (OTMP) for Stage 1. The OTMP must form part of the OEMP required by condition D130 and must:

(a) be prepared by a suitably qualified and experienced expert, in consultation with Council and TfNSW;
(b) detail the numbers and frequency of truck movements, sizes of trucks, vehicle routes and hours of operation;
(c) include measures to maintain road safety and network efficiency;
(d) detail measures to minimise traffic noise, including procedures for receiving and addressing complaints from the community about Stage 1 related traffic and noise;
(e) include a Driver's Code of Conduct that addresses:
  (i) travelling speeds and adherence to site-specific speed limits;
  (ii) procedures to ensure drivers adhere to designated heavy vehicle routes; and
  (iii) procedures to ensure drivers implement safe driving practices.

We'd therefore be grateful if you're able to review the OTMP (see attached) and provide us any comments you may have. A 'no comment' response would satisfy the consultation requirements if you have no feedback.

We would be extremely grateful if you provide this proof of consultation no later than **23 July 2021**
Please let me know if you have any questions. Thank you for your help.

Regards
Alasdair

RE: Oakdale West Estate Stage 2 Development SSD 10397 Operational Traffic Management Plan Consultation.

AC Alasdair Cameron <Alasdair.Cameron@goodman.com>
To Raymond Tran
Cc Pahee Rathan; Malgy Coman; Stephanie Partridge; Lachlan O'Reilly; Luke Ridley; Kym Dracopoulos
Follow up.

Raymond,
Many thanks for your response , duly noted.

Regards
Alasdair

From: Raymond Tran <Raymond.TRAN@transport.nsw.gov.au>
Sent: Thursday, 5 August 2021 1:39 PM
To: Alasdair Cameron <Alasdair.Cameron@goodman.com>
Subject: RE: Oakdale West Estate Stage 2 Development SSD 10397 Operational Traffic Management Plan Consultation.

Dear Alasdair

Please see following comment from Transport for NSW (Network & Safety Services):

- Any posted speed signage within the site (private roads) should not replicate the design and appearance of the regulatory speed limit signage (a number within the red circle).

Kind regards,

Raymond Tran
Network & Safety Officer
Western Parkland City
Network and Asset Management
Transport for NSW

T 02 8843 3133
Level 5, 27 Argyle Street Parramatta NSW 2150

NSW GOVERNMENT | Transport for NSW

From: Alasdair Cameron [mailto:Alasdair.Cameron@goodman.com]
Sent: Wednesday, 4 August 2021 9:27 AM
To: Pahee Rathan <Pahee.RATHAN@transport.nsw.gov.au>
Cc: Stephanie Partridge <Stephanie.Partridge@goodman.com>; Kym Dracopoulos <Kym.Dracopoulos@goodman.com>; Lachlan O'Reilly <Lachlan.OReilly@goodman.com>; Luke Ridley <Luke.Ridley@goodman.com>; Ma
<development@transport.nsw.gov.au>
Subject: Oakdale West Estate Stage 2 Development SSD 10397 Operational Traffic Management Plan Consultation.

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Dear Pahee,

We're hoping to commence the operational phase at Oakdale West soon.

Condition B17 of consent for SSD10397 (Oakdale West Estate Stage 2 Development) requires us to consult with TfNSW on the Operational Traffic Management Plan (OTMP) prior to the operational stage of development:

We'd therefore be grateful if you're able to review the OTMP (see attached) and provide us any comments you may have. A 'no comment' response would satisfy the consultation requirements if you have no feedback.

We would be extremely grateful if you provide this proof of consultation no later than **13 August 2021**
Please let me know if you have any questions. Thank you for your help.

Regards
Alasdair

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