Operational Environmental Management Plan

Oakdale South Industrial Estate Master Plan

Goodman Property Services (Aust) Pty Ltd

The Hayesbury
1-11 Hayes Road, Roseberry NSW 2018

Prepared by:

SLR Consulting Australia

SLR Project No.: 630.031929.00001

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Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
630.031929-R01-v1.0	29 January 2018	Samantha Hayes	Russell Hogan	Russell Hogan
630.031929-R01-v2.0	25 March 2020	Samantha Hayes	Chris Jones	Chris Jones
630.031929-R01-v3.1	29 October 2024	Sean Wilson	Stephen Shoesmith	Stephen Shoesmith
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Basis of Report

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

Table of Contents

Tables

Figures

Appendices

1.0 Introduction

1.1 Development Overview

The Oakdale South Industrial Estate (Oakdale South), being a regional warehouse and distribution hub, is located at Kemps Creek within the Penrith local government area (LGA). Oakdale South forms part of the broader Oakdale Industrial Precinct which is located within the Western Sydney Employment Area (WSEA).

In November 2015, a joint Concept Proposal and Stage 1 Development Application was submitted on behalf of Goodman Property Services (Goodman) for a warehousing and employment precinct, known as the Oakdale South Industrial Estate (OSE) and approval was subsequently granted on 26th October 2016.

The Concept Proposal comprises of 336,735 m2 of Gross Floor Area with 321,249 m2 of warehousing and 15,486 m2 of ancillary office floor space, six development precincts with a total of 15 building envelopes, and conceptual lot layout, site levels, road layout, urban design controls, conceptual landscape designs and infrastructure arrangements

As part of the original application, a site-specific development control plan (DCP) was also approved. This has since been incorporated into the Penrith DCP 2014, E6 - Erskine Business Park.

At the time of preparing this document, sixteen applications to modify SSD 6917 had been approved and one withdrawn. In summary, these modifications comprise:

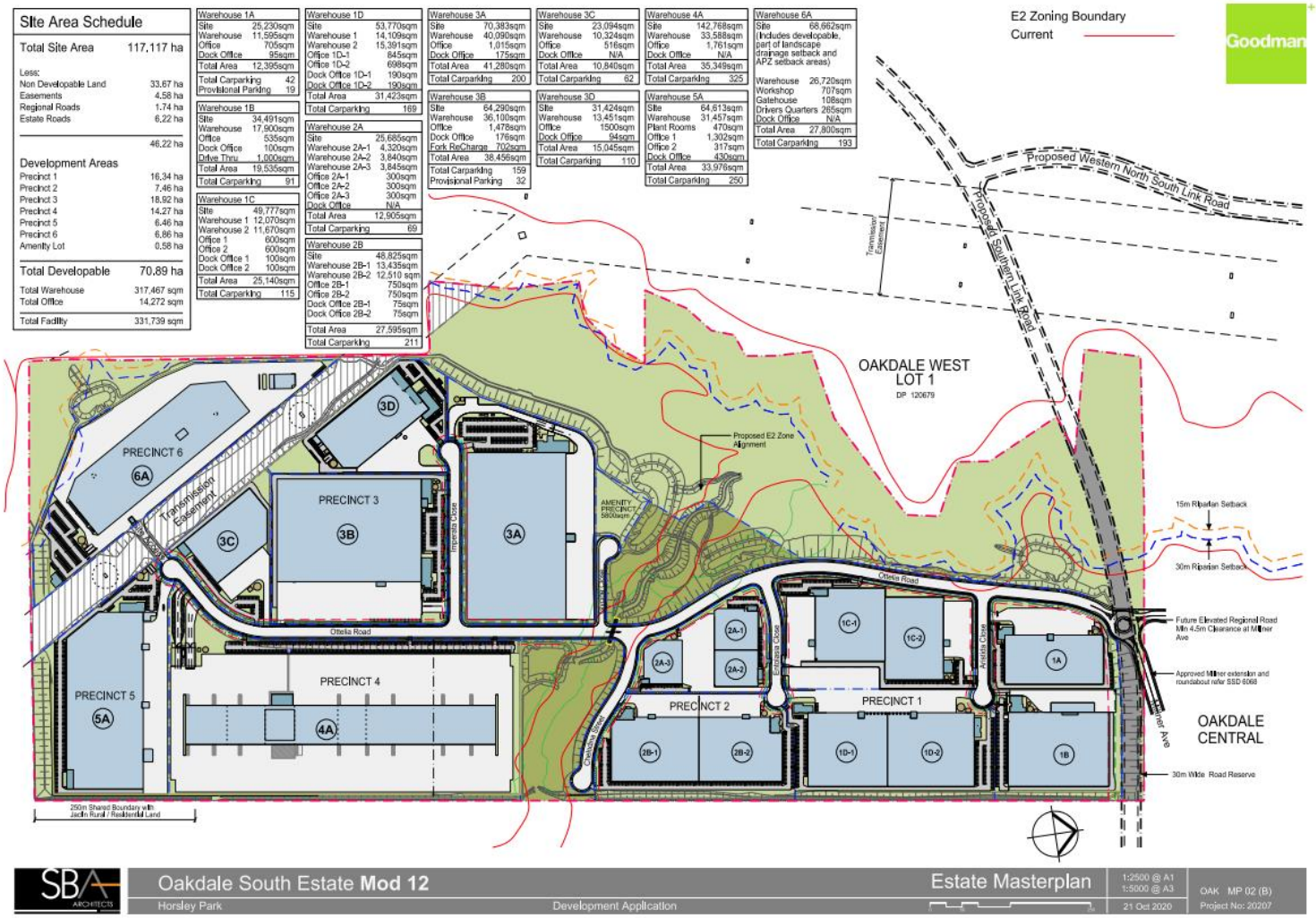
- MOD 1 – approved on the 21 April 2017 for revisions to the approved Concept Proposal and Stage 1 Development in the northern portion of the estate;
- MOD 2 – withdrawn;
- MOD 3 – approved on the 5 October 2017 to permit out of hours importation of fill material;
- MOD 4 – approved on 18 December 2017 for revisions to the approved Concept Proposal and Stage 1 Development in the northern portion of the estate;
- MOD 5 – approved on the 23 November 2017 for administrative changes to condition E37;
- MOD 6 – approved on the 15 June 2018 to update the Vegetation Management Plan (VMP)/Biodiversity Offset Strategy (BOS) and associated changes to conditions E46 and E47;
- MOD 7 – approved 11 December 2018 for revisions of the approved concept plans to replace corner landscape, E2 zone in Lot 3A with hardstand, IN1 zone;
- MOD 8 – approved 17 December 2018 to increase the maximum height limit for a warehouse within Precinct 5 from 15 m to 16.5 m to accommodate roof plant;
- MOD 9 – approved 21 February 2019 to revise the concept masterplan to show Precinct 6 as a single rather than two warehouses;
- MOD 10 – approved 5 August 2019 to enable to storage of dangerous goods within Warehouse 1D.
- MOD 11 – approved 28 October 2019 to update the VMP and removed the BOS.

- MOD 12 – approved 3 December 2020 to approve changes to Lot 1C, 1D and Precinct 2 layout in Concept Masterplan, and changes to Warehouse 1C layout and fit-out and use of Warehouse 1D-1 in Stage 1.
- MOD 13 – approved 23 February 2021 to modify Conditions D32 and D33 to update the BAL construction requirements for the warehouse building approved for Lot 1C.
- MOD 14 – approved 2 July 2021 to increase allowance of dangerous goods stored in Warehouse 1D-1 and modification to Fire and Rescue NSW consultation requirements.
- MOD 15 – approved 22 September 2021 to update Bushfire Assessment Lots 2A, 2B.
- MOD 16 – approved 14 December 2021 to approve increase Building 2B height envelope from 15m to 16m to accommodate air conditioning roof plant.
- MOD 17 – approved 20 December 2022 to increase the ridgeline height control for Precinct 4 to facilitate an increase in the building height of the Stage 2 dry depot component of the Costco development

Oakdale South provides a logistics hub for the receipt, warehousing and distribution of products. Operational activities are approved for 24 hours a day, seven days a week and include:

- General storage and warehousing;
- Unloading and loading of goods via trucks and shipping containers;
- Management of inventory in a racked and stacked environment;
- Order fulfilment, including picking and packing of finished orders for customers;
- Loading of transport vehicles;
- Management of product returns;
- Inspection of goods for quality assurance purposes; and
- Product embellishment

Figure 1: Oakdale South Site Layout



1.2 Relevant Companies

Oakdale South consists of a mix of Goodman and Goodman Joint Venture (JV) owned properties sites and their tenant. Other owners have purchased land at Oakdale South including Toyota, Costco, Logos, Nolan's Interstate Transport and Direct Freights.

1.2.1 Goodman

In general, Goodman is responsible for the Estate's private infrastructure and overall management of the common vegetated areas of which there a number of key components including Defendable Zones, Bio-retention Basins, landscaped setbacks, Riparian Corridors and development lots including the Amenity Lot.

Goodman is only responsible for the site management of the assets it owns within Oakdale South.

A plan showing the areas Goodman are responsible for under this OEMP is included within Plan Detailing Areas Covered under this OEMP **Appendix G**

1.2.2 Penrith City Council

Penrith City Council is responsible for the road network and streetscape planting in the verges within the road reserves, with the exception of Glycine Close (Road 5) which will remain in Goodman ownership as a private access road

1.2.3 Others

Some of the development lots within Oakdale South have been sold and change of ownership has occurred, while others are retained by Goodman. See Table 1 below for list of current Oakdale South Tenants and Owners.

It is important to note, other owners within Oakdale South are responsible for all Environmental and Operational management matters within their lot boundaries including compliance with relevant conditions of consent applicable to the individual lot.

Table 1: Oakdale South Tenants and Owners

Site	Tenant / Owner	Site	Tenant / Owner
1A	B Dynamic – Goodman Tenant	3B	Toyota – Other Owner
1B	Iron Mountain – Goodman Tenant	3C	Nolan's Interstate Transport – Other Owner
1C	Yusen Logistics & Amber Tiles - Goodman Tenant	3D	Briggs and Stratton – Goodman Tenant
1D	Linfox & CHEP - Goodman Tenant	4A	Costco – Other Owner
2A	Yusen Logistics & Independent Warehouse Solutions - Goodman Tenant	5A	DHL – Goodman Tenant
2B	DSV - Goodman Tenant	6	Direct Freight – Other Owner
3A	Logos – Other Owner	Amenities lot	Goodman owned

1.3 Operational Environmental Management Plan

1.3.1 Scope

This Operational Environmental Management Plan (OEMP) has been prepared to satisfy condition F4 of Development Consent SSD 6917 in relation to the Oakdale South Master Plan. The specific requirements of this consent condition, along with where these requirements have been addressed within this document, are listed in Table 2.

This OEMP has been prepared with reference to the following Goodman assets:

- Lot 1A – B Dynamic (Goodman Tenant);
- Lot 1B – Iron Mountain (Goodman Tenant);
- Lot 1C –Yusen Logistics & Amber Tiles ;
- Lot 1D – Linfox & CHEP ;
- Lot 2A – Yusen Logistics & Independent Warehouse Solutions;
- Lot 2B – DSV;
- Lot 3D – Briggs and Stratton (Goodman Tenant);
- Lot 5A – DHL (Goodman Tenant);
- Amenities Lot – currently held by Goodman; and
    - Oakdale South infrastructure and common areas that not controlled by Penrith City Council, including:
    - Basins A, B, C, D and E;
    - Landscape common areas under the Landscape Management Plan (LMP) for Oakdale South;
    - Vegetated areas managed by the Goodman Property Maintenance Team for Oakdale South;
    - Glycine Close (Road 5); and
    - Common areas (excluding Road verges that are dedicated to Council).

A plan showing the abovementioned areas included under this OEMP is included within **Appendix G**

Table 2: OEMP Scope

Condition F4 of Development Consent SSD 6917	OEMP Sections
Operational Environmental Management Plan F4. The Applicant shall prepare an Operational Environmental Management Plan (OEMP) for the development and be submitted to the satisfaction of the Secretary prior to the commencement of operations. The OEMP must:	This document
(a) provide the strategic framework for environmental management of the development;	Section 2
(b) identify the statutory approvals that apply to the development;	Section 2.3
(c) include a copy of all relevant management plans and monitoring requirements and (d) programs relevant under this consent;	Section 3 and Appendices B to J
(d) outline all environmental management practices and procedures to be followed during operation;	Sections 2.4, 2.5, 2.6 and 2.7.

Condition F4 of Development Consent SSD 6917	OEMP Sections
(e) describe all activities to be undertaken on the site during operation;	Section 1.1
(f) detail how the environmental performance of the operation of the development will be monitored, and what actions will be taken to address identified adverse environmental impacts;	Sections 3 and 4
(g) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;	Sections 2.2, 2.4, 2.5, 2.6 and 2.7
(h) describe the procedures that will be implemented to:	
(i) keep the local community and relevant agencies informed about the operation and environmental performance of the development;	Sections 2.4, 2.6 and 2.7
(ii) receive, handle, respond to, and record complaints;	Section 2.7
(iii) resolve any disputes that may arise during the course of the development;	Section 2.4, 2.5 and 2.7
(iv) respond to any non-compliance;	Sections 2.5, 2.6 and 3
(v) respond to emergencies;	Sections 2.6 and 3.10
(vi) include copies of any strategies, plans and programs approved under the (vii) conditions of this consent; and	Appendices B to J
(vii) a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.	Sections 3 and 4

1.3.2 Objectives

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

- The application of best practice environmental management;
- The relevant commitments made in the EIS (Urban Advisory Services 2015) are fully implemented and/or complied with;
- The relevant conditions imposed by Development Consent SSD 6917 are fully implemented and/or complied with; and
- Environmental risks associated with the operation of the development are properly managed.

2.0 Environmental Management Framework

2.1 Goodman Sustainability Policy

Goodman maintains a Sustainability Policy which states that the long-term philosophy includes a sustainable approach to the environment, as well as proper consideration for the social and economic responsibilities to the wider community.

2.2 Roles and Responsibilities

The key personnel responsible for environmental management at Oakdale South, at the time of preparing this document, are listed in Table 3.

This OEMP applies only to Goodman entity owned properties in this estate, whom Goodman can be held accountable for. Whereas, each sale lot owned by others will have their own OEMP in accordance with their individual Development Consents.

Table 3: Personnel Responsible for Environmental Management

Site	Company and Position Description	Responsibilities
Oakdale South Estate Community Enquiries	Goodman Portfolio Manager	Contact for Community enquiries
Oakdale South Estate Infrastructure	Goodman Building Manager	Ensure the consultant/contractor is made aware of and understand their obligations under the OEMP.
All Goodman entity owned Development Lots	Goodman Building Manager	Ensure the Facility Managers are made aware of their obligations of the OEMP (as relevant to their respective site) are appropriately implemented and maintained.
Other Owners Lots	Other Owner's Facility Manager / Asset Manager	Ensure the obligations of the OEMP (as relevant to their respective site) are appropriately implemented and maintained.
Oakdale South Public Road Reserves	Penrith City Council	Management in accordance with Council legislative requirements

2.3 Development Consent

Goodman obtained Development Consent SSD 6917 on the 26 October 2016 for the staged development of Oakdale South, comprising a Concept Proposal (Master Plan) for the overall development and the Stage 1 Development. At the time of preparing this document, sixteen applications to modify SSD 6917 had been approved. Further details are provided in Section 1.1.

A copy of Development Consent SSD 6917 is located on the NSW Government Major Projects webiste located here getContent and the Relevant Conditions are in **Table 4** .

Additional stages of Oakdale South (Stages 2 & 3) were the subject of separate development applications and approvals.

2.3.1 Relevant Consent Conditions

Development Consent SSD 6917 imposes a number of environmental performance and management requirements applicable to the on-going operation of Oakdale South. These conditions are listed in Table 4 (N.B. administrative conditions not relevant to the operational phase of the estate and conditions relating to construction works have not been included).

Table 4: Relevant Consent Conditions for Environmental Performance and Management

<table>
<tr><th>Development Consent SSD 6917 (as modified)</th><th>Comments</th></tr>
<tr><td colspan="2">Schedule B - Conditions of Consent for Concept Proposal</td></tr>
<tr><td colspan="2">Statutory Requirements</td></tr>
<tr><td>B3.The Applicant shall ensure that all licenses, permits, and approvals/consents are obtained as required by law and maintained as required throughout the life of the Development. No condition of this consent removes the obligation for the Applicant to obtain, renew or comply with such licenses, permits or approvals/consents.</td><td>Section 3.1</td></tr>
<tr><td colspan="2">Terms of Consent</td></tr>
<tr><td>B4. The Applicant shall carry out the Development in accordance with the :
(a) EIS and RTS;
(b) the letter titled 'Re: SSD6917 Oakdale South Industrial Estate, TransGrid Easement Flood Extents ', ref 14-193-ATL-TRANSGRID-L2, prepared by AT&L, dated 18 May 2016 and all appendices;
(c) the Supplementary Response to Submissions titled 'Re: Oakdale South Estate SSDA_ 6917' and all annexures, prepared by Urban Advisory Services, dated 12 July 2016;
(d) the letter report titled 'Oakdale South Estate, Operational Noise Contours, Adverse Weather Conditions ',prepared by SLR, dated 13 July 2016;
(e) the letter titled 'Re: Oakdale South Estate- State Significant Development Application Ref. 6917' and all annexures, prepared by Urban Advisory Services, dated 8 September 2016;
(n) Modification Assessments
(o) the development layout plans and drawings listed at Appendix 1; and
(p) the Management and Mitigation Measures at Appendix 3.</td><td>Noted</td></tr>
<tr><td>B5. If there is any inconsistency between the plans and documents referred to above, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.</td><td>Noted</td></tr>
<tr><td>B6.The Applicant shall comply with any reasonable requirement(s) of the Secretary arising from the Department's assessment of:
(a) any reports, plans or correspondence that are submitted in accordance with this consent; and
(b) the implementation of any actions or measures contained within these reports, plans or correspondence.</td><td>Noted</td></tr>
<tr><td colspan="2">Limits of Consent</td></tr>
<tr><td>B13. A maximum of one illuminated sign is permitted on each elevation of each warehouse building. All illuminated signage shall be orientated away from residential receivers.</td><td>Section 3.9</td></tr>
<tr><td colspan="2">Noise Limits</td></tr>
<tr><td>B18. The Applicant shall ensure the Development does not exceed the noise limits provided in Table 3 below and the receiver locations (L1, L2 and L3 shown in Appendix 4):
Table 3: Project Specific Noise Limits dB(A)
<table>
<tr><th rowspan="2">Location</th><th>Day</th><th>Evening</th><th colspan="2">Night</th></tr>
<tr><th>$L_{Aeq(15\ minute)}$</th><th>$L_{Aeq(15\ minute)}$</th><th>$L_{Aeq(15\ minute)}$</th><th>$L_{A1(1\ minute)}$</th></tr>
<tr><td>L1 North of Warragamba Pipeline</td><td>37</td><td>37</td><td>37</td><td>47</td></tr>
<tr><td>L2 Horsley Park</td><td>39</td><td>39</td><td>39</td><td>49</td></tr>
<tr><td>L3 Kemps Creek, Mt Vernon, Jacfin and Capitol Hill</td><td>40</td><td>40</td><td>40</td><td>48</td></tr>
</table></td><td>Section 3.2</td></tr>
</table>

Development Consent SSD 6917 (as modified)	Comments
***Note**: Noise generated by the Development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.*	
Schedule D - Conditions of Consent for the Stage 1 DA	
Obligation to Minimise Harm to the Environment	
D1. In addition to meeting the specific performance criteria established under this consent, the Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the Development.	Section 3
Development Description	
D2. Development Consent is granted to the 'Stage 1 works' as described in Schedule A, the conditions contained in this Development Consent and the EIS, as amended by the RTS and Modification Assessments.	Section 1
Development in Accordance with Plans and Documents	
D3. The Applicant shall carry out the Development in accordance with the: (c) EIS and RTS; (d) the letter titled *'Re: SSD6917 Oakdale South Industrial Estate, TransGrid Easement Flood Extents*', ref 14-193-ATL-TRANSGRID-L2, prepared by At&l, dated 18 May 2016 and all appendices; (e) the Supplementary Response to Submissions titled *'Re: Oakdale South Estate SSDA_6917'* prepared by Urban Advisory Services , dated 12 July 2016; (n) Modification Assessments (o) the development layout plans and drawings listed at Appendix 1; and (p) the Management and Mitigation Measures (see Appendix 3).	Noted
D4. If there is any inconsistency between the plans and documentation referred to above, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent prevail to the extent of any inconsistency.	Noted
D5. The Applicant shall comply with any reasonable requirement(s) of the Secretary arising from the Department's assessment of: (a) any reports, plans or correspondence that are submitted in accordance with this consent; and (b) the implementation of any actions or measures contained within these documents.	Noted
Prescribed Conditions	
D10. The Applicant shall comply with all relevant prescribed conditions of Development Consent under Part 6, Division SA of the Regulation.	Noted
Evidence of Consultation	
D14. Where consultation with any public authority is required by the conditions of this consent, the Applicant shall: (a) consult with the relevant public authority prior to submitting the required documentation to the Secretary, where required; (b) submit evidence of this consultation as part of the relevant documentation required by the conditions of this consent to the Secretary; and (c) include the details of any outstanding issues following this consultation upon submitting any documentation required by the conditions of this consent.	Noted
Dispute Resolution	
D15. In the event that a dispute arises between the Applicant and Council or a public authority, in relation to an applicable requirement in this consent or relevant matter relating to the Development, either party may refer the matter to the Secretary for resolution. The Secretary's determination of any such dispute shall be final and binding on the parties.	Sections 2.4 and 2.7
Statutory Requirements	
D17. The Applicant shall ensure that all necessary licenses, permits and approvals are obtained and kept up-to-date as required throughout the life of the Development. No	Section 3.1

<table>
<tr><th>Development Consent SSD 6917 (as modified)</th><th>Comments</th></tr>
<tr><td>condition of this consent removes the obligation for the Applicant to obtain, renew or comply with such licenses, permits or approvals.</td><td></td></tr>
<tr><td colspan="2">Compliance</td></tr>
<tr><td>D25. The Applicant shall ensure that employees, contractors and sub-contractors are aware of, and comply with, the conditions of this consent relevant to their respective activities.</td><td>Section 2.5</td></tr>
<tr><td>D26. The Applicant shall be responsible for any environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, sub-contractors and visitors.</td><td>Sections 2.5, 2.6 and 3</td></tr>
<tr><td colspan="2">Operation of Plant and Equipment</td></tr>
<tr><td>D27. The Applicant shall ensure that all plant and equipment used for the Development is:
(a) maintained in a proper and efficient condition; and
(b) operated in a proper and efficient manner.</td><td>Section 3.1</td></tr>
<tr><td>D28. The Applicant shall not operate any mobile plant and equipment which exceeds a height of 4.2 metres within the TransGrid transmission line easement. All construction plant and equipment that will operate within the transmission line easement shall be fitted with an earthing trail.</td><td>Section 3.1</td></tr>
<tr><td colspan="2">Schedule E - Environmental Performance and Management</td></tr>
<tr><td colspan="2">Traffic and Access</td></tr>
<tr><td>Operational Traffic Management Plan
E3. Prior to the issue of an Occupation Certificate for each building, the Applicant shall prepare and submit an Operational Traffic Management Plan (OTMP) for the development in consultation with Council and TfNSW, to the Secretary for approval. The OTMP must at a minimum:
(a) be prepared by a suitably qualified and experienced expert;
(b) estimate the numbers and frequency of truck movements, sizes of trucks, vehicle routes and hours of operation;
(c) detail the access and parking arrangements for operational vehicles to ensure road and site safety, and demonstrate that there will be no queuing on the public road network;
(d) include detail of proposed truck parking to ensure this is managed in an orderly manner; and
(e) include a Driver Code of Conduct that details traffic management measures to be implemented during operation to:
(i) minimise impacts of the development on the local and regional road network;
(ii) minimise conflicts with other road users;
(iii) ensure truck drivers use specified routes and minimise traffic noise during night-time hours; and
(iv) manage/control pedestrian movements</td><td>Section 3.4</td></tr>
<tr><td>E4.The Applicant must ensure that the OTMP (as revised and approved by the Secretary from time to time) is implemented for the life of the development.</td><td>Section 3.4</td></tr>
<tr><td>E5 The Applicant shall provide a minimum of 395 on-site car parking spaces (including at least 2 spaces for people with a disability per 100 parking spaces) for use during operation of the Development, distributed as shown in Table 4 below.
Table 4: Precinct Car Parking Provisions for Stage 1
<table>
<tr><th>Precinct</th><th>Building</th><th>Minimum Car Parking Requirements</th></tr>
<tr><td rowspan="4">1</td><td>A</td><td>59</td></tr>
<tr><td>B</td><td>76</td></tr>
<tr><td>C</td><td>114</td></tr>
<tr><td>D</td><td>146</td></tr>
<tr><td colspan="2">TOTAL</td><td>395</td></tr>
</table>
</td><td>Section 3.4</td></tr>
</table>

Development Consent SSD 6917 (as modified)	Comments
Operating Conditions E6. The Applicant shall ensure that: (a) all trucks entering or leaving the site with loads have their loads covered; and (b) trucks associated with the Development do not track dirt onto the public road network.	Section 3.4
Internal Roads, Queuing and Parking E8.The Applicant shall ensure that: (a) internal roads, driveways and parking associated with the Development are constructed and maintained in accordance with the relevant standards and the latest versions of AS 2890.1,AS 2890.2 and AS/NZS 2890 .6; (b) the swept path of the longest vehicle entering and exiting the site, as well as maneuverability through the site, must be in accordance with *AUSTROADS Design Vehicles and Turning Path Templates*; (c) the Development does not result in any vehicles queuing on the public road network; (d) heavy vehicles associated with the Development do not park or stand 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 vehicles enter and exit the site in a forward direction; (g) all loading and unloading of materials is carried out on-site; and (h) the loading areas and turning areas in the car park are kept clear of any obstacles, including parked vehicles, at all times.	Section 3.4
Stormwater E14. The Applicant shall carry out the Development in accordance with the SWMR (Stormwater Management Report) as approved by the Secretary (and as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.	Section 3.6
E20. The Applicant shall maintain all bio-retention basins on-site in perpetuity.	Section 3.6
Noise and Vibration	
Operational Noise Limits E35. The Applicant shall operate the Stage 1 DA in a manner that ensures the Oakdale South Industrial Estate complies with the noise limits for the Concept Proposal set in Condition B18 of this Development Consent.	Section 3.2
Noise Management E38. The Applicant shall: (a) implement best management practice, including all reasonable and feasible measures to prevent and minimise noise and vibration during construction and operation of the Development (including low frequency noise and traffic noise); (b) minimise the noise impacts of the Development during adverse meteorological conditions when noise criteria do not apply; (c) maintain the effectiveness of any noise suppression equipment on plant at all times and ensure defective plant is not used operationally until fully repaired; and (d) regularly assess noise monitoring data and relocate, modify and/or stop operations to ensure compliance with the relevant conditions of this consent.	Section 3.2
Heritage	
Interpretation Plan E45. Within 12 months of the completion of the Stage 1 DA works, the Applicant shall prepare Heritage Interpretation Plan addressing Aboriginal Cultural Heritage, the former Lochwood Estate and Lenore Closer Soldier Settlement Scheme for the Secretary's approval. The Heritage Interpretation Plan shall be prepared in consultation with the Heritage Council and the OEH and include information obtained through the historical research and archaeological investigations of the subject land (Aboriginal and historic) to enable future users of the site to understand the sites history.	Noted

<table>
<tr><th>Development Consent SSD 6917 (as modified)</th><th>Comments</th></tr>
<tr><td colspan="2">Air Quality</td></tr>
<tr><td>E48. The Applicant shall:
(a) implement best management practice, including all reasonable and feasible mitigation measures to prevent and minimise dust and odour emissions from operation of the Development; and
(b) minimise any visible off-site air pollution that occurs as a result of construction and operation the Development.</td><td>Section 3.7</td></tr>
<tr><td>Dust Minimisation
E49. The Applicant shall implement all reasonable and feasible measures to minimise dust and odour emissions generated during demolition, earthworks, construction and operation of the Development.</td><td>Section 3.7</td></tr>
<tr><td colspan="2">Hazard and Risks</td></tr>
<tr><td>Dangerous Goods
E53. The storage of Dangerous Goods shall not exceed the thresholds outlined in the Hazardous and Offensive Development Application Guidelines: Applying SEPP 33.</td><td>Section 3.10</td></tr>
<tr><td>E54. Dangerous Goods, as defined by the Australian Dangerous Goods Code, shall be stored and handled strictly in accordance with all relevant Australian Standards.</td><td>Section 3.10</td></tr>
<tr><td>E54A. The storage of dangerous goods within Warehouse 1D must not exceed the quantities provided in Table 6 & 7 (below).
Table 6
<table>
<tr><th>Area</th><th>Class</th><th>Packing Group</th><th>Quantity (L or KG)</th></tr>
<tr><td rowspan="4">General Warehouse</td><td>2.1 (aerosols)*</td><td>N/A</td><td>556,554 L / 139,139 kg</td></tr>
<tr><td>3</td><td>II and III</td><td>494,678 L</td></tr>
<tr><td>4.1</td><td>II and III</td><td>7,051</td></tr>
<tr><td>5.1</td><td>III</td><td>58,724</td></tr>
<tr><td rowspan="3">Autostore **</td><td>2.1 (aerosols)</td><td>N/A</td><td>290 kq</td></tr>
<tr><td>3</td><td>II and III</td><td>16,750 L</td></tr>
<tr><td>5.1</td><td>II and III</td><td>450 L</td></tr>
</table>
* The quantity of aerosols is in relation to the quantity of liquefied petroleum gas (LPG) contained in aerosol cans as propellant.
** Minor quantities of Class 4, 8 and 9 (<100 L) are not listed in the table.
<table>
<tr><th>Class</th><th>Description</th><th>Packing Group</th><th>Quantity (KG)</th></tr>
<tr><td>2.1</td><td>AEROSOLS (LPG)</td><td>N/A</td><td>54</td></tr>
<tr><td>2.1</td><td>Liquefied Petroleum Gas (LPG)</td><td>N/A</td><td>9,900**</td></tr>
<tr><td>3</td><td>Flammable Liquids</td><td>II</td><td>200*</td></tr>
<tr><td>8</td><td>Corrosive substances</td><td>II</td><td>6,951</td></tr>
<tr><td>9</td><td>Miscellaneous substances</td><td>III</td><td>52</td></tr>
</table>
* Density obtained from SDS for each item.
**Density of LPG assumed to be 550 kg/m3</td><td>Section 3.10</td></tr>
<tr><td>Ongoing
E54E. Twelve months after the commencement of SSD 6917 MOD 10 operations and every five years thereafter, or at such intervals as the Secretary may agree, the Applicant shall carry out a comprehensive Hazard Audit of the development and within one month of each audit submit a report to the Secretary.
The audits shall be carried out at the Applicant's expense by a qualified person or team, independent of the Development, approved by the Secretary prior to commencement of each audit. The Hazard Audit shall be consistent with the Department's Hazardous Industry Planning Advisory Paper No. 5, 'Hazard Audit Guidelines'.</td><td>Section 3.10</td></tr>
</table>

Development Consent SSD 6917 (as modified)	Comments
Bunding E55. The Applicant shall 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 the EPA's *Storing and Handling of Liquids: Environmental Protection - Participants Handbook*.	Section 3.10
Waste	
Classification E58. The Applicant shall ensure that any waste generated on the site is classified in accordance with the EPA's *Waste Classification Guidelines* (DECCW, 2009), or any superseding document and disposed of to a facility that may lawfully accept the waste.	Section 3.5
Waste Management E59. The Applicant shall implement the Waste Management Plan at Appendix W of the EIS for the duration of construction works and for the operational life of the Development.	Section 3.5
E60. For the life of the Development, the Applicant shall: (i) monitor the amount of waste generated by the Development; (j) investigate ways to minimise waste generated by the Development; and (k) implement reasonable and feasible measures to minimise waste generated by the Development in accordance with the EPA's *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021.*	Section 3.5
Visual Amenity	
Landscaping E65. The Applicant shall maintain all site perimeter landscaping, in accordance with the approved LMP for the life of the Development.	Section 3.8
Lighting E66. The Applicant shall ensure that the lighting associated with the Development: (e) complies with the latest version of *AS 4282 (/NT) - Control of Obtrusive Effects of Outdoor Lighting*; and (f) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.	Section 3.8
Bushfire Protection	
E76. Prior to the commencement of operation, the Applicant shall prepare a Bushfire Emergency Evacuation Plan, in consultation with the Rural Fire Service that complies with section 4.2.7 of *Planning for Bushfire Protection 2006* and '*Development Planning – A guide to Developing a Bush Fire Emergency Management and Evacuation Plan December 2014'*, to the satisfaction of the Secretary. The Bushfire Emergency Evacuation Plan shall form part of the OEMP.	Section 3.9
Schedule F – Environmental Management, Reporting and Auditing	
Environmental Management	
Operational Environmental Management Plan F4. The Applicant shall prepare an Operational Environmental Management Plan (OEMP) for the development and be submitted to the satisfaction of the Secretary prior to the commencement of operations. The OEMP must: (c) provide the strategic framework for environmental management of the development; (d) identify the statutory approvals that apply to the development; (e) include a copy of all relevant management plans and monitoring requirements and (d) programs relevant under this consent; (f) outline all environmental management practices and procedures to be followed during operation; (g) describe all activities to be undertaken on the site during operation;	This document See **Table 2**

Development Consent SSD 6917 (as modified)	Comments
(h) detail how the environmental performance of the operation of the development will be monitored, and what actions will be taken to address identified adverse environmental impacts; (i) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development; (j) describe the procedures that will 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 during the course of the development; (iv) respond to any non-compliance; (v) respond to emergencies; (vi) include copies of any strategies, plans and programs approved under the (vii) conditions of this consent; and (vii) a clear plan depicting all the monitoring required to be carried out under the conditions of this consent	
F5. The approved OEMP (as revised and approved by the Secretary from time to time) shall be implemented by the Applicant for the life of the Development.	Noted
Environmental Reporting	
Regular Reporting F7. The Applicant shall provide regular reporting on the environmental performance of the Development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.	Section 3.1
Access to Information	
F8. The Applicant shall make the following information publicly available on its website and keep the information up to date: (a) the EIS; (b) the RTS; (c) current statutory approvals for the Development; (d) approved strategies, plans or programs; (e) a complaints register, updated on an annual basis; and (f) any other matter required by the Secretary. ***Note:*** *This condition does not require any confidential information to be made available to the public.*	Section 3.1
Revision of Strategies, Plans and Programs F9. Within three months of: (a) the determination of a modification; (b) an incident report under Condition F6, the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary. ***Note:*** *This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the Development.*	Section 5
APPENDIX 3 - MANAGEMENT AND MITIGATION MEASURES	
Soils and Water – Water Usage	
Measures and considerations for the minimisation of water use during construction and operation to be incorporated into CEMP and OEMP as relevant	Section 3.8
Management measures described in the Salinity Management Plan to be adopted in the CEMP and OEMP as relevant	Section 3.8
Other Environmental Issues – Flora and Fauna	

Development Consent SSD 6917 (as modified)	Comments
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. • Restoration of retained areas of vegetation on the site including riparian corridors; • Native grassland restoration to other areas of the site including road batters and outside batters of bio-retention basins; and • Ongoing maintenance and management of these areas.	Section 3.8
Waterways and Riparian Lands	
Ongoing management of riparian lands on the site.	Section 3.8
Operational Noise	
Cumulative sound power levels of fixed plant for each building within the OSE to be limited to 100dBA. Further assessment of potential operational noise impacts to be undertaken in respect of any specific operations proposed within the OSE with an atypical noise profile. Assessment of future fixed plant to ensure specifications minimise noise emissions or apply local attenuation to manage potential noise impacts.	Section 3.2
Air Quality and odour - Operational	
Further assessment of potential air quality impacts to be undertaken in respect of any specific operations proposed within the OSE with an atypical air emissions profile. − Specific operations proposed within the OSE with the potential for generation of odour would be subject to further assessment.	Section 3.7
Waste Management - Operations	
Detailed operational waste minimisation and management measures to be included in the OEMP as described in Appendix W (of EIS).	Section 3.5

2.4 Community Enquiries

Relevant contact details, including a phone number for community enquiries, will be included on site signage. All community enquiries should be forwarded to Goodman's Portfolio Manager Josh Frame and Infrastructure inquiries to the infrastructure manager Lachlan O'Reilly.

Table 5 Community Enquiries Contact Details

Role	Key Contact	Contact Details
Portfolio Manager	Josh Frame	josh.frame@goodman.com
Goodman Building Manager	Lachlan O'Reilly	Lachlan.OReilly@goodman.com>

2.5 Environmental Training

It is responsibility of Goodman's Building Manager to ensure all Facility Managers 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 Facility Managers 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 Facility Managers to conduct regular "toolbox talks" to ensure continuing awareness of environmental management expectations and responsibilities.

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 emergency response actions for the site as detailed in the Bushfire Emergency Evacuation Plan (ABPP 2024);
- Energy management and energy savings procedures especially in regard to high energy consumption aspects of operating site infrastructure;
- Appropriate response and management of environmental incidents (for example, a fuel or chemical spill) in accordance with the incidents protocol in Section 2.6; and
- Appropriate response and management of complaints received from the public, government agencies or other stakeholders in accordance with the complaints protocol in Section 2.7.

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

2.6 Environmental Incidents

For the purposes of this OEMP, an environmental incident is defined as any event that causes or has the potential to cause material harm to the environment

2.6.1 Objective

To ensure that any environmental incident caused by or relating to the operation of Oakdale South is effectively responded to, and any resulting adverse environment and/or human health impact is promptly prevented or effectively managed.

2.6.2 Responsibility

Goodman's Building Manager, Facility Managers and other Owners Facility Managers are responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an environmental incident. The induction and toolbox talks outlined in Section 2.5 should be used to ensure all site employees and contractors are aware of and understand their obligations for incident response.

All employees and contractors are to:

- Notify their respective Facility Manager who will then notify Goodman's Building Manager of any hazard or potential hazard that may result in an environmental incident, regardless of the nature or scale;
- Take immediate action to notify their respective Facility Manager, who will then notify Goodman's Building Manager, 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.

2.6.3 Notification Requirements

Notification responsibilities for incidents that have caused or threatened to cause material harm to the environment are detailed in section 148 of the Protection of the Environment Operations Act 1997 (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 Oakdale South must, immediately after becoming aware of any potential incident (even if outside of normal business hours), notify the Facility Manager of the incident and all relevant information about it. If the Facility Manager is unavailable, Goodman's Building Manager must be contacted. All Facility Managers and Goodman's Building Manager 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, not owned by Goodman to notify

- The employer or occupier of the premises (in this case, the Facility Manager) 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. Penrith City Council [Council]);
- NSW Public Health Unit;
- SafeWork NSW; and
- Fire and Rescue NSW.

Table 6 lists the contact details for these authorities. The person reporting the pollution incident should 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 6: Regulatory Authority Contact Details for Environmental Incidents

Regulatory Authority/ Stakeholder	Key Contact	Contact Details
Department of Planning, Housing and Infrastructure (DPHI)	Compliance Unit	1300 305 695 or 02 9228 6111 compliance@planning.nsw.gov.au
Environment Protection Authority (EPA)	Environment Line	131 555 info@environment.nsw.gov.au
	Head office (Sydney)	02 9995 5000
Environment, Energy and Science (EES) Group	Main switchboard	1300 361 967 info@environment.nsw.gov.au
Penrith City Council	Main switchboard	02 4732 777

Regulatory Authority/ Stakeholder	Key Contact	Contact Details	
		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

2.6.4 Handling Procedure

Upon becoming aware of an environmental incident, the procedure outlined below must be followed.

1 Preventative Action

Where possible and safe to do so, immediate action should be taken to prevent, stop, contain and/or minimise the environmental impact of the incident. The situation should be visually assessed and emergency response undertaken if required.

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

2 Assistance

If adequate internal resources are not available and the incident 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 2.7.3.

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 2.6.3.

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 must be strictly adhered to.

4 Investigate

Where safe to do so, undertake immediate investigative work to determine the cause of the incident.

5 Remedial Action

Where safe to do so, undertake appropriate remedial action to address the cause of the incident or emergency 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 environmental incident is to be recorded in an Incident and Hazard Report. A copy of the completed report should be maintained for at least four years.

7 Preventative Action

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

2.6.5 Incidents Register

An Environmental Incidents Register is to be maintained at Oakdale South. The register should contain the following:

- A copy of the environmental incident notification requirements and handling procedure contained above in Sections 2.6.3 and 2.6.4;
- Site evacuation procedures;
- A separate reference sheet containing the contact details for Goodman's Building Managers, Facility Managers and other Owners' Facility Managers and the contact details for the regulatory authorities listed above in **Table 6**
- Blank hard copies of the Incident and Hazard Report; and
- Copies of all completed Incident and Hazard Reports, which are to be maintained on-site for at least four years after the event to which they relate.

2.7 Environmental Complaints

2.7.1 Objective

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

2.7.2 Responsibility

Goodman's Building Manager, Facility Managers and other Owners Facility Managers are 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 and toolbox talks outlined in Section 2.5 should be used to ensure all site employees and contractors are aware of and understand their obligations for incident response.

All employees and contractors who take receipt of a complaint, either verbal or written, are to immediately notify the Facility Manager, who will then contact Goodman's Building Manager.

2.7.3 Handling Procedure

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

1 Receive

In the normal course of events, the first contact for complaints will usually be made in person or by telephone. While this should instigate investigative action, a formal written complaint should also be requested.

Where the initial contact reaches an employee/contractor who is not a representative of Owner's Facility Management team, the call should be directed to the respective Owner's Facility Manager or the Goodman Building Manager. If unavailable, the complainant's details should be taken with a view to returning the contact once the Owner's Facility Manager/Goodman's Building Manager is in a position to discuss the matter.

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

2 Investigate

A field investigation should be initiated in an attempt to establish the legitimacy of the complaint and the cause of the problem. The respective Facility Manager should be consulted to identify any abnormality or incident that may have resulted in the complaint. Any monitoring information and/or records at and around the time of the complaint should 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.

3 Remedial Action

Once the legitimacy and cause of the complaint has been established, every possible effort must be made to undertake appropriate remedial action(s) to fix the cause of the complaint and mitigate any further impact.

4 Inform

The investigative work and remedial action should be reported back to the complainant and, if necessary, the relevant authorities.

5 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 Environmental Complaint Report Form. A copy of the completed form should be maintained for at least four years.

6 Preventative Action

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

3.0 Environmental Management Commitments

Environmental aspects with the potential to be impacted by Oakdale South are addressed in the following sub-sections. These issues have specific regulatory requirements (imposed by Development Consent SSD 6917) 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 7 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 7: General Environmental Management Controls

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
All necessary licences, permits and approvals will be obtained and kept up to date as required throughout the life of the Development.	Table 1 2 3	Ongoing	SSD 6917 Condition D17
All employees, contractors and sub-contractors will be made aware of, and comply with, the conditions of this consent relevant to their respective activities.	Contractors / Subcontractors / Employees		SSD 6917 Condition D25
All plant and equipment will be maintained and operated in a proper and efficient manner.	Tenants / Contractors / Facility Managers		SSD 6917 Condition D27
No mobile plant and equipment which exceeds a height of 4.2 metres will be operated within the TransGrid transmission line easement.			SSD 6917 Condition D28
All activities associated with the operation of the Development will be undertaken in a manner that does not restrict TransGrid from operating and maintaining its transmission towers.	Tenants / Contractors / Facility Managers		SSD 6917 Condition E70
A 25 m horizontal clearance will be maintained from each transmission tower leg at all times during operation.	Contractors / Facility Managers		SSD 6917 Condition E71
Regular reporting on the environmental performance of the Development will be available on the website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of SSD 6917.	Facility Managers		SSD 6917 Condition F7
The following information will be made publicly available on the website and the information kept up to date: a) the EIS; b) the RTS; c) current statutory approvals for the Development; d) approved strategies, plans or programs; e) a complaints register, updated on an annual basis; and f) any other matter required by the Secretary.			SSD 6917 Condition F8

3.2 Noise

Operational noise at Oakdale South will be managed in accordance with the Operational Noise Management Plan (ONMP) (SLR 2024), a copy of which is contained in **Appendix B**.

As replicated in Table 8, condition B18 of Development Consent SSD 6917 lists the project-specific operational noise limits for Oakdale South.

Table 8: Project Specific Noise Limits dB(A)

Location	Day	Evening	Night	
	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{A1(1\ minute)}$
L1 North of Warragamba Pipeline	37	37	37	47
L2 Horsley Park	39	39	39	49
L3 Kemps Creek, Mt Vernon, Jacfin and Capitol Hill	40	40	40	48

Note: Noise generated by the Development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.

The environmental management controls in Table 9 will be implemented to minimise the potential for adverse noise emissions from the operation of Oakdale South.

Table 9: Environmental Management Controls for Noise

Environmental Management Controls	Person Responsible	Timing / Frequency	References / Notes
Noise generated by the operation of the Development will not exceed the noise limits set out in **Table 7** above.	Tenants / Contractors / Facility Managers	On-going	SSD 6917 Condition B18
All plant and equipment will be maintained and operated in a proper and efficient manner.	Tenants / Facility Managers		SSD 6917 Condition D27
Noise walls will be maintained throughout the operation of the Development.			SSD 6917 Condition E36
Best management practice will be implemented, including all reasonable and feasible measures to prevent and minimise operational noise (including low frequency noise and traffic noise).			SSD 6917 Condition E38
Noise impacts will be minimised during adverse meteorological conditions when noise criteria do not apply.			
The effectiveness of any noise suppression equipment on plant will be maintained at all times and defective plant will not used operationally until fully repaired.			
Cumulative sound power levels of fixed plant for each building will be limited to 100 dBA.			SSD 6917 Appendix 3
Regular assessment of fixed plant will be undertaken to ensure specifications minimise noise emissions or apply local attenuation to manage potential noise impacts.	Tenants / Facility Managers	On-going	SSD 6917 Appendix 3
An awareness and understanding of noise issues and the use of quiet work practices will be included in site inductions for all employees, contractors and visitors. Specific mention of the following items will be included: Site specific noise management measures to be followed.		During site inductions	ONMP Section 9.1

Environmental Management Controls	Person Responsible	Timing / Frequency	References / Notes
Locations of nearby noise sensitive receivers.			
The simultaneous use of multiple items of significant noise generating equipment will be avoided wherever possible, scheduling operations so they are used separately rather than concurrently	Tenants / Contractors	On-going	
The use of noisy equipment will seek to not be scheduled during daytime hours.	Tenants / Facility Managers		
Noisy equipment will be sited behind structures that act as barriers, or at the greatest distance from the noise-sensitive area, or orienting the equipment so that noise emissions are directed away from any sensitive areas, to minimise noise emissions.	Tenants / Contractors / Facility Managers		
Where practicable, all roller doors will be kept closed during the night-time period.			
Weather conditions will be monitored and where adverse conditions are experienced or predicted (such as high winds or temperature inversions), operational changes will be made to avoid or reduce noise impacts during these periods.	Facility Managers		
All equipment, machinery and plant used on site will be maintained regularly to minimise noise generation.	Tenants / Contractors / Facility Managers		
The effectiveness of any noise suppression equipment will be maintained on plant at all times and ensure defective plant is not operational until fully repaired.			
The volume of reversing and start-up alarms will be reduced to the minimum practicable level (while still complying with safety regulations) and the least intrusive alarms will be used.			
Maximum allowable noise/sound levels will be specified when purchasing equipment.		When purchasing new equipment	
Maximum allowable noise/sound levels will be included in tender documents and contracts.		Included during tender contract negotiations	
Noise monitoring will include attended monitoring as well as a program to monitor the Sound Power Levels (SWLs) of the plant on site.	Tenants / Facility Managers	On-going	
An awareness of industry developments will be maintained in relation to noise mitigation for individual plant items used on the site in order to assess cost and practicality of plant upgrade or mitigation implementation.	Tenants / Facility Managers	On-going	ONMP Section 9.1
Outdoor fixed plant will be enclosed where possible.			ONMP Section 9.2
Operational noise surveys will be conducted in accordance with the ONMP.		Every 6 months	ONMP Section 10.1.1
The sound power levels of all plant and equipment will be tested with all results maintained.		Every 3 years at minimum	ONMP Section 10.3

3.3 Energy Efficiency

The Energy Efficiency S.96 Report (EER) (SLR 2024) in **Appendix C** identifies all potential energy savings pertinent to the operation of Oakdale South, including a description of likely

energy consumption levels and options for alternative energy sources such as solar power in accordance with Council's requirements.

Table 10 lists the environmental management controls to be implemented at Oakdale South in relation to energy efficiency.

Table 10: Environmental Management Controls for Energy Efficiency

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
Information on energy savings procedures, annual energy targets for the development, as well as the results of energy usage reviews and audits, will be communicated to all employees via forums.		Quarterly	EER Section 4.5
The EER will be implemented to ensure that the Development will continue to operate at industry best practice over time.	Contractors / Facility Managers / Asset Managers	On-going	SSD 6917 Condition E51
Building: • Heat-reflective semi-translucent roller blinds on all windows will reduce solar heat load to the building. • Awnings over windows or shading devices where appropriate will be maintained to reduce the solar heat load to the building therefore decreasing the cooling load requirements from the air conditioning system. • Roller shutter openings (natural ventilation) will be used during hot summer to reduce the internal temperature.			EER Section 4.3.1
Lighting: • LED lighting will be implemented where possible for the benefit of lower energy consumption with a longer bulb lifespan. • Lighting zoning will be used for light switching in zones. • Lighting system will be programmable and incorporate timeclock, and motion sensors in the warehouses, office, lunch room and amenities. • Energy efficient floodlights will be considered for lighting of external perimeter of building.	Facility Managers / Asset Managers		EER Section 4.3.2
Air Conditioning: • Air-conditioning control zoning will be provided where necessary to cater for varying occupancy rates, orientation to solar loads etc.			EER Section 4.3.3
Signs will be placed adjacent to any appliances or equipment, where significant energy savings can be made through employee awareness of simple energy savings procedures.	Facility Managers / Asset Managers		EER Section 4.5
Electrical equipment will be maintained to Australian Standards to ensure unnecessary energy wastage is minimised.			EER Section 4.6.2

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
A Building Users' Guide will be provided regarding the everyday operation of a building and will 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.	Contractors / Facility Managers / Asset Managers		EER Section 4.6.2
Natural Ventilation versus Air Conditioning: • Provision will be made to increase outside air rates, during favourable climatic conditions which maintain general contaminants at lower concentrations than artificially ventilated spaces, improving the indoor air quality environment.			EER Section 5
Daylight versus Artificial Lighting: • Reliance on artificial lighting in buildings will be reduced and natural lighting will be favoured to improve the mindset and health of workers and visitors.	Tenants / Facility Managers	On-going	
GreenPower may be purchased from the electricity provider: • GreenPower is electricity from wind or solar energy which does not emit greenhouse gas.			

3.4 Traffic

Operational traffic at Oakdale South will be managed in accordance with the Operational Traffic Management Plan (OTMP) (Ason 2024) contained in **Appendix D**. The OTMP provides guidance in relation to the parking and traffic management arrangements for Oakdale South with an overall objective to ensure safe and efficient movement of vehicles and personnel. The OTMP details type, frequency and number of trucks within Oakdale South, parking arrangements, internal traffic controls and signage, and outlines the commitments of the Driver Code of Conduct to be implemented at Oakdale South.

The environmental management controls in Table 11 will be implemented to further minimise the potential for adverse impact associated with operational traffic at Oakdale South.

Table 11: Environmental Management Controls for Traffic

Environmental Management Control	Personnel Responsible	Timing / Frequency	References / Notes
All employees and sub-contractors will be provided with sufficient training so that they are familiar with the OTMP.	Owners / Goodman's Management / Contractors / Facility Managers	Prior to commencing operations	OTMP Section 8.2.1
The OTMP will be reviewed (and updated where necessary).	Owners / Goodman's Management / Contractors / Facility Managers	If a new tenant occupies a Site	OTMP Section 8.1

Environmental Management Control	Personnel Responsible	Timing / Frequency	References / Notes
A Transport Emergency Response Plan (TERP) is required prior to transporting dangerous goods.	Facility Managers / Contractors	Prior to transporting dangerous goods	OTMP Section 5.6
The OTMP will be implemented for the life of the Development.	Owners / Goodman's Management / Contractors / Facility Managers	On-going	SSD 6917 Condition E3
A minimum of 395 on-site car parking spaces (including at least 2 spaces for people with a disability per 100 parking spaces i.e. 10 spaces) will be available for use during operation of the Development.	Owners / Goodman's Management		SSD 6917 Condition E5
All trucks entering or leaving the site will have their loads covered.	Contractors / Facility Managers	On-going	SSD 6917 Condition E6
Trucks associated with the Development will not track dirt onto the public road network.			SSD 6917 Condition E6
Any incidents such as fuel spills or accidents, driver and drivers company is to follow the incident and non compliance response and handling procedure detailed in this OEMP	Facility Managers / Contractors / Tenants / Asset Managers		Section 2.6
All internal roads, driveways and parking associated with the development will be maintained in accordance with the relevant standards and the latest versions of AS 2890.1, AS 2890.2 and AS/NZS 2890.6.	Owners / Goodman's Management		SSD 6917 Condition E8
The swept path of the longest vehicle entering and exiting the site, as well as manoeuvrability through the site, will be maintained in accordance with AUSTROADS Design Vehicles and Turning Path Templates.			
No vehicles will queue on the public road network.	Facility Managers / Contractors / Tenants / Asset Managers		
Heavy vehicles associated with the Development will not park or stand on local roads or footpaths in the vicinity of the site.			
All vehicles will be wholly contained within the site before stopping.			
All vehicles will enter and exit the site in a forward direction.			
All loading and unloading activities are to be carried out within the site.			
All loading areas and vehicle turning areas will be kept clear of any obstacle, including parked vehicles, at all times.	Facility Managers / Contractors / Tenants / Asset Managers		SSD 6917 Condition E8
Traffic barriers will be maintained along trafficable areas adjacent to the TransGrid site frontage, to restrain B-double vehicles, generally in accordance with any road safety audit outcomes and the relevant Austroad and RMS design standards.	Owners / Goodman's Management		SSD 6917 Condition E70

Environmental Management Control	Personnel Responsible	Timing / Frequency	References / Notes
All activities associated with the operation of the Development will be undertaken in a manner that does not restrict TransGrid from operating and maintaining its transmission towers.	Facility Managers / Contractors / Tenants	On-going	
All drivers are to operate vehicles in a manner consistent with the requirements of applicable Work Health and Safety (WHS) legislation.			OTMP Section 5.2
Heavy vehicles will use the Classified Road network wherever possible, with the use of local Council roads only as necessary.			OTMP Section 5.2.2
Vehicles turning right into driveways or side roads will do so from as close to the centreline of the carriageway while ensuring that motorists will not use the inside lane.			
Heavy vehicles (in excess of 4.5 Tonne GVM) or long vehicles (over 7.5 metres in length) will 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 (excluding buses).			
All access and egress from individual sites will be in a forward direction at all times.			OTMP Section 5.3
Where practicable, temporary work areas and pedestrian paths (if applicable) will be physically separated from vehicle movements by way of traffic cones, bollards and/or temporary pedestrian fencing.	Facility Managers / Contractors		OTMP Section 5.5
All vehicle operators will follow the *Driver Code of Conduct.*	Facility Managers / Contractors / Tenants		OTMP Section 6
Vehicles will not be parked on-street.			OTMP Section 7.2
Trailers will be parked within their designated areas and will not be parked within circulation roadways and access roads			
All vehicles will not, in any manner, be knowingly overloaded.			OTMP Section 8.2.1

3.5 Waste

Oakdale South will operate in accordance with the Waste Management Plan (WMP) (SLR 2024) contained in **Appendix E**.

The waste streams to be generated on site will primarily comprise:

- General waste and commingled recycling;
- Bulk packaging wastes including polystyrene and cardboard boxes ;
- Office wastes;
- Bulky waste items, such as furniture and e-waste; and
- Stores, plant and general maintenance wastes.

Table 12 lists the management controls to be implemented at Oakdale South to minimise waste generation and ensure each waste stream is appropriate managed and/or disposed of.

Table 12: Environmental Management Controls for Waste

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
All operational waste will be classified in accordance with the EPA's *Waste Classification Guidelines: Part 1 Classifying Waste* and disposed of to a facility that may lawfully accept the waste.	Facility Managers / Tenants	On-going	SSD 6917 Condition E58
The amount of waste generated will be monitored throughout the life of the development.			SSD 6917 Condition E60 & Appendix 3
Investigation will be undertaken to minimise waste generated by the development.			
Reasonable and feasible measures will be implemented to minimise waste generated by the development in accordance with the EPA's *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021*.		On-going	SSD 6917 Condition E60
Each precinct will have its own waste and recycling storage area where the recycling bins, garbage bins, and cardboard and plastic bales will be stored prior to collection. For each precinct, the waste storage area will be large enough to adequately store all quantities of operational waste and recycling between collections. Appropriate waste storage areas will be identified by the operator of each building.	Facility Managers / Contractors		WMP Section 6.4
Sufficient space will be provided and maintained for the segregation and storage of varying waste types including provision for the collection of fluorescent tubes, smoke detectors, e-wastes and other recyclable resources.	Facility Managers / Contractors / Tenants		
Sufficient space will be provided and maintained to allow for manoeuvrability.			
All waste material will be transported from the interim storage units to the central waste storage area at the end of each day by the site cleaners.	Facility Managers / Contractors / Tenants		WMP Section 6.4
The waste storage area will be maintained in accordance with Section 6.4 of the WMP.			
The waste storage room location will be maintained in accordance with Section 6.5 of the WMP.			WMP Section 6.5
The waste storage area features will be maintained in accordance with Section 6.6 of the WMP.			WMP Section 6.6
The waste servicing access provision listed in Section 6.7 will be implemented in accordance with Councils DCP.			WMP Section 6.7
Hazardous waste produced at the site will be collected by appropriately licensed specialised services.			
A valid waste and recycling collection contract is recommended to demonstrate disposal at a waste facility lawfully able to accept it. Written evidence of the valid contract will be kept on-site.			
Contaminated/Hazardous Wastes: • All contaminated and hazardous wastes will be recycled at an appropriately licensed facility. • E-waste, ink cartridges and batteries contain heavy metal contaminants and will be recycled at an appropriately licensed recycling facility.	Facility Managers / Contractors / Tenants		WMP Section 6.8

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
• Commercial-use smoke detectors will be returned to the supplier for disposal (it is a condition of the supplier's licence to sell smoke detectors) and not disposed of with general landfill waste as they contain small amounts of radioactive material.		On-going	
Signage: • Garbage and recycling bins must be clearly and correctly labelled at all times. • Waste storage areas must have clear signage instructing cleaners and tenants how to correctly separate (if required). • The location of, and directions to, waste storage areas must be well signposted. • All hazards or potential dangers associated with the waste facilities will be clearly identified, especially those linked to compaction or other waste handling equipment. • Emergency contact information will be displayed in case there are any issues with the waste and recycling systems/services in the building. • All signage will conform to the relevant Australian Standard and the EPA's standard recycling signs.	Facility Manager / Asset Managers / Contractors		WMP Section 6.5.5
Management should routinely check waste sorting and storage areas for cleanliness, hygiene and OH&S issues.	Facility Manager		WMP Section 6.6
The WMP will be implemented throughout the life of the operation.	Facility Managers / Contractors / Tenants		
The WMP will be updated on a regular basis to ensure the Plan remains applicable.	Owners / Goodman's Management / Contractors / Facility Managers		
Internal waste audits will be undertaken on a regular basis.			
Cleaning and maintenance requirements for waste equipment will be undertaken.	Management / Contractors / Employees		
Bins will be monitored to ensure no overfilling occurs.			
Signage will be monitored and maintained to ensure it remains clean, clear and applicable.	Management		
Garbage holding areas and storage rooms will be kept tidy.	Management / Contractors / Employees		

3.6 Stormwater

Stormwater generated by Oakdale South will be managed in accordance with the Stormwater Management Report (SWMR) (AT&L 2024) contained in **Appendix F**. While the SWMR was prepared as part of the approval and construction phase of Oakdale South, the associated stormwater infrastructure is required to be maintained for the operational lifetime of the development.

The environmental controls in Table 13 will be implemented to ensure the effective management of stormwater generated by Oakdale South.

Table 13: Environmental Management Controls for Stormwater

Environmental Management Controls	Personnel Responsible	Timing / Frequency	References / Notes
Weed invasions will be monitored in vegetated areas in times of extreme heat.	Facility Managers / Contractors	Fortnightly	SWMR Section 7.8.7.2
Weed invasions will be monitored in vegetated areas.		Monthly	
Inspect and remove all silt traps and outlet sumps - remove grates and screens then remove sediment/sludge build-up and check outlet pipes are clear.	Facility Managers / Contractors	Every 3 - 6 months	SWMR Section 6
Inspect and remove any blockages of orifices - remove grate and screen then inspect orifice.	Facility Managers / Contractors	Every 6 months	SWMR Section 6
Inspect the screen and clean - remove grates and then screens if screen require cleaning.			
Inspect outlet sumps and remove any sediment/sludge (for all silt traps too) - remove grates and screens the remove sediment/sludge build-up and check orifices and outlet pipes are clear.			
Inspect grates for damage or blockage (all grated pits) - check both sides of a grate (especially corners and welds) for corrosion, damage or blockage.			
Check fixing of the step irons for all pits are secure - remove the grates and ensure the fixings are secure prior to placing weight on step iron.			
Check the attachment of orifice plates to the wall of chamber and/or pit - remove the grate and screen then ensure plates are mounted securely, tighten fixings if required. Seal gaps as required.	Facility Managers / Contractors	Annually	SWMR Section 6
Check the attachment of the screens to the wall of the chamber or pit - remove grates and screens to ensure the screen fixings are secure. Repair as required.		Annually	
Check the screens for corrosion - remove grates and examine the screen for rust or corrosion, especially at corners or welds.	Facility Managers / Contractors	Annually	SWMR Section 6
Inspect walls (internal and external, if appropriate) for cracks or spalling - remove grates to inspect the internal walls and repair as required. Clear vegetation from the external walls if necessary and repair as required.			
Inspect outlet pipe and then remove any blockage - remove grates and screens then ventilate underground storage if present. Check orifices and outlets and remove any blockages in the outlet pipe. Flush the outlet pipe to confirm it drains freely then check for sludge/debris on upstream side of the return line.			
Check step irons in pits - remove grate then examine the step irons and repair any corrosion or damage.		Annually	
Inspect storage for subsidence near pits - check along the drainage lines and at the pits for subsidence which likely to indicate leakages.		Annually	
Ensure gross trap pollutants are maintained and cleaned to remove silt build up and gross pollutants - maintain as per Rocla Maintenance Guidelines.			

Environmental Management Controls	Personnel Responsible	Timing / Frequency	References / Notes
All bio-retention basin maintenance requirements will be in accordance with *Water Sensitive Urban Design – Book 4* Maintenance Table 3 as produced by Landcom.		On-going	
General maintenance and monitoring will be undertaken in accordance with Table 25 of the SWMR.			SWMR Section 7.8.4
The basins will be maintained and monitored for mosquito larvae.			SWMR Section 7.8.8.1
A program for maintenance and monitoring of stormwater quantity and quality will be maintained.	Facility Managers / Employees	On-going	SSD 6917 Condition E13
All stormwater infrastructure will be maintained to ensure compliance with the pollutant removal targets in Part C3 - Water Management of the Penrith DCP.			
A 3m wide access track will be maintained around all stormwater basins to permit maintenance.	Owners / Goodman's Management / Contractors / Facility Managers		SSD 6917 Condition E19
The onsite bio-retention basins will be maintained in perpetuity.			SSD 6917 Condition E20
All chemicals, fuels and oils used on-site will be stored in appropriately bunded areas, as per the requirements of Australian Standards and the EPA's *Storing and Handling Liquids: Environmental Protection – Participants Handbook*.	Facility Managers / Contractors / Tenants		SSD 6917 Condition E55
Liquid Wastes: • Liquid, semi-liquids or moist substances will not be placed in waste containers, unless securely wrapped or contained to prevent the substance from leaking. • Any liquid wastes or dangerous goods wastes generated by the development will be disposed of by a suitably qualified contractor to an appropriately licensed disposal facility. • No liquid wastes or wash down waters will be disposed of via the stormwater drainage system. • Wastewater storage tanks will be carefully monitored to ensure overflow does not occur.	Facility Managers / Contractors		WMP Section 6.5.2
Stormwater Treatment: • All stormwater treatment devices are required to be regularly maintained and cleaned to ensure these devices remain effective, with all solid and liquid wastes collected from these devices disposed of in accordance with the WMP.			WMP Section 6.5.3
Spills Management: • Any incidents such as fuel or chemical spills, management/contractors to follow the incident and non compliance response and handling procedure detailed in this OEMP	Owners / Goodman's Management / Contractors / Facility Managers		Section 2.6

Environmental Management Controls	Personnel Responsible	Timing / Frequency	References / Notes
Check orifice diameters are correct and retain sharp edges - compare the diameter to the design (WAE drawings) and check the edge is not pitted or damaged.	Facility Managers / Contractors	Every 5 years	SWMR Section 6

3.7 Air Quality

Air quality impacts associated with the operational phase of Oakdale South 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 pubic road network and internal roads are all sealed.

The environmental controls in Table 14 will be implemented to further minimise the potential for adverse air quality impacts associated with operational activities at Oakdale South

Table 14: Environmental Management Controls for Air Quality

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
All plant and equipment will be maintained in a proper and efficient condition and operated in a proper and efficient manner.	Facility Managers / Contractors	On-going	SSD 6917 Condition D27
Best management practice, including all reasonable and feasible mitigation measures, will be implemented to prevent and minimise dust and odour emissions from operation of the Development.	Facility Managers / Contractors / Tenants		SSD 6917 Condition E48 and E49
Any visible off-site air pollution that occurs as a result of operation the Development will be minimised.	Facility Managers / Contractors		
All vehicles on-site will not exceed a speed limit of 60 kilometres per hour	Facility Managers / Contractors / Tenants		OTMP Section 3.3
All vehicles and mobile plant will be switched off (i.e. not left idling) when not in use for an extended period of time.			
Further assessment of potential air quality impacts to be undertaken in respect of any specific operations proposed within the OSE with an atypical air emissions profile. − Specific operations proposed within the OSE with the potential for generation of odour would be subject to further assessment.	Facility Managers		Appendix 3 SSD 6917

3.8 Landscaping and Visual Amenity

The visual amenity of Oakdale South will be maintained in accordance with the LMP (Site Image 2024) contained in **Appendix A**. It is noted the Vegetation Management Plan (VMP) (Ecologique 2019) has been implemented and is no longer required. Management of the former VMP areas is now the responsibility of Goodman property maintenance team.

The environmental controls in Table 15 will be implemented to minimise the visual impact of the development.

Table 15: Environmental Management Controls for Landscaping and Visual Amenity

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
All waste will be removed and disposed of at an appropriate disposal site.	Facility Manager / Contractors	Immediately upon detection	LMP Section 7.2
Urgent works as identified by Management will be completed within 1 week (7 days) of notification. These may include clearing drains.		Within 1 week	
A maintenance logbook which lists all landscape maintenance actions undertaken on site will be established and maintained.		Fortnightly	
Landscaping will be pruned as necessary to remove dead wood, improve plant shape and promote healthy vigorous new growth.		Inspect every 2 weeks and spray as necessary	
Watering will be undertaken on site. Watering will be undertaken in the early morning or late afternoon to avoid excessive evaporation during the heat of the day.		Where necessary / at least every 2 weeks	
Mowing and edging will be undertaken.		Summer = fortnightly Winter = monthly	
Secondary weeding will be undertaken at intervals following the completion of primary weeding in reconstruction areas.		Every 4 weeks	
Erosion inspection will be undertaken and any repairs undertaken.		Inspect Monthly Repair immediately	
All herbaceous weeds will be managed to be at very-low percentage cover levels, (as a minimum), or better.		Monthly or as required	
Pasture grasses will be prevented from spreading into any bushland zones by applying a spot glyphosate herbicide spray application on the 1m wide buffer zone.		Monthly or as required	
Plants will be inspected, spent flowers and dead stalks removed as they become apparent.		Monthly or as required	
Failed plants will be replaced with matched species, size and location.		One Month of observing failure	
Mulch will be replenished upon observing deficiencies. Prior to placing mulch soil will be aeriated at least 100mm.		One Month of observing deficiencies	
Gardens will be fertilised in accordance with fertiliser manufacturer's directions.		Every 3 months or as required	
Top-dressing will be undertaken.		Every 6 months	
Mulch beds will be topped up 50mm each year if required.		Annually if required	
A 9 month slow release fertiliser will be applied each year if deemed required.		Annually if deemed required	
Maintenance weeding will be undertaken after the completion of primary works with an increase in maintenance hours occurring throughout the warmer growing months.	Council (Dedicated Roads)	For 2 years	

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
Maintenance requirements for landscaping will extend until such time as a minimum 80% survival rate for all plantings and a maximum five percent (5%) weed cover for the treated riparian corridor (controlled activity) is achieved.	Facility Manager / Contractors	Until 80% survival rate	
All site perimeter landscaping, will be maintained in accordance with the approved LMP for the life of the Development.	Facility Manager / Contractors	On-going	SSD 6917 Condition E65
Ongoing maintenance and management of riparian corridors & native grassland areas.			Appendix 3
Lighting associated with the Development will be maintained to comply with the latest version of *AS 4282 (/NT) - Control of Obtrusive Effects of Outdoor Lighting*.	Facility Managers		SSD 6917 Condition E66
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.			
Scour and erosion, and sediment or litter build-up will be monitored and maintained as per Council guidelines.		On-going	
Monitor overflow pits for structural integrity and blockage.	Facility Manager / Contractors / Tenants	On-going	
Silt fences will be inspected and repair where necessary.	Facility Manager / Contractors		LMP Section 7.2

3.9 Hazards, Risk and Emergencies

Table 16 list the management strategies for hazards, risks, emergencies and bushfire as contained in SSD 6917.

Table 16: Environmental Management Controls for Hazards, Risks and Emergencies

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
Dangerous Goods			
Any incidents such as fuel or chemical spills, management/contractors to follow the incident and non compliance response and handling procedure detailed in this OEMP	Owners / Goodman's Management / Contractors / Facility Managers	On-going	Section 2.6
The storage of dangerous goods will not exceed the thresholds outlined in the *Hazardous and Offensive Development Application Guidelines: Applying SEPP 33.*	Facility Manager / Contractors / Tenants		SSD 6917 Condition E53
Dangerous goods, as defined by the *Australian Dangerous Goods Code,* will be stored and handled strictly in accordance with all relevant Australian Standards.			SSD 6917 Condition E54
The storage of dangerous goods on-site must not exceed the quantities provided in Condition E54A Tables 6 and 7 for Warehouse 1D-1 & 1D-2.			SSD 6917 Condition E54A

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
All chemicals, fuels and oils used on-site will be stored in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or the EPA's *Storing and Handling of Liquids: Environmental Protection - Participants Handbook*.			SSD 6917 Condition E55
Spill kits will be provided and maintained on-site.	Facility Manager		Best practice
The actions specified on the relevant SDS will be implemented in the event of a minor spill/incident of a potentially hazardous material.	Facility Manager / Contractors		Section 2.6
In the event of a major spill, the actions listed in Section 2.6 will be implemented.			
Every five years thereafter, or at such intervals as the Secretary may agree, the Applicant shall carry out a comprehensive Hazard Audit of the development and within one month of each audit submit a report to the Secretary. The audits shall be carried out at the Applicant's expense by a qualified person or team, independent of the Development, approved by the Secretary prior to commencement of each audit. The Hazard Audit shall be consistent with the Department's Hazardous Industry Planning Advisory Paper No. 5, 'Hazard Audit Guidelines'.	Facility Manager	Every 5 years or as Secretary may agree	SSD 6917 Condition 54E
Bushfire			
Fire weather will be monitored on a daily basis during the fire danger period (October to March)	Facility Manager	Daily	Best Practice
An Emergency Planning Committee (EPC) will be established and maintained for each of the businesses within Oakdale South.	Facility Manager	As new businesses move in and on-going	Best Practice
An evacuee's registration system will be established in an emergency event to check people into and out from the evacuation areas.	Facility Manager	During an emergency evacuation	BEEP Section 2
Goodman to provide a copy of the *Australian Bushfire Protection Planners (2017) Bushfire Emergency Evacuation Plan (BEEP)* for the Oakdale South Industrial Estate in Kemps Creek to new owners and leaseholders. This document will serve as a template and reference to assist them in developing a tailored BEEP for their individual lots, ensuring compliance with bushfire safety requirements.	Owners / Goodman's Management	On-going	Best Practice
A 26 metre asset protection zone (APZ) is to be provided along the eastern boundary of Biodiversity Lot 1 and the northern boundaries of Biodiversity Lot 2 and Lot 3 a 10 metre APZ is to be provided along the southern boundary of Biodiversity Lot 2 as shown on the plan titled "*Bushfire Protection Plan*" OAK MP 13 (N) prepared by SBA Architects dated 2 August 2017. APZs are to be maintained in accordance with 'Planning for Bushfire Protection 2006' and the NSW Rural Fire Service's document 'Standards for Asset Protection Zones'.	Goodman's Management	On-going	SSD 6917 Condition B19
A copy of the most up to date BEEP will be provided to the Fire & Rescue NSW, the Penrith Bushfire Management Committee and the Penrith Local Emergency Management Committee.	Facility Manager	On-going	Best Practice

Environmental Management Control	Person Responsible	Timing / Frequency	References / Notes
The progress and situation of bushfires in the local region will be monitored through contact with NSW Rural Fire Service.	Facility Manager		Best Practice
The BEEP and training will be maintained in conjunction with the EPC.			
The Emergency Services contact list for each owners/managers Lot BEEP will be updated regularly to ensure all contact details are correct and stored in the site office.			
An internal contact telephone number list will be updated regularly to ensure all contact details are correct and stored in the applicable site office.			
All fire detection and suppression systems that are installed within the building will be certified.			
The Deputy will be fully trained and prepared to take over the role if the Chief Warden is absent.	Facility Manager / Chief Fire Warden		
Zone Wardens will be fully trained and responsible for the co-ordination of employees and visitors during emergencies.			
On-Site/Off-Site Safe Refuge Wardens will be fully trained and responsible for the coordination of employees and visitors at the On-Site and Off-Site Safe Refuge.			

4.0 Monitoring and Auditing

4.1 Monitoring

Table 17 summarises the monitoring requirements for Oakdale South as set out in Development Consent SSD 6917 and relevant management plans.

Table 17: Monitoring Requirements

Monitoring Requirement	Person Responsible	Timing / Frequency	References / Notes
Noise			
Operational noise surveys will be conducted in accordance with the ONMP.	Tenants / Facility Managers	Every 6 months	ONMP Section 10.1.1
The sound power levels of all plant and equipment will be tested with all results maintained.		Every 3 years at minimum	ONMP Section 10.3
Energy Efficiency			
A breakdown of energy usage per month should be undertaken to measure the development's baseline energy use and assess what appliances, equipment and processes are consuming energy.	Facility Manager	Monthly	EER Section 4.6.1
The effectiveness of the energy efficiency measures implemented in accordance with the EER will be monitored and reported.		Annually	SSD 6917 Condition E51
Waste			
All waste generated on the site will be classified in accordance with the EPA's *Waste Classification* Guidelines (DECCW 2009) and the volume of each waste stream will be monitored and recorded over the life of the development.	Facility Manager / Contractors / Tenants	On-going	SSD 6917 Condition E60
Stormwater			
The onsite stormwater management system will be maintained and monitored as per Section 6 of the SWMR over the life of the development.	Facility Manager / Contractors	On-going	SSD 6917 Condition E13 and SWMR Section 6
Biodiversity			
Photographs of the biodiversity management zones will be taken in accordance with Section 5 of the BMP.	Owners / Goodman's Building Manager / Contractors	Annually	BMP Section 5

4.2 Reporting

Table 18 summarises the reporting requirements for Oakdale South as set out in Development Consent SSD 6917 and relevant management plans

Table 18: Reporting Requirements

Reporting Requirement	Person Responsible	Timing / Frequency	References / Notes
General Environmental Performance			
Goodman will report environmental performance internally through regular management meetings and 'toolbox talks'. Items to be discussed include:	Facility Manager	Quarterly or as needed	Section 2.5, 2.6 & 2.7

Reporting Requirement	Person Responsible	Timing / Frequency	References / Notes
• Results of any monitoring activities undertaken during the previous period; • Any environmental incidents that have occurred during the previous period, including the management/corrective actions taken; and Any complaints that have been received during the previous period, including any management/corrective actions taken	Facility Manager		
Goodman will provide regular reporting on the environmental performance of Oakdale South on its website as per the reporting arrangements in any plans or programs approved under the conditions of SSD 6917.		On-going	SSD 6917 Conditions F7
Goodman will provide the following information on its website and keep the information up to date: • The EIS and RTS; • All statutory approvals for the Development; • All approved strategies, plans and programs; • A complaints register, updated on an annual basis; and Any other matter required by the Secretary	Facility Manager		SSD 6917 Condition F8
Revision of Strategies, Plans and Programs			
Within three months of the submission of: (a) the determination of a modification; or (b) an incident report under Condition F6, the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary. *Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the Development.*	Facility Manager	On-going	SSD 6917 Condition F9 Section 2.6.3
Stormwater			
All on-going maintenance reports, contractor cleaning reports and certificates for the onsite stormwater management system will be provided to Council over the life of the development.	Facility Manager	On-going	SSD 6917 Condition E13 and SWMR Section 6
Energy Efficiency			
The effectiveness of the energy efficiency measures implemented in accordance with the EER will be monitored and reported.	Facility Manager	Annual	SSD 6917 Condition E51

4.3 Auditing

Table 19 summarises the auditing requirements for Oakdale South as set out in Development Consent SSD 6917 and relevant management plans.

Table 19: Auditing Requirements

Monitoring Requirement	Person Responsible	Timing / Frequency	References / Notes
An energy audit and management review will be undertaken on a 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.	Facility Manager	Annual	EER Section 4.6.1
Internal waste audits will be undertaken on a regular basis.		Annual	WMP Section 6.6
every five years thereafter, or at such intervals as the Secretary may agree, the Applicant shall carry out a comprehensive Hazard Audit of the development and within one month of each audit submit a report to the Secretary. The audits shall be carried out at the Applicant's expense by a qualified person or team, independent of the Development, approved by the Secretary prior to commencement of each audit. The Hazard Audit shall be consistent with the Department's Hazardous Industry Planning Advisory Paper No. 5, 'Hazard Audit Guidelines'.	Facility Manager	Every 5 years	SSD 6719 Condition E54E

5.0 OEMP Review

In accordance with condition F9 of Development Consent SSD 6917, within three months of:

- The determination of a modification; or
- The submission of an incident report under condition F6,

Goodman shall review, and if necessary revise this OEMP to the satisfaction of the Secretary. All employees and contractors will be informed of any revisions to the OEMP by Site Management during toolbox talks.

6.0 References

AT&L (2024) Oakdale South Development, Stormwater Management Report

Ason (2024) Operational Traffic Management Plan, Precinct-wide Operational Traffic Management Plan Oakdale South Estate

Australian Bushfire Protection Planners (2017) Bushfire Emergency Evacuation Plan, Oakdale South Industrial Estate Kemps Creek

Cumberland Ecology (2016) Oakdale South Estate Sate Significant Development Application, Biodiversity Assessment Report Cumberland Ecology (2016) Oakdale South Estate, Biodiversity Offset Strategy

Ecologique (2019) Vegetation Management Plan

Environment Protection Authority (2014) Waste Classification Guidelines

Goodman (2017) SSD 6917: Oakdale South Industrial Estate - S.96 Application to Modify Condition E27 ‘Standard Construction Hours’

Site Image (2024) Estate Works, Oakdale South, Horsley Park, NSW, Landscape Management Plan

SLR (2024) Air Quality Impact Assessment, Oakdale South Estate

SLR (2024) Energy Efficiency S.96 Report, Oakdale South, MOD 5 Precinct 1, Horsley Park

SLR (2024) Operational Noise Management Plan

SLR (2024) Waste Management Plan, Oakdale South Development, Estate Road, Eastern Creek

Urban Advisory Services (2015) Environmental Impact Statement - Oakdale South Estate (State Significant Development Application Ref 6917)

Urbis (2016) Section 96 Modification Proposal - Oakdale South Industrial Estate SSD

7.0 Feedback

At SLR, we are committed to delivering professional quality service to our clients. We are constantly looking for ways to improve the quality of our deliverables and our service to our clients. Client feedback is a valuable tool in helping us prioritise services and resources according to our client needs.

To achieve this, your feedback on the team's performance, deliverables and service are valuable and SLR welcome all feedback via https://www.slrconsulting.com/en/feedback. We recognise the value of your time and we will make a $10 donation to our Charity Partner - Lifeline, for every completed form.

Appendix A Landscape Management Plan

Operational Environmental Management Plan

Oakdale South Industrial Estate
Master Plan

Goodman Property Services (Aust) Pty Ltd

SLR Project No.: 630.031929.00001

29 October 2024

SITE IMAGE

Landscape Architects

Estate Works
Oakdale South, Horsley Park, NSW
SSD 6917 – As Modified

LANDSCAPE MANAGEMENT PLAN

Prepared by	Site Image NSW Pty Ltd
Prepared for	Goodman
Project number	SS15-3057
Date	22.08.2016

Document Issue	Description	Date
A	For Comment	22.08.2016
B	Amendments	20.09.216
C	Minor Amendments	03.11.2017
D	Maintenance Schedule Updates	20.08.2019
E	LMP Review and Updates	16.10.2024

Contents

1.0 Scope

Please refer to appendix A ELW-801 Landscape Management Scoping Plan. Please note boundary planting associated with Lot 4A Costco to be managed.

The Vegetation Management Plan and Biodiversity Offset Area have been incorporated into the scope, as per the scoping plan. These areas are to be managed as outlined in Section 2.12 Weeding and Rubbish Removal.

2.0 Maintenance Activities

2.1 Generally

The Landscape Contractor shall rectify defects during installation and that become apparent in the works under normal use for the duration of the contract Defects Liability Period (DLP).

After the DLP, the implemented landscape treatments **must be managed for the life of the development.**

The landscape maintenance/ management works shall include, but not be limited to, the following:

- Replacing failed plants;
- Pruning;
- Insect and pest control;
- Fertilising;
- Maintaining mulch;
- Mowing;
- Watering;
- Weeding;
- Rubbish removal; and
- Cleaning of the surrounding areas.

2.2 Logbook

Keep a Maintenance Logbook recording when and what maintenance work has been done and what materials, including chemical materials, have been used.

The records shall show when and where identified chemicals were used and why.

Submit the initial logbook for inspection prior to Practical Completion.
Record all major events and activities in the logbook.

Make the logbook available for inspection on request.

2.3 Plants

Trees, shrubs and groundcovers shall at all times display healthy vigorous growth. Spent flower heads or stalks shall be removed immediately following flowering.

Replace failed plants: A "failed" plant may not mean complete death of soft tissue but failure due to poor growth, appearance, or unacceptable time for plant to re-establish new growth following damage or vandalism.

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 Landscape Contractor unless advised otherwise. If the cause of the failure is due to a controllable situation then correct the situation prior to replacing plants.

Failure of a plant shall be at the sole discretion of the Landscape Architect.

2.4 Pruning

Whatever pruning work is 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.

Pruning works within the AZP to be carried out as per Section 4 Management Requirements.

All pruning works shall be undertaken in a manner equal to acceptable horticultural practice.

2.5 Spraying

Avoid spraying:
- if ever possible;
- in wet weather;
- if wet weather is imminent;
- if target plants are still wet after rain;
- in windy weather; and
- if adjacent desirable species are too close to the target plants to be avoided.

Immediately report to the Project 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, and
- Use approval authority.

2.6 Fertilising

Fertilise gardens with a proprietary slow release fertiliser applied in accordance with the manufacturer's directions and recommendations. Record in the logbook all relevant details of fertilising including:

- Product brand / manufacturer's name,
- Fertiliser / product name,
- Application quantity and rate, and
- Date of application and location.

2.7 Stakes and Ties

Adjust and replace as required to ensure plants remain correctly staked. Remove those not required at the end of the planting establishment period (Defects Liability Period).

2.8 Mulched Surfaces

Maintain the surface in a clean, tidy and weed free condition and reinstate the mulch as necessary to ensure correct depth as before specified.

2.9 Mowing and Top Dressing

Grass cutting regularity, heights and fertilization is subject to seasonal, climatic conditions and grass types all of which need to be considered in the maintenance program.
Grass cutting heights:
The seasonal height of the cut is one of the most critical issues in maintaining healthy looking lawns and to achieve this the general rule is to maintain grass cut heights at 30mm-50mm as grass which is cut taller will

re-grow slower than short cut grass and therefore requires less frequent cutting. Do not remove more than one third of the grass height at any one time.
Remove grass clippings from site immediately after each mowing session or use catcher mowers in presentation areas or where grass heights have exceeded 75mm.
Where grass cutting has been delayed due to inclement weather conditions or taller grass cutting has been required all grass cuttings must be removed either by the use of catchers, raking by blower vacuumed to avoid "clumping" of dead grass on the surface an rotting of the understory grass which remains.
Specifically, the following table should be adopted:

Season:	Grass type:	Optimum Cut height:	Regularity:
Summer	Couch	20-25mm	
	Buffalo	30-35mm	Fortnightly
Autumn	Couch	30mm	
	Buffalo	30mm	Fortnightly
Winter	Couch	35-40mm	
	Buffalo	30mm	Fortnightly
Spring:	Couch	15-20mm	
	Buffalo	30-40mm	Weekly

General guidelines to be adopted:
1. Increase the mowing heights by 1-2cm for shady areas or where existing lawns have been worn down resulting in sparse cover.
2. Keep all mowing equipment blades sharp at all times by regular equipment maintenance.
3. Select the correct type of mowing equipment for the job, do not use heavy ride on mowers on pour or weekend grass coverage areas or areas having brick paved pathways in close proximity, hand mow these areas with cutting heights 2-3mm above the average specified grass cut heights.
4. Remove grass clippings where grass cutting has been done when grass is too long.
5. Dead grass is not to be left after mowing in any area under any circumstances.
6. Ensure that all areas that are cut in one day are also edged and all cut grass is removed and or cleaned up from all pathways and street gutters, do not mow more grass areas than can be edged or cleaned up in the same time period and work all mowing cycles on a half day period to ensure no areas are left uncleaned by the half day.

2.10 Irrigation and Watering

Maintain the irrigation system to sure that each individual plant receives the required amount of water to maintain healthy and vigorous growth, adjust and rectify as required.

Provide additional watering, if necessary.

2.11 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.

2.12 Weeding and Rubbish Removal

During the plant establishment period remove by hand, rubbish and weed growth that may occur or re-occur throughout all planted, mulched and paved areas.

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.

High level priority weeding to take place in all areas previously under the scope of the Vegetation Management Plan and the Biodiversity Offset Area. All priority weeds under the Biosecurity Act or General Biosecurity Duty of Care are to be removed.

2.13 Urgent Works

Notwithstanding anything to the contrary in the Contract, the Project Manager may instruct the Landscape Contractor to perform urgent maintenance works that place the completed contract works at risk.

If the Landscape Contractor fails to carry out the work within seven (7) days of such notice, the Project Manager (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 Landscape Contractor.

Such work shall include but not limited to the inspection and clearing of drains in the pavement and gardens.

2.14 Completion

A final inspection shall be made by the Project Manager, Landscape 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.

In accordance with the *Guidelines for controlled activities – Vegetation Management Plans* (DWE 2008), maintenance requirements should extend for a minimum of two years after the completion of works (i.e. Practical Completion or PC). Prior to handover, the contractor(s) responsible for the Planting Establishment Period (PEP – as defined in the Oakdale Central VMP) will be required to submit all maintenance records, progress reports and a final monitoring report (i.e. 2nd Annual Monitoring Report). The final monitoring report shall provide a summary of all works undertaken during the PEP and what ongoing bush regeneration or other maintenance tasks, and their frequency, are anticipated over the following two year period.

2.15 Relevant Standards

All landscape works shall be carried out in accordance with the following Australian Standards:

AS 1628 Water supply – Metallic gate, globe and non-return valves
AS 2033 Installation of polyethylene pipe systems
AS 2129 Flanges for pipes, valves and fittings
AS 2303 Tree stock for landscaping use
AS 2698 Plastic pipes and fittings for irrigation and rural applications – Polyethylene micro-irrigation pipe
AS 2845 Water supply – Backflow prevention devices
AS 3500 National plumbing and drainage code
AS 4373 Pruning of amenity trees
AS 4454 Composts, soil conditioners and mulches
Noxious and environmental weed control handbook by the NSW Department of Primary Industries
NATSPEC GUIDE Specifying Trees – a guide to the assessment of tree quality

3.0 Maintenance Schedule

Activity	Suggested Frequency							Key Performance Standards
		Weekly	Fortnightly	Monthly	Quarterly	6 Months	Yearly	
Logbook								Logbook to be completed at every visit. Logbook to be available for inspection upon request.
Softworks								
Watering and Irrigation System Checks				•				Irrigation system to be checked fortnightly. Major repairs to system and extreme condition watering to be carried out as Additional Works.
Mulch				•				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 fertiliser 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 the 12-month period.
Hydromulching				•				Refer to AECOM specification.
Bioretention					•			Maintenance as per Penrith City Council guidelines, including: Monitoring for scour and erosion, and sediment or litter build-up. Weed removal and plant re-establishment. Monitoring overflow pits for structural integrity and blockage.
Erosion control					•			Inspect and repair ground, soil and mulch immediately. Maintain erosion control device as necessary. Silt fencing installed for sediment control purposes to the east of the tributary. Silt fencing should be regularly inspected and repaired or reinstalled as necessary
Plant Replacement					•			Inspect and replace failed plants within 2 weeks of observation of failure. Match species, size (original) and location of new with old.
Stakes and Ties				•				Inspect every two weeks, adjust and/or replace as necessary but remove as plants mature and are able to support themselves.

Pruning - Native Grasses							•	Native grasses to be pruned annually in spring
Pruning - Hedges					•			Maintain to a maximum new growth of 50mm
Pruning – Small Trees					•			Evergreen Trees to be pruned year round to maintain a healthy form
							•	Deciduous trees to be crown lifted annually to 2.5m and canopy shaped
Fertilising					•			Slow release NPK fertiliser to be applied quarterly Note: Use low phosphorus product on Native Species
Weeding - Hardstand			•					Combination of hand and spray weeding Where weeds are greater than 25mm hand weeding to be carried out Use 'Roundup Bi Active' without dye
Weeding - Garden Beds		•						Where weeds are greater than 25mm hand weeding to be carried out Use 'Roundup Bi Active' with dye All weeding works should be in accordance with the **Aims and Summary of Proposed Bushland Reconstruction Works in the Oakdale South VMP**
Rubbish and Litter Removal		•						General garden waste to be cleared. Any waste created by general maintenance duties eg, pruning waste is to be removed off site weekly. General litter picking to be carried out on garden areas only
Urgent Works								Complete within 1 week (7 days) of notification. Inspect and clear drains.

*Maintenance Schedule and Landscape Specification to be read in conjunction with vegetation management plan

4.0 Managements Requirements

The following are the requirements to be **maintained** in perpetuity as per the relevant provisions of Planning for Bushfire Protection (PBP) 2006 and the relevant provisions of Appendix 4 of Planning for Bushfire Protection 2019 for all identified Asset Protection Zones recommended in the report titled 'Estate Bushfire Protection Assessment, Section 96 Application for the Modification of the Approved Oakdale Industrial Estate – South', prepared by Australian Bushfire Protection Planners Pty Ltd, dated September 2016.

Trees:

- tree canopy cover should be less than 15% at maturity;
- trees at maturity should not touch or overhang the building;
- lower limbs should be removed up to a height of 2m above the ground;
- tree canopies should be separated by 2 to 5m; and
- preference should be given to smooth barked and evergreen trees.

Shrubs:

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

Grass:

- grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and

leaves and vegetation debris should be removed.

Appendix 1 – Landscape Management Plan Scoping Plan

The contractor shall check and verify all work on site (including work by others) before commencing the landscape installation. Any discrepancies are to be reported to the Project Manager or Landscape Architect prior to commencing work. Do not scale this drawing. Any required dimensions not shown shall be referred to the Landscape Architect for confirmation.

Issue	Revision Description	Drawn	Check	Date
G	LMP Update	JW	NM	18.10.2024
F	Revised For Comment	JW	NM	08.01.2020
E	Landscape Maintenance Scoping Plan	JW	NM	08.07.2019
D	Minor Amendments	JW	NM	15.12.2017
C	Revised for Comments	JW	NM	05.12.2017
B	LMP Revisions	JW	NM	10.11.2017
A	LMP Revisions	JW	NM	06.11.2017

LEGEND

Estate Works
Landscape Management Plan (LMP)
- Original Scope of the LMP.
- Subject to all of the measures outlined in the LMP.

Vegetation Management Plan (VMP)
Additional Scope to LMP
- Previously subject to the Vegetation Management Plan (VMP).
- Subject to management of priority weeds under the Biosecurity Act or GBD (general biosecurity duty of care).

Biodiversity Offset Area
Additional Scope to LMP
- Previously subject to Biodiversity Management Action Plan.
- Subject to management of priority weeds under the Biosecurity Act or GBD (general biosecurity duty of care).

SITE IMAGE
Landscape Architects
Level 1, 3-5 Baptist Street
Redfern NSW 2016
Australia
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Fax: (61 2) 9698 2877
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Client:
Goodman

Project:
Estate Open Space Plan
Oakdale South
Horsley Park

Drawing Name:
Oakdale South
Landscape Management Plan
Scoping Plan

Scale: 1:2500 @ A1
0 10 20 40 60 100m

Job Number: SS15-3057

Drawing Number: ELW-801

Issue: G

A1

Appendix B Operational Noise Management Plan

Operational Environmental Management Plan

Oakdale South Industrial Estate
Master Plan

Goodman Property Services (Aust) Pty Ltd

SLR Project No.: 630.031929.00001

29 October 2024

Operational Noise Management Plan

Oakdale South Industrial Estate – Master Plan

Goodman Property Services (Aust) Pty Ltd

1-11 Hayes Road, Roseberry NSW 2018

Prepared by:

SLR Consulting Australia

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

SLR Project No.: 630.031929.00001-ONMP-R02

28 October 2024

Revision: v2.1

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
V2.1	28 October 2024	Joshua Ridgway	Steven Luzuriaga	Steven Luzuriaga
V2.0	22 October 2024	Joshua Ridgway	Steven Luzuriaga	Steven Luzuriaga
V1.1	21 January 2020	Joshua Ridgway	Antony Williams	Antony Williams
V1.0	29 January 2018	Nash Cameron Jeffs	Joshua Ridgway	Joshua Ridgway

Basis of Report

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

Table of Contents

Tables in Text

Figures in Text

Appendices

1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Goodman to prepare an Operational Noise Management Plan (ONMP) for the operation of the approved warehouse and distribution centres of the Oakdale South Industrial Estate.

The ONMP is designed to address the management of potential noise impacts on nearby sensitive receivers from the operation of the subject development.

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

2.0 Background

The Oakdale South Industrial Estate (Oakdale South), being a regional warehouse and distribution hub, is located at Kemps Creek within the Penrith local government area (LGA). Oakdale South forms part of the broader Oakdale Industrial Precinct which is located within the Western Sydney Employment Area (WSEA).

Goodman Property Services (Aust) Pty Ltd (Goodman) obtained Development Consent SSD 6917 on 26 October 2016 for the Oakdale South "Concept Proposal" and "Stage 1 Development". The Concept Proposal essentially comprises a "Master Plan" to guide the staged development of Oakdale South and core development controls that will form the basis for design and assessment of future development applications for the site.

The Concept Proposal comprises of 336,735 m^2 of Gross Floor Area with 321,249 m^2 of warehousing and 15,486 m^2 of ancillary office floor space, six development precincts with a total of 15 building envelopes, and conceptual lot layout, site levels, road layout, urban design controls, conceptual landscape designs and infrastructure arrangements.

Additional stages of Oakdale South (i.e. Stage 2, 3, etc.) have been subject to separate development applications and approvals.

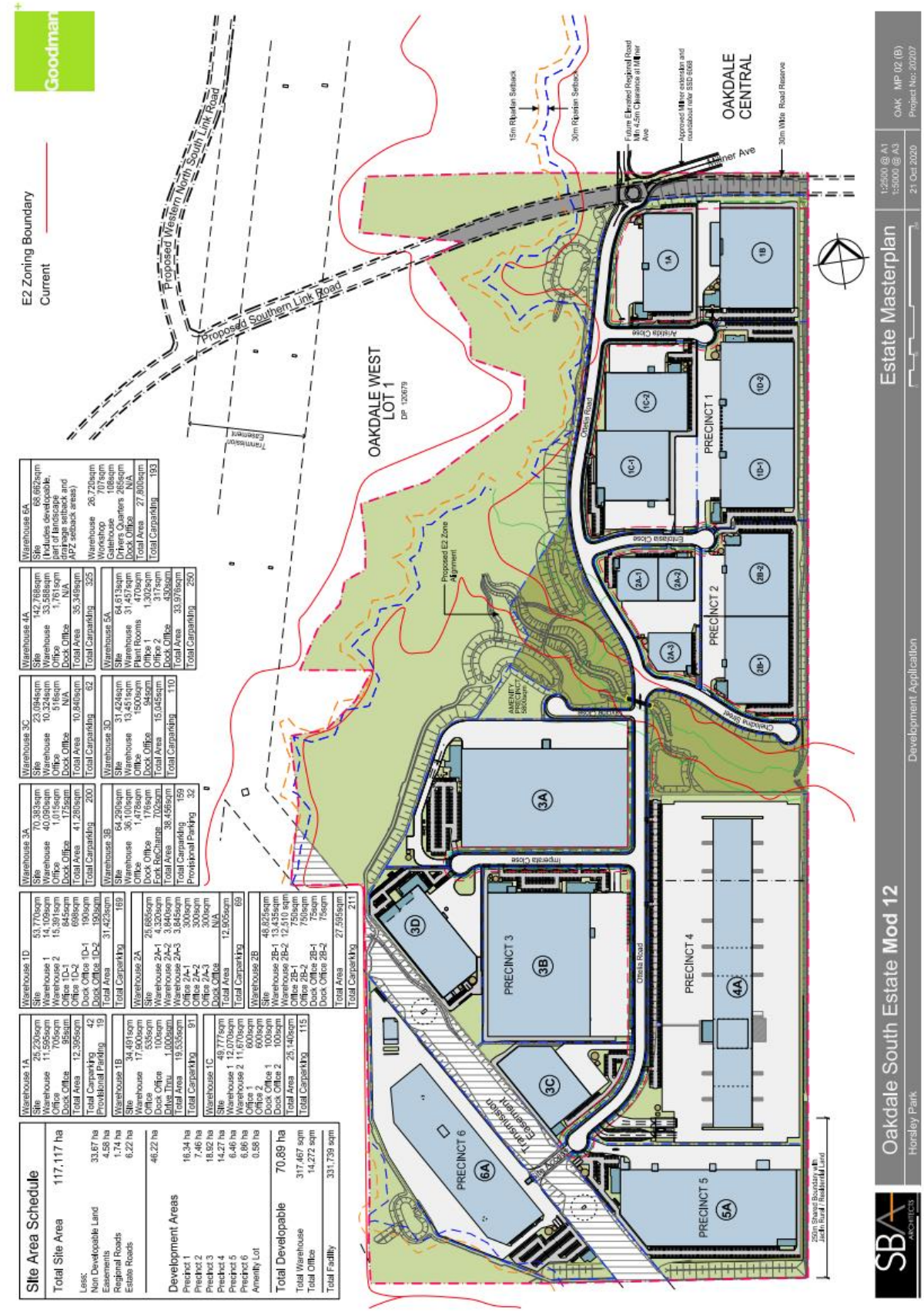
At the time of preparing this document, 16 applications to modify SSD 6917 had been approved and one withdrawn. In summary, these modifications comprise:

- MOD 1 – approved on the 21 April 2017 for revisions to the approved Concept Proposal and Stage 1 Development in the northern portion of the estate.
- MOD 2 – withdrawn.
- MOD 3 – approved on the 5 October 2017 to permit out of hours importation of fill material.
- MOD 4 – approved on 18 December 2017 for revisions to the approved Concept Proposal and Stage 1 Development in the northern portion of the estate.
- MOD 5 – approved on the 23 November 2017 for administrative changes to condition E37.
- MOD 6 – approved on the 15 June 2018 to update the Vegetation Management Plan (VMP)/Biodiversity Offset Strategy (BOS) and associated changes to conditions E46 and E47.
- MOD 7 – approved 11 December 2018 for revisions of the approved concept plans to replace corner landscape, E2 zone in Lot 3A with hardstand, IN1 zone.
- MOD 8 – approved 17 December 2018 to increase the maximum height limit for a warehouse within Precinct 5 from 15 m to 16.5 m to accommodate roof plant.

- MOD 9 – approved 21 February 2019 to revise the concept masterplan to show Precinct 6 as a single rather than two warehouses.
- MOD 10 – approved 5 August 2019 to enable to storage of dangerous goods ay Warehouse 1D.
- MOD 11 – approved 29 October 2019 to update the VMP and removed the BOS.
- MOD 12 – approved 3 December 2020 to approve changes to Lot 1C, 1D and Precinct 2 layout in Concept Masterplan, and changes to Warehouse 1C layout and fit-out and use of Warehouse 1D-1 in Stage 1.
- MOD 13 – approved 23 February 2021 to modify Conditions D32 and D33 to update the BAL construction requirements for the warehouse building approved for Lot 1C.
- MOD 14 – approved 2 July 2021 to increase allowance of dangerous goods stored in Warehouse 1D-1 and modification to Fire and Rescue NSW consultation requirements.
- MOD 15 – approved 22 September 2021 to update Bushfire Assessment Lots 2A and 2B.
- MOD 16 – approved 14 December 2021 to approve increase Building 2B height envelope from 15m to 16m to accommodate air conditioning roof plant.
- MOD 17 – approved 20 December 2022 to increase the ridgeline height control for Precinct 4 to facilitate an increase in the building height of the Stage 2 dry depot component of the Costco development

The approved Oakdale South Master Plan is illustrated in **Figure 1**.

Figure 1: Oakdale South Masterplan



3.0 Development Consent

This Operational Noise Management Plan (ONMP) has been prepared to accompany the Operational Environmental Management Plan (OEMP) for the approved warehouse and distribution facilities of Oakdale South. The conditions relevant to this ONMP are outlined below in **Table 1**.

Table 1: Development Consent Conditions

<table>
<tr><th>Development Consent</th><th>Where Addressed</th></tr>
<tr><td>Noise Limits
B18. The Applicant shall ensure the Development does not exceed the noise limits in Table 3 below at the receiver locations (L1, L2 and L3 shown in Appendix 4).
Table 3 Project Specific Noise Limits (dBA)
<table>
<tr><th rowspan="2">Location</th><th>Day</th><th>Evening</th><th colspan="2">Night</th></tr>
<tr><td>LAeq(15minute)</td><td>LAeq(15minute)</td><td>LAeq(15minute)</td><td>LA1(1minute)</td></tr>
<tr><td>L1 North of Warragamba Pipeline</td><td>37</td><td>37</td><td>37</td><td>47</td></tr>
<tr><td>L2 Horsley Park</td><td>39</td><td>39</td><td>39</td><td>49</td></tr>
<tr><td>L3 Kemps Creek, Mt Vernon, Jacfin and Capitol Hill</td><td>40</td><td>40</td><td>40</td><td>48</td></tr>
</table>
Note: Noise generated by the Development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.</td><td>Section 6.0</td></tr>
<tr><td>Operation of Plant and Equipment
D27. The Applicant shall ensure that all plant and equipment used for the development is:
(a) maintained in a proper and efficient condition; and
(b) operated in a proper and efficient manner.</td><td>Section 9.0</td></tr>
<tr><td>Noise and Vibration
E35. The Applicant shall operate the Stage 1 DA in a manner that ensures the Oakdale South Industrial estate complies with the noise limits for the Concept Proposal set in Condition B18 of this Development Consent.</td><td>Section 9.0</td></tr>
<tr><td>Noise Walls
E36. The Applicant shall construct the noise walls shown in the RTS and as amended in SSD 6917 MOD 1, prior to the commencement of operation of any part of the Development.
Note: If construction of noise walls is to be staged, the Applicant shall submit a noise verification study to the satisfaction of the Secretary to demonstrate that the Development will comply with the noise limits in Condition E35 at all times.</td><td>Section 9.0</td></tr>
<tr><td>Noise Management
E38. The Applicant shall:
(a) implement best management practice, including all reasonable and feasible measures to prevent and minimise noise and vibration during construction and operation of the Development (including low frequency noise and traffic noise);</td><td>Sections 6.0 & 9.0</td></tr>
</table>

Development Consent	Where Addressed
(b) minimise the noise impacts of the Development during adverse meteorological conditions when noise criteria do not apply; (c) maintain the effectiveness of any noise suppression equipment on plant at all times and ensure defective plant is not used operationally until fully repaired; and (d) regularly assess noise monitoring data and relocate, modify and/or stop operations to ensure compliance with the relevant conditions of this consent.	

4.0 Objectives and Scope

The primary objective of this ONMP is to establish a noise management strategy for the operation of the approved warehouse and distribution facilities of Oakdale South that complies with the consent conditions, through provisions to:

- Evaluate noise impacts on sensitive receivers.
- Demonstrate compliance with the operational noise criteria.
- Implement all reasonable and feasible noise mitigation measures.
- Investigate ways to reduce the noise generated by the subject development, if required.
- Report on these investigations and the implementation and effectiveness of these measures.

5.0 Noise Guidelines

The NSW Industrial Noise Policy (INP) (Environment Protection Agency (EPA), 2000) has been referenced in the preparation of this ONMP with regard to:

- Noise monitoring procedures.
- Noise monitoring instrumentation calibration.
- Monitoring of weather conditions.
- Implementation of mitigation measures.

It is noted that the EPA released the Noise Policy for Industry (NPfI) in October 2017, which replaces the INP, however, this ONMP references the INP, where appropriate, as it was current when the development was approved in 2016.

6.0 Noise Criteria and Performance Indicators

6.1 Operational Noise Criteria

Noise monitoring will be undertaken in order to demonstrate compliance with the noise criteria set out in Consent Condition B18 of Schedule B, which requires that noise generated by Oakdale South does not result in non-compliance with the criteria in **Table 2** at any noise sensitive receiver.

Table 2: Project Specific Noise Limits dBA

Location	Day $L_{Aeq(15minute)}$	Evening $L_{Aeq(15minute)}$	Night $L_{Aeq(15minute)}$	Night $L_{A1(1minute)}$
L1 North of Warragamba Pipeline	37	37	37	47
L2 Horsley Park	39	39	39	49
L3 Kemps Creek, Mt Vernon, Jacfin and Capitol Hill	40	40	40	48

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

In accordance with Consent Condition B18 of Schedule B, noise generated by Oakdale South is to be measured in accordance with the relevant provisions and exemptions (including certain meteorological conditions) of the INP.

In accordance with the INP, a development will be deemed to be in non-compliance with a noise consent or licence condition if the monitored noise level is more than 2 dB above the statutory noise limit specified in the consent or licence condition (refer to **Section 10.5** for further detail on non-compliance).

Where an exceedance of the noise criteria is identified, the development is not considered to be in non-compliance with its consent or licence condition if the measured noise is affected by atypical weather effects. Atypical weather effects can be considered to be present during monitoring if:

- During rain or wind speeds greater than 3 m/s (at 10 m height); or
- The cloud cover is less than 40 per cent and the wind speed (at 10 m height) is less than 1.0 m/s during the period from 6 pm to 7 am (refer to Section 9.2 in the INP).

If atypical weather is present during monitoring, further monitoring at a later date is required to determine compliance under meteorological conditions considered typical of the site. The process for determining site specific weather effects is defined in the INP, ie weather effects that are present for >30% of a time period (day, evening, night) during a specific season (summer, autumn, winter, spring).

6.2 Operating Conditions

The noise related operating conditions required under the NSW Project Approvals are detailed in Consent Condition E38 of Schedule E and are summarised below:

E38. The Applicant shall:

(a) implement best management practice, including all reasonable and feasible measures to prevent and minimise noise and vibration during construction and operation of the Development (including low frequency noise and traffic noise);

(b) minimise the noise impacts of the Development during adverse meteorological conditions when noise criteria do not apply;

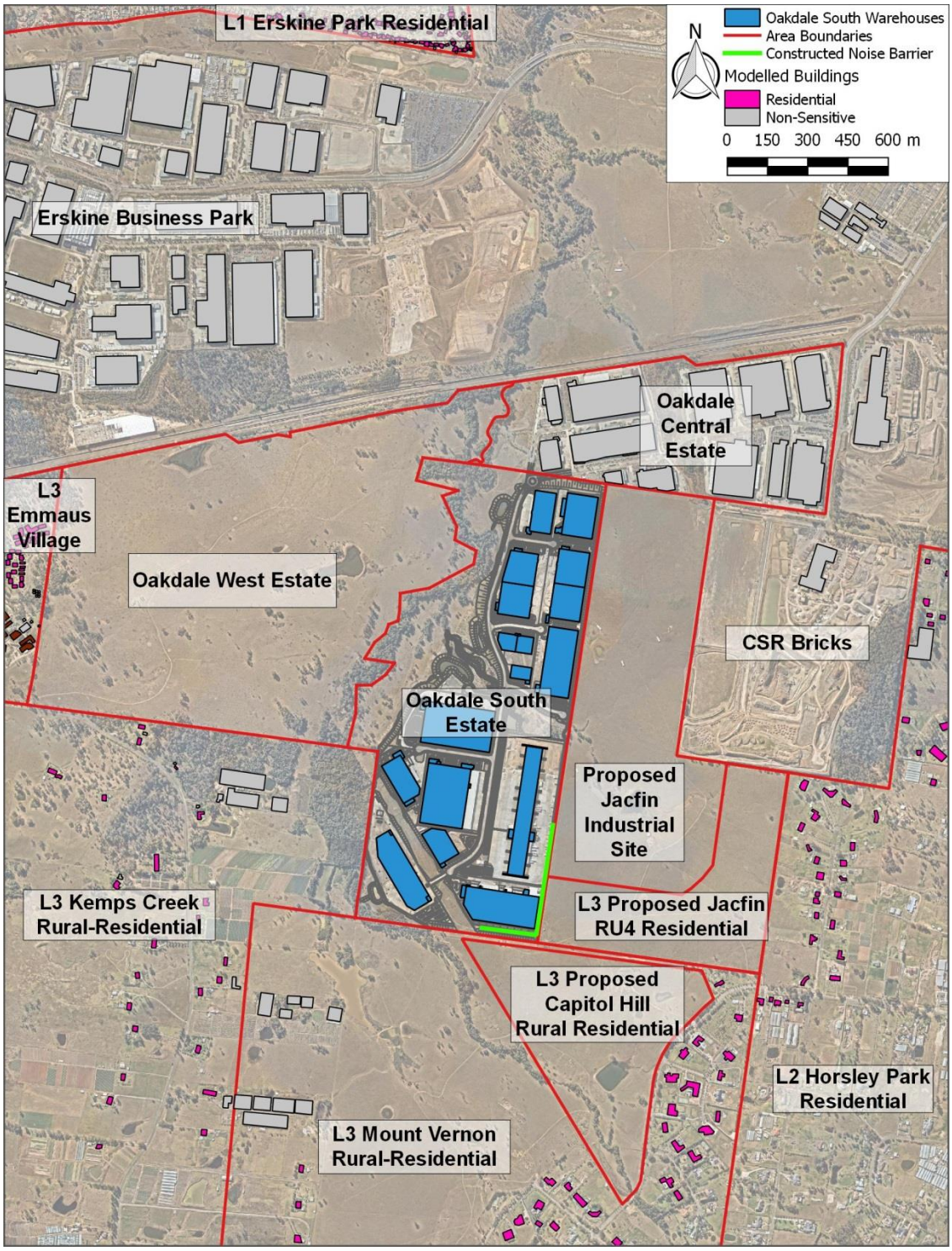
(c) maintain the effectiveness of any noise suppression equipment on plant at all times and ensure defective plant is not operational until fully repaired; and

(d) regularly assess noise monitoring data and relocate, modify and/or stop operations to ensure compliance with the relevant conditions of this consent.

7.0 Noise Sensitive Receivers

The noise sensitive receiver areas surrounding Oakdale South are shown in **Figure 2**. These include the locations specified in the project specific noise criteria presented in **Table 2**.

Figure 2: Noise Sensitive Receivers



8.0 Major Noise Generating Activities

The major noise generating activities/equipment from the operation of Oakdale South are as follows:

- Delivery trucks (truck arrival/departure on estate roads and manoeuvring in hardstand areas).
- Light vehicles (employee vehicles on estate roads and within carparking areas).
- Gas/electric powered forklifts (loading/unloading trucks).
- Mechanical plant (ventilation/air-conditioning systems, refrigeration condensers, etc).

The approved hours of operation for these activities are 24 hours, 7 days a week.

9.0 Noise Management Measures

In accordance with Consent Condition E38 of Schedule E, Goodman will implement management and control measures to identify and manage noise impacts to ensure noise from Oakdale South are managed to acceptable levels, through a combination of following:

- Ensuring best management practices are implemented onsite by all staff and contractors.
- Implementing noise controls to reduce noise from the source and attenuate noise transmission.
- If necessary, implementing measures to control noise at receivers.

The effectiveness of the noise management measures at Oakdale South will be assessed through attended noise monitoring (refer to **Section** Error! Reference source not found. of this ONMP). Where the development is considered to be in non-compliance with its consent or licence condition, additional strategies for mitigation of noise would be considered and implemented to address the non-compliance.

9.1 Best Management Practices

The following best practice noise management measures (in accordance with Consent Condition D27 of Schedule D and Conditions E35, E36 and E38 of Schedule E) will be implemented at Oakdale South:

- An awareness and understanding of noise issues and the use of quiet work practices will be included in site inductions for all staff, contractors and visitors to Oakdale South. Specific mention of the following items will be included:
  - Site specific noise management measures to be followed.
  - Locations of nearby noise sensitive receivers.
- The simultaneous use of multiple items of significant noise generating equipment will be avoided wherever possible, scheduling operations so they are used separately rather than concurrently.
- Scheduling the use of any noisy equipment during daytime.
- Siting noisy equipment behind structures that act as barriers, or at the greatest distance from the noise-sensitive area, or orienting the equipment so that noise emissions are directed away from any sensitive areas, to minimise noise emissions.
- Where practicable, keep all roller doors closed during the night-time period.

- Where adverse weather conditions are experienced or predicted (such as high winds or temperature inversions), operational changes will be made to avoid or reduce noise impacts during these periods.
- All equipment, machinery and plant used on site will be maintained regularly to minimise noise generation.
- Maintain the effectiveness of any noise suppression equipment on plant at all times and ensure defective plant is not operational until fully repaired.
- The volume of reversing and start-up alarms will be reduced to the minimum practicable level (while still complying with safety regulations) and the least intrusive alarms will be used.
- Specify maximum allowable noise/sound levels when purchasing equipment.
- Include maximum allowable noise/sound levels in tender documents and contracts.
- Noise monitoring will include attended monitoring as well as a program to monitor the Sound Power Levels (SWLs) of the plant on site, where required (refer to **Section 10.0**).
- An awareness of industry developments will be maintained in relation to noise mitigation for individual plant items used on the site, in order to assess cost and practicality of plant upgrade or mitigation implementation.

9.2 Source and Transmission Noise Controls

Source and transmission noise controls include:

- Enclosure of outdoor fixed plant (such as mechanical plant) where a noise issue is identified;
- For equipment with enclosures, ensure door and seals are well maintained and kept closed when not in use; and
- Noise attenuation of mobile equipment such as trucks, forklifts etc, where a noise issue is identified.

9.3 Receiver Noise Control

Goodman will consider the following measures if sustained non-compliance with the noise consent or licence condition cannot be addressed with the measures outlined in **Section 9.1** and **Section 9.2**:

- Implementing reasonable and feasible mitigation measures at noise-affected receivers, such as enhanced glazing, insulation and/or air conditioning; and
- Negotiate agreements with property holders.

10.0 Noise Monitoring

Goodman will implement an operational noise monitoring program that will comprise attended noise monitoring at selected sensitive locations (refer to **Sections 6.0** and **7.0**).

The results of the attended noise monitoring will be used to assess compliance with the relevant noise criteria (refer to **Section 6.0**). Details of major findings, monitoring results and mitigation measures will be reported after each survey.

The following sections detail the methodology for the operational noise monitoring.

10.1 Noise Monitoring Options

In order to determine compliance with the noise limits, the NPfI specifies several options for measurement of operational noise:

- Direct measurement at compliance locations.
- Direct measurement at alternative or intermediate locations.
- Direct measurement of noise source levels and modelling of impacts at compliance locations.

10.1.1 Measurements at Compliance Locations

Direct measurement of operational noise levels from the site at the compliance locations detailed in **Table 2** and **Figure 2** can be compared to the noise limits to determine compliance.

This method would be appropriate where the noise at the compliance location is dominated by noise from the subject site and/or extraneous noise can be filtered out of the measurement.

Noise monitoring locations, representative of the locations outlined in the consent conditions have been identified as follows:

- M1: Weaver Street, Erskine Park (L1 consent limit)
- M2: Horsley Road or Greenway Place, Horsley Park (L2 consent limit)
- M3: Capitol Hill Drive, Mt Vernon (L3 consent limit)
- M4: Aldington Road, Kemps Creek (L3 consent limit) (note that this area has been rezoned to IN1 industrial use and has primarily been developed into industrial estates)

Future additional monitoring locations are as follows:

- M5: Capitol Hill residential area (L3 consent limit) - most affected residence once built and occupied
- M6: Jacfin residential area (L3 consent limit) - most affected residence once built and occupied

In the event of a noise complaint associated with the operation of the development, additional monitoring may be undertaken at the location of the noise complaint where this is considered to assist in the response to the complainant (refer to **Section 11.0**).

In accordance with INP requirements, noise monitoring will be conducted at the most noise-affected point on or within the residential boundary, or at the most affected point within 30 m of the dwelling where the dwelling is more than 30 m from the boundary. However, it is noted that it may not be practical to conduct noise monitoring at this location during all

measurement periods. Where this location is considered to be unpractical or inaccessible, a substitute monitoring location may be chosen that is considered to be representative of the site noise contribution at the specified location.

Direct measurement at the residential compliance locations may not be suitable to determine compliance for the development as extraneous noise from other sources may impact the measurements. This is due to a combination of factors including the following:

- Moderate distances between the site and the residential compliance locations.
- Relatively low predicted operational noise levels at the compliance locations.
- Extraneous noise in the area including industrial noise from other developments surrounding the site.

The above factors may make it difficult to determine the operational noise contribution from the development. Regardless, compliance monitoring should include measurements at locations representative of the compliance locations (ie, accessible areas near the residences in the compliance location) to determine the ambient noise levels and audible noise sources in these areas during the noise monitoring survey.

10.1.2 Measurements at Alternative or Intermediate Locations

Direct measurements at alternative or intermediate locations allows operational noise to be measured at locations where the site is dominant and/or extraneous noise can be filtered out of the measurements. The measured levels at the intermediate location are correlated to the compliance locations then compared to the noise limits.

To determine the correlation between the noise levels at the chosen intermediate location and the noise levels at the compliance locations, the operational noise contour maps detailed in the NIA can be utilised.

10.1.3 Source Measurement and Model Predictions

When direct measurement at the intermediate locations is unsuitable due to extraneous noise or other issues, compliance can be assessed using source sound power level measurements and noise model predictions.

On-site source sound power level measurements would be undertaken for all prominent noise sources on the site, including mechanical plant, loading activities and vehicle movements.

The measured source sound power levels would be input into a noise model of the site, and operational noise levels predicted at the compliance locations. The predicted noise levels would then be compared to the relevant noise limits to check compliance with the noise limits.

10.2 Noise Measurement Requirements

Operational noise measurements must be undertaken in accordance with the requirements of Australian Standard *AS 1055:2018 Acoustics – Description and measurement of environmental noise* (Standards Australia, 2018), the EPA *Approved Methods for the Measurement and Analysis of Environmental Noise in NSW* (EPA, 2022), and Section 7 of the *Noise Policy for Industry* (NPfI).

The attended noise measurements must be undertaken by a suitably qualified and experienced acoustic consultant. All items of acoustic instrumentation utilised will be designed to comply with AS/NZS IEC 61672.1-2019 *Electroacoustics – Sound level meters* (AS IEC 61672) and carry current calibration certificates.

The noise measurements must include the following, at a minimum:

- 15-minute measured A-weighted noise levels at the monitoring location, including L_{Amax}, L_{A10}, L_{Aeq}, and L_{A90}, and measured Z-weighted frequency spectrum in 1/3 octaves.
- Contribution of the development to the measured noise levels.
- Details of the activities being undertaken onsite during the measurement, associated noise sources and contributions to the measured noise levels.
- Details of any extraneous noise during the measurement, including its source (if discernible) and contribution to the measured noise levels.
- Wind speed and direction during the measurement.
- The prevailing meteorological conditions during the measurement, including cloud cover.
- Any other relevant observations made during the measurement.

The noise measurements should be representative of the typically noisiest operations during each period. Where source sound power levels are being measured, shorter duration measurements can be used where the noise source is relatively steady-state and a shorter measurement is representative of the 15-minute noise emissions.

It is noted that the modifying factors from Section 4 of the INP have been superseded by the EPA's *Noise Policy for Industry* (NPfI) Fact Sheet C, as detailed in EPA document *Implementation and Transitional Arrangements for the Noise Policy for Industry (2017)*. Tonality and low frequency characteristics will be assessed by analysis of the measured spectrum as specified in NPfI Fact Sheet C.

10.3 Noise Monitoring Report Requirements

A noise monitoring report will be prepared following each noise monitoring survey. These reports will be kept on file for reference, and provided to the relevant regulatory authorities if requested. The results of the noise monitoring reports will be included in any compliance reporting for the development, where required.

The noise monitoring report must include the following, at a minimum:

- The type of measurements conducted (eg, direct measurement at compliance location, measurement at intermediate location, sound power level measurement of source, etc).
- Details of the noise monitoring location.
- Name and position of personnel undertaking measurements.
- The acoustic instrumentation used for the measurements, including serial numbers where applicable.
- Details of the date, time, and duration of the measurements.
- All relevant measurement details (including those listed in **Section 10.2**).
- Details of the weather conditions during the measurement, including the instrumentation and/or weather station where applicable.
- The relevant noise limits at compliance locations, and reference levels at intermediate locations if applicable.

- The results of the noise measurements at each monitoring location, including comparison to the reference levels (if intermediate locations are used) and the noise limits at the relevant compliance locations.
- Where modelling is used in conjunction with source measurements, the details of the modelling and the predicted noise levels will be included in the monitoring report.
- A statement outlining the development's compliance status, and the reasons for any identified non-compliance.

Where the development is found to be non-compliant the Proponent will determine applicable noise mitigation and management measures to be implemented to manage the noise exceedances in accordance with **Sections 12.0** and **13.0**. This would be undertaken following provision of the noise monitoring report to the Proponent.

10.4 Frequency of Noise Monitoring

Operational noise monitoring will be undertaken in accordance with this ONMP under the following circumstances:

- As required for compliance reporting for the development.
- In response to a complaint, where appropriate.
- At the request of the relevant regulatory authorities.

10.5 Compliance Assessment Protocol

Attended noise surveys are the primary method for describing the acoustic environment and determining the sites compliance against the relevant noise criteria, as this allows a reasonably accurate determination of the site noise contribution to the measured ambient noise levels.

If the above assessment determines that an exceedance is due to Oakdale South activities during relevant site specific meteorological conditions, then the management strategies detailed in **Section 9.0** to help prevent recurrence will be implemented in order to reduce noise levels below the Project Approvals noise criteria.

Non-compliance of the noise conditions will be determined in accordance with Section 11.1.3 of the INP, which states the following in relation to when a development is in exceedance of the noise criteria:

> *A development will be deemed to be in non-compliance with a noise consent or licence condition if the monitored noise level is more than 2 dB above the statutory noise limit specified in the consent or licence condition.*
>
> *A development will be in breach of a noise consent or licence condition if sustained non-compliances are not addressed and rectified.*

Accordingly, Oakdale South will be deemed to be in non-compliance with the relevant noise conditions where monitored levels indicate that Oakdale South's contribution to the recorded result exceeds the noise criteria by more than 2 dB.

11.0 Complaints Register

Complaints will be received via the contact telephone number to be included on the site signage.

A complaints register will be maintained by the Facility Managers. Response to the complaint will be provided to the complainant within 24 hours.

Information recorded in the complaints register with respect to each complaint will include:

- Date and time of complaint.
- Name, address and telephone number of complainant.
- Nature of complaint.
- Response actions taken to date.

A report of complaints will be provided to the Secretary every six months throughout the life of the project, or as otherwise agreed by the Secretary.

Preliminary investigations into the complaint will commence within 48 hours of the complaint receipt and adequate measures to identify and manage will be considered (refer to **Section 9.0**).

12.0 Contingency Plan

In the event that a non-compliance with the noise conditions is identified, as per the protocol described in **Section 10.5**, Goodman will implement the following Contingency Plan:

- Goodman will report any sustained non-compliance to the EPA and Department of Planning, Heritage and Infrastructure (DPHI) as soon as practicable.
- Goodman will identify an appropriate course of action with respect to the identified impact(s), in consultation with specialists and the EPA, as necessary. For example, contingency measures such as, but not limited to, those described in **Section 13.0** of this ONMP.
- Goodman will, on request, submit the proposed course of action to the DPHI for approval.
- Goodman will implement the approved course of action.

13.0 Potential Contingency Measures

Potential contingency measures will be reviewed during revisions of this ONMP. Key potential contingency measures to be implemented (following the identification of non-compliance with the noise conditions) may include the following:

- Goodman will notify affected landholders and tenants at the location of the exceedance as soon as practicable and provide them with details of actions taken, including noise monitoring results, until it can be shown that that Oakdale South is complying with the noise criteria.
- Goodman will complete a SWL review and remodel the noise emissions for examination of potential additional noise controls, and implement additional reasonable and feasible at-source noise controls in addition to those described in **Section 9.2** of this ONMP.
- Goodman will, on request, implement reasonable and feasible at-receiver noise controls (refer to **Section 9.3**).

14.0 Internal Audits

Periodic internal audits will be conducted to ensure that the development consent conditions and commitments and environmental management controls outlined in this ONMP are being properly implemented. Audit reports will be used to inform of any corrective actions.

15.0 Review and Improvement of Operational Noise Management Plan

In accordance with Condition F9 of Schedule F, this ONMP should be reviewed and updated within three months of:

- The determination of a modification; or
- The submission of an incident report under Condition F6.

Goodman shall review, and if necessary revise this ONMP to the satisfaction of the Secretary.

Additionally, this ONMP should be reviewed and updated annually at the least, or if the following is to occur:

- Significant changes to the operation and management of the sites;
- Where it is identified that the performance of Oakdale South is not meeting the objectives of the ONMP; or
- At the request of the DPHI or other relevant government agency.

All employees and contractors will be informed of any revisions to the ONMP by the Facility Managers during toolbox talks.

Appendix A Acoustic Terminology

Operational Noise Management Plan

Oakdale South Industrial Estate – Master Plan

Goodman Property Services (Aust) Pty Ltd

SLR Project No.: 630.031929.00001-ONMP-R02

28 October 2024

1. Sound Level or Noise Level

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

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

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

2. 'A' Weighted Sound Pressure Level

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

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

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

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

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

3. Sound Power Level

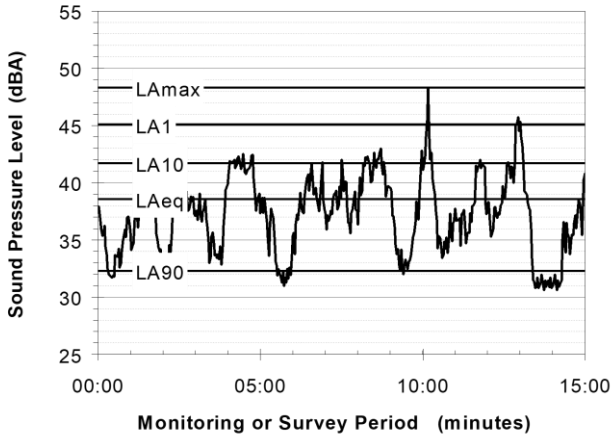
The Sound Power of a source is the rate at which it emits acoustic energy. As with Sound Pressure Levels, Sound Power Levels are expressed in decibel units (dB or dBA), but may be identified by the symbols SWL or LW, or by the reference unit 10^{-12} W.

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

4. Statistical Noise Levels

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

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



Of particular relevance, are:

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

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

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

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

5. Frequency Analysis

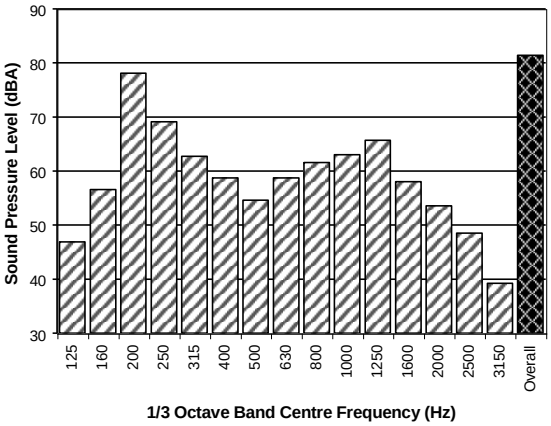
Frequency analysis is the process used to examine the tones (or frequency components) which make up the overall noise or vibration signal.

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

Frequency analysis can be in:

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

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



6. Annoying Noise (Special Audible Characteristics)

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

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

7. Vibration

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

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

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

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

8. Human Perception of Vibration

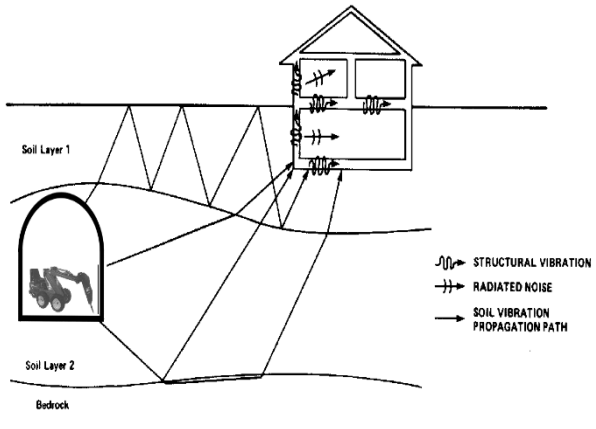
People are able to 'feel' vibration at levels lower than those required to cause even superficial damage to the most susceptible classes of building (even though they may not be disturbed by the motion). An individual's perception of motion or response to vibration depends very strongly on previous experience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

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

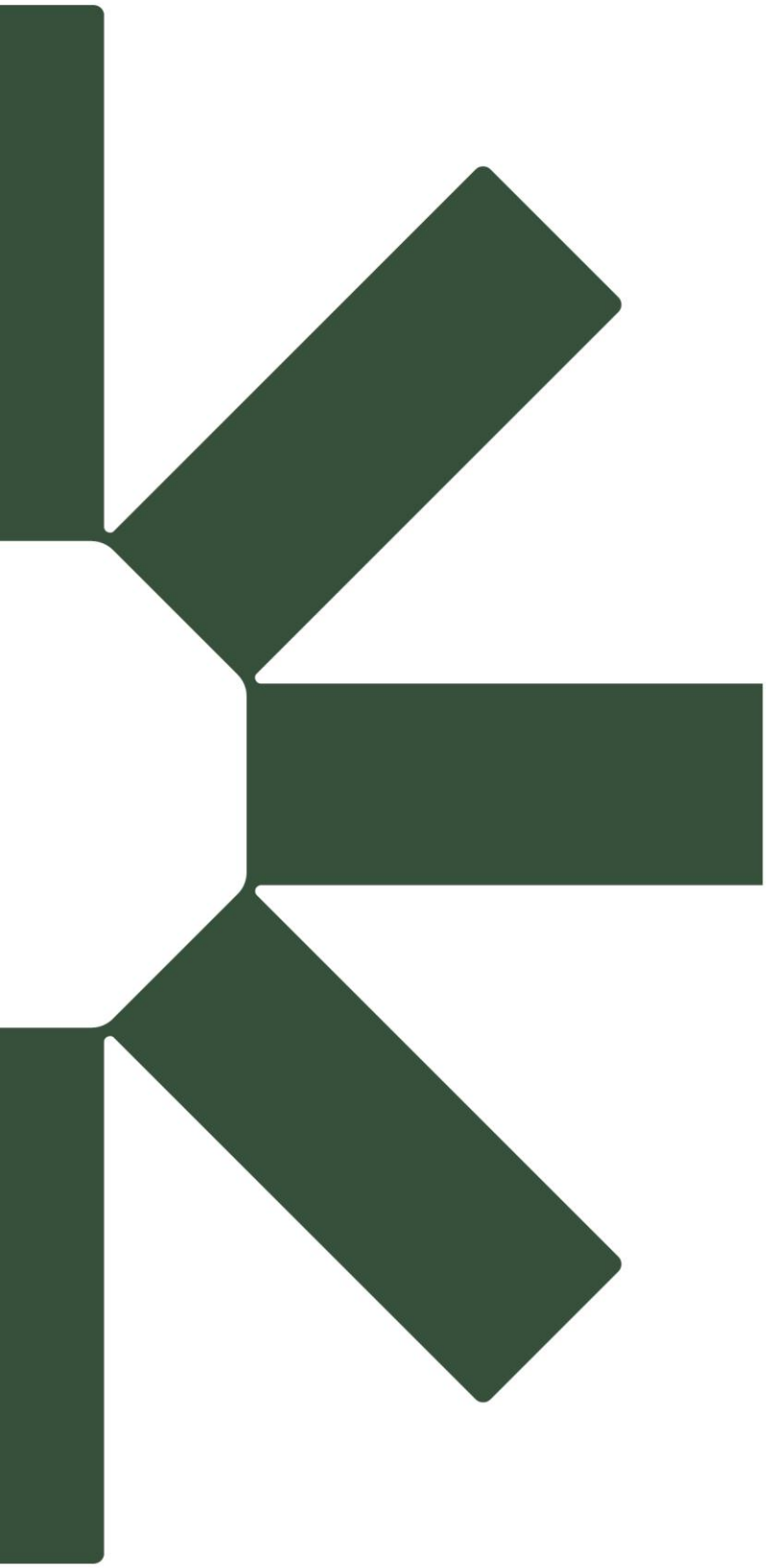
Noise that propagates through a structure as vibration and is radiated by vibrating wall and floor surfaces is termed 'structure-borne noise', 'ground-borne noise' or 'regenerated noise'. This noise originates as vibration and propagates between the source and receiver through the ground and/or building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

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

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



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



Making Sustainability Happen

Appendix C Energy Efficiency S.96 Report

Operational Environmental Management Plan

Oakdale South Industrial Estate
Master Plan

Goodman Property Services (Aust) Pty Ltd

SLR Project No.: 630.031929.00001

29 October 2024

ENERGY EFFICIENCY S.96 REPORT

Oakdale South Industrial Estate

Prepared for:

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

SLR Ref: 610.17706-R01
Version No: -v2.0
October 2024

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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
610.17706-R01-v2.0	28 October 2024	Dr Neihad Al-Khalidy	Sean Wilson	Dr Neihad Al-Khalidy
610.17706-R01-v1.0	6 January 2020	Dr Hamidul Islam	Dr Neihad Al-Khalidy	Dr Neihad Al-Khalidy
610.15608-R09-v1.0	23 January 2018	Horatio Cai	Neihad Al-Khalidy	Neihad Al-Khalidy
610.15608-R08-v1.0	4 August 2017	Dr. Hamidul Islam	Neihad Al-Khalidy	Neihad Al-Khalidy
610.15608-R07-v1.0	12 May 2017	Dr. Hamidul Islam	Neihad Al-Khalidy	Neihad Al-Khalidy
610.15608-R04-v1.0	08 June 2016	Neihad Al-Khalidy	Peter Hayman	Neihad Al-Khalidy
610.15608-R03-v1.0	16 September 2015	Horatio Cai	Neihad Al-Khalidy	Neihad Al-Khalidy
610.15608-R02-v1.0	09 September 2015	Horatio Cai	Neihad Al-Khalidy	Neihad Al-Khalidy

EXECUTIVE SUMMARY

SLR Consulting Australia Pty Ltd (SLR Consulting) has been recently engaged by Goodman Property Limited (Goodman) to update the Energy Efficiency Report for the revised master plan of Oakdale South Estate at Horsley Park.

The report has been prepared in accordance with the following Secretary's Environmental Assessment Requirements (SEAR) conditions for Oakdale South Estate for development application:

> *"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 Energy Efficiency Report is to identify all potential energy and water 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.

NCC Section J provides the minimum requirement for energy efficiency and based on analysis that SLR conducted for these types of facilities, it is anticipated that the proposed development will have an approximately 90% reduction in greenhouse gas (GHG) emission and 36% portable water reduction via:

- PV solar panels will be installed on roof.
- Improved daylight to warehouse with translucent sheeting to 10% of the roof area.
- Daylight controlled LED lighting for the warehouse instead of metal halide, resulting in a considerable energy reduction and reduced maintenance.
- Programmable lighting system incorporating timeclock, photo electric (PE) daylight sensors and motion sensors in the warehouse.
- More cross ventilation to the warehouse by using effective natural ventilation strategies such as louvre grilles in the façade where effective natural ventilation can be achieved by means of door openings.
- High efficiency glazing and shading for the offices.
- Solar hot water system with gas boost.
- Rainwater tank for rainwater harvesting and reuse for landscape irrigation and toilet flushing.

By installing 4 star-rated toilets, urinals, and taps and the proposed rainwater harvesting facility, the proposed development will reduce its potable water demand by approximately 36%.

CONTENTS

CONTENTS

DOCUMENT REFERENCES

TABLES

FIGURES

1 Introduction

On 17th September 2015, Environmental Impact Statement (EIS) and supporting documentation was submitted to NSW Department of Planning and Environment (NSW DP&E) with respect to a State Significant Development Application for the staged development of the Oakdale South Estate (OSE). The SSDA, originally lodged in March 2015 seeks consent for a Concept Proposal for the Estate and Stage 1 of the development comprising:

- Estate Works for the entire OSE;
- The construction and use of buildings in Precincts 1, 4 and 5 for generic 'warehousing and distribution' uses with 24/7 operation.

SLR has previously completed an energy efficiency report for Oakdale South Estate at Horsley Park. The precinct, as approved, was for five large warehouse buildings.

At the time of preparing this document, sixteen applications to modify SSD 6917 had been approved, and one was withdrawn. In summary, these modifications comprise:

- Mod 1 – approved on the 21 April 2017 for revisions to the approved Concept Proposal and Stage 1 Development in the northern portion of the estate;
- Mod 2 – withdrawn;
- Mod 3 – approved on the 5 October 2017 to permit out of hours importation of fill material;
- Mod 4 – approved on 18 December 2017 for revisions to the approved Concept Proposal and Stage 1 Development in the northern portion of the estate;
- Mod 5 – approved on the 23 November 2017 for administrative changes to condition E37;
- Mod 6 – approved on the 15 June 2018 to update the Vegetation Management Plan (VMP)/Biodiversity Offset Strategy (BOS) and associated changes to conditions E46 and E47;
- Mod 7 – approved 11 April 2018 for revisions of the approved concept plans to replace corner landscape, E2 zone in Lot 3A with hardstand, IN1 zone;
- Mod 8 – approved 17 December 2018 to increase the maximum height limit for a warehouse within Precinct 5 from 15 m to 16.5 m to accommodate roof plant;
- Mod 9 – approved 21 February 2019 to revise the concept masterplan to show Precinct 6 as a single rather than two warehouses;
- Mod 10 – approved 5 August 2019 to enable to storage of dangerous goods ay Warehouse 1D; and
- Mod 11 – approved 29 October 2019 to update the VMP and removed the BOS.
- MOD 12 – approved 3 December 2020 to approve changes to Lot 1C, 1D and Precinct 2 layout in Concept Masterplan, and changes to Warehouse 1C layout and fit-out and use of Warehouse 1D-1 in Stage 1.
- MOD 13 – approved 23 February 2021 to modify Conditions D32 and D33 to update the BAL construction requirements for the warehouse building approved for Lot 1C.
- MOD 14 – approved 2 July 2021 to increase allowance of dangerous goods stored in Warehouse 1D-1 and modification to Fire and Rescue NSW consultation requirements.
- MOD 15 – approved 22 September 2021 to update Bushfire Assessment Lots 2A, 2B.

- MOD 16 – approved 14 December 2021 to approve increase Building 2B height envelope from 15m to 16m to accommodate air conditioning roof plant.
- MOD 17 – approved 20 December 2022 to increase the ridgeline height control for Precinct 4 to facilitate an increase in the building height of the Stage 2 dry depot component of the Costco development

The report has been prepared in accordance with the following Secretary's Environmental Assessment Requirements (SEAR) conditions for Oakdale South Estate for development application:

> *"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 Energy Efficiency Report is to identify all potential energy and water 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. A detailed response to Condition B17 is summarised in below table.

Department of Planning - Condition B17	Project Implementation
a. Detail which ESD initiatives and energy efficiency measures outlined in the Sustainability Report by SLR, revision 3, dated 16 September 2015 will be implemented onsite;	All energy efficiency measures outlined in the SLR Sustainability Report, revision 3, dated 16 September 2015, have been implemented into the design documents for warehouse 1B. These measures were then implemented for the other warehouses. For a detailed description, refer to **Sections 4 and 5** of the current report.
b. Confirm whether the rainwater harvesting measures identified in the Civil, Stormwater and Infrastructure Services Strategy, rev 5 report no 14-193-R001, prepared by AT&L, dated September 2015 and letter titled 'SSD 6917 Oakdale South Industrial Estate, WSUD, ref: 14-193-ATL-L003, prepared by AT&L, dated 18 April 2016 will be implemented on site;	The project implements rainwater harvesting measures identified in the Civil, Stormwater, and Infrastructure Services Strategy report. Refer to **Section 4.4** of the current report for a detailed description.
c. Identify the total greenhouse gas savings estimated to be achieved in comparison to a base case development (i.e. a development constructed in accordance with the minimum requirements of Section J of the SCA) if the measure proposed under the Sustainability Strategy are implemented; and	Refer **Section 4.5** for detailed description for this condition.
d. Include a calculation of water requirements and measures incorporated to reduce water use.	Refer **Section 4.3.6** for detailed description for this condition.

1.1 Scope of Works

The specific scope of works of this plan is 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 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 identify energy savings procedures for overall cost reduction, greenhouse gas emission reduction and effective energy management.
- Confirm the total greenhouse savings achieved in comparison to the base case development.
- Include a calculation of water requirements and measures incorporated to reduce water use.
- To include a program to monitor and report annually on the efficiency of measures implemented.
- To ensure the long-term sustainability of resource use through more efficient and cost-effective energy use practices for the life of the development.

Where appropriate, the Energy Efficiency Report aims to meet the principles of energy management hierarchy, through the following in order of preference:

- Energy use avoidance through effective energy management (i.e. turning off lights in unused parts of the warehouse).
- Use of alternative energy sources such as solar power where practical and cost effective.
- Energy use minimisation by the implementation of energy efficiency measures.
- Purchase of 'GreenPower' and other accredited greenhouse gas offsets.

2 Energy Management Guidelines and Legislation

2.1 National Construction Code of Australia

The National Construction Code (NCC) 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 NCC contains mandatory technical provisions for the design and construction of NCC class buildings.

Volume 1, Section J of the NCC outlines energy efficiency provisions required for NCC 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)

2.2 Secretary's Environmental Assessment Requirements

The Greenhouse Gas and Energy Efficiency section of the Oakdale South Estate- Secretary's Environmental Assessment Requirements states:

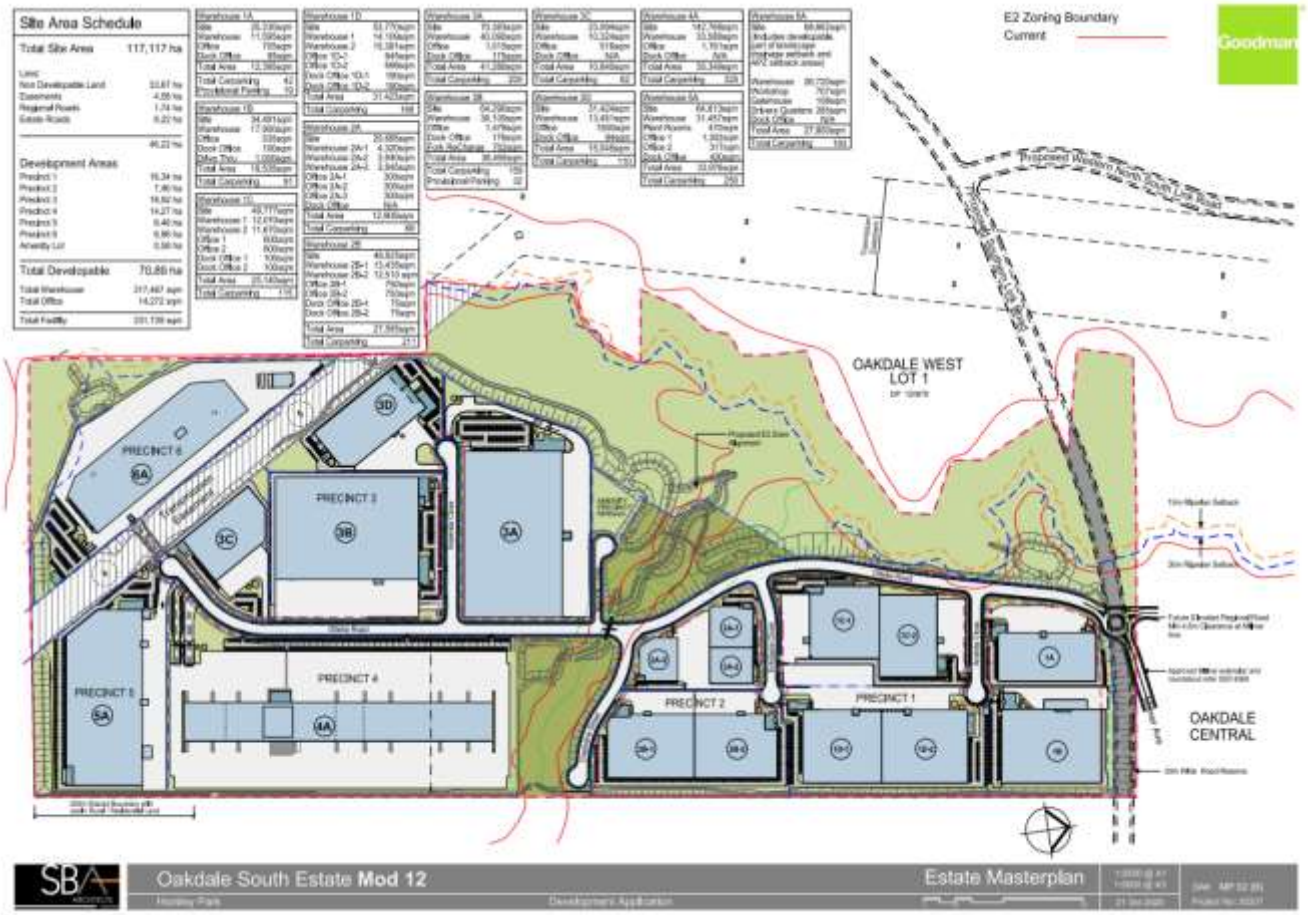
> *"An assessment of the energy use on site and demonstrate what measures would be implemented to ensure the proposal is energy efficient".*

3 Project Description

The Development Site, which is known as Oakdale South Estate, Horsley Park, is located within the Penrith Local Government Area (LGA) in the Western Sydney Employment Area (WSEA). It is situated within an approved Concept Plan area, which forms part of the broader Oakdale Industrial Precinct.

There are six (6) industrial precincts are proposed to be developed as new warehouse, distribution and freight transport centre between Milner Avenue and Estate Road. The site plan is shown in Figure 1.

Figure 1 Site Plan Showing Industrial Precincts



SLR previous reports relate to Precinct 1 which consists of four (4) new warehouse buildings, known as Sites 1A, 1B, 1C, and 1D. Each building has ancillary offices, car parking facilities, and loading areas. The floor plans of buildings 1A, 1B, and 1C are shown in Figures 2 to 5.

Figure 2 Site Plan for Warehouse 1A

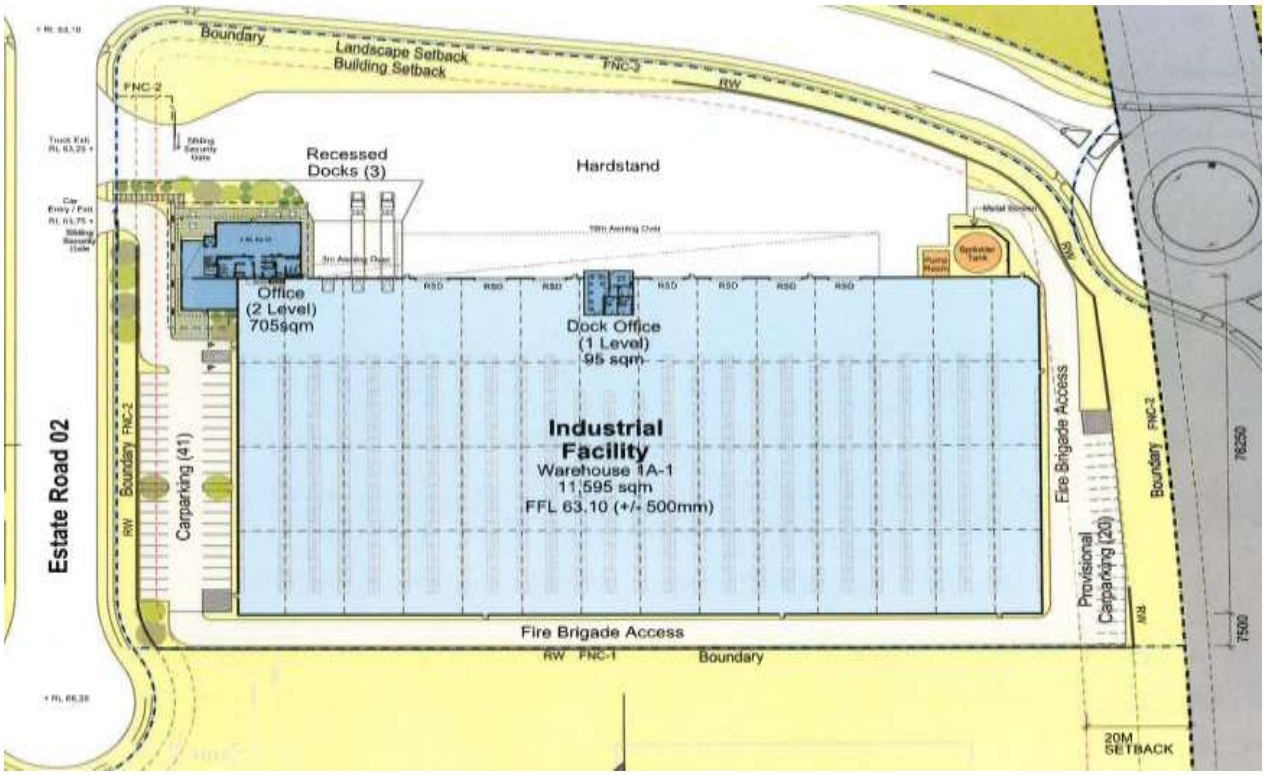


Figure 3 Site Plan for Warehouse 1B

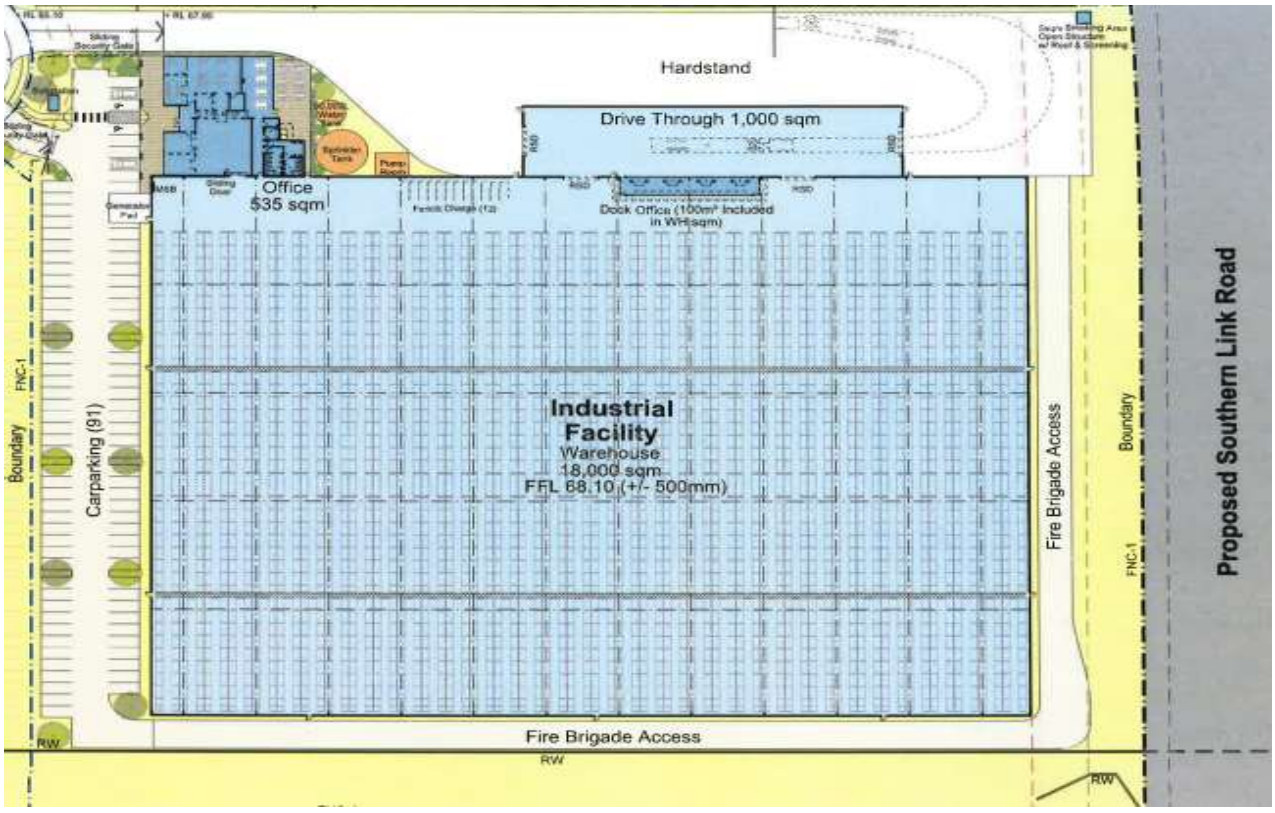


Figure 4 Site Plan for Warehouse 1C

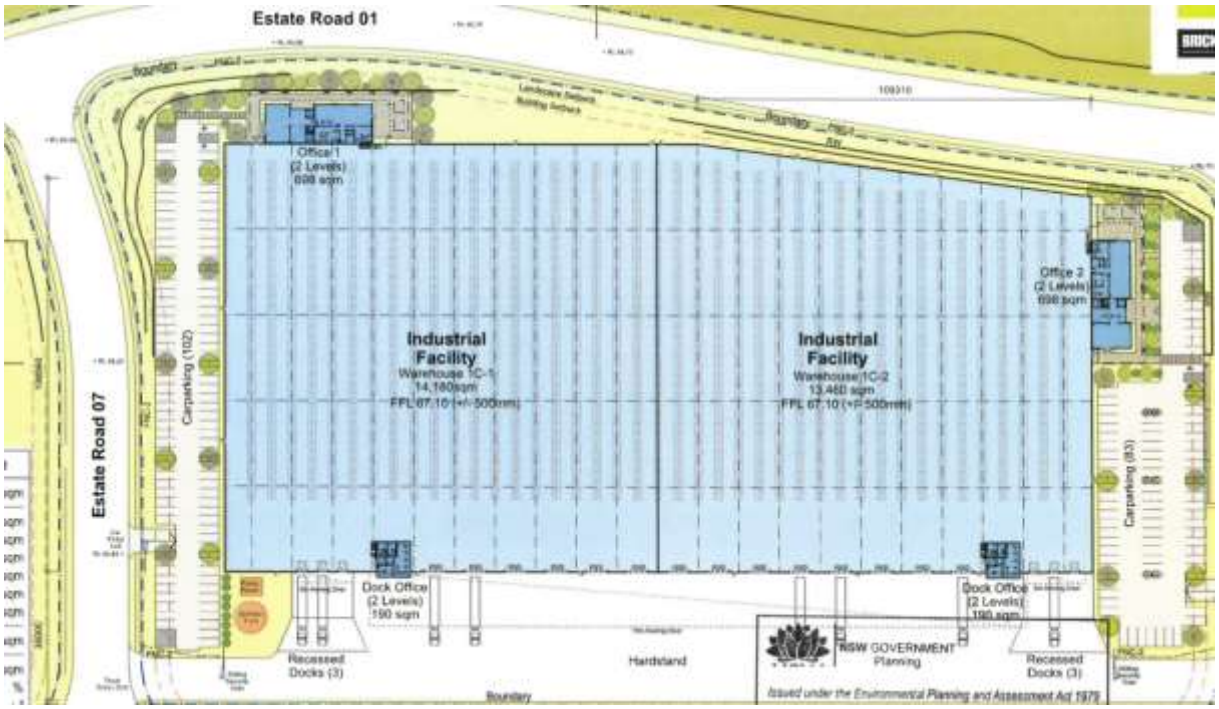
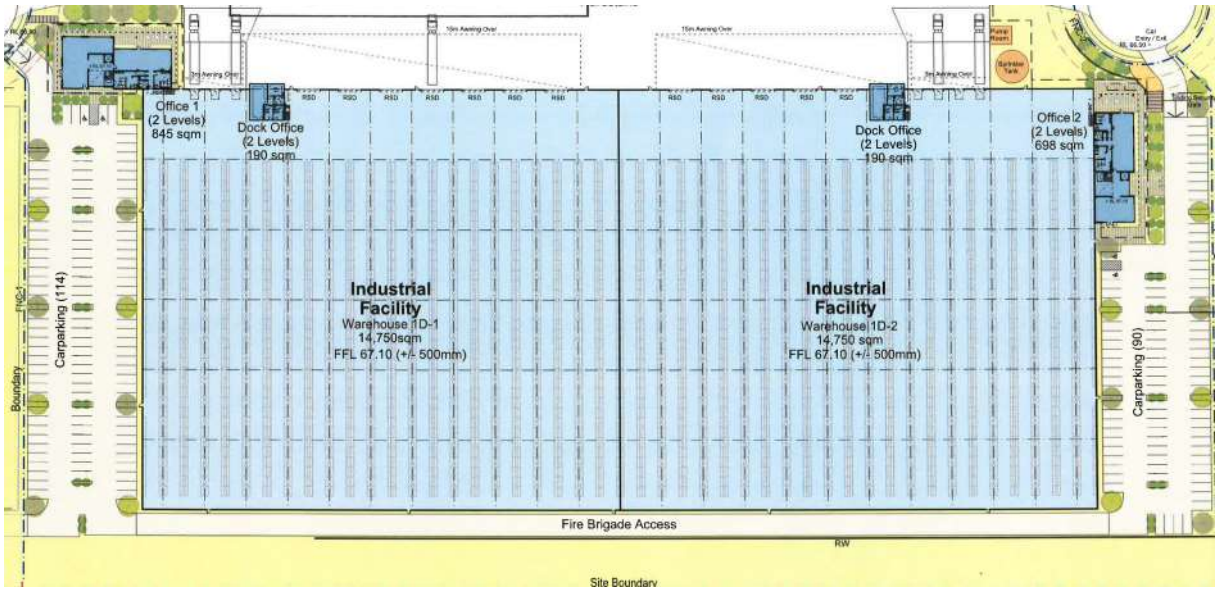


Figure 5 Site Plan for Warehouse 1D



The development provides a logistics hub for the receipt, storage and dispatch of products, which will be packaged for offsite transport and sale. Operational activities are approved 24 hours a day, seven days a week and include the following:

Warehouse 1A	
Site	25,230sqm
Warehouse	11,595sqm
Office	705sqm
Dock Office	95sqm
Total Area	12,395sqm
Total Carparking	42
Provisional Parking	19

Warehouse 1B	
Site	34,491sqm
Warehouse	17,900sqm
Office	535sqm
Dock Office	100sqm
Drive Thru	1,000sqm
Total Area	19,535sqm
Total Carparking	91

Warehouse 1C	
Site	49,777sqm
Warehouse 1	12,070sqm
Warehouse 2	11,670sqm
Office 1	600sqm
Office 2	600sqm
Dock Office 1	100sqm
Dock Office 2	100sqm
Total Area	25,140sqm
Total Carparking	115

Warehouse 1D	
Site	53,770sqm
Warehouse 1	14,109sqm
Warehouse 2	15,391sqm
Office 1D-1	845sqm
Office 1D-2	698sqm
Dock Office 1D-1	190sqm
Dock Office 1D-2	190sqm
Total Area	31,423sqm
Total Carparking	169

Warehouse 2A	
Site	25,685sqm
Warehouse 2A-1	4,320sqm
Warehouse 2A-2	3,840sqm
Warehouse 2A-3	3,845sqm
Office 2A-1	300sqm
Office 2A-2	300sqm
Office 2A-3	300sqm
Dock Office	N/A
Total Area	12,905sqm
Total Carparking	69

Warehouse 2B	
Site	48,825sqm
Warehouse 2B-1	13,435sqm
Warehouse 2B-2	12,510 sqm
Office 2B-1	750sqm
Office 2B-2	750sqm
Dock Office 2B-1	75sqm
Dock Office 2B-2	75sqm
Total Area	27,595sqm
Total Carparking	211

Warehouse 3A	
Site	70,383sqm
Warehouse	40,090sqm
Office	1,015sqm
Dock Office	175sqm
Total Area	41,280sqm
Total Carparking	200

Warehouse 3B	
Site	64,290sqm
Warehouse	36,100sqm
Office	1,478sqm
Dock Office	176sqm
Fork ReCharge	702sqm
Total Area	38,456sqm
Total Carparking	159
Provisional Parking	32

Warehouse 3C	
Site	23,094sqm
Warehouse	10,324sqm
Office	516sqm
Dock Office	N/A
Total Area	10,840sqm
Total Carparking	62

Warehouse 3D	
Site	31,424sqm
Warehouse	13,451sqm
Office	1500sqm
Dock Office	94sqm
Total Area	15,045sqm
Total Carparking	110

Warehouse 4A	
Site	142,768sqm
Warehouse	33,588sqm
Office	1,761sqm
Dock Office	N/A
Total Area	35,349sqm
Total Carparking	325

Warehouse 5A	
Site	64,613sqm
Warehouse	31,457sqm
Plant Rooms	470sqm
Office 1	1,302sqm
Office 2	317sqm
Dock Office	430sqm
Total Area	33,976sqm
Total Carparking	250

Warehouse 6A	
Site (Includes developable, part of landscape drainage setback and APZ setback areas)	68,662sqm
Warehouse	26,720sqm
Workshop	707sqm
Gatehouse	108sqm
Drivers Quarters	265sqm
Dock Office	N/A
Total Area	27,800sqm
Total Carparking	193

4 Operational Energy Management

Ineffective energy management for commercial premises can lead to unnecessary growth in greenhouse gas emissions and natural resource consumption. Effective energy management reduces costs using energy efficiency measures and improves environmental outcomes locally, regionally, and globally.

Effective energy management is achieved by implementing an EMP for the project's operational life.

4.1 Identified Major Energy Use Components

Major energy use components of the project site have been identified below based on information available within the proposed plans and Outline Building Specification for Goodman Industrial Buildings.

- Lighting (include natural and artificial lighting and shading)
- Air Conditioning
- Ventilation Fans
- Domestic Water Heating
- Appliances and equipment

4.2 Energy Sources

The main energy source for the proposed site is electricity, but it is also proposed to have gas available at the site if the tenant requires it. The domestic hot water (DHW) will be powered by solar energy from solar panels located on the roof of the building. For optimal solar radiation incident on the panel, the panel should be facing north and inclined at an angle of 25 degrees. Solar energy is considered a renewable energy source as no greenhouse gas emissions are produced from the production of electricity utilising solar panels.

4.3 Proposed Energy Efficiency Measures

Warehouse 1B has been utilised to represent the energy efficiency performance of other warehouses within the precinct. All warehouses within the development are under the same Goodman's design concept and requirements.

The energy efficiency measures outlined in the previous SLR's sustainability report have been assessed in the following sections.

4.3.1 Building Passive Design

- Good levels of daylighting will reduce the amount of artificial lighting required during the day. Fire retardant polycarbonate roof sheeting to 10% of the roof area will be provided to warehouses for natural daylight.
- Heat-reflective semi-translucent roller blinds on all windows will reduce solar heat load to the building.
- Awnings over windows or shading devices where appropriate will reduce the solar heat load to the building, decreasing the cooling load requirements from the air conditioning system. To be implemented where practical.

- Achieving high insulating values of external development fabrics (in compliance with BCA requirements) will allow for lower energy demand on the air-conditioning system and higher thermal comfort level for occupants.
- Provide performance laminated or heat strengthened safety glazing to all external windows to meet the BCA Section J and the relevant Australian Standards.
- Predominantly south facing office space, consider insulated external walls where appropriate to reduce the glazing area and associated heat loss in winter.
- Predominantly north and west facing office, consider additional shading or solar controlled glazing to reduce heat transfer into the office space where appropriate.
- Warehouse can be naturally ventilated via roller shutter openings to reduce the internal temperature during hot summer.
- Awnings are proposed for loading doors and big openings to prevent direct solar radiation through openings.
- Door seals for office doors and airlock for reception areas will help to maintain a comfortable indoor air environment and lower energy demand on the air-conditioning system.

4.3.1.1 Project Implementation

Most energy efficiency measures in this section have been initially implemented for warehouse 1B and been followed by the other warehouses in due course.

4.3.2 Lighting

- Provide lighting control system to manage and minimise power consumption.
- LED light fittings have been proposed for the development. LED lighting benefits include lower energy consumption and a longer bulb lifespan.
- Lighting zoning will offer flexibility for light switching in zones.
- Lighting system is to be programmable and incorporate timeclock, photo electric (PE) daylight sensors and motion sensors in the warehouse.
    - Office areas – Movement control and timeclock
    - Amenities and circulation areas - Movement control and timeclock
    - Warehouse areas – PE (daylight harvesting) and timeclock.
    - Warehouse peripheral areas, Service and plant rooms - Movement control and timeclock
    - Warehouse awnings - PE and timeclock
    - External – PE and timeclock
- Lighting system is to be programmable and incorporate timeclock, and motion sensors in the office, lunch room and amenities.
- Energy efficient floodlights will be considered for lighting of external perimeter of building.

4.3.2.1 Project Implementation

Most of the energy efficiency measures in this section have been implemented for warehouse 1B, which will be followed by the other warehouses in due course.

4.3.3 Air Conditioning

- Air-conditioning control zoning provided where necessary to cater for varying occupancy rates, orientation to solar loads etc. Also, time clock provided with provision for after-hour override.
- Air conditioning systems shall be of the air-cooled, reverse cycle, packaged unit type, incorporating economy cycles where required under the BCA Section J Energy Efficiency.
- Natural ventilation will be in accordance to BCA requirements for all areas.
- Mechanical ventilation fans will be meet BCA Section J5 to minimize the fan power consumption.

4.3.3.1 Project Implementation

Most energy efficiency measures in this section have been implemented for warehouse 1B and then followed by the other three warehouses in due course.

4.3.4 Domestic Water Heating

- Hot water systems implemented in staff amenities, including toilets, lunchrooms and cleaners' room to be connected to a solar hot water system.
- Hot water shall be generated through a roof mounted solar water packaged plant.
- Piping insulation should be provided to both external and internal DHW & DCW circulation pipes.

4.3.4.1 Project Implementation

A solar hot water system has been installed as per the Goodman design guideline document.

4.3.5 Energy Metering

- Electrical sub-metering to all metered loads will facilitate ongoing management of energy consumption.

4.3.5.1 Project Implementation

All warehouses within the precinct will install sub-metering for ongoing management of energy consumption.

4.3.6 Water Efficiency

- Rainwater reuse for toilet flushing and irrigation.
- Water efficient bathroom hardware's.

Rainwater harvesting measures identified in the Civil, Stormwater and Infrastructure Services Strategy, rev 5 report no 14-193-R001, prepared by AT&L, dated September 2015 have specified the minimum size of rain water tank for warehouses within precinct 1 below.

Table 1 Rainwater Tank Modelling Results from AT&L Report

Lot Number	Total Roof Area (m^2)	Roof Area draining to tank (m^2)	Size of Tank(kL)	% of total non-potable water used from tank (based on MUSIC modelling)
1A	21,949	6,585	55	**54.8**
1B	24,704	7,411	55	**52.6**
1C	27,918	8,375	60	**52.1**
1D	29,788	8,936	70	**53.9**
4A	16,581	4,974	40	**54.2**
4B	12,861	3,858	30	**53.2**
4C	18,529	5,559	50	**57.3**
5A	84,000	25,200	170	**50.4**

Table 21 – Percentage of Non-Potable Water Used from Tank

Table 1 shows 55 kl of rainwater tank for warehouse 1B will produce 52.6% of total non-potable water used from RWT. This has demonstrated a commitment to water recycling and minimizing the usage of portable water as per the industry's best practice and the NSW state Government's objective of reducing the amount of potable water consumed for non-potable uses.

Two 40 kL rainwater tanks have been proposed for warehouse 1B, which means even better rainwater harvesting measures have been implemented for the project.

4.3.6.1 Project Implementation

The project will have several sustainable waters saving measures, including:

- Rainwater reuse and reticulation system – 80 KL 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 the 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 rated toilets, urinals and taps and the proposed rainwater harvesting facility the proposed development will reduce its potable water demand by approximately 36%.

Most of the energy efficiency measures in this section have been implemented for warehouse 1B, and they will be followed by the other warehouses eventually.

4.4 Baseline and Proposed Energy Consumption

The Sections J of the National Construction Code (NCC) of Australia will be used as the baseline building for energy consumption savings. NCC Section J provides the minimum requirement for energy efficiency and it is expected that the proposed development (warehouse 1B in this case) will result in an approximate 90% reduction in greenhouse gas (GHG) emission via:

- Improved daylight to warehouse with up to 10% of the roof area as a sky light
- LED fitting with control to warehouse and offices
- Daylight-controlled fluorescent/LED lighting for the warehouse instead of metal halide, resulting in a considerable energy reduction and reduced maintenance
- High-efficiency glazing and shading for the offices
- Solar hot water system
- PV solar panels
- More efficient ventilation and air-conditioning systems

Detailed energy analysis for warehouse 1B is provided in SLR's Sustainability Management Plan Warehouse 1B Report 610.15608 SMP-R02-v1.0 Revision 1, dated 18 January 2018.

4.5 Signage and Education for Employees

It is recommended that information on energy savings procedures, annual energy targets for the Project, as well as the results of energy usage reviews and audits, be communicated to all employees via monthly forums. Improvements in project energy usage levels should be celebrated openly with employees and signage placed in lunchroom and other shared employee areas to help reinforce employee involvement in the Energy Efficiency Report. Signs should also be placed adjacent to any appliances or equipment etc, where significant energy savings can be made through employee awareness of simple energy savings procedures. This is an effective and easy way to encourage appropriate energy management by employees.

Employees should receive training in energy management and energy savings procedures especially regarding high energy consumption aspects of the project.

Energy management procedures should also be clearly communicated to cleaners (and form part of any contractual conditions) to outline the cleaner's energy use minimisation responsibilities.

4.6 Monitoring and Reporting Requirements

4.6.1 Energy Review and Audit

An energy usage review will be undertaken within the first few months of operation to ensure the Energy Efficiency Report is enough 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 will be conducted 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 will be undertaken on a 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 Efficiency Report shall be reviewed on an annual basis to consider changes to the Energy Management System and to promote continual improvement of energy management at industry best practice over time.

4.6.2 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 will 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:

1. 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.
2. Maintenance contractors understand how to service the particular systems to maintain reliable operations and maximum energy efficiency.
3. Employees understand energy minimisation procedures and working limitations required to maintain design performance for energy efficiency.
4. Future fit-out / refurbishment designers understand the design basis for the building and the systems so that these are not compromised in any changes.

4.7 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.

5 Additional Energy Use Minimisation Strategies

In addition to the Outline Building Specification for Goodman Industrial Buildings, the following energy use minimisation strategies may be implemented for the Project:

Natural Ventilation versus Air Conditioning:

- Provision of increased outside air rates, during favourable climatic conditions, maintains general contaminants (odour, VOCs etc) at lower concentrations than artificially ventilated spaces, improving the indoor air quality environment.
- Consider alternative passive exhaust options such as wind or solar assisted whirly birds to improve thermal comfort.

Daylight versus Artificial Lighting:

- Increased reliance on artificial lighting in buildings may have a detrimental effect on the health and wellbeing of occupants. Natural lighting from the sun is freely available and improves the mindset and health of workers and visitors.

Solar Powered versus Electricity Powered:

- Electricity is provided by the burning of coal in NSW, and therefore, greenhouse gas is a derived product from the production of electricity. In NSW, 0.9 kg CO_2-e (carbon dioxide equivalent) is emitted from every 1 kwhr of purchased electricity by end-users. The provision of solar panels to produce electricity will reduce the electricity demand and therefore reduce greenhouse gas emissions.

GreenPower can also be purchased from the electricity provider.

- GreenPower is electricity from wind or solar energy which does not emit greenhouse gas.

6 Conclusion

SLR Consulting Australia Pty Ltd (SLR Consulting) has been recently engaged by Goodman Property Limited (Goodman) to update the Energy Efficiency Report for the recently updated master plan of Oakdale South Estate at Horsley Park. The report has been prepared in accordance with the following Secretary's Environmental Assessment Requirements (SEAR) conditions for Oakdale South Estate for development application:

> *"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 Energy Efficiency Report is to identify all potential energy savings that may be realised during the project's operational phase. This includes 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.

NCC Section J provides the minimum requirement for energy efficiency, and based on the analysis that SLR conducted for these types of facilities, it is anticipated that the proposed development will have approximately 90% reduction in greenhouse gas (GHG) emission and 36% portable water reduction via:

- Improved daylight in the warehouse with translucent sheeting for 10% of the roof area.
- PV solar panels will be installed on roof.
- Daylight-controlled LED lighting for the warehouse instead of metal halide, reducing energy and reducing maintenance.
- Programmable lighting system incorporating timeclock, photo electric (PE) daylight sensors and motion sensors in the warehouse.
- More cross ventilation to the warehouse by using effective natural ventilation strategies such as louvre grilles in the façade of the building where effective natural ventilation can be achieved by means of door openings.
- High-efficiency glazing and shading for the offices.
- Solar hot water system with gas boost.
- Rainwater tank for rainwater harvesting and re-use for landscape irrigation and toilet flushing.
- Other measures are detailed in **Section 4.3**.

By installing 4 star rated toilets, urinals and taps and the proposed rainwater harvesting facility the proposed development will reduce its potable water demand by approximately 36%.

In conclusion, the relevant ESD initiatives and Energy Efficiency measures outlined in the Sustainability Report at the Development Application stage have been implemented for Precinct 1, and the project will satisfy the Department of Planning Condition B17. A detailed response to Condition B17 is summarised in below table.

Department of Planning - Condition B17	Project Implementation
a. Detail which ESD initiatives and energy efficiency measures outlined in the Sustainability Report by SLR, revision 3, dated 16 September 2015 will be implemented onsite;	All energy efficiency measures outlined in the SLR Sustainability Report, revision 3, dated 16 September 2015, have been implemented into the design documents for warehouse 1B. These measures were then implemented for the other warehouses. For a detailed description, refer to **Sections 4 and 5** of the current report.
b. Confirm whether the rainwater harvesting measures identified in the Civil, Stormwater and Infrastructure Services Strategy, rev 5 report no 14-193-R001, prepared by AT&L, dated September 2015 and letter titled 'SSD 6917 Oakdale South Industrial Estate, WSUD, ref: 14-193-ATL-L003, prepared by AT&L, dated 18 April 2016 will be implemented on site;	The project implements rainwater harvesting measures identified in the Civil, Stormwater, and Infrastructure Services Strategy report. Refer to **Section 4.4** of the current report for a detailed description.
c. Identify the total greenhouse gas savings estimated to be achieved in comparison to a base case development (i.e. a development constructed in accordance with the minimum requirements of Section J of the SCA) if the measure proposed under the Sustainability Strategy are implemented; and	Refer **Section 4.5** for detailed description for this condition.
d. Include a calculation of water requirements and measures incorporated to reduce water use.	Refer **Section 4.3.6** for detailed description for this condition.

Annual reviews of actual building energy will be carried out 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.

7 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.

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Appendix D Operational Traffic Management Plan

Operational Environmental Management Plan

Oakdale South Industrial Estate
Master Plan

Goodman Property Services (Aust) Pty Ltd

SLR Project No.: 630.031929.00001

29 October 2024

Operational Traffic Management Plan

Oakdale South Industrial Estate

28/10/2024
P0532r02
SSD-6917

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Contents

Contents Continued

Figures

Tables

APPENDICES

Glossary

Acronym	Description
AGRD	Austroads Guide to Road Design
AGTM	Austroads Guide to Traffic Management
AV	Articulated Vehicle (as defined by AS2890.2:2018)
CC	Construction Certificate
Council	Penrith Council
CTMP	Construction Traffic Management Plan
SSDA	State Significant Development Application
DCP	Development Control Plan
DoS	Degree of Saturation
DPHI	Department of Planning, Housing and Infrastructure
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
TGS	Traffic Guidance Scheme
TDT 2013/04a	TfNSW Technical Direction, Guide to Traffic Generating Developments – Updated traffic surveys, August 2013
TfNSW	Transport for New South Wales
TA	Transport Assessment
veh/hr	Vehicle movements per hour (1 vehicle in & out = 2 movements)

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 Oakdale South Estate (the Estate).

Figure 1: Oakdale South Industrial Estate Local Context

This OTMP is in response to Condition E3 of the Concept Plan for the State Significant Development (SSD 6917), dated 26 October 2016. It is noted that the conditions have since been updated for the latest MOD 17 approval, however no changes were made in relation to Condition E3. **Table 1** outlines these conditions.

TABLE 1: CONDITION OF CONSENT E3 RESPONSE LOCATIONS

Ref.	Conditions	Response
E3	Prior to the issue of an Occupation Certificate for each building, the Applicant shall prepare and submit an **Operational Traffic Management Plan** (OTMP) for the development in consultation with Council and TfNSW, to the Secretary for approval. The OTMP must at a minimum:	Relevant Council and TfNSW response to consultation is included in **Appendix B**, with each raising no objections.
(a)	Be prepared by a suitably qualified and experienced expert;	Consultants from Ason Group are suitably qualified Traffic Engineers
(b)	Estimate the numbers and frequency of truck movements, sizes of trucks, vehicle routes and hours of operation;	**Section 2.2** of this report outlines the approved hours of operation. **Section 5.2** outlines the maximum permissible vehicle size, truck routes and all approved B-double truck routes.
(c)	Detail the access and parking arrangements for operational vehicles to ensure road and site safety, and demonstrate that there will be no queuing on the public road network;	As outlined in **Section 5.3**, the site access arrangements, while **Section 6** illustrates on-site and on-street carparking management.
(d)	Include detail of proposed truck parking to ensure this is managed in an orderly manner; and	**Section 6.2** ensures that all vehicles and / or trailers will park in designated areas and not on circulation roadways or access roads
(e)	Include a Driver Code of Conduct that details traffic management measures to be implemented during operation to: (i) minimise impacts of the development on the local and regional road network; (ii) minimise conflicts with other road users; (iii) ensure truck drivers use specified routes and minimise traffic noise during night-time hours; and (iv) manage/control pedestrian movements.	A drivers Code of Conduct can be found in **Appendix A**. 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.

1.2 Background

A Concept Plan for the Estate was originally approved by the Department of Planning & Environment (now Department of Planning, Housing and Infrastructure) on 26 October 2016. Subsequently, a number of amendments to the Estate master plan and individual development Precincts, resulting in the form now approved. A summary of the relevant changes to building areas under previous consents is provided in **Table 2** below.

TABLE 2: CONCEPT PLAN MODIFICATIONS

Modification	Summary of Modifications	Traffic Related (Y/N)
Concept Plan	-	Y
MOD 1	Amend the Concept Proposal and Stage 1 DA site, building envelope, road layout and GFA mix; increase creek realignment works; add an amenity lot in precinct 3; remove the construction of warehouse buildings in precincts 3, 4 and 5 (to be assessed under future DAs); and amend site levels and bulk earthworks.	N
MOD 2	Withdrawn by the Applicant on 25 January 2017.	N
MOD 3	Extend weekday construction hours for the importation of fill material for the Stage 1 DA bulk earthworks, including spreading and compacting of fill material.	N
MOD 4	Amend the Concept Proposal and Stage 1 DA building envelope and internal road layouts in precincts 1 and 2, including the addition of one additional internal road.	Y
MOD 5	Update Condition E37 to remove a contradiction in the wording of the consent.	N
MOD 6	Amendments to the Vegetation Management Plan, Biodiversity Offset Strategy, Landscape Plans, Condition E46 and Condition E47.	N
MOD 7	Update the approved concept plans to replace a corner landscape, E2 zone in Lot 3A with hardstand, IN1 zone.	N
MOD 8	Update the approved concept plans to increase the building height limit for Precinct 5 from 15 m to 16.5 m.	N
MOD 9	Amend the Concept Proposal plan by consolidating two warehouses in Precinct 6 into one warehouse.	N
MOD 10	Enable storage of dangerous goods within Warehouse 1D	N
MOD 11	Update biodiversity offsetting arrangements and the Vegetation Management Plan (VMP).	N
MOD 12	Amend the Concept Proposal within Precincts 1 and 2, changes to the approved Stage 1 development and fit-out and use of Warehouse 1D-1 for the purposes of pallet storage.	Y
MOD 13	Amend the bushfire attack level construction requirements for Warehouse 1C.	N
MOD 14	Increase the amount of dangerous goods permitted to be stored in Warehouse 1D-1 and amend fire safety consultation requirements.	N
MOD 15	Modification to bushfire construction requirements for Precinct 2.	N
MOD 16	Modification to increase maximum height of Warehouse 2B.	N
MOD 17	Increase the ridgeline height control for Precinct 4 to facilitate an increase in the building height of the Stage 2 dry depot component of the Costco development approved under SSD 8209.	N

More details on the previous modifications can be found within the most recent Modification Assessment Report[1], available on the major projects planning portal.

1.3 Purpose of this Report

The purpose of this OTMP is in response to conditions outlined in condition E3 (as outlined above) and other requirements. It is to provide 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:

- The estimated type, frequency and number of trucks within the Estate.
- Detail the access and parking arrangements to ensure no queuing on the public road network
- Appropriate internal traffic controls and signage.
- A truck route management plan.
- Provide details on the Driver Code of Conduct to be implemented.
- Proposed crossings and signage for safe movement of pedestrians within the Estate
- Details on the governance and administration of the plan.

1.4 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.
- On-site traffic and parking management for individual Lots. Reference should therefore be made to the site-specific OTMPs for relevant details.
- 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 contractor involved in the transport of Dangerous Goods to/from the individual businesses within the Estate.

1.5 References

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

- Department of Planning & Environment (now Department of Planning, Housing and Infrastructure), *Assessment Report – Oakdale South Industrial Estate (SSD 6917) Concept Proposal and Stage 1 DA Layout*, October 2016

[1] https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6917-MOD-17%2120221219T225856.011%20GMT

- Department of Planning & Environment (now Department of Planning, Housing and Infrastructure), *Assessment Report – Oakdale South Industrial Estate (SSD 6917 MOD 1) Concept Proposal and Stage 1 DA Layout)*, April 2017
- Ason Group, *Traffic Impact Assessment Report – Oakdale South Industrial Precinct, Western Sydney Employment Area Section 96 Application*, dated 26 September 2016 (MOD 1 Traffic Report)
- Ason Group, *Traffic Impact Assessment Report – Oakdale South Industrial Estate, Western Sydney Employment Area Concept Plan Modification Application 4*, dated 12 May 2017 (MOD 4 Traffic Report)
- Ason Group, *Transport Assessment – State Significant Development Application (SSDA) – Modification 12, Oakdale South Business Hub (SSD – 6917)*, dated 8 October 2020.
- Roads and Maritime Services (RMS), *Guide to Traffic Generating Developments* (RMS Guide)
- RMS Technical Direction TDT 2013/04a, *Guide to Traffic Generating Developments – Updated traffic surveys* (RMS Guide TDT 04a)
- TransGrid, *TransGrid Easement Guidelines – Third Party Development*
- National Transport Commission, *Australian Code for the Transport of Dangerous Goods by Road & Rail, Edition 7.5*, dated 2017.
- RMS, *Traffic Control at Work Sites* manual, June 2010

2 Estate Details

2.1 Estate Overview

The Estate is described as Lot 12 in DP 1178389 and Lot 87 in DP 752041, Kemps Creek. It is bounded by neighbouring industrial precincts to the north (Oakdale Central), east (Jacfin lands) and west (Oakdale West).

A total development floor area of 331,739m^2 has been approved for the industrial buildings within the Estate, as outlined by the most recent Estate Masterplan (MOD 12).

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

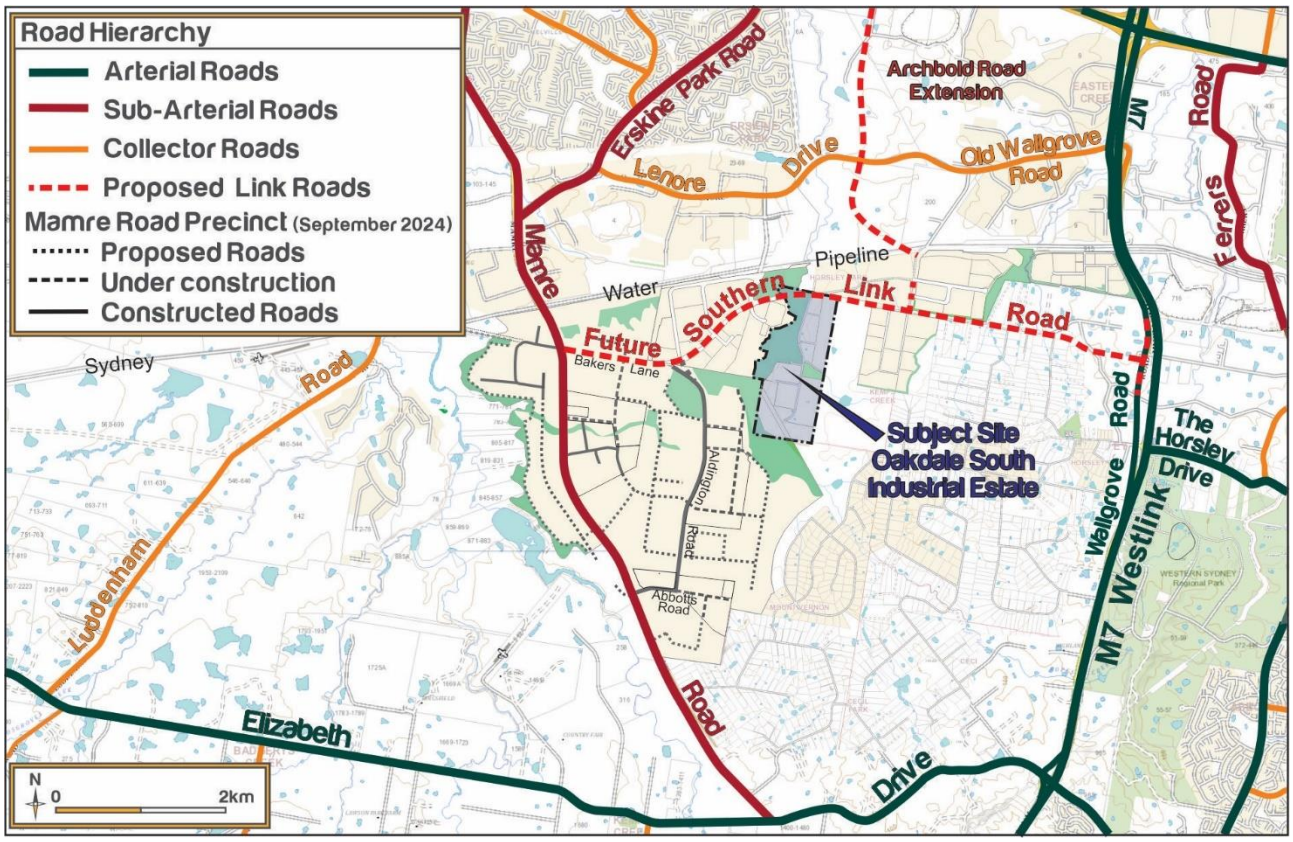

Figure 2: Site Appreciation and Road Hierarchy

The Estate comprises a number of industrial Lots as shown in **Figure 3** below.

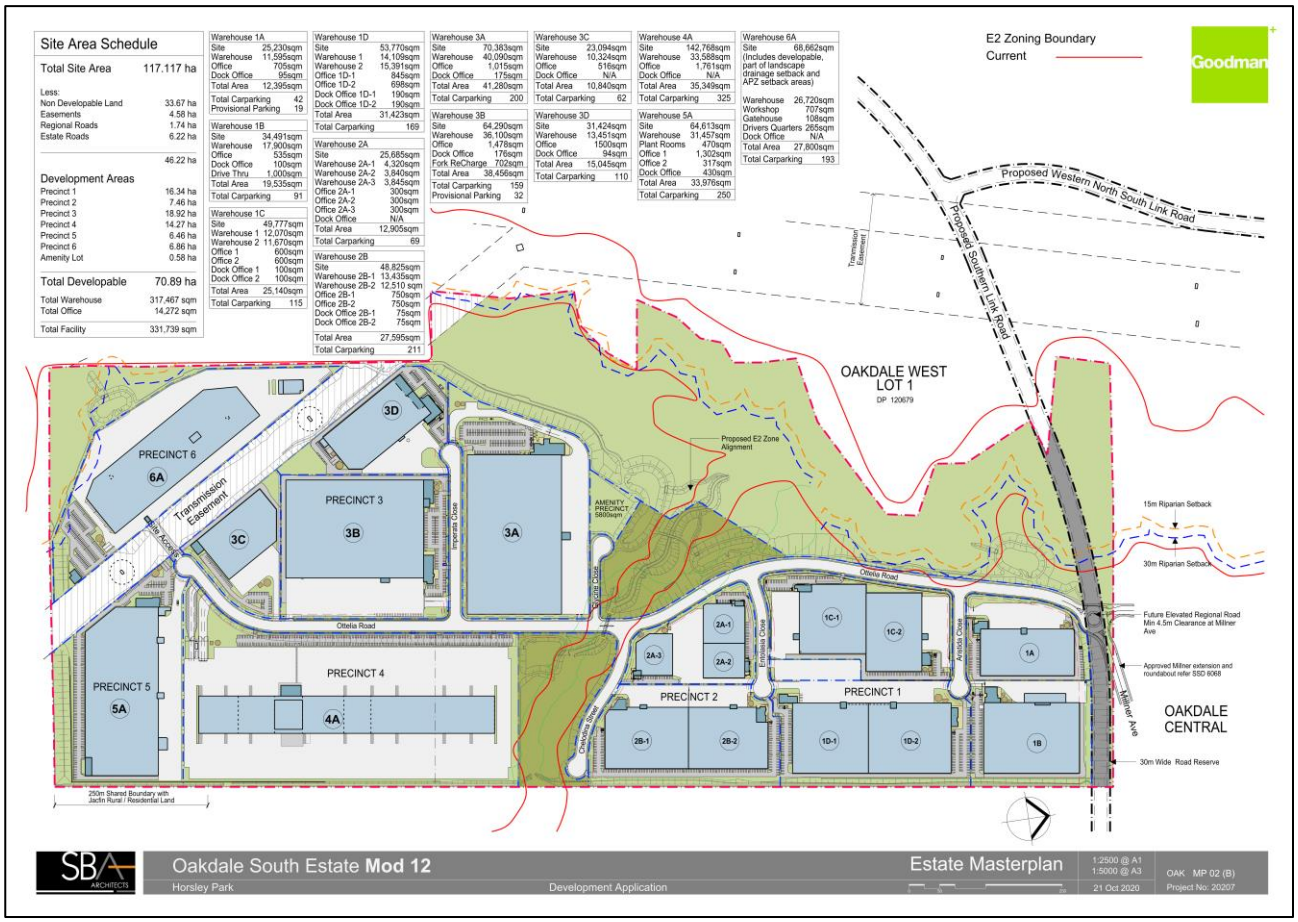

Figure 3: Estate Site Plan – MOD 12

With reference to **Figure 3**, the key details relating to the Estate are as follows:

- An estate total Gross Floor Area (GFA) of 331,739m^2.
- 6 development sub-precincts with up to 18 buildings (separate tenancies) used for warehouse and distribution uses; and
- Local (industrial) roads, as summarised in **Table 4**.

All access to the Estate is provided via Millner Avenue (Oakdale Central) to Old Wallgrove Road. Vehicles will travel along Old Wallgrove Road from the M4 or Lenore Drive, before heading south on Old Wallgrove Road and onto Millner Avenue.

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. It is noted that no direct access between Oakdale South and the SLR is proposed, with all access via Old Wallgrove Road.

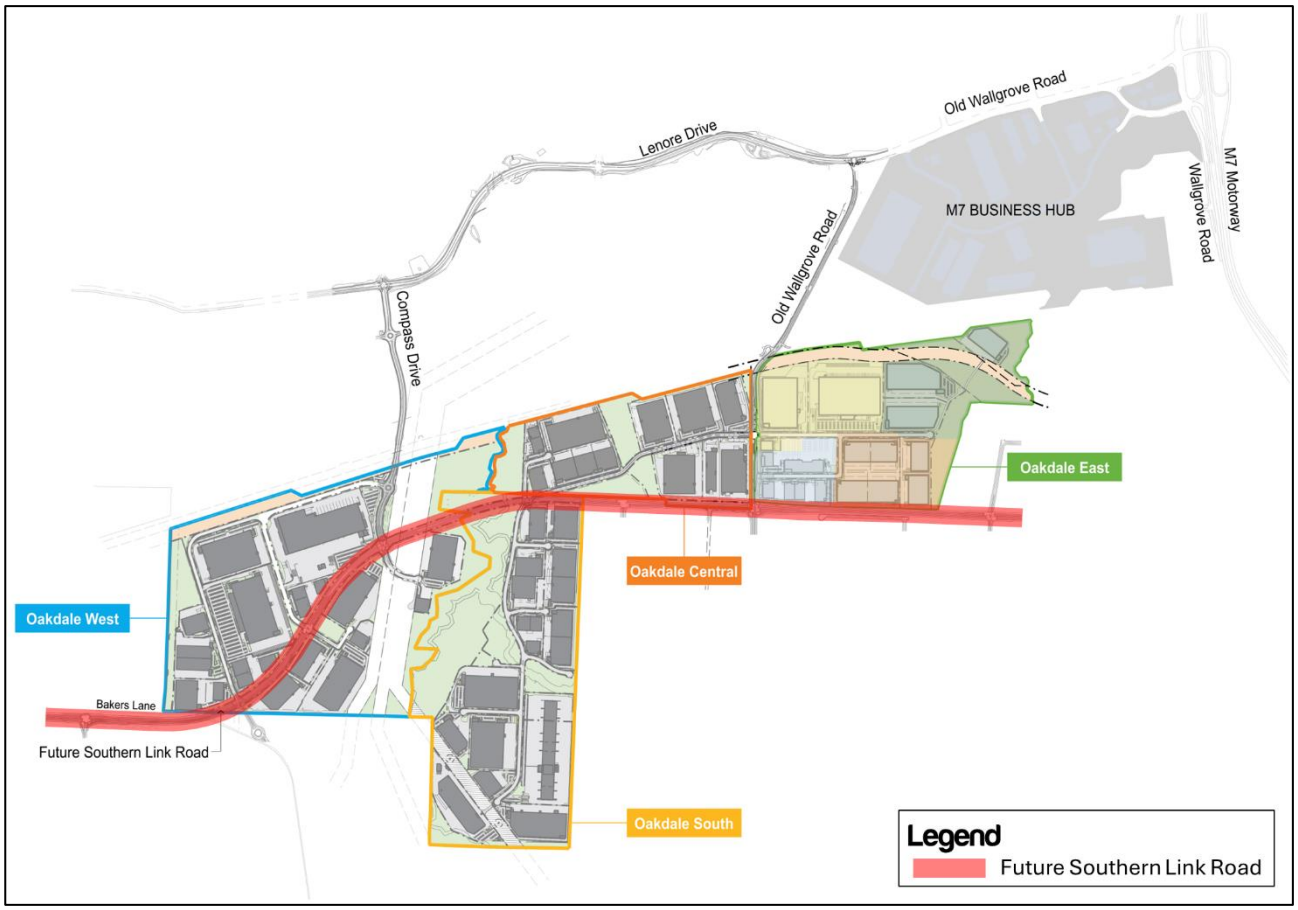

Figure 4: Southern Link Access Road

2.2 Hours of Operation

Operation of each Site will be subject to site specific OTMP's. Notwithstanding, Oakdale South has publicly dedicated roads that will be accessible at all times, therefore the Estate will be operational 24 hours a day, 7 days a week.

2.3 Approved Estate Vehicle Movements

Transport and traffic projections underpinning the surrounding road infrastructure investment is based upon an anticipated 654 vehicle movements per hour (veh/hr) for the entire estate during operation, as outlined in approved Master Plan. This is based upon the traffic modelling supporting the original development consent and forms the approved threshold for the Estate generally accepted by DPE, RMS, TfNSW and Council.

Since then, updates to the Transport Assessment have been conducted, with the latest assessment being based on the MOD 12 masterplan.

Condition C4 of the Concept Plan approval requires that any future Development Application (DA) be accompanied by a "detailed assessment" thus providing Authorities (DPIE and Council) a mechanism to enforce the above traffic generation threshold.

It should be noted that vehicle movements per hour does not equate to number of trucks – a single truck will count as 2 movements (1 movement into site and 1 movement out of site). A breakdown of the relative contribution of individual Precincts assumed is provided in **Table 3** below.

TABLE 3: OAKDALE SOUTH TRIP GENERATION (MOD 12)

Precinct	Key Details		Traffic Generation (vehicle movements)		
	GFA[2]	Car Parking	AM	PM	Daily
1[3]	88,493	417	172	176	1,679
2	40,500	280	66	66	766
3	105,621	531	173	173	1,999
4[4]	35,349	325	142	129	669
5	33,976	250	55	55	643
6	27,800	193	45	45	526
Total	**331,739**	**1,996**	**653**	**644**	**6,282**

Notes: 1) Truck in + 1 truck out = 2 movements

2) GFA yields have been based on the latest approved (MOD 12) Masterplan[2]

3) Traffic generation rates have been based on TA_OSE MOD 12_Oakdale South Estate, Kemps Creek – Ref: P1511r01v1, dated 8 October 2020[3]

4) AM and PM peak hourly movements from SSD TIA — Ref: P0393r01v1, dated 19 July 2017

Having regard for the above forecast, there is some flexibility with regards to the traffic volumes generated by individual Precincts and Lots.

[2] https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6917-MOD-12%2120201027T010345.031%20GMT

[3] https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-6917-MOD-12%2120201027T010350.439%20GMT

3 Transport Infrastructure

3.1 Public Transport

Public transport services operating in the vicinity of the Estate are presented in **Figure 5**. Bus routes include:

- Route 738 bus route; connecting Mt. Druitt Railway Station to Eastern Creek and Horsley Park,
- Route 835 bus route; connecting St. Mary's Railway Station to the Prairiewood T-Way Station.

These services operate every 30 minutes during weekday (Monday to Friday) morning and evening periods.

3.2 Pedestrian & Cyclist Connectivity

Pedestrian footpaths are provided on both sides of all roads within the Estate. A Shared Path (pedestrians and cyclists) is provided along the western side of Ottelia Road (Estate Road 01).

Cyclists are to use this path, where practicable, and shall slow to pass pedestrians in a safe manner.

3.3 Roads

Key roads within the Estate and providing access to the Classified Road network are summarised below.

TABLE 4: ROAD NETWORK

Road Name	Speed Limit	On-street Parking (Y/N)	B-Double Access (Y/N)
Old Wallgrove Road	60 km/hr. (Northbound) 80 km/hr. (Southbound)	N	Y
Millner Avenue	60 km/hr.	N	By Permit
Ottelia Road	60 km/hr.	N	By Permit
Aristida Close	50 km/hr.	N	By Permit
Entolasia Close	50 km/hr.	N	By Permit
Chelodina Street	50 km/hr.	N	By Permit
Imperata Close	50 km/hr.	N	By Permit
Glycine Close	50 km/hr.	N	By Permit

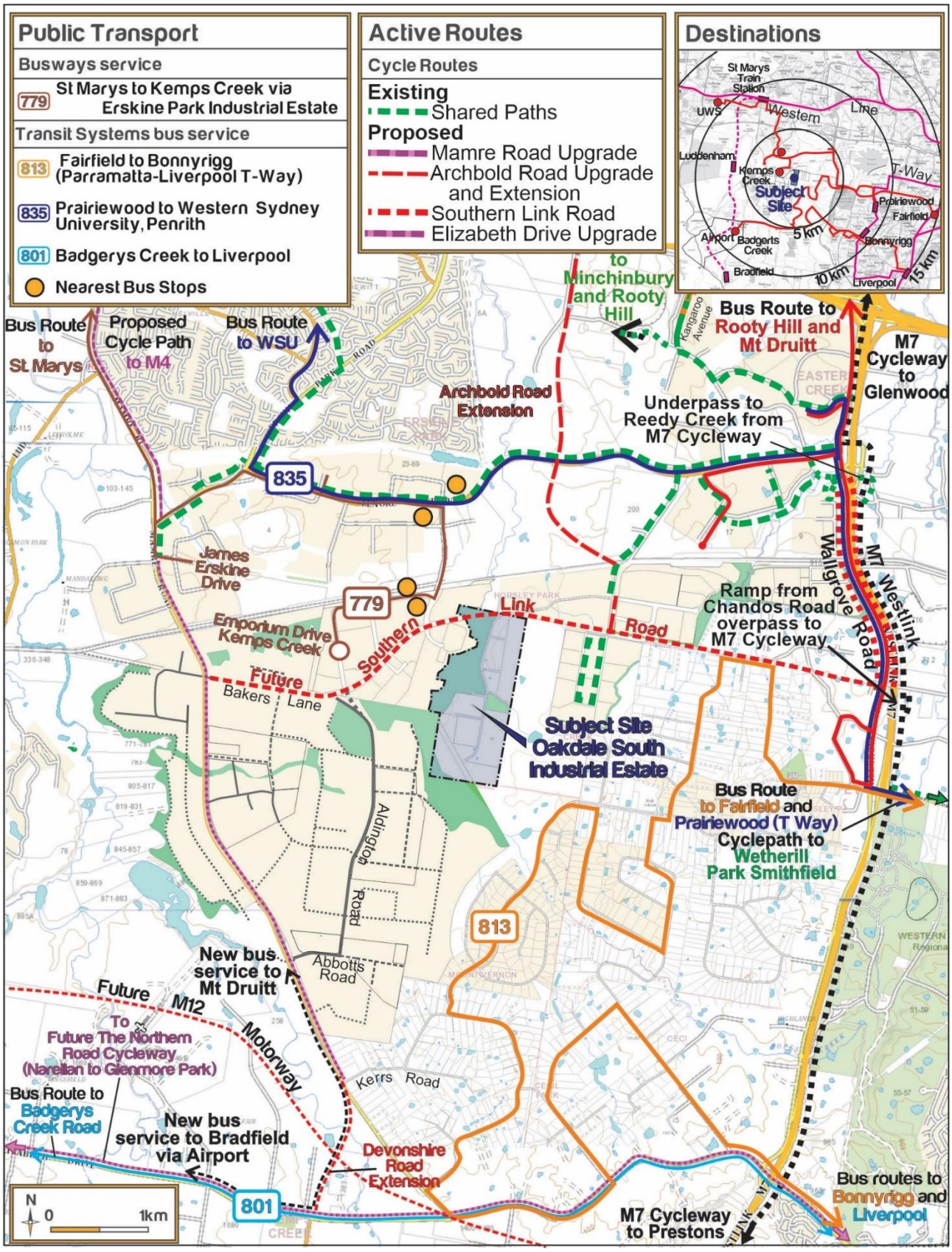

Figure 5: Public Transport Services

4 Statutory Requirements

A summary of the relevant conditions of approval – relating to operational traffic and parking management – are summarised below.

TABLE 5: CONCEPT PLAN (MOD 17) APPROVAL - COMPLIANCE TABLE

<table>
<tr><th>Reference</th><th>Requirement</th></tr>
<tr><td></td><td>CONDITIONS FOR CONSENT FOR CONCEPT PROPOSAL</td></tr>
<tr><td>B1</td><td>In accordance with section 83B(3) of the EP&A Act, subsequent stages of the Development are to be subject of future Development Applications.</td></tr>
<tr><td>B2</td><td>Future Development Applications are to be generally consistent with the terms of Development Consent SSD 6917 as described in Schedule A, and subject to the conditions in Schedules B to F.</td></tr>
<tr><td>B9
(MOD 9)</td><td>The following limits apply to the Concept Proposal for the Development:
a) the maximum GFA for the land uses in the Development shall not exceed the limits outlined in the Table below;
b) no car parking is permitted in TransGrid easement
c) no loading docks, delivery bays or heavy vehicle movements are permitted along the southern property boundary;
d) the loading dock, heavy vehicle route and associated hardstand along the southern elevation of building 5A are not permitted

<table><tr><th>Land Use</th><th>Maximum GFA (m^2)</th></tr><tr><td>Total General Warehousing</td><td>320,946</td></tr><tr><td>Total Office</td><td>14,371</td></tr><tr><td>Total GFA</td><td>335,317</td></tr></table></td></tr>
<tr><td>B14</td><td>Underground car parking is not permitted on-site.</td></tr>
<tr><td>B15</td><td>The Applicant shall provide bicycle racks, and amenity and change room facilities for cyclists in accordance with Planning Guidelines for Walking and Cycling (December 2004), NSW Department of Infrastructure, Planning and Natural Resources; Roads and Traffic Authority.</td></tr>
<tr><td></td><td>CONDITIONS TO BE MET IN FUTURE DEVELOPMENT APPLICATIONS</td></tr>
<tr><td>C4</td><td>Future Development Applications shall be accompanied by a detailed assessment of the traffic, and transport impacts on the surrounding road network and intersection capacity, and shall detail provisions demonstrating that sufficient loading/unloading, access and car parking has been provided having regard to the car parking rates approved under Condition C5 below, and details to promote non-car travel modes. The traffic and transport impact assessment shall also have specific regard to the scope and timing of road infrastructure works in the surrounding road network.</td></tr>
<tr><td>C5</td><td>Car parking shall be provided in accordance with the following rates, unless evidence is provided in accordance with Part C10, section 10.5.1, C1) f) of the Penrith DCP:
a) 1 space per 300 m^2 of warehouse GFA;
b) 1 space per 40 m^2 of office GFA; and
c) 2 disabled spaces for every 100 car parking spaces.</td></tr>
<tr><td>C6</td><td>To ensure that potential conflicts between heavy vehicles and light vehicles are minimised, future Development Applications shall include details demonstrating satisfactory arrangements have been made to separate heavy and light vehicle movements.</td></tr>
</table>

<table>
<tr><td>C7</td><td>To ensure that sustainable transport modes are supported, all future Development Applications proposing the construction of new warehouse buildings shall include a Sustainable Travel Plan.
All Sustainable Travel Plans shall identify the pedestrian and cyclist facilities proposed to service the proposed warehouse buildings.</td></tr>
<tr><td>C16</td><td>Future Development Applications shall identify whether any road upgrades are required as a result of the development works.</td></tr>
<tr><td></td><td>CONDITIONS OF CONSENT FOR THE STAGE 1 DA</td></tr>
<tr><td>D27</td><td>The Applicant shall ensure that all plant and equipment used for the Development is:
a) maintained in a proper and efficient condition; and
b) operated in a proper and efficient manner.</td></tr>
<tr><td>D28</td><td>The Applicant shall not operate any mobile plant and equipment which exceeds a height of 4.2 metres within the TransGrid transmission line easement. All construction plant and equipment that will operate within the transmission line easement shall be fitted with an earthing trail.</td></tr>
<tr><td></td><td>ENVIRONMENTAL PERFORMANCE AND MANAGEMENT</td></tr>
<tr><td>E3</td><td>Prior to the issue of an Occupation Certificate for each building, the Applicant shall prepare and submit an Operational Traffic Management Plan (OTMP) for the development in consultation with Council and TfNSW, to the Secretary for approval. The OTMP must at a minimum:
a) be prepared by a suitably qualified and experienced expert;
b) estimate the numbers and frequency of truck movements, sizes of trucks, vehicle routes and hours of operation;
c) detail the access and parking arrangements for operational vehicles to ensure road and site safety, and demonstrate that there will be no queuing on the public road network;
d) include detail of proposed truck parking to ensure this is managed in an orderly manner; and
e) include a Driver Code of Conduct that details traffic management measures to be implemented during operation to:
i. minimise impacts of the development on the local and regional road network;
ii. minimise conflicts with other road users;
iii. ensure truck drivers use specified routes and minimise traffic noise during night-time hours; and
iv. manage/control pedestrian movements.</td></tr>
<tr><td>E4</td><td>The Applicant must ensure that the OTMP (as revised and approved by the Secretary from time to time) is implemented for the life of the development.</td></tr>
<tr><td>E5
(MOD 17)</td><td>The Applicant shall provide a minimum of 395 on-site car parking spaces (including at least 2 spaces for people with a disability per 100 parking spaces) for use during operation of the Development, distributed as shown in the Table below.

<table>
<tr><th>Precinct</th><th>Building</th><th>Min. Car Parking Requirement</th></tr>
<tr><td rowspan="4">1</td><td>A</td><td>59</td></tr>
<tr><td>B</td><td>76</td></tr>
<tr><td>C</td><td>114</td></tr>
<tr><td>D</td><td>146</td></tr>
<tr><td>Total</td><td></td><td>395</td></tr>
</table>
</td></tr>
<tr><td>E6</td><td>The Applicant shall ensure that:
a) all trucks entering or leaving the site with loads have their loads covered; and</td></tr>
</table>

	b) trucks associated with the Development do not track dirt onto the public road network.
E8	The Applicant shall ensure that: a) internal roads, driveways and parking associated with the Development are constructed and maintained in accordance with the relevant standards and the latest versions of AS2890.1, AS 2890.2 and AS/NZS 2890.6; b) the swept path of the longest vehicle entering and exiting the site, as well as manoeuvrability through the site, must be in accordance with *AUSTROADS Design Vehicles and Turning Path Templates*; c) the Development does not result in any vehicles queuing on the public road network; d) heavy vehicles associated with the Development do not park or stand 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 vehicles enter and exit the site in a forward direction; g) all loading and unloading of materials is carried out on-site; and h) the loading areas and turning areas in the car park are kept clear of any obstacles, including parked vehicles, at all times.
E12 (MOD 6)	Following the issue of a Subdivision Certificate, the internal access roads shall be dedicated to the relevant roads authority. Prior to any dedication, the Applicant shall ensure that the construction of the internal access roads have been completed to the satisfaction of the relevant roads authority. Despite any formal dedication, the Applicant shall remain responsible for the maintenance of the roads and road reserves for the duration of the maintenance period, being 12 months from the date of dedication of the road to the roads authority.
E70	To ensure that the integrity of the TransGrid transmission towers (including associated land and infrastructure) are not adversely affected during operation, the Applicant shall undertake the following works in consultation with TransGrid and to the satisfaction of the Secretary: a) install and maintain traffic barriers along trafficable areas adjacent to the TransGrid site frontage, to restrain B-double vehicles, generally in accordance with any road safety audit outcomes and the relevant Austroads and RMS design standards; and b) ensure that all activities associated with the operation of the Development are undertaken in a manner that does not restrict TransGrid from operating and maintaining its transmission towers.

Refer to the Department of Planning, Housing and Infrastructure's Major Project Assessments website[4] for a full list of all conditions of approval.

[4] https://www.planningportal.nsw.gov.au/major-projects/projects/oakdale-south-industrial-estate

5 Traffic Management Plan

5.1 Pedestrian Management

5.1.1 On-site Pedestrian Management

Refer to site-specific OTMPs for on-site pedestrian management. As a general rule, pedestrian access to on-site hardstand areas used by heavy vehicles should be restricted as far as practicable for safety purposes.

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.

5.1.2 On-street Pedestrian Management

Pedestrians are to use footpaths and the Shared Path, as provided, wherever practicable. A refuge island is provided at the intersection of Ottellia Road and Chelodina Close and should be used by pedestrians wherever possible. The location of Shared Path and pedestrian refuge islands are outlined in **Figure 6** below.

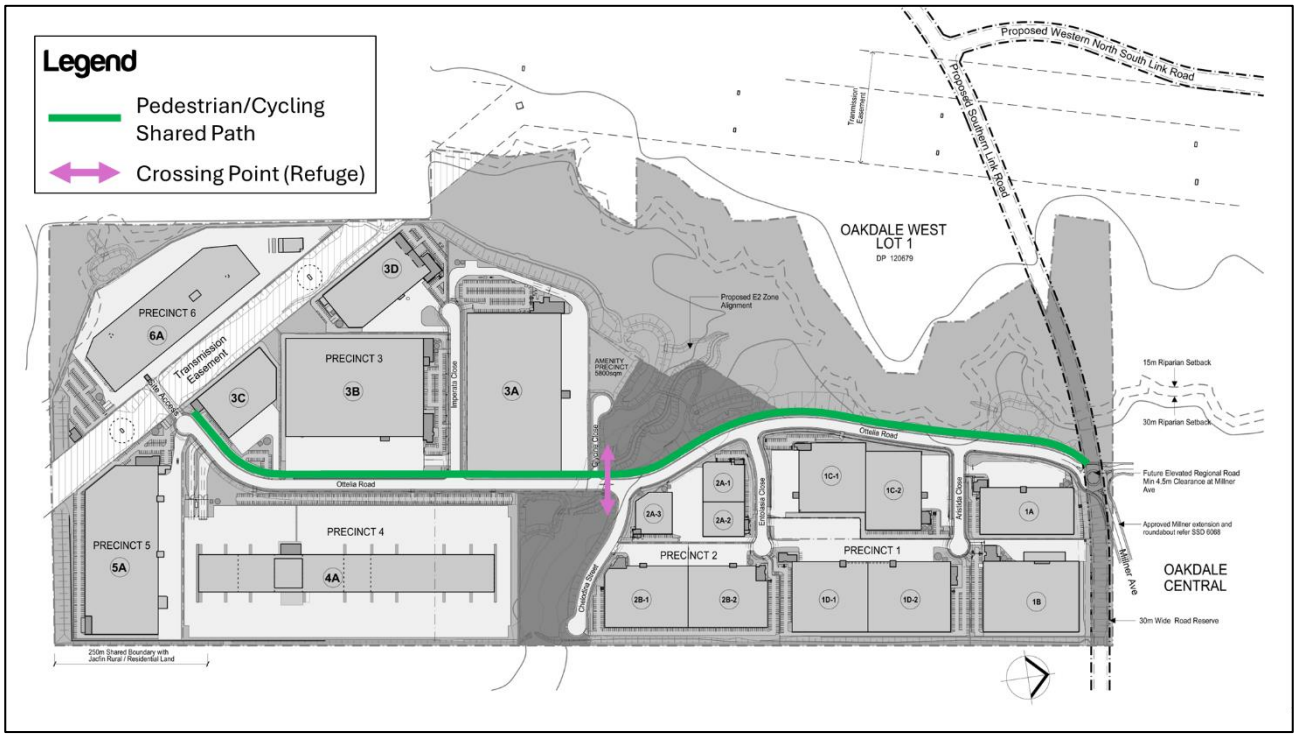

Figure 6: Shared Path & Key Crossing Points

5.2 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 **Appendix A**- before attending the Estate.

5.2.1 Maximum Vehicle Size

The maximum vehicle size expected to access the Estate is a 20 metre Articulated Vehicle. Larger vehicles — including access by B-doubles and other oversize vehicle configurations — shall also access the Estate, under relevant permit approvals.

Refer to site-specific OTMPs for further detail regarding further restrictions that may apply to individual Precincts or buildings.

5.2.2 Truck Access Routes

All drivers will access the Estate from Millner Avenue and Old Wallgrove Road. 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[5] and the Drivers Code of Conduct outlined in **Appendix A**.

All drivers accessing the Estate should 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 while ensuring that motorists will not use the inside lane.
  - 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[6].

[5] https://www.legislation.nsw.gov.au/#/view/regulation/2014/758
[6] https://www.nsw.gov.au/sites/default/files/2022-11/Road-User-Handbook-English.pdf

5.2.3 Approved B-Double Routes

Current approved B-double routes in the vicinity of the Estate are presented in **Figure 7**. These approved routes provide access to the broader Oakdale Industrial Estate (including Oakdale South) via Old Wallgrove Road which provides access to Millner Avenue.

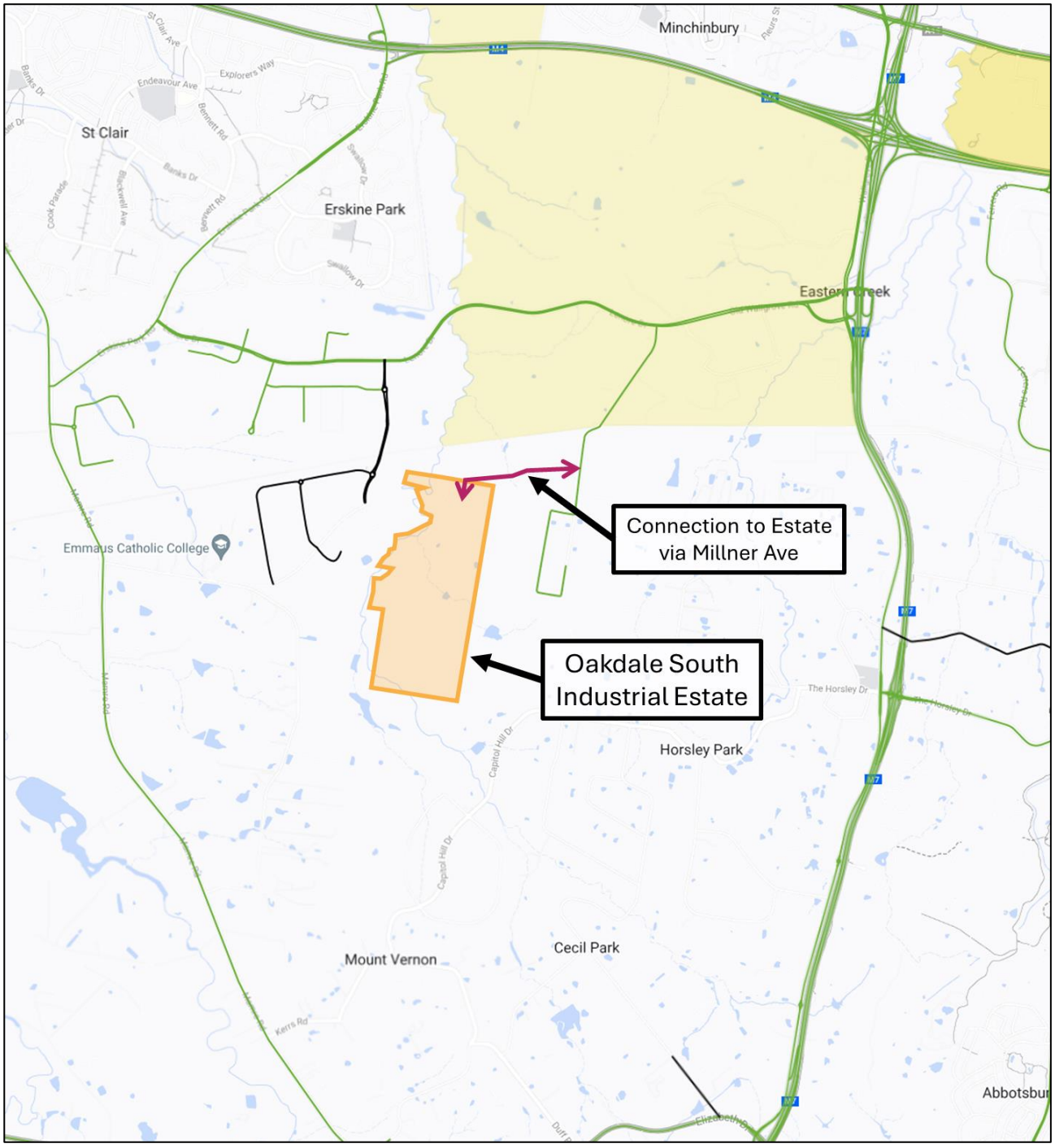

Figure 7: Approved Heavy Vehicle Map – 25/26m B-Double Routes

Up-to-date details regarding approved B-double routes can be obtained from the RMS web portal[7].

[7] https://maps.transport.nsw.gov.au/egeomaps/restricted-access-vehicles-map/index.html

5.3 Site Access

Details regarding access to individual Lots are provided within the site-specific OTMPs, prepared separately.

All access and egress from individual Lots shall be in a forward direction at all times.

It is emphasised that vehicles accessing private property shall observe all applicable Road Rules including giving way to pedestrians on the frontage road, as demonstrated in **Figure 8**.

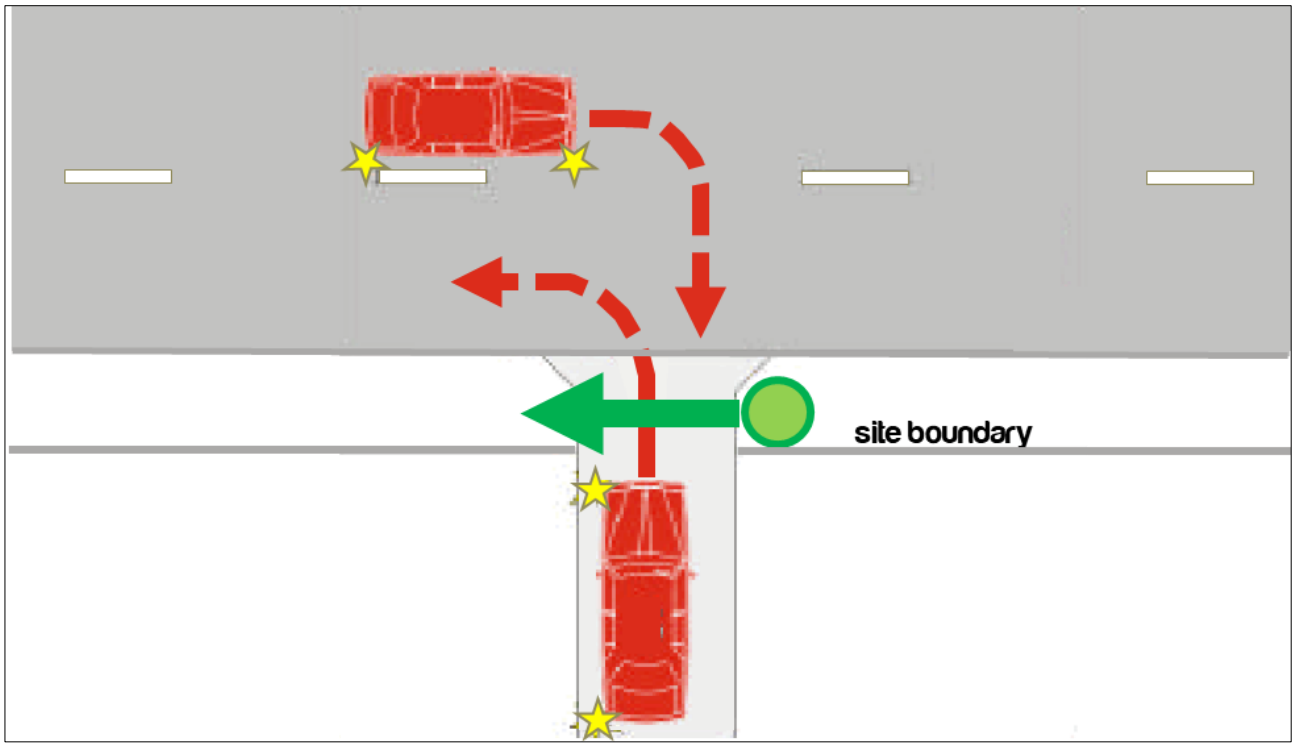

Figure 8: Site Access Routes (Heavy Vehicles up to and including 20m Articulated Vehicles

5.4 TransGrid Easement

Condition D28 as outlined in **Table 5** states that;

- The Applicant shall not operate any mobile plant and equipment which exceeds a height of 4.2 metres within the TransGrid transmission line easement, and
- All construction plant and equipment that will operate within the transmission line easement shall be fitted with an earthing trail.

The TransGrid easement shall remain clear at all times, unless otherwise agreed by TransGrid. In this regard, any access driveway crossing the easement shall be subject to No Stopping restrictions along the length of the TransGrid easement.

5.5 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 RMS 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.

5.6 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 contractor 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.

6 Parking Management

6.1 On Site Car Parking

In accordance with the condition C5, individual sites shall provide on-site car parking in accordance with the following rates (unless specific approval for reduced rates is provided by a subsequent development consent).

TABLE 6: CONCEPT PLAN CAR PARKING RATES

Land Use	Minimum Car Parking Rate
Warehouse / Distribution	1 space per 300m^2
Office	1 space per 40m^2
Accessible Spaces	2 Disabled (accessible) spaces for every 100 car parking spaces

On-site parking is a matter for individual site-specific DA's and OTMPs.

6.2 On-street Parking

On-street parking is generally restricted, with a combination of full-time "No Stopping" and "No Parking" restrictions. Drivers 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 business operations are parked on-street.

7 Plan Administration

7.1 Plan Maintenance

This Plan shall be subject to ongoing review and will be updated as necessary in response to 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.

7.2 Key Responsibilities

7.2.1 Management

Management of each respective business unit on-site shall:

- Ensure all staff and sub-contractors 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 their own site specific OTMP's.
- Ensure that all vehicles will not, in any manner, be knowingly overloaded.
- As per condition E6(a) and E6(b), ensure that 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.
- As per Condition E8(d), E8(e), E8(f) and E8(h), ensure that all vehicles must be wholly within site before being required to stop, as well as loading and unloading materials.
- Ensure that, according to Condition E8(i), 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 as outlined in Condition E8(g)
- Management must not, by their actions or requirements, force or coerce subcontractors or drivers to break the law.

Appendix A. Drivers Code of Conduct

Parties in the supply chain under the Heavy Vehicle National Law (HVNL) are responsible to ensure breaches of road transport laws do not occur. Duty holders need to make sure that their action or inaction does not contribute to or encourage breaches of the HVNL.

All vehicle operators on Estate Roads shall adhere to safe driving policies and must adhere to the following 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 while driving any vehicle for work-related purposes, drivers must comply with all of the following:

- Demonstrate safe driving and road safety activities
- Abide by traffic and road legislation
- Follow site signage and instructions
- Drivers must only enter and exit the site via the allocated entry and exit points.

The below activities in any vehicles will be considered as a breach of conduct and will result in administrative action and potential removal from site:

- 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

Driver Responsibilities

All Drivers on site must:

- Be responsible and accountable for their actions when operating a company vehicle or driving for the purposes of work.
- 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 5.2.2**.
- 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.
- Observe all applicable Road Rules including giving way to pedestrians along the frontage roads when accessing private development sites.
- 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.

Management Team Responsibilities

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

This will be achieved by undertaking the following:

- Ensuring all 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 sub-contractors are 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.

Crash or Incident Procedure

- 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 B. Authority Consultation Responses

Appendix E Waste Management Plan

Operational Environmental Management Plan

Oakdale South Industrial Estate
Master Plan

Goodman Property Services (Aust) Pty Ltd

SLR Project No.: 630.031929.00001

29 October 2024

OAKDALE SOUTH ESTATE

Waste Management Plan
Kemps Creek, NSW
SSD 6917

Prepared for:

Goodman Property Services (Aust) Pty Ltd
The Hayesbery
1-11 Hayes Road
Rosebery NSW 2011

SLR Ref: 630.11166-R02
Version No: -v10.0
October 2024

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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
630.11166-R02-v10.0	21 October 2024	Celine El-Khouri	Andrew Quinn	Andrew Quinn

CONTENTS

CONTENTS

DOCUMENT REFERENCES

TABLES

FIGURES

APPENDICES

1 Introduction

1.1 Overview

SLR Consulting Australia Pty Ltd (SLR) has been commissioned by Goodman Limited (the Client) to prepare a waste and recycling management plan (WMP) in support of a state significant development application (SSDA) for the proposed development of the Oakdale South Estate (OSE) in Kemps Creek and has been prepared to satisfy condition E59 and E60 of SSD 6917 as modified.

This WMP should be ready in conjunction with the Operational Environment Management Plan.[1] Some of the development lots in the OSE have been sold while others are retained by Goodman. See Table 1 below for list of current OSE tenants and owners.

Table 1 Oakdale South Tenants and Owners

Site	Tenant / Owner	Site	Tenant / Owner
1A	B Dynamic – Goodman Tenant	3B	Toyota – Other Owner
1B	Iron Mountain – Goodman Tenant	3C	Nolan's Interstate Transport – Other Owner
1C	Yusen Logistics and Amber Tiles - Goodman Tenant	3D	Briggs and Stratton – Goodman Tenant
1D	Linfox and CHEP - Goodman Tenant	4A	Costco – Other Owner
2A	Yusen Logistics and Independent Warehouse Solutions - Goodman Tenant	5A	DHL – Goodman Tenant
2B	DSV - Goodman Tenant	6	Direct Freight – Other Owner
3A	Logos – Other Owner	Amenities lot	Goodman owned

This WMP applies to the waste generated from the operational stages of the OSE and has been prepared using email correspondence and the architectural drawings supplied by the Client which are attached in Appendix A.

1.2 Objectives

The principal objective of this WMP is to identify all potential wastes likely to be generated at OSE during the operational phase, including a description of how waste would be handled, processed and disposed of, or re-used or recycled, in accordance with Council's requirements.

The specific objectives of this WMP are as follows:

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

1.3 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.

[1] SLR Ref No.: 630.031929.00001-R01-v3.0 Oakdale South OEMP_28102024.docx

This WMP will be reviewed and updated:

- To remain consistent with waste regulations and guidelines
- If changes are made to site waste and recycling management, or
- To take advantage of new technologies, innovations and methodologies for waste or recycling management.

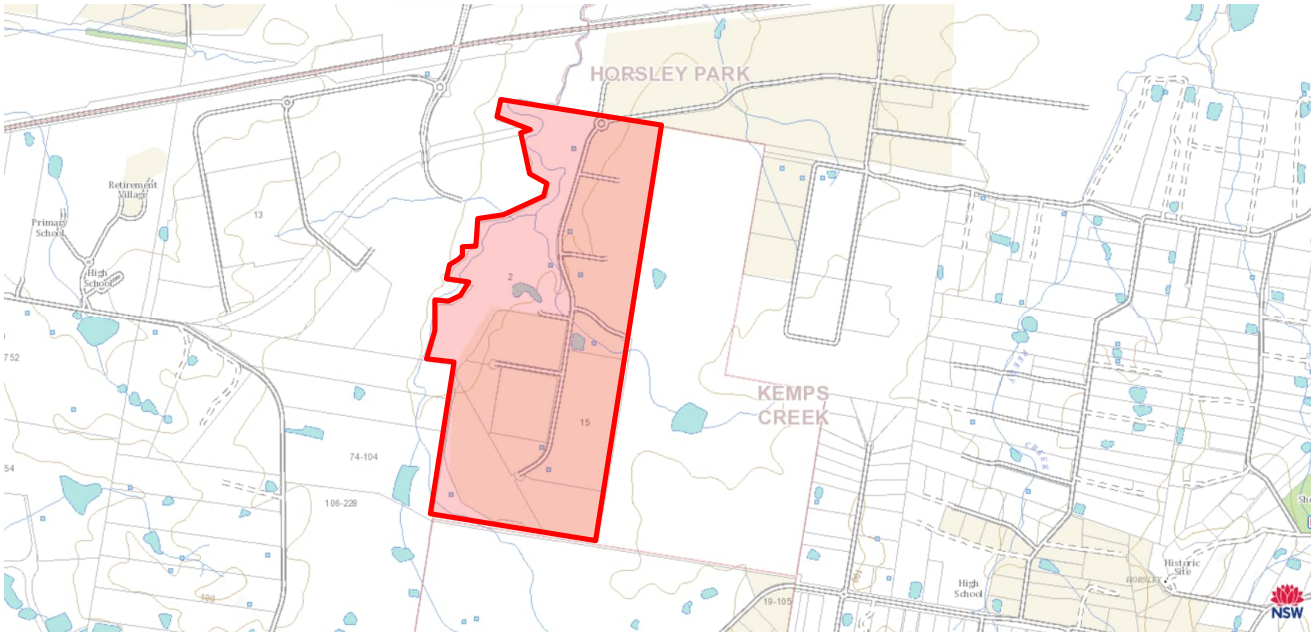
Copies of the original WMP and its future versions should be retained by the Facilities Manager. Changes made to the WMP, as well as the reasons for the changes made, should be documented by the Facilities Manager as part of the review process.

2 Project Description

2.1 Overview of Proposed Development

The Oakdale South Industrial Estate is located within the south-central part of the Western Sydney Employment Area (WSEA), approximately 3 km south of Erskine Park, 8 km north-east of Badgerys Creek and 4 km west of Horsely Park.

The site's location is shown in Figure 1 below.



Adapted from SIX Maps: https://maps.six.nsw.gov.au/

Figure 1 Location of Oakdale South Estate development

The Oakdale South Industrial Estate has a total area of approximately 117 hectares, is divided into six precincts and will comprise predominantly of:

- Combined warehouse and office buildings

- Amenities
- Estate and regional roads and
- External, on-level car parking areas and driveways.

A copy of the current architectural plans used to inform this WMP are provided in Appendix A.

2.2 Overview of Operation

Based on communication with the Client, SLR understands OSE will retain its function as an industrial and commercial estate geared primarily towards warehousing and distribution businesses.

3 Better Practice Waste Management and Recycling

3.1 Waste Management Hierarchy

This WMP has been prepared in line with the waste management hierarchy shown in 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.

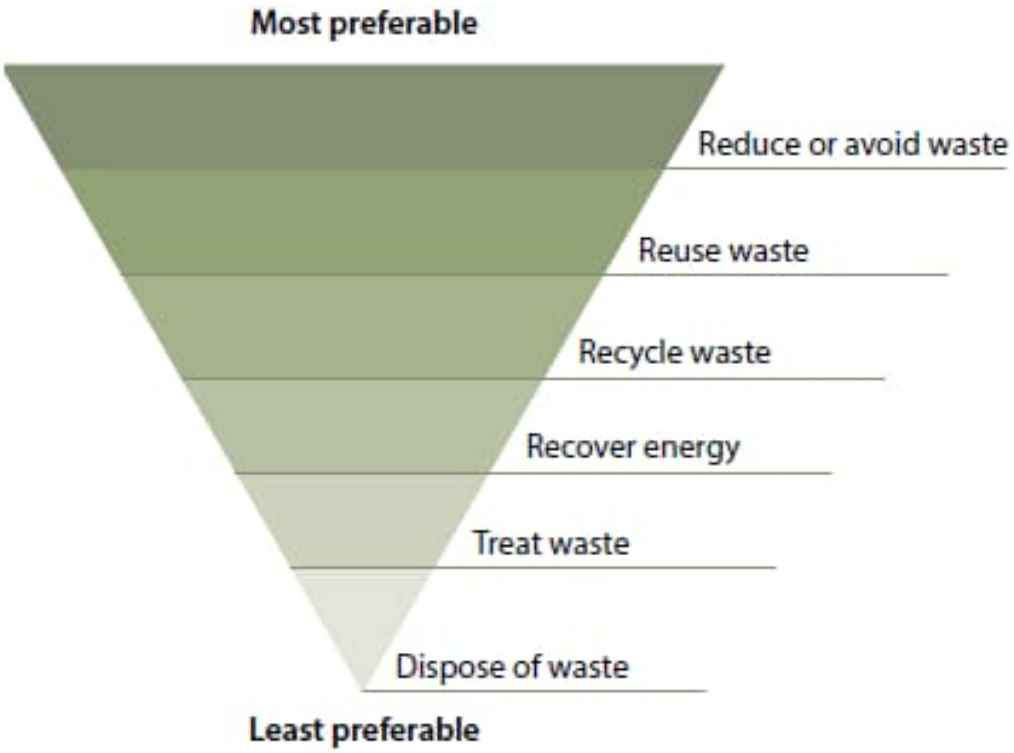


Image from NSW EPA (2014) NSW Waste Avoidance and Resource Recovery Strategy 2014-21.

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 operational phases of OSE.

Table 2 Legislation and guidance

Legislation and Guidance	Objectives
Council legislation and guidelines	
Penrith Local Environmental Plan (LEP) 2010[2]	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[3]	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 and the Waste Management Guidelines for Industrial, Commercial and Mixed Use.
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.
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.
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.

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

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

Legislation and Guidance	Objectives
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 operational phases of a development, as well as the system for licencing waste transport and disposal.
The Work Health and Safety Regulation 2017	The Work Health and Safety Regulation 2017 provide detailed actions and guidance associated with the topics discussed in *The Work Health and Safety Act 2011*. The primary aim of the regulation is to protect the health and safety of workers and ensure that risks are minimised in work environments. Workplaces are to ensure that they are compliant with the requirements specified in the regulations. The regulations discuss items such as actions that are prohibited or obligated in work environments, the requirements for obtaining licences and registrations, and the roles and responsibilities of staff in workplaces.
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. The addition to the Act of Part 5 defines the legislative framework for the 'Return and Earn Container Deposit Scheme' where selected beverage containers can be returned for a refund.

5 Operational Waste and Recycling Management

5.1 Targets for Resource Recovery

Targets for new development are expected to contribute to state-specific targets. The NSW *Waste and Sustainable Materials Strategy 2041* (DPIE, 2021) sets a target of 80% average recovery rate from all waste streams by 2030. Analysis by DPIE (2023) indicates that the commercial and industrial waste recovery rate in 2022-2023 was 51%.[4]

It is anticipated that the waste minimisation measures in the following sections will assist OSE 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.

5.2 Waste Streams and Classifications

The operation of OSE is anticipated to generate the following broad waste streams:

- General waste and commingled recycling

[4] https://www.epa.nsw.gov.au/your-environment/waste/waste-overview/waste-performance-data

- Office wastes
- Bulk packaging wastes, including polystyrene and cardboard boxes
- Bulky waste items, such as furniture and e-waste, and
- Stores, plant and general maintenance wastes

Potential ongoing waste types, their associated waste classifications, and management methods are provided in Table 3. For further information on how to determine a waste's classification, refer to the NSW EPA (2014) Waste Classification Guidelines. Suggestions for recycling drop off locations and contacts can be found on https://businessrecycling.com.au/ for each waste type.

Table 3 Potential waste types, classifications and management methods for operational waste

Waste Types	NSW EPA Waste Classification	Proposed Management Method
General Operations		
Clean office paper	General solid (non-putrescible) waste	Paper recycling at off-site licensed facility
Cardboard including bulky cardboard boxes	General solid (non-putrescible) waste	Cardboard recycling at off-site licensed facility
Recyclable beverage containers, glass and plastic bottles, aluminium cans, steel cans	General solid (non-putrescible) waste	NSW container deposit scheme 'Return and Earn', container recycling at off-site licensed facility
Food waste	General solid (putrescible) waste	Compost on or off-site or dispose to landfill with general garbage
Lead-acid or nickel-cadmium batteries	Hazardous waste	Off-site recycling, Contact the Australian Battery Recycling Initiative5 for more information
Other batteries	General solid waste (non-putrescible)	
Mobile Phones	General solid waste (non-putrescible)	Off-site recycling; can be taken to the Mobile Muster program. Contact Mobile Muster for more information
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	General solid waste (non-putrescible)	Off-site recycling
Clinical waste	Special waste	Stored, handled, collected and disposed of according to AS 3816 and the *Protection of the Environment Operations Act 1997*
Printer toners and ink cartridges	General solid waste (non-putrescible)	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		
Spent smoke detectors[6] - some commercial varieties	Hazardous waste	Disposal to landfill, or off-site disposal at licensed facility

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

[6] The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) require that when more than 10 smoke alarms (particularly americium-241 sources) are collected for bulk disposal they must be treated as radioactive waste and the requirements of the National Health and Medical Research Council's Code of practice for the near-surface disposal of radioactive waste in Australia (1992) must be met.

Waste Types	NSW EPA Waste Classification	Proposed Management Method
Spent smoke detectors - others	General solid (non-putrescible) waste	
Glass, other than containers	General solid (non-putrescible) waste	Off-site recycling
Light bulbs and fluorescent tubes	General solid (non-putrescible) waste	Off-site recycling or disposal, contact FluoroCycle[7] or Lamp Recyclers[8] for more information
Empty oil and other drums or containers, such as fuel, chemicals, paints, spill clean ups that were previously used to store Dangerous Goods (Class 1, 3, 4, 5 or 8) and residues have not been removed by washing or vacuuming.	Hazardous waste	Transport to comply with the transport of Dangerous Goods Code applies in preparation for off-site recycling or disposal at licensed facility
Empty oil and other drums or containers, such as fuel, chemicals, paints, spill clean ups that have been cleaned by washing or vacuuming.	General solid waste (non-putrescible)	
Garden organics - lawn mowing, tree branches, hedge cuttings, leaves	General solid (non-putrescible) waste	Reuse on-site or contractor removal for recycling at licenced facility

5.3 Operational Waste Types and Quantities

SLR has adopted the 'Offices' and 'Warehouse' waste generation rates from the Penrith DCP Industrial, Commercial and Mixed-Use Waste Management Guidelines for estimating the type and quantities of waste generated from the operational activities of OSE. The operational waste generation rates used are shown below in Table 4.

Table 4 Waste generation rates applied to the operations of OSE

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 4 above, the approximate weekly waste quantities for each OSE precinct have been calculated and are presented in Table 5. The operational waste quantities were additionally calculated based on the below assumptions:

- The floor areas shown in the architectural drawings attached in Appendix A, and
- A week comprising seven days of operation.

Table 5 Estimated quantities of operational general waste and recycling at OSE

Precinct	Total Warehouse (m²)	Total office (m²)	Waste (L/week)	Recycling (L/week)
Precinct 1	82,735	4,758	61,245	61,245
Precinct 2	37,950	2,550	28,350	28,350
Precinct 3	99,965	4,954	73,443	73,443
Precinct 4	33,588	1,761	24,744	24,744
Precinct 5	31,927	2,049	23,783	23,783

[7] https://www.fluorocycle.org.au/
[8] https://www.lamprecyclers.com.au/

Precinct	Total Warehouse (m^2)	Total office (m^2)	Waste (L/week)	Recycling (L/week)
Precinct 6	26,720	373	18,965	18,965
Total	312,885	16,445	230,531	230,531

SLR recommends that waste audits be undertaken approximately one month into the operational phase of OSE 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.

Based on the anticipated activities at OSE, 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 be returned to the suppliers where possible, standard pallets be returned to their owners and non-standard and broken pallets be stockpiled and collected as required by a waste contractor.

Additionally, it is anticipated that part of the general waste stream will consist of food waste. As specified in the Penrith DCP, food scraps should be placed in dedicated food waste bins and collected regularly. To minimise food waste in the general waste stream, it is recommended that any excess 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 waste contractor which can provide additional bins and take collected waste to an off-site licenced facility.

5.4 Waste Storage Area

Each precinct of OSE will have its own waste and recycling storage area where the recycling bins, garbage bins, and cardboard and plastic bales will be stored prior to collection. For each precinct, the waste storage area must be large enough to adequately store all quantities of operational waste and recycling between collections. An appropriate waste storage area will be identified by the operator of each building.

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 150% of the total minimum bin GFA. This can also act as a contingency in the event of spikes in waste generation. Additionally, in accordance with the Penrith DCP, an additional 0.2 m is to be permitted between the bins to allow for manoeuvrability. All waste storage areas should additionally comply with the following general requirements:

- Comply with relevant BCA requirements, Australian Standards and Penrith DCP
- Be of adequate size to accommodate all waste bins and recycling bales associated with the development
- Have doors or gates with double-swing designs, if any. Doorways should be wide enough to allow for easy passage of waste and recycling containers
- Provide sufficient space for the segregation and storage of varying waste types including provision for the collection of fluorescent lights, smoke detectors, e-waste and other recyclable resources, and
- Provide sufficient space for reuse items such as crates and pallets for occupational safety purposes.

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.

5.5 Waste Storage Room Location

In accordance with better practice waste management and the Penrith DCP, the waste storage area should be located so that:

- It is located away from primary street frontages
- It is near any on-site loading bays
- It is convenient, safe, functional and directly accessible to users in each tenancy and servicing collection staff, but inaccessible to the public
- It avoids pedestrian or vehicular traffic hazards likely to be caused by waste collection and storage,
- It has 1.8 m zone of unobstructed clearance between the waste storage area and the entrance.

As specified in the Penrith DCP, the nominated collection areas for each warehouse tenancy is to be clearly nominated on site plans accompanying development applications.

5.6 Waste Storage Area Features

In accordance with better practice waste management and the Penrith DCP, waste storage areas at OSE should have the following features:

- Blend in with the design of the wider development and the surrounding streetscape
- Be well lit and well-ventilated
- Fully enclosed and walled
- Adequate vermin prevention measures
- Reduce potential noise and odour impacts
- Enhance safety for the public
- Be connected to a water outlet for washing purposes
- Equipped with a hot and cold tap-based water supply centralised mixing valve
- Floor graded to a central drainage point which is connected to the sewer
- Have water discharge from washing flow to a sewer approved by the relevant authority
- Waterproofed and sealed non-slip floor constructed in accordance with the Building Code of Australia.
- Waste equipment is protected from theft and vandalism
- Be fully enclosed, walled and not permit through access to other on-site waste infrastructure
- Have a minimum 2.7 m unobstructed internal room height in accordance with the Building Code of Australia
- Adequate lighting and natural or mechanical ventilation in accordance with the Building Code of Australia
- Provide suitable dual door access with a minimum width of 1.8 m and a minimum 1.8 m unobstructed access corridor for the service of bins
- Provide administrative management, including signage to ensure appropriate use

- Be screened from public areas to reduce the impacts of noise, odour and visual amenity, and
- Flexible in design to allow for future changes in operation, tenancies and uses.

5.7 Waste Servicing

Waste collections will be undertaken by a private contractor.[9] The following general waste servicing access requirements should be implemented:

- Waste will be removed regularly.
- Arrangements should be in place so that the waste and recycling storage rooms are not accessible to the general public.

In accordance with the Penrith DCP, the following is required for the access provisions for of waste collection vehicles:

- Collection vehicles must be able to enter and exit the collection area in a forward direction
- Drawings must show the site's entry point, vehicle's route of travel and manoeuvring
- Swept path models must illustrate how a standard waste collection vehicle will enter, service and exit the site
- A 0.5 m unobstructed clearance is required from all obstructions for the vehicle's ingress and egress manoeuvres
- For rear loaded vehicles, an additional 2 m unobstructed loading zone is required behind the vehicle for the loading of 1,100 L bins. A 0.5 m side clearance is also required on either side of the vehicle for driver movements and accessibility
- Unobstructed access, adequate driveways and ramps of sufficient strength to support waste collection
- A structural engineer's report is to accompany the DA and confirm that all infrastructure used for vehicle ingress and egress movements can support the waste collection vehicle's weight. The Penrith DCP shows dimensions for waste collection vehicles.

SLR recommends that the design of OSE is reviewed by a traffic specialist and that the drawings are updated to be in accordance with Council's servicing requirements listed above. This WMP should be updated to reflect those updates.

Hazardous waste produced at the site will be collected by appropriately licensed specialised service providers.

Once a waste contractor is engaged, a valid waste and recycling collection contract is recommended to demonstrate disposal at a waste facility lawfully able to accept it. Written evidence of the valid contract should be kept on-site.

5.8 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. SLR recommends the following provisions for managing bulky waste.

[9] Email from Stephanie Partridge – Goodman, 'RE: MOD 3 & Stage 2 DA co-ordination meeting - Oakdale West', dated 1 November 2019.

- All contaminated and hazardous wastes, including fluorescent tubing, batteries and e-wastes should be recycled at an appropriately licensed facility.
- E-waste, printer toners, ink cartridges and batteries contain heavy metal contaminants and should be recycled at an appropriately licensed recycling facility.
- It is a condition of the supplier's licence to sell commercial-use smoke detectors that they be returned to the supplier for disposal. They must not be disposed of with general landfill waste as they contain small amounts of radioactive material. Contact the supplier or the EPA for information on how to return used smoke detectors.

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.

5.9 Waste Avoidance, Reuse and Recycling Measures

5.9.1 Waste Avoidance

Waste avoidance measures 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.

5.9.2 Re-use

Possible re-use opportunities include establishing systems with in-house and supply chain stakeholders to transport products in re-useable packaging where possible.

5.9.3 Recycling

Recycling opportunities include:

- Collecting and recycling e-wastes
- 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.

5.10 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.

To realise the above benefits, the following communication strategies should be considered:

- Use consistent signage and colour coding throughout OSE precincts
- Ensure all staff are trained in correct waste separation and management procedures
- Provide directional signage to show location of and routes to waste storage area
- 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.

5.11 Signage

As outlined in the Penrith DCP, the waste storage and collection areas should be provided with appropriate signage. These signs should clearly identify waste management procedures and provisions to contractors, tenants and visitors should be distributed around OSE.

Signs which clearly identify waste management procedures and provisions to staff and visitors should be distributed around OSE precincts. Key signage considerations are:

- Clear and correct labelling on all waste and recycling bins at all times, indicating the correct type or types of waste that can be placed into a given bin, as shown in Figure 3
- Signposts and directions to location of waste storage areas
- Clear signage in all waste storage areas to instruct users, including cleaners and tenants how to correctly separate waste and recycling
- Clear identification of all hazards or potential dangers associated with the waste facilities, especially those linked to compaction or other waste handling equipment
- Maintaining a consistent style colour scheme and system for signs throughout the OSE precincts, 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[10]. 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 3 Example of bin labels for operational waste

5.12 Monitoring and Reporting

Monitoring is recommended to ensure waste and recycling management arrangements and provisions throughout OSE are functional, practical and are maintained to the standard outlined in this plan, at a minimum.

Visual assessments of bins and bin storage areas should be conducted by the Facilities Manager, at minimum:

- Weekly, in the first two months of operation to ensure the waste management system is sufficient for the operation, and
- Every six months, to ensure waste is being managed to the standards outlined in this document.

In addition, audits are to be conducted on a half-yearly basis to ensure WMP provisions are maintained.

Quantities of waste and recycling associated with disposal of waste and recycling, including dockets, receipts and other physical records should be recorded by the Facilities Manager. This is to allow reviews of the waste management arrangements and provisions at the site over time. Records of waste disposal should also be available to regulatory authorities such as the NSW Environmental Protection Authority and SafeWork NSW, upon request.

Any deficiencies identified in the waste management system, including, but not limited to, unexpected waste quantities, is to be rectified by the Facilities Manager as soon as it is practical. Where audits show that recycling is not carried out effectively, management should carry out additional staff training, signage re-examination and reviews of the waste management system where the audit or other reviewing body has deemed necessary. If this waste management plan no longer sufficiently meets the needs of OSE, review and updates to maintain suitability must be undertaken.

[10] NSW EPA waste signage and label designs http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm

5.13 Roles and Responsibilities

It is the responsibility of the Facilities Manager, or equivalent role, to implement this WMP and a responsibility of all warehouse tenants and staff to follow the waste management procedures set out by the WMP. SLR recommends that all subcontractors enlisted by the Client are to have roles and responsibilities identified and the OSE's waste management system clearly explained. A summary of recommended roles and responsibilities are provided in Table 6.

Table 6 Operational waste management responsibility allocation

Responsible Person	General Tasks
Management	Implement reasonable and feasible measures to minimise waste generated by the development in accordance with the EPA's *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021.*
	Identify appropriate waste storage areas for each precinct and installed to be of adequate size and accommodate all waste bins and recycling bales associated with the development.
	Ensure the WMP is implemented throughout the life of the operation.
	Regularly update the WMP to ensure the Plan remains applicable.
	Organise internal waste audits on a regular basis.
	Manage any complaints and non-compliances reported through waste audits etc.
	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.
Tenants	Monitor the amount of waste generated through the life of the development
	Ensure all waste is classified in accordance with the EPA's *Waste Classification Guidelines: Part 1 Classifying Waste* and disposed of to a facility that may lawfully accept the waste.
	Organise investigations to minimise waste generated by the development.
	Implement reasonable and feasible measures to minimise waste generated by the development in accordance with the EPA's *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021.*
	Identify appropriate waste storage areas for each precinct and installed to be of adequate size and accommodate all waste bins and recycling bales associated with the development.
	Provide and maintain sufficient space for the segregation and storage of varying waste types including provision for the collection of fluorescent tubes, smoke detectors, e-wastes and other recyclable resources.
	Provide and maintain sufficient space for reuse items such as crates and pallets for occupational safety purposes
	Provide sufficient clearance to enable collection vehicles to access the bin storage area.
	Ensure appropriate disposal of contaminated, hazardous and bulky wastes.
	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.
	Organise internal waste audits on a regular basis.
	Undertake liaison and management of contracted waste collections.

Responsible Person	General Tasks
	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.
	Ensure waste and recycling storage rooms are kept tidy.
	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.
Facility Managers	Perform inspections of all waste storage areas and waste management equipment on a regular basis.
	Ensure waste and recycling storage rooms are kept tidy.
	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.
Asset Managers	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.
Contractors	Identify appropriate waste storage areas for each precinct and installed to be of adequate size and accommodate all waste bins and recycling bales associated with the development.
	Provide and maintain sufficient space for the segregation and storage of varying waste types including provision for the collection of fluorescent tubes, smoke detectors, e-wastes and other recyclable resources.
	Provide and maintain sufficient space for reuse items such as crates and pallets for occupational safety purposes
	Provide sufficient clearance to enable collection vehicles to access the bin storage area.
	Ensure appropriate disposal of contaminated, hazardous and bulky wastes.
	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.
Employees	The WMP will be implemented throughout the life of the operation.
	Sufficient space will be provided and maintained for the segregation and storage of varying waste types including provision for the collection of fluorescent tubes, smoke detectors, e-wastes and other recyclable resources.
	Sufficient space will be provided and maintained for reuse items such as crates and pallets for occupational safety purposes

Responsible Person	General Tasks
	Ensure appropriate disposal of contaminated, hazardous and bulky wastes.
	Cleaning and maintenance requirements for waste equipment will be undertaken.
	Bins will be monitored to ensure no overfilling occurs.
	Garbage holding areas and storage rooms will be kept tidy.
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 daily 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

Site Area Schedule

Total Site Area	**117.117 ha**
Less:	
Non Developable Land	33.67 ha
Easements	4.58 ha
Regional Roads	1.74 ha
Estate Roads	6.22 ha
	46.22 ha
Development Areas	
Precinct 1	16.34 ha
Precinct 2	7.46 ha
Precinct 3	18.92 ha
Precinct 4	14.27 ha
Precinct 5	6.46 ha
Precinct 6	6.86 ha
Amenity Lot	0.58 ha
Total Developable	**70.89 ha**
Total Warehouse	317,467 sqm
Total Office	14,272 sqm
Total Facility	331,739 sqm

Warehouse 1A	
Site	25,230sqm
Warehouse	11,595sqm
Office	705sqm
Dock Office	95sqm
Total Area	12,395sqm
Total Carparking	42
Provisional Parking	19

Warehouse 1B	
Site	34,491sqm
Warehouse	17,900sqm
Office	535sqm
Dock Office	100sqm
Drive Thru	1,000sqm
Total Area	19,535sqm
Total Carparking	91

Warehouse 1C	
Site	49,777sqm
Warehouse 1	12,070sqm
Warehouse 2	11,670sqm
Office 1	600sqm
Office 2	600sqm
Dock Office 1	100sqm
Dock Office 2	100sqm
Total Area	25,140sqm
Total Carparking	115

Warehouse 1D	
Site	53,770sqm
Warehouse 1	14,109sqm
Warehouse 2	15,391sqm
Office 1D-1	845sqm
Office 1D-2	698sqm
Dock Office 1D-1	190sqm
Dock Office 1D-2	190sqm
Total Area	31,423sqm
Total Carparking	169

Warehouse 2A	
Site	25,685sqm
Warehouse 2A-1	4,320sqm
Warehouse 2A-2	3,840sqm
Warehouse 2A-3	3,845sqm
Office 2A-1	300sqm
Office 2A-2	300sqm
Office 2A-3	300sqm
Dock Office	N/A
Total Area	12,905sqm
Total Carparking	69

Warehouse 2B	
Site	48,825sqm
Warehouse 2B-1	13,435sqm
Warehouse 2B-2	12,510 sqm
Office 2B-1	750sqm
Office 2B-2	750sqm
Dock Office 2B-1	75sqm
Dock Office 2B-2	75sqm
Total Area	27,595sqm
Total Carparking	211

Warehouse 3A	
Site	70,383sqm
Warehouse	40,090sqm
Office	1,015sqm
Dock Office	175sqm
Total Area	41,280sqm
Total Carparking	200

Warehouse 3B	
Site	64,290sqm
Warehouse	36,100sqm
Office	1,478sqm
Dock Office	176sqm
Fork ReCharge	702sqm
Total Area	38,456sqm
Total Carparking	159
Provisional Parking	32

Warehouse 3C	
Site	23,094sqm
Warehouse	10,324sqm
Office	516sqm
Dock Office	N/A
Total Area	10,840sqm
Total Carparking	62

Warehouse 3D	
Site	31,424sqm
Warehouse	13,451sqm
Office	1500sqm
Dock Office	94sqm
Total Area	15,045sqm
Total Carparking	110

Warehouse 4A	
Site	142,768sqm
Warehouse	33,588sqm
Office	1,761sqm
Dock Office	N/A
Total Area	35,349sqm
Total Carparking	325

Warehouse 5A	
Site	64,613sqm
Warehouse	31,457sqm
Plant Rooms	470sqm
Office 1	1,302sqm
Office 2	317sqm
Dock Office	430sqm
Total Area	33,976sqm
Total Carparking	250

Warehouse 6A	
Site	68,662sqm
(Includes developable, part of landscape drainage setback and APZ setback areas)	
Warehouse	26,720sqm
Workshop	707sqm
Gatehouse	108sqm
Drivers Quarters	265sqm
Dock Office	N/A
Total Area	27,800sqm
Total Carparking	193

E2 Zoning Boundary
Current

Goodman

PRECINCT 6
6A
PRECINCT 5
5A
PRECINCT 4
4A
PRECINCT 3
3A
3B
3C
3D
PRECINCT 2
2A-1
2A-2
2A-3
2B-1
2B-2
PRECINCT 1
1A
1B
1C-1
1C-2
1D-1
1D-2
AMENITY PRECINCT 5800sqm
Transmission Easement
Site Access
Imperata Close
Glycine Close
Chelodina Street
Entolasia Close
Aristida Close
Ottelia Road
Proposed Western North South Link Road
Proposed Southern Link Road
Proposed E2 Zone Alignment
OAKDALE WEST LOT 1
DP 120679
OAKDALE CENTRAL
15m Riparian Setback
30m Riparian Setback
Future Elevated Regional Road Min 4.5m Clearance at Millner Ave
Approved Millner extension and roundabout refer SSD 6068
Millner Ave
30m Wide Road Reserve
250m Shared Boundary with Jacfin Rural / Residential Land

SBA ARCHITECTS

Oakdale South Estate **Mod 12**

Horsley Park

Development Application

Estate Masterplan

0 50 250

1:2500 @ A1
1:5000 @ A3

21 Oct 2020

OAK MP 02 (B)

Project No: 20207

APPENDIX B

Waste Management Plan Template

APPENDIX B

Waste Management Plan Template

Materials On-Site		**Destination**			**Contractor**	
Waste Type	**Estimated Volume (m^3) or Weight (t)**	**Reuse** (on-site or off-site)	**Recycle** (specify recycling outlet)	**Disposal** (specify landfill site)	**Waste Contractor / Transporter**	**Licence Viewed** (Y / N)

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Appendix F Stormwater Management Report

Operational Environmental Management Plan

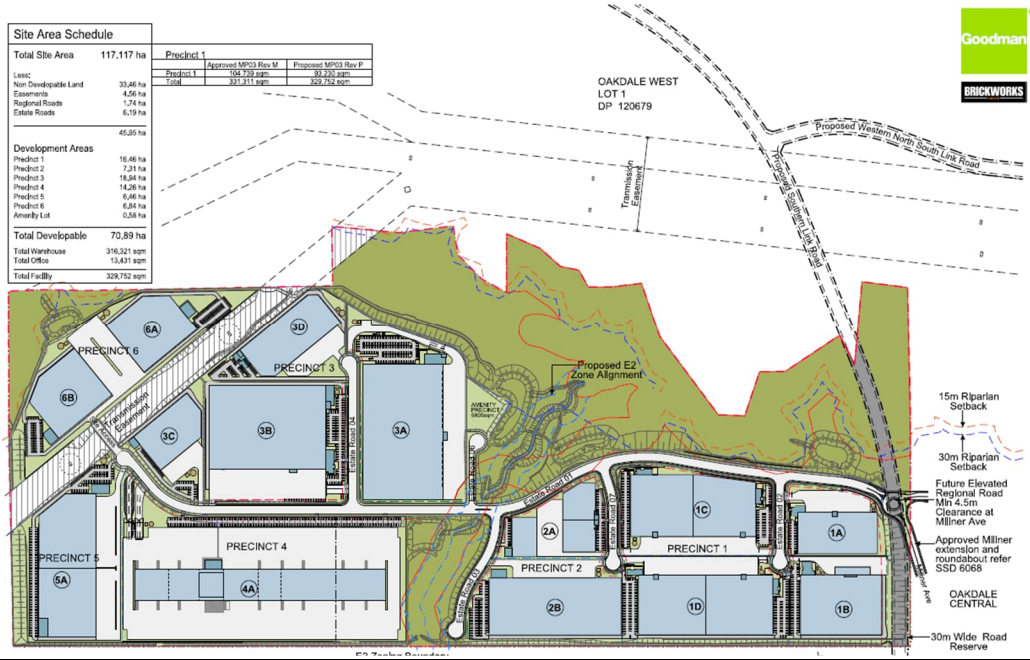
Oakdale South Industrial Estate
Master Plan

Goodman Property Services (Aust) Pty Ltd

SLR Project No.: 630.031929.00001

29 October 2024

Oakdale South Industrial Estate SSD 6917 (as modified)



Author: Andrew Tweedie

Approver: Anthony McLandsborough

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Level 7, 153 Walker Street, North Sydney, NSW 2060

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Section	Civil Engineering
Document author	Andrew Tweedie

Issue	Description	Date
01	Final Issue	25/10/2024

Finalisation signatures

The design described in this report is considered to have been finalised.

Signature Date

Andrew Tweedie
Civil Engineer (Author) 25/10/2024

Anthony McLandsborough 25/10/2024

Notes: The finalisation signatures shown above do not provide evidence of approval to the design. Approval signatures are shown on the title sheet of the design plans.

Contents

LIST OF TABLES AND FIGURES

APPENDICIES

1 Executive Summary

Goodman Property Services (Aust) Pty Ltd has developed the Oakdale South site for the purposes of providing a warehouse and distribution complex. The Oakdale South 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, distribution centres and freight logistics facilities.

The Oakdale South project was a staged development including bulk earthworks, civil works, services infrastructure and stormwater management.

The development was constructed over six stages as detailed below in Table 1.

Stage	Description
1	Bulk Earthworks to Precinct 1, 2, 3, 4 & 5
2	Civil Works to Precinct 1 & part Precinct 2
3	Bulk Earthworks to Precinct 3, 4 & 5
4	Civil Works to Part Precinct 2, Precinct 3, 4 & 5
5	Bulk Earthworks and Civil Works to Precinct 6

Table 1 Staging Plan

This report has been revised to address the Oakdale South Estate (OSE) SSD6917 Consent Conditions for the project relevant to stormwater. It captures all stormwater infrastructure works associated within the consent conditions for all the Modifications 1 to 17 submitted.

It is noted that civil infrastructure works across the Estate have been completed and have been operational for several years. This report provides Operation and Maintenance procedures and guidelines for all stormwater infrastructure across the Estate.

This report does not cover the stormwater design (undertaken to Penrith City Council engineering and WSUD standards). The stormwater design report associated with the SSD has been provided in Report- *Oakdale South Development – Stormwater Management Report 14-193-R001 Rev 07 dated January 2018.* This operation and maintenance report should be read in conjunction with this design report.

2 Stormwater Infrastructure Maintenance

To ensure all stormwater infrastructure is maintained for the life of the development a number of measures have been put in place. This will involve on-going monitoring of all infrastructure being carried out at regular intervals based on frequency rates provided within the *Penrith City Council WSUD Technical Guidelines* and *Penrith City Council Engineering Construction Specification for Civil Works*. All on-going maintenance report, contractor's cleaning reports and certificates will be provided to Council over the life of the development.

This will include maintenance actions and procedures as indicated in Table 2 and Appendix A (Penrith City Council maintenance checklists)

Maintenance Action	Frequency	Responsibility	Procedure
Inspect and remove all silt traps and outlet sumps	3-6 monthly	Owner	Remove grates and screens. Remove sediment/sludge build-up and check outlet pipes are clear
Inspect and remove any blockage of orifices	Six Monthly	Owner	Remove grate and screen to inspect orifice.
Check attachment of orifice plates to wall of chamber and/or pit	Annually	Maintenance Contractor	Remove grate and screen. Ensure plates are mounted securely, tighten fixings if required. Seal gaps as required
Check orifice diameters are correct and retain sharp edges	Five yearly	Maintenance Contractor	Compare diameter to design (WAE drawings) and edge is not pitted or damaged
Inspect screen and clean	Six monthly	Owner	Remove grates and screens if required to clean them
Check attachment of screens to wall of chamber or pit	Annually	Maintenance Contractor	Remove grates and screens. Ensure screen fixings are secure. Repair as required
Check screens for corrosion	Annually	Maintenance Contractor	Remove grates and examine screen for rust or corrosion, especially at corners or welds
Inspect walls (internal and external, if appropriate) for cracks or spalling	Annually	Maintenance Contractor	Remove grates to inspect internal walls. Repair as required. Clear vegetation from external walls if necessary and repair as required
Inspect outlet sumps and remove any sediment/sludge (for all silt traps too)	Six monthly	Owner	Remove grates and screens. Remove sediment/sludge build-up and check orifices and outlet pipes are clear

Inspect grates for damage or blockage (all grated pits)	Six monthly	Owner	Check both sides of a grate for corrosion, (especially corners and welds) damage or blockage
Inspect outlet pipe and remove any blockage	Six monthly	Maintenance Contractor	Remove grates and screens. Ventilate underground storage if present. Check orifices and outlets and remove any blockages in outlet pipe. Flush outlet pipe to confirm it drains freely. Check for sludge/debris on upstream side of return line
Check step irons in pits	Annually	Maintenance Contractor	Remove grate. Examine step irons and repair any corrosion or damage
Check fixing of step irons for all pits are secure	Six monthly	Maintenance Contractor	Remove grates and ensure fixings are secure prior to placing weight on step iron
Inspect storage for subsidence near pits	Annually	Maintenance Contractor	Check along drainage lines and at pits for subsidence likely to indicate leakages
Ensure GPTs are maintained and cleaned to remove silt build up and gross pollutants	Annually	Maintenance Contractor	Maintenance to be as per Rocla Maintenance Guidelines
Bio-Retention Basin Maintenance			All bio-retention basin maintenance requirements should be in accordance with *Water Sensitive Urban Design – Book 4 Maintenance* Table 3 as produced by Landcom. Refer to Appendix H of this report for full table.

Table 2 Stormwater Infrastructure Maintenance

3 Bio-Retention Basin Operation and Management Plan

3.1 Council Dedication / Handover

In the event that bio-retention basins are to be dedicated to Council, Penrith City Council has the following list of requirements which need to be satisfied before they will accept ownership of bio-retetion basins:

1. The proponent must have a Development Application pre-lodgement meeting with the Council Officers to discuss Council's requirements;
2. The bioretention basin is to constructed and operate in accordance with the approved design specifications and any other specific design agreements previously entered into with Council;
3. The performance of the bio-retention basin needs to be validated, which is to include the provision of a *Performance Validation Report* supporting the performance of the bioretention basin;
4. Sediment build up within the basin has resulted in no more than a 10% reduction of operational volume;
5. Assess inspections for defects have been completed and if any defects are found, rectified to the satisfaction of Council;
6. The bioretention basin is to the satisfaction of Council, structurally and geotechnically sound (this requires certification from a suitably qualified person);
7. Design drawings have been supplied in a format acceptable to Council;
8. Works as Executed (WAE) drawings have been supplied for all infrastructure in the format and level of accuracy acceptable to Council;
9. Other relevant digital files have been provided;
10. Landscape designs have been supplied, particularly those detailing the distribution of functional vegetation;
11. The condition of the infrastructure associated with the land complies with the approved design specification;
12. Filter media infiltration rates are within 10% of the rates of the design parameters for the filtration system concerned;
13. Comprehensive operation and maintenance manuals have been provided;
14. Vegetation establishment period of 3 years has been completed; and

Copies of all required permits (both construction and operational) have been submitted.

3.2 General Maintenance and Monitoring of Basins

3.2.1 Maintenance Responsibilities

GPS will be responsible for the ongoing maintenance of the bio-retention basins if they remain the ownership of Goodman in perpetuity.

In the event that bio-retention basins are to be dedicated to Council, Goodman would be responsible for the maintenance of the bio-retention basins during the initial vegetation establishment period of 3 years, with Council maintaining the basins following dedication.

3.2.2 Maintenance Methods

The maintenance activities for the proposed bio-retention basins include, but are not limited to, the following:

- Routine inspection of the wetland to identify any damage to vegetation, scouring, litter and debris build up or excessive mosquitoes;
- Routine inspection of inlet and outlet points to identify any areas of scour, litter build upand blockages;
- Removal of litter and debris;
- Removal and management of weeds and other undesirable vegetation;
- Repair to the basins profile to prevent the ponding in isolated areas;
- Regular watering of vegetation during plant establishment;
- Water level control during plant establishment;
- Replacement of plants that have died (from any cause) with plants of equivalent size and species as detailed in the planting schedule;
- Vegetation and aquatic pest monitoring and control; and
- Sediment accumulation and removal from inlet and outlet ponds.

3.2.3 Personnel Requirements

The maintenance and regeneration component of the works shall be carried out in a competent manner by suitably experienced and qualified bush regenerators. At a minimum all works will be completed by staff that have completed a TAFE Conservation & Land Management Course (CALM) Certificate 3 or equivalent and have suitable field experience (e.g. 200 hours of employment as a bush regenerator).

The bush regeneration site supervisor in charge of this basin maintenance contract as a minimum will be required to have completed Certificate 3 of the Conservation & Land Management (CALM) Course and have a minimum of two (2) years experience in this position.

3.2.4 General

Once the system has established and equilibrium has been attained (after the establishment phase), operation is mostly passive and should require minimal landscape contractor intervention.

The landscape contractor must be:

- Observant to the development within the basins and surrounding area;
- Take appropriate actions when problems develop; and
- Conduct monitoring as required on a regular basis.

The most critical items in which the landscape contractor is necessary to require action is:

- Accurate recording of monitoring and maintenance activities;
- Alteration of water levels to maintain the necessary depths for healthy vegetation growth;
- Management of appropriate vegetation and undesirable vegetation;
- Maintenance of batters and overflow weirs;
- Maintenance of the perforated pipes within the bio-filter media; and
- Maintenance of the inlet pipes and outlet structures and pipes.

The Monitoring and Maintenance Schedule below, lists the routine maintenance and monitoring on a typical year that should be undertaken throughout the system during operation phase, and nominates the timing of each action throughout the calendar year.

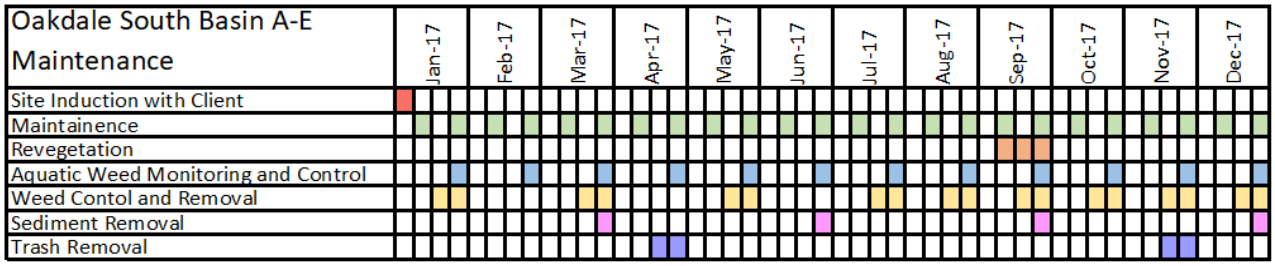


Table 3 - Monitoring and Maintenance Schedule (Typical Year)

3.2.5 Routine Inspections

Routine inspections of the constructed basins must be undertaken on a regular basis or as required by extreme events.

Routine maintenance and inspections are to be undertaken concurrently every two months throughout the year. Routine inspections only would also be undertaken on the other months to check for any issues that could be rectified during the routine maintenance.

Additional inspections are to be undertaken following extreme storm events to check for scour, sedimentation, debris and damage. The inspection should be made no less than 24hours and no more than 72 hours after the event if the total rainfall on any given day exceeds 30mm.

Example inspection and maintenance schedules and checklists are provided in Appendix D and should be completed in accordance with the frequency of Table 30 – Monitoring and Maintenance Schedule.

3.2.6 Water Levels

Water levels to the basins are to be monitored during the vegetation establishment, especially after sever storm events, to ensure that the vegetation remain wet but not inundated with storm water.

Water levels will be controlled by the outlet pit therefore it is essential that the outlet pit is unblocked as this controls the operational levels as these have the following impacts

- Stimulate new plant growth
- reduce mosquito breeding

Sedimentation will be a natural occurrence due to the stormwater mobilising silts/soil particles during the storm event. Excessive sedimentation to the basins will affect the water levels and water depths. Removal of the silts is to be undertaken as required to ensure that the water levels and water depths are constant throughout the life of the basins.

3.2.7 Vegetation Management

7.8.7.1 Vegetation Replacement

The maintenance of the plants within the basins should be regular and ongoing (long term) to ensure that the basins function as designed. After the construction, ie during operation phase, the plant health and coverage should be monitored as stated in Table 10.

Discolouration or wilted leaves indicate poor plant health and could be caused by inadequate watering, disease or lack of nutrients. Plants that have not grown since being planted or showing signs of discolouration in the leaves may require the application of fertilisers. If plant survival rates are below 90% or if plants have been predated or displaced during storm events, replanting should be undertaken.

Assessment of plant health after significant storm events will be particularly important during the extreme storm event, therefore the high intensity rainfall in this region may be the potential for plant damage.

Additional plants should be installed if:

- Plant survival rates are below 90% of the originally planted numbers; or
- Plants have been displaced by the storm events.

It should be noted that some plants restrict growth over the winter months, therefore they can appear to be unhealthy/dead. It is essential that personnel undertaking the maintenance are experienced and understand the plants natural growth cycle.

7.8.7.2 Weed Control

The monthly inspections should be sufficient to monitor and control weed invasions, unless significant replanting or re-establishment works are undertaken. Once the vegetated areas are established, fortnightly inspections may still be required over extreme high temperature periods particularly if a particular infestation is being controlled and monitored. Weed infestations are undesirable in and around the system as they compete with and displace native species and contribute to the decline in system health.

Excessive growth of aquatic weeds within the basin can affect hydrology by restricting flows, which may increase the risk of erosion. Weed invasions may also "choke" basins by building up around the outlets.

Weed removal and control will include any species listed as Noxious under the NSW Noxious Weeds Act 1993, and other environmental weed species which are likely to significantly invade the basins, preventing plant establishment or impede native seedling growth.

The most appropriate method of weed control will be used according to the type of weed. The bush regeneration techniques to be employed shall be best practice and aim to control weed growth and encourage natural regeneration. All seed and propagules will be removed from the plant prior to it being treated. All weeds will be continually suppressed and not allowed to seed.

A general guide for the acceptable level of weed control in the contract areas by the end of the basin maintenance project is as follows:

- Class 1 & 2 Noxious Weeds: 100%;
- Class 3, 4 & 5 Noxious Weeds: >95%; and
- Environmental Weeds: >95% eradication

The use of agricultural pesticides (e.g. herbicides, fungicides) is controlled under the NSW Pesticides Act 1999 which stipulates that all pesticides must be used in accordance with the label directions. All weed control works will be completed in accordance in accordance with the Act.

Appropriate signage will be displayed whenever chemicals are being used.

When applying herbicide, either by foliar spray or direct application, appropriate techniques will be used for each specific weed species (more details provided below). All herbicide spray application is conducted only by trained and accredited staff (e.g. AQF3 SMARTtrain Chemical Accreditation). All relevant PPE (e.g. gloves, hat, and safety glasses) are always used and signs erected when spraying occurs in close proximity to public areas. Herbicide use records are continually kept and all details included in monthly reports.

The maintenance techniques to be employed will aim to control weed growth and encourage natural regeneration and good plant establishment. The techniques and methodologies used for bush regeneration conform to Industry Best Practice techniques. These include the principles described in Recovering bushland on the Cumberland Plain: *best practice guidelines for the management and restoration of bushland (Department of Environment and Conservation, NSW 2005)* and *Bringing the Bush Back to Western Sydney: best practice guidelines for bush regeneration on the Cumberland Plain (Department of Infrastructure Planning and Natural Resources NSW 2003)*.

7.8.7.3 Species Selection

Species selected for use in the macrophyte zone of the bio-retention basins are provided on the Landscape Drawings (Refer Appendix I) in accordance with Penrith City Council WSUD Technical Guidelines as follows:

- Imperata cylindrica (Blady Grass)
- Ficinia nodosa (Syn Isolepis nodosa Knobby Club Rush)
- Junucus usitatus (Common Rush)
- Lomondra longifolia (Matrush)
- Poa siebreiana (Grey Tussock grass)
- Themeda australis (Kangaroo Grass)
- Dianella caerulea (Blue flax-lily)
- Carex appressa (Tussock Sedge)

Alternative species can be considered with guidance from a Landscape Architect and approval from the Local Authority.

3.2.8 Nuisance Management

7.8.8.1 Mosquito Control

A common misconception is that water bodies increase mosquito populations, posing a risk to public health. Mosquito infestations are not likely to be a problem if the basins and other ecosystems are well-balanced and maintained.

Maintenance acivities can deter breeding by:

- Removal of litter and debris;
- Monitoring of water levels and time to discharge the water from the basin; and
- Monitoring of larvae numbers.

If mosquito numbers, more likely in the sediment deposition areas of the basin, do become problematic they may pose a risk to public health and impact on amenity. Early detection of mosquito larvae means that control measures can be implemented before adult mosquito numbers become a problem. It is therefore important to monitor mosquito larvae population as part of a monitoring.

It should be noted that the risk of mosquito outbreaks is greater in summer (the period of prolific mosquito growth) than in the cooler months, therefore bio-retention basins are less

likely to have mosquito breeding than other water bodies such as creeks, dams and wetlands. Nonetheless monitoring should be undertaken during routine monitoring to ensure that breed is eliminated if not reduced.

7.8.8.2 Birds

Populations of water fowl, including ducks and swamp hens can be problematic in constructed wetlands as the bird have a tendency to damage vegetation and deteriorate water quality via increases in nutrients and faecal coliforms.

The impact on the basins should be limited as the birds are lesser of a problem in bio-retention basins due to the water retention times within the basins, however evidence of bird presence should be monitored, especially during the vegetation establishment stage.

If birds are found to have a particular threat to the vegetation then control measures such as perimeter fencing and netting may be required.

7.8.8.3 Inlet & Outlet Structures

The inlet structure and outlet structure are components of the system that require careful monitoring as they can be prone to scour and litter build up. Debris can block inlets or outlets, compromising the functioning of the bio-retention basin. These can also be unsightly in high visibility areas.

A poorly functioning outlet structure will result in increased water level/depth therefore the routine monitoring and maintenance will ensure the inlets and outlets area clear of debris, rubbish and accumulated sediment to retain adequate conveyance.

7.8.8.4 Rubbish Removal

Debris and rubbish conveyed into the basins have the following impacts:

- Can block inlet and outles structures;
- Is unsightly;
- Dangerous for wildlife; and
- Provide mosquito breeding ground, especially containers that retain water.

Rubbish should be removed immediately after storm events and during the routine maintenance on the basins. This should be accurately recorded as this may in understanding where the rubbish may originate and help to devise appropriate source control measures for furture development.

3.2.9 Extreme Events

7.8.9.1 Storm Events

Following a significant rainfall event, basins should be assessed for scouring, plant loss, sedimentation and general damage. If necessary, repair or replant to suit the conditions prior the storm event and prevent further damage.

Extreme flood events may also introduce weed species into the basin, therefore the inspections (post-flood) should place higher priority on monitoring for, and vigilantly removing, weed and other undesirable species.

After heavy rainfall and flood conditions there is a possibility of an accumulation of rubbish and debris within the basins generally but also around the outlet points. Removal of this rubbish and debris should take place immediately after the storm event.

7.8.9.2 Drought

In the event of an extended period of drought, established plants may die, therefore consideration of irrigation should be considered during the event to prevent the plants from dying off.

Plants that die off should be replaced as per Sections 7.8.7.1 and 7.8.7.2.

3.3 Reporting Requirements

Maintenance records are the single most essential record in the successful management of the bio-retention basin system during the establishment and maintenance after the construction. These records will also be essential for the handing over of the assets to the local councils.

Accurate records provide the basis for responsive and adaptive management and should be undertaken after every inspection and/or maintenance works. The development of an electronic diary is recommended to record details of the daily functions and general running of the Bio-retention Basin system, which must be provided to the Developer/Owner of the basins.

This diary should include as a minimum record the following

- flooding, water depth
- local rainfall
- weed control
- supplementary planting
- any other relevant observations.

Monthly reports will be prepared if requested. Single map showing total work area with easily identifiable key and information:

- Primary, secondary, maintenance and revegetation areas, Photos (PMPs), showing changes ‘Before’ and ‘After’ changes:
- Labelled with basin name and/or location within site,
- Something recognisable in photos, ‘Before’ and ‘After’ Site Condition Maps.
- Clear summary of works in each basin, not just species list, including total number of hours worked.
- Overview and description of problems/issues encountered
- Future recommendations and management op

Appendix A

Penrith City Council Maintenance Checklist

MAINTENANCE SHEET – Gross pollutant trap (GPT)

PENRITH CITY COUNCIL

Date _____

Location _____

Asset name _____

Asset ID _____

Maintained by (name/company) _____

Purpose of visit

- ☐ Maintenance
- ☐ Response to complaint
- ☐ Other (specify) _____

Rainfall conditions

- ☐ Rainfall today (___ mm)
- ☐ Rainfall in last 3 days (___mm)
- ☐ No recent rainfall

Functional component		Maintenance response and information	Maintenance completed *Circle Y (yes), N (no) or NA (not applicable) and write what maintenance was done in the 'Notes' section.*
	Surrounds and other infrastructure		
	Damage or removal of structures	**Response:** Rectification works for structural issues to be undertaken immediately. **Information:** Refer to Works as Executed plans for specifications for structural repairs.	Y N NA Notes:
1	**Inlet**		
1a	Blockage	**Response:** For proprietary GPTs, refer to suppliers' maintenance manual. **Information:** Unblock inflow pipes. Remove sediment from inflow areas.	Y N NA Notes:
2	**GPT sump**		
2a	Debris, sediment and oil accumulation	**Response:** For proprietary GPTs, refer to suppliers' maintenance manual. **Information:** GPTs often require suction equipment to clean. Wet sump GPTs will need to be dewatered before maintenance can take place. If oil present, the GPT cannot be dewatered on-site.	Y N NA Notes:
3	**Screens**		
3a	Damage	**Response:** For proprietary GPTs, refer to suppliers' maintenance manual. **Information:** Standing water in a wet sump system may have to be drawn down for screen maintenance.	Y N NA Notes:
3b	Blockage	**Response:** For proprietary GPTs, refer to suppliers' maintenance manual. **Information:** Standing water in a wet sump system may have to be drawn down for screen maintenance.	Y N NA Notes:
4	**Outlet**		
4a	Blockage	**Response:** For proprietary GPTs, refer to suppliers' maintenance manual. **Information:** Unblock outlet pipes. Remove sediment from outflow areas.	Y N NA Notes:

Pollutants removed (circle correct units)

- ☐ Gross pollutants _____ (m^3) or (kg)
- ☐ Sediment _____ (m^3) or (kg)
- ☐ Vegetation _____ (m^3) or (kg)
- ☐ Oil/grease

Other:

MAINTENANCE SHEET – Rainwater tank

PENRITH CITY COUNCIL

Date _____

Location _____

Asset name _____

Asset ID _____

Maintained by (name/company) _____

Purpose of visit

☐ Maintenance

☐ Response to complaint

☐ Other (specify) _____

Rainfall conditions

☐ Rainfall today (___ mm)

☐ Rainfall in last 3 days (___mm)

☐ No recent rainfall

Functional component		Maintenance response and information	Maintenance completed *Circle Y (yes), N (no) or NA (not applicable) and write what maintenance was done in the 'Notes' section.*
1	**Roof, gutters and downpipes**		
1a	Roof and gutters	**Response:** Clean roof and gutters. Remove moss, lichen and debris. **Information:** Leaves and debris may need to be removed from roofs, gutters, first flush devices, tank inlets and outlets monthly where overhanging vegetation is present. Where overhanging vegetation is not present, an annual or 6 monthly clean may be sufficient. Commence with 3 monthly inspections and adjust as required.	Y N NA Notes:
1b	Downpipes and screens (rainhead)	**Response:** Manual removal of debris. **Information:** Leaves and debris may need to be removed from roofs, gutters, first flush devices, tank inlets and outlets monthly where overhanging vegetation is present. Where overhanging vegetation is not present, an annual or 6 monthly clean may be sufficient. Commence with 3 monthly inspections and adjust as required.	Y N NA Notes:
1c	First flush device	**Response:** Manual removal of debris. **Information:** Leaves and debris may need to be removed from roofs, gutters, first flush devices, tank inlets and outlets monthly where overhanging vegetation is present. Where overhanging vegetation is not present, an annual or 6 monthly clean may be sufficient. Commence with 3 monthly inspections and adjust as required.	Y N NA Notes:
2	**Tank inlet**		
2a	Screen	**Response:** Remove grate and screen. Clean and repair as required. **Information:** Remove grate and screen and examine for rust or corrosion, especially at corners or welds. Depending on the type of screen, replacement may be as simple as just placing another screen on the existing fitting with no tools required.	Y N NA Notes:
3	**Tank**		
3a	Overflow	**Response:** Repair overflow as necessary, remove debris and ensure adequate connection to stormwater drain. **Information:** If the overflow was previously not connected to a stormwater drain, check that erosion has not been caused.	Y N NA Notes:
3b	Body integrity	**Response:** Remove grate to inspect internal walls. Check the condition of the tank walls and roof to ensure no holes, cracks or spalling have arisen due to tank deterioration. Contact licensed plumber to repair any defects or leaks as necessary. **Information:** Do not enter tank without confined space certification. Secure any open access covers to prevent risk of entry.	Y N NA Notes:
3c	Base stability	**Response:** Contact licensed plumber if integrity is questionable. **Information:** If tank is on a stand or concrete slab, check structural integrity of support.	Y N NA Notes:

Functional component		Maintenance response and information	Maintenance completed *Circle Y (yes), N (no) or NA (not applicable) and write what maintenance was done in the 'Notes' section.*
4	**Pumps, filters and valves**		
3d	Sludge	**Response:** Siphon the bottom portion of the sediment from the tank or empty and rinse the tank by opening the cleaning outlet and allowing the water and sludge to pass out. Ensure sludge is appropriately disposed of. **Information:** First flush systems and mesh screens on tank inlets will reduce the amount of sediment and debris entering the tank thereby extending the time required before desludging is needed. For large tanks, it is recommended a professional tank cleaner be employed as confined space entry may be required. Plastic tanks should be tied down prior to being emptied if strong winds are present. Waste must be transported to a waste facility that is appropriately licensed to accept such waste (if there is no opportunity for reuse on-site). A pit is considered a confined space, requiring safety equipment and training.	Y N NA Notes:
4a	Pump	**Response:** Clear any accumulated dust or debris. Check to see if power supply is switched on. Regularly service by a licensed professional, in line with manufacturer's instructions. **Information:** Contact the manufacturer, an electrician or a licensed plumber if you suspect there is a problem. DO NOT tamper with these systems as they have the potential to contaminate the mains water supply.	Y N NA Notes:
4b	Filter	**Response:** Clean and replace cartridges, in line with manufacturer's instructions. **Information:** Typically the filter (if present) will require the most frequent attention.	Y N NA Notes:
4c	Valves	**Response:** Contact licensed plumber to rectify any malfunction, in line with manufacturer's instructions. **Information:** A licensed plumber will be able to advise of Sydney Water's requirements.	Y N NA Notes:
5	**Mains backup, flow meter and backflow**		
5a	Potable mains backup device	**Response:** Contact licensed plumber to rectify any malfunction, in line with manufacturer's instructions. **Information:** A licensed plumber will be able to advise of Sydney Water's requirements.	Y N NA Notes:
5b	Backflow prevention device	**Response:** Contact licensed plumber to rectify any malfunction, in line with manufacturer's instructions. **Information:** A licensed plumber will be able to advise of Sydney Water's requirements.	Y N NA Notes:
5c	Flow meter	**Response:** Contact licensed plumber to rectify any malfunction, in line with manufacturer's instructions. **Information:** Flow meters are an easy way to tell if the system is working. Frequent flow readings ensure issues are detected early.	Y N NA Notes:

Other:

MAINTENANCE SHEET – On-site stormwater detention (OSD)

PENRITH CITY COUNCIL

Date _____

Location _____

Asset name _____

Asset ID _____

Maintained by (name/company) _____

Purpose of visit

- ☐ Maintenance
- ☐ Response to complaint
- ☐ Other (specify) _____

Rainfall conditions

- ☐ Rainfall today (___ mm)
- ☐ Rainfall in last 3 days (___mm)
- ☐ No recent rainfall

Functional component		Maintenance response and information	Maintenance completed *Circle Y (yes), N (no) or NA (not applicable) and write what maintenance was done in the 'Notes' section.*
	Surrounds and other infrastructure		
	Damage or removal of structures	**Response:** Rectification works for structural issues to be undertaken immediately. **Information:** Refer to Works as Executed plans for specifications for structural repairs.	Y N NA Notes:
1	**Inlet**		
1a	Blockage	**Response:** Inspect via manhole, pit or inlet. Remove litter, debris and sediment by hand, shovel or machinery. **Information:** Ensure that water can enter the system freely. Forks and tongs may be used for litter pick ups. Waste must be transported to a waste facility that is appropriately licensed to accept such waste (if there is no opportunity for reuse on-site). A pit is considered a confined space, requiring safety equipment and training.	Y N NA Notes:
1b	Erosion	**Response:** Re-profiling using hand tools or light machinery. Replant if required. **Information:** Typically required after heavy rainfall.	Y N NA Notes:
2	**Storage area**		
2a	Storage volume	**Response:** Remove any litter, debris and sediment by hand, shovel or machinery. **Information:** Ensure that the detention volume is maintained as per design. May require personnel with confined space clearance to carry out maintenance tasks. If detention volume is occupied by something else, reconstruct and replace the volume lost. Notify council of proposal.	Y N NA Notes:
2b	Sediment accumulation	**Response:** If accumulated sediment is present on the surface, remove using a flat shovel and dispose. **Information:** Waste must be transported to a waste facility that is appropriately licensed to accept such waste (if there is no opportunity for reuse on-site). A pit is considered a confined space, requiring safety equipment and training.	Y N NA Notes:
2c	Standing water or boggy conditions	**Response:** System should be desilted and screens cleaned. **Information:** Water should drain away within hours after rain events.	Y N NA Notes:
3	**Outlet (discharge control pit)**		
3a	Blockage	**Response:** Inspect via manhole, pit or inlet. Remove litter, debris and sediment by hand, or shovel. **Information:** Waste must be transported to a waste facility that is appropriately licensed to accept such waste (if there is no opportunity for reuse on-site). A pit is considered a confined space, requiring safety equipment and training.	Y N NA Notes:
3b	Screen	**Response:** Use a broom, hose or high pressure hose to clean screen of debris. Replace screen if required. **Information:** Remove grate and screen and examine for rust or corrosion, especially at corners or welds.	Y N NA Notes:

Functional component		Maintenance response and information	Maintenance completed *Circle Y (yes), N (no) or NA (not applicable) and write what maintenance was done in the 'Notes' section.*
3c	Sediment accumulation	**Response:** If accumulated sediment is present on the surface, remove using a flat shovel and dispose. **Information:** Waste must be transported to a waste facility that is appropriately licensed to accept such waste (if there is no opportunity for reuse on-site). A pit is considered a confined space, requiring safety equipment and training.	Y N NA Notes:
4	**Overflow**		
4a	Blockage	**Response:** Unblock outlet pipes. Remove sediment from outflow areas. **Information:** Waste must be transported to a waste facility that is appropriately licensed to accept such waste (if there is no opportunity for reuse on-site). A pit is considered a confined space, requiring safety equipment and training.	Y N NA Notes:
4b	Erosion	**Response:** Re-profiling using hand tools or light machinery. Replant if required. **Information:** Typically required after heavy rainfall.	Y N NA Notes:

Other:

MAINTENANCE SHEET – Biofilter

PENRITH CITY COUNCIL

Date _____

Location _____

Asset name _____

Asset ID _____

Maintained by (name/company) _____

Purpose of visit

- ☐ Maintenance
- ☐ Response to complaint
- ☐ Other (specify) _____

Rainfall conditions

- ☐ Rainfall today (___ mm)
- ☐ Rainfall in last 3 days (___mm)
- ☐ No recent rainfall

Functional component		Maintenance response and information	Maintenance completed *Circle Y (yes), N (no) or NA (not applicable) and write what maintenance was done in the 'Notes' section.*
	Surrounds and other infrastructure		
	Damage or removal of structures	**Response:** Rectification works for structural issues to be undertaken immediately. **Information:** Refer to Works as Executed plans for specifications for structural repairs.	Y N NA Notes:
1	**Inlet**		
1a	Blockage	**Response:** Unblock inlet pipes. Remove sediment from inflow areas. **Information:** Waste must be transported to a waste facility that is appropriately licensed to accept such waste (if there is no opportunity for reuse on-site). A pit is considered a confined space, requiring safety equipment and training. If the inlet is cleaned regularly, it can reduce the amount of litter, debris and sediment accumulating on the filter surface.	Y N NA Notes:
1b	Erosion	**Response:** Re-profiling using hand tools or light machinery. Replant if required. **Information:** Typically required after heavy rainfall.	Y N NA Notes:
2	**Inlet sediment pits and forebays**		
2a	Blockage	**Response:** Unblock inlet sediment pits. Remove sediment from inflow areas. **Information:** Waste must be transported to a waste facility that is appropriately licensed to accept such waste (if there is no opportunity for reuse on-site). A pit is considered a confined space, requiring safety equipment and training.	Y N NA Notes:
2b	Permeability and clogging	**Response:** Remove sediment and debris from drainage holes and ensure permeability. **Information:** Waste must be transported to a waste facility that is appropriately licensed to accept such waste (if there is no opportunity for reuse on-site). A pit is considered a confined space, requiring safety equipment and training.	Y N NA Notes:
3	**Batters**		
3a	Erosion	**Response:** Re-profiling using hand tools or light machinery. Replant if required. **Information:** Typically required after heavy rainfall.	Y N NA Notes:
3b	Plant health	**Response:** Variable weekly watering for the first 6-8 weeks (until plants are established and actively growing) especially in dry weather. **Information:** Watering during the plant establishment phase is important to enable quick plant establishment. Watering during dry periods after establishment may be required to prevent plant death.	Y N NA Notes:
3c	Plant cover	**Response:** Replant vegetation to achieve desired plant coverage. **Information:** Only use approved species for planting.	Y N NA Notes:

Functional component		Maintenance response and information	Maintenance completed *Circle Y (yes), N (no) or NA (not applicable) and write what maintenance was done in the 'Notes' section.*
3d	Litter and debris	**Response:** Manually remove litter. **Information:** Contact with sharp objects is a risk when removing litter. All workers must follow WHS practices to reduce risk, including wearing personal protective equipment. Forks and tongs may be used for litter pick ups. Note: all disposal procedures are to adhere with NSW EPA and local authorities' requirements.	Y N NA Notes:
3e	Vehicle or pedestrian damage	**Response:** Rectification works for structural issues to be undertaken immediately. Replace lost plants and reprofile filter surface if affected. **Information:** Refer to Works as Executed plans for specifications for structural repairs.	Y N NA Notes:
3f	Weeds	**Response:** Remove weeds by using small shovels, mattocks or similar. Any trimmed or removed plant material must be taken off-site and disposed of appropriately. **Information:** The composition of plant species in the biofilter may change over time and vary from the original planting schedule. The system should be left to reach its own balance of plant composition (excluding weeds) provided the system is functioning as intended. If replanting is required, look at what species are performing well. Remove weeds before they flower and seed. Note: use of herbicides may compromise the integrity and performance of filter medium. Categories of weeds can be found on the NSW WeedWise website at: weeds.dpi.nsw.gov.au/Weeds/Categories	Y N NA Notes:
4	**Biofilter surface**		
4a	Erosion	**Response:** Re-profiling using hand tools or light machinery. Replant if required. Filter surface should be flat and even. **Information:** Typically required after heavy rainfall. For smaller incidents of scour and erosion, try transplanting some plants from a denser vegetated part of the biofilter. If you require further investigation into a current issue, refer to Water by Design (2012) *Rectifying Vegetated Stormwater Assets*.	Y N NA Notes:
4b	Extended detention depth	**Response:** Remove overfilled material and re-level filter surface to include the extended detention depth as specified on the Works as Executed plans. **Information:** The depths of the material should meet those specified in the Works as Executed plans.	Y N NA Notes:
4c	Leaf litter	**Response:** Manually remove litter. **Information:** The filter media should not be compressed during maintenance and monitoring activities as this can damage the underdrainage and reduce infiltration capacity. Forks and tongs may be used for litter pick ups.	Y N NA Notes:
4d	Permeability and clogging	**Response:** If filter media is clogged, remove and replace media. Reprofile area and replant as required. Remove any algal presence by removing the top layer of filter media using a shovel and replace top layer of filter media and plants. Reprofile if required. **Information:** Conduct the hydraulic conductivity test in line with *Adoption Guidelines for Stormwater Biofiltration Systems* (2015) measurement of hydraulic conductivity. If the cover of moss or algal growth is >10%, refer to Water by Design (2012) *Rectifying Vegetated Stormwater Assets*. Note: the minimum hydraulic conductivity as defined by ASTM F1815-06 is to be a minimum of 100 mm/hr.	Y N NA Notes:
4e	Plant health	**Response:** Variable weekly watering for the first 6-8 weeks (until plants are established and actively growing) especially in dry weather. **Information:** Watering during the plant establishment phase is important to enable quick plant establishment. Watering during dry periods after establishment may be required to prevent plant death.	Y N NA Notes:

Functional component		Maintenance response and information	Maintenance completed *Circle Y (yes), N (no) or NA (not applicable) and write what maintenance was done in the 'Notes' section.*
4f	Plant cover	**Response:** Replant vegetation to achieve desired plant coverage. **Information:** Only use approved species for planting.	Y N NA Notes:
4g	Litter and debris	**Response:** Manually remove litter. **Information:** Contact with sharp objects is a risk when removing litter. All workers must follow WHS practices to reduce risk, including wearing personal protective equipment. Forks and tongs may be used for litter pick ups. Note: all disposal procedures are to adhere with NSW EPA and local authorities' requirements.	Y N NA Notes:
4h	Sediment accumulation	**Response:** If accumulated sediment is present on the surface, remove by flat shovel, rake filter media and restore to design levels if required. Replacement of vegetation may be required. **Information:** Waste must be transported to a waste facility that is appropriately licensed to accept such waste (if there is no opportunity for reuse on-site).	Y N NA Notes:
4i	Surface levels	**Response:** Reprofile the filter surface to ensure a flat and even surface. The filter media should be low enough to allow for adequate extended detention depth. **Information:** Ensure the filter media is NOT filled up to the invert level of the inlet.	Y N NA Notes:
4j	Weeds	**Response:** Remove weeds by using small shovels, mattocks or similar. Any trimmed or removed plant material must be taken off-site and disposed of appropriately. **Information:** The composition of plant species in the biofilter may change over time and vary from the original planting schedule. The system should be left to reach its own balance of plant composition (excluding weeds) provided the system is functioning as intended. If replanting is required, look at what species are performing well. Remove weeds before they flower and seed. Note: use of herbicides may compromise the integrity and performance of filter medium. Categories of weeds can be found on the NSW WeedWise website at: weeds.dpi.nsw.gov.au/Weeds/Categories	Y N NA Notes:
5	**Outlet, overflow pit and inspection pipes**		
5a	Blockage	**Response:** Unblock outlet pipes. Remove sediment from outflow areas. **Information:** Waste must be transported to a waste facility that is appropriately licensed to accept such waste (if there is no opportunity for reuse on-site). A pit is considered a confined space, requiring safety equipment and training.	Y N NA Notes:
5b	Inspection pipes	**Response:** Flush underdrain pipes using a water jet or pipe snake until a clear stream of water is present at the base of the outlet pit. If a saturated zone is present, the saturated zone should be drained before flushing out underdrain pipes. **Information:** Most underdrain pipes rarely need flushing and some underdrain systems are not connected to an outlet pit which makes inspection and flushing impossible. The inspection openings are often covered by vegetation and you may need to refer to the Works as Executed plans to find their location. Underdrainage pipes can be damaged if the water jet is too strong.	Y N NA Notes:
5c	Erosion	**Response:** Re-profiling using hand tools or light machinery. Replant if required. **Information:** Typically required after heavy rainfall.	Y N NA Notes:

Other:

Appendix G Plan Detailing Areas Covered under this OEMP

Operational Environmental Management Plan

Oakdale South Industrial Estate
Master Plan

Goodman Property Services (Aust) Pty Ltd

SLR Project No.: 630.031929.00001

29 October 2024

OAKDALE WEST

EXISTING LOT 41 DP 708347

EXISTING LOT 42 DP 708347

EXISTING LOT 43 DP 708347

EXISTING LOT 44 DP 708347

LEGEND

AREAS INCLUDED UNDER THE OAKDALE SOUTH INDUSTRIAL ESTATE OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN (OEMP) REPORT NUMBER 610.17706

BASIN 'D'

CREEK

(NOT FORMED)

ROPES

PRECINCT 6

EXISTING TRANSGRID EASEMENT

ROAD 06

3D

3C

3B

PRECINCT 3

ROAD 04

3A

AMENITY PRECINCT

BASIN 'C'

ROPES

CREEK

FUTURE SOUTHERN LINK ROAD

BASIN 'B'

TRIBUTARY

BASIN 'A'

ROAD 05

CREEK

ROAD 01

1C

ROAD 02

1A

BASIN 'E'

ROPES

2A

PRECINCT 2

PRECINCT 1

ROAD 03

EXISTING

2B

1D

1B

FRANCIS ROAD RESERVE

PRECINCT 5

5A

PRECINCT 4

4A

OAKDALE CENTRAL LOT 3

MILLNER AVENUE

OAKDALE CENTRAL LOT 4

JACFIN DEVELOPMENT SITE

EXISTING LOT A DP 392643

Issue	Description	Date
P2	ISSUED FOR INFORMATION	11-02-20
P1	ISSUED FOR INFORMATION	02-01-18

Bar Scales

0 50 100 150 200 250m

1 : 2500 @ A1

Key Plan

Client

Goodman

Scales: 1 : 2500 @ A1

Grid: MGA

Height Datum: AHD

Drawn: TS

Designed: JB

Checked: RH

Approved:

Project: OAKDALE SOUTH ESTATE INDUSTRIAL DEVELOPMENT

Title: OEMP ESTATE WIDE PLAN

Civil Engineers and Project Managers

at&l

Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

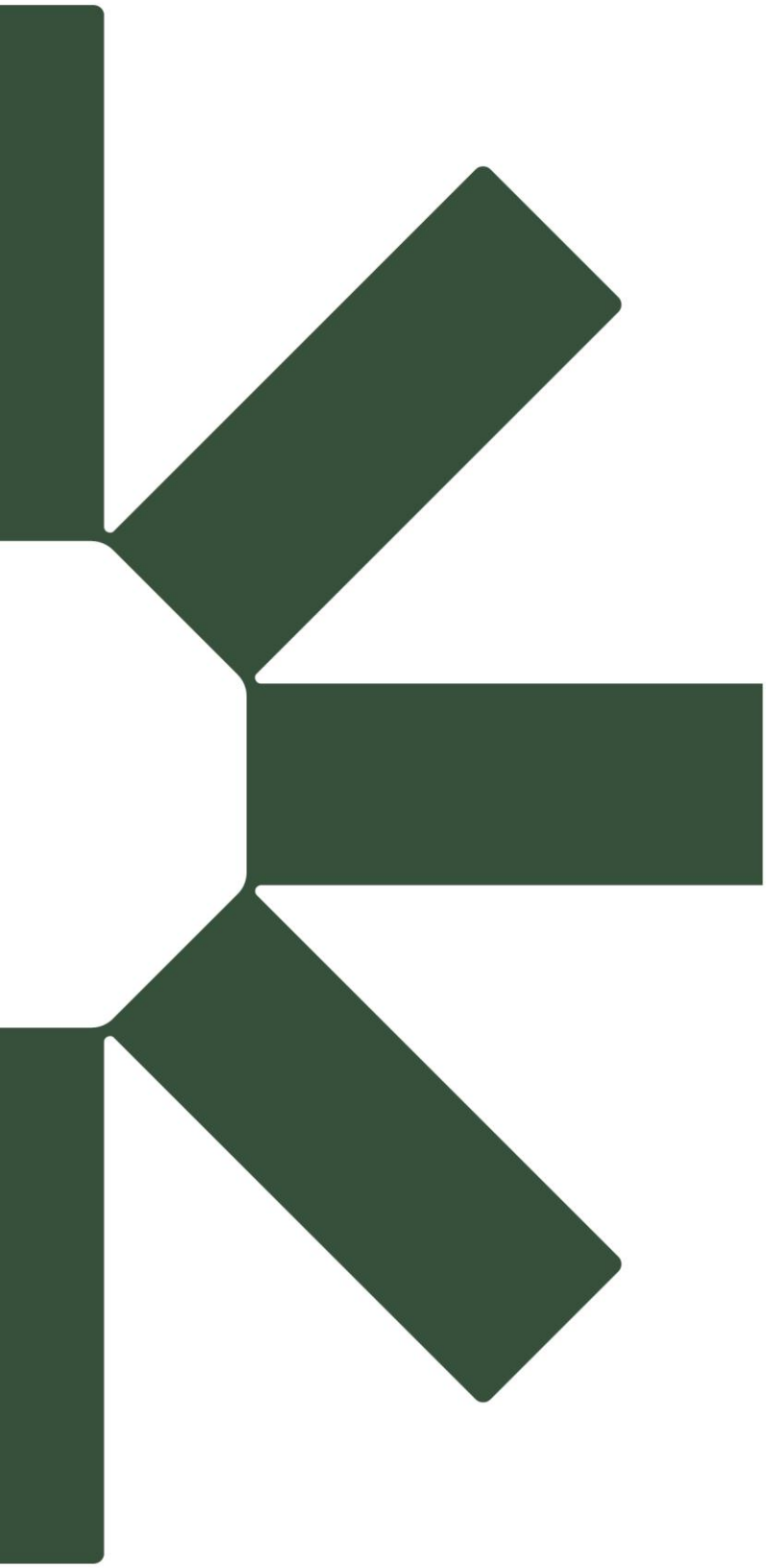
Status: PRELIMINARY ONLY
NOT TO BE USED FOR CONSTRUCTION

A1

Drawing No.	Project No.	Issue
SKC435	14-193	P2

100mm on Original

\\ATLSERVER2\Projects\14-193 Oakdale South\Drgs\Civil\Sketches\SKC435-OEMP ESTATE WIDE PLAN.dwg



Making Sustainability Happen