MARINUCCI AUSTRALIA PTY LTD

Operation Environmental Management Plan
Enfield Intermodal Logistics Centre
Precinct H - Warehouse H3

Prepared for:

Goodman Property Services (Aust) Pty Ltd
Level 17
60 Castlereagh Street
Sydney NSW 2000

SLR Ref: 630.12942-R05
Version No: -v1.0
January 2020

PREPARED BY

SLR Consulting Australia Pty Ltd
ABN 29 001 584 612
10 Kings Road
New Lambton NSW 2305 Australia
(PO Box 447 New Lambton NSW 2305 Australia)
T: +61 2 4037 3200
E: newcastleau@slrconsulting.com www.slrconsulting.com

BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd 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
630.12708-R05-v1.0	7 January 2020	Samantha Hayes / Maegan Crowhurst	Chris Jones	Chris Jones

CONTENTS

1 BACKGROUND 6
1.1 Development Overview 6
1.2 Site Overview and Layout 7
1.3 Operation Environmental Management Plan 11
1.3.1 Scope 11
1.3.2 Objectives 13
2 ENVIRONMENTAL MANAGEMENT FRAMEWORK 14
2.1 Roles and Responsibilities 14
2.2 Project Approval 14
2.3 Other Statutory Obligations 15
2.4 Consultation 15
2.4.1 Community Consultation and Enquiries 15
2.4.2 Government Agency Consultation 16
2.5 Environmental Training 16
2.6 Environmental Incidents 17
2.6.1 Performance Objective 17
2.6.2 Responsibility 17
2.6.3 Notification Requirements 18
2.6.4 Handling Procedure 19
2.6.5 Incidents Register 20
2.7 Environmental Complaints 21
2.7.1 Performance Objective 21
2.7.2 Responsibility 21
2.7.3 Handling Procedure 21
2.7.4 Complaints Register 22
2.8 Dispute Resolution 22
3 ENVIRONMENTAL MANAGEMENT COMMITMENTS 23
3.1 General 23
3.2 Noise 24
3.3 Traffic 27
3.4 Air Quality 31
3.5 Heritage 32
3.6 Water 33
3.7 Waste 34

CONTENTS

3.8 Visual Amenity, Landscaping and Ecology 36
3.9 Soil and Contamination 37
3.10 Hazards, Risks and Emergencies 38

4 MONITORING, REPORTING AND AUDITING 39
4.1 Monitoring and Inspections 39
4.2 Reporting 40
4.3 Auditing 41

5 OEMP REVIEW 42

DOCUMENT REFERENCES

TABLES

Table 1 OEMP Scope 11
Table 2 Personnel Responsible for Environmental Management 14
Table 3 Statutory Obligations 15
Table 4 Regulatory Authority Contact Details for Environmental Incidents 19
Table 5 General Environmental Management Controls 23
Table 6 Maximum Allowable Noise Contribution (dBA) 24
Table 7 Environmental Management Controls for Noise 25
Table 8 Projected Traffic Generation 28
Table 9 Environmental Management Controls for Traffic 28
Table 10 Environmental Management Controls for Air Quality 31
Table 11 Environmental Management Controls for Water 33
Table 12 Environmental Management Controls for Waste 34
Table 13 Environmental Management Controls for Visual Amenity, Landscaping and Ecology 36
Table 14 Environmental Monitoring Controls in accordance with the LTEMP 37
Table 15 Environmental Management Controls for Hazards, Risks and Emergencies 38
Table 16 Monitoring and Inspection Requirements 39
Table 17 Reporting Requirements 40
Table 18 Auditing Requirements 41

FIGURES

Figure 1 The Development Layout – Enfield ILC 9
Figure 2 The Site Layout – Warehouse H3 10
Figure 3 Approved Heavy Vehicle Route 27

CONTENTS

APPENDICES

Appendix A Project Approval MP 05_0147
Appendix B Relevant Development Consent Conditions
Appendix C Incident and Hazard Report Form
Appendix D Complaint Form
Appendix E Operation Noise Management Plan
Appendix F Operation Traffic Management Plan
Appendix G Work Place Travel Plan
Appendix H Waste and Recycling Management Plan
Appendix I Long Term Environmental Management Plan

1 Background

1.1 Development Overview

NSW Ports (the Proponent), in partnership with Goodman (the Developer), is currently constructing the Enfield Intermodal Logistics Centre (ILC) located to the west of Cosgrove Road and to the north of Punchbowl Road in South Strathfield, New South Wales (NSW).

NSW Ports obtained Project Approval MP 05_0147 on 5 September 2007 from the former Department of Planning and Environment (DPE), now Department of Planning, Industry and Environment (DPIE) for the construction and operation of Enfield ILC (the Development) with capacity to accept a maximum throughput of 300,000 TEU (one TEU is equivalent to one twenty foot container) per annum, as well as:

- An intermodal terminal for the loading and unloading of containers;
- Rail sidings, railway lines and associated works to connect to the existing freight line;
- Warehousing for the packing and unpacking of containers and the short-term storage of cargo;
- Empty container storage facilities, for the storage of empty containers to be later packed or transferred back to the port or regionally by rail;
- Light industrial/commercial area fronting Cosgrove Road;
- Access works including the construction of a road bridge over the new marshalling yards for access to Wentworth Street and an upgrade of the entrance to the site from Cosgrove Road; and
- Internal roads, administration buildings, diesel and LPG storage and fuelling facilities, container washdown area, vehicle maintenance shed, and installation of site services (all utilities, stormwater and sewerage).

Since Project Approval MP 05_0147 was first issued in September 2007, it has gone through a series of modifications with the most recent modification being MOD 14.

In total, 14 modifications to MP 05_0147 have been proposed comprising:

- Mod 1 – approved on 7 October 2008 to amend the number of dust monitoring sites;
- Mod 2 – approved on 30 March 2009 to amend the timing for submission of the Site Audit Statement;
- Mod 3 – withdrawn;
- Mod 4 – approved on 27 May 2010 to amend changes following detailed design;
- Mod 5 – approved on 10 November 2011 to relocate unsuitable fill material to a different site location;
- Mod 6 – approved on 12 December 2012 to amend the site layout and other minor changes;
- Mod 7 – withdrawn;
- Mod 8 – approved on 27 November 2013 to subdivide the Development site into 23 allotments;
- Mod 9 – withdrawn;
- Mod 10 – pending approval for the inclusion of additional freight-related operational activities within the intermodal terminal;
- Mod 11 – approved 8 February 2017 to construct and operate Warehouse G;
- Mod 12 – approved 7 March 2017 to extend rail sidings and expand the administration building;

- Mod 13 – approved 19 June 2018 to remove the land at the Tarpaulin building location and remediate into a garden centre and hardware/building supplies development; and
- Mod 14 – approved 28 August 2018 to amend the site layout.

For the purposes of this document, the Development is described in:

- *Project Approval Modification Application - Intermodal Logistics Centre at Enfield, Sydney Ports Corporation* (Sydney Ports Corporation 2009);
- *Intermodal Logistics Centre at Enfield - Modification Application* (Sydney Ports Corporation 2009);
- *Intermodal Logistics Centre at Enfield - Modification Application No.5* (Sydney Ports Corporation 2011);
- *Intermodal Logistics Centre at Enfield - Modification Application No.6* (Sydney Ports Corporation 2012) and Response to Submissions (RTS);
- *Intermodal Logistics Centre: Enfield - Modification Application No.8* (NSW Ports 2013);
- *Environmental Assessment Modification Application No. 11 (Additional Warehouse) - Intermodal Logistics Centre at Enfield* (TFA Project Group 2016) and RTS;
- *Environmental Assessment Modification Application No. 12 (Extension of Existing Rail Sidings and Administration Office Expansion) - Intermodal Logistics Centre at Enfield* (TFA Project Group 2016) and RTS;
- *MP 05_0147 Modification Application No. 13* (LJB Urban Planning 2017) and RTS; and
- *Modification Report MP 05_0147 Enfield Intermodal Logistics Centre (Mod 14)* (Urbis 2018) and RTS.

A copy of Project Approval MP 05_0147 (as modified) is attached as **Appendix A**.

This *Operation Environmental Management Plan* (OEMP) has been prepared to cover the operational activities applicable to Precinct H, Warehouse H3 (the Site) within the Development.

1.2 Site Overview and Layout

The site is a warehousing and distribution facility operated by Marinucci Australia Pty Ltd (Marinucci). Marinucci is a customer centric packing company that specialises in packaging innovation, packaging design, custom packaging and distribution/logistical solutions.

The Site layout is shown in **Figure 2**.

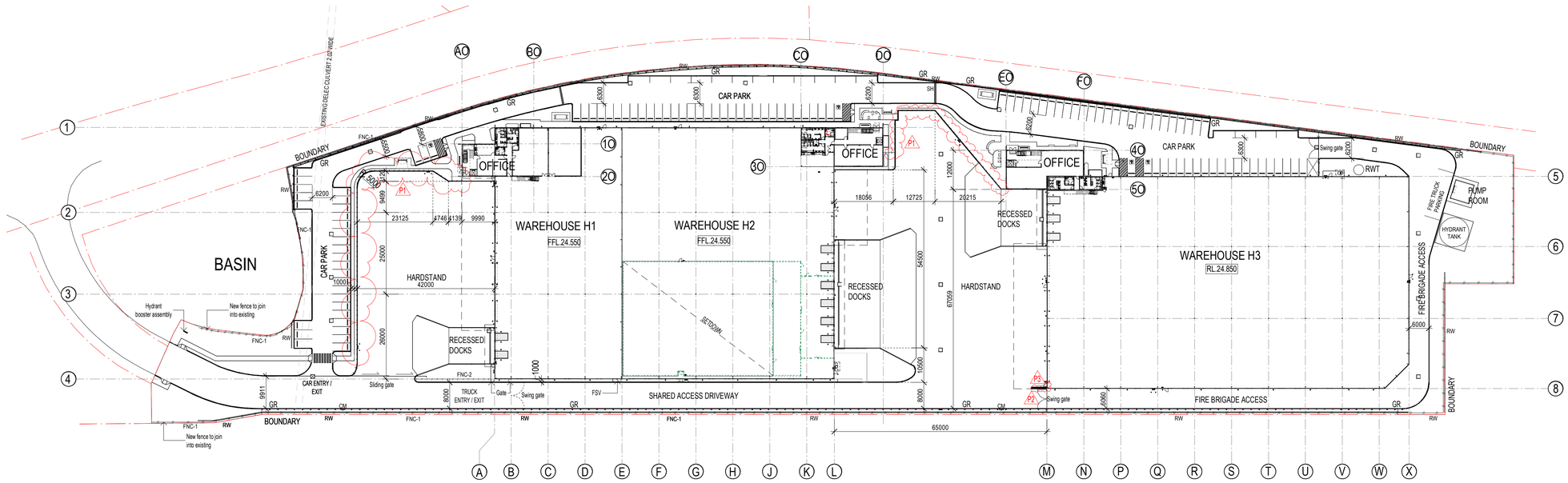
The Development is approved to operate 24 hours per day, seven (7) days per week. However, typical operating hours at Warehouse H3 will be between 7:00 am and 6:00 pm weekdays.

The operational activities which will be carried out at Warehouse H3 will include:

- Receipt and dispatch (unloading and loading) off trucks with forklift;
- Receipt and dispatch (unloading and loading) off shipping containers;
- General warehousing activities, moving pallets and order accumulation management; and
- Low risk operations, such as the boxing of product and palletisation.

No dangerous goods will be stored in quantities which exceed the *State Environmental Planning Policy No 33 – Hazardous and Offensive Development* (SEPP 33) threshold and the facility is not classified as potentially dangerous.

The plant and equipment used at Warehouse H3 will generally be operated indoors and will include general storage, packaging and warehousing equipment required for processing and distribution of packaging products. Mobile equipment such as forklifts and pallet jacks will also be used in the hardstand areas.



SITE LEGEND:

//—//—//	FNC-1, FENCE TYPE-1/1.8m CHAINMESH WITH 3 ROWS OF BARDED WIRE ABOVE 1.8M BLACK P.C
/—/—/	FNC-2, FENCE TYPE 2/ 2.1m DIPLOMAT BLACK P.C + SPEARTOP
	PEDESTRIAN GATE
	SLIDING GATE
CM	CONVEX MIRROR
SH	SPEED HUMP
RW	RETAINING WALL
GR	ARMCO GUARDRAIL
	SITE BOUNDARY

BOLLARDS TYPE:

B1	Ø150mm x 1200mmH / SMALL BREAKWAY
B2	Ø219mm x 1200mmH / LARGE BREAKWAY
B3	Ø150mm x 1200mmH / CORE FILLED

0m 15m 30m 45m 60m 75m

VISUAL SCALE 1:750 @ A1

#	DESCRIPTION	DATE
P	ISSUED FOR INFORMATION	25.10.19
	3. DOWNPIPE RELOCATED ON SITE.	
	2. NEW EGRESS DOOR ADDED TO H3 WAREHOUSE. KERB UPDATED	
	1. UPDATED FENCE AROUND H1 AND H2 HAROSTAND.	
N	ISSUED FOR INFORMATION	22.10.19
	4. FSV - FIRE SPRINKLER VALVE ADDED	
	3. ZEBRA CROSSING LINE MARKING ADDED	
	2. RELOCATION OF ARMCO GR AT EAST BOUNDARY	
	1. RELOCATION OF ENTRY GATE	

THESE DESIGNS, PLANS & SPECIFICATIONS AND THE COPYRIGHT THEREIN ARE THE PROPERTY OF THE ARCHITECTAND MUST NOT BE USED, REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE WRITTEN PERMISSION OF THIS OFFICE.

FIGURED DIMENSIONS TO BE USED IN PREFERENCE TO SCALING. ALL DIMENSIONS TO BE CHECKED ONSITE.

THIS DOCUMENT NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED & ISSUED FOR CONSTRUCTION.

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

DEVELOPER Goodman

CLIENT Qanstruct

NORTH

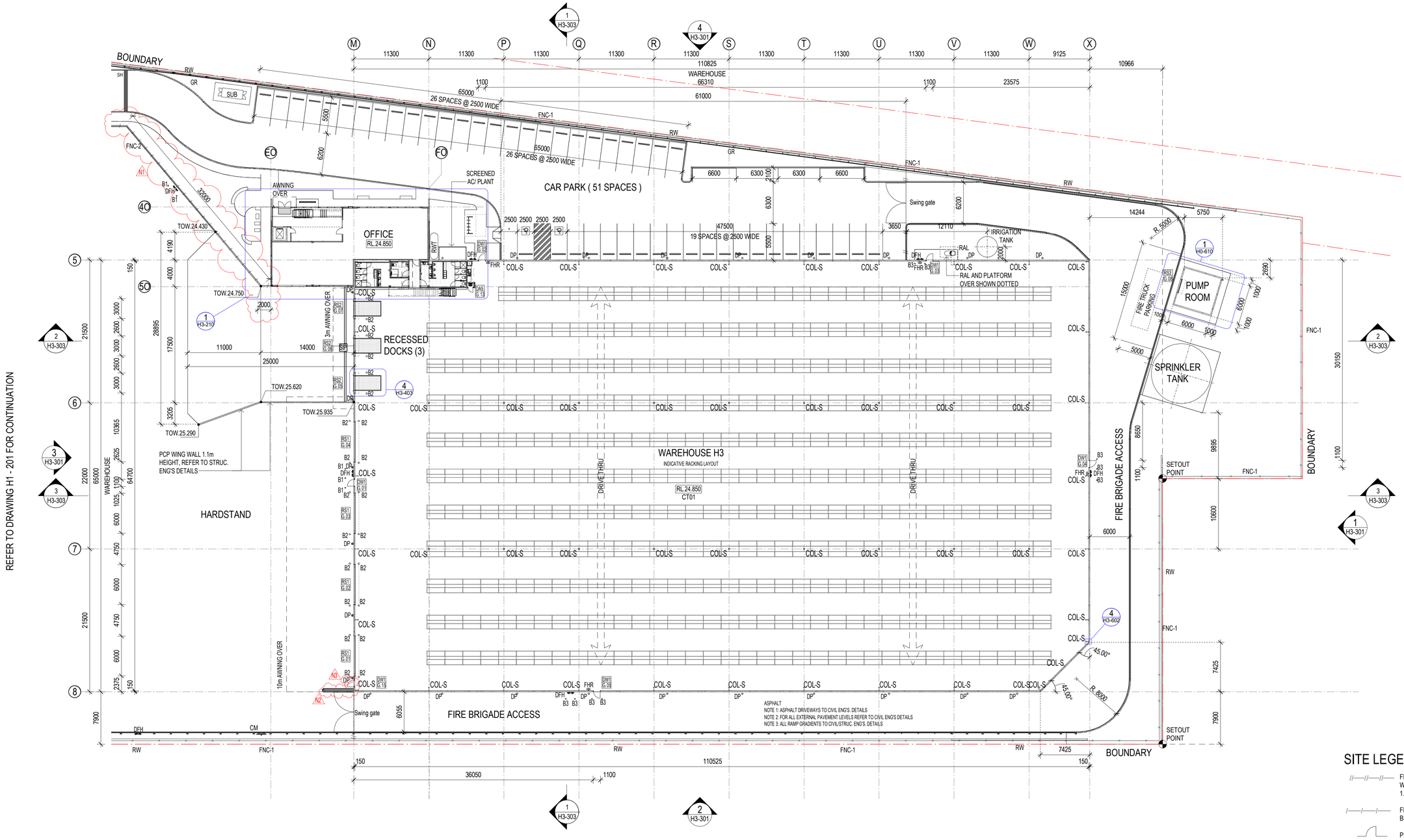
ENFIELD INTERMODAL LOGISTICS CENTRE
MAINLINE RD , STRATHFIELD SOUTH

TITLE
OVERALL SITE PLAN

DATE	25.10.19
SCALE	As indicated @ A1
DRAWN	JA/SJ
CHECKED	SJ
APPROVED	SJ

PROJECT NO. 19103
DWG NO. H0-101
REVISION P

25/10/2019 12:07:33 PM



SITE LEGEND:

- FNC-1, FENCE TYPE-1/1.8m CHAINMESH WITH 3 ROWS OF BARDED WIRE ABOVE 1.8M BLACK P.C
- FNC-2, FENCE TYPE 2/ 2.1m DIPLOMAT BLACK P.C + SPEARTOP
- PEDESTRIAN GATE
- SLIDING GATE
- CM — CONVEX MIRROR
- SH — SPEED HUMP
- RW — RETAINING WALL
- GR — ARMCO GUARDRAIL
- SITE BOUNDARY

BOLLARDS TYPE:

- B1 — Ø150mm x 1200mmH / SMALL BREAKWAY
- B2 — Ø219mm x 1200mmH / LARGE BREAKWAY
- B3 — Ø150mm x 1200mmH / CORE FILLED

0m 6m 12m 18m 24m 30m

VISUAL SCALE 1:300 @ A1

ISSUED FOR INFORMATION

#	DESCRIPTION	DATE
N	ISSUED FOR INFORMATION	25.10.19
	3. DOWNPIPE RELOCATED ON SITE.	
	2. NEW EGRESS DOOR ADDED TO H3 WAREHOUSE. KERB UPDATED	
	1. UPDATED FENCE AROUND H1 AND H2 HARDSTAND.	
M	ISSUED FOR INFORMATION	26.09.19
	2. RACKING LAYOUT UPDATED	
L	ISSUED FOR INFORMATION	17.09.19
	3. BOLLARD UPDATED	
K	ISSUED FOR INFORMATION	29.08.19

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

THESE DESIGNS, PLANS & SPECIFICATIONS AND THE COPYRIGHT THEREIN ARE THE PROPERTY OF THE ARCHITECTAND MUST NOT BE USED, REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE WRITTEN PERMISSION OF THIS OFFICE.

FIGURED DIMENSIONS TO BE USED IN PREFERENCE TO SCALING. ALL DIMENSIONS TO BE CHECKED ONSITE.

THIS DOCUMENT NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED & ISSUED FOR CONSTRUCTION.

DEVELOPER Goodman

CLIENT Qanstruct

NORTH

ENFIELD INTERMODAL LOGISTICS CENTRE

MAINLINE RD , STRATHFIELD SOUTH

TITLE H3 - SITE AND FLOOR PLAN

DATE	25.10.19
SCALE	As indicated @ A1
DRAWN	JA/SJ
CHECKED	SJ
APPROVED	SJ

PROJECT NO. 19103

DWG NO. H3-201

REVISION N

25/10/2019 12:07:54 PM

1.3 Operation Environmental Management Plan

1.3.1 Scope

This OEMP has been prepared to satisfy Conditions 6.4, 6.5 and 6.6 of MP 05_0147 specifically in relation to Marinucci's operations at Warehouse H3 within the Development. General environmental management requirements for the greater Enfield ILC estate will be managed by NSW Ports and have not been included in this OEMP. The specific requirements of these consent conditions, along with where these requirements have been addressed within this OEMP, are listed in **Table 1.**

Table 1 OEMP Scope

Condition	OEMP Section
Operation Environmental Management Plan **6.4** Prior to the commencement of operation of the project, the Proponent shall prepare and submit for the approval of the Planning Secretary an **Operation Environmental Management Plan** (OEMP) to detail an environmental management framework, practices and procedures to be followed during the operation of the project. The Plan shall be consistent with the Department's *Guideline for the Preparation of Environmental Management Plans* (DIPNR 2004), and shall include, but not necessarily be limited to:	This report
a) A framework consistent with that presented in Chapter 21 of the document referred to under condition 1.1b) of this approval.	Noted Section 2
b) A description of all activities to be undertaken on the site during operation of the project.	Sections 1.1
c) Statutory and other obligations that the Proponent is required to fulfil during operation, including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies.	Sections 2.2, 2.3, 2.4 and 4.2
d) Specific consideration of measures to address the reasonable requirements of Strathfield Municipal Council, Canterbury Bankstown Council and the Environment Protection Authority (EPA) during operation.	Section 2.4.2
e) Details of how the environmental performance of operations will be monitored, and what actions will be taken to address identified adverse environmental impacts.	Sections 3 and 4
f) A description of the roles and responsibilities for all relevant employees involved in the operation of the project and a program for how these employees will be trained in responsibilities identified in the plan.	Sections 2.1, 2.5, 2.6, 2.7, 3 and 4
g) Complaints handling procedures to be applied during operation of the project (conditions 5.2 and condition 5.3 of this approval).	Section 2.7
h) The issue-specific management plans listed under condition 6.5 of this approval.	Appendices E to I
6.5 As part of the **Operation Environmental Management Plan** for the project, required under condition 6.4 of this approval, the Proponent shall prepare and implement the following Management Plans:	

Condition	OEMP Section
a) An **Operation Noise Management Plan** to outline monitoring, management procedures and measures to minimise operational noise impacts associated with the project, including traffic-related noise. The Plan shall include, but not necessarily be limited to: i. Identification of all relevant receivers and the applicable criteria at those receivers commensurate with the noise limits specified under this approval; ii. Identification of activities that will be carried out in relation to the project and the associated noise sources; iii. Assessment of project noise impacts at the relevant receivers against the noise limits specified under this approval; iv. Details of management measures, methods and procedures that will be implemented to control individual and overall noise emissions from the site and specific land uses to ensure compliance with condition 2.17; v. Details of the management measures and procedures that will be implemented in Empty Container Storage Areas A and B to ensure that acoustic barriers constructed from empty storage containers are established at the correct time, height, length, and location to ensure compliance with condition 2.17; vi. Details of the management measures that will be undertaken to ensure that activities undertaken in Empty Container Storage Area B in the area to the north of the northern noise wall, including the restriction of container stacking, comply with the requirements of condition 2.17; vii. Development of reactive and pro-active strategies for dealing promptly with any noise complaints; viii. Noise monitoring and reporting procedures; and ix. Regular internal audits of compliance of all plant and equipment with acceptable design noise.	Section 3.2 and Appendix E
b) an **Operation Traffic Management Plan** to outline measures to minimise and manage any impacts from the operation of the project on the local road network. The Plan shall include, but not necessarily be limited to: i. A driver education program to ensure that heavy vehicles comply with the requirements of this approval and the commitments made in the documents referred to under condition 1.1, particularly with respect to heavy vehicle routes; a)i. A Driver's Code of Conduct which details traffic management measures to be implemented during operation to: Minimise impacts of the project on the local and regional road network, • Minimise conflicts with other road users; • Ensure truck drivers use specific routes and access points, including no left turn access from Cosgrove Road; and • Minimise traffic noise, particularly during night times hours; ii. Movement scheduling where practicable to reduce impacts during sensitive time periods; iii. Specific measures for ensuring that all heavy vehicle operators associated with the project are aware of and implement the Plan; iv. A system for identifying and ensuring conformance with the Plan, including conformance monitoring, procedures for implementing and monitoring corrective and preventative action, and penalties for breaches of the Plan; and v. A continuous improvement process for assessing Plan effectiveness and implementing improvements to the Plan.	Section 3.3 and Appendix F

Condition	OEMP Section
c) a **Long Term Environmental Management Plan**, where required to manage interactions with the site as remediated. The Plan must be prepared to the satisfaction of the Planning Secretary, and must: i. Be prepared by a suitably qualified and experienced person whose appointment has been endorsed by the Planning Secretary in consultation with EPA; ii. Be submitted to EPA for review and be approved by the Planning Secretary within one month of the completion of remediation works, unless otherwise agreed by the Planning Secretary; and iii. Include, but not be limited to: • A description of the nature and location of any contamination remaining on site; • Provisions to manage and monitor any remaining contamination, including details of any restrictions placed on the land to prevent development over the containment cell; • A description of the procedures for managing any leachate generated from the containment cell, including any requirements for testing, pumping, treatment and/or disposal; • A description of the procedures for monitoring the integrity of the containment cell; • A surface and groundwater monitoring program; • Mechanisms to report results to relevant agencies; • Triggers that would indicate if further remediation is required; and • Details of any contingency measures that the Applicant is to carry out to address any ongoing contamination. Upon completion of the remediation works, the Applicant must manage the site in accordance with the LTEMP and any ongoing maintenance of remediation notice issued by EPA under *the Contaminated Land Management Act 1997*.	Section 3.9 and Appendix I
6.6 The **Operation Environmental Management Plan** required under conditions 6.4 and 6.5 shall be periodically reviewed and maintained, to reflect any phasing of implementation of the project, and any operational changes that may be made from time to time, and updated (where necessary) to reflect any changes arising from modifications to this approval.	Section 5

1.3.2 Objectives

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

- The application of best practice environmental management;
- The relevant commitments made in the Mod 14 Environmental Assessment (Urbis 2018) and RTS (Goodman 2018), including relevant specialist impact assessments and/or management plans, that are required to be implemented and/or complied with during operation;
- The relevant conditions imposed by MP 05_0147 are fully implemented and/or complied with; and
- Environmental risks associated with the operation of the development are properly managed.

2 Environmental Management Framework

2.1 Roles and Responsibilities

The key personnel responsible for environmental management at the Site, at the time of preparing this document, are listed in **Table 2**.

Table 2 Personnel Responsible for Environmental Management

Role	Responsibilities
NSW Ports	• Overall responsibility for environmental management and compliance with the Project Approval and relevant legislation; • Responsibility for the environmental management and compliance of the Development being the greater Enfield ILC estate; • Coordinate necessary environmental monitoring, reporting and auditing, along with necessary regulatory authority liaisons; and • All consultation with the DPIE and regulatory authorities.
Warehouse Manager	• Coordinate routine site inspections and maintenance; • Record, notify, investigate and respond to any complaints and/or enquiries and, where necessary, develop and implement corrective actions; • Record, notify, investigate and respond to any environmental incidents and, where necessary, develop and implement corrective actions; • Oversee the implementation of this OEMP and provide adequate resources to enable implementation of this OEMP; and • Provide adequate environmental inductions/training to employees and contractors regarding their requirements under this OEMP.
All employees and contractors	• Ensure familiarity, implementation and compliance with this OEMP and appended management plans; • Support the company's commitment to environmental management and compliance; • Work in a manner that will not harm the environment or impact on surrounding receptors; • Report all environmental incidents and complaints to the Warehouse Manager without delay; and • Report any inappropriate operational and/or environmental management practices to the Warehouse Manager without delay.

2.2 Project Approval

NSW Ports, in partnership with Goodman, obtained Project Approval MP 05_0147 on 5 September 2007 for the Development. Since that time, MP 05_0147 has undergone a series of modifications. On 28 August 2018, MOD 14 approved the redesign of Precinct H to include Warehouse H3. Details regarding all modification submissions are outlined in **Section 1.1**.

Project Approval MP 05_0147 imposes a number of environmental performance and management requirements applicable to the operation of the Site. These conditions are listed in **Appendix B**.

N.B. The administrative conditions and conditions relating to the construction phase have not been included in **Appendix B**. Only those conditions specific to site operation have been included.

2.3 Other Statutory Obligations

The key legislation and any additional approvals, licences or permits applicable to the operation of Warehouse H3 are summarised in **Table 3**.

Table 3 Statutory Obligations

Legislation	Obligation
Protection of the Environment Operations Act 1997 (POEO Act)	As none of the activities covered under this OEMP are listed within Schedule 1 of the POEO Act and there will be no discharge to waters, an environment protection licence (EPL) is not required. **Section 2.6.3** outlines the obligation for the notification of a pollution incident (Part 5.7 of POEO Act).
Work Health and Safety Act 2011 (WHS Act)	As outlined in **Section 3.10**, there will be no dangerous goods stored at warehouse H3. **Table 4** provides the contact details for SafeWork NSW to report a "Serious Incident or Fatality" (Part 3 of WHS Act).
Dangerous Goods (Road and Rail Transport) Act 2008	Dangerous goods will be transported in accordance with the *Dangerous Goods (Road and Rail Transport) Act 2008.*
Waste Avoidance and Resource Recovery Act 2007	Waste will be managed in accordance with the *Waste Avoidance and Resource Recovery Act 2007.* As outlined in **Section 3.7**, waste will also be handled in accordance with the *Waste Classification Guidelines Part 1: Classifying Waste* (EPA 2014).
NSW Contaminated Land Management Act 1997	In accordance with this Act, occupiers of land are obliged to comply with the requirements of this Act. If contaminated land is identified during the operation of Warehouse H3, the EPA will be notified in accordance with Section 60 of the *NSW Contaminated Land Management Act 1997.*
NSW Industrial Noise Policy (INP) (EPA 2014)	Noise will be managed in accordance with the INP. **N.B.** It is noted that the EPA released the *Noise Policy for Industry* (NPfI) in October 2017, which replaces the INP. However, the INP is referenced as it was current when the development was approved in 2007.

2.4 Consultation

2.4.1 Community Consultation and Enquiries

NSW Ports undertake regular community consultation which includes:

- Quarterly meetings of the Enfield Community Liaison Committee (CLC). A representative from Marinucci will attend these meetings;
- Regular resident updates i.e. a letterbox drop of information to targeted residents; and
- Ongoing communication of the project contact details for complaints and enquiries including site signage, website and on hard copy material.

All community enquiries must be forwarded to NSW Ports. Relevant contact details, including a phone number for community enquiries, will be included on signage near the site entry.

2.4.2 Government Agency Consultation

Regular consultation is undertaken with Canterbury Bankstown Council and Strathfield Municipal Council.

Canterbury Bankstown Council and Strathfield Municipal Council are members of the Enfield CLC. This meeting allows any participants to provide feedback on operations at Warehouse H3. The Council's will therefore have the opportunity to provide any feedback/suggestions on the operation of the Site. This OEMP has been updated to confirm this.

The EPA was consulted with as part of the preparation of the overarching OEMP in 2014; however, NSW Ports have advised that no response was received to this letter. The EPA is not engaged on an ongoing basis as there are no licenced facilities at the Enfield ILC. The OEMP has been updated to provide commentary on this.

The final capping layer for the Site's landscaping is currently being installed, following which the Long Term Environmental Management Plan (LTEMP) will be lodged with EPA for review. A copy of the correspondence and comments from EPA will be provided to DPIE.

During operations at the Site, Marinucci will comply with any reasonable requirement(s) of the DPIE, EPA and Council(s). In the event any dispute arises, this will be actioned in accordance with **Section 2.8** of this document**.**

2.5 Environmental Training

It is the responsibility of the Warehouse Manager to ensure all employees and contractors are appropriately inducted and aware of their general obligations under this OEMP. The Warehouse Manager will conduct monthly "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);
- Waste avoidance, minimisation and management strategies;
- Appropriate response and management of environmental incidents (for example, a 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 must be recorded and maintained in an Environmental Training Register to maintain consistency and for audit purposes.

2.6 Environmental Incidents

2.6.1 Performance Objective

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

For the purpose of this OEMP, POEO Act defines an incident as:

> *"pollution incident means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise".*

Marinucci is required to notify the relevant regulatory authorities of an incident if there is a risk of 'material harm to the environment', which is defined in Section 147 of the POEO Act as:

(a) harm to the environment is material if:

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

(ii) (it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and

(b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

2.6.2 Responsibility

Marinucci's Warehouse Manager is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an environmental incident. All employees and contractors are to:

- Notify the Warehouse Manager of any hazard or potential hazard that may result in an environmental incident, regardless of the nature or scale. The Warehouse Manager will then notify NSW Ports;
- Take immediate action to notify the Warehouse 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.

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.

2.6.3 Notification Requirements

The Warehouse Manager will report any notifiable environmental incident under the POEO Act to the relevant authorities listed in **Table 4** as a first priority and then promptly notify NSW Ports.

In addition, the Warehouse Manager will notify NSW Ports of any notifiable incident. NSW Ports will notify DPIE to satisfy Clause 7.1 of Schedule 2 of Project Approval 05_0147 which requires the DPIE to be notified of any incident with actual or potential off-site impacts.

In summary, notification requirements for the project 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 the Site must, immediately after becoming aware of any potential incident (even if outside of normal business hours), notify the Warehouse Manager of the incident and all relevant information about it.

Duty of an employer or occupier of the premises to notify

The employer or occupier of the Site (in this case, the Warehouse Manager), who is notified (or otherwise becomes aware of) of the incident, must immediately notify the relevant authorities and NSW Ports about the incident and provide all relevant information.

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

- The appropriate regulatory authority/first response agency (where relevant 000 / NSW Police / Ambulance / Fire and Rescue NSW);
- The Environment Protection Authority (EPA) (if they are the appropriate regulatory authority);
- The Local Council (i.e. Strathfield Municipal Council);
- Public Health Unit;
- SafeWork NSW; and
- Fire and Rescue NSW (if not notified under first response).

Table 4 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 4 Regulatory Authority Contact Details for Environmental Incidents

Regulatory Authority / Stakeholder	Key Contact	Contact Details	
Department of Planning, Industry and Environment (DPIE)	Compliance unit	1300 305 695 Email: compliance@plannning.nsw.gov.au	
Environment Protection Authority (EPA)	Environment Line	131 555 Email: info@environment.nsw.gov.au	
	Head office (Sydney)	02 9995 5000	
Strathfield Municipal Council	Main switchboard	02 9748 9999 Email: council@strathfield.nsw.gov.au	
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
Water NSW	Incident Notification Number	1800 061 069	
NSW Ports	General Enquiries	1300 922 524	

In accordance with Condition 7.1 of MP 05_0147, NSW Ports will notify the DPIE of any incident with actual or potential significant off-site impacts on people or the biophysical environment as soon as practicable after the occurrence of the incident. NSW Ports will provide a detailed report to the DPIE within seven (7) days of the incident. All consultation with the DPIE will be undertaken by NSW Ports.

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.

   In the unlikely event that an incident requires the evacuation of the site, actions will be completed in accordance with evacuation procedures. All employees and contractors are to be made aware of the location of emergency assembly areas through site inductions, 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 2.6.3**.

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**

   Undertake immediate investigative work to determine the cause of the emergency.

5. **Remedial Action**

   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 Form*, which attached as **Appendix C**. A copy of the completed report should be provided to NSW Ports and be maintained for at least four (4) years.

   Condition 7.1 of MP 05_0147 requires that the DPIE be provided with a detailed report within seven days of an incident which will be coordinated through NSW Ports.

7. **Preventative Action**

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

2.6.5 Incidents Register

In accordance with Condition 7.2 of MP 05_0147, a register must be maintained for the Development. The register should contain the following:

- A record of all accidents, incidents and potential incidents with actual or potential significant off-site impacts on people or the biophysical environment;
- A copy of the environmental incident notification requirements and handling procedure and register contained above in **Section 2.6.3** and **2.6.4**;
- Site evacuation procedures;
- A separate reference sheet containing the contact details for Warehouse Manager, NSW Ports and the contact details for the regulatory authorities listed above in **Table 4**;
- Blank hard copies of the *Incident and Hazard Report Form*; and
- Copies of all completed *Incident and Hazard Report Forms*, 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 Performance Objective

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

2.7.2 Responsibility

The Warehouse Manager in conjunction with NSW Ports will be 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 Warehouse Manager, who will then contact NSW Ports.

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/email to NSW Ports who will pass the details of the complaint onto Marinucci. Should Marinucci staff directly receive a verbal complaint, a formal written *Complaint Form* (see **Appendix D**) will be requested.

   The information captured in the *Complaint Form* will include:

   - Date and time of the contact or complaint;
   - Means by which the contact or complaint was made (telephone, mail or email);
   - Any personal details of the individual who provided the information or complaint, or if no details were provided, a note to that effect;
   - The nature of the comment or complaint;
   - Record of operational and meteorological condition contributing to the comment or complaint;
   - Any action(s) taken in relation to the comment or complaint, including any follow-up contact with the individual who provided the information or complaint; and
   - If no action was taken in relation to the comment or complaint, the reason(s) why no action was taken.

   All staff members (employees and contractors) who take receipt of a complaint, either verbal or written, are to immediately notify the Warehouse Manager who will then notify NSW Ports. All relevant contact details are available in **Table 4**.

2. **Investigate**

   A field investigation should be initiated in an attempt to establish the legitimacy of the complaint and the cause of the problem. 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 2.6.3** and **2.6.4** respectively should 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 *Complaint Form*. A copy of the completed *Complaint Form* should be maintained for at least four (4) years. The *Complaint Form* must also be recorded in the Complaints Register as per **Section 2.7.4**.

6. **Preventative Action**

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

2.7.4 Complaints Register

A Complaints Register will be maintained for the Site. The Register will contain the following:

- A copy of the environmental complaint handling procedure contained in **Section 2.7.3**;
- A separate reference sheet containing the contact details listed above in **Table 4**;
- Blank hard copies of the *Complaint Form*; and
- Copies of all completed *Complaint Forms*, which are to be maintained on-site for at least four years after the event to which they relate.

2.8 Dispute Resolution

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 Planning Secretary for resolution. The Planning Secretary's determination of any such dispute must be final and binding on the parties.

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

3 Environmental Management Commitments

Environmental aspects with the potential to be impacted by Marinucci at Warehouse H3 of the Development are addressed in the following sub-sections. These issues have specific regulatory requirements imposed by MP 05_0147 and/or are considered to have the highest potential to result in a non-compliance with a legislative requirement or generate community complaints.

N.B. Where the responsibility is listed as 'Management', this refers to Marinucci's Warehouse Manager.

3.1 General

Table 5 lists the general environmental controls that will be implemented throughout the operational lifetime of the development to minimise the potential for adverse impacts on the local environmental and surrounding receptors.

Table 5 General Environmental Management Controls

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
Land uses, and operations will be consistent with the approved project as described in Conditions 1.1 and meet the requirements of this approval.	Management	Ongoing	MP 05_0147 Condition 1.16
Subject to confidentiality, all documents required under MP 05_0147 will be made available for public inspection on request.		On request	MP 05_0147 Condition 5.1
The incidents and complaints management strategies contained within **Sections 2.6** and **2.7** will be implemented to ensure that any incidents and/or complaints relating to operational activities are promptly and effectively addressed.		Ongoing	Sections 2.6 and 2.7
All employees and contractors will be suitably inducted and trained prior to commencing any work on site.		Prior to undertaking work on site	Section 2.5
Marinucci will submit an Environmental Management Compliance Report to NSW Ports.		Annually	Lease obligation

3.2 Noise

Operational noise at the Site will be managed in accordance with the *Operation Noise Management Plan* (ONMP) (SLR 2019) prepared to fulfil Condition 6.5a of MP 05_0147. The ONMP is attached as **Appendix E**.

Table 6 lists the maximum allowable noise contribution criteria for the operational lifetime of the development.

Table 6 Maximum Allowable Noise Contribution (dBA)

Location	Day 7am to 6pm on any day		Evening 6pm to 10pm on any day		Night 10pm to 7am on any day		
	L_{Aeq} (15-minute)	L_{Aeq} (period)	L_{Aeq} (15-minute)	L_{Aeq} (period)	L_{Aeq} (15-minute)	L_{Aeq} (period)	L_{A1} (1-minute)
A1 – Eastern end of Jean Street	54	54	54	49	48	42	58
A2 – Eastern end of Ivy Street	53	52	52	51	47	45	57
A3 – Wentworth Street (south)	49	52	47	53	42	38	52
A4 – Eastern end of Gregory Street	49	52	47	46	45	37	55
A5 – Western end of Blanche Street	46	58	46	50	43	43	53
A6 – 40 Bazentin Street	46	58	45	54	41	39	51
A11 – Begnell Park	-	50	-	50	-	50	-
A12 – 51-55 Roberts Road[1]	-	55	-	55	-	55	-
A13 – Greenacre Bowling Club	-	55	-	55	-	55	-
A14 – Strathfield High School (internal)	-	35	-	-	-	-	-
A15 – St Anne's School (internal)	-	35	-	-	-	-	-

Note 1: As noted in Condition 2.17 of the Project Approval, the recreational area at location A12 has been replaced with a commercial property. As such, criteria for a commercial property has been applied to location A12.

The ONMP is designed to address the potential noise and vibration impacts associated with the operation of the development. The environmental management controls in **Table 7** will be implemented to minimise the potential for adverse noise emissions.

Table 7 Environmental Management Controls for Noise

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
Noise emissions from plant and equipment operated on the site will be minimised by installing and maintaining, wherever practicable, efficient silencers, low-noise mufflers (residential standard) and by replacing reversing alarms with silent measures, such as flashing lights (subject to occupational health and safety requirements).	Management	Prior to using plant and ongoing	MP 05_0147 Condition 2.13
The Development will be operated and maintained to ensure that the operational noise contributions do not exceed the maximum allowable noise contributions specified in **Table 6**.		Ongoing	MP 05_0147 Condition 2.17
Noise measurements will be undertaken in accordance with Condition 2.18.		As required	MP 05_0147 Condition 2.18
Operational activities will be undertaken in accordance with the ONMP.		Ongoing	MP 05_0147 Condition 6.5a
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 the Site. Specific mention of the following items will be included: • Site specific noise management measures to be followed; and • Locations of nearby noise sensitive receivers.		Prior to working at the site.	ONMP Section 6.2
Simultaneous use of multiple items of significant noise generating equipment will be avoided wherever practicable.		Ongoing	
Scheduling noisy equipment so they will be used separately rather than concurrently.			
Noisy equipment will be scheduled during the daytime period, where practicable.			
All roller doors must be closed during the night-time period, where practicable.			
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 utilised.			
Truck queuing and unnecessary trips will be minimised through logistical planning of materials delivery and work practices to minimise heavy vehicle noise emissions.			
All vehicles will enter and exit the Site in a forward direction to minimise noise from reversing alarms as far as practicable.	Management / Employees		
All trucks and delivery vehicles will switch off their engines during idle periods and loading/unloading operations, particularly during the night-time period.	Management		
No off-site truck marshalling will be undertaken near residential receivers.			

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
All trucks will have mufflers, and any other noise control equipment will be regularly maintained in good working order.	Management	Ongoing	ONMP Section 6.2
Trucking routes will use the approved truck movement routes specified in the Overarching OTMP.			
Awareness of industry developments will be maintained in relation to noise mitigation for individual plant items used on the site.			
Doors and seals will be well maintained and kept closed when not in use for equipment with enclosures.			
Noise attenuation will be implemented for mobile equipment such as trucks and forklifts, where a noise issue is identified.			

3.3 Traffic

Operational traffic will be managed in accordance with the *Operation Traffic Management Protocol* (Ason Group 2019a) (OTMP) and Work Place Travel Plan (WPTP) (Ason Group 2019b) prepared to fulfil Condition 6.5b and 2.3A, respectively, of MP 05_0147. A copy of the OTMP and WPTP are attached as **Appendix F** and **Appendix G**.

The OTMP seeks to minimise traffic impacts on the surrounding road network, ensure the safety of employees, pedestrians and other road users, and provide information regarding the operational vehicle access routes.

Figure 3 outlines the approved heavy vehicle route for the Development.

Figure 3 Approved Heavy Vehicle Route

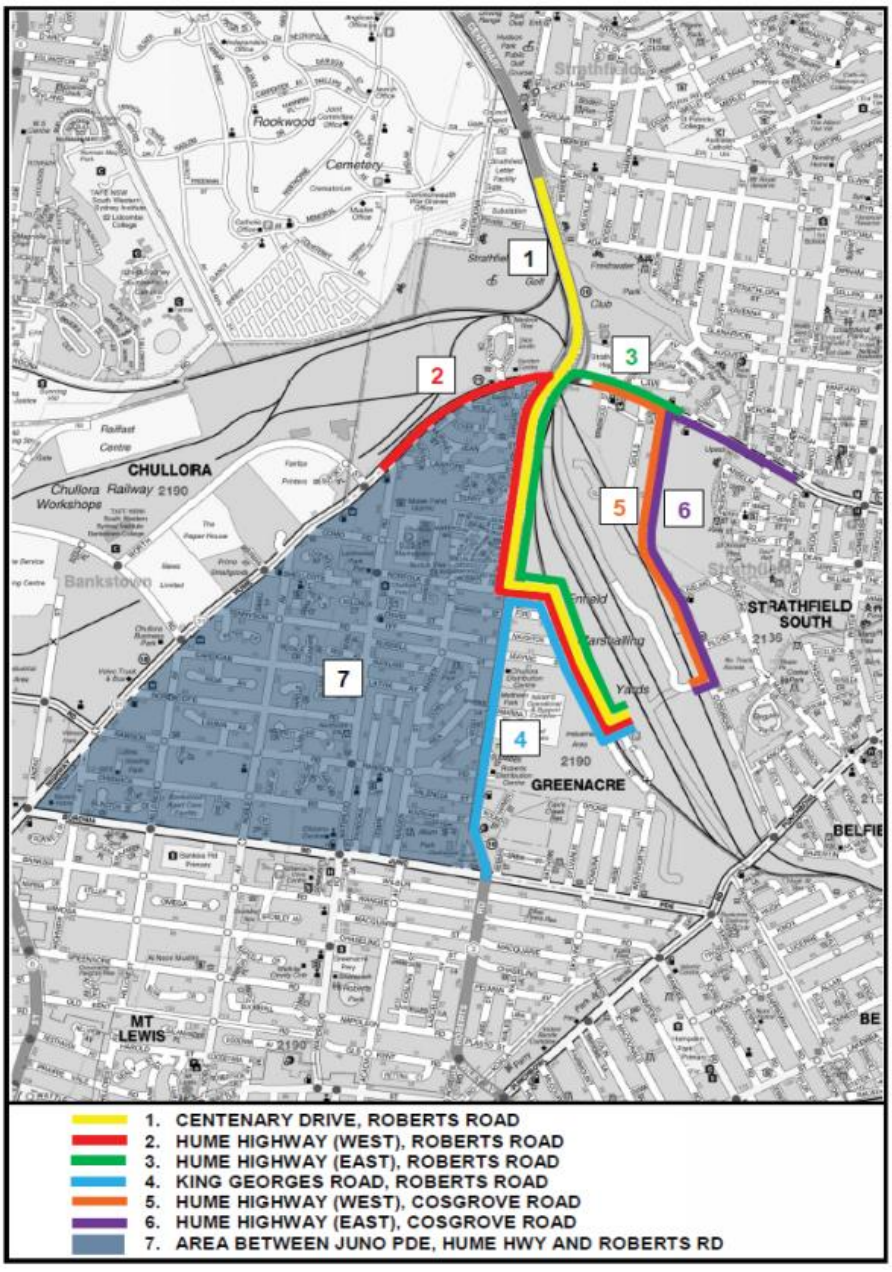


Table 8 provides a summary of the estimated daily operational vehicle generation.

Table 8 Projected Traffic Generation

Warehouse	AM Peak Hour Generation (vehicles per hour)	PM Peak Hour Generation (vehicles per hour)	Daily Generation (vehicles per day)
H3	12	12	150

The environmental management controls in **Table 9** will be implemented to ensure road safety and network efficiency during the operation of the Site.

Table 9 Environmental Management Controls for Traffic

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
Marinucci will comply with any reasonable additional operation traffic management measures as directed by the DPIE.	Management	As required	MP 05_0147 Condition 2.2
Operational activities will be undertaken in accordance with the WPTP.	Management / Employees	Ongoing	MP 05_0147 Condition 2.3A
Operational activities will be undertaken in accordance with the OTMP.			MP 05_0147 Condition 6.5b
Pedestrian access to the areas used by heavy vehicles will be restricted, as far as practicable, for safety purposes.	Management		OTMP Section 3.1
Pedestrian exclusion areas will be clearly signposted with appropriate signage.			OTMP Section 3.1
High visibility vests and other personal protective clothing will be worn at all times in the event that pedestrian access is required within truck manoeuvring areas.	Management / Employees		
Where possible, temporary work areas within commercial vehicle manoeuvring areas will be clearly delineated by way of traffic cones and/or temporary barriers.	Management	During temporary work	
All vehicles on-site (including car park and loading areas) will be subjected to a speed limit of 20km/hr at all times.	Management / Employees	Ongoing	OTMP Section 3.2.1
Vehicles accessing the site will have regard for the Overarching OTMP access requirements and truck routes identified in Appendix A of the Overarching OTMP.	Management	At all times	OTMP Section 3.2.2
All access and egress to the site will be in a forward direction across the property boundary. It is important for the tenants and operators of the site to clarify this with the truck drivers in their briefing sessions.			
Vehicles will not queue off-site.		Ongoing	OTMP Section 3.3.1
No parking will occur off-site Precinct H.			
Truck arrivals will be distributed throughout the day (refer to Rule 4 of the Section 9 of Overarching OTMP).			
Ensure projected truck demands at any one time are minimal and will not result in queuing.			

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
To ensure that no queueing will occur off-site, all loading docks will be allocated to specific truck sizes.	Management	Ongoing	OTMP Section 3.3.1
If all the loading docks for both Buildings are occupied and an additional truck attends either of the two Building's hardstand area, it will reverse into the fire access driveway and leave the Site into Delec Lane in forward gear.			
Building H3 may be accessed by B-Doubles, provided: • Only a single B-Double is on-site at any time; • If the Building H2 hardstand area is unoccupied; and • Building H2 management will ensure that the hardstand area is unoccupied prior to attendance of any B-Doubles.			
Vehicle queuing will not occur on-site at any time, other than in dedicated loading bays / zones.			OTMP Section 3.3.2
Any traffic and pedestrian control in relation to temporary or unplanned works will be designed in accordance with AS1742 and/or the RMS Traffic Control at Work Site manual, as appropriate.			OTMP Section 3.4
The OTMP will be subject to ongoing review and will be updated as necessary in response to changing requirements or in response to any documented WHS issues.			OTMP Section 4.1
No changes to the OTMP will be required if a change of business does not alter key factors of site operation.		Change of site ownership	
Key responsibilities of different road types for care and control will be as follows: • External Public Roads – Council or RMS, as applicable. • Internal Roads – NSW Ports. • Tenant Roads – Each Tenants.	Council / RMS / NSW Ports / Management	Ongoing	OTMP Section 4.2.1
Care and control of all roads at the site will be undertaken in accordance with the details provided in the Overarching OTMP.			
Site will comply with site-specific rules consistent with the Overarching OTMP.	Management		OTMP Section 4.2.2
All staff and sub-contractors will be provided with sufficient training to undertake the required tasks. This will include ensuring that all staff and visitors are familiar with site-specific rules through appropriate site induction procedures, including being inducted into this OTMP.		Prior to performance of tasks	
Sufficient training and inductions will be provided for the truck drivers attending each tenanted area.			
All business will be conducted in a safe, professional and legal manner.	Management / Employees	Ongoing	

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
Site will be familiar with and address their respective duty of care requirements in accordance with the applicable state WHS legislation.	Management	Ongoing	OTMP Section 4.2.2
WHS Incident logbooks will be maintained and necessary action(s) in relation to any reported issues are undertaken.			
Sufficient time will be afforded to conduct trips in a legal, compliant and safe manner.			
Vehicles will not be overloaded.			
Management will not, by their actions or requirements, force or coerce subcontractors or drivers to break the law.		Ongoing	
Truck arrivals will be well distributed.		Throughout the day	
Road users will be informed of the Overarching OTMP rules.		Ongoing	
Marinucci will be considerate for all the required site-specific rules provided by Overarching OTMP.			
Include OTMP requirements as part of online inductions.			
Install appropriate signage and line-marking to communicate the necessary rules and requirements (which addresses the 23 requirements within the OTMP).			
Site engagement with the Enfield ILC overall Travel Plan Coordinator will be implemented.	Travel Plan Coordinator		WPTP Section 6.1
WPTP actions in Section 5 of the WPTP will be promoted and implemented.			
Advice in relation to transport-related subjects to staff, tenancy management and visitors will be provided.		As required	
Liaison with external parties (i.e. Council, public transport and car share operators) will be implemented in relation to WPTP matters.		Ongoing	
The WPTP will be subject to ongoing review and will be updated accordingly.		As required (as a minimum yearly review)	WPTP Section 7.1

3.4 Air Quality

Air quality impacts associated with the operation of the Site 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 10** will be implemented to further minimise the potential for adverse air quality impacts associated with operational activities at the Site.

Table 10 Environmental Management Controls for Air Quality

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
No offensive odours will be emitted beyond the boundary of the Development.	Management / Employees	Ongoing	MP 05_0147 Condition 2.21
The development will be operated and maintained in a manner that minimises or prevents the emission of dust, including windblown and traffic generated dust.			MP 05_0147 Condition 2.22
All vehicles entering or leaving the site, carrying a load that may generate dust, are covered at all times.	Management / Contractors		MP 05_0147 Condition 2.23
All activities will be undertaken with the objective of preventing visible emissions of dust beyond the boundary of the site.	Management / Employees		MP 05_0147 Condition 2.24
Should such visible dust emissions occur, all practicable dust mitigation measures will be implemented.			
All vehicles on-site (including car park and loading areas) will not exceed a speed limit of 20 kilometres per hour.			OTMP Section 3.2.1

3.5 Heritage

A *Heritage Interpretation Plan and Strategy* (HIPS) was prepared by Conybeare Morrison (2009) for the Development to provide heritage services for the management of heritage items and other structures of interest on the former Marshalling Yards at Enfield. An addendum to the HIPS was completed in 2010 by Sydney Ports Corporation.

The HIPS details seven (7) heritage items at Enfield ILC however, these are not located at Precinct H. These include:

- Yard Master's Office;
- Wagon Repair Shed;
- Tarpaulin Factory;
- Pedestrian Footbridge;
- Administration Building;
- Pillar Water Tank; and
- DELEC Service Centre.

To date, most of these items have been demolished or removed offsite. The only items that remain within the Development are the Tarpaulin Factory and the Pillar Water Tanks (Conybeare Morrison 2016). The Pillar Water Tanks was relocated from a central area at Enfield ILC to the southern precinct, on the southern side of the Tarpaulin Factory. Therefore, no heritage items are located within the vicinity of the Site.

3.6 Water

While the water infrastructure at the Development will be managed and maintained by NSW Ports, Marinucci will be responsible for daily housekeeping of surface water management structures.

Table 11 outlines the mitigation measures to be implemented for the Site with regards to water management.

Table 11 Environmental Management Controls for Water

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
All wash down waters and amenities wastewater will be directed to the sewer or to an appropriately licensed liquid waste disposal facility.	Management / Employees	Ongoing	MP 05_0147 Condition 2.32
Rainwater tanks for the collection of water for domestic uses on the site will be maintained. Collected rainwater will be used preferentially to external potable water supplies.	Management		MP 05_0147 Condition 2.33
Litter and contamination of the stormwater drainage system will be avoided and monitored.		Weekly	WRMP Section 6.5.2

3.7 Waste

Operational waste will be managed in accordance with the *Waste and Recycling Management Plan* (WRMP) (SLR 2018b) which was prepared as part of MOD 14 to MP 05_0147 and is attached as **Appendix H**.

All attempts will be made to minimise operational waste generation and implement reuse/recycling opportunities. Marinucci is anticipated to generate the following broad waste streams:

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

Operational waste will be managed in accordance with the *Waste Classification Guidelines Part 1: Classifying Waste* (EPA 2014).

Table 12 lists the environmental controls that will be implemented to minimise the potential for adverse impacts as a result of waste generated at the Site.

Table 12 Environmental Management Controls for Waste

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
All waste materials removed from the site will only be directed to a waste management facility lawfully permitted to accept the materials.	Management	Ongoing	MP 05_0147 Condition 2.39
All liquid and/ or non-liquid waste generated, stored on the site or disposed of, will be assessed and classified in accordance with the *Waste Classification Guidelines* (EPA, 2014).			MP 05_0147 Condition 2.40
The transport of any hazardous and/or industrial and/or Group A waste from the site will be conducted strictly in accordance with any requirements that may be specified by the EPA in relation to the transport of those wastes.			MP 05_0147 Condition 2.41
General waste bins will be collected.		Weekly	As advised by Marinucci
Recycling waste bins will be collected.		Bi-weekly	
Waste storage areas will be situated so that the area minimises adverse impacts: • With respect dwelling proximity, visibility and emanating odours. • Of noise, specifically those arising from waste storage areas equipment, bin movement and collection vehicles.		Ongoing	WRMP Section 6.5.2
Waste collection areas will be clearly identified.			
The waste collection point will be more than 15 m from the property boundary at the street.			

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
The waste storage area will be: • Safe and functional. • Efficient – limiting the need for reversing. • Level.	Management	Ongoing	WRMP Section 6.5.2
Bin servicing will be in a forward direction.			
Litter and contamination of the stormwater drainage system will be monitored.		Weekly	
Waste will be separated into at least three streams, comprising: • Paper and cardboard; • Other recyclables; and • General waste.	Management / Employees	Ongoing	WRMP Section 6.6
Bins will be colour coded to enable users to easily identify which waste are to be placed into which bins.	Management		
Bins will be labelled with EPA approved labels.			
Waste management initiatives and management measures will be clearly communicated to building managers, tenants and cleaners.		Prior to commencing work on site	WRMP Section 6.7
The WRMP will be implemented throughout the life of the operation.		Ongoing	WRMP Section 6.9
Effective signage, communication and education will be provided to alert new tenants, building management staff and visitors about the provisions of the WRMP.			
Signage will be maintained to ensure it remains clean, clear and applicable.			
Unexpected waste volumes will be managed to mitigate waste overflow in storage areas.			
All waste equipment will be maintained.			

3.8 Visual Amenity, Landscaping and Ecology

A *Landscape and Ecological Area Management Plan* (LEAMP) (2016) was prepared for the Development by NSW Ports with input from AECOM to satisfy in accordance with Condition 6.3d. While this condition relates to the construction phase of the Development, the LEAMP also outlines ongoing maintenance measures to be implemented during the operational lifetime of the Development. NSW Ports will be responsible for the overall landscaping management of the Development.

Table 13 details the control measures in relation to visual amenity, landscaping and ecology relevant to Marinucci's operation of the Site.

Table 13 Environmental Management Controls for Visual Amenity, Landscaping and Ecology

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
All structures will be maintained to maximise, where practicable, the use of natural ventilation and natural lighting, and to minimise energy consumption associated with heating, cooling and lighting.	Management	Ongoing	MP 05_0147 Condition 2.45
All external lighting will be mounted, screened, and directed in such a manner so as not to create a nuisance to surrounding land uses.			MP 05_0147 Condition 2.46
All lighting will be maintained in general accordance with the latest version of *AS 4282 – 1997 Control of the Obtrusive Effects of Outdoor Lighting*.			
Should a Green and Golden Bell Frog be discovered, NSW Ports will be contacted to relocate the frog.			NSW Ports

3.9 Soil and Contamination

A LTEMP has been prepared by Coffey (2019) in accordance with Condition 6.5c of MP 05_0147. The LTEMP outlines a framework for controlling and managing potential risks associated with asbestos-impacted soils during the final stages of redevelopment and future use of the site.

At the time of preparing the LTEMP, asbestos impacted soils (considered to include both asbestos fibres and fragments of asbestos-containing materials (ACM) had been capped on-site below designated cover layers to mitigate the future potential risk of exposure to asbestos.

The majority of requirements and recommendations listed in the LTEMP are the responsibility of NSW Ports and have therefore not been detailed in this OEMP. The environmental controls listed in in **Table 14** are the ongoing obligations of Marinucci.

Table 14 Environmental Monitoring Controls in accordance with the LTEMP

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
The Warehouse Manager will be inducted to the LTEMP and will be responsible for overseeing implementation of the LTEMP.	Management	Prior to commencing operation	LTEMP Section 8.3
Subsurface works that have the potential to encounter asbestos impacted soils or breach capped surfaces will be reviewed.		Prior to commencing sub surface works	
Written approval from NSW Ports will be sought prior to commencing any excavation works.			
Once NSW Ports has approved works, maintenance workers and contractors will be inducted to the LTEMP.		Prior to commencing works on site	
Copies of documentation related to works that may have disturbed the capping layer will be maintained and provided to NSW Ports.		Ongoing	
The LTEMP will be made available to facility workers for review.			
The contractor employed to undertake the works will prepare a Work Method Statement, Site Safety Plan and Contingency Plan in consultation with NSW Ports.		Prior to commencing sub surface works	
Site inductions for contractor staff will cover the topics listed in Section 8.4 of the LTEMP.			LTEMP Section 8.4
In the event that future excavation works are carried out at Warehouse H3, the procedure outlines in Section 9 of the LTEMP will be followed.		Ongoing	LTEMP Section 9
If an unexpected find of contamination is encountered at Warehouse H3, the Unexpected Finds Protocol listed in Section 10 of the LTEMP will be implemented.			LTEMP Section 10

3.10 Hazards, Risks and Emergencies

There will only be small quantities of hazardous materials stored at Warehouse H3.

The following mitigation measures will be implemented on site throughout the operation of Warehouse H3.

Table 15 Environmental Management Controls for Hazards, Risks and Emergencies

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
Packaging, repackaging or decanting of dangerous goods will not be undertaken, unless approved by the DPIE.	Management / Employees	Ongoing	MP 05_0147 Condition 1.7
Dangerous goods will not be stored, handled or transferred above the thresholds specified in Applying SEPP 33 (DUAP 1994). Should there be any change to the type, or increase in the quantity, of dangerous goods proposed for storage at Warehouse H3, a revised assessment against the SEPP 33 threshold will be conducted and resubmitted to the DPIE.			MP 05_0147 Condition 1.8
Any asbestos/asbestos-contaminated materials uncovered during operation will be managed in accordance with the POEO (Waste) Regulation 2014 and any guidelines or requirements issued by the EPA.	Management		MP 05_0147 Condition 2.44
All dangerous goods will be stored and handled strictly in accordance with: a) all relevant Australian Standards; b) *Work Health and Safety Regulation 2017.*	Management / Employees		MP 05_0147 Condition 2.50

4 Monitoring, Reporting and Auditing

4.1 Monitoring and Inspections

Table 16 summarises the monitoring requirements for the Development as set out in the relevant management plans.

Table 16 Monitoring and Inspection Requirements

Monitoring / Inspection Requirement	Person Responsible	Timing / Frequency	References / Notes
Traffic			
Monitoring the effectiveness and ongoing maintenance of the WPTP will be implemented.	Travel Plan Coordinator	Ongoing	WPTP Section 6.1
Key considerations regarding the review of the WPTP will be: • Updating baseline conditions to reflect any changes to the transport environment in the vicinity of the site such as changes to bus services, new cycle routes; • Tracking progress against proposed travel mode targets; • Identify any shortfalls and develop an updated action plan to address issues; and • Ensure travel mode targets are updated (if necessary) to ensure they remain realistic but also ambitious.			WPTP Section 7.1
Travel mode surveys will be undertaken to determine the proportion of persons travelling to/from the site by each transport mode.		Periodically	WPTP Section 7.2
Water			
Litter and contamination of the stormwater drainage system at Warehouse H3 will be monitored.	Management	Weekly	WRMP Section 6.5.2
Waste			
Visual monitoring of bins and bin rooms will be undertaken. Any deficiencies identified i.e. waste volumes, will be rectified as soon as practicable.	Management	Weekly for first 2 months of operations then 6 monthly	WRMP Section 6.8

4.2 Reporting

Table 17 summarises the reporting requirements for the Development as set out in MP 05_0147 and relevant management plans.

Table 17 Reporting Requirements

Reporting Requirement	Person Responsible	Timing / Frequency	References / Notes
General Environmental Performance			
All complaints received will be recorded in an up-to-date Complaints Register and made available for inspection by the Planning Secretary upon request.	Management	Ongoing	MP 05_0147 Condition 5.3
Marinucci will submit an Environmental Management Compliance Report to NSW Ports.		Annually	Lease obligation
Incident Reporting			
The Planning Secretary will be notified of any incident with actual or potential significant off-site impacts on people or the biophysical environment. Written details of the incident will be provided to the Planning Secretary.	Management and NSW Ports	Immediately notify the government agencies then NSW Ports after occurrence. Written report to be provided within 7 days.	MP 05_0147 Condition 7.1
A register of accidents, incidents and potential incidents will be maintained. The register will be made available for inspection at any time.		Ongoing	MP 05_0147 Condition 7.2
The cause or impact of any incident will be addressed as required by the Planning Secretary.		As required	MP 05_0147 Condition 7.3

4.3 Auditing

Table 18 summarises the reporting requirements for the Development as set out in Project Approval MP 05_0147 and relevant management plans.

Table 18 Auditing Requirements

Environmental Management Control	Person Responsible	Timing / Frequency	Reference / Notes
An Independent Environmental Audit will be undertaken at least annually or as otherwise agreed by the Secretary, in accordance *with ISO 19011:2002 - Guidelines for Quality and/or Environmental Management Systems Auditing*.	NSW Ports	Annually	MP 05_0147 Condition 4.1c
Internal audits of noise performance of plant and equipment will be undertaken to identify equipment operating atypically and generating higher than normal noise levels. Where noise emissions are found to be higher, maintenance shall be undertaken on that item of equipment to return it to normal operating levels.	Management	Every 2 years at minimum and whenever noise emissions are observed to be higher than normal.	ONMP Section 6.1

5 OEMP Review

The OEMP will be reviewed after 12 months of operations at the Site to ensure it adequately addresses the objectives of the OEMP. Following that, this OEMP will be reviewed bi-annually.

This OEMP will be reviewed, and if necessary, updated within three (3) months of the following:

- Approval of an application to modify the Development;
- Significant changes to the operation and/or management of the Site;
- Updates are made to the specialist management plans appended to the OEMP;
- Where a non-compliance occurs or environmental performance measure is not achieved; and/or
- At the request of NSW Ports, the DPIE or other relevant government agency.

All employees and contractors will be informed of any revisions to the OEMP by Management during toolbox talks.

APPENDIX A

Project Approval MP 05_0147

Project Approval

Section 75J of the *Environmental Planning and Assessment Act 1979*

I, the Minister for Planning, approve the project referred to in Schedule 1, subject to the conditions in Schedule 2.

These conditions are required to:

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

This consolidated instrument includes the following approved modifications:

a) under section 75W on 7 October 2008 (MOD 1);
b) under section 75W on 30 March 2009 (MOD 2);
c) under section 75W on 27 May 2010 (MOD 4);
d) under section 75W on 10 November 2011 (MOD 5);
e) under section 75W on 21 December 2012 (MOD 6);
f) under section 75W on 27 November 2013 (MOD 8);
g) under section 75W on 8 February 2017 (MOD 11);
h) under section 75W on 7 March 2017 (MOD12);
i) under section 75W on 19 June 2018 (MOD 13); and
j) under section 75W on 24 August 2018 (MOD 14).

Frank Sartor MP
Minister for Planning

Sydney, 5 September 2007 File No: 9037344

SCHEDULE 1

Application No:	05_0147
Proponent:	NSW Ports
Approval Authority:	Minister for Planning
Land:	Lot 2, DP 1006861, Lot 3 DP 1006861, Lot 101 DP 1001498, Lot 14 DP1007302, Lot 15 DP 1007302, Lot 1 DP 950438, Railway land as denoted on sheets 2 and 4 of DP 242426, Cosgrove Road, South Strathfield.
Project:	Construction and operation of the Enfield Intermodal Logistics Centre with capacity to accept a maximum

throughput of 300,000 TEU (one TEU is equivalent to one twenty foot container) per annum, including:

- demolition, relocation or removal of former railway buildings and structures;
- earthworks and drainage including the levelling of the site, formation of landscape mounds and detention basins and removal of unsuitable materials, as required;
- construction and operation of:
  - an intermodal terminal for the loading and unloading of containers;
  - rail sidings, railway lines and associated works to connect to the existing freight line;
  - warehousing for the packing and unpacking of containers and the short-term storage of cargo;
  - empty container storage facilities, for the storage of empty containers to be later packed or transferred back to the port or regionally by rail;
  - light industrial/commercial area fronting Cosgrove Road;
  - access works including the construction of a road bridge over the new marshalling yards for access to Wentworth Street and an upgrade of the entrance to the site from Cosgrove Road; and
  - internal roads, administration buildings, diesel and LPG storage and fuelling facilities, container washdown area, vehicle maintenance shed, and installation of site services (all utilities, stormwater and sewerage).

Major Project:

The proposal is declared a Major Project under section 75B(1)(a) of the *Environmental Planning and Assessment Act 1979*, because it is a development of a kind described in clause 23 of Schedule 1 to *State Environmental Planning Policy (Major Projects) 2005*.

KEY TO CONDITIONS

1.	**ADMINISTRATIVE CONDITIONS**	**5**
	Terms of Approval	5
	Limits of Approval	7
	Statutory Requirements	9
2.	**SPECIFIC ENVIRONMENTAL CONDITIONS**	**10**
	Traffic and Transport Impacts	10
	Noise Impacts	14
	Air Quality Impacts	16
	Water Quality and Hydrological Impacts	17
	Heritage Impacts and Management	18
	Waste Generation and Management	18
	Visual Amenity and Urban Design	19
	Ecological Impacts	20
	Hazards, Risk and Land Use Safety	21
	Community Infrastructure and Enhancements	21
3.	**ENVIRONMENTAL MONITORING AND AUDITING**	**21**
	Meteorological Monitoring	21
	Construction Dust Monitoring	22
	Noise Auditing	22
	Traffic Monitoring and Auditing	23
4.	**COMPLIANCE MONITORING AND TRACKING**	**24**
	Compliance Tracking Program	24
5.	**COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT**	**24**
	Complaints and Enquiries Procedure	24
	Provision of Electronic Information	25
6.	**ENVIRONMENTAL MANAGEMENT**	**25**
	Environmental Representative	25
	Construction Environmental Management Plan	26
	Operation Environmental Management Plan	29
7.	**ENVIRONMENTAL REPORTING**	**31**
	Incident Reporting	31

SCHEDULE 2

Act, the	*Environmental Planning and Assessment Act, 1979*
Applicable authority	For the purposes of conditions 2.6A and 2.6B, the relevant owner and provider of services that are likely to be affected by the development
Conditions of Approval	The Minister's conditions of approval for the project.
Department, the	Department of Planning and Environment.
EA	*Environmental Assessment: Intermodal Logistics Centre at Enfield* (prepared by Sinclair Knight Merz on behalf of Sydney Ports Corporation and dated October 2005).
EPA	Environment Protection Authority
EPL	Environment Protection Licence issued under the *Protection of the Environment Operations Act, 1997*
Minister, the	Minister for Planning.
OEH	Office of Environment and Heritage
Planning Secretary, the	Secretary of the Department of Planning and Environment (or delegate).
Planning Secretary's Approval	A written approval from the Planning Secretary (or delegate). Where the Planning Secretary's Approval is required under a condition the Planning Secretary will endeavour to provide a response within one month of receiving an approval request. The Planning Secretary may ask for additional information if the approval request is considered incomplete. When further information is requested the time taken for the Proponent to respond in writing will be added to the one month period.
Proponent	Sydney Ports Corporation
Publicly Available	Available for inspection by a member of the general public (for example available on an internet site or at a display centre).
RMS	Roads and Maritime Services
Site	Land to which Major Projects Application 05_0147 applies.
Site Audit Report	As defined in section 4 of the *Contaminated Land Management Act 1997*
Site Audit Statement	As defined in section 4 of the *Contaminated Land Management Act 1997*
TEU	Twenty foot equivalent unit – one TEU equals one twenty foot container.

1. ADMINISTRATIVE CONDITIONS

Terms of Approval

1.1 The Proponent shall carry out the project generally in accordance with the:

a) Major Projects Application 05_0147;

b) *Environmental Assessment: Intermodal Logistics Centre at Enfield,* dated October 2005 and prepared by Sinclair Knight Merz (SKM);

c) response to submissions and revised Statement of Commitments detailed in *Intermodal Logistics Centre: Preferred Project Report* prepared by Sinclair Knight Merz Pty Ltd, dated June 2006;

d) additional information provided by Sinclair Knight Merz Pty Ltd to the Department titled *Project Changes – Enfield ILC* and dated 14 July 2007;

e) additional information provided by Sinclair Knight Merz Pty Ltd to the Department titled *Light Industrial and Commercial Area – Enfield ILC* and dated 6 August 2007;

f) letter from Sydney Ports Corporation titled Project Approval Modification Application Intermodal Logistics Centre at Enfield, Sydney Ports Corporation (undated) and received 28 August 2008;

g) letter from Sydney Ports Corporation titled *Project Approval Modification Application Intermodal Logistics Centre at Enfield, Sydney Ports Corporation* and dated 5 February 2009;

h) *Intermodal Logistics Centre at Enfield Modification Application* ILC-E-PT3A REV A , Sydney Ports Corporation and dated 31 August 2009;

i) *Intermodal Logistics Centre at Enfield, Modification Application 05_0147 – Project Adjustments. Response to Stakeholders Submissions* (Revision A), prepared by Sydney Ports Corporation and dated November 2009;

j) *Intermodal Logistics Centre at Enfield, Modification Application 05_0147 – Project Adjustments. Supporting Information to Modification Application,* prepared by Sydney Ports Corporation and dated 26 March 2010;

k) *Intermodal Logistics Centre at Enfield, Modification Application 05_0147 – On Site Management of Unsuitable Engineering Fill,* prepared by Sydney Ports Corporation and dated May 2011*;*

l) *Intermodal Logistics Centre at Enfield Modification Application No. 5 On Site Management of Unsuitable Engineering Fill Response to Submissions,* prepared by Sydney Ports Corporation and dated August 2011; and

m) *Intermodal Logistics Centre at Enfield, Modification Application No.6 Early Contractor Involvement Detailed Design Adjustments and Subdivision*, prepared by Sydney Ports and dated April 2012;

n) *Intermodal Logistics Centre at Enfield, Modification Application No.6 ECI Detailed Design Adjustments and Subdivision,* prepared by Sydney Ports and dated July 2012;

o) *Intermodal Logistics Centre: Enfield Modification Application No 8, Subdivision – Changes and Amendments,* prepared by NSW Ports and dated 2 September 2013;

p) *Addendum Assessment Report, Modification No.8 to Major Project MP 05_0147 – Intermodal Logistics Centre (ILC) at Enfield: Subdivision Changes and Amendments*, prepared by NSW Ports and dated 19 September 2013;

q) *Environmental Assessment – Modification Application No. 11 – Additional warehouse* prepared by TfA Project group dated September 2016 and supporting information dated 6 December 2016 and 23 December 2016;

r) Environmental Assessment – Modification Application No. 12 – Extension of Existing Rail Sidings and Administration Office Expansion prepared by TfA Project Group dated November 2016 and supporting Noise Impact Assessment prepared by SLR Consulting dated 3 November 2016;

s) Environmental Assessment – Modification Application No. 13 – 127 Cosgrove Road. South Strathfield, prepared by LJB Urban Planning dated August 2017; and the associated Remediation Action Plan (RAP), 127 Cosgrove Road, South Strathfield, NSW, Flower Power Group, prepared by ZOIC, February 2017; Green and Golden Bell Frog Conservation Measures Tarpaulin Shed Site Enfield, prepared by Biosphere Environmental Consultants, 27 November 2016; and email titled RE: Enfield Intermodal Logistics Centre MOD 13, prepared by LJB Urban Planning Pty Limited, dated 28 May 2018;

t) Environmental Assessment – Modification No. 14 – Modification of Built Form and operational parameters prepared by Urbis dated January 2018, and Enfield ILC, Strathfield South MP 05_0147 MOD14 – Response to Submissions submitted by Goodman on 8 June 2018; and

u) the conditions of this approval

1.2 In the event of an inconsistency between:

a) the conditions of this approval and any document listed from condition 1.1a) to 1.1t) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and

b) any of the documents listed from condition 1.1a) to 1.1t) inclusive, the most recent document shall prevail to the extent of the inconsistency.

1.2A Notwithstanding condition 1.2, in relation to the construction and operation of the development approved under DA 2016/132 at 127 Cosgrove Road, in the event of any inconsistency between the conditions of this approval and the conditions of consent for DA 2016/132, the conditions of consent for DA 2016/132 shall prevail.

1.2B Subject to condition 1.2C, despite any other provision of this approval, the approval does not impose any obligations on a person merely because that person is carrying out the development approved under DA 2016/132 at 127 Cosgrove Road.

1.2C A person who is remediating land and (in the course of so doing) is transferring material from the land identified as Part Lot 19 DP1183316 and outlined in red on drawing SENP154B is subject to obligations under this approval in relation to that work – and if condition 1.2B would otherwise apply – that person's obligations under this person's obligations under this project approval cease when a site audit statement is submitted under condition 2.43A.

1.3 The Proponent shall comply with any reasonable requirement(s) of the Planning Secretary arising from the Department's assessment of:

a) any reports, plans or correspondence that are submitted in accordance with this approval; and

b) the implementation of any actions or measures contained in these reports, plans or correspondence.

1.3A The Proponent may construct and/or operate the project in stages with commensurate staging of compliance with the conditions of this approval. Where the project is to be staged, the Proponent shall submit details of the staging to the Planning Secretary, including details of how compliance with the conditions of this approval will be met.

1.3B With the approval of the Planning Secretary, the Proponent may:

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

b) combine any strategy, plan or program required by this approval (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and
c) update any strategy, plan or program required by this approval (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development).

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

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

Limits of Approval

1.4 This approval shall lapse five years after the date on which it is granted, unless the works the subject of this approval are physically and substantially commenced on or before that time.

Capacity Limits and Staging

1.5 The project shall be limited to a maximum throughput of 300,000 TEU per annum, for the rail to intermodal terminal interface and warehousing interface.

Note: For the avoidance of doubt, this does not include internal TEU movements.

Warehousing and Distribution

1.6 The Proponent is permitted to construct and operate warehouses across six precincts on the site (A, C, D, E, F and H) associated with the project, generally in accordance with the documents referred to under condition 1.1 t). Warehouses are permitted to be used for freight handling, packing/re-packing, storage and distribution, and for activities ancillary to these uses. Each warehouse shall not exceed a height of 13.7 metres at its highest point (excluding minor ancillary structures such as communications equipment, air conditioning units, or solar panelling), and shall be limited to a footprint no greater than the relevant area specified in Table 1 below.

Table 1 - Maximum Gross Lettable Area (per precinct)

Warehouse	Maximum Gross Lettable Area ($m^{2)}$
A	62,600
C	10,487
D	11,460
E	7,604
F	9,620
H	16,475

1.7 No warehouse is permitted to undertake packaging, repackaging or decanting of dangerous goods unless and until the Proponent has submitted a risk assessment of such operations for the approval of the Planning Secretary. Any such risk assessment shall be undertaken in accordance with *Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis* (DUAP, 1997) and *Multi-Level Risk Assessment* (DUAP, 1997).

1.8 Prior to the commencement of construction of each warehouse, the Proponent shall submit final designs for the warehouse to the Planning Secretary, demonstrating that the warehouse is generally consistent with:

a) the warehouse designs and layouts presented in the documents referred to under condition 1.1t) of this approval;
b) the design specifications detailed under condition 1.6 of this approval;
c) the findings and recommendations of any approved risk assessment undertaken in accordance with condition 1.7 of this approval; and
d) the general principles presented in the Strathfield *Consolidated Development Control Plan 2005* (in particular, that component of the Plan formerly being *Development Control Plan No. 27 – Industrial Development*).

Note: nothing in this condition relieves the Proponent from any other obligation in the *Environmental Planning and Assessment Act 1979* with regard to building design and certification, including compliance with the Building Code of Australia.

Light Industrial/ Commercial Area

1.9 The Proponent is permitted to construct and operate a light industrial/ commercial area comprising one precinct associated with the project, generally in accordance with the documents referred to under condition 1.1t). The light industrial/ commercial area shall only be permitted to operate for the purpose of development associated with, or ancillary to the intermodal terminal, empty container storage areas and related warehousing, or otherwise consistent with the general principles of the Strathfield Consolidated Development Control Plan 2005 (in particular, that component of the Plan formerly being Development Control Plan No. 27 – Industrial Development). Each building within the light industrial/commercial area shall not exceed a height of 13.7 metres at its highest point (excluding minor ancillary structures such as communications equipment, air conditioning units, or solar panelling), with the gross floor area for the precinct limited to no greater than the relevant area specified in Table 2 below.

Table 2 - Maximum Precinct Gross Floor Areas

Light Industrial/ Commercial Precinct	Maximum Gross Lettable Area (m^2)
B	7,384

1.10 No component of the light industrial/ commercial area is permitted to store, handle or transfer dangerous goods above the thresholds specified in *Applying SEPP 33* (DUAP, 1994) (ie characterisation of such development as "potentially hazardous development" as defined under *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development*), unless and until the Proponent has submitted a Hazard Analysis for the approval Planning Secretary. The Hazard Analysis shall be prepared in accordance with *Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis* (DUAP, 1997) and *Multi-Level Risk Assessment* (DUAP, 1997). Operation of each relevant component of the light industrial/ commercial area shall not operate until the Planning Secretary's approval of the applicable Hazard Analysis has been issued (if required under this condition).

1.11 Prior to the commencement of construction within each precinct of the light industrial/ commercial area, the Proponent shall submit final designs and layouts for the precinct to the Planning Secretary, demonstrating that the precinct is generally consistent with:

a) the designs and layouts presented in the document referred to under conditions 1.1t) of this approval;
b) the design specifications detailed under condition 1.9 of this approval; and

c) the general principles presented in the Strathfield *Consolidated Development Control Plan 2005* (in particular, that component of the Plan formerly being *Development Control Plan No. 27 – Industrial Development*).

Note: nothing in this condition relieves the Proponent from any other obligation in the *Environmental Planning and Assessment Act 1979* with regard to building design and certification, including compliance with the Building Code of Australia.

Toll Lease Area

1.11A The Proponent shall ensure that operations in the former Toll lease area (also known as Precinct D) are generally consistent with former operations.

Statutory Requirements

1.12 The Proponent shall ensure that all licences, permits and approvals are obtained and kept up-to-date as required throughout the life of the development. No condition of this consent removes the obligation for the Proponent to obtain, renew or comply with such licences, permits or approvals. The Proponent shall ensure that a copy of this approval and all relevant environmental approvals are available on the site at all times during the project.

Water Authority Compliance Certificate

1.13 An application shall be made to Sydney Water for a Certificate under Part 6, Division 9, section 73 of the *Sydney Water Act 1994* (Compliance Certificate). The application must be made through an authorised Water Servicing Coordinator.

1.14 The section 73 Compliance Certificate must be obtained from Sydney Water Corporation and submitted to the Principal Certifying Authority prior to issue of a subdivision certificate, and show that the development has met the detailed requirements of Sydney Water Corporation.

Subdivision and Easements

1.15 The Proponent may subdivide the land generally in accordance with the subdivision plan EILC MP04 (B) included at Appendix 1 of this approval. However, prior to obtaining a subdivision certificate, the Proponent shall prepare and submit to the Planning Secretary a final subdivision plan for the land. The final subdivision plan shall be generally consistent with the plan included at Appendix 1 of this approval (including the number of lots, the proposed use of each lot, and lot sizes).

1.16 Land uses and operations within each lot shall be consistent with the approved project as described in conditions 1.1a) to 1.1t) and meet the requirements of this approval.

1.17 Prior to the issuing of the subdivision certificate, the Proponent shall ensure that each lot is connected to services, drainage and utilities.

1.18 Easements for services, drainage, maintenance or any other encumbrances and indemnities required for joint or reciprocal use of part or all of the proposed lots as a consequence of the subdivision of the site, shall be created over those lots pursuant to the *Conveyancing Act 1919.*

1.19 Documentary evidence of the proposed easements shall be provided to, and be to the satisfaction of the relevant certifying authority.

Note: Any easements in the subdivision plan must nominate Strathfield Council or other relevant authority as the authority to release, vary or modify the easement. The form of the easement must be in

accordance with Council's standard recitals for terms of easements, or the standard form of easements accepted by NSW Land and Property Information.

1.20 Prior to occupation and/or operation, the Proponent shall provide to the relevant certifying authority evidence that all matters required to be registered on title, including easements required by this approval and any approvals or consents, have been lodged for registration or registered at the NSW Land and Property Information.

2. SPECIFIC ENVIRONMENTAL CONDITIONS

Traffic and Transport Impacts

2.1 The Proponent shall provide a shuttle bus service between Strathfield train station and the site during peak construction works, and shall encourage construction employees to utilise public transport rather than private transport to the site.

2.2 The Proponent shall provide a manual and/ or technological solution to control the frequency of articulated and B-double vehicles utilising the Cosgrove Road entrance to the site during morning and afternoon peak periods.

Intermodal operations

2.2A The proponent is to provide an **Intermodal Freight Transportation Report**, prepared by an independent qualified person(s) approved by the Planning Secretary.

The purpose of the Intermodal Freight Transportation Report is to detail how the Proponent is working to increase the modal share of rail, and is to include the following:

a) the number of twenty-foot equivalent shipping containers despatched and received during the period;
b) modal splits of container volumes (in TEUs), provided by the warehouse operators and/or the intermodal operators, moved in/out of the project by:
   i. rail-to-truck/truck-to-rail, and
   ii. truck-to-truck;
c) representative vehicle origins and destinations, based on data from the warehouse operators and/or the intermodal operators;
d) review of recorded actual traffic generation against the traffic model referred in, and the findings of, the report titled *Traffic Impact Assessment Enfield Intermodal Logistics Centre; Cosgrove Road, Enfield MOD 14 Ref: 0440r03v5* (Ason Group, 26 February 2018);
e) a constraints and opportunities analysis to assist with identifying measures to increasing the modal split of container movements via rail-to-truck/truck-to-rail; and
f) a future forecast outlining expected TEU volume despatched and received on rail, demonstrating how the Proponent is using the opportunities identified above, subject to the constraints identified, to assist with switching the main mode of transport for container TEUs to rail.

The report is to be submitted throughout operation of the project, with the first report to be submitted one year after the commencement of operation of the first warehouse/s permitted as part of the approval of MP 05_0147 MOD 14, unless otherwise agreed by the Planning Secretary. Subsequent reports will be completed and submitted to the Planning Secretary on a two-yearly basis, or as otherwise agreed.

Note: Subject to condition 1.3B, the requirements of this condition are in addition to the requirements of the Traffic and Capacity Monitoring Program and the Traffic Audit required under conditions 3.6-3.9, and the Proponent may elect to address the requirements of any of those conditions in a consolidated document.

2.2B A framework for recording and reporting on the data required for the report required under condition 2.2A is to be prepared by an independent qualified person(s) approved by the Planning Secretary, and submitted to the Planning Secretary for approval three months prior to the commencement of operation of any warehouse permitted as part of the approval of MP 05_0147 MOD 14.

The Proponent shall prepare the report required under condition 2.2A in accordance with the framework for recording and reporting approved by the Planning Secretary under this condition from time to time.

2.2C The Proponent is to comply with any reasonable additional operation traffic management measures as directed by the Planning Secretary in consultation with Transport for NSW and RMS following review of any Intermodal Freight Transportation report, Traffic and Capacity Monitoring Program, or Traffic Audit.

On-Site Traffic Management and Parking

2.3 The Proponent shall design, construct and maintain all internal road works, including the associated 816 parking facilities and loading bays for operational areas associated with the ILC, warehouses and light industrial/commercial uses, to meet or exceed the following requirements:

a) compliance with the provisions of relevant Australian Standards, RMS standards and guidelines;
b) installation of clear signage to demarcate all vehicle movements within the site;
c) provision of directional pavement arrows on all internal roads, and line-marking and signage to indicate designated truck routes and bays;
d) internal roadways wide enough to accommodate through traffic and turning two-way traffic;
e) design of site ingress and egress points to ensure that vehicles enter and leave the site in a forward direction;
f) installation and maintenance of any landscaping on the site so as not to affect driver sight distance for vehicles entering and exiting the site; and
g) clear demarcation of all visitor, disabled, ambulance and service vehicle parking areas.

2.3A The Proponent must prepare a Work Place Travel Plan to the satisfaction of the Planning Secretary prior to the issue of any Occupation Certificate for any warehouse permitted as part of the approval of MP 05_0147 MOD 14. The Proponent must ensure that the Work Place Travel Plan (as revised from time to time) is implemented for the life of the Project.

Local Area Traffic Management

2.4 Prior to the commencement of operation of the project, the Proponent shall develop and implement, in consultation with the RMS, Strathfield Municipal Council and Canterbury Bankstown Council, the following measures to prevent the movement of heavy vehicles through residential areas of Greenacre to the west of the project, generally between Roberts Road, Boronia Road and the Hume Highway:

a) physical measures to discourage through-traffic across Roberts Road at the intersection of Norfolk Road, with the aim of preventing heavy vehicles leaving

the project from directly accessing residential areas, and reducing the desirability of rat-running through those residential areas;

b) closure of the median strip on the Hume Highway at Como Road, to prevent heavy vehicles turning right into residential areas on the way to the project;

c) traffic calming measures on Rawson Road to reduce the desirability of heavy vehicles travelling along this route between the Hume Highway and the project;

d) stop signs on Noble Avenue at the intersections of Chiswick Road and Northcote Road to reduce the desirability of vehicles rat-running in a north-south direction through residential areas; and

e) imposition of load limits on Karuah Street and Valencia Street to prevent heavy vehicles lawfully using this route as a by-pass around Boronia Road.

2.5 Prior to the commencement of operation of the project, the Proponent shall consult with the State Transit Authority, and relevant bus operators, with the aim of relocating bus routes currently following Roberts Road. Should relocation of these bus routes be agreed between the parties, the Proponent shall install physical measures to prevent through-traffic across Roberts Road at the intersection of Norfolk Road. Any such road works shall be undertaken in consultation with, and to meet the requirements of, the RMS.

Notwithstanding condition 2.4b) of this approval, should physical measures be implemented on Roberts Road at the intersection of Norfolk Road, the Proponent shall review the need for closure of the median strip on Hume Highway at Como Road in consultation with RMS, and if agreed by the RMS, no longer be required to implement those works.

2.6 The Proponent shall investigate, in consultation with Strathfield Municipal Council, opportunities to install 4-hour parking restrictions along the full length of Wentworth Avenue to discourage the parking of trailers on the approach to the site. Should such measures be found to be feasible and agreed by Council, the Proponent shall arrange to have parking restrictions in place prior to the commencement of operation of the project.

2.6A Before the commencement of construction of any warehouse sharing a boundary with public infrastructure and permitted as part of the approval of MP 05_0147 MOD 14, the Applicant must:

(a) consult with the applicable authority to make suitable arrangements for access to, diversion, protection and support of the affected infrastructure;

(b) prepare a dilapidation report identifying the condition of all public infrastructure that shares a boundary with the site (including roads, gutters and footpaths); and

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

2.6B Unless the Applicant and the applicable authority agree otherwise, the Applicant must:

(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the development; and

(b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to any damage to roads caused as a result of general road usage.

Regional Traffic Management

2.7 Prior to the commencement of operation of the project, the Proponent shall upgrade the intersection of Roberts Road and Norfolk Road, as agreed with the RMS and in accordance with relevant RMS standards. The upgrade works shall comprise:

a) upgrade of the intersection to accommodate 19-metre semi-trailer and 25-metre B-double swept paths in accordance with relevant RMS guidelines and AUSTROADS standards;
b) extension of the Roberts Road northbound right-turn bay to 150 metres;
c) provision of a southbound slip lane into Norfolk Road;
d) provision of a diamond phasing operation on Norfolk Road to ensure right-turn movements can be carried out in a controlled and safe environment;
e) reconfiguration of Norfolk Road east to provide a right-turn bay, with the right-turn bays in Norfolk Road facing each other;
f) provision of three lanes for exiting traffic (including the right-turn bay) from Norfolk Road east by widening the intersection to the north; and
g) median island works on Roberts Road to achieve the necessary turning path on entry and exit to and from Norfolk Road.

2.8 Prior to the commencement of operation of the project, the Proponent shall validate that the intersection of Norfolk Road and Wentworth Street, and the intersection of Cosgrove Road and the Hume Highway can accommodate 19-metre semi-trailer and 25-metre B-double swept paths in accordance with relevant RMS guidelines and AUSTROADS standards. Where necessary, the Proponent shall arrange for the upgrade of these intersections to accommodate 19-metre semi-trailer and 25-metre B-double swept paths, in consultation with and to the satisfaction of the RMS. All upgrade works shall be completed prior to the commencement of operation of the project, unless otherwise agreed by the RMS.

2.9 Prior to the commencement of operation of the project, the Proponent shall validate that the pavement of Wentworth Street and Norfolk Road, between Roberts Road and the access point for the site is of a standard suitable for 19-metre semi-trailer and 25-metre B-double vehicles. Where necessary, the Proponent shall arrange for the upgrade of the pavement of these roads to a standard suitable for 19-metre semi-trailer and 25-metre B-double vehicles in consultation with and to the satisfaction of the RMS. All upgrade works shall be completed prior to the commencement of operation of the project, unless otherwise agreed by the RMS.

2.10 The Proponent shall investigate, and where feasible implement, measures at the intersection of Norfolk Road and Roberts Road to give priority (increased “green time”) to vehicles turning right from Norfolk Road into Roberts Road, in preference to vehicles turning left at that intersection. In considering options for such priority movements, the Proponent shall consult with the RMS, Strathfield Municipal Council and Canterbury Bankstown Council.

Rail and Road Infrastructure on RailCorp Land

2.11 Prior to the commencement of any works associated with the construction of connections to the existing freight rail network and the road bridge over the New Enfield Marshalling Yards, the Proponent shall consult with RailCorp to reach agreement on the detailed design and operational aspects of the rail and road infrastructure component of the project on RailCorp land. Design details shall include, but not be limited to:

a) the length of trains the rail facilities will be able to accept;
b) track layouts;
c) methods to be implemented to remove the remains of the former bridge abutment to allow for the rail connection;

d) position and clearance of proposed rail tracks;
e) position and clearance of the main railway line;
f) works required to Wentworth Street to link with the new road bridge;
g) position and clearance requirements of the marshalling yard tracks, internal access roads, turnouts and overhead structures in relation to the proposed road bridge; and
h) measures to treat any safety issues associated with the proposed new connections or road bridge.

All works associated with rail and road infrastructure on RailCorp land shall be undertaken in accordance with the agreement reached with RailCorp.

Coordination and Management of Transport Issues

2.12 The Proponent shall establish and maintain for the life of the project, unless otherwise agreed by the Planning Secretary, a **Road Transport Coordination Group** to oversee and coordinate the management of traffic and road issues associated with and affected by the project. The Group shall include representatives of the Proponent, the Department, the RMS, Strathfield Municipal Council and Canterbury Bankstown Council, and shall operate in accordance with terms of reference agreed by those parties at the first meeting(s) of the Group. The Proponent shall bear the full cost of administering the Group.

Noise Impacts

2.13 The Proponent shall minimise noise emissions from plant and equipment operated on the site by installing and maintaining, wherever practicable, efficient silencers, low-noise mufflers (residential standard) and by replacing reversing alarms with alternative silent measures, such as flashing lights (subject to occupational health and safety requirements).

Construction Noise

2.14 The Proponent shall, as soon as practicable during site preparation, and prior to the commencement of construction of rail trackwork and hardstand for the intermodal terminal, empty container and warehousing components of the project, install earth mound noise barriers in the south east of the site, as generally described in the documents referred to under condition 1.1 of this approval.

2.14A In the event that the Proponent is required to construct a temporary noise wall using empty containers to mitigate noise from operations occurring in the southern portion of the site and prior to the construction of Warehouse A, the Proponent shall ensure that the temporary noise wall is installed during the hours prescribed in condition 2.15.

2.15 The Proponent shall only undertake site preparation and construction activities associated with the project that would generate an audible noise at any residential premises during the following hours:
a) 7:00 am to 6:00 pm, Mondays to Fridays, inclusive;
b) 8:00 am to 1:00 pm on Saturdays; and
c) at no time on Sundays or public holidays.

This condition does not apply in the event of a direction from police or other relevant authority for safety reasons.

2.16 The hours of site preparation and construction activities specified under condition 2.15 of this approval may be varied with the prior written approval of the Planning

Secretary. Any request to alter the hours of construction specified under condition 2.15 shall be:

a) considered on a case-by-case basis;
b) accompanied by details of the nature and need for activities to be conducted during the varied construction hours; and
c) accompanied by sufficient information for the Planning Secretary to reasonably determine that activities undertaken during the varied construction hours will not adversely impact on the acoustic amenity of receptors in the vicinity of the site.

Operation Noise

2.17 The Proponent shall design, construct, operate and maintain the project to ensure that the operational noise contributions from the project do not exceed the maximum allowable noise contributions specified in Table 3 below, at those locations and during those periods indicated. The maximum allowable noise contributions apply under:

a) wind speeds up to 3 ms^{-1} (measured at 10 metres above ground level); or
b) temperature inversion conditions up to 3°C per 100 metres and wind speeds up to 2 ms^{-1} (measured at 10 metres above ground level).

Table 3 – Maximum Allowable Noise Contribution (dBA)

Location	Day 7:00am to 6:00pm on any day		Evening 6:00pm to 10:00pm on any day		Night 10:00pm to 7:00am on any day		
	L_{Aeq} (15-minute)	L_{Aeq} (period)	L_{Aeq} (15-minute)	L_{Aeq} (period)	L_{Aeq} (15-minute)	L_{Aeq} (period)	L_{A1} (1-minute)
A1 – Eastern end of Jean Street	54	54	54	49	48	42	58
A2 – Eastern end of Ivy Street	53	52	52	51	47	45	57
A3 – Wentworth Street (south)	49	52	47	53	42	38	52
A4 – Eastern end of Gregory Street	49	52	47	46	45	37	55
A5 – Western end of Blanche Street	46	58	46	50	43	43	53
A6 – 40 Bazentin Street	46	58	45	54	41	39	51
A11 – Begnell Park	-	50	-	50	-	50	-
A12 – Matthew Park*	-	50	-	50	-	50	-
A13 – Greenacre Bowling Club	-	55	-	55	-	55	-
A14 – Strathfield High School (internal)	-	35	-	-	-	-	-
A15 – St Anne's School (internal)	-	35	-	-	-	-	-

*it is noted that the location Matthew Park no longer exists and has been developed for commercial retail use, and no other recreational areas are in the vicinity.

2.18 For the purpose of assessment of noise contributions specified under condition 2.17 of this consent, noise from the development shall be:

a) measured at the most affected point on or within the site boundary at the most sensitive locations to determine compliance with $L_{Aeq(15\text{-minute})}$ and $L_{Aeq(period)}$ noise limits;

b) measured in the free field at least 3.5 metres from any vertical reflecting surface in line with the worst-affected dwelling façade to determine compliance with $L_{A1(1\text{-}minute)}$ noise limits; and
c) subject to the modification factors provided in Section 4 of the *New South Wales Industrial Noise Policy* (EPA, 2017), where applicable.

Notwithstanding, should direct measurement of noise from the development be impractical, the Proponent may employ an alternative noise assessment method deemed acceptable by the EPA (refer to Section 11 of the *Noise Policy for Industry New South Wales* (EPA, 2000)). Details of such an alternative noise assessment method accepted by the EPA shall be submitted to the Planning Secretary prior to the implementation of the assessment method.

2.19 To avoid any doubt, the Proponent shall ensure that locomotives located on the site and associated with the operation of the project do not cause an exceedance of the noise limits specified under condition 2.17 of this approval. This shall include, where necessary, measures to mitigate and manage noise associated with locomotive idling and any shunting operations occurring on the site.

2.19A The Proponent shall implement noise mitigation measures generally in accordance with the measures identified in the document listed in condition 1.1j). In relation to the north-western noise wall, the Proponent shall implement as part of the design and construction of this wall, mitigation measures to minimise potential reflective noise on its western face.

Air Quality Impacts

2.20 The Proponent shall install, operate and maintain a meteorological monitoring station to monitor weather conditions representative of those on the site, in accordance with:
a) AM-1 Guide to Siting of Sampling Units (AS 2922-1987);
b) AM-2 Guide for Horizontal Measurement of Wind for Air Quality Applications (AS 2923-1987); and
c) AM-4 On-Site Meteorological Monitoring Program Guidance for Regulatory Modelling Applications.

The Proponent shall install the meteorological monitoring station prior to the commencement of site preparation or construction works and shall use the station to undertake the monitoring required under condition 3.1 of this approval, until all large exposed areas have either been landscaped or sealed.

This condition does not preclude the Proponent from reaching agreement with any other relevant party for the installation, operation and maintenance of a shared monitoring station, provided the outcomes of this condition are achieved.

During periods of repair or maintenance of the meteorological monitoring station, the Proponent may utilise weather data collected at the Canterbury Racecourse Automatic Weather Station, operated by the Bureau of Meteorology, or other nearby Bureau of Meteorology Stations in the event that the Canterbury station is offline.

Odour

2.21 The Proponent shall not permit any offensive odour, as defined under section 129 of the *Protection of the Environment Operations Act 1997*, to be emitted beyond the boundary of land owned by the Proponent (the site the subject of this approval).

Dust Emissions

2.22 The Proponent shall design, construct, commission, operate and maintain the project in a manner that minimises or prevents the emission of dust from the site including wind blown and traffic generated dust.

2.23 The Proponent shall take all practicable measures to ensure that all vehicles entering or leaving the site, carrying a load that may generate dust, are covered at all times, except during loading and unloading. Any such vehicles shall be covered or enclosed in a manner that will prevent emissions of dust from the vehicle at all times, to the extent practicable.

2.24 All activities on the site shall be undertaken with the objective of preventing visible emissions of dust beyond the boundary of the site. Should such visible dust emissions occur at any time, the Proponent shall identify and implement all practicable dust mitigation measures, including cessation of relevant works, as appropriate, such that emissions of visible dust cease.

2.25 The Proponent shall manage, maintain and use internal haulage roads in order to prevent dust emissions. The measures to be implemented for the management of potential dust emissions from internal roads during construction shall be incorporated in the Construction Environmental Management Plan required under condition 6.3.

2.26 The Proponent shall apply and enforce a 25 km/ h speed limit on the site during site preparation and construction works to minimise the potential for dust generation.

2.27 The Proponent shall ensure that all vehicles and equipment directly associated with site preparation and construction works (as distinct from passenger vehicles) pass through a wheel wash prior to leaving the site.

Water Quality and Hydrological Impacts

2.28 Except as may be expressively provided under an Environment Protection Licence applicable to the project, the Proponent shall comply with section 120 of the *Protection of the Environment Operations Act 1997* which prohibits the pollution of waters.

2.29 Soil and water management controls shall be employed to minimise soil erosion and the discharge of sediment and other pollutants to lands and/or waters during site preparation and construction activities, in accordance with Landcom's *Managing Urban Stormwater: Soils and Construction*.

2.30 All stockpiled construction materials shall be adequately located, stabilised and maintained to prevent erosion or dispersal of the materials.

2.31 The Proponent shall construct and maintain stormwater detention basins on the site, generally consistent with the basin sizes/ locations presented in the document referred to under conditions 1.1m) and 1.1n) of this approval. Opportunities to reuse stormwater from detention basins for ecological areas or for site operations shall be investigated during detailed design of the project, and where practicable, the Proponent shall utilise collected water preferentially to external potable water supplies for operational activities on the site, subject to testing to confirm the suitability of collected water quality.

2.32 All quarantine and machinery wash down waters and amenities wastewater shall be directed to sewer (subject to Sydney Water Corporation approval), or to an appropriately licensed liquid waste disposal facility.

2.33 The Proponent shall design, install, maintain and operate rainwater tanks for the collection of water for domestic uses on the site. Collected rainwater shall be used preferentially to external potable water supplies.

Heritage Impacts and Management

2.34 Except for necessary stabilisation works agreed in consultation with the OEH (Heritage Division), the Proponent is not permitted to destroy, modify or otherwise physically affect the Tarpaulin Factory as part of this approval. Any proposal to destroy, modify, redevelop, relocate or otherwise physically affect the Tarpaulin Factory, except for agreed stabilisation works, shall be the subject of further assessment and approval in accordance with the *Environmental Planning and Assessment Act 1979*.

2.35 The Proponent shall relocate and maintain the Pillar Water Tank to an appropriate location within the site, determined in consultation with the OEH (Heritage Division).

2.36 The Proponent shall undertake such works as may be necessary to stabilise the Pillar Water Tank as part of the relocation of that heritage item on the site. The Proponent shall consult with the OEH (Heritage Division) prior to undertaking any stabilisation works to ensure that the works do not adversely affect the heritage values of the item.

2.37 The Proponent shall relocate and maintain the Pedestrian Footbridge, if feasible, to an appropriate location within the site, determined in consultation with the OEH (Heritage Division). Where the Pedestrian Footbridge cannot be feasibly relocated within the site, the Proponent shall arrange for the relocation of the Pedestrian Footbridge to an external heritage organisation, determined in consultation with the OEH (Heritage Division).

2.38 The Proponent is permitted to destroy the Yard Master's Office, the Administration Building, and the Wagon Repair Shed (and associated Gantry Crane). Prior to the destruction of these items, the Proponent shall engage an independent, qualified heritage expert to prepare an archival recording of these items in accordance with OEH (Heritage Division) guidelines. Destruction of these items shall not commence until the OEH (Heritage Division) has indicated its satisfaction with the archival recordings and the recordings have been lodged with the Strathfield Public Library, or other repository agreed by the Planning Secretary.

Waste Generation and Management

2.39 All waste materials removed from the site shall only be directed to a waste management facility lawfully permitted to accept the materials.

2.40 The Proponent shall ensure that all liquid and/ or non-liquid waste generated, stored on the site or disposed of, is assessed and classified in accordance with the Waste Classification Guidelines (EPA, 2014).

2.41 The Proponent shall ensure that the transport of any hazardous and/ or industrial and/ or Group A waste from the site is conducted strictly in accordance with any requirements that may be specified by the EPA in relation to the transport of those wastes.

2.42 The Proponent shall ensure that contaminated areas of the site that are disturbed by construction works associated with the project are remediated prior to the commencement of project operations at these areas. All remediation works shall be undertaken in accordance with the requirements of the *Contaminated Land*

Management Act 1997 and *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites* (EPA, 2011).

2.43 Prior to the commencement of construction works associated with the project that may disturb contaminated areas of the site, the Proponent shall submit to the Planning Secretary a Site Audit Statement(s), prepared by an accredited Site Auditor under the Contaminated Land Management Act 1997, verifying that the area of the site on which construction is to be undertaken has been or can be remediated to a standard consistent with the intended land use. A final Site Audit Statement(s), prepared by an accredited Site Auditor, certifying that the contaminated areas have been remediated to a standard consistent with the intended land use and including any associated long term environmental management plan (LTEMP) is to be submitted to the Planning Secretary prior to operation of the remediated site(s).

2.43A Prior to commencement of works approved under DA 2016/132 for construction and operation of a garden centre and hardware and building supplies facility, a final Site Audit Statement for the Tarpaulin Factory Site must be prepared by an accredited Site Auditor certifying that the contaminated areas have been suitably remediated. The Site Audit Statement is to be submitted to the Secretary and Strathfield Council. In addition, a plan showing the extent of remediation within the Tarpaulin Factory Site is to be provided to the Secretary.

2.43B Within one month of remediation of the Tarpaulin Factory Site, a long-term contamination management plan is to be submitted to the Secretary for approval. The plan is to be implemented for the duration of operation of the development approved under DA 2016/132.

2.43C Prior to commencement of operation of the development permitted as part of the approval of MP 05_0147 MOD 14, a Validation Report is to be prepared by an Environmental Consultant, and a final Site Audit Statement for the warehousing precincts must be prepared by a NSW EPA accredited site auditor stating that the contaminated areas have been remediated to a standard suitable for the proposed use. The Validation Report and the Site Audit Statement are to be submitted to the Planning Secretary and Strathfield Council. A plan showing the extent of remediation in the warehousing precinct is also to be provided to the Planning Secretary.

2.44 The Proponent shall manage any asbestos or asbestos-contaminated materials that may be uncovered during the construction, commissioning and operation of the project strictly in accordance with the requirements under Protection of the Environment Operations (Waste) Regulation 2014 and any guidelines or requirements issued by the EPA in relation to those materials.

Visual Amenity and Urban Design

2.45 The Proponent shall ensure that all structures on the site are designed, constructed and maintained to maximise, where practicable, the use of natural ventilation and natural lighting, and to minimise energy consumption associated with heating, cooling and lighting.

2.46 The Proponent shall ensure that all external lighting installed as part of the project is mounted, screened, and directed in such a manner so as not to create a nuisance to surrounding land uses. The lighting shall be the minimum level of illumination necessary, and be in general accordance with the latest version of *AS 4282 – 1997 Control of the Obtrusive Effects of Outdoor Lighting*.

2.47 Prior to the commencement of construction of each warehouse associated with the project (refer to condition 1.6 of this approval), the Proponent shall submit, for the approval of the Planning Secretary, details of the external façade for the warehouse, including demonstration of the façade(s) on an external finishing board. The finishing board shall clearly show the materials to be used for the building façade including details of external treatments of the warehouse (such as painting, and other external features aimed at reducing the bulk of the building and to improve the general appearance of the project). The finishing board shall demonstrate that the external treatments of the warehouse are non-reflective and of sufficient design quality to minimise the visual affects of the project, as far as is reasonable and feasible.

Ecological Impacts

2.48 The Proponent shall implement all of the relevant actions for the site recommended in the *Management Plan for the Green and Golden Bell Frog Key Population at Greenacre* (DECC, May 2007), being:

a) creation of overwintering habitat as part of the two-hectare improved foraging habitat at the southern end of the site;
b) provision of linkages to the former RailCorp ponds; and
c) restrictions on the use of herbicides in known frog habitat and attainment of water quality standards for water discharged from the site.

These actions shall be incorporated within both the Construction Environmental Management Plan (refer to condition 6.2) and the Operation Environmental Management Plan (refer to condition 6.4) as relevant, including provisions for monitoring the outcomes of these actions and periodically reporting outcomes to OEH at a frequency agreed with OEH.

2.48A The Proponent shall implement the mitigation measures identified in Section 7.1 of the *ILC at Enfield Impact Assessment on Green and Golden Bell Frogs: Addition of Fill Material to Mt Enfield* (Biosphere Environmental Consultants Pty Ltd, 2011), supplementary letter of advice dated 10 January 2018 (Biosphere Consultants Pty Ltd, 2011), and the following:

a) the installation of an exclusion fence to help prevent frogs from entering the construction site;
b) the installation of silt fences and silt trapping devices prior to any earthworks, and the use of dust suppression methods throughout construction, to prevent wind-blown dust from entering the frog habitat area;
c) the establishment of run-off barriers between the construction areas and the frog habitat area, to prevent accidental spills and/or stormwater waste from entering the frog habitat area;
d) the installation of visual screens to minimise light spill into the frog habitat area, from night construction works;
e) the demarcation of the frog habitat area as a “no go” area, using barrier bunting and signs that indicate the significance of the area and that the site is off limits to people, machinery and plant equipment;
f) the installation of an exclusion fence to help prevent frogs from entering the operational areas;
g) the installation of diversion bunds to ensure hazardous liquids can never enter the frog habitat area; and
h) the installation of visual screens to minimise light spill into the frog habitat area, from trucks and plant equipment operating throughout the night.

These actions shall be incorporated within the Construction Environmental Management Plan (condition 6.2 of this approval) and the Operation Environment Management Plan (condition 6.4 of this approval), as relevant.

Hazards, Risk and Land Use Safety

2.49 All demolition work shall be carried out in accordance with *AS 2601-2001 The Demolition of Structures.*

2.50 The Proponent shall store and handle all dangerous goods (not being unopened, containerised goods), as defined by the Australian Dangerous Goods Code, strictly in accordance with:

a) all relevant Australian Standards;
b) a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and
c) the DECC's Environment Protection Manual Technical Bulletin *Bunding and Spill Management*.

In the event of an inconsistency between the requirements listed from a) to c) above, the most stringent requirement shall prevail to the extent of the inconsistency.

2.51 The Proponent shall investigate, in consultation with relevant emergency services, whether additional measures are required along Cosgrove Road, including parking restrictions, to ensure clear and safe access to the site in the event of an emergency.

2.51A Prior to commencement of spoil transportation and spoil disposal associated with Mt Enfield requiring the crossing of the Ethylene pipeline, the Proponent shall in consultation with Qenos Pty Ltd, determine truck crossing points of the pipeline and any required works to protect the pipeline.

Community Infrastructure and Enhancements

2.52 Prior to the commencement of operation of the project, the Proponent shall develop in consultation with Strathfield Municipal Council and Canterbury Bankstown Council, a **Community Enhancement Program** to fund (or provide in kind) community infrastructure and services in and around the project, with a specific focus on provision of such infrastructure and services for communities in Greenacre and South Strathfield. The Proponent shall contribute $1 million to the Program (in 2007 terms), with agreed works to be completed within two years of the commencement of construction of the project, unless otherwise agreed by the parties. Unless otherwise agreed by the Planning Secretary, funding for enhancement works shall be apportioned at the rate of 30% for works within the Strathfield local government area, and 70% for works within the Bankstown local government area. In the event that any aspect of the Program cannot be agreed between the parties, the matter may be referred to the Planning Secretary for resolution. The Planning Secretary's resolution of any disagreement shall be final and binding on all parties.

3. ENVIRONMENTAL MONITORING AND AUDITING

Meteorological Monitoring

3.1 From the commencement of site preparation and construction works associated with the project, the Proponent shall continuously monitor, utilising the meteorological monitoring station referred to under condition 2.20 of this approval, each of the parameters listed in Table 4, utilising the sampling method indicated and applying a 15-minute average period to all results, and recording data in units specified in the Table.

Table 4 – Meteorological Monitoring

Parameter	Units of Measure	Sampling Method*	Method
Temperature at two metres	^{o}C	AM-4	USEPA (2000) EPA 454/ R-99-005
Temperature at ten metres	^{o}C	AM-4	USEPA (2000) EPA 454/ R-99-005
Wind speed at ten metres	ms^{-1}	AM-2 and AM-4	AS 2923-1987; USEPA (2000) EPA 454/R-99-005
Wind direction at ten metres	^{o}	AM-2 and AM-4	AS 2923-1987; USEPA (2000) EPA 454/R-99-005
Solar radiation	Wm^{-2}	AM-4	USEPA (2000) EPA 454/ R-99-005

*refer *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA, 2005)*

During periods of repair or maintenance of the meteorological monitoring station, the Proponent may utilise weather data collected at the Canterbury Racecourse Automatic Weather Station, operated by the Bureau of Meteorology, or other nearby Bureau of Meteorology Stations in the event that the Canterbury station is offline.

Construction Dust Monitoring

3.2 The Proponent shall, from the commencement of soil disturbing works on the site until all large exposed areas have either been landscaped or sealed, continuously monitor ambient dust concentrations (PM_{10}) at two of the most-affected residential receptor(s) to the site (with monitoring undertaken either on the boundary of the site or within the affected residential areas) employing the sampling and analysis methods specified under AM-18 or AS3580.9.8 or as otherwise agreed by the Planning Secretary. Results of dust monitoring shall be recorded in µgm-3 and shall be utilised for the purpose of site preparation and construction dust management under condition 6.3(e) of this approval.

Noise Auditing

3.3 Within 90 days of the project reaching annual throughput of 50,000 TEU, 150,000 TEU and 250,000 TEU, and within commencement of operations in Empty Container Storage Area A, or at such other time as may be directed or agreed by the Planning Secretary, and during a period in which the project is operating under normal operating conditions, the Proponent shall undertake a program to confirm the noise emission performance of the project. The program shall include, but not necessarily be limited to:

a) noise monitoring, consistent with the guidelines provided in the *New South Wales Industrial Noise Policy* (EPA, 2000), to assess compliance with condition 2.17 of this consent;
b) methodologies, locations and frequencies for noise monitoring;
c) identification of monitoring sites at which pre- and post-project development noise levels can be ascertained;
d) details of any complaints received in relation to noise generated by the project;
e) an assessment of night-time use of audible alarm systems;
f) an assessment of the effectiveness of stacked empty containers as acoustic barriers in Empty Container Storage Area A;
g) details of any noise mitigation measures and timetables for implementation;
h) a statement of whether the site is in compliance with the noise limits outlined in condition 2.17; and
i) recommendations and timetables for implementation for any reasonable and feasible additional measures necessary to ensure compliance with the relevant noise-related conditions of this approval.

3.4 Within 28 days of conducting the noise monitoring referred to under condition 3.3 of this approval, the Proponent shall provide the Planning Secretary with a copy of the report. If the noise monitoring report identifies any non-compliance with the noise limits specified under this approval, the Proponent shall detail what additional measures would be implemented to ensure compliance, clearly indicating who would implement these measures, when these measures would be implemented, and how the effectiveness of these measures would be measured and reported to the Planning Secretary.

3.5 Following consideration of the outcomes of the noise audits referred to under conditions 3.3 and 3.4 of this approval, the Planning Secretary may require the Proponent to implement additional noise mitigation, monitoring or management measures to address noise associated with the project. The Planning Secretary ary may require any or all of the measures proposed by the Proponent in the noise audit report, or other measures considered appropriate by the Planning Secretary (including on-site and off-site acoustic treatments, noise bunding, noise walls or noise attenuation works for plant and equipment) to be implemented. The Proponent shall implement the measures required by the Planning Secretary y within such period as the Planning Secretary may specify.

Traffic Monitoring and Auditing

3.6 The Proponent shall develop and implement a **Traffic and Capacity Monitoring Program** to monitor the throughput and traffic generation of the project. The Program shall include, but not necessarily be limited to:

a) provisions for monitoring the throughput of the project;
b) provisions for representative monitoring the traffic generation of the project, with reference to traffic generation as a function of project throughput, type of road transport employed, hours of traffic movements and intended road traffic destinations;
c) provisions for periodic monitoring of traffic movements generated by the project in the surrounding road network, with a particular focus on the residential areas of Greenacre to the west of the project, generally between Roberts Road, Boronia Road and the Hume Highway, and principal road transport routes to and from the site; and
d) a framework for recording and reporting the outcomes of the Program and a system for considering data generated through the Program.

3.7 Within 90 days of the project reaching annual throughput of 50,000 TEU, 150,000 TEU and 250,000 TEU, or as may be directed or agreed by the Planning Secretary, and during a period in which the project is operating under normal operating conditions, a **Traffic Audit** of the project shall be undertaken by an independent qualified person(s) approved by the Planning Secretary. The Audit shall include, but not necessarily be limited to:

a) assessment of the traffic performance of the project against the predictions made in the documents referred to under condition 1.1 of this approval;
b) consideration of the results of the Traffic and Capacity Monitoring Program required under condition 3.6 of this approval;
c) consideration of the effectiveness of the traffic management measures implemented by the Proponent and the measures required under this approval;
d) consideration of traffic-related issues raised by the RMS, Canterbury Bankstown Council and Strathfield Municipal Council;
e) consideration of the traffic-related complaints recorded in accordance with condition 5.3 of this approval;

f) findings and recommendations with respect to the traffic performance of the project and any additional measures that may be required to manage traffic associated with the project.

3.8 Within 28 days of conducting the traffic auditing referred to under condition 3.7 of this approval, the Proponent shall provide the Planning Secretary with a copy of the audit report. If the audit report identifies any non-compliance with the traffic predictions, principal heavy vehicle routes or local area traffic management measure outlined in the documents referred to under condition 1.1, or specified under this approval, the Proponent shall detail what additional measures would be implemented to ensure compliance, clearly indicating who would implement these measures, when these measures would be implemented, and how the effectiveness of these measures would be measured and reported to the Planning Secretary.

3.9 Following consideration of the outcomes of the traffic audits referred to under conditions 3.7 and 3.8 of this approval, the Planning Secretary may require the Proponent to implement additional traffic mitigation, monitoring or management measures to address traffic associated with the project. The Planning Secretary may require any or all of the measures proposed by the Proponent in the traffic audit report, or other measures considered appropriate by the Planning Secretary (including additional local area traffic management measures or on-site traffic management controls) to be implemented. The Proponent shall implement the measures required by the Planning Secretary within such period as the Planning Secretary may specify.

4. COMPLIANCE MONITORING AND TRACKING

Compliance Tracking Program

4.1 The Proponent shall develop and implement a **Compliance Tracking Program** to track compliance with the requirements of this approval. The Program shall include, but not necessarily limited to:

a) provisions for periodic review of the compliance status of the project against the requirements of this approval;
b) provisions for periodic reporting of compliance status to the Planning Secretary;
c) a program for independent environmental auditing at least annually, or as otherwise agreed by the Planning Secretary, in accordance with *ISO 19011:2002 - Guidelines for Quality and/ or Environmental Management Systems Auditing*; and
d) mechanisms for rectifying any non-compliance identified during environmental auditing or review of compliance.

5. COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT

5.1 Subject to confidentiality, the Proponent shall make all documents required under this approval available for public inspection on request.

Complaints and Enquiries Procedure

5.2 Prior to the commencement of construction of the project, the Proponent shall ensure that the following are available for community complaints and enquiries for the life of the project (including construction and operation):

a) a telephone number on which complaints and enquiries about construction and operational activities at the site may be registered;
b) a postal address to which written complaints and enquires may be sent; and
c) an email address to which electronic complaints and enquiries may be transmitted.

The telephone number, the postal address and the email address shall be displayed on a sign near the entrance to the site, in a position that is clearly visible to the public, and which clearly indicates the purposes of the sign. This information is also to be provided on the Proponent's website.

5.3 The Proponent shall record details of all complaints received through the means listed under condition 5.2 of this approval in an up-to-date Complaints Register. The Register shall record, but not necessarily be limited to:

a) the date and time, where relevant, of the complaint;
b) the means by which the complaint was made (telephone, mail or email);
c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect;
d) the nature of the complaint;
e) record of operational and meteorological condition contributing to the complaint;
f) any action(s) taken by the Proponent in relation to the complaint, including any follow-up contact with the complainant; and
g) if no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken.

The Complaints Register shall be made available for inspection by the Planning Secretary upon request.

Provision of Electronic Information

5.4 The Proponent shall establish and maintain a new website, or dedicated pages within its existing website for the provision of electronic information associated with the project. The Proponent shall publish and maintain up-to-date information on this website or dedicated pages including, but not necessarily limited to:

a) a copy of the documents referred to under condition 1.1 of this approval, and any documentation supporting modifications to this approval that may be granted from time to time;
b) a copy of this approval and each relevant environmental approval, licence or permit required and obtained in relation to the project;
c) a copy of each strategy, plan, program and audit required under this approval; and
d) the outcomes of compliance tracking in accordance with condition 4.1 of this approval.

6. ENVIRONMENTAL MANAGEMENT

Environmental Representative

6.1 Prior to the commencement of operation of the project, the Proponent shall nominate a suitably qualified and experienced Environmental Representative(s) for the approval of the Planning Secretary. The Proponent shall employ the Environmental Representative(s) on a full-time basis, or as otherwise agreed by the Planning Secretary, during the operation of the project. The Environmental Representative shall be:

a) the primary contact point in relation to the environmental performance of the project;
b) responsible for all management plans and monitoring programs required under this approval;
c) responsible for considering and advising on matters specified in the conditions of this approval, and all other licences and approvals related to the environmental performance and impacts of the project;
d) responsible for receiving and responding to complaints in accordance with condition 5.2 and 5.3 of this approval; and

e) given the authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur.

The Proponent shall notify the Planning Secretary of any changes to that appointment that may occur from time to time.

Construction Environmental Management Plan

6.2 Prior to the commencement of site preparation works or construction of the project, the Proponent shall prepare and submit for the approval of the Planning Secretary a **Construction Environmental Management Plan** to detail an environmental management framework, practices and procedures to be followed during site preparation and construction of the project. The Plan shall be prepared in accordance with *Guideline for the Preparation of Environmental Management Plans* (DIPNR 2004) and shall include, but not necessarily be limited to:

a) a framework consistent with that presented in Chapter 21 of the document referred to under condition 1.1b) of this approval;
b) a description of all activities to be undertaken on site during site establishment and construction of the project including an indication of stages of construction, where relevant;
c) statutory and other obligations that the Proponent is required to fulfil during site establishment and construction, including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
d) specific consideration of measures to address any requirements of the EPA during site establishment and construction;
e) a description of the roles and responsibilities for all relevant employees involved in the site establishment or construction of the project.
f) details of how the environmental performance of the site preparation and construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts. In particular, the following environmental performance issues shall be addressed in the Plan:
    i) measures to monitor and manage dust emissions;
    ii) measures to monitor and minimise soil erosion and the discharge of sediment and other pollutants to lands and/ or waters during construction activities; and
    iii) measures to monitor and control noise emissions during construction works;
g) a description of the roles and responsibilities for all relevant employees involved in site preparation and construction of the project and a program for how these employees will be trained in responsibilities identified in the plan;
h) complaints handling procedures to be applied during operation of the project (conditions 5.2 and condition 5.3 of this approval);
i) the issue-specific management plans listed under condition 6.3 of this approval.

The Construction Environmental Plan shall be made available for inspection by the public upon request following its approval by the Planning Secretary.

6.3 As part of the Construction Environmental Management Plan for the project, required under condition 6.2 of this approval, the Proponent shall prepare and implement the following Management Plans:

a) a **Construction Noise Management Plan** to outline construction noise mitigation, monitoring and management measures to be implemented to

minimise noise impacts during construction of the project. The Plan shall include, but not necessarily be limited to:

i) details of construction activities and a schedule for construction works;
ii) identification of construction activities that have the potential to generate noise and/ or vibration impacts on surrounding land uses, particularly residential areas;
iii) where the relevant construction noise goals contained in the *Noise Management Guideline – Construction Noise* (formerly published as Chapter 171 of the *Environmental Noise Control Manual*) are predicted to be exceeded at sensitive receivers, provision for the application of all practicable and reasonable noise mitigation measures to seek to achieve the relevant construction noise goals;
iv) procedures for notifying residents of construction activities that are likely to effect their noise and vibration amenity, as well as procedures for dealing with and responding to noise complaints; and
v) a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be conducted, how the results of this monitoring would be recorded; and, if any non-compliance is detected.

b) Construction traffic measures including:
   i. a Construction Traffic Management Protocol to detail how heavy vehicle movements associated with the project will be managed during construction. The Protocol shall specifically address the movement of oversize loads to and from the site, the management of construction traffic, restrictions to the hours of heavy vehicle movements to avoid road use conflicts, and the transport of construction waste materials; and
   ii. a Driver's Code of Conduct which details traffic management measures to be implemented during construction to:
      - minimise impacts of the project on the local and regional road network,
      - minimise conflicts with other road users,
      - ensure truck drivers use specific routes and access points, including no left turn access from Cosgrove Road, and
      - minimise traffic noise, particularly during night times hours;

c) a **Heritage Interpretation Plan and Strategy** to detail how heritage items to be retain on-site will be protected during site preparation and construction, and how relocated heritage items will be protected and maintained during those works. The Plan shall include a strategy for the on-going management and interpretation of heritage items and values on the site, and shall be prepared in accordance with OEH (Heritage Division) guidelines;

d) a **Landscape and Ecological Area Management Plan** to detail how the site will be landscaped and maintained. The Plan shall be generally consistent with the Landscape Masterplan presented in the document referred to under condition 1.1b) of this approval and shall include, but not necessarily be limited to:

i) provision for the use of locally-endemic native species for landscaping the site;
ii) consideration of landscaping locations and densities to maximise visual screening of the project from residential receptors and public open space;
iii) measures to maximise the retention of locally-endemic native species existing on the site, and removal of weeds and non-indigenous vegetation; and
iv) measures for the enhancement, revegetation and on-going management of the Ecological Area on the site, including measures to provide suitable habitat for *Litoria Aurea*;

e) a **Construction Dust Management Protocol** to detail how dust impacts will be mitigated, monitored and managed during construction of the project. The Plan shall include procedures for the identification of situations in which site preparation or construction works may contribute to an ambient PM_{10} concentration (24-hour) of greater than 50 μgm^{-3} at any off-site residential receptor, with details of measures to be implemented (including alteration or cessation of works, as may be relevant) to prevent or minimise exceedance of this criterion, in so far as the exceedance may relate to activities associated with the project.

f) A **Mt Enfield Stabilisation Management Plan** to detail how the batters of Mt Enfield and associated drainage will be managed during construction and until such time as it is stabilised with vegetation. The plan shall include but not be limited to:

(i) measures to prevent soil erosion and the discharge of sedimentation to lands or waters, including to the Green and Golden Bell Frog Habitat Creation Area and Cox's Creek;

(ii) identification of where runoff from Mt Enfield is to be directed to, indicating ponding and flow paths to ensure runoff volume and increased flow velocity has been provided for, with the objective of not exceeding current rates;

(iii) measures to mitigate potential dust impacts on sensitive receivers including the Green and Golden Bell Frog Habitat Creation Area and surrounding residences; and

(iv) measures for the enhancement, revegetation and on-going landscape management of the Mt Enfield site, undertaken in consultation with Strathfield Municipal Council and Canterbury Bankstown Council, and the local community.

The ongoing management of drainage structures and landscaping associated with Mt Enfield shall be incorporated into the Operation Environmental Management Plan required under condition 6.4 of this approval.

g) Tarpaulin Factory Area Earthworks Environmental Management Plan which shall include but not be limited to:

(i) the measures contained in the letter – Green and Golden Bell Frog Conservation Measures Tarpaulin Shed Site Enfield, prepared by Biosphere Environmental Consultants, 27 November 2016;

(ii) measures to minimise dust emissions in accordance with conditions 2.22 to 2.27 including measures to mitigate potential dust impacts on Green and Golden Bell Frog habitat;

(iii) measures to minimise soil erosion in accordance with condition 2.29 and to ensure only clean surface water flows are discharged to the frog ponds;

(iv) management of stockpiles in accordance with condition 2.30;

(v) management of waste and remediation of the site in accordance with conditions 2.39 to 2.42, 2.44 and the Remediation Action Plan (RAP), 127 Cosgrove Road, South Strathfield, NSW, Flower Power Group, prepared by ZOIC, February 2017 including air quality monitoring for asbestos;

(vi) measures to verify that imported material is consistent with that specified in the RAP;

(vii) landscaping of disturbed areas in accordance with the Landscape and Ecological Area Management Plan under condition 6.3(d);

(viii) protection of heritage items including the relocated Pillar Water Tank; and

(ix) unexpected finds protocol.

A copy of the approved Tarpaulin Factory Area Earthworks Environmental Management Plan is to be provided to Strathfield Council.

h) a Fill Importation Protocol (FIP) outlining the requirements of the imported fill, including the source and type, and containing the requirement to place and compact imported material as fill immediately upon arrival to the site. The FIP is to include the requirement that only virgin excavated natural material/ excavated natural material can be imported from off-site. All bulk earthworks should be undertaken in accordance with the approved FIP.

The Construction Environmental Management Plan required under this condition and Condition 6.2 shall be updated (where necessary) to reflect any changes arising from modifications to this approval.

Operation Environmental Management Plan

6.4 Prior to the commencement of operation of the project, the Proponent shall prepare and submit for the approval of the Planning Secretary an **Operation Environmental Management Plan** (OEMP) to detail an environmental management framework, practices and procedures to be followed during the operation of the project. The Plan shall be consistent with the Department's *Guideline for the Preparation of Environmental Management Plans* (DIPNR 2004), and shall include, but not necessarily be limited to:

a) a framework consistent with that presented in Chapter 21 of the document referred to under condition 1.1b) of this approval;
b) a description of all activities to be undertaken on the site during operation of the project;
c) statutory and other obligations that the Proponent is required to fulfil during operation, including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
d) specific consideration of measures to address the reasonable requirements of Strathfield Municipal Council, Canterbury Bankstown Council and the EPA during operation;
e) details of how the environmental performance of operations will be monitored, and what actions will be taken to address identified adverse environmental impacts;
f) a description of the roles and responsibilities for all relevant employees involved in the operation of the project and a program for how these employees will be trained in responsibilities identified in the plan;
g) complaints handling procedures to be applied during operation of the project (conditions 5.2 and condition 5.3 of this approval).
h) the issue-specific management plans listed under condition 6.5 of this approval.

6.5 As part of the Operation Environmental Management Plan for the project, required under condition 6.4 of this approval, the Proponent shall prepare and implement the following Management Plans:

a) an **Operation Noise Management Plan** to outline monitoring, management procedures and measures to minimise operational noise impacts associated with the project, including traffic-related noise. The Plan shall include, but not necessarily be limited to:
   i) identification of all relevant receivers and the applicable criteria at those receivers commensurate with the noise limits specified under this approval;

ii) identification of activities that will be carried out in relation to the project and the associated noise sources;
iii) assessment of project noise impacts at the relevant receivers against the noise limits specified under this approval;
iv) details of management measures, methods and procedures that will be implemented to control individual and overall noise emissions from the site and specific land uses to ensure compliance with condition 2.17;
v) details of the management measures and procedures that will be implemented in Empty Container Storage Areas A and B to ensure that acoustic barriers constructed from empty storage containers are established at the correct time, height, length, and location to ensure compliance with condition 2.17;
vi) details of the management measures that will be undertaken to ensure that activities undertaken in Empty Container Storage Area B in the area to the north of the northern noise wall, including the restriction of container stacking, comply with the requirements of condition 2.17;
vii) development of reactive and pro-active strategies for dealing promptly with any noise complaints;
viii) noise monitoring and reporting procedures; and
ix) regular internal audits of compliance of all plant and equipment with acceptable design noise.

b) an **Operation Traffic Management Plan** to outline measures to minimise and manage any impacts from the operation of the project on the local road network. The Plan shall include, but not necessarily be limited to:
i) a driver education program to ensure that heavy vehicles comply with the requirements of this approval and the commitments made in the documents referred to under condition 1.1, particularly with respect to heavy vehicle routes;
i-a) a Driver's Code of Conduct which details traffic management measures to be implemented during operation to:
- minimise impacts of the project on the local and regional road network,
- minimise conflicts with other road users,
- ensure truck drivers use specific routes and access points, including no left turn access from Cosgrove Road, and
- minimise traffic noise, particularly during night times hours;

ii) movement scheduling where practicable to reduce impacts during sensitive time periods;
iii) specific measures for ensuring that all heavy vehicle operators associated with the project are aware of and implement the Plan;
iv) a system for identifying and ensuring conformance with the Plan, including conformance monitoring, procedures for implementing and monitoring corrective and preventative action, and penalties for breaches of the Plan; and
v) a continuous improvement process for assessing Plan effectiveness and implementing improvements to the Plan.

c) **a Long Term Environmental Management Plan**, where required to manage interactions with the site as remediated. The Plan must be prepared to the satisfaction of the Planning Secretary, and must:
(i) be prepared by a suitably qualified and experienced person whose appointment has been endorsed by the Planning Secretary in consultation with EPA;
(ii) be submitted to EPA for review and be approved by the Planning Secretary within one month of the completion of remediation works, unless otherwise agreed by the Planning Secretary; and

(iii) include, but not be limited to:

- a description of the nature and location of any contamination remaining on site;
- provisions to manage and monitor any remaining contamination, including details of any restrictions placed on the land to prevent development over the containment cell;
- a description of the procedures for managing any leachate generated from the containment cell, including any requirements for testing, pumping, treatment and/or disposal;
- a description of the procedures for monitoring the integrity of the containment cell;
- a surface and groundwater monitoring program;
- mechanisms to report results to relevant agencies;
- triggers that would indicate if further remediation is required; and
- details of any contingency measures that the Applicant is to carry out to address any ongoing contamination.

Upon completion of the remediation works, the Applicant must manage the site in accordance with the LTEMP and any on-going maintenance of remediation notice issued by EPA under *the Contaminated Land Management Act 1997*.

6.6 The Operation Environmental Management Plan required under conditions 6.4 and 6.5 shall be periodically reviewed and maintained, to reflect any phasing of implementation of the project, and any operational changes that may be made from time to time, and updated (where necessary) to reflect any changes arising from modifications to this approval.

7. ENVIRONMENTAL REPORTING

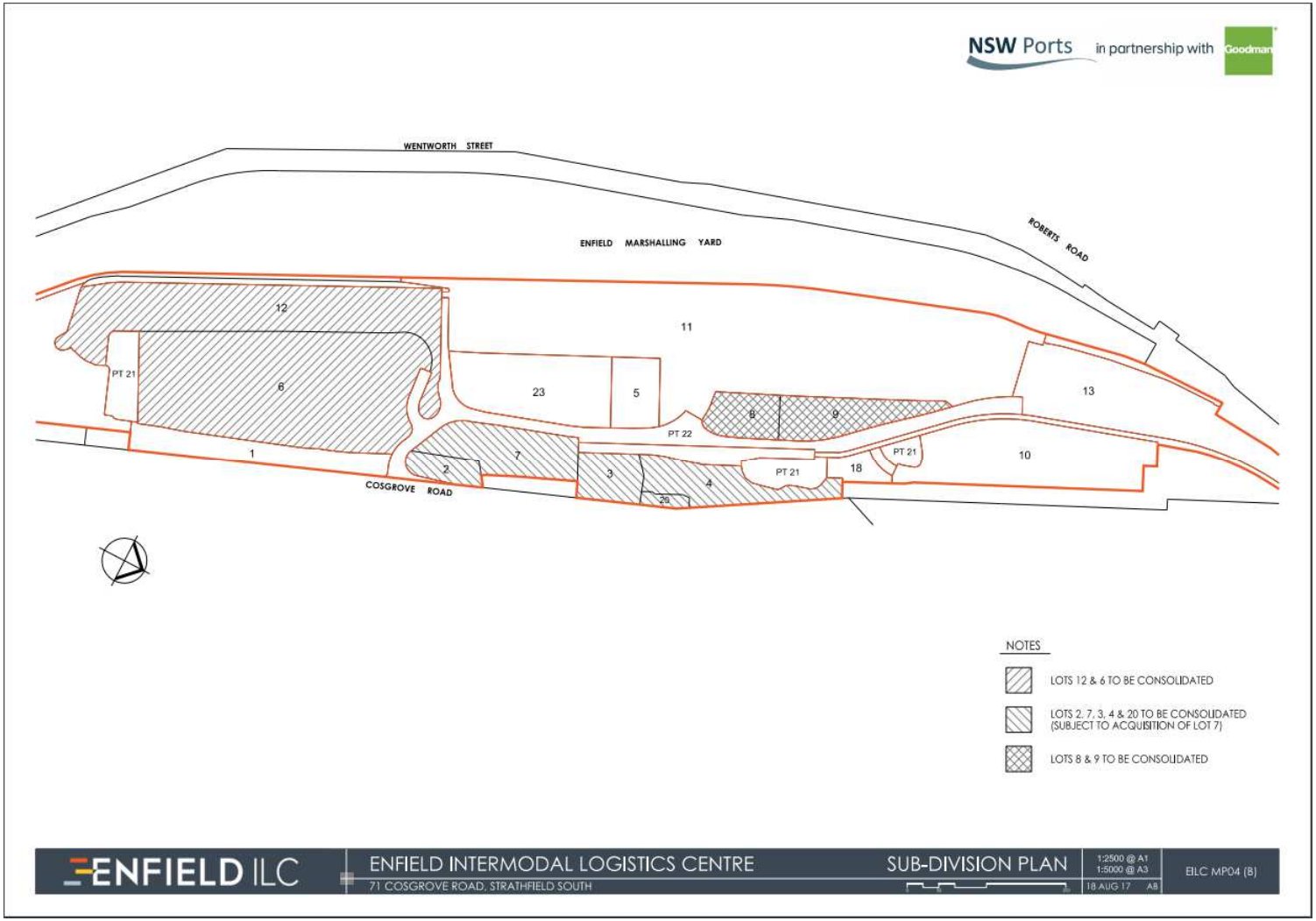
Incident Reporting

7.1 The Proponent shall notify the Planning Secretary of any incident with actual or potential significant off-Site impacts on people or the biophysical environment as soon as practicable after the occurrence of the incident. The Proponent shall provide written details of the incident to the Planning Secretary within seven days of the date on which the incident occurred.

7.2 The Proponent shall maintain a register of accidents, incidents and potential incidents with actual or potential significant off-Site impacts on people or the biophysical environment. The register shall be made available for inspection at any time by the independent qualified person or team conducting the Environmental Audit and/or the Planning Secretary.

7.3 The Proponent shall meet the requirements of the Planning Secretary to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition 7.1 of this consent, within such period as the Planning Secretary may agree.

APPENDIX 1
PLAN OF SUBDIVISION



APPENDIX B

Relevant Development Consent Conditions

MP 05_0147	Comments
1. ADMINISTRATIVE CONDITIONS	
Terms of Approval 1.1 The Proponent shall carry out the project generally in accordance with the: a) *Major Projects Application 05_0147;* b) *Environmental Assessment: Intermodal Logistics Centre at Enfield, dated October 2005 and prepared by Sinclair Knight Merz (SKM);* c) *Response to submissions and revised Statement of Commitments detailed in Intermodal Logistics Centre: Preferred Project Report prepared by Sinclair Knight Merz Pty Ltd, dated June 2006;* d) *Additional information provided by Sinclair Knight Merz Pty Ltd to the Department titled Project Changes – Enfield ILC and dated 14 July 2007;* e) *Additional information provided by Sinclair Knight Merz Pty Ltd to the Department titled Light Industrial and Commercial Area – Enfield ILC and dated 6 August 2007;* f) *Letter from Sydney Ports Corporation titled Project Approval Modification Application Intermodal Logistics Centre at Enfield, Sydney Ports Corporation (undated) and received 28 August 2008;* g) *Letter from Sydney Ports Corporation titled Project Approval Modification Application Intermodal Logistics Centre at Enfield, Sydney Ports Corporation and dated 5 February 2009;* h) *Intermodal Logistics Centre at Enfield Modification Application ILC-E-PT3A REV A , Sydney Ports Corporation and dated 31 August 2009;* i) *Intermodal Logistics Centre at Enfield, Modification Application 05_0147 – Project Adjustments. Response to Stakeholders Submissions (Revision A), prepared by Sydney Ports Corporation and dated November 2009;* j) *Intermodal Logistics Centre at Enfield, Modification Application 05_0147 – Project Adjustments. Supporting Information to Modification Application, prepared by Sydney Ports Corporation and dated 26 March 2010;* k) *Intermodal Logistics Centre at Enfield, Modification Application 05_0147 – On Site Management of Unsuitable Engineering Fill, prepared by Sydney Ports Corporation and dated May 2011;* l) *Intermodal Logistics Centre at Enfield Modification Application No. 5 On Site Management of Unsuitable Engineering Fill Response to Submissions, prepared by Sydney Ports Corporation and dated August 2011;* m) *Intermodal Logistics Centre at Enfield, Modification Application No.6 Early Contractor Involvement Detailed Design Adjustments and Subdivision,* prepared by Sydney Ports and dated April 2012; n) *Intermodal Logistics Centre at Enfield, Modification Application No.6 ECI Detailed Design Adjustments and Subdivision,* prepared by Sydney Ports and dated July 2012; o) *Intermodal Logistics Centre: Enfield Modification Application No 8, Subdivision – Changes and Amendments*, prepared by NSW Ports and dated 2 September 2013;	Noted

MP 05_0147	Comments
p) *Addendum Assessment Report, Modification No.8 to Major Project MP 05_0147 – Intermodal Logistics Centre (ILC) at Enfield: Subdivision Changes and Amendments*, prepared by NSW Ports and dated 19 September 2013; q) *Environmental Assessment – Modification Application No. 11 – Additional warehouse* prepared by TIA Project group dated September 2016 and supporting information dated 6 December 2016 and 23 December 2016; r) *Environmental assessment – Modification No. 12 – Extension of Existing Rail Sidings and Administration Office Expansion* prepared by TIA Project Group dated November 2016 and supporting Noise Impact Assessment prepared by SLR Consulting dated 3 November 2016; and s) *Environmental Assessment – Modification Application No. 13 – 127 Cosgrove Road. South Strathfield*, prepared by LJB Urban Planning dated August 2017; and the associated Remediation Action Plan (RAP), 127 Cosgrove Road, South Strathfield, NSW, Flower Power Group, prepared by ZOIC, February 2017; Green and Golden Bell Frog Conservation Measures Tarpaulin Shed Site Enfield, prepared by Biosphere Environmental Consultants, 27 November 2016; and email titled RE: Enfield Intermodal Logistics Centre MOD 13, prepared by LJB Urban Planning Pty Limited, dated 28 May 2018; t) *Environmental Assessment – Modification No. 14 – Modification of Built Form and operational parameters* prepared by Urbis dated January 2018, and Enfield ILC, Strathfield South MP 05_0147 MOD 14 – Response to Submissions submitted by Goodman on 8 June 2018; and u) the conditions of this approval	Noted
1.2 In the event of an inconsistency between: a) the conditions of this approval and any document listed from condition 1.1a) to 1.1t) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and b) any of the documents listed from condition 1.1a) to 1.1t) inclusive, the most recent document shall prevail to the extent of the inconsistency.	Noted
1.3 The Proponent shall comply with any reasonable requirement(s) of the Planning Secretary arising from the Department's assessment of: a) any reports, plans or correspondence that are submitted in accordance with this approval; and b) the implementation of any actions or measures contained in these reports, plans or correspondence.	No additional requirements have been received from DPIE. This is managed by NSW Ports.
Limits of Approval 1.4 This approval shall lapse five years after the date on which it is granted, unless the works the subject of this approval are physically and substantially commenced on or before that time.	Noted. This is managed by NSW Ports.
Capacity Limits and Staging 1.5 The project shall be limited to a maximum throughput of 300,000 TEU per annum, for the rail to intermodal terminal interface and warehousing interface. Note: For the avoidance of doubt, this does not include internal TEU movements.	Noted. This is managed by NSW Ports.

<table>
<tr><th>MP 05_0147</th><th>Comments</th></tr>
<tr><td>Warehousing and Distribution
1.6 The Proponent is permitted to construct and operate warehouses across six precincts (A, C to F and H) associated with the project, generally in accordance with the documents referred to under condition 1.1t). Warehouses are permitted to be used for freight handling, packing/re-packing, storage and distribution, and for activities ancillary to these uses. Each warehouse shall not exceed a height of 13.7 metres at its highest point (excluding minor ancillary structures such as communications equipment, air conditioning units, or solar panelling), and shall be limited to a footprint no greater than the relevant area specified in Table 1 below.
Table 1 - Maximum Building Area (per precinct)
<table>
<tr><th>Precinct</th><th>Maximum Footprint (m^2)</th></tr>
<tr><td>A</td><td>62,600</td></tr>
<tr><td>C</td><td>10,487</td></tr>
<tr><td>D</td><td>11,460</td></tr>
<tr><td>E</td><td>7,604</td></tr>
<tr><td>F</td><td>9,620</td></tr>
<tr><td>H</td><td>16,475</td></tr>
</table></td><td>Precinct H building footprint complies with Condition 1.6.</td></tr>
<tr><td>1.7 No warehouse is permitted to undertake packaging, repackaging or decanting of dangerous goods unless and until the Proponent has submitted a risk assessment of such operations for the approval of the Planning Secretary. Any such risk assessment shall be undertaken in accordance with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DUAP, 1997) and Multi-Level Risk Assessment (DUAP, 1997).</td><td>Section 3.10</td></tr>
<tr><td>1.10 No component of the light industrial/ commercial area is permitted to store, handle or transfer dangerous goods above the thresholds specified in Applying SEPP 33 (DUAP, 1994) (i.e. characterisation of such development as “potentially hazardous development” as defined under State Environmental Planning Policy No. 33 – Hazardous and Offensive Development), unless and until the Proponent has submitted a Hazard Analysis for the approval Planning Secretary. The Hazard Analysis shall be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DUAP, 1997) and Multi-Level Risk Assessment (DUAP, 1997). Operation of each relevant component of the light industrial/ commercial area shall not operate until the Planning Secretary’s approval of the applicable Hazard Analysis has been issued (if required under this condition).</td><td>Section 3.10</td></tr>
<tr><td>Statutory Requirements
1.12 The Proponent shall ensure that all licences, permits and approvals are obtained and kept up-to-date as required throughout the life of the development. No condition of this consent removes the obligation for the Proponent to obtain, renew or comply with such licences, permits or approvals. The Proponent shall ensure that a copy of this approval and all relevant environmental approvals are available on the site at all times during the project.</td><td>This is managed by NSW Ports.</td></tr>
<tr><td>1.16 Land uses and operations within each lot shall be consistent with the approved project as described in conditions 1.1a) to 1.1t) and meet the requirements of this approval.</td><td>This is managed by NSW Ports.</td></tr>
<tr><td colspan="2">2. SPECIFIC ENVIRONMENTAL CONDITIONS</td></tr>
</table>

MP 05_0147	Comments
2.2 The Proponent shall provide a manual and/or technological solution to control the frequency of articulated and B-double vehicles utilising the Cosgrove Road entrance to the site during morning and afternoon peak periods.	This condition has been completed and closed in accordance with the *Compliance Tracking Report No. 10* (April - Oct 2017), approved by the DPIE on the 9 January 2018.
2.2C The Proponent is to comply with any reasonable additional operation traffic management measures as directed by the Planning Secretary in consultation with Transport for NSW and RMS following review of any Intermodal Freight Transportation report, Traffic and Capacity Monitoring Program, or Traffic Audit.	This is managed by NSW Ports.
2.3A The Proponent must prepare a Work Place Travel Plan to the satisfaction of the Planning Secretary prior to the issue of any Occupation Certificate for any warehouse permitted as part of the approval of MP 05_0147 MOD 14. The Proponent must ensure that the Work Place Travel Plan (as revised from time to time) is implemented for the life of the Project.	Section 3.3 and Appendix F
Local Area Traffic Management 2.4 Prior to the commencement of operation of the project, the Proponent shall develop and implement, in consultation with the RMS, Strathfield Municipal Council and Canterbury Bankstown Council, the following measures to prevent the movement of heavy vehicles through residential areas of Greenacre to the west of the project, generally between Roberts Road, Boronia Road and the Hume Highway: a) physical measures to discourage through-traffic across Roberts Road at the intersection of Norfolk Road, with the aim of preventing heavy vehicles leaving the project from directly accessing residential areas, and reducing the desirability of rat-running through those residential areas; b) closure of the median strip on the Hume Highway at Como Road, to prevent heavy vehicles turning right into residential areas on the way to the project; c) traffic calming measures on Rawson Road to reduce the desirability of heavy vehicles travelling along this route between the Hume Highway and the project; d) stop signs on Noble Avenue at the intersections of Chiswick Road and Northcote Road to reduce the desirability of vehicles rat-running in a north-south direction through residential areas; and e) imposition of load limits on Karuah Street and Valencia Street to prevent heavy vehicles lawfully using this route as a by-pass around Boronia Road.	This condition has been completed and closed in accordance with the *Compliance Tracking Report No. 10* (April - Oct 2017), approved by the DPIE on the 9 January 2018.
2.5 Prior to the commencement of operation of the project, the Proponent shall consult with the State Transit Authority, and relevant bus operators, with the aim of relocating bus routes currently following Roberts Road. Should relocation of these bus routes be agreed between the parties, the Proponent shall install physical measures to prevent through-traffic across Roberts Road at the intersection of Norfolk Road. Any such road works shall be undertaken in consultation with, and to meet the requirements of, the RMS. Notwithstanding condition 2.4b) of this approval, should physical measures be implemented on Roberts Road at the intersection of Norfolk Road, the Proponent shall review the need for closure of the median strip on Hume Highway at Como Road in consultation with RMS, and if agreed by the RMS, no longer be required to implement those works.	This condition has been completed and closed in accordance with the *Compliance Tracking Report No. 10* (April - Oct 2017), approved by the DPIE on the 9 January 2018.

MP 05_0147	Comments
2.6 The Proponent shall investigate, in consultation with Strathfield Municipal Council, opportunities to install 4-hour parking restrictions along the full length of Wentworth Avenue to discourage the parking of trailers on the approach to the site. Should such measures be found to be feasible and agreed by Council, the Proponent shall arrange to have parking restrictions in place prior to the commencement of operation of the project.	This condition has been completed and closed in accordance with the *Compliance Tracking Report No. 10* (April - Oct 2017), approved by the DPIE on the 9 January 2018.
Regional Traffic Management 2.7 Prior to the commencement of operation of the project, the Proponent shall upgrade the intersection of Roberts Road and Norfolk Road, as agreed with the RMS and in accordance with relevant RMS standards. The upgrade works shall comprise: a) upgrade of the intersection to accommodate 19-metre semi-trailer and 25-metre B-double swept paths in accordance with relevant RMS guidelines and AUSTROADS standards; b) extension of the Roberts Road northbound right-turn bay to 150 metres; c) provision of a southbound slip lane into Norfolk Road; d) provision of a diamond phasing operation on Norfolk Road to ensure right-turn movements can be carried out in a controlled and safe environment; e) reconfiguration of Norfolk Road east to provide a right-turn bay, with the right- turn bays in Norfolk Road facing each other; f) provision of three lanes for exiting traffic (including the right-turn bay) from Norfolk Road east by widening the intersection to the north; and g) median island works on Roberts Road to achieve the necessary turning path on entry and exit to and from Norfolk Road.	This condition has been completed and closed in accordance with the *Compliance Tracking Report No. 10* (April - Oct 2017), approved by the DPIE on the 9 January 2018.
2.8 Prior to the commencement of operation of the project, the Proponent shall validate that the intersection of Norfolk Road and Wentworth Street, and the intersection of Cosgrove Road and the Hume Highway can accommodate 19-metre semi-trailer and 25-metre B-double swept paths in accordance with relevant RMS guidelines and AUSTROADS standards. Where necessary, the Proponent shall arrange for the upgrade of these intersections to accommodate 19-metre semi-trailer and 25-metre B- double swept paths, in consultation with and to the satisfaction of the RMS. All upgrade works shall be completed prior to the commencement of operation of the project, unless otherwise agreed by the RMS.	This condition has been completed and closed in accordance with the *Compliance Tracking Report No. 10* (April - Oct 2017), approved by the DPIE on the 9 January 2018.
2.9 Prior to the commencement of operation of the project, the Proponent shall validate that the pavement of Wentworth Street and Norfolk Road, between Roberts Road and the access point for the site is of a standard suitable for 19-metre semi-trailer and 25- metre B-double vehicles. Where necessary, the Proponent shall arrange for the upgrade of the pavement of these roads to a standard suitable for 19-metre semi- trailer and 25-metre B-double vehicles in consultation with and to the satisfaction of the RMS. All upgrade works shall be completed prior to the commencement of operation of the project, unless otherwise agreed by the RMS.	This condition has been completed and closed in accordance with the *Compliance Tracking Report No. 10* (April - Oct 2017), approved by the DPIE on the 9 January 2018.

MP 05_0147	Comments
Coordination and Management of Transport Issues 2.12 The Proponent shall establish and maintain for the life of the project, unless otherwise agreed by the Planning Secretary, a Road Transport Coordination Group to oversee and coordinate the management of traffic and road issues associated with and affected by the project. The Group shall include representatives of the Proponent, the Department, the RMS, Strathfield Municipal Council and Canterbury Bankstown Council, and shall operate in accordance with terms of reference agreed by those parties at the first meeting(s) of the Group. The Proponent shall bear the full cost of administering the Group.	This is managed by NSW Ports.
Noise Impacts 2.13 The Proponent shall minimise noise emissions from plant and equipment operated on the site by installing and maintaining, wherever practicable, efficient silencers, low-noise mufflers (residential standard) and by replacing reversing alarms with alternative silent measures, such as flashing lights (subject to occupational health and safety requirements).	Section 3.2
Operation Noise 2.17 The Proponent shall design, construct, operate and maintain the project to ensure that the operational noise contributions from the project do not exceed the maximum allowable noise contributions specified in **Table 6**, at those locations and during those periods indicated. The maximum allowable noise contributions apply under: a) wind speeds up to 3 ms-1 (measured at 10 metres above ground level); or b) temperature inversion conditions up to 3°C per 100 metres and wind speeds up to 2 ms-1 (measured at 10 metres above ground level).	Section 3.2
2.18 For the purpose of assessment of noise contributions specified under condition 2.17 of this consent, noise from the development shall be: a) measured at the most affected point on or within the site boundary at the most sensitive locations to determine compliance with LAeq(15-minute) and LAeq(period) noise limits; b) measured in the free field at least 3.5 metres from any vertical reflecting surface in line with the worst-affected dwelling façade to determine compliance with LA1(1-minute) noise limits; and c) subject to the modification factors provided in Section 4 of the New South Wales Industrial Noise Policy (EPA, 2017), where applicable. Notwithstanding, should direct measurement of noise from the development be impractical, the Proponent may employ an alternative noise assessment method deemed acceptable by the EPA (refer to Section 11 of the *Noise Policy for Industry New South Wales* (EPA, 2000)). Details of such an alternative noise assessment method accepted by the EPA shall be submitted to the Planning Secretary prior to the implementation of the assessment method.	Section 3.2
2.19 To avoid any doubt, the Proponent shall ensure that locomotives located on the site and associated with the operation of the project do not cause an exceedance of the noise limits specified under condition 2.17 of this approval. This shall include, where necessary, measures to mitigate and manage noise associated with locomotive idling and any shunting operations occurring on the site.	No locomotives will be located at the Site.

MP 05_0147	Comments
Odour 2.21 The Proponent shall not permit any offensive odour, as defined under section 129 of the *Protection of the Environment Operations Act 1997*, to be emitted beyond the boundary of land owned by the Proponent (the site the subject of this approval).	Section 3.4
Dust Emissions 2.22 The Proponent shall design, construct, commission, operate and maintain the project in a manner that minimises or prevents the emission of dust from the site including windblown and traffic generated dust.	Section 3.4
2.23 The Proponent shall take all practicable measures to ensure that all vehicles entering or leaving the site, carrying a load that may generate dust, are covered at all times, except during loading and unloading. Any such vehicles shall be covered or enclosed in a manner that will prevent emissions of dust from the vehicle at all times, to the extent practicable.	Section 3.4
2.24 All activities on the site shall be undertaken with the objective of preventing visible emissions of dust beyond the boundary of the site. Should such visible dust emissions occur at any time, the Proponent shall identify and implement all practicable dust mitigation measures, including cessation of relevant works, as appropriate, such that emissions of visible dust cease.	Section 3.4
Water Quality and Hydrological Impacts 2.28 Except as may be expressively provided under an Environment Protection Licence applicable to the project, the Proponent shall comply with section 120 of the *Protection of the Environment Operations Act 1997* which prohibits the pollution of waters.	Noted
2.31 The Proponent shall construct and maintain stormwater detention basins on the site, generally consistent with the basin sizes/ locations presented in the document referred to under conditions 1.1m) and 1.1n) of this approval. Opportunities to reuse stormwater from detention basins for ecological areas or for site operations shall be investigated during detailed design of the project, and where practicable, the Proponent shall utilise collected water preferentially to external potable water supplies for operational activities on the site, subject to testing to confirm the suitability of collected water quality.	This condition has been completed and closed in accordance with the *Compliance Tracking Report No. 10* (April - Oct 2017), approved by the DPIE on the 9 January 2018.
2.32 All quarantine and machinery wash down waters and amenities wastewater shall be directed to sewer (subject to Sydney Water Corporation approval), or to an appropriately licensed liquid waste disposal facility.	Section 3.6
2.33 The Proponent shall design, install, maintain and operate rainwater tanks for the collection of water for domestic uses on the site. Collected rainwater shall be used preferentially to external potable water supplies.	Section 3.6
Heritage Impacts and Management 2.34 Except for necessary stabilisation works agreed in consultation with the OEH (Heritage Division), the Proponent is not permitted to destroy, modify or otherwise physically affect the Tarpaulin Factory as part of this approval. Any proposal to destroy, modify, redevelop, relocate or otherwise physically affect the Tarpaulin Factory, except for agreed stabilisation works, shall be the subject of further assessment and approval in accordance with the *Environmental Planning and Assessment Act 1979*.	The Tarpaulin Factory is located to the Southern Precinct and will therefore not be impacted by the operation of the Site. This condition has been completed and closed in accordance with the *Compliance Tracking Report No. 10* (April - Oct 2017), approved by the DPIE on the 9 January 2018.

MP 05_0147	Comments
2.35 The Proponent shall relocate and maintain the Pillar Water Tank to an appropriate location within the site, determined in consultation with the OEH (Heritage Division).	The Pillar Water Tank has been relocated to the Southern Precinct and will therefore not be impacted by the operation of the Site. This condition has been completed and closed in accordance with the *Compliance Tracking Report No. 10* (April - Oct 2017), approved by the DPIE on the 9 January 2018.
Waste Generation and Management 2.39 All waste materials removed from the site shall only be directed to a waste management facility lawfully permitted to accept the materials.	Section 3.7
2.40 The Proponent shall ensure that all liquid and/ or non-liquid waste generated, stored on the site or disposed of, is assessed and classified in accordance with the *Waste Classification Guidelines* (EPA, 2014).	Section 3.7
2.41 The Proponent shall ensure that the transport of any hazardous and/or industrial and/or Group A waste from the site is conducted strictly in accordance with any requirements that may be specified by the EPA in relation to the transport of those wastes.	Section 3.7
2.44 The Proponent shall manage any asbestos or asbestos-contaminated materials that may be uncovered during the construction, commissioning and operation of the project strictly in accordance with the requirements under *Protection of the Environment Operations (Waste) Regulation 2014* and any guidelines or requirements issued by the EPA in relation to those materials.	This is managed by NSW Ports.
Visual Amenity and Urban Design 2.45 The Proponent shall ensure that all structures on the site are designed, constructed and maintained to maximise, where practicable, the use of natural ventilation and natural lighting, and to minimise energy consumption associated with heating, cooling and lighting.	Section 3.8
2.46 The Proponent shall ensure that all external lighting installed as part of the project is mounted, screened, and directed in such a manner so as not to create a nuisance to surrounding land uses. The lighting shall be the minimum level of illumination necessary, and be in general accordance with the latest version of *AS 4282 – 1997 Control of the Obtrusive Effects of Outdoor Lighting.*	Section 3.8

MP 05_0147	Comments
Ecological Impacts 2.48 The Proponent shall implement all of the relevant actions for the site recommended in the *Management Plan for the Green and Golden Bell Frog Key Population at Greenacre* (DECC, May 2007), being: a) creation of overwintering habitat as part of the two-hectare improved foraging habitat at the southern end of the site; b) provision of linkages to the former RailCorp ponds; and c) restrictions on the use of herbicides in known frog habitat and attainment of water quality standards for water discharged from the site. These actions shall be incorporated within both the Construction Environmental Management Plan (refer to condition 6.2) and the Operation Environmental Management Plan (refer to condition 6.4) as relevant, including provisions for monitoring the outcomes of these actions and periodically reporting outcomes to the OEH at a frequency agreed with the OEH.	These have been satisfied by NSW Ports
2.48A The Proponent shall implement the mitigation measures identified in Section 7.1 of the *ILC at Enfield Impact Assessment on Green and Golden Bell Frogs: Addition of Fill Material to Mt Enfield* (Biosphere Environmental Consultants Pty Ltd, 2011), the supplementary letter of advice dated 10 January 2018 (Biosphere Consultants Pty Ltd, 2018), and the following: a) the installation of an exclusion fence to help prevent frogs from entering the construction site; b) the installation of silt fences and silt trapping devices prior to any earthworks, and the use of dust suppression methods throughout construction, to prevent wind-blown dust from entering the frog habitat area; c) the establishment of run-off barriers between the construction areas and the frog habitat area, to prevent accidental spills and/or stormwater waste from entering the frog habitat area; d) the installation of visual screens to minimise light spill into the frog habitat area, from night construction works; e) the demarcation of the frog habitat area as a "no go" area, using barrier bunting and signs that indicate the significance of the area and that the site is off limits to people, machinery and plant equipment; f) the installation of an exclusion fence to help prevent frogs from entering the operational areas; g) the installation of diversion bunds to ensure hazardous liquids can never enter the frog habitat area; and h) the installation of visual screens to minimise light spill into the frog habitat area, from trucks and plant equipment operating throughout the night. These actions shall be incorporated within the Construction Environmental Management Plan (condition 6.2 of this approval) and the Operation Environment Management Plan (condition 6.4 of this approval), as relevant.	As advised by NSW Ports, this condition is only required for operation at Precinct A which is situated adjacent to the frog habitat. Screens and fencing are permanently set up around the frog ponds and will be maintained by NSW Ports for the duration of operations.
2.50 The Proponent shall store and handle all dangerous goods (not being unopened, containerised goods), as defined by the Australian Dangerous Goods Code, strictly in accordance with: a) all relevant Australian Standards; and b) *Work Health and Safety Regulation 2017*. In the event of an inconsistency between the requirements listed from a) to c) above, the most stringent requirement shall prevail to the extent of the inconsistency.	Section 3.10

MP 05_0147	Comments
2.51 The Proponent shall investigate, in consultation with relevant emergency services, whether additional measures are required along Cosgrove Road, including parking restrictions, to ensure clear and safe access to the site in the event of an emergency.	Consultation with emergency services was undertaken in July 2013. This condition has been completed and closed in accordance with the *Compliance Tracking Report No. 10* (April - Oct 2017), approved by the DPIE on the 9 January 2018.
3. ENVIRONMENTAL MONITORING AND AUDITING	
Noise Auditing 3.3 Within 90 days of the project reaching annual throughput of 50,000 TEU, 150,000 TEU and 250,000 TEU, and within commencement of operations in Empty Container Storage Area A, or at such other time as may be directed or agreed by the Planning Secretary, and during a period in which the project is operating under normal operating conditions, the Proponent shall undertake a program to confirm the noise emission performance of the project. The program shall include, but not necessarily be limited to: a) noise monitoring, consistent with the guidelines provided in the New South Wales Industrial Noise Policy (EPA, 2000), to assess compliance with condition b) 2.17 of this consent; c) methodologies, locations and frequencies for noise monitoring; d) identification of monitoring sites at which pre- and post-project development noise levels can be ascertained; e) details of any complaints received in relation to noise generated by the project; f) an assessment of night-time use of audible alarm systems; g) an assessment of the effectiveness of stacked empty containers as acoustic barriers in Empty Container Storage Area A; h) details of any noise mitigation measures and timetables for implementation; i) a statement of whether the site is in compliance with the noise limits outlined in condition 2.17; and j) recommendations and timetables for implementation for any reasonable and feasible additional measures necessary to ensure compliance with the relevant noise-related conditions of this approval.	This is managed by NSW Ports.

MP 05_0147	Comments
Traffic Monitoring and Auditing 3.6 The Proponent shall develop and implement a Traffic and Capacity Monitoring Program to monitor the throughput and traffic generation of the project. The Program shall include, but not necessarily be limited to: a) provisions for monitoring the throughput of the project; b) provisions for representative monitoring the traffic generation of the project, with reference to traffic generation as a function of project throughput, type of road transport employed, hours of traffic movements and intended road traffic destinations; c) provisions for periodic monitoring of traffic movements generated by the project in the surrounding road network, with a particular focus on the residential areas of Greenacre to the west of the project, generally between Roberts Road, Boronia Road and the Hume Highway, and principal road transport routes to and from the site; and d) a framework for recording and reporting the outcomes of the Program and a system for considering data generated through the Program.	This is managed by NSW Ports.
3.7 Within 90 days of the project reaching annual throughput of 50,000 TEU, 150,000 TEU and 250,000 TEU, or as may be directed or agreed by the Planning Secretary, and during a period in which the project is operating under normal operating conditions, a Traffic Audit of the project shall be undertaken by an independent qualified person(s) approved by the Planning Secretary. The Audit shall include, but not necessarily be limited to: a) assessment of the traffic performance of the project against the predictions made in the documents referred to under condition 1.1 of this approval; b) consideration of the results of the Traffic and Capacity Monitoring Program required under condition 3.6 of this approval; c) consideration of the effectiveness of the traffic management measures implemented by the Proponent and the measures required under this approval; d) consideration of traffic-related issues raised by the RMS, Canterbury Bankstown Council and Strathfield Municipal Council; e) consideration of the traffic-related complaints recorded in accordance with condition 5.3 of this approval; f) findings and recommendations with respect to the traffic performance of the project and any additional measures that may be required to manage traffic associated with the project.	This is managed by NSW Ports.
4. COMPLIANCE MONITORING AND TRACKING	
Compliance Tracking Program 4.1 The Proponent shall develop and implement a Compliance Tracking Program to track compliance with the requirements of this approval. The Program shall include, but not necessarily limited to: a) provisions for periodic review of the compliance status of the project against the requirements of this approval; b) provisions for periodic reporting of compliance status to the Planning Secretary; c) a program for independent environmental auditing at least annually, or as otherwise agreed by the Planning Secretary, in accordance with *ISO 19011:2002 - Guidelines for Quality and/ or Environmental Management Systems Auditing*; and d) mechanisms for rectifying any non-compliance identified during environmental auditing or review of compliance.	This is managed by NSW Ports.

MP 05_0147	Comments
5. COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT	
5.1 Subject to confidentiality, the Proponent shall make all documents required under this approval available for public inspection on request.	This is managed by NSW Ports.
5.3 The Proponent shall record details of all complaints received through the means listed under condition 5.2 of this approval in an up-to-date Complaints Register. The Register shall record, but not necessarily be limited to: a) the date and time, where relevant, of the complaint; b) the means by which the complaint was made (telephone, mail or email); c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect; d) the nature of the complaint; e) record of operational and meteorological condition contributing to the complaint; f) any action(s) taken by the Proponent in relation to the complaint, including any follow- up contact with the complainant; and g) if no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken. The Complaints Register shall be made available for inspection by the Planning Secretary upon request.	Sections 2.7. Complaints will be recorded by Northside Fine Foods and provided to NSW Ports.
Provision of Electronic Information 5.4 The Proponent shall establish and maintain a new website, or dedicated pages within its existing website for the provision of electronic information associated with the project. The Proponent shall publish and maintain up-to-date information on this website or dedicated pages including, but not necessarily limited to: a) a copy of the documents referred to under condition 1.1 of this approval, and any documentation supporting modifications to this approval that may be granted from time to time; b) a copy of this approval and each relevant environmental approval, licence or permit required and obtained in relation to the project; c) a copy of each strategy, plan, program and audit required under this approval; and d) the outcomes of compliance tracking in accordance with condition 4.1 of this approval.	This is managed by NSW Ports.
6. ENVIRONMENTAL MANAGEMENT	
Environmental Representative 6.1 Prior to the commencement of operation of the project, the Proponent shall nominate a suitably qualified and experienced Environmental Representative(s) for the approval of the Planning Secretary. The Proponent shall employ the Environmental Representative(s) on a full-time basis, or as otherwise agreed by the Planning Secretary, during the operation of the project. The Environmental Representative shall be: a) the primary contact point in relation to the environmental performance of the project; b) responsible for all management plans and monitoring programs required under this approval; c) responsible for considering and advising on matters specified in the conditions of this approval, and all other licences and approvals related to the environmental performance and impacts of the project;	This is managed by NSW Ports.

MP 05_0147	Comments
d) responsible for receiving and responding to complaints in accordance with condition 5.2 and 5.3 of this approval; and e) given the authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur. The Proponent shall notify the Planning Secretary of any changes to that appointment that may occur from time to time.	This is managed by NSW Ports.
Operation Environmental Management Plan 6.4 Prior to the commencement of operation of the project, the Proponent shall prepare and submit for the approval of the Planning Secretary an Operation Environmental Management Plan (OEMP) to detail an environmental management framework, practices and procedures to be followed during the operation of the project. The Plan shall be consistent with the Department's *Guideline for the Preparation of Environmental Management Plans* (DIPNR 2004), and shall include, but not necessarily be limited to: a) A framework consistent with that presented in Chapter 21 of the document referred to under condition 1.1b) of this approval; b) A description of all activities to be undertaken on the site during operation of the project; c) Statutory and other obligations that the Proponent is required to fulfil during operation, including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies; d) Specific consideration of measures to address the reasonable requirements of Strathfield Municipal Council, Canterbury Bankstown Council and the EPA during operation; e) Details of how the environmental performance of operations will be monitored, and what actions will be taken to address identified adverse environmental impacts; f) A description of the roles and responsibilities for all relevant employees involved in the operation of the project and a program for how these employees will be trained in responsibilities identified in the plan; g) Complaints handling procedures to be applied during operation of the project (conditions 5.2 and condition 5.3 of this approval). h) The issue-specific management plans listed under condition 6.5 of this approval.	This report
6.5 As part of the **Operation Environmental Management Plan** for the project, required under condition 6.4 of this approval, the Proponent shall prepare and implement the following Management Plans:	This report
a) An **Operation Noise Management Plan** to outline monitoring, management procedures and measures to minimise operational noise impacts associated with the project, including traffic-related noise. The Plan shall include, but not necessarily be limited to: i. Identification of all relevant receivers and the applicable criteria at those receivers commensurate with the noise limits specified under this approval; ii. Identification of activities that will be carried out in relation to the project and the associated noise sources; iii. Assessment of project noise impacts at the relevant receivers against the noise limits specified under this approval;	Section 3.2 and Appendix D

MP 05_0147	Comments
iv. Details of management measures, methods and procedures that will be implemented to control individual and overall noise emissions from the site and specific land uses to ensure compliance with condition 2.17; Details of the management measures and procedures that will be implemented in Empty Container Storage Areas A and B to ensure that acoustic barriers constructed from empty storage containers are established at the correct time, height, length, and location to ensure compliance with condition 2.17; v. Details of the management measures that will be undertaken to ensure that activities undertaken in Empty Container Storage Area B in the area to the north of the northern noise wall, including the restriction of container stacking, comply with the requirements of condition 2.17; vi. Development of reactive and pro-active strategies for dealing promptly with any noise complaints; vii. Noise monitoring and reporting procedures; and viii. Regular internal audits of compliance of all plant and equipment with acceptable design noise.	Section 3.2 and Appendix D
b) An **Operation Traffic Management Plan** to outline measures to minimise and manage any impacts from the operation of the project on the local road network. The Plan shall include, but not necessarily be limited to: i. A driver education program to ensure that heavy vehicles comply with the requirements of this approval and the commitments made in the documents referred to under condition 1.1, particularly with respect to heavy vehicle routes; ii. A Driver's Code of Conduct which details traffic management measures to be implemented during operation to: • Minimise impacts of the project on the local and regional road network, • Minimise conflicts with other road users; • Ensure truck drivers use specific routes and access points, including no left turn access from Cosgrove Road; and • Minimise traffic noise, particularly during night times hours; iii. Movement scheduling where practicable to reduce impacts during sensitive time periods; iv. Specific measures for ensuring that all heavy vehicle operators associated with the project are aware of and implement the Plan; v. A system for identifying and ensuring conformance with the Plan, including conformance monitoring, procedures for implementing and monitoring corrective and preventative action, and penalties for breaches of the Plan; and vi. A continuous improvement process for assessing Plan effectiveness and implementing improvements to the Plan.	Section 3.3 and Appendix E

MP 05_0147	Comments
c) A **Long Term Environmental Management Plan**, where required to manage interactions with the site as remediated. The Plan must be prepared to the satisfaction of the Planning Secretary, and must: i. Be prepared by a suitably qualified and experienced person whose appointment has been endorsed by the Planning Secretary in consultation with EPA; ii. Be submitted to EPA for review and be approved by the Planning Secretary within one month of the completion of remediation works, unless otherwise agreed by the Planning Secretary; and iii. Include, but not be limited to: • A description of the nature and location of any contamination remaining on site; • Provisions to manage and monitor any remaining contamination, including details of any restrictions placed on the land to prevent development over the containment cell; • A description of the procedures for managing any leachate generated from the containment cell, including any requirements for testing, pumping, treatment and/or disposal; • A description of the procedures for monitoring the integrity of the containment cell; • A surface and groundwater monitoring program; • Mechanisms to report results to relevant agencies; • Triggers that would indicate if further remediation is required; and • Details of any contingency measures that the Applicant is to carry out to address any ongoing contamination. Upon completion of the remediation works, the Applicant must manage the site in accordance with the LTEMP and any ongoing maintenance of remediation notice issued by EPA under the *Contaminated Land Management Act 1997*.	Section 3.9 and Appendix I
6.6 **The Operation Environmental Management Plan** required under conditions 6.4 and 6.5 shall be periodically reviewed and maintained, to reflect any phasing of implementation of the project, and any operational changes that may be made from time to time, and updated (where necessary) to reflect any changes arising from modifications to this approval.	Section 5
7. ENVIRONMENTAL REPORTING	
Incident Reporting 7.1 The Proponent shall notify the Planning Secretary of any incident with actual or potential significant off-site impacts on people or the biophysical environment as soon as practicable after the occurrence of the incident. The Proponent shall provide written details of the incident to the Planning Secretary within seven days of the date on which the incident occurred.	Sections 2.6
7.2 The Proponent shall maintain a register of accidents, incidents and potential incidents with actual or potential significant off-Site impacts on people or the biophysical environment. The register shall be made available for inspection at any time by the independent qualified person or team conducting the Environmental Audit and/or the Planning Secretary.	Sections 2.6
7.3 The Proponent shall meet the requirements of the Planning Secretary to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition 7.1 of this consent, within such period as the Planning Secretary may agree.	Sections 2.6

APPENDIX C

Incident and Hazard Report Form

Enfield ILC – Warehouse H3

INCIDENT AND HAZARD REPORT FORM

INCIDENT DETAILS

Date of Incident: ..... **Time of Incident:** ……am/pm

Location: ……...

Description: ……...

……...

……...

……...

NOTIFICATION TO REGULATORY AUTHORITY

Has the incident caused or does it threaten to cause material harm to the environment: Yes / No

Notified Authorities: Yes / No **Who:** …….

Date: ..... **Time:** …….....am/pm

Instructions: ……...

……...

……...

……...

REMEDIAL ACTION

Remedial Action Undertaken: Yes / No (if no, give reason)

Description: ……...

……...

……...

……..

Any Further Corrective Action Required: Yes / No

If Yes, Describe: ……...

……...

……...

……...

SIGN OFF

Name: …… **Title:** ……

Signature: …… **Date:** ……..

APPENDIX D

Complaint Form

Enfield ILC – Warehouse H3

COMPLAINT FORM

STAFF MEMBER CONTACTED

Name: .....

Date: ..... **Time:** ……am/pm

Via: Phone / Fax / Email / Letter / In Person

COMPLAINANT DETAILS

Name: .....

Address: .....

Contact No.: .....

COMPLAINT DETAILS

Date of event: ..... **Approx. time:** ……am/pm

Description: ……..

……...

……..

……...

FIELD INVESTIGATION

Investigation undertaken: Yes / No (if no, give reason)

Findings: ……...

……...

Meteorological ……...

Conditions: ……...

Is complaint related to an environmental incident: Yes / No

If yes, complete the Incident and Hazard Report Form and, if the incident has caused or threatens to cause material harm to the environment, notify the relevant authorities (as listed in the OEMP).

REMEDIAL ACTION

Remedial action undertaken: Yes / No (if no, give reason)

Description: ……..

……...

……...

…….

COMPLAINT FORM

Any further corrective action required: Yes / No

If yes, describe: ……..

……...

……...

……...

COMPLAINANT INFORMED

Complainant informed: Yes / No **Via:** Phone / Fax / Email / Letter / In Person

By whom: ……

SIGN OFF

Name: …… **Title:** ……

Signature: …… **Date:** ……..

APPENDIX E

Operation Noise Management Plan

MARINUCCI AUSTRALIA PTY LTD

Operational Noise Management Plan
Enfield Intermodal Logistics Centre
Precinct H - Warehouse H3

Prepared for:

Goodman Property Services (Aust) Pty Ltd
Level 17
60 Castlereagh Street
Sydney NSW 2000

SLR Ref: 630.12942-R06
Version No: -v1.0
January 2020

PREPARED BY

SLR Consulting Australia Pty Ltd
ABN 29 001 584 612
Grd Floor, 2 Lincoln Street
Lane Cove NSW 2066 Australia
(PO Box 176 Lane Cove NSW 1595 Australia)
T: +61 2 9427 8100
E: sydney@slrconsulting.com www.slrconsulting.com

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
630.12942-R06-v1.0	7 January 2020	Joshua Ridgway	Antony Williams	Antony Williams

CONTENTS

1 INTRODUCTION 5
1.1 Background 5
1.2 Report Objectives 5
1.3 Acoustic Terminology 5
1.4 Site Overview and Layout 5
2 PROJECT APPROVAL CONDITIONS 8
3 NOISE SENSITIVE RECEIVERS 13
4 OPERATIONAL NOISE GUIDELINES 15
5 OPERATIONAL NOISE CRITERIA 16
5.1 Operational Noise Impacts 17
6 OPERATING CONDITIONS AND MANAGEMENT MEASURES 18
6.1 Operating Conditions 18
6.2 Best Management Practices 18
7 ANNUAL COMPLIANCE REVIEW AND REPORTING 20
8 NOISE MONITORING AND AUDITING 21
9 COMPLAINTS AND COMMUNITY CONSULTATION 23
9.1 Community Consultation and Liaison 23
9.2 Complaints Handling and Register 23
10 ENVIRONMENTAL INCIDENT REPORTING 24
11 REVIEW AND IMPROVEMENT OF NOISE MANAGEMENT PLAN 25

CONTENTS

DOCUMENT REFERENCES

TABLES

Table 1 Project Approval Conditions Relevant to this ONMP 8
Table 2 Surrounding Sensitive Receivers 13
Table 3 Maximum Allowable Noise Contribution (dBA) 16

FIGURES

Figure 1 Site Overview 6
Figure 2 Site Layout 7
Figure 3 Enfield ILC Representative Assessment Locations 14

APPENDICES

Appendix A Acoustic Terminology

1 Introduction

1.1 Background

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Goodman Property Services (Aust) Pty Ltd (Goodman) to prepare an Operational Noise Management Plan (ONMP) for the operation of Warehouse H3 (the site) within the Enfield Intermodal Logistics Centre (ILC), located west of Cosgrove Road and south of Liverpool Road in Strathfield South, NSW.

NSW Ports obtained Project Approval MP 05_0147 on the 5 September 2007 from the former Department of Planning and Environment (DPE), now Department of Planning, Industry and Environment (DPIE), for the construction and operation of Enfield ILC with capacity to accept a maximum throughput of 300,000 TEU (one TEU is equivalent to one twenty foot container) per annum

As part of the Operational Environmental Management Plan (OEMP) for Warehouse H3, preparation of an ONMP is required in accordance with Condition 6.5(a) of the Project Approval.

1.2 Report Objectives

This ONMP has been prepared to detail noise management measures with the aim of minimising operational noise impacts from the site on the nearby sensitive receivers.

This ONMP documents the monitoring, analysis and reporting procedures required to achieve compliance with the Project Approval conditions relating to operational noise.

1.3 Acoustic Terminology

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

1.4 Site Overview and Layout

The site is a warehousing and distribution facility operated by Marinucci Australia Pty Ltd (Marinucci). Marinucci is a customer centric packing company that specialises in packaging innovation, packaging design, custom packaging and distribution/logistical solutions. The Marinucci operated warehouse is Warehouse H3, shown in **Figure 2**.

The Development is approved to operate 24 hours per day, seven days per week. However, typical operating hours at Warehouse H3 will be between 7:00 am and 6:00 pm, Monday to Friday.

The operational activities which will be carried out at Warehouse H3 will include:

- Receipt and dispatch (unloading and loading) off trucks with forklift
- Receipt and dispatch (unloading and loading) off shipping containers
- General warehousing activities, moving pallets and order accumulation management
- Low risk operations, such as the boxing of product and palletisation.

No dangerous goods will be stored in quantities which exceed the *State Environmental Planning Policy No 33 – Hazardous and Offensive Development* (SEPP 33) threshold and the facility is not classified as potentially dangerous.

The plant and equipment used at Warehouse H3 will generally be operated indoors and will include general storage, packaging and warehousing equipment required for processing and distribution of packaging products. Mobile equipment such as forklifts and pallet jacks will also be used in the hardstand areas.

An overview of the site location within Precinct H is shown in **Figure 1**. The site layout of Warehouse H3 is shown in **Figure 2**.

Figure 1 Site Overview

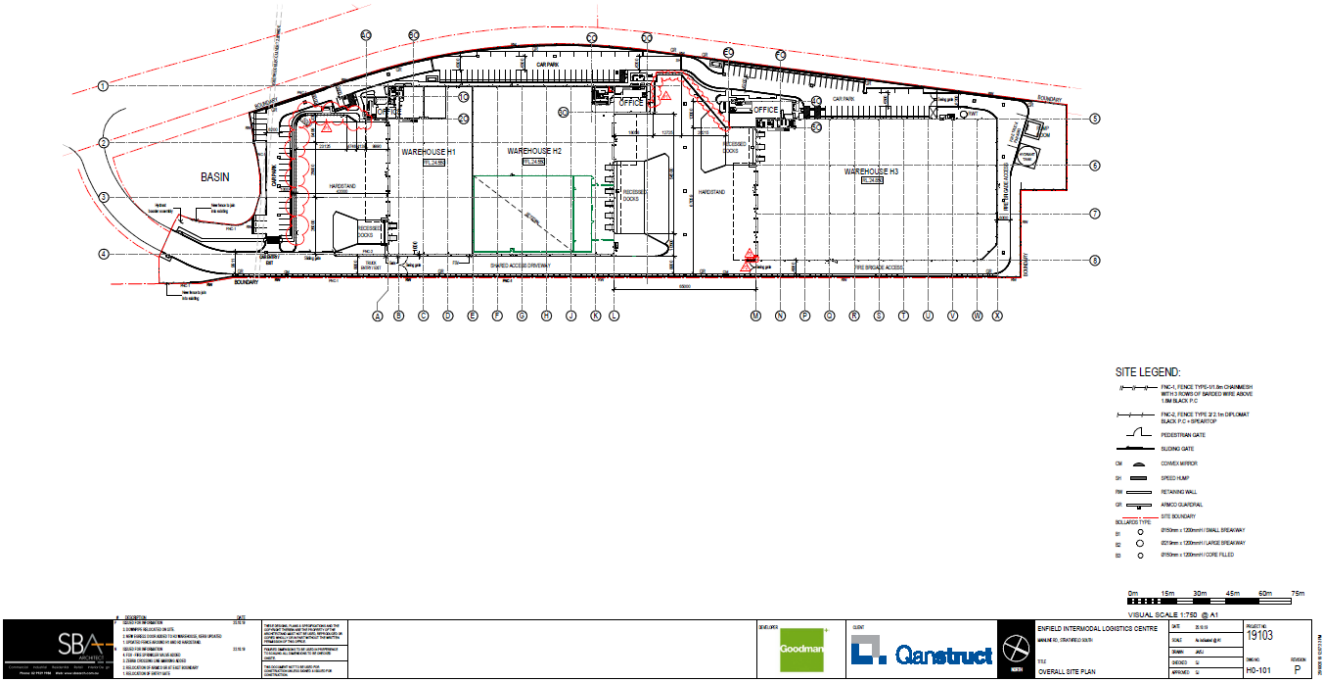
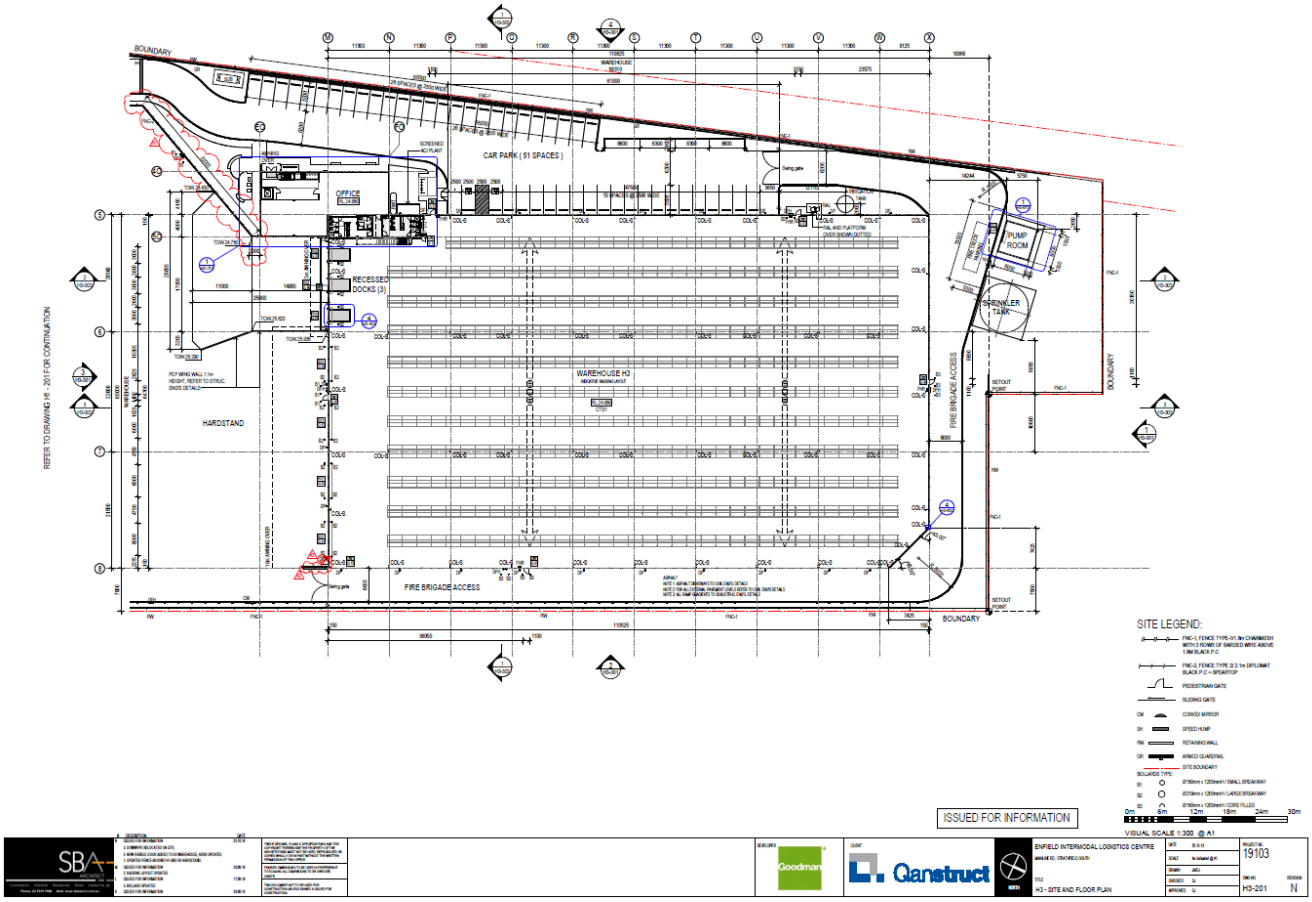


Figure 2 Site Layout



2 Project Approval Conditions

The Project Approval 05_0147 and subsequent modifications contain conditions relevant to this ONMP which are outlined in **Table 1**.

Table 1 Project Approval Conditions Relevant to this ONMP

<table>
<tr><th>Condition</th><th>Where addressed in this document</th></tr>
<tr><td colspan="2">Noise Impacts</td></tr>
<tr><td>2.13. The Proponent shall minimise noise emissions from plant and equipment operated on the site by installing and maintaining, wherever practicable, efficient silencers, low-noise mufflers (residential standard) and by replacing reversing alarms with alternative silent measures, such as flashing lights (subject to occupational health and safety requirements.</td><td>Refer to Section 6</td></tr>
<tr><td colspan="2">Operation Noise</td></tr>
<tr><td>2.17. The Proponent shall design, construct, operate and maintain the project to ensure that the operational noise contributions from the project do not exceed the maximum allowable noise contributions specified in Table 3 below, at those locations and during those periods indicated. The maximum allowable noise contributions apply under:
a) wind speeds up to 3 ms^{-1} (measured at 10 metres and above ground level); or
b) temperature inversion conditions up to 3^{o}C per 100 metres and wind speeds up to 2 ms^{-1} (measured at 10 metres and above ground level).
Table 3: Maximum Allowable Noise Contribution (dBA)
<table>
<tr><th rowspan="2">Location</th><th colspan="2">Day
7:00am to 6:00pm on any day</th><th colspan="2">Evening
6:00pm to 10:00pm on any day</th><th colspan="3">Night
10:00pm to 7:00am on any day</th></tr>
<tr><th>LAeq
(15-minute)</th><th>LAeq
(period)</th><th>LAeq
(15-minute)</th><th>LAeq
(period)</th><th>LAeq
(15-minute)</th><th>LAeq
(period)</th><th>LA1
(1-minute)</th></tr>
<tr><td>A1 – Eastern end of Jean Street</td><td>54</td><td>54</td><td>54</td><td>49</td><td>48</td><td>42</td><td>58</td></tr>
<tr><td>A2 – Eastern end of Ivy Street</td><td>53</td><td>52</td><td>52</td><td>51</td><td>47</td><td>45</td><td>57</td></tr>
<tr><td>A3 – Wentworth Street (south)</td><td>49</td><td>52</td><td>47</td><td>53</td><td>42</td><td>38</td><td>52</td></tr>
<tr><td>A4 – Eastern end of Gregory Street</td><td>49</td><td>52</td><td>47</td><td>46</td><td>45</td><td>37</td><td>55</td></tr>
<tr><td>A5 – Western end of Blanche Street</td><td>46</td><td>58</td><td>46</td><td>50</td><td>43</td><td>43</td><td>53</td></tr>
<tr><td>A6 – 40 Bazentin Street</td><td>46</td><td>58</td><td>45</td><td>54</td><td>41</td><td>39</td><td>51</td></tr>
<tr><td>A11 – Begnell Park</td><td>-</td><td>50</td><td>-</td><td>50</td><td>-</td><td>50</td><td>-</td></tr>
<tr><td>A12 – Matthew Park*</td><td>-</td><td>50</td><td>-</td><td>50</td><td>-</td><td>50</td><td>-</td></tr>
<tr><td>A13 – Greenacre Bowling Club</td><td>-</td><td>55</td><td>-</td><td>55</td><td>-</td><td>55</td><td>-</td></tr>
<tr><td>A14 – Strathfield High School (internal)</td><td>-</td><td>35</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>A15 – St Anne’s School (internal)</td><td>-</td><td>35</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
</table>
*it is noted that the location Matthew Park no longer exists and has been developed for commercial retail use, and no other recreational areas are in the vicinity.</td><td>Refer to Sections 5 & 6</td></tr>
</table>

Condition	Where addressed in this document
2.18. For the purpose of assessment of noise contributions specified under condition 2.17 of this consent, noise from the development shall be: a) measured at the most affected point on or within the site boundary at the most sensitive locations to determine compliance with the $L_{Aeq(15minute)}$ and $L_{Aeq(period)}$ noise limits; b) measured in the free field at least 3.5 metres from any vertical reflecting surface in line with the worst-affected dwelling facade to determine compliance with $L_{A1(1minute)}$ noise limits; and c) subject to the modification factors provided in Section 4 of the *New South Wales Industrial Noise Policy* (EPA, 2017), where applicable. Notwithstanding, should direct measurement of noise from the development be impractical, the Proponent may employ an alternative noise assessment method deemed acceptable by the EPS (refer to Section 11 of the *Noise Policy for Industry New South Wales* (EPA, 2000). Details of such an alternative noise assessment method accepted by the EPS shall be submitted to the Planning Secretary prior to the implementation of the assessment method.	Refer to **Section 8** Note – The *Industrial Noise Policy* was released in 2000. Note – The *Noise Policy for Industry* was released in 2017.
Noise Auditing	
3.3. Within 90 days of the project reaching annual throughput of 50,000 TEU, 150,000 TEU and 250,000 TEU, and within commencement of operations in Empty Container Storage Area A, or at such other time as may be directed or agreed by the Planning Secretary, and during a period in which the project is operating under normal operating conditions, the Proponent shall undertake a program to confirm the noise emission performance of the project. The program shall include, but not necessarily be limited to: a) noise monitoring, consistent with the guidelines provided in the *New South Wales Industrial Noise Policy* (EPA, 2000), to assess compliance with condition 2.17 of this consent; b) methodologies, locations and frequencies for noise monitoring; c) identification of monitoring sites at which pre- and post-project development noise levels can be ascertained; d) details of any complaints received in relation to noise generated by the project; e) an assessment of night-time use of audible alarm systems; f) an assessment of the effectiveness of stacked empty containers as acoustic barriers in Empty Container Storage Area A; g) details of any noise mitigation measures and timetables for implementation; h) a statement of whether the site is in compliance with the noise limits outlined in condition 2.17; and i) recommendations and timetables for implementation for any reasonable and feasible additional measures necessary to ensure compliance with the relevant noise-related conditions of this approval.	Refer to **Section 8**

Condition	Where addressed in this document
Compliance Tracking Program	
4.1. The Proponent shall develop and implement a Compliance Tracking Program to track compliance with the requirements of this approval. The Program shall include, but not necessarily limited to: a) provisions for periodic review of the compliance status of the project against the requirements of this approval; b) provisions for periodic reporting of compliance status to the Planning Secretary; c) a program for independent environmental auditing at least annually, or as otherwise agreed by the Planning Secretary, in accordance with *ISO 19011:2002 - Guidelines for Quality and/ or Environmental Management Systems Auditing*; and d) mechanisms for rectifying any non-compliance identified during environmental auditing or review of compliance.	Refer to **Section 7**
Complaints and Enquiries Procedure	
5.3. The Proponent shall record details of all complaints received through the means listed under condition 5.2 of this approval in an up-to-date Complaints Register. The Register shall record, but not necessarily be limited to: a) the date and time, where relevant, of the complaint; b) the means by which the complaint was made (telephone, mail or email); c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect; d) the nature of the complaint; e) record of operational and meteorological condition contributing to the complaint; f) any action(s) taken by the Proponent in relation to the complaint, including any follow-up contact with the complainant; and g) if no action was taken by the Proponent in relation to the complaint, the reason(s) why no action was taken. The Complaints Register shall be made available for inspection by the Planning Secretary upon request.	Refer to **Section 9**

Condition	Where addressed in this document
Operation Noise Management Plan	
6.5 As part of the Operation Environmental Plan for the project, required under condition 6.4 of this approval, the Proponent shall prepare and implement the following Management Plans:	
a) an Operation Noise Management Plan to outline monitoring, management procedures and measures to minimise operational noise impacts associated with the project, including traffic-related noise. The Plan shall include, but not necessarily be limited to:	This document.
i) identification of all relevant receivers and the applicable criteria at those receivers commensurate with the noise limits specified under this approval;	Refer to **Sections 3** & **5**
ii) identification of activities that will be carried out in relation to the project and the associated noise sources;	Refer to **Section 1.4**
iii) assessment of project noise impacts at the relevant receivers against the noise limits specified under this approval;	Refer to **Section 5.1**
iv) details of management measures, methods and procedures that will be implemented to control individual and overall noise emissions from the site and specific land uses to ensure compliance with condition 2.17;	Refer to **Section 6**
v) details of the management measures and procedures that will be implemented in Empty Container Storage Areas A and B to ensure that acoustic barriers constructed from empty storage containers are established at the correct time, height, length, and location to ensure compliance with condition 2.17;	n/a
vi) details of the management measures that will be undertaken to ensure that activities undertaken in Empty Container Storage Area B in the area to the north of the northern noise wall, including the restriction of container stacking, comply with the requirements of condition 2.17;	n/a
vii) development of reactive and pro-active strategies for dealing promptly with any noise complaints;	Refer to **Section 9**
viii) noise monitoring and reporting procedures; and	Refer to **Sections 7** & **8**
ix) regular internal audits of compliance of all plant and equipment with acceptable design noise.	Refer to **Section 6.1**
6.6. The Operation Environmental Management Plan required under conditions 6.4 and 6.5 shall be periodically reviewed and maintained, to reflect any phasing of implementation of the project, and any operational changes that may be made from time to time, and updated (where necessary) to reflect any changes arising from modifications to this approval.	Refer to **Section 11**

Condition		Where addressed in this document
Incident Reporting		
7.1.	The Proponent shall notify the Planning Secretary of any incident with actual or potential significant off-site impacts on people or the biophysical environment as soon as practicable after the occurrence of the incident. The Proponent shall provide written details of the incident to the Planning Secretary within seven days of the date on which the incident occurred.	Refer to **Section 10**
7.2.	The proponent shall maintain a register of accidents, incidents and potential incidents with actual or potential significant off-site impacts on people or the biophysical environment. The register shall be made available for inspection at any time by the independent qualified person or team conduction the Environmental Audit and/or the Planning Secretary.	Refer to **Section 10**
7.3.	The proponent shall meet the requirements of the Planning Secretary to address the cause or impact of any incident, as it relates to this proposal, reported in accordance with condition 7.1 of this consent, within such a period as the Planning Secretary may agree.	Refer to **Section 10**

3 Noise Sensitive Receivers

The noise assessment locations representative of the nearest sensitive receiver areas surrounding the ILC are specified in Condition 2.17 and are shown in **Figure 3**.

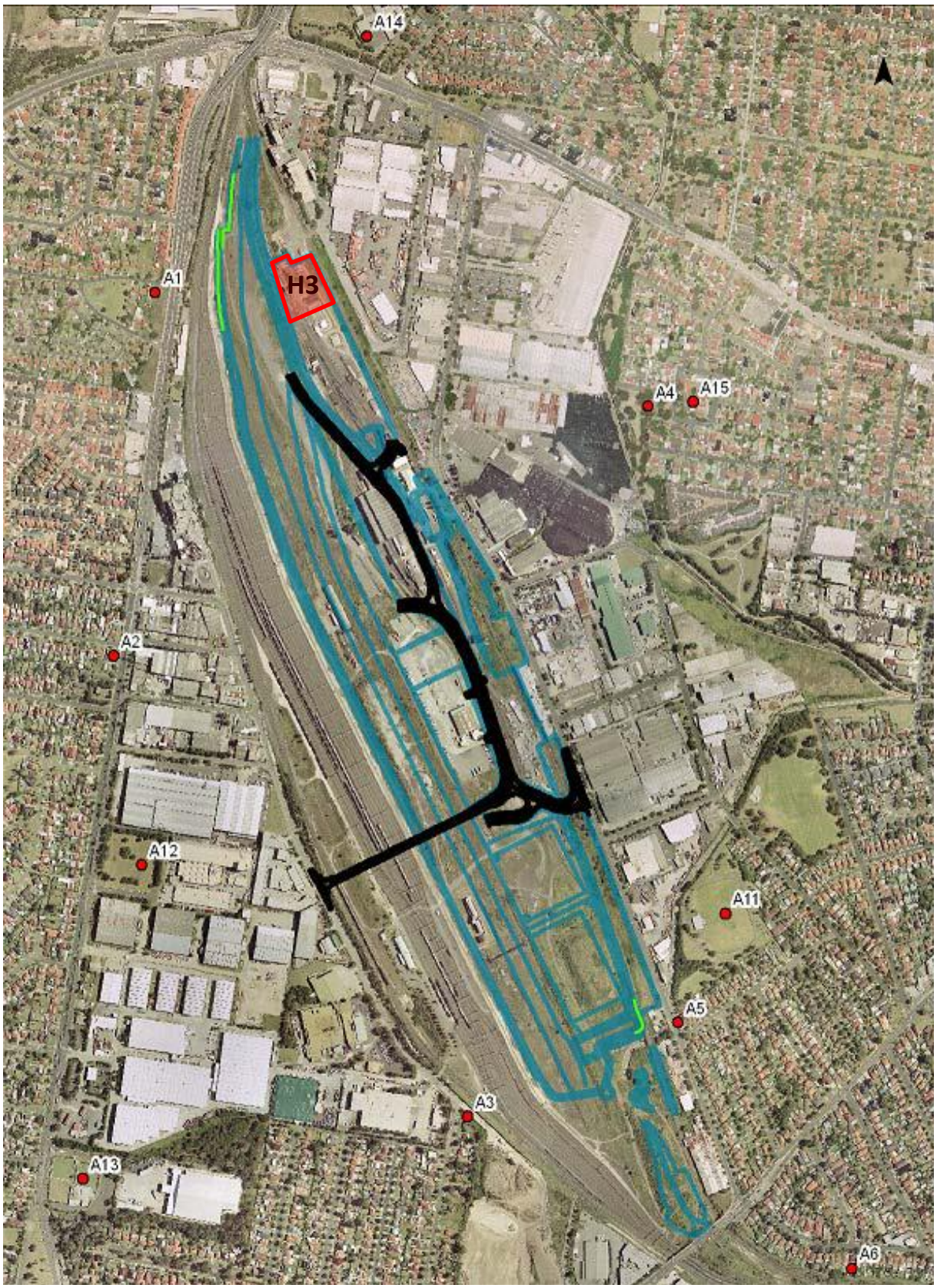
Details of the nearest potentially affected sensitive receivers are provided in **Table 2**.

Table 2 Surrounding Sensitive Receivers

ID	Address	Type	Distance (m)
A1	Eastern end of Jean Street	Residential	200 m west of Warehouse H3
A2	Eastern end of Ivy Street	Residential	850 m southwest of Warehouse H3
A3	Wentworth Street (south)	Residential	1,500 m south of Warehouse H3
A4	Eastern end of Gregory Street	Residential	600 m east of Warehouse H3
A5	Western end of Blanche Street	Residential	1,500 m southeast of Warehouse H3
A6	40 Bazentin Street	Residential	2,050 m southeast of Warehouse H3
A11	Begnell Park	Active Recreation	1,350 m southeast of Warehouse H3
A12[1]	51-55 Roberts Road	Commercial	1,050 m southwest of Warehouse H3
A13	Greenacre Bowling Club	Commercial	1,700 m southwest of Warehouse H3
A14	Strathfield High School	School	420 m north of Warehouse H3
A15	St Anne's School	School	650 m east of Warehouse H3

Note 1: As noted in Condition 2.17 of the Project Approval, the recreational area at location A12 has been replaced with a commercial property.

Figure 3 Enfield ILC Representative Assessment Locations



Note 1: Warehouse H3 is shown in red.

4 Operational 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
- Modification factors applicable to noise emissions
- 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 as it was current when the development was approved in 2007.

The Project Approval does, however, reference the NPfI in Condition 2.18 with regard to selection of alternative noise assessment methods where direct measurement of noise from the site is impractical.

5 Operational Noise Criteria

In accordance with Condition 2.17, the site shall be operated and maintained so that the operational noise contributions from the site do not exceed the maximum allowable noise contributions specified in **Table 3**.

The maximum allowable noise contributions apply under:

- Wind speeds up to 3 ms^{-1} (measured 10 m above ground level), or
- Temperature inversion conditions up to 3˚C per 100 m and windspeeds up to 2 ms^{-1} (measured at 10 m above ground level).

Table 3 Maximum Allowable Noise Contribution (dBA)

Location	Day 7:00 am to 6:00 pm on any day		Evening 6:00 pm to 10:00 pm on any day		Night 10:00 pm to 7:00 am on any day		
	LAeq(15minute)	LAeq(period)	LAeq(15minute)	LAeq(period)	LAeq(15minute)	LAeq(period)	LA1(1minute)
A1 – Eastern end of Jean Street	54	54	54	49	48	42	58
A2 – Eastern end of Ivy Street	53	52	52	51	47	45	57
A3 – Wentworth Street (south)	49	52	47	53	42	38	52
A4 – Eastern end of Gregory Street	49	52	47	46	45	37	55
A5 – Western end of Blanche Street	46	58	46	50	43	43	53
A6 – 40 Bazentin Street	46	58	45	54	41	39	51
A11 – Begnell Park	-	50	-	50	-	50	-
A12 – 51-55 Roberts Road[1]	-	55	-	55	-	55	-
A13 – Greenacre Bowling Club	-	55	-	55	-	55	-
A14 – Strathfield High School (internal)	-	35	-	-	-	-	-
A15 – St Anne's School (internal)	-	35	-	-	-	-	-

Note 1: As noted in Condition 2.17 of the Project Approval, the recreational area at location A12 has been replaced with a commercial property. As such, criteria for a commercial property has been applied to location A12.

5.1 Operational Noise Impacts

Operational noise impacts for Warehouse H3 were assessed as part of the Noise and Vibration Impact Assessment (NVIA) for MOD14 of the Enfield ILC (refer to SLR Report *610.16722.00500-R05-v1.3*, dated 31 May 2018).

The NVIA recommended that compliance with the overall noise criteria for the ILC can be achieved at the representative receiver locations with the inclusion of noise management measures related to the reach stackers used in the container handling areas. This measure is not relevant to Warehouse H3.

No specific noise mitigation and management measures were specified for Warehouse H3 in the NVIA. As such, Warehouse H3 shall be operated in accordance with the operating conditions and best management practices outlined in **Section 6**.

6 Operating Conditions and Management Measures

The site must be operated in accordance with the conditions outlined in the Project Approval and in line with best management practices. The operating conditions and management measures applicable to the site are listed below.

6.1 Operating Conditions

- Noise emissions from plant and equipment operated on the site must be minimised by installing and maintaining, wherever practicable, efficient silencers, low-noise mufflers (residential standard) and by replacing reversing alarms with alternative silent measures, such as flashing lights (subject to occupational health and safety requirements) in accordance with Condition 2.13.
- The site shall be operated and maintained to ensure operational noise contributions do not exceed the maximum allowable noise contributions (refer to **Section 5**), in accordance with Condition 2.17.
- In accordance with Condition 6.5(a)(ix), internal audits of noise performance of plant and equipment shall be undertaken to identify equipment operating atypically and generating higher than normal noise levels. These audits shall be undertaken every two years at minimum and whenever noise emissions are observed to be higher than normal. Where noise emissions are found to be higher, maintenance shall be undertaken on that item of equipment to return it to normal operating levels.

6.2 Best Management Practices

- An awareness and understanding of noise issues and the use of quiet work practices shall be included in site inductions for all staff, contractors and visitors to the site. Specific mention of the following items will be included:
  - Site specific noise management measures to be followed
  - Locations of nearby noise sensitive receivers (refer to **Figure 3**).
- All plant and equipment operated on the site must be suitably maintained and operated in a manner to minimise noise emissions.
- The simultaneous use of multiple items of significant noise generating equipment will be avoided wherever practicable.
- The use of noisy equipment should be scheduled during the daytime period, where practicable.
- Where practicable, all roller doors must be closed during the night-time period.
- 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 utilised.
- Regularly assess noise monitoring data to determine compliance status with the relevant conditions (refer to **Section 5**). If non-compliance is observed, relocate, modify and/or stop operations to ensure compliance with the relevant conditions is maintained.
- Noise monitoring will include attended monitoring in order to identify the source of the noise being measured, whether that is site related or otherwise (refer to **Section 8**).
- 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.

- Enclosure of outdoor fixed plant (such as mechanical plant) where practicable.
- For equipment with enclosures, ensure doors and seals are well maintained and kept closed when not in use.
- Noise attenuation of mobile equipment such as trucks, forklifts, etc, where noise impacts are identified.
- The effectiveness of any noise suppression equipment on plant must be maintained at all times and defective plant must not be used until repaired.
- Truck queuing and unnecessary trips will be minimised through appropriate planning of materials delivery routes and work practices to minimise heavy vehicle noise emissions.
- All vehicles will enter and exit the site in a forward direction to minimise noise from reversing alarms as far as practicable.
- All truck drivers must be provided with regular training and instructions in minimising the noise impacts of operating their vehicles.
- All trucks and delivery vehicles must switch off their engines during idle periods and loading/unloading operations, particularly during the night-time period.
- No off-site truck marshalling shall be undertaken near residential receivers.
- All trucks are to have mufflers, and any other noise control equipment, regularly maintained and in good working order.
- Trucks will use the approved truck movement routes specified in the overarching Operational Traffic Management Plan (OTMP).
- Should non-compliance with the conditions in this ONMP occur, operations will be modified or stopped to ensure compliance. A non-compliance register will be maintained by the Warehouse Manager, as detailed in **Sections 7** and **10**.

7 Annual Compliance Review and Reporting

In accordance with Condition 4.1, a Compliance Tracking Program shall be developed and implemented to track compliance with the requirements of the Project Approval. The Program shall include, but not necessarily be limited to the following, which will be actioned by NSW Ports:

- Provisions for periodic review of the compliance status of the project against the requirements of the Project Approval
- Provisions for periodic reporting of compliance status to the Planning Secretary
- A program for independent environmental auditing at least annually, or as otherwise agreed by the Planning Secretary, in accordance with *ISO 19011:2002 - Guidelines for Quality and/ or Environmental Management Systems Auditing*
- Mechanisms for rectifying any non-compliance identified during environmental auditing or review of compliance.

As part of the compliance tracking program required by Condition 4.1, periodic review reports of the noise performance of the site shall be prepared for submission to the Planning Secretary by NSW Ports. The periodic review reports shall be prepared and submitted annually. The review shall:

- Describe the operations carried out in the past year
- Analyse the monitoring results and complaints records of the site over the past year, which includes a comparison of these results against the relevant noise criteria, monitoring results of previous years, and relevant predictions from any noise assessments
- Identify any non-compliances over the past year, and describe what actions were (or are being) taken to ensure compliance
- Identify any trends in the monitoring data over the life of the site
- Provide a summary of results required for the EPL
- Describe what measures will be implemented over the following year to improve the environmental performance of the site.

Periodic internal audits will be conducted by Marinucci to confirm that the Project Approval conditions and commitments and environmental management controls outlined in this ONMP are being implemented. A non-compliance register will be maintained by the Warehouse Manager and audit reports will be used to inform the need for any corrective actions.

8 Noise Monitoring and Auditing

In accordance with the requirements outlined in **Section 7**, noise monitoring and auditing shall be undertaken annually by NSW Ports. These tasks shall be undertaken in accordance with Conditions 2.18 and 3.3 below.

The results of the noise monitoring and auditing required by Conditions 2.18 and 3.3 shall be reported in the annual review of noise performance report detailed in **Section 7**.

Condition 2.18

Condition 2.18 of the Project Approval specifies that operational noise from the site shall be:

- Measured at the most affected point on or within the site boundary at the most sensitive locations to determine compliance with $L_{Aeq(15minute)}$ and $L_{Aeq(period)}$ noise limits.
- Measured in the free field at least 3.5 m from any vertical reflecting surface in line with the worst-affected dwelling facade to determine compliance with $L_{A1(1minute)}$ noise limits.
- Subject to the modification factors provided in Section 4 of the *Industrial Noise Policy* (INP), where applicable.

Where direct measurement of operational noise from the development is deemed to be impractical, an alternative noise assessment method may be used to determine noise emissions from the site. Selection of alternative noise assessment methods should be undertaken in accordance with Section 11 of the *Noise Policy for Industry* (NPfI).

Details of such an alternative noise assessment method shall be submitted to the Planning Secretary prior to the implementation of the assessment method.

Condition 3.3

Condition 3.3 of the Project Approval specifies that a program to confirm the noise emission performance of the project must be undertaken within 90 days of the project reaching annual throughput of 50,000 TEU, 150,000 TEU and 250,000 TEU, or with commencement of operations in Empty Container Storage Area A, or at such other time as may be directed or agreed by the Planning Secretary, and during a period in which the project is operating under normal operating conditions.

The program shall include, but not necessarily be limited to the following, which will be actioned by NSW Ports:

- Noise monitoring, consistent with the guidelines provided in the INP, to assess compliance with condition 2.17 of the Project Approval.
- Methodologies, locations and frequencies for noise monitoring.
- Identification of monitoring sites at which pre- and post-project development noise levels can be measured.
- Details of any complaints received in relation to noise generated by the project.
- An assessment of night-time use of audible alarm systems.
- Details of any noise mitigation measures and timetables for implementation.

- A statement of whether the site is in compliance with the noise limits outlined in Condition 2.17.
- Recommendations and timetables for implementation for any reasonable and feasible additional measures necessary to ensure compliance with the relevant noise-related conditions of the Project Approval.

9 Complaints and Community Consultation

9.1 Community Consultation and Liaison

NSW Ports currently undertake community consultation activities, including:

- Quarterly meetings of the Enfield Community Liaison Committee (CLC). A representative from Marinucci will be required to attend these meetings.
- Resident letterbox drops to targeted residents, as required.
- Information regarding NSW Ports contact details for complaints and enquiries including site signage, website and on hard copy material.

A clearly visible sign will be installed at the estate access prior to commencing operation. Relevant contact details for NSW Ports, including a phone number, postal address and email for community enquiries, will be included on site signage.

All community enquiries received by warehouse management will be forwarded to NSW Ports. Complaints response will be coordinated through NSW Ports.

9.2 Complaints Handling and 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 Warehouse Manager and NSW Ports. Response to the complaint will be provided to the complainant within 24 hours.

In accordance with Condition 5.3, information recorded in the complaints register with respect to each complaint will include, but not necessarily be limited to:

- Date and time of complaint.
- Method of complaint (telephone, mail, email, etc).
- Name, address and telephone number of complainant if supplied, otherwise, a note stating details not supplied.
- Nature of complaint including details of the noise leading to the complaint and the time of occurrence and duration of the event.
- Record of operational and meteorological conditions at the time of the complaint.
- Response actions taken to date in relation to the complaint, including any follow-up contact made with the complainant. If no action was taken, the reason for the inaction shall be noted.

All employees and contractors who take receipt of a complaint, either verbal or written, are to immediately notify the Warehouse Manager, who will then contact NSW Ports. A summary of complaints, responses and actions will be provided in the annual compliance report, or as otherwise agreed by the Secretary.

Refer to the OEMP for full details and requirements of the complaints handling and investigation procedure, the complaints register, and dispute resolution procedures.

10 Environmental Incident Reporting

In the event that a non-compliance with the noise conditions is identified by Marinucci, the Warehouse Manager will report the incident to NSW Ports. A non-compliance with noise conditions shall be considered an environmental incident in accordance with Condition 7.1 if there is an actual or potential significant off-site impact on people or the biophysical environmental.

- In accordance with Condition 7.1, NSW Ports shall notify the Planning Secretary as soon as practicable after becoming aware of an environmental incident relating to noise and then provide a written report to the Planning Secretary within seven days of notification of the incident that:
  - Describes the date, time and nature of the incident
  - Identifies the cause, or likely cause, of the incident
  - Describes what action has been taken to date to address the incident and what actions are proposed to be implemented in the future to either address the consequences of the incident or avoid a recurrence of the incident.
- In accordance with Condition 7.2, NSW Ports shall maintain a register of accidents, incidents and potential incidents with actual or potential significant off-site impacts on people or the biophysical environment.
  - The register shall be made available for inspection at any time by an independent qualified person or team conducting the Environmental Audit and/or the Planning Secretary.
- In accordance with Condition 7.3, NSW Ports shall meet the requirements of the Planning Secretary to address the cause or impact of incident, as it relates to this approval, reported in accordance with Condition 7.1 of the Project Approval, within such period as the Planning Secretary may agree.

A non-compliance register will be maintained by the Warehouse Manager and audit reports will be used to inform the need for any corrective actions. A summary of incidents, investigations and actions will be provided in the annual compliance report, or as otherwise agreed by the Secretary.

Refer to the OEMP for full details and requirements of the environmental incident reporting and rectification procedures.

11 Review and Improvement of Noise Management Plan

This ONMP will be reviewed after 12 months of operations at Warehouse H3 to ensure it adequately addresses the objectives of the OEMP. Following that, this ONMP will be reviewed bi-annually.

This ONMP will be reviewed and, if necessary, updated within three months of the following:

- Submission of an incident report or an annual review
- Approval of an application to modify the site or the Project Approval
- Significant changes to the operation and/or management of the site (including change of ownership or occupancy)
- Significant changes to the equipment, machinery and plant operated on the site
- Where a non-compliance occurs or environmental performance measure is not achieved
- At the request of NSW Ports or any relevant government agency.

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

APPENDIX A

Acoustic Terminology

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

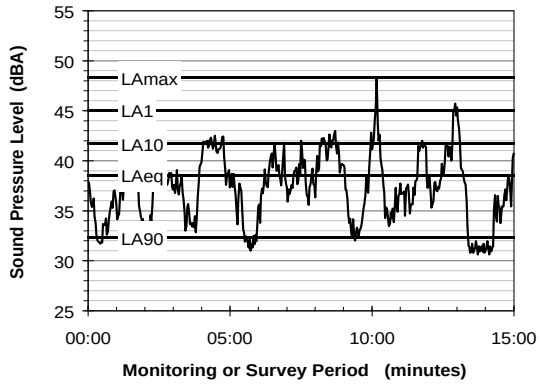
The Sound Power of a source is the rate at which it emits acoustic energy. As with Sound Pressure Levels, Sound Power Levels are expressed in decibel units (dB or dBA), but may be identified by the symbols SWL or LW, or by the reference unit 10^{-12} W.

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

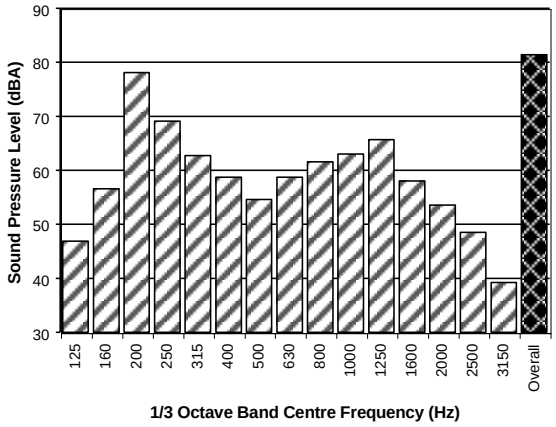
Frequency analysis is the process used to examine the tones (or frequency components) which make up the overall noise or vibration signal.

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

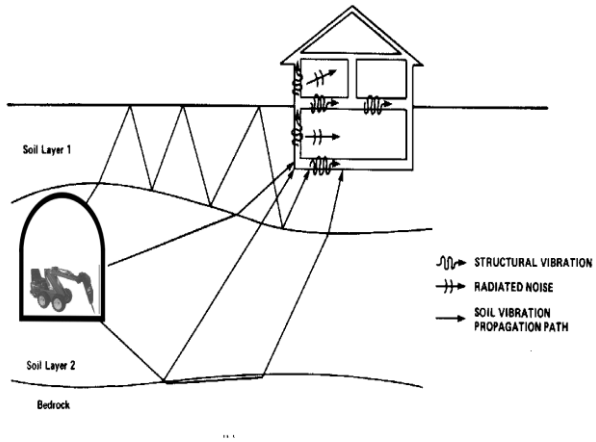
People are able to 'feel' vibration at levels lower than those required to cause even superficial damage to the most susceptible classes of building (even though they may not be disturbed by the motion). An individual's perception of motion or response to vibration depends very strongly on previous experience 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.

ASIA PACIFIC OFFICES

BRISBANE
Level 2, 15 Astor Terrace
Spring Hill QLD 4000
Australia
T: +61 7 3858 4800
F: +61 7 3858 4801

CANBERRA
GPO 410
Canberra ACT 2600
Australia
T: +61 2 6287 0800
F: +61 2 9427 8200

DARWIN
Unit 5, 21 Parap Road
Parap NT 0820
Australia
T: +61 8 8998 0100
F: +61 8 9370 0101

GOLD COAST
Level 2, 194 Varsity Parade
Varsity Lakes QLD 4227
Australia
M: +61 438 763 516

MACKAY
21 River Street
Mackay QLD 4740
Australia
T: +61 7 3181 3300

MELBOURNE
Suite 2, 2 Domville Avenue
Hawthorn VIC 3122
Australia
T: +61 3 9249 9400
F: +61 3 9249 9499

NEWCASTLE
10 Kings Road
New Lambton NSW 2305
Australia
T: +61 2 4037 3200
F: +61 2 4037 3201

PERTH
Ground Floor, 503 Murray Street
Perth WA 6000
Australia
T: +61 8 9422 5900
F: +61 8 9422 5901

SYDNEY
2 Lincoln Street
Lane Cove NSW 2066
Australia
T: +61 2 9427 8100
F: +61 2 9427 8200

TOWNSVILLE
Level 1, 514 Sturt Street
Townsville QLD 4810
Australia
T: +61 7 4722 8000
F: +61 7 4722 8001

TOWNSVILLE SOUTH
12 Cannan Street
Townsville South QLD 4810
Australia
T: +61 7 4772 6500

WOLLONGONG
Level 1, The Central Building
UoW Innovation Campus
North Wollongong NSW 2500
Australia
T: +61 404 939 922

AUCKLAND
68 Beach Road
Auckland 1010
New Zealand
T: +64 27 441 7849

NELSON
6/A Cambridge Street
Richmond, Nelson 7020
New Zealand
T: +64 274 898 628

APPENDIX F

Operation Traffic Management Plan

Operational Traffic Management Plan

Enfield Industrial Logistic Centre (EILC) – Precinct H
Mainline Road, Strathfield South

Ref: 0578r03v2
26/11/2019

Info@asongroup.com.au | +61 2 9083 6601 | Suite 1202, Level 12, 220 George Street. Sydney, NSW 2000

Document Control

Project No: P0578

Project: Enfield Industrial Logistic Centre – Precinct H Operational Traffic Management Plan

Client: Goodman Property Services (Aust) Pty Ltd

File Reference: 0578r03v2 OTMP - Precinct H, Enfield ILC

Revision History

Revision	Date	Details	Author	Approved by
-	17/10/2018	Draft	A. Rasouli	A. Rasouli
1	04/12/2018	Issue I	A. Rasouli	T. Lewis
2	26/11/2019	Issue II	M. Tangonan	A. Rasouli

This document has been prepared for the sole use of the Client and for a specific purpose, as expressly stated in the document. Ason Group does not accept any responsibility for any use of or reliance on the contents on this report by any third party. This document has been prepared based on the Client's description of its requirements, information provided by the Client and other third parties.

Table of Contents

1 INTRODUCTION 1

1.1 OVERVIEW 1

1.2 SITE SPECIFIC RULES 1

1.3 PURPOSE OF THIS REPORT 5

1.4 EXCLUSIONS 5

1.5 REFERENCES 6

2 SITE DETAILS 7

2.1 SITE OVERVIEW 7

2.2 ESTATE-WIDE FACILITIES 7

2.3 SITE FACILITIES 8

2.4 HOURS OF OPERATION 9

2.5 PRECINCT H TRAFFIC GENERATION 9

2.6 SITE ACCESS ARRANGEMENTS 10

3 OPERATIONAL TRAFFIC MANAGEMENT PLAN 14

3.1 PEDESTRIAN MANAGEMENT 14

3.2 VEHICLE MANAGEMENT 14

3.3 VEHICLE QUEUING 18

3.4 TEMPORARY OR UNPLANNED WORKS 19

4 PLAN ADMINISTRATION 20

4.1 PLAN MAINTENANCE 20

4.2 KEY RESPONSIBILITIES 20

Appendices

Appendix A: NSW Ports Overarching Operational Traffic Management Plan

Appendix B: Swept Path Analysis

1 Introduction

1.1 Overview

Ason Group has been engaged by Goodman Property (Australia) Pty Ltd to prepare a site-specific Operational Traffic Management Plan (OTMP) for Precinct H which forms part of the overall Enfield Intermodal Logistics Centre (EILC).

An Overarching Operational Traffic Management Plan (included in **Appendix A**) has been prepared by NSW Ports which outlines the general access restrictions and other traffic and parking management requirements applicable to ALL Precincts within the EILC.

It is noteworthy that Ason Group has previously prepared a Traffic Impact Assessment (TIA) – MOD 14, dated February 2018, in relation to modifications to the approved warehouse/industrial development for the entire EILC Master Plan and this document refers to that TIA in number of sections. That TIA also identifies the approved traffic generation threshold applicable to the entire EILC which is used to inform by this and other site-specific OTMPs.

Furthermore, reference should also be made to the Construction Certificate Design Statement for Precinct H, (also prepared by Ason Group) which provides further detailed assessment of the on-site loading area and car park design for the Precinct. This OTMP is informed by but does not seek to revisit that design compliance assessment.

1.2 Site Specific Rules

Section 9 of the Overarching OTMP provides twenty-three (23) site specific rules, requirement and principles to ensure safe and efficient operation of the entire EILC. Section 9 states that the key traffic management principles and rules are required to be adopted by each individual operator/ tenant. **Table 1** provides the site-specific rules and the relevant responses to each rule with respect to Precinct H.

Table 1: Site Specific Rules/ Responses with Respect to Precinct H

Rules		Response
1	All transport users are to operate on road system in a safe manner.	Section 4.2.2 of this OTMP outlines the key responsibilities of each tenancies within Precinct H. One of the critical tasks addressed to the management is to provide sufficient training for all road users regularly attending the Site. The training and induction sessions should clearly convey the Overarching OTMP site-specific rules to the road users and ensure that they have fully understood them.
2	All transport users are to comply with NSW road regulation within ILC.	Refer item (1).
3	Queuing and/ or parking is not permitted on the internal roads (normal road rules apply to the internal roads). Queuing is only permitted within the leased areas.	Section 3.3 outlines this requirement and clarifies that no queuing will be permitted on internal roads at any time.
4	Operators are to be mindful when scheduling truck arrivals, to distribute evenly throughout the day to minimise congestion and traffic friction within the precinct and on access roads peak times. In particular, gates and gatehouses are to be located in such a manner that trucks can be queued and processed within the tenant boundaries, without obstructing traffic flow on the internal roads.	Section 2.5 estimates the number of cars and trucks accessing the Site during the peak hours. Furthermore, Section 4.2.2 makes reference to this comment and address it to the tenants of the precinct so to ensure arrival of trucks are well distributed throughout the day.
5	All vehicles are to enter and exit each tenanted area and the ILC in a forward gear.	Section 3.2.2 acknowledges this rule as a critical requirement for cars and trucks. This shall also be addressed to the tenancies and operators to ensure that the road users (in particular the truck drivers) are well aware of this requirement. Furthermore, site-specific operational considerations for each Building have been provided in Section 3.3.1.
6	Wentworth Street is to be used as the primary road access to the ILC with Cosgrove Road being the secondary access. Articulated vehicles entering and exiting the ILC via Cosgrove Road during the morning and afternoon peak hour periods should be discouraged by the site operators.	Refer **Figure 5** of section 3.2.2.
7	Queuing and/ or parking of prime movers or trailers is not permitted along Wentworth Street, Norfolk Road or Cosgrove Road for any vehicles using the ILC facility. The Site operators should also discourage parking of prime movers and trailers in the local government areas surrounding the ILC.	It is assumed that sufficient loading docks are provided for Precinct H and for each individual tenancy. However, this requirement shall also be discussed with the truck drivers during the training sessions.
8	Tenanted sites vehicular accesses points and paths are to be located to avoid conflicts between pedestrians, light vehicles and truck movements.	Section 2.6 outlines that the light and heavy vehicle access points and car parking areas are separated for each individual Building. This minimises the conflict between pedestrian, light and heavy vehicles. Nevertheless, Section 3.1 provides recommendation to improve pedestrian safety in the event that pedestrian and vehicular movement interactions are not preventable.

9	All vehicles being loaded/ or unloaded (or awaiting loading/ unloading) are to stand entirely within the Site to avoid queuing of vehicles outside the Precinct.	Refer response to item (7). All heavy vehicles associated with each building will be parked at designated loading docks within a separate service area for loading and unloading activities wholly within their site.
10	All roads and parking areas are only to be used for their intended purpose in order to maintain access to and within ILC site.	Section 2.6, clarifies the intended designation of light and heavy vehicles vehicular accesses and car parking areas.
11	All tenanted sites are required to provide adequate parking and loading bays within their facilities for staff, visitors and contractors in accordance with AS2890.2.	Section 2.6 which deals with the car parking provision of the Site acknowledges that the proposed car parking provision satisfies the anticipated demand for Precinct H. The parking spaces for Precinct H have not yet been allocated to staff and/ or visitors. Due to uncertainty of the expected number of employees for each tenancy this OTMP does not make any specific recommendations in this regard.
12	Garbage bins and waste recycling areas are to be designed and located within the Site which allows for service vehicle access in accordance with AS2890.2.	Noted – Each tenant is to propose garbage bins and recycling areas within their site to allow for service vehicles.
13	All transport operators and drivers are to comply with any directions made by authorised officers of NSW Ports and Maritime services, Strathfield Municipal Council, Bankstown City Council, Police or other authorised parties.	Refer response in item (1).
14	Pedestrians and cyclists accessing the internal road areas and marked road crossings are also to keep the formal pathways and follow any applicable signage.	External pedestrian footpaths have been provided for the entire the EILC. The pedestrian and cyclist can utilise the proposed footpath for traversing within the EILC. Section 2.6.1 discusses the pedestrian accessibilities and clarifies the pedestrian access to the Site.
15	Unregistered vehicles, tenants plant and/ or machinery are not permitted to access or use the internal roads.	Tenants of Precinct H to note this rule.
16	All vehicles must give way to any rail rolling stock passing through rail crossings on the Site and obey applicable signage including no parking or stopping of vehicles on the level crossing at any time.	Tenants of Precinct H shall discuss this with their staff and other regular Site users as part of the induction sessions.

17	Each tenant shall provide a Truck Access Management System to monitor and control the number of vehicles accessing the site at any one time (where traffic volumes and the frequency of truck movements delicate a requirement for such a system to comply with the requirements of this OTMP).	Section 2.5 estimates the traffic generation of Precinct H. It is emphasised that the projections will be monitored as part of the ongoing Capacity Monitoring Programme covered by the Overarching OTMP. In this regard, any exceedance of the traffic volumes specified in Section 2.5 would be considered in the context of the overall EILC traffic movements.
18	Traffic controls (regulatory and waiting signage, road markings, traffic calming devices, etc) and parking arrangements are to be maintained as fit for purpose as designed.	Precinct H operators to note.
19	All details relating to the timing and scope of any construction projects and road works must be communicated to NSW Ports for review and receive permission to carry out the work prior to commencement.	A separate Construction Management Plan (CTMP) has been prepared and submitted to Goodman and NSW Ports which discusses the details of the construction works for this Precinct.
20	Any tenant or contractor undertaking works on or affecting an internal road must provide a Traffic Control Plan to NSW Ports for review and receive permission to carry out the work prior to commencement of the work.	Precinct H tenants or their contractors shall note this. Furthermore, as discussed in item 19 a separate CTMP has been prepared for this Precinct.
21	Tenants/ operators must undertake an education/ induction program for heavy vehicle truck drivers prior to them first accessing the ILC, to inform them of the relevant Site rules and requirements outlined in Overarching OTMP document and tenant specific operational TMPs; approved heavy vehicle routes to and from the ILC; and local conditions including speed limits, other traffic controls, pedestrian routes within the site, safety, operation procedure etc.	Refer response in item (1).
22	All drivers must adhere to all parking and Traffic Controls (including load limits) on the public and internal roads. The ILC internal roads are subject to NSW Road Rules and therefore the normal fine and penalties apply to breaches of the road rules.	Refer Section 4.2.1 for details of different road and responsibilities. The internal roads within the EILC are under care and control of NSW Ports. The tenants of Precinct H shall note different traffic rules such as: - Speed limits, and - On street parking / stopping controls. Penalties may apply for any breaches.
23	Public roads, internal roads, pedestrian corridors and/ or access points are not to be obstructed by any materials, vehicles, trailers, waste skips or like, under any circumstances.	Precinct H tenants to note. In particular as discussed in Section 3.3.1, no vehicle parking is allowed on public roads at any time.

1.3 Purpose of this Report

The overriding purpose of this site-specific OTMP (for Precinct H) is to provide guidance in relation to the traffic management arrangements within the Site with an overall objective to ensure safe and efficient movement of vehicles and personnel. It details the following:

- Assess the relevant parking provisions required based on the application of the relevant Council and State Planning Policy requirements.
- Assess the Precinct H estimated traffic generation figures having regard for generic figures to confirm relevant traffic volumes are within the 'approved' threshold adopted as part of MOD 14 Traffic Assessment.
- Appropriate internal traffic controls and signage.
- A truck route management plan.
- Proposed crossings and signage for safe movement of pedestrians between designated carpark to the warehouse/ office areas.
- Details on the governance and administration of the OTPM.

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.
- Traffic and parking management within the broader Centre. For Overarching OTMP controls, refer to the NSW Ports OTMP prepared separately and included in Appendix A.
- 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 each tenant involved in the transport of Dangerous Goods to/from the individual businesses within the Centre.

1.5 References

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

- Ason Group, *Traffic Impact Assessment Report – Enfield Intermodal Logistic Centre MOD 14*, dated 26 February 2018.
- NSW Ports, *Overarching Operation Traffic Management Plan*, February 2018.
- Ason Group, *0578r02 CC Design Statement - Precinct H - Enfield ILC* , October 2018.
- NSW Ports, *Enfield Intermodal Logistics Centre – Compliance Tracking Report No.10*, October 2017.
- National Transport Commission, Australian Code for the Transport of Dangerous Goods by Road & Rail, Edition 7.5, 2017.
- 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).*
- RMS, *Traffic Control at Work Sites manual*, June 2010
- TransGrid, *TransGrid Easement Guidelines – Third Party Development*.

2 Site Details

2.1 Site Overview

This OTMP relates to Precinct H of the proposed Enfield Industrial Logistic Centre, as shown in **Figure 1**. Precinct H is legally described as Lot 10 In DP1183316.

The Site comprises a total site area of 3.58ha and is surrounded by other warehouse and office uses included in the EILC.

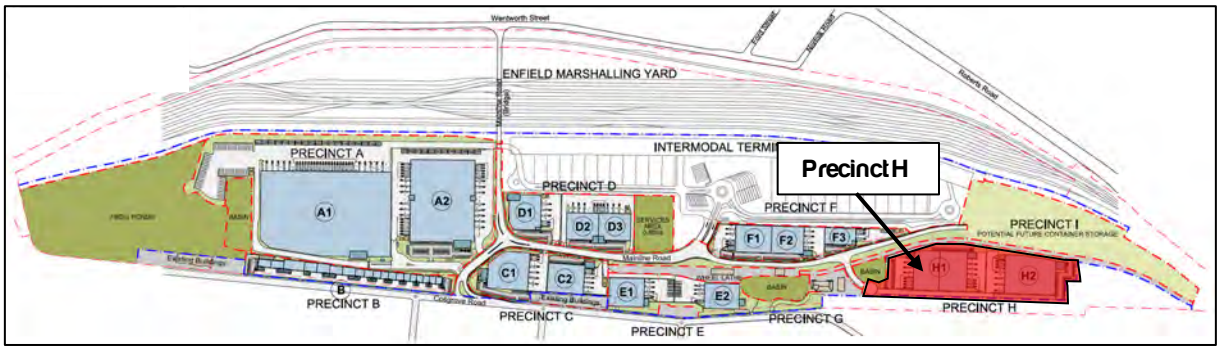


Figure 1: Subject Site Location

2.2 Estate-wide Facilities

Refer to the Overarching OTMP prepared by NSW Ports for details regarding the on-street pedestrian, cyclist, road and public transport infrastructure within the EILC and surrounding locality.

2.3 Site Facilities

Precinct H encompasses three (3) warehouse buildings (H1, H2 and H3) as shown in the following **Figure 2.**

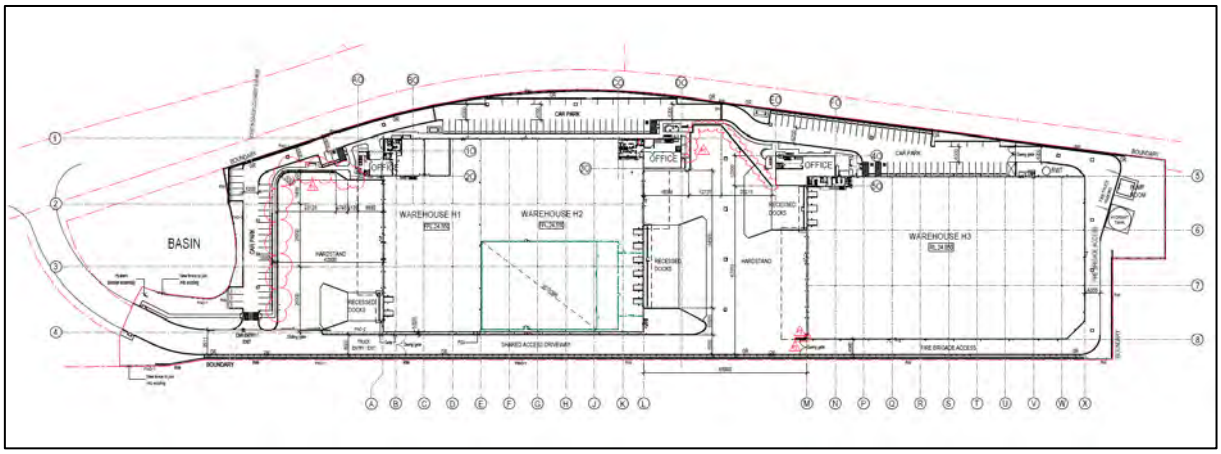


Figure 2: Site Plan

The Precinct H comprises a total of 16,475m^2 of Building area with the key details for each building summarised as follows. In this instance it is noted that the MOD 14 report assumed 17,450m^2 for this Precinct (total of 975m^2 less than MOD 14).

Table 2: Key Site Details

Building	Car Parking	(incl. 4 accessible parking spaces)	Service Bays
H1	31	1	6[1]
H2	45	1	8[2]
H3	51	2	7[3]
Precinct H	127	4	21

Notes: 1) Includes 4 articulated bays + 2 medium rigid bays (permitted to be in use at any one time).
2) Includes 6 articulated bays + 2 heavy rigid bays (permitted to be in use at any one time).
3) Includes 7 articulated bays (permitted to be in use at any one time).

2.4 Hours of Operation

Ason Group has been advised that the tenants for Precinct H are Mapei Australia, Marinucci Australia Pty Ltd and Sydney Food & Packaging. Detailed hours of operation for each site are summarised in

Table 3: Hours of Operation

Building	Tenant	Operating Hours
H1	Mapei Australia Pty Ltd	6:00 am to 6:00 pm Monday - Friday
H2	Marinucci Australia Pty Ltd	7:00am to 6:00pm Monday to Friday
H3	Sydney Food & Packaging Wholesalers Pty Ltd	9:00am to 5:00pm Monday to Friday

2.5 Precinct H Traffic Generation

The traffic report supporting the MOD 14 assessment adopts the following traffic generation rates and proportion of trucks during typical weekday morning and evening peaks periods. It also includes relevant rates for total daily traffic projections.

Table 4: MOD 14 Traffic Generation & Heavy Vehicle Percentages

Use	Period	Generation Rate	% Trucks
Warehouses	AM	0.158 veh/hr per 100m^{2+}	22.23 %
	PM	0.155 veh/hr per 100m^{2+}	13.44 %
	Daily	2.09 veh/hr per 100m^{2+}	21.44 %

Having regard for the above, the traffic generated by Precinct H has been assessed as outlined in **Table 5** below.

Table 5: Estimated Vehicle Movements for Precinct H

Reference	Area (m^2)	AM Peak Hour Generation (vph)	PM Peak Hour Generation (vph)	Daily Generation (vpd)
H1	3,350	5	5	70
H2	5,450	9	8	114
H3	7,675	12	12	150
Total	**16,475**	**26**	**25**	**334**

As evident in **Table 5**, Precinct H is expected to generate approximately 26 and 25 vehicles per hour during peak AM and PM peal periods respectively. This Precinct is also estimated to have a daily traffic generation of approximately 334 vehicles per day. Adopting the truck percentages outlined above will result in the following breakdown of car and truck traffic generation estimation:

- AM Peak: 20 cars plus 6 trucks.
- PM Peak: 22 cars plus 3 trucks.
- Daily: 262 cars plus 72 trucks.

It is emphasised that these precinct-specific projections will be monitored as part of the ongoing Capacity Monitoring Programme covered by the Overarching OTMP. In this regard, any exceedance of the above volumes would be considered in the context of the overall EILC traffic movements.

Measures to offset any exceedance may include a requirement for staggered staff shift times to spread staff arrivals limit peak period volumes and minimise the impact on the surrounding road network.

2.6 Site Access Arrangements

Site access arrangements are outlined in **Figure 3**.

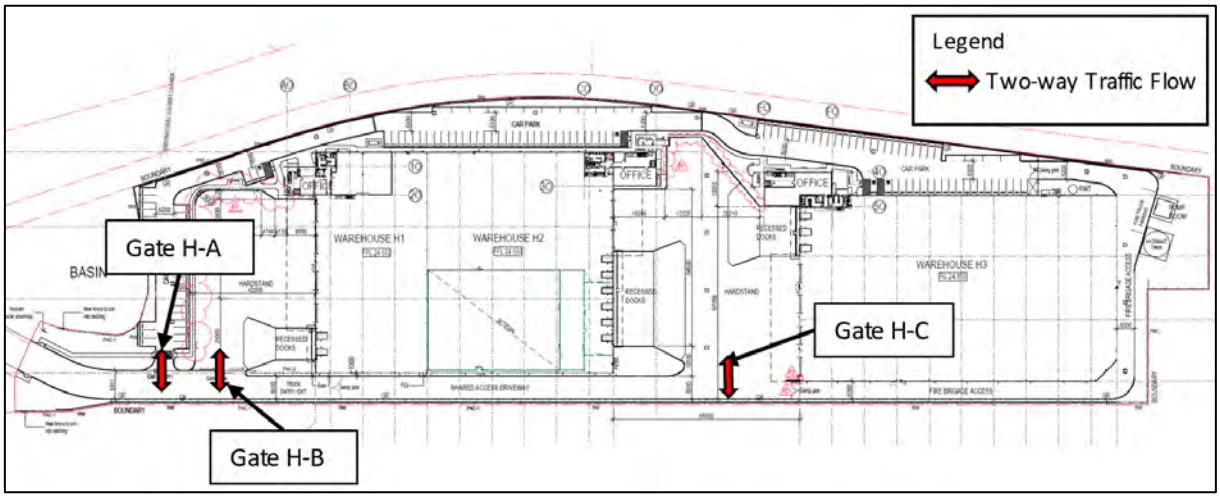


Figure 3: Site Access Arrangements

Above accesses are connected to the Delec Lane and then onto Mainline Road.

2.6.1 Pedestrian Access

Delec Lane currently includes concrete footpath along its southern verge. It is anticipated that by further development of Enfield ILC and particularly by construction of Precinct H, similar pedestrian concrete path will be provided along the northern verge of Delec Lane. The Delec lane pedestrian network is connected to the footpath network provided along Mainline Road, hence providing a wider pedestrian connectivity for the Site through the entire Estate.

To assist pedestrian movements across the three office Buildings and their associated car parking areas, marked pedestrian footpaths are provided for Precinct H.

2.6.2 Vehicular Access

In summary the Site is proposed to be accessed via 3 vehicular crossovers on a shared driveway between the three Buildings which is proposed to be connected to Delec Lane and Mainline Road. The access arrangement for the Site are detailed as follows:

- Gate (H-A) will cater for all light vehicles associated with the offices (generally).
- Gates (H-B) and (H-C) will cater for trucks and other HVs associated with the warehouses (generally).

Having regard for the above, the traffic volumes estimated in Section 2.5 will be distributed across a number of separate access points. Projected volumes at any one crossover therefore being less than 9 vehicles per hour during peak periods.

This is a minimal traffic volume and is not anticipated to result in any material issues.

2.6.3 Car Parking

Applicable parking rates outlined by the Strathfield Consolidated Development Control Plan (SCDCP) and the RMS *Guide to Traffic Generating Developments* are outlined in **Table 6**.

Table 6: Parking Rates

Precinct H - Land Use	RMS	Council
Warehouses	1 space per 300m^2 GFA	Greater of: Office < 20%: 1 space per 55m^2 GFA Office > 20%: 1 space per 55m^2 GFA (excl office) + 1 space per 40m^2 GFA (office) OR 1 space per 2 employees

Accordingly, the estimated theoretical car parking requirements for the Site are provided in **Table 7**.

Table 7: Estimated Number of Car Parking Requirement

Precinct	Area (m^2)	Lower (RMS) Parking Requirement	Upper (Council) Parking Requirement	Provided
Precinct H	16,475	55	300	127

In response to the above theoretical parking requirements the proposal for the Site provides a total of 127 car parking spaces including 4 disabled bays. In addition to the normal parking spaces a total of 21 loading docks are proposed for the Site. Accordingly, a sum of 148 vehicles can comfortably be accommodated on Site at any time. The car parking estimation suggests that the provided number of spaces sits between the RMS and Council's requirement.

The parking provision (as proposed for the Site) is deemed to be adequate to satisfy the parking demand for the proposed Precinct H. As set out in section 5.1 of MOD 14 Traffic Impact Assessment the proposed car parking provision towards the lower range is supportable to encourage, as far as is practicable for a site not well served by public transport, non-car travel modes.

3 Operational Traffic Management Plan

3.1 Pedestrian Management

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



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

3.2 Vehicle Management

3.2.1 Design Vehicle and Speed

The larger loading docks can be accessed by vehicles up to and including 19 metres articulated vehicles. However, swept path analysis undertaken for B-Doubles show that the B-Double can access Buildings H1 and H3, circulate within the service area and exit the Site. This can ONLY be achievable if the hardstand area is unoccupied (further details are provided in Section 3.3.1).

It is important to mention that the Buildings H2 CANNOT not be accessed via B-Doubles.

All vehicles on-site (including car park and loading areas) shall be subjected to speed limit of 20km/hr at all times.



3.2.2 Truck Access Routes

Vehicles accessing the Site should have regard for the Overarching OTMP access requirements and truck routes identified in Appendix A of the Overarching OTMP. A reduced copy of this truck route plan is provided in **Figure 4**. From time-to-time, ALL truck drivers may be asked to complete the relevant Truck Route Survey Form attached in Appendix A of the Overarching OTMP.

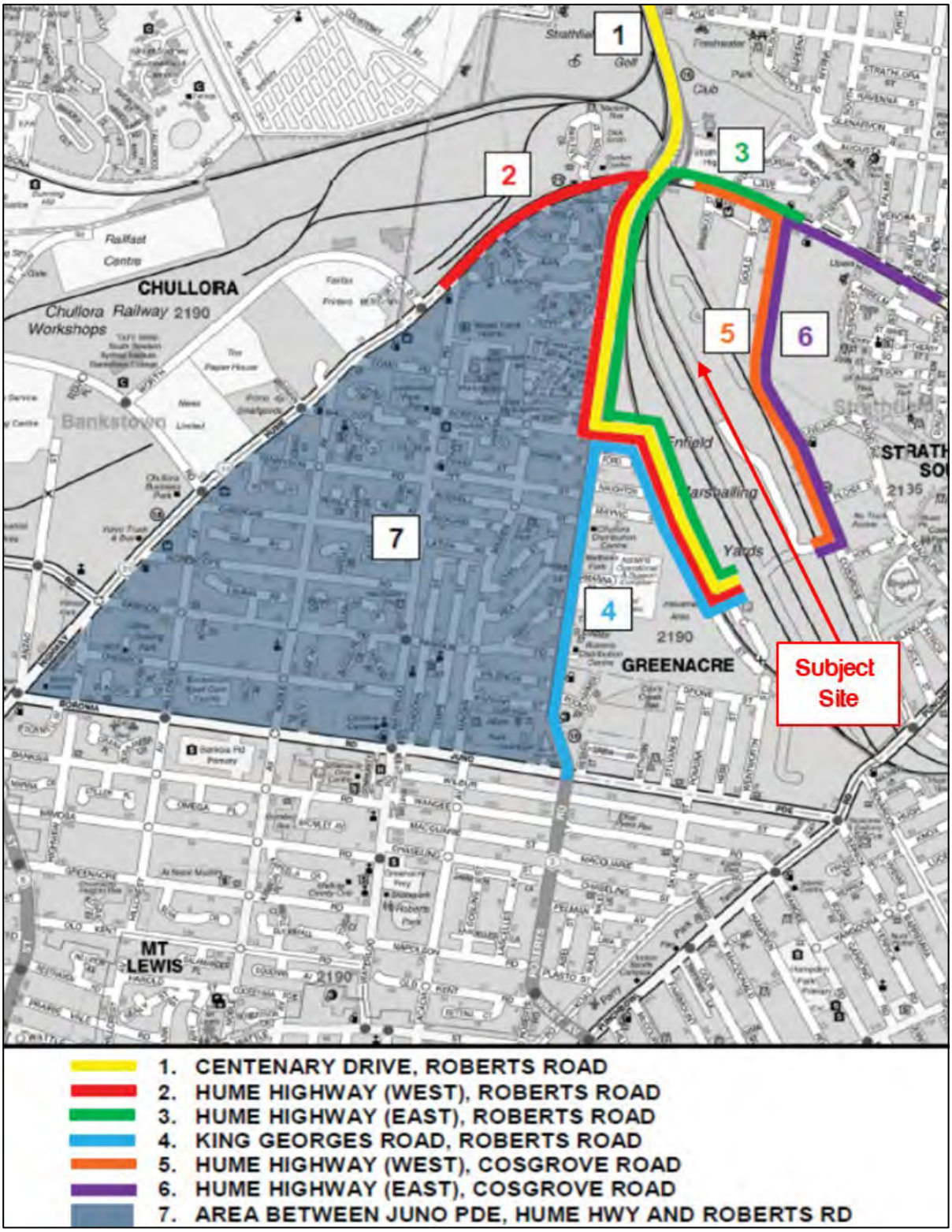


Figure 4: Off-Peak Truck Route Plan - Prepared for EILC[1]

[1] Extracted from Overarching OTMP prepared by NSW Ports (February 2018)

Having regard for rule number 6 of the site-specific conditions proposed by the Overarching OTMP the Articulated vehicles entering and exiting the EILC via Cosgrave Road during the morning and afternoon peak hour periods should be discouraged by the Site operators. Accordingly, the localised access during the morning and afternoon peak hour periods should be as follows and as indicated in **Figure 5**:

- ENTRY from Delec Lane and Mainline Road, via Mainline Road Bridge and through Wentworth Street.
- EXIT to Delec Lane and Mainline Road and then Mainline Road Bridge and further to Wentworth Street.

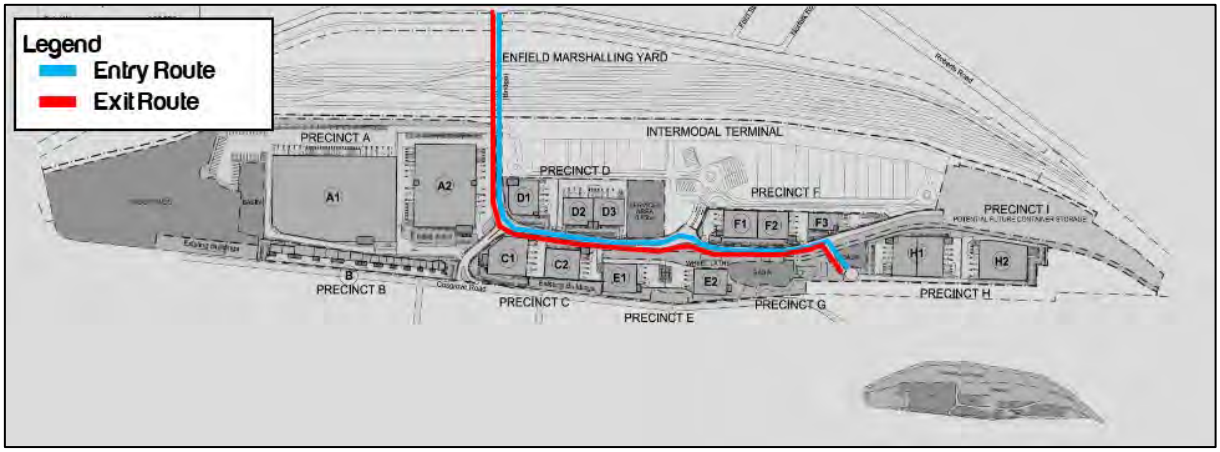


Figure 5: Truck Access Routes During Morning and Afternoon Peak Periods

All access and egress to the Site **SHALL** be in a **forward direction** at all times across the property boundary.

However, it is important for the tenants and operators of the Site to clarify this with the truck drivers in their briefing sessions.

3.3 Vehicle Queuing

3.3.1 On-street Queuing on Public Road and Internal Roads

As outlined in the Overarching OTMP:

NO VEHICLE QUEUEING AND PARKING SHALL OCCUR OFFSITE PRECINCT H.

It is expected that the required site induction for new drivers would clearly articulate this instruction.

Truck arrivals are to be distributed throughout the day (refer to Rule 4 of Section 9 of Overarching OTMP) and accordingly, projected truck demands at any one time are minimal and will not result in queuing. Indeed, an adequate number of service bays are to be provided to satisfy projected demands.

Furthermore, to ensure that no queueing will occur off-site, all loading docks shall be allocated to specific truck sizes (at all times) as shown in Sk00 in **Attachment B** and subject to the following additional management measures for each Building separately:

Building H1:

- The recessed docks plus two of the hardstands loading docks immediately to the west of the recessed docks are restricted to use by AVs, and
- The western two docks shall be restricted to MRVs.

As shown in Sk01, by restricting the loading docks (to the above truck sizes) B-Doubles and other smaller trucks can access the Site and make a U-turn to exit the Site if required without having to reverse back into Delec Lane.

Buildings H2 and H3:

Buildings H2 and H3 have a shared hardstand arrangement. The required management measures for these two Buildings are as follows:

- If all the loading docks for both Buildings are occupied and an additional truck attends either of the two Building's hardstand area, it shall reverse into the fire access driveway and leave the Site into Delec Lane in forward gear. (Refer: Sk09).
- Building H2 shall not be accessed by B-Doubles.
- Building H3 may be accessed by B-Doubles, provided:
  - Only a single B-Double is on-site at any time.

- H2 hardstand area is kept clear. With reference to Sk10, access by B-Doubles is only possible if the Building H2 hardstand area is unoccupied. Accordingly, the Building H2 management SHALL ensure that the hardstand area is unoccupied prior to attendance of any B-Doubles.

3.3.2 On-site Queuing

No vehicle queuing shall occur on-site at any time, other than in dedicated loading bays / zones.

Section 2.5 estimates that during the morning and evening peak periods only 25-26 vehicles may be generated by the entire precinct which is anticipated to be distributed between 3 access crossovers. This situation suggests that no vehicle queuing is expected on-site, however, the Building operators shall take this into consideration and ensure appropriate monitoring measures are put in place. In the event that queuing is observed, then additional measures may be required.

3.4 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 Site manual, as appropriate. It is noteworthy that a separate CTMP has been prepared and submitted to NSW Ports and Goodman for Precinct H.

4 Plan Administration

4.1 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 Work Health and Safety (WHS) issues. 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. Where a change of businesses does not alter the underlying characteristics of the operation, no change to this plan would be required.

4.2 Key Responsibilities

4.2.1 Road Traffic Management

As set out in Section 8.0 of the Overarching OTMP the responsibilities for care and control of three different road types will be as follows:

- External Public Roads – Council or RMS, as applicable.
- Internal Roads – NSW Ports.
- Tenant Roads – Each Tenants.

Note: Tenant's roads mean those roads located inside tenant boundaries including the hardstand / heavy vehicle loading areas.

The ongoing care and control of the above roads shall be undertaken in accordance with the details provided in the Overarching OTMP provided in Appendix A of this report.

4.2.2 Precinct H Management

Management of each respective businesses on the 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 site-specific rules through appropriate site induction procedures, including being inducted into this OTMP. The site-specific rules shall be in consistent with the Overarching OTMP.
- Ensure that sufficient training and inductions are provided for the truck drivers attending each tenanted area to fully comply with the site-specific rules outlined in Overarching OTMP.
- Conduct all business in a safe, professional and legal manner.

- Be familiar with and address their respective duty of care requirements in accordance with the applicable national and state WHS legislation.
- Ensure WHS Incident logbooks are maintained and undertake necessary action(s) in relation to any reported issues.
- Drivers must be afforded sufficient time to conduct trips in a legal, compliant and safe manner.
- Vehicles shall not, in any manner, be knowingly overloaded.
- Management must not, by their actions or requirements, force or coerce subcontractors or drivers to break the law.
- Ensure that the truck arrivals are well distributed throughout the day.
- Inform the road users regarding the Overarching OTMP rules such as no queuing is permitted on roads at any time.

Finally, the future operators / tenants of each tenancies of Precinct H (Buildings H1, H2 and H3) shall ensure that they are fully aware of all the required twenty-three (23) site-specific rules provided by Overarching OTMP.

The operators shall organise site inductions to ensure that all OTMP requirements are provided to the staff and regular site users. Most of the attendees on this Site are anticipated to be the regular users. However, for visitors to Precinct H who are not familiar with the OTMP requirements the followings are recommended:

- Inclusion of OTMP requirements as part of online inductions, and
- Provision of appropriate signage and line-marking to communicate the necessary rules and requirements. It is noted that this would address the majority of the 23 requirements applicable to irregular users.

Appendix A

NSW Ports Overarching Operational Traffic Management Plan



NSW Ports

Enfield Intermodal Logistics Centre

Overarching Operational Traffic Management Plan

February 2015

Table of Contents

1. Introduction 2
2. Purpose of the Plan 2
3. Objective of the Plan 3
4. Road networks and access points 3
5. Review and Amendments 4
6. Road Types and Rules 5
7. Legislative Framework 6
7.1 Applicable Legislation 6
7.2 Standards and Guidelines 6
7.3. Conditions of Project / Development Consent 7
8. Traffic Management Structure and Responsibilities 8
9. Site Specific Rules, Requirements and Principles 11
10. Public Transport, Pedestrian and Bicycle Access 13
11. Traffic and Capacity Monitoring Programme 13
12. Traffic Auditing 15
Attachment 1: Indicative Layout of Enfield ILC (SEDP205) 17
Attachment 4: Public Transport - Bus stops in proximity to ILC 20
Appendix A – Truck Route Survey 21

1. Introduction

On 5 September 2007 the Project Approval was granted under Section 75J of the *Environmental Planning & Assessment Act (1979)* by the Minister for Planning for the construction and operation of the Enfield ILC subject to a number of conditions. The approved project includes (but is not limited to) the construction and operation of the following (**Attachment 1**):

- An intermodal terminal for the loading and unloading of containers between road and rail and the short term storage of containers;
- Rail sidings, railway lines and associated works connected to the existing freight line;
- Warehousing for the packing and unpacking of containers and the short-term storage of cargo;
- Empty container storage areas and facilities;
- Light industrial/commercial area fronting Cosgrove Road complementary to operations at the site;
- Access works including the construction of a road bridge over the new marshalling yards for access to Wentworth Street and an upgrade of the entrance to the site from Cosgrove Road; and
- Internal roads, administration buildings, diesel and LPG storage and fuelling facilities, container washdown area, vehicle maintenance shed, and installation of site services (all utilities, stormwater and sewerage).

Condition of Approval (CoA) 6.4 and 6.5(b) of the Project Approval requires an Operational Traffic Management Plan (OTMP) to be prepared for the approval of the Director-General prior to the commencement of site operations of the Project.

2. Purpose of the Plan

The Intermodal Logistic Centre (ILC) at Enfield is approved to manage the movement of 300,000 TEU per year by rail. The traffic activity of the facility will be managed through this Overarching Operational Traffic Management Plan (OTMP) and tenant specific operational TMPs.

The purpose of this document is to present the overarching operational traffic arrangements for the internal roads within the ILC, and the public road routes leading to the entry points at Wentworth Street and Cosgrove Road. NSW Ports and ILC tenants/operators will comply with this Plan in order to minimise and manage any traffic related impacts from the operation of the ILC on public and internal roads.

Tenant specific operational Traffic Management Plans (TMPs) will be prepared by tenants for the operation of each tenanted area and are to be consistent with this OTMP. Traffic

Control Plans will be required in relation to any construction works that take place within the ILC that could impact on the internal roads and pedestrian corridors or on other operations occurring within the ILC site.

The following diagram indicates how these documents relate:



This OTMP has been prepared in accordance with CoA 6.5(b) of Major Project Approval 05_0147. This Plan will be updated as required in order to incorporate ongoing compliance with this CoA.

3. Objective of the Plan

The objective of this OTMP is to guide operations so that the effects of operational traffic on the surrounding area and local community are mitigated as far as reasonably practicable.

The Plan also aims to ensure that site operators minimise traffic operational impacts within the ILC internal roads and are undertaken in a safe and efficient manner.

4. Road networks and access points

The ILC can be accessed via both Wentworth Street and Cosgrove Road. Wentworth Street is the site's primary / main access point.

The external approach roads leading to the ILC via Wentworth Street and Cosgrove Road are:

- Norfolk Road (East of Roberts Road)
- Roberts Road
- Hume Highway

These roads are well connected to the M4 and M5.

The internal roads in the ILC site are as follows:

- Mainline Road (from Wentworth Street entrance, over the bridge, past the IMT entrance and to ECS B)
- Turnout Drive (Cosgrove Road entry to junction with Mainline Road)
- Searchlight Lane (to Warehouse A&B and ECS A from Turnout Drive)
- Delec Lane (to Area F and Administration Area from Mainline Road)

The internal roads and local public roads are shown in **Attachment 2**.

5. Review and Amendments

This OTMP document should be considered a working document and will require updates to allow for changes in circumstances.

This OTMP therefore may require updating in the event that:

- traffic arrangements change within the site (including emergency access);
- a safety / traffic risk assessment is undertaken which identifies traffic related mitigation measures to be implemented;
- a specific traffic incident has identified areas for improvement;
- additional traffic management measures are required to address or manage traffic as a recommendation of the Traffic and Capacity Monitoring Programme or a Traffic Audit Report (refer to sections 11 and 12 respectively) or requirements from the Director-General;
- there are pedestrian and / or traffic safety issues associated with the site's activities; or
- there is an increase in traffic related complaints or vehicle congestion.

NSW Ports reserves the right to make changes to the OTMP (this document) to ensure these issues are addressed and therefore would require all tenant specific operational TMPs to be updated accordingly, if required. NSW Ports may also make amendments to the OTMP based on recommendations from the Road Transport Co-ordination Group.

Major updates to the plan (i.e. changes affecting compliance with the CoA) will be issued to the consent authority for approval before adoption of the revised plan by NSW Ports.

Minor updates (i.e. those which do not impact on compliance with the CoA) will be undertaken by NSW Ports as appropriate and updates may include consultation with relevant Authorities, the Road Transport Co-ordination Group and tenants (if needed).

6. Road Types and Rules

There are three types of roads associated with access to and within the ILC and all drivers entering the ILC tenancies should be familiar with the legal status of these roads:

Public Roads – These are all roads outside the boundary of the ILC, including Wentworth Street and Cosgrove Road. All public roads fall under the jurisdiction of RMS with certain controls on local roads delegated to Council. NSW Road Rules apply to all public roads within NSW and all drivers should be familiar with and abide by the Road Rules.

Internal Roads (including Pedestrian Corridors) – are defined as any road or pedestrian corridor within the boundary of the ILC, excluding the tenancies as defined by lease or sublease boundaries.

The ILC internal roads are managed and controlled by NSW Ports (refer to **Attachment 2** which identifies the internal roads for the ILC site). The internal roads are defined as Roads and the pedestrian corridors are Road Related Areas, under Division 1, Rules 12 and 13 of the NSW Road Rules 2008 (under the *Road Transport Act 2013*). This means that **all traffic and parking controls within the ILC are enforceable** under NSW Road Rules. Drivers should therefore view the ILC internal roads as public roads in regard to compliance with traffic and parking rules. The OTMP or a TMP does not replace or reduce the application of NSW Road Rules.

The ILC internal roads have been designed to accommodate and be used by a variety of vehicles up to and including B-Double configurations. The internal roads may also be suitable for Super B configurations under traffic control and with the prior authorisation for NSW Ports or the relevant authorities.

The road carriageways have been designed to accommodate the maximum sized vehicles expected to use the site, while footpaths and pedestrian crossings are strategically located to accommodate the safe movement of pedestrians throughout the precinct with minimal interaction with vehicular traffic.

Tenant Roads – These roads are located inside tenant boundaries and are subject to the rules applied by the tenant of the facility, which as a minimum must be consistent with the requirements of this OTMP and applicable legislation. Tenants will prepare a Tenant specific operational TMP in relation to each Tenancy.

7. Legislative Framework

7.1 Applicable Legislation

The legislation that applies to the implementation of this OTMP is listed below:

- Environmental Planning and Assessment Act, 1979
- Road Act, 1993
- Road Transport Act, 2013
- Work Health and Safety Act, 2011
- NSW Road Rules 2008

In addition to the above, all parties in the road transport supply chain are responsible for preventing a breach of road transport laws. This is called the Chain of Responsibility (CoR). All parties in the supply chain – consignor/dispatcher, packer, loader, scheduler, consignee/receiver, manager, as well as the driver and operator – must take positive steps to prevent a breach of the road transport mass, dimension, loading and work hours laws.

7.2 Standards and Guidelines

The following list identifies standards and guidelines that are relevant to operational traffic related activities of the ILC:

- Manual of Uniform Traffic Control Devices: AS1742.1 – Introduction and sign index; AS1742.7 – Railway crossings; AS1742.11 – Parking controls.
- Parking Facility Standards: AS2890.1 - Off-street car parking; AS2890.2 – Off-street commercial vehicle facilities; AS2890.6 - Off-street parking for people with disabilities,
- Austroads Guide to Traffic Management;
- RMS Delineation Guidelines;
- Traffic management in workplaces code of practice, Safe Work Australia;
- RMS Traffic Control at Works Sites (TCAWS).

7.3. Conditions of Project / Development Consent

CoA 6.5(b) of the Project Approval for the ILC site, requires the preparation of an Operational Traffic Management Plan as outlined below:

> *6.5 As part of the Operation Environmental Management Plan for the project, required under condition 6.4 of this approval, the Proponent shall prepare and implement the following Management Plans:*
>
> *(b) an **Operation Traffic Management Plan** to outline measures to minimise and manage any impacts from the operation of the project on the local road network. The Plan shall include, but not necessarily be limited to:*
>
> *i) a driver education program to ensure that heavy vehicles comply with the requirements of this approval and the commitments made in the documents referred to under condition 1.1, particularly with respect to heavy vehicle routes;*
>
> *ii) movement scheduling where practicable to reduce impacts during sensitive time periods;*
>
> *iii) specific measures for ensuring that all heavy vehicle operators associated with the project are aware of and implement the Plan;*
>
> *iv) a system for identifying and ensuring conformance with the Plan, including conformance monitoring, procedures for implementing and monitoring corrective and preventative action, and penalties for breaches of the Plan; and*
>
> *v) a continuous improvement process for assessing Plan effectiveness and implementing improvements to the Plan.*

This Plan provides the overarching operational traffic management framework for the ILC site and includes measures to minimise and manage traffic impacts from the operation of the ILC on local public roads. Tenant / facility specific operational TMPs will be prepared to be consistent with this OTMP and the applicable conditions of approval.

8. Traffic Management Structure and Responsibilities

The responsibility for care and control of the 3 types of road, Public Roads, Internal Roads and Tenant Roads, which are detailed in Section 6 of this document, rests with different organisations, as follows.

- Public Roads external to the ILC site are the responsibility of the respective local Councils and RMS.
- Internal Roads are the responsibility of NSW Ports.
- Tenant Roads are the responsibility of each tenant.

Attachment 3 shows the areas that RMS, each Council, tenants and NSW Ports are responsible for.

The table below describes the overarching hierarchy and distribution of responsibilities for traffic management within the ILC precinct.

Role	Scope	Responsibility
Director-General, Department of Planning & Environment	Approval of Operational Traffic Management Plan	Approve operational traffic management plans in accordance with CoA 6.4 and 6.5(b) prior to operations commencing.
Road Transport Co-ordination Group (RTCG)	Traffic matters impacting the ILC and Local Roads	To oversee and coordinate the management of traffic and road issues associated with and affected by the project. The RTCG includes representatives from NSW Ports, the Department of Planning & Environment, the RMS, Strathfield Municipal Council and Bankstown City Council. The RTCG meets quarterly and in the future will include representatives from tenanted facilities within the ILC site. The role of the group, as agreed as part of the RTCG terms of reference, is to address the following in relation to the ILC development: • Proposed traffic enhancements, including intersection improvements and traffic calming measures. • Traffic Management Plans. • Share information and concerns about traffic impacts from the development, both during construction and operation. • Focus on 'local' impacts i.e. impacts on local residential streets. • Discuss and decide on strategies which could be used to mitigate these local impacts.

Role	Scope	Responsibility
		• Recommend the way forward on the implementation of these strategies. The group does not have the charter for implementing any measures, only to suggest and recommend to the relevant authorities.
NSW Ports' Safety, Security and Traffic, Manager (or delegate - NSW Enfield Site Manager)	ILC Internal Roads & local Public Roads	NSW Ports' representative for traffic matters associated with the site as a whole, and is responsible for: • Reviewing Site Specific Traffic Control Plans (SSTCPs) and Traffic Control Plans that impact internal road & pedestrian corridors and Tenant specific operational TMP. • Monitoring compliance and making recommendations for traffic measures consistent with the requirements of this OTMP and the NSW Ports approved Tenant specific operational TMP. • The safe operation of internal roads within the site. • Implementing and authorising amendments to this OTMP. • Arranging approval through Strathfield Council of any new or changed traffic control on the Internal Roads.
Tenant Traffic and Safety Manager(s)	Tenanted / Leased Premises, ILC Internal Road & local Public Roads	Tenant's nominated representative for Traffic, Transport and Safety matters (road and/or rail), and is responsible for: • Development and implementation of Tenant Specific Traffic and/or rail Management Plans and Traffic Control Plans. • Each Tenant Specific Traffic Management Plan is to include a driver education program which includes specific measures to ensure heavy vehicle drivers understand and follow the heavy vehicle routes that are to be used to and from the ILC. It also should include potential for movement scheduling to reduce traffic impacts of heavy vehicles on the surrounding road network during peak periods • Ensures their individual Tenant Specific Operational Traffic and/or rail Management Plans, Traffic Control Plans and the OTMP (i.e. this document) are adhered to by all contractors, truck drivers, visitors and staff visiting or using the ILC facilities and leased premises. • Ensure that each tenant's truck marshalling supervisor monitors and ensures compliance with this OTMP requirements.
Strathfield Municipal Council	Strathfield LGA	Council is responsible for: • Governing the process for making changes to traffic controls and measures on public roads within the local council area • Management and maintenance of local public roads • Approving any new or changed traffic control on public roads and ILC Internal Roads through its Traffic Committee.

Role	Scope	Responsibility
		• If a parking enforcement agreement is entered into between Council and NSW Ports, undertake parking enforcement services within the ILC.
Bankstown City Council	Bankstown LGA	Council is responsible for: • Management and maintenance of local public roads • Governing the process for making changes to traffic controls and measures on public roads within the local council area
Roads and Maritime Services (RMS)	For arterial roads serving the ILC	RMS is responsible for: • Management and maintenance of the local arterial road network • Governing the process for making changes to arterial road network

The primary contacts for traffic management inquiries and incidents for the ILC site are listed below:

NSW Ports Safety, Security & Traffic Manager	0410 459 439
NSW Ports Enfield Site Manager	0421 616 300

For emergency contact details please refer to the ILC Emergency Plan. For safety management contact details please refer to the ILC Precinct Safety Management Plan.

9. Site Specific Rules, Requirements and Principles

It is vital for the safe and efficient operation of the ILC that the following rules are adhered to by all site operators / tenants, contractors and visitors, including the adoption of these rules and requirements within tenant specific operational TMPs and Traffic Control Plans. Tenants / operators of the ILC will be required to outline what measures / sanctions are applicable to drivers who regularly breach the prescribed rules.

The key traffic management principles, rules and requirements of this OTMP, which are to be adopted by site operators / tenants of the ILC site as part of Tenant specific operational TMPs, include:

1. All transport users are to operate on the road system in a safe manner.
2. All transport users are to comply with NSW road traffic regulations within the ILC.
3. Queuing[1] and/or parking is not permitted on the internal roads (normal road rules apply to the internal roads). Queuing is only permitted within leased areas.
4. Operators are to be mindful when scheduling truck arrivals, to distribute evenly throughout the day to minimise congestion and traffic friction within the precinct and on access roads across peak times. In particular, gates and gatehouses are to be located in such a manner that trucks can be queued and processed within tenant boundaries, without obstructing traffic flow on the internal roads
5. All vehicles are to enter and exit each tenanted area and the ILC in a forward direction.
6. Wentworth Street is to be used as the primary road access to the ILC with Cosgrove Road being the secondary access. Articulated vehicles entering and exiting the ILC via Cosgrove Road during the morning and afternoon traffic peak hour periods should be discouraged by site operators.
7. Queuing and/or parking of prime movers or trailers is not permitted along Wentworth Street, Norfolk Road or Cosgrove Road for any vehicles using the ILC facility. ILC operators and tenants should also discourage parking of prime movers and trailers in the local government areas surrounding the ILC.
8. Tenanted sites vehicular access points and paths are to be located to avoid conflicts between pedestrians, light vehicles and truck movements.
9. All vehicles being loaded and / or unloaded (or awaiting loading and / or unloading) are to stand entirely within the tenanted area to avoid queuing of vehicles outside the tenanted area.

[1] For the purpose of this document, a “queue” is defined as: *One or more slow moving (less than 5kph) or stationary vehicles at any control point.*

10. All road and parking areas are only to be used for their intended purpose in order to maintain access to and within the ILC site.

11. All tenanted sites are required to provide adequate parking and loading bays within their facilities for staff, visitors and contractors in accordance with AS2890.2.

12. Garbage bins and waste recycling areas are to be designed and located within tenanted areas which allows for service vehicle access in accordance with AS2890.2.

13. All transport operators and drivers are to comply with any directions made by authorised officers of NSW Ports, Roads and Maritime Services, Strathfield Municipal Council, Bankstown City Council, Police or other authorised parties.

14. Pedestrians and cyclists accessing the internal road areas and marked road crossings are also to keep to the formal pathways and follow any applicable signage.

15. Unregistered vehicles, tenant plant and/or machinery are not permitted to access or use the internal roads.

16. All vehicles must give way to any rail rolling stock passing through rail crossings on the site and obey applicable signage including no parking or stopping of vehicles on the level crossing at any time.

17. Each tenant shall provide a Truck Access Management System to monitor and control the number of vehicles accessing the site at any one time (where traffic volumes and the frequency of truck movements dictate a requirement for such a system to comply with the requirements of this OTMP).

18. Traffic Controls (regulatory and warning signage, road markings, traffic calming devices, etc) and parking arrangements are to be maintained as fit for purpose and as designed.

19. All details relating to the timing and scope of any construction projects and road works must be communicated to NSW Ports prior to commencement.

20. Any tenant or contractor undertaking works on or affecting an internal road must provide a Traffic Control Plan to NSW Ports for review and receive permission to carry out the work prior to commencement of the work.

21. Tenants / operators must undertake an education / induction program for heavy vehicle truck drivers prior to them first accessing the ILC, to inform them of the relevant site rules and requirements outlined in this document and tenant specific operational TMPs; approved heavy vehicle routes to and from the ILC; and local conditions including speed limits, other traffic controls, pedestrian routes within the site, safety, operation procedure etc.

22. All drivers must adhere to all Parking and Traffic Controls (including load limits) on the public and internal roads. The ILC internal roads are subject to the NSW Road Rules and therefore the normal fine and penalties apply to breaches of the road rules.

23. Public roads, internal roads, pedestrian corridors and/or access points are not to be obstructed by any materials, vehicles, trailers, waste skips or the like, under any circumstances.

10. Public Transport, Pedestrian and Bicycle Access

The ILC covers a large area which accommodates the movement of a variety of vehicle types involved with various tasks. For this reason, pedestrian and bicycle access is limited throughout the ILC however, there is a need for some areas to be accessible on foot.

Pedestrians must keep to the formal footpaths and marked road crossings within the ILC. No unauthorised pedestrian access is permitted outside of designated paths. Bicycles may be ridden on the internal roads, subject to normal road rules.

Public transport is available to the site and staff are to be informed of the bus stop locations as shown in **Attachment 4**.

11. Traffic and Capacity Monitoring Programme

The ILC conditions of project approval require an ongoing monitoring program of the throughput and traffic generation of the ILC (CoA 3.6). The program is to include:

a) Monitoring the throughput of the ILC;
b) Monitoring the traffic generation of the ILC, the type of road transport used, the hours of traffic movements and intended road destinations;
c) Periodic monitoring of traffic movements generated by the ILC in the area bounded by Roberts Road, Boronia Road and the Hume Highway, and on the principal road transport routes to and from the site; and
d) A framework for recording and reporting the outcomes of the program and a system for considering data generated through the program.

In addition to these requirements, an independent traffic audit of the ILC and its impact on surrounding areas is required after the ILC reaches an annual throughput of 50,000 TEU, 150,000 TEU and 250,000 TEU (CoA 3.7).

Therefore the Traffic Capacity and Monitoring Program (TCMP) has been designed to complement the Traffic Auditing requirements.

The TCMP is made up of the following 4 components:

1. **Operator Throughput**
   The intermodal terminal operator (HLA) manages the rail interface and is required to record TEU throughput, as measured at the rail to intermodal terminal interface. The throughput is to be reported to NSW Ports quarterly.

2. **Classification Traffic Counts**
   NSW Ports will arrange automatic tube traffic counters to obtain 7-day, 24-hour volume and classification counts at 3 locations. These counts will provide a record of all vehicle movements into and out of the ILC, and also within the ILC, including vehicle type by hour. Proposed count locations are:
   a. Mainline Drive, east of Wentworth Street;
   b. Turnout Drive, west of Cosgrove Road;
   c. Mainline Drive, north of Turnout Drive.

3. **Truck Route Survey**
   This survey will be undertaken by the operator (HLA as the intermodal terminal operator) and tenants, and will be coordinated by NSW Ports. The purpose of this survey is to identify traffic impact of the ILC on the surrounding road network in accordance with CoA 3.6 c).
   NSW Ports will provide the operator and each current tenant with a survey form and instructions for collection of the information from drivers. An example of the survey form is attached as **Appendix A**. The information will be collected on a random sample basis across a typical business day and will be designed to ensure minimal disruption to operations and no queuing of trucks. It will collect drivers' external origin/destination, the route taken on nearby roads, the type of truck and time of arrival.

4. **Road Safety Audit**
   NSW Ports will arrange Road Safety Audits of the internal roads, to be carried out when the ILC throughput reaches 50,000, 150,000 and 250,000 TEUs, and/or as required by any significant change to the internal road arrangements. The Road Safety Audits will be conducted in accordance with RMS Guidelines for Road Safety Audit Practice.

The following table shows the above TCMP components and their timing:

Item	Responsibility	Timing
1. Operator Throughput	Operator (HLA) to record TEU throughput data and supply to NSW Ports	Data to be recorded continuously, supplied to NSW Ports quarterly
2. Classification Counts	NSW Ports	A survey within 12 months of commencement of ILC operations; and Surveys within 90 days of annual throughput reaching 50,000, 150,000 and 250,000 TEUs (Note: The initial survey within 12 months need not be conducted if the 50,000 TEU volume survey has already occurred)

3. Truck Survey	Operator (HLA) and tenants, with coordination by NSW Ports	In conjunction with Item 2
4. Road Safety Audit	NSW Ports	When ILC throughput reaches 50,000, 150,000 and 250,000 TEUs, and/or as required by any significant change to the internal road arrangements

NSW Ports will report the outcomes from the surveys and audits in Items 2, 3 and 4 to the RTCG. Issues or actions arising from the surveys or audits will be discussed with the RTCG and where applicable / relevant, recommendations for implementing mitigation measures or traffic management improvements will be sought.

12. Traffic Auditing

NSW Ports will arrange traffic audits of the ILC project, which are to be undertaken by an independent qualified person(s) approved by the Director-General (CoA 3.7). The audits are to be undertaken within 90 days of:

- the ILC reaching a throughput of 50,000 TEU;
- the ILC reaching a throughput of 150,000 TEU; and
- the ILC reaching a throughput of 250,000 TEU

Container TEU throughput for the ILC is measured at the rail to intermodal interface[2]. The throughput of the ILC will be recorded by the intermodal terminal operator (HLA) who manages the rail interface operations of the ILC. The intermodal terminal operator is required to notify NSW Ports when reaching the above container TEU throughputs. NSW Ports will undertake the traffic audits in consultation with the site operator and tenants.

The audit will use the outputs from the Traffic Capacity and Monitoring Program (TCMP) to:

a) Assess the traffic performance of the project against the predictions made in the Environmental Assessment (EA) documentation of the Project Approval. Specific consideration will be given to Chapter 7 of Volume 1 of the EA (SKM October 2005); Appendix B of Volume 2 of the EA (dated 5 July 2005); Preferred Project Report (SKM June 2006), specifically Appendix E (page 462 of 484); and the IHAP Report (October 2006), specifically Section 5.
b) Consider the effectiveness of the traffic management measures implemented by NSW Ports, ILC operators and tenants. For the purpose of this item, traffic

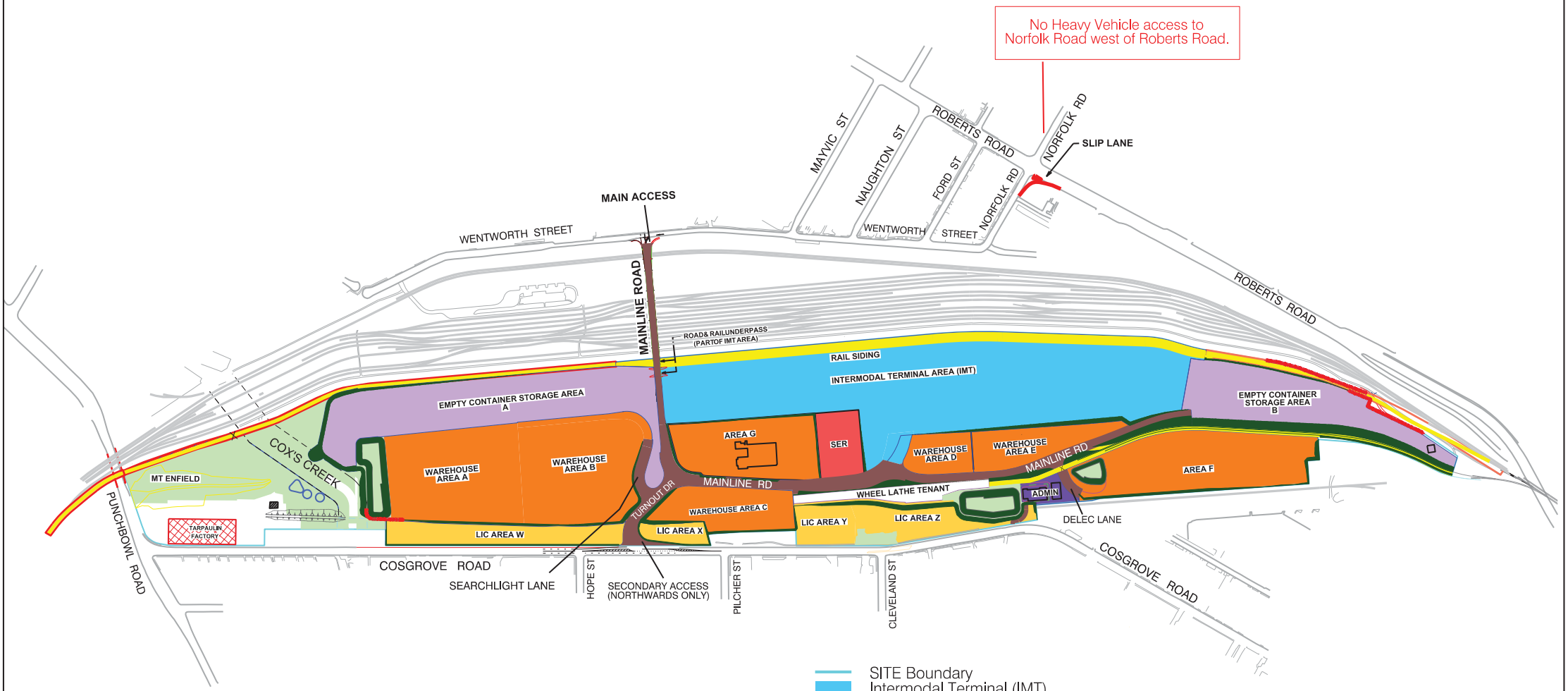
[2] CoA 1.5 of the Enfield ILC Project Approval MP 05_147

management measures include this OTMP; driver education programs conducted by the operator and tenants to ensure that heavy vehicle drivers follow the heavy vehicle routes to and from the ILC and use Wentworth Street as the primary access; traffic and parking controls on the internal and tenant roads; traffic controls at the Cosgrove Road and Wentworth Street ILC access points; and traffic controls at the intersection of Norfolk Road and Roberts Road.

c) A summary of any non-compliance with the traffic predictions, principal heavy vehicle routes or local area traffic management measures outlined in the EA documentation of the Project Approval (as identified in point a) above), or specific conditions of the Project Approval.
d) Consideration of traffic-related issues raised by the stakeholders of the Road Transport Coordination Group, including the RMS and local Councils.
e) Consideration of the traffic-related complaints recorded in NSW Ports or tenant / operator Complaints Registers.
f) A summary of the findings and recommendations with respect to the traffic performance of the ILC project and the identification of any additional measures that may be required to manage traffic associated with the ILC.
g) The identification of measures that would need to be implemented, should non-compliances be identified under point c). This will include details of who would implement these measures; when these measures would be implemented; and how the effectiveness of these measures would be measured.

The above matters will be summarised in a Traffic Audit Report to outline the process and matters considered during the audit. The Traffic Audit Report will be submitted to the Director-General as required under Condition 3.8 of the Project Approval.

Attachment 1: Indicative Layout of Enfield ILC (SEDP205)



PLAN LIMITATION STATEMENT
This plan has been prepared in accordance with accepted practice for the use only of Sydney Ports Corporation for a specific purpose. No Warranty or representation, expressed or implied is made to any other party regarding this survey and plan. This plan should not be relied upon for any other purpose or use by any party including Sydney Ports Corporation as the plan may not contain sufficient information for that purpose or use.

THIS NOTE IS AN INTEGRAL PART OF THIS PLAN
NOTE : STATED MEASUREMENTS ARE INDICATIVE ONLY AND SUBJECT TO SURVEY
Copyright © NSW Ports

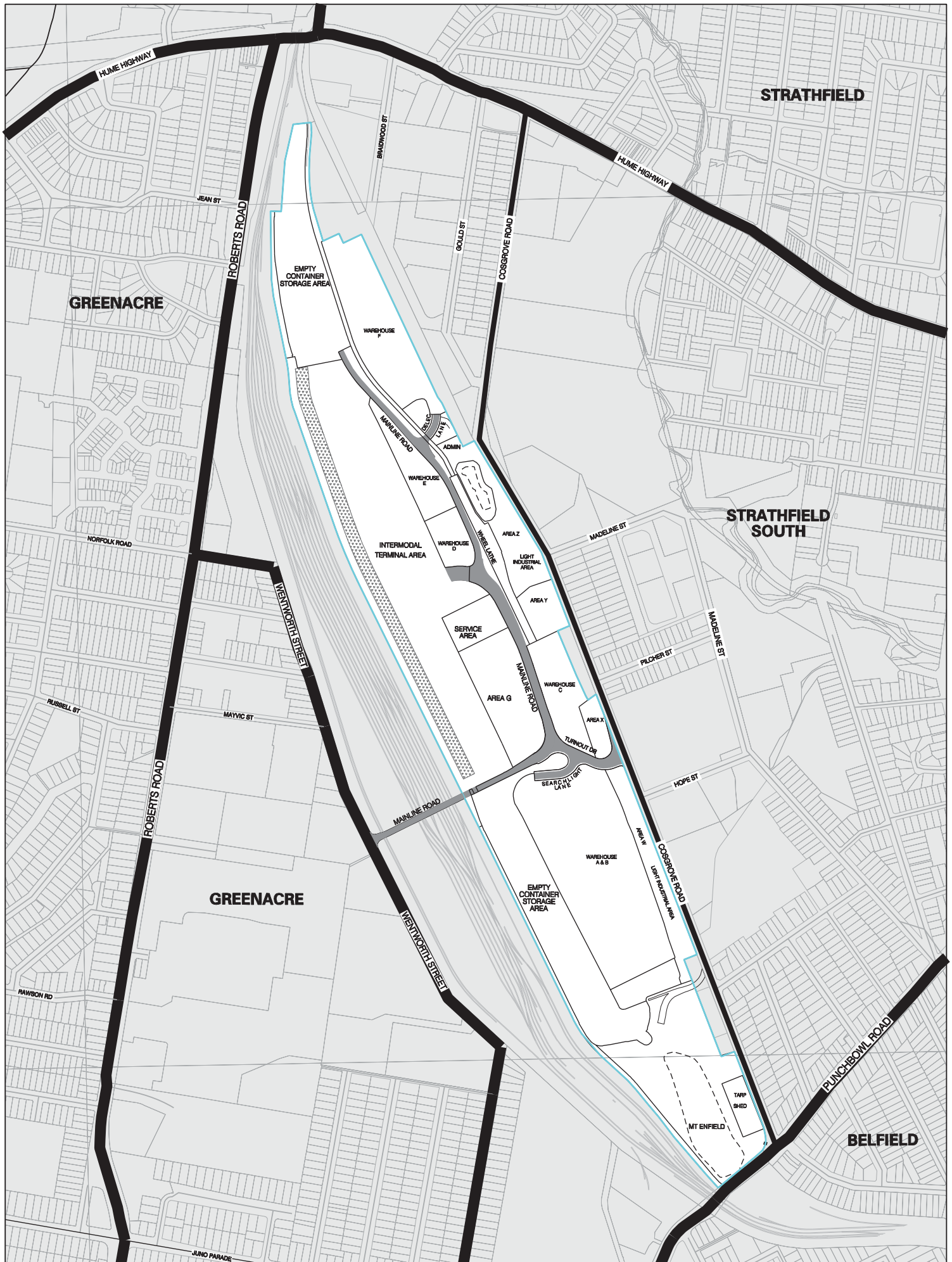
50m 0 50 100 150 200 250 300 350 400 450 500m
Scale In Metres

NSW Ports

ILC @ ENFIELD - FIGURE 1
OVERARCHING TRAFFIC MANAGEMENT PLAN

DRAFTED BY: JT, AK	DATE: 16.2.15	PLAN SCALE: AS PER SCALE BAR	
PLAN PRODUCED ON MGA GRID	PROJECT CODE: ILC-E-C-MOD 9	DWG NO: SEDP205G	

Attachment 2: Public and Internal Roads (SEDP220)



PLAN LIMITATION STATEMENT

This plan has been prepared in accordance with accepted practice for the use only of Sydney Ports Corporation for a specific purpose. No Warranty or representation, expressed or implied is made to any other party regarding this survey and plan. This plan should not be relied upon for any other purpose or use by any party including Sydney Ports Corporation as the plan may not contain sufficient information for that purpose or use.

THIS NOTE IS AN INTEGRAL PART OF THIS PLAN

NOTE : STATED MEASUREMENTS ARE INDICATIVE ONLY AND SUBJECT TO SURVEY

Copyright © NSW Ports

NSW PORTS BOUNDARY

50 0 50 100 150 200 250m

N W E S

NSW Ports

ENFIELD ILC
INTERNAL AND LOCAL PUBLIC ROADS
SEPTEMBER 2014

PLAN SCALE: 1 : 7000 AT A3 SIZE	DRAFTED BY: N.C.	PLAN NO: SEDP220B
PLAN PRODUCED ON MGA GRID	DATE: 4.9-14	

Attachment 3: Areas of Responsibility



Tenant Managed Area

RMS Controlled Roads

NSW Ports (ILC) Internal Roads

Strathfield LGA

Bankstown LGA

Canterbury LGA

TRANSPORT AND URBAN PLANNING

TRAFFIC, TRANSPORT & PROJECT MANAGEMENT CONSULTANTS

5/90 Toronto Parade, Sutherland NSW 2232
Phone 02 9545 1411 Fax 02 9545 1556

tupa@tpgi.com.au www.transurbanplan.com.au

N

NOT TO SCALE

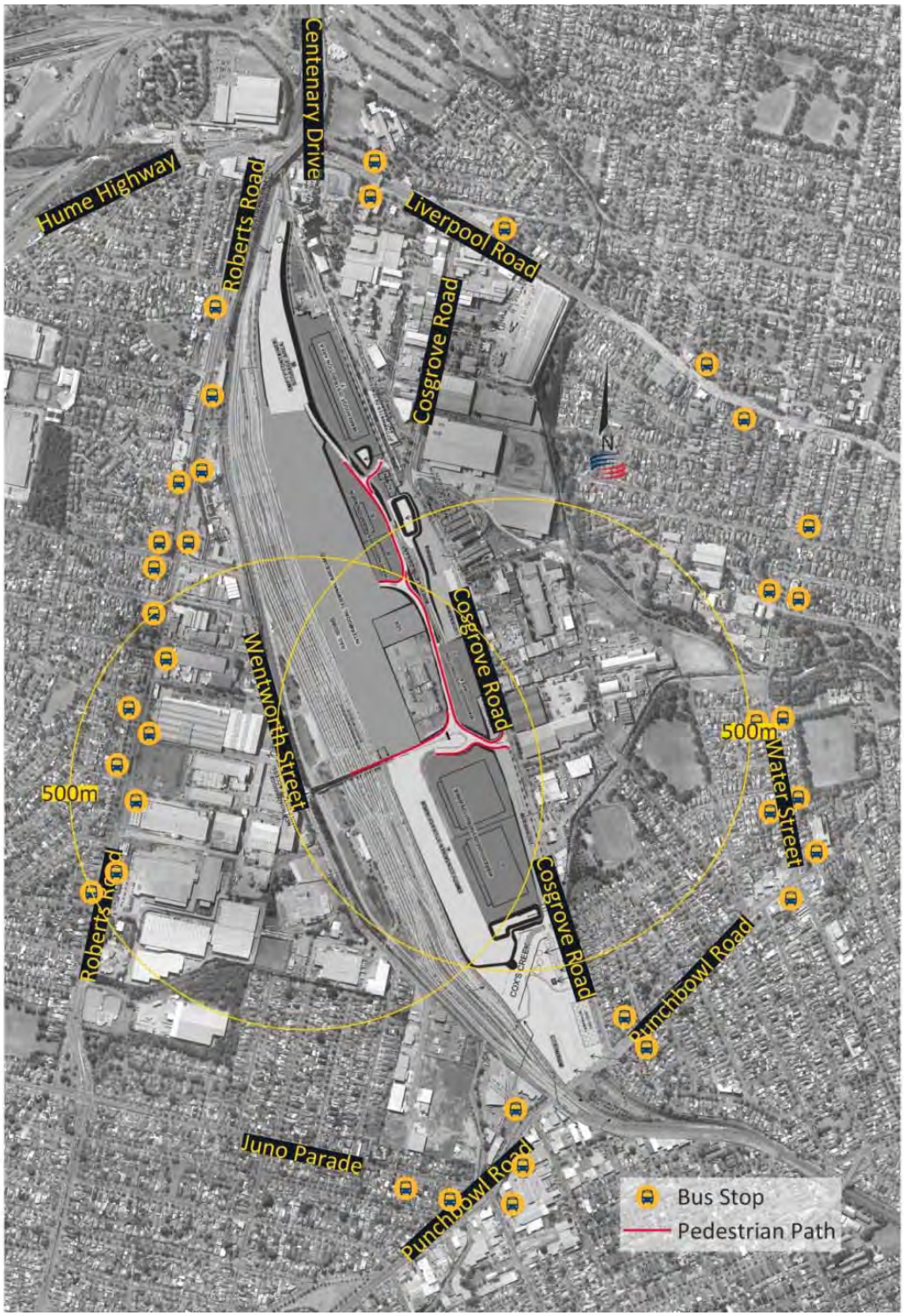
FIGURE X

INTERMODAL LOGISTICS CENTRE, ENFIELD

AREAS OF RESPONSIBILITY

JOB NO. 14096

Attachment 4: Public Transport - Bus stops in proximity to ILC



Appendix A – Truck Route Survey

TRUCK ROUTE SURVEY FORM – ENFIELD ILC

TRUCK ROUTE SURVEY INSTRUCTIONS

The survey will be done on (day / date), from (time) to (time).

The survey is to be a random sample and is to be done as a truck enters a site. Survey no more than one driver about every 15 minutes (i.e. 4 per hour, maximum). If fewer trucks operate than this, survey as many as possible, but do not delay any vehicles. If a truck makes repeated trips, you can survey it multiple times, as long as the sample is random.

Do not survey cars, utes, crew cab utes, vans, 4wd's and minibuses.

Be courteous and friendly. Explain what you're doing if asked.

Do not survey a driver if there is any queuing behind him.

Do not survey a driver if they are unco-operative, do not react to them, just wave them on.

The typical approach should be:

"Hi, we're doing a random survey of drivers for NSW Ports today to determine the truck route taken to and from the site and your origin and destination. We only have a few questions and we won't be identifying you or your truck. Is that okay?" (Smile, chat if appropriate).

Complete the survey questions 1 to 4. Have laminated truck route map on hand to show and assist drivers in selecting the Route No.

Count number of axles and check if truck is rigid or articulated. Then write the Class number from sample sheet. If unsure, use closest match.

Record approximate time of day.

TRUCK ROUTE SURVEY FORM – Enfield ILC

Location (Site/Tenancy): _____ Page No: _____

Date: _____Surveyor's Initial: _____

****

Q1. What was your origin (suburb): _____

Q2. Which way did you come to the site (select from map) Route No: _____

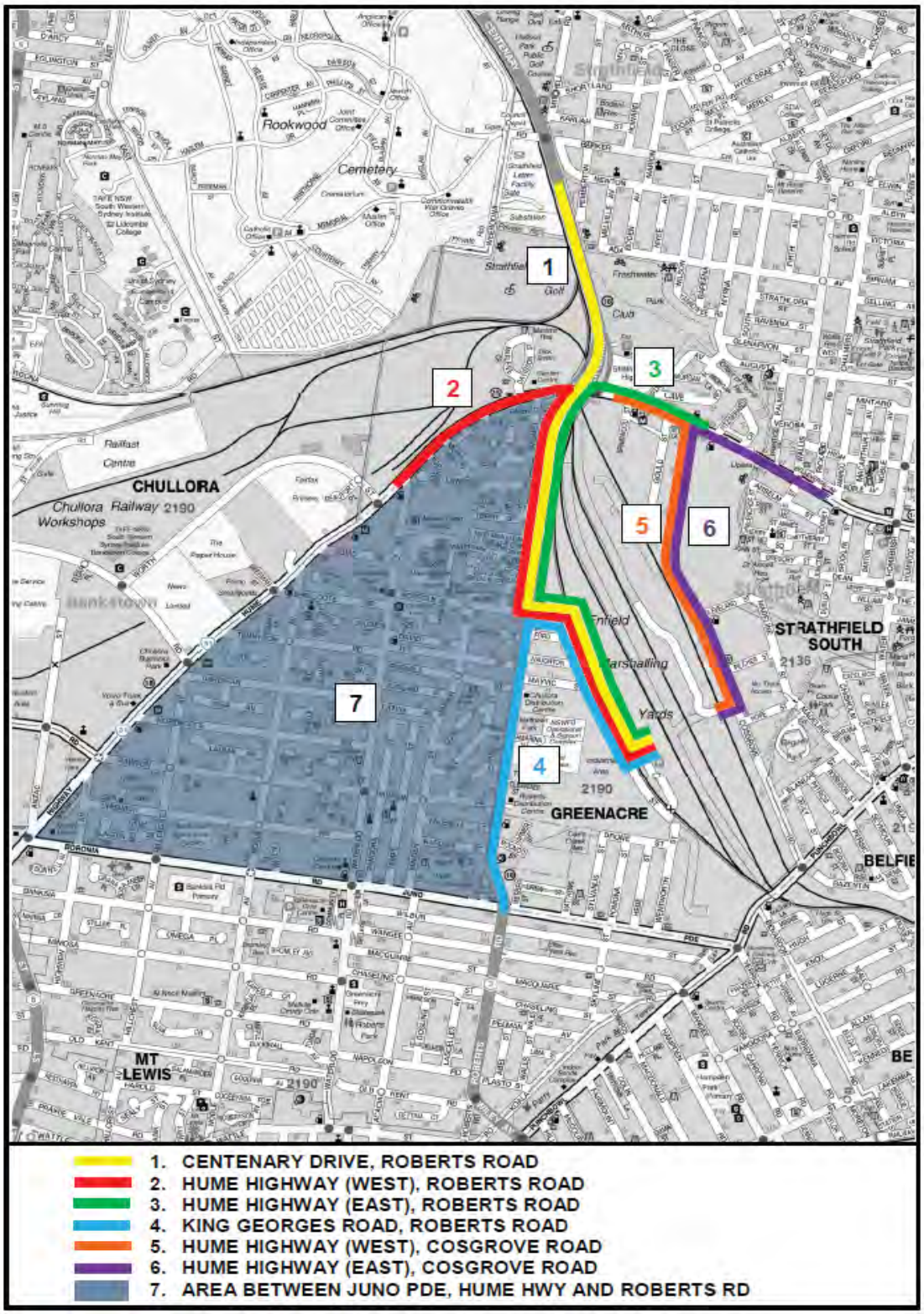
Q3. What is your destination when leaving the site (suburb): _____

Q4. Which way will you be going (select from map) Route No: _____

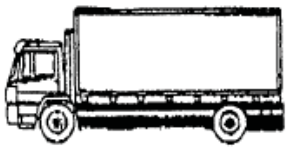
Comments: _____

Truck Class No. _____ Time: _____

****



Truck Classification Examples



Class 3
Two Axle Truck



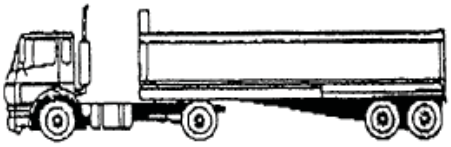
Class 4
Three Axle Truck



Class 5
Four Axle Truck



Class 6
Three Axle Articulated Vehicle



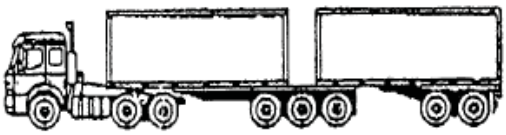
Class 7
Four Axle Articulated Vehicle



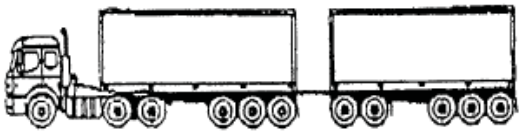
Class 8
Five Axle Articulated Vehicle



Class 9
Six Axle Articulated Vehicle



Class 10
B Double



Class 11
Double Road Train

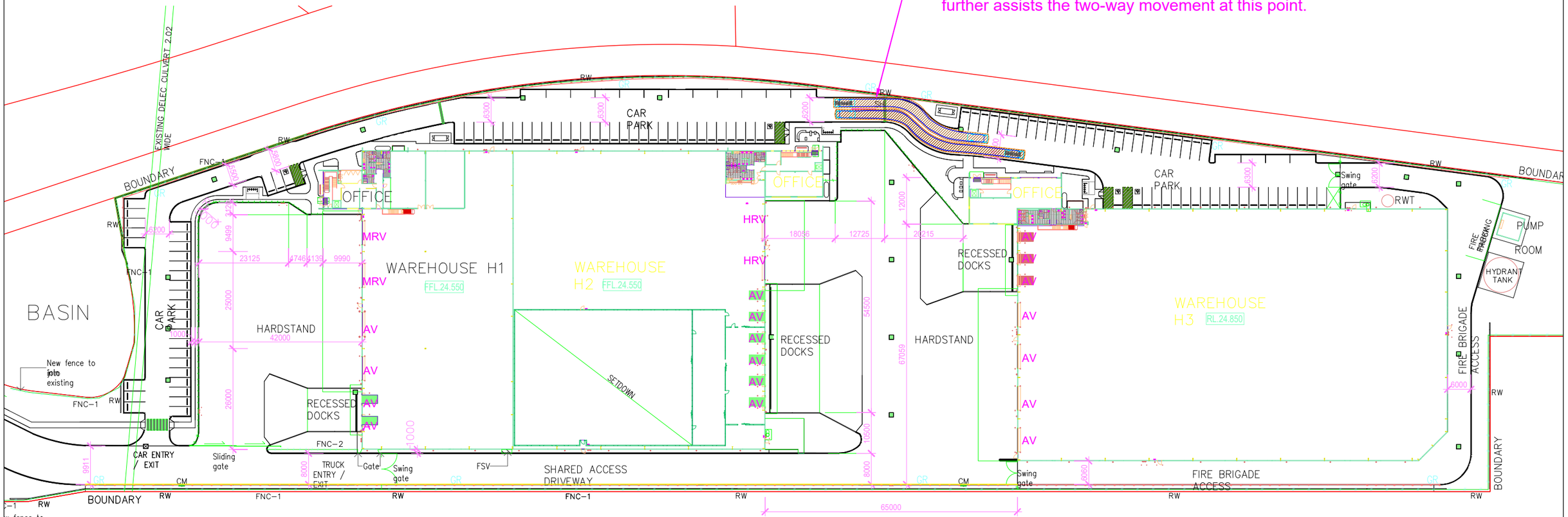


Class 12
Triple Road Train

Appendix B

Swept Path Results

Issue: A 6.7m bend requires a separator for a two-way traffic flow to strictly comply with AS2890.1. However, the design is deemed acceptable on the following basis:
1- the swept path analysis confirms that a B99 & B85 can pass each other at this point.
2- minimal traffic movement associated with the eastern end of the car park which results in an insignificant anticipated two-way movement at this point.
3- speed hump provided at this point will result in slower movement speed which further assists the two-way movement at this point.



Notes:
This drawing is provided for information purposes only and should not be used for construction.

Document Info:
Drawn by: MatthewTangonan
File name: 0578d06 - Design Advice.dwg

Client:
Goodman

Project:
0578
Enfield ILC - Precinct H

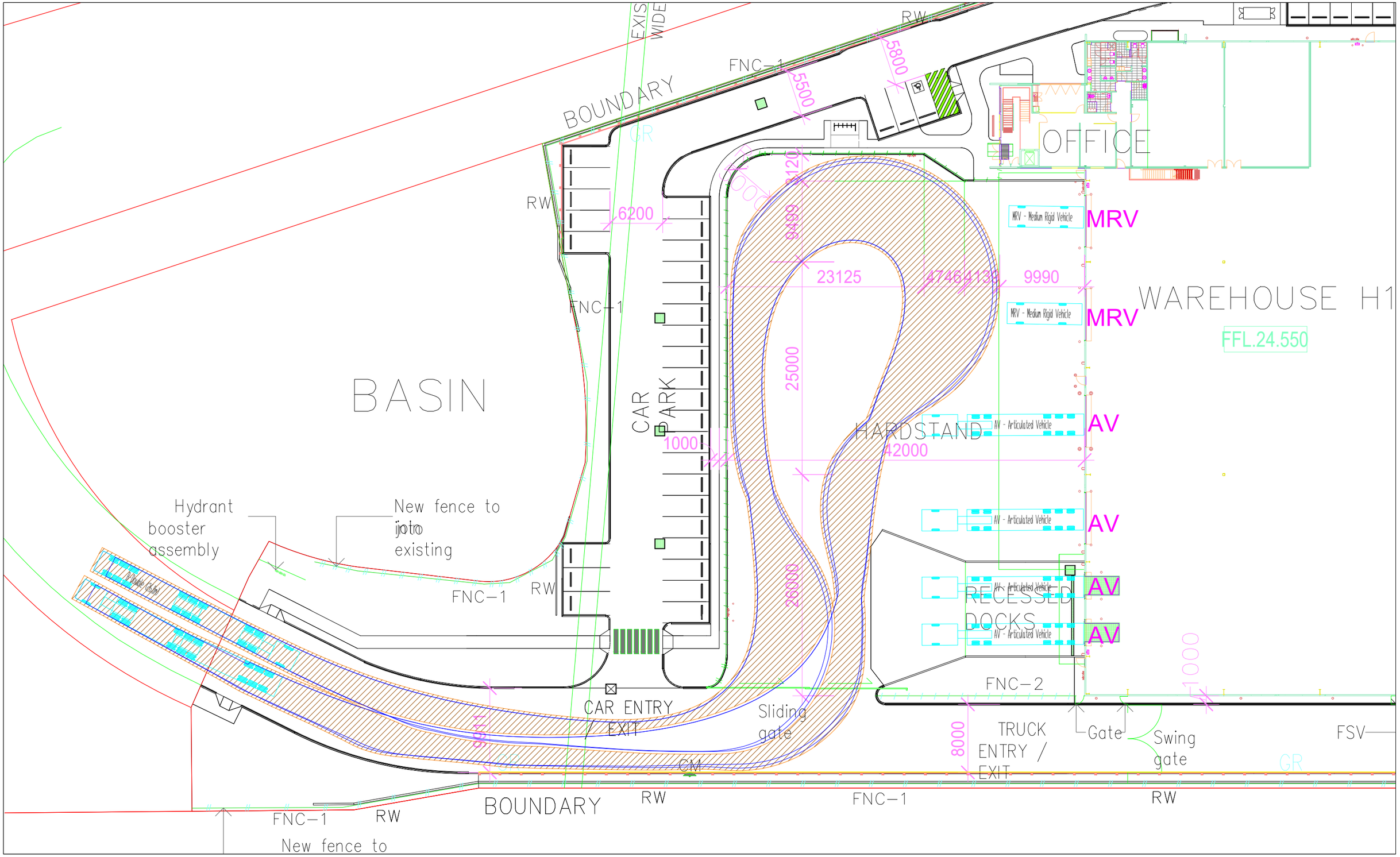
Drawing Title:
Design Advice For the Car Park

Date:
25-Nov-19

Scale @ A3:
NTS

Drawing Number:
SK00

asongroup
Suite 1202, Level 12, 220 George Street
Sydney NSW 2000
info@asongroup.com.au



Notes:

This drawing is provided for information purposes only and should not be used for construction.

Document Info:
Drawn by: MatthewTangonan
File name: 0578d06 - Design Advice.dwg

Client:
Goodman

Project:
0578
Enfield ILC - Precinct H

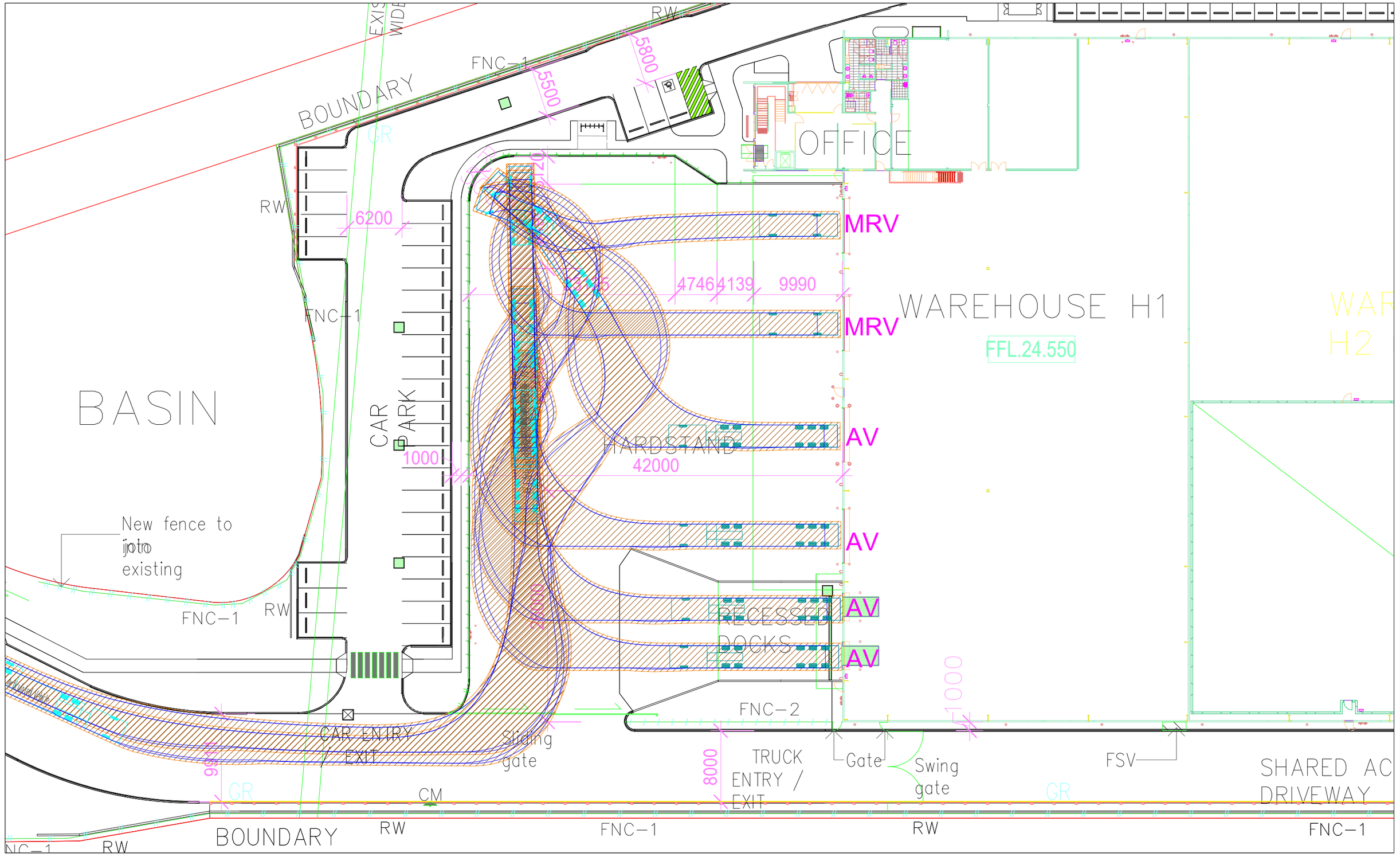
Drawing Title:
Swept Path Analysis

Date:
25-Nov-19

Scale @ A3:
NST

Drawing Number:
SK01

asongroup
Suite 1202, Level 12, 220 George Street
Sydney NSW 2000
info@asongroup.com.au



Notes:

This drawing is provided for information purposes only and should not be used for construction.

Document Info:
Drawn by: MatthewTangonan
File name: 0578d06 - Design Advice.dwg

Client:
Goodman

Project:
0578
Enfield ILC - Precinct H

Drawing Title:
Swept Path Analysis

Date:
25-Nov-19

Scale @ A3:
NST

Drawing Number:
SK02

asongroup
Suite 1202, Level 12, 220 George Street
Sydney NSW 2000
info@asongroup.com.au

BOUNDARY

FNC–1

5500

OFFICE

RW

6200

3120

9499

23125

4746

4139

9990

MRV

MRV

WAREHOUSE H1

FFL.24.550

FNC–1

BASIN

25000

CAR PARK

1000

HARDSTAND

AV Articulated Vehicle

42000

AV

AV - Articulated Vehicle

AV

RECESSED DOCKS

AV - Articulated Vehicle

AV

AV - Articulated Vehicle

AV

26000

Hydrant booster assembly

New fence to join into existing

FNC–1

RW

FNC–2

1000

CAR ENTRY / EXIT

Sliding gate

8000

TRUCK ENTRY / EXIT

Gate

Swing gate

FSV

GR

BOUNDARY

RW

FNC–1

RW

FNC–1

RW

New fence to

Notes:

This drawing is provided for information purposes only and should not be used for construction.

Document Info:

Drawn by: MatthewTangonan

File name: 0578d06 - Design Advice.dwg

Client:

Goodman

Project:

0578

Enfield ILC - Precinct H

Drawing Title:

Swept Path Analysis

Date:

25-Nov-19

Scale @ A3:

NST

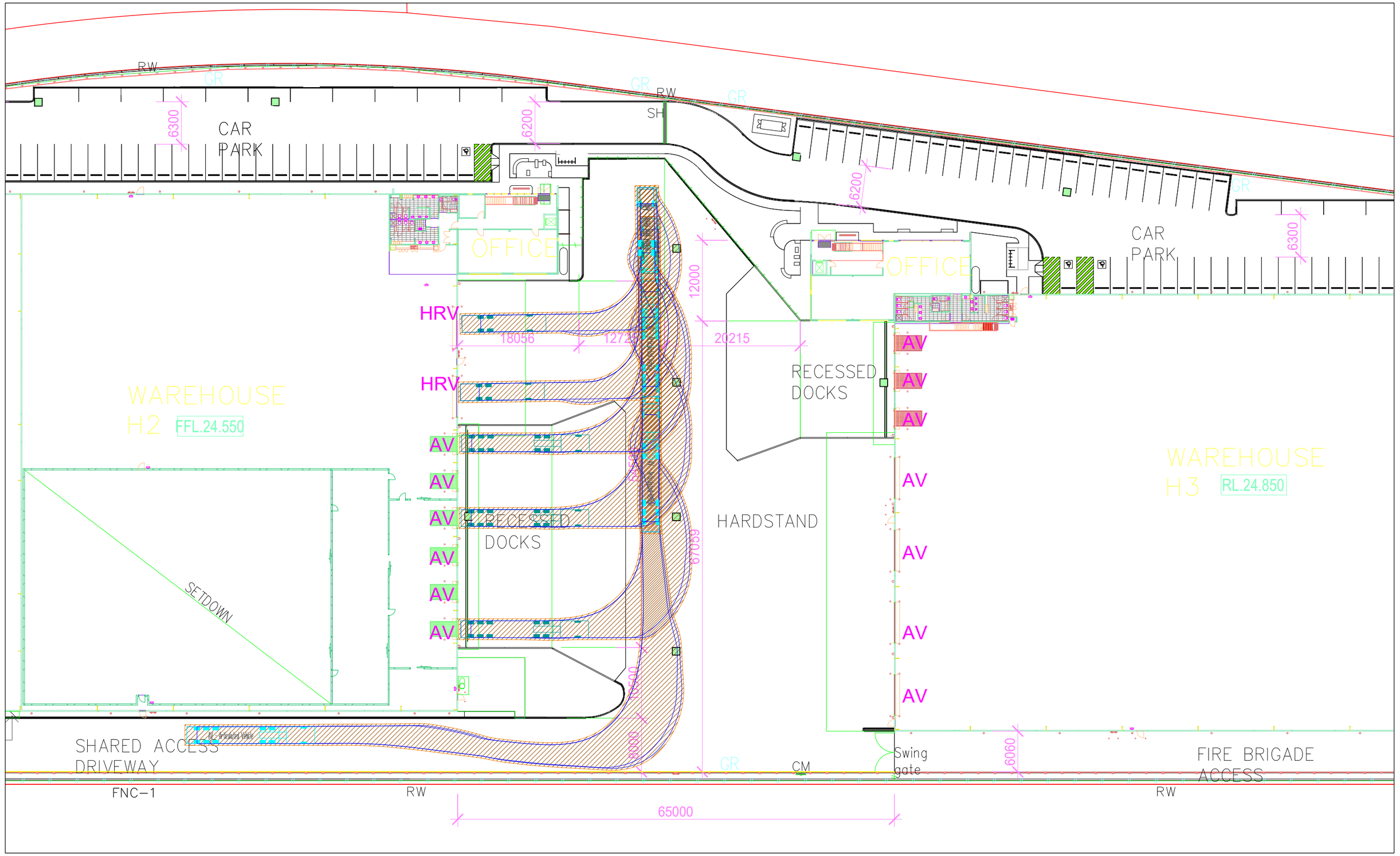
Drawing Number:

SK03

asongroup

Suite 1202, Level 12, 220 George Street
Sydney NSW 2000

info@asongroup.com.au



Notes:

This drawing is provided for information purposes only and should not be used for construction.

Document Info:

Drawn by: MatthewTangonan

File name: 0578d06 - Design Advice.dwg

Client:

Goodman

Project:

0578

Enfield ILC - Precinct H

Drawing Title:

Swept Path Analysis

Date:

25-Nov-19

Scale @ A3:

NST

Drawing Number:

SK04

asongroup

Suite 1202, Level 12, 220 George Street
Sydney NSW 2000

info@asongroup.com.au

RW
GR
CAR PARK
6300
6200
SH
OFFICE
12000
HRV
18056
12725
20215
WAREHOUSE
H2 FFL.24.550
RECESSED DOCKS
AV
HRV - Heavy Rigid Vehicle
AV - Articulated Vehicle
67059
HARDSTAND
WAREHOUSE
H3 RL.24.850
SETDOWN
6500
CM
Swing gate
6060
FIRE BRIGADE ACCESS
SHARED ACCESS DRIVEWAY
FNC–1
65000

Notes:
This drawing is provided for information purposes only and should not be used for construction.

Document Info:
Drawn by: MatthewTangonan
File name: 0578d06 - Design Advice.dwg

Client:
Goodman

Project:
0578
Enfield ILC - Precinct H

Drawing Title:
Swept Path Analysis

Date:
25-Nov-19

Scale @ A3:
NST

Drawing Number:
SK05

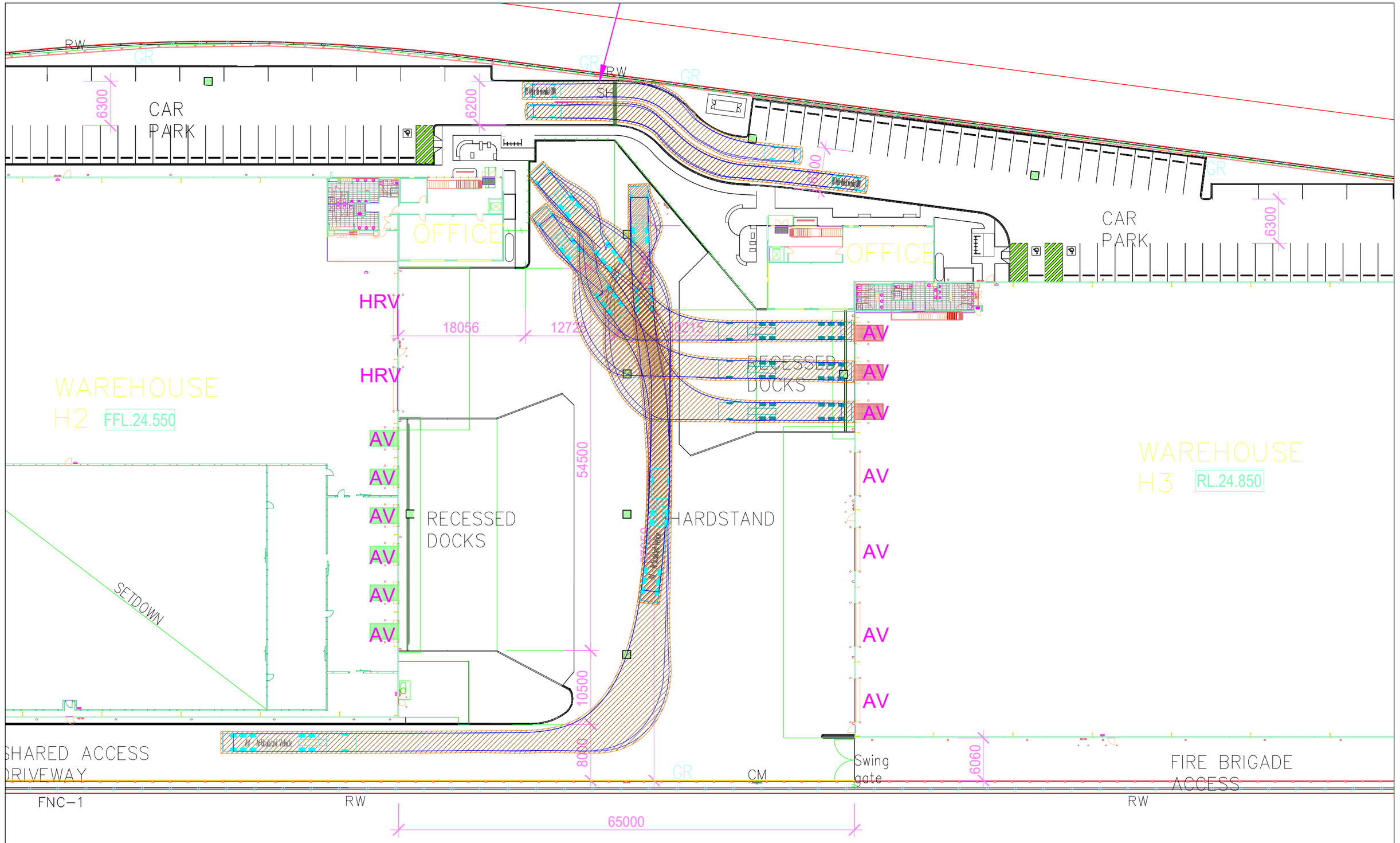
asongroup
Suite 1202, Level 12, 220 George Street
Sydney NSW 2000
info@asongroup.com.au

RW
GR
CAR PARK
6300
6200
SH
OFFICE
12000
HRV
HRV - Heavy Rigid Vehicle
18056
20215
RECESSED DOCKS
AV
WAREHOUSE H2 FFL.24.550
WAREHOUSE H3 RL.24.850
54500
HARDSTAND
SETDOWN
10500
SHARED ACCESS DRIVEWAY
FNC–1
CM
Swing gate
6060
FIRE BRIGADE ACCESS
65000

Notes:

This drawing is provided for information purposes only and should not be used for construction.

Document Info: Drawn by: MatthewTangonan File name: 0578d06 - Design Advice.dwg	**Project:** 0578 Enfield ILC - Precinct H	**Date:** 25-Nov-19	asongroup
Client: Goodman	**Drawing Title:** Swept Path Analysis	**Scale @ A3:** NST	Suite 1202, Level 12, 220 George Street Sydney NSW 2000 info@asongroup.com.au
		Drawing Number: SK06	



Notes:

This drawing is provided for information purposes only and should not be used for construction.

Document Info:
Drawn by: MatthewTangonan
File name: 0578d06 - Design Advice.dwg

Client:
Goodman

Project:
0578
Enfield ILC - Precinct H

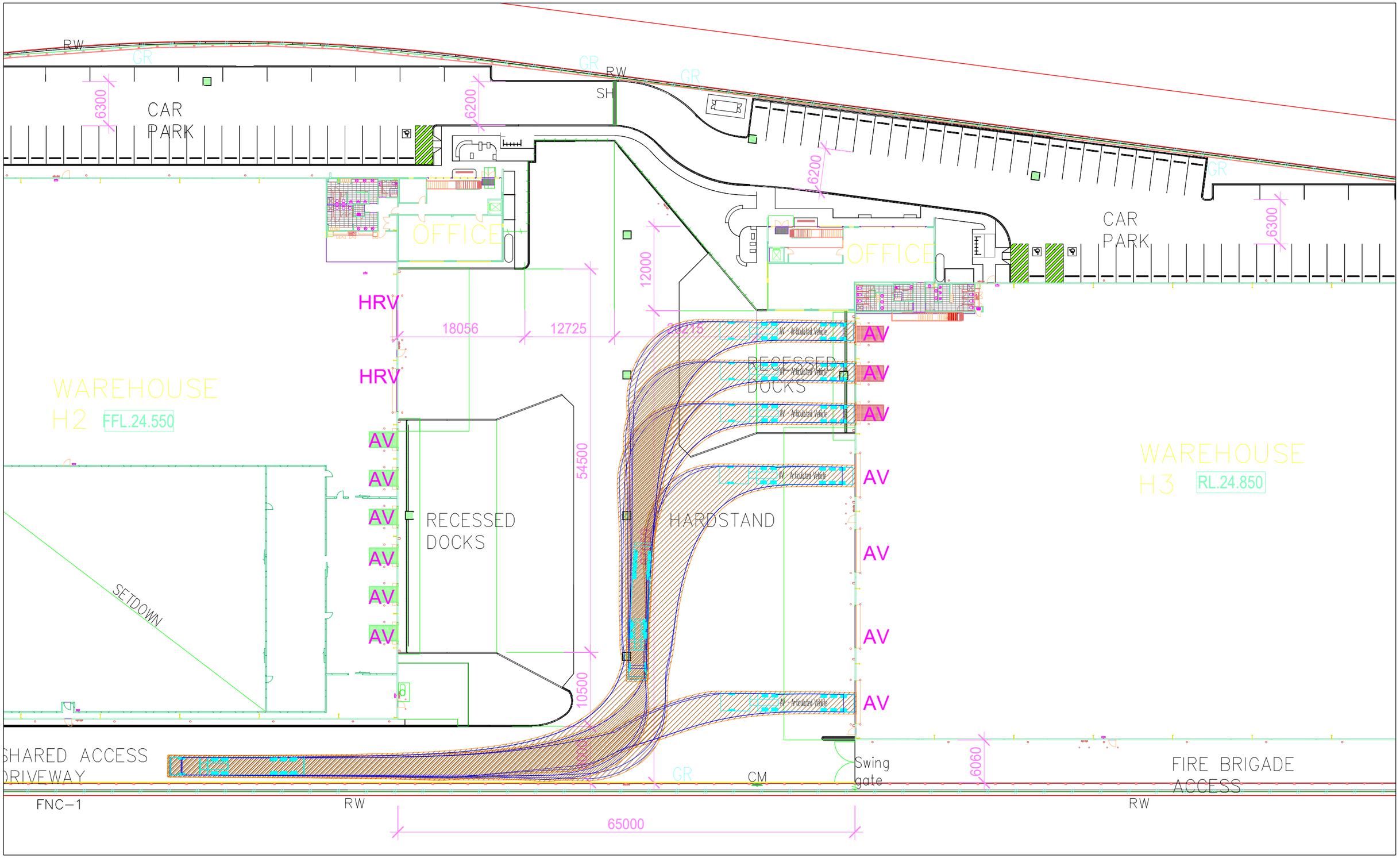
Drawing Title:
Swept Path Analysis

Date:
25-Nov-19

Scale @ A3:
NST

Drawing Number:
SK07

asongroup
Suite 1202, Level 12, 220 George Street
Sydney NSW 2000
info@asongroup.com.au



Notes:

This drawing is provided for information purposes only and should not be used for construction.

Document Info:
Drawn by: MatthewTangonan
File name: 0578d06 - Design Advice.dwg

Client:
Goodman

Project:
0578
Enfield ILC - Precinct H

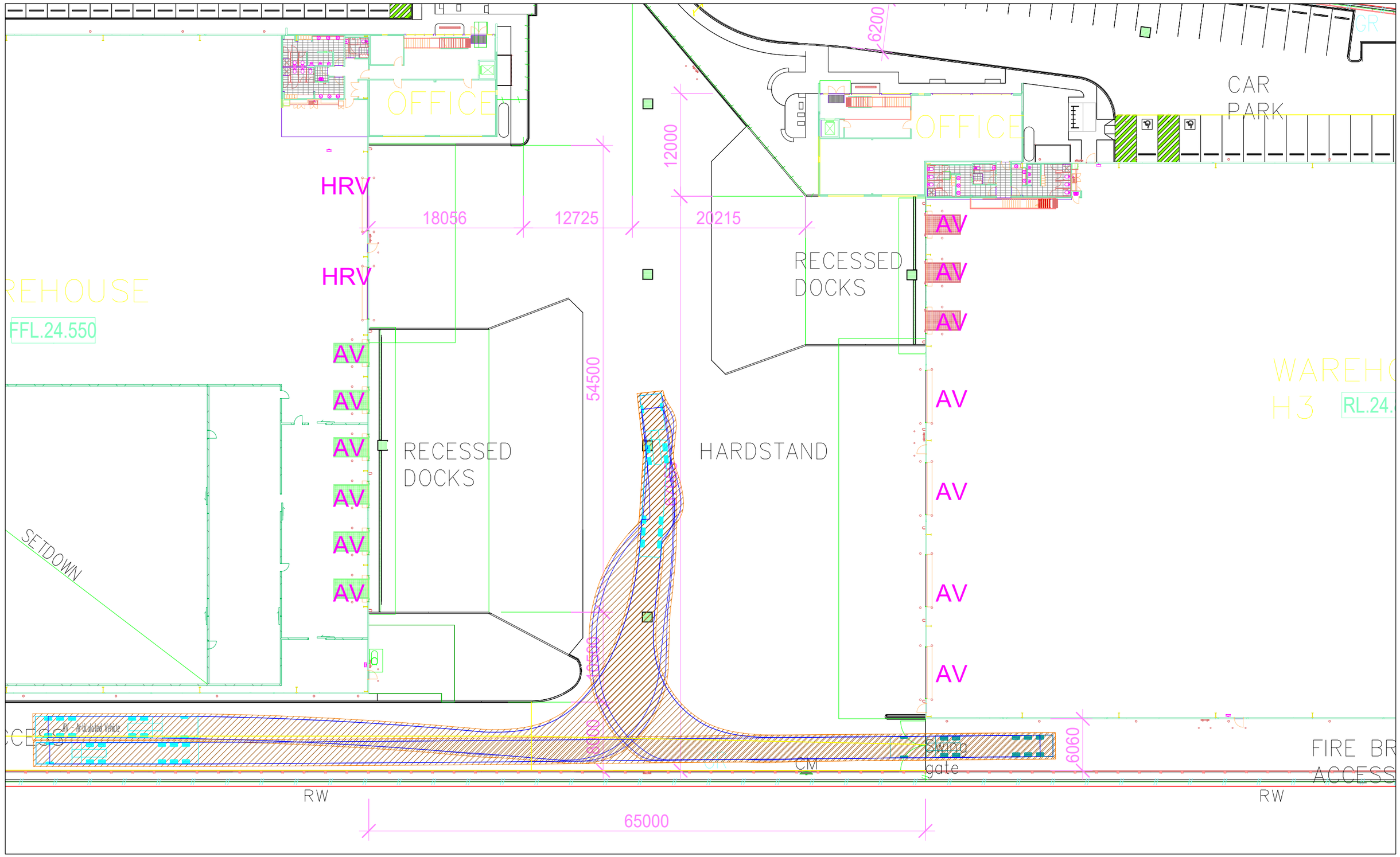
Drawing Title:
Swept Path Analysis

Date:
25-Nov-19

Scale @ A3:
NST

Drawing Number:
SK08

asongroup
Suite 1202, Level 12, 220 George Street
Sydney NSW 2000
info@asongroup.com.au



Notes:

This drawing is provided for information purposes only and should not be used for construction.

Document Info:

Drawn by: MatthewTangonan

File name: 0578d06 - Design Advice.dwg

Client:

Goodman

Project:

0578

Enfield ILC - Precinct H

Drawing Title:

Swept Path Analysis

Date:

25-Nov-19

Scale @ A3:

NST

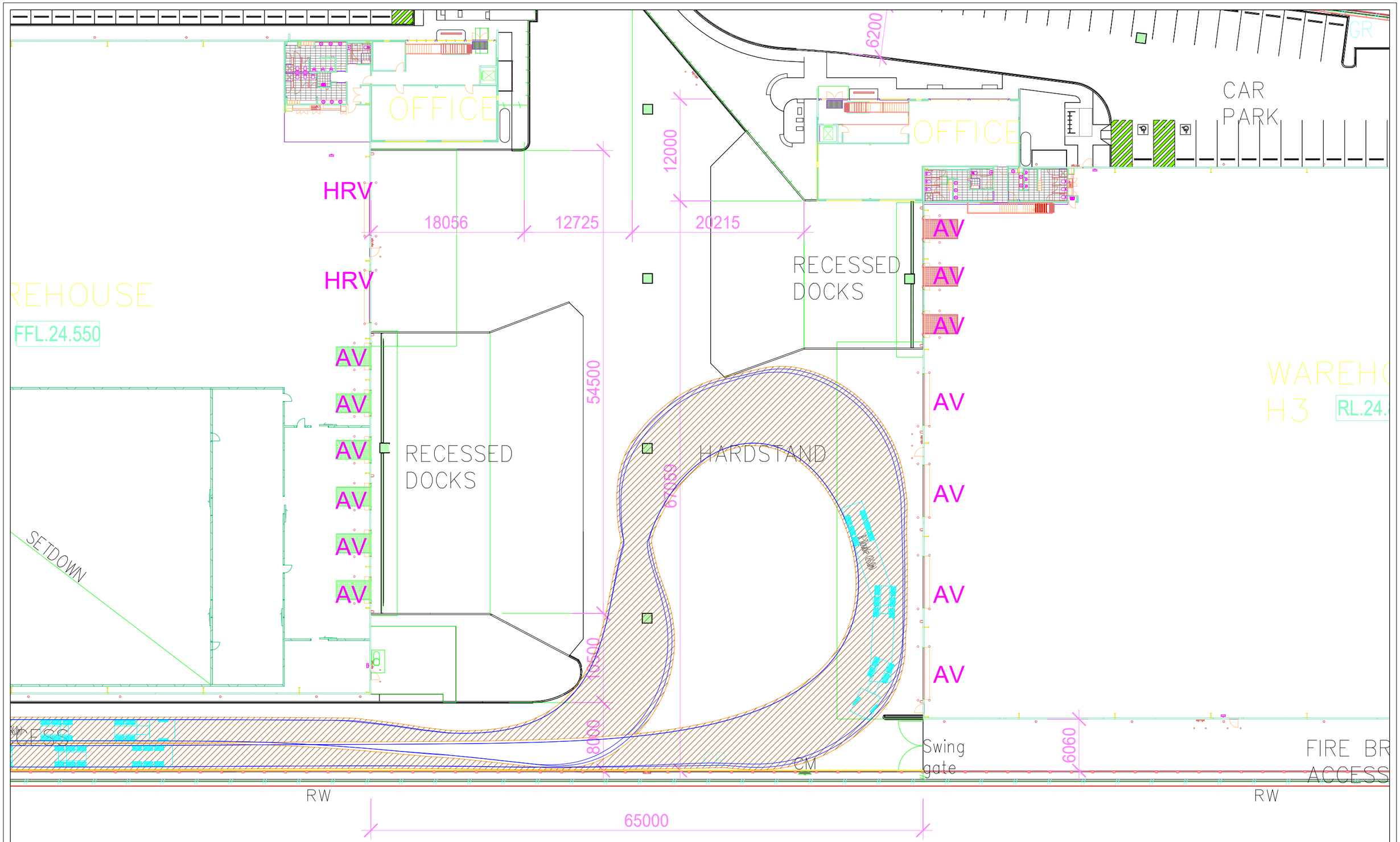
Drawing Number:

SK09

asongroup

Suite 1202, Level 12, 220 George Street
Sydney NSW 2000

info@asongroup.com.au



Notes:

This drawing is provided for information purposes only and should not be used for construction.

Document Info:

Drawn by: MatthewTangonan

File name: 0578d06 - Design Advice.dwg

Client:

Goodman

Project:

0578

Enfield ILC - Precinct H

Drawing Title:

Swept Path Analysis

Date:

25-Nov-19

Scale @ A3:

NST

Drawing Number:

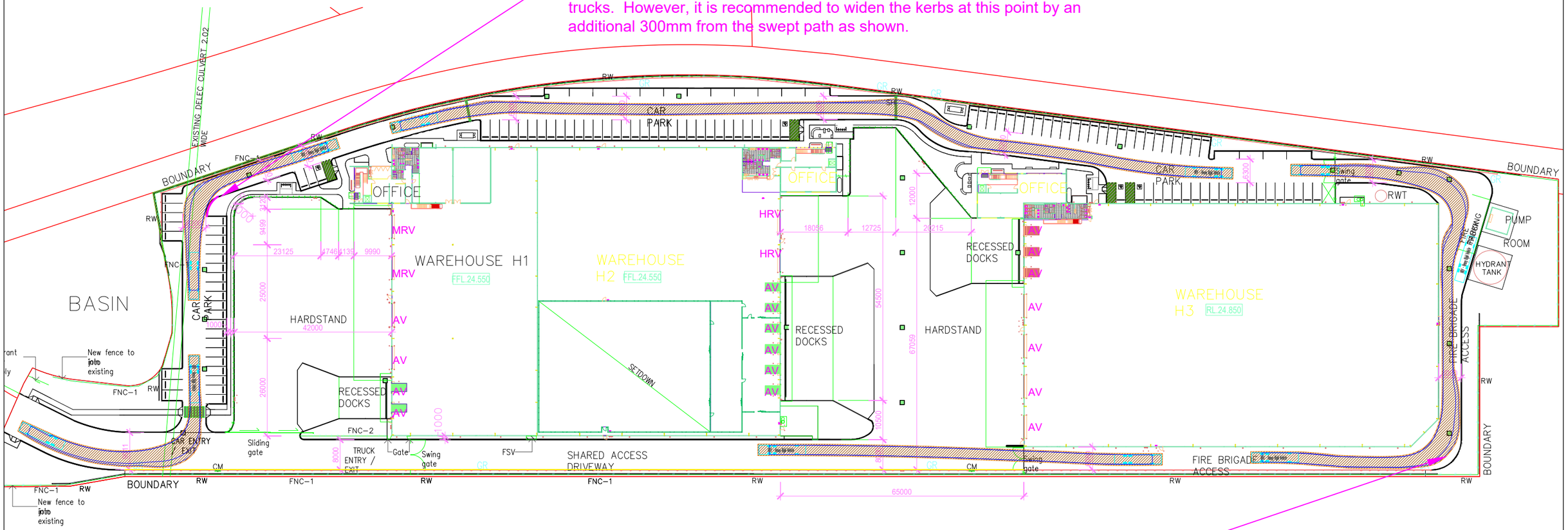
SK10

asongroup

Suite 1202, Level 12, 220 George Street
Sydney NSW 2000

info@asongroup.com.au

Issue: Identified tight bend for maneuverability of HRVs (tested for fire trucks). The design can be deemed acceptable on the basis of infrequent access by fire trucks. However, it is recommended to widen the kerbs at this point by an additional 300mm from the swept path as shown.



Issue: Identified tight bend for maneuverability of HRVs (tested for fire trucks). The design can be deemed acceptable on the basis of infrequent access by fire trucks. However, it is recommended to widen the kerbs at this point by an additional 300mm from the swept path analysis.

Notes:

This drawing is provided for information purposes only and should not be used for construction.

Document Info:
Drawn by: MatthewTangonan
File name: 0578d06 - Design Advice.dwg

Client:
Goodman

Project:
0578
Enfield ILC - Precinct H

Drawing Title:
Swept Path Analysis

Date:
25-Nov-19

Scale @ A3:
NST

Drawing Number:
SK11

asongroup
Suite 1202, Level 12, 220 George Street
Sydney NSW 2000
info@asongroup.com.au

APPENDIX G

Work Place Travel Plan

asongroup

Prepared for

GOODMAN PROPERTY SERVICES (AUST) PTY LIMITED

Precinct H Work Place Travel Plan

Site-Specific Work Place Travel Plan
Enfield Intermodal Logistics Centre; Cosgrove Road, Enfield

Ref: 0578r04
14 May 2019

Info@asongroup.com.au | +61 2 9083 6601 | Suite 5.02, Level 5, 1 Castlereagh Street. Sydney, NSW 2000

Document Control

Project No: 0578

Project: Enfield Intermodal Logistics Centre – Precinct H Site-Specific Work Place Travel Plan

Client: Goodman Property Services (Aust) Pty Ltd

File Reference: 0578r04 Site-Specific WTP_ Precinct H, Enfield ILC

Revision History

Revision	Date	Details	Author	Approved by
-	29/04/2019	Draft	M. Tangonan	A. Rasouli
Issue I	14/05/2019	Final	M. Tangonan	A. Rasouli

This document has been prepared for the sole use of the Client and for a specific purpose, as expressly stated in the document. Ason Group cannot accept any responsibility for any use of or reliance on the contents on this report by any third party. This document has been prepared based on the Client's description of its requirements, information provided by the Client and other third parties to prepare this document.

Table of Contents

1 INTRODUCTION 3
1.1 PURPOSE 3
1.2 SITE LOCATION 5

2 STRATEGIC PLANNING CONTEXT 6
2.1 FUTURE TRANSPORT 2056 STRATEGY 6
2.2 A PLAN FOR GROWING SYDNEY 6
2.3 NSW LONG TERM TRANSPORT MASTER PLAN 6
2.4 OUR GREATER SYDNEY 2056: EASTERN CITY DISTRICT PLAN 8
2.5 SYDNEY'S BUS FUTURE 2013 8
2.6 SYDNEY'S WALKING FUTURE 2013 8
2.7 SYDNEY'S CYCLING FUTURE 2013 8

3 SITE AUDIT & DATA COLLECTION 10
3.1 PROPOSED DEVELOPMENT & SITE FACILITIES 10
3.2 TRAVEL MODE SHARE ANALYSIS 11
3.3 SURROUNDING PUBLIC TRANSPORT SERVICES 12
3.4 PEDESTRIAN AND CYCLING NETWORK 15
3.5 CAR SHARE 16

4 OBJECTIVES & TARGETS 17
4.1 OBJECTIVES 17
4.2 MODE SHARE TARGETS 18

5 ACTION PLAN 19
5.1 ACTION PLAN MEASURES 19
5.2 COMMUNICATIONS STRATEGY 20

6 GOVERNANCE & SUPPORT 21
6.1 TRAVEL PLAN COORDINATOR 21
6.2 RESOURCING 21

7 MONITORING & REVIEW PROCESS 22
7.1 PLAN MAINTENANCE 22
7.2 TRAVEL MODE AUDIT REQUIREMENTS 22

Appendices

Appendix A: Bus Network Map

Appendix B: Existing Bicycle Network in Strathfield

Appendix C: Proposed Bicycle Network in Strathfield

Appendix D: Transport Access Guide

Appendix E: Sample Travel Mode Questionnaire Form

1 Introduction

1.1 Purpose

Ason Group has been engaged by Goodman Property Services (Aust) Pty Limited, to prepare a site- specific Work Place Travel Plan (WTP) in relation to the warehouse/industrial development at Precinct H, Enfield Intermodal Logistics Centre (ILC), Cosgrove, Enfield (The Site). The WTP is in response to Condition 2.3A of the modified Schedule 2 Conditions (MP05_0147 MOD 14), dated 28 August 2018, which states:

"2.3A: The proponent must prepare a Work Place Travel Plan to the satisfaction of the Planning Secretary prior to issue of any Occupation Certificate for any warehouse permitted as part of the approval of MP 05_0147 MOD 14. The Proponent must ensure that the Work Place Travel Plan (as revised from time to time) is implemented for the life of the Project."

This WTP is intended to develop a package of site-specific measures for Precinct H to promote and maximise the use of sustainable travel modes, including walking, cycling, public transport and car sharing. In this regard, this plan sets out objectives and strategies to assist the Department of Planning and Environment (DP&E) in achieving its goal to improve sustainability. It includes a review of the existing transport choices and sets targets so that the effective implementation of the WTP can be assessed. These targets are to be realistic but ambitious enough to initiate substantiative behavioural change to achieve the desired outcomes.

This WTP is expected to be coordinated with the Enfield ILC Overarching WTP, as updated regularly. It shall be reviewed regularly as part of an ongoing review to ensure it remains relevant and reflective of current conditions.

In preparing this WTP, Ason Group has referenced the following key planning documents that are relevant to development at the Site:

- Future Transport Strategy 2056, TfNSW, March 2018.
- A Plan for Growing Sydney, Department of Planning & Environment, December 2014.
- NSW Long Term Transport Master Plan, TfNSW, December 2012
- Our Greater Sydney 2056: Eastern City District Plan, Greater Sydney Commission, March 2018
- Sydney's Walking Future, TfNSW, December 2013
- Sydney's Cycling Future, TfNSW, December 2013
- Sydney's Bus Future, TfNSW, December 2013

- Strathfield Consolidated Development Control Plan (SCDCP 2005)
- Strathfield Local Environmental Plan (2012)
- An Active Travel Plan for Strathfield (2016)
- *0440r03v5 MOD 14 TIA_Enfield Intermodal Logistics Centre, Enfield* prepared by Ason Group dated 26 February 2018.

0440r04v1 Overarching WTP_Enfield Intermodal Logistic Centre, Enfield, Prepared by Ason Group*, March 2019.*

- *Trip generation Surveys – Business Parks and Industrial Estate – Analysis Report*, RMS, December 2012 (Analysis Report).

1.2 Site Location

The Site is part of the Enfield ILC, as shown in below **Figure 1**. It is located within the Local Government Authority (LGA) of Strathfield Municipal Council.

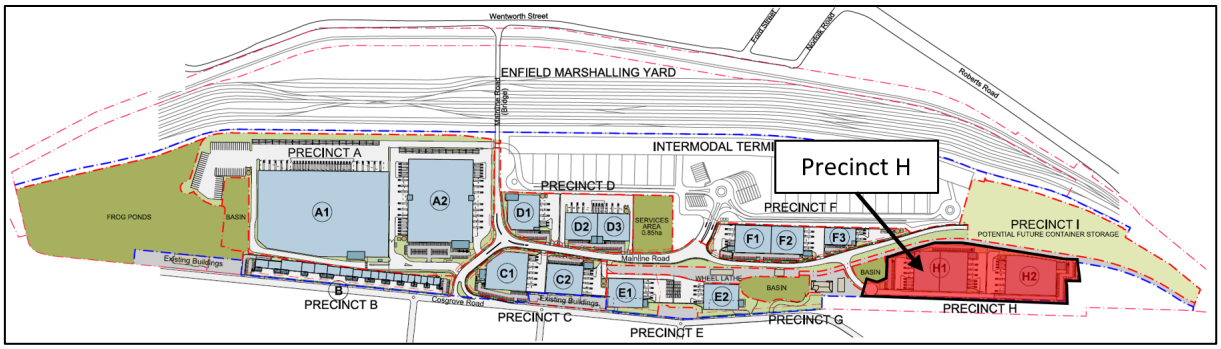


Figure 1: Subject Site Location

The location of the Enfield ILC is approximately:

- 4.0 kilometres south of Strathfield, and
- 13 kilometres south-west of Sydney CBD.

A location plan is presented in **Figure 2**, which indicates the site location in appreciation of the wider Sydney area.

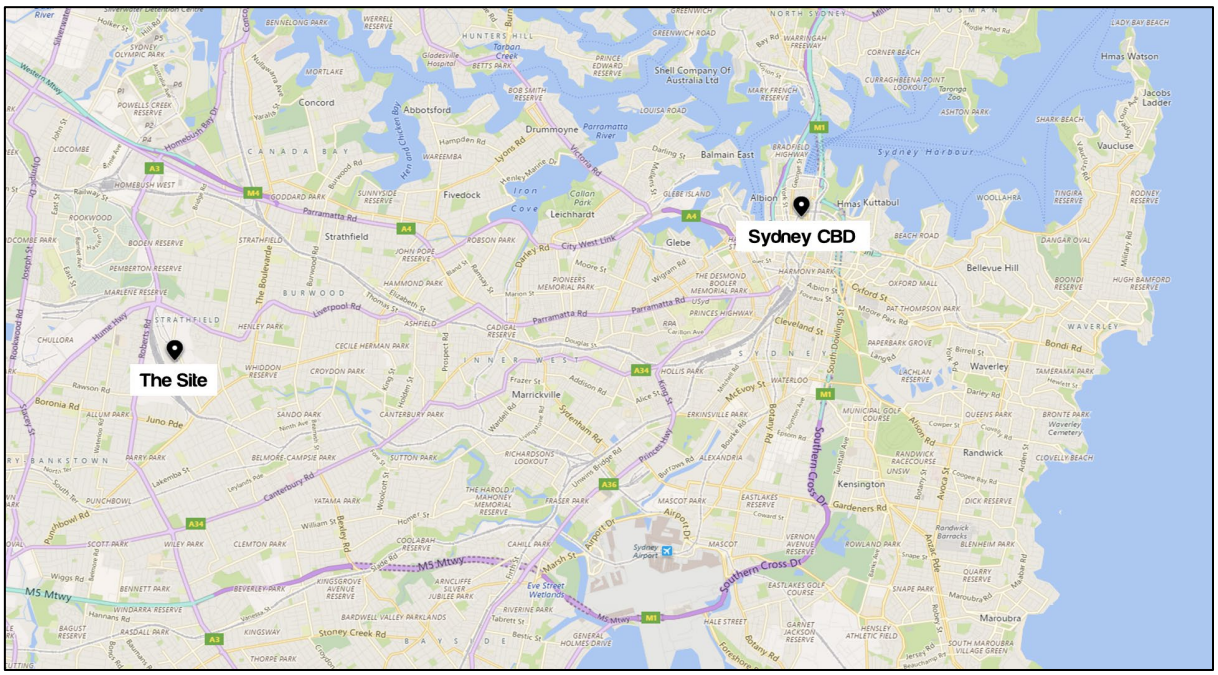


Figure 2: location Plan

2 Strategic Planning Context

2.1 Future Transport 2056 Strategy

Future Transport 2056 Strategy is an overarching strategy, supported by a suite of plans to achieve a 40 year vision for the state wide transport system. The strategy suggests that it is essential to encourage people to use active and public transport through the following methods:

- Expanding public transport networks, and
- Integrating waking and cycling networks

2.2 A Plan for Growing Sydney

A Plan for Growing Sydney's aim is to develop a competitive economy with world-class services and transport; to deliver greater housing choice to meet our changing needs and lifestyles, to create communities that have a strong sense of wellbeing, and to safeguard our natural environment. One of the priorities for Central Subregion is as follows:

- Plan for Adjoining land uses and freight connections at Enfield Intermodal Logistics Centre, based on continued long-term operation.

The Central Subregion extends from Sydney Harbour in the north, Rhodes in the west to Port Botany in south, as indicated in **Figure 3** below.

2.3 NSW Long Term Transport Master Plan

The NSW Long Term Transport Master Plan is a NSW Government document which seeks to guide transport decision making for the next 20 years. The report also supports the Government's A Plan for Growing Sydney. It integrates land use planning, infrastructure provision and transport planning across all modes of transport. The master plan includes a range of actions for road, rail, ferries, light rail, cycling and walking.

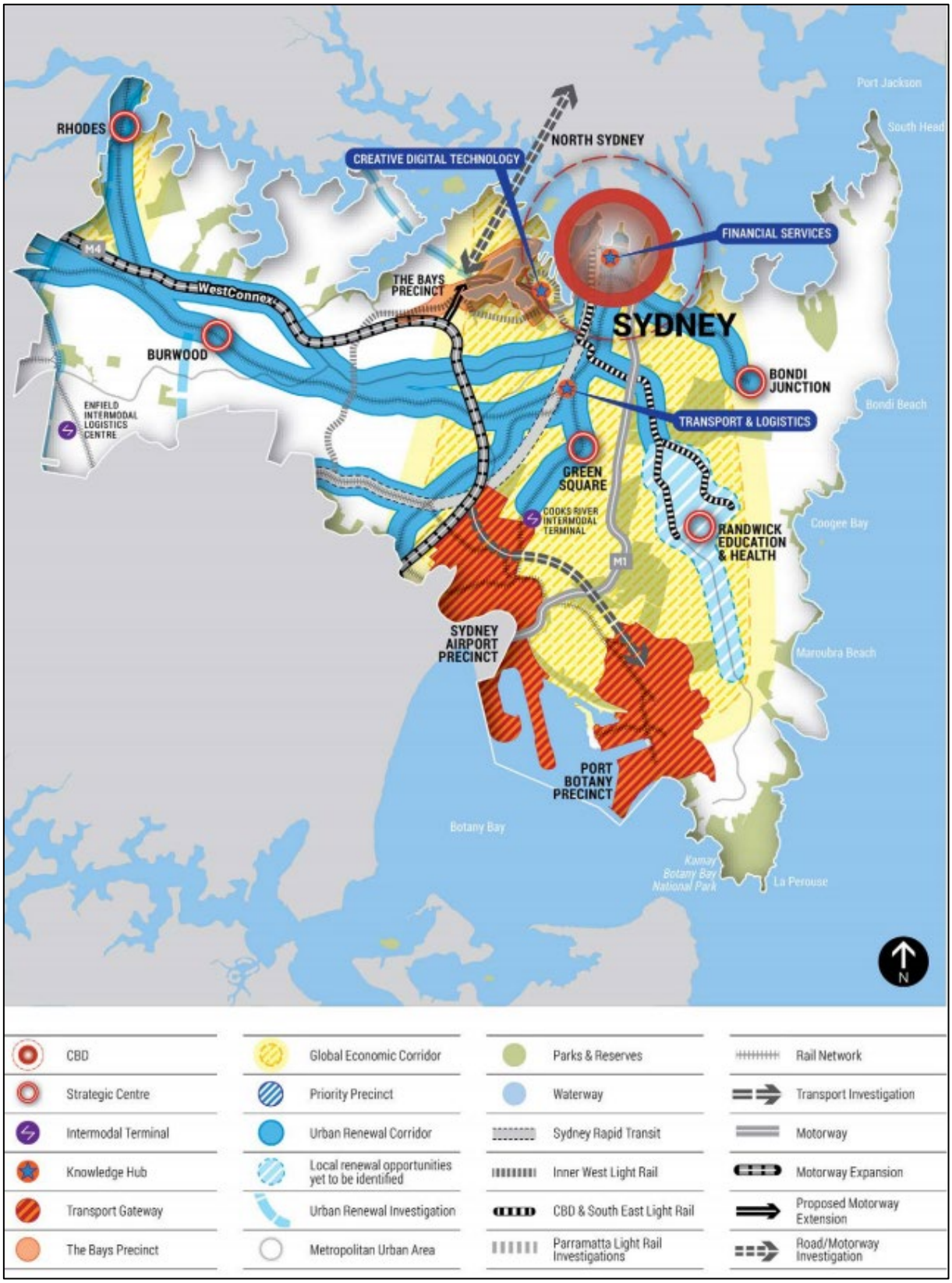


Figure 3: A Plan for Growing Sydney - Central Subregion

2.4 Our Greater Sydney 2056: Eastern City District Plan

The Eastern City District Plan aims to improve the District's lift style and environment assets. One of the potential direction indicators is the Expanded Greater Sydney Green Grid, which will provide green links to support walking, cycling and community access to open space.

In this regard, this plan indicates the potential improvements of the active and public transport infrastructure near the Enfield ICL in the future. As presented in **Figure 4** the Enfield ILC is adjoining to a Green Grid Priority Corridor, and there is potential opportunity for Green Grid to expand through the Site.

2.5 Sydney's Bus Future 2013

Sydney's Bus Future has been developed to deliver simpler, faster and better bus services for customers, and attract more customers to use bus services throughout Sydney. A 3-tiered network will operate with each level delivering a defined level of service, consistency and reliability throughout Sydney. 113 rapid bus routes and 20 major suburban bus routes are proposed to strengthen connections between key town centres, which will ultimately improve travel times to the Enfield ILC.

2.6 Sydney's Walking Future 2013

Getting people in Sydney to walk more through actions that make it a more convenient, better connected and safer mode of transport. The basis of Sydney's walking future is to promote the benefits of walking through additional infrastructure, technologies and good policy which will ultimately benefit the Enfield ILC.

2.7 Sydney's Cycling Future 2013

The basis of Sydney's cycling future is getting people in Sydney to cycle more through providing a more convenient, better connected and safer mode of transport. The NSW Government will focus on completing links within a 5 kilometre catchment of major centres in the short term and expand to a 10 kilometre catchment in the longer term (including Enfield ILC).

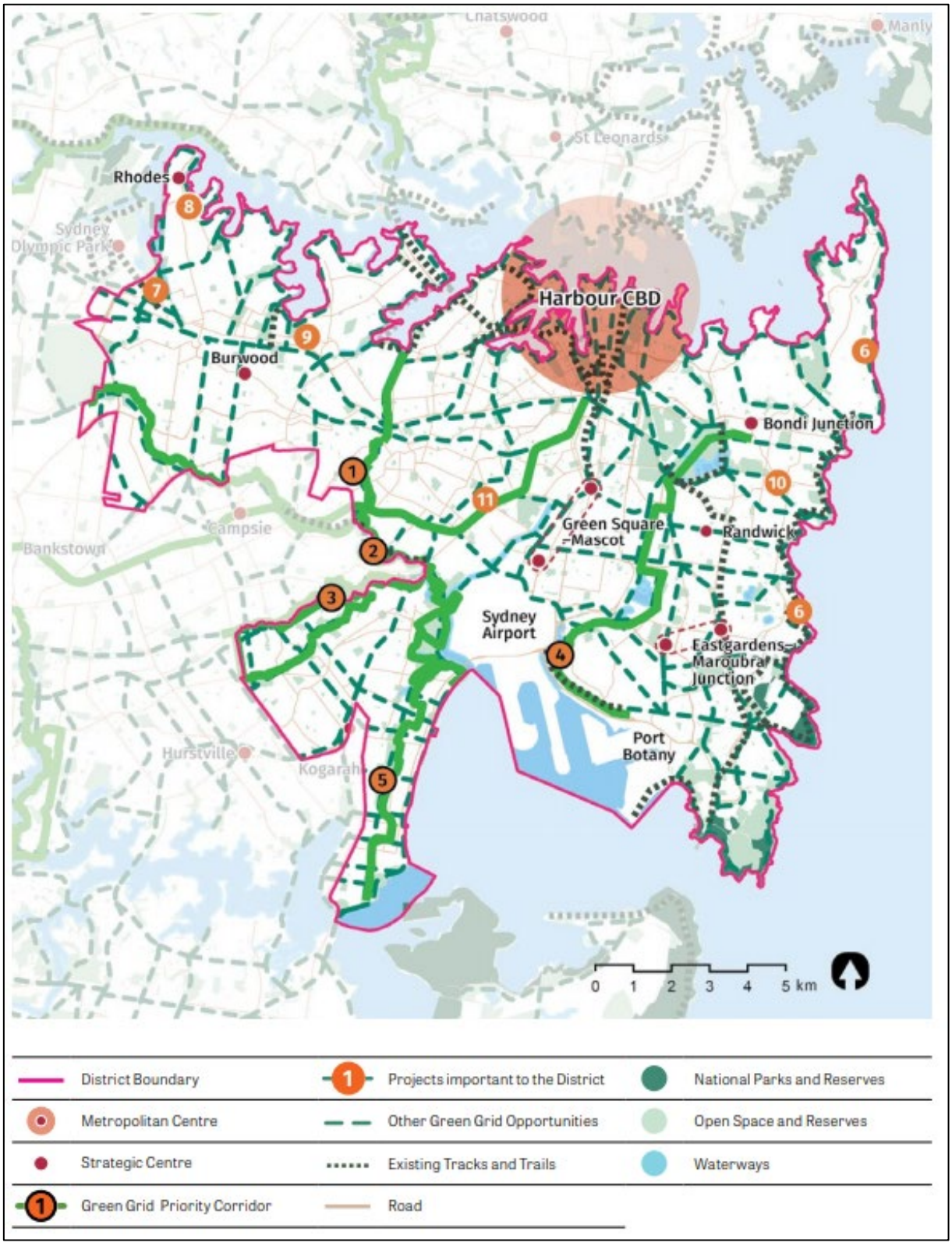


Figure 4: Eastern City Green Grid opportunities

3 Site Audit & Data Collection

3.1 Proposed Development & Site Facilities

The development (Precinct H) relates to a warehouse and distribution facility.

Key details of the development are summarised in **Table 1**.

Table 1: Precinct H – Development Details

Component	Proposed Yield
Warehouse H1A & H1B	
Warehouse H1A	3,000 m^2
Office H1A (2 levels)	350 m^2
Warehouse H1B	5,000 m^2
Office H1B (2 levels)	450 m^2
Car parking spaces	76
Warehouse H2	
Warehouse	7,175 m^2
Office (2 levels)	500 m^2
Carparking spaces	51

A reduced copy of the site plan prepared by SBA Architects is included **Figure 5** below.

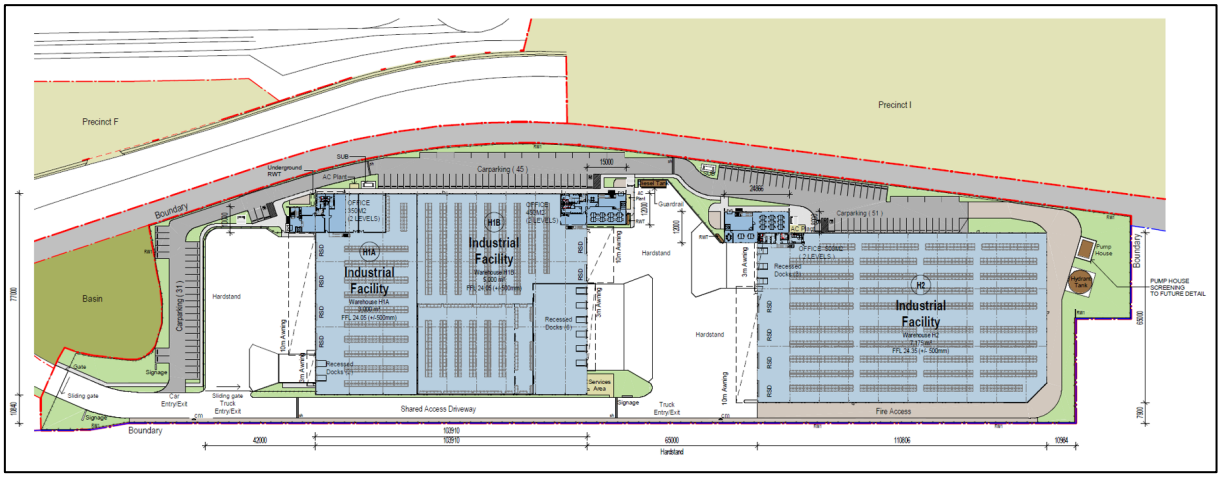


Figure 5: Development Site Plan

3.2 Travel Mode Share Analysis

The existing travel patterns of employees within the surrounding locality was surveyed within the 2011 Census and presented in the Journey to Work (JTW) data provided by the Bureau of Transport Statistics. The relevant data is presented in **Figure 6** for Travel Zones 984.

The modal share data shows that the majority of the commuter trips are undertaken as a vehicle driver (86%) with approximately 5% of commuter trips undertaken by as a vehicle passenger.

It is evident that only a small proportion of employees within the locality cycle or use public transport for travel to/from the precinct. Furthermore, it is noted that this data includes sites located closer to rail and bus services than the subject site. Accordingly, staff associated with the subject site could be expected to rely more heavily on 'vehicle driver' and 'vehicle passenger' travel modes.

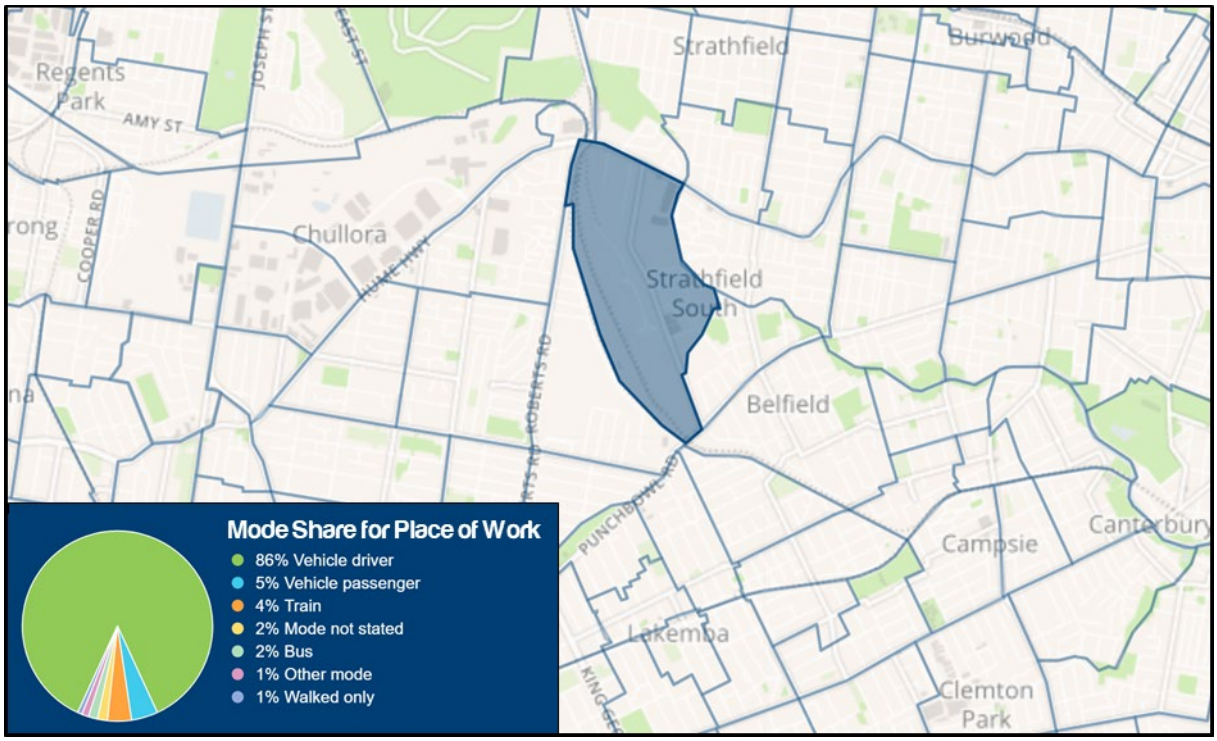


Figure 6: Journey-to-Work Mode Share

It is noted that the 4% train user is comprised of 1.5% of train only users and 2.5% train and other methods users. Approximately 42% of the total train users use train and bus to commute, which equates to an overall mode share of 2%.

3.3 Surrounding Public Transport Services

3.3.1 Rail Services

The *Integrated Public Transport Service Planning Guidelines*, Sydney Metropolitan Area (TfNSW, December 2013), states that train services influence the travel mode choices of areas within 800 metres walking distance (approximately 10 minutes) of a train station. It is therefore noteworthy that the Site is not located within 800 metres of any rail stations.

However, rail stations are accessible via:

- Cycling, or
- Bus connections – refer Section 3.3.2 below

Lakemba and Belmore train stations, serviced by T3 Bankstown Line, are located approximately 2-3 kilometres to the south-east of the Site. Additionally, Strathfield and Lidcombe stations are located approximately 4 kilometres to the north of the Site, which is serviced by multiple train lines. Train frequencies of these train lines are summarised in **Table 2**.

Table 2: Train Frequencies

Line – Station[1]	Southbound / Eastbound	Northbound / Westbound	Total
*T1 North Shore Line: **Strathfield** and Lidcombe Station*			
Morning Peak Hour (6AM-8AM)	21	31	52
Evening Peak Hour (4PM-6PM)	36	30	66
*T1 Northern Line: **Strathfield** Station*			
Morning Peak Hour (6AM-8AM)	18	14	32
Morning Peak Hour (6AM-8AM)	19	23	42
*T1 Western Line: **Strathfield** and Lidcombe Station*			
Morning Peak Hour (6AM-8AM)	36	23	59
Evening Peak Hour (4PM-6PM)	33	43	76
*T2 Western Line: **Lidcombe**, Flemington, Homebush and **Strathfield** Station*			
Morning Peak Hour (6AM-8AM)	20	18	38
Evening Peak Hour (4PM-6PM)	17	23	40
*T3 Bankstown Line: Lidcombe, **Lakemba** and Belmore Station*			
Morning Peak Hour (6AM-8AM)	11	11	22
Evening Peak Hour (4PM-6PM)	8	14	22
*T7 Olympic Park Line: **Lidcombe** Station*			
Morning Peak Hour (6AM-8AM)	12	12	24
Evening Peak Hour (4PM-6PM)	12	12	24

Note: 1) Train frequencies for each train line indicated in this table are based on the station with highest frequency near the Site (**Bold** in text)

The above table demonstrates that Strathfield and Lidcombe train stations are well serviced during peak periods with trains arriving approximately every 4-6 minutes per direction. Lakemba and Belmore train stations are also serviced with trains arriving approximately every 10-15 minutes per direction.

In this regard, it is expected that the Site has potential opportunities to promote the use of public transport through additional bus services and improved cycling network connecting the Site to above train stations.



Figure 7: Sydney Trains Network

3.3.2 Bus

With regard to bus travel, the same TfNSW guidelines state that bus services influence the travel mode choices of sites within 400 metres walk (approximately 5 minutes) of a bus stop.

Nearby bus stops are 700 metres or more away and provide connections to Liverpool, Bankstown, Burwood, Hurstville, Strathfield and Greenacre. A copy of the Buses network map is included in **Appendix A**. It can be seen that the bus stops within the vicinity of the Site have numerous connections throughout Sydney. A summary of bus routes in close proximity to the Site is summarised in **Table 3**.

Table 3: Existing Bus Services

Route No.	Route Description	Average Weekday Service Frequency	
		Northbound / Westbound	Southbound / Eastbound
913	Strathfield to Bankstown	AM peak - 30 min to 60 min PM peak - 60 min	AM peak - 30 min PM peak - 60 min
914	Greenacre to Strathfield	AM peak - 30 min PM peak - 30 min	AM peak - 30 min PM peak - 30 min
946	Roselands to Bankstown via Lakemba & Greenacre	AM peak - 30 min PM peak - 30 min	AM peak - 30 min PM peak - 30 min
450	Strathfield to Hurstville	AM peak - 15 min to 30 min PM peak - 15 min to 30 min	AM peak - 15 min PM peak - 15 min
M90	Burwood to Liverpool	AM peak - 10 min PM peak - 10 min	AM peak - 10 min PM peak - 10 min

Bus stops are provided on Norfolk Road and Roberts Road to the west of the Site (servicing routes 913 and 914), Juno Parade and Punchbowl Road to the south of the Site (servicing routes 946 and 450), and Hume Highway to the west of the Site (serving route M90). No bus shelter is provided for the stops within close proximity of the Site.

3.4 Pedestrian and Cycling Network

The Site falls within Strathfield Council LGA. It is expected that the local roads within the vicinity of the Site will be constructed to the specified standards under the Strathfield Consolidated Development Control Plan 2005.

An existing Cycle Path Map for Strathfield Council Area is included in **Appendix B**. Even though currently there are no direct connections from the Site to existing cycling system in Strathfield, the Active Travel Plan for Strathfield (2016) has proposed an on-road bicycle route (L2) from Cosgrove Road, to Bridge Road via Liverpool Road, Hedges Avenue, South Street, Barker Road, and Dickson Street. This bicycle route will connect the Site to the Strathfield Town Centre, Homebush and Flemington train

stations, which are serviced by TI, T2 T3 and T7 train lines. A map of proposed bicycle network in Strathfield is included in **Appendix C**.

As presented in the existing Cycle Path Map for Strathfield Council Area, there are no existing public bicycle racks provided in close proximity to the Site.

3.5 Car Share

There are no existing Car Share operators providing vehicles or pods in close proximity to the Site or on-site. Notwithstanding, there may be potential for additional car share spaces to be provided in the locality in the future, particularly following development of the Enfield ILC and surrounding area.

4 Objectives & Targets

4.1 Objectives

The primary objectives of this WTP are to:

- Reduce the environmental footprint of the development,
- Promote the use of 'active transport' modes such walking and cycling, particularly for short-medium distance journeys,
- Reduce reliance on the use of private vehicles for all journeys,
- Encourage a healthier, happier and more active social culture.

Having regard for the above, this Plan adopts the following movement hierarchy with priority given to 'active transport' followed by mass public transport and lastly the use of cars and other private vehicles.

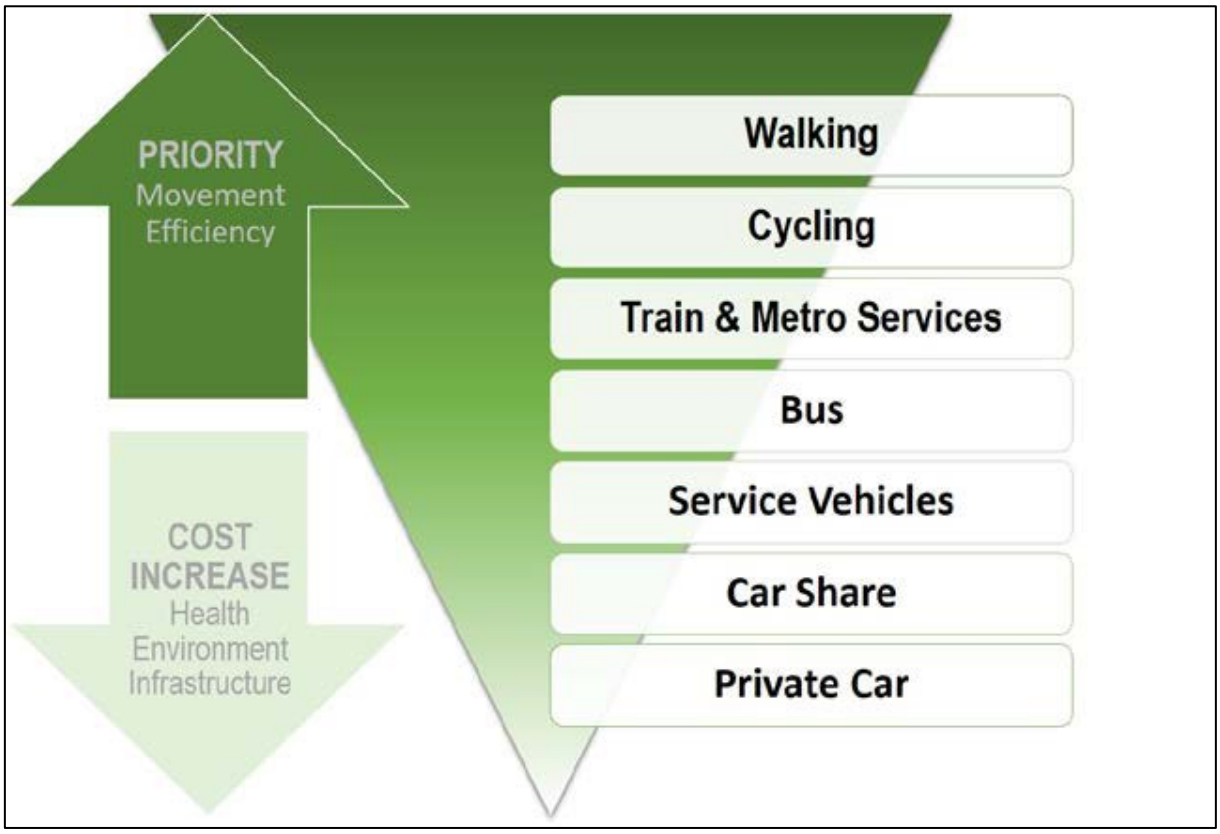


Figure 8: Movement Hierarchy

In a broad sense, the proposed intermodal facilities are intended to encourage the use of rail thereby reducing the overall distance travelled by commercial vehicles (trucks).

4.2 Mode Share Targets

With the above objectives in mind, the mode share targets outlined in **Table 4** are proposed.

Table 4: Mode Share Targets

Travel Mode.	Existing	Proposed	Relative Change
Walking	1%	1%	0%
Cycling	0%	5%	+5%
Train	4%	5%	+1%
Bus	2%	4%	+2%
Car Passenger	5%	10%	+5%
Car Driver	86%	75%	-11%
Other/Mode Not Stated	2%	0%	-2%

The proposed mode share target has been developed by considering the likelihood of increase of each travel mode, with a specific push to encourage ride sharing between staff members. It is noted that the RMS Analysis Report indicates that the surveyed business parks and industrial estate within Sydney area generally have a car occupancy of 1.10 - 1.18 persons per car. Therefore, a target of 10% mode share of car passengers is considered achievable, which effectively equates to an average vehicle occupancy of 1.13 persons per car.

JTW data indicates that approximately 8% - 10% of employee in Travel Zones 984 live within a 20 minute bicycle catchment area. Subject to the improved bicycle network proposed by Strathfield Council and the end of trip facilities provided on-site, it is therefore targeted that about 50% - 60% of these employees will commute by bicycles. This equates to an overall mode share increase of about 5%, as adopted by the table above.

It is also expected that there will be increased bus services provided by TfNSW to promote the use of public transport and increase the connectivity between bus and train services, therefore a target of 5% train mode share and 4% bus mode share is considered achievable.

Measures and strategies to achieve these targets are discussed in **Section 5**.

5 Action Plan

5.1 Action Plan Measures

The following specific actions have been identified to aid achievement of the targets outlined in Section 4.2. This Action Plan is expected to be coordinated with the Action Plan included in Enfield ILC Overarching WTP, as updated regularly. It is anticipated that the tenant will undertake a review of the Action Plan and implement as best they can to achieve each action item.

The below includes promotion of some event or day-specific activities. In isolation, these may not dramatically alter the day-to-day travel of staff. However, there are benefits of such activities whereby participation can increase awareness of alternative modes of travel that can then form the basis of future travel patterns.

Table 5: Action Plan Measures

Item No.		Action / Description	Responsibility
1. General			
	1.1	Establish a Travel Plan Coordinator (TPC) to engage with the overall TPC as indicated in the Enfield ILC overarching WTP.	Tenant
	1.2	Preparation and maintenance of the site-specific Workplace Travel Plan.	TPC
	1.3	Provide 'Travel Welcome Pack' for newly employed staff, highlighting alternate modes of transport other than use of a private vehicle.	TPC
	1.4	Review of WTP as a regular item on the agenda for the Tenant / Land Owner.	TPC
2. Walking and Cycling			
	2.1	Lobby Council / DP&E for improved cycle connections in the broader area.	NSW Ports / Goodman
	2.2	Promote participation in the National Ride2Work Day activity.	Tenant
	2.3	Promote participation in Walk to Work Day (and other) events.	Tenant
	2.4	Provide and maintain clearly signposted cycle parking within the Site.	Tenant
	2.5	In accordance with the 5% cycling mode share target, sufficient secure parking spaces and 'end-of-trip' facilities shall be provided and maintained within Precinct H.	Tenant
	2.6	Provision of footpaths on local roads.	Council
	2.7	Provide (and maintain) suitable footpaths and cycle connections between Precincts and the 'external' public road network.	NSW Ports / Goodman
3. Public Transport			
	3.1	Advocate to TfNSW for improved public transport services in response to increased development within the surrounding area.	NSW Ports / Goodman

	3.2	Update the WTP to reflect changes to any bus routes and service times.	TPC
	3.3	Undertake a review to promote initiatives for staff using public transport.	TPC / Tenant
4. Car Share			
	4.1	Review initiatives for staff using car sharing services. This may include (but not limited to) the provision of additional 'pods' provided in closer proximity to the Site.	Tenant
	4.2	Facilitate engagement between staff with a view to encourage ride sharing for those staff that do require the use of private vehicles.	Tenant

Bicycle parking spaces is provided on-site to support the above Action Plan. Additional bicycle parking spaces may be recommended in the future; however, this would be subject to further review as part of the ongoing WTP maintenance which is discussed further below.

To encourage ride sharing between staff (to assist with Item 4.2 identified in Table 5), business management may consider the signposting of desirable parking spaces close to building entrances for use by vehicles with multiple occupants.

5.2 Communications Strategy

5.2.1 Welcome Packs

New staff shall be provided with a 'welcome pack' as part of the on-site induction process which includes the WTP and other information in relation to sustainable transport choices. This pack shall include a copy of the WTP as well as general information regarding the health and social benefits of active transport. Advice on where to find further information should also be included such as links to Sydney Cycleways website (http://www.sydneycycleways.net).

5.2.2 Accurate Transport Information

In addition to these 'welcome packs', a Travel Access Guide (TAG) (included in **Appendix D**) – or as updated to reflect sub-precinct details - shall be provided to all staff. A copy of the TAG should also be displayed prominently in staff areas, such as lunch rooms and foyer areas. The TAG shall be presented in a form that is reflective of the commitment to achieving positive transport objectives.

6 Governance & Support

6.1 Travel Plan Coordinator

A person(s) shall be nominated as the Travel Plan Coordinator (TPC) and be responsible for:

- Engagement with the Enfield ILC overall TPC,
- Implementation and promotion of the WTP actions,
- Monitoring the effectiveness of the WTP (refer to monitoring requirements outlined in Section 7) and ongoing maintenance of the Plan,
- Provide advice in relation to transport-related subjects to staff, tenancy management and visitors, as required, and
- Liaise with external parties (i.e. Council, public transport and car share operators) in relation to Travel Plan matters.

This role does not necessarily require full-time position; however, it shall be clearly designated among the key responsibilities of the building management group.

This may include financial incentives for staff to use active transport and public transport to travel to work. However, this is not a mandatory requirement and would be subject to the management discretion.

6.2 Resourcing

It is not anticipated that the maintenance of this WTP will have significant ongoing cost implications and shall be reviewed periodically by the TPC.

7 Monitoring & Review Process

7.1 Plan Maintenance

This Plan shall be subject to ongoing review and will be updated accordingly. Regular reviews will be undertaken by the TPC, as required.

Key considerations regarding the review of the WTP shall be:

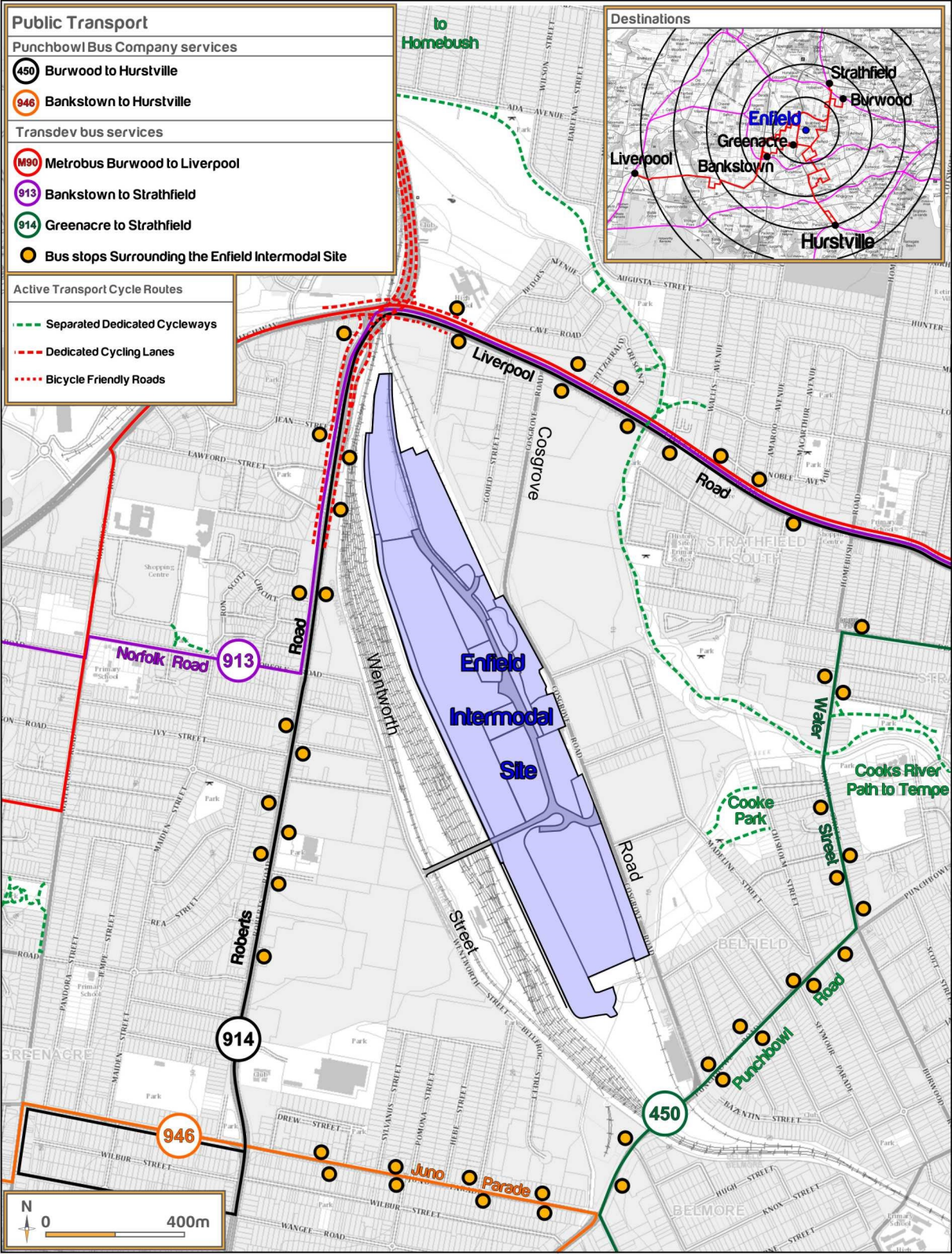
- Updating baseline conditions to reflect any changes to the transport environment in the vicinity of the Site such as changes to bus services, new cycle routes etc. In this regard, review of the WTP – and associated TAG in particular - may be undertaken on a more frequent basis,
- Tracking progress against proposed travel mode targets,
- To identify any shortfalls and develop an updated action plan to address issues, and
- To ensure travel mode targets are updated (if necessary) to ensure they remain realistic but also ambitious.

7.2 Travel Mode Audit Requirements

Travel mode surveys will be undertaken to determine the proportion of persons travelling to/from the site by each transport mode. This will be in the form of periodical travel mode questionnaire surveys to be completed by all persons attending the site, as far as practicable. This survey may be undertaken online or in-person at the discretion of the TPC. A sample of a typical travel mode questionnaire form is included in **Appendix E**.

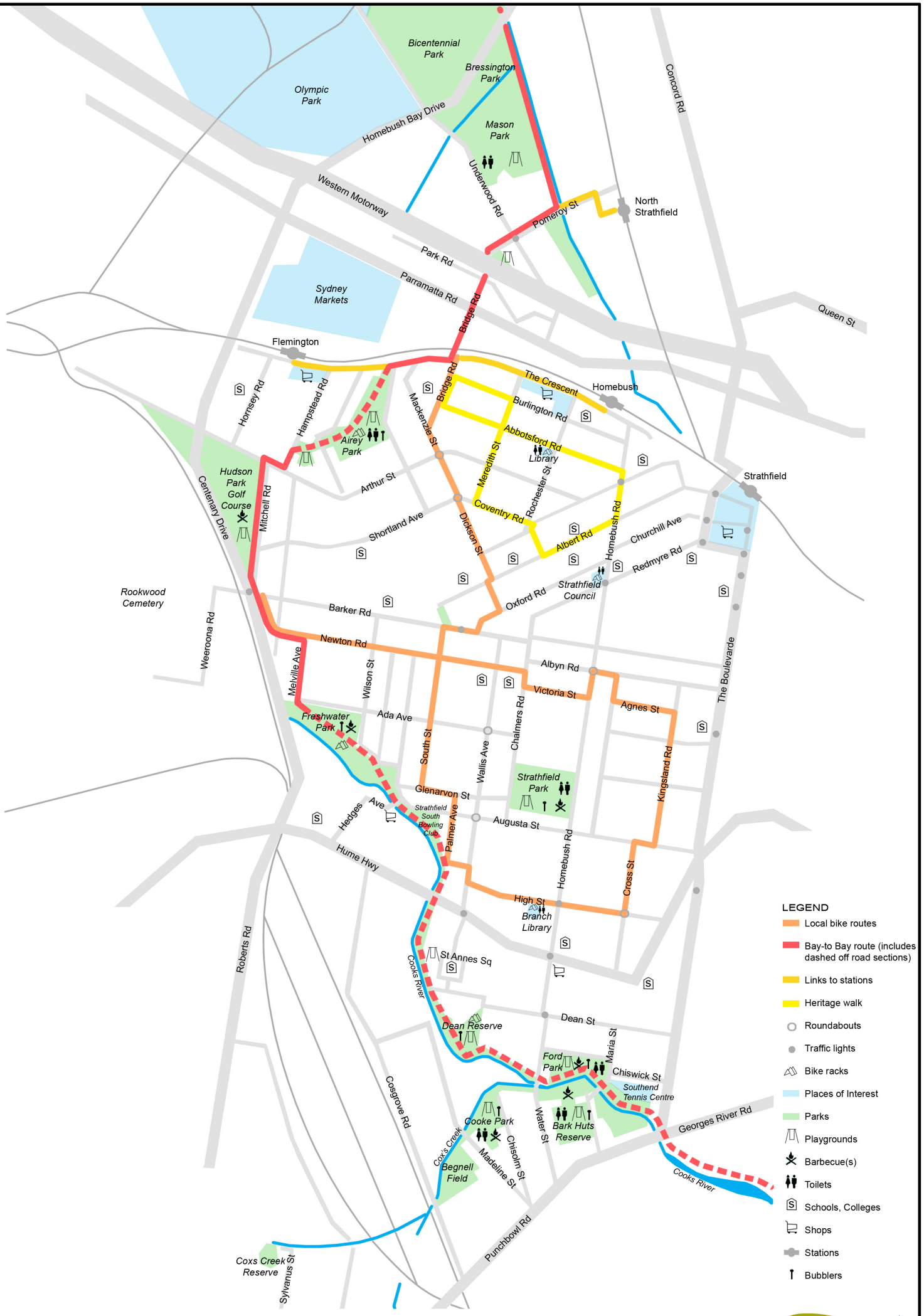
Appendix A

Bus Network Map


Public Transport
Punchbowl Bus Company services
450 Burwood to Hurstville
946 Bankstown to Hurstville
Transdev bus services
M90 Metrobus Burwood to Liverpool
913 Bankstown to Strathfield
914 Greenacre to Strathfield
Bus stops Surrounding the Enfield Intermodal Site
Active Transport Cycle Routes
Separated Dedicated Cycleways
Dedicated Cycling Lanes
Bicycle Friendly Roads
Destinations
Strathfield
Burwood
Enfield
Greenacre
Liverpool
Bankstown
Hurstville
to Homebush
Liverpool Road
Cosgrove Road
Enfield Intermodal Site
Wentworth Street
Roberts Road
Norfolk Road
913
914
946
450
Juno Parade
Punchbowl Road
Cooke Park
Cooks River Path to Tempe
Water Street
N
0
400m

Appendix B

Existing Bicycle Network in Strathfield



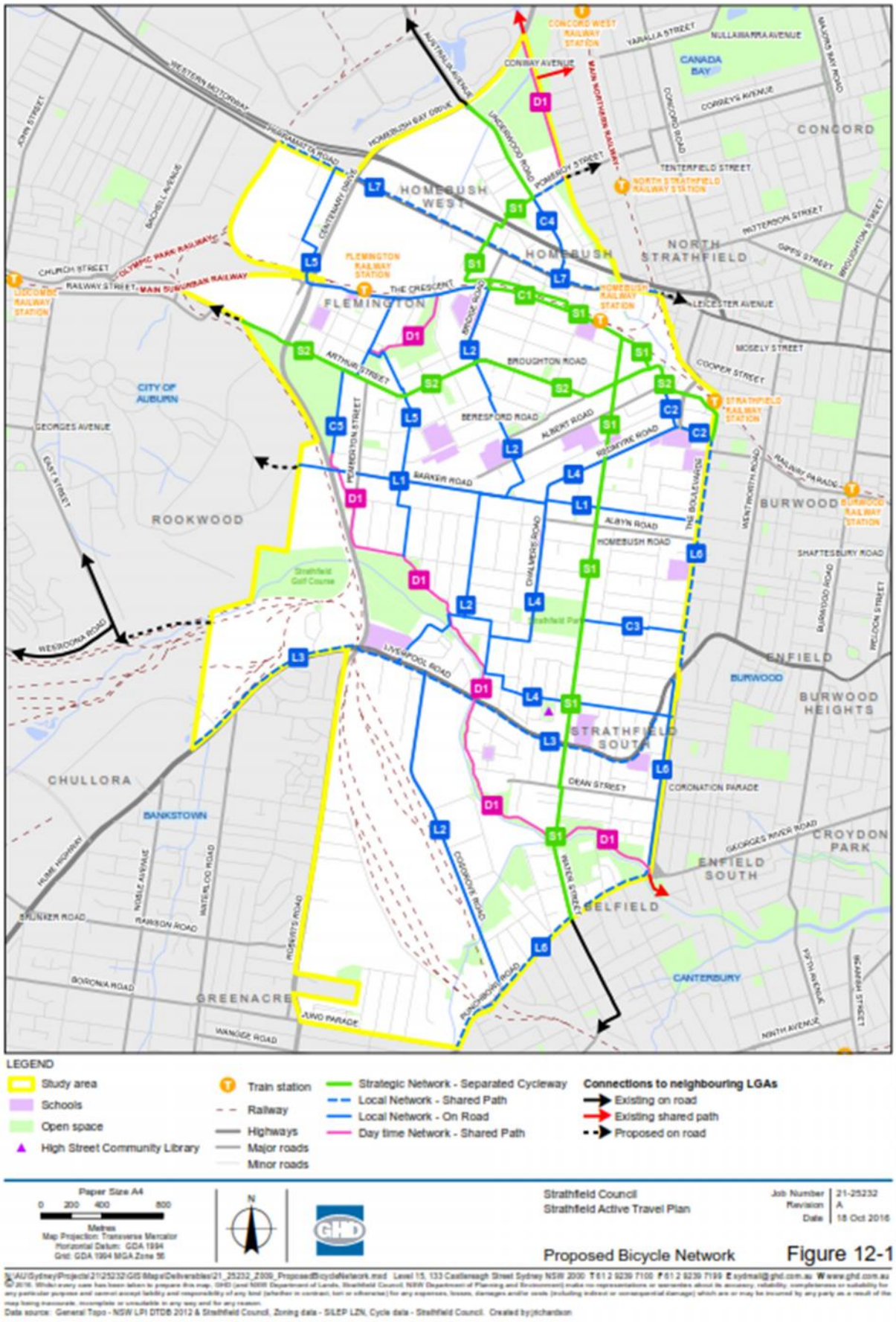
Cycling in Strathfield - A Where to Guide

STRATHFIELD COUNCIL

Appendix C

Proposed Bicycle Network in Strathfield

Figure 12-1 Proposed Bicycle Network



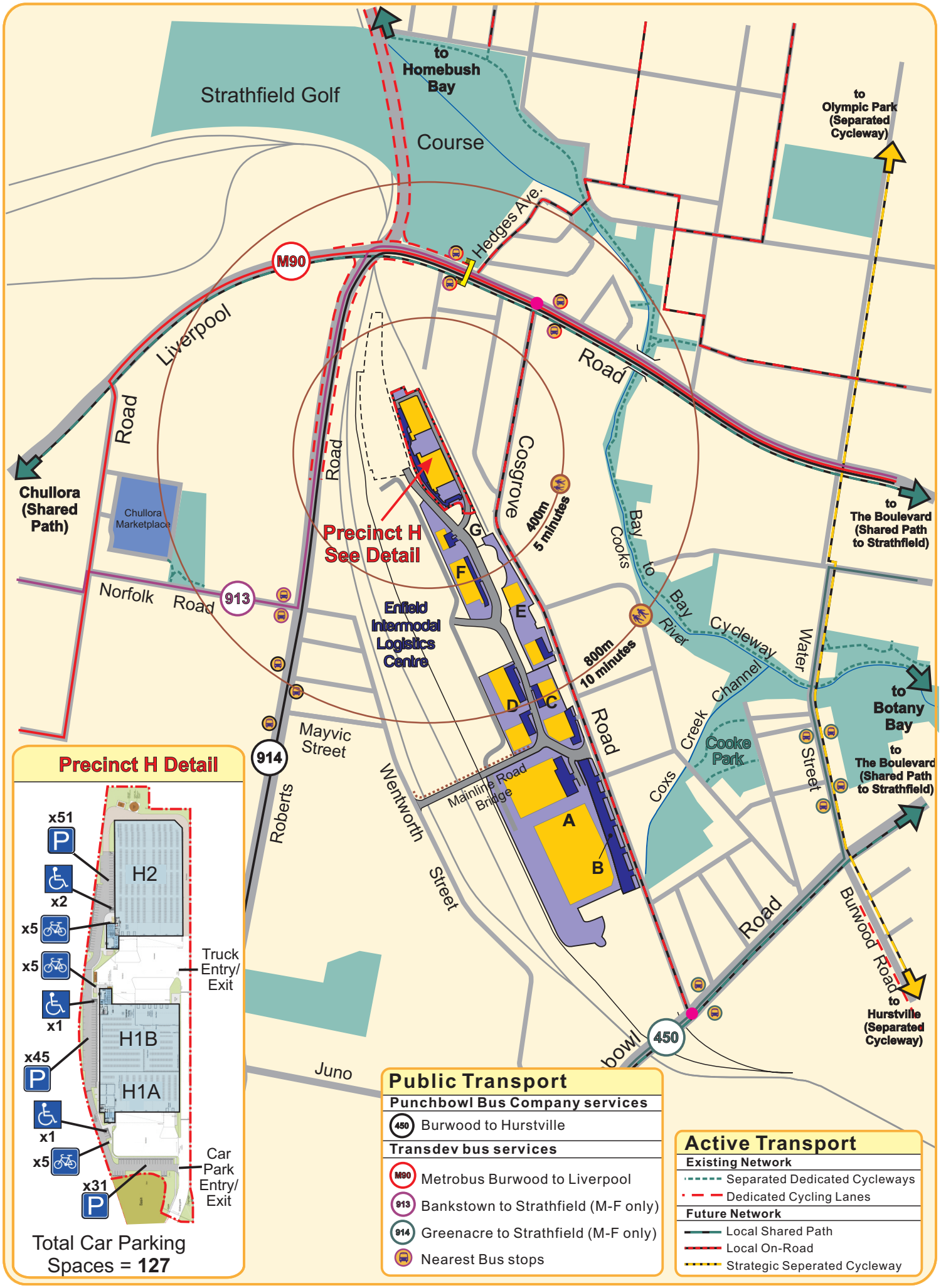
Appendix D

Transport Access Guide

Travel Access Guide
Enfield Intermodal Logistics Centre - Precinct H

Prepared by asongroup
info@asongroup.com.au | +612 9083 6601 | Suite 1202, Level 12, 220 George Street, Sydney NSW 2000

April 2019



Precinct H Detail

Total Car Parking Spaces = **127**

Public Transport

Punchbowl Bus Company services

- 450 Burwood to Hurstville

Transdev bus services

- M90 Metrobus Burwood to Liverpool
- 913 Bankstown to Strathfield (M-F only)
- 914 Greenacre to Strathfield (M-F only)
- Nearest Bus stops

Active Transport

Existing Network

- Separated Dedicated Cycleways
- Dedicated Cycling Lanes

Future Network

- Local Shared Path
- Local On-Road
- Strategic Seperated Cycleway

Appendix E

Sample Travel Mode Questionnaire Form

Instructions for Surveyor(s)

1. The Survey Form (over page) should be completed by EVERY PERSON attending the site on a particular day.

2. This survey should be completed SEPARATELY for EACH TRIP undertaken

Travel Mode Questionnaire Survey Form

Date: **Approximate Time:**

Q1. Are you one of the following?

☐ Warehouse staff

☐ Office staff

☐ Courier / office delivery

☐ Casual contractor

☐ Company driver / sub-contractor

☐ Other (Please specify)

……..

Q2. How did you travel to / from the site today?

☐ Walked only

☐ Bicycle only

☐ Train

☐ Bus

☐ Taxi

☐ Car share vehicle

☐ Motorcycle / scooter

☐ Car (as passenger)

☐ Car (as driver)

☐ Other (Please specify)

……..

Q3. If you drove to the site, where did you park?

☐ Not applicable – did not drive

☐ On-site car park

☐ On-site within truck hardstand

☐ On-street

☐ In other nearby off-street car park

☐ Other (Please specify)

……..

[blank page]

APPENDIX H

Waste and Recycling Management Plan

global environmental solutions

W&RMP Enfield ILC (inclusive of MOD 14)

Waste & Recycling Management Plan

Report Number 610.17806-R01

12 February 2018

Goodman Property Services (Aust) Pty Ltd
GPO Box 4703
Sydney NSW 2001

Version: v0.5

W&RMP Enfield ILC (inclusive of MOD 14)

Waste & Recycling Management Plan

PREPARED BY:

SLR Consulting Australia Pty Ltd
ABN 29 001 584 612
2 Lincoln Street
Lane Cove NSW 2066 Australia
(PO Box 176 Lane Cove NSW 1595 Australia)
+61 2 9427 8100 +61 2 9427 8200
sydney@slrconsulting.com www.slrconsulting.com

This report has been prepared by SLR Consulting Australia Pty Ltd with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with 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 Goodman Property Services (Aust) Pty Ltd. 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
610.17806-R01-v0.5	12 February 2018	Dale Beckham	I-hui Waung	I-hui Waung
610.17806-R01-v0.4	7 February 2018	Dale Beckham	I-hui Waung	I-hui Waung
610.17806-R01-v0.3	24 January 2018	Dale Beckham	I-hui Waung	I-hui Waung
610.17806-R01-v0.2	18 January 2018	Dale Beckham	I-hui Waung	I-hui Waung
610.17806-R01-v0.1	16 January 2018	Dale Beckham	I-hui Waung	I-hui Waung

Table of Contents

1 INTRODUCTION 6
1.1 Site Identification 6
1.2 Objectives 7
2 BETTER PRACTICE FOR WASTE MANAGEMENT AND RECYCLING 8
2.1 Waste Management Hierarchy 8
2.2 Benefits of Adopting Better Practice 8
2.3 Waste Avoidance, Re-use and Recycling 9
2.3.1 Waste Avoidance 9
2.3.2 Re-use 9
2.3.3 Recycling 9
3 WASTE LEGISLATION AND GUIDANCE 9
4 PROJECT DESCRIPTION 12
5 DEMOLITION AND CONSTRUCTION WASTE AND RECYCLING MANAGEMENT 13
5.1 Targets for Recycling 13
5.2 Key Activities 13
5.3 Waste Streams and Classifications 13
5.4 Site Preparation Waste Types and Quantities 15
5.5 Demolition Waste Types and Quantities 16
5.6 Construction Waste Types and Quantities 16
5.7 Waste Avoidance 18
5.8 Re-use, Recycling and Disposal 18
5.9 Waste Segregation, Storage and Servicing 19
5.9.1 Waste Segregation and Storage 19
5.9.2 Waste Storage Areas 19
5.9.3 Waste Servicing and Transport Off-site 20
5.10 Contaminated / Hazardous Waste 20
5.11 Liquid Waste Management 20
5.12 Spills Management 21
5.13 Additional Environmental Controls 21
5.13.1 Unexpected Finds Protocol 22
5.13.2 Construction Environmental Management Plan 22
5.14 Signage 22
5.15 Site Inductions 23
5.16 Monitoring and Reporting 23
5.17 Roles and Responsibilities 24

Table of Contents

6 OPERATIONAL WASTE AND RECYCLING MANAGEMENT 25
6.1 Targets for Resource Recovery 25
6.2 Waste Streams and Classifications 25
6.3 Waste Management Overview 26
6.3.1 Precinct A, Unit A1 26
6.3.2 Precinct B, Units B1 to B19 26
6.3.3 Precinct D 27
6.4 Estimated Quantities of Operational Waste 27
6.5 Waste Storage Areas 28
6.5.1 Waste Storage Size 28
6.5.2 Waste Storage Locations 31
6.5.3 Waste Storage Design Considerations 31
6.5.4 Recycling Bale Storage Design Considerations 32
6.5.5 Additional Storage 33
6.6 Waste Separation and Storage 33
6.7 Communication Strategies 34
6.8 Monitoring and Reporting 35
6.9 Roles and Responsibilities 35

TABLES

Table 1 Waste legislation and guidance 10
Table 2 Potential waste types, classifications and management methods 14
Table 3 Estimated quantities of site preparation waste 16
Table 4 Anticipated types and estimated quantities of demolition waste 16
Table 5 Construction waste generation rates 17
Table 6 Anticipated types and estimated quantities of construction waste 17
Table 7 Suggested roles and responsibilities for site preparation and construction waste management 24
Table 8 Potential waste types, classifications and management methods – operational waste 25
Table 9 Operational waste and recycling generation rates 27
Table 10 Estimated quantity of operational waste and recycling generated weekly 27
Table 11 Minimum number 4.5 m^3 MGBs required for weekly operational waste storage (if recycling baled) and associated minimum GFA for MGBs (without waste compaction) 29
Table 12 Minimum number 4.5 m^3 MGBs required for weekly operational waste storage (if recycling baled) and associated minimum GFA for MGBs (with 2:1 waste compaction) 29
Table 13 Dimensions and GFA of a 360 L, 600 L and 1,100 L MGB 29
Table 14 Minimum number of MGBs required for weekly operational waste and recycling storage with associated minimum GFA for MGBs 30
Table 15 Minimum number 4.5 m^3 MGBs required for weekly operational waste storage (if recycling baled) and associated minimum GFA for MGBs (without waste compaction) 30

Table of Contents

Table 16 Suggested roles and responsibilities 35
Table 17 MOD 14 SEARs key issues pertaining to waste 36

FIGURES

Figure 1 ILC Location & Subdivision Plan 6
Figure 2 Waste management hierarchy 8
Figure 3 Enfield Intermodal Logistics Centre, Precinct A, B, C, D and E. 12
Figure 4 Enfield Intermodal Logistics Centre, Precinct E, F, G, H & I. 12
Figure 5 Examples of NSW EPA labels for waste skips / bins 23
Figure 6 Example of labels for MGBs for operational waste 34

APPENDIX

Appendix A MOD 14 SEARs Key Issues (Waste)

1 INTRODUCTION

SLR Consulting Australia Pty Ltd (SLR) was engaged by Goodman Property Services (Client) to prepare a Waste and Recycling Management Plan (W&RMP) in support of a Modification to Approval (MOD 14) to the NSW Department of Planning concerning modifications to the built form and operational aspects of the Enfield Intermodal Logistics Centre (ILC). The major project approval MP05_0147 (the Approval) was issued on 5 September 2007 under Part 3A of the *Environmental Planning & Assessment Act 1979* (the Act) and granted initial development approval to the ILC.

It is understood the Enfield ILC masterplan involves the development of nine Precincts (seven of which are intended for warehouse development) and a modification to operational aspects by extending the warehouse operating hours to 24 hours per day and seven days per week for two of the seven proposed warehouse precincts (Precincts C and E). Furthermore, it is understood the Enfield ILC masterplan involves the demolition of former railway buildings / structures, specifically the demolition of the existing building situated on the proposed Precinct D2 / D3. Further details of the Enfield ILC, MOD 14 and the masterplan are provided in **Section 4**.

This W&RMP applies to waste generated from site preparation works (demolition and excavation), construction and operations of the warehouses located within the proposed Precincts A, B, C, D, E, F and H at Enfield ILC.

This W&RMP has been prepared using architectural drawings provided by the Client. A demolition quantity survey has not been provided for preparation of this W&RMP. SLR has therefore made a number of assumptions regarding the quantities and waste types provided herein associated with demolition works.

Waste management for the site preparation and construction stages is described in **Section 5**. Waste management for the operational stage is described in **Section 6**.

1.1 Site Identification

The Enfield ILC is located within Strathfield South NSW, is within the local government area of Strathfield Council (Council) and comprises real property titles Lots 1 - 23 on DP 1183316. The Enfield ILC is bound by Cosgrove Road to the east, Punchbowl Road to the south, the Port Botany Freight Rail Line to the west and Roberts Road to the north (**Figure 1**).

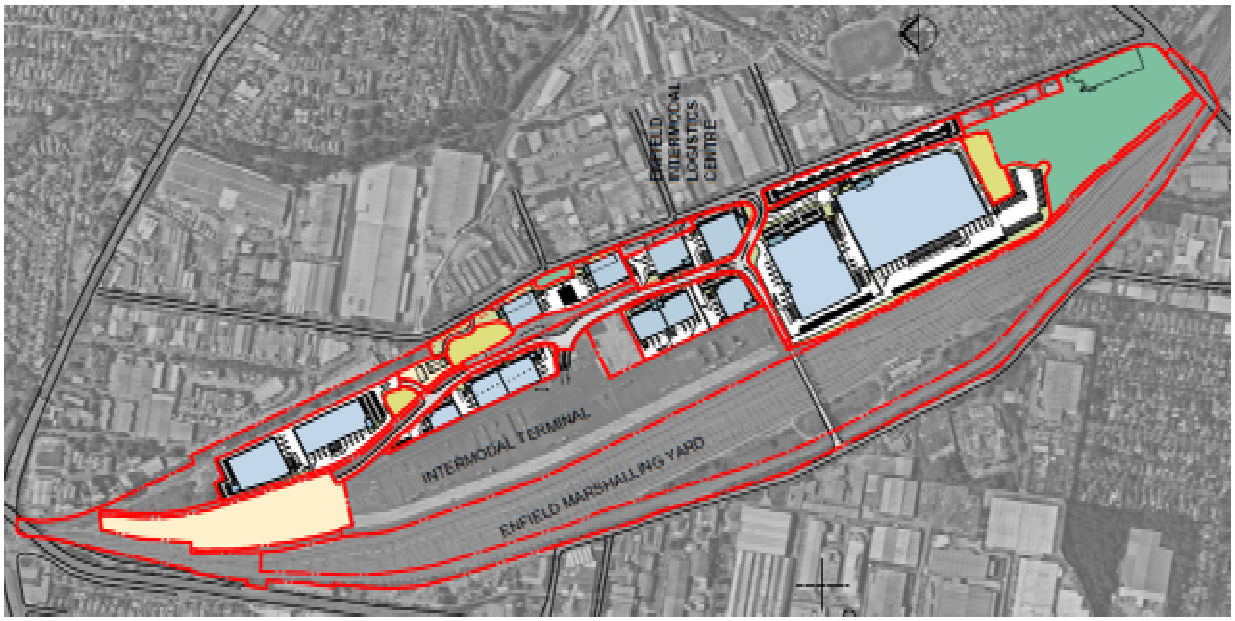


Figure 1 ILC Location & Subdivision Plan[1]

[1] Request for Secretary's Environmental Assessment Requirements MP05_0417 Enfield Intermodal Logistics Centre (MOD 14), URBIS 2017

1.2 Objectives

The Client requires a waste and recycling management plan for Enfield ILC that satisfies the SEARs and is suitable for inclusion into the Modification Report. As such, the objectives of this W&RMP are:

- To address the SEARs Key Issues pertaining to waste for Enfield ILC (refer to **Appendix A**), which are:
  - Assess predicted waste generated from the project during construction and operation, including:
    - Classification of the waste in accordance with the current guidelines;
    - Estimates / details of the quantity of each classification of waste to be generated during the construction of the project, including bulk earthworks and spoil balance;
    - Handling of waste including measures to facilitate segregation and prevent cross contamination;
    - Management of waste including estimated location and volume of stockpiles;
    - Waste minimisation and reuse;
    - Lawful recycling or disposal locations for each type of waste; and
    - Contingencies for the above, including managing unexpected waste volumes.
  - Assess potential environmental impacts from the excavation, handling, storage on site and transport of waste particularly with relation to contamination sediment / leachate control, noise and dust;
- To provide advice on how the classified wastes should be handled, processed and disposed of (or re-used / recycled) in accordance with the above SEARs, Council requirements and better practice waste minimisation principles;
- To assist the Enfield ILC with achieving Federal and State Government waste minimisation targets;
- To facilitate safe and practical collection options of the Enfield ILC for Council collection staff and / or private contractors.

2 BETTER PRACTICE FOR WASTE MANAGEMENT AND RECYCLING

2.1 Waste Management Hierarchy

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

The waste management hierarchy comprises the following principles, from most to least preferable (with respect to waste minimisation):

1. Waste **avoidance**, through prevention or reduction of waste generation. Waste avoidance is best achieved through better design and purchasing choices;
2. Waste **reuse**, without substantially changing the form of the waste;
3. Waste **recycling**, through the treatment of waste that is no longer usable in its current form to produce new products;
4. Energy **recovery**, through processing of residual waste materials;
5. Waste **treatment**; and
6. Waste **disposal**, in a manner that causes the least harm to the natural environment.

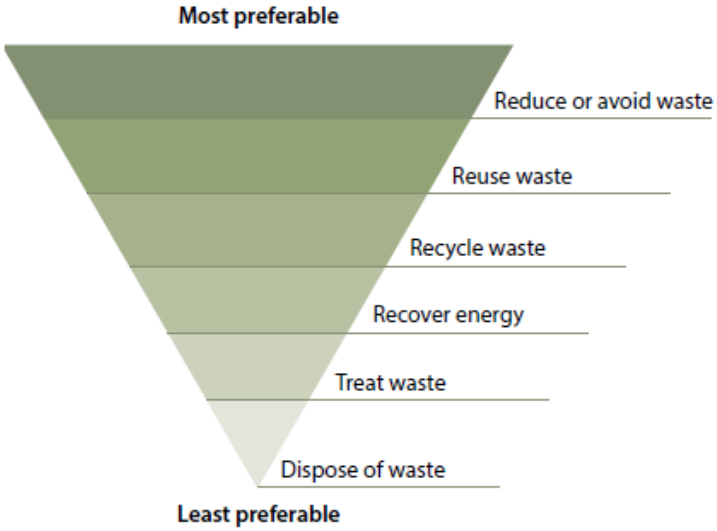


Image from NSW EPA (2014) *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*.

Figure 2 Waste management hierarchy

2.2 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:

- Enhances social and environmental reputation of an organisation;
- Reduces consumption of non-renewable resources;
- Reduces pollution generated from materials manufacturing and waste treatment;
- Reduces financial burden associated with waste disposal; and
- Provides opportunities for additional revenue streams through beneficial reuse.

2.3 Waste Avoidance, Re-use and Recycling

2.3.1 Waste Avoidance

Waste avoidance measures may include:

- Provision of take-back services to clients to reduce waste further along the supply chain;
- Re-work/re-packaging of products prior to local distribution to reduce waste arising;
- Review of packaging design to reduce waste but maintain 'fit for purpose';
- Providing ceramic cups, mugs, crockery and cutlery rather than disposable items;
- 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.

2.3.2 Re-use

Establish systems with in-house and supply chain stakeholders to transport products in re-useable packaging where possible.

2.3.3 Recycling

Recycling opportunities include:

- Plastic film (usually in the form of shrink pallet wrap) is light weight and compactable. If kept clean and separated from other plastics it is potentially recyclable and can be used to make items such as outdoor furniture;
- Flatten or bale cardboard to minimise storage space requirements;
- Paper recycling trays provided in office areas for scrap paper collection and recycling;
- Printer toners / ink cartridges are collected in allocated bins for appropriate contractor disposal;
- Development of 'buy recycled' purchasing policy; and
- Providing recycling collections within each of the offices (e.g plastics, cans and glass).

3 WASTE LEGISLATION AND GUIDANCE

Legislation and guidance documents outlined in **Table 1** should be referred to during all stages of the development.

Table 1 Waste legislation and guidance

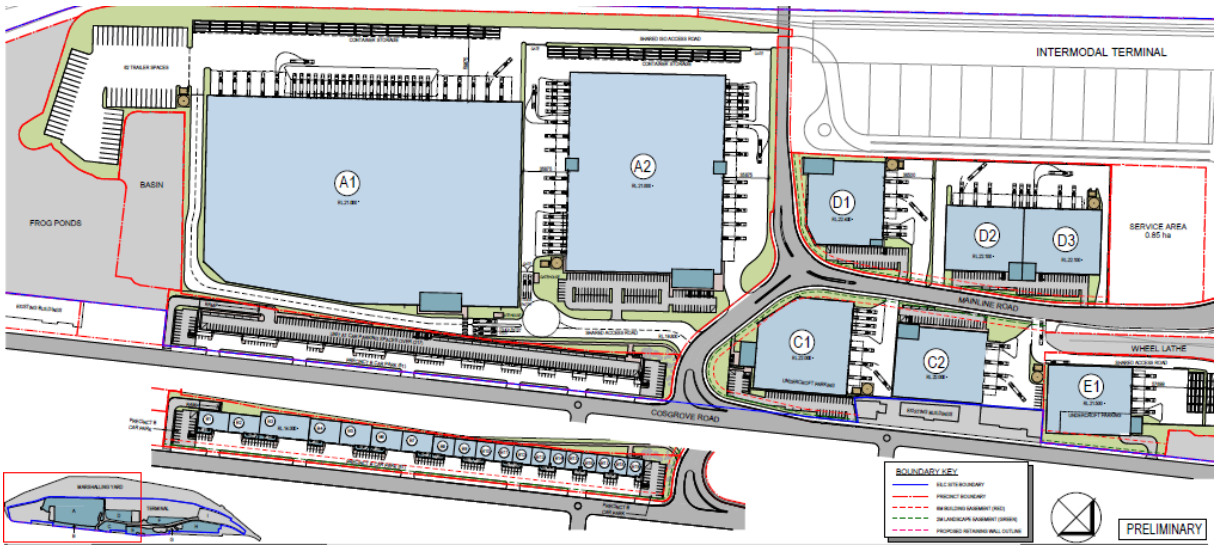
Legislation / Guidance	Objectives
MP 05_0147 MOD 14, Secretary's Environmental Assessment Requirements (SEARs), Planning & Environment 2017	Section 75W of the Environmental Planning and Assessment Act 1979, SEARs pertaining to the Proposed Enfield Intermodal Logistics Centre (MOD) 14 (issued 9 November 2017) pertaining to the site specific planning requirements. This W&RMP specifically addresses the Key Issues pertaining to Waste.
Strathfield Council's Consolidated Development Control Plan (SCDCP) 2005	The Strathfield Council's Consolidated Development Control Plan (SCDCP) 2005 commenced on 3 May 2006 and supports the provisions of the SLEP planning controls by providing detailed planning and design guidelines. Council's SCDCP has been prepared in accordance with section 74C of the Environmental Planning and Assessment Act 1979 and the Environmental Planning and Assessment Regulation 2000. This W&RMP specifically addresses the General Introduction, Part D, H and I of the DCP and sets out the waste management and servicing requirements for industrial buildings proposed to be developed within Council's Local Government Area. The waste management requirements focus on four key features: • **Part 1**: Introduction to the waste legislative and policy context for waste minimisation and management; • **Part 2**: General introduction to a Waste Management Plan (WMP) and its requirements for different types of development (e.g Development Applications, Complying Development Certificates and in some instances, Construction and Occupation Certificate Applications); • **Part 3**: Specific advice for particular uses and scale of development such as multi dwelling housing, residential flat buildings and mixed-use development, commercial and industrial uses; and • **Part 4**: Series of appendices which provide detailed guidance on meeting the relevant development controls for certain types of development. These provide information on calculating waste generation rates, storage and collection area design requirements, Council services and standard notices for display.
Strathfield Local Environmental Plan (SLEP) 2012	The Strathfield Local Environmental Plan (SLEP) 2012 commenced on 29 March 2013, provisions within the SLEP 2012 relate to the conservation of Strathfield's heritage, preservation of trees and vegetation, development within the Strathfield Town Centre and within the Parramatta Road Corridor, and protection of environmentally sensitive areas.
Strathfield Community Strategic Plan 2025	Details Councils and the community's shared long-term vision, priorities and strategies to 2025, ensuring a well maintained local area by: • Clean and attractive town centres and neighbourhoods; • Reduced litter and dumping and taking action on pollution e.g air, noise, water etc; • Well maintained public areas, open spaces and parks; and • Little tolerance for offenders. And a focus on Local environment by: • High quality and well-designed developments; • Sustainable developments; and • Protecting natural environment including air and water quality.
National Waste Policy: Less Waste, More Resources 2009	The National Waste Policy is the current document that provides a guidance framework to all jurisdictions for managing waste through to 2020 and has the following aims; • Avoid the generation of waste, reduce the amount of waste (including hazardous waste) for disposal; • Manage waste as a resource; • Ensure that waste treatment, disposal, recovery and re-use is undertaken in a safe, scientific and environmentally sound manner; and • Contribute to the reduction in greenhouse gas emissions, energy conservation and production, water efficiency and the productivity of the land. The National Waste Policy establishes 6 key areas and identifies 16 strategies across these areas for all government jurisdictions to work towards waste minimisation and resource recovery.

Legislation / Guidance	Objectives
Waste Avoidance and Resource Recovery Act 2001	To promote extended producer responsibility in place of industry waste reduction plans. Specific objectives include: • To encourage efficient use of resources; • To minimise the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste; • Ensuring industry and the community share responsibility in reducing / dealing with waste; and • Efficient funding of waste / resource management planning, programs and service delivery.
Protection of the Environment Operations Act (POEO) 1997 & Amendment Act 2011	Administered by the Environmental Protection Authority (EPA) to enable the Government to establish instruments for setting environmental standards, goals, protocols and guidelines. The owner of a premise, the employer or any person carrying on the activity which causes a pollution incident is to *immediately* notify the relevant authorities when material harm to the environment is caused or threatened. A list of each relevant authority is provided in the POEO Amendment Act and will be noted in the Site's incident register.
POEO (Waste) Regulation 2014 (previously POEO (Waste) Regulation 2005)	Contains provisions relating to the waste levy, waste tracking and management requirements for certain waste types, payment schemes for local councils, consumer packaging recycling and other miscellaneous provisions.
NSW EPA's Waste Classification Guidelines (Part 1) 2014	To assist 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 and is associated regulations.
Council of Australian Governments National Construction Code 2016	The National Construction Code 2016 sets the minimum requirements for the design, construction and performance of buildings throughout Australia.
EPA's Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012	The EPA's Better Practice Guidelines (2012) encourage efficient waste minimisation and resource recovery for commercial and industrial facilities and is used as a benchmark document when assessing waste production rates within Australia and details a range of waste management provisions.
NSW EPA (2014) NSW Waste Avoidance and Resource Recovery Strategy 2014-21	A key component of the State Government's vision for the environmental and economic future of the state that will be supported financially by the *Waste Less, Recycle More* funding initiative providing long-term targets for six key result areas including reduced illegal dumping.

4 PROJECT DESCRIPTION

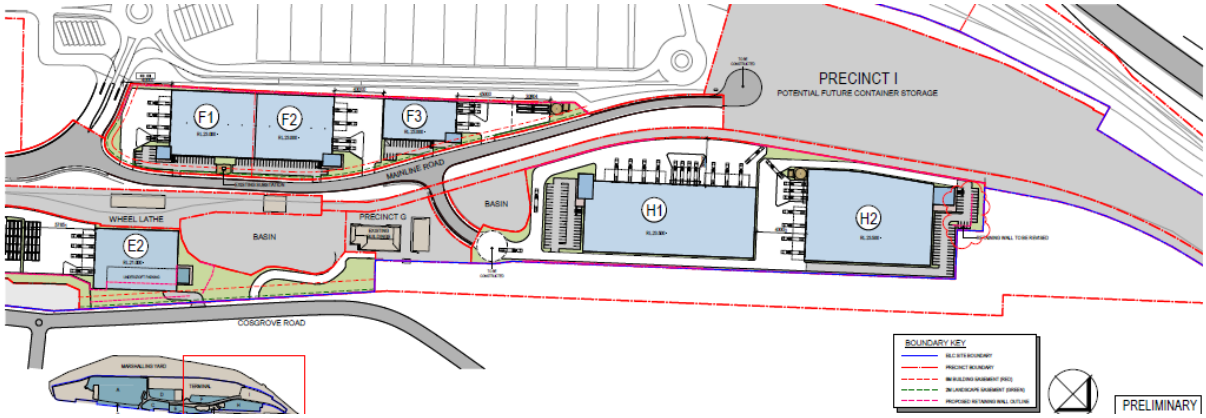
The site is currently occupied by an existing warehouse / office building (which predates the Approval) situated on the proposed Precinct D2 and D3. The proposed work for the Enfield ILC comprises:

- Site preparation (including demolition of an existing warehouse building / structure);
- Bulk earthworks (excavation);
- Construction across Precinct A, B, C, D, E, F and H (as demonstrated in **Figure 3** and **Figure 4**);
- Extension of Precincts C and E operational hours to 24 hours, 7 days a week.



Adapted from Drawing EILC MP03 (P17) dated 22nd December 2017.

Figure 3 Enfield Intermodal Logistics Centre, Precinct A, B, C, D and E.



Adapted from Drawing EILC MP04 (P14) dated 22nd December 2017.

Figure 4 Enfield Intermodal Logistics Centre, Precinct E, F, G, H & I.

5 DEMOLITION AND CONSTRUCTION WASTE AND RECYCLING MANAGEMENT

5.1 Targets for Recycling

The performance of each development should contribute to the following target in accordance with Council's DCP and the NSW EPA (2014) *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*:

- 80% of total construction and demolition waste diverted for reuse and recycled (with receipts sufficient in demonstrating the achieved target).

It is anticipated that the waste minimisation measures in the following sections will assist the development to meet this target. Waste reporting and audits are required to determine the actual percentage of wastes that are being / have been recycled during the site preparation and construction stages of the development.

5.2 Key Activities

Key demolition and construction activities at the Site are expected to comprise:

- Demolition of the warehouse within the proposed Precinct D2 and D3;
- Construction of warehouse / office buildings;
- Construction of two gatehouses;
- Construction of an empty container storage area;
- Construction of 807 car parking areas[2] (469 on-ground, 121 undercroft and 217 level one parking atop the B Units);
- Construction of 62 trailer parking areas and
- Construction of 19 awnings and 13 hardstand areas.

5.3 Waste Streams and Classifications

The demolition and construction activities are anticipated to generate the following broad waste streams:

- Site clearance and excavation wastes, including excavated fill, soil and / or rock[3];
- Demolition wastes, including hazardous waste;
- Construction waste;
- Plant maintenance waste;
- Packaging waste;
- Work compound (on-site employees) waste; and
- Wastewater (from dewatering of excavations, plant maintenance and construction activities).

A summary of likely waste types arising from site preparation and construction activities, along with their waste classifications and proposed management methods, is provided in **Table 2.**

[2] Light duty area denotes car parking areas.
[3] SLR has been advised that excavated materials are intended to remain onsite and be used for site leveling and will not be a removed waste.

For further information on how to determine a waste's classification refer to the NSW EPA (2014) *Waste Classification Guidelines*[4]. Further information on managing industrial wastes is also available from the NSW EPA website[5].

Table 2 Potential waste types, classifications and management methods

Waste Types	NSW EPA Waste Classification	Proposed Reuse / Recycling / Disposal Method
Site Preparation		
Fill material	Solid waste (non-putrescible) requiring classification	Reuse on site if possible, off-site recycling or, if required, disposal to landfill
Excavated natural material (ENM)	General solid waste (non-putrescible)	Reuse on site if possible or off-site beneficial re-use
Virgin excavated natural material (VENM)	General solid waste (non-putrescible)	Reuse on site if possible or off-site beneficial re-use
Healthy Trees	General solid waste (non-putrescible) (garden waste)	On / off-site recycling (relocated either on-site or off-site)
Demolition and Construction		
Sediment fencing, geotextile materials (if applicable)	General solid waste (non-putrescible)	Reuse at other sites where possible or disposal to landfill
Concrete	General solid waste (non-putrescible)	Off-site recycling (for filling, levelling or road base)
Bricks and pavers	General solid waste (non-putrescible)	Off-site recycling (cleaned for reuse, rendered over or crushed for landscaping / driveway use)
Gyprock / plasterboard	General solid waste (non-putrescible)	Off-site recycling or returned to supplier
Sand / soil	General solid waste (non-putrescible)	Off-site recycling
Metals (fittings, appliances etc) and bulk electrical cabling	General solid waste (non-putrescible)	Off-site recycling
Timber	General solid waste (non-putrescible)	Off-site recycling (*Treated*: reused for formwork, bridging, blocking, propping or second hand supplier. *Untreated*: reused for floorboards, fencing, furniture, mulched second hand supplier)
Doors, Windows, Fittings	General solid waste (non-putrescible)	Off-site recycling (second hand supplier)
Insulation material	General solid waste (non-putrescible)	Off-site disposal
Glass	General solid waste (non-putrescible)	Off-site recycling (glazing or aggregate for concrete production)
Asbestos	Hazardous waste	Off-site disposal
Fluorescent light fittings / bulbs	Hazardous waste	Off-site recycling or disposal (contact *FluoroCycle* for more information[6])
Lead paint	Hazardous waste	Off-site disposal
Synthetic Rubber (carpet underlay)	General solid waste (non-putrescible)	Off-site recycling (reprocessed and used in safety devices and speed humps)
Carpet	General solid waste (non-putrescible)	Off-site recycling or disposal (reused for landscaping or equestrian uses)
Plant Maintenance		

[4] Available online from http://www.epa.nsw.gov.au/wasteregulation/classify-guidelines.htm
[5] http://www.epa.nsw.gov.au/your-environment/waste/industrial-waste
[6] http://www.fluorocycle.org.au/ or http://www.environment.gov.au/settlements/waste/lamp-mercury.html

Waste Types	NSW EPA Waste Classification	Proposed Reuse / Recycling / Disposal Method
Empty oil and other drums / tins (e.g fuel, chemicals, paints, spill clean ups)	Hazardous waste: Containers were previously used to store Dangerous Goods (Class 1, 3, 4, 5 or 8) and residues have not been removed by washing or vacuuming. General solid waste (non-putrescible): Containers have been cleaned by washing or vacuuming.	Transport to comply with the transport of Dangerous Goods Code applies in preparation for off-site recycling or disposal at licensed facility (Note: Discharge to sewer subject to Trade Waste Agreement with local Council.)
Air filters and rags	General solid waste (non-putrescible)	Disposal at landfill
Oil filters	Hazardous waste	Off-site recycling
Batteries	Hazardous waste	Off-site recycling Contact the *Australian Battery Recycling Initiative* for more information[7]
Packaging		
Packaging materials, including wood, plastic (including stretch wrap or LLPE), cardboard and metals	General solid waste (non-putrescible)	Off-site recycling
Wooden or plastic crates / pallets	General solid waste (non-putrescible)	Reused for similar projects, returned to suppliers, or off-site recycling. Contact *Business Recycling* for more information[8]
Work Compound and Associated Offices		
Food Waste	General solid (putrescible) waste	Donate (if suitable)[9] or compost on site. Alternatively dispose to landfill with general garbage
Recyclable beverage containers (glass and plastic bottles, aluminium cans), tin cans	General solid waste (non-putrescible)	Co-mingled recycling at off-site licensed facility or at a local NSW container deposit scheme "Return and Earn" off-site licensed facility[10]
Clean paper and cardboard	General solid waste (non-putrescible)	Paper and cardboard recycling at off-site licensed facility
General domestic waste generated by workers (soiled paper and cardboard, food stuffs, polystyrene)	General solid waste (non-putrescible) mixed with putrescible waste	Disposal at landfill
Wastewater, pump-out waste and septage (sewage)	Liquid (trade) waste	Off-site disposal at licensed facility or disposal direct to sewer where arranged with Council

5.4 Site Preparation Waste Types and Quantities

Site preparation waste would be primarily excavated fill, soil and / or rock. In the absence of Council published sources, the estimated quantities of site preparation waste (**Table 3**) are based on:

- Area estimation obtained from the Masterplan architectural drawing EILC MP01 (P12); and
- An assumed, average excavation depth of 500 mm across the extent of the entire site.

In accordance with Council's DCP, care should be taken to minimise site disturbance and limit unnecessary excavation.

Given the site has a history of industrial land-use, there is the potential for excavation works to encounter contaminated materials and / or unexpected finds. The contractor is directed to refer to their relevant Site Management plan(s), including **Sections 5.10** and **5.13** of this Waste Management Plan, for management of contaminated materials and / or unexpected finds.

[7] http://www.batteryrecycling.org.au/home
[8] http://businessrecycling.com.au/search/
[9] http://www.ozharvest.org/, https://www.foodbank.org.au/, https://www.secondbite.org/ or https://www.exodusfoundation.org.au/
[10] http://returnandearn.org.au/

All excavated spoil is to be classified by an appropriately experienced environmental consultant and separated into contaminated materials (if any), uncontaminated fill, ENM or VENM (refer to **Section 5.13** for management of stockpiles). Uncontaminated fill, ENM and VENM should be retained on site and managed appropriately for beneficial re-use. Contaminated material, if any, should be treated on-site if feasible. Disposal of contaminated fill to off-site landfills is to be considered as a last resort.

Table 3 Estimated quantities of site preparation waste

Spoil Type	Area (m^2)	Depth (m)	Density (tonnes / m^3)	Quantity (tonnes)[1]
Fill, ENM or VENM	593,200	0.5	1.9[2]	563,600

1. Tonnage estimates rounded to the nearest 100 tonnes.
2. Low range bulk density of 1.9 tonnes / m^3 for "medium-dense sands and gravels" (Table 6-1-1 from Tomlinson (1986)[11]).

5.5 Demolition Waste Types and Quantities

The absence of detailed floor plans for the existing building on the Site precludes the provision of information on the types and quantities of demolition waste beyond the general information presented below.

Aerial imaging suggests the demolition of the existing building located within the proposed Precinct D2 and D3 is anticipated to generate demolition waste comprising predominantly of the materials listed in **Table 4**.

Table 4 Anticipated types and estimated quantities of demolition waste

		Estimated Waste Material (tonnes)[1]				
	Floor Area (m^2)	Concrete	Bricks	Timber / Gyprock	Steel	Other
"Office" demolition rates[2]	1000	448	205	4	23	18
Building within D2 / D3	**2,350**[3]	**1,100**	**500**	**10**	**60**	**50**

1. Waste estimates have been rounded up to the nearest 100 tonnes or up to the nearest 10 tonnes if less than 100.
2. Tonnes per 1,000 m^2 from Appendix A of *The Hills DCP 2012*, using the "Factory" demolition rates.
3. Floor areas for demolition were estimated by SLR from SixMaps https://maps.six.nsw.gov.au/.

Although the existing Building across the proposed Precinct D2 / D3 appears to be of brick and steel construction, there is a potential for asbestos[12] and / or asbestos containing materials to be present among the waste generated from demolition of the building. As such, it is recommended that a pre-demolition hazardous materials survey be conducted by a qualified professional on the existing building across the proposed Precinct D2 / D3 to identify potential hazardous wastes likely to arise from demolition of these buildings.

SLR also recommends that a demolition quantities survey be conducted by a qualified professional of the building across the proposed Precinct D2 / D3 to provide further information on types and quantities of demolition waste.

5.6 Construction Waste Types and Quantities

In the absence of readily available construction waste generation rates from Council, SLR have adopted the "Office" and "Factory" waste generation rates (**Table 5**) from Appendix A of *The Hills Development Control Plan (DCP) 2012* for estimating the type and quantities of waste generated from construction of the Enfield ILC (**Table 6**).

"Office" rates have been applied to the construction of offices, warehouse offices and gatehouses. "Factory" rates have been applied to the construction of warehouses, awnings and container storages.

[11] Tomlinson M.J. (1986) *Foundation design and construction.* John Wiley & Sons.
[12] Please also refer to the EPA NSW asbestos information below http://www.epa.nsw.gov.au/your-environment/household-building-and-renovation/dealing-with-household-asbestos, http://www.epa.nsw.gov.au/your-environment/waste/tracking-transporting-hazardous-waste/transporting-asbestos-waste-tyres/tracking-asbestos-waste-locate and http://www.epa.nsw.gov.au/your-environment/waste/industrial-waste/asbestos-waste.

In the absence of readily available published information for "Carpark" construction waste generation rates, SLR have developed "Carpark" construction rates based on the "Office" rates (**Table 5**) by:

- Removing timber, bricks and gyprock (as these materials are unlikely to be present in significant quantities in a modern carpark structure); and
- Increasing the rates for concrete, sand / soil, metal and "other", in proportion, to maintain the total assumed tonnage per 1000 m^2 of construction.

"Carpark" rates have been applied to the construction of car parking spaces (i.e. light duty areas), hardstand areas and trailer parking areas.

Table 5 Construction waste generation rates

		Waste Material (tonnes)						
	Floor Area (m^2)	**Timber**	**Concrete**	**Bricks**	**Gyprock**	**Sand / Soil**	**Metal**	**Other**
Office	1,000	5.1	18.8	8.5	8.6	8.8	2.75	5
Factory	1,000	0.25	2.1	1.65	0.45	4.8	0.6	0.5
Carpark	1,000	--	30.6	--	--	14.3	4.5	8.1

Rates for "Factory" and "Office" are from Appendix A of *The Hills DCP 2012*. Rates for "Carpark" have been derived by SLR (see text for derivation description).

Table 6 Anticipated types and estimated quantities of construction waste

		Waste Material (tonnes)						
Precinct - Unit	**Floor Area (m^2)**	**Timber**	**Concrete**	**Bricks**	**Gyprock**	**Sand / Soil**	**Metal**	**Other**
A1	73,725	45	975	110	60	650	185	280
A2	40,675	40	575	70	45	380	125	180
B1 / 2	996	15	15	15	15	15	15	15
B3	916	15	15	15	15	15	15	15
B4 / 5	1,146	15	15	15	15	15	15	15
B6 / 7	1,046	15	15	15	15	15	15	15
B8 / 9	706	15	15	15	15	15	15	15
B10 / 11 / 12 / 13	1,164	15	15	15	15	15	15	15
B14 / 15 / 16 / 17 / 18 / 19	1,410	15	15	15	15	20	15	15
C1	10,959	30	175	35	30	120	55	70
C2	7,673	20	115	25	20	80	35	50
D1	9,110	25	170	30	25	105	45	65
D2 / 3	14,885	35	260	45	35	175	70	95
E1	7,835	20	140	25	20	90	45	50
E2	7,865	20	150	25	20	95	45	55
F1 / 2	13,776	40	230	50	40	155	70	95
F3	4,591	25	85	25	25	60	40	40
H1	16,807	25	270	35	25	170	65	90
H2	13,771	25	205	35	25	140	50	75
Total	**228,824**	**455**	**3,455**	**615**	**475**	**2,330**	**935**	**1,250**

Floor areas from architectural drawings *17169_GM Enfield_EILC A DA10_P8, 17169_GM Enfield_EILC C DA10_P7, 17169_GM Enfield_EILC D DA10_P5, 17169_GM Enfield_EILC E DA11_P7, 17169_GM Enfield_EILC F DA11_P8 and 17169_GM Enfield_EILC H DA11_P5.* Waste estimates have been rounded up to the nearest 5 tonnes.

5.7 Waste Avoidance

The **Building Designer** is to consider:

- Using prefabricated components and recycled materials (e.g recycled steel);
- Reducing the use of PVC;
- Preferentially using paints, floor coverings and adhesives with low VOC (volatile organic compound) content;
- Using low formaldehyde wood products, post-consumer reused timber and / or Forest Stewardship Council (FSC) certified timber;
- Using fittings and furnishings that have been recycled, are made from or incorporate recycled materials and have been certified as sustainable or environmentally friendly by a recognised third party certification scheme; and
- Preferentially using building materials, fittings and furnishings (including structural framing, roofing and façade cladding) that have longer life and better re-use and / or recycling potential.

The **Site Manager** is to consider:

- Arrange delivery of materials “as needed” to mitigate material degradation by weathering or moisture damage;
- Sort and segregate site preparation and construction wastes to ensure efficient recycling of wastes (see also **Section 5.9.1**);
- Store wastes on site appropriately to prevent cross-contamination and / or mixing of different waste types (see also **Sections 5.9.1** and **5.9.2**);
- Reduce packaging waste by:
  - Returning packaging to suppliers where possible and practicable;
  - Purchasing in bulk;
  - Requesting cardboard or metal drums rather than plastics;
  - Requesting metal straps rather than shrink wrap; and
  - Using returnable packaging such as pallets and reels.

The **Building Contractor / Construction Environmental Manager** (or equivalent) is to consider:

- Apply practical building designs and construction techniques;
- Estimate required volumes of materials to reduce over-purchasing (and excess materials);
- Exercise a preference for long lifespan and / or high potential for re-use in selecting construction materials;
- Re-use formwork where appropriate; and
- Ensure subcontractors are informed of and implement site waste management procedures.

5.8 Re-use, Recycling and Disposal

The building contractor is to (where feasible) implement the following with respect to re-use, recycling and disposal of site preparation and construction waste:

- Provide separate waste bins for recyclable and non-recyclable general wastes;
- Assess excavation spoil for contamination status and beneficial re-use;
- Recycle / dispose of waste oil in an appropriate manner;
- Retain roofing material cut-offs for re-use;

- Retain used crates for storage purposes unless damaged;
- Recycle cardboard, glass and metal wastes;
- Return packaging to suppliers where possible / practicable;
- Recycle / dispose of solid waste timber, brick, concrete, tiles, asphalt and rock (where such waste cannot be re-used on site) to an appropriately licenced construction and demolition (C&D) waste recycling facility or an appropriately licenced landfill;
- Dispose of all asbestos, hazardous and / or intractable wastes in accordance with WorkCover NSW and NSW EPA requirements; and
- Deliver batteries to drop off-site recycling facility / centre.

5.9 Waste Segregation, Storage and Servicing

5.9.1 Waste Segregation and Storage

Waste materials produced from site preparation and construction activities are to be segregated and stored separately on site. Waste and recycling storage areas should be selected having considered its slope, drainage and location relative to waterways / stormwater outlets / vegetation.

It is anticipated that the site will provide allowances for separate storage (e.g separate skip bins and / or appropriately managed stockpiles) of the following waste types:

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

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

5.9.2 Waste Storage Areas

Areas designated for waste storage should:

- Allow unimpeded access by site personnel and waste disposal contractors;
- Employ adequate environmental management controls to prevent off-site migration of waste materials and / or contamination from the waste; and
- Not present hazards to human health or the environment.

5.9.3 Waste Servicing and Transport Off-site

The building contractor is to:

- Arrange for suitable waste collection contractors to remove site preparation and construction waste from site;
- Ensure waste bins are not filled beyond recommended filling levels;
- Ensure that all bins and loads of waste materials leaving site are covered;
- Maintain waste disposal documentation detailing, at a minimum:
    - Descriptions and estimated amounts of all waste materials removed from site;
    - Details of the waste / recycling collection contractor(s) and facilities receiving the waste / recyclables;
    - Records of waste / recycling collection vehicle movements (e.g date and time of loads removed, licence plate of collection vehicles, tip dockets from receiving facility); and
    - Waste classification documentation for materials disposed to off-site recycling or landfill facilities.
- Ensure lawful waste disposal records are readily accessible for inspection by regulatory authorities such as Council, WorkCover NSW or NSW EPA;
- Remove waste during hours approved by Council.

5.10 Contaminated / Hazardous Waste

Contaminated fill material and / or soils should be assessed by an appropriately qualified and experienced environmental consultant for remediation and / or management options. Preference is to be given to on-site remediation options to render the material suitable for beneficial re-use. Where on-site remediation is unfeasible, options for on-site management (including encapsulation) are to be assessed.

Off-site disposal of contaminated fill materials and / or soils is to be considered as a last resort and may only be carried out if it is demonstrated that all other on-site remediation and management options are unfeasible.

Where unexpected materials are encountered which are, or are suspected of being, contaminated or hazardous, the following shall be undertaken as a minimum:

- Work in the vicinity of the suspect material is to stop immediately and access to the area restricted;
- Site manager is to contact a qualified hazardous materials assessor and / or environmental consultant (as necessary) to arrange an assessment of the suspect material and advise on subsequent management procedures; and
- The building contractor's unexpected finds protocol, if available, shall be implemented.

It is anticipated that management of contaminated / hazardous waste will also be subject to relevant requirements as set out in the Construction Environmental Management Plan (to be prepared by the building contractor). It is anticipated that management of contaminated / hazardous waste (including asbestos special waste) will also be subject to relevant requirements as set out in the relevant Site Management Plan(s) (to be prepared by the building contractor).

5.11 Liquid Waste Management

Wastewater or liquid waste generated from site preparation or construction activities is not permitted to enter the stormwater system or migrate off-site.

Areas, if any, designated on site for wash-down of equipment plant or machinery are to be appropriately bunded and isolated from the local stormwater system and groundwater.

Liquid waste / wastewater are to be removed by a suitably qualified liquid waste contractor and transported to an appropriately licenced facility for treatment and / or disposal in accordance with NSW EPA regulations. Alternatively, liquid waste may be discharged to sewer under a Trade Waste Agreement with Sydney Water Corporation

Refer also to the building contractor's Soil and Erosion Management Plan and the Construction Environmental Management Plan for further site-specific details on wastewater and liquid waste management, treatment and / or disposal.

5.12 Spills Management

Spillages are to be contained immediately (if safe to do so) and the site manager notified as soon as possible.

Spill containment kits and spill control equipment are to be provided and maintained in sufficient numbers and at appropriate locations to allow ready and rapid access by site personnel. Safety Data Sheets (SDSs) should also be available to provide advice on spill clean-up and disposal.

Refer also to the building contractor's Construction Environmental Management Plan for further site-specific details on spills management.

5.13 Additional Environmental Controls

Site preparation for, and construction of, Enfield ILC infrastructures will likely require excavation into existing ground which may contain contaminated fill materials. In addition to the environmental controls mentioned in this W&RMP, the following control measures should be implemented by the construction contractor during site establishment, site preparation and construction works:

- Work area(s) to be securely fenced using temporary fencing and access restricted to authorised persons;
- Appropriate work site signage to be erected. Signage is to conform with Australian Standard AS13191994 Safety Signs for the Occupational Environment;
- Silt fencing, drain protection, hay bales, diversion drains and other runoff controls installed as appropriate to prevent uncontrolled off-site discharge of surface water and / or runoff;
- Dust suppression equipment (e.g water cart) is to be available at all times and used when appropriate to minimise dust emissions;
- Transport vehicles and cars are to remain on designated haul roads while on site and keep within the site speed limit;
- A wheel wash is to be installed at each site exit. All vehicles must travel through a wheel wash immediately prior to leaving site;
- Any excess excavation spoil intended for disposal off-site must be waste classified in accordance with the NSW DECCW (2009) *Waste Classification Guidelines* prior to disposal;
- All loads in vehicles leaving the site are to be adequately and securely covered prior to leaving site;
- Should visible debris of asbestos containing materials (or materials suspected of containing asbestos) be encountered, work should cease immediately and the procedure for Contaminated / Hazardous Waste followed (see above);
- Should suspect material be encountered, the Unexpected Finds Protocol should be followed (see below);
- Should on-site stockpiling of excavated soils or fill material be required (as a contingency):
    - Stockpiles are to be placed within a securely fenced area;
    - Stockpiles should be located on hardstand where possible. If hardstand areas are not available for stockpiling, stockpiles should be placed on heavy duty plastic sheeting;

- Stockpiles of fill material must be separated from stockpiles of natural soil / bedrock;
- Contaminated material must be stockpiled separately from uncontaminated material;
- Stockpiles are to be compacted and battered;
- The height of individual stockpiles is not to exceed 4 m;
- Sediment controls must be placed around each area containing stockpiles of a certain type (e.g stockpiles of contaminated material, stockpiles of uncontaminated material) such that:
    - No runoff from any other part of the site reaches the stockpiled material;
    - No uncontrolled runoff from stockpiles reaches any other part of the site; and
    - No uncontrolled runoff from any stockpile area reaches another stockpile area.
- Except when being worked on, stockpiles are to be adequately and appropriately covered to minimise the potential for wind erosion, infiltration of rainwater and generation of runoff.

5.13.1 Unexpected Finds Protocol

Should unexpected finds be encountered during excavation or other earthworks, work should stop in all appropriate areas and the site supervisor / foreman notified.

Work should not resume within the affected area until the unexpected finds have been appropriately assessed and any risks presented by the finds have been appropriately mitigated.

Typical unexpected finds include (but are not limited to):

- Fill or soils with visible contamination (e.g oily stains, unnatural discolouration) and / or are strongly malodorous;
- Uncontained liquids;
- Storage drums (e.g liquid storage drums);
- Buried services and infrastructure (e.g underground fuel storage tanks);
- Items of potential or actual Indigenous Heritage or archaeological significance.

Refer also to **Section 5.10**.

5.13.2 Construction Environmental Management Plan

In addition to this W&RMP, it is expected that the construction contractor shall prepare a Construction Environmental Management Plan (CEMP) detailing control measures and procedures to be followed during site preparation and construction work to mitigate the environmental impact of these works. The CEMP and this W&RMP are anticipated to be implemented in tandem during site preparation and construction works.

5.14 Signage

Standard signage is to be posted in all waste storage / collection areas to inform and educate users of waste storage / collection areas while promoting waste minimisation and resource recovery.

Signage must be located to ensure visibility and well-lit at all times. All waste containers / areas are required to be labelled correctly and clearly to identify stored materials. Bin lid stickers must be affixed to each bin, advising of the bin waste type.

Signs approved by the NSW EPA for labelling of waste materials are available online (http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm) and should be used where applicable. A selection of signs prepared by NSW EPA is provided in **Figure 5**.



Figure 5 Examples of NSW EPA labels for waste skips / bins

Signage design should also be consistent with Council's requirements, inclusive of multi-lingual provision. To confirm correct signage, contact Council directly (as required).

5.15 Site Inductions

Waste management measures and procedures are to be included in the site induction for all personnel working at the site. With respect to waste management, the site induction is to include, at a minimum:

- An outline of this W&RMP and all Site Management Plans relating to management of contaminated (and potentially contaminated) materials;
- Legal obligations;
- Emergency response procedures on site;
- Waste storage locations and separation of waste;
- Litter management in transit and on site;
- Implications of poor waste management practices;
- Correct use of spill kits; and
- Responsibility and reporting (including identification of personnel responsible for onsite waste management and individual responsibilities).

5.16 Monitoring and Reporting

Records of volumes or tonnages of waste re-used, recycled or disposed to landfill are to be maintained by the building contractor. Additionally, dockets / receipts verifying recycling and / or disposal in accordance with the W&RMP must be retained and presented to the regulatory authorities such as Council, WorkCover NSW or NSW EPA if requested.

Daily visual inspections of waste storage areas will be undertaken by site personnel to identify and rectify any issues concerning waste management at the site, as well as identifying opportunities to improve waste management at the site. A written record of these inspections, which will include observations made and the results of any remedial actions taken, is to be undertaken and retained by the building contractor as part of the construction environmental management documentation.

Refer also to the building contractor's Construction Environmental Management Plan for further site-specific details on waste monitoring and reporting requirements.

5.17 Roles and Responsibilities

Suggested roles and responsibilities for waste management at the site are provided in **Table 7**. Where possible, a construction environmental manager should be appointed for the site preparation and construction work.

Table 7 Suggested roles and responsibilities for site preparation and construction waste management

Role	Responsibilities
Site Manager for Principal Contractor	• Ensuring plant and equipment are well maintained; • Ordering only the required amount of materials; • Developing or identifying, and using, local commercial opportunities for re-use of materials where re-use on-site is impractical; • Keeping materials segregated to maximise reuse and recycling; • Ensuring that waste sorting and storage areas are sign posted correctly, maintained in a tidy and functional state and do no present hazards to human health or the environment; • Facilitate waste collection / manage waste collection and waste disposal contractors; • Ensure hazardous / contaminated materials are appropriately managed and disposed; • Ensure site records and documentation is kept and is complete; • Ensuring staff and contractors are aware of site requirements for waste management; • Maintain site environmental controls; • Ensure the CEMP and this W&RMP are implemented; • Liaise with the Principal as required; • Approval of off-site waste disposal locations and checking licensing requirements; • Arranging for the assessment of potentially hazardous and / or contaminated materials and liquid wastes; • Monitor site environmental controls; and • Other required monitoring, inspection and reporting requirements.

6 OPERATIONAL WASTE AND RECYCLING MANAGEMENT

6.1 Targets for Resource Recovery

The waste management performance of each development should contribute to the overall NSW State target for recycling, which is expected to increase from 52% (2010 to 2011) for municipal solid waste and 57% for commercial / industrial waste to 70% (by 2021 to 2022) of the total waste generation per capita (NSW EPA (2014) *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*).

6.2 Waste Streams and Classifications

Operations of the Enfield ILC are anticipated to generate the following broad waste streams:

- General waste and commingled recycling;
- 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 waste types, their associated waste classifications, and management methods are provided in **Table 8**.

Table 8 Potential waste types, classifications and management methods – operational waste

Waste Types	NSW EPA Classification	Proposed Reuse / Recycling / Disposal Method
General		
General garbage (including non-recyclable plastics)	General solid (putrescible and non-putrescible) waste	Disposal at landfill
Recyclable beverage containers (glass and plastic bottles, aluminium cans), tin cans	General solid (non-putrescible) waste	NSW container deposit scheme "Return and Earn"; comingled recycling at off-site licensed facility
Food waste	General solid (putrescible) waste	Donate (if suitable)[13] or compost on site. Alternatively dispose to landfill with general garbage
Cardboard / bulky cardboard boxes	General solid (non-putrescible) waste	Cardboard recycling at off-site licensed facility
Bulky polystyrene	General solid (non-putrescible) waste	Disposal at landfill
Furniture	General solid (non-putrescible) waste	Off-site reuse or disposal to landfill
E-waste, printer toners and ink cartridges	Hazardous waste	Off-site recycling (free disposal box / bags and pickup service exists for printer toners and ink cartridges)
Batteries	Hazardous waste	Off-site recycling (Contact the *Australian Battery Recycling Initiative* for more information[14])
Mobile Phones	Hazardous waste	Off-site recycling (Contact *MobileMuster* for more information)[15]
Maintenance		
Spent smoke detectors[16]	General solid (non-putrescible) waste OR Hazardous waste (some commercial varieties)	Disposal to landfill, or off-site disposal at licensed facility

[13] http://www.ozharvest.org/, https://www.foodbank.org.au/, https://www.secondbite.org/ or https://www.exodusfoundation.org.au/
[14] http://www.batteryrecycling.org.au/home
[15] https://www.mobilemuster.com.au/

Waste Types	NSW EPA Classification	Proposed Reuse / Recycling / Disposal Method
Glass (other than containers)	General solid (non-putrescible) waste	Off-site recycling
Light bulbs / fluorescent tubes	Hazardous waste	Off-site recycling or disposal (contact *FluoroCycle* for more information[17])
Cleaning chemicals, solvents, area wash downs, empty oil / paint drums / chemical containers	Hazardous waste if containers used to store Dangerous Goods (Class 1, 3, 4, 5 or 8) and residues have not been removed by washing or vacuuming. General solid (non-putrescible) waste if containers cleaned by washing or vacuuming.	Transport to comply with the transport of Dangerous Goods Code applies in preparation for off-site recycling or disposal at licensed facility. Discharge to sewer likely to be subject to Trade Waste Agreement with Sydney Water.

Source: http://www.epa.nsw.gov.au/wasteregulation/classify-waste.htm

For further information on how to determine a waste's classification, refer to the NSW EPA (2014) *Waste Classification Guidelines.*[18]

6.3 Waste Management Overview

Operational waste management is proposed to comprise:

- General waste is to be initially collected within each tenancy and placed (daily) in 4.5 m^3 (i.e 4,500 L) capacity mobile garbage bins (MGBs) located within on-site waste storage areas;
- The 4.5 m^3 bins storing waste or recyclable materials will be located within an area of hardstand adjacent to a loading dock / drive through (**Figures 6** and **7**) for collection by a private waste contractor; and
- Recyclable materials are recommended to be initially collected and bailed within each tenancy. Bales of recyclable material will be temporarily stored indoors until collection by a private recycling contractor. Immediately prior to collection, the bales are to be transported to the 4.5 m^3 MGB waste collection area (if stored separately), ready for collection.

6.3.1 Precinct A, Unit A1

Part H, Section 2.6.6 of the *Strathfield Consolidated Development Control Plan 2005, Waste Minimisation and Management Plan (2015)*, delineates that Council does not generally support compaction due to the potential bin / equipment damage and overloading of bins / trucks.

Due to the anticipated volume of operational waste and recyclable materials generated from the proposed Precinct A, Unit A1 (**Table 10**), it is recommended that for Unit A1:

- Waste be compacted with at least a 2:1 ratio; or
- Waste and recycling be collected more frequently than once per week.

As the use of compaction facilities is at the discretion of Council, early engagement with Council is recommended to clarify the prospect of compaction utility.

6.3.2 Precinct B, Units B1 to B19

For servicing convenience and safety, it is suggested that Precinct B utilise a single, centralised waste storage area positioned between B6 and B7 (**Figure 6**).

[16] 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. Contact ARPANSA for more information. http://www.arpansa.gov.au/radiationprotection/factsheets/is_smokedetector.cfm

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

[18] Available online from http://www.epa.nsw.gov.au/wasteregulation/classify-guidelines.htm

6.3.3 Precinct D

Due to the proximity of Units D2 and D3, a single waste storage and servicing area is recommended for servicing convenience.

6.4 Estimated Quantities of Operational Waste

For the purposes of this assessment, SLR has adopted the general waste and recycling needs per *Offices* (for offices, warehouse offices and gatehouses) and *Showroom* (for warehouses) as presented in Appendix H of Council's *Waste Minimisation and Management Plan* (**Table 9**) to estimate the quantities of operational waste and recycling to be generated from the Enfield ILC (**Table 10**).

Table 9 Operational waste and recycling generation rates

Suite Type	Waste	Recycling
Offices	10L / 100m^2 floor area / day	10L / 100m^2 floor area / day
Showroom	40L / 100m^2 floor area / day	10L / 100m^2 floor area / day

The estimated quantities of operational waste and recycling generated by the Enfield ILC (**Table 10**) are based on:

- The number and type of Precinct Units as presented on the architectural drawings;
- The waste and recyclable material generation rates presented in **Table 9**;
- The use of 4.5 m^3 MGBs for weekly waste storage in the respective unit's waste areas;
- MGB dimensions as per Appendix H of Council's *Waste Minimisation and Management Plan*;
- Once-a-week frequency of garbage and recycling collection; and
- Bales of recycling material typically have a volume of 1 m^3 per bale.

Table 10 Estimated quantity of operational waste and recycling generated weekly

Precinct & Unit	Waste (L)	Recycling (L)	Number of Recycling Bales
A1	81,400	20,900	21
A2	40,400	10,700	11
Precinct A Total	**121,800**	**31,600**	**32**
B1	900	300	< 1
B2	900	300	< 1
B3	1700	500	< 1
B4	1100	400	< 1
B5	1100	400	< 1
B6	1000	400	< 1
B7	1000	400	< 1
B8	600	200	< 1
B9	600	200	< 1
B10	500	200	< 1
B11	500	200	< 1
B12	500	200	< 1
B13	500	200	< 1
B14	500	200	< 1
B15	500	200	< 1
B16	500	200	< 1

Precinct & Unit	Waste (L)	Recycling (L)	Number of Recycling Bales
B17	500	200	< 1
B18	500	200	< 1
B19	500	200	< 1
Precinct B Total	**13,900**	**5,100**	**6**
C1	16,100	4,400	5
C2	11,600	3,200	4
Precinct C Total	**27,700**	**7,600**	**9**
D1	8,200	2,500	3
D2	6,600	1,800	2
D3	6,600	1,800	2
Precinct D Total	**21,400**	**6,100**	**7**
E1	10,400	2,800	3
E2	9,600	2,600	3
Precinct E Total	**20,000**	**5,400**	**6**
F1	7,150	1,950	2
F2	7,150	1,950	2
F3	3,900	1,100	2
Precinct F Total	**18,200**	**5,000**	**6**
H1	16,400	4,400	5
H2	15,400	4,200	5
Precinct H Total	**31,800**	**8,600**	**10**
Total (Precincts A / B / C / D / E / F / H)	**254,800**	**69,400**	**76**

Waste estimates have been rounded up to the nearest 100 tonnes.

6.5 Waste Storage Areas

6.5.1 Waste Storage Size

In accordance with Council's *Waste Minimisation and Management Plan* the waste and recycling area must encompass the capacity to store the volume of operational waste and recycling between collections. The waste storage area must enable provision of sufficient bin storage area so that all waste bins can be collected in a single trip and emptied bins can be adequately manoeuvred.

Per Appendix H of Council's *Waste Minimisation and Management Plan,* 2-wheel, 4-wheel and bulk Mobile Garbage Bins (MGBs) are available for waste and recycling storage. After considerations to the estimated quantities of operational waste and recycling to be generated from each unit within the Enfield ILC (**Table 10**), it is recommended that the 4.5 m^3 bulk MBG be used for efficiency of waste storage and that recycling is baled accordingly.

To allow for ready movement of bins into and out of the bin room(s), a bin / garbage room should provide a floor area of at least 150 % of the total minimum bin GFA. This also allows for provisional contingency in the event of a surplus of waste occurrence.

Bales of recycling material typically result in an area of 1 m^2 per bale but the Storage gross floor area (GFA) would be dependent on how the bales are stored (i.e. vertical verse horizontal) and as such have not been included in the recommended storage GFA.

The dimensions and GFA of a 4.5 m^3 L MGB are:

- Height: 1,570 mm;

- Depth: 1,605 mm;
- Width: 1,805 mm;
- GFA of 2.89 m^2 (rounded to 3 m^2 for the purpose of the calculations listed in **Table 11** and **12**).

6.5.1.1 Precinct A

Without compaction, the proposed Precinct A, Unit A1 would require at least 19 of the 4.5 m^3 capacity bulk bins for adequate storage of their operational wastes (**Table 11**). For efficiency of storage and operations, it is recommended that a waste compactor be utilised within Unit A1 with compaction of at least 2:1, decreasing the number of waste MGBs from 19 to 10 (**Table 12**).

Table 11 Minimum number 4.5 m^3 MGBs required for weekly operational waste storage (if recycling baled) and associated minimum GFA for MGBs (without waste compaction)

Precinct & Unit	Total Number of 4.5 m^3 L MGBs	Min. MGBs GFA (m^2)	Recommended Waste Storage GFA (m^2)
A1	19	57	86
A2	9	27	41
Precinct A Total	**28**	**84**	**127**

Table 12 Minimum number 4.5 m^3 MGBs required for weekly operational waste storage (if recycling baled) and associated minimum GFA for MGBs (with 2:1 waste compaction)

Precinct & Unit	Total Number of 4.5 m^3 L MGBs	Min. MGBs GFA (m^2)	Recommended Waste Storage GFA (m^2)
A1	10	30	45
A2	5	15	23
Precinct A Total	**15**	**45**	**68**

In addition to storage space for MGBs, sufficient allowance is to be provided for storage of recycling bales (see **Table 10** for estimated numbers of bales).

6.5.1.2 Precinct B, Units B1 to B19

With combined waste storage / servicing for Units B1 to B19, the combined waste is anticipated to require a minimum of **three 4.5 m^3 L MGBs for waste** and an additional **one 4.5 m^3 L MGB for non-baled recycling**. Four 4.5 m^3 L MGBs have a minimum GFA of 12 m^2 and a recommended storage GFA of 18 m^2.

Alternatively, if each unit within Precinct B is to store their operational waste and recycling individually, the recommended MGB sizes would range between a combination of 360 L, 600 L and 1,100 L MGBs (**Table 14**). The dimensions and GFA of a 360 L, 600 L and 1,100 L MGB are detailed in **Table 13**.

Table 13 Dimensions and GFA of a 360 L, 600 L and 1,100 L MGB

MGB Size (L)	Height (mm)	Depth (mm)	Width (mm)	GFA (m^2)	Rounded GFA (m^2)
360	1,100	885	600	0.53	1
660	1,250	850	1,370	1.17	1.5
1,100	1,470	1,245	1,370	1.71	2

Rounded GFA used for calculations listed in **Table 13**.

Table 14 Minimum number of MGBs required for weekly operational waste and recycling storage with associated minimum GFA for MGBs

Precinct & Unit	Size of MGBs (L)		Total Number of MGBs		Min. MGBs GFA (m^2)	Recommended Storage GFA (m^2)
	Waste	Recycling	Waste	Recycling		
Combined Precinct B Units Waste & Recycling Storage						
Units B1 to B 19	4,500	4,500	4	2	13	23
Individual Precinct B Units Waste & Recycling Storage						
B1	1,100	360	1	1	3	4.5
B2	1,100	360	1	1	3	4.5
B3	1,100	360	2	1	3	4.5
B4	1,100	360	1	1	3	4.5
B5	1,100	360	1	1	3	4.5
B6	1,100	360	1	1	3	4.5
B7	1,100	360	1	1	3	4.5
B8	660	360	1	1	2.5	3.75
B9	660	360	1	1	2.5	3.75
B10	660	360	1	1	2.5	3.75
B11	660	360	1	1	2.5	3.75
B12	660	360	1	1	2.5	3.75
B13	660	360	1	1	2.5	3.75
B14	660	360	1	1	2.5	3.75
B15	660	360	1	1	2.5	3.75
B16	660	360	1	1	2.5	3.75
B17	660	360	1	1	2.5	3.75
B18	660	360	1	1	2.5	3.75
B19	660	360	1	1	2.5	3.75

6.5.1.3 Precinct C to H

Table 15 indicates the estimated minimum number of 4.5 m^3 MGBs required without waste compaction.

Table 15 Minimum number 4.5 m^3 MGBs required for weekly operational waste storage (if recycling baled) and associated minimum GFA for MGBs (without waste compaction)

Precinct & Unit	Total Number of 4.5 m^3 L MGBs	Min. MGBs GFA (m^2)	Recommended Waste Storage GFA (m^2)
C1	4	12	18
C2	3	9	14
Precinct C Total	**7**	**21**	**32**
D1	2	6	9
D2 / 3	3	9	14
Precinct D Total	**5**	**15**	**23**
E1	3	9	14
E2	3	9	14
Precinct E Total	**6**	**18**	**28**

Precinct & Unit	Total Number of 4.5 m^3 L MGBs	Min. MGBs GFA (m^2)	Recommended Waste Storage GFA (m^2)
F1	2	6	9
F2	2	6	9
F3	5	15	23
Precinct F Total	**9**	**27**	**41**
H1	5	15	23
H2	4	12	18
Precinct H Total	**9**	**27**	**41**
Total (Precincts A / B / C / D / E / F / H)	**36**	**108**	**165**

SLR has assumed a week as comprising seven days for Units in Precinct C and E and a five day week for all other Precincts.

In addition to storage space for MGBs, sufficient allowance is to be provided for storage of recycling bales (see Table 10 for estimated numbers of bales).

6.5.2 Waste Storage Locations

As all waste and recycling collection for the Enfield ILC is anticipated to be at-grade (i.e. not underground), in compliance with Council's DCP, the waste collection points are to be positioned behind the front line and along-side the driveway into the site. Appendix E: *Onsite Waste Collection Guidelines / Checklist* denote that Collection vehicles are to reverse into the driveway, exiting in a forward direction. It is recommended that Council is engaged to clarify if reversing into the driveway is applicable to the Enfield ILC.

Waste storage areas are to be integrated into the overall design of the development and should be situated so that:

- The area minimises adverse impacts with respect dwelling proximity, visibility and emanating odours;
- The area minimises adverse impacts of noise, specifically those arising from waste storage areas equipment, bin movement and collection vehicles;
- The waste collection point is not more than 15 m from the property boundary at the street;
- The area is safe and functional to users and servicing collection staff;
- Servicing can be efficiently conducted, limiting (or preferably avoiding) the need for reversing;
- The refuse storage and collection area and is level and without gradients / steps;
- The path for wheeling bins between storage and collection is step free and not exceeding a gradient of 1:5 (20%);
- Servicing vehicles exit the site in a forward direction; and
- Litter and contamination of the stormwater drainage system is avoided.

Waste storage locations have not been included in this report as they are intended to be determined prior to operations.

6.5.3 Waste Storage Design Considerations

In accordance with Council's DCP, driveway and access routes must be at least 3.6 m wide and vehicle standing areas must be at least 10 m long and 3.6 m wide. Waste and recycling storage areas must be constructed in accordance with the National Construction Code requirements (formally the Building Code of Australia, BCA) and should have the following features:

- Allow sufficient on-site space to store and manoeuvre MGBs;

- Graded in accordance with WorkCover NSW Work Health and Safety requirements allowing ease of MGB movement for emptying / servicing;
- Smooth / durable even surfaced finished floors constructed of concrete at least 75 mm thick or other approved material graded and drained to a Sydney Water Corporation approved drainage fitting. The drainage fitting is to be located within the storage area and have a fine grade drain cover sufficient to prevent coarse pollutants from entering the sewer;
- Hot and cold tap-based water supply with centralised missing values and at least one hose cock;
- Finished / impervious ceilings with rigid smooth faced, non-absorbent, easy to clean material;
- Finished walls, impervious floors and ceilings with light colour;
- Be designed to minimise negative impacts on amenity of buildings in the Development and neighbouring properties, with respect to noise and odours;
- Constructed to prevent vermin;
- Well ventilated by permanent, unobstructed natural direct ventilation (not less than 5% of the floor area) or a mechanical exhaust at a rate of at least 5 L / s per every square metre floor area;
- Furnished with lighting and switches inside and outside of the room;
- Close fitting, self-closing door (openable from within the room);
- Smoke detectors be installed in accordance with Australian Standards and connected to the fire prevention system of the building; and
- The bin storage area is to have adequate signage as appropriate.

If the Enfield ILC intends to affix locking shutters or roller doors for either site or waste collection points, a Council-approved master key is to be made available to Council.

Consideration should also be given to the structural capacity of all driveways so as to accommodate Council's contractor or a private contractor when at capacity. Council vehicles at capacity have a mass of approximately 16 tonnes.

Sufficient space for servicing vehicle access and turning is required and the Australian Standard *AS 2890.2 Parking Facilities: Off-street Commercial Vehicle Facilities for a medium rigid vehicle (MRV)* should be consulted for compliance. At a minimum, Council recommends a:

- 18 m kerb to kerb turning circle (plus additional for vehicle overhang if walls / columns occur);
- 3.6 m height clearance (for entire length of travel);
- 10 m length for vehicle standing area;
- 3.6 m width for vehicle standing area; and
- Maximum ramp gradient of 20% (1V:5H).

SLR recommends a private waste contractor be consulted to ascertain the optimum requirements for waste servicing vehicles for the site.

6.5.4 Recycling Bale Storage Design Considerations

Bales of recyclable material are susceptible to degradation by exposure to the elements and vermin. As such, it is recommended that recycling bales be stored indoors until immediately before they are due for collection by the private contractor. The indoor bale storage areas should:

- Be clean and well-maintained;
- Be of sufficient size to store the required number of bales (see **Table 10**);
- Be sufficiently lighted;
- Have appropriate security measures to prevent theft of bales;
- Be equipped with vermin control measures; and

- Be equipped with a high volume sprinkler system to retard the spread of fire.

The bales themselves should be stored with the following considerations:

- Bales should not be placed directly on the floor or ground. Instead, bales should be placed on storage pallets;
- Bales should be stacked and secured in accordance with relevant Safe Work Australia Codes of Practice, as well as with any other relevant legislation or guidance in preventing bales from presenting a risk of harm to workers;
- Bales should not be stacked too close to sprinkler systems to avoid compromising the effectiveness of the fire suppression system;
- The storage time for bales should be kept to the practical minimum, to minimise degradation of the material in the bales; and
- Bales stored outdoors should be covered with plastic sheeting, or similar, to protect bales from exposure to the elements.

6.5.5 Additional Storage

Considerations should be made for the provision of an additional bulky goods storage area, separately delineated and signposted from operational waste and recycling storage areas. This additional storage area can be utilised for:

- Recyclable electronic goods (e.g batteries, computers, televisions, fluorescent tubes and smoke detectors);
- Reusable, bulky items (e.g crates and pallets) to avoid public placing; and
- Liquid wastes (oils etc). Liquid waste storage areas are to be bunded and drained to a grease trap, in accordance with the requirements of Sydney Water.

Separated storage could be provided by installing heavy-duty, lockable steel storage cages / enclosures within a basement level.

Alternatively, the building manager may consider organising a skip bin to remove separated e-waste as required, or engage a contractor to collect and transport these items for recycling at a NSW EPA licensed facility.

6.6 Waste Separation and Storage

Operational waste from the Development should be separated into at least three streams, comprising:

- Paper and cardboard;
- Other recyclables; and
- General waste.

Separate, dedicated MGBs should be provided in the waste service rooms for collection of recyclables. MGBs should be appropriately colour-coded and labelled to enable users to easily identify which waste is to be placed into which bins.

The Standards Australia *AS 4123.7-2006 (R2017) Mobile waste containers Part 7: Colours, markings, and designation requirements* provides recommendations for designated colours for waste bins depending on the type of waste the bins are to receive. The colours anticipated to apply to operational waste generated by the Development are:

- Blue: Paper and cardboard;
- Yellow: Recyclables (other than paper and cardboard); and
- Red: General Waste.

Each MGB should also be labelled according to the waste they are to receive. Labels approved by the NSW EPA for labelling of waste materials are available online[19] and should be used where applicable. A selection of labels prepared by NSW EPA and anticipated to be applicable to operational waste generated by the Development is provided in **Figure 9**.



Figure 6 Example of labels for MGBs for operational waste

6.7 Communication Strategies

Waste management initiatives and management measures should be clearly communicated to building managers, tenants 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 (where implemented) material; and
- Greater contribution to state-wide targets for waste reduction and resource recovery.

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

- Use consistent signage and colour coding throughout the development;
- Ensure all tenants are informed of correct waste separation and management procedures;
- Provide directional signage to show locations / routes to waste storage areas;
- Clearly label general / comingled waste bins to ensure no cross contamination and to identify the types of waste that may be disposed of in each bin; and
- Educate all employees / contractors conducting work on the property ensuring they adhere to this W&RMP.

[19] http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm

Signs approved by the NSW EPA for labelling of bins and waste storage areas are available online (http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm).

6.8 Monitoring and Reporting

Auditing and visual monitoring of bins and bin rooms should be undertaken by the building manager at the following frequencies:

- Weekly, within 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 appropriately.

Any deficiencies identified in the waste management system, including (but not limited to) unexpected waste volumes, should is to be rectified by the building manager as soon as practicable.

6.9 Roles and Responsibilities

It is the responsibility of the building manager to implement this W&RMP and a responsibility of all tenants and staff to follow the waste management procedures set out by the W&RMP. A summary of recommended roles and responsibilities is provided in **Table 16**.

Table 16 Suggested roles and responsibilities

Responsible Person	General Tasks
Building Manager	Ensure the W&RMP is implemented throughout the life of the operation.
	Update the W&RMP as needed to ensure the plan remains applicable.
	Undertake liaison with and management of waste and recycling collections by Council and / or contractors.
	Conduct inspections of bins and waste storage / service rooms on a regular basis for condition and cleanliness.
	Organise cleaning and maintenance requirements for all bins and waste storage / service rooms as required.
	Manage any complaints and non-compliances reported through waste audits etc.
	Ensure effective signage, communication and education is provided to alert new tenants, building management staff and visitors about the provisions of this W&RMP.
	Monitor and maintain signage to ensure it remains clean, clear and applicable.
	Ultimately responsible for the management of all waste management equipment, cleaning requirements, waste transfer and collection arrangements.
	Manage unexpected waste volumes to mitigate waste overflow in storage areas.
	Ensure all waste compactors (if applicable) are maintained and operational.
Cleaners / Caretaker	Monitor bins to ensure no overfilling occurs.
	Ensure bins and waste storage / service rooms are kept tidy.
	Transfer waste from units to waste storage / service rooms as required.
	Transfer recycling from units into baler storage / service rooms as required
	Cleaning of bins and waste storage / service rooms per Building Manager direction.
	Maintain / operate compactors, ensuring no overfilling occurs.
Tenants / Employees	Adhere to all waste management directions as given by the Building Manager

Appendix A

MOD 14 SEARS KEY ISSUES (WASTE)

Table 17 lists the relevant sections within the W&RMP that specifically address each of the Waste Key Issues as specified by the NSW Planning & Environment's Secretary's Environmental Assessment Requirements (SEARs) for the Application Number MP05_0147 MOD 14.

Table 17 MOD 14 SEARs key issues pertaining to waste

Key Issue		Section Addressing Key Issue
Assess predicted waste generated from the project during construction and operation, including:		*Please refer to individual sections listed below*
a	Classification of the waste in accordance with the current guidelines.	Sections 5.3 and 6.2
b	Estimates / details of the quantity of each classification of waste to be generated during the construction of the project, including bulk earthworks and spoil balance.	Sections 5.4, 5.5 and 5.6
c	Handling of waste including measures to facilitate segregation and prevent cross contamination.	Sections 5.9, 5.10 and 6.5
d	Management of waste including estimated location and volume of stockpiles.	Sections 5.3, 5.5, 5.6, 5.7 and 6.5
e	Waste minimisation and reuse	Section 2
f	Lawful recycling or disposal locations for each type of waste.	Tables 2 and 8
g	Contingencies for the above, including managing unexpected waste volumes.	Sections 5.3, 6.5.1, 6.8 and 6.9
Assess potential environmental impacts from the excavation, handling, storage on site and transport of waste particularly with relation to sediment / leachate control, noise and dust.		Section 5.3

APPENDIX I

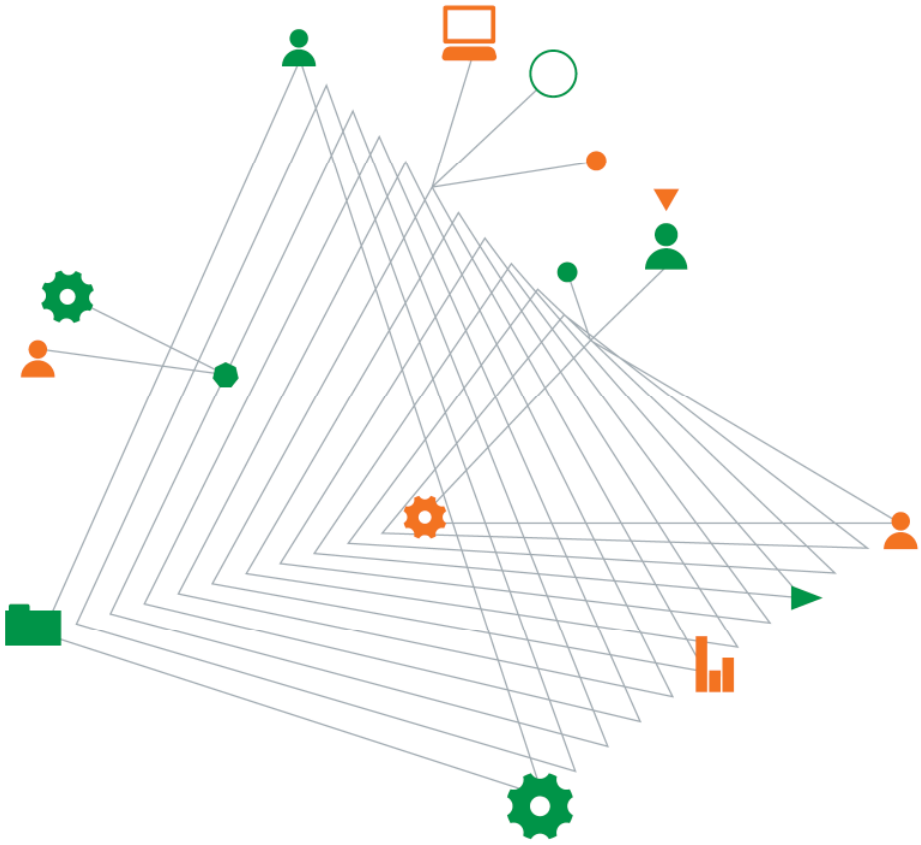
Long Term Environmental Management Plan

Goodman Property Services on behalf of NSW Ports

Enfield Intermodal Logistics Centre, Precinct H - Long-Term Environmental Management Plan

Enfield Intermodal Logistics Centre, Cosgrove Road, Strathfield South NSW

18 December 2019



Experience comes to life when it is powered by expertise

This page has been left intentionally blank

Enfield Intermodal Logistics Centre, Precinct H - Long-Term Environmental Management Plan

Prepared for
Goodman Property Services on behalf of NSW Ports

Prepared by
Coffey Services Australia Pty Ltd
Level 19, Tower B, 799 Pacific Highway
Chatswood NSW 2067 Australia
t: +61 2 9406 1000 f: +61 2 9406 1002
ABN: 55 139 460 521

18 December 2019

754-SYDEN217478-R05_H LTEMP

Quality information

Revision history

Revision	Description	Date	Author	Reviewer
R05_Ha	Draft	4 December 2019	Simon Hay	Anthony Plumb / Edward Wu
R05_H	Final following Auditor Comments	18 December 2019	Simon Hay	Anthony Plumb / Edward Wu

Distribution

Report Status	No. of copies	Format	Distributed to	Date
Final	1	PDF	Goodman Property Services	4 December 2019
Final	1	PDF	Goodman Property Services	18 December 2019

Abbreviations

ACM	Asbestos-containing Materials
AEC	Area of Environmental Concern
AHD	Australian Height Datum
CLM	Contaminated Land Management
COC	Chain of Custody
CoPC	Contaminant of Potential Concern
CSDMP	Contaminated Soil Disturbance Management Plan
DP	Deposited Plan
DPE	Department of Planning & Environment
ENM	Excavated Natural Material
ER	Environmental Representative
ESC	Environment and Sustainability Coordinator
HDPE	high-density polythene
m BGL	metres Below Ground Level
LTEMP	Long Term Environmental Management Plan
NATA	National Association of Testing Authorities
NSW EPA	New South Wales Environment Protection Authority
OEMP	Operational Environmental Management Plan
PCBU	Persons Controlling a Business or Undertaking
PPE	Personal Protective Equipment
POEO	Protection of the Environment Operations
QA/QC	Quality Control/Quality Assurance
RPE	Respiratory Protective Equipment
SSP	Site Safety Plan
SWMS	Safe Work Method Statement
UFP	Unidentified Finds Protocol
VENM	Virgin Excavated Natural Material
WMS	Work Method Statement

Table of contents

Abbreviations ii
1. Introduction 1
2. Background 1
3. Purpose 3
4. Objectives 4
5. Site Information 4
6. Summary of Remedial Works 5
7. Final Precinct H Cap Construction Detail 5
8. Management Protocol 6
9. Environmental Management Procedures for Future Excavation Works 10
10. Unexpected Finds 14
11. Conclusion 15
12. Limitations 15
13. References 15

Figures

Figure 1 – Site Boundary and Precinct Boundaries
Figure 2 – Precinct H Development
Figure 3 – Precinct H: Capped Surfaces

Appendices

Appendix A – Important Information about your Coffey Environmental Report
Appendix B – Enfield ILC Masterplan
Appendix C – Photographs
Appendix D – Precinct Survey Plans
Appendix E – Induction Register
Appendix F – Site Inspection Register
Appendix G – Documentation and Records

1. Introduction

Coffey Services Australia Pty Ltd (Coffey) was engaged by Goodman Property Services Pty Ltd (Goodman), on behalf of NSW Ports (Ports), to prepare this Environmental Long-Term Management Plan (LTEMP) for the redevelopment of Precinct H (the site), located at Enfield Intermodal Logistics Centre (Enfield ILC), located at Cosgrove Road, Strathfield South, NSW.

This LTEMP was prepared at the request of Goodman to facilitate submission of an Operational Environmental Management Plan (OEMP) to the Department of Planning and Environment (DPE) on behalf of NSW Ports, and details the environmental management framework, practices and procedures to be followed during the operation of Precinct H. Coffey understands that this LTEMP will form a subplan of the overarching OEMP.

This LTEMP has been prepared to outline a framework for controlling and managing potential risks associated with asbestos-impacted soils at the site. Asbestos impacted soils (considered to include both asbestos fibres and fragments of asbestos-containing materials (ACM)) had been capped on-site below designated cover layers to mitigate the future potential risk of exposure to asbestos.

This LTEMP has been updated to reflect the completion of the Precinct H development for inclusion within the OEMP.

A validation report relating to the remediation of the site was prepared by Compliance health and Environmental Consulting Pty Ltd (CHEC) detailing the remedial and validation works undertaken at Precinct H (ref: CH1093_D9248_Final_Validation_Report_2.1). It should be noted that Precinct H was previously managed under the guidance of a Site Management Plans (SMP) (ref: NSW Ports, Enfield Intermodal Logistics Centre Site Management Plan – Area F dated January 2014).

The Area F SMP was prepared following remedial works previously conducted on Precinct H and was prepared for the management of the precinct until this planned redevelopment had occurred.

This LTEMP supersedes the Area F SMP.

The location of Enfield ILC and Precinct H are shown on Figure 1. A copy of the NSW Ports Enfield ILC Masterplan is supplied in Appendix B of this report.

2. Background

2.1. Overview

The Enfield ILC land was formerly used by the State Rail Authority (SRA) of NSW for marshalling and maintenance of rail cars and locomotives, as well as sidings for rail and goods, for over 70 years from the 1920's until the 1990's. Enfield ILC currently includes the Enfield Intermodal Terminal (IMT), an existing warehouse and tarpaulin shed, a Southern Precinct, and 30 hectares of remaining developable land zoned IN1 General Industrial.

Enfield ILC is scheduled to be redeveloped in eight precincts (A to I) for commercial/industrial uses, primarily logistics, which included redevelopment of Precinct H under modification (MOD14) to the original development consent (Ref: MP05_0147).

Precinct H has previously been subject to remediation via interim capping of asbestos impacted soils, considered to include both bonded and friable asbestos, as detailed in the Site Management Plans prepared in 2014. This broadscale remediation required the excavation of asbestos impacted soils across Precinct H. The impacted material was redistributed and compacted across Precinct H and was capped to achieve design levels in accordance with a Contaminated Soil Disturbance Management Plan for Precinct H, prepared by Coffey in 2019 (Coffey Ref: SYDEN217478_R03_Rev, Enfield Intermodal Logistics Centre, Contaminated Soil Disturbance Management Plan – Precinct H).

Excess contaminated soil surplus to design requirements were also relocated from Precinct H to Precinct A for interim stockpiling in accordance with the CSDMP and the Precinct A Stockpiling Addendum (Coffey Ref: SYDEN217478_L02, Precinct A Stockpiling Addendum).

Qanstruct (Aust) Pty Ltd (Qanstruct) were engaged by Goodman to act as the head contractor for the redevelopment of Precinct H. AWJ Civil Pty Ltd (AWJ) have been engaged by Qanstruct as the earthworks and environmental contractor for the works.

2.2. Previous Reports

The Precinct H redevelopment has been subject to a number of previous soil disturbance management plans, investigations and validation assessments which are listed below:

- Coffey (2018); Precinct A Stockpiling Addendum, Enfield Intermodal Logistics Centre, Strathfield South NSW (Ref: SYDEN217478-L02_Rev01 dated 7 December 2018);
- Coffey (2019); Contaminated Soil Disturbance Management Plan – Precinct H, Enfield Intermodal Logistics Centre, Strathfield South NSW (Ref: SYDEN217478-R01-Rev1, dated 17 September 2018);
- CHEC (2019); Site Validation Report - Enfield ILC, Precinct H Strathfield South NSW (Ref: CH1093_D9248_Final_Validation_Report_2.1 (Audited)).

The CSDMP (Coffey, 2019) described the preferred remedial approach which was to retain asbestos-impacted fill on-site. Excess soil (approximately 400 m3) that could not be accommodated within Precinct H was relocated to Precinct A for interim storage as per the Stockpiling Addendum (Coffey, 2018).

The Precinct A Stockpiling Addendum outlines the control measures required for the interim stockpiling of contaminated material at Precinct A until redevelopment of that precinct occurs.

The Precinct H Validation Report (CHEC, 2019) described the process by which asbestos-impacted soils were excavated and capped. Review of the CHEC validation report indicated the following:

- The objective of the validation report was to summarise the remediation and validation work carried out at the site and provide an opinion on the suitability of Precinct H, with regards to contamination and the Precincts intended commercial/industrial use as a warehouse facility.
- Asbestos was considered to be the contaminant of concern requiring remediation.
- CHEC was engaged to undertake the following Scope of Works:
    - Carry out periodic site inspections to observe and document the following:
        - Implementation of management controls outlined in the CSDMP;
        - Excavation works;
        - Soil importation and management;
        - Construction material management; and
        - Location and construction of new capping layers.
    - Undertake reviews of daily air monitoring reports;
    - Prepare a validation report summarising the remedial and capping works.

The remedial works included the following steps:

- Cut and fill of chip seal and ACM contaminated soil including:
    - Excavation, temporary stockpiling and relocation of chip seal and ACM impacted soil where required.
    - Excavation of service trenches/pts and footings.

- Installation of geotextile marker layer on existing and site-won fill including within service trenches/pits and footings
- Installation of service structures (i.e. pipes/conduits).
- Filling of service trenches/pits using approved imported material.
- Filling Precinct H to achieve design levels by compacting, proof rolling and verification.
- Testing of imported backfill layers.
- Construction of slabs, warehouses and associated offices and installing pavements/landscaping.

Periodic site walkovers were undertaken by CHEC to document the remedial processes undertaken on Precinct H with the following noted:

- Asbestos impacted materials were placed and compacted within Precinct H;
- Impacted-material was covered with geo-textile fabric, which extended to the precinct boundaries or extent of fill material and was turned up at the edges.
- Work health and safety protocol and environmental controls were observed to be implemented in general accordance with the CSDMP.
- Imported VENM capping material was visually consistent with the material described in VENM source reports.
- Approximately 200 m3 of mulch and 600 m3 of topsoil was imported to site for use as landscaping.
  - Mulch was visually inspected with no ACM identified within the imported material.
  - Topsoils were imported to site as VENM and certified by CHEC. Four samples were collected from the topsoil for laboratory analysis; CHEC concluded that the concentrations of heavy metals in the topsoil were typical of natural loamy clays from the Penrith Area.
- Spot checking and visual observation of the cap thickness appeared to conform with the thicknesses prescribed in the CSDMP.
- Approximately 400m^3 of excess material was generated as a result of services excavation subsequent to the cap construction. The material was assessed against land use criteria to determine if any gross contamination was present and determined suitable for relocation to Precinct A.
- Survey data confirmed that a minimum cap of 0.5m under sealed surfaces and 1m beneath landscaped areas consisted of imported clean fill material covering geotextile fabric.
- CHEC concluded that the validation confirmed that the site was remediated in general accordance with Department of Planning Approval MP04_0417 and that the contaminated soils have been excavated, placed and capped in general accordance with the CSDMP preventing any potential exposure to site occupants or nearby sensitive receptors.
- Following notification and implementation of this LTEMP on the land title, CHEC considers that the site is suitable for commercial/industrial land sue as a logistics warehouse.

3. Purpose

The purpose of this LTEMP is to:

- Detail the ongoing management strategy required for the asbestos-impacted soil at the Precinct H redevelopment and in light of the ongoing commercial/industrial use of the site;
- Provide controls to mitigate the potential health risks posed by asbestos to future site users and maintenance workers; and
- Outline procedures to maintain the capping layer over the long term.

Upon finalisation, Goodman have advised that this LTEMP will be reviewed by and subject to a statutory site audit by Ramboll Australia Pty Ltd (Ramboll) and shall subsequently be submitted to Strathfield Council to ensure the requirements for site management, as outlined within the LTEMP, are recorded on the Planning Certificate issued under Section 10.7 of the Environmental Planning and Assessment Act.

4. Objectives

The objectives of the LTEMP are to:

- Summarise the identified environmental and health issues at the site requiring management.
- Document management measures to be implemented upon completion of capping and remediation to address the identified issues at the site, including requirements for periodic inspections, documentation and record keeping.
- Identify entities responsible for the implementation of this LTEMP.

5. Site Information

Table 5.1: General Site Information

Title Identification:	Lot 10 / DP1183316
Address	Enfield ILC, Cosgrove Road, Strathfield South NSW
Local Government Authority	Strathfield Municipal Council.
Owner	NSW Ports.
Precinct H Area:	Approximately 3.58 ha
Intended Land Use:	Warehousing and Logistics Centre
Current Zoning:	IN1 (General Industrial) under Strathfield Local Environmental Plan 2012

5.1. Site Description

The following is based on observations made during a walkover completed on 18th December 2019 by a Coffey Environmental Scientist:

- Precinct H was accessed from the southern end of the precinct via Delec Lane.
- Precinct H was noted to be flat and of an elevation consistent with Delec Lane, although it was noted to drop down to the west and east towards the rail corridors situated outside of the precinct boundaries on either sides of the precinct.
- Three large warehouses were present on the precinct, consisting of warehouses H1, H2 and H3.
    - Each warehouse had an adjoining two-storey office.
    - A large concrete covered car-park was present on the southern side of H1.
    - The internal portions of the warehouse were noted to be concrete covered and appeared to be approximately 250mm – 300mm thick in areas.

- Internal roads were present on both the western and eastern perimeters to provide access to the northern end of the site.
- Hardstand was present on the southern side of warehouse H1, in the central loading dock forecourt situated between H2 and H3 and on internal, peripheral access roads.
- Landscaped areas were present on the southern and northern extents of the site, and along the eastern and western boundaries and in areas adjacent to each warehouse office. Landscaped areas were largely characterised by soil or mulched surfaces.
- A pump room and large, cylindrical water tank were situated at the northern extent of the precinct.

Photographs collected from the site walkover are presented in Appendix C.

6. Summary of Remedial Works

The site was previously remediated, with asbestos impacted soil buried and capped on Precinct H using chip-seal (surface treatment combining layers of asphalt and aggregate). To facilitate redevelopment of the site and to achieve design levels, the capped asbestos-impacted soils required re-excavation, to be redistributed across Precinct H with additional surplus requiring interim stockpiling on Precinct A. Following this, impacted soil located on Precinct H was capped, and thus require long-term management.

A detailed summary of the findings of previous investigations undertaken at the site is provided in the Validation Report (CHEC, 2019) along with a detailed description of the remediation works undertaken on Precinct H.

In summary, these remediation works were completed as the site was developed as a logistics warehouse. Topsoil and fill materials containing asbestos were left in-situ or excavated to achieve design levels. Impacted material surplus (approximately 400 m^3) to the design requirements of Precinct H was subsequently transported to Precinct A for interim stockpiling (It has been advised by Goodman that this stockpile will be incorporated into the filling works for Precinct A as part of a future development).

Following redistribution, contaminated soil was compacted across the site. Following compaction, a geo-textile marker layer was placed across the contaminated soil covering Precinct H including services trenches – the geo-textile marker layer was turned up at the excavation wall to meet the precinct boundary. VENM was imported to site and placed across the marker layer forming the initial capping layer and compacted in place.

Photographs of the remedial works are provided in Appendix C. Survey drawings (including surveyed service corridor drawings) are provided in Appendix D.

7. Final Precinct H Cap Construction Detail

It is understood that the existing soils at the site were cut and filled to achieve a level of between one and two metres below finished surface level prior to the placement of the geofabric marker layer. The finished capped surfaces consisted of the following:

- 180mm concrete +100mm subbase (warehouses and hardstand).
- 30mm asphalt + 100mm stabilised base + 200mm subbase (car parks).
- 150mm concrete + 100mm subbase (pedestrian pathways).
- 100mm topsoil/mulch + 1m of imported VENM (landscaped areas)
- Below the finished surfaces the capping layer was constructed from various imported soil and rock classified as VENM with a minimum thickness of 0.5m.

In the north-western extent of the site in the landscaped areas adjacent to the northern and eastern sides of the water tank, the site was excavated to natural soil, and as such no additional capping material was required in addition to the finished mulched surface (as shown on survey drawing 807 Separation Layer (Sheet 2 of 2)).

The supplied thicknesses are noted to conform with the capping thicknesses outlined in the CSDMP. Design details for finished capped surfaces are depicted in Figure 3.

A copy of the surveys (including surveyed service corridor drawings) undertaken on Precinct H are provided in Appendix D.

8. Management Protocol

This section outlines the ongoing management strategy required to be implemented by NSW Ports for use of the site.

8.1. Environmental Management Framework

NSW Ports, as the Landowner Representative of the site, will be responsible for the implementation of this LTEMP. It is expected that this LTEMP will be attached and conditioned in the Site Audit Statement (SAS) prepared by Ramboll, the appointed NSW EPA accredited Site Auditor. Under the requirements of the Contaminated Land Management Act 1997, the Site Auditor will be required to submit a copy of the SAS and this LTEMP to Strathfield Council and the NSW EPA.

Should the ownership of the site change in the future, a mechanism must be in place to ensure that new landowners become aware and assume overall responsibility for implementation of this LTEMP. It is proposed that this mechanism is provided by amending the Planning Certificate issued by Strathfield Council under Section 10.7 of the Environmental Planning and Assessment Act 1979.

This section outlines the management framework and procedures required to be implemented as part of this LTEMP at the site.

8.2. Access to the LTEMP

NSW Ports shall ensure that the LTEMP is readily accessible to:

- Precinct/facility tenants including their warehouse managers.
- Enfield ILC Staff and facility warehouse staff.
- A worker who has carried out, carries out or intends to carry out intrusive works at the site.
- Health and safety representatives who represent workers that carry out or intend to carry out intrusive works at the site.
- A person conducting a business or undertaking who has carried out, carries out or intends to carry out intrusive work at the site.
- A person conducting a business or undertaking who has required, requires or intends to require intrusive work to be carried out at the site.

8.3. Roles and Responsibilities

Table 8.1 – Management responsibilities

Role	Responsibilities
Environmental Representative / Environment & Sustainability Coordinator	NSW Ports has nominated Trevor Brown as the Environmental Representative (ER) and Alison Wedgwood to act as secondary as the Environment and Sustainability Coordinator (ESC) to oversee management of Precinct H and implementation of this LTEMP. The personnel in these roles should be suitably qualified and be familiar with the risks posed by asbestos, aware of the existing conditions at the site, and controls in place to manage asbestos in soil. The ER and/or ESC should have the authority to implement appropriate contingency actions in the event that unexpected conditions are encountered. The ER and/or ESC shall be responsible for the implementation of this LTEMP including the following tasks: • Induction of Facility Tenants and their appointed warehouse managers onto the LTEMP. • Review and approve works to be undertaken by maintenance workers undertaking subsurface works that have the potential to encounter asbestos impacted soils or breach capped surfaces. • Make this LTEMP available to Enfield ILC employees for review. • Induct maintenance workers and contractors onto this LTEMP. • Document unexpected finds and actions undertaken to close out. • Confirm and sign off that capped surfaces that are disturbed during future maintenance works are reinstated appropriately. The ER and/or ESC will ensure that potential future purchasers of property on the site are aware of the remediation works that have been undertaken, and the need for the new owners to develop their own management measures to prevent the capping layers from being compromised.
Customer Warehouse Managers	Facility tenants will be required nominate a warehouse manager to be inducted onto the LTEMP who will be responsible for overseeing implementation of the LTEMP on a facility level as an extension of NSW Ports. The responsibilities of the customer warehouse managers will include: • Review works to be undertaken by maintenance workers undertaking subsurface works that have the potential to encounter asbestos impacted soils or breach capped surfaces. • Advise the NSW Ports ER and/or ESC of works that may disturb the capping layer including contractor Work Method Statement (WMS) and Site Safety Plan (SSP) and seek written approval from NSW Ports prior to commencing. • Induct maintenance workers and contractors onto this LTEMP following final approval from the NSW Ports ER and/or ESC. • Maintain and provide documentation copies to NSW Ports related to works that may have disturbed the capping layer. • Make this LTEMP available to facility workers for review.

Role	Responsibilities
Contractor / maintenance worker	• Prepare WMS and SSP and Contingency Plan prior to commencement of works and liaise with the ER and/or ESC to seek his/her approval of the WMS. • Comply with this LTEMP and applicable legislation and regulations during the works. • Sufficiently assess activity specific environmental and health and safety risks associated with the work. The SSP shall include Safe Work Method Statements (SWMS) appropriate to the work activities and define relevant Emergency Contacts. • Induct all personnel undertaking the works to the requirements of this LTEMP, and the WMS, SSP and contingency plan approved by the ER and/or ESC. • Comply with and implement control measures in accordance with this LTEMP, WMS SSP and contingency plan during the works. • Respond to and manage environment, health and safety incidents, and promptly notify the ER and/or ESC of such incidents. • Document the works completed, including works undertaken to reinstate the capping layer. • Restore works area to a safe condition, with capping layers reinstated on a like for like basis, unless otherwise agreed with the ER and/or ESC.
Environmental consultant / Licensed Asbestos Assessor	Assist with the implementation of this LTEMP and undertake works in accordance with this LTEMP.

8.4. Site Induction

The ER and/or ESC and customer warehouse managers are responsible for ensuring that site workers, including maintenance staff, contractors and sub-contractors completing works considered to have the potential to encounter ACM at the site are inducted onto this LTEMP and that adequate controls are in place to identify scenarios where constructed cap surfaces might be breached where they have the potential to encounter asbestos-impacted soil in landscaped and/or bitumen/concrete surfaced portions of the site.

The inductions must contain information on the nature and extent of ACM capped at the site, and the minimum controls measures required to be implemented. The topics covered during the site inductions should at a minimum include:

- The hazards posed by asbestos (e.g. asbestosis, mesothelioma and lung cancer potentially caused by the inhalation of airborne asbestos fibres);
- The type and location of ACMs capped at the site;
- Procedures and controls in place;
- Any asbestos related works currently being undertaken;
- A discussion on the unexpected finds protocol; and
- Designated site contact for further information and reporting incidents or unexpected finds.

Details of personnel who have attended inductions are to be maintained in this LTEMP, an example induction record is supplied Appendix E.

8.5. Site Inspections

The ER and/or ESC is responsible for conducting or engaging a suitably qualified environmental consultant to conduct periodic site inspections on a six-monthly basis and/or immediately following major rain events where there is potential for the cap to be compromised, to check the integrity of the capping layers.

It is the responsibility of the ER and/or ESC to implement corrective actions in the event that damage to the capping layer has been observed.

An example Site Inspection Register is provided in Appendix F.

8.6. Documentation and Reporting

Relevant documentation regarding the implementation of this LTEMP should be maintained by the ER and/or ESC. The documentation may include (but not be limited to):

- Site plans, identifying the location and design of the capping layer;
- Asbestos-related incident reports and/or disturbance of capping layer;
- Site inspections;
- Staff and contractor inductions;
- Relevant environmental reports including validation reports, VENM or ENM certification;
- Reinstatement records/sign-off indicating the re-instatement of capped surfaces has been completed to the satisfaction of the ER and/or ESC; and
- Unexpected ACM finds, including:
    - Location and quantity of ACM identified;
    - Condition of ACM (i.e. size, shape, relative strength);
    - Amount of soil segregated with the ACM;
    - Where ACM and impacted soil has been stockpiled;
    - Details of actions to manage risks associated with the find and supporting evidence (e.g. weighbridge dockets associated with disposal).

It is the responsibility of the ER and/or ESC to review and update the records as required and to implement corrective actions where necessary.

Records generated in relation to management/disturbance of the capping layer or unexpected finds should be maintained in Appendix G this LTEMP.

8.7. Site Plans

The areas subject to management within the site are shown on Figures 2 and 3. These figures should be included in site inductions and used by the ER and/or ESC and customer warehouse managers in assessing/approving WMS that potentially disturb capping layers.

8.8. Timeframe for LTEMP Implementation

This LTEMP endorsed by the Site Auditor should be implemented prior to granting access to occupy the site.

8.9. LTEMP Review

This LTEMP must be periodically reviewed to ensure the document is current and conforms to the environmental objectives and legal requirements. Reviews shall be undertaken by the ER and/or ESC every two years, or as necessary as a result of any of the following:

- When there are changes in the use of the site which warrant a change in environmental controls;
- As necessary, as a result of changes in environmental legislation;
- Instances where there has been a failure of the LTEMP and a revision is required to address the failure.

This LTEMP should be revised by a suitably qualified environmental consultant following any proposed actions that substantially modify the capping layers described herein. Modifications to the capping layer may arise from significant excavations undertaken within the site, or redevelopment of the site for alternate uses.

9. Environmental Management Procedures for Future Excavation Works

This section outlines the minimum management procedures and asbestos controls that should be adopted where the capping layer is required to be breached, or there is the potential for the capping layer to be breached during future intrusive works following review and approval of the WMS by either the ER or ESC.

The appointed contractor(s) and workers at the site must comply with all legislative, regulatory and guidance requirements, including but not limited to, the asbestos control measures outlined in this Section. If the legislation, regulations or guidelines contradict the information presented here the legislation, regulations or guidelines prevail.

Documentation generated in relation to capping disturbance should be maintained in Appendix G of this LTEMP.

9.1. Excavation Works

Disturbance of the capped surfaces at the site should be avoided.

If disturbance of the capping layer is unavoidable, the procedures outlined below should be followed.

Activities that may disturb the capping layer must be reviewed and approved by the ER and/or ESC prior to the commencement of works. The Contractor must prepare a detailed WMS that outlines the scope of work proposed, consider interaction with asbestos-impacted soil and controls required to minimise exposure to asbestos impacted soils. The WMS must also present a process to reinstate the capping layer to a standard approved by the ER and/or ESC.

The WMS must also contain a Site Safety Plan (SSP) and a Contingency Plan. The WMS must be approved by the ER and/or ESC prior to works commencing on site.

Any contractors likely to be undertaking works that could disturb the capping layer and expose soils containing asbestos must be inducted into this LTEMP and recorded in the induction register.

Where works are required that will disturb or have the potential to disturb asbestos impacted soils a Class A Licenced Asbestos Removalist should be engaged to be present to oversee the works and a Licensed Asbestos Assessor engaged to undertake air monitoring as detailed in Section 10.7 of this LTEMP.

9.2. Asbestos Exclusion Zone & Signage

The asbestos work area must be secure and signed appropriately (e.g. ‘authorised persons only’ or ‘asbestos work area’) this must include the establishment of a physical barrier and an exclusion zone around the work area.

The asbestos work area should be established prior to works likely to disturb the capping layer. The boundary must be maintained throughout the works until the geofabric and capping layer can be re-instated.

9.3. Personal Protective Equipment

If workers are likely to disturb the capping layer, appropriate PPE must be provided to them by the ER and/or ESC and the correct use of the PPE explained. As a minimum, PPE must include:

- Type 5 & 6 disposable coveralls;
- Half face respirator with P3 particulate filter;
- Disposable nitrile gloves worn over the cut resistant gloves where necessary; and
- Footwear that can be easily decontaminated (i.e. gumboots).

It is important to note that disposable respirators and gloves are single-use only and must be disposed of as asbestos waste after each use.

9.4. Dust Suppression

Dust suppression techniques should be adopted to minimise the generation and dispersal of dusts during works likely to disturb the capping layer. It is acknowledged that some of these techniques may not be applicable were breach of the sub-building cap to occur. These techniques may include:

- Fine water spraying;
- Minimising the degree of traffic;
- Ensuring exposed soil surfaces are kept wet during the course of the works;
- Covering exposed areas with high-density polythene (HDPE) sheeting or geotextile fabric;
- Erecting shade cloth along boundary fences to act as a wind break; and
- Ceasing works if environmental conditions (wind and temperature) result in visible dust being generated from the site.

9.5. Excavation Works Inspections

The ER and/or ESC is responsible for implementing a regular inspection schedule during excavation works of capped areas. This would also include inspections following when major rain events occur during the works.

It is the responsibility of the ER and/or ESC to implement corrective actions in the event that damage to the capping layer has been observed.

An example of a Site Inspection Register is provided in Appendix F.

9.6. Decontamination

If workers and staff are likely to disturb the capping layer, it is recommended that a decontamination area be established to include:

- The decontamination area set up at the entrance of the work area;
- The decontamination area at minimum lined with HDPE sheeting and have access to a bucket of water, bag of rags and a spray bottle or hose;
- When leaving the asbestos work area all workers must make their way to the decontamination area;
- All tools and equipment used during the works must be decontaminated, before they are removed from the work area;
- Tools and equipment which cannot be decontaminated in the work area must be dedicated to asbestos removal work and double bagged in asbestos waste bags before being removed from the asbestos work area; and
- PPE including respirators must be inspected and wet wiped prior to removing these items from the asbestos work area.

- If disturbance of the capping layers is required indoors, a multi-staged decontamination unit may be required.

9.7. Air Monitoring for Asbestos

If disturbance of the cap and into underlying asbestos-impacted materials takes place, a licensed asbestos assessor should be engaged to undertake continuous asbestos fibre air monitoring during works that may disturb the capping layer by a National Association of Testing Authorities (NATA), Australia accredited laboratory in accordance with the G*uidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition* [NOHSC: 3003(2005)] and AS ISO/IEC 17025–2005, *General requirements for the competence of testing and calibration laboratories*.

Air monitoring reports must be issued in accordance with NATA's accreditation requirements.

Works must cease if the air monitoring results are found to be above the detection limit of 0.01 fibres per millilitre of air (f/mL).

9.8. Capping Re-instatement

Following the completion of the works, the capping material overlying asbestos-impacted materials, must be reinstated on a like-for-like basis. The capping materials shall be approved by the ER and/or ESC in consultation with a Licensed Asbestos Assessor.

The asbestos assessor appointed by the ER and/or ESC, shall conduct a walkover of the asbestos work area following the completion of the works. This will involve a visual inspection at the following stages of works:

- At the conclusion of each shift to confirm that the asbestos-impacted soil has been contained and/or securely stored within the asbestos work area(s) with no surface ACM fragments identified outside these areas; and

- During the installation/reinstatement of the new capping layer, to check that it is being installed in accordance with the approved method.

A clearance certificate will be issued by the Licensed Asbestos Assessor for the site detailing the completion of the capping layer reinstatement works.

9.9. Waste Disposal

In the event that soil, or waste material is required to be disposed off-site, a suitably qualified environmental consultant should be engaged to carry out a waste classification assessment in accordance with the NSW EPA Waste Classification Guidelines 2014. Waste should be disposed at an appropriately licenced facility.

During material removal from site the following information shall be recorded and maintained by the ER and/or ESC. This shall include the following:

- Marked up record of area where material has been taken referencing to the tip docket;
- Copy of tipping dockets;
- Location of where waste was removed. This shall include marking this up on the plan and refer it to the tipping docket;
- Date and time;
- Name and address of tip;
- Amount of waste;
- Type of waste; and
- Truck registration.

It should be noted that asbestos waste may be required to be tracked utilising the WasteLocate application from the NSW EPA as required.

9.9.1. Completion Documentation

The Contractor shall compile a Completion Report that summarises the works undertaken that disturbed the capping layer, and materials used to reinstate the capping layers and associated air monitoring and clearance reports. The report shall be supported by evidence to demonstrate the works have been completed in accordance with the approved WMS.

The Contractor shall submit the Completion Report to the ER and/or ESC for review and approval.

10. Unexpected Finds

If an unexpected find of contamination is encountered at the site, the following procedure shall apply:

1. Stop work (e.g. maintenance work) or cease occupation of the potentially hazardous area as soon as it is safe to do so and move to the upwind side of the area, or away from the area.
2. Notify the designated ER and/or ESC.
3. Assess the potential immediate risk to human health posed by the unexpected find and assess if evacuation or emergency services need to be contacted.
4. Delineate an exclusion zone around the affected area using fencing and/or appropriate barriers and signage. Additional control measures may be required for odorous or volatile compounds.
5. The ER and/or ESC shall contact an environmental consultant for advice and request a site visit to undertake an assessment of the unexpected find.
6. The environmental consultant will assess the unexpected find and provide advice regarding:
    a) Preliminary assessment of the contamination and need for immediate management controls;
    b) What further assessment and/or remediation works are required and how such works are to be undertaken in accordance with contaminated site regulations and guidelines;
    c) Advise if preparation of an update or addendum to this LTEMP is necessary or provide clean up advice;
    d) Remediation works required (where applicable);
    e) Validation works required following remediation works (if applicable).
7. Works are not to recommence in the affected area until appropriate advice has been obtained from the environmental consultant, which has been endorsed by the ER and/or ESC.
8. If it is deemed safe to do so by the ER and/or ESC, works/reoccupation may resume in the affected area.

11. Conclusion

This LTEMP has been developed to outline the continued management protocols to be followed at Precinct H and to outline what the required management of potential risks associated with asbestos-impacted soil that exists beneath cover layers. Implementation of the control measures outlined in this LTEMP will assist in controlling the potential health risks to site users and manage the risks posed by asbestos-impacted soil capped at the site.

Taking into consideration the findings of previous site investigations and remedial works undertaken and controls outlined herein, it is considered unlikely that the asbestos-impacted soil retained within the site would pose unacceptable health risks if these materials are managed in accordance with this LTEMP.

12. Limitations

This report should be read in conjunction with the attached “Important information about your Coffey Environmental Report”.

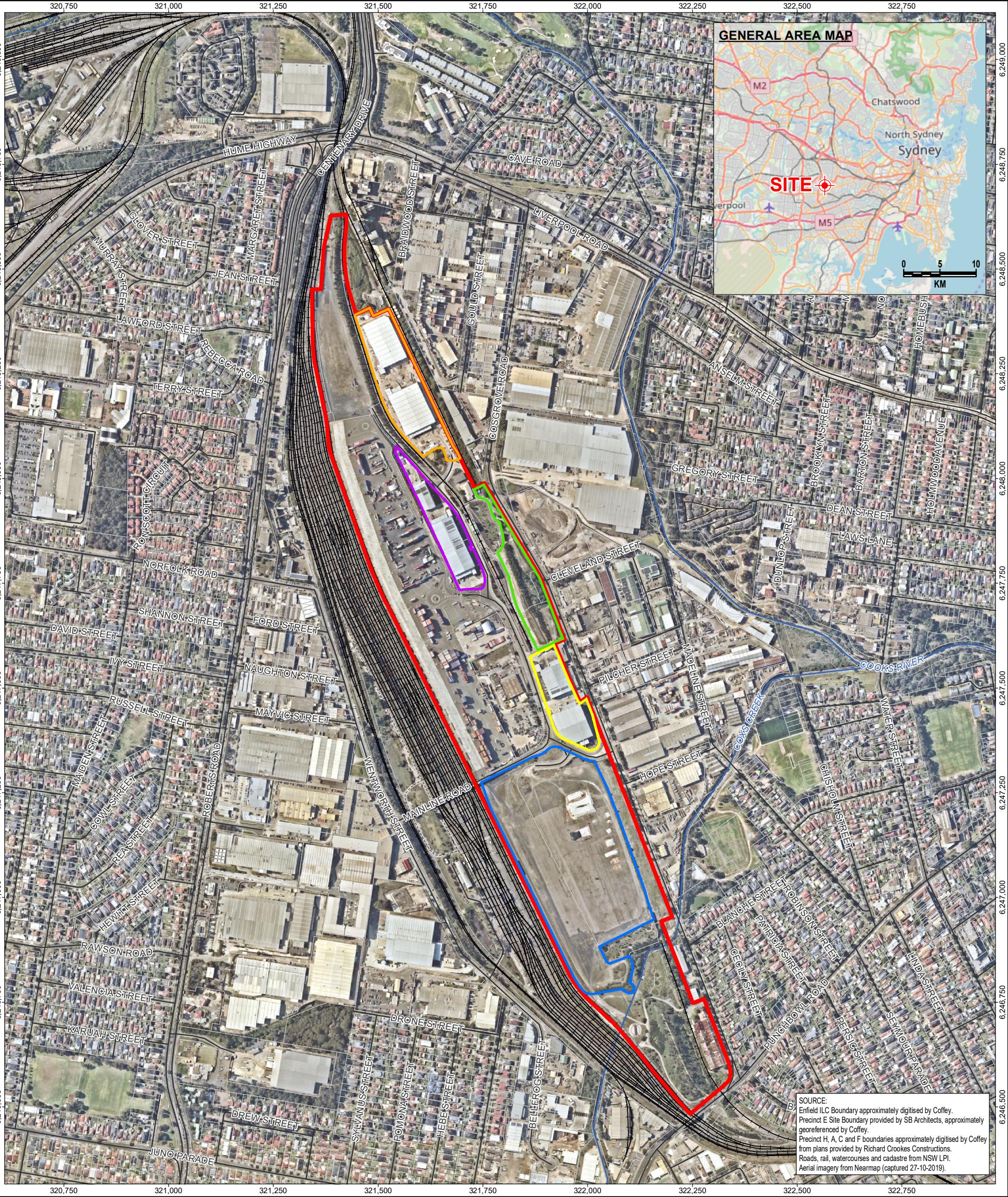
13. References

This LTEMP has been developed in general accordance with the following legislation, industry standards, codes of practice, and guidance documents, where relevant:

- NSW Work Health and Safety (WHS) Act 2011 (WHS Act 2011)
- NSW WHS Regulation 2011 (WHS Regulation 2017)
- Contaminated Land Management (CLM) Act, 1997 (CLM Act 1997)
- CLM Amendment Act 2008
- Protection of the Environment Operations (POEO) Act 1997 (POEO Act 1997)
- POEO (Waste) Regulation 2014 (POEO Regulation 2014)
- National Environment Protection Council (NEPC) Act 1994 (NEPC Act 1994)
- National Environment Protection Council, National Environment Protection (Assessment of Site Contamination) Measure, 1999 (amended April 2013) (amended ASC NEPM)
- Safe Work NSW How to Manage and Control Asbestos in the Workplace Code of Practice 2016
- Safe Work NSW How to Safely Remove Asbestos Code of Practice 2016
- NSW Environment Protection Authority (EPA) State Environmental Planning Policy 55 – Remediation of Land, 1998 (SEPP 55)
- NSW EPA Waste Classification Guidelines: Part 1 – Classifying Waste, 2014 (NSW EPA Waste Classification Guidelines 2014)
- NSW EPA Guidelines for the NSW Site Auditor Scheme (3rd edition) October 2017
- CRC Care Technical Report No. 10, Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater, 2011 (CRC Care 2011)
- WorkCover NSW (2014) ‘Managing Asbestos in or on Soil’, March 2014
- NSW Office of Environment and Heritage (OEH), Guidelines for Consultants Reporting on Contaminated Sites, 2011 (OEH 2011)
- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)]

- AS 4964-2004 Method for the qualitative identification of asbestos in bulk samples
- AS 2985-2009 Workplace atmospheres - Method for sampling and gravimetric determination of respirable dust
- AS 3640-2009 Workplace atmospheres - Method for sampling and gravimetric determination of inhalable dust
- AS 1319-1994 Safety signs for the Occupational Environment
- AS/NZS 1716 – 2012 Respiratory Protective Devices
- AS/NZS 1715 – 2009 Selection, use and maintenance of respiratory equipment.

Figures



revision	no.	description	drawn	approved	date
	A	ORIGINAL ISSUE	GH	SH	03.12.19

DRAFT

LEGEND

- Road
- Track
- Railway
- Watercourse
- Cadastre
- Precinct H Site Boundary
- Precinct E Boundary
- Precinct A Boundary
- Precinct C Boundary
- Precinct F Boundary
- Enfield ILC Boundary

N

0 80 160 240 320

SCALE 1:8,654 (A3) METRES

Projection: GDA 1994 MGA Zone 56

drawn	XA
approved	SH
date	03.12.2019
scale	AS SHOWN
original size	A3

coffey
A TETRA TECH COMPANY

client: NSW PORTS

project: LONG TERM ENVIRONMENTAL MANAGEMENT PLAN: PRECINCT H
ENFIELD ILC
COSGROVE ROAD, STRATHFIELD SOUTH NSW

title: SITE BOUNDARY AND PRECINCT BOUNDARIES

project no: SYDEN217478_R05_H | figure no: FIGURE 1 | rev: A

MXD Template Reference: 217478_R05_GIS001_v0_2



revision no.	description	drawn	approved	date
A	ORIGINAL ISSUE	JS	SH	06.12.19

LEGEND

- Cadastre
- Warehouse
- Precinct H Site Boundary
- Precinct F Boundary
- Enfield ILC Boundary

DRAFT

N

0 10 20 30 40

SCALE 1:1,250 (A3) METRES

Projection: GDA 1994 MGA Zone 56

drawn	XA
approved	SH
date	06.12.2019
scale	AS SHOWN
original size	A3

coffey
A TETRA TECH COMPANY

client: NSW PORTS

project: LONG TERM ENVIRONMENTAL MANAGEMENT PLAN: PRECINCT H
ENFIELD ILC
COSGROVE ROAD, STRATHFIELD SOUTH NSW

title: PRECINCT H FACILITY BOUNDARIES

project no: SYDEN217478_R05_H | figure no: FIGURE 2 | rev: A

MXD Template Reference: 217478_R05_GIS002_v0_2



revision	no.	description	drawn	approved	date
	A	ORIGINAL ISSUE	JS	SH	16.12.19

LEGEND

- Cadastre
- Precinct H Site Boundary
- Precinct F Boundary
- Enfield ILC Boundary

Finished cap surface

- Carpark
- Hardstand
- Landscape
- Slab on ground
- Sprinkler tank

DRAFT

N

0 10 20 30 40

SCALE 1:1,250 (A3) METRES

Projection: GDA 1994 MGA Zone 56

drawn	XA
approved	SH
date	16.12.2019
scale	AS SHOWN
original size	A3

coffey
A TETRA TECH COMPANY

client: NSW PORTS

project: LONG TERM ENVIRONMENTAL MANAGEMENT PLAN: PRECINCT H
ENFIELD ILC
COSGROVE ROAD, STRATHFIELD SOUTH NSW

title: PRECINCT H CAPPED SURFACES

project no: SYDEN217478_R05_H | figure no: FIGURE 3 | rev: A

MXD Template Reference: 217478_R05_GIS003_v0_2

Appendix A - Important Information about your Coffey Environmental Report

Purchase Order Terms and Conditions

1. Acceptance

This Purchase Order ("Order") becomes a binding contract on the terms and conditions set forth herein when accepted by Seller including but not limited to:
(a) acknowledgement of this Order;
(b) any conduct by Seller which recognises the existence of this Order; or
(c) by Seller's failure to notify Buyer to the contrary within 7 days of the date of issuance of this Order. Acceptance by Buyer of the items, equipment ("Material") or any other document delivered or services ("Services") performed under this Order shall not constitute acceptance of Seller's terms and conditions. No additional, modified or different terms or conditions, whether in Seller's proposal or acknowledgement or otherwise, shall govern any arrangement between the Buyer and the Seller unless Buyer expressly assents in writing to such additional, modified or different terms and conditions.

2. Delivery

Delivery or performance shall be in accordance with the Order delivery or performance schedule (the "Schedule") and Seller shall use the most cost-efficient means of transportation. TIME IS OF THE ESSENCE IN THIS CONTRACT. If Seller's deliveries fail to meet such Schedule, Buyer, without limiting its other remedies, may direct expedited routing, and the difference between the expedited routing cost and the Order routing cost shall be paid by the Seller. Buyer shall have the right to terminate this contract by notice to the Seller and place orders elsewhere if deliveries or Services performed are not made as specified and agreed.

3. Inspection

An authorised representative of Buyer shall be given the opportunity upon delivery of all Material to inspect same and upon provision of all Services to inspect the product of same, provided however that any such inspection shall not constitute final acceptance of Materials or Services and Buyer shall retain the right to reject part or all of the Material or Services at any time within a reasonable period after discovery by Buyer that they do not conform with the terms of this Order.

4. Packaging

All Material shall be packed in appropriate containers for protection in shipment and storage so as to exclude the introduction of foreign material. If the Material requires cleaning or disassembly prior to use, due to the presence of foreign material, it shall be at the expense of Seller. Each container shall be consecutively numbered and marked to show the Order number and shall be included on the bill of lading.

5. Price & payment terms

Seller expressly agrees that the prices set forth herein are binding on Seller and shall remain fixed until all Material and/or Services have been delivered and accepted by Buyer unless otherwise agreed in writing by the parties. Payment shall be made net 30 days after receipt of invoice, unless otherwise agreed to in writing by Buyer.

6. Cash discounts

Discounts for prompt payment shall be calculated from the later of receipt by Buyer of an accurate invoice in accordance with the terms hereof, or date of delivery of Material to its destination for full performance of Services.

7. Quality

Material rejected that has been paid for by Buyer, at Buyer's option, may be returned and the price of that Material refunded by the Seller to the Buyer. In the case of rejection or refund Seller will reimburse Buyer for all its inspection and handling costs.

8. Expanded quantities or shortages

Buyer assumes no obligation for Material shipped in excess of the amount specified herein. Over shipment may be returned at Buyer's option, at Seller's expense. If the quantity of Material invoiced by Seller on shipments exceeds the quantity received by Buyer, the full amount payable for the non-delivered Material shall be deducted from the price payable by the Buyer as stated in the Seller's invoice. The Buyer reserves its rights to reject all of the Material if there occurs any such shortfall and to recover from the Seller any cost, loss or damage which might occur due to such rejection.

9. Substitution

No substitution shall be made by Seller for Material which is specified by manufacturer's number, brand name or by generic type except upon prior written approval of Buyer. Should Seller propose a substitution to Buyer, Seller shall provide Buyer with documentation on such substitution prior to shipment or as requested by Buyer attesting to the proposed item's equivalency in form, fit and function.

10. Warranties

A. Materials: Any Materials furnished hereunder will conform to any and all of the specifications, drawings, samples, or descriptions furnished by Buyer. Seller agrees to indemnify and hold harmless Buyer from any losses, costs, damages, or expenses arising from failure to meet any and all specifications. Seller warrants that the Material provided will be new, free from defects in material design or workmanship for a period of one (1) year after date of delivery and is of established commercial operability. Furthermore, Seller agrees to repair or replace any defective Material at its sole expense. The warranty hereunder is in addition to all other warranties provided by law and shall survive any inspection, delivery, acceptance or payment by Buyer.
B. Services: Seller warrants that the services provided hereunder shall be performed by personnel highly qualified to perform such services and that the service will be free from defects and in conformance with this Order. This warranty shall survive any inspection, delivery, acceptance or payment by the Buyer.
C. Special:
(i) Seller warrants that Seller shall inform Buyer in writing of any restrictions which may limit the manufacture or use of any chemicals by Buyer under any Commonwealth, State or local law or regulation including any environmental protection, dangerous goods or poisons law, regulation or guideline which governs or affects any substance's manufacture, use, handling, treatment, transportation, storage, disposal or labelling, including Australian Standards published by the Standards Association of Australia, Occupational Health & Safety Legislation, the Industrial Chemicals (Notification and Assessment) Act, 1989 and the Australian Code for Transportation of Dangerous Goods by Road and Rail ("Environmental Protection Legislation").
(ii) Seller warrants that the production and sale of all chemical and petroleum substances hereunder shall be in compliance with all Environmental Protection Legislation. Seller warrants that a Material Safety Data Sheet has been provided on or before the first shipment of a hazardous chemical or petroleum substance as defined and regulated in the above standard.
D. Title: Seller warrants that it has good and clear title to all Material to be supplied by it and that all legal and beneficial title and interest in the Material will transfer to the Buyer upon delivery. The Material is free and clear from any and all liens, encumbrances, claims and security interests.

11. Indemnity

Seller shall defend, indemnify and hold harmless Buyer from any and all liabilities, damages, claims, costs and expenses including court costs and reasonable legal fees and costs on account of claims of injury to persons including death or damage to property arising out of or attributable to any of the Materials supplied and/or Services performed hereunder.

12. Design

The design for Material made according to blueprints furnished by Buyer shall be Buyer's property and Seller shall not furnish to others any articles or parts thereof, nor any articles made in accordance with such blueprints or part thereof, nor any articles made using processes or expertise developed by the Seller due to the use or

observation of those blueprints or part thereof, without Buyer's written permission.

13. Disclosure

All ideas, information, designs, devices, prints, drawings, and technical information concerning Seller's products, methods or manufacturing processes which Seller discloses or furnishes to Buyer in connection with this Order shall not be deemed confidential or proprietary information and shall (except only to the extent as may be otherwise specifically agreed in writing by Buyer and Seller) be deemed to have been disclosed or furnished as part of the consideration for this Order and Seller agrees not to assert any claim (except those claims for patent infringement) by reason of use, duplication or disclosure, thereof by Buyer.

14. Patents and other intellectual property

Seller shall defend, at its expense, any claim against Buyer alleging that Material furnished or Services performed under this Order infringes any patent, copyright, trademark, industrial design or other intellectual property interest and shall pay all costs and damages awarded. If a final injunction against Buyer's use of the Material results from such a claim (or, if Buyer reasonably believes such a claim is likely) Seller shall, at its own expense and as Buyer requests:
(a) obtain for Buyer the right to continue using the Material; or
(b) replace or modify it (or any part thereof) so that it becomes non-infringing but functionally equivalent.

15. Seller's employees

Seller agrees that its employees, agents or subcontractors shall not be deemed the agents or employees of Buyer whether or not a separate charge is made therefore.

16. Suspension or termination

Buyer may suspend or terminate this Order hereunder or any part thereof, including delivery, upon at least three (3) days' written notice to Seller. Seller shall promptly comply with Buyer's instructions to minimise the cost to Buyer. Upon suspension, Seller shall be entitled to recover its reasonable and directly related costs without any allowance for overhead, profit or indirect, consequential or special associated damages. Upon termination of this Order other than for cause, Seller shall be entitled to recover only its uncompensated actual costs incurred prior to termination and those reasonable and directly related costs arising from Buyer's termination. In no event shall the total liability of Buyer exceed the price(s) specified in this Order. Upon such payment, all material not yet delivered to Buyer shall become the property of Buyer in its then state of completion.

17. Cancellation for non-performance or cause

This Order is subject to cancellation by Buyer in whole or in part for failure of Seller to perform any of its obligations hereunder at any time before it has been completed by Seller for any reason whatsoever upon three (3) days' prior written notice. In such event, without derogation from any other right or remedy that Buyer may have against Seller, the following terms and conditions shall apply:
A. Buyer shall notify Seller, in writing, email or by facsimile, of Buyer's intention to cancel and the reasons thereof.
B. Immediately upon notice of cancellation, Seller shall cease all work under this Order and shall take all possible steps to cancel all orders which Seller may have placed for the purchase of materials and supplies to be used by Seller in the manufacture of Material or performance of Services covered by this Order. Failure of Seller to use due diligence in cancelling such orders shall deprive Seller of the benefits of paragraph C(iii) below as they apply to such orders.
C. If Buyer elects to take possession of any Material, Seller shall be reimbursed as follows:
(i) Buyer agrees to pay Seller for the finished Material covered by this Order which has been previously delivered to Buyer, or which Buyer wishes to accept, but which is in Seller's possession and not paid for, on receipt of notice of cancellation, at the rate set forth in this Order [or, if no such rate is expressly provided in this Order, pro rata in the proportion that the finished material bears to the total Material].
(ii) Buyer agrees to pay Seller, exclusive of fees for overhead and profit, for that Material covered by this Order which is in process of manufacture upon receipt of notice of cancellation, the price for such work in progress to be the cost thereof to Seller at cancellation as determined by generally accepted accounting principles.
(iii) Buyer agrees to pay Seller, its actual cost plus handling charges as determined by accepted accounting practices, exclusive of fees for overhead and profit, for those raw materials in Seller's possession or covered by uncancellable orders placed by Seller to the extent that:
(a) such raw materials have been ordered specially by Seller in reliance on this Order; and
(b) such raw materials are useful solely in the manufacture of the Material covered by this Order.
D. If Buyer elects not to take possession of any Material, Seller shall not be reimbursed, or if Material has been previously delivered to Buyer, Buyer may return same, at its option, to Seller, freight collect, and Seller shall immediately refund in full, any payment made thereon.
E. All Material, work in progress and raw materials paid for by Buyer under the foregoing paragraphs C(i) through C(iii) shall upon demand thereupon become Buyer's property, and Seller shall deliver them to Buyer in accordance with Buyer's instructions.
F. Seller shall sell at prices approved by Buyer, such of Buyer's Material as is designated by Buyer and immediately remit the proceeds thereof to Buyer.
G. As a condition precedent to payment by Buyer of cancellation costs herein, Seller shall execute and deliver all documents and papers and take all action required to effectuate the above as directed by Buyer and to provide proof there are no liens or claims against Buyer or its property.
H. In no event shall Buyer pay Seller any amount, including cancellation costs in excess of the contract price specified in this Order.
I. Upon any cancellation of this contract, all of the terms of this Order shall remain in full force and effect as to all Material provided to or Service performed for herein to Buyer prior to or in connection with such cancellation.

18. Force majeure

Neither Seller nor Buyer shall be liable for losses or damage sustained by the other resulting from any delay or failure to perform due to causes beyond the control of the party whose performance is delayed or who fails to perform, and the latter shall use reasonable effort to remedy the situation in the shortest practical time.

19. Assignment

Performance hereunder may not be assigned or subcontracted by seller without the prior written consent of Buyer.

20. Governing law

This Order is to be construed under the laws of the State of New South Wales. Seller warrants that the Material covered by this Order has been produced and sold in accordance with any and all laws and regulations.

21. Conflicting terms

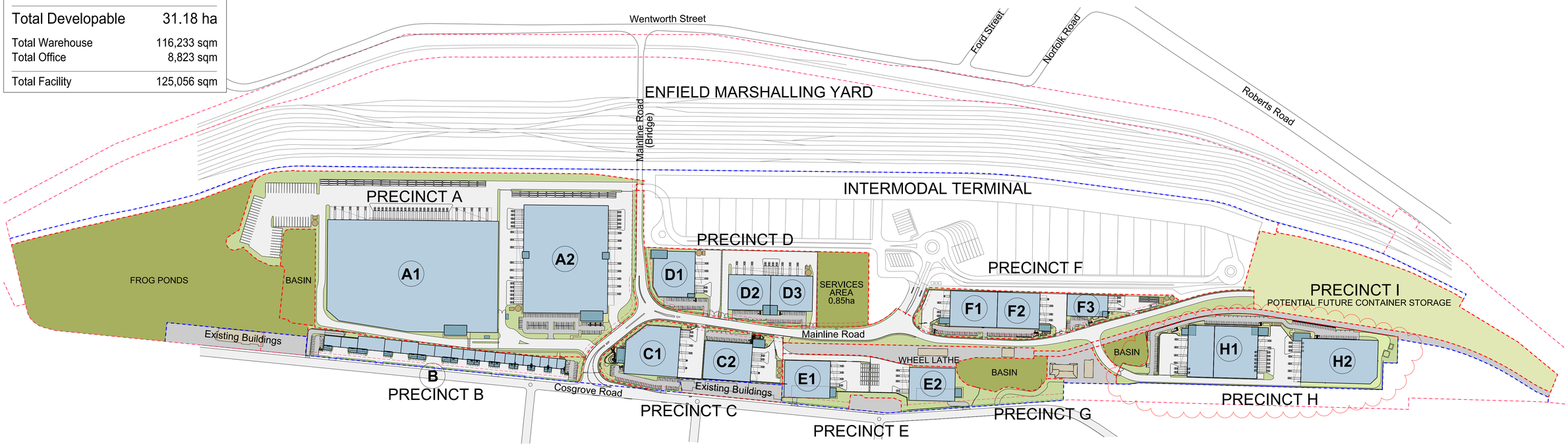
This Order consists of the standard pre-printed Order form, these terms and conditions, attachments and exhibits, etc. Seller expressly acknowledges that it has received and read these documents. In the event of conflict, or ambiguity, the order of priority follows:
(a) typed or handwritten provisions on the face of this Order;
(b) attachments or exhibits;
(c) these pre-printed terms and conditions.
This order constitutes the entire agreement between the parties.

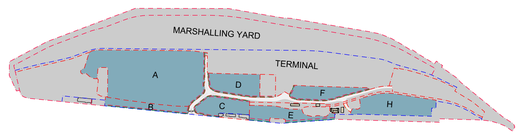
Appendix B – Enfield ILC Masterplan

Site Area Schedule

Total Site Area	**59.32 ha**
Less:	
Roads	2.98 ha
Ecological Zones	6.72 ha
Basins	1.51 ha
Intermodal Terminal & Railway	14.61 ha
Services Area	0.85 ha
Wheel Lathe & Railway	1.47 ha
	28.14 ha
Development Areas	
Precinct A	13.02 ha
Precinct B	1.49 ha
Precinct C	2.11 ha
Precinct D	2.54 ha
Precinct E	2.19 ha
Precinct F	2.07 ha
Precinct G	0.37 ha
Precinct H	3.58 ha
Precinct I	3.81 ha
Total Developable	**31.18 ha**
Total Warehouse	116,233 sqm
Total Office	8,823 sqm
Total Facility	125,056 sqm

NSW Ports in partnership with Goodman





PRELIMINARY

SBA ARCHITECTS	ENFIELD ILC	Enfield Intermodal Logistics Centre Mainline Rd, Strathfield South	Masterplan 0 60 300	1:3000 @ A1 1:6000 @ A3 05 Nov 2018	EILC DA01 (P12) Job No 17169

Appendix C – Photographs



Photo 1. 15/11/2019 – Looking north-west across Precinct H at H1A warehouse, with VENM capped surface in foreground.



Photo 2. 15/11/2019 – Looking north-west along eastern boundary of Precinct H, depicting VENM cap thickness (approximately 1m) and railway corridor further east.



Photo 3. 15/11/2019 – Looking east across concrete capped surface of car park located on the southern side of warehouse H1A.

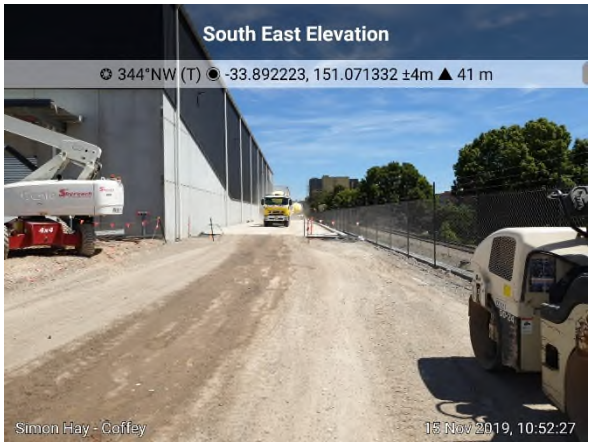


Photo 4. 15/11/2019 – Looking north-west along eastern boundary of Precinct H, at paved internal access road.



Photo 5. 15/11/2019 – Looking south-west across central loading dock area located between H1B and H2 warehouse as concrete slab over VENM cap was being poured.



Photo 6. 15/11/2019 – Looking south at warehouse H1B in central loading dock area, following pouring of concrete slab.



Photo 7. 15/11/2019 – Looking east at warehouse H2 at concrete surfaced loading dock area.



Photo 8. 15/11/2019 – Looking north across warehouse H2 at concrete surfaced cap.



Photo 9. 15/11/2019 – Looking north-east at cap clay capped surface at rear of fire pump room and water tank.

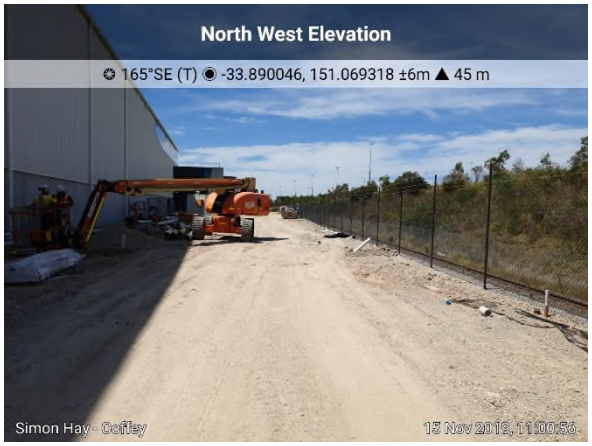


Photo 10. 15/11/2019 – Looking south-east along capped western boundary of site with western rail corridor on right.

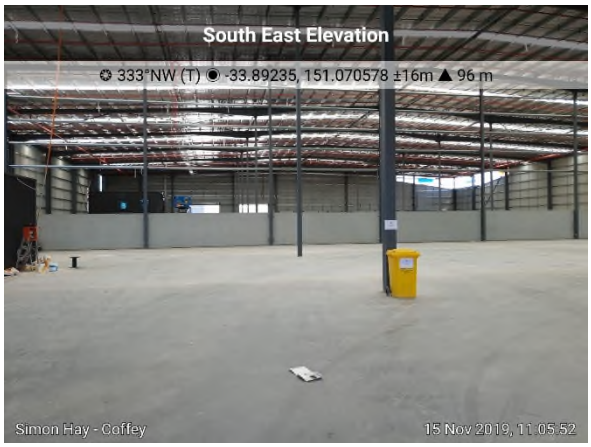


Photo 11. 15/11/2019 – Looking north-west across interior warehouse H1A towards H1B and concrete surfaced capped surface.



Photo 12. 15/11/2019 – Looking east across capped surface of H1B.



Photo 13. 15/11/2019 – Looking south-east across capped surface of H1B showing an approximate concrete cap thickness of 300mm on right side of photograph.



Photo 14. 15/11/2019 – Looking north-east across capped surface of at southern end of Precinct H showing approximately VENM cap thickness of 1m.



Photo 15. 18/12/2019 – Looking west across southern portion of H1 carpark prior to surfacing.



Photo 16. 18/12/2019 – Looking north-west across capped surface of H1 at imported topsoil.



Photo 17. 18/12/2019 – Looking south-west along bitumen surfaced access road on western extent of site.



Photo 18. 18/12/2019 – Looking south along hardstand surfaced access road along eastern boundary of site, with imported topsoil in foreground.



Photo 19. 18/12/2019 – Looking west / south-west at loading dock forecourt between H2 and H3 warehouses.



Photo 20. 18/12/2019 – Looking north-west along eastern border of site with mulched landscaped border and hardstand (7mm Prime and Seal) internal road.



Photo 21. 18/12/2019 – Looking north-east at landscaped area in front of H3 office.



Photo 22. 18/12/2019 – Looking north-west at landscaped area in north-west corner of site. This portion of the site (eastern and northern side of water tank) was excavated into natural material.

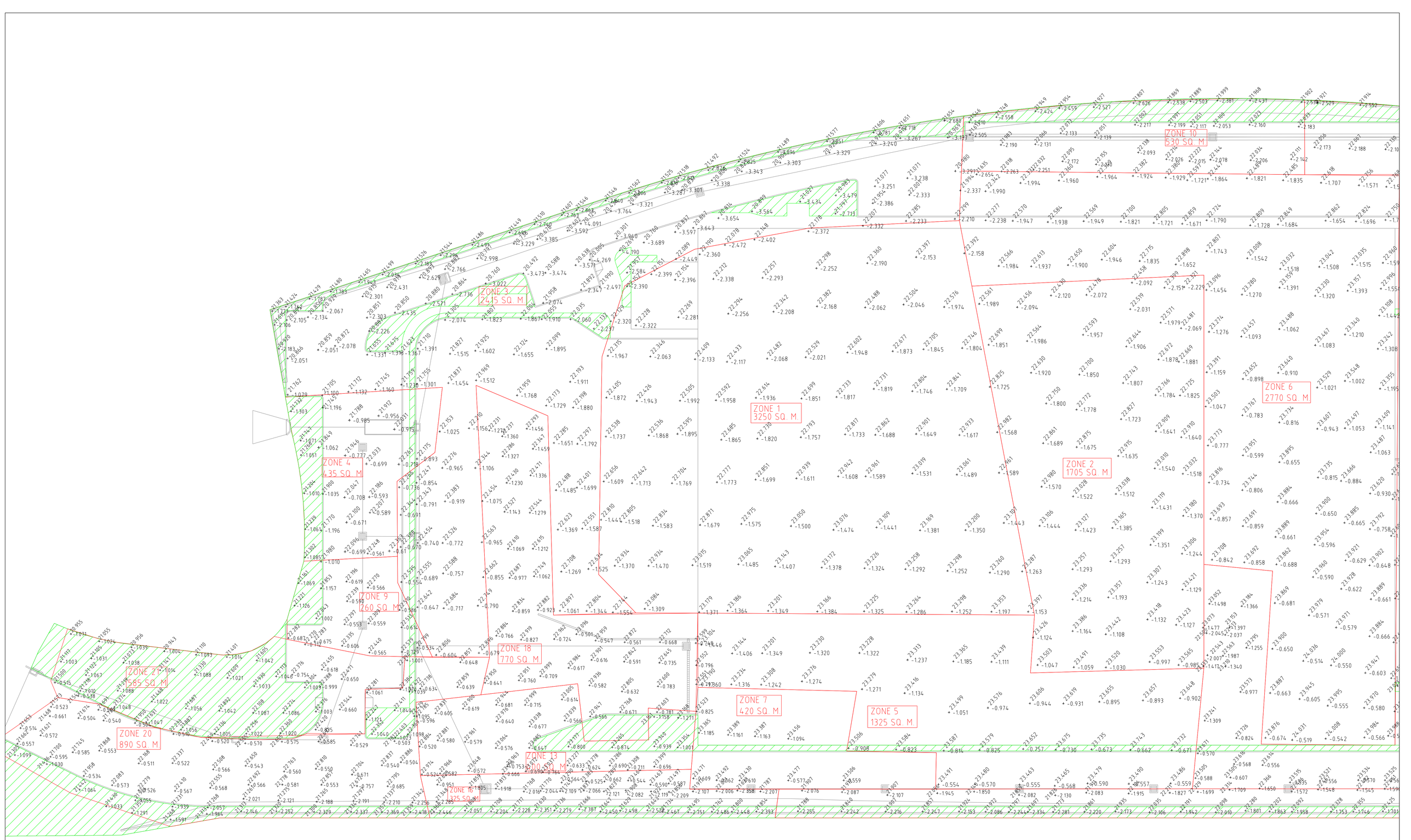


Photo 23. 18/12/2019 – Looking north in north-western corner of the site at capped surface (west of water tank and pump shed).



Photo 24. 18/12/2019 – Looking south-east along western border of site at bitumen surfaced internal road and landscaped areas along western border adjacent to rail corridor.

Appendix D – Survey Plans



1. PLAN SUBJECT TO COUNCIL APPROVAL.
   THIS PLAN WAS PREPARED FOR THE PURPOSES OF DETAIL SURVEY.
   THE BOUNDARIES OF THE PROPERTY HAVE NOT BEEN INVESTIGATED.

AWJ civil

your project partner

A: 155 Newton Rd Wetherill Park NSW 2164 I P: 02 97572999 I F: 02 9757 1677

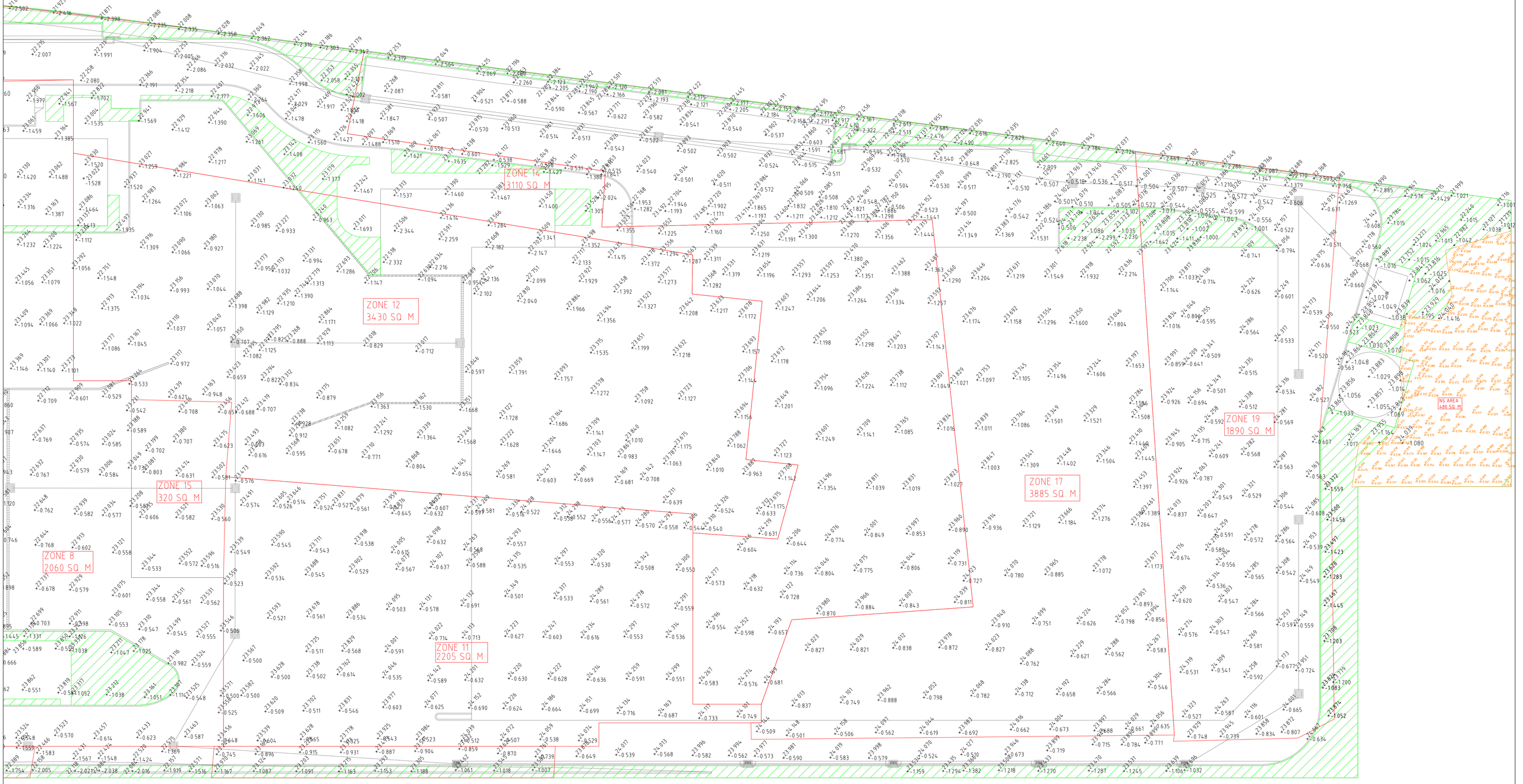
REVISION		
8	06-08-19	LANDSCAPE AREAS HIGHLIGHTED, ZONE 19 ADDED
9	09-08-19	ZONES 20 & 21 ADDED
10	14-08-19	POINTS IN ZONE 17 REMEASURED
11	23-08-19	NATURAL SURFACE POINTS ADDED, POINTS IN ZONES 17 & 19 REMEASURED
5	23-07-19	ZONES 10,11 & 12 ADDED
6	26-07-19	ZONES 13,14, & 15 ADDED, POINTS IN ZONE 12 REMEASURED
7	01-08-19	ZONES 16,17 & 18 ADDED

CLIENT: QANSTRUCT

PROJECT: 807 ENFIELD PRECINCT H
PLAN OF: SEPARATION LAYER

DRAWING REF: 807 Separation Layer.dwg

SCALE:1:250 (A1) | DATUM: AHD | DRAWN BY: J OHALLORAN | SHEET 1 OF 2



1. PLAN SUBJECT TO COUNCIL APPROVAL.
   THIS PLAN WAS PREPARED FOR THE PURPOSES OF DETAIL SURVEY.
   THE BOUNDARIES OF THE PROPERTY HAVE NOT BEEN INVESTIGATED.

AWJ civil

your project partner

A: 155 Newton Rd Wetherill Park NSW 2164 I P: 02 97572999 I F: 02 9757 1677

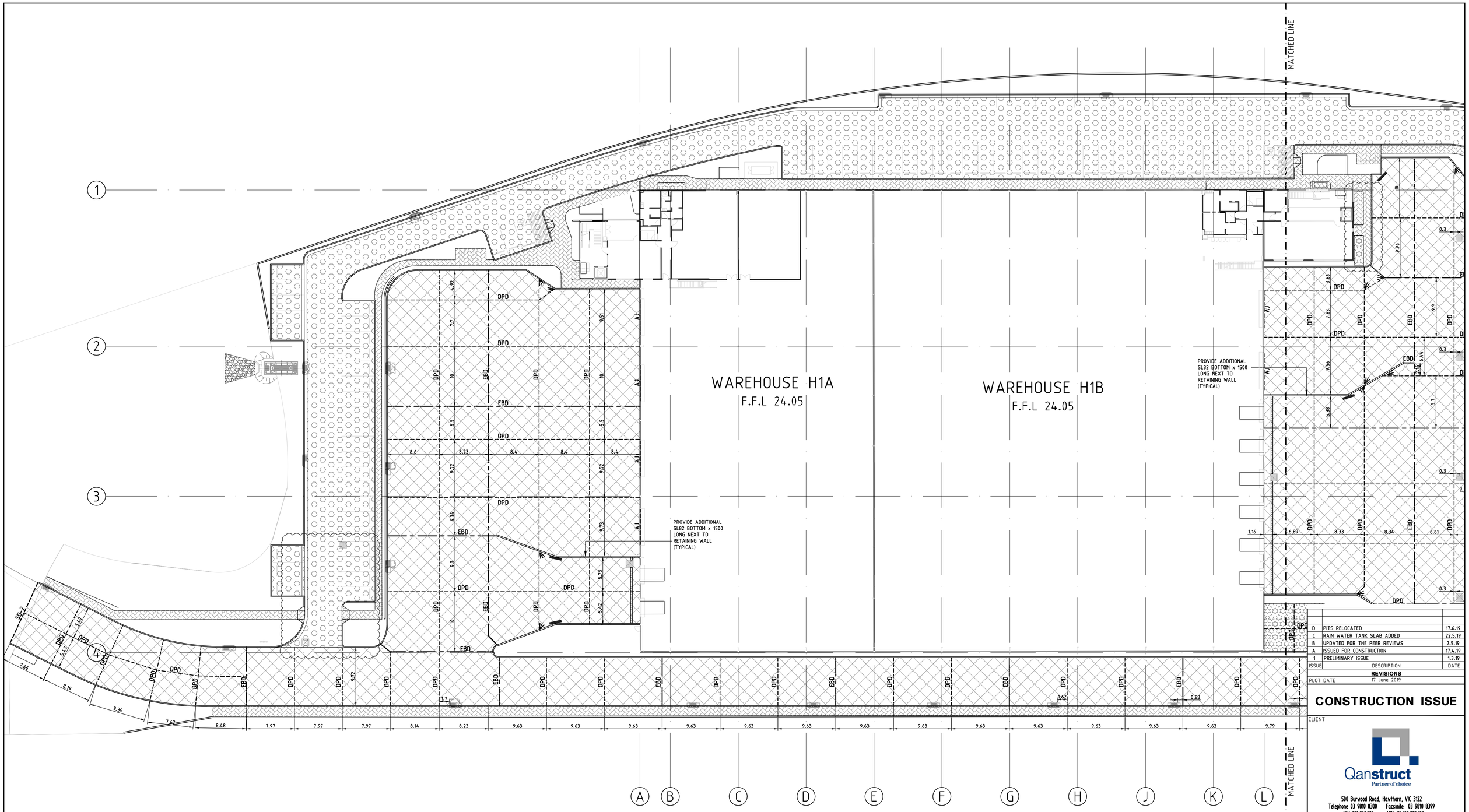
REVISION		
8	06-08-19	LANDSCAPE AREAS HIGHLIGHTED, ZONE 19 ADDED
9	09-07-19	ZONES 20 & 21 ADDED
10	14-08-19	POINTS IN ZONE 17 REMEASURED
11	23-08-19	NATURAL SURFACE POINTS ADDED, POINTS IN ZONES 17 & 19 REMEASURED
5	23-07-19	ZONES 10,11 & 12 ADDED
6	26-07-19	ZONES 13,14, & 15 ADDED, POINTS IN ZONE 12 REMEASURED
7	01-08-19	ZONES 16,17 & 18 ADDED

CLIENT: QANSTRUCT

PROJECT: 807 ENFIELD PRECINCT H
PLAN OF: SEPARATION LAYER

DRAWING REF: 807 Separation Layer.dwg

SCALE:1:250 (A1)	DATUM: AHD	DRAWN BY: J OHALLORAN	SHEET 2 OF 2



PAVEMENT DETAILS IN N.S.W

CARPARK PAVEMENT

30mm CONSOL. DEPTH OF 10mm AC10 ASPHALT
PRIMER SEAL ON
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
200mm CONSOL. DEPTH OF DGS40
COMPACT TO 95% MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1

PREPARED SUBGRADE

32 MPa HARDSTAND PAVEMENT

180mm THICK CONCRETE SLAB, F'c 32MPa
MIN. CEMENT CONTENT TO BE 330 KG/m³
TARGET DRY SHRINKAGE STRAIN 600 uSTRAIN AT 56 DAYS
SL92 MESH TOP, COVER 40mm
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
3% CEMENT TREATED SUB-BASE
TYPICALLY 2.5m WIDE ALONG HARDSTAND PERIMETER
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1

PREPARED SUBGRADE

FIRE ACCESS PAVEMENT

7mm PRIME & SEAL
200mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1

PREPARED SUBGRADE

150mm CONCRETE PAVEMENT

150mm THICK CONCRETE SLAB, F'c 32MPa
SL82 MESH TOP, COVER 40mm
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1

PREPARED SUBGRADE

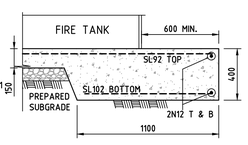
CONCRETE FOOTPATH (REFER TO ARCH. DRAWINGS FOR LOCATION AND FINISHES)

100mm THICK CONCRETE SLAB, F'c 25MPa
SL62 MESH CENTRAL
50mm CONSOL. DEPTH OF N.D.C.R
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1
GROOVE JOINTS AT 1500mm MAX. CTS
EXPANSION JOINTS AT 9000mm MAX. CTS

PREPARED SUBGRADE

FIRE TANK SLAB

150mm THICK CONCRETE SLAB, F'c 32MPa
SL92 MESH TOP, COVER 40mm
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
1100 WIDE x 400 DEEP EDGE BEAM, SL102 BOTTOM
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1



LEGEND FOR JOINTS

BISCUIT PLATE DOWEL JOINT	EBD
PLATE DOWEL JOINT	DPD
EXTERNAL ARMOURED JOINT	AJ
SAWCUT JOINT	S
TRIMMER / CORNER BARS	

REFER TO DRAWING NO.EP3 FOR DETAILS

ISSUE	DESCRIPTION	DATE
D	PITS RELOCATED	17.6.19
C	RAIN WATER TANK SLAB ADDED	22.5.19
B	UPDATED FOR THE PEER REVIEWS	7.5.19
A	ISSUED FOR CONSTRUCTION	17.4.19
1	PRELIMINARY ISSUE	1.3.19

REVISIONS
PLOT DATE 17 June 2019

CONSTRUCTION ISSUE

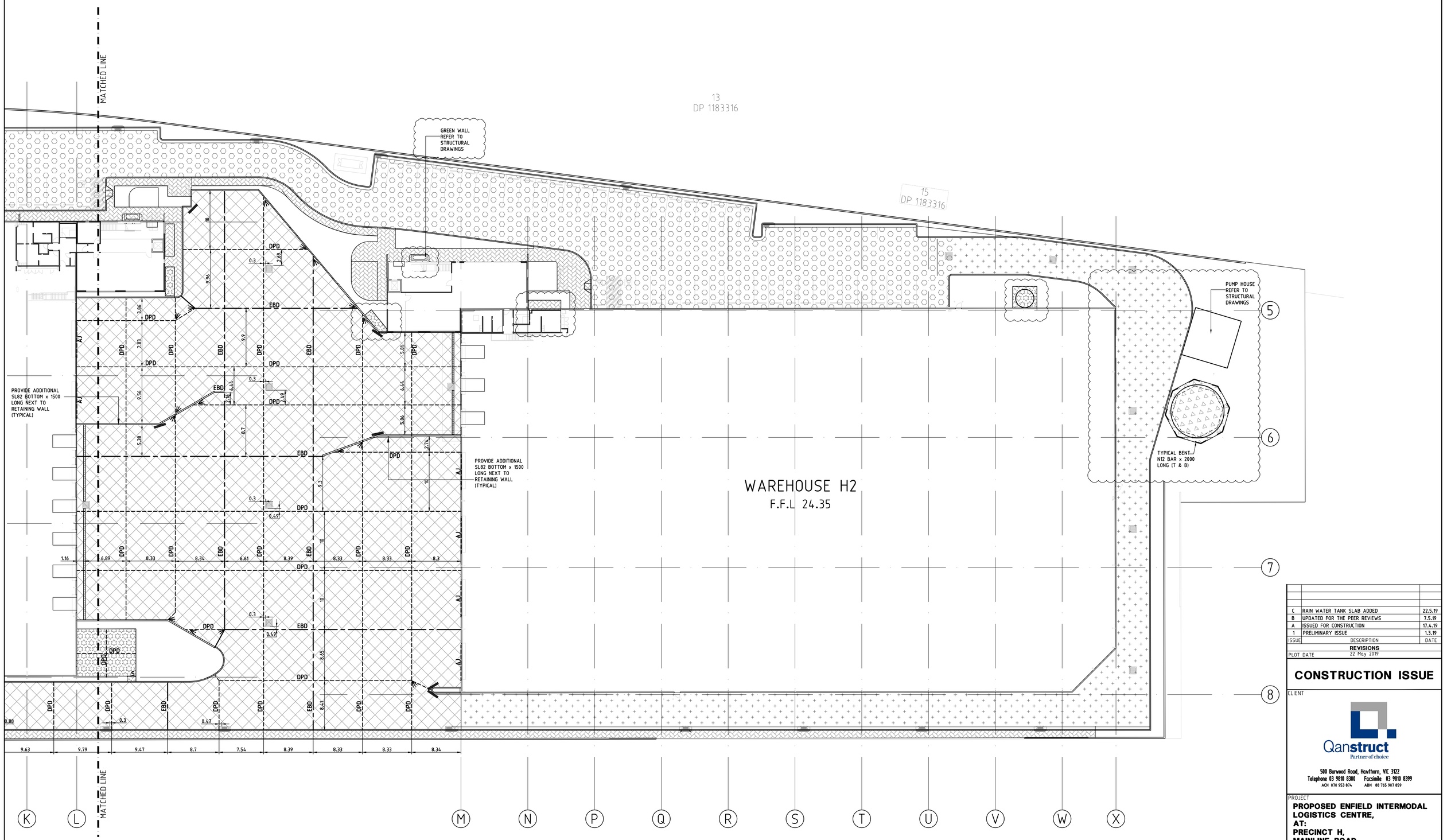
CLIENT
Qanstruct
Partner of choice
500 Burwood Road, Hawthorn, VIC 3122
Telephone 03 9810 8300 Facsimile 03 9810 8399
ACN 070 953 874 ABN 88 765 907 859

PROJECT
PROPOSED ENFIELD INTERMODAL LOGISTICS CENTRE,
AT:
PRECINCT H,
MAINLINE ROAD,
STRATHFIELD SOUTH,
N.S.W.

PAVEMENT PLAN - SHEET 1

Cosentino Group Pty Ltd
Designers & Engineers
12 Business Park Drive,
Notting Hill, Victoria 3168, Australia.
Telephone (03) 9265 9888 Fax (03) 9265 9876
engineering@cosentinogroup.com.au ABN 56 095 613 562

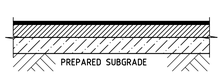
DESIGNED	T.C.	DATE MARCH 2019
DRAWN	T.C.	SCALE 1 in 250 @ B1
DRAWING No	17931 - EP1	ISSUE D



PAVEMENT DETAILS IN N.S.W

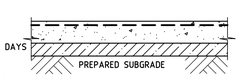
CARPARK PAVEMENT

30mm CONSOL. DEPTH OF 10mm AC10 ASPHALT
PRIMER SEAL ON
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
200mm CONSOL. DEPTH OF DGS40
COMPACT TO 95% MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1



32 MPa HARDSTAND PAVEMENT

180mm THICK CONCRETE SLAB, F'c 32MPa
MIN. CEMENT CONTENT TO BE 330 KG/m³
TARGET DRY SHRINKAGE STRAIN 600 uSTRAIN AT 56 DAYS
SL92 MESH TOP, COVER 40mm
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
3% CEMENT TREATED SUB-BASE
TYPICALLY 2.5m WIDE ALONG HARDSTAND PERIMETER
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1



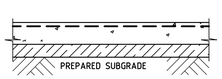
FIRE ACCESS PAVEMENT

7mm PRIME & SEAL
200mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1



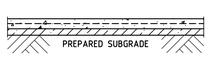
150mm CONCRETE PAVEMENT

150mm THICK CONCRETE SLAB, F'c 32MPa
SL82 MESH TOP, COVER 40mm
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1



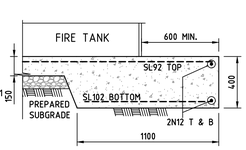
CONCRETE FOOTPATH (REFER TO ARCH. DRAWINGS FOR LOCATION AND FINISHES)

100mm THICK CONCRETE SLAB, F'c 25MPa
SL62 MESH CENTRAL
50mm CONSOL. DEPTH OF N.D.C.R
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1
GROOVE JOINTS AT 1500mm MAX. CTS
EXPANSION JOINTS AT 9000mm MAX. CTS



FIRE TANK SLAB

150mm THICK CONCRETE SLAB, F'c 32MPa
SL92 MESH TOP, COVER 40mm
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
1100 WIDE x 400 DEEP EDGE BEAM, SL102 BOTTOM
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1



ISSUE	DESCRIPTION	DATE
C	RAIN WATER TANK SLAB ADDED	22.5.19
B	UPDATED FOR THE PEER REVIEWS	7.5.19
A	ISSUED FOR CONSTRUCTION	17.4.19
1	PRELIMINARY ISSUE	1.3.19

REVISIONS
PLOT DATE 22 May 2019

CONSTRUCTION ISSUE

CLIENT

Qanstruct
Partner of choice

500 Burwood Road, Hawthorn, VIC 3122
Telephone 03 9810 8300 Facsimile 03 9810 8399
ACN 070 953 874 ABN 88 765 907 859

PROJECT

PROPOSED ENFIELD INTERMODAL LOGISTICS CENTRE,
AT:
PRECINCT H,
MAINLINE ROAD,
STRATHFIELD SOUTH,
N.S.W.

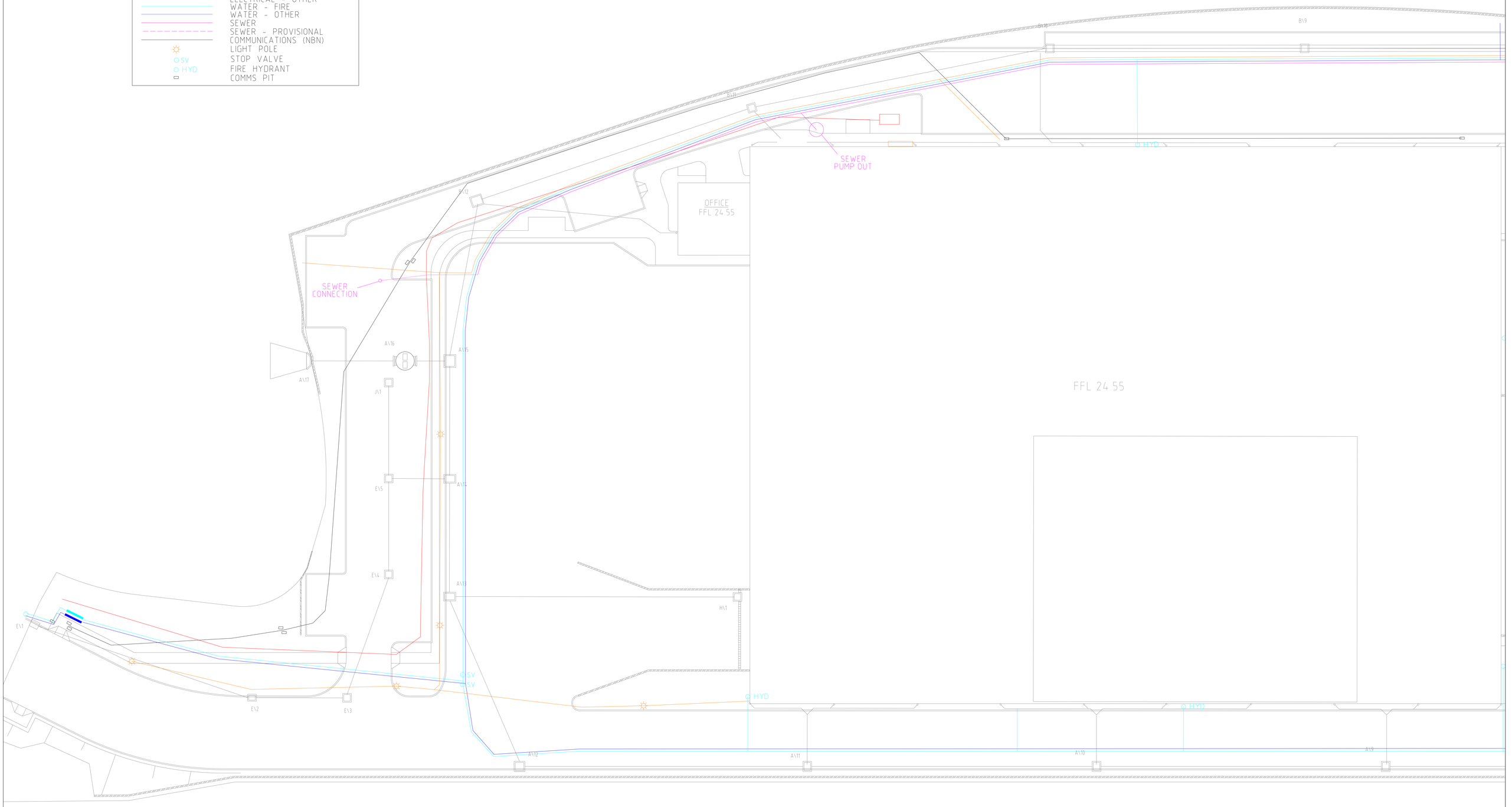
PAVEMENT PLAN - SHEET 2

Cosentino Group Pty Ltd
Designers & Engineers
12 Business Park Drive,
Notting Hill, Victoria 3168, Australia.
Telephone (03) 9265 9888 Fax (03) 9265 9876
engineering@cosentinogroup.com.au ABN 56 095 613 562

DESIGNED	T.C.
DRAWN	T.C.
DATE	MARCH 2019
SCALE	1 in 250 @ B1
DRAWING No	17931 -EP2
ISSUE	C

LEGEND

- ELECTRICAL - HIGH VOLTAGE
- ELECTRICAL - OTHER
- WATER - FIRE
- WATER - OTHER
- SEWER
- SEWER - PROVISIONAL
- COMMUNICATIONS (NBN)
- LIGHT POLE
- SV STOP VALVE
- HYD FIRE HYDRANT
- COMMS PIT



0 10 20
METRES

1. PLAN SUBJECT TO COUNCIL APPROVAL.
   THIS PLAN WAS PREPARED FOR THE PURPOSES OF DETAIL SURVEY.
   THE BOUNDARIES OF THE PROPERTY HAVE NOT BEEN INVESTIGATED.

AWJ GROUP
your project partner
A: 155 Newton Rd Wetherill Park NSW 2164 I P: 02 97572999 I F: 02 9757 1677

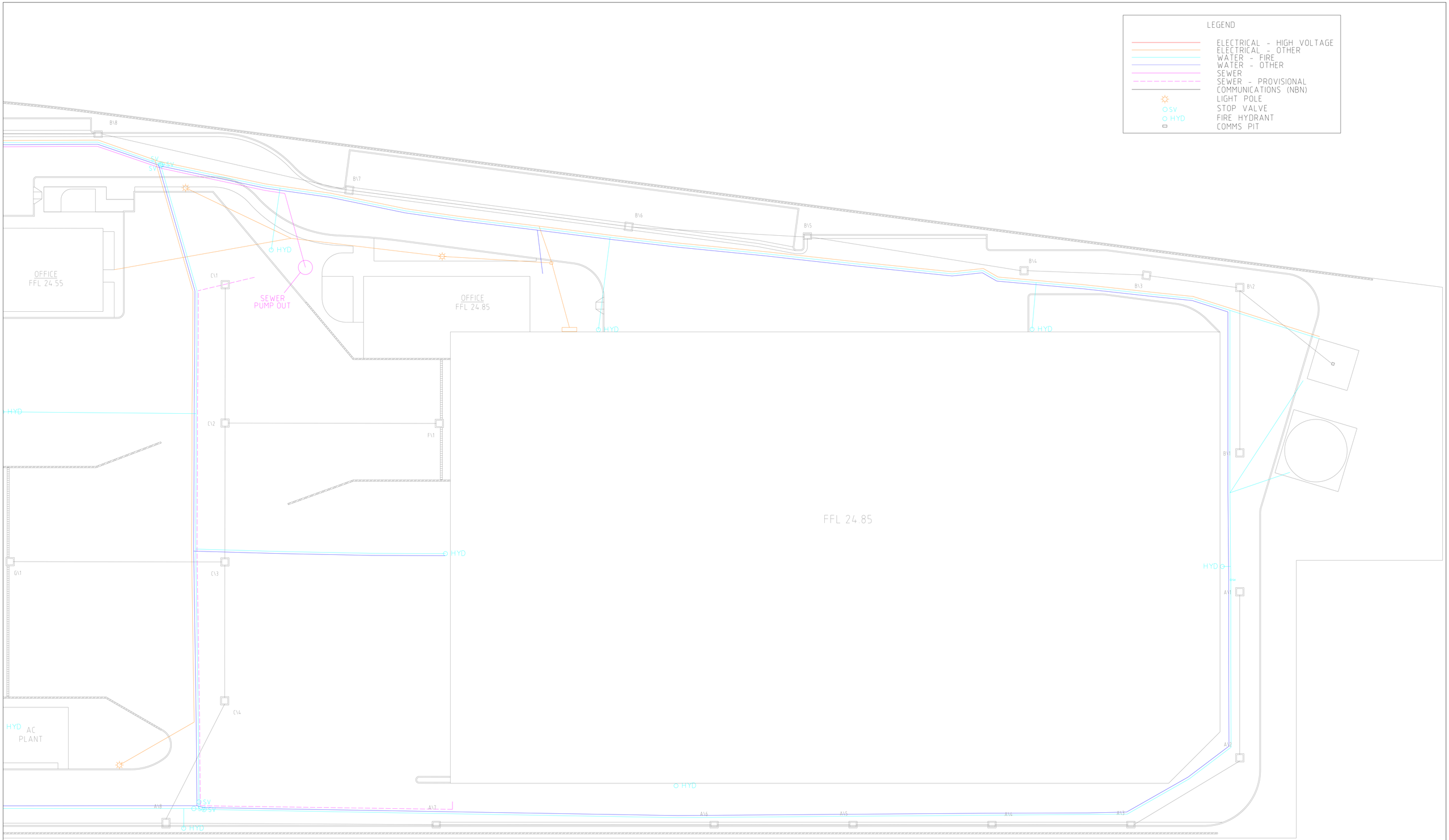
REVISION		
1	17-12-19	INITIAL ISSUE

CLIENT: QANSTRUCT

PROJECT: 807 ENFIELD PRECINCT H
PLAN OF: UNDERGROUND SERVICES

DRAWING REF: 807 Enfield H Service Lines

SCALE: 1:250 (A1)	DATUM: AHD	DRAWN BY: JRS	SHEET _ OF __



1. PLAN SUBJECT TO COUNCIL APPROVAL.
   THIS PLAN WAS PREPARED FOR THE PURPOSES OF DETAIL SURVEY.
   THE BOUNDARIES OF THE PROPERTY HAVE NOT BEEN INVESTIGATED.

AWJ GROUP
your project partner
A: 155 Newton Rd Wetherill Park NSW 2164 I P: 02 97572999 I F: 02 9757 1677

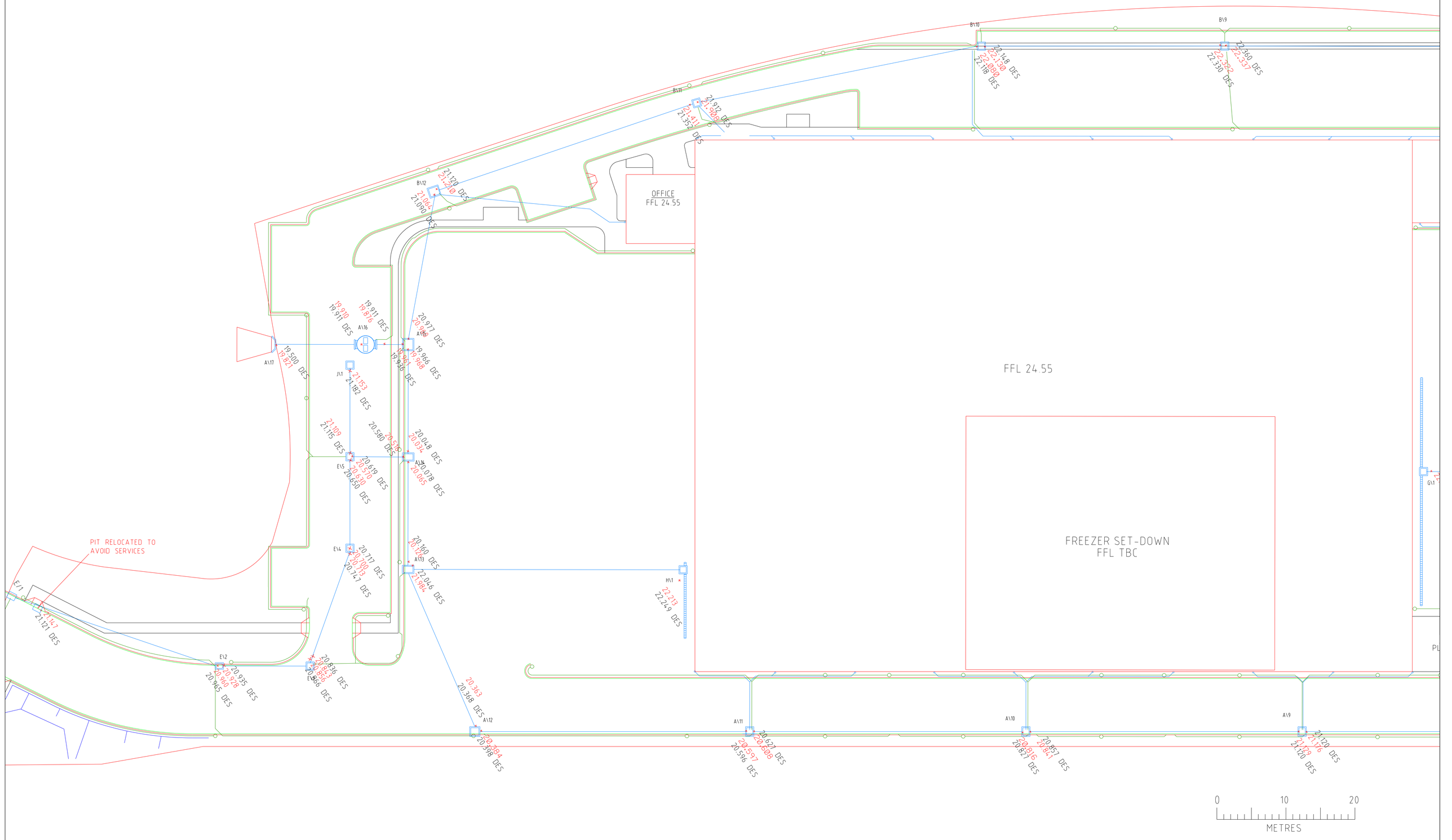
REVISION		
1	17-12-19	INITIAL ISSUE

CLIENT: QANSTRUCT

PROJECT: 807 ENFIELD PRECINCT H
PLAN OF: UNDERGROUND SERVICES

DRAWING REF: 807 Enfield H Service Lines

SCALE: 1:250 (A1)	DATUM: AHD	DRAWN BY: JRS	SHEET _ OF __



1. PLAN SUBJECT TO COUNCIL APPROVAL.
   THIS PLAN WAS PREPARED FOR THE PURPOSES OF DETAIL SURVEY.
   THE BOUNDARIES OF THE PROPERTY HAVE NOT BEEN INVESTIGATED.

AWJ GROUP
your project partner
A: 155 Newton Rd Wetherill Park NSW 2164 I P: 02 97572999 I F: 02 9757 1677

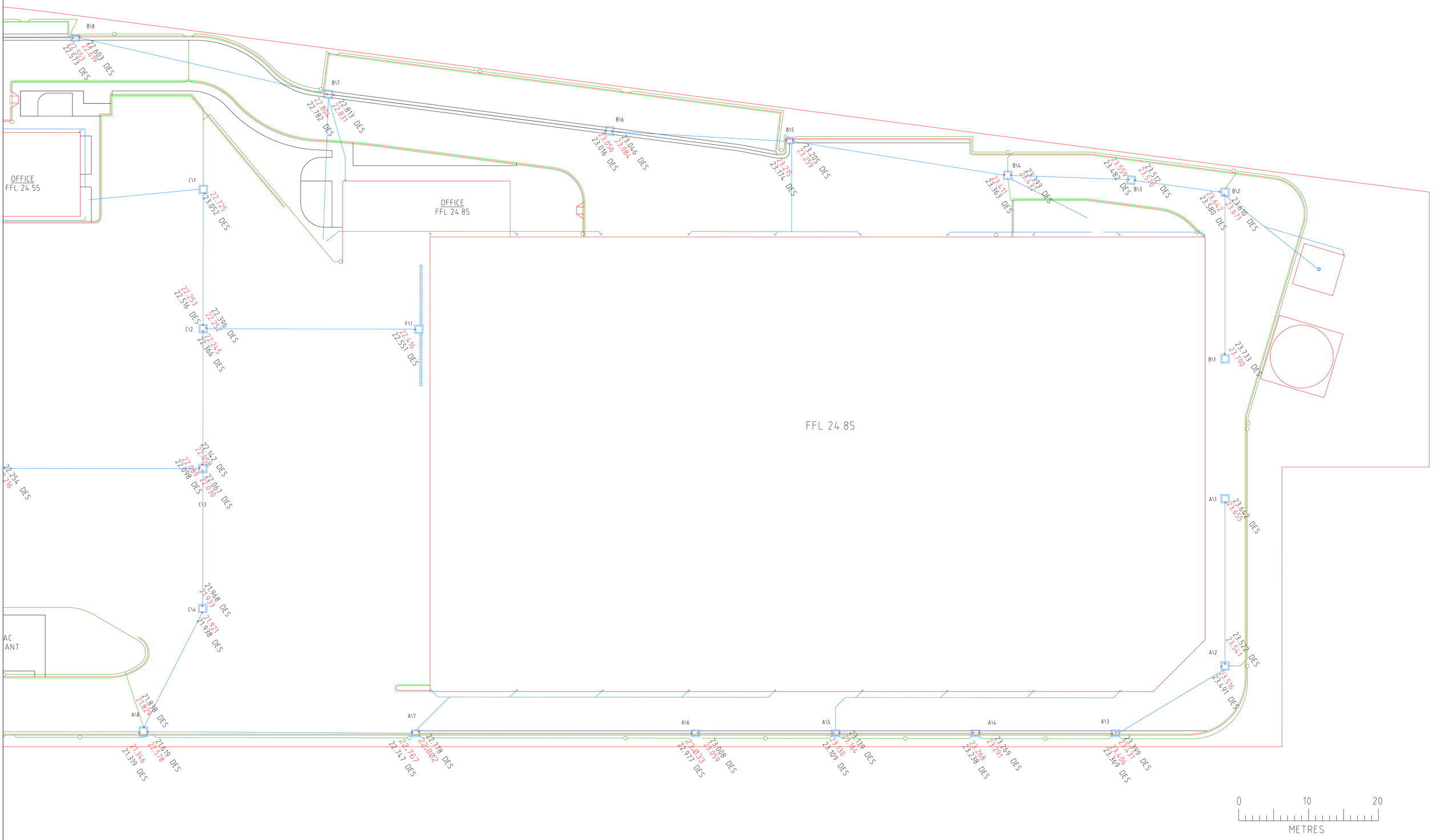
REVISION		
1	29-10-19	INITIAL ISSUE

CLIENT: QANSTRUCT

PROJECT: 807 ENFIELD PRECINCT H
PLAN OF: WAE STORMWATER

DRAWING REF: 807 WAE Stormwater.dwg

SCALE: 1:250 (A1)	DATUM: AHD	DRAWN BY: J O'HALLORAN	SHEET 1 OF 2



1. PLAN SUBJECT TO COUNCIL APPROVAL.
   THIS PLAN WAS PREPARED FOR THE PURPOSES OF DETAIL SURVEY.
   THE BOUNDARIES OF THE PROPERTY HAVE NOT BEEN INVESTIGATED.

AWJ civil

your project partner

A: 155 Newton Rd Wetherill Park NSW 2164 I P: 02 97572999 I F: 02 9757 1677

REVISION		
1	29-10-19	INITIAL ISSUE

CLIENT: QANSTRUCT

PROJECT: 807 ENFIELD PRECINCT H
PLAN OF: SUB GRADE CONFORM

DRAWING REF: 807 Sub Grade Conform.dwg

SCALE:1:250 (A1)	DATUM: AHD	DRAWN BY: J O'HALLORAN	SHEET 2 OF 2

Appendix E – Induction Registers

Induction Register - Precinct H (Lot 10 in DP1183316)

Name	Company	Date	Signature	Inducted by

Appendix F – Site Inspection Register

Site Inspection Register – Precinct H (Lot 10 in DP1183316)

Date of Inspection	Name (print)	Company/Position

Item Description	(✓)(×) NA	Observations	Corrective Action Required	Name of person responsible for action	Date to be implemented
Are landscaped areas visibly free of asbestos containing materials?					
Are there signs of visible erosion to managed landscaped areas or has surface coverage been disturbed?					
Does Vegetation appear to be appropriately managed?					
Do internal warehouse surfaces appear to be sealed and intact?					
Are asphalt covered internal road and car parking areas sealed and intact?					
Do hardstand footpaths sealed and intact?					

Additional Observations	

Appendix G – Documentation and Records

Prepared for
Goodman Property Services Pty Ltd
Prepared by
Ramboll Australia Pty Ltd
Date
10 January 2020
Project Number
318000669
Audit Number
TO-058-B

SITE AUDIT REPORT
PRECINCT H VALIDATION, ENFIELD INTERMODAL LOGISTICS CENTRE

RAMBOLL

10 January 2020

Goodman Property Services Pty Ltd
Attn.: Ben Milner
GPO Box 4703
Sydney, NSW 2001

By email: Ben.Milner@goodman.com

Dear Ben,

SITE AUDIT REPORT – VALIDATION FOR PRECINCT H, ENFIELD INTERMODAL LOGISTICS CENTRE

I have pleasure in submitting the Site Audit Report for the subject site. The Site Audit Statement, produced in accordance with the NSW *Contaminated Land Management Act 1997* is included as Appendix B of the Site Audit Report. The Audit was commissioned by Goodman Property Services Pty Ltd to assess the suitability of the site for the proposed commercial/industrial use.

The Audit was initiated to comply with a condition of the approval of MOD14 dated 28 August 2018 to Major Project 05_0147 dated 5 September 2007 approved by the Minister for Planning, and it is therefore a statutory audit.

Thank you for giving me the opportunity to conduct this Audit. Please call me on (02) 9954 8100 if you have any questions.

Ramboll Australia
Level 3, 100 Pacific Highway
PO Box 560
North Sydney NSW 2060

T +61 2 9954 8100
www.ramboll.com

Ref 318000669

Yours faithfully,
Ramboll Australia Pty Ltd



Tom Onus
EPA Accredited Site Auditor 1505

cc: NSW EPA – Site Audit Statement only
Strathfield Municipal Council

Ramboll Australia Pty Ltd
ACN 095 437 442
ABN 49 095 437 442

CONTENTS

1.	**INTRODUCTION**	**1**
1.1	Audit Details	1
1.2	Scope of the Audit	1
2.	**SITE DETAILS**	**3**
2.1	Location	3
2.2	Zoning	3
2.3	Adjacent Uses	3
2.4	Site Condition	3
2.5	Development Details	4
3.	**SITE HISTORY**	**5**
3.1	Auditor's Opinion	5
4.	**CONTAMINANTS OF CONCERN**	**6**
4.1	Auditor's Opinion	6
5.	**STRATIGRAPHY AND HYDROGEOLOGY**	**7**
5.1	Stratigraphy	7
5.2	Hydrogeology	7
5.3	Auditor's Opinion	8
6.	**EVALUATION OF QUALITY ASSURANCE AND QUALITY CONTROL**	**9**
6.1	Auditor's Opinion	11
7.	**ASSESSMENT CRITERIA**	**13**
7.1	Site Land Use	13
7.2	Adopted Assessment Criteria	13
7.2.1	Soil Assessment Criteria – Human Health	13
7.2.2	Soil Assessment Criteria – Ecological	14
7.2.3	Soil Aesthetic Considerations	14
7.2.4	Imported Fill Considerations	14
7.3	Auditor's Opinion	14
8.	**EVALUATION OF SOIL ANALYTICAL RESULTS**	**15**
8.1	Auditor's Opinion	15
9.	**EVALUATION OF GROUNDWATER ANALYTICAL RESULTS**	**16**
9.1	Auditor's Opinion	16
10.	**EVALUATION OF REMEDIATION**	**17**
10.1	Remediation Previously Undertaken	17
10.2	Remedial Works Undertaken	17
10.3	Validation Activities	18
10.3.1	Capping Layer Installation	18
10.3.2	Stockpiles Re-Used On Enfield ILC	19
10.3.3	Imported Material	19
10.3.4	Natural Soil	35
10.4	Auditor's Opinion	35
11.	**EVALUATION OF CONCEPTUAL SITE MODEL**	**36**
11.1	Auditor's Opinion	37
12.	**ONGOING SITE MANAGEMENT**	**38**
12.1	Auditor's Opinion	40
13.	**CONTAMINATION MIGRATION POTENTIAL**	**41**
14.	**ASSESSMENT OF RISK**	**42**
15.	**COMPLIANCE WITH REGULATORY GUIDELINES AND DIRECTIONS**	**43**
15.1	Development Approvals	43
15.2	Waste Management	43
15.3	VENM and Other Imported Materials	43
15.4	Licenses	43
15.5	Notification	44

15.6 Conflict of Interest 44
16. CONCLUSIONS AND RECOMMENDATIONS 45
17. OTHER RELEVANT INFORMATION 46

LIST OF TABLES AND FIGURES

Table 6.1: QA/QC – Sampling and Analysis Methodology Assessment 9
Table 6.2: QA/QC – Field and Lab Quality Assurance and Quality Control 10
Figure 10.1: Capping Layers Installed on the C1 Facility 19
Table 10.1: Imported Fill Material Types and Volumes 21
Table 11.1: Review of the Conceptual Site Model 36
Table 13.1: Assessment of the EMP 38

APPENDICES

Appendix A
Attachments

Appendix B
Site Audit Statement

Appendix C
Survey Plans

LIST OF ABBREVIATIONS

Measures

µg/L	Micrograms per Litre
ha	Hectare
km	Kilometres
m	Metre
mbgl	Metres below ground level
mm	Millimetre

General

ACM	Asbestos Containing Material
AF	Asbestos Fines
AHD	Australian Height Datum
ARCP	Asbestos Removal Control Plan
ASS	Acid Sulphate Soil
AST	Aboveground Storage Tank
AWJ	AWJ Civil Pty Ltd
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes & Naphthalene
CLM Act	NSW Contaminated Land Management Act 1997
Council	Strathfield Municipal Council
CEMP	Construction Environmental Management Plan
CHEC	Compliance Health & Environmental Consulting
CSDMP	Contaminated Soil Disturbance Management Plan
CSM	Conceptual Site Model
DELEC	Diesel Electric and Electric Locomotive Maintenance Centre
DP	Deposited Plan
EIL	Ecological Investigation Level
EMP	Environmental Management Plan
ENM	Excavated Natural Materials
EPA	Environment Protection Authority (NSW)
EPL	Environmental Protection Licence
ER	Environmental Representative
ESC	Environment and Sustainability Coordinator
ESL	Ecological Screening Level
FA	Fibrous Asbestos
Goodman	Goodman Property Services Pty Ltd
HIL	Health Investigation Level
HSL	Health Screening Level
IAL	Interim Advice Letter
IBC	Intermediate Bulk Container
ILC	Intermodal Logistics Centre
IMT	Intermodal Terminal
LARC	Licensed Asbestos Removal Contractor
LGA	Local Government Authority
LTEMP	Long-Term Environmental Management Plan
Metals	Arsenic (As), Cadmium (Cd), Chromium (Cr), Copper (Cu), Nickel (Ni), Lead (Pb), Zinc (Zn), Mercury (Hg)
NEPM	National Environment Protection Measure
OCP	Organochlorine Pesticides
OEH	Office of Environment and Heritage
OH&S	Occupational Health & Safety
OPP	Organophosphorus Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PASS	Potential Acid Sulphate Soil
PCB	Polychlorinated Biphenyls
PID	Photoionisation Detector
PQL	Practical Quantitation Limit
RBL	Risk-Based Levels
RL	Reduced Level
RRE	Resource Recovery Exemption
RRO	Resource Recovery Order
SAR	Site Audit Report

SAS	Site Audit Statement
SLR	SLR Consulting Australia Pty Ltd
SMP	Site Management Plan
SSP	Site Safety Plan
SVOC	Semi-Volatile Organic Compounds
SWL	Standing Water Level
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
UBS	Unbound Subbase
UPSS	Underground Petroleum Storage System
UST	Underground Storage Tank
VENM	Virgin Excavated Natural Material
VHC	Volatile Chlorinated Hydrocarbons
VOC	Volatile Organic Compounds
WMS	Work Method Statement

1. INTRODUCTION

1.1 Audit Details

A site contamination audit has been conducted in relation to Precinct H (Lot 10 in Deposited Plan (DP) 1183316) of the Enfield Intermodal Logistics Centre (ILC) at 1 Delec Lane, Strathfield South, NSW (referred to as 'the site'). It is noted that Lot 10 was previously referred to as 'Area F'.

The Enfield ILC is within the former Enfield railway marshalling yard and comprises an Intermodal Terminal, an existing warehouse and tarpaulin shed, the Southern Precinct and approximately 30 ha of remaining developable land that is zoned 'IN1 – General Industrial' under Strathfield Local Environmental Plan 2012 (Attachment 1, Appendix A). The Enfield ILC is subdivided into eight precincts (Precincts A to F, H and I) for staged redevelopment and has been the subject of previous investigation, remediation and site audits to manage asbestos contaminated fill material. The portions of land covered in the previous site audits were assessed to be suitable for commercial/industrial use subject to compliance with a Site Management Plan (SMP) pending redevelopment. Precinct H was previously capped under approximately 700 mm or greater thickness of Virgin Excavated Natural Material (VENM), high plasticity materials and ash from the Intermodal Terminal (IMT). Further, asbestos impacted soils generated from the excavation of stormwater retention basin F were placed into two cells excavated within the non-impacted part of the site.

The site for the purposes of this audit comprises Precinct H (Attachment 3a and 3b, Appendix A). The site redevelopment comprised construction of two industrial warehouses with affiliated site infrastructure, as discussed further in Section 2.5. The redevelopment included cut and fill of existing fill material, placement of a geofabric marker layer and capping with imported VENM/ENM prior to placement of hardstand (building slabs or paving) and landscaping. A Contaminated Soil Disturbance Management Plan (CSDMP) for the site was prepared to document the proposed remedial strategy. The CSDMP was subject to a Section B site audit statement (SAS) and site audit report (SAR) (TO-058-A dated 5 March 2019).

The Audit was conducted to provide an independent review by an EPA Accredited Auditor of whether the land is suitable for any specified use or range of uses i.e. a "Site Audit" as defined in Section 4 (1) (b) (iii) of the NSW *Contaminated Land Management Act 1997* (the CLM Act).

The Audit was initiated to comply with a modification (MOD14) to Major Project 05_0147 dated 5 September 2007, approved by the Minister for Planning (further details are provided in Section 15.1). The Audit is therefore statutory.

Details of the Audit are:

Requested by:	ben Milner on behalf of Goodman Property Services Pty Ltd (Goodman)
Request/Commencement Date:	7 February 2019
Auditor:	Tom Onus
Accreditation No.:	1505

1.2 Scope of the Audit

The scope of the Audit included:

- Review of the following reports:
  - 'Enfield Intermodal Logistics Centre, Site Management Plan, Area F' dated January 2014 by NSW Ports (Area F SMP).
  - 'Enfield Intermodal Logistics Centre, Contaminated Soil Disturbance Management Plan – Precinct H, Cosgrove Road, Strathfield South NSW' dated 27 February 2019 by Coffey Services Australia Pty Ltd (Coffey) (CSDMP).

  - 'Enfield Intermodal Logistics Centre, Precinct H Construction Environmental Management Plan' dated 26 August 2019 by SLR Consulting Australia Pty Ltd (SLR) (CEMP).
  - 'Site Validation – Precinct H, Enfield Intermodal Logistics Centre' dated 19 December 2019 by Compliance Health & Environmental Consulting Pty Ltd (CHEC) (Validation Report).
  - 'Enfield Intermodal Logistics Centre, Precinct H – Long-Term Environmental Management Plan, Enfield Intermodal Logistics Centre, Cosgrove Road, Strathfield South NSW' dated 18 December 2019 by Coffey (LTEMP).
- Other information reviewed, including previous Site Audit Reports (SARs) and Site Audit Statements (SASs) relating to the site, including references contained therein:
  - 'Summary Site Audit Report, Enfield Marshalling Yard' prepared by Dames & Moore Pty Ltd (Dames & Moore) and SAS GN-9 dated 23 September 1999 (Enfield Marshalling Yard SAR).
  - 'Site Audit Report, Delec Depot, Enfield' prepared by ENVIRON Australia Pty Ltd (ENVIRON) and SAS GN-34 dated 6 February 2002 (DELEC SAR).
  - 'Interim Advice Letter - Implementation of Remedial Action Plan for Separable Portions 2, 3, 4 and 5, Intermodal Logistics Centre @ Enfield', dated 23 July 2010, ENVIRON (Audit Number GN-401) (IAL).
  - 'Site Audit Report - Proposed Lots 6, 8, 9, 10 and Portion of PT22 Intermodal Logistics Centre at Enfield' prepared by ENVIRON and SAS GN 401-6B dated 29 August 2014 (Lot 10 SAR).
  - 'Site Audit Report – CSDMP for Precinct H, Enfield Intermodal Logistics Centre' prepared by Ramboll and SAS TO-058-A dated 5 March 2019 (Precinct H CSDMP SAR).
- A site visit by the Auditor on 6 September 2018 prior to remediation and a final site inspection of Precinct H on 18 December 2019.
- Discussions with Goodman, Coffey (who prepared the CSDMP) and CHEC (who prepared the Validation Report and LTEMP).

A number of audits of the Enfield ILC have previously been undertaken by Dames & Moore and ENVIRON (listed above), which included the assessment of the site.

The Lot 10 SAR assessed a greater portion of the ILC (Lots 6, 8, 9 and 10 and a portion of the PT22) and concluded that the subject areas of the Enfield ILC were suitable for commercial/industrial use subject to compliance with a SMP (the Area F SMP). The SMP required that *"…the current state of the site surfacing is maintained until the site is redeveloped for the proposed commercial activities"*.

A reassessment of the data relied upon in the Lot 10 SAR has not been undertaken as it was found to be adequate in the previous SAR. This SAR includes a summary of the previous audits where relevant to the site.

2. SITE DETAILS

2.1 Location

The site locality is shown on Attachment 1, Appendix A.

The site details are as follows:

Street address:	1 Delec Lane, Strathfield South, NSW
Identifier:	Lot 10 in DP1183316
LGA:	Strathfield Municipal Council (Council)
Owner:	NSW Ports
Site Area:	Approximately 3.58 ha (Precinct H)

The boundaries of the ILC are the Hume Highway to the north, Roberts Road and Wentworth Road to the west, Punchbowl Road to the south and Cosgrove Road to the east.

The boundaries of the site (Precinct H) are defined by adjoining streets (Delec Lane to the south), adjoining commercial properties to the north, a rail corridor to the east (commercial properties beyond) and a rail corridor to the west (Mainline Road and Precinct F of the Enfield ILC to the south-west).

Survey plans of the site are provided in Appendix C.

2.2 Zoning

The current zoning of the site is 'General Industrial IN1' under the Strathfield Local Environment Plan 2012.

2.3 Adjacent Uses

The site is located within an area of commercial/industrial land use. Adjacent uses are mainly light industrial and warehousing, or vacant undeveloped land.

The closest potential sensitive receptor is the Cooks River, situated approximately 500 m to the east of the site. The Cooks River, as well as Coxs Creek approximately 1 km to the south of the site are concrete lined in the vicinity of the site. A stormwater sediment basin is located immediately to the south of the site.

2.4 Site Condition

Pre-Remediation

The ILC was previously used as a Locomotive Maintenance Centre, and comprised administration buildings, railway tracks and paved areas. Areas outside of the centre were generally either disused or used infrequently and had become overgrown (Lot 10 SAR).

Earthworks were previously undertaken to achieve site levels and a temporary capping layer was applied to a portion of the site. The extent of the temporary cap prior to site remediation and redevelopment works is shown on Attachment 2 in Appendix A.

The capping layer comprised approximately 0.7 m or greater thickness of VENM, high plasticity materials and ash from the IMT. Further, potentially asbestos impacted soils generated from the excavation of stormwater retention basin F (adjacent to the south) were placed into two cells excavated within the non-impacted part of the site and the cells were covered with a blue marker layer overlain by approximately 0.4 m or greater thickness of VENM from the excavation of the cells themselves. Finally, the entire surface of the site was spray-sealed with bitumen rolled with 7 mm of volcanic chips to create a dust proof seal.

A site inspection by Coffey on 3 October 2018 noted the following:

- The site was relatively flat and mostly covered with bitumen chip seal. An 8 m wide strip of grass was present along the western boundary.

- The site was vacant and unoccupied.
- The site appeared to be divided into three sections by chainwire fences and road sleepers:
  - The southern portion of the site contained: 4 steel 205 L drums, 20 L plastic buckets, jerry cans filled with unknown liquids, an intermediate bulk container (IBC) with white highly viscous material, two used spill kits, green plastic bins, concrete blocks, and two plastic pipes cut into the ground which resembled vents.
  - The central portion of the site resembled a disused car park as white circular discs were embedded into the ground as markers. Parking signs were scatted across the site and lane dividers had been created using railway sleepers and star pickets. No vehicles were present during the site inspection.
  - The northern portion of the site was featureless, except for grass sprouting through the bitumen seal and the presence of scattered small trees.
- Two fragments of suspected asbestos containing materials (ACM) were observed on the ground surface in the south of the site. The two samples were analysed for asbestos, which was not detected in the materials.
- No potential indicators of abandoned underground petroleum storage systems (UPSS) were observed on the site.

The Auditor visited the site on 6 September 2018 and identified a similar layout and features.

Post-Remediation

A final site inspection by the Auditor was undertaken on 18 December 2019, following the completion of the majority of site redevelopment works. Some minor landscaping works remained, however material importation was complete. The Auditor noted that the completed development in Precinct H comprised two industrial warehouses with offices, shared access driveways and car parking areas, landscaping and paths, pump room and water tank.

2.5 Development Details

The development completed in Precinct H comprised the construction of two industrial warehouses with offices, shared access driveways and car parking areas, landscaping and footpaths, and the installation of a pump room and water tank.

Subsurface structures are understood to include footings for buildings, retaining walls and fences, services easements and stormwater drainage. To achieve design levels, the development included cut and fill of in-situ material and importation of clean fill. Fill remaining in-situ was capped with clean imported fill and pavements/landscaping (capping). A geotextile marker layer was installed on top of fill material to mark the presence of ACM contaminated soil beneath.

Architectural plans for Precinct H are provided in Attachments 3a and 3b in Appendix A.

For the purposes of this Audit, the 'commercial/industrial' land use scenario has been assumed.

3. SITE HISTORY

The Lot 10 SAR provided a summary of the site history for portions of the Enfield ILC, which included Lots 6, 8, 9 and 10 and a portion of the PT22 ILC as follows:

- The site is located over a portion of the former Diesel Electric and Electric Locomotive Maintenance Centre (DELEC) that was established following filling (ash and clay) and levelling of the site in the 1950s. This included the maintenance of diesel locomotives and later electric locomotives.
- Bulk fuel storage within three large diesel aboveground storage tanks (ASTs) was undertaken within the site. The ASTs were erected prior to 1965, replaced in the 1990s and sealed between 1991 and 1996. A 'fuel road receival area' was also located within the site. Prior to 1996, a number of the liquid storage facilities (such as fuel storage, mixed liquor tank, chemical store and lubrication oil tanks) were unbunded and unpaved. Two underground storage tanks (USTs) and bulk oil storage were located to the south of Precinct H.
- Land to the south of the site was part of the railway marshalling yard which was developed from 1916, including by filling of gullies to level the site before laying tracks to the west of the site. Prior to this, it is reported that the site was low-lying marshland with potentially market garden and grazing uses.
- Sydney Ports (now NSW Ports) took over the site in 1999 for the construction of the Enfield ILC. Remediation works were commenced in 2008, with infrastructure removed by October 2010 and reuse of five stockpiles of ACM impacted fill to level the ILC for redevelopment. Remediation and temporary capping were completed in 2014.

The Lot 10 SAR concluded that, although the site history is not well documented, it appears that few facilities had been removed prior to site decommissioning and that there had been few major changes in site processes over the life of the site. The locations of some previous potential sources of contamination are known. The major unknowns appeared to be the source and quality of fill material used on the site and the presence of waste dumps at unknown locations in the past.

3.1 Auditor's Opinion

In the Auditor's opinion, the history of the site is sufficiently documented, given the previous detailed review of the site history as part of the Lot 10 SAR. Uncertainties were adequately addressed and compensated for by the works completed and the remedial strategy adopted.

4. CONTAMINANTS OF CONCERN

The contaminants of concern for the Enfield ILC were listed in previous SARs. The sources of contamination identified at the site included railway track areas, filled areas, ASTs and USTs, workshops, building footprints, waste disposal, and asbestos break shoe linings. The main contaminants of concern were petroleum hydrocarbons (total recoverable hydrocarbons (TRH) and benzene, toluene, ethylbenzene and xylene (BTEX), polycyclic aromatic hydrocarbons (PAH), metals, volatile chlorinated hydrocarbons (VHC), asbestos, and organochlorine pesticides (OCP).

4.1 Auditor's Opinion

The CSDMP identified the contaminants of concern to be asbestos in fill material. Asbestos may be present as friable and bonded (non-friable) asbestos as well as in fragments of bonded asbestos containing material (ACM) and as asbestos fines (AF) and fibrous asbestos (FA).

The Auditor also notes that TRH, BTEX, PAH and metals may also be present in fill material and associated with former site infrastructure.

5. STRATIGRAPHY AND HYDROGEOLOGY

Following a review of the reports listed in Section 1, a summary of the site stratigraphy and hydrogeology was compiled as follows.

5.1 Stratigraphy

The Auditor reviewed geological maps and reported that the site is underlain by Ashfield Shale, which is characterised by dark grey to black shale and laminate from the middle Triassic period.

The stratigraphy of the Enfield ILC, as summarised in the DELEC SAR, is provided below.

- The topography is relatively flat, as it was extensively filled and levelled during the initial site development. The greater site slopes to the south east.
- Fill material comprises imported clay and ash. The ash is said to originate from steam locomotives, which were stored on the larger site prior to the development of the DELEC. The fill extends to depths ranging from 2 m below ground level (bgl) to 4 mbgl, and it is thickest in the eastern portion of the property.
- The fill is underlain by 0.2–6 m of natural clay, which is underlain by moderately weathered shale.

The Area F SMP reported that a temporary capping layer was applied to a portion of the site following remediation. The capping layer was approximately 700 mm or greater thickness of VENM, high plasticity materials and ash from the IMT. Soils potentially impacted by asbestos generated from the excavation of Basin F were placed into two cells excavated within the non-impacted part of the site and the cells were covered with a blue marker layer overlain by approximately 400 mm or greater thickness of VENM from the excavation of the cells themselves. The extent of the cap prior to site remediation and redevelopment works is shown on Attachment 2 in Appendix A.

Following remediation works undertaken on the site, survey data confirmed that, under sealed surfaces and beneath landscape areas, a minimum of 0.5 m and 1 m of clean fill material, respectively, was present above the geotextile fabric marker layer. The post-remediation site survey indicating the depths to the geotextile marker layer across the site are shown in the site survey plan in Appendix C.

5.2 Hydrogeology

The hydrogeology as summarised by the DELEC SAR is provided below:

- A perched water table was found in the fill material above the natural clay materials. The depth to perched water and interconnection between perched water bodies are thought to be inconsistent. Flow would be expected to generally follow the fill and natural clay interface.
- Groundwater is found within the natural clay and shale and deeper fill at a depth of about 2-3 mbgl.
- The general direction of the natural groundwater flow is easterly. Groundwater abstraction and use is not expected because of low quantity and poor (saline) quality. The nearest receptor is expected to be Cooks River or its tributaries to the east and south of the site.

Subsequent groundwater investigations confirmed the groundwater flow direction is to the east. The standing water levels were encountered within the fill, clay and shale at the up-gradient and down-gradient boundaries.

A search of NSW Natural Resource Atlas undertaken as part of the Lot 10 SAR did not identify any bores within a 1 km radius of the site. The closest bore was located 1.2 km to the northwest. It was installed to 6 m in clay and had a standing water level (SWL) at 4.5 mbgl.

The Auditor undertook a search for registered groundwater bores in October 2019 on the Bureau of Meteorology's Australian Groundwater Explorer (accessed on 31 October 2019) and identified

four registered bores within approximately 1,000 m of the site (GW114755.1.1 (monitoring bore), GW114756.1.1 (monitoring bore), GW114757.1.1 (monitoring), GW024096.1.1 (water supply bore drilled on 1/1/1966)). Each of these four boreholes, located between about 500 m to 800 m northeast of the site, were drilled to a depth of 6 mbgl into clay or loam. The borehole data did not indicate a depth to the standing water level in the boreholes.

5.3 Auditor's Opinion

The Auditor considers that the stratigraphy and hydrogeology for the site have been appropriately characterised. The thickness and composition of fill material is likely to be variable, however is considered to be sufficiently well known for the purpose of remedial planning.

6. EVALUATION OF QUALITY ASSURANCE AND QUALITY CONTROL

A review of the overall quality of the data obtained for Lot 10 was presented in the IAL and the Lot 10 SAR, for the following stages:

- Delineation Assessment
- Groundwater Sampling (pre-remediation)
- Validation Report for Lot 10

The IAL concluded that the data was generally precise, accurate, representative, complete and comparable. The IAL noted that the delineation assessment data is likely to be accurate, however there was some doubt regarding possible loss of volatiles. This was because no trip spikes were used, and although samples were recorded as having been received at the primary laboratory in good (chilled) condition, some chain of custody forms were dated 3 or 4 days after sampling.

In Table 6.1 and 6.2 below, the Auditor has assessed the overall quality of the data presented in the Validation Report for VENM and other materials imported to the site during the remediation and redevelopment works. The Auditor reviewed the CHEC *'VENM Import Analysis'* documentation in Appendix D of the Validation Report as well as the *'VENM Classifications'* for the thirteen imported material source sites (Site 1-13) provided in Appendix C of the Validation Report.

Table 6.1: QA/QC – Sampling and Analysis Methodology Assessment

Sampling and Analysis Plan and Sampling Methodology	Auditor's Opinion
Data Quality Objectives (DQO) CHEC used a 7 step DQO process for the importation of materials and validation of the site.	These were considered appropriate for the remediation and validation conducted.
Sampling pattern, locations and density *VENM:* Validation sampling was undertaken at the thirteen VENM source sites. The Validation Report included a review of the VENM classification report, however CHEC did not undertake site visits to inspect or sample the material. CHEC collected samples of material upon importation to the site from twelve of the thirteen source sites. Material sourced from the site in Greenacre (Site 13) was not sampled upon importation to the site due to the reportedly small amount of material (162 m^3), however, testing of these soils was undertaken and reported in the VENM classification report by Benviron (See section 10.3.3). CHEC reported that a sampling frequency of at least three samples per site was implemented and generally equated to 1/1000 m^3 for each source. The actual sampling densities for each of the sources sites is reported in Table 10.1. *Other Imported Materials:* Validation samples from other materials imported to the site were collected upon importation. CHEC did not undertake site visits to inspect or sample the material. The sampling density was typically 1 per 175-261 t and/or visual inspection by spreading approximately 0.5 m^3 of material. *Natural ground:* Samples were collected from the natural grounds surface in the north of the site at a density of 3 samples from 150 m^2.	The Auditor notes that an onsite sampling frequency of 3 samples per 1,000 m^3 was not achieved for materials from Site 1, 2, 4, 6, 7, 10, 12, and 13. The combination of source site testing and onsite testing, as well as the visual inspections upon importation and placement of the materials provides a sufficiently robust validation regime for imported material.

Sampling and Analysis Plan and Sampling Methodology	Auditor's Opinion
Sample depths Samples were collected from at least 200 mm below the stockpile surface.	Acceptable.
Sample collection method Soil samples were collected by hand or stainless-steel trowel.	Acceptable.
Decontamination procedures Sampling equipment (trowel, sieve and bucket) were decontaminated between each sample by spraying with water and wiping clean.	Acceptable
Sample handling and containers Samples were placed into prepared and preserved sampling containers provided by the laboratory and chilled during storage and subsequent transport to the laboratories. Asbestos samples for laboratory analysis comprised 500 mL of soil placed in a ziplock plastic bag.	Acceptable
Chain of Custody (COC) Completed chain of custody forms were provided in the reports.	Acceptable
Detailed description of field screening protocols Field screening for volatiles was undertaken using a PID, however the methodology was not provided. A calibration certificate from the equipment supplier was provided. Field screening for asbestos was undertaken on 10 L of soil using a 7 mm stainless steel mesh sieve.	The absence of PID field screening methodology is not considered to impact the reliability of the results given that volatiles were not detected in imported materials.
Sampling logs Field sheets are provided within the report.	Acceptable

Table 6.2: QA/QC – Field and Lab Quality Assurance and Quality Control

Field and Lab QA/QC	Auditor's Opinion
Field quality control samples and results Field quality control samples including trip blanks, trip spikes, field intra-laboratory and inter-laboratory duplicates were undertaken. Trip blanks – 2 trip blanks were analysed and reported results <PQL. Trip spikes – 2 trip spikes were analysed and reported recoveries of 90-110%. Rinsate blanks: Not collected. Field blanks: Not collected. Field duplicates: 3 samples. Field triplicates: 1 sample with acceptable RPDs.	Rinsate blanks were not collected as part of the sampling program, which was not in accordance with the CSDMP. CHEC reported that contaminant concentrations were low and therefore cross-contamination was not of significant concern. The Auditor agree that cross contamination would be unlikely to be a significant issue. Trip spike, trip blank, field duplicate and field triplicate results were acceptable.
NATA registered laboratory and NATA endorsed methods Samples were analysed by Eurofins MGT Pty Ltd (Primary) and SGS (Secondary), which are both	Acceptable

Field and Lab QA/QC	Auditor's Opinion
NATA accredited laboratories for the analysis undertaken. Asbestos testing was undertaken by Australian Safer Environment & Technology Pty LTD (ASET), however NATA-accreditation for asbestos testing is not applicable.	
Analytical methods Analytical methods were included in the laboratory test certificates.	Acceptable
Holding times Holding time conformance was not commented on in the Validation report.	The Auditor has reviewed holding time compliance in the COC and laboratory reports provided and found that samples were extracted and analysed within laboratory holding times.
Practical Quantitation Limits (PQLs) PQLs were sufficiently low to assess the imported materials.	Overall the soil PQLs are acceptable.
Laboratory quality control samples Laboratory quality control samples including matrix spikes, surrogate spikes, blanks, and duplicates were undertaken by the laboratory.	Acceptable.
Laboratory quality control results The results of laboratory quality control samples were generally within appropriate limits. Laboratory quality control results were acceptable.	Overall the laboratory quality control results are acceptable.
Data Quality Indicators (DQI) and Data Evaluation (completeness, comparability, representativeness, precision, accuracy) The Validation Report did not discuss DQIs. It provided a brief discussion of compliance of field QA/QC samples, however did not conclude on the suitability of the data.	An assessment of the data quality with respect to the five category areas has been undertaken by the Auditor and is summarised below.

6.1 Auditor's Opinion

The Auditor is of the opinion that the data used as part of the IAL and Lot 10 SAR is adequately precise, accurate, representative, complete and comparable for the purposes of remedial planning. The accuracy of the volatiles data is of concern given that potential sources were historically present on the site. Groundwater investigations did not identify contamination associated with fuel storage and use, therefore widespread contamination is considered unlikely, however localised impact may be present.

In considering the data presented in the Validation Report, the Auditor concludes that:

- The data is likely to be representative of the overall imported material characteristics.
- The data is complete.
- There is a high degree of confidence that data is comparable for each sampling and analytical event.
- The primary laboratory provided sufficient information to conclude that data is of sufficient precision.
- The data is likely to be accurate.

7. ASSESSMENT CRITERIA

Assessment criteria are the concentrations of a contaminant above which further appropriate investigation and evaluation will be required and provide the basis of a Tier 1 risk assessment. As defined in National Environmental Protection Council (2013) *National Environmental Protection (Assessment of Site Contamination) Measure* (NEPM, 2013), a Tier 1 risk assessment is a risk-based analysis comparing site data against generic assessment criteria for various land uses to determine the need for further assessment or development of an appropriate management strategy.

Assessment criteria are developed for the protection of human health and ecological receptors, for a range of media including soil, groundwater and soil gas. It is important to understand the methodology and assumptions used to derive the criteria to ensure they are applied correctly and are sufficiently protective of either human health or ecological receptors under the site's specific use.

7.1 Site Land Use

When choosing the most appropriate human health assessment criteria for the site, the Auditor has considered the form of the development (Section 2.5). The human health assessment criteria adopted for this Audit are therefore protective of a 'commercial/industrial' land use scenario.

Although the protection of human health often drives the first stages of a site assessment, NEPC (2013) requires that all site assessments consider the protection of the environment (terrestrial and aquatic receptors). Given the proposed 'commercial/industrial' site use, it is considered that the site does not contain receptors of 'ecological significance'. Therefore, the Auditor adopted ecological assessment criteria appropriate for 'commercial/industrial' land use.

7.2 Adopted Assessment Criteria

The IAL and Lot 10 SAR were undertaken with reference to assessment criteria applicable at the time, including NEPM (1999), the NSW EPA (1994) *Guidelines for Assessing Service Station Sites*, and site-specific risk-based levels (RBLs) for petroleum hydrocarbon impacted soil. The Lot 10 SAR reviewed the amendments made to the NEPM (2013) that may affect the site audit, and it considered that there were no unacceptable risks associated with applying the original NEPM (1999).

The Auditor notes that criteria for screening groundwater and soil vapour samples were not selected as remediation of groundwater or soil vapour is not considered to be required. Screening criteria for soil vapour derived from soil were adopted (discussed below).

7.2.1 Soil Assessment Criteria – Human Health

The Auditor has adopted soil assessment criteria protective of human health from the following Australian sources:

- NEPM (2013) Health Investigation Levels (HILs) for non-volatile soil compounds for 'Commercial/Industrial' (HIL-D) land use.
- NEPM (2013) Health Screening Levels (HSLs) for TRH, BTEX and naphthalene compounds for 'Commercial/Industrial' (HIL-D) land use, for the vapour inhalation pathway. The HSLs assumed a clay soil type.
- NEPM (2013) Management Limits for Petroleum Hydrocarbons for Commercial/Industrial land use and assuming fine soil texture. Criteria are relevant for operating sites where significant sub-surface leakage of petroleum hydrocarbons has occurred and when decommissioning industrial and commercial sites.
- NEPM (2013) HSLs for Asbestos Contamination in Soil have not been adopted as assessment was for presence/absence. NEPM (2013) criteria for 'Commercial/Industrial' (HSL-D) land use were adopted for proposed validation.

- Friebel & Nadebaum (2011) HSLs for direct contact for all land use categories, and vapour inhalation/direct contact pathways for intrusive maintenance workers.

7.2.2 Soil Assessment Criteria – Ecological

The Auditor has adopted ecological soil assessment criteria from the following Australian sources:

- NEPM (2013) Ecological Screening Levels (ESLs) for 'Commercial/Industrial' land use, assuming fine soil.
- NEPM (2013) Ecological Investigation Levels (EILs) for 'Commercial/Industrial' land use. In the absence of site-specific soil data on pH, clay content, cation exchange capacity and background concentrations, the published range of the added contaminant limits have been applied as an initial screen.

Where Australian soil assessment criteria were not considered appropriate or not provided, the Auditor adopted soil assessment criteria from the following sources:

- Canadian Council of Ministers of the Environment (CCME) (2010) *Canadian soil quality guidelines: carcinogenic and other polycyclic aromatic hydrocarbons (PAHs)* soil quality guideline (SQG) for benzo(a)pyrene assuming 'Commercial/Industrial' land use. The SQG has been adopted in place of the NEPM (2013) ESL as it is based on a larger and more up-to-date toxicity database than the low reliability NEPM (2013) ESL.

7.2.3 Soil Aesthetic Considerations

The Auditor has considered the need for soil remediation based on 'aesthetic' contamination as outlined in Section 3.6 Aesthetic Considerations of NEPM (2013) Schedule B1, which acknowledges that there are no chemical-specific numerical aesthetic guidelines. Instead, site assessment requires a balanced consideration of the quantity, type and distribution of foreign material or odours in relation to the specific land use and its sensitivity.

7.2.4 Imported Fill Considerations

Imported fill is to be assessed in relation to attributes expected of virgin excavated natural material (VENM). The NSW EPA (2014) *Waste Classification Guidelines, Part 1: Classifying Waste* defines VENM as *"…natural material (such as clay, gravel, sand, soil or rock fines):*

- *'that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities*
- *'that does not contain sulphidic ores or soils, or any other waste, and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved from time to time by a notice in the NSW Government Gazette."*

On this basis, the Auditor considers that for soil to be classified as VENM, the following criteria generally apply:

- Organic compounds (including petroleum hydrocarbons, PAH, OCP, polychlorinated biphenyls (PCB) and phenols) should be less than the practical quantitation limit (PQL).
- Inorganic compounds should be consistent with background concentrations.
- The material should not contain or comprise actual or potential acid sulphate soil (ASS or PASS).

Imported material, such as excavated natural material (ENM) or mulch, is to be assessed under the requirements of the applicable resource recovery order (RRO) and resource recovery exemption (RRE) issued by the EPA under clause 93 of the *Protection of the Environment Operations (Waste) Regulation 2014*.

7.3 Auditor's Opinion

The environmental quality criteria referenced by the Auditor are generally consistent with those adopted by CHEC. Any differences do not affect the overall conclusions reached by the consultants and the Auditor.

8. EVALUATION OF SOIL ANALYTICAL RESULTS

Following decommissioning of infrastructure associated with the former rail maintenance use of the site, delineation sampling was undertaken in areas that had previously reported elevated concentrations of the contaminants of concern (summarised in the IAL). Known contamination was associated with the building footprints, railway track areas and hotspots over the area of the former DELEC and sumps encountered during the earlier remedial works and included the presence of asbestos and elevated concentrations of TRH. Remedial works undertaken to address the impacts as summarised in Section 10.1.

Fill material containing asbestos was present in the western part of the site beneath the lateral extent of the previous temporary capping layer of VENM, which had a minimum thickness of approximately 0.7 m (refer to Attachment 2 in Appendix A). Further, potentially asbestos impacted soils generated from the excavation of Basin F were placed into two cells excavated within the non-impacted part of the site and the cells were covered with a blue marker layer overlain by approximately 0.4 m or greater thickness of VENM from the excavation of the cells themselves. Finally, the entire surface of the site was spray-sealed with bitumen rolled with 7 mm of volcanic chips to create a dust proof seal as an interim measure prior to the site's development and replacement of a more permanent pavement to allow future use of the site.

Characterisation sampling as per the requirements of NEPM (2013) for asbestos was not undertaken, and comparison with asbestos HSLs is therefore not possible.

Fill material also contained elevated concentrations of heavy end TRH, PAH and metals associated with ash and oil staining. The reported concentrations were less than human health criteria protective of vapour inhalation, dermal contact and incidental ingestion (HIL-D, HSL-D and intrusive maintenance worker HSLs). TRH concentrations exceeded management limits and ESLs.

8.1 Auditor's Opinion

In the Auditor's opinion, the pre-remediation soil analytical results for Lot 10 indicate that contamination is present within fill material beneath the capping layer.

The finals surveyed levels (Appendix C) provide confirmation of the minimum depths of fill material overlying the geotextile marker layer. The CSDMP assumes that all fill material beneath the capping layer is impacted with asbestos.

The Auditor is satisfied that no further investigations are required following the remediation and site development works.

9. EVALUATION OF GROUNDWATER ANALYTICAL RESULTS

Groundwater investigations undertaken prior to remediation (assessed in the Enfield Marshalling Yard SAR and DELEC SAR) and following previous remedial works (assessed in the IAL and the Lot 10 SAR) identified elevated metals concentrations in groundwater at the Enfield ILC.

Groundwater samples were assessed for TRH, PAH, semi-volatile organic compounds (SVOC) and volatile organic compounds (VOC) in monitoring undertaken following previous remediation. These contaminants were not detected above the PQL.

Observed maximum concentrations of cadmium (6 µg/L), nickel (470 µg/L) and zinc (2,300 µg/L) were particularly elevated and exceeded the ecological screening criteria. Coffey note, however, that there is no obvious distribution pattern as exceedances were reported up and down-gradient of the site. Coffey conclude that *"the exceedances could be background concentrations, if not off-site sources"*.

The observed maximum concentrations of copper (27 µg/L), as well as all 13 groundwater samples in which the concentration of copper exceeded the PQL, also exceeded the ecological screening criteria. However, the concentrations of copper were not considered to be significantly elevated. The most elevated copper concentrations were recorded at the up-gradient boundary, and therefore the results were considered to represent background concentrations, if not an offsite source. Copper was detected at elevated concentrations in near surface soil, and concentrations were much reduced with depth and were limited laterally. Coffey therefore conclude that it is *"very unlikely that the copper concentration exceedances in groundwater were caused by leaching from copper in soil located at the centre of the assessed site"*.

9.1 Auditor's Opinion

In the Auditor's opinion, the groundwater characterisation was adequate to identify significant groundwater contamination associated with historical activities on the Enfield ILC, including groundwater beneath the site.

Metals concentrations exceeding ecological criteria were identified across the site and were considered likely to represent background concentrations or an offsite source, rather than leaching from fill material. The low permeability of the aquifer would limit the potential for significant migration of contamination.

Groundwater abstraction from the site would not normally be conducted, given the low permeability of the geological formation that underlies the site (clay and shale) and poor water quality (saline). Groundwater would need to be investigated to determine suitability for any proposed use, and abstraction permits obtained.

The Auditor is satisfied that further assessment of groundwater is not required at the site.

10. EVALUATION OF REMEDIATION

10.1 Remediation Previously Undertaken

Remediation previously undertaken in the vicinity of the site was presented in the Precinct H CSDMP SAR, which included details on remediation of the Enfield ILC that had been undertaken to address:

- The Wagon Repair Shed
- USTs
- Building footprints
- Sumps and pits
- Various hotspots
- Stockpiles

Remediation of the Wagon Repair Shed involved excavation and consolidation of material containing asbestos and elevated TRH concentrations in four cells constructed elsewhere on the Enfield ILC (within the Intermodal Terminal and Precinct I). The cells are unlined, however include a marker layer and 0.2 m thick capping layer and are managed by an SMP.

Two diesel USTs located elsewhere on the Enfield ILC (south of Precinct H) were excavated and disposed offsite. The tanks were reportedly in good condition. Validation samples collected from the base and walls of the excavation reported elevated concentrations of TRH C_{10}-C_{36}, PAH and lead, however were less than criteria protective of human health. BTEX and TRH C_6-C_9 concentrations were less than the PQL. Samples of water collected from the tank pit contained elevated concentrations of TRH and naphthalene, however subsequent groundwater monitoring did not identify contamination in wells down-gradient of the former USTs.

Material impacted by asbestos, TRH, copper and zinc was identified within and surrounding building footprints located within and surrounding Precinct H. One sample located in the former Fuel Shed (Building No. 11 – situated in the central portion of Precinct H) reported slightly elevated concentrations of TPH (C_{15}-C_{28} fraction) (3,500 mg/kg). Oily water and free product in ashy fill were excavated in some instances (Buildings 14, 18 and 24), with the former Locomotive Fuelling Point (Building 14) situated along the western portion of Precinct H.

Impact associated with sumps, pits and hotspots was typically excavated, with some graded and capped. Excavated material was landfarmed and reused onsite. Validation samples collected from the resulting excavations and landfarmed material had elevated concentrations of TRH, PAH and metals, however were below human health criteria for commercial/industrial land use.

Residual fill material containing asbestos, heavy end TRH, PAH and metals was retained onsite beneath a temporary capping layer. The capping layer was approximately 700 mm or greater thickness of VENM, high plasticity materials and ash from the IMT. Asbestos impacted soils generated from the excavation of Basin F were placed into two cells excavated within the non-impacted part of the site and the cells were covered with a blue marker layer overlain by approximately 400 mm or greater thickness of VENM from the excavation of the cells themselves. Finally, the surface of the site was spray-sealed with bitumen rolled with 7 mm of volcanic chips to create a dust proof seal. The extent of the temporary cap is shown on Attachment 2 in Appendix A.

10.2 Remedial Works Undertaken

Remediation works undertaken in conjunction with the site development works occurred between June 2019 and December 2019. Works were undertaken by Qanstruct and their engaged civil contractor, AWJ Civil Pty Ltd (AWJ). CHEC was engaged by AWJ and Qanstruct to undertake sampling of imported materials and prepare the Validation Report. Coffey was engaged by

Goodman to prepare the LTEMP. Works were generally undertaken in accordance with the CSDMP.

The remedial earthworks were staged according to the following steps:

1. Cut and fill of chip seal and ACM contaminated soil including:
   - Excavation, temporary stockpiling and relocation of chip seal and ACM impacted soil, where required.
   - Excavation of service trenches/pits and footings.
   - Relocation of surplus asbestos contaminated soil, totalling approximately 420 m^3 from Precinct H to Precinct A for interim stockpiling.
2. Validation of an area of natural soil in the north of the site.
3. Installation of a geotextile marker layer on existing and site-won fill, including within service trenches/pits and footings.
4. Installation of service structures (i.e. pipes/conduits).
5. Filling of service trenches/pits using approved imported material.
6. Filling of Precinct H above the marker layer with imported VENM to achieve design levels.
7. Construction of concrete slabs, bitumen pavements and landscaping using imported materials.

The capping layers consisted of:

- 180 mm concrete + 100 mm subbase + 220 mm imported VENM (warehouses & hardstand)
- 30 mm asphalt + 100 mm stabilised base + 200 mm subbase + 170 mm imported VENM (car parks)
- 150 mm concrete + 100 mm subbase + 250 mm imported VENM (pedestrian pathways)
- 100 mm topsoil/mulch + 1 m of imported VENM (landscape areas)

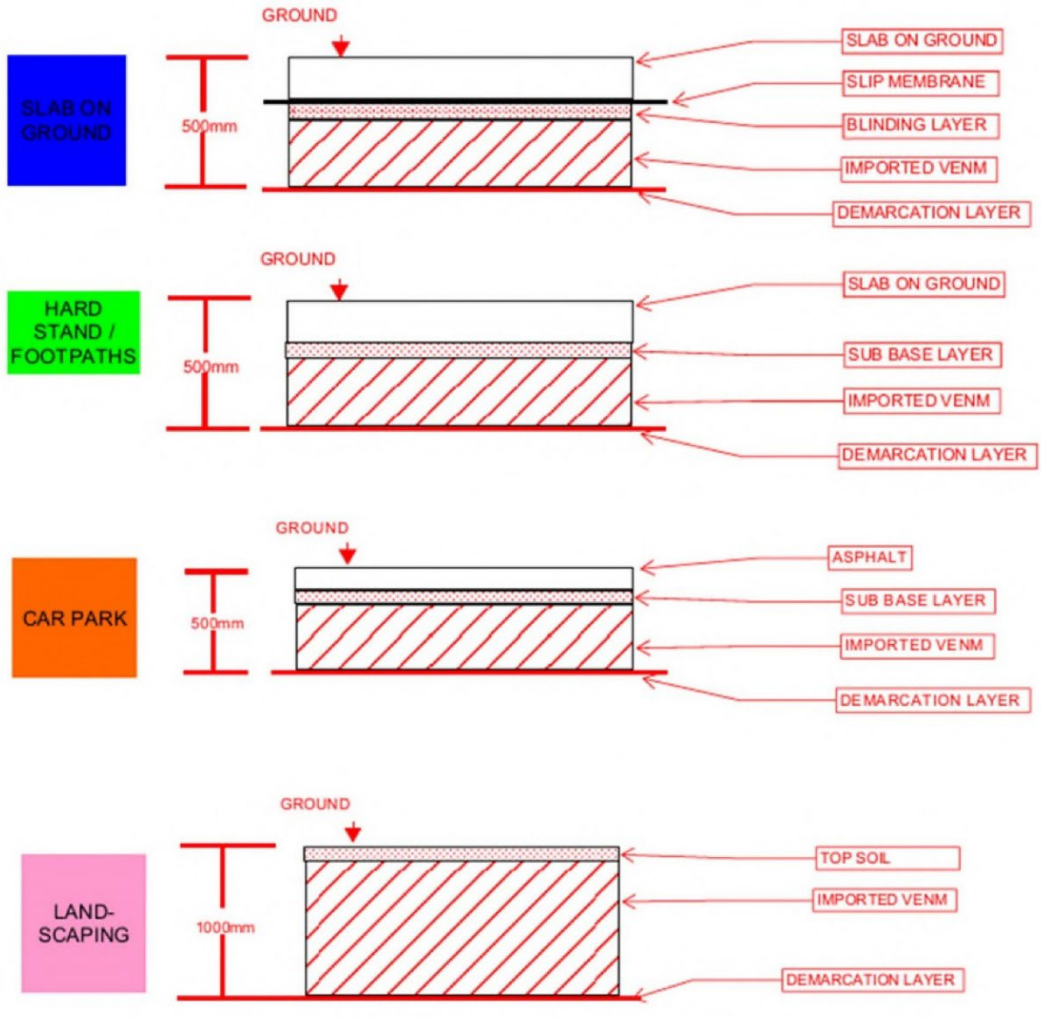
10.3 Validation Activities

10.3.1 Capping Layer Installation

CHEC was engaged to carry out periodic site inspections over the course of the development to observe the importation of material and installation of the capping layer. Generally, the observations made during site walkovers noted the following:

- Asbestos impacted materials were placed and compacted across the site.
- Impacted-material was covered with geo-textile fabric, which extended to and turned up at the site boundary.
- Service trenches were lined with geo-textile fabric prior to placement of services and backfilling.
- Imported VENM capping material was visually consistent with the material described in VENM source reports.
- Spot checking and visual observation of the cap thickness appeared to conform with thicknesses prescribed in the CSDMP.

Once geo-textile fabric marker layers were in place, VENM was imported to site for use as the capping layer. Once the VENM cap was compacted in place, finished surfaces including interior concrete slabs, paved pathways, bitumen car park surface, and landscaping were installed to the specified design thicknesses. The design thicknesses installed at the site are presented in Figure 10.1 below. The lateral extent of each capping design is presented in Attachment 4 in Appendix A.



Schematic A: Capping layer design (Finished design and thickness)

Figure 10.1: Capping Layers Installed on the C1 Facility

Records of observations, photographs and descriptions of the VENM capping material importation, placement and compaction during the site visits by CHEC were included as appendices to the Validation Report.

Survey figures provided in Appendix G of the Validation Report confirm that capping layer thicknesses and extent were consistent with the CSDMP and designs shown in Figure 10.1.

10.3.2 Stockpiles Re-Used On Enfield ILC

Approximately 420 m^3 of asbestos contaminated soil was moved from Precinct H to Precinct A to achieve design levels. The material was transported to Precinct A and stockpiled in accordance with the CEMP. Audit of the stockpiled material will be subject to the future SAR for Precinct A.

10.3.3 Imported Material

VENM was imported to the site from a total of thirteen sources for use as capping material. Classification reports were provided for each site by the supplier (Appendix C of the Validation Report). Validation sampling was undertaken upon importation of material from twelve of the thirteen source locations, with a total of 40 primary soil samples collected and analysed for TRH, BTEX, PAH, OCP, OPP, PCB, metals, and asbestos. Sampling and analytical testing undertaken by the source site and upon importation is summarised in Table 10.1.

Material imported from Site 13 was not sampled upon importation. The Validation Report reports that chemical material testing was not undertaken due to the "minor quantity" (162 m^3) of material. A classification report for material from Site 13 reported that in situ soil testing for metals, TPH, BTEX, PAH, OCP, PCB and asbestos was undertaken to classify approximately

4,000 m^3 of natural soils from that site as VENM. Only 162 m^3 of VENM classified soils from Site 13 were imported to the site.

Materials other than VENM that were imported to the site for use as capping material, road base, landscaping and backfilling service trenches, including:

- DGS20 Road Base
- Bedding sand
- 40/70 aggregate
- 20 mm aggregate
- Unbound Subbase (UBS)
- Landscaping materials including topsoil, mulch and granite.

Inspections and analytical testing were undertaken following importation, which are summarised in Table 10.1.

Table 10.1: Imported Fill Material Types and Volumes

Material Type	Source Site	Volume imported (m^3)	Site Use	Testing Frequency	Summary of Testing Results	Suitability
Site 1 VENM	6-14 Walker Street, Rhodes	1,667	Capping material	1 sample per 556 m^3 (3 primary samples) upon importation to the site	Elevated TRH >C_{10}-C_{16} concentrations were detected in samples collected from the source site (up to 71 mg/kg in 3 of 16 samples) and samples collected upon importation (up to 179 mg/kg in 3 samples). ADE and CHEC attributed the detections to naturally occurring hydrocarbons in shale. Results for other samples/contaminants were consistent with VENM (organics and asbestos <PQL and metals indicative of natural material). PID results 0.0 ppm	The sampling frequency was less than that proposed in the CSDMP, however was discussed with the Auditor prior to assessment and considered acceptable based on the consistency of results, site history and visual observations. The analytical results generally comply with the VENM criteria, with the exception of TRH detected in samples collected from the source site and upon importation to the site. The TRH was attributed to naturally occurring hydrocarbons and was less than human health and ecological criteria for commercial/industrial land use. The imported material is therefore considered suitable for use on the site.
Site 2 VENM	Precinct 1, Eveleigh Street, Redfern	9,451	Capping material	1 sample per 1050 m^3 (9 primary samples) upon importation to the site	PAHs were detected in 1 sample (fluoranthene 0.5 mg/kg and pyrene 0.5 mg/kg) collected upon importation. PAHs were not detected in 12 samples collected from the source site or in the remaining 8 samples collected upon importation. CHEC did not identify a source of the PAHs, however noted that they were significantly less than the land use criteria. Results for other samples/contaminants were consistent with VENM (organics and asbestos <PQL and metals indicative of natural material). PID results 0.0 ppm	The sampling frequency was less than that proposed in the CSDMP, however was discussed with the Auditor prior to assessment and considered acceptable based on the consistency of results, site history and visual observations. Sampling results were generally consistent with validation assessment criteria. The detection of PAHs may be as a result of cross contamination. It is noted that fluoranthene and pyrene concentrations were equal to the PQL (0.5 mg/kg) and were not considered to impact on the suitability of the site. Imported VENM is considered suitable for site use.
Site 3 VENM	Macquarie University Central Courtyard, Balaclava	1,093	Capping material	1 sample per 364 m^3 (3 primary samples) upon	Analytical testing results were generally consistent with VENM and the criteria stated in the CSDMP (organics and asbestos <PQL and metals indicative of natural material).	Sampling results were consistent with validation assessment criteria. Imported VENM is considered suitable for site use.

Material Type	Source Site	Volume imported (m^3)	Site Use	Testing Frequency	Summary of Testing Results	Suitability
	Road, Macquarie Park			importation to the site	PID results 0.0 ppm	
Site 4 VENM	52 Barker Road, Strathfield	1,353	Capping material	1 sample per 1,353 m^3 (1 primary samples) upon importation to the site	Analytical testing results were generally consistent with VENM and the criteria stated in the CSDMP (organics and asbestos <PQL and metals indicative of natural material). PID results 0.0 ppm	The sampling frequency was less than that proposed in the CSDMP, however was discussed with the Auditor prior to assessment and considered acceptable based on the consistency of results, site history and visual observations. Imported VENM is considered suitable for site use.
Site 5 VENM	17-21 Mary Street, Auburn	1,106	Capping material	1 sample per 369 m^3 (3 primary samples) upon importation to the site	Elevated metals concentrations were reported, however were considered to be a result of natural variability in shale and clay. Metal concentrations are unlikely to have an adverse effect on the environmental receptors. It is also noted that the majority of the site is capped by hardstand, with imported topsoil placed in landscaped areas. Analytical testing results for other contaminants were generally consistent with VENM and the criteria stated in the CSDMP (organics and asbestos <PQL). PID results 0.0 ppm	Imported VENM is considered suitable for site use.
Site 6 VENM	Dee Why RSL, Clarence Street, Dee Why	2,797	Capping material	1 sample per 932 m^3 (3 primary samples) upon importation to the site	Analytical testing results were generally consistent with VENM and the criteria stated in the CSDMP (organics and asbestos <PQL and metals indicative of natural material). PID results 0.0 ppm	The sampling frequency was less than that proposed in the CSDMP, however was discussed with the Auditor prior to assessment and considered acceptable based on the consistency of results, site history and visual observations. Imported VENM is considered suitable for site use.
Site 7 VENM	8-10 Fitzroy Place, Surry Hills	793	Capping material	1 sample per 793 m^3 (1 primary samples) upon	Elevated metals concentrations were reported, however were considered to be a result of natural variability in shale and clay. Metal concentrations are unlikely to have an adverse effect on the environmental	The sampling frequency was less than that proposed in the CSDMP, however was discussed with the Auditor prior to assessment and considered acceptable based

Material Type	Source Site	Volume imported (m^3)	Site Use	Testing Frequency	Summary of Testing Results	Suitability
				importation to the site	receptors. It is also noted that the majority of the site is capped by hardstand, with imported topsoil placed in landscaped areas. Analytical testing results for other contaminants were generally consistent with VENM and the criteria stated in the CSDMP (organics and asbestos <PQL). PID results 0.0 ppm	on the consistency of results, site history and visual observations. Imported VENM is considered suitable for site use.
Site 8 VENM	3 Bathurst Street, Liverpool	642	Capping material	1 sample per 321 m^3 (2 primary samples) upon importation to the site	Analytical testing results were generally consistent with VENM and the criteria stated in the CSDMP (organics and asbestos <PQL and metals indicative of natural material).	The sampling frequency was less than that proposed in the CSDMP, however was discussed with the Auditor prior to assessment and considered acceptable based on the consistency of results, site history and visual observations. Imported VENM is considered suitable for site use.
Site 9 VENM	162 Elizabeth Street, Ashfield	329	Capping material	1 sample per 165 m^3 (2 primary samples) upon importation to the site	Total PAHs (1.3 mg/kg) were detected in one of five samples collected from the source site. The PAHs were considered by EI Australia to be as a result of the excavator tracking across the area and not representative of the VENM. PAHs were not detected in samples collected from material imported to the site. Analytical testing results for other contaminants were generally consistent with VENM and the criteria stated in the CSDMP (organics and asbestos <PQL and metals indicative of natural material).	The sampling frequency was less than that proposed in the CSDMP, however was discussed with the Auditor prior to assessment and considered acceptable based on the consistency of results, site history and visual observations. Given that PAHs were not detected in samples of material upon importation to the site, it is reasonable to assume that detections at the source site were the result of cross contamination. The magnitude and extent of cross contamination is expected to be low and limited to surface material. Imported VENM is therefore considered suitable for site use.
Site 10 VENM	Westconnex Tunnel	6,740	Capping material	1 sample per 963 m^3 (7 primary samples) upon importation to the site	The material is tunnel spoil classified in accordance with the M4/M5 Link Tunnel Spoil Exemption 2019. Analytical testing results were generally consistent with VENM, the Exemption and the criteria stated in the CSDMP (organics and	The sampling frequency was less than that proposed in the CSDMP, however was discussed with the Auditor prior to assessment and considered acceptable based on the consistency of results, the source, site history and visual observations.

Material Type	Source Site	Volume imported (m^3)	Site Use	Testing Frequency	Summary of Testing Results	Suitability
					asbestos <PQL and metals indicative of natural material).	Imported VENM is considered suitable for site use.
Site 11 VENM	26 Anderson Road, Concord	998	Capping material	1 sample per 333 m^3 (3 primary samples) upon importation to the site	Analytical testing results were generally consistent with VENM and the criteria stated in the CSDMP (organics and asbestos <PQL and metals indicative of natural material).	Imported VENM is considered suitable for site use.
Site 12 VENM	6A, 8, 8B & 8C Monash Road, Gladesville	2,314	Capping material	1 sample per 771 m^3 (3 primary samples) upon importation to the site	Analytical testing results were generally consistent with VENM and the criteria stated in the CSDMP (organics and asbestos <PQL and metals indicative of natural material).	The sampling frequency was less than that proposed in the CSDMP, however was discussed with the Auditor prior to assessment and considered acceptable based on the consistency of results, site history and visual observations. Imported VENM is considered suitable for site use.
Site 13 VENM	2 Bellfrog Street, Greenacre	162	Capping material	No samples upon importation to the site 3 samples prior to importation	Analytical testing results were generally consistent with VENM and the criteria stated in the CSDMP (organics and asbestos <PQL and metals indicative of natural material).	The sampling frequency was less than that proposed in the CSDMP. The absence of on-site testing is not in accordance with the CSDMP, however the VENM certificate for the site provides a reasonable level of assurance that the material is suitable for site use.
DGS20	Eco Resource Recovery (Ecorr)	8929 t	Sub-base – situated above marker layer	1 per 218 t (41 samples)	No asbestos was identified during field quantification or detected through laboratory analysis. Visual inspection did not identify ACM.	Sufficient samples were collected and analysed for the volume of material imported. Imported material is suitable for use on-site.
Bedding Sand	Ecorr	1577 t	Service trenches	1 per 175 t (9 samples)	No asbestos was identified during field quantification or detected through laboratory analysis. Visual inspection did not identify ACM.	Sufficient samples were collected and analysed for the volume of material imported. Imported material is suitable for use on-site.
40/70 aggregate	Ecorr	313 t	Used for traffic access during construction.	Not sampled	Visual inspection did not identify ACM.	Material is commercially available and situated below marker layer. The Auditor notes that there is a low potential for asbestos to be present in the material and

Material Type	Source Site	Volume imported (m^3)	Site Use	Testing Frequency	Summary of Testing Results	Suitability
			Situated below marker layer			the material location is unlikely to present a risk to site users should it be present. Imported material is suitable for use on-site.
20 mm aggregate	Ecorr	261 t	Backfill behind retaining walls	Not sampled	Visual inspection of stockpiles and following placement of material did not identify ACM	The material was not tested but loads were visually assessed by CHEC. No asbestos was observed in the aggregate. The Auditor notes that there is a low potential for asbestos to be present in the material and the material location is unlikely to present a risk to site users should it be present. Imported material is suitable for use on-site.
UBS	Ecorr	132 t	Sub-base – situated above marker layer	Not sampled	No asbestos was identified during field quantification. No asbestos was visually identified during sampling or detected through laboratory analysis	No asbestos was detected or observed in the aggregate. Imported material is suitable for use on-site.
Topsoil (VENM)	128 Andrews Road, Penrith	600	Landscaping garden beds	1 sample per 150 m^3 (4 samples) VENM classification included 20 samples	Concentrations of TRH and PAH, PCBs, OCP, OPP and asbestos were below PQL. Metals concentrations were less than the PQL or typical of background concentrations.	Sufficient samples were collected and analysed for the volume of material imported. Imported material is suitable for use on-site.
Mulch	Greater West Landscapes Pty Ltd	200	Landscaping garden beds	Testing only required if anthropogenic material is visually identified within the material.	No asbestos was identified during visual assessment of the material by CHEC. CHEC noted 'some minor plastic film'.	Further to CHEC's visual assessment, the Auditor visually inspected surface mulch in-situ within the garden beds and a small stockpile of mulch during the final site walkover and found the material to be free of anthropogenic constituents, including ACM. The material is therefore considered suitable for onsite use.

Material Type	Source Site	Volume imported (m^3)	Site Use	Testing Frequency	Summary of Testing Results	Suitability
Art Deco Granite	Not provided	Not provided	Paving in landscaped areas	None	Not applicable	CHEC report that the material is a quarried product and therefore does not require testing.

10.3.4 Natural Soil

Natural soil was encountered over approximately 150 m^2 in the north of the site during excavation to design levels (Attachment C). The Auditor estimated the area to comprise 400 m^2. CHEC collected three validation samples and undertook a visual inspection.

Field screening for asbestos sampling did not identify ACM and laboratory analysis reported concentrations of TRH, BTEX, PAHs, OCP, OPP, PCB and asbestos below the detection limit. Metals concentrations were less than criteria protective of human health and the environment. CHEC report that *"Visual inspections did not identify any asbestos containing material on the surface of the natural ground"*.

The area was considered to be natural soil, and therefore a marker layer was not placed over the area.

10.4 Auditor's Opinion

Remediation of the site has effectively capped contaminated fill material. The composition and extent of the surface layer was confirmed during inspection of the site by the Auditor on 18 December 2019.

In the Auditor's opinion, the remedial works undertaken were appropriate and generally in accordance with the CSDMP, and the validation undertaken was suitable to demonstrate this. It is noted that sampling frequencies were low for some materials and some of the imported capping materials were found to contain low concentrations of PAHs and were therefore not VENM, which was not in accordance with the CSDMP. The materials were considered to be fit for purpose and do not affect the suitability of the site for the proposed use.

11. EVALUATION OF CONCEPTUAL SITE MODEL

A conceptual site model (CSM) is a representation of the source, pathway and receptor linkages at a site. Coffey presented a CSM in the CSDMP (called 'Plausible Contaminant Linkages' in Section 8 of the CSDMP) to inform remediation of the site. The Validation Report did not include an updated CSM following remediation and redevelopment of the site.

Table 11.1 provides the Auditors review of the CSM pre-remediation and the Auditors opinion of the post-remediation CSM.

Table 11.1: Review of the Conceptual Site Model

Element of CSM	Consultant	Auditor Opinion
Contaminant source and mechanism	Asbestos present as fragments of ACM, fibrous asbestos (FA) and asbestos fines (AF).	The primary contaminant of concern is asbestos present as fragments of ACM and fibres. Other contaminants present in fill material include TRH, PAH and metals. Other contaminants are present at concentrations that are not considered to present a potential risk to human health, and they can be managed by onsite containment (which is proposed for asbestos).
Affected media	*Pre-remediation* Fill material present within three areas that were temporarily capped prior to remediation works (Attachment 2, Appendix A). The CSDMP assumed that material outside of these areas is also impacted.	The pre-remediation affected media were identified. Following remediation, fill material was present beneath the new capping layer of imported VENM, which is marked by a geotextile marker layer. The post-remediation surveyed depths to the geotextile marker layer are shown in Appendix C.
Receptor identification	• Future commercial uses and visitors • Future landscape maintenance workers • Construction/intrusive maintenance workers • Users of surrounding areas	The receptors were identified. Ecological receptors were not identified, which is considered appropriate for asbestos contamination.
Exposure pathways	Inhalation of asbestos fibres.	The exposure pathways have been identified.
Presence of preferential pathways for contaminant movement	Not discussed	Preferential pathways are considered unlikely to be present.
Evaluation of data gaps	Not discussed	The concentration of asbestos in temporarily capped areas of the site had not been determined, and it was not clear if asbestos is present in fill material outside of the previously temporary capped areas. The remedial strategy undertaken comprised capping of the entire site (discussed in Section 10). The concentration and distribution of asbestos is therefore not considered a significant data gap. No critical data gaps are considered to be present.

11.1 Auditor's Opinion

Although a post-remediation CSM was not provided in the validation report or LTEMP, the Auditor is of the opinion that the CSDMP Plausible Contaminant Linkages provided a reasonable representation of the contamination at the site.

12. ONGOING SITE MANAGEMENT

The site was previously subject to ongoing management through the following document:

- 'Enfield Intermodal Logistics Centre, Site Management Plan, Area F' dated January 2014 by NSW Ports.

The Area F SMP was reviewed in the Lot 10 SAR, which concluded that the SMP *"…will provide an adequate framework for the management of the remaining contamination at the site"*.

Following remediation and redevelopment of the site, a revised management plan was required, namely the LTEMP. Coffey propose the ongoing management of remnant contamination at the site through the following document, which is attached to the SAS in Appendix B:

- 'Enfield Intermodal Logistics Centre, Precinct H – Long-Term Environmental Management Plan, Enfield Intermodal Logistics Centre, Cosgrove Road, Strathfield South NSW' dated 18 December 2019 by Coffey.

The ongoing management requirements at the site are discussed and assessed in the review of the LTEMP in Table 13.1 below.

Table 13.1: Assessment of the EMP

Item	Auditor Comments
Site Specific stand-alone document	The LTEMP provides site specific information, including the identification of the site (Lot 10 in DP1183316) and a site plan. The purpose of the LTEMP is to: - Detail the ongoing management strategy required for the asbestos-impacted soil at the Precinct H redevelopment with respect to the ongoing commercial/industrial use of the site - Provide controls to mitigate the potential health risks posed by asbestos to future site users and maintenance workers - Outline procedures to maintain the capping layer over the long term
Plan Objectives	The objectives of the LTEMP are to: - Summarise the identified environmental and health issues at the site requiring management. - Document management measures to be implemented upon completion of capping and remediation to address the identified issues at the site, including requirements for periodic inspections, documentation and record keeping. - Identify entities responsible for the implementation of the final LTEMP. The LTEMP provides controls to mitigate the potential health risks posed by asbestos to future site users and maintenance workers as well as management procedures once the cap is breached.
When does the EMP apply?	Precinct H was previously managed under the guidance of a Site Management Plan (Area F SMP) prepared by NSW Ports: 'Enfield Intermodal Logistics Centre, Site Management Plan, Area F' dated November 2014 by NSW Ports (Area F SMP). This LTEMP supersedes the SMP. The LTEMP will apply indefinitely until a SAS is prepared stating that the site is suitable for use without an EMP.
Contamination Issues	The LTEMP identifies that asbestos impacted soils (considered to include both asbestos fibres and fragments of ACM) had been capped on-site below cover layers to mitigate the future potential risk of exposure to asbestos. The LTEMP adequately addresses how contaminants of concern will be managed.

Item	Auditor Comments
Extent of Capping and Specification of the Cap	Section 7 of the LTEMP documents the capping layer design and thicknesses (shown in Figure 11.1 of this SAR). The lateral extent of each capping design is presented in Attachment 4 in Appendix A.
Responsibilities	Section 8.3 (Roles and Responsibilities) of the LTEMP provides a clear indication of those responsible for environmental management and administration of the LTEMP, including: - Environmental Representative (ER)/Environment & Sustainability Coordinator (ESC), being NSW Ports - Customer Warehouse Managers - Contractor/maintenance worker The LTEMP will be periodically reviewed to ensure the document is current and conforms to the environmental objectives and legal requirements. Reviews shall be undertaken by the ER and/or ESC every two years, or as necessary as a result of any of the following: - When there are changes in the use of the site which warrant a change in environmental controls - As necessary, as a result of changes in environmental legislation - Instances where there has been a failure of the LTEMP and a revision is required to address the failure. The LTEMP provides a system that requires contractors and maintenance workers to prepare work method statements (WMS) and liaise with the Environmental Representative (ER) and/or the Environment and Sustainability Coordinator (ESC) to seek his/her approval of the WMS. The ER and ESC are to be nominated by NSW Ports. Emergency contacts have not been listed in the current LTEMP, as the site has not been occupied by commercial tenants at this stage. It is understood that the LTEMP will be updated with emergency contact details once these details can be confirmed. The responsibilities under the LTEMP have been adequately described and allocated.
Timeframe	The LTEMP will be implemented prior to granting access to occupy Precinct H.
Long-term engineering security of works Long-term integrity of the cap i.e. risk of the erection of structures on the capped area	The ER and/or ESC are responsible for conducting or engaging a suitably qualified environmental consultant to conduct periodic site inspections on a six-monthly basis and/or immediately following major rain events where there is potential for the cap to be compromised, to check the integrity of the capping layers. The Auditor notes that most of the site comprises hardstand pavement.
Compliant with Relevant Documentation?	The LTEMP is consistent with the CSDMP review in the Section B SAS (TO-058-A).
Occupational Health and Safety (OH&S)	The LTEMP refers to guidance under NSW *Work Health and Safety (WHS) Act 2011* (WHS Act 2011) and NSW *WHS Regulation 2011* (WHS Regulation 2017). Site Safety Plan (SSP) and Work Method Statement (WMS) are required to be developed prior to maintenance works being undertaken.
Public notification mechanisms to ensure potential purchasers or other interested parties are aware of the restrictions i.e. Section 10.7 Certificate (formerly Section 149) or placing a covenant on the title of land under the CLM Act to require maintenance of remediation under the Act.	NSW Ports, as the Landowner Representative of the site, are responsible for the implementation of the LTEMP and nomination of the ER and ESC. Should the ownership of the site change in the future, a mechanism is in place to ensure that new landowners become aware and assume overall responsibility for implementation of the final LTEMP. This mechanism is provided by amending the Planning Certificate issued by Strathfield Council under Section 10.7 of the *Environmental Planning and Assessment Act 1979*.

Item	Auditor Comments
Will be or can reasonably be made to be legally enforceable?	The LTEMP can be made a condition of any future development consent that requires intrusive works or change in land use. It can also be passed on in contract documents to any future site owner.
Are the Council in agreement with the EMP?	The LTEMP has been reviewed and subjected to a statutory site audit and it will subsequently be submitted to Strathfield Council to ensure the requirements for site management, as outlined within the LTEMP, are recorded on the Planning Certificate issued under Section 10.7 of the *Environmental Planning and Assessment Act*. Further, the LTEMP is attached to the Site Audit Statement (SAS), included as Appendix B of this SAR.

The appropriate conditions for the implementation of an Environmental Management Plan stated under Section 3.4.6 of NSW EPA (2017) *Guidelines for the NSW Site Auditor Scheme (3rd Edition)* have been met, namely:

- The LTEMP has been reviewed by the Auditor.
- The LTEMP can reasonably be made to be legally enforceable (i.e. Development Consent conditions) in site redevelopment.
- There will be appropriate public notification of restrictions applying to the site through a notification on the Section 10.7 Certificate for the site.
- The remnant contamination is not considered to pose an unacceptable risk to onsite or offsite environments if managed in accordance with the LTEMP.

12.1 Auditor's Opinion

Based on the above, the Auditor considers that the LTEMP will provide an adequate framework for the management of the remnant asbestos contamination at the site.

13. CONTAMINATION MIGRATION POTENTIAL

Following the capping of contamination as discussed in Section 10 and with ongoing management as discussed in Section 12, the Auditor considers that there would be little or no potential for migration of contamination from the site in surface water or dust. In the Auditor's opinion, there is no evidence of significant migration of contamination and little potential for future migration given the remedial works conducted and implementation of the LTEMP.

14. ASSESSMENT OF RISK

The overall risk of exposure of human receptors to the principal contaminant of concern on the site, asbestos (ACM and fibres) present within fill material, is considered to be low following remediation by in situ capping of the entire site beneath a marker layer and capping layer with a minimum thickness of 0.5 m. Further, most of the site is covered by hardstand and a warehouse building, making disturbance of the underlying fill material as part of regular activities undertaken on the site unlikely.

The risk of future exposure to contaminants is to be managed under the LTEMP. The LTEMP covers the entirety of Precinct H, superseding the previous Area F SMP.

15. COMPLIANCE WITH REGULATORY GUIDELINES AND DIRECTIONS

The Auditor has used guidelines currently made and approved by the EPA under section 105 of the NSW *Contaminated Land Management Act 1997*.

The remediation was generally conducted in accordance with SEPP 55 Planning Guidelines and reported in accordance with the OEH (2011) *Guidelines for Consultants Reporting on Contaminated Sites*.

15.1 Development Approvals

The Audit was initiated to comply with a modification (MOD14) to Major Project 05_0147 dated 5 September 2007, approved by the Minister for Planning. Condition 2.43 of the approval of MOD14 (dated 28 August 2018) requires the following:

> *"Prior to the commencement of construction works associated with the project that may disturb contaminated areas of the site, the Proponent shall submit to the Planning Secretary a Site Audit Statement(s), prepared by an accredited Site Auditor under the Contaminated Land Management Act 1997, verifying that the area of the site on which construction is to be undertaken has been or can be remediated to a standard consistent with the intended land use. A final Site Audit Statement(s), prepared by an accredited Site Auditor, certifying that the contaminated areas have been remediated to a standard consistent with the intended land use, and any associated long term environmental management plan (LTEMP), is to be submitted to the Planning Secretary prior to operation of the remediated site(s)."*

This SAR and the SAS in Appendix B have been prepared in response to the requirements of the above condition.

15.2 Waste Management

No offsite waste disposal was undertaken.

15.3 VENM and Other Imported Materials

Based on the information in Section 10 and the site visit on 18 December 2019, the Auditor is of the opinion that the material imported to the site is generally consistent with VENM, although some minor detections of organic compounds (TRH and PAHs) above the analytical limit of reporting were identified in material from two sources.

TRH detections in material from Site 1 were considered by ADE and CHEC to be representative of naturally occurring hydrocarbons in shale. Given the consistency of the TRH concentrations in samples collected from the source site and material imported to the site, the Auditor agrees that they are representative of naturally occurring hydrocarbons, and therefore the material is suitable for use on the site.

The PAH detections in material from Site 2 were minor (equal to the PQL) and in a limited number of samples (1 of 9 samples) and were therefore not considered to be representative of the material imported. PAHs detected in samples collected from material at Site 9 were considered to representative of cross contamination during excavator movements and were not detected in material imported to the site.

Other materials imported to the site were consistent with VENM and recycled products produced under the RRO.

15.4 Licenses

Excavation and removal of asbestos fibre contaminated soils were required to be conducted by a Class A licensed contractor (SLH Industries, licence # AD212500). Excavation, onsite remediation and offsite removal of ACM contaminated soils were required to be conducted by at least a Class B licensed contractor.

CHEC confirmed that during the bulk and detailed excavation and remediation works, a NSW Licensed Asbestos Assessor (LAA) from EP Risk Management (Licence LAA000129) was present on-site to provide control air monitoring at the site. Material movement was undertaken under the supervision of SLH Pty Ltd (Licence #212500). Imported material sampling was undertaken by a LAA from CHEC.

15.5 Notification

The Licenced Asbestos Removal Contractor was required to notify SafeWork NSW five days prior to asbestos related works commencing. The notification required an Asbestos Removal Control Plan (ARCP), which was to be aligned with the CSDMP. The notification was not provided in the Validation Report.

15.6 Conflict of Interest

The Auditor has considered the potential for a conflict of interest in accordance with the requirements of section 3.2.3 of the NSW EPA (2017) *Guidelines for the NSW Site Auditor Scheme*.

The Auditor considers that there are no conflicts of interest, given that:

1. The Auditor is not related to a person by whom any part of the land is owned or occupied.
2. The Auditor does not have a pecuniary interest in any part of the land or any activity carried out on any part of the land.
3. The Auditor has not reviewed any aspect of work carried out by, or a report written by, the site auditor or a person to whom the site auditor is related.

16. CONCLUSIONS AND RECOMMENDATIONS

CHEC concluded the following in the Precinct H Validation Report:

> *"With the implementation of a Long Term Site Environmental Management Plan, any potential exposure to future occupants, maintenance workers or degradation of the constructed capping can be managed. Once implemented and notified on the land title, the Site will be considered suitable for a commercial / industrial land use, consistent with the logistics warehouse constructed in Precinct H."*

Based on the information presented in the audited reports (Section 1.2) and observations made on site, and following the Decision-making process for assessing urban redevelopment sites in NSW EPA (2017) *Guidelines for the NSW Site Auditor Scheme (3rd Edition)*, the Auditor concludes that the site is suitable for the purposes of 'commercial/industrial' use subject to compliance with the following environmental management plan:

- 'Enfield Intermodal Logistics Centre, Precinct H – Long-Term Environmental Management Plan, Enfield Intermodal Logistics Centre, Cosgrove Road, Strathfield South NSW' dated 18 December 2019 by Coffey Services Australia Pty Ltd.

17. OTHER RELEVANT INFORMATION

This Audit was conducted on behalf of Goodman Property Services Pty Ltd for the purpose of assessing whether the land is suitable for the proposed commercial/industrial uses, i.e. a "Site Audit" as defined in Section 4 (definition of a 'site audit' (b)(iii)) of the CLM Act.

This summary report may not be suitable for other uses. Coffey and CHEC included limitations in their reports. The Audit must also be subject to those limitations. The Auditor has prepared this document in good faith, but is unable to provide certification outside of areas over which the Auditor had some control or is reasonably able to check.

The Auditor has relied on the documents referenced in Section 1 of the Site Audit Report in preparing the Auditors' opinion. If the Auditor is unable to rely on any of those documents, the conclusions of the audit could change.

It is not possible in a Site Audit Report to present all data which could be of interest to all readers of this report. Readers are referred to the referenced reports for further data. Users of this document should satisfy themselves concerning its application to, and where necessary seek expert advice in respect to, their situation.

APPENDIX A
ATTACHMENTS

Attachment 1: Site Location (Precinct H)
Attachment 2: Pre-Remediation Site Layout
Attachment 3a: Architectural Plans (South)
Attachment 3b: Architectural Plans (North)
Attachment 4: Lateral Extent of Capping Surfaces

Attachment 1: Site Location (Precinct H)



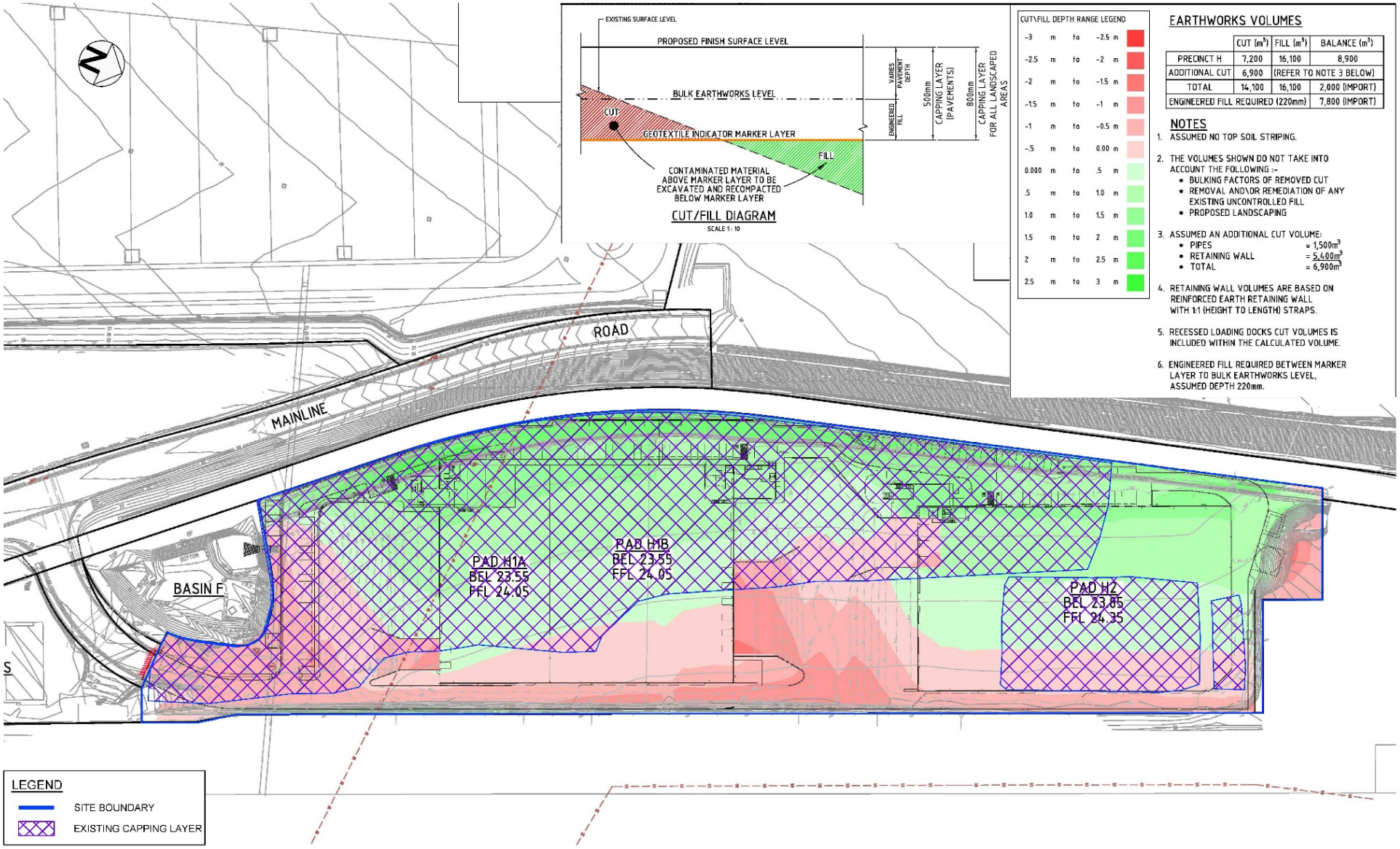
250 0 500 1000

Scale (metres) 1:25 000

AERIAL IMAGERY COPYRIGHT: ©Land and Property Information (2015)
SOURCED FROM WEBSITE: http://www.lpi.nsw.gov.au/mapping_and_imagery/lpi_web_services
LICENSED UNDER CC BY 3.0 AU (https://creativecommons.org/licenses/by/3.0/au/legalcode)

drawn	AP / AW	coffey A TETRA TECH COMPANY	client:	GOODMAN PROPERTY SERVICES	
approved	AP		project:	ENFIELD ILC, CSDMP - PRECINCT H ENFIELD, NSW	
date	2 / 11 / 18		title:	SITE LOCATION PLAN (AERIAL PLAN)	
scale	AS SHOWN		project no: 754-SYDEN217478-R03	figure no: FIGURE 1B	rev: A
original size	A4				

PLOT DATE: 21/12/2018 3:48:50 PM DWG FILE: \\TTS779FS1.TT.LOCAL\DATA1 PROJECTS\1. SYDENENV\2018\SYDEN217478 ENFIELD ILC CSDMP\16 CAD\754-SYDEN217478-R03.DWG



revision	no.	description	drawn	approved	date
	A	ORIGINAL ISSUE			

10 0 20 40 60
Approximate Scale (metres) 1:1250

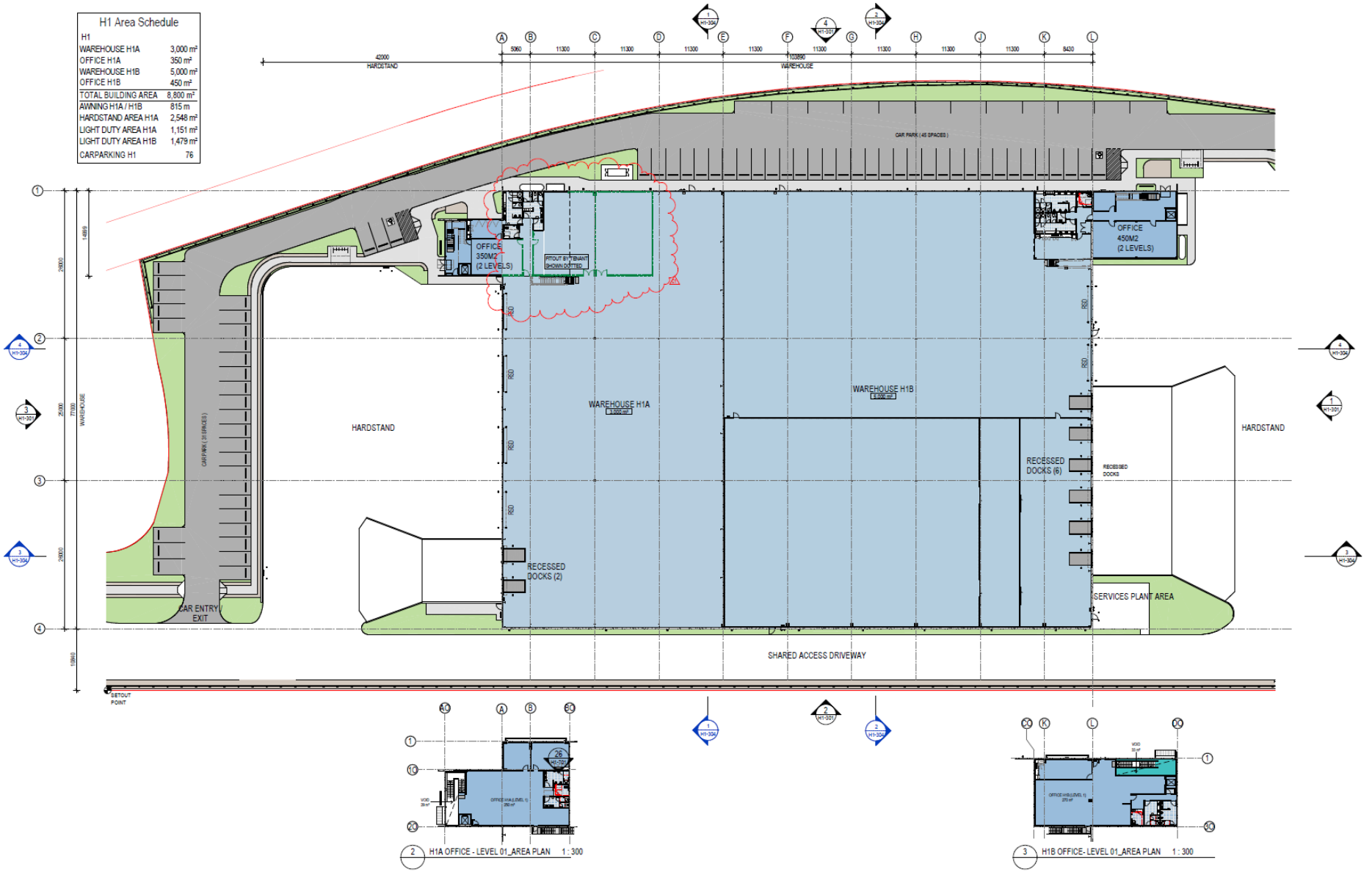
SOURCE: at&l - DWG No. 19-599-C830 - 26/02/2019

drawn	AP / AW
approved	AP
date	27 / 02 / 19
scale	AS SHOWN
original size	A3

coffey
A TETRA TECH COMPANY

client:	GOODMAN PROPERTY SERVICES
project:	ENFIELD ILC, CSDMP - PRECINCT H ENFIELD, NSW
title:	PRECINCT H - REDEVELOPMENT AREA
project no: 754-SYDEN217478-R03	figure no: FIGURE 3 rev: A

Attachment 2: Pre-Remediation Site Layout



SBA ARCHITECTS

#	DESCRIPTION	DATE
C	ISSUED FOR INFORMATION	30.05.19
B	1.FITOUT BY TENANT	
A	ISSUED FOR COORDINATION	29.03.19
A	ISSUED FOR DA1	21.02.19

THESE DRAWINGS, PLANS & SPECIFICATIONS AND THE COPYRIGHT THEREIN ARE THE PROPERTY OF THE CONSTRUCTION ONLY WITH THE EXPRESS PERMISSION OF THIS OFFICE.

FIGURED DIMENSIONS TO BE USED IN PREFERENCE TO SCALING. ALL DIMENSIONS TO BE CHECKED ONSITE.

THIS DOCUMENT NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED & ISSUED FOR CONSTRUCTION.

DEVELOPER Goodman

CLIENT Qanstruct

ENFIELD INTERMODAL LOGISTICS CENTRE
MAGLINE RD , STRATHFIELD SOUTH

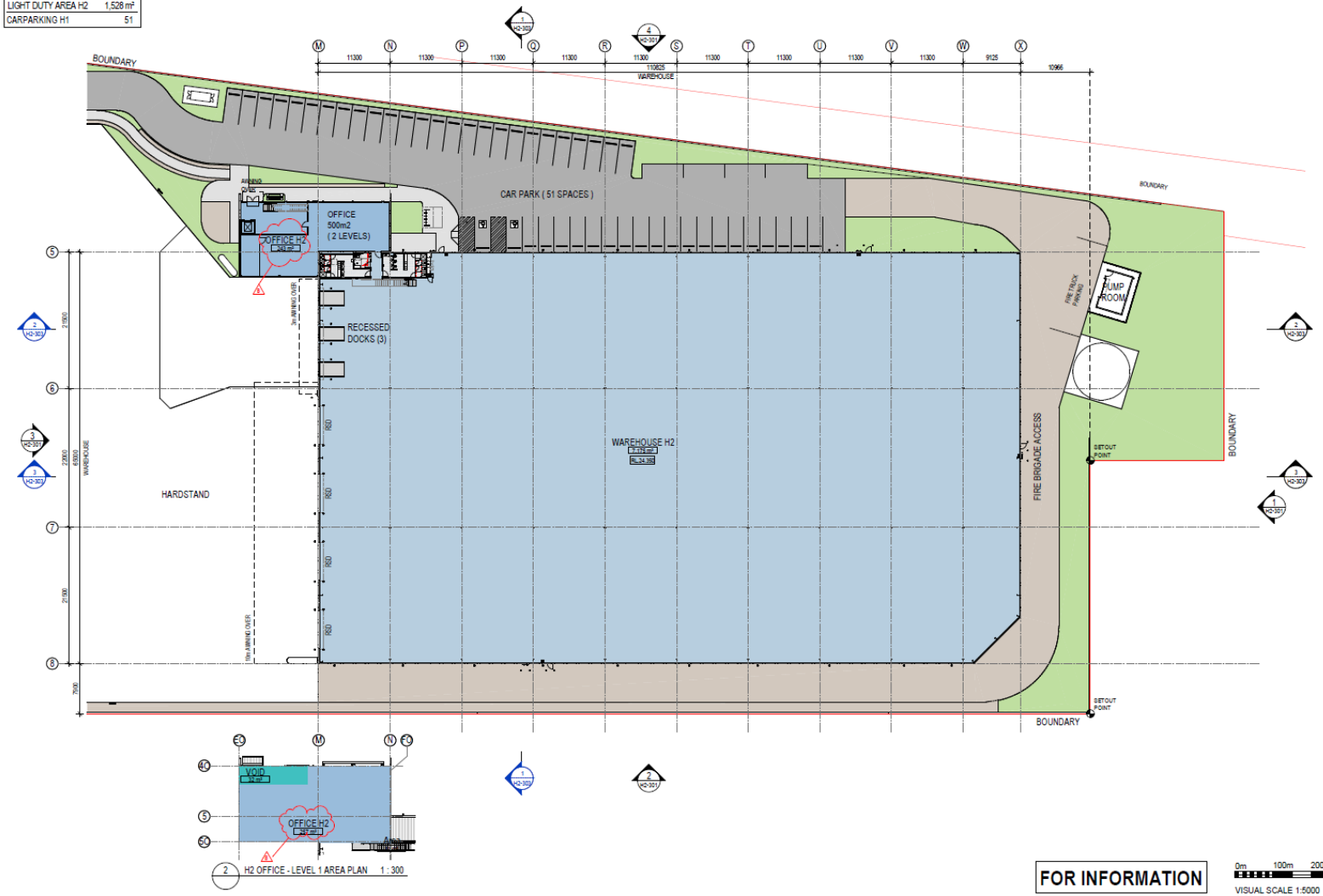
TITLE H1A & H1B - AREA PLAN

DATE	30.05.19
SCALE	1 : 300 @ A1
DRAWN	JA
CHECKED	SJ
APPROVED	Approver

PROJECT NO. 19103
DWG NO. H0-901
REVISION C

Attachment 3a: Architectural Plans (South)

H2 Area Schedule	
H2	
WAREHOUSE H2	7,175 m²
OFFICE H2	500 m²
TOTAL BUILDING AREA	7,675 m²
AWNING H2	499 m
HARDSTAND AREA H1B / H2	4,490 m²
LIGHT DUTY AREA H2	1,528 m²
CARPARKING H1	51



2 H2 OFFICE - LEVEL 1 AREA PLAN 1 : 300

FOR INFORMATION

0m 100m 200m 300m 400m 500m

VISUAL SCALE 1:5000 @ A1

SBA ARCHITECTS

B ISSUED FOR COORDINATION 20.03.19
A ISSUED FOR DA 21.02.19
DESCRIPTION DATE

DEVELOPER Goodman

CLIENT Qanstruct

ENFIELD INTERMODAL LOGISTICS CENTRE
MAINLINE RD , STRATHFIELD SOUTH

TITLE H2 - AREA PLAN

DATE 20.03.19
SCALE 1 : 300 @ A1
DRAWN JA
CHECKED SJ
APPROVED Approver

PROJECT NO. 19103
DWG NO. H0-902
REVISION B

Attachment 3b: Architectural Plans (North)

Attachment 4: Lateral Extent of Capping Surfaces



revision	no.	description	drawn	approved	date
	A	ORIGINAL ISSUE	JS	SH	16.12.19

LEGEND

- Cadastre
- Precinct H Site Boundary
- Precinct F Boundary
- Enfield ILC Boundary

Finished cap surface

- Carpark
- Hardstand
- Landscape
- Slab on ground
- Sprinkler tank

DRAFT

N

0 10 20 30 40

SCALE 1:1,250 (A3) METRES

Projection: GDA 1994 MGA Zone 56

drawn	XA
approved	SH
date	16.12.2019
scale	AS SHOWN
original size	A3

coffey
A TETRA TECH COMPANY

client:	NSW PORTS
project:	LONG TERM ENVIRONMENTAL MANAGEMENT PLAN: PRECINCT H ENFIELD ILC COSGROVE ROAD, STRATHFIELD SOUTH NSW
title:	PRECINCT H CAPPED SURFACES
project no:	SYDEN217478_R05_H
figure no:	FIGURE 3
rev:	A

APPENDIX B
SITE AUDIT STATEMENT

NSW Site Auditor Scheme

Site Audit Statement

A site audit statement summarises the findings of a site audit. For full details of the site auditor's findings, evaluations and conclusions, refer to the associated site audit report.

This form was approved under the *Contaminated Land Management Act 1997* on 12 October 2017.

For information about completing this form, go to Part IV.

Part I: Site audit identification

Site audit statement no. **TO-058-B**

This site audit is a:

☒ statutory audit

☐ non-statutory audit

within the meaning of the *Contaminated Land Management Act 1997*.

Site auditor details

(As accredited under the *Contaminated Land Management Act 1997*)

Name	Tom Onus
Company	Ramboll Australia Pty Ltd
Address	Level 3, 100 Pacific Highway, North Sydney
	Postcode 2060
Phone	02 9954 8133
Email	tonus@ramboll.com

Site details

1 Delec Lane, Strathfield South, NSW

Postcode 2136

Property description

(Attach a separate list if several properties are included in the site audit.)

Lot 10 DP1183316

Local government area: Strathfield Municipal Council

Area of site: Approximately 3.58 ha

Current zoning: General Industrial (IN1) under Strathfield Local Environmental Plan 2012

Regulation and notification

To the best of my knowledge:

☐ **the site is** the subject of a declaration, order, agreement, proposal or notice under the *Contaminated Land Management Act 1997* or the *Environmentally Hazardous Chemicals Act 1985,* as follows: (provide the no. if applicable)

- ☐ Declaration no.
- ☐ Order no.
- ☐ Proposal no.
- ☐ Notice no.

☒ **the site is not** the subject of a declaration, order, proposal or notice under the *Contaminated Land Management Act 1997* or the *Environmentally Hazardous Chemicals Act 1985*.

To the best of my knowledge:

☐ the site **has** been notified to the EPA under section 60 of the *Contaminated Land Management Act 1997*

☒ the site **has not** been notified to the EPA under section 60 of the *Contaminated Land Management Act 1997*.

Site audit commissioned by

Name: Richard Mawer

Company: Goodman Property Services Pty Ltd

Address: GPO Box 4703, Sydney, NSW

Postcode: 2001

Phone: (02) 9230 7144; Mob. 0488 005 590

Email: Richard.Mawer@goodman.com.au

Contact details for contact person (if different from above)

Name: Ben Milner

Phone: 0410 557 543

Email: Ben.Milner@goodman.com

Nature of statutory requirements (not applicable for non-statutory audits)

☐ Requirements under the *Contaminated Land Management Act* 1997
(e.g. management order; please specify, including date of issue)

☐ Requirements imposed by an environmental planning instrument
(please specify, including date of issue)

☒ Development consent requirements under the *Environmental Planning and Assessment Act 1979* (please specify consent authority and date of issue)

MOD14 (dated 28 August 2018) to Major Project 05_0147 (dated 5 September 2007) approved by the Minister for Planning

☐ Requirements under other legislation (please specify, including date of issue)

Purpose of site audit

☐ **A1** To determine land use suitability

Intended uses of the land:

OR

☒ **A2** To determine land use suitability subject to compliance with either an active or passive environmental management plan

Intended uses of the land: Commercial/industrial (warehouse)

OR

(Tick all that apply)

☐ **B1** To determine the nature and extent of contamination

☐ **B2** To determine the appropriateness of:

- ☐ an investigation plan
- ☐ a remediation plan
- ☐ a management plan

☐ **B3** To determine the appropriateness of a **site testing plan** to determine if groundwater is safe and suitable for its intended use as required by the *Temporary Water Restrictions Order for the Botany Sands Groundwater Resource 2017*

☐ **B4** To determine the compliance with an approved:

- ☐ **voluntary management proposal** or
- ☐ **management order** under the *Contaminated Land Management Act 1997*

☐ **B5** To determine if the land can be made suitable for a particular use (or uses) if the site is remediated or managed in accordance with a specified plan.

Intended uses of the land:

Information sources for site audit

Consultancies which conducted the site investigations and/or remediation:

NSW Ports

Coffey Services Australia Pty Ltd (Coffey)

SLR Consulting Australia Pty Ltd (SLR)

Compliance Health & Environmental Consulting Pty Ltd (CHEC)

Titles of reports reviewed:

'Enfield Intermodal Logistics Centre, Site Management Plan, Area F' dated January 2014 by NSW Ports.

'Enfield Intermodal Logistics Centre, Contaminated Soil Disturbance Management Plan – Precinct H, Cosgrove Road, Strathfield South NSW' dated 27 February 2019 by Coffey.

‘Enfield Intermodal Logistics Centre, Precinct H Construction Environmental Management Plan’ dated 26 August 2019 by SLR.

‘Site Validation – Precinct H, Enfield Intermodal Logistics Centre’ dated 19 December 2019 by CHEC.

‘Enfield Intermodal Logistics Centre, Precinct H – Long-Term Environmental Management Plan, Enfield Intermodal Logistics Centre, Cosgrove Road, Strathfield South NSW’ dated 18 December 2019 by Coffey.

Other information reviewed, including previous site audit reports and statements relating to the site:

‘Summary Site Audit Report, Enfield Marshalling Yard’ prepared by Dames & Moore Pty Ltd and SAS GN-9 dated 23 September 1999.

‘Site Audit Report, Delec Depot, Enfield’ prepared by ENVIRON Australia Pty Ltd and SAS GN-34 dated 6 February 2002.

‘Interim Advice Letter - Implementation of Remedial Action Plan for Separable Portions 2, 3, 4 and 5, Intermodal Logistics Centre @ Enfield’, prepared by ENVIRON Australia Pty Ltd and SAS GN-401 dated 23 July 2010.

‘Site Audit Report - Proposed Lots 6, 8, 9, 10 and Portion of PT22 Intermodal Logistics Centre at Enfield’ prepared by ENVIRON Australia Pty Ltd and SAS GN 401-6B dated 29 August 2014.

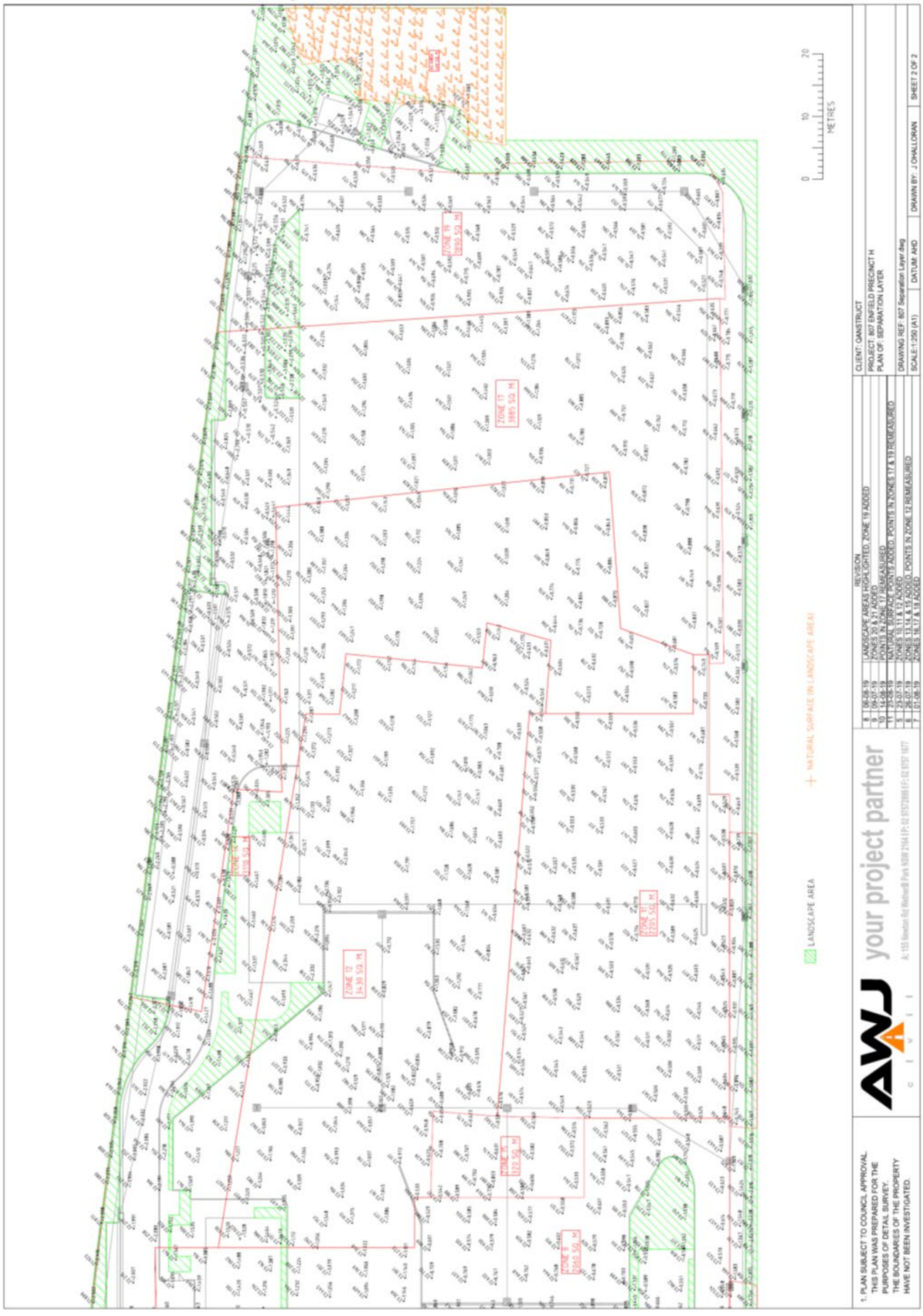
‘Site Audit Report – CSDMP for Precinct H, Enfield Intermodal Logistics Centre’ prepared by Ramboll Australia Pty Ltd and SAS TO-058-A dated 5 March 2019.

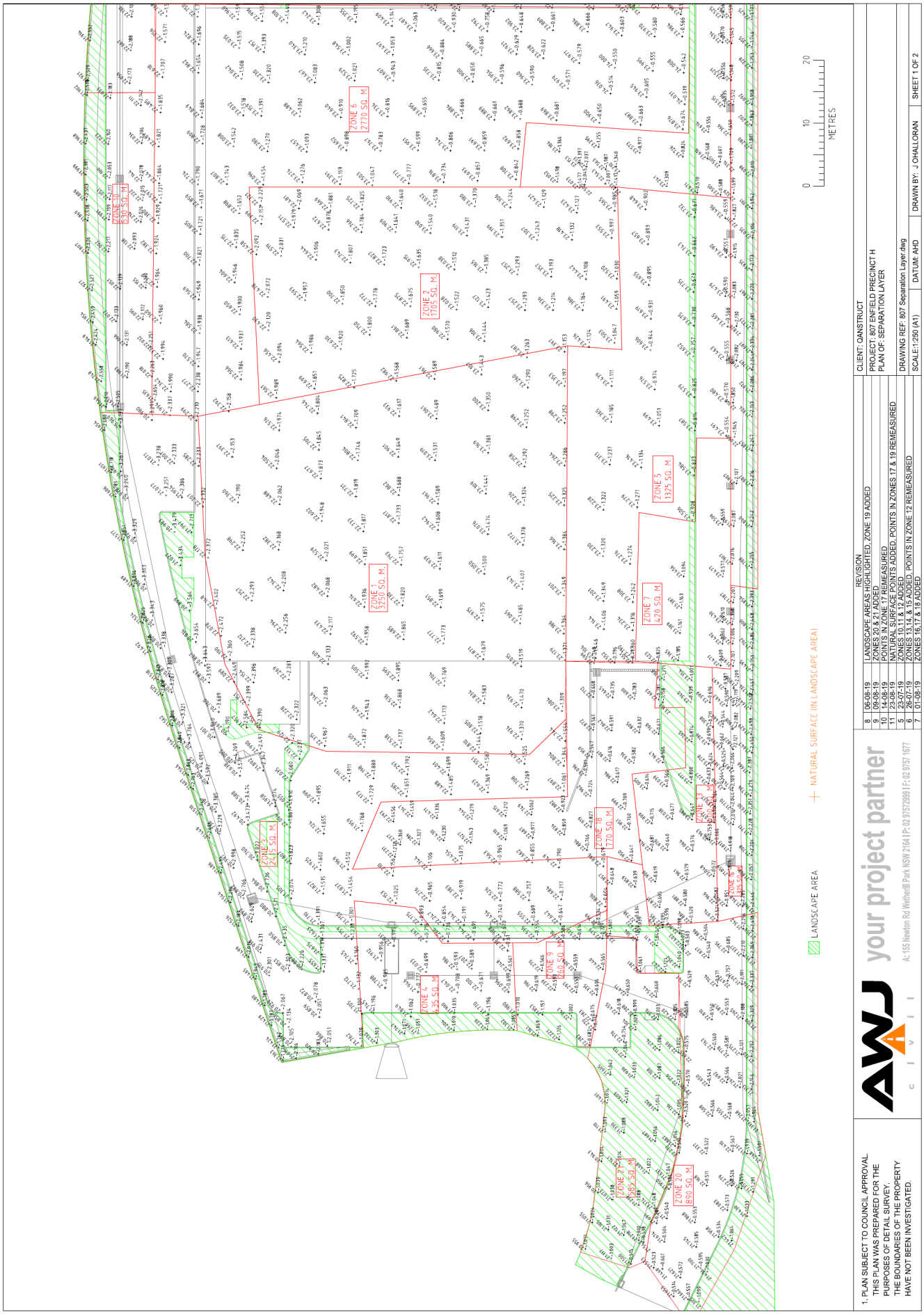
Site audit report details

Title: Site Audit Report – Precinct H Validation, Enfield Intermodal Logistics Centre

Report no.: TO-058-B (Ramboll Ref: 318000669) Date: 10 January 2020

Attachment 1 – Site Survey




ZONE 1
3250 SQ. M
ZONE 2
1705 SQ. M
ZONE 3
2415 SQ. M
ZONE 4
435 SQ. M
ZONE 5
1325 SQ. M
ZONE 6
2770 SQ. M
ZONE 7
420 SQ. M
ZONE 8
1538 SQ. M
ZONE 9
360 SQ. M
ZONE 10
170 SQ. M
ZONE 11
ZONE 12
ZONE 13
ZONE 14
ZONE 15
ZONE 16
ZONE 17
ZONE 18
ZONE 19
ZONE 20
890 SQ. M
LANDSCAPE AREA
NATURAL SURFACE (IN LANDSCAPE AREA)
0
10
20
METRES
REVISION
8 06-08-19 LANDSCAPE AREAS HIGHLIGHTED, ZONE 19 ADDED
9 09-08-19 ZONES 20 & 21 ADDED
10 14-08-19 POINTS IN ZONE 17 REMEASURED
11 23-08-19 NATURAL SURFACE POINTS ADDED, POINTS IN ZONES 17 & 19 REMEASURED
5 23-07-19 ZONES 10,11 & 12 ADDED
6 26-07-19 ZONES 13,14, & 15 ADDED, POINTS IN ZONE 12 REMEASURED
7 01-08-19 ZONES 16,17 & 18 ADDED
CLIENT: QANSTRUCT
PROJECT: 807 ENFIELD PRECINCT H
PLAN OF: SEPARATION LAYER
DRAWING REF: 807 Separation Layer.dwg
SCALE:1:250 (A1)
DATUM: AHD
DRAWN BY: J OHALLORAN
SHEET 1 OF 2
1. PLAN SUBJECT TO COUNCIL APPROVAL.
THIS PLAN WAS PREPARED FOR THE PURPOSES OF DETAIL SURVEY.
THE BOUNDARIES OF THE PROPERTY HAVE NOT BEEN INVESTIGATED.
your project partner
A: 155 Newton Rd Wetherill Park NSW 2164 | P: 02 97572999 | F: 02 9757 1677

Part II: Auditor's findings

Please complete either Section A1, Section A2 or Section B, not more than one section. (Strike out the irrelevant sections.)

- Use **Section A1** where site investigation and/or remediation has been completed and a conclusion can be drawn on the suitability of land uses **without the implementation** of an environmental management plan.
- Use **Section A2** where site investigation and/or remediation has been completed and a conclusion can be drawn on the suitability of land uses **with the implementation** of an active or passive environmental management plan.
- Use **Section B** where the audit is to determine:
    - (B1) the nature and extent of contamination, and/or
    - (B2) the appropriateness of an investigation, remediation or management plan[1], and/or
    - (B3) the appropriateness of a site testing plan in accordance with the *Temporary Water Restrictions Order for the Botany Sands Groundwater Source 2017*, and/or
    - (B4) whether the terms of the approved voluntary management proposal or management order have been complied with, and/or
    - (B5) whether the site can be made suitable for a specified land use (or uses) if the site is remediated or managed in accordance with the implementation of a specified plan.

[1] For simplicity, this statement uses the term 'plan' to refer to both plans and reports.

Section A1

I certify that, in my opinion:

The **site is suitable** for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

- ❑ Residential, including substantial vegetable garden and poultry
- ❑ Residential, including substantial vegetable garden, excluding poultry
- ❑ Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry
- ❑ Day care centre, preschool, primary school
- ❑ Residential with minimal opportunity for soil access, including units
- ❑ Secondary school
- ❑ Park, recreational open space, playing field
- ❑ Commercial/industrial
- ❑ Other (please specify):

_____

OR

- ❑ I certify that, in my opinion, the **site is not suitable** for any use due to the risk of harm from contamination.

Overall comments:

_____

_____

_____

_____

_____

_____

Section A2

I certify that, in my opinion:

Subject to compliance with the **attached** environmental management plan[2] (EMP), the site is suitable for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

☐ ~~Residential, including substantial vegetable garden and poultry~~

☐ ~~Residential, including substantial vegetable garden, excluding poultry~~

☐ ~~Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry~~

☐ ~~Day care centre, preschool, primary school~~

☐ ~~Residential with minimal opportunity for soil access, including units~~

☐ ~~Secondary school~~

☐ ~~Park, recreational open space, playing field~~

☒ Commercial/industrial

☐ ~~Other (please specify):~~

EMP details

Title:	Enfield Intermodal Logistics Centre, Precinct H – Long-Term Environmental Management Plan, Enfield Intermodal Logistics Centre, Cosgrove Road, Strathfield South NSW	
Author:	Coffey Services Australia Pty Ltd	
Date:	18 December 2019	No. of pages: 50

EMP summary

This EMP (attached) is required to be implemented to address residual contamination on the site.

The EMP: (Tick appropriate box and strike out the other option.)

☐ requires operation and/or maintenance of **active** control systems[3]

☒ requires maintenance of **passive** control systems only[3].

[2] Refer to Part IV for an explanation of an environmental management plan.
[3] Refer to Part IV for definitions of active and passive control systems.

Purpose of the EMP:

- Detail the ongoing management strategy required for the asbestos-impacted soil at the Precinct H redevelopment with respect to the ongoing commercial/industrial use of the site;
- Provide controls to mitigate the potential health risks posed by asbestos to future site users and maintenance workers; and
- Outline procedures to maintain the capping layer over the long term.

Description of the nature of the residual contamination:

Fill material is impacted with asbestos present as fragments of asbestos cement sheeting and loose asbestos fibres. The fill material over the entire site was capped beneath a marker layer and hardstand paving (a minimum of 0.5 m thick) or landscaping materials (a minimum of 1 m thick). New services were placed within trenches lined with marker fabric and backfilled with imported clean material.

Summary of the actions required by the EMP:

The long-term environmental management plan (LTEMP) outlines the minimum management procedures and asbestos controls that should be adopted where the capping layer is required to be breached, or there is the potential for the capping layer to be breached during future intrusive works. The LTEMP requires review and approval of a Safe Work Method Statement by either the Environmental Representative (ER) or Environment and Sustainability Coordinator (ESC) prior to any intrusive works commencing.

The LTEMP includes details on the requirements for excavation works, asbestos exclusion zone and signage, personal protective equipment, dust suppression, excavation works inspections, decontamination, air monitoring for asbestos, capping re-instatement, waste disposal, and unexpected finds.

How the EMP can reasonably be made to be legally enforceable:

The LTEMP can be made a condition of any future development consent that requires intrusive works. It can also be passed on in contract documents to future site owners.

How there will be appropriate public notification:

The LTEMP is attached to this site audit statement, which will be submitted to Strathfield Council to ensure the requirements for site management are recorded on the Planning Certificate issued under Section 10.7 of the *Environmental Planning and Assessment Act*.

Overall comments:

The site comprises Precinct H. Fill material impacted by asbestos has been capped during redevelopment of the site for use as logistics warehouses. Appropriate validation was presented to demonstrate that fill material does not pose an unacceptable risk to onsite or offsite receptors under the current site conditions. The LTEMP will need to be followed to maintain site surfaces and limit exposure to underlying fill material.

Section B

Purpose of the plan[4] which is the subject of this audit:

_____

_____

_____

I certify that, in my opinion:

(B1)

☐ The nature and extent of the contamination **has** been appropriately determined

☐ The nature and extent of the contamination **has not** been appropriately determined

AND/OR (B2)

☐ The investigation, remediation or management plan **is** appropriate for the purpose stated above

☐ The investigation, remediation or management plan **is not** appropriate for the purpose stated above

AND/OR (B3)

☐ The site testing plan:

- ☐ **is** appropriate to determine
- ☐ **is not** appropriate to determine

if groundwater is safe and suitable for its intended use as required by the *Temporary Water Restrictions Order for the Botany Sands Groundwater Resource 2017*

AND/OR (B4)

☐ The terms of the approved voluntary management proposal* or management order** (strike out as appropriate):

- ☐ **have** been complied with
- ☐ **have not** been complied with.

*voluntary management proposal no. _____

**management order no. _____

AND/OR (B5)

☐ The site **can be made suitable** for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

- ☐ Residential, including substantial vegetable garden and poultry
- ☐ Residential, including substantial vegetable garden, excluding poultry

[4] For simplicity, this statement uses the term 'plan' to refer to both plans and reports.

- ☐ Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry
- ☐ Day care centre, preschool, primary school
- ☐ Residential with minimal opportunity for soil access, including units
- ☐ Secondary school
- ☐ Park, recreational open space, playing field
- ☐ Commercial/industrial
- ☐ Other (please specify):

IF the site is remediated/managed* in accordance with the following plan (**attached**):

*Strike out as appropriate

Plan title:

Plan author:

Plan date: No. of pages:

SUBJECT to compliance with the following condition(s):

Overall comments:

Part III: Auditor's declaration

I am accredited as a site auditor by the NSW Environment Protection Authority (EPA) under the *Contaminated Land Management Act 1997.*

Accreditation no. 1505

I certify that:

- I have completed the site audit free of any conflicts of interest as defined in the *Contaminated Land Management Act 1997,* and
- with due regard to relevant laws and guidelines, I have examined and am familiar with the reports and information referred to in Part I of this site audit, and
- on the basis of inquiries I have made of those individuals immediately responsible for making those reports and obtaining the information referred to in this statement, those reports and that information are, to the best of my knowledge, true, accurate and complete, and
- this statement is, to the best of my knowledge, true, accurate and complete.

I am aware that there are penalties under the *Contaminated Land Management Act 1997* for wilfully making false or misleading statements.

Signed 

Date 10 January 2020

Part IV: Explanatory notes

To be complete, a site audit statement form must be issued with all four parts.

How to complete this form

Part I

Part I identifies the auditor, the site, the purpose of the audit and the information used by the auditor in making the site audit findings.

Part II

Part II contains the auditor's opinion of the suitability of the site for specified uses or of the appropriateness of an investigation, or remediation plan or management plan which may enable a particular use. It sets out succinct and definitive information to assist decision-making about the use or uses of the site or a plan or proposal to manage or remediate the site.

The auditor is to complete either Section A1 or Section A2 or Section B of Part II, **not** more than one section.

Section A1

In Section A1 the auditor may conclude that the land is *suitable* for a specified use or uses OR *not suitable* for any beneficial use due to the risk of harm from contamination.

By certifying that the site is *suitable*, an auditor declares that, at the time of completion of the site audit, no further investigation or remediation or management of the site was needed to render the site fit for the specified use(s). **Conditions must not be** imposed on a Section A1 site audit statement. Auditors may include **comments** which are key observations in light of the audit which are not directly related to the suitability of the site for the use(s). These observations may cover aspects relating to the broader environmental context to aid decision-making in relation to the site.

Section A2

In Section A2 the auditor may conclude that the land is *suitable* for a specified use(s) subject to a condition for implementation of an environmental management plan (EMP).

Environmental management plan

Within the context of contaminated sites management, an EMP (sometimes also called a 'site management plan') means a plan which addresses the integration of environmental mitigation and monitoring measures for soil, groundwater and/or hazardous ground gases throughout an existing or proposed land use. An EMP succinctly describes the nature and location of contamination remaining on site and states what the objectives of the plan are, how contaminants will be managed, who will be responsible for the plan's implementation and over what time frame actions specified in the plan will take place.

By certifying that the site is suitable subject to implementation of an EMP, an auditor declares that, at the time of completion of the site audit, there was sufficient information satisfying guidelines made or approved under the *Contaminated Land Management Act 1997*

(CLM Act) to determine that implementation of the EMP was feasible and would enable the specified use(s) of the site and no further investigation or remediation of the site was needed to render the site fit for the specified use(s).

Implementation of an EMP is required to ensure the site remains suitable for the specified use(s). The plan should be legally enforceable: for example, a requirement of a notice under the CLM Act or a development consent condition issued by a planning authority. There should also be appropriate public notification of the plan, e.g. on a certificate issued under s.149 of *the Environmental Planning and Assessment Act 1979*.

Active or passive control systems

Auditors must specify whether the EMP requires operation and/or maintenance of active control systems or requires maintenance of passive control systems only. Active management systems usually incorporate mechanical components and/or require monitoring and, because of this, regular maintenance and inspection are necessary. Most active management systems are applied at sites where if the systems are not implemented an unacceptable risk may occur. Passive management systems usually require minimal management and maintenance and do not usually incorporate mechanical components.

Auditor's comments

Auditors may also include **comments** which are key observations in light of the audit which are not directly related to the suitability of the site for the use(s). These observations may cover aspects relating to the broader environmental context to aid decision-making in relation to the site.

Section B

In Section B the auditor draws conclusions on the nature and extent of contamination, and/or suitability of plans relating to the investigation, remediation or management of the land, and/or the appropriateness of a site testing plan in accordance with the *Temporary Water Restrictions Order for the Botany Sands Groundwater Source 2017*, and/or whether the terms of an approved voluntary management proposal or management order made under the CLM Act have been complied with, and/or whether the site can be made suitable for a specified land use or uses if the site is remediated or managed in accordance with the implementation of a specified plan.

By certifying that a site *can be made suitable* for a use or uses if remediated or managed in accordance with a specified plan, the auditor declares that, at the time the audit was completed, there was sufficient information satisfying guidelines made or approved under the CLM Act to determine that implementation of the plan was feasible and would enable the specified use(s) of the site in the future.

For a site that *can be made suitable*, any **conditions** specified by the auditor in Section B should be limited to minor modifications or additions to the specified plan. However, if the auditor considers that further audits of the site (e.g. to validate remediation) are required, the auditor must note this as a condition in the site audit statement. The condition must not specify an individual auditor, only that further audits are required.

Auditors may also include **comments** which are observations in light of the audit which provide a more complete understanding of the environmental context to aid decision-making in relation to the site.

Part III

In **Part III** the auditor certifies their standing as an accredited auditor under the CLM Act and makes other relevant declarations.

Where to send completed forms

In addition to furnishing a copy of the audit statement to the person(s) who commissioned the site audit, statutory site audit statements must be sent to

- the **NSW Environment Protection Authority**: nswauditors@epa.nsw.gov.au or as specified by the EPA

  AND

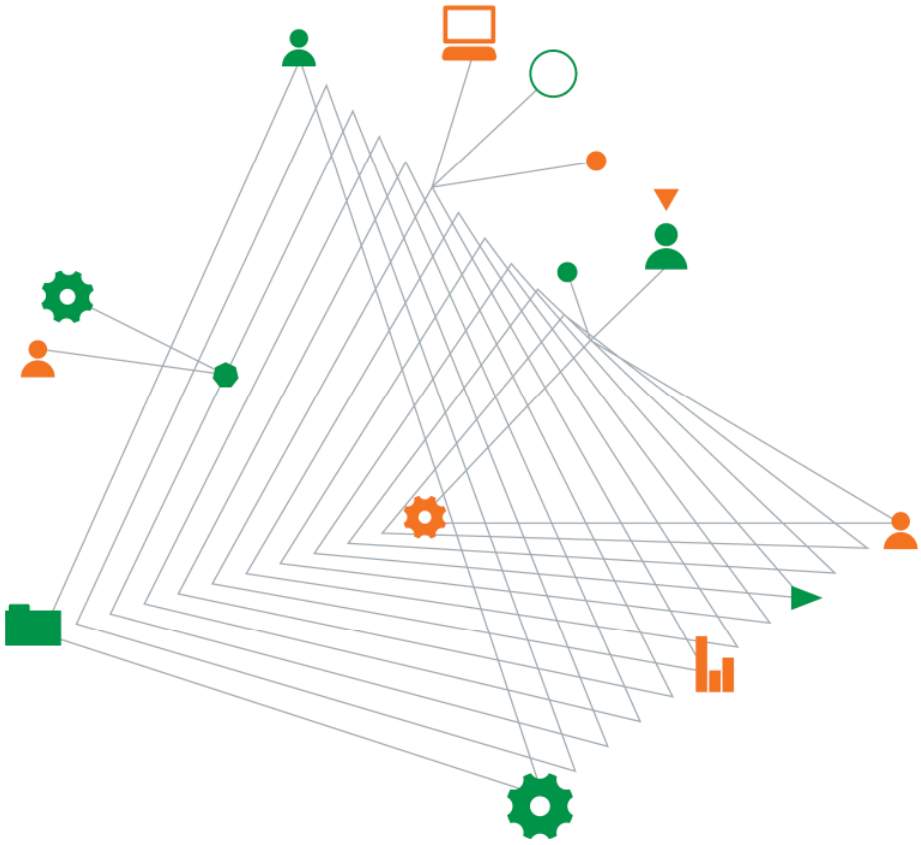
- the **local council** for the land which is the subject of the audit.

Goodman Property Services on behalf of NSW Ports

Enfield Intermodal Logistics Centre, Precinct H - Long-Term Environmental Management Plan

Enfield Intermodal Logistics Centre, Cosgrove Road, Strathfield South NSW

18 December 2019



Experience comes to life when it is powered by expertise

This page has been left intentionally blank

Enfield Intermodal Logistics Centre, Precinct H - Long-Term Environmental Management Plan

Prepared for
Goodman Property Services on behalf of NSW Ports

Prepared by
Coffey Services Australia Pty Ltd
Level 19, Tower B, 799 Pacific Highway
Chatswood NSW 2067 Australia
t: +61 2 9406 1000 f: +61 2 9406 1002
ABN: 55 139 460 521

18 December 2019

754-SYDEN217478-R05_H LTEMP

Quality information

Revision history

Revision	Description	Date	Author	Reviewer
R05_Ha	Draft	4 December 2019	Simon Hay	Anthony Plumb / Edward Wu
R05_H	Final following Auditor Comments	18 December 2019	Simon Hay	Anthony Plumb / Edward Wu

Distribution

Report Status	No. of copies	Format	Distributed to	Date
Final	1	PDF	Goodman Property Services	4 December 2019
Final	1	PDF	Goodman Property Services	18 December 2019

Abbreviations

ACM	Asbestos-containing Materials
AEC	Area of Environmental Concern
AHD	Australian Height Datum
CLM	Contaminated Land Management
COC	Chain of Custody
CoPC	Contaminant of Potential Concern
CSDMP	Contaminated Soil Disturbance Management Plan
DP	Deposited Plan
DPE	Department of Planning & Environment
ENM	Excavated Natural Material
ER	Environmental Representative
ESC	Environment and Sustainability Coordinator
HDPE	high-density polythene
m BGL	metres Below Ground Level
LTEMP	Long Term Environmental Management Plan
NATA	National Association of Testing Authorities
NSW EPA	New South Wales Environment Protection Authority
OEMP	Operational Environmental Management Plan
PCBU	Persons Controlling a Business or Undertaking
PPE	Personal Protective Equipment
POEO	Protection of the Environment Operations
QA/QC	Quality Control/Quality Assurance
RPE	Respiratory Protective Equipment
SSP	Site Safety Plan
SWMS	Safe Work Method Statement
UFP	Unidentified Finds Protocol
VENM	Virgin Excavated Natural Material
WMS	Work Method Statement

Table of contents

Abbreviations ii
1. Introduction 1
2. Background 1
3. Purpose 3
4. Objectives 4
5. Site Information 4
6. Summary of Remedial Works 5
7. Final Precinct H Cap Construction Detail 5
8. Management Protocol 6
9. Environmental Management Procedures for Future Excavation Works 10
10. Unexpected Finds 14
11. Conclusion 15
12. Limitations 15
13. References 15

Figures

Figure 1 – Site Boundary and Precinct Boundaries
Figure 2 – Precinct H Development
Figure 3 – Precinct H: Capped Surfaces

Appendices

Appendix A – Important Information about your Coffey Environmental Report
Appendix B – Enfield ILC Masterplan
Appendix C – Photographs
Appendix D – Precinct Survey Plans
Appendix E – Induction Register
Appendix F – Site Inspection Register
Appendix G – Documentation and Records

1. Introduction

Coffey Services Australia Pty Ltd (Coffey) was engaged by Goodman Property Services Pty Ltd (Goodman), on behalf of NSW Ports (Ports), to prepare this Environmental Long-Term Management Plan (LTEMP) for the redevelopment of Precinct H (the site), located at Enfield Intermodal Logistics Centre (Enfield ILC), located at Cosgrove Road, Strathfield South, NSW.

This LTEMP was prepared at the request of Goodman to facilitate submission of an Operational Environmental Management Plan (OEMP) to the Department of Planning and Environment (DPE) on behalf of NSW Ports, and details the environmental management framework, practices and procedures to be followed during the operation of Precinct H. Coffey understands that this LTEMP will form a subplan of the overarching OEMP.

This LTEMP has been prepared to outline a framework for controlling and managing potential risks associated with asbestos-impacted soils at the site. Asbestos impacted soils (considered to include both asbestos fibres and fragments of asbestos-containing materials (ACM)) had been capped on-site below designated cover layers to mitigate the future potential risk of exposure to asbestos.

This LTEMP has been updated to reflect the completion of the Precinct H development for inclusion within the OEMP.

A validation report relating to the remediation of the site was prepared by Compliance health and Environmental Consulting Pty Ltd (CHEC) detailing the remedial and validation works undertaken at Precinct H (ref: CH1093_D9248_Final_Validation_Report_2.1). It should be noted that Precinct H was previously managed under the guidance of a Site Management Plans (SMP) (ref: NSW Ports, Enfield Intermodal Logistics Centre Site Management Plan – Area F dated January 2014).

The Area F SMP was prepared following remedial works previously conducted on Precinct H and was prepared for the management of the precinct until this planned redevelopment had occurred.

This LTEMP supersedes the Area F SMP.

The location of Enfield ILC and Precinct H are shown on Figure 1. A copy of the NSW Ports Enfield ILC Masterplan is supplied in Appendix B of this report.

2. Background

2.1. Overview

The Enfield ILC land was formerly used by the State Rail Authority (SRA) of NSW for marshalling and maintenance of rail cars and locomotives, as well as sidings for rail and goods, for over 70 years from the 1920's until the 1990's. Enfield ILC currently includes the Enfield Intermodal Terminal (IMT), an existing warehouse and tarpaulin shed, a Southern Precinct, and 30 hectares of remaining developable land zoned IN1 General Industrial.

Enfield ILC is scheduled to be redeveloped in eight precincts (A to I) for commercial/industrial uses, primarily logistics, which included redevelopment of Precinct H under modification (MOD14) to the original development consent (Ref: MP05_0147).

Precinct H has previously been subject to remediation via interim capping of asbestos impacted soils, considered to include both bonded and friable asbestos, as detailed in the Site Management Plans prepared in 2014. This broadscale remediation required the excavation of asbestos impacted soils across Precinct H. The impacted material was redistributed and compacted across Precinct H and was capped to achieve design levels in accordance with a Contaminated Soil Disturbance Management Plan for Precinct H, prepared by Coffey in 2019 (Coffey Ref: SYDEN217478_R03_Rev, Enfield Intermodal Logistics Centre, Contaminated Soil Disturbance Management Plan – Precinct H).

Excess contaminated soil surplus to design requirements were also relocated from Precinct H to Precinct A for interim stockpiling in accordance with the CSDMP and the Precinct A Stockpiling Addendum (Coffey Ref: SYDEN217478_L02, Precinct A Stockpiling Addendum).

Qanstruct (Aust) Pty Ltd (Qanstruct) were engaged by Goodman to act as the head contractor for the redevelopment of Precinct H. AWJ Civil Pty Ltd (AWJ) have been engaged by Qanstruct as the earthworks and environmental contractor for the works.

2.2. Previous Reports

The Precinct H redevelopment has been subject to a number of previous soil disturbance management plans, investigations and validation assessments which are listed below:

- Coffey (2018); Precinct A Stockpiling Addendum, Enfield Intermodal Logistics Centre, Strathfield South NSW (Ref: SYDEN217478-L02_Rev01 dated 7 December 2018);
- Coffey (2019); Contaminated Soil Disturbance Management Plan – Precinct H, Enfield Intermodal Logistics Centre, Strathfield South NSW (Ref: SYDEN217478-R01-Rev1, dated 17 September 2018);
- CHEC (2019); Site Validation Report - Enfield ILC, Precinct H Strathfield South NSW (Ref: CH1093_D9248_Final_Validation_Report_2.1 (Audited)).

The CSDMP (Coffey, 2019) described the preferred remedial approach which was to retain asbestos-impacted fill on-site. Excess soil (approximately 400 m3) that could not be accommodated within Precinct H was relocated to Precinct A for interim storage as per the Stockpiling Addendum (Coffey, 2018).

The Precinct A Stockpiling Addendum outlines the control measures required for the interim stockpiling of contaminated material at Precinct A until redevelopment of that precinct occurs.

The Precinct H Validation Report (CHEC, 2019) described the process by which asbestos-impacted soils were excavated and capped. Review of the CHEC validation report indicated the following:

- The objective of the validation report was to summarise the remediation and validation work carried out at the site and provide an opinion on the suitability of Precinct H, with regards to contamination and the Precincts intended commercial/industrial use as a warehouse facility.
- Asbestos was considered to be the contaminant of concern requiring remediation.
- CHEC was engaged to undertake the following Scope of Works:
    - Carry out periodic site inspections to observe and document the following:
        - Implementation of management controls outlined in the CSDMP;
        - Excavation works;
        - Soil importation and management;
        - Construction material management; and
        - Location and construction of new capping layers.
    - Undertake reviews of daily air monitoring reports;
    - Prepare a validation report summarising the remedial and capping works.

The remedial works included the following steps:

- Cut and fill of chip seal and ACM contaminated soil including:
    - Excavation, temporary stockpiling and relocation of chip seal and ACM impacted soil where required.
    - Excavation of service trenches/pts and footings.

- Installation of geotextile marker layer on existing and site-won fill including within service trenches/pits and footings
- Installation of service structures (i.e. pipes/conduits).
- Filling of service trenches/pits using approved imported material.
- Filling Precinct H to achieve design levels by compacting, proof rolling and verification.
- Testing of imported backfill layers.
- Construction of slabs, warehouses and associated offices and installing pavements/landscaping.

Periodic site walkovers were undertaken by CHEC to document the remedial processes undertaken on Precinct H with the following noted:

- Asbestos impacted materials were placed and compacted within Precinct H;
- Impacted-material was covered with geo-textile fabric, which extended to the precinct boundaries or extent of fill material and was turned up at the edges.
- Work health and safety protocol and environmental controls were observed to be implemented in general accordance with the CSDMP.
- Imported VENM capping material was visually consistent with the material described in VENM source reports.
- Approximately 200 m3 of mulch and 600 m3 of topsoil was imported to site for use as landscaping.
  - Mulch was visually inspected with no ACM identified within the imported material.
  - Topsoils were imported to site as VENM and certified by CHEC. Four samples were collected from the topsoil for laboratory analysis; CHEC concluded that the concentrations of heavy metals in the topsoil were typical of natural loamy clays from the Penrith Area.
- Spot checking and visual observation of the cap thickness appeared to conform with the thicknesses prescribed in the CSDMP.
- Approximately 400m^3 of excess material was generated as a result of services excavation subsequent to the cap construction. The material was assessed against land use criteria to determine if any gross contamination was present and determined suitable for relocation to Precinct A.
- Survey data confirmed that a minimum cap of 0.5m under sealed surfaces and 1m beneath landscaped areas consisted of imported clean fill material covering geotextile fabric.
- CHEC concluded that the validation confirmed that the site was remediated in general accordance with Department of Planning Approval MP04_0417 and that the contaminated soils have been excavated, placed and capped in general accordance with the CSDMP preventing any potential exposure to site occupants or nearby sensitive receptors.
- Following notification and implementation of this LTEMP on the land title, CHEC considers that the site is suitable for commercial/industrial land sue as a logistics warehouse.

3. Purpose

The purpose of this LTEMP is to:

- Detail the ongoing management strategy required for the asbestos-impacted soil at the Precinct H redevelopment and in light of the ongoing commercial/industrial use of the site;
- Provide controls to mitigate the potential health risks posed by asbestos to future site users and maintenance workers; and
- Outline procedures to maintain the capping layer over the long term.

Upon finalisation, Goodman have advised that this LTEMP will be reviewed by and subject to a statutory site audit by Ramboll Australia Pty Ltd (Ramboll) and shall subsequently be submitted to Strathfield Council to ensure the requirements for site management, as outlined within the LTEMP, are recorded on the Planning Certificate issued under Section 10.7 of the Environmental Planning and Assessment Act.

4. Objectives

The objectives of the LTEMP are to:

- Summarise the identified environmental and health issues at the site requiring management.
- Document management measures to be implemented upon completion of capping and remediation to address the identified issues at the site, including requirements for periodic inspections, documentation and record keeping.
- Identify entities responsible for the implementation of this LTEMP.

5. Site Information

Table 5.1: General Site Information

Title Identification:	Lot 10 / DP1183316
Address	Enfield ILC, Cosgrove Road, Strathfield South NSW
Local Government Authority	Strathfield Municipal Council.
Owner	NSW Ports.
Precinct H Area:	Approximately 3.58 ha
Intended Land Use:	Warehousing and Logistics Centre
Current Zoning:	IN1 (General Industrial) under Strathfield Local Environmental Plan 2012

5.1. Site Description

The following is based on observations made during a walkover completed on 18th December 2019 by a Coffey Environmental Scientist:

- Precinct H was accessed from the southern end of the precinct via Delec Lane.
- Precinct H was noted to be flat and of an elevation consistent with Delec Lane, although it was noted to drop down to the west and east towards the rail corridors situated outside of the precinct boundaries on either sides of the precinct.
- Three large warehouses were present on the precinct, consisting of warehouses H1, H2 and H3.
    - Each warehouse had an adjoining two-storey office.
    - A large concrete covered car-park was present on the southern side of H1.
    - The internal portions of the warehouse were noted to be concrete covered and appeared to be approximately 250mm – 300mm thick in areas.

- Internal roads were present on both the western and eastern perimeters to provide access to the northern end of the site.
- Hardstand was present on the southern side of warehouse H1, in the central loading dock forecourt situated between H2 and H3 and on internal, peripheral access roads.
- Landscaped areas were present on the southern and northern extents of the site, and along the eastern and western boundaries and in areas adjacent to each warehouse office. Landscaped areas were largely characterised by soil or mulched surfaces.
- A pump room and large, cylindrical water tank were situated at the northern extent of the precinct.

Photographs collected from the site walkover are presented in Appendix C.

6. Summary of Remedial Works

The site was previously remediated, with asbestos impacted soil buried and capped on Precinct H using chip-seal (surface treatment combining layers of asphalt and aggregate). To facilitate redevelopment of the site and to achieve design levels, the capped asbestos-impacted soils required re-excavation, to be redistributed across Precinct H with additional surplus requiring interim stockpiling on Precinct A. Following this, impacted soil located on Precinct H was capped, and thus require long-term management.

A detailed summary of the findings of previous investigations undertaken at the site is provided in the Validation Report (CHEC, 2019) along with a detailed description of the remediation works undertaken on Precinct H.

In summary, these remediation works were completed as the site was developed as a logistics warehouse. Topsoil and fill materials containing asbestos were left in-situ or excavated to achieve design levels. Impacted material surplus (approximately 400 m^3) to the design requirements of Precinct H was subsequently transported to Precinct A for interim stockpiling (It has been advised by Goodman that this stockpile will be incorporated into the filling works for Precinct A as part of a future development).

Following redistribution, contaminated soil was compacted across the site. Following compaction, a geo-textile marker layer was placed across the contaminated soil covering Precinct H including services trenches – the geo-textile marker layer was turned up at the excavation wall to meet the precinct boundary. VENM was imported to site and placed across the marker layer forming the initial capping layer and compacted in place.

Photographs of the remedial works are provided in Appendix C. Survey drawings (including surveyed service corridor drawings) are provided in Appendix D.

7. Final Precinct H Cap Construction Detail

It is understood that the existing soils at the site were cut and filled to achieve a level of between one and two metres below finished surface level prior to the placement of the geofabric marker layer. The finished capped surfaces consisted of the following:

- 180mm concrete +100mm subbase (warehouses and hardstand).
- 30mm asphalt + 100mm stabilised base + 200mm subbase (car parks).
- 150mm concrete + 100mm subbase (pedestrian pathways).
- 100mm topsoil/mulch + 1m of imported VENM (landscaped areas)
- Below the finished surfaces the capping layer was constructed from various imported soil and rock classified as VENM with a minimum thickness of 0.5m.

In the north-western extent of the site in the landscaped areas adjacent to the northern and eastern sides of the water tank, the site was excavated to natural soil, and as such no additional capping material was required in addition to the finished mulched surface (as shown on survey drawing 807 Separation Layer (Sheet 2 of 2)).

The supplied thicknesses are noted to conform with the capping thicknesses outlined in the CSDMP. Design details for finished capped surfaces are depicted in Figure 3.

A copy of the surveys (including surveyed service corridor drawings) undertaken on Precinct H are provided in Appendix D.

8. Management Protocol

This section outlines the ongoing management strategy required to be implemented by NSW Ports for use of the site.

8.1. Environmental Management Framework

NSW Ports, as the Landowner Representative of the site, will be responsible for the implementation of this LTEMP. It is expected that this LTEMP will be attached and conditioned in the Site Audit Statement (SAS) prepared by Ramboll, the appointed NSW EPA accredited Site Auditor. Under the requirements of the Contaminated Land Management Act 1997, the Site Auditor will be required to submit a copy of the SAS and this LTEMP to Strathfield Council and the NSW EPA.

Should the ownership of the site change in the future, a mechanism must be in place to ensure that new landowners become aware and assume overall responsibility for implementation of this LTEMP. It is proposed that this mechanism is provided by amending the Planning Certificate issued by Strathfield Council under Section 10.7 of the Environmental Planning and Assessment Act 1979.

This section outlines the management framework and procedures required to be implemented as part of this LTEMP at the site.

8.2. Access to the LTEMP

NSW Ports shall ensure that the LTEMP is readily accessible to:

- Precinct/facility tenants including their warehouse managers.
- Enfield ILC Staff and facility warehouse staff.
- A worker who has carried out, carries out or intends to carry out intrusive works at the site.
- Health and safety representatives who represent workers that carry out or intend to carry out intrusive works at the site.
- A person conducting a business or undertaking who has carried out, carries out or intends to carry out intrusive work at the site.
- A person conducting a business or undertaking who has required, requires or intends to require intrusive work to be carried out at the site.

8.3. Roles and Responsibilities

Table 8.1 – Management responsibilities

Role	Responsibilities
Environmental Representative / Environment & Sustainability Coordinator	NSW Ports has nominated Trevor Brown as the Environmental Representative (ER) and Alison Wedgwood to act as secondary as the Environment and Sustainability Coordinator (ESC) to oversee management of Precinct H and implementation of this LTEMP. The personnel in these roles should be suitably qualified and be familiar with the risks posed by asbestos, aware of the existing conditions at the site, and controls in place to manage asbestos in soil. The ER and/or ESC should have the authority to implement appropriate contingency actions in the event that unexpected conditions are encountered. The ER and/or ESC shall be responsible for the implementation of this LTEMP including the following tasks: • Induction of Facility Tenants and their appointed warehouse managers onto the LTEMP. • Review and approve works to be undertaken by maintenance workers undertaking subsurface works that have the potential to encounter asbestos impacted soils or breach capped surfaces. • Make this LTEMP available to Enfield ILC employees for review. • Induct maintenance workers and contractors onto this LTEMP. • Document unexpected finds and actions undertaken to close out. • Confirm and sign off that capped surfaces that are disturbed during future maintenance works are reinstated appropriately. The ER and/or ESC will ensure that potential future purchasers of property on the site are aware of the remediation works that have been undertaken, and the need for the new owners to develop their own management measures to prevent the capping layers from being compromised.
Customer Warehouse Managers	Facility tenants will be required nominate a warehouse manager to be inducted onto the LTEMP who will be responsible for overseeing implementation of the LTEMP on a facility level as an extension of NSW Ports. The responsibilities of the customer warehouse managers will include: • Review works to be undertaken by maintenance workers undertaking subsurface works that have the potential to encounter asbestos impacted soils or breach capped surfaces. • Advise the NSW Ports ER and/or ESC of works that may disturb the capping layer including contractor Work Method Statement (WMS) and Site Safety Plan (SSP) and seek written approval from NSW Ports prior to commencing. • Induct maintenance workers and contractors onto this LTEMP following final approval from the NSW Ports ER and/or ESC. • Maintain and provide documentation copies to NSW Ports related to works that may have disturbed the capping layer. • Make this LTEMP available to facility workers for review.

Role	Responsibilities
Contractor / maintenance worker	• Prepare WMS and SSP and Contingency Plan prior to commencement of works and liaise with the ER and/or ESC to seek his/her approval of the WMS. • Comply with this LTEMP and applicable legislation and regulations during the works. • Sufficiently assess activity specific environmental and health and safety risks associated with the work. The SSP shall include Safe Work Method Statements (SWMS) appropriate to the work activities and define relevant Emergency Contacts. • Induct all personnel undertaking the works to the requirements of this LTEMP, and the WMS, SSP and contingency plan approved by the ER and/or ESC. • Comply with and implement control measures in accordance with this LTEMP, WMS SSP and contingency plan during the works. • Respond to and manage environment, health and safety incidents, and promptly notify the ER and/or ESC of such incidents. • Document the works completed, including works undertaken to reinstate the capping layer. • Restore works area to a safe condition, with capping layers reinstated on a like for like basis, unless otherwise agreed with the ER and/or ESC.
Environmental consultant / Licensed Asbestos Assessor	Assist with the implementation of this LTEMP and undertake works in accordance with this LTEMP.

8.4. Site Induction

The ER and/or ESC and customer warehouse managers are responsible for ensuring that site workers, including maintenance staff, contractors and sub-contractors completing works considered to have the potential to encounter ACM at the site are inducted onto this LTEMP and that adequate controls are in place to identify scenarios where constructed cap surfaces might be breached where they have the potential to encounter asbestos-impacted soil in landscaped and/or bitumen/concrete surfaced portions of the site.

The inductions must contain information on the nature and extent of ACM capped at the site, and the minimum controls measures required to be implemented. The topics covered during the site inductions should at a minimum include:

- The hazards posed by asbestos (e.g. asbestosis, mesothelioma and lung cancer potentially caused by the inhalation of airborne asbestos fibres);
- The type and location of ACMs capped at the site;
- Procedures and controls in place;
- Any asbestos related works currently being undertaken;
- A discussion on the unexpected finds protocol; and
- Designated site contact for further information and reporting incidents or unexpected finds.

Details of personnel who have attended inductions are to be maintained in this LTEMP, an example induction record is supplied Appendix E.

8.5. Site Inspections

The ER and/or ESC is responsible for conducting or engaging a suitably qualified environmental consultant to conduct periodic site inspections on a six-monthly basis and/or immediately following major rain events where there is potential for the cap to be compromised, to check the integrity of the capping layers.

It is the responsibility of the ER and/or ESC to implement corrective actions in the event that damage to the capping layer has been observed.

An example Site Inspection Register is provided in Appendix F.

8.6. Documentation and Reporting

Relevant documentation regarding the implementation of this LTEMP should be maintained by the ER and/or ESC. The documentation may include (but not be limited to):

- Site plans, identifying the location and design of the capping layer;
- Asbestos-related incident reports and/or disturbance of capping layer;
- Site inspections;
- Staff and contractor inductions;
- Relevant environmental reports including validation reports, VENM or ENM certification;
- Reinstatement records/sign-off indicating the re-instatement of capped surfaces has been completed to the satisfaction of the ER and/or ESC; and
- Unexpected ACM finds, including:
    - Location and quantity of ACM identified;
    - Condition of ACM (i.e. size, shape, relative strength);
    - Amount of soil segregated with the ACM;
    - Where ACM and impacted soil has been stockpiled;
    - Details of actions to manage risks associated with the find and supporting evidence (e.g. weighbridge dockets associated with disposal).

It is the responsibility of the ER and/or ESC to review and update the records as required and to implement corrective actions where necessary.

Records generated in relation to management/disturbance of the capping layer or unexpected finds should be maintained in Appendix G this LTEMP.

8.7. Site Plans

The areas subject to management within the site are shown on Figures 2 and 3. These figures should be included in site inductions and used by the ER and/or ESC and customer warehouse managers in assessing/approving WMS that potentially disturb capping layers.

8.8. Timeframe for LTEMP Implementation

This LTEMP endorsed by the Site Auditor should be implemented prior to granting access to occupy the site.

8.9. LTEMP Review

This LTEMP must be periodically reviewed to ensure the document is current and conforms to the environmental objectives and legal requirements. Reviews shall be undertaken by the ER and/or ESC every two years, or as necessary as a result of any of the following:

- When there are changes in the use of the site which warrant a change in environmental controls;
- As necessary, as a result of changes in environmental legislation;
- Instances where there has been a failure of the LTEMP and a revision is required to address the failure.

This LTEMP should be revised by a suitably qualified environmental consultant following any proposed actions that substantially modify the capping layers described herein. Modifications to the capping layer may arise from significant excavations undertaken within the site, or redevelopment of the site for alternate uses.

9. Environmental Management Procedures for Future Excavation Works

This section outlines the minimum management procedures and asbestos controls that should be adopted where the capping layer is required to be breached, or there is the potential for the capping layer to be breached during future intrusive works following review and approval of the WMS by either the ER or ESC.

The appointed contractor(s) and workers at the site must comply with all legislative, regulatory and guidance requirements, including but not limited to, the asbestos control measures outlined in this Section. If the legislation, regulations or guidelines contradict the information presented here the legislation, regulations or guidelines prevail.

Documentation generated in relation to capping disturbance should be maintained in Appendix G of this LTEMP.

9.1. Excavation Works

Disturbance of the capped surfaces at the site should be avoided.

If disturbance of the capping layer is unavoidable, the procedures outlined below should be followed.

Activities that may disturb the capping layer must be reviewed and approved by the ER and/or ESC prior to the commencement of works. The Contractor must prepare a detailed WMS that outlines the scope of work proposed, consider interaction with asbestos-impacted soil and controls required to minimise exposure to asbestos impacted soils. The WMS must also present a process to reinstate the capping layer to a standard approved by the ER and/or ESC.

The WMS must also contain a Site Safety Plan (SSP) and a Contingency Plan. The WMS must be approved by the ER and/or ESC prior to works commencing on site.

Any contractors likely to be undertaking works that could disturb the capping layer and expose soils containing asbestos must be inducted into this LTEMP and recorded in the induction register.

Where works are required that will disturb or have the potential to disturb asbestos impacted soils a Class A Licenced Asbestos Removalist should be engaged to be present to oversee the works and a Licensed Asbestos Assessor engaged to undertake air monitoring as detailed in Section 10.7 of this LTEMP.

9.2. Asbestos Exclusion Zone & Signage

The asbestos work area must be secure and signed appropriately (e.g. ‘authorised persons only’ or ‘asbestos work area’) this must include the establishment of a physical barrier and an exclusion zone around the work area.

The asbestos work area should be established prior to works likely to disturb the capping layer. The boundary must be maintained throughout the works until the geofabric and capping layer can be re-instated.

9.3. Personal Protective Equipment

If workers are likely to disturb the capping layer, appropriate PPE must be provided to them by the ER and/or ESC and the correct use of the PPE explained. As a minimum, PPE must include:

- Type 5 & 6 disposable coveralls;
- Half face respirator with P3 particulate filter;
- Disposable nitrile gloves worn over the cut resistant gloves where necessary; and
- Footwear that can be easily decontaminated (i.e. gumboots).

It is important to note that disposable respirators and gloves are single-use only and must be disposed of as asbestos waste after each use.

9.4. Dust Suppression

Dust suppression techniques should be adopted to minimise the generation and dispersal of dusts during works likely to disturb the capping layer. It is acknowledged that some of these techniques may not be applicable were breach of the sub-building cap to occur. These techniques may include:

- Fine water spraying;
- Minimising the degree of traffic;
- Ensuring exposed soil surfaces are kept wet during the course of the works;
- Covering exposed areas with high-density polythene (HDPE) sheeting or geotextile fabric;
- Erecting shade cloth along boundary fences to act as a wind break; and
- Ceasing works if environmental conditions (wind and temperature) result in visible dust being generated from the site.

9.5. Excavation Works Inspections

The ER and/or ESC is responsible for implementing a regular inspection schedule during excavation works of capped areas. This would also include inspections following when major rain events occur during the works.

It is the responsibility of the ER and/or ESC to implement corrective actions in the event that damage to the capping layer has been observed.

An example of a Site Inspection Register is provided in Appendix F.

9.6. Decontamination

If workers and staff are likely to disturb the capping layer, it is recommended that a decontamination area be established to include:

- The decontamination area set up at the entrance of the work area;
- The decontamination area at minimum lined with HDPE sheeting and have access to a bucket of water, bag of rags and a spray bottle or hose;
- When leaving the asbestos work area all workers must make their way to the decontamination area;
- All tools and equipment used during the works must be decontaminated, before they are removed from the work area;
- Tools and equipment which cannot be decontaminated in the work area must be dedicated to asbestos removal work and double bagged in asbestos waste bags before being removed from the asbestos work area; and
- PPE including respirators must be inspected and wet wiped prior to removing these items from the asbestos work area.

- If disturbance of the capping layers is required indoors, a multi-staged decontamination unit may be required.

9.7. Air Monitoring for Asbestos

If disturbance of the cap and into underlying asbestos-impacted materials takes place, a licensed asbestos assessor should be engaged to undertake continuous asbestos fibre air monitoring during works that may disturb the capping layer by a National Association of Testing Authorities (NATA), Australia accredited laboratory in accordance with the G*uidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition* [NOHSC: 3003(2005)] and AS ISO/IEC 17025–2005, *General requirements for the competence of testing and calibration laboratories*.

Air monitoring reports must be issued in accordance with NATA's accreditation requirements.

Works must cease if the air monitoring results are found to be above the detection limit of 0.01 fibres per millilitre of air (f/mL).

9.8. Capping Re-instatement

Following the completion of the works, the capping material overlying asbestos-impacted materials, must be reinstated on a like-for-like basis. The capping materials shall be approved by the ER and/or ESC in consultation with a Licensed Asbestos Assessor.

The asbestos assessor appointed by the ER and/or ESC, shall conduct a walkover of the asbestos work area following the completion of the works. This will involve a visual inspection at the following stages of works:

- At the conclusion of each shift to confirm that the asbestos-impacted soil has been contained and/or securely stored within the asbestos work area(s) with no surface ACM fragments identified outside these areas; and

- During the installation/reinstatement of the new capping layer, to check that it is being installed in accordance with the approved method.

A clearance certificate will be issued by the Licensed Asbestos Assessor for the site detailing the completion of the capping layer reinstatement works.

9.9. Waste Disposal

In the event that soil, or waste material is required to be disposed off-site, a suitably qualified environmental consultant should be engaged to carry out a waste classification assessment in accordance with the NSW EPA Waste Classification Guidelines 2014. Waste should be disposed at an appropriately licenced facility.

During material removal from site the following information shall be recorded and maintained by the ER and/or ESC. This shall include the following:

- Marked up record of area where material has been taken referencing to the tip docket;
- Copy of tipping dockets;
- Location of where waste was removed. This shall include marking this up on the plan and refer it to the tipping docket;
- Date and time;
- Name and address of tip;
- Amount of waste;
- Type of waste; and
- Truck registration.

It should be noted that asbestos waste may be required to be tracked utilising the WasteLocate application from the NSW EPA as required.

9.9.1. Completion Documentation

The Contractor shall compile a Completion Report that summarises the works undertaken that disturbed the capping layer, and materials used to reinstate the capping layers and associated air monitoring and clearance reports. The report shall be supported by evidence to demonstrate the works have been completed in accordance with the approved WMS.

The Contractor shall submit the Completion Report to the ER and/or ESC for review and approval.

10. Unexpected Finds

If an unexpected find of contamination is encountered at the site, the following procedure shall apply:

1. Stop work (e.g. maintenance work) or cease occupation of the potentially hazardous area as soon as it is safe to do so and move to the upwind side of the area, or away from the area.
2. Notify the designated ER and/or ESC.
3. Assess the potential immediate risk to human health posed by the unexpected find and assess if evacuation or emergency services need to be contacted.
4. Delineate an exclusion zone around the affected area using fencing and/or appropriate barriers and signage. Additional control measures may be required for odorous or volatile compounds.
5. The ER and/or ESC shall contact an environmental consultant for advice and request a site visit to undertake an assessment of the unexpected find.
6. The environmental consultant will assess the unexpected find and provide advice regarding:
    a) Preliminary assessment of the contamination and need for immediate management controls;
    b) What further assessment and/or remediation works are required and how such works are to be undertaken in accordance with contaminated site regulations and guidelines;
    c) Advise if preparation of an update or addendum to this LTEMP is necessary or provide clean up advice;
    d) Remediation works required (where applicable);
    e) Validation works required following remediation works (if applicable).
7. Works are not to recommence in the affected area until appropriate advice has been obtained from the environmental consultant, which has been endorsed by the ER and/or ESC.
8. If it is deemed safe to do so by the ER and/or ESC, works/reoccupation may resume in the affected area.

11. Conclusion

This LTEMP has been developed to outline the continued management protocols to be followed at Precinct H and to outline what the required management of potential risks associated with asbestos-impacted soil that exists beneath cover layers. Implementation of the control measures outlined in this LTEMP will assist in controlling the potential health risks to site users and manage the risks posed by asbestos-impacted soil capped at the site.

Taking into consideration the findings of previous site investigations and remedial works undertaken and controls outlined herein, it is considered unlikely that the asbestos-impacted soil retained within the site would pose unacceptable health risks if these materials are managed in accordance with this LTEMP.

12. Limitations

This report should be read in conjunction with the attached “Important information about your Coffey Environmental Report”.

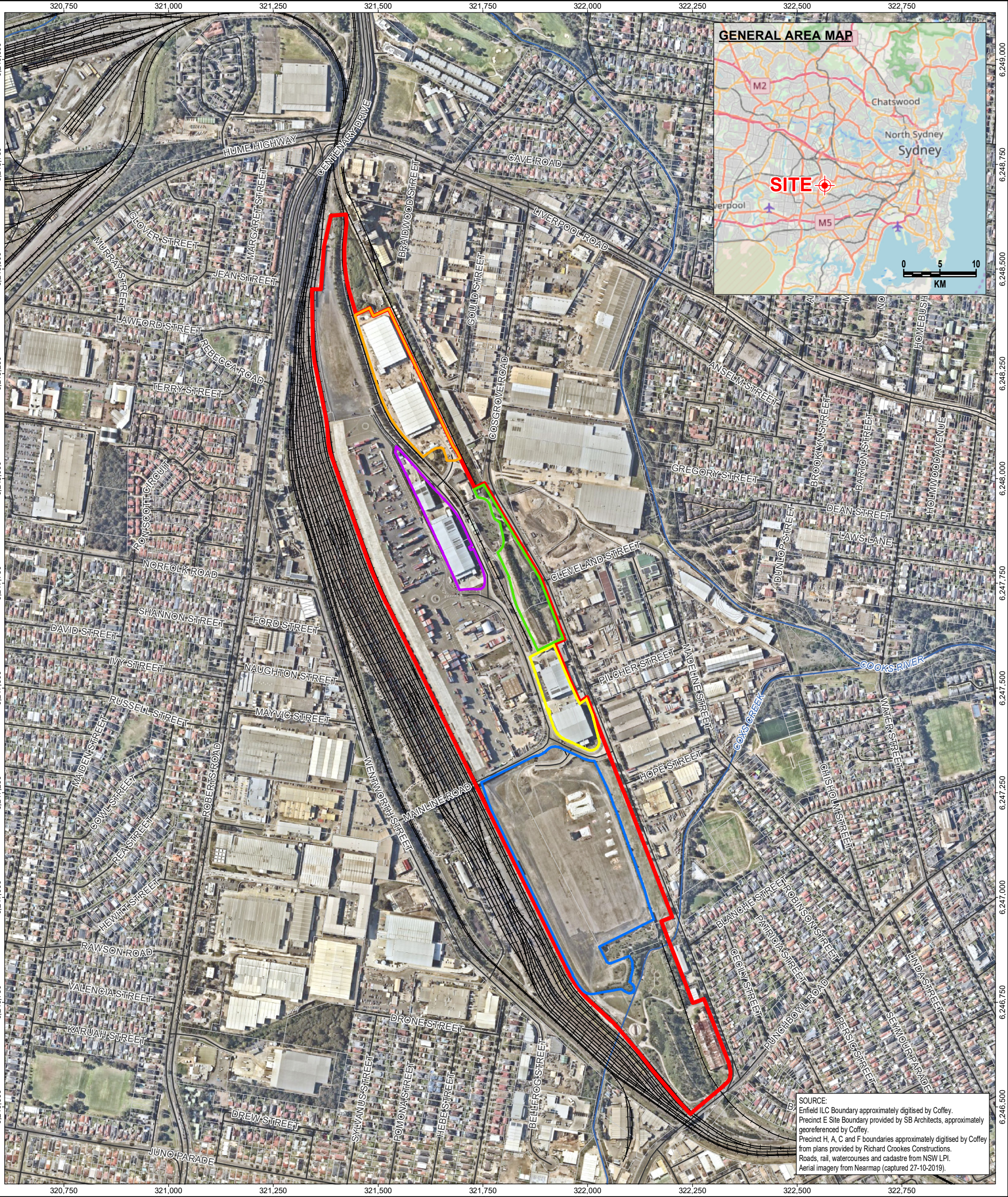
13. References

This LTEMP has been developed in general accordance with the following legislation, industry standards, codes of practice, and guidance documents, where relevant:

- NSW Work Health and Safety (WHS) Act 2011 (WHS Act 2011)
- NSW WHS Regulation 2011 (WHS Regulation 2017)
- Contaminated Land Management (CLM) Act, 1997 (CLM Act 1997)
- CLM Amendment Act 2008
- Protection of the Environment Operations (POEO) Act 1997 (POEO Act 1997)
- POEO (Waste) Regulation 2014 (POEO Regulation 2014)
- National Environment Protection Council (NEPC) Act 1994 (NEPC Act 1994)
- National Environment Protection Council, National Environment Protection (Assessment of Site Contamination) Measure, 1999 (amended April 2013) (amended ASC NEPM)
- Safe Work NSW How to Manage and Control Asbestos in the Workplace Code of Practice 2016
- Safe Work NSW How to Safely Remove Asbestos Code of Practice 2016
- NSW Environment Protection Authority (EPA) State Environmental Planning Policy 55 – Remediation of Land, 1998 (SEPP 55)
- NSW EPA Waste Classification Guidelines: Part 1 – Classifying Waste, 2014 (NSW EPA Waste Classification Guidelines 2014)
- NSW EPA Guidelines for the NSW Site Auditor Scheme (3rd edition) October 2017
- CRC Care Technical Report No. 10, Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater, 2011 (CRC Care 2011)
- WorkCover NSW (2014) ‘Managing Asbestos in or on Soil’, March 2014
- NSW Office of Environment and Heritage (OEH), Guidelines for Consultants Reporting on Contaminated Sites, 2011 (OEH 2011)
- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)]

- AS 4964-2004 Method for the qualitative identification of asbestos in bulk samples
- AS 2985-2009 Workplace atmospheres - Method for sampling and gravimetric determination of respirable dust
- AS 3640-2009 Workplace atmospheres - Method for sampling and gravimetric determination of inhalable dust
- AS 1319-1994 Safety signs for the Occupational Environment
- AS/NZS 1716 – 2012 Respiratory Protective Devices
- AS/NZS 1715 – 2009 Selection, use and maintenance of respiratory equipment.

Figures



revision	no.	description	drawn	approved	date
	A	ORIGINAL ISSUE	GH	SH	03.12.19

DRAFT

LEGEND

- Road
- Track
- Railway
- Watercourse
- Cadastre
- Precinct H Site Boundary
- Precinct E Boundary
- Precinct A Boundary
- Precinct C Boundary
- Precinct F Boundary
- Enfield ILC Boundary

N

0 80 160 240 320

SCALE 1:8,654 (A3) METRES

Projection: GDA 1994 MGA Zone 56

drawn	XA
approved	SH
date	03.12.2019
scale	AS SHOWN
original size	A3

coffey
A TETRA TECH COMPANY

client: NSW PORTS

project: LONG TERM ENVIRONMENTAL MANAGEMENT PLAN: PRECINCT H
ENFIELD ILC
COSGROVE ROAD, STRATHFIELD SOUTH NSW

title: SITE BOUNDARY AND PRECINCT BOUNDARIES

project no: SYDEN217478_R05_H | figure no: FIGURE 1 | rev: A

MXD Template Reference: 217478_R05_GIS001_v0_2



revision no.	description	drawn	approved	date
A	ORIGINAL ISSUE	JS	SH	06.12.19

LEGEND

- Cadastre
- Warehouse
- Precinct H Site Boundary
- Precinct F Boundary
- Enfield ILC Boundary

DRAFT

N

0 10 20 30 40

SCALE 1:1,250 (A3) METRES

Projection: GDA 1994 MGA Zone 56

drawn	XA
approved	SH
date	06.12.2019
scale	AS SHOWN
original size	A3

coffey
A TETRA TECH COMPANY

client: NSW PORTS

project: LONG TERM ENVIRONMENTAL MANAGEMENT PLAN: PRECINCT H
ENFIELD ILC
COSGROVE ROAD, STRATHFIELD SOUTH NSW

title: PRECINCT H FACILITY BOUNDARIES

project no: SYDEN217478_R05_H | figure no: FIGURE 2 | rev: A

MXD Template Reference: 217478_R05_GIS002_v0_2



revision	no.	description	drawn	approved	date
	A	ORIGINAL ISSUE	JS	SH	16.12.19

LEGEND

- Cadastre
- Precinct H Site Boundary
- Precinct F Boundary
- Enfield ILC Boundary

Finished cap surface

- Carpark
- Hardstand
- Landscape
- Slab on ground
- Sprinkler tank

DRAFT

N

0 10 20 30 40

SCALE 1:1,250 (A3) METRES

Projection: GDA 1994 MGA Zone 56

drawn	XA
approved	SH
date	16.12.2019
scale	AS SHOWN
original size	A3

coffey
A TETRA TECH COMPANY

client: NSW PORTS

project: LONG TERM ENVIRONMENTAL MANAGEMENT PLAN: PRECINCT H
ENFIELD ILC
COSGROVE ROAD, STRATHFIELD SOUTH NSW

title: PRECINCT H CAPPED SURFACES

project no: SYDEN217478_R05_H | figure no: FIGURE 3 | rev: A

MXD Template Reference: 217478_R05_GIS003_v0_2

Appendix A - Important Information about your Coffey Environmental Report

Purchase Order Terms and Conditions

1. Acceptance

This Purchase Order ("Order") becomes a binding contract on the terms and conditions set forth herein when accepted by Seller including but not limited to:
(a) acknowledgement of this Order;
(b) any conduct by Seller which recognises the existence of this Order; or
(c) by Seller's failure to notify Buyer to the contrary within 7 days of the date of issuance of this Order. Acceptance by Buyer of the items, equipment ("Material") or any other document delivered or services ("Services") performed under this Order shall not constitute acceptance of Seller's terms and conditions. No additional, modified or different terms or conditions, whether in Seller's proposal or acknowledgement or otherwise, shall govern any arrangement between the Buyer and the Seller unless Buyer expressly assents in writing to such additional, modified or different terms and conditions.

2. Delivery

Delivery or performance shall be in accordance with the Order delivery or performance schedule (the "Schedule") and Seller shall use the most cost-efficient means of transportation. TIME IS OF THE ESSENCE IN THIS CONTRACT. If Seller's deliveries fail to meet such Schedule, Buyer, without limiting its other remedies, may direct expedited routing, and the difference between the expedited routing cost and the Order routing cost shall be paid by the Seller. Buyer shall have the right to terminate this contract by notice to the Seller and place orders elsewhere if deliveries or Services performed are not made as specified and agreed.

3. Inspection

An authorised representative of Buyer shall be given the opportunity upon delivery of all Material to inspect same and upon provision of all Services to inspect the product of same, provided however that any such inspection shall not constitute final acceptance of Materials or Services and Buyer shall retain the right to reject part or all of the Material or Services at any time within a reasonable period after discovery by Buyer that they do not conform with the terms of this Order.

4. Packaging

All Material shall be packed in appropriate containers for protection in shipment and storage so as to exclude the introduction of foreign material. If the Material requires cleaning or disassembly prior to use, due to the presence of foreign material, it shall be at the expense of Seller. Each container shall be consecutively numbered and marked to show the Order number and shall be included on the bill of lading.

5. Price & payment terms

Seller expressly agrees that the prices set forth herein are binding on Seller and shall remain fixed until all Material and/or Services have been delivered and accepted by Buyer unless otherwise agreed in writing by the parties. Payment shall be made net 30 days after receipt of invoice, unless otherwise agreed to in writing by Buyer.

6. Cash discounts

Discounts for prompt payment shall be calculated from the later of receipt by Buyer of an accurate invoice in accordance with the terms hereof, or date of delivery of Material to its destination for full performance of Services.

7. Quality

Material rejected that has been paid for by Buyer, at Buyer's option, may be returned and the price of that Material refunded by the Seller to the Buyer. In the case of rejection or refund Seller will reimburse Buyer for all its inspection and handling costs.

8. Expanded quantities or shortages

Buyer assumes no obligation for Material shipped in excess of the amount specified herein. Over shipment may be returned at Buyer's option, at Seller's expense. If the quantity of Material invoiced by Seller on shipments exceeds the quantity received by Buyer, the full amount payable for the non-delivered Material shall be deducted from the price payable by the Buyer as stated in the Seller's invoice. The Buyer reserves its rights to reject all of the Material if there occurs any such shortfall and to recover from the Seller any cost, loss or damage which might occur due to such rejection.

9. Substitution

No substitution shall be made by Seller for Material which is specified by manufacturer's number, brand name or by generic type except upon prior written approval of Buyer. Should Seller propose a substitution to Buyer, Seller shall provide Buyer with documentation on such substitution prior to shipment or as requested by Buyer attesting to the proposed item's equivalency in form, fit and function.

10. Warranties

A. Materials: Any Materials furnished hereunder will conform to any and all of the specifications, drawings, samples, or descriptions furnished by Buyer. Seller agrees to indemnify and hold harmless Buyer from any losses, costs, damages, or expenses arising from failure to meet any and all specifications. Seller warrants that the Material provided will be new, free from defects in material design or workmanship for a period of one (1) year after date of delivery and is of established commercial operability. Furthermore, Seller agrees to repair or replace any defective Material at its sole expense. The warranty hereunder is in addition to all other warranties provided by law and shall survive any inspection, delivery, acceptance or payment by Buyer.
B. Services: Seller warrants that the services provided hereunder shall be performed by personnel highly qualified to perform such services and that the service will be free from defects and in conformance with this Order. This warranty shall survive any inspection, delivery, acceptance or payment by the Buyer.
C. Special:
(i) Seller warrants that Seller shall inform Buyer in writing of any restrictions which may limit the manufacture or use of any chemicals by Buyer under any Commonwealth, State or local law or regulation including any environmental protection, dangerous goods or poisons law, regulation or guideline which governs or affects any substance's manufacture, use, handling, treatment, transportation, storage, disposal or labelling, including Australian Standards published by the Standards Association of Australia, Occupational Health & Safety Legislation, the Industrial Chemicals (Notification and Assessment) Act, 1989 and the Australian Code for Transportation of Dangerous Goods by Road and Rail ("Environmental Protection Legislation").
(ii) Seller warrants that the production and sale of all chemical and petroleum substances hereunder shall be in compliance with all Environmental Protection Legislation. Seller warrants that a Material Safety Data Sheet has been provided on or before the first shipment of a hazardous chemical or petroleum substance as defined and regulated in the above standard.
D. Title: Seller warrants that it has good and clear title to all Material to be supplied by it and that all legal and beneficial title and interest in the Material will transfer to the Buyer upon delivery. The Material is free and clear from any and all liens, encumbrances, claims and security interests.

11. Indemnity

Seller shall defend, indemnify and hold harmless Buyer from any and all liabilities, damages, claims, costs and expenses including court costs and reasonable legal fees and costs on account of claims of injury to persons including death or damage to property arising out of or attributable to any of the Materials supplied and/or Services performed hereunder.

12. Design

The design for Material made according to blueprints furnished by Buyer shall be Buyer's property and Seller shall not furnish to others any articles or parts thereof, nor any articles made in accordance with such blueprints or part thereof, nor any articles made using processes or expertise developed by the Seller due to the use or

observation of those blueprints or part thereof, without Buyer's written permission.

13. Disclosure

All ideas, information, designs, devices, prints, drawings, and technical information concerning Seller's products, methods or manufacturing processes which Seller discloses or furnishes to Buyer in connection with this Order shall not be deemed confidential or proprietary information and shall (except only to the extent as may be otherwise specifically agreed in writing by Buyer and Seller) be deemed to have been disclosed or furnished as part of the consideration for this Order and Seller agrees not to assert any claim (except those claims for patent infringement) by reason of use, duplication or disclosure, thereof by Buyer.

14. Patents and other intellectual property

Seller shall defend, at its expense, any claim against Buyer alleging that Material furnished or Services performed under this Order infringes any patent, copyright, trademark, industrial design or other intellectual property interest and shall pay all costs and damages awarded. If a final injunction against Buyer's use of the Material results from such a claim (or, if Buyer reasonably believes such a claim is likely) Seller shall, at its own expense and as Buyer requests:
(a) obtain for Buyer the right to continue using the Material; or
(b) replace or modify it (or any part thereof) so that it becomes non-infringing but functionally equivalent.

15. Seller's employees

Seller agrees that its employees, agents or subcontractors shall not be deemed the agents or employees of Buyer whether or not a separate charge is made therefore.

16. Suspension or termination

Buyer may suspend or terminate this Order hereunder or any part thereof, including delivery, upon at least three (3) days' written notice to Seller. Seller shall promptly comply with Buyer's instructions to minimise the cost to Buyer. Upon suspension, Seller shall be entitled to recover its reasonable and directly related costs without any allowance for overhead, profit or indirect, consequential or special associated damages. Upon termination of this Order other than for cause, Seller shall be entitled to recover only its uncompensated actual costs incurred prior to termination and those reasonable and directly related costs arising from Buyer's termination. In no event shall the total liability of Buyer exceed the price(s) specified in this Order. Upon such payment, all material not yet delivered to Buyer shall become the property of Buyer in its then state of completion.

17. Cancellation for non-performance or cause

This Order is subject to cancellation by Buyer in whole or in part for failure of Seller to perform any of its obligations hereunder at any time before it has been completed by Seller for any reason whatsoever upon three (3) days' prior written notice. In such event, without derogation from any other right or remedy that Buyer may have against Seller, the following terms and conditions shall apply:
A. Buyer shall notify Seller, in writing, email or by facsimile, of Buyer's intention to cancel and the reasons thereof.
B. Immediately upon notice of cancellation, Seller shall cease all work under this Order and shall take all possible steps to cancel all orders which Seller may have placed for the purchase of materials and supplies to be used by Seller in the manufacture of Material or performance of Services covered by this Order. Failure of Seller to use due diligence in cancelling such orders shall deprive Seller of the benefits of paragraph C(iii) below as they apply to such orders.
C. If Buyer elects to take possession of any Material, Seller shall be reimbursed as follows:
(i) Buyer agrees to pay Seller for the finished Material covered by this Order which has been previously delivered to Buyer, or which Buyer wishes to accept, but which is in Seller's possession and not paid for, on receipt of notice of cancellation, at the rate set forth in this Order [or, if no such rate is expressly provided in this Order, pro rata in the proportion that the finished material bears to the total Material].
(ii) Buyer agrees to pay Seller, exclusive of fees for overhead and profit, for that Material covered by this Order which is in process of manufacture upon receipt of notice of cancellation, the price for such work in progress to be the cost thereof to Seller at cancellation as determined by generally accepted accounting principles.
(iii) Buyer agrees to pay Seller, its actual cost plus handling charges as determined by accepted accounting practices, exclusive of fees for overhead and profit, for those raw materials in Seller's possession or covered by uncancellable orders placed by Seller to the extent that:
(a) such raw materials have been ordered specially by Seller in reliance on this Order; and
(b) such raw materials are useful solely in the manufacture of the Material covered by this Order.
D. If Buyer elects not to take possession of any Material, Seller shall not be reimbursed, or if Material has been previously delivered to Buyer, Buyer may return same, at its option, to Seller, freight collect, and Seller shall immediately refund in full, any payment made thereon.
E. All Material, work in progress and raw materials paid for by Buyer under the foregoing paragraphs C(i) through C(iii) shall upon demand thereupon become Buyer's property, and Seller shall deliver them to Buyer in accordance with Buyer's instructions.
F. Seller shall sell at prices approved by Buyer, such of Buyer's Material as is designated by Buyer and immediately remit the proceeds thereof to Buyer.
G. As a condition precedent to payment by Buyer of cancellation costs herein, Seller shall execute and deliver all documents and papers and take all action required to effectuate the above as directed by Buyer and to provide proof there are no liens or claims against Buyer or its property.
H. In no event shall Buyer pay Seller any amount, including cancellation costs in excess of the contract price specified in this Order.
I. Upon any cancellation of this contract, all of the terms of this Order shall remain in full force and effect as to all Material provided to or Service performed for herein to Buyer prior to or in connection with such cancellation.

18. Force majeure

Neither Seller nor Buyer shall be liable for losses or damage sustained by the other resulting from any delay or failure to perform due to causes beyond the control of the party whose performance is delayed or who fails to perform, and the latter shall use reasonable effort to remedy the situation in the shortest practical time.

19. Assignment

Performance hereunder may not be assigned or subcontracted by seller without the prior written consent of Buyer.

20. Governing law

This Order is to be construed under the laws of the State of New South Wales. Seller warrants that the Material covered by this Order has been produced and sold in accordance with any and all laws and regulations.

21. Conflicting terms

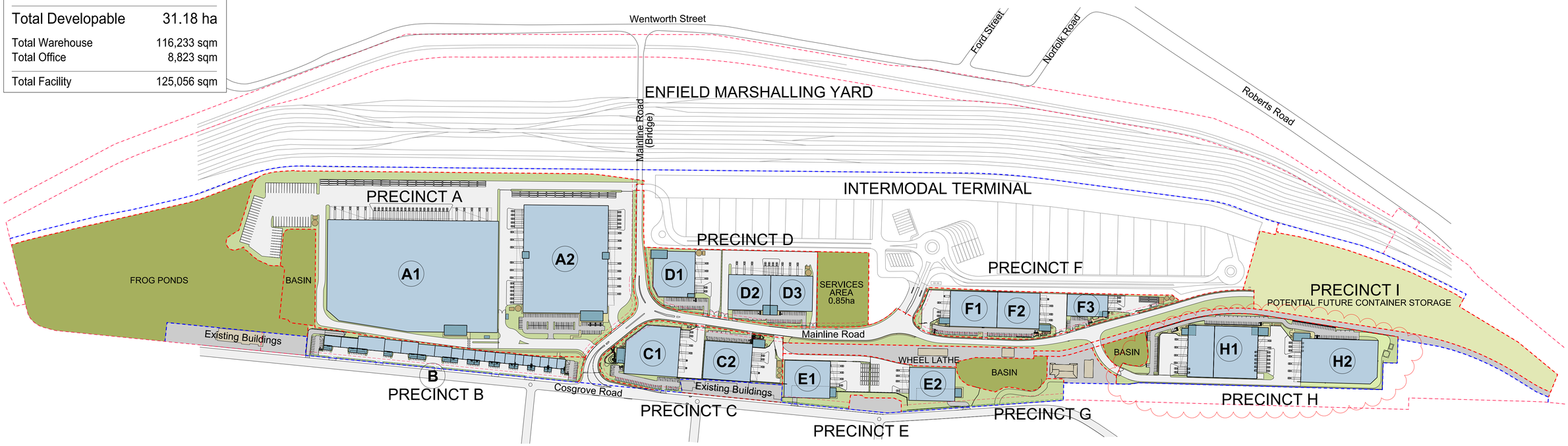
This Order consists of the standard pre-printed Order form, these terms and conditions, attachments and exhibits, etc. Seller expressly acknowledges that it has received and read these documents. In the event of conflict, or ambiguity, the order of priority follows:
(a) typed or handwritten provisions on the face of this Order;
(b) attachments or exhibits;
(c) these pre-printed terms and conditions.
This order constitutes the entire agreement between the parties.

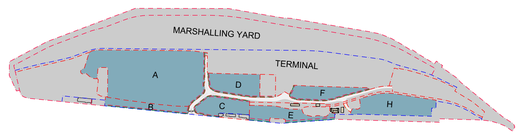
Appendix B – Enfield ILC Masterplan

Site Area Schedule

Total Site Area	**59.32 ha**
Less:	
Roads	2.98 ha
Ecological Zones	6.72 ha
Basins	1.51 ha
Intermodal Terminal & Railway	14.61 ha
Services Area	0.85 ha
Wheel Lathe & Railway	1.47 ha
	28.14 ha
Development Areas	
Precinct A	13.02 ha
Precinct B	1.49 ha
Precinct C	2.11 ha
Precinct D	2.54 ha
Precinct E	2.19 ha
Precinct F	2.07 ha
Precinct G	0.37 ha
Precinct H	3.58 ha
Precinct I	3.81 ha
Total Developable	**31.18 ha**
Total Warehouse	116,233 sqm
Total Office	8,823 sqm
Total Facility	125,056 sqm

NSW Ports in partnership with Goodman





PRELIMINARY

SBA ARCHITECTS	ENFIELD ILC	Enfield Intermodal Logistics Centre Mainline Rd, Strathfield South	Masterplan 0 60 300	1:3000 @ A1 1:6000 @ A3 05 Nov 2018	EILC DA01 (P12) Job No 17169

Appendix C – Photographs



Photo 1. 15/11/2019 – Looking north-west across Precinct H at H1A warehouse, with VENM capped surface in foreground.



Photo 2. 15/11/2019 – Looking north-west along eastern boundary of Precinct H, depicting VENM cap thickness (approximately 1m) and railway corridor further east.



Photo 3. 15/11/2019 – Looking east across concrete capped surface of car park located on the southern side of warehouse H1A.

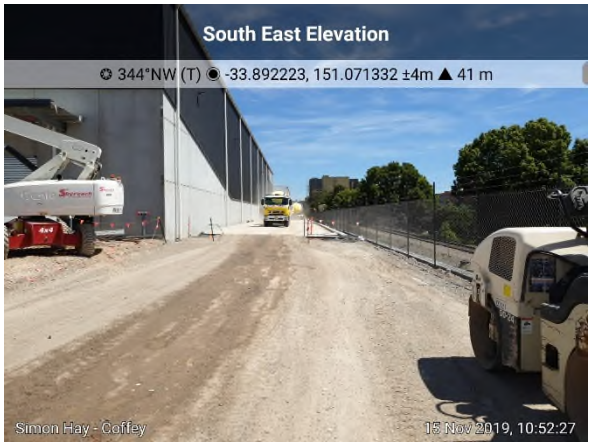


Photo 4. 15/11/2019 – Looking north-west along eastern boundary of Precinct H, at paved internal access road.



Photo 5. 15/11/2019 – Looking south-west across central loading dock area located between H1B and H2 warehouse as concrete slab over VENM cap was being poured.



Photo 6. 15/11/2019 – Looking south at warehouse H1B in central loading dock area, following pouring of concrete slab.



Photo 7. 15/11/2019 – Looking east at warehouse H2 at concrete surfaced loading dock area.



Photo 8. 15/11/2019 – Looking north across warehouse H2 at concrete surfaced cap.



Photo 9. 15/11/2019 – Looking north-east at cap clay capped surface at rear of fire pump room and water tank.

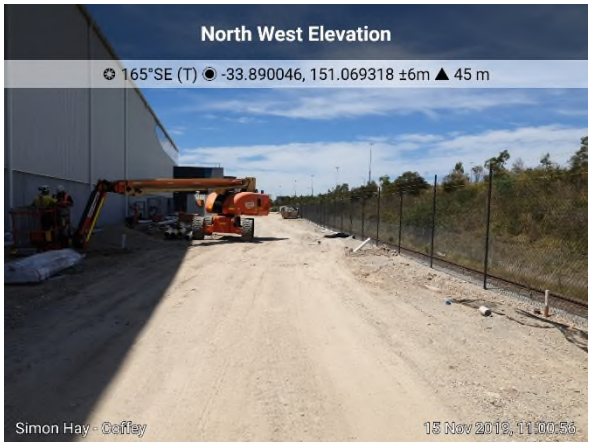


Photo 10. 15/11/2019 – Looking south-east along capped western boundary of site with western rail corridor on right.

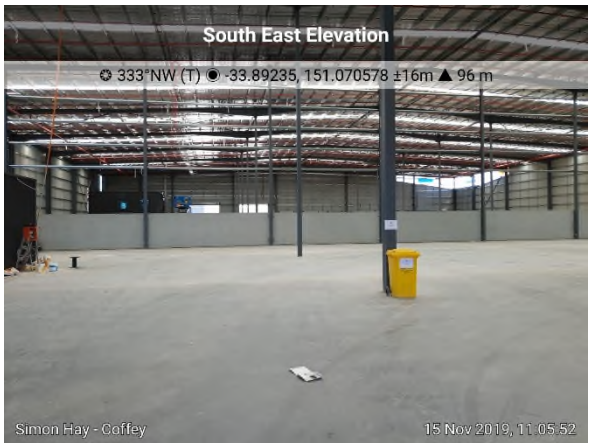


Photo 11. 15/11/2019 – Looking north-west across interior warehouse H1A towards H1B and concrete surfaced capped surface.



Photo 12. 15/11/2019 – Looking east across capped surface of H1B.



Photo 13. 15/11/2019 – Looking south-east across capped surface of H1B showing an approximate concrete cap thickness of 300mm on right side of photograph.



Photo 14. 15/11/2019 – Looking north-east across capped surface of at southern end of Precinct H showing approximately VENM cap thickness of 1m.



Photo 15. 18/12/2019 – Looking west across southern portion of H1 carpark prior to surfacing.



Photo 16. 18/12/2019 – Looking north-west across capped surface of H1 at imported topsoil.



Photo 17. 18/12/2019 – Looking south-west along bitumen surfaced access road on western extent of site.



Photo 18. 18/12/2019 – Looking south along hardstand surfaced access road along eastern boundary of site, with imported topsoil in foreground.



Photo 19. 18/12/2019 – Looking west / south-west at loading dock forecourt between H2 and H3 warehouses.



Photo 20. 18/12/2019 – Looking north-west along eastern border of site with mulched landscaped border and hardstand (7mm Prime and Seal) internal road.



Photo 21. 18/12/2019 – Looking north-east at landscaped area in front of H3 office.



Photo 22. 18/12/2019 – Looking north-west at landscaped area in north-west corner of site. This portion of the site (eastern and northern side of water tank) was excavated into natural material.

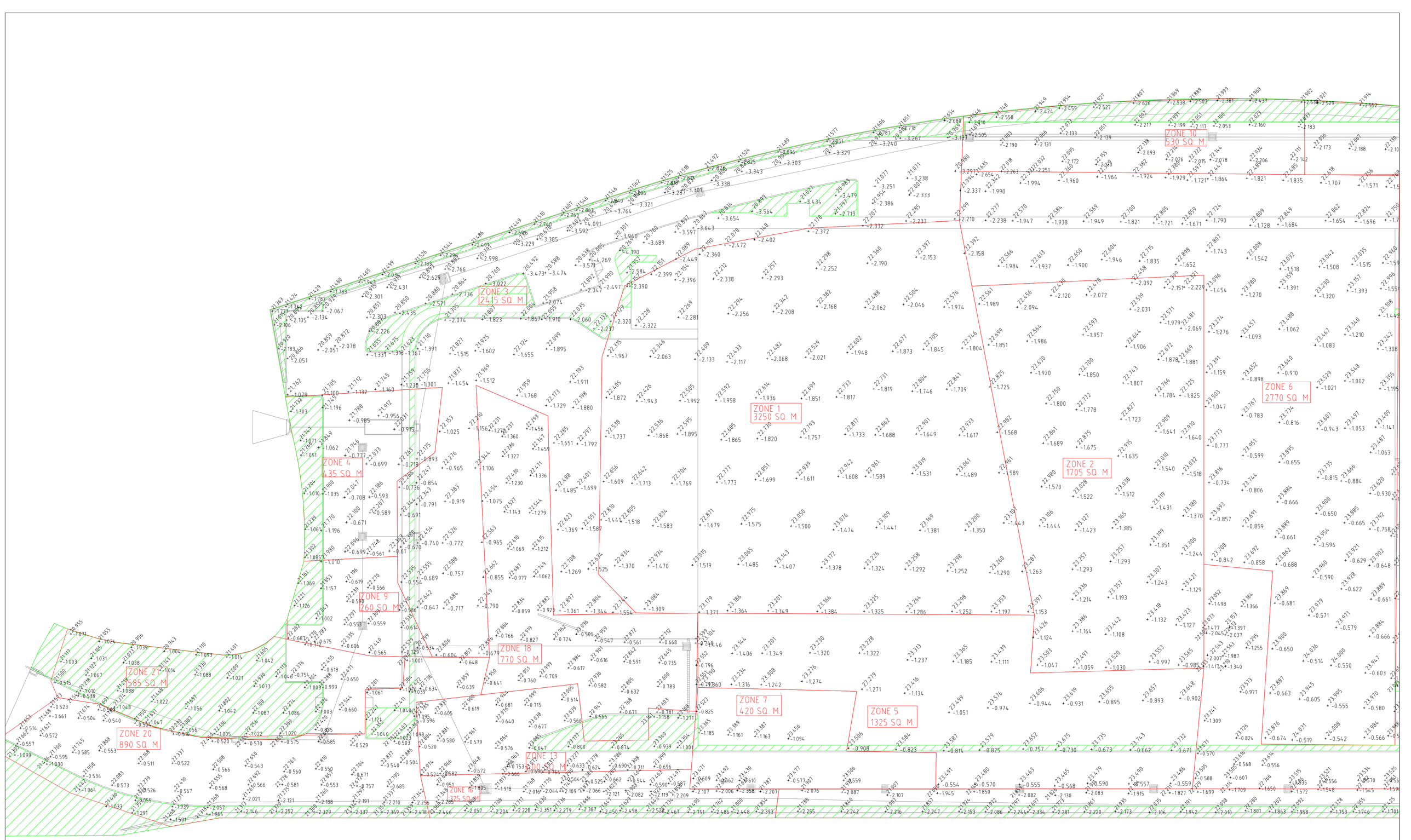


Photo 23. 18/12/2019 – Looking north in north-western corner of the site at capped surface (west of water tank and pump shed).



Photo 24. 18/12/2019 – Looking south-east along western border of site at bitumen surfaced internal road and landscaped areas along western border adjacent to rail corridor.

Appendix D – Survey Plans



1. PLAN SUBJECT TO COUNCIL APPROVAL.
   THIS PLAN WAS PREPARED FOR THE PURPOSES OF DETAIL SURVEY.
   THE BOUNDARIES OF THE PROPERTY HAVE NOT BEEN INVESTIGATED.

AWJ civil

your project partner

A: 155 Newton Rd Wetherill Park NSW 2164 I P: 02 97572999 I F: 02 9757 1677

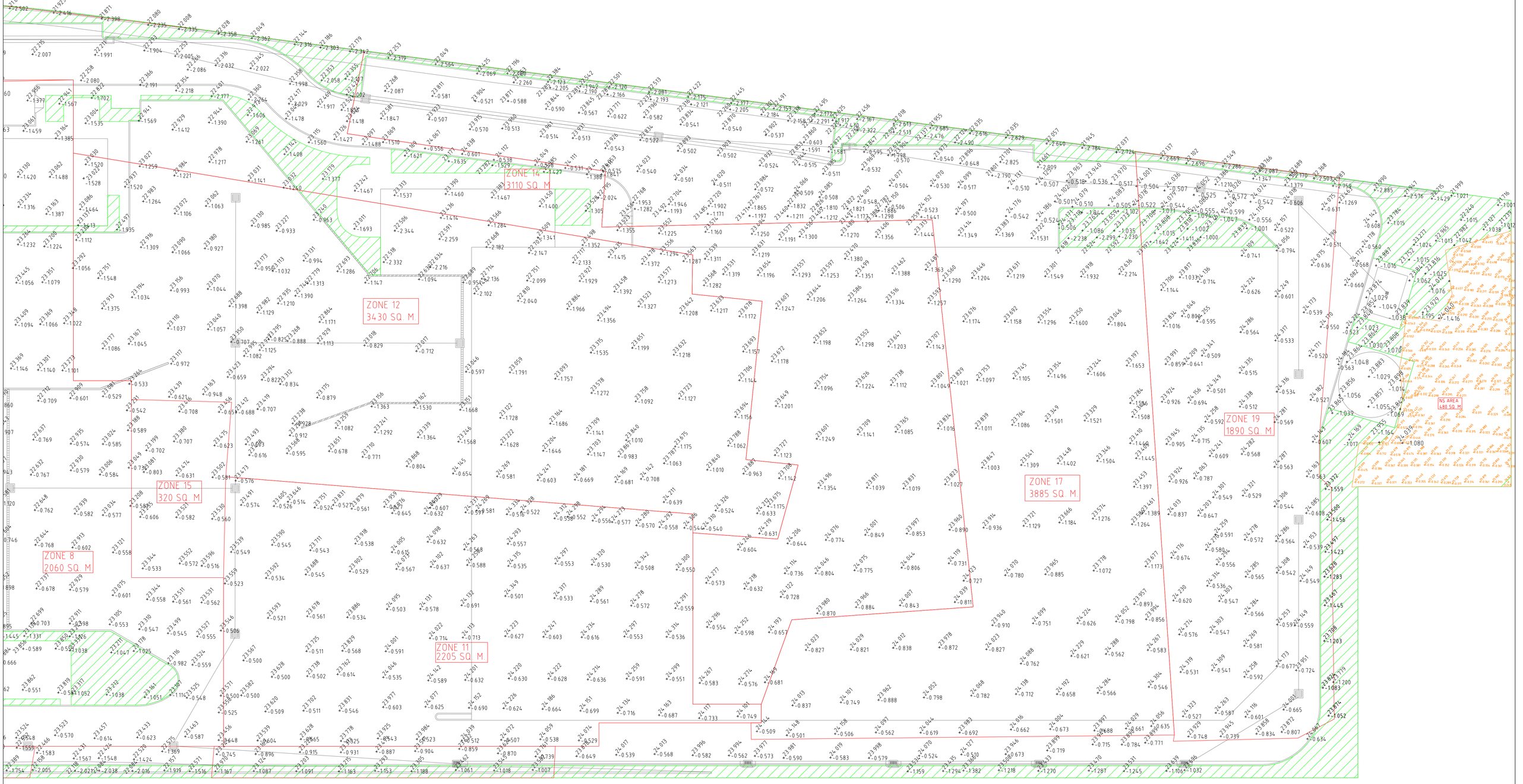
REVISION		
8	06-08-19	LANDSCAPE AREAS HIGHLIGHTED, ZONE 19 ADDED
9	09-08-19	ZONES 20 & 21 ADDED
10	14-08-19	POINTS IN ZONE 17 REMEASURED
11	23-08-19	NATURAL SURFACE POINTS ADDED, POINTS IN ZONES 17 & 19 REMEASURED
5	23-07-19	ZONES 10,11 & 12 ADDED
6	26-07-19	ZONES 13,14, & 15 ADDED, POINTS IN ZONE 12 REMEASURED
7	01-08-19	ZONES 16,17 & 18 ADDED

CLIENT: QANSTRUCT

PROJECT: 807 ENFIELD PRECINCT H
PLAN OF: SEPARATION LAYER

DRAWING REF: 807 Separation Layer.dwg

SCALE:1:250 (A1) | DATUM: AHD | DRAWN BY: J OHALLORAN | SHEET 1 OF 2



1. PLAN SUBJECT TO COUNCIL APPROVAL.
   THIS PLAN WAS PREPARED FOR THE PURPOSES OF DETAIL SURVEY.
   THE BOUNDARIES OF THE PROPERTY HAVE NOT BEEN INVESTIGATED.

AWJ civil

your project partner

A: 155 Newton Rd Wetherill Park NSW 2164 I P: 02 97572999 I F: 02 9757 1677

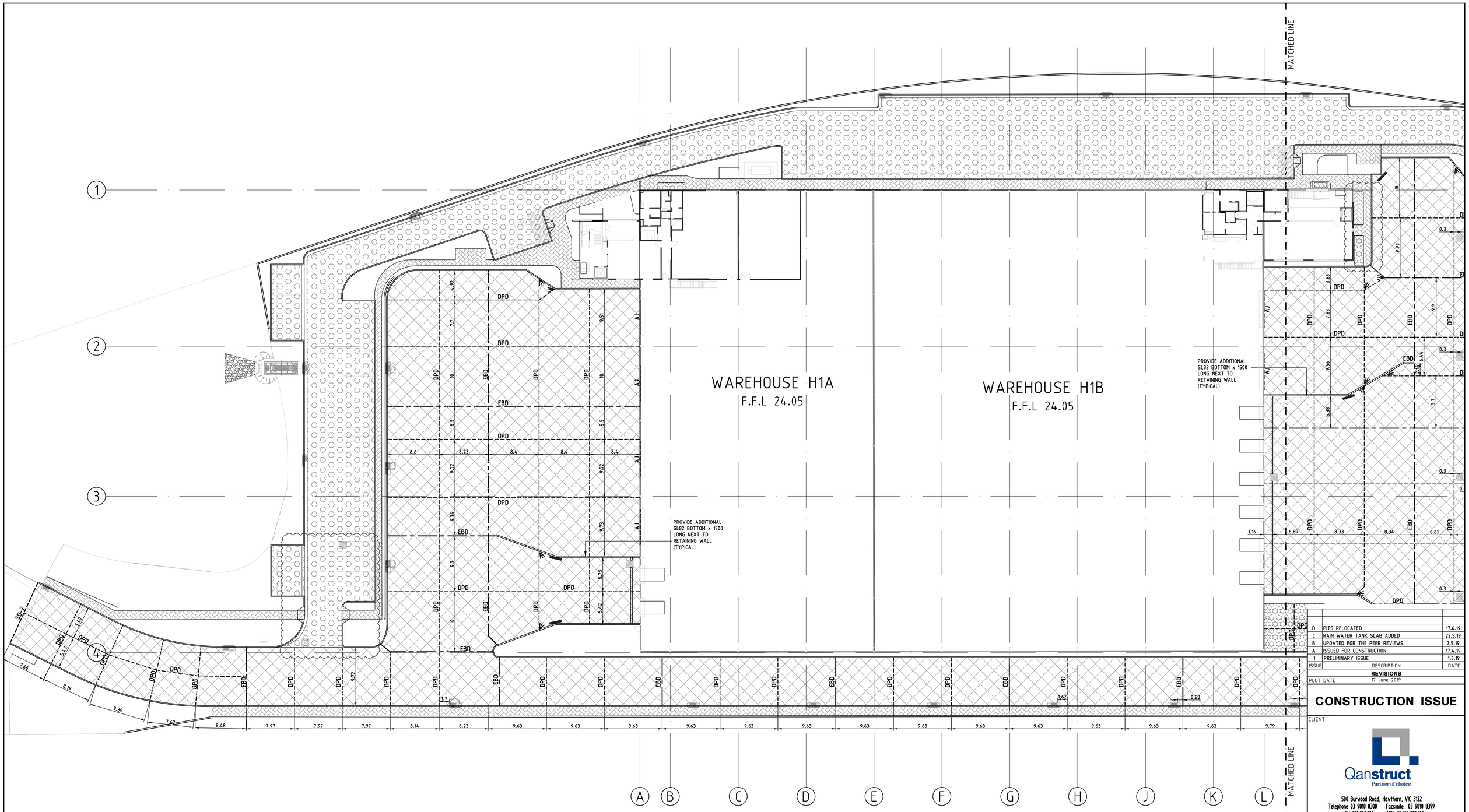
REVISION		
8	06-08-19	LANDSCAPE AREAS HIGHLIGHTED, ZONE 19 ADDED
9	09-07-19	ZONES 20 & 21 ADDED
10	14-08-19	POINTS IN ZONE 17 REMEASURED
11	23-08-19	NATURAL SURFACE POINTS ADDED, POINTS IN ZONES 17 & 19 REMEASURED
5	23-07-19	ZONES 10,11 & 12 ADDED
6	26-07-19	ZONES 13,14, & 15 ADDED, POINTS IN ZONE 12 REMEASURED
7	01-08-19	ZONES 16,17 & 18 ADDED

CLIENT: QANSTRUCT

PROJECT: 807 ENFIELD PRECINCT H
PLAN OF: SEPARATION LAYER

DRAWING REF: 807 Separation Layer.dwg

SCALE:1:250 (A1)	DATUM: AHD	DRAWN BY: J OHALLORAN	SHEET 2 OF 2



PAVEMENT DETAILS IN N.S.W

CARPARK PAVEMENT

30mm CONSOL. DEPTH OF 10mm AC10 ASPHALT
PRIMER SEAL ON
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
200mm CONSOL. DEPTH OF DGS40
COMPACT TO 95% MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1

PREPARED SUBGRADE

32 MPa HARDSTAND PAVEMENT

180mm THICK CONCRETE SLAB, F'c 32MPa
MIN. CEMENT CONTENT TO BE 330 KG/m³
TARGET DRY SHRINKAGE STRAIN 600 uSTRAIN AT 56 DAYS
SL92 MESH TOP, COVER 40mm
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
3% CEMENT TREATED SUB-BASE
TYPICALLY 2.5m WIDE ALONG HARDSTAND PERIMETER
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1

PREPARED SUBGRADE

FIRE ACCESS PAVEMENT

7mm PRIME & SEAL
200mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1

PREPARED SUBGRADE

150mm CONCRETE PAVEMENT

150mm THICK CONCRETE SLAB, F'c 32MPa
SL82 MESH TOP, COVER 40mm
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1

PREPARED SUBGRADE

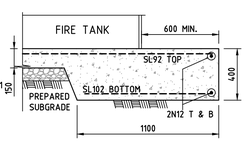
CONCRETE FOOTPATH (REFER TO ARCH. DRAWINGS FOR LOCATION AND FINISHES)

100mm THICK CONCRETE SLAB, F'c 25MPa
SL62 MESH CENTRAL
50mm CONSOL. DEPTH OF N.D.C.R
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1
GROOVE JOINTS AT 1500mm MAX. CTS
EXPANSION JOINTS AT 9000mm MAX. CTS

PREPARED SUBGRADE

FIRE TANK SLAB

150mm THICK CONCRETE SLAB, F'c 32MPa
SL92 MESH TOP, COVER 40mm
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
1100 WIDE x 400 DEEP EDGE BEAM, SL102 BOTTOM
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1



LEGEND FOR JOINTS

BISCUIT PLATE DOWEL JOINT	EBD
PLATE DOWEL JOINT	DPD
EXTERNAL ARMOURED JOINT	AJ
SAWCUT JOINT	S
TRIMMER / CORNER BARS	

REFER TO DRAWING NO.EP3 FOR DETAILS

ISSUE	DESCRIPTION	DATE
D	PITS RELOCATED	17.6.19
C	RAIN WATER TANK SLAB ADDED	22.5.19
B	UPDATED FOR THE PEER REVIEWS	7.5.19
A	ISSUED FOR CONSTRUCTION	17.4.19
1	PRELIMINARY ISSUE	1.3.19

REVISIONS
PLOT DATE 17 June 2019

CONSTRUCTION ISSUE

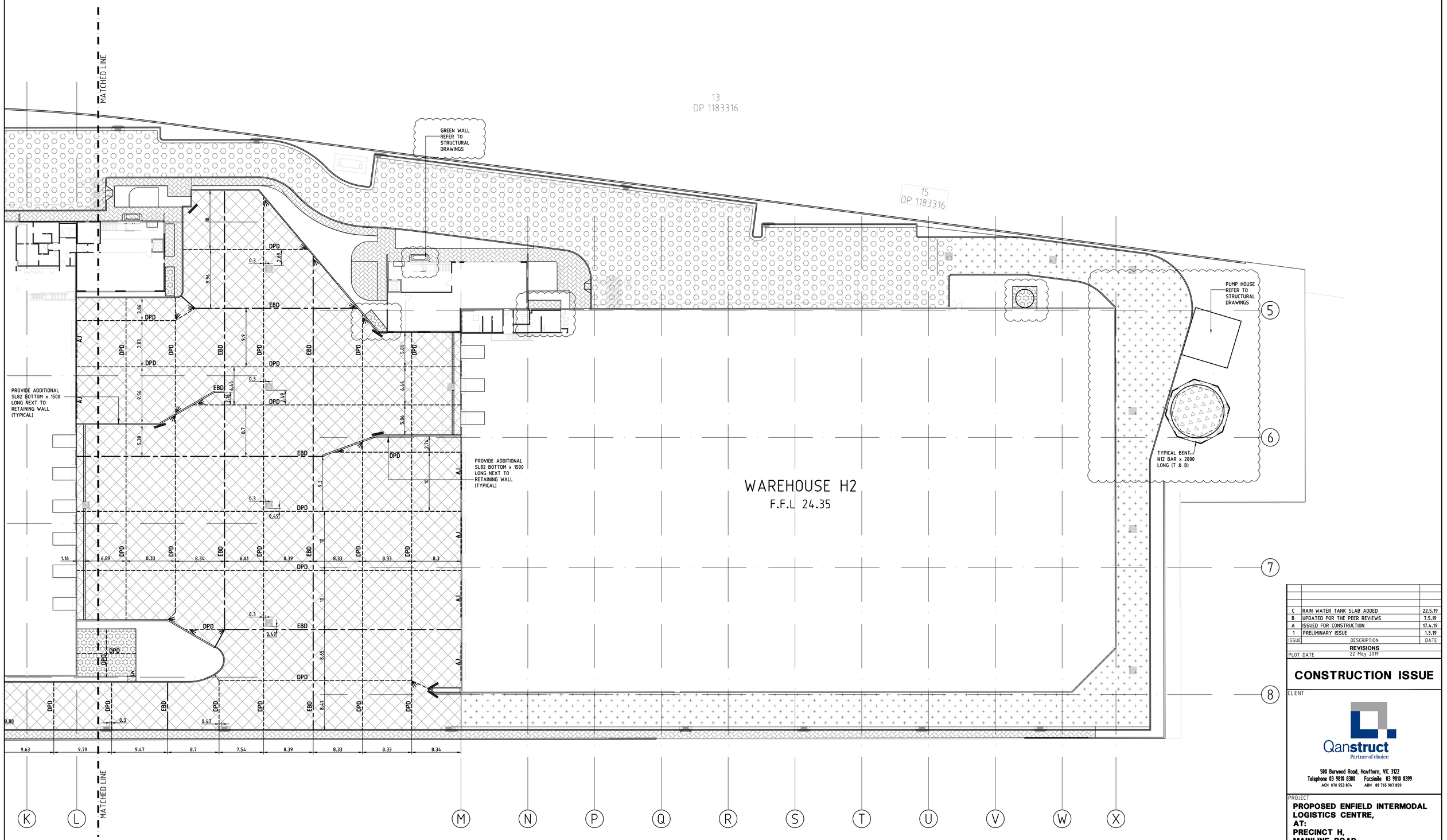
CLIENT
Qanstruct
Partner of choice
500 Burwood Road, Hawthorn, VIC 3122
Telephone 03 9810 8300 Facsimile 03 9810 8399
ACN 070 953 874 ABN 88 765 907 859

PROJECT
PROPOSED ENFIELD INTERMODAL LOGISTICS CENTRE,
AT:
PRECINCT H,
MAINLINE ROAD,
STRATHFIELD SOUTH,
N.S.W.

PAVEMENT PLAN - SHEET 1

Cosentino Group Pty Ltd
Designers & Engineers
12 Business Park Drive,
Notting Hill, Victoria 3168, Australia.
Telephone (03) 9265 9888 Fax (03) 9265 9876
engineering@cosentinogroup.com.au ABN 56 095 613 562

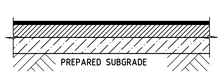
DESIGNED	T.C.	DATE MARCH 2019
DRAWN	T.C.	SCALE 1 in 250 @ B1
DRAWING No	17931 - EP1	ISSUE D



PAVEMENT DETAILS IN N.S.W

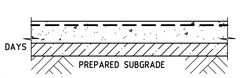
CARPARK PAVEMENT

30mm CONSOL. DEPTH OF 10mm AC10 ASPHALT
PRIMER SEAL ON
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
200mm CONSOL. DEPTH OF DGS40
COMPACT TO 95% MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1



32 MPa HARDSTAND PAVEMENT

180mm THICK CONCRETE SLAB, F'c 32MPa
MIN. CEMENT CONTENT TO BE 330 KG/m³
TARGET DRY SHRINKAGE STRAIN 600 uSTRAIN AT 56 DAYS
SL92 MESH TOP, COVER 40mm
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
3% CEMENT TREATED SUB-BASE
TYPICALLY 2.5m WIDE ALONG HARDSTAND PERIMETER
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1



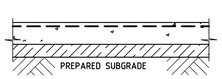
FIRE ACCESS PAVEMENT

7mm PRIME & SEAL
200mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1



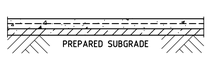
150mm CONCRETE PAVEMENT

150mm THICK CONCRETE SLAB, F'c 32MPa
SL82 MESH TOP, COVER 40mm
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1



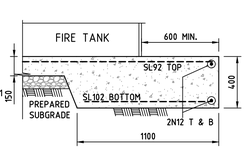
CONCRETE FOOTPATH (REFER TO ARCH. DRAWINGS FOR LOCATION AND FINISHES)

100mm THICK CONCRETE SLAB, F'c 25MPa
SL62 MESH CENTRAL
50mm CONSOL. DEPTH OF N.D.C.R
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1
GROOVE JOINTS AT 1500mm MAX. CTS
EXPANSION JOINTS AT 9000mm MAX. CTS



FIRE TANK SLAB

150mm THICK CONCRETE SLAB, F'c 32MPa
SL92 MESH TOP, COVER 40mm
100mm CONSOL. DEPTH OF DGB20
COMPACT TO 98% OF MODIFIED DENSITY - AS1289 5.2.1
1100 WIDE x 400 DEEP EDGE BEAM, SL102 BOTTOM
SUBGRADE PREPARATION TO ACHIEVE A CBR OF 2%
COMPACT TO 98% STANDARD DENSITY - AS1289 5.1.1



ISSUE	DESCRIPTION	DATE
C	RAIN WATER TANK SLAB ADDED	22.5.19
B	UPDATED FOR THE PEER REVIEWS	7.5.19
A	ISSUED FOR CONSTRUCTION	17.4.19
1	PRELIMINARY ISSUE	1.3.19

REVISIONS
PLOT DATE 22 May 2019

CONSTRUCTION ISSUE

CLIENT

Qanstruct
Partner of choice

500 Burwood Road, Hawthorn, VIC 3122
Telephone 03 9810 8300 Facsimile 03 9810 8399
ACN 070 953 874 ABN 88 765 907 859

PROJECT

PROPOSED ENFIELD INTERMODAL LOGISTICS CENTRE,
AT:
PRECINCT H,
MAINLINE ROAD,
STRATHFIELD SOUTH,
N.S.W.

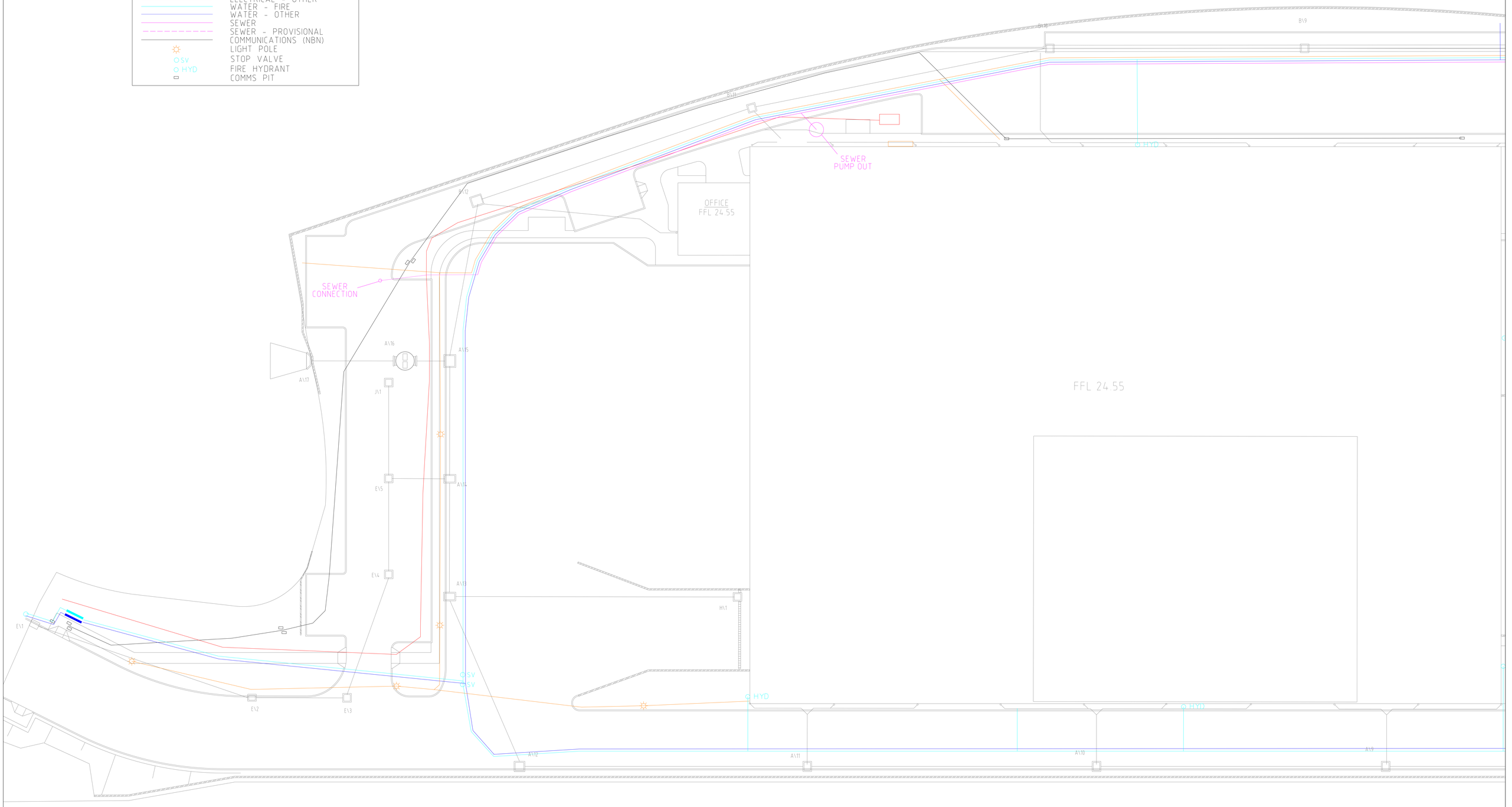
PAVEMENT PLAN - SHEET 2

Cosentino Group Pty Ltd
Designers & Engineers
12 Business Park Drive,
Notting Hill, Victoria 3168, Australia.
Telephone (03) 9265 9888 Fax (03) 9265 9876
engineering@cosentinogroup.com.au ABN 56 095 613 562

DESIGNED	T.C.
DRAWN	T.C.
DATE	MARCH 2019
SCALE	1 in 250 @ B1
DRAWING No	17931 -EP2
ISSUE	C

LEGEND

- ELECTRICAL - HIGH VOLTAGE
- ELECTRICAL - OTHER
- WATER - FIRE
- WATER - OTHER
- SEWER
- SEWER - PROVISIONAL
- COMMUNICATIONS (NBN)
- LIGHT POLE
- SV STOP VALVE
- HYD FIRE HYDRANT
- COMMS PIT



0 10 20
METRES

1. PLAN SUBJECT TO COUNCIL APPROVAL.
   THIS PLAN WAS PREPARED FOR THE PURPOSES OF DETAIL SURVEY.
   THE BOUNDARIES OF THE PROPERTY HAVE NOT BEEN INVESTIGATED.

AWJ GROUP
your project partner
A: 155 Newton Rd Wetherill Park NSW 2164 I P: 02 97572999 I F: 02 9757 1677

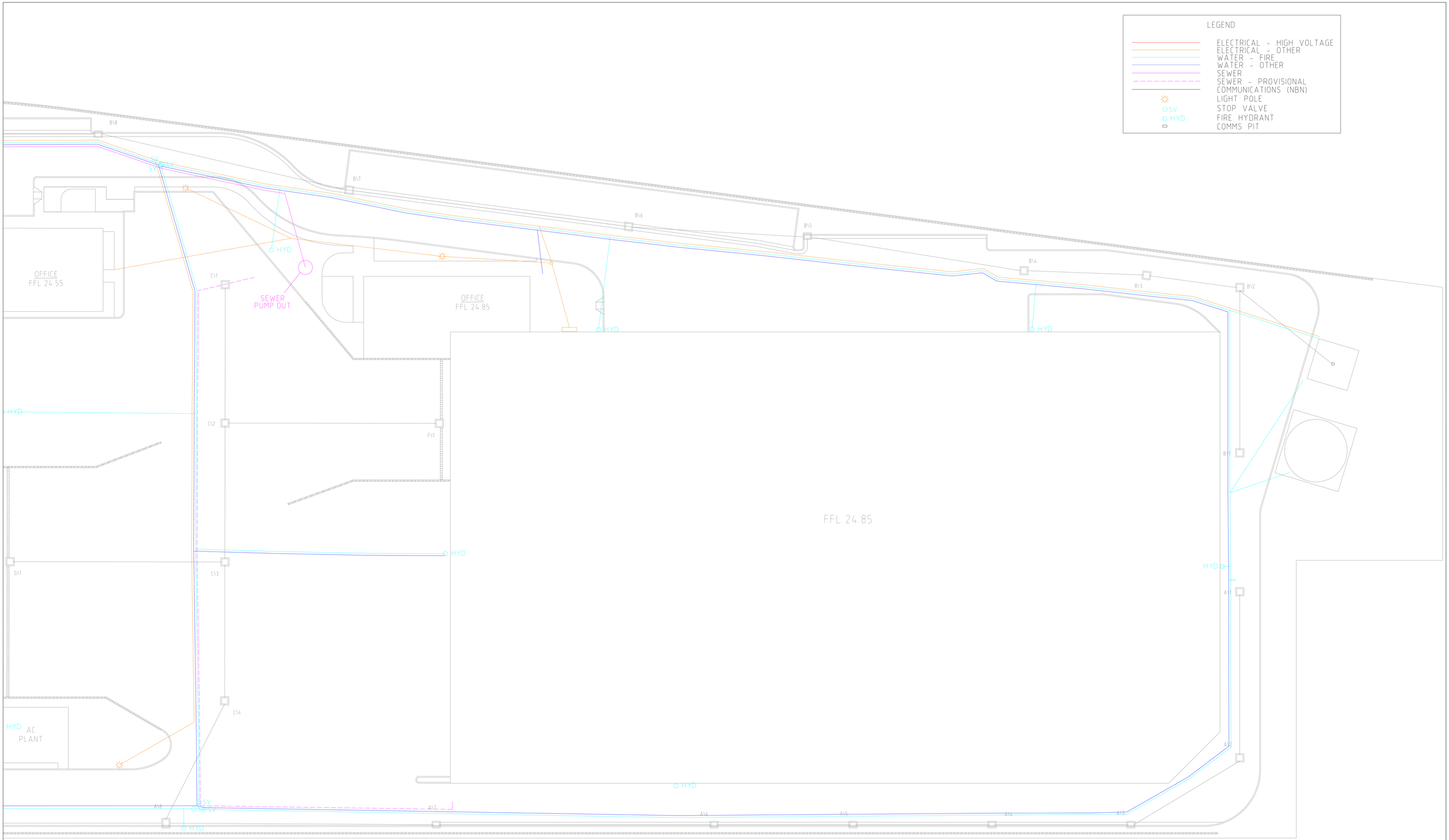
REVISION		
1	17-12-19	INITIAL ISSUE

CLIENT: QANSTRUCT

PROJECT: 807 ENFIELD PRECINCT H
PLAN OF: UNDERGROUND SERVICES

DRAWING REF: 807 Enfield H Service Lines

SCALE: 1:250 (A1)	DATUM: AHD	DRAWN BY: JRS	SHEET _ OF __



1. PLAN SUBJECT TO COUNCIL APPROVAL.
   THIS PLAN WAS PREPARED FOR THE PURPOSES OF DETAIL SURVEY.
   THE BOUNDARIES OF THE PROPERTY HAVE NOT BEEN INVESTIGATED.

AWJ GROUP
your project partner
A: 155 Newton Rd Wetherill Park NSW 2164 I P: 02 97572999 I F: 02 9757 1677

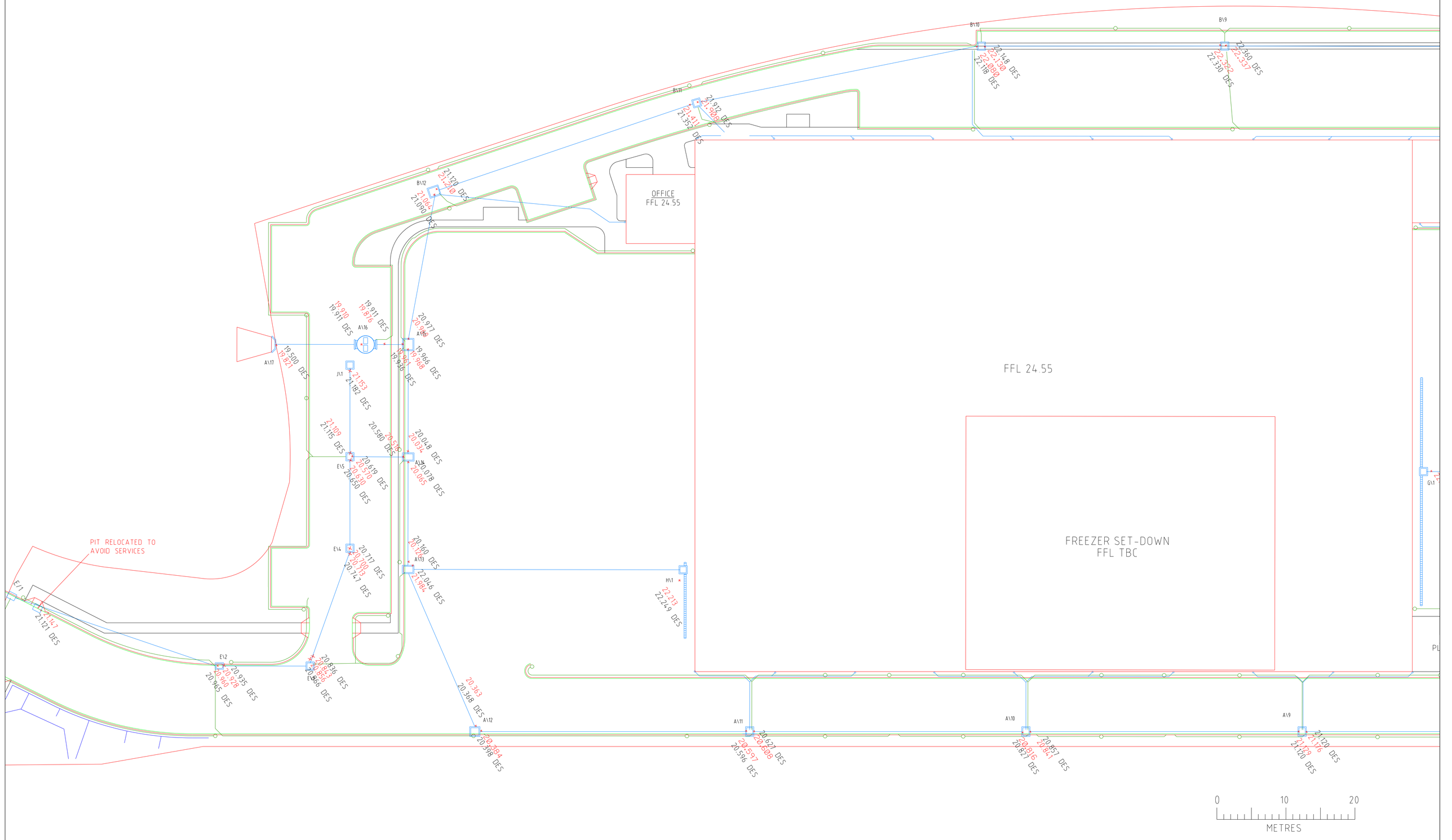
REVISION		
1	17-12-19	INITIAL ISSUE

CLIENT: QANSTRUCT

PROJECT: 807 ENFIELD PRECINCT H
PLAN OF: UNDERGROUND SERVICES

DRAWING REF: 807 Enfield H Service Lines

SCALE: 1:250 (A1)	DATUM: AHD	DRAWN BY: JRS	SHEET _ OF __



1. PLAN SUBJECT TO COUNCIL APPROVAL.
   THIS PLAN WAS PREPARED FOR THE PURPOSES OF DETAIL SURVEY.
   THE BOUNDARIES OF THE PROPERTY HAVE NOT BEEN INVESTIGATED.

AWJ GROUP
your project partner
A: 155 Newton Rd Wetherill Park NSW 2164 I P: 02 97572999 I F: 02 9757 1677

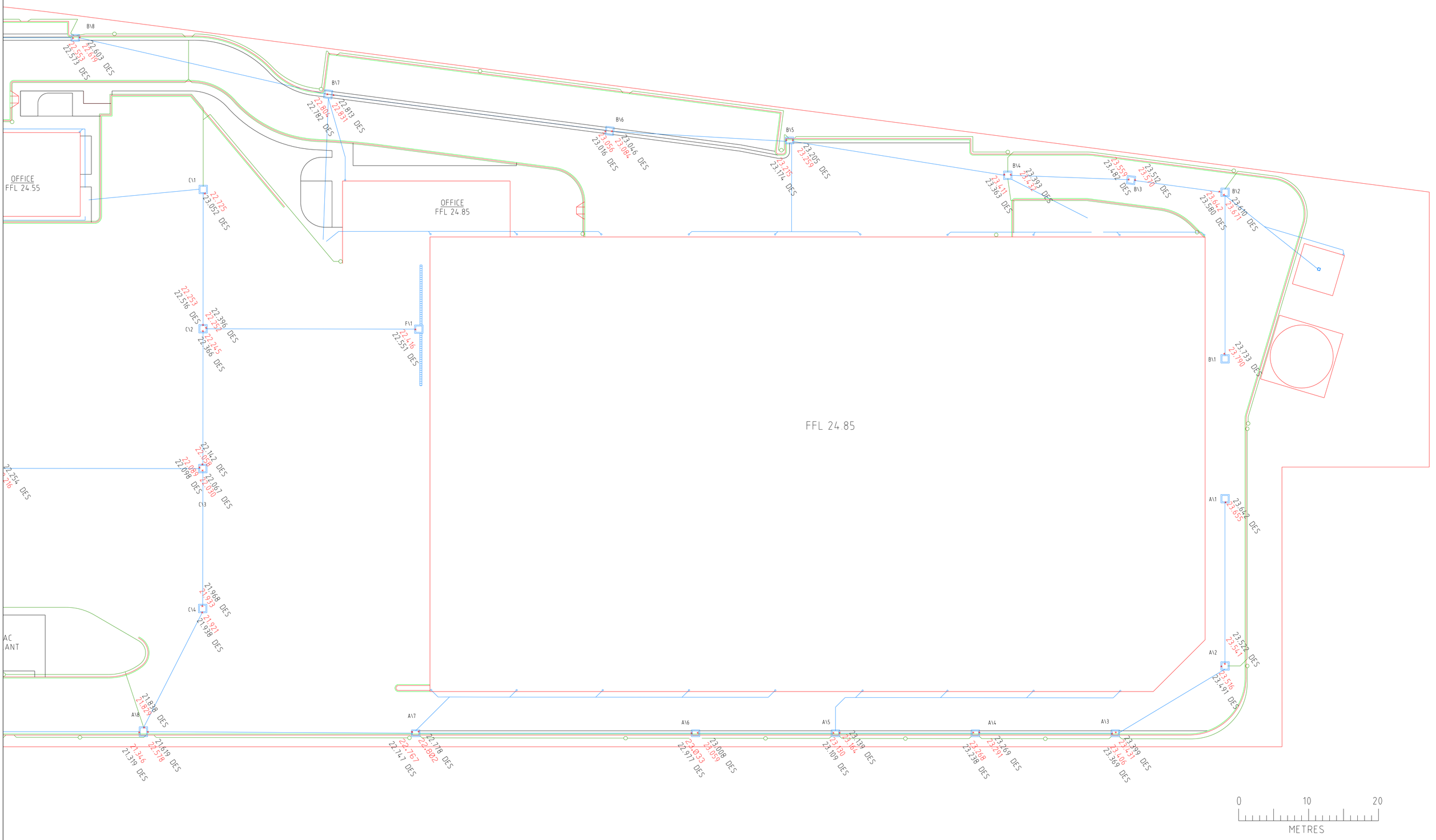
REVISION		
1	29-10-19	INITIAL ISSUE

CLIENT: QANSTRUCT

PROJECT: 807 ENFIELD PRECINCT H
PLAN OF: WAE STORMWATER

DRAWING REF: 807 WAE Stormwater.dwg

SCALE: 1:250 (A1)	DATUM: AHD	DRAWN BY: J O'HALLORAN	SHEET 1 OF 2



1. PLAN SUBJECT TO COUNCIL APPROVAL.
   THIS PLAN WAS PREPARED FOR THE PURPOSES OF DETAIL SURVEY.
   THE BOUNDARIES OF THE PROPERTY HAVE NOT BEEN INVESTIGATED.

AWJ civil

your project partner

A: 155 Newton Rd Wetherill Park NSW 2164 I P: 02 97572999 I F: 02 9757 1677

REVISION		
1	29-10-19	INITIAL ISSUE

CLIENT: QANSTRUCT

PROJECT: 807 ENFIELD PRECINCT H
PLAN OF: SUB GRADE CONFORM

DRAWING REF: 807 Sub Grade Conform.dwg

SCALE:1:250 (A1)	DATUM: AHD	DRAWN BY: J O'HALLORAN	SHEET 2 OF 2

Appendix E – Induction Registers

Induction Register - Precinct H (Lot 10 in DP1183316)

Name	Company	Date	Signature	Inducted by

Appendix F – Site Inspection Register

Site Inspection Register – Precinct H (Lot 10 in DP1183316)

Date of Inspection	Name (print)	Company/Position

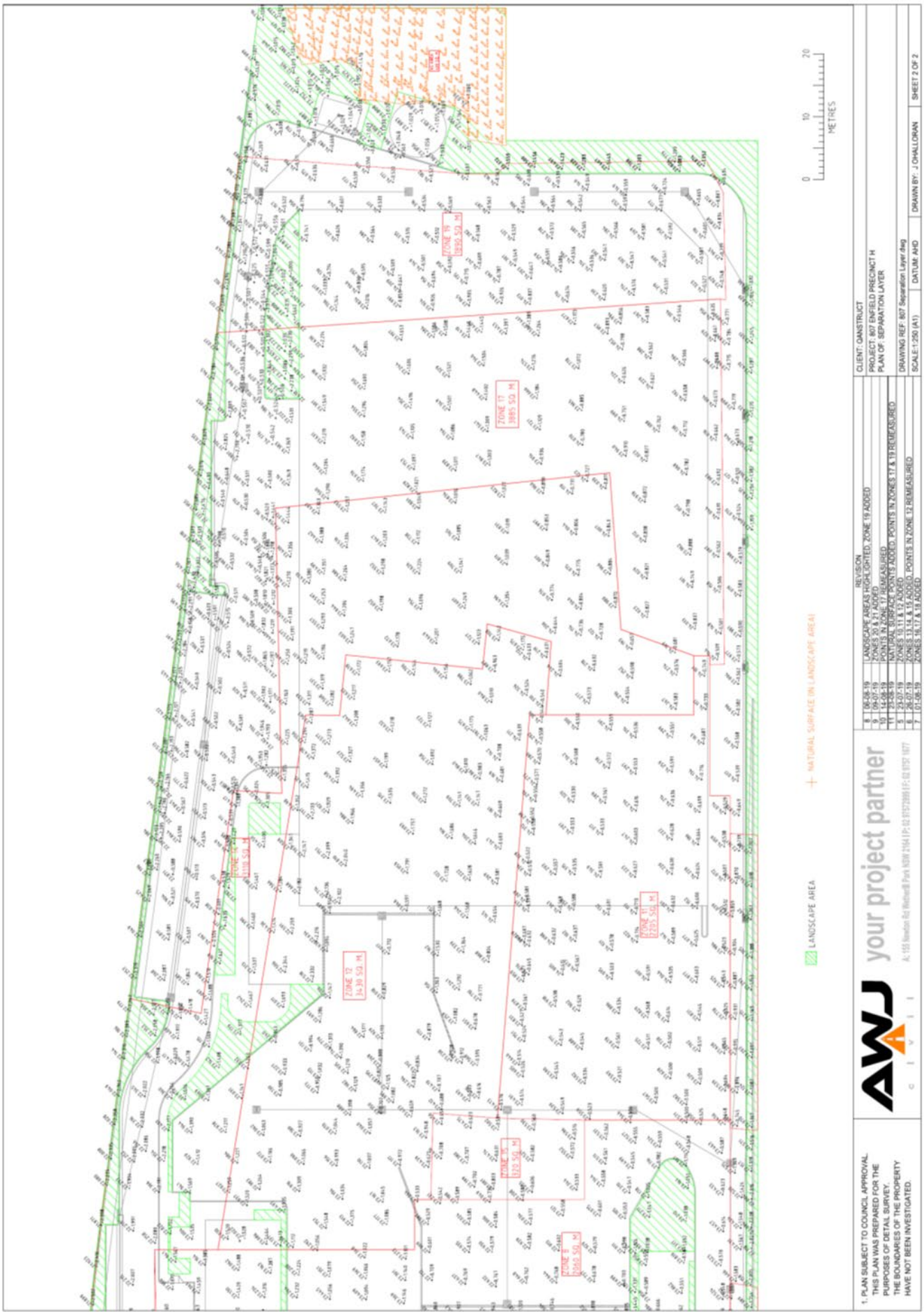
Item Description	(✓)(×) NA	Observations	Corrective Action Required	Name of person responsible for action	Date to be implemented
Are landscaped areas visibly free of asbestos containing materials?					
Are there signs of visible erosion to managed landscaped areas or has surface coverage been disturbed?					
Does Vegetation appear to be appropriately managed?					
Do internal warehouse surfaces appear to be sealed and intact?					
Are asphalt covered internal road and car parking areas sealed and intact?					
Do hardstand footpaths sealed and intact?					

Additional Observations	

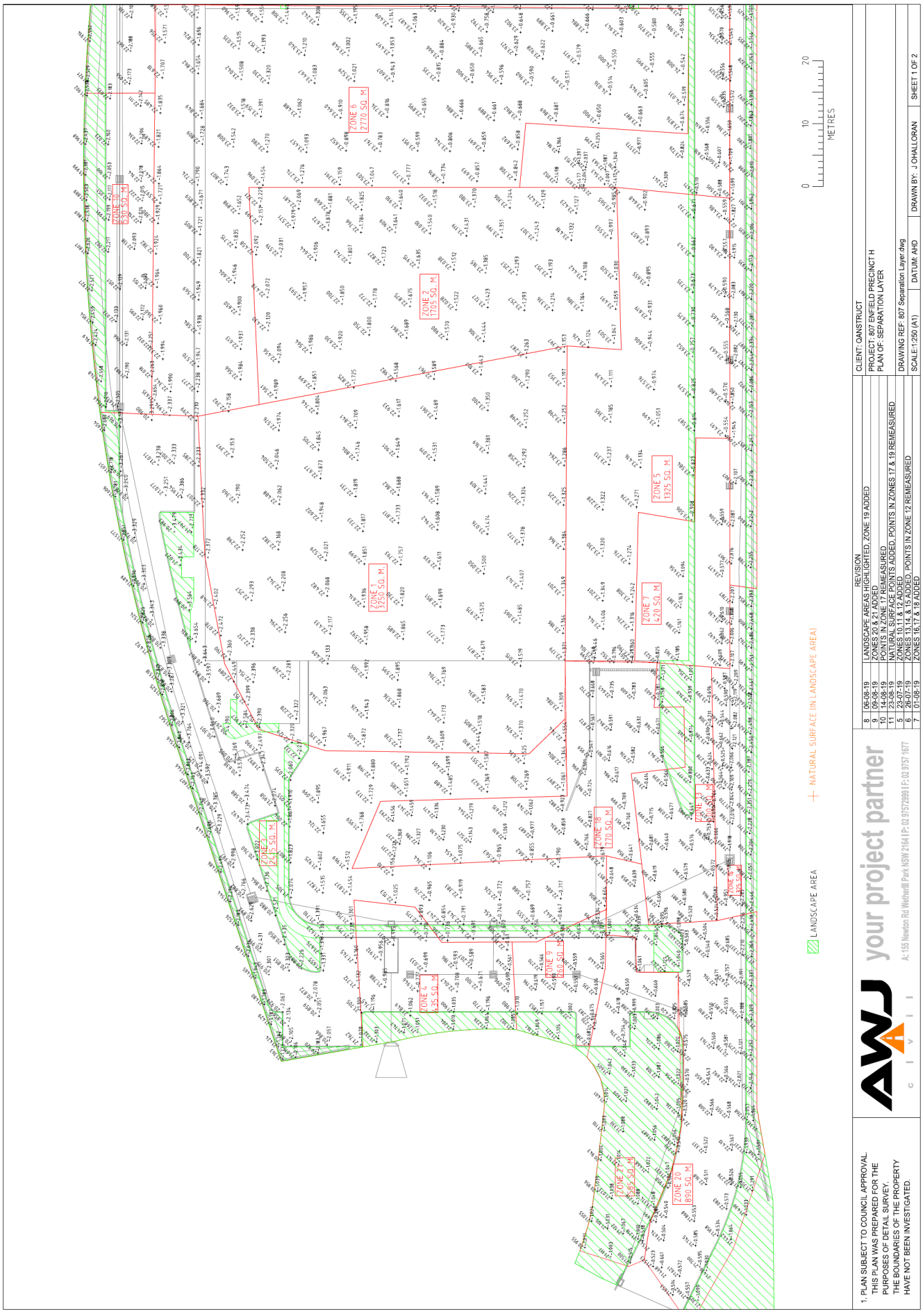
Appendix G – Documentation and Records

APPENDIX C
SURVEY PLANS

Post-Remediation Site Survey Plan – Depth to Geotextile Marker Layer (North)



Post-Remediation Site Survey Plan – Depth to Geotextile Marker Layer (South)



Ramboll Australia Pty Ltd
Level 3, 100 Pacific Highway
PO Box 560
North Sydney NSW 2060

T +61 2 9954 8100

www.ramboll.com

ASIA PACIFIC OFFICES

BRISBANE
Level 2, 15 Astor Terrace
Spring Hill QLD 4000
Australia
T: +61 7 3858 4800
F: +61 7 3858 4801

CANBERRA
GPO 410
Canberra ACT 2600
Australia
T: +61 2 6287 0800
F: +61 2 9427 8200

DARWIN
5 Foelsche Street
Darwin NT 0800
Australia
T: +61 8 8998 0100
F: +61 2 9427 8200

GOLD COAST
Ground Floor, 194 Varsity Parade
Varsity Lakes QLD 4227
Australia
M: +61 438 763 516

MACKAY
21 River Street
Mackay QLD 4740
Australia
T: +61 7 3181 3300

MELBOURNE
Suite 2, 2 Domville Avenue
Hawthorn VIC 3122
Australia
T: +61 3 9249 9400
F: +61 3 9249 9499

NEWCASTLE
10 Kings Road
New Lambton NSW 2305
Australia
T: +61 2 4037 3200
F: +61 2 4037 3201

PERTH
Ground Floor, 503 Murray Street
Perth WA 6000
Australia
T: +61 8 9422 5900
F: +61 8 9422 5901

ROCKHAMPTON
rockhampton@slrconsulting.com
M: +61 407 810 417

SYDNEY
2 Lincoln Street
Lane Cove NSW 2066
Australia
T: +61 2 9427 8100
F: +61 2 9427 8200

TAMWORTH
PO Box 11034
Tamworth NSW 2340
Australia
M: +61 408 474 248
F: +61 2 9427 8200

TOWNSVILLE
Level 1, 514 Sturt Street
Townsville QLD 4810
Australia
T: +61 7 4722 8000
F: +61 7 4722 8001

AUCKLAND
68 Beach Road
Auckland 1010
New Zealand
T: +64 27 441 7849

NELSON
5 Duncan Street
Port Nelson 7010
New Zealand
T: +64 274 898 628

NEW PLYMOUTH
Level 2, 10 Devon Street East
New Plymouth 4310
New Zealand
T: +64 0800 757 695