

**WASTE MANAGEMENT REPORT
PREPARED FOR
COBRA WASTE SOLUTIONS PTY LTD
30 LOFTUS ROAD, YENNORA NSW 2161**

Prepared for: Cobra Waste Solutions Pty Ltd

Prepared by: R T Benbow, Principal Consultant
Vida Nodehi, Environmental Scientist

Report No: 201156-06_Waste_Rev3
March 2024
(Released: 5 April 2024)



Benbow
ENVIRONMENTAL

Engineering a Sustainable Future for Our Environment

Head Office: 25-27 Sherwood Street, Northmead NSW 2152 AUSTRALIA
Tel: 61 2 9896 0399
Email: admin@benbowenviro.com.au

Visit our website: www.benbowenviro.com.au

COPYRIGHT PERMISSION

The copyright for this report and accompanying notes is held by Benbow Environmental. Where relevant, the reader shall give acknowledgement of the source in reference to the material contained therein, and shall not reproduce, modify or supply (by sale or otherwise) any portion of this report without specific written permission. Any use made of such material without the prior written permission of Benbow Environmental will constitute an infringement of the rights of Benbow Environmental which reserves all legal rights and remedies in respect of any such infringement.

Benbow Environmental reserves all legal rights and remedies in relation to any infringement of its rights in respect of its confidential information.

Benbow Environmental will permit this document to be copied in its entirety, or part thereof, for the sole use of the management and staff of Cobra Waste Solutions Pty Ltd.

DOCUMENT CONTROL

Prepared by:	Position:	Signature:	Date:
--------------	-----------	------------	-------

R T Benbow	Principal Consultant		08 April 2024
------------	----------------------	--	---------------

Vida Nodehi	Environmental Scientist		08 April 2024
-------------	-------------------------	---	---------------

Reviewed by:	Position:	Signature:	Date:
--------------	-----------	------------	-------

Bethany Carlyon	Environmental Scientist		08 April 2024
-----------------	-------------------------	--	---------------

Approved by:	Position:	Signature:	Date:
--------------	-----------	------------	-------

R T Benbow	Principal Consultant		08 April 2024
------------	----------------------	--	---------------

DOCUMENT REVISION RECORD

Revision	Date	Description	Checked	Approved
1	21-03-2024	Draft / Rev1	E Hansma	R T Benbow
2	05-04-2024	Draft / Rev2	E Hansma	R T Benbow
3	08-04-2024	Rev3	B Carlyon	R T Benbow

DOCUMENT DISTRIBUTION

Revision	Issue Date	Issued To	Issued By
1	21-03-2024	Cobra Waste Solutions Pty Ltd	Benbow Environmental
2	05-04-2024	Cobra Waste Solutions Pty Ltd	Benbow Environmental
3	08-04-2024	Cobra Waste Solutions Pty Ltd	Benbow Environmental



Benbow
ENVIRONMENTAL

A.B.N. 17 160 013 641

Head Office:

25-27 Sherwood Street Northmead NSW 2152 Australia

P.O. Box 687 Parramatta NSW 2124 Australia

Telephone: +61 2 9896 0399

E-mail: admin@benbowenviro.com.au

Visit our Website at www.benbowenviro.com.au

Contents	Page
1. INTRODUCTION	1
1.1 Scope	1
2. PROPOSED DEVELOPMENT	5
2.1 Process Description	5
2.1.1 Maximum Throughput	9
2.1.2 Maximum Storage Capacity	9
2.1.3 Equipment	9
2.1.4 Hours of Operation	9
2.1.5 Incoming Waste	10
2.1.6 Receipt & Handling of Construction Waste	10
2.1.7 Recovered Materials	11
2.2 Waste Streams & Types	11
2.2.1 Source of Waste Streams	12
3. LEGAL AND OTHER REQUIREMENTS	14
3.1 Protection of the Environment Operations Act, 1997	14
3.2 Protection of the Environment Operations (Waste) Regulation 2014	15
3.3 Waste Avoidance and Resource Recovery Act 2001	15
3.4 Cumberland Development Control Plan 2021 – A11 Waste Management	16
3.5 Waste Levy Guidelines	17
3.6 Standards for Managing Construction Waste in NSW	17
3.7 NSW EPA Advice	19
4. WASTE CLASSIFICATION & MANAGEMENT	22
4.1 Waste Classification	22
4.2 Ongoing Waste	23
4.3 Demolition Waste	26
4.4 Construction Waste	26
4.5 Waste Management Plan	28
4.6 Mitigation Measures	28
4.7 Waste Storage	28
4.7.1 Storage Bunker Height	30
4.7.2 Waste Storage Requirements	30
4.7.3 Inspection of Waste Storage Areas	31
4.8 Transport of Waste	31
4.9 Quality Control	31
4.9.1 Incoming Waste	32
4.9.2 Recovered Material	32
4.9.2.1 Recovered Aggregates	32
4.10 Monitoring & Records	33
5. UNEXPECTED FINDS PROCEDURE	34
5.1 Purpose	34
5.2 Definitions	34
5.3 Training Requirements	35

5.4	Procedure	35
5.5	Inspection and Records	38
5.5.1	Records of Incoming Waste Loads	38
5.5.2	Records of Outgoing Waste Loads	38
5.5.3	Rejected Loads Register	38
5.5.4	Records of Vehicles	38
5.5.5	Other Non-conforming waste	39
6.	LIMITATIONS	40

Tables	Page
Table 1-1: SEARs	2
Table 2-1: Proposed Hours of Operation	9
Table 2-2: Waste types accepted in the facility	11
Table 3-2: Requirements of Part G8 Waste Management under Cumberland DCP	16
Table 3-3: Compliance with Standards for managing construction waste in NSW	17
Table 4-1: Classes of Waste from Waste Classification Guidelines (NSW EPA, 2014)	22
Table 4-2: Incoming Waste Types, Quantities and Management	23
Table 4-3: Recovered Waste Types, Quantities and Management	24
Table 4-4: On-going Waste Generation Types, Quantities and Management	25
Table 4-5: Expected Construction Waste	27
Table 4-6: Waste Storage Bunker Details	29
Table 4-7: Process Line Bin & Bunker Details	29

Figures	Page
Figure 2-1: Process Flow Diagram	8
Figure 5-1: Incoming Load Inspection	37

Attachments

- Attachment 1: Waste Management Plan Template
Attachment 2: Site Plan



1. INTRODUCTION

This Waste Management Report documents the waste types to be received, processed and stored at the proposed Resource Recovery Facility operated by Cobra Waste Solutions Pty Ltd at 30 Loftus Road, Yennora NSW 2161.

Procedures for managing waste at the facility and how the facility will adhere to relevant waste legislation are described in this report. This report supersedes the previous waste management report which accompanied the Environmental Impact Statement (EIS) prepared by Benbow Environmental Ref: 201156_EIS that supports the development application for establishment of the business at the site (REF: 201156_Waste_Rev3).

This report is part of the Construction Environmental Management Plan (CEMP) as per condition B19 of consent condition (SSD-9320662).

It should be noted that the facility must not commence construction until the Waste Management Plan is approved by the Planning Secretary and must implement the most recent version of the Waste Management Plan approved by the Planning Secretary.

Waste management at the site would be undertaken in line with the waste hierarchy demonstrated in the following diagram:



1.1 SCOPE

Secretary's Environmental Assessment Requirements (SEAR) SSD-9320662 were issued on 9/10/2020. Requirements specific to waste management were provided by the Department of Planning and The NSW Environment Protection Authority. On November 17, 2023, development application SSD-9320662 was approved by the planning secretary, subject to the conditions specified in consent conditions SSD-9320662. These requirements are listed in Table 1-1, and form the scope of this report.



Table 1-1: SEARs

Requirement	Comment / Section
Department of Planning, Industry and Environment	
Waste management – including:	
a description of each of the waste streams that would be accepted at the site including maximum daily, weekly and annual throughputs and the maximum size for stockpiles	Section 2.2 Section 2.1.1 Section 4.7
details of the source of the waste streams to justify the need for the proposed processing capacity	Section 2.2.1
a description of waste processing operations, including a description of the technology to be installed, resource outputs and the quality control measures that would be implemented	Section 2.1
details of how waste would be stored (including the maximum daily storage capacity of the site) and handled on site, and transported to and from the site including details of how the receipt of non-conforming waste would be dealt with	Section 2.1.6 Section 4.7 Section 4.8 Section 4.9 Section 5
detail the developments waste tracking system for incoming and outgoing waste	Section 4.10
detail the quality of waste produced and final dispatch locations	Section 4.9
details of the waste management strategy for construction and ongoing operational waste generated	Sections 4.2 and 4.4
the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021 and	Section 3.3
details of consistency with the EPA's Standards for Managing Construction Waste in NSW (November 2018).	Section 3.6



Requirement	Comment / Section
NSW EPA	
2. Waste Management – the environmental impact statement (EIS) must include a detailed assessment of the waste management processes to be undertaken at the Premises. This includes but is not limited to:	
details of the sources of waste to be received at the Premises;	Section 2.2
details of the types and quantities of each type of waste to be received at the Premises;	Sections 2.2 and 4.2
details of the maximum volume of waste to be stored on the Premises at any one time;	Section 2.1.2
details of the maximum annual throughput of waste for be processed at the Premises;	Section 2.1.1
a description of waste processing procedures for each waste type;	Section 2.1
the PEA indicates that the proposal will trigger the scheduled activities of resource recovery and waste processing. The EPA is unable to issue a licence for both these activities simultaneously. Resource recovery applies to activities which dispose of less than 50% of waste after processing, while waste processing applies to activities that dispose of more than 50% of waste after processing;	The scheduled activity is resource recovery as an estimated 88% of material will be recovered. See Section 3.1
a description of how the proponent will meet the EPA's record keeping and reporting requirements, including weighing material in and out of the Premises (refer to the EPA's Waste Levy Guidelines for more information – available at http://www.epa.nsw.gov.au/your-environment/waste/waste-levy;	Section 4.10 and 5.5
- a detailed site plan(s) identifying areas for: - haulage; - waste receipt, processing, storage and loading (for each waste type) - quarantine; - infrastructure for environmental controls including dust, noise, water and wheelwash; - weighbridge; - site boundaries; - stormwater drainage areas; and - unused stabilised areas;	Detailed site plans are provided by Carlo Ranieri & Associates.
details of the type and quantities of materials to be produced and their intended fate;	Section 4.2
details of any materials produced under a Resource Recovery Order, and the controls in place for meeting the conditions of that order;	Section 4.9.2



Requirement	Comment / Section
a description of procedures for dealing with non-conforming waste (i.e. waste not permitted to be received at the Premises).	Section 5
3. Waste types – the EPA requires detailed information on the waste types proposed to be received at the Premises. For each waste type the Proponent must detail the physical and chemical content of the waste, the types of pollution which may result from the storage and processing of that waste and mitigation measures for managing any such impacts. The list of waste types to be received at the Premises must be made clear.	Section 2.2 Section 4
Please note that the EPA will not consider including the following waste types on the licence: - Excavated Natural Material or other wastes listed under a resource recovery exemption – - resource recovery exemptions apply to the application of waste to land. It is not appropriate to list these on an environment protection licence. The EPA may consider allowing receipt of Virgin Excavated Natural Material and soils at the Premises.	ENM would not be received at the premises.

2. PROPOSED DEVELOPMENT

The proposal involves the establishment of a resource recovery facility within an existing industrial building. Two weighbridges would be installed on the access driveway from Loftus Road, a car parking area and empty skip bin storage area established at the rear of the site.

The facility would operate 24 hours, 7 days a week and accept up to 150,000 tonnes per year of construction and demolition (C&D) and commercial and industrial (C&I) waste, mainly from the local and Sydney metropolitan area. This waste would be processed to generate a range of recovered materials mainly for use in the construction industry and civil works. Due to the quantity of waste to be processed and stored, the facility will require an Environment Protection Licence (EPL).

The waste accepted would consist of C&D and C&I waste streams, classified as “General Solid Waste (Non-putrescible)” under the NSW EPA *Waste Classification Guidelines* (2014). The recyclable material would be made up of the following:

C&D Waste	C&I Waste
■ Wood ■ Gyprock – plaster board ■ Concrete ■ Brick ■ Aggregates ■ Asphalt ■ Steel ■ Copper wire & cable	■ Cardboard ■ Paper ■ Plastic ■ Steel ■ Aluminium ■ Wood

2.1 PROCESS DESCRIPTION

The plant will be designed to process 150,000 tonnes of C&D and C&I waste materials collected from various businesses across the local and metropolitan Sydney area mainly by company owned trucks. The materials will be sorted through the plant separately in two separate shifts to ensure the waste streams do not mix. Additionally, this will ensure maximum recovery of recyclable materials. The process would result in incoming C&D and C&I waste streams being separated into different waste types to be sent to recycling facilities for further processing.

The process does not differ regardless of which waste stream is to be processed.

C&D waste would be processed during the day shift. C&I waste loads received during the day shift would be unloaded and inspected in the pre-sort and inspection area and complying loads moved to a designated C&I storage bunker (shown on the proposed floor plan and equipment layout) to be processed in the afternoon shift.

All loads received would be inspected separately (one load at a time) in the pre-sort and inspection area as this is a requirement of Inspection Point 2 of the Standards for managing construction waste in NSW and provision to ensure this occurs is included in the Incoming Waste Procedure. The truck would unload and remain until the load is inspected. Non-complying loads would be reloaded onto the truck and the driver instructed to leave the site.



The following process steps would be undertaken.

1. All trucks arriving at the site would enter via the existing driveway access on Loftus Road and be directed over the weighbridge along the western driveway. This would be the first inspection point where the contents of the truck would be inspected and paperwork regarding the waste load would be reviewed. Trucks with conforming loads would be weighed on the weighbridge then directed inside the building. Non-conforming loads would be turned away. Records of all truck loads entering the facility would be maintained at the weighbridge.
2. Loads of waste material would be unloaded in the pre-sort inspection area inside the building for initial separation. This would be the second inspection point in the process. Any non-conforming material would be reloaded onto the truck and removed in accordance with a waste inspection procedure. Conforming loads would be moved to the feedstock area for processing or to the C&I bunker for storage depending on the shift. At this point, large items can be manually removed and stored in the appropriate storage bunker. A quarantine area (reject bunker) on site would be established to deal with non-conforming wastes that inadvertently are not picked up at the inspection points.
3. A front end loader would transfer the pre-sorted material to the feedstock area and load it into the infeed hopper at the start of the process.
4. The material would be fed into the system and conveyed to long items separator for removal of any over-size material. Long items fall into the bunker and be manually sorted into appropriate storage bunkers.
5. A magnet would remove ferrous material which would fall into a separate storage bin and the remaining material would be sent through a waste screen.
6. At this point lighter material (Under -70) is directed down a separate line where an electrical magnet would remove ferrous material which would fall into a storage bin.
7. This lighter material line would pass through a flip flow screen where (-10mm soil) would fall into a bunker. The remaining material would sent through an NIHOT DDS air separator (10) where light material would be removed then two further flip flow screens for separation of under -22mm material and for separation of under -32mm material that would fall into separate bunkers.
8. The overs (32+ mm) material would be put through a crusher. Crushed aggregates would be stored in a bunker.
9. The heavier material waste stream would be conveyed from the waste screen to an ABP air separator where light material would be removed and fall into a bunker. The heavier material would then pass through an enclosed manual picking station where it is separated into paper/cardboard, wood, plastic and other recyclable material. This material would be stored in bins below the picking station.
10. Recovered waste would be transferred to designated storage bunkers within the building as required then loaded into trucks for transport to various facilities for reuse or further



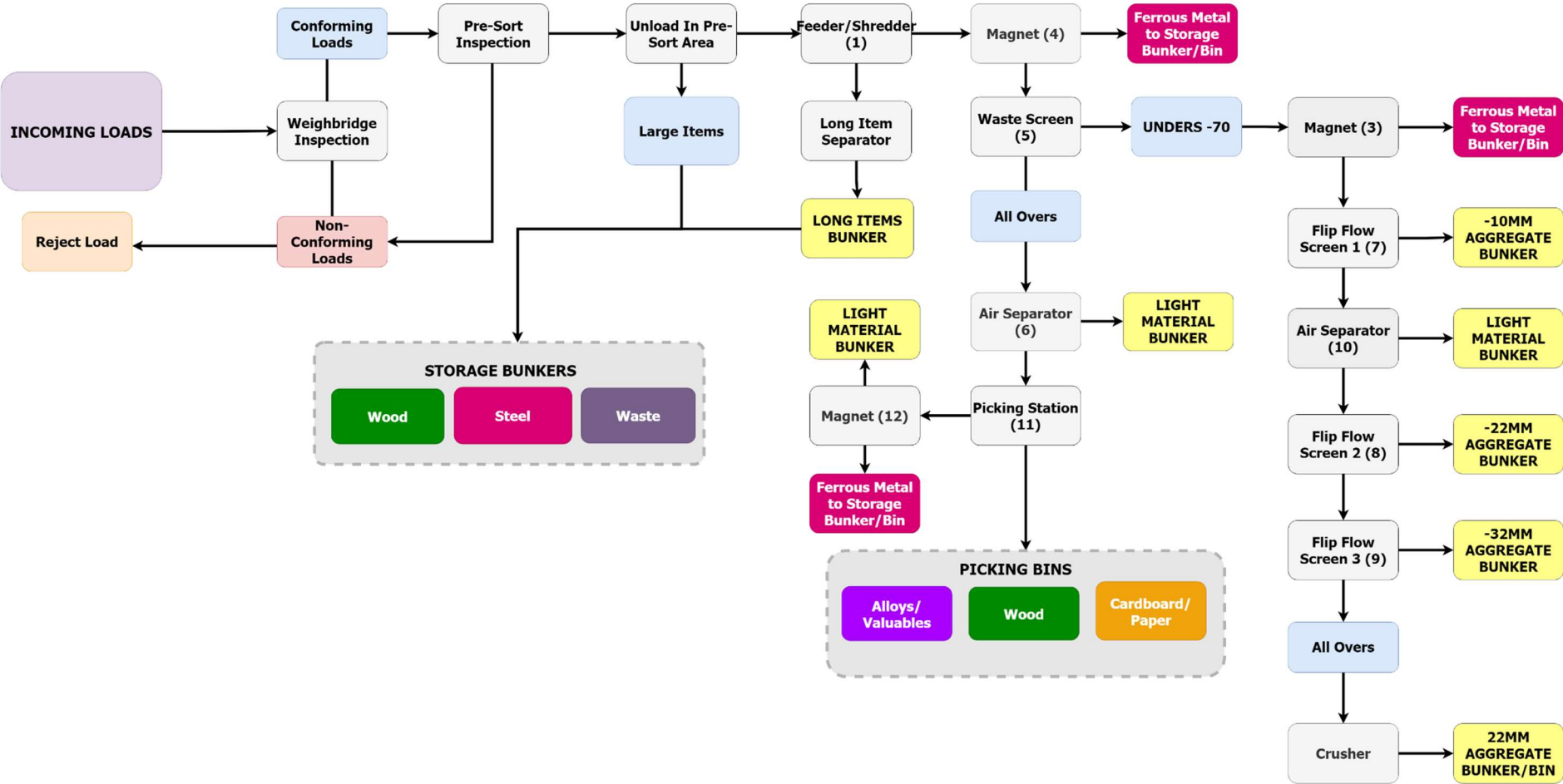
processing. General non-recyclable waste would be transferred to a designated storage bunker for removal to landfill.

A process flow diagram is provided as Figure 2-1.

The light material that falls into the “Light material bunkers” shown in Figure 2-1 includes packaging material, bits of plastic, paper, film and PET that are non-recyclable. This waste would be sent to landfill.

Pre-sorted loads of C&I waste are often received at the facility, such as bins consisting solely of scrap metal or cardboard or other packaging material. In this case, these pre-sorted loads would not need to be put through the system but would be stored directly into designated bunkers/bins of the same waste type.

Figure 2-1: Process Flow Diagram





2.1.1 Maximum Throughput

The maximum waste throughput would be up to 150,000 tonnes of C&D and C&I waste per year. The expected ratio of C&D to C&I is expected to be 70:30.

Estimates for daily and weekly maximum throughput are 4,000 tonnes per week and 1,000 tonnes per day.

2.1.2 Maximum Storage Capacity

The facility would have the capacity to store up to a maximum of 2,600 m³ of waste at any one time within storage bunkers, bins, and an internal incoming material stockpile.

2.1.3 Equipment

Equipment and machinery required for the resource recovery facility includes:

- 2 x weighbridges;
- Resource Recovery and Transfer Facility (RRTF) consisting of a control room, feeder (infeed hopper with shredder), conveyor belts, long items separator, 3 x ferrous magnets, 1 x waste screen, 3 x flip flow screens, a picking station and 2x air separators;
- Crusher;
- 30T Excavator;
- 20T Excavator;
- 35T Front end loader x 2;
- Forklifts;
- Water misting system;
- Water sprinkle
- A compressor; and
- Internal structural steel walled storage bunkers.

Further description of the equipment is provided in Section 5.4.4 of the EIS.

2.1.4 Hours of Operation

The proposed facility is requesting approval to operate 24 hours per day, 7 days per week. A typical daily schedule of activities and their hours of operation is provided below.

Table 2-1: Proposed Hours of Operation

Activity	Day	Time
Waste Processing	Monday to Saturday	7:00am to 11:00pm
	Sundays & Public Holidays	Nil
Cleaning and Maintenance (as required)*	Monday to Sunday	24 hours
	Public Holidays	Nil
Incoming and outgoing truck loads	Monday to Saturday	6:00am to 6:00pm
	Sundays & Public Holidays	Nil

*Staff to work as required – maintenance staff from day or afternoon shift as overtime).



Truck movements would be restricted to between the hours of 6:00am to 6:00pm.

2.1.5 Incoming Waste

Incoming waste would consist of two waste streams and would be sourced from reputable C&D and C&I companies undertaking work in the regional area.

2.1.6 Receipt & Handling of Construction Waste

A description of the management of each waste type accepted and sorted on site is provided in Table 4-2 and Table 4-4.

The way construction waste is managed on site is described as follows:

- All incoming waste loads are brought to site in covered trucks;
- Waste loads are weighed and inspected at the weighbridge. An incoming waste procedure is provided in Section 5 that explains the procedure that takes place if non-conforming material is found. Inspections are to be conducted in accordance with Standard 1 of the NSW EPA *Standards for managing construction waste in NSW* (2019);
- Trucks unload all waste within the pre-sort area inside the building. Waste is inspected at this point;
- The building's water misting system is activated upon unloading and during any processing of waste to suppress emissions of dust. Pre-sorting is to be undertaken in accordance with Standard 2 of the NSW EPA *Standards for managing construction waste in NSW* (2019). There will be no mixing of inspected and sorted construction waste with construction waste that has not been inspected and sorted (Standard 3);
- Once pre-sorted, waste types removed from the waste stream are stored in designated storage bays according to the particular waste type. Storage management will be conducted in accordance with Standard 4 of the NSW EPA *Standards for managing construction waste in NSW* 2019;
- The remaining unsorted waste would be loaded into the feeder/shredder at the start of the process for processing through the RRFT system. At various points in the system, recovered materials would be separated into bins or storage bays by the system or by hand picking;
- Recovered materials would be loaded onto trucks and transported to licensed facilities or for reuse in construction projects;
- Residual waste unable to be reused is sent to a licensed landfill facility;
- All truck loads leaving the site would be covered; and
- Records of all incoming and outgoing loads would be maintained in accordance with *Waste Levy Guidelines*.

Overall, waste management practices that would be in place at the facility are considered adequate and comply with S48 of the Waste Regulation, which states the facility must store and manage waste in an environmentally safe manner.

Management of waste on site will also be in line with the *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities* (NSW EPA, 2012) as it includes the following practices:

- Visually screening designated waste areas and receptacles from public places (in building);



- Ensuring waste is stored adequately and cannot escape receptacles and storage areas; and
- Ensuring easy access to each waste storage area for collection services.

The facility would not accept liquid wastes, hazardous wastes, special waste (including asbestos and waste tyres) or restricted solid waste. A procedure to deal with any unauthorised waste types found within incoming loads or inadvertently delivered to the site is provided in Section 5.

2.1.7 Recovered Materials

The recovered materials generated would consist of several waste types including wood, plastic, scrap metal, paper & cardboard and aggregates. Recovered aggregates would be sent off site for application to land under the recovered aggregates order and exemption. The other recovered material would be sent on for further processing at licensed recycling facilities.

Any non-recyclable waste would be sent to landfill.

2.2 WASTE STREAMS & TYPES

Waste streams and types are defined under the NSW EPA *Waste Levy Guidelines* (2018).

Two (2) waste streams would be accepted at the facility. These include:

1. Construction and Demolition (C&D) waste; and
2. Commercial and Industrial (C&I) waste.

These waste streams would be sorted into different waste types.

Table 2-2: Waste types accepted in the facility

Waste Type	Code	Waste type description, examples and exclusions
Aggregate, road base or ballast	AGG	Rock and/gravel material such as asphalt, road base, railway ballast or processed sandstone Exclusions: Crushed concrete
Aluminium (non-ferrous)	AL	Aluminium frames, aluminium cans
Asphalt	ASPH	Asphalt and other bituminous waste arising from activities such as road construction and waterproofing works.
Bricks or concrete	BC	Bricks, mortar or concrete including bricks with mortar and concrete containing steel reinforcing. Exclusions: Fibre cement
Ceramics, tiles, pottery	CER	Terracotta roof tiles, pottery, porcelain products Exclusions: Brick and concrete
Commingled recyclables	COMM	Recyclable wastes such as plastic, glass and paper that have been collected for recycling.



Waste Type	Code	Waste type description, examples and exclusions
Ferrous (iron or steel)	FE	Steel cans, scrap steel, car bodies, steel reinforcing Exclusions: Gas bottles
Mixed waste	MIX	Mixed waste is any waste that contains more than one of the Waste Types. Composite products such as light bulbs, plastic coated timber, mixed waste from commercial or industrial activities. Exclusions: Commingled recyclables
Non-ferrous (metals, not iron steel or aluminium)	NFE	Lead, copper, brass Exclusions: Aluminium and steel
Paper or cardboard	PAPER	Paper and cardboard
Plasterboard	PB	Gypsum based construction sheeting Exclusions: Fibre cement, MDF, Masonite, villa board, chipboard and asbestos.
Plastic	PL	Perspex, PVC piping, AstroTurf, polystyrene, plastic weed mat, pool liners, polypropylene, extruded plastic, plastic crates.
Wood, trees or timber	WOOD	Trees or tree stumps, raw, treated or painted timber, sawdust, wooden crates, wooden packaging, wooden pallets, wood shavings, MDF, chipboard, particle board and Masonite. Exclusions: Plastic coated timbers

Note: Combined with the incoming waste would be copper electrical wire. From time to time there is expected to be electrical cable, conduit, power point/plugs, distribution boards found in bins of construction and demolition waste. This waste falls under the definition of “building and demolition waste” and does not fall under the E-Waste definition which encompasses electrical appliances and is provided as follows:

E-waste: *Electrical goods, televisions, computers, toasters, radios, ipod, Gameboys, stereos, speakers, VCRs, DVD players, power tools*

All incoming waste is classified as general solid waste (non-putrescible) waste (as per *Waste Classification Guidelines* (2014)). No other waste would be accepted.

2.2.1 Source of Waste Streams

With the growing number of NSW Government Infrastructure projects located in Western Sydney and the Metropolitan area the demand for recycling facilities to deal with waste generated by the construction industry is continuing to increase. Waste generated from construction and demolition (C&D) activities historically ends up in landfill. Increasingly, businesses are seeing waste as a potential resource which has resulted in a growth of recycling facilities to repurpose waste C&D in NSW.



This combined with the push to keep manufacturing within Australia, to buy Australian made goods, as well as the Australian government recently banning the export of unprocessed waste overseas via the *Recycling and Waste Reduction Act, 2020* has created a demand to reconfiguring local infrastructure to reprocess and remanufacture recyclables within Australia. To support this ban, the government needs to provide incentives to enable facilities such as the proposed development to be established.

Cobra Waste Solutions wishes to capitalise on this need by expanding their recycling business to include a new resource recovery facility that incorporates technologically advanced systems for the processing and separation of waste into recovered materials.

The proposed site at Yennora is centrally located in Sydney and well positioned to accept waste from current and future infrastructure projects and manufacturing sites.

Furthermore, the amount of waste generated in Australia in 2018-19 increased by 10% from two years earlier, only half of which was recycled (theconversation.com, December 2020). The proposed development would provide a facility to facilitate an increase in the recycling of waste which is obviously in need.



3. LEGAL AND OTHER REQUIREMENTS

3.1 PROTECTION OF THE ENVIRONMENT OPERATIONS ACT, 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) is the principal environmental protection legislation for NSW. It defines 'waste' for regulatory purposes and establishes management and licensing requirements for waste. It defines offences relating to waste and sets penalties.

Part 3 of the Act details provisions for Environment Protection Licences. Under Clause 88, the facility is required to pay a contribution in respect of all waste received at the facility. How the contribution is calculated is provided in Part 2 of the Waste Regulation.

Part 1 in Schedule 1 of the POEO Act lists premise-based activities that are scheduled activities and, as such, that require an EPL under the Act. The development falls under the definition of resource recovery (recovery of general waste) and waste storage as defined by Clause 34 and Clause 42 respectively.

34 Resource recovery

"recovery of general waste" , meaning the receiving of waste (other than hazardous waste, restricted solid waste, liquid waste or special waste) from off site and its processing, otherwise than for the recovery of energy.

Comment:

Under Clause 34, the proposed development is a scheduled activity under 34(3) as it meets the criteria in column 2 of the table (being storage of more than 1,000 tonnes of waste on site at any one time and processing more than 6,000 tonnes of waste per year) and less than 50% by weight of the waste received in any year would require disposal after processing.

42 Waste storage

"waste storage" , meaning the receiving from off site and storing (including storage for transfer) of waste.

Comment:

Under Clause 42, the proposed development is a scheduled activity under 42(3)(c)(i) and 42(3)(d)(i) as it is located in a regulated area and would store more than 1,000 tonnes at the premises at any one time and would receive more than 6,000 tonnes of waste per year from off site.

Therefore, an EPL is required for Clause 34 – resource recovery and Clause 42 – waste storage.



3.2 PROTECTION OF THE ENVIRONMENT OPERATIONS (WASTE) REGULATION 2014

The *Protection of the Environment Operations (Waste) Regulation 2014* (Waste Regulation), identifies provisions relating to waste management and disposal.

Part 3 of the Waste Regulation provide requirements for records, measurement of waste and monitoring and scheduled facilities. Of particular relevance is Clause 36 which requires occupiers of scheduled waste facilities required to pay contributions under Section 88 of the Act to install a weighbridge at the facility.

The proposed development would have two weighbridges for the recording of incoming and outgoing waste. Implementation of the procedure in Section 5 would ensure record keeping requirements under this Part are met.

Part 4 of the Waste Regulation details the requirements associated with tracking waste. Certain types of waste listed in Schedule 1 of the Waste Regulation have the potential to be harmful to the environment and are required to be tracked from the source to the waste disposal facility. The development would not generate, receive, handle or process waste types that require tracking under the Waste Regulation. A procedure outlined in Section 5 demonstrates how the facility deals with waste of this nature should it be found within the incoming material.

Of relevance to the facility is Part 6 – Miscellaneous including general requirements relating to the transportation of waste. These requirements have been identified in Section 4.8.

Clause 112 – Requirements relating to the storage of waste generally

A person who stores waste on premises (whether or not the waste was produced on the premises) must ensure that it is stored in an environmentally safe manner.

The facility will need to comply with the above requirements.

Resource recovery orders (RRO) issued under the Regulation may apply in cases where the recovered material needs to meet certain requirements to be supplied for application to land. Relevant RROs include:

- NSW EPA *The recovered aggregate order* (2014)

Controls to be put in place for meeting the conditions of this order are addressed in Section 4.9.2.1.

3.3 WASTE AVOIDANCE AND RESOURCE RECOVERY ACT 2001

The *Waste Avoidance and Resource Recovery Act 2001* (WARR Act) promotes waste avoidance and resource recovery to achieve a continual reduction in waste generation. Among other miscellaneous provisions, the WARR Act sets out provisions for waste strategies and programs, and industry actions for waste reduction.

Waste minimisation and resource recovery would be practised as part of the main goals of the facility. Resource recovery practices implemented at the site are in accordance with the primary goal of the *NSW Waste and Sustainable Materials Strategy 2041 Stage 1 plan: 2021–2027 (the Strategy)*, which outlines the actions that will be taken over the next 6 years to move towards a



circular economy. This transition to a circular economy focuses on achieving a reduction in waste and emissions, reducing harm to our environment, and boosting innovation to help drive the economy. , Overall, the proposed development would have an important positive impact on the waste management practices in the local region since it enables the recovery and recycling of predominant waste streams, which could otherwise be sent to landfill.

The company would also follow the NSW EPA hierarchy of waste management for the management of wastes generated as a result of its ongoing operations.

3.4 CUMBERLAND DEVELOPMENT CONTROL PLAN 2021 – A11 WASTE MANAGEMENT

Part G8 of the Cumberland Development Control Plan relates to waste management. This plan is in force therefore requirements relevant to the proposed development have been addressed in the following table.

Table 3-1: Requirements of Part G8 Waste Management under Cumberland DCP

Clause	Requirement	Comment
3.1	Demolition and Construction Controls	
	C1. All materials that arise from demolition and construction shall comply with a Waste Management Plan(WMP) before recycling or disposal	Attachment 1
	C2. The WMP is a plan that provides Council with details of the following: • The volume and type of waste to be generated • How the waste is to be stored and treated on-site • How the waste is to be disposed of; and • How on-going waste management will function	Attachment 1
3.2	Commercial development	Not relevant.
3.3	Residential	Not relevant.
3.4	Waste chute and service room requirements	Not relevant.
3.5	Bin transfer requirements	Not relevant. Waste and recovered material would be stored in storage bunkers or large receptacles and do not require Council service.
3.6	Collection area requirements	Not relevant. There will be no collection area as Council collection is not required.



Clause	Requirement	Comment
3.7	Collection vehicle requirements	Not relevant. The facility will use company-owned collection vehicles or a licensed waste contractor. Swept paths for vehicles are shown on site plans.

3.5 WASTE LEVY GUIDELINES

Licensed waste facilities are liable to pay a levy under Section 88 of the POEO Act. Resource recovery facilities are required to record waste inputs and outputs and submit monthly reports to the NSW EPA that will determine whether they are required to pay a waste levy. The waste levy is triggered under the following circumstances:

- If the facility exceeds the authorised amount of waste stored on site at any one time;
- Stockpiling waste on site for more than 12 months; or
- Disposing of waste illegally.

The facility would be required to submit a waste report on the 26th of each month following the month the waste was received. Specific records will need to be kept using an approved method.

3.6 STANDARDS FOR MANAGING CONSTRUCTION WASTE IN NSW

Under Part 8A of the Waste Regulation, the facility must comply with the NSW EPA *Standards for managing construction waste in NSW* (2018) as a condition of the EPL. There are five (5) standards requiring compliance. Table 3-2 describes how the facility would comply with each standard.

Table 3-2: Compliance with Standards for managing construction waste in NSW

No.	Standard	Comment
1	Inspection requirements 1.1 Inspection point 1 – verified Weighbridge inspection 1.2 Inspection point 2 – Tip and spread inspection area 1.3 Training requirements for personnel 1.4 Rejected loads register	The waste procedure detailed in Section 5 would be implemented at the site to ensure that inspection requirements are met. This includes training requirements for personnel and details to be included in the rejects loads register. The site has been designed with two weighbridges and a designated tip and spread area.



Table 3-2: Compliance with Standards for managing construction waste in NSW

No.	Standard	Comment
2	Sorting requirements Loads not rejected under Standard 1 must be sorted and classified into individual listed waste types before being transferred to the waste storage area referred to in Standard 4.	Listed waste types are provided in Section 2.1.5. Incoming waste streams would be sorted through the system into waste types that would be stored in separate designated bunkers/bins and include: AGG Aggregate, road base or ballast AL Aluminium (non-ferrous) ASPH Asphalt BC Bricks or concrete CER Ceramics, tiles, pottery COMM Commingled recyclables FE Ferrous (iron or steel) MIX Mixed waste NFE Non-ferrous (metals, not iron steel or aluminium) PAPER Paper or cardboard PB Plasterboard PL Plastic Wood, trees or timber WOOD
3	No mixing of waste C&D waste that has been inspected and sorted in accordance with Standards 1 and 2 must not be mixed with any other waste at the facility unless: • That other waste has been inspected and sorted at the facility in accordance with Standards 1 and 2; and • It is of the same listed waste type as the other waste; or • The mixing is carried out to meet the requirements of a RRO or the recovered fines specifications.	The facility would comply with this standard as described in Section 2.1. The facility has been designed to have separate areas for waste that has been inspected and sorted and waste that has not. Once sorted, waste falls into bunkers or bins and is not processed or mixed further. The process is limited to sorting of waste, no mixing equipment or processes are proposed.

Table 3-2: Compliance with Standards for managing construction waste in NSW

No.	Standard	Comment
4	Waste storage requirements 4.1 Waste storage area 4.2 Inspection point 3 – waste storage area	Waste storage at the facility would comply with this standard as described in Section 4.7. Separate designated storage bunkers/bins are marked on site plans showing the waste type that would be contained within these. These bunkers/bins capture sorted waste from the system. Additional bunkers for waste storage are shown on the site plans labelled with waste type to be stored. Signage of these areas can be confirmed once operational during audits of the site. Inspection of waste storage areas would be included in the waste procedure within the EMP and can be confirmed once the site is operational through inspection records that need to be maintained.
5	Transport requirements Construction waste must not be transported from the facility unless it has been inspected, sorted and stored in accordance with these standards and the load of waste consists solely of a single listed waste type or waste that meets the requirements of a resource recovery exemption or the recovered fines specification. (Except where waste is rejected at inspection points 1 or 2).	The facility would comply with this standard as described in Section 4.8. These transport requirements would be addressed within a waste procedure in the EMP and implementation of this standard can be confirmed through an audit once the site is operational.

3.7 NSW EPA ADVICE

The NSW Environment Protection Authority (EPA) provided below comments on the proposed development.

5.1 Permitted Waste Types - The licensee must not cause, permit or allow any waste to be received at the Premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below. Any waste received at the Premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below. Any waste received at the Premises is subject to those limits or conditions, if any, referred to in relation to that waste

contained in the column titled "Other Limits" in the table below. This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other limits
NA	Building and demolition waste	As defined in Schedule 1 of the POEO Act, in force from time to time.	Resource recovery Waste storage	Maximum of 150,000 tonnes to be received at the Premises in any 12-month period. The total amount of waste stored on the Premises must not exceed 2600m3 or 2600 tonnes at any one time.
NA	Aggregates & fines		Resource recovery Waste storage	47,500 tonnes in any 12 month period
NA	Ferrous and Non-ferrous metal			25,500 tonnes in any 12 month period
NA	Cardboard and paper		Resource recovery Waste storage	12,500 tonnes in any 12 month period
NA	Copper Electrical Wire & Cable		Resource recovery Waste storage	4,500 tonnes in any 12 month period
NA	Wood			22,500 tonnes in any 12 month period
NA	Plasterboard and Gyprock		Resource recovery Waste storage	7,500 tonnes in any 12 month period
NA	Plastic		Resource recovery Waste storage	12,000 tonnes in any 12 month period

5.2 Any waste received at the Premises in contravention of the Permitted Waste Types (under 5.1), must be segregated in an internal signposted waste storage area and must be removed to an appropriately licensed facility as soon as reasonably practicable.

5.3 The total amount of waste received at the Premises must not exceed 150,000 tonnes in any 12-month period.

5.4 The total amount of waste stored on the Premises must not exceed 2600m3 or 2600 tonnes at any one time (the Authorised Amount).

5.5 Any waste received at the Premises must only be used for resource recovery or waste storage purposes.

5.6 There must be no burning or incineration of waste at the Premises.



5.7 No waste, waste-derived products and/or finished products are permitted to be received, sorted, processed or stored outside of the building at any time.

5.8 No liquid waste should be accepted at the Premises.

5.9 According to Clause 36(3)(d)(i) of the POEO Waste Regulation, each vehicle that enters or leaves the waste facility for a purpose relating to the operation of the facility (whether or not the vehicle is being, is intended to be or has been used to transport or deliver waste) must be weighed by the weighbridge on entering and on leaving the facility.

5.10 Any entrance to the Premises where a vehicle may have the potential to enter the site (including fire access routes) must have an operational weighbridge that is adequately maintained in accordance with the requirements of the POEO Waste Regulation.

5.11 The proponent must install and maintain adequate video or photographic monitoring of the weighbridge/s that captures all vehicles entering and exiting the Premises. The video or photographic monitoring must be retained for a minimum of 12 months.

5.12 All waste loading, unloading, materials handling, sorting, sampling, processing and storage operations must be undertaken within a fully enclosed building.

5.13 All waste must be stored within the internal designated waste storage areas.

5.14 Permanent stockpile height markers must be installed and maintained at designated waste storage areas. The stockpile markers must visibly show the stockpile height limit of 2.8 meters and be positioned so that a visual check can be made of all stockpiles at the Premises. Employees must be adequately trained to identify the markers and a standard procedure must be developed and implemented, for employees to escalate for management action in the event that the stockpile heights reach the marker.

5.15 The proposal is required to meet the EPA's Standards for Managing Construction Waste in NSW. Refer to the EPA's website for more information: <https://www.epa.nsw.gov.au/your-environment/waste/industrial-waste/construction-demolition/construction-and-demolition-waste>.

5.16 Any material produced at the site that is classified as 'recovered aggregate' must meet the requirements of the Recovered Aggregate Order 2014. Refer to the EPA's website for more information at: <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/resource-recovery-framework/current-orders-and-exemption>



4. WASTE CLASSIFICATION & MANAGEMENT

4.1 WASTE CLASSIFICATION

The NSW EPA *Waste Classification Guidelines* (2014) describe waste as:

- a) *any substance whether solid, liquid or gaseous that is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration in the environment; or*
- b) *any discarded, rejected, unwanted, surplus or abandoned substance; or*
- c) *any otherwise discarded, rejected, unwanted, surplus or abandoned substance intended for sale or for recycling, reprocessing, recovery or purification.*

All waste materials generated or received on the subject site must be classified into one of six (6) different categories described in the *Waste Classification Guidelines* (Table 4-1).

Table 4-1: Classes of Waste from Waste Classification Guidelines (NSW EPA, 2014)

Class	Definitions / Examples
Special waste	- Clinical and related wastes; - Asbestos waste; - Waste tyres.
Liquid waste	- Waste that has an angle of repose <5 degrees; - Waste that becomes free flowing at or below 60°C; - Is not generally capable of being picked up by a spade or shovel.
Hazardous waste	- Waste with a pH ≤2 or ≥12.5; - Containers that have not been cleaned and contained dangerous goods within the meaning of the Transport of Dangerous Goods Code; - Lead-acid or nickel-cadmium batteries.
Restricted solid waste	This type of waste is determined by chemical tests.
General solid waste (putrescible)	- Waste from litter bins collected by local councils; - Animal waste and food waste; - Grit or screenings from sewage treatment systems that have been dewatered so that the grit of screenings do not contain free liquids.
General solid waste (non-putrescible)	- Paper or cardboard; - Glass, plastic, rubber, plasterboard, ceramic, bricks, concrete or metal; - Grit, sediment, litter and gross pollutants collected in, and removed from, stormwater treatment devices and/or stormwater management systems, that has been dewatered so that they do not contain free liquids

Waste associated with the proposed development is classified in the following sections.

4.2 ONGOING WASTE

The facility would receive and process up to 150,000 per annum of C&D and C&I waste, and contaminated soil. The expected ratio of C&D to C&I is expected to be 70:30. The expected type, quantity, onsite management and offsite destination of wastes associated with the facility are outlined in Table 4-2, Table 4-3, and Table 4-4.

Two tables are provided and include details of incoming waste (waste accepted at the site for processing) and recovered waste (materials recovered from the processing and separation of waste on site). The recovered waste includes any non-recyclable material from the process and any waste generated from ancillary activities.

The estimated maximum quantity is a gross estimation based averages of waste generated in NSW. The quantity for each waste type may vary significantly depending on the source that generated the waste.

Table 4-2: Incoming Waste Types, Quantities and Management

Waste Stream	Estimated Incoming Waste Quantity (TPA)	NSW EPA Waste Classification ¹	Management
C&D Waste	105,000	General Solid Waste (Non-putrescible)	Mixed C&D waste would be sorted through the RRTF separately from C&I waste. The waste stream will undergo initial inspection, infeed hopper, removal of steel, screening, picking and further screening, air separation, potential crushing and storage.
C&I Waste	45,000	General Solid Waste (Non-putrescible)	Mixed C&I waste would be sorted through the RRTF separately from C&D waste. The waste stream will undergo initial inspection, infeed hopper, removal of steel, screening, picking and further screening, air separation, potential crushing and storage.
TOTAL (TPA)	150,000		

Notes: ¹Waste classification according to *Waste Classification Guidelines* provided.

Preliminary estimates of recovered materials and rates of recovery expected are included in Table 4-3. These are estimates only and will depend on the incoming waste collected on a daily basis. All wastes are expected to be classified as General Solid Waste (Non-putrescible).

Table 4-3: Recovered Waste Types, Quantities and Management

Recovered Material ¹	Expected Rate of Recovery (%)	% of Total Incoming Waste	Tonnage Recovered (TPA)	Management
Aggregates & fines	99	32	47,500	This screened into varying standard sizes and directed to the designated external storage bay. Transported offsite to for reuse in construction projects under the NSW EPA <i>Recovered Aggregates Order 2014</i> .
Ferrous and Non-ferrous metal	90-95	17	25,500	This is separated within the system at one of three magnets, falls into a bin and is collected by metal recycling facility for recycling.
Cardboard & Paper	85-90	8	12,500	This waste is removed from the incoming load in the pre-sorting area or within the process at the picking station and stored bins in a designated area within the building. Bins will be transferred offsite for further processing at, a licensed recycling facility. E.g. Visy Recycling
Copper Electrical Wire & Cable	70-75	3	4,500	Copper electrical wire and cable is removed in the pre-sort area and stored in a designated bunker. This material may also be removed at the picking station.
Wood	85-90	15	22,500	Large pieces of wood is removed from pre-sort area and stored in an internal storage bunker. Wood is also removed from the process at the picking station. Wood is transferred offsite for reuse at waste to energy plants or shredded for biofiltration or mulch. E.g. Landscape supply businesses, waste to energy plants.

Table 4-3: Recovered Waste Types, Quantities and Management

Recovered Material ¹	Expected Rate of Recovery (%)	% of Total Incoming Waste	Tonnage Recovered (TPA)	Management
Plasterboard & Gyprock	60-65	5	7,500	Separated from the waste stream at various points and sent to recycling facility for further processing.
Plastic	65-70	8	12,000	Plastic is separated from the waste stream at the picking station and stored in a designated bin. It is transferred offsite to a licensed recycling facility for further processing. E.g. Visy Recycling
Non-recyclable (Landfill) ²	N/A	12	18,000	General waste that cannot be recycled is stored removed at various points in the system. It is stored within a designated storage bunker inside the building to be collected by a licensed waste contractor.
TOTAL	88 %	100	150,000	

1. All recovered materials are expected to be classified as General Solid Waste (Non-putrescible).
2. This is non-recyclable material from the waste stream sent to landfill

Table 4-4: On-going Waste Generation Types, Quantities and Management

Waste Type	Estimated Maximum Quantity (TPA)	NSW EPA Waste Classification ¹	Management
Office & Amenities Waste	12 tonnes	General Solid Waste (Putrescible)	This waste is ancillary to the process. A 660L bin would be provided for any office and amenities waste generated on site. This would be serviced by a licensed waste contractor and sent to landfill as required.
Office Recyclables	24 tonnes	General Solid Waste (Non-putrescible)	This waste is ancillary to the process. Suitable recycling bins would be provided. It is transferred offsite to a licensed recycling facility for further processing. E.g. Visy Recycling
Total	36 tonnes		



Note: Table includes estimated waste generated from office and amenities only.

Only C&D and C&I waste would be accepted at the site. Examples of waste that is not accepted includes:

- ENM and VENM;
- Hazardous materials;
- Chemicals of any description;
- Asbestos;
- Fibro;
- Putrescible materials;
- Liquid waste;
- Spent gas bottles;
- Fibreglass;
- Palm trees;
- Stumps;
- Batteries;
- Paint;
- E-waste (copper electrical wire and cable accepted); and
- Any of the above mixed with accepted waste types.

To ensure contaminated waste is not accepted at the site, the Incoming Waste Inspection Procedure outlined in Section 5 must be followed.

4.3 DEMOLITION WASTE

The demolition stage of the development provides the greatest opportunity for waste minimisation and resource recovery. The first thing that should be considered is whether it is possible to reuse existing buildings or parts of buildings for the proposed use. It should be noted that no structural changes to the existing building will be required, so scale of demolition will not be considerable.

The site contains existing infrastructure that would be utilised for the proposed development.

4.4 CONSTRUCTION WASTE

Construction works would involve installation of two weighbridges on the existing concrete apron, installation of pre-fabricated machinery and equipment, and construction of storage bunkers inside the building and establishment of a 4.6 metre wide swale along the southern boundary. Estimations of construction waste and how this will be managed is detailed in the table below.



Table 4-5: Expected Construction Waste

Waste Type	Estimated Maximum Quantity (Tonnes)	NSW EPA Waste Classification ¹	Management
Excavation (eg soil, rock)	50	General solid waste (non-putrescible)	Reused on site (for establishment of swale).
Concrete	175	General solid waste (non-putrescible)	Placed in designated skip bin to remain on site until it can be processed at the new facility
Metals: Scrap steel	5-10	General solid waste (non-putrescible)	Placed in designated metal recycling bin and sent to metal recycler
Other	2-5	N/A	Placed in designated skip bin and removed by a licensed waste contractor.

Notes: ¹Waste classification according to *Waste Classification Guidelines* provided.

Waste generated during the construction stage of the development will be managed by the principal contractor and sub-contractors, with materials being reused and recycled wherever possible. Where neither reuse nor recycling are possible, waste will be disposed of as general waste at a licensed landfill site.

Recyclable material generated during construction will largely consist of off-cuts and discarded bricks, timber, steel, concrete, tiles, plasterboard, and piping, as well as packaging materials.

It is important to note that source separation of waste on-site may offer cost savings when compared to the disposal of mixed waste at landfill sites. Further cost savings may be achieved through the use of reusable and recycled-content materials and by reusing materials salvaged from the demolition stage of the development.

Construction and demolition materials removed from site will need to be managed in accordance with the provisions of following legislations:

- *Protection of the Environment Operations Act 1997,*
- *Protection of the Environment Operations (Waste) Regulation 2014,*
- *Standards for Managing Construction Waste in NSW (Environment Protection Authority, 2019)*
- *Waste Classification Guidelines (Environment Protection Authority, 2014);*

Given that the site specializes in managing construction and demolition (C&D) as well as commercial and industrial (C&I) waste, a significant portion of the construction waste is anticipated to undergo recycling.



Other materials which are not recyclable and reusable on site will be transferred to an appropriate licenced contractor to dispose.

4.5 WASTE MANAGEMENT PLAN

A waste management plan template required to be submitted to Cumberland Council for all development applications is provided in Attachment 1. This addresses all waste expected to be generated during the demolition, construction and operational phases of the proposed development as described in the previous sections.

The resource recovery facility receives, sorts and screens C&D and C&I waste for the purposes of on-selling the recovered material to for use in construction projects. Non-recyclable material is separated from this material and sent to a licensed landfill.

The waste management is to be conducted in accordance with the NSW EPA *Standards for managing construction waste in NSW* (2019).

It should be noted that Cobra Waste Solutions Pty Ltd must not commence construction until the Waste Management Plan is approved by the Planning Secretary. In addition, the facility must implement the most recent version of the Waste Management Plan approved by the Planning Secretary.

4.6 MITIGATION MEASURES

Below mitigation measures has been recommended by planning secretary as part of consent conditions SSD-9320662

- All waste processing operations to be undertaken within the existing warehouse.
- All waste storage would be in designated bunkers and bins within the building (with the exception of empty skip bins).
- All truck loads to be covered.
- Individual waste types are stored within designated storage bays after sorting (four large steel-walled bunkers).
- Private licensed waste contractor for collection of non-recyclable waste destined for landfill;
- Two weighbridges for the measurement and recording of waste loads.
- Incoming waste inspection procedure to ensure:
 - Waste is inspected prior to acceptance at the site
 - Non-conforming waste is not accepted
 - Waste is recorded in accordance with EPA requirements
 - Quality control
 - Management of waste associated with resource recovery exemptions and orders.

4.7 WASTE STORAGE

The facility would need approval to store up to 2,600 m³ of waste material on site at any one time.



All wastes would be stored within dedicated bays, internally within the building.

Designated waste storage areas will be established within the building. The waste storage areas are described below, including the estimated maximum waste quantity stored, and are shown on the site plan.

Area 1: Incoming material stockpile (Pre-sort area and Feed stock)

The incoming material would be unloaded into a stockpile inside the building to be pre-sorted. This material would be temporarily stored for pre-sorting then loaded into the infeed hopper for processing in the RRFT. It is estimated this stockpile would store a maximum of 300m³ of waste.

Area 2: Internal storage bunkers

There would be four large walled bunkers within the building for the storage of waste, wood, steel and incoming C&I materials. The storage bays would be constructed of steel frame and plate push walls up to 3 m high. This area would have the capacity to store up to 1,266 m³ of waste or recovered materials as detailed below:

Table 4-6: Waste Storage Bunker Details

Bunker ID	Waste Type	Dimensions (mm)			Storage Capacity (m ³)
		Length	Width	Wall Height	
1	C&I Storage	12447	9155	3000	350
2	Wood	12447	6200	3000	226
3	Waste to landfill	12447	8983	3000	330
4	Steel	12447	9508	3000	360
TOTAL					1,266 m³

Area 3: Process Line bins/bunkers

At various points along the process line, there would be bins or bunkers where recovered material including steel, paper/cardboard, wood, plastic and other material would be separated from the waste stream. Details of each storage bin/bunker is provided below:

Table 4-7: Process Line Bin & Bunker Details

Bin/Bunker ID	Waste Type	Storage Capacity (m ³)
5	Long items (transferred to storage bunkers 1-4)	65
6	Unders -10 Aggregate	115
7	Light Material (1) – Eg: plastics, paper, cardboard & cloth	135
8	Under -22 Aggregate	150
9	Light Material (2) – Eg: plastics, paper, cardboard & cloth	110
10	Unders 32 Aggregate	106
11	Overs 32+ Aggregate	135
12	Light Material (3) – Eg: plastics, paper, cardboard & cloth	70



Bin/Bunker ID	Waste Type	Storage Capacity (m ³)
13	Plasterboard	30
14	Ferrous Bins (4 x 3m ³ Bins under magnets)	12
15	Picking Station Bin 1 – Alloys/Valuables (wire, cable etc)	10
16	Picking Station Bin 2 – Wood	10
17	Picking Station Bin 3 – Paper & Cardboard	10
TOTAL		958 m³

Area 4: Reject Material (Quarantine Area)

This is bunker for the temporary storage of reject material and would be used as the quarantine area. It has a capacity to store up to 30m³ of waste.

Area 5: Skip bin storage

An external area for the storage of empty skip bins would be established at the rear of the building. No waste would be stored in the bins.

Total waste storage

The estimated waste storage quantity on site is 2,554 m³. With a factor of safety applied to the estimated storage, the facility seeks approval to store a maximum of 2,600 m³ of waste at the site at any one time.

Due to the varying density of the waste to be stored, the assumption under Clause 42(4) – Waste Storage of Schedule 1 of the POEO Act which states: *For the purposes of this clause, 1 litre of waste is taken to weigh 1 kilogram*. Therefore, a maximum of 2,600 tonnes of waste would be stored within the facility at any one time.

4.7.1 Storage Bunker Height

Storage bunker walls have been designed to be 3 metres in height. Waste storage of non-combustible materials within bunkers is recommended to be maintained at a height of no more than 2.8 metres. Height and storage of mixed and combustible materials will be confirmed during the Fire Safety Study in consultation with Fire and Rescue following approval.

Note: For the purposes of estimating waste storage capacity of the bunkers, a stockpile height of 3 metres has been assumed.

4.7.2 Waste Storage Requirements

Waste would be stored in designated storage bunkers or bins as described in the previous section. The location of these areas is shown on the site plan. Each bunker or bin would be clearly signposted to indicate the waste type stored within.

The site plan has been attached as Attachment 2.



Signs at waste storage areas containing waste awaiting test results under resource recovery orders must contain the words “awaiting validation”.

4.7.3 Inspection of Waste Storage Areas

Waste storage areas would be inspected daily for the following:

- Waste types stored within designated area conform to the signpost of the bunker/bin;
- Signposts are clearly legible and visible at all bunkers/bins;
- Any areas containing waste awaiting compliance results contain a sign that reads “awaiting validation”;
- Wastes within designated waste bunkers must consist solely of an individual listed waste type; and
- No waste is stored outside designated bunkers/bins or areas (in the case of paper bales and incoming pre-sort stockpile area).

These inspection requirements would be included in a daily workplace inspection form that would be included in the Site’s Environmental Management Plan. Records of daily inspections would be maintained for a period of at least 5 years.

4.8 TRANSPORT OF WASTE

The transport of the waste streams accepted at the site are not required to be undertaken by licensed waste transporters as the waste is not trackable waste.

Under Part 6 of the Waste Regulation, the following is required:

- Waste must be transported in a manner that avoids the waste spilling, leaking or otherwise escaping;
- Waste must be covered during transport unless the waste consists solely of waste tyres or scrap metal;
- Transport vehicles must be constructed and maintained to avoid waste spilling leaking or otherwise escaping from the vehicle;
- Any material that has been segregated for recycling must not be mixed with other waste during transportation; and
- Transport of waste must abide by the proximity principle which restricts the transport of waste by road more than 150km from its origin.

Under Section 143 of the POEO Act, waste is required to be transported to a place that can lawfully accept it.

Waste types to be transported from the site would consist solely of a single listed waste type or waste that meets the requirements of a resource recovery exemption or the recovered fines specification.

The above requirements would be met by transporters of the waste to and from the facility.

4.9 QUALITY CONTROL



Procedures would be put in place to manage the input and output quality of the incoming waste and recovered material.

4.9.1 Incoming Waste

Quality control for incoming waste includes:

- Control of the wastes accepted into the facility, as described in the incoming waste procedure in Section 5;
- Contaminants are minimised through visual inspection to ensure inappropriate items are removed from the waste stream at the pre-sorting area;
- Further physical separation of the impurities from the waste stream at the picking station to remove contaminants from the waste prior to entering the final separation process;
- Regular maintenance of the RRFT as per manufacturer's specifications; and
- Suppliers of waste would be from authorised reputable companies whose details would be recorded with all incoming loads.

4.9.2 Recovered Material

Recovered material will be produced to contain less than 1% impurities. This will be achieved by:

- Physical separation of impurities from the incoming waste stream in the pre-sorting area, at multiple screens and through manual QC picking stations to ensure that impurities are removed from each type of recovered material;
- Aggregates recovered from the waste would be sampled and tested in accordance with the *Specification for Supply of Recycled material for pavements, earthworks and drainage* (Department of Environment, Climate Change and Water NSW, 2010) to enable supply of this material for use in pavements, earthworks and drainage; and
- Aggregates recovered from the waste would be sampled and tested in accordance with *the recovered aggregate order 2014*. Controls to be put in place to meet the conditions of the order are detailed in the sub-section below.

4.9.2.1 Recovered Aggregates

Recovered aggregates would need to comply with the conditions of the NSW EPA *Recovered aggregate order 2014* to be re-used off site for application to land for road making activities, building, landscaping and construction works. "Processor responsibilities" under the order apply to the facility and the following quality control measures would be put in place:

- A written sampling plan would be prepared including:
 - ▶ A description of sample preparation;
 - ▶ Storage procedures for samples;
 - ▶ Sampling method;
 - ▶ Testing for list of chemicals and attributes as per column 1 of table 1 of the order;
 - ▶ Validation of test results with values listed in the *Recovered aggregate order 2014*; and
 - ▶ Record keeping procedures.
- Sampling to be carried out in accordance with AS 1141.3.1-2012 – Methods for sampling and testing aggregates – Sampling – Aggregates and Clauses 4.2 or 4.3 of the order;
- Contaminant testing would be undertaken at a NATA certified laboratory;
- Record keeping of all test results;



- Preparation of a written statement of compliance certifying that the recovered aggregate complies with the conditions of the recovered aggregate order. This would be supplied to consumers of the recovered aggregate along with copies of test results, a copy of the order and exemption; and
- Written records detailing the supply of recovered aggregates would be maintained for at least six years and would need to include:
 - ▶ Quantity of recovered aggregate supplied;
 - ▶ Name and address of each person (and location) to whom the recovered aggregate was supplied;
 - ▶ Name of the transporter and vehicle registration number; and
 - ▶ Date of transportation.

In the event the recovered aggregate does not comply with the recovered aggregate order, alternative uses for the aggregate such as use in concrete or other products would be investigated.

4.10 MONITORING & RECORDS

Records of incoming and outgoing waste would be required under an EPL. The site weighbridges would record all loads entering and leaving the facility. Records would need to be kept using an approved method that complies with the *Waste Levy Guidelines* (2018).

Each storage bay/bunker/bin or area at the facility will need to have a unique identification number.

For all information recorded, the following would be needed in accordance with Part 3 of the Waste Regulation:

- Original records of information (such as paper documents) retained and accessible to EPA in their original form;
- All record-keeping systems are designed so that details of any adjustments are recorded against the adjusted record, including that the record has been amended and the extent of the change;
- All electronic records are backed up weekly and back ups stored in a secure location;
- Quantity of waste is recorded to two decimal places; and
- All electronic records are to be downloadable by the EPA in an .xls, .xlsx, .csv or .dbf format at any time.

For each vehicle entry and exit record keeping must comply with Clauses 27, 28 and 29 of the Waste Regulation. The incoming waste procedure details record keeping requirements in Section 5.5.



5. UNEXPECTED FINDS PROCEDURE

5.1 PURPOSE

The purpose of this procedure is to facilitate the process of dealing with unauthorised or non-conforming waste brought onto the site. The procedure will enable the identity of waste types found within incoming loads and brought onto site to be confirmed and deal with any unexpected or non-conforming wastes such as asbestos.

5.2 DEFINITIONS

For the purposes of the procedure, the following definitions of relevance:

Contaminated Material

Materials that contain substances that are of sufficient concentration to potentially cause harm to human health or the environment (EPA Act).

Acceptable Wastes

Acceptable wastes include C&D and C&I waste from reputable sources, and is expected to include:

AGG – Aggregate, road base or ballast
AL – Aluminium (non-ferrous)
ASPH – Asphalt
BC – Bricks or concrete
CER – Ceramics, tiles, pottery
COMM – Comingled recyclables
FE – Ferrous (iron or steel)
MIX – Mixed waste
NFE – Non-ferrous (metals, not iron steel or aluminium)
PAPER – Paper or cardboard
PB – Plasterboard
PL – Plastic
WOOD – Wood, trees or timber

Suspect Material/Not Accepted

Not accepted at the site are any contaminated or non-conforming wastes such as:

- ENM and VENM or any fill material;
- Hazardous materials;
- Chemicals of any description;
- Asbestos;
- Fibro;
- Putrescible materials;
- Liquid waste;
- Spent gas bottles;
- Fibreglass;
- Palm trees;
- Stumps;



- Batteries;
- E-waste (copper electrical wire and cables accepted);
- Paint; and
- Any of the above mixed with accepted waste types.

5.3 TRAINING REQUIREMENTS

Training of personnel responsible for inspections, sorting and waste storage at the facility would include:

- Training in legal and other requirements for waste including:
 - ▶ Relevant requirements of the POEO Act (including the Waste Regulation);
 - ▶ Requirements of any waste conditions in the facility's EPL; and
 - ▶ The five standards of the *Standards for managing construction waste in NSW* (NSW EPA, 2019).
- Successful completion of a nationally accredited asbestos awareness course; and
- Personnel involved in removing bonded asbestos must complete nationally accredited course in bonded asbestos removal before undertaking any task that involves removing bonded asbestos.

Other relevant environmental awareness training and details regarding maintenance of training records would be included in the site's Environmental Management Plan (EMP).

5.4 PROCEDURE

Loads entering the site are to be inspected at the following points in the process:

Inspection Point 1: At the Weighbridge

- The entire top of each load must be visually inspected either from an elevated point or using a camera connected to a monitor at the weighbridge office.
- Loads free of asbestos waste and any other unpermitted waste can be accepted and directed to inspection point 2.
- Where asbestos or unpermitted waste is identified, the entire load is to be rejected and directed to immediately leave the facility. Any such loads must be recorded in the reject load register.

Inspection Point 2: Pre-Sort Inspection Area

Instruct the driver to tip the entire load into the designated pre-sort area. Only one load at a time it to be tipped and spread for inspection.

Manually turn the load and inspect the entire load.

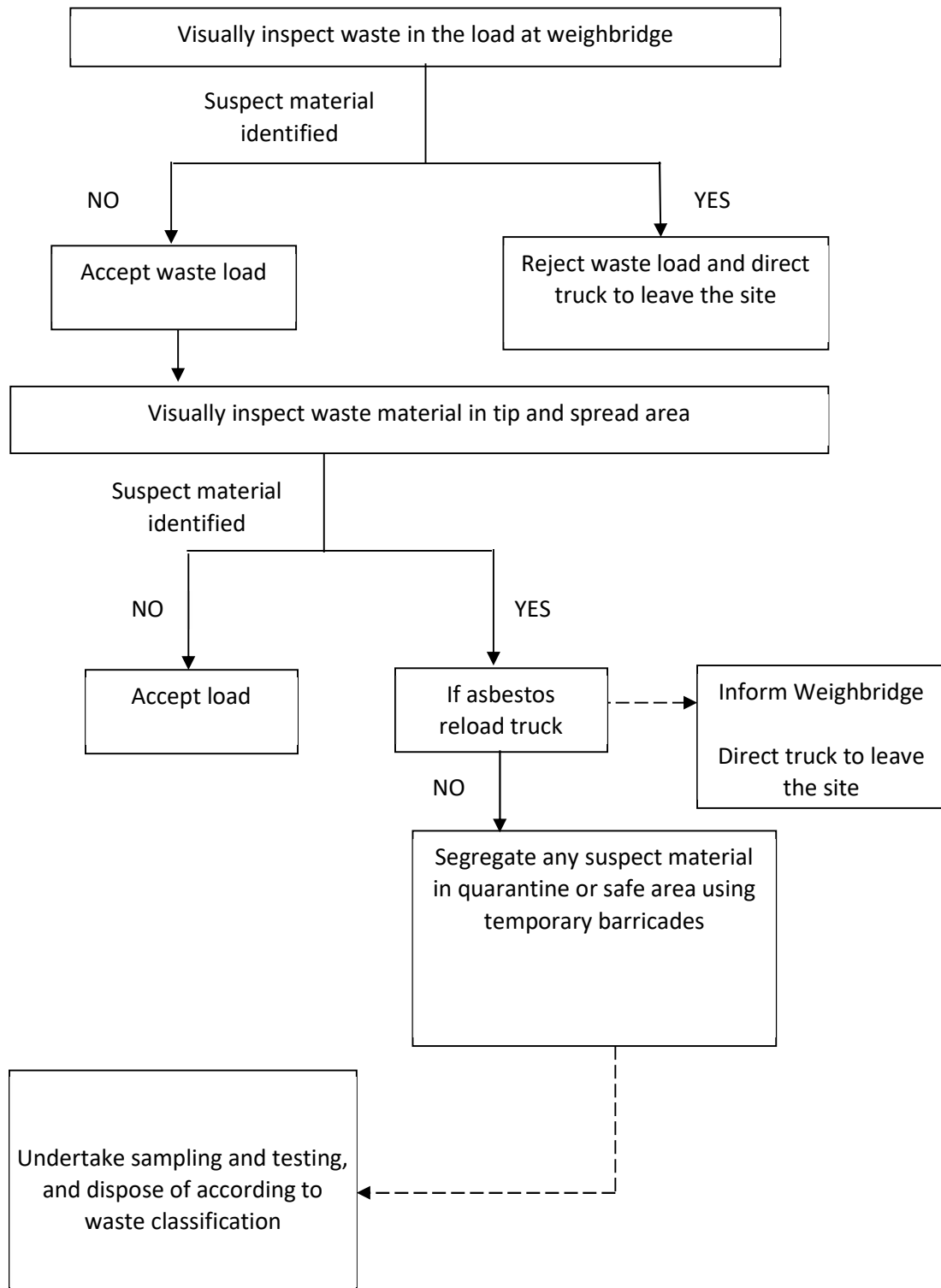
Upon the finding of suspect or contaminated material (including asbestos and any other unpermitted waste) within a load during unloading in the pre-sort inspection area, the following actions are required:



- Where asbestos is identified in any load, reject the entire load. Re-load the truck and direct the truck driver to leave the property immediately. If possible provide the driver with alternate facilities that are able to accept the waste;
- Report the non-conforming material to the weighbridge personnel. Weighbridge personnel will need to record details in the rejected loads register;
- Where unpermitted waste is identified, remove the unpermitted waste from the load or reject the entire load.
- Place any unpermitted material within the quarantine area inside the building and secure using temporary barricades. If not safe to move the material, secure the area containing the non-conforming material using temporary barricades;
- Contact a suitably qualified consultant to determine the appropriate waste classification. This may involve sampling and testing of the material in accordance with regulatory guidelines. Once the waste classification for the material is known, dispose of this lawfully using a licensed waste contractor.

Figure 5-1 presents the steps to be followed in the event of suspect or contaminated material being found within incoming waste loads:

Figure 5-1: Incoming Load Inspection





5.5 INSPECTION AND RECORDS

Records of waste received at the facility and materials transported from the facility must be kept in accordance with Clauses 27, 28 and 29 of the POEO Waste Regulation.

5.5.1 Records of Incoming Waste Loads

The following details for incoming waste need to be maintained:

- Date & time received;
- Name of customer;
- Address of facility received from/customer address;
- Environment Protection Licence Number for the facility/customer;
- Estimated Weight/Volume of load to two decimal points (eg: 14.22 tonnes);
- Waste Type and Waste Stream;
- Vehicle registration number (including any trailer/s);
- Name of driver;
- Location of where the material is placed at the site; and
- Details of any unauthorised waste found in load.

5.5.2 Records of Outgoing Waste Loads

The following details for outgoing waste need to be maintained:

- Date & time dispatched;
- Name of destination;
- Address of destination;
- Environment Protection Licence number of destination (if applicable);
- Estimated Weight/Volume of load to two decimal places;
- Storage bay ID number from which the material was removed;
- Vehicle registration number;
- Name of driver; and
- Contents of load eg: Waste type.

5.5.3 Rejected Loads Register

Any non-conforming waste must be recorded in the rejected loads register and include the following details:

1. Date and time the load was rejected
2. Vehicle registration number including any trailers transporting the rejected load of waste both to and from the facility
3. The type of waste(s) in the rejected load of waste
4. The reason the load was rejected.

5.5.4 Records of Vehicles

The following details in relation to vehicles that enter the facility for a purpose related to the operation of the facility need to be maintained:



- Date & time the vehicle enters the facility;
- Date & time the vehicle leaves the facility;
- Vehicle registration number;
- Purpose of entry; and
- Estimated Weight of the vehicle.

5.5.5 Other Non-conforming waste

Documentation for any sampling, testing and alternate disposal of the waste must also be maintained.

This concludes the report.

R T Benbow
Principal Consultant

Vida Nodehi
Environmental Scientist



6. LIMITATIONS

Our services for this project are carried out in accordance with our current professional standards for site assessment investigations. No guarantees are either expressed or implied.

This report has been prepared solely for the use of Cobra Waste Solutions Pty Ltd, as per our agreement for providing environmental services. Only Cobra Waste Solutions Pty Ltd is entitled to rely upon the findings in the report within the scope of work described in this report. Otherwise, no responsibility is accepted for the use of any part of the report by another in any other context or for any other purpose.

Although all due care has been taken in the preparation of this study, no warranty is given, nor liability accepted (except that otherwise required by law) in relation to any of the information contained within this document. We accept no responsibility for the accuracy of any data or information provided to us by Cobra Waste Solutions Pty Ltd for the purposes of preparing this report.

Any opinions and judgements expressed herein, which are based on our understanding and interpretation of current regulatory standards, should not be construed as legal advice.

ATTACHMENTS

NAME: STAFF TRAINING

PREPARED BY: Benbow Environmental

DATE: March 24

ISSUE NO.: 1

Company Name:	Cobra Waste Solutions Pty Ltd
Site Address:	30 Loftus Road, Yennora
EPL No.	
Date & Time:	

TOPICS COVERED

1. Waste receipt and inspection including contaminant identification and removal, and unexpected finds protocol (with a focus on hazardous materials)
2. Operation and maintenance of equipment
3. Processing wastes including monitoring the process to recycle waste
4. stockpile management.
5. Minimising dust and odour
6. Management of surface/groundwater and leachate
7. Fire prevention and control measures

ATTENDANCE RECORD

Name	Position	TOPICS COVERED (TICK)							
		1	2	3	4	5	6	7	8

Training Completed by: _____ Signature: _____

LOFTUS ROAD

EXTEND CORNERS OF EXISTING DRIVEWAY ENTRY TO ACCOMMODATE TRUCK TURNING INCLUDES ALTERATIONS TO EXISTING GATES

BRIGADE PARKING AS PER SEPARATE APPLICATION TO REMAIN AND KEPT CLEAR AT ALL TIMES

PROPOSED PUMP ROOM FROM SEPERATE APPLICATION TO BE RELOCATED FROM DRIVEWAY AND LOCATED INTO EXISTING BUILDING

NOTE: PORTABLE WHEEL WASH SYSTEM USING WATER RECAPTURE AND REUSE



NOTE: TYPICAL SELF BUNDED DIESEL TANK TO BE USED ON SITE

CONSTRUCT ROLL KERB 300mm HIGH WITH SUMP PIT FOR RENDLING ZONE

CONSTRUCT COLOURED ANIMING OVER FUELLING AREA



ISSUE BY	DESCRIPTION	DATE
A	ISSUE FOR DEPARTMENT OF PLANNING	8-9-2020
B	AMEND BIN STORAGE	11-9-2020
C	AMEND CAR PARKING	14-9-2020
D	AMEND CAR PARKING AND FLOOR PLAN	10-5-2021
E	ISSUE FOR DEPARTMENT OF PLANNING	19-7-2021
F	ISSUE FOR DEPARTMENT OF PLANNING	28-7-2021
G	ISSUE FOR DEPARTMENT OF PLANNING	18-1-2022
H	ISSUE FOR DEPARTMENT OF PLANNING	6-6-2022
I	ISSUE FOR DEPARTMENT OF PLANNING	30-8-2022
J	ISSUE FOR DEPARTMENT OF PLANNING	8-11-2022
K	ISSUE FOR DEPARTMENT OF PLANNING	24-1-2023

CLIENT:



COPYRIGHT: THIS DESIGN AND THE ASSOC. DOCUMENTATION IS SUBJECT TO COPYRIGHT LAWS AND MAY NOT BE REPRODUCED IN ANY FORM WITHOUT WRITTEN CONSENT FROM CR & ASSOC.



PROPOSED SITE PLAN AND FLOOR PLAN

GENERAL NOTES:
1. ALL WORK ARE TO BE APPROVED BY THE BUILDING PRINTER TO THE COMPETENCY OF ANY BUILDING WORKER. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE DESIGNER.
2. LINES SHOWING ARE APPROXIMATE UNLESS ACCOMPANIED BY DIMENSIONS FROM A DETAIL DRAWING.
3. ALL DIMENSIONS ARE TO BE TAKEN FROM THE EXTERIOR FACE OF THE BUILDING.
4. ALL DIMENSIONS ARE TO BE TAKEN FROM THE EXTERIOR FACE OF THE BUILDING.
5. ALL DIMENSIONS ARE TO BE TAKEN FROM THE EXTERIOR FACE OF THE BUILDING.
6. ALL DIMENSIONS ARE TO BE TAKEN FROM THE EXTERIOR FACE OF THE BUILDING.
7. ALL SERVICES TO BE LOCATED AND SERVED BY THE BUILDING WITH RELEVANT AUTHORITIES BEFORE ANY BUILDING WORK COMMENCES.
8. REMOTE PROTECTION TO BE INSTALLED IN ACCORDANCE WITH AS4680-1:1996 PART 1 NEW BUILDINGS TO SHORE DETECTIONS TO BE INSTALLED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH THE

Carlo Ranieri & Associates
STRUCTURAL & CIVIL ENGINEERING
BUILDING CONSULTANTS
ENVIRONMENTAL CONSULTANTS
2051-2053 THE NORTHERN ROAD
GLENNBORO PARK NSW 2745
TEL: (02)47507955 MOB: 0418258285
e-mail: carlo@carloranieri.com.au

DRAWING: PROPOSED SITE PLAN AND FLOOR PLAN

PROJECT: RESOURCE RECOVERY FACILITY
30 LOFTUS ROAD YENNORA
LOT 8 DP1233715
DATE: 24-1-2023

PROJECT NO:

0820

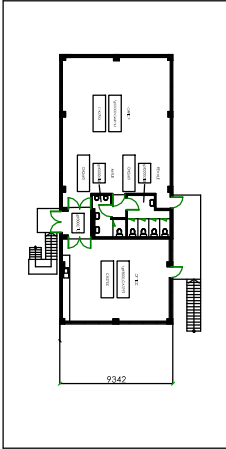
SCALE

1:600

SHEET NO/ISSUE

A02 M

EXISTING FIRST FLOOR OFFICES TO REMAIN UNCHANGED



AREAS:
OFFICE TOTAL 419m²
MAIN BUILDING 4,142m²
SITE AREA APPROX 12,112m²

NOTE:
CARPARKING AS PER THE FOLLOWING REQUIREMENTS:
COUNCIL DCP
ALLOWANCE OF 1 SPACE PER 40m² OF OFFICE
TOTAL MIN. 25 PARKING SPACES REQUIRED INCLUDES 1 X DISABLED SITE ALLOWANCE OF 34 SPACES HAS BEEN PROVIDED IN ACCORDANCE WITH STAFFING AND OPERATIONAL REQUIREMENT PARKING BAYS 5.5M X 2.5M AS PER AUSTRALIAN STANDARDS