Environmental Impact Statement for State Significant Development

Proposed Expansion of Resource Recovery Facility

16 Kerr Road
INGLEBURN NSW 2565

Prepared by KDC Pty Ltd | May 2019

KDC
PLANNING DEVELOPMENT PROPERTY

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Environmental Impact Statement

Report Job No. 16183 Prepared by KDC Pty Ltd | May 2019

Application Details

Responsible Applicant:	Bulk Recovery Solutions Pty Ltd 16 Kerr Road, Ingleburn NSW 2565
Proposed Development:	Expansion Resource Recovery Facility
Land to be developed:	16 Kerr Road, Ingleburn NSW 2565

EIS Preparation

Prepared by	Steve O'Connor
Title	Partner, KDC Pty Ltd *BTP (Hons), MSc (Hons), RPIA (Fellow)* *Suite 2B, 125 Bull Street, Newcastle West 2302*
Date	22 May 2019
Declaration	I certify that the contents of this Environmental Impact Statement to the best of my knowledge, has been prepared as follows: · In accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000; · Containing all available information that is relevant to the environmental assessment of the proposed development; and · The information contained in this Statement is neither false nor misleading.
Signature	

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Glossary and Abbreviations

ASS	Acid Sulfate Soil
AHD	Australian Height Datum
Applicant	Bulk Recovery Solutions
AQIA	Air Quality Impact Assessment
AWE	Australian Weighing Equipment
BRS	Bulk Recovery Solutions
C&I waste	Commercial and industrial waste
C&D waste	Construction and demolition waste
CIV	Capital Investment Value
CLEP 2015	Campbelltown LEP 2015
CLM Act	Contaminated Lands Management Act, 1997
Council	Campbelltown City Council
Dangerous Goods Code	Australian Code for Transportation of dangerous Goods by Road and Rail
DoP	NSW Department of Planning and Environment
EIS	Environmental Impact Statement
ENM	Excavated Natural Material
EPA	NSW Environment Protection Authority
EPBC Act	Environment Protection and Biodiversity Conservation Act, 1999
EP&A Act	Environmental Planning and Assessment Act, 1979
EP&A Regs	Environmental Planning and Assessment Regulation, 2000
EPL	Environment Protection Licence
ERA	Environmental Risk Assessment
GHG	Greenhouse Gas
GMREP	Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment
ha	Hectares
KDC	KDC Pty Ltd
km	Kilometres
LGA	Local Government Area
m	Metres
NIA	Noise Impact Assessment
NPI	Noise Policy for Industry 2017
OEH	Office of Environment and Heritage
PASS	Potential Acid Sulfate Soil
POEO Act	Protection of the Environment Operations Act 1997
POEO (General) Regulation	Protection of the Environment Operations (General) Regulation, 2009
POEO (Waste) Regulation	Protection of the Environment Operations (Waste) Regulation, 2014.
PCA	Principle Certifying Authority
RMS	Roads and Maritime Services
RNP	Road Noise Policy
RRF	Resource Recovery Facility
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy

SEPP 33	State Environmental Planning Policy 33 – Hazardous and Offensive Development
SEPP 55	State Environmental Planning Policy 55 – Remediation of Land
SEPP State and Regional Development	State Environmental Planning Policy (State and Regional Development) 2011
SSD	State Significant Development
SSDA	State Significant Development Application
The Site	16 Kerr Road, Ingleburn
TIA	Transport Impact Assessment
t	Tonnes
tpa	Tonnes per annum
VENM	Virgin Excavated Natural Material
vpd	Vehicles per day
vph	Vehicles per hour
WARRS	NSW Waste Avoidance and Resource Recovery Strategy 2014 – 21.

Executive Summary

This Environmental Impact Statement (EIS) has been prepared under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act) in support of a State Significant Development Application (SSDA) for the proposed expansion of an existing resource recovery facility located at 16 Kerr Road, Ingleburn (hereafter referred to as the site).

Schedule 3 Clause 32 of State Environmental Planning Policy (State and Regional Development) 2011 specifies that resource recovery development which proposed to process greater than 100,000 tonnes of waste per annum is considered to be State Significant Development (SSD).

This SSDA seeks approval for:

- Increase the volumes of waste that can be processed on site from up to 30,000tpa to up to 225,000tpa of liquid and solid waste;
- Store up to 30,000t of waste and / or waste for transfer at any one time;
- Vary the waste types that can be accepted on site;
- Solid waste processing including screening, crushing and PASS/ASS treatment;
- Liquid waste processing including oily water, grease, sewer, silt and debris;
- Solid and liquid waste transfer;
- 24 hour operation of liquid and muddy waste processes;
- Extended operation of concrete batching from 3am; and
- New concrete batching structure and equipment for existing 50,000tpa of concrete production.

Please note that the storage of 30,000t of waste was reduced from 90,000t. All assessments were undertaken using 90,000t for the storage rate which represents a worst case scenario. The reduction to 30,000t of storage is considered to have lower impacts.

Correspondence was forwarded to the Department of Planning and Environment (DoP) seeking the Secretary's Environmental Assessment Requirements (SEARs) for preparation of an EIS in respect of the proposal. The Department issued SEARs dated 27 September 2017 under designation SSD 8593. The EIS has been prepared in accordance with the requirements outlined within the SEARs, the EP&A Act, EP&A Regulation, and matters raised during consultation with government agencies, other stakeholders and the community.

The proposed expansion will ensure the continued success of the existing resource recovery facility by enhancing the operation allowing the processing of a range of liquid and solid wastes and providing increased production capacities to meet existing demand for existing processes.

The site is considered to be suitable for the proposed expansion as the existing resource recovery facility is permissible within the IN1 General Industrial zone under the State Environmental Planning Policy (SEPP) Infrastructure, there is sufficient road capacity to facilitate the proposal, the operation will have minimal impact on the environment given the proposed mitigation measures to be employed and it is consistent with relevant legislation, Environmental Planning Instruments (EPIs), and strategic plans for the area.

The expansion is consistent with the desired character and outcomes for industrial land within the Ingleburn locality and broader Sydney Region, bringing high quality and cost effective recovered materials for use in construction and waste processing services for various industries. The proposed expansion will contribute to meeting the relevant waste management strategies endorsed by the NSW Government and its agencies including the Greater Sydney Regional Plan (2018), Western City District Plan (2018), Protection of the Environment Operations (Waste) Regulation, 2014, and NSW Waste Avoidance and Resource Recovery Strategy 2014 – 2021.

Potential environmental impacts resulting from the proposed expansion at the facility have been reviewed in a range of specialist reports. Assessed impacts include visual impact, noise, air and odour, hazards, waste generation, stormwater, flooding, contamination, and socio-economic impacts. These reports have confirmed the suitability of the site for the proposal and the ability of the proposed development to meet relevant

standards. The facility will install or implement a range of new mitigation measures as recommended in addition to those mitigation measures already in place.

The site does not contain, nor is it located in proximity to, any item of heritage significance whether European heritage or Aboriginal cultural heritage. The site has previously been cleared of all vegetation and as such, no endangered flora, fauna, or ecological communities will be impacted by the proposal.

Given the consistency with the industrial zoning, the appropriateness of the site for the proposed expansion, consistency with relevant government strategies, and the absence of any significant adverse environmental impacts, the proposed expansion is considered to be in the public interest and worthy of support.

1 Introduction

1.1 Overview

This Environmental Impact Statement (EIS) has been prepared by KDC Pty Ltd (KDC) on behalf of Bulk Recovery Solutions Pty Ltd (BRS) to accompany an application for State Significant Development (SSD) to the NSW Department of Planning and Environment (DoP). Development consent under Part 4 of the *Environmental Planning and Assessment Act, 1979* (EPA Act) is being sought for the proposed expansion of the resource recovery facility at 16 Kerr Road, Ingleburn New South Wales.

BRS currently operate a resource recovery facility (RRF) at the site and are proposing to:

- Increase the volumes of waste that can be processed on site from up to 30,000tpa to up to 225,000tpa of liquid and solid waste;
- Store up to 30,000t of waste and / or waste for transfer at any one time;
- Vary the waste types that can be accepted on site;
- Solid waste processing including screening, crushing and PASS/ASS treatment;
- Liquid waste processing including oily water, grease, sewer, silt and debris;
- Solid and liquid waste transfer;
- 24 hour operation of liquid and muddy waste processes;
- Extended operation of concrete batching from 3am; and
- New concrete batching structure and equipment for existing 50,000tpa of concrete production.

This EIS has been prepared in accordance with the requirements of the EP&A Act, the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), the Secretary's Environmental Assessment Requirements (SEARs) and requirements of other agencies and stakeholders consulted during the preparation of this EIS.

1.2 The Company

BRS is a family owned business which has been operating an RRF at the site since 2011. A range of liquid and solid waste types are currently recovered on site, primarily comprising building and demolition waste generated throughout the Sydney region. Customers include:

- Veolia Environmental Solutions
- Sydney Water
- Patriot Environmental
- SureSearch
- Suckers Excavations
- Dig Smart
- Hanson
- Boral
- Holcim
- Weir Minerals
- John Heine & Sons
- Lend Lease
- Borg Civil
- Langford Environmental
- Hancock Excavations
- Warwick Farm Landscape
- Express Waste

It is proposed that BRS will continue to operate the RRF with the ability to process a greater quantity and type of liquid and solid waste types to meet growing market demand.

BRS currently operate under a development consent granted by Campbelltown City Council (948/2015/DA-I) and an Environmental Protection Licence (EPL 20797) issued by the Environment Protection Authority (EPA). Consent to discharge industrial trade wastewater to the sewer has also been obtained from Sydney Water (Consent Number No 38498).

1.3 Proposed Development Justification

The proposed expansion of the RRF is in response to market demand to meet the growing requirement for waste disposal in New South Wales and more specifically, Sydney.

The Sydney region generates considerable demand for waste management facilities. The NSW Waste Avoidance and Resource Recovery Strategy 2014-21 (NSW WARRS) states that 17.1 million tonnes of material entered the NSW waste management system in the 2010 – 11 financial year, up from 16.3 million tonnes two

years earlier representing an increase of 5.2%. Waste generation rates continued to outstrip population growth during the same period.

The construction and demolition market in Western Sydney are anticipated to grow based on several major projections and the NSW State Government planning and infrastructure initiatives. This growth is likely to lead to an overall increase in waste generation of construction and demolition wastes ranging from bricks, ceramics and concrete to contaminated soils.

Demand has increased with the large number of major infrastructure projects in the Sydney region including, but not limited to, the M9, M12, the Northern Road upgrade, West Connex, Western Sydney Airport and North Connex.

BRS is currently in a position where it is forced to turn away deliveries because of existing processing and approval limits. In addition, existing customers have indicated that they wish to significantly increase their deliveries. The following businesses have indicated an interest in increasing the business they do with BRS:

- Cleanaway has expressed interest in delivering an additional 20,000tpa of waste to the site however this cannot happen given the existing capacity limits at the site;
- Non-destructive digging operations such as Patriot Environmental, SureSearch, and Dig Smart have expressed interest in further deliveries once the site limit has been increased;
- Concrete operators such as Hanson, Boral, and Holcim who are currently utilising BRS services have all been limited in the deliveries they can make to the site;
- Pipe Management Australia has expressed interest in utilising J120 oily waters, and sewer silt and debris services once approved;
- Borg Civil has expressed a need for expanded BRS services to meet their current demand;
- Deliveries of foundry sand from Weir Minerals and John Heine & Sons are currently limited by the thresholds which cannot be exceeded; and
- Lend Lease has indicated they wish to use BRS to dispose of the soils and sandstone waste generated from major projects.

1.4 Secretary's Environmental Assessment Requirements

A request for Secretary's Environmental Assessment Requirements (SEARs) was made to DoP on 29 June 2017 and SEARs were provided by DoP on 27 September 2017. A modification to the SEARs request was provided to DoP on 19 September 2018 with a confirmation of no changes to the SEARs provided by DoP.

The SEARs and corresponding EIS sections where the SEARs have been addressed, are provided in Table 1. A copy of the SEARs is reproduced in Appendix K.

Table 1 – Response to Requirements of SEARs

Key Issues	Details	EIS Section Reference
Strategic Context	• Justification for the Proposal; and • Demonstration that the proposal is generally consistent with all relevant planning strategies, environmental planning instruments and justification for any inconsistencies.	Justification for the proposal is provided at Section 11.1. Discussion regarding consistency with strategic documentation are within Section 6 with further discussion at Section 11.2.
Suitability of the Site	• Details of all development consents and approved plans for the existing facility, including for all structures, plant and equipment; • Results of an independent audit of the operation of the existing facility against the conditions of all development consents and all facility to ascertain the baseline of the site; and	Details of development consents have been provided within the Introduction at Section 2.5. An independent audit will be provided at a later date. Baseline conditions have been provided throughout this EIS and supporting documentation.

	• A detailed justification that the site can accommodate the proposed increase in processing capacity, having regard to the scope of operations of the existing facility and its environmental impacts and relevant mitigation measures.	Justification for the sites ability to handle the proposed expansion has been detailed throughout the EIS and supporting documentation. Section 11 provides a justification for the proposed development.
Waste Management	• A description of each of the waste streams that would be accepted at the site including the maximum daily, weekly, and annual throughputs and the maximum size and heights for stockpiles; • Details of the source of the waste streams to justify the need for the proposed processing capacity; • a description of each waste processing operations (including flow diagrams for each waste stream), including a description of the technology to be installed, resource outputs, and the quality control measures that would be implemented; • details of how waste would be stored 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; and • 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.	Section 4 includes detail of the waste streams proposed to be accepted at the site along with throughputs, stockpile locations, waste sources, process description and flows, quality control measures, and handling. Consistency with the aims and objectives of the *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021* and other relevant strategic documentation has been provided broadly at Section 6 with justification at Section 11.2.
Soil and Water	• An assessment of potential impacts to soil and water resources, topography, hydrology, drainage lines, watercourses and riparian lands on or nearby to the site; • A detailed site water balance, including identification of water requirements for the life of the project, measures that would be implemented to ensure an adequate and secure water supply is available for the proposal and a detailed description of the measures to minimise the water use at the site; • Details of stormwater/wastewater/leachate management systems including the capacity of onsite detention systems, and measures to treat, reuse or dispose of water; • Characterisation of water quality at the point of discharge to surface and/or groundwater against the relevant water quality criteria (including details of the contaminants of concern that may leach from waste into the wastewater and proposed mitigation measures to manage any impacts to receiving waters); • A description of erosion and sediment controls; • An assessment of flooding impacts associated with the development including details of the flood liability of the site and changes to flooding behaviour;	A water report has been provided at Appendix B. This report includes water balance; details of stormwater, wastewater, and leachate management systems; and details on discharge quality. Further discussion surrounding the sites water factors has been provided at Section 7.7. A contamination report has been provided at Appendix E. The report includes characterisation of contamination, and consideration of acid sulfate soils (ASS) and salinity on the site. Further discussion on the extent of contamination on site has been provided at Section 7.8.

	• Consideration of salinity and acid sulfate soil impacts; and • Characterisation of the nature and extent of any contamination on the site and a description of proposed management measures.	
Traffic and Transport	• Details of all traffic types and volumes likely to be generated during construction and operation, including a description of haul routes; • Plans demonstrating how all vehicles likely to be generated during construction and operation and awaiting loading, unloading or servicing can be accommodated on the site to avoid queuing in the street network; • An assessment of the predicted impacts of this traffic on road safety and the capacity of the road network (including on Kerr, Aero and Henderson Roads, and Lancaster Street), including consideration of cumulative traffic impacts at key intersections (including intersection between Hume Motorway and Brooks Road) using SIDRA or similar traffic model; • Detailed plans of the proposed layout of the internal road network and parking on site in accordance with the relevant Australian Standards; • Turning path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site; • Plans of any proposed road upgrades, infrastructure works or new roads required for the development; • An assessment of potential impacts on local road pavement lifespans; and • An assessment of the accessibility of the development by public transport.	Details of the existing traffic conditions and impacts which will arise as a result of the proposed expansion has been discussed at Section 7.6 with a traffic impact assessment provided at Appendix D.
Air Quality and Odour	• A quantitative assessment of the potential air quality, dust and odour impacts of the development in accordance with relevant Environmental Protection Authority Guidelines; • The details of buildings and air handling systems and strong justification for any material handling, processing or stockpiling external to a building; • Greenhouse gas assessment; and • Details of proposed mitigation, management and monitoring measures.	An assessment of potential air quality, dust, and odour impacts have been provided as part of the air and odour impact assessment at Appendix C. Further discussion has been provided at Section 7.3. Mitigation measures have been discussed at Section 9.
Fire and Incident Management	• Identification of the aggregate quantities of combustible waste products to be stockpiled at any one time; • Technical information on the environmental protection equipment to be installed on the premises such as air, water and noise controls, spill clean-up equipment and fire (including location of fire hydrants and water flow rates at the hydrant) management and containment measures; and	A SEPP 33 Risk Screening Document has been provided at Appendix I which discusses dangerous goods stored on the site. A statutory compliance report has been reproduced at Appendix G providing an audit of the development.

	• An audit of the development (including the existing office) to determine the level of compliance with Volume One of the National Construction Code.	
Hazards	• A preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicate that the project is "potentially hazardous" a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011)	Discussion regarding the proposal's consistency with SEPP 33 has been provided at Section 5.5.3. A SEPP 33 Risk Screening Document has been provided at Appendix I which discusses dangerous goods stored on the site.
Visual	• Assessment of the potential visual impacts of the project on the amenity of the surrounding area	An assessment of the visual impact created by the proposal and existing building has been provided at Section 7.1.

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2 Site Features

2.1 Site Location and Characteristics

The site is located at 16 Kerr Road, Ingleburn, NSW and is legally described as Lot 16 DP717203. It is located within the Campbelltown local government area (LGA). The site is approximately 1.295 hectares (ha) in area, is rectangular in shape and positioned at the end of the Kerr Road cul-de-sac (see Figure 1). It is zoned IN1 General Industrial under the Campbelltown Local Environmental Plan 2015 (LEP 2015) and located within the Ingleburn Industrial area.

Immediately adjoining the site is Henderson Road to the northeast, a railway line (the Main Southern Railway Line) adjoins to the southeast and industrial premises are constructed on both the southwest and northwest site boundaries. The nearest residential dwelling is 50 metres (m) to the southeast, across the railway line. Bunbury Curran Creek lies approximately 350m to the north of the site and serves as a stormwater outlet for the surrounding area (refer Figure 2).

The Ingleburn Industrial area comprises a mix of general industrial uses including warehousing, distribution centres and vehicle repair centres. Neighbouring the site to the south is another RRF known as Campbelltown Recyclers.

Figure 1 – Site Location

Figure 2 – Surrounding Locality

2.2 The Site

Photograph 1 shows the large 3 story concrete building which currently occupies the site. Included within the building is a warehouse, maintenance/plant room, office space and waste processing area. Concrete hardstand covers the remaining site which provides vehicle access, car parking and stormwater management.

Access to the site is provided via a double driveway at the cul-de-sac head on Kerr Road. The western most driveway provides access to the rear of the building via a security office and weighbridge. The eastern most driveway provides access to the front of the building, office space and staff / visitor car parking.

Photograph 1 – View of the Site Entrance from Kerr Road (Source: Google Street View)

There are five easements over the site as illustrated on the survey plan contained in Appendix H and described as follows:

- 2m wide gas pipeline easement on the south east and south west property boundary;
- 30m wide stormwater drainage easement on the south east property boundary;
- 10m wide stormwater drainage easement on the north west property boundary;
- 2.5m wide water supply easement on the north west property boundary; and
- 30m wide stormwater drainage easement on the north east property boundary.

2.3 Surrounding Road Network

Access to the site from the Hume Motorway is via a series of approved b-double routes as shown in Figure 3. Vehicles travelling north on the Hume Highway, to and from the site, follow Brooks Road, Williamson Road, Henderson Road, Lancaster Street, Aero Road, and Kerr Road. Vehicles travelling south on the Hume Highway to and from the site, are required to travel further south along Williamson Road before accessing the southbound Hume Highway Interchange.

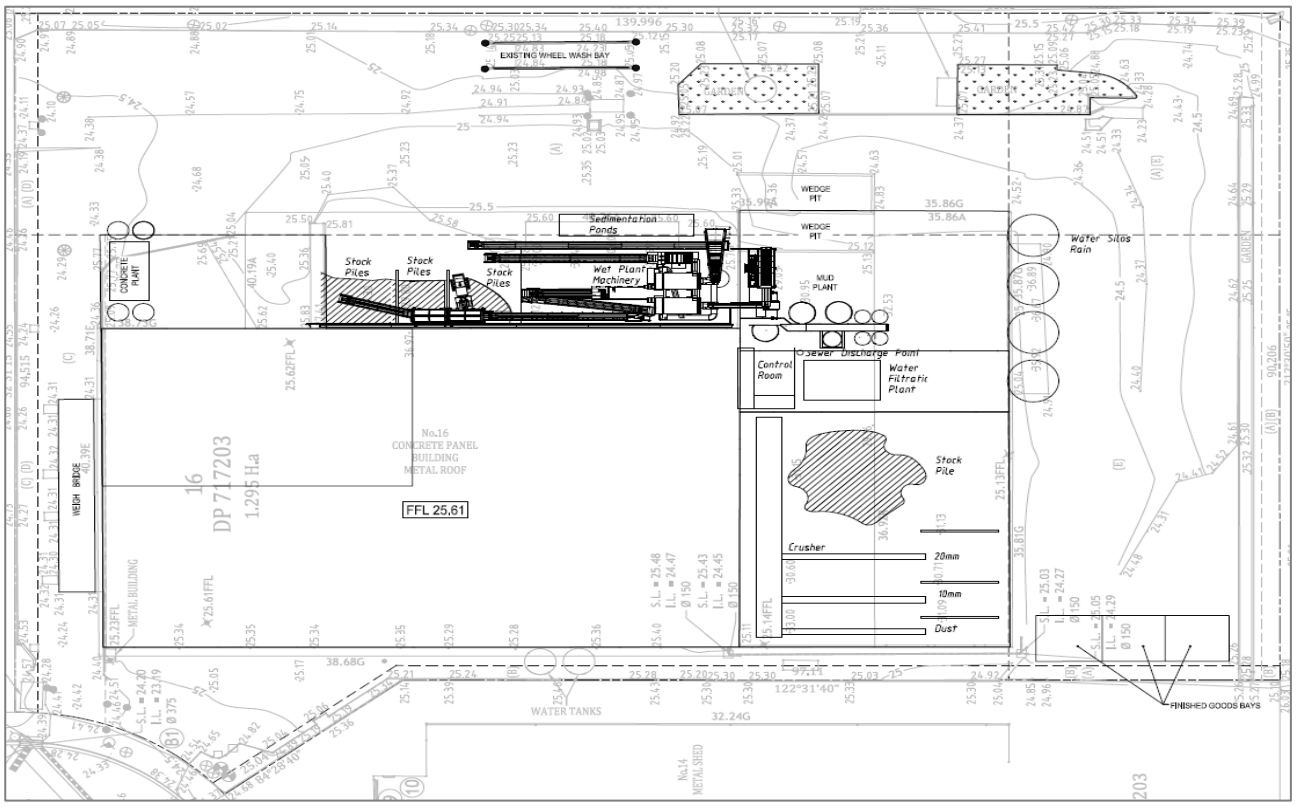
Figure 3 – Heavy Vehicle Route and Key Intersections

2.4 Current Operations

BRS currently operate an existing RRF from the site which recovers both solid and liquid waste up to 30,000tpa and stores up to 5,000t at any one time. Australian Weighing Equipment (AWE) share a portion of the building on the ground floor.

Figure 4 illustrates the liquid and solid waste processing and transfer areas, concrete batching infrastructure and block manufacture, office space and the AWE occupancy. Refer to approved plan provided at Appendix A.

Figure 4 – Site Plan of Existing Building



Waste types accepted at the RRF include general solid waste (non-putrescible), restricted solid waste, liquid waste, general and specific exempted waste, building and demolition waste. Examples of the waste accepted are:

- Drilling mud (treated and untreated);
- Non-destructive digging waste;
- Stormwater contaminated with gross pollutants;
- Concrete washout from concrete batch plants;
- Concrete from agitator;
- Building and demolition waste;
- Municipal and commercial waste consisting of household domestic recycling waste;
- Foundry Sand;
- Basalt Fines;
- Foundry sand;
- Reclaimed asphalt;
- Excavated road material;
- Recovered aggregate;
- Recovered fines;
- Recovered glass sand;
- Recovered railway ballast;
- Slag;
- Soils (restricted solid waste and general solid waste; and
- Virgin excavated natural material.

Accepted waste undergoes various non-thermal treatments specific to the waste type. Once the waste has been fully treated the recovered resource is stockpiled in its specific bay ready for transport off the site.

2.5 Site History

A review into the site history was undertaken to ascertain development and activities which may have historically occurred on the site. The site was observed to have been rural land from 1951 through 1990 based on aerial imagery.

The initial development of the site occurred with DA F/491/2002 which included the erection of a truck workshop along with associated office and hardstand space. Aerial photographs confirm commercial activities on the site in 2006 which are based on the approved development. However, DA F/491/2002 was lodged in

response to action against the then operator of the site. A notice to cease the use of the site was issued 07 February 2002 with pollution prevention and clean up directions issued. The operation continued to operate against the order with a subsequent Order issued on the 28 February 2002. A development application (DA) was lodged after meeting between Campbelltown City Council (Council) and the Operator, however this DA noted as F/284/2002 was refused on 14 May 2002. DA F/491/2002 was lodged and approved on the 19 September 2002.

An approval for the construction and operation of a concrete batching and masonry facility was approved in 2007 under Order No.10257 of 2006. The approved concrete batching operation continues to this day with other elements of the approval revised as part of later development approvals.

The first resource recovery operation was lodged under 1113/2013/DA-DE approved in 2014 which allowed for the use of the site for storage, processing and distribution of demolition materials. The resource recovery facility was formalised under DA 948/2015/DA-I which expanded the operation to the current upper limit of 30,000 tpa of waste.

2.5.1 Existing Approvals

The site has a number of previous approvals which include the construction of the existing building through to its current operation. Table 2 documents the history of the approvals for the site.

Table 2 – Planning Approvals

DA Number	Date Approved	Description of Development
F/491/2002	19/09/2002	Erection of Truck Workshop and Office. - Sealed truck storage area for 20 trucks - Equipment area with 1.8m wall - 25 off-street parks in sealed area Confirmed constructed based on construction certificates received from Council and aerial photography
336/2006/DA-DE approved under Order No.10257 of 2006	09/03/2007	Construction of a concrete batching plant and factory housing concrete masonry plant. - Permitted 30,000tpa of concrete masonry and 50,000tpa of concrete batching.
1113/2013/DA-DE	03/06/2014	Use of premises for the storage, reprocessing and distribution of demolition materials. - 15,000tpa processed at site - Waste accepted includes Concrete, bricks, steel, glass, and VENM - Removed reference to masonry plant
948/2015/DA-I	23/03/2015	Use of site as a resource recovery facility - Permits 30,000tpa of concrete washout and processing of 3,000t of solid material with storage of 1,500t.
948/2015/DA-I/B	24/01/2017	Modification to resource recovery facility to: – Accept up to 30,000tpa of approved materials; – Storage up to 5,000t of approved materials; and – 24 hour operation of the mud plant and forklift.

651/2019/DA-O	Currently under assessment	Construction of an awning at rear of the industrial building

A GIPA application to gain access to information held by Council was lodged with Council on 16 April 2018. In response files were provided electronically on 22 May 2018. All documents received in response to the GIPA request along with documents provided by the client have been reproduced in Appendix O.

3 Consultation

3.1 Government Agency Consultation

Correspondence dated 20 July 2018 advising stakeholders of the proposed development and seeking their input was provided to Council, Environment Protection Authority (EPA), Department of Primary Industries (DPI), Sydney Water (SW) and Roads and Maritime Services (RMS). Table 3 provides a summary of the correspondence received. Copies of the correspondence is provided in Appendix L.

Table 3 – Agency Consultation

Agency	Issues Raised	Issue Addressed
Council	N/A – no correspondence from Council received.	N/A
EPA	The EPA advised: • Concerns about the amount of waste that is proposed to be received, processed and stored at the facility; • Based on throughput vehicles movements will be substantial and it may be difficult for the operator to meet the proposed draft '*Minimum Standards for Managing Construction and Demolition Waste in NSW*'; and • Concerns about the types of waste proposed to be received at the premises and their potential risks to the environment and human health if not managed appropriately.	As discussed in Section 4.1, not all waste will be processed on site at the same time. Infrastructure will be established and progressively commissioned and decommissioned to respond to market demand. BRS employs a strict incoming material check for waste received. This process will continue however will be updated to respond to capacity. The types of waste proposed will be adequately separated and stored appropriately to manage risk.
DPI	DPI advised of no additional requirements to those previously provided to DoP in relation to the SEARs.	N/A
Sydney Water	N/A - no correspondence from Sydney Water received to date.	N/A
RMS	RMS advised the following issues to be included in the traffic impact assessment: • Daily and peak traffic movements likely to be generated by the proposed development; • Details of the proposed access and parking provisions; and • Details of service vehicle movements. An assessment to the implications of the proposed development for non-car travel modes.	Refer section 7.6 and Appendix D for traffic impact assessment.

In addition to the formal consultation undertaken during the preparation of the EIS, regular liaison has been maintained with Council in relation to the proposed development. Council's input has been invaluable.

3.2 Community Consultation

Consultation was undertaken with the local community. The local community was advised by letter box drop on 4 July 2018 of the proposal and given the opportunity to provide comment / feedback. A copy of the letter sent is provided at Appendix L. To date no feedback or comments have been received from the local community for this letter box drop. Figure 5 shows those residents and local businesses who were consulted.

Figure 5 – Community Consultation Letter Box Drop

Further consultation was undertaken in the form of a newspaper advertisement requesting input from the community on the proposed development. This advertisement was published on 20 February 2019 with all responses directed to KDC. At the time of preparing this EIS no submissions had been received from this advertisement process. A copy of the advertisement is provided in Figure 6.

Figure 6 – Advertisement

20/02/2019 - PUBLIC NOTICES

Notice of State Significant Development

SSD 17_8593 - 16 Kerr Road, Ingleburn
Bulk Recovery Solutions seeks community input regarding its proposed expansion of its existing recycling operation.

The expansion includes:

Increase in material processed to 225,000 tonnes per annum;
Wider range of materials including liquids wastes; and
Update of existing onsite infrastructure including new concrete batcher.
For further details or to lodge a submission, please contact Planning Representative Kale from KDC on kale@kdc.com.au

4 Proposed Development

4.1 Proposal Overview

It is proposed to increase the processing capacity from 30,000tpa to a combined solid and liquid waste processing capacity of 225,000tpa. The key components associated with the RRF are:

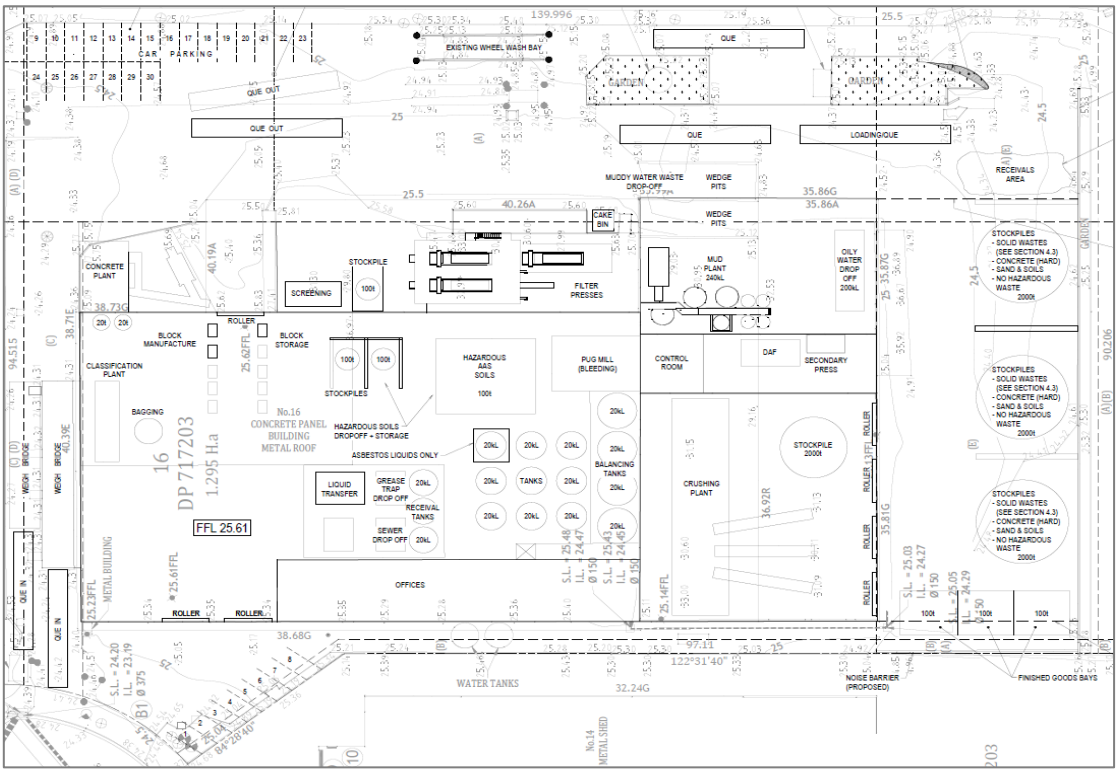
- Increase the volumes of waste that can be processed on site from up to 30,000tpa to up to 225,000tpa of liquid and solid waste;
- Store up to 30,000t of waste and / or waste for transfer at any one time;
- Vary the waste types that can be accepted on site;
- Solid waste processing including screening, crushing and PASS/ASS treatment;
- Liquid waste processing including oily water, grease, sewer, silt and debris;
- Solid and liquid waste transfer;
- 24 hour operation of liquid and muddy waste processes;
- Extended operation of concrete batching from 3am; and
- New concrete batching structure and equipment for existing 50,000tpa of concrete production.

Please note that the storage of 30,000t of waste was reduced from 90,000t. All assessments were undertaken using 90,000t for the storage amount. The reduction to 30,000t of storage is considered to have lower impacts due to lower intensity of operation and easier management of material.

Not all waste processing will be processed concurrently at the RRF. Rather this will be dependent on market demand. Equipment and infrastructure, such as the PASS/ASS treatment area, would be commissioned and decommissioned as required.

Stockpiling of waste and processed material will occur on the south eastern area of the building in designated bays. It is intended that trucks will tip the waste at the 'receivals area' for distribution by front end loader to the stockpile bays. Smaller stockpile areas are located internally at the crushing plant and undercover at the screening plant. See Figure 7 for proposed site configuration and Appendix A for proposed site plan.

Figure 7 – Proposed Site Configuration



4.1.1 Waste

The full range of waste types that are intended to be accepted on the site for processing or transfer are listed in Table 4. The typical quantities of the waste types accepted on the site are presented in Table 5.

Table 4 – Proposed Waste Types

Solid Waste Types	Liquid Waste Types
Actual acid sulphate soils (ASS and potential acid sulphate soils (PASS)	Drilling mud and / or muddy waters
	Non-destructive drilling mud (treated and untreated)
Fly ash	Grease trap waste
General solid waste non-putrescible	Fire debris and fire wash water (no PFOS and PFAS)
Grit and screening from sewage treatment systems that have been dewatered so that the grit or screenings do not contain free liquids	Sewage sludge and residues including debris and grit
Building and demolition waste	Asbestos contaminated water with gross pollutants
Foundry sand	Concrete washout water
Basalt sand	Cement slurry
Reclaimed asphalt	Waste oil / hydrocarbons
Excavated road material	Waste waters containing organic, inorganic, and emulsified substances
Recovered aggregate	Industrial wastewater putrescible and non-putrescible
Recovered fines	Groundwater (including M250, J100, N160, N250, F100)
Recovered glass fines	Stormwater including contaminated with gross pollutants
Soils contaminated with a substance or waste referred to in Part 1 or 2 of Schedule 1 of POEO (waste)	Wastewater system grit and screenings from projects, general solid waste (putrescible)
Recovered railway ballast	Leachate
Slag	Oily waters J120
Soils (general solid waste CT1 and restricted solid waste CT2)	Asbestos containing drill mud and or waters from drilling operations and non-destructive digging
Plaster board	Grit Screenings including gross pollutants and free liquid
General or specific exempted waste (RRE)	Product destruction
Excavated natural material / virgin excavated natural material (ENM/VENM) (transfer only)	Waste ink, dye, pigment, paint, lacquer and varnish (transfer only)
Hazardous Soils	Containers and drums containing controlled waste, oil and kerosene (transfer only)

Table 5 - Typical Quantities of Each Waste Type Accepted on the Site

Material Group	Percentage of total material accepted on the site	Calculated quantity of material (tonnes)		
		Daily	Weekly	Annually
Solids (E.g. Building and Demolition, Road Base)	20%	123	865	45,000
Concrete	15%	92	649	33,750

Sands and Soil	15%	92	649	33,750
Oily Water	15%	92	649	33,750
Sewer	10%	61	432	22,500
Grease Trap	5%	30	216	11,250
Other Liquid Waste	5%	30	216	11,250
Muddy Water	15%	92	649	33,750

As demonstrated in Table 5 the majority of waste present on the site at any given time will be concrete, oily water, and muddy water such as drilling mud and non-destructive digging waste.

Sources for wastes and destinations for recovered material includes existing clients who have expressed interest in the expanded operation and include the following companies:

- Veolia Environmental Solutions
- Sydney Water
- Patriot Environmental
- SureSearch
- Suckers Excavations
- Dig Smart
- Hanson
- Boral
- Holcim
- Weir Minerals
- John Heine & Sons
- Lend Lease
- Borg Civil
- Langford Environmental
- Hancock Excavations
- Warwick Farm Landscape
- Express Waste

BRS provides a twofold service for construction firms by providing competitive rates for disposal during demolition and excavation works along with cost effective recycled materials for use in the construction phase of various projects.

Non-destructive digging operations utilise BRS as they provide cost effective rates compared to disposal to landfill. With the water removed, the soil can then be sold to construction and excavation companies as soil fill in excavation works. Most of the recovered material is sold to landscaping material suppliers for retail sale.

The demand for construction material in the Sydney, Wollongong, Central Coast and Hunter regions is high and with ongoing large-scale government construction projects. Demand is expected to continue to be strong for these products given the positive economic outlook. Maintaining business relationships with large scale civil firms will ensure material is circulated from project, to recycler, and back to project for reuse.

4.1.2 Demolition and Construction

Demolition at the site is not required. Construction work is limited given the existing infrastructure and operational capacity of the RRF. The major infrastructure to be constructed include:

- Second weighbridge;
- Stockpile walls;
- Noise Wall extension;
- Modernisation and enclosure of previously approved concrete batching equipment (Order No.10257 of 2006 approved on the 09/03/2007);
- Liquid waste processing equipment; and
- Hazardous waste storage and processing equipment.

Refer to architectural drawings prepared by DRB Consulting Engineers at Appendix A for full details of the proposed development.

Second Weighbridge

A second weighbridge is proposed adjoining the existing weighbridge. The second weighbridge will facilitate smaller trucks with the aim of reducing queuing times and avoiding impacts on Kerr Road.

Stockpile Walls

The stockpiles will be maintained by concrete block walls. The concrete block walls will be made using blocks currently manufactured on the site. As a result, there will be minimal delay in erecting the concrete block walls as the blocks are readily available. No stockpiling is to occur prior to erecting the stockpile wall. The stockpiles will be below the existing wall height of 6.5m to ensure appropriate mitigation measures remain effective to minimise dust impacts.

Noise Wall Extension

As recommended by the Noise Impact Assessment (NIA) discussed at Section 7.2 and provided in Appendix F, an extension of the existing noise wall currently located along the south east boundary is required. The wall extension will be constructed to a height of 6.5 metres (or equivalent to the height of the existing wall) and consist of materials with a surface density of at least 10kg/m^2. The noise wall will be engineered and constructed to ensure that no gaps will be left to allow noise to penetrate the wall, whilst allowing the unimpeded passage of water through the easement. Further detail of the sites easements provided at Section 2.2.

Concrete Batching

A new concrete batching structure is proposed to be constructed to the north of the existing building. This structure will enclose the new batching equipment above the loading point allowing for efficient loading of concrete trucks. The enclosure is proposed to be 9.117m in height, 5.566m wide, and 9.641m long. The equipment will be largely enclosed with only a conveyor for aggregate and the aggregate loading equipment located externally. Storage silos supporting the new structure will be located within the main building with transfer provided.

Liquid Waste Equipment

To enable the proposed liquid wastes to be treated, a range of equipment is proposed to be installed mainly in the main building with only several small elements to be installed externally.

The three main liquid waste groups; being grease trap, sewer, and oily water; will have separate inputs screens to remove solids.

The equipment required to be installed for the shared main process is itemised below:

- 9 x Storage Tanks
- 4 x Balance Tanks
- 3 x Receival Tanks
- 3 x Rotary Screen
- 3 x Neutralisation Pit
- 2 x Settling Tanks
- 1 x Oil water Separator
- 1 x Rejection Tanks
- 1 x Reaction Tank
- 1 x DAF
- 1 x Secondary Press

While the muddy liquid waste equipment is existing, a new system for asbestos containing liquid is to be installed independent to the existing system.

Trucks will discharge the waste into sealed vacuum bins. The system will require closed sieve, soil reclaimer, a de-sander, followed by a filter press. All resultant solid waste is to be stored in closed containers with the now clean water to be discharged to sewer under trade waste agreement (existing trade waste agreement provided at Appendix N).

Hazardous Waste Storage and Equipment

To facilitate hazardous waste processing an area has been reserved within the main building to separate the waste from other solid waste processes. The main bunded hazardous soils area is proposed in the eastern corner of the main building which will serve as a receival and storage location for the waste. This area is also

proposed to be supported by two stockpile bunds for additional storage. A pugmill with associated material bunding is proposed to be installed adjoining the main receival and storage area.

4.1.3 Hours of Operation

The proposed hours of operation are set out at Table 6.

Table 6 – Existing and Proposed Operational Hours

Existing Operational Hours		Proposed Operational Hours	
Monday to Friday	7.00am – 10.00pm	**Solid Waste Processing:**	
Saturday	7.00am – 6.00pm	Monday to Friday	7.00am – 10.00pm
Sunday	7.00am – 6.00pm	Saturday	7.00am – 6.00pm
Public Holidays	Closed	Sunday	7.00am – 6.00pm
Drum filters at the mud plant and one forklift operate 24 hours, 7 days a week.		Public Holidays	Closed
		Liquid and Mud Waste Processing:	
		24 hours 7 days a week	
		Concrete Batching Operations:	
		Monday to Friday	3.00am – 10.00pm
		Saturday	7.00am – 6.00pm
		Sunday	7.00am – 6.00pm
		Public Holidays	Closed

The forklift and filters will continue to operate 24 hours 7 days a week.

Use of the crushing plant and truck and dog deliveries will not occur outside the current hours of operation stated above (i.e., 7am – 10pm Monday – Friday, Saturday and Sunday 7am – 6pm).

Further discussion regarding predicted noise impact associated with the RRF and proposed hours of operation can be found at Section 7.2 and the noise impact assessment at Appendix F.

4.1.4 Waste Storage

Storage of waste and finished product will be split between internal and external storage bays and tanks. The cumulative material to be stored on site is proposed to be no more than 30,000t at any given time which is split between all processes on the site.

Each of the three external stockpiles have the capacity to hold 2000t and will house only solid inert materials under the future awning. Similarly, a 2,000t capacity exists in relation to the existing enclosed crushing area. This will house both material awaiting processing and finished product waiting to be moved. In addition to these solid material storage areas, a number of other bays hold have the capacity to hold smaller amounts of 100t of material.

The three main external stockpiles are to be covered by a steel awning proposed under DA 651/2019/DA-O which will cover the south eastern stockpile area. Plans for the awning have been included within Appendix A. In combination with stockpile walls and the existing and proposed noise walls, the awning will cover the stockpiles allowing enhanced management through utilisation of water misters and sprays. Wind impacts while be minimised without impacting upon the existing stormwater drainage easement in the area. The awning in combination with other management measures allows for the effective management of these external stockpiles.

Liquid wastes are to be contained in a large number of storage tanks to allow for continual processing or batch processing for certain materials if required. This versatile system can support around 800kL of volume across

both tanks and the larger processing system. The proposed liquid storage allows for continuous 24-hour operation of the liquid plant with waste received during the day able to be processed outside receival hours.

The proposed 30,000t of storage limit is required to allow the proposed development the flexibility to operate within reasonable guidelines that facilitate the effective management of all the material stored on the site. As a wide variety of materials are likely to be stored on the site, the proposed 30,000t storage limit has been devised to accommodate a host of combinations of waste materials which could vary significantly in terms of density and volume.

4.2 Incoming Waste Quality Assurance

BRS currently operate under internal procedures for the receipt, management and transfer of waste consistent with the EPAs draft *Standards for managing construction waste in NSW*, 2017. This includes:

- Inspections at the weighbridge and waste storage area and tip and spread inspections;
- Sorting of waste into respective areas by waste type for processing, sorting, transport or disposal;
- No mixing of waste without prior inspection or sorting;
- Storage of waste types in separate areas and signage to clearly identify the waste being stored; and
- Transport of resource from the site.

In addition, BRS ensure that staff are adequately trained in procedure and skilled in waste inspection. Waste records are kept verifying incoming and outgoing resource movement.

In the event that non-conforming products or materials are brought onto the site, the materials will be quarantined and either returned to the supplier or disposed of at an appropriately licenced facility. A record of all rejected loads is recorded in the Rejected Load Register and reported to the EPA.

4.2.1 Solid Waste Receival Procedure

The solid waste receival procedure has been developed in accordance with the Minimum Standards for Managing Construction and Demolition Waste in NSW (EPA, 2016). This procedure is proposed to be applied to construction and demolition waste along with other solid waste materials.

Inspection

Inspection Point 1 – verified weighbridge inspection.

Trained personnel must:

1. Inspect the top of each load from an elevated inspection point or by using a video camera connected to a monitor and determine whether or not the load contains any asbestos waste;
2. Where the load is reasonably suspected to contain any asbestos waste, reject the entire load of waste by directing the driver to immediately leave the facility and record the required information into the waste facility's rejected loads register; and
3. Where no asbestos waste is observed in the load, record the details as required by clause 27 of the Waste Regulation and direct the load of waste to proceed directly to Inspection Point 2.

Inspection Point 2 – tip and spread inspection area.

Trained personnel must:

1. Direct the driver of the vehicle to tip and spread the entire load;
2. Inspect the visible surface area of the load at ground level;
3. Turn the load manually or direct a plant operator to turn the load and check for any asbestos waste and other prohibited waste types beneath the visible surface;

4. Where any asbestos waste is observed, reject the load by ensuring that the entire load is immediately re-loaded onto the vehicle in which it arrived, direct the driver to leave the waste facility and then immediately record the required information into the facility's rejected loads register;
5. Ensure that all permitted waste types identified within the load are immediately moved to the appropriate waste storage area; and
6. Ensure that all waste that may lawfully be received at the waste facility proceeds to be sorted and stored.

Sorting

Each load of construction waste received at the waste facility must be sorted and classified into individual waste types for one of the following purposes:

1. Further recovery at another waste facility;
2. Further processing or mechanical sorting at the waste facility;
3. Transport to a waste facility that can lawfully receive the waste; or
4. Disposal at a lawful waste disposal facility.

Waste Storage

All construction waste received at the construction and demolition (C&D) waste facility that has been inspected and sorted, must be stored in accordance with the following requirements:

1. Each individual waste type must be stored in a separate storage area that is clearly labelled or signposted to indicate the individual waste type being stored in that area;
2. Each label or signpost must be legible and clearly visible;
3. The labels or signposts at all waste storage areas containing waste intended to meet the requirements of a resource recovery order that is awaiting compliance test results before re-use, must also contain the words 'awaiting validation';
4. If waste is being stored outside an enclosed bay, each stockpile must be clearly delineated and separated from stockpiles of other waste types by a minimum of three metres from the base of the stockpile; and
5. Stockpiles containing the same waste type may touch at the base and are exempt from the three metre separation requirement.

Obligations of trained personnel at the waste storage area, trained personnel must do the following on each business day:

1. Inspect each labelled or signposted storage area to determine whether waste is being stored in accordance with these procedures;
2. If any waste is found in a storage area labelled or signposted with another waste type, immediately cause the waste to be moved to the appropriate storage area; and
3. Record observations, including each incidence of waste being identified in the wrong storage area, along with the date, time, the role and name of trained personnel carrying out the inspection.

4.2.2 Muddy and Liquid Waste Receival Procedure

The receival procedure for muddy and liquid wastes includes procedures to determine whether the load is acceptable for receival at the site and whether the load has potential contaminants or asbestos.

To ascertain the status of the load, trained site personnel must:

- Ask the driver of each load of resource if there is any potential asbestos waste or contaminants on their truck;
- Inspect each load of resource to identify and document the type, amount and source of the resource, registration of the delivery vehicle and name and address of the resource generator or transporter;
- Check that the resource can lawfully be received at the facility;

- Take sample of load and check each load to determine if potential asbestos waste or contaminants on their truck;
- Where potential asbestos waste or contaminants, is observed, reject the entire resource load and enter details of the load into a Rejected Load Register; and
- Where suspected asbestos, is not observed, record the required details and allow provisional acceptance of the resource.

4.3 Solid Waste Processing

Solid waste processing is proposed to be undertaken by screening, crushing and treatment of waste material. This will occur at the existing screening plant, existing crushing plant or proposed hazardous waste treatment area (refer Figure 6 and Appendix A). Both the screening plant and crushing plant are expected to operate permanently. The hazardous waste treatment area will only process hazardous soils subject to market demand.

Solid waste processing includes:

- General solid waste (non-putrescible);
- Building and demolition waste;
- Foundry sand;
- Basalt sand;
- Reclaimed asphalt;
- Excavated road material;
- Recovered aggregate;
- Recovered fines;
- Recovered glass fines;
- Recovered railway ballast;
- Slag;
- Soils CT1 and CT2;
- PASS/ASS;
- Hazardous soils; and
- Plaster board.

After these waste types have been processed, the recovered material is proposed to be segregated and stockpiled in the designated storage area for reuse as illustrated in Appendix A. To facilitate the proposed waste processing and storage quantities, internal and external stockpiles will be required, including the solid waste stockpiles located along the south eastern boundary of the site. External stockpiles will be covered by a steel awning which will provide protection for the rear stockpile area and improve noise and dust management outcomes. The external stockpiles will be further managed from a dust and contamination perspective through water sprays and routine cleaning of the stockpile area. The recovered material will be blended on site with other materials suitable for landscaping, construction and infrastructure projects and includes:

- Aggregates;
- Concrete blocks;
- Sand;
- Soils;
- Road base;
- Rock and crushed material; and
- Turf underlay

Where appropriate the recovered material will be reused and supplied to consumers under applicable Resource Recovery Orders issued by the EPA under clause 93 of the *Protection of the Operations (Waste) Regulation 2014*. For example, this may include the Recovered Aggregate Order 2014 and Recovered Fines Order 2014.

It is intended that solid waste processing would occur between the hours of 7am – 10pm Monday to Friday and 7am – 6pm Saturday and Sunday, consistent with the current operating hours.

4.3.1 Crushing Plant

Most of the solid waste accepted on site will be processed internally, in the south eastern section of the building, where the crushing plant is currently located, refer to Figure 7 in Section 4.1 above. The crushing plant currently operates at the site in accordance with DA 948/2015/DA-I.

It is intended that the majority of solid waste will be brought to site by truck and dog vehicles. The procedure employed for unloading and movement of material for crushing is as follows:

- Load check and clearing;
- Unloading to temporary drop off location indicated on Site Plan at Appendix A;
- Front end loader moves material to either a designated storage bay;
- Temporary drop off bay washed down and cleared prior to unloading of differing material;
- Front end loader moves material from designated bay to crushing plant inside the building for processing;
- Processed material is moved to designated product bay via front end loader; and
- For transport offsite, vehicle is loaded with product by front end loader with all required verification documentation provided.

Waste may be directly transferred from the temporary drop off bay to the crushing plant if waste material is the same and internal storage has capacity to do accept the load. Access to the crushing plant will be via the roller doors which are proposed to remain open during operation of the crushing plant to facilitate deliveries.

Inside the building in the crushing plant area, the stockpiled waste will be feed by excavator into a hopper where it will be transported by conveyor to jaw and impact crushers. The crushed material will pass through screens which segregates and sorts the material into appropriate sizes for stockpiling and reuse (e.g. 8mm minus, 14mm minus and 20mm minus sized aggregate) (refer Figure 8). Magnets above the conveyors will be positioned to removed metals from the recovered material and a misting spray system operates to control dust. Table 7 lists the plant and equipment that will be used within the crushing plant area.

Table 7 – Crushing Plant and Equipment

Solid Waste Plant	Vehicles
1 x Feeding Hopper 3 x Screens 2 x Crushers 5 x Conveyors	2 x Excavators 3 x Front End Loader 1 x Forklift

Figure 8 – Crushing Plant Process Flow Chart

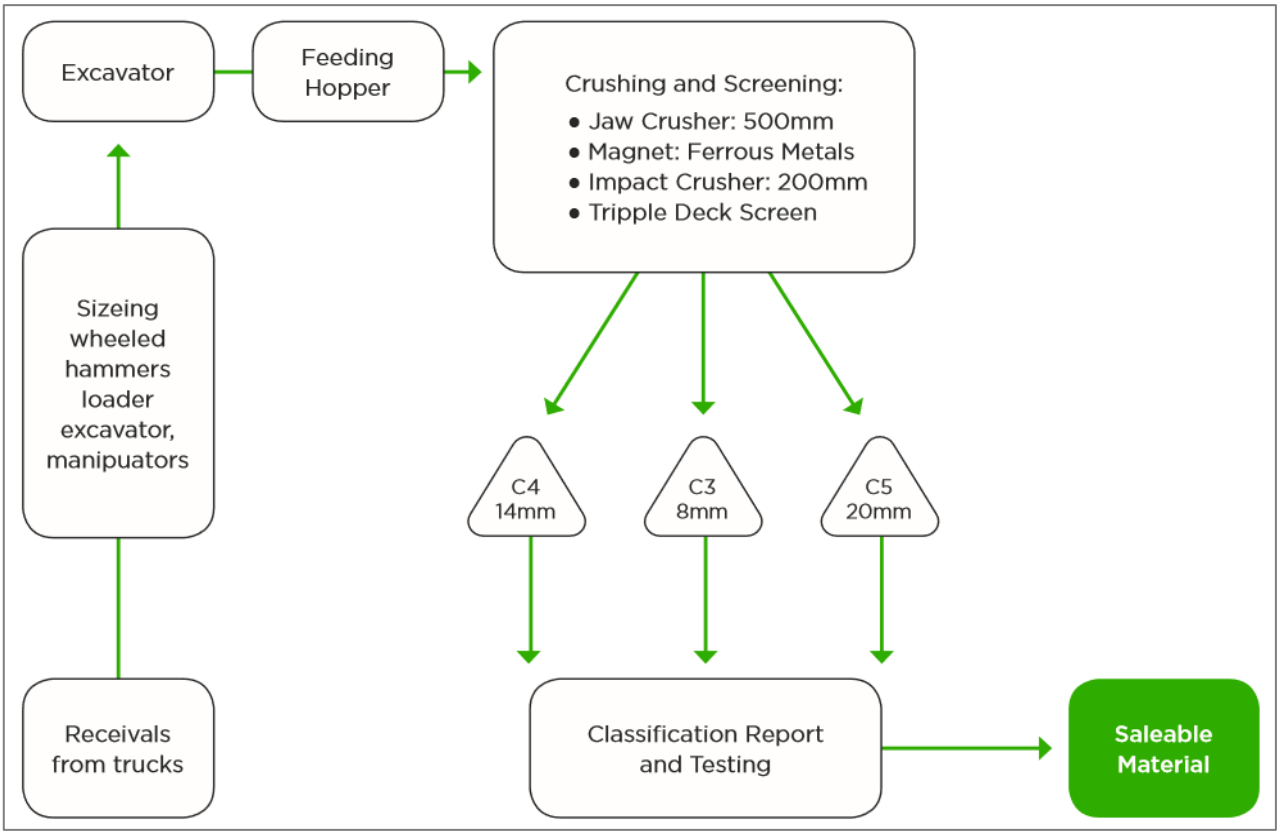
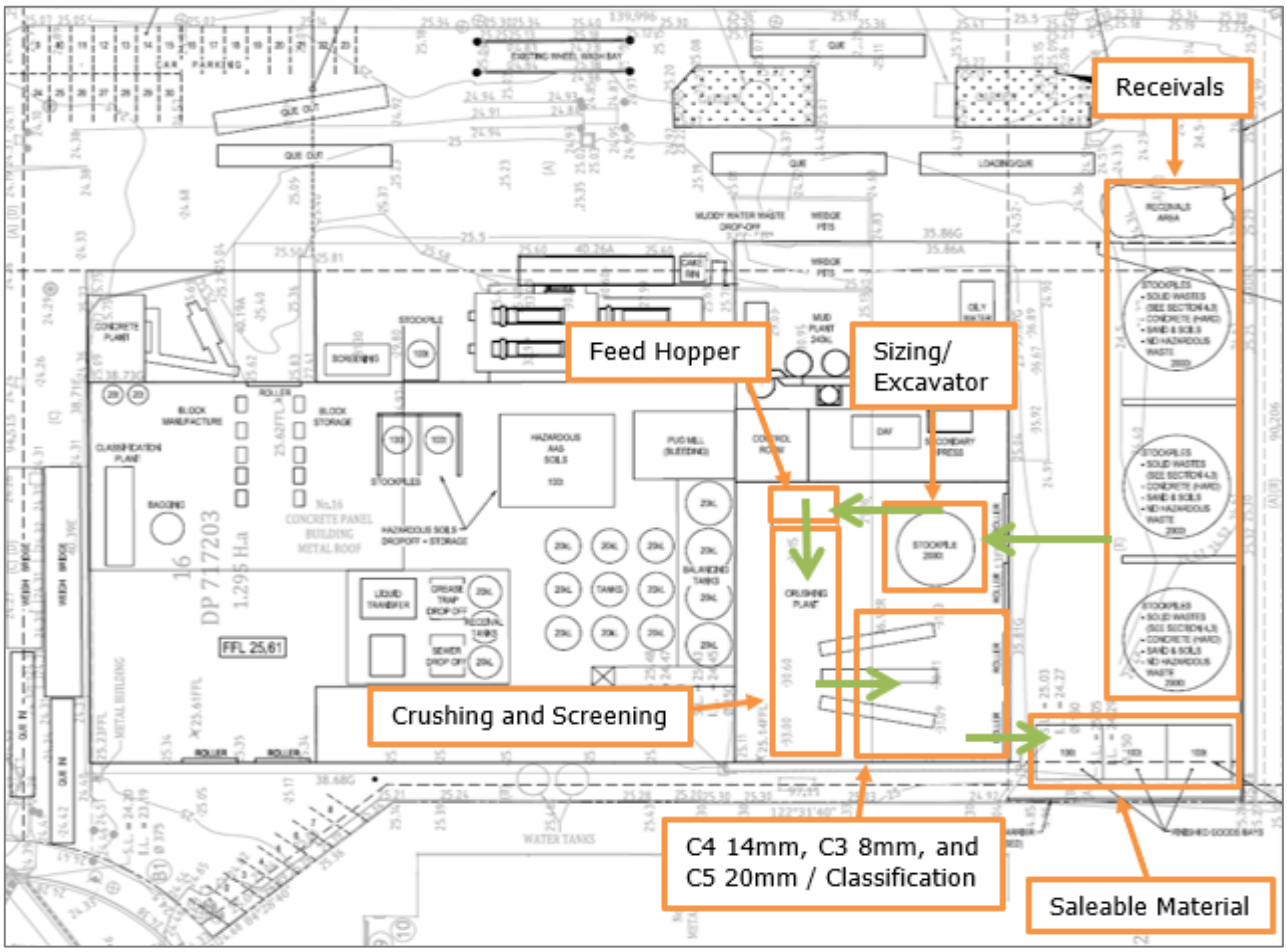


Figure 9 – Crushing Plant Location and Process Flow



4.3.2 Screening Plant

Where solid waste does not need to be crushed (such as soils, sands and fines), the materials will be processed at the existing screening plant, located undercover on the north eastern side of the building; refer to Figure 7 in Section 4.1. The screening plant consists of a hopper, conveyors and a number of various sized screens to separate and sort the material.

Waste and processed material will be temporarily stored under cover at the screening plant prior to transport to the finished product bays or off site.

4.3.3 Hazardous Soils, Potential Acid Sulfate soils and Actual Acid Sulfate Soils

Hazardous and Acid Sulfate Soils will be processed within a designated area inside the main warehouse area where the material will be stored in the stockpiled area adjacent to the processing area, see for layout. The hazardous and Acid Sulfate Soils will pass through a pug mill to mix specific treatment through the soil, see Table 8 and for equipment Figure 10 list for process flow chart Figure 11 for proposed layout. Testing will be undertaken to determine appropriate liming / treatment rates, prior to mixing.

Loading and unloading will occur wholly within the designated hazardous and Acid Sulfate Soils area. Vehicles will unload directly into the treatment bay. Once treated the material will be tested to confirm the soil has been appropriately treated. A front-end loader will move the treated waste into storage bays and into vehicles for transport to landfill.

Table 8 – Hazardous Soils and PASS/ASS Plant and Equipment

Solid Waste Plant	Vehicles
1 x Feeding Hopper 1 x Screens 1 x Conveyors 1 x Pug Mill	1 x Excavators 1 x Front End Loader 1 x Bobcat

Figure 10 – Hazardous Soils and PASS/ASS Process Flow Chart

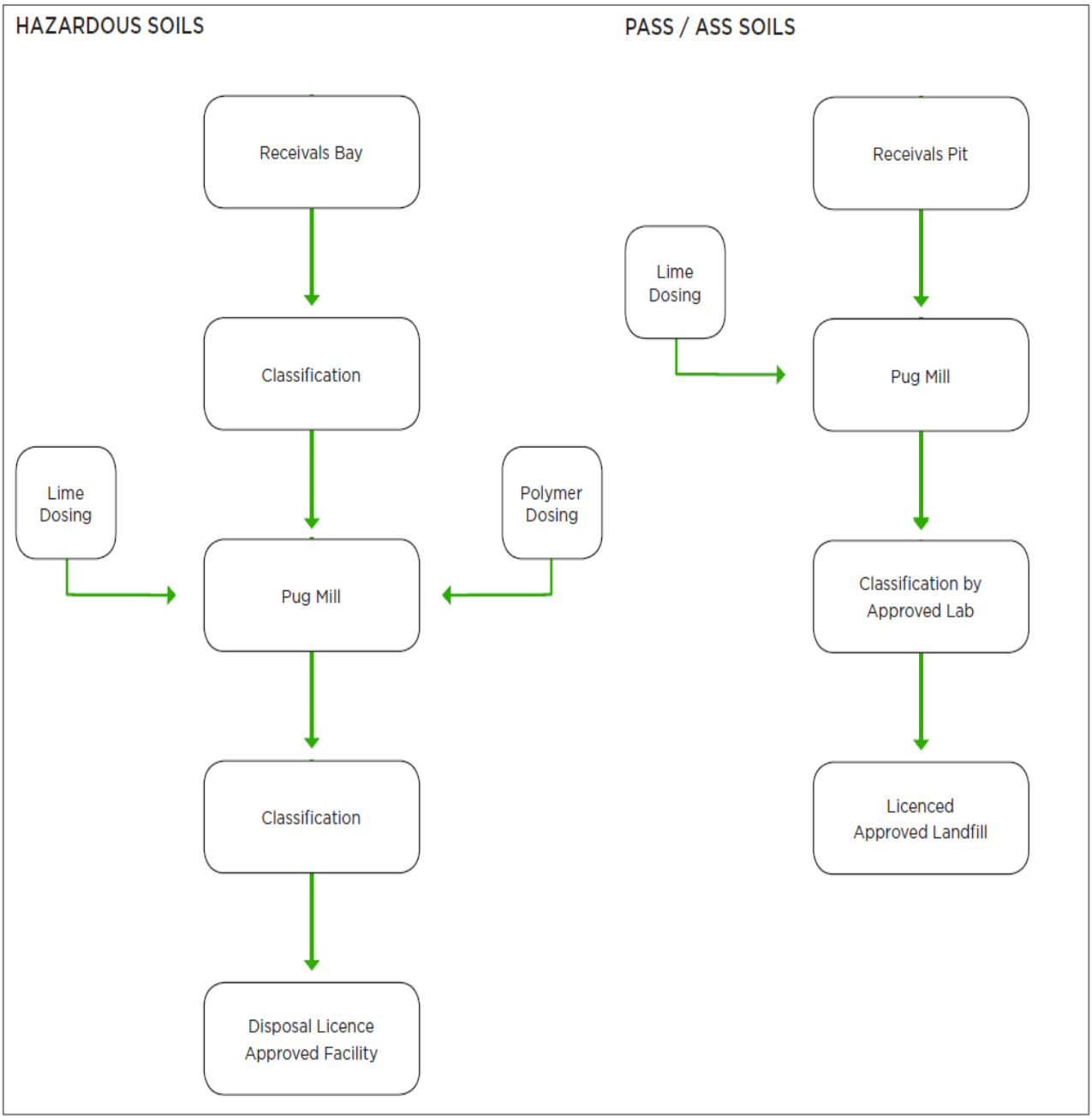
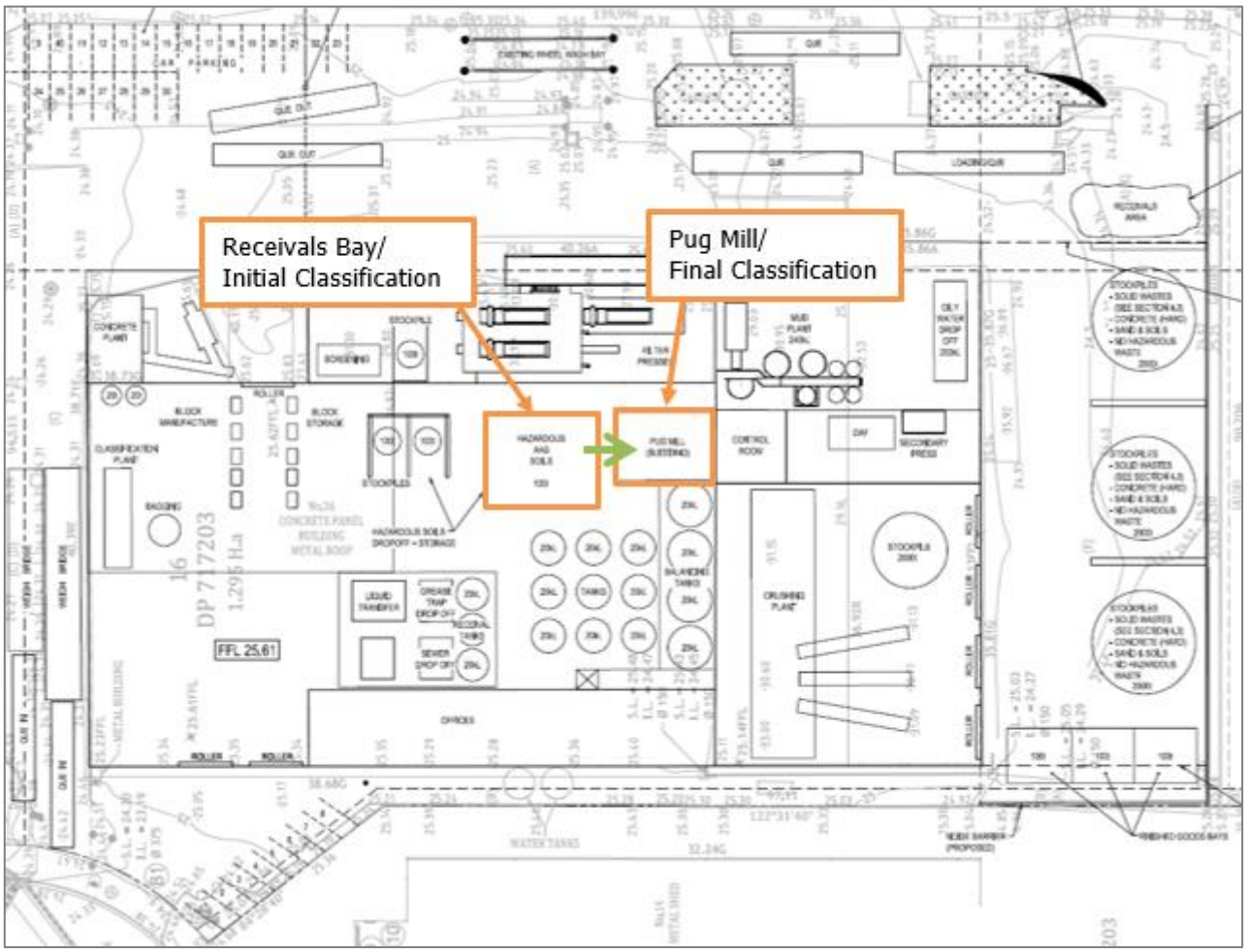


Figure 11 – Hazardous Soils and PASS/ASS Processing Location and Process Flow



4.4 Liquid Waste Processing

Liquid waste will be initially processed independently in their own process equipment based upon their waste type before being sludge squeezed through the filter presses located undercover on the north eastern area of the building (refer Figure 7 in Section 4.1).

It is proposed to install new infrastructure inside the building which will include storage tanks, balancing tanks for pH correction, oil water separator and a dissolved air floatation device (DAF) for the processing of oily water. The sludge from both the Mud process and Oily waters process will then be classified after being made into a filter cake to determine whether it is suitable for resource recycling or sent to an approved licenced landfill.

It is intended that all liquid and mud waste processes will operate 24 hours per day, 7 days per week excluding public holidays.

The treatment of sewer, silt and debris; and grease (as shown in Figure 12 and 13) will only occur as required and subject to market demand.

The liquid waste proposed to be accepted includes the following:

- Grease trap waste;
- Fire debris and fire wash water (no PFOS and PFAS);
- Sewage sludge and residues including debris and grit;
- Asbestos contaminated water with gross pollutants;

- Waste oil / hydrocarbons;
- Wastewaters containing organic, inorganic, and emulsified substances;
- Industrial waste water putrescible and non-putrescible;
- Groundwater (including M250, J100, N160, N250, F100);
- Stormwater including contaminated with gross pollutants;
- Waste water system grit and screenings from projects general solid waste (putrescible);
- Leachate;
- Oily waters J120; and
- Grit screenings including gross pollutants and free liquid.

The mud plant, Oily Water, Sewer and Debris, and filter press and internal liquid treatment area is described in the following section. Detailed flow diagrams for each process are provided in Appendix M.

4.4.1 Mud Plant and Filter Press

It is proposed that the following liquid waste types will continue to be processed at the RRF by the mud plant:

- Drilling mud and / or muddy waters;
- Non-destructive drilling mud treated and untreated;
- Cement slurry; and
- Concrete washout water.

The process for unloading of the muddy liquid waste is as follows:

- Vehicle enters the site and is cleared for unloading;
- Vehicle moves to unloading pits located outside at north east of the main building;
- Waste is tipped into the pits with samples of the waste taken for verification;
- Once cleared the waste enters the treatment system;
- The vehicle is washed down in unloading pit to manage the resultant water and cleared for exit; and
- Once processed, recovered sediment is verified and sold as product with water directed to sewer under the Trade Waste Agreement with Sydney Water.

The liquid waste will pass through a number of processes to remove the coarse and fine sediments from the water, which include: passing the liquid waste through screens to remove debris and larger solids; pumping the liquid waste to processing tanks where coagulants and flocculants are added to separate the course sediments; and passing the resultant sludge through a filter press to compact the remaining fines and squeeze out any remaining water.

Throughout the liquid waste treatment process solid material, such as sand, soils and sediment, will be recovered. Filter cakes (compacted fines) will be produced from the filter press. Where suitable this recovered material will be mixed and blended on site for reuse and resold, for example as engineering fill and for landscaping supplies. If material is not suitable for reuse, it will be disposed to landfill at an appropriately licensed facility.

Treated water, which has passed through a serious of filters and treatment processes, will be reused on site for processing, plant and equipment washdown, dust suppression and / or concrete batching. If water is discharged it is required to pass through an additional secondary press for further treatment prior to entering the sewer system under the existing Trade Waste Agreement provided at Appendix N.

Table 9 lists the plant and equipment that will be used within the mud plant area. The treatment process summarised in Figure 12 and Figure 13.

Table 9 – Mud Plant and Vehicles

Mud Plant	Vehicles
1 x Flocculation Chemical Tank 3 x 20kL Mixing Tanks 4 x 10kL Sludge Tanks 1 x 15kl Sludge Tank 3 x Filter Press Plant 1 x Secondary Press 5 x Screens 1 x Concrete Reclaimer 5 x Conveyor 16 x Pumps	1 x Excavator 1 x Front End Loader 1 x Forklift 1 x Water Cart 1 x Street Sweeper

Figure 12 – Mud Plant Process Flow Chart

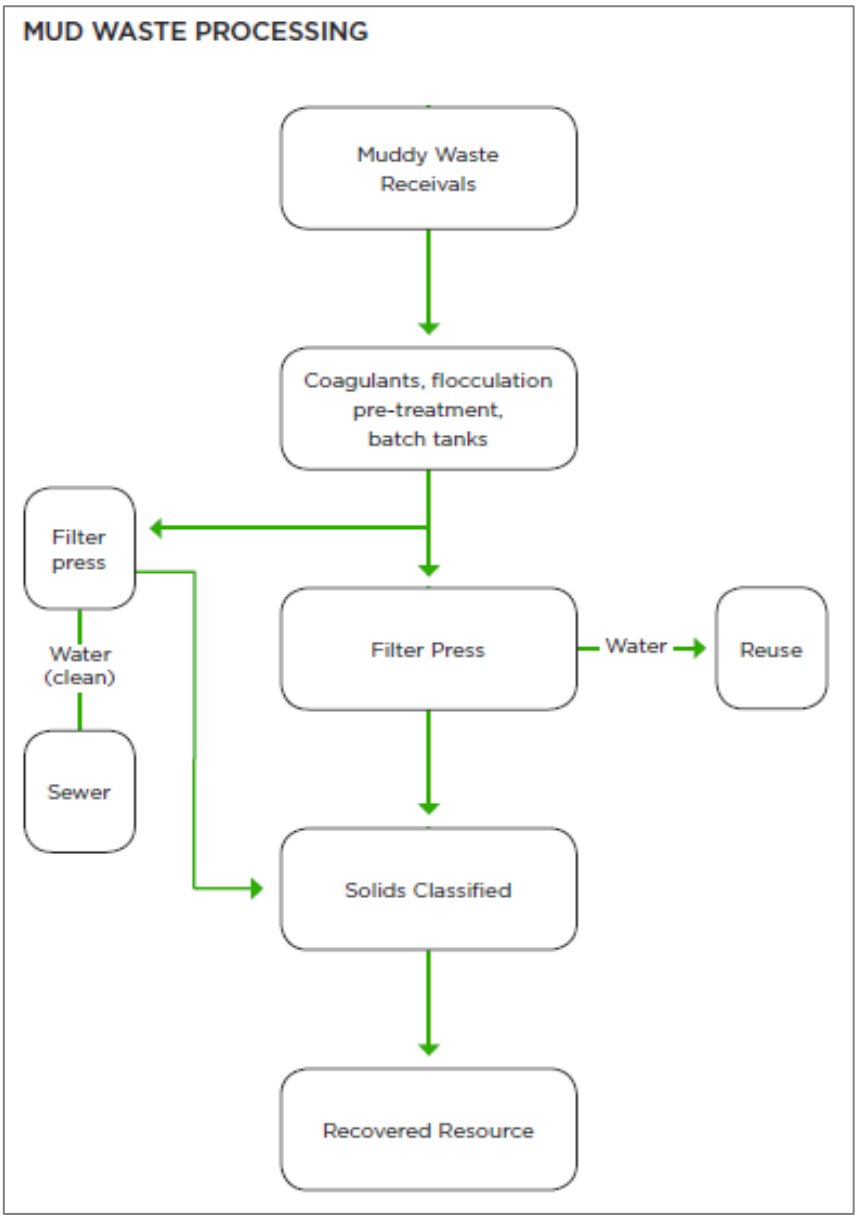
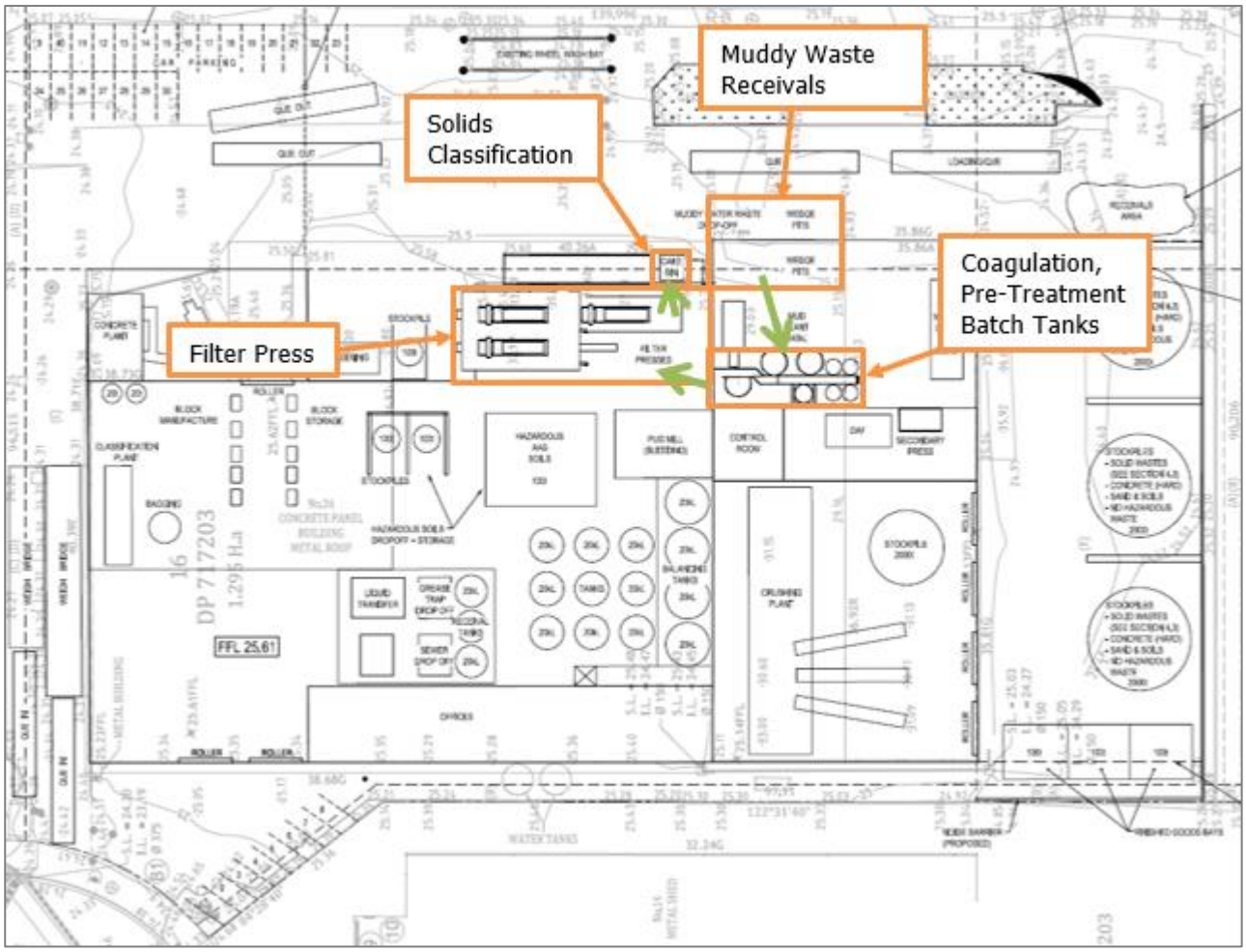


Figure 13 – Mud Plant Processing Location and Process Flow



4.4.2 Internal Liquid Waste Treatment

Liquid waste processing will primarily be undertaken inside the existing building. The liquid waste will be transported to site in vacuum sealed trucks. The liquid waste is proposed to be dealt with in accordance with the following process:

- Vehicle enters the site and cleared for unloading;
- Based upon the load, the vehicle moves to unloading location for the liquid waste type;
- A sample of the waste is taken for verification;
- Once cleared the waste is pumped into treatment system;
- The vehicle is washed down in unloading the resultant water into the system is then cleared to exit the site; and
- The waste is processed with filter cake certified and directed to landfill and clean water directed to sewer under Trade Waste Agreement.

The specific liquid waste treatment process is determined by the waste type. Generally, liquid waste is piped to the balancing tanks where contaminants such as free floating oil / grease is separated from water through settling of the oil and grease by way of their natural floatation. Flocculants and coagulants (such as polymer) are added to assist the suspension of solids in the solution. The solids are piped to the dissolved air floatation system (DAF), which is used to further separate solids from the liquid wastes by introducing air to assist in the floatation of solids and their subsequent physical separation with the liquid.

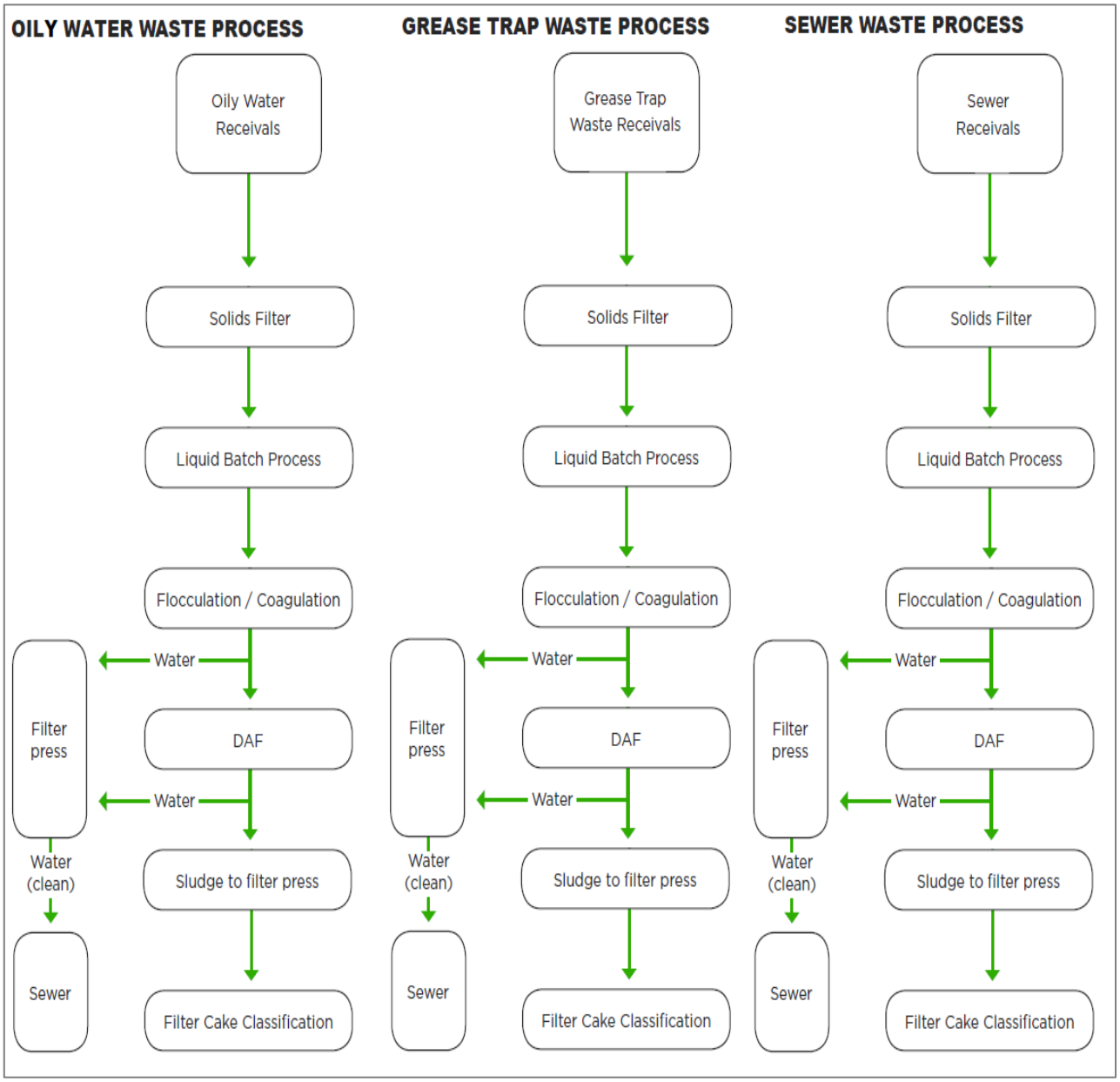
Other chemicals can be added in the batch tanks to treat other chemical parameters such as pH. The chemicals to be used in the process include Anionic and Cationic Latex Emulsion Polymers, Non-organic Polydadmac

Coagulant, Poly Aluminium Chloride, Sulfuric Acid and Sodium Hydroxide (Caustic Soda). All chemicals will be stored in designated bunded storage locations within the water treatment area.

Once the liquid waste has undergone treatment the wastewater is directed through the filter press to remove remaining fines or other material and to ensure the quality of the water prior to reuse on site (as explained in Section 4.4.1). During each stage of the water treatment process, including transfers to the DAF or filter press, the liquids and separated solids will be piped to prevent unnecessary handling, and the potential for spills to occur and odours to be detected.

The liquid waste treatment process is summarised in Figure 14. Layouts for the Grease Trap Waste Process, Sewer Waste Process, and Oily Waste Process are provided at Figure 15, Figure 16, and Figure 17. Appendix M contains process flow diagrams for each of the proposed treatment methods.

Figure 14 – Liquid Process Flow Charts – Oily Water, Grease Trap, and Sewer Wastes



It is intended that liquid waste containing asbestos will be treated internally in a dedicated closed system separate to the main liquid waste process (see Section 4.5).

Table 10 lists the plant and equipment that will be used within the internal liquid waste treatment area.

Table 10 – Liquid Waste Plant and Vehicles

Liquid Waste Plant	Vehicles
3 x Receival Tanks 3 x Rotary Screen 3 x Neutralisation Pit 2 x Settling Tanks 1 x Rejection Tanks 4 x Balance Tanks 1 x Reaction Tank 1 x DAF 3 x Filter Press 1 x Secondary Press	1 x Forklift

Not all the treatment processes are likely to operate concurrently, however it should be noted that all environmental assessments have been undertaken assuming all components are operating concurrently which represents a conservative scenario. Depending on market demand specialised equipment is intended to be commissioned for the treatment of particular waste.

Figure 15 – Grease Waste Processing Location and Process Flow

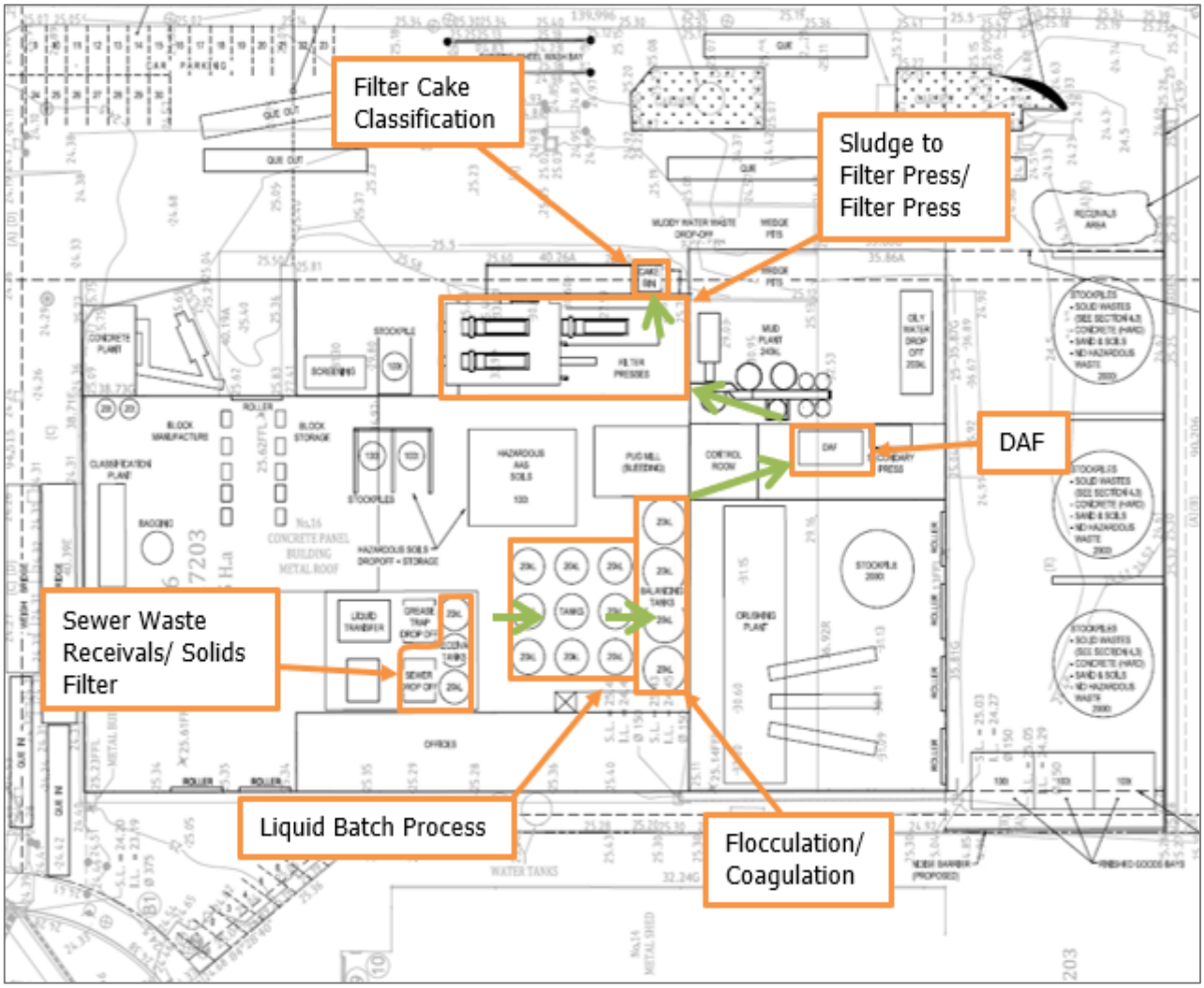


Figure 16 – Sewer Waste Processing Location

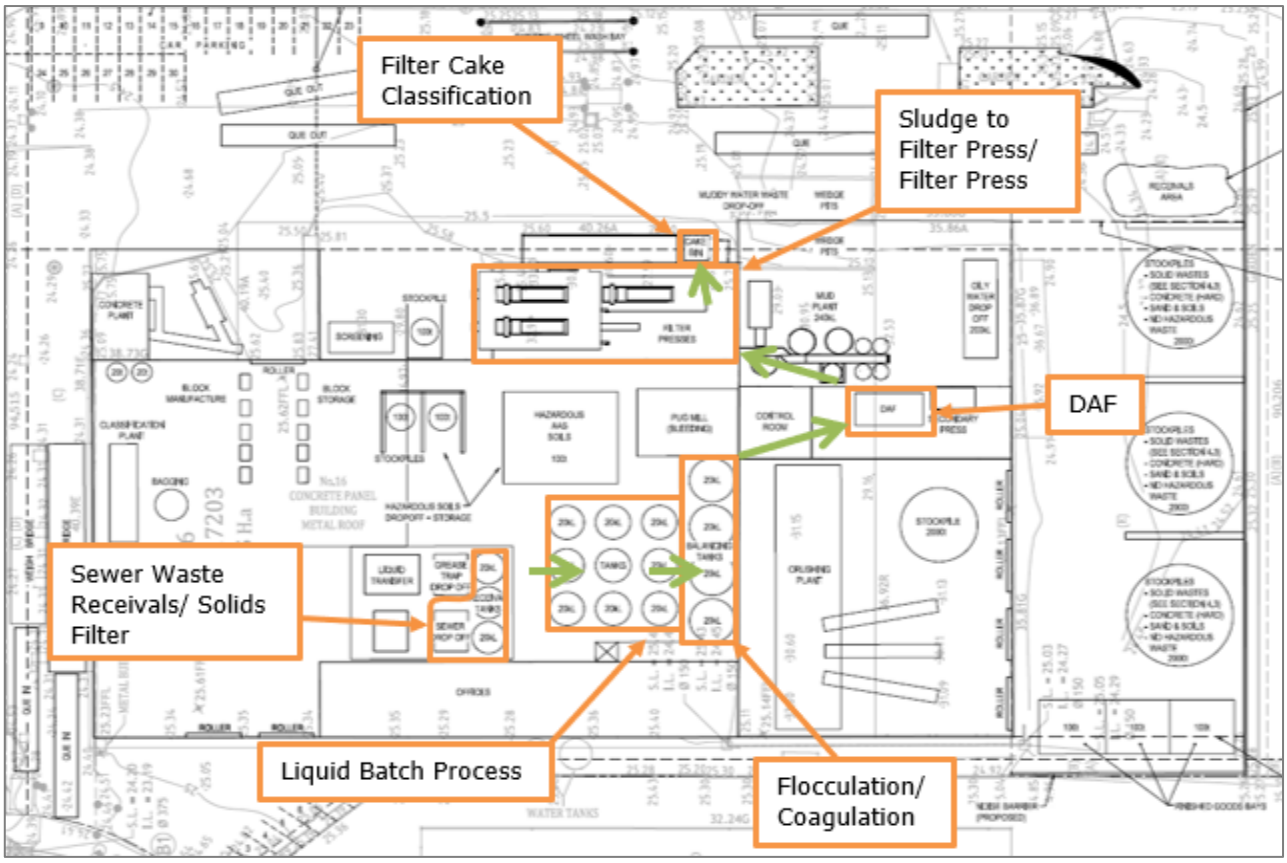
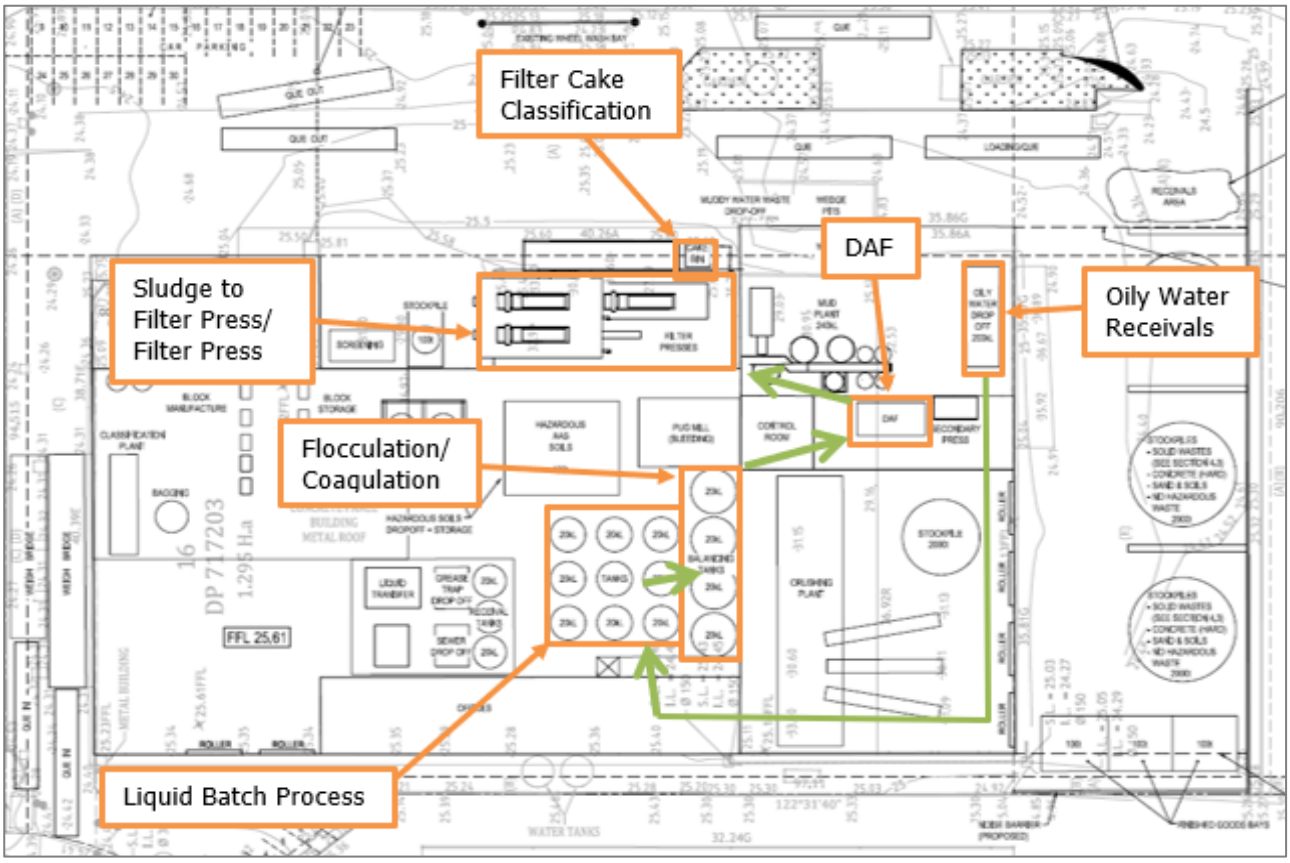


Figure 17 – Oily Water Waste Processing Location and Process Flow



4.5 Asbestos Containing Liquids

The asbestos containing liquid processing plant will consist of a separate system to ensure safety and prevent cross contamination with other materials and processes.

Asbestos containing liquids will arrive via vacuum trucks. The waste will be pumped into vacuum sealed storage where it will then pass through a number of processes to remove the coarse and fine sediments from the water, which include: passing the liquid waste through screens to remove debris and larger solids; pass through reclaimers and de-sanders to remove fine material; pumping the liquid waste to processing tanks where coagulants and flocculants are added to separate the course sediments; and passing the resultant sludge through a filter press to compact the remaining fines and squeeze out any remaining water.

Throughout the liquid waste treatment process solid material, such as sand, soils and sediment, will be recovered. Filter cakes (compacted fines) will also be produced from the filter press. Due to the nature of the waste, no material will be reused with all solids sent to appropriately licenced operations for final disposal.

Treated water, which has passed through a serious of filters and treatment processes will be required to pass through an additional secondary press for further treatment prior to entering the sewer system under the existing Trade Waste Agreement, see Appendix N for current trade waste agreement.

In addition to the physical separation of employees and asbestos containing liquids, employees in the vicinity of the equipment during processing will be required to employ personal protective equipment.

Table 11 lists the plant and equipment that will be used within the mud plant area. The treatment process is summarised in Figure 18 with location provided at Figure 19.

Table 11 – Asbestos Containing Liquid Plant and Vehicles

Mud Plant	Vehicles
1 x Flocculation Chemical Tank 1 x 20kL Mixing Tank 1 x 15kl Sludge Tank 1 x Filter Press Plant 1 x Secondary Press 1 x Sieve 1 x Sand Screw 1 x Reclaimer 2 x De-sander 1 x Centrifuge 1 x HEPA Filter 2 x Pumps	1 x Hooklift truck 1 x Forklift 1 x Water Cart

Figure 18 – Asbestos Containing Liquid Process Flow Chart

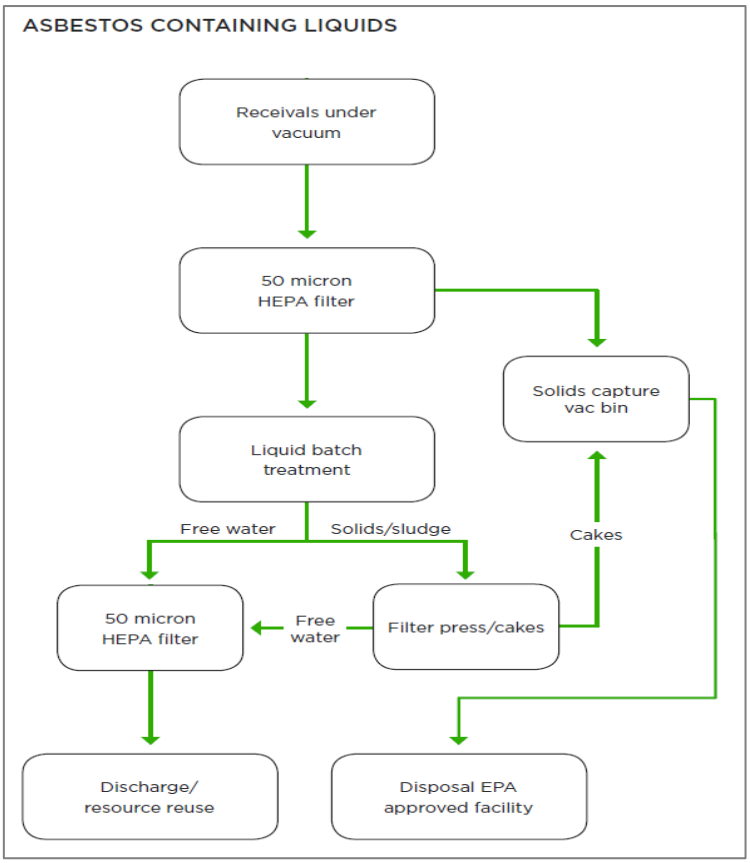
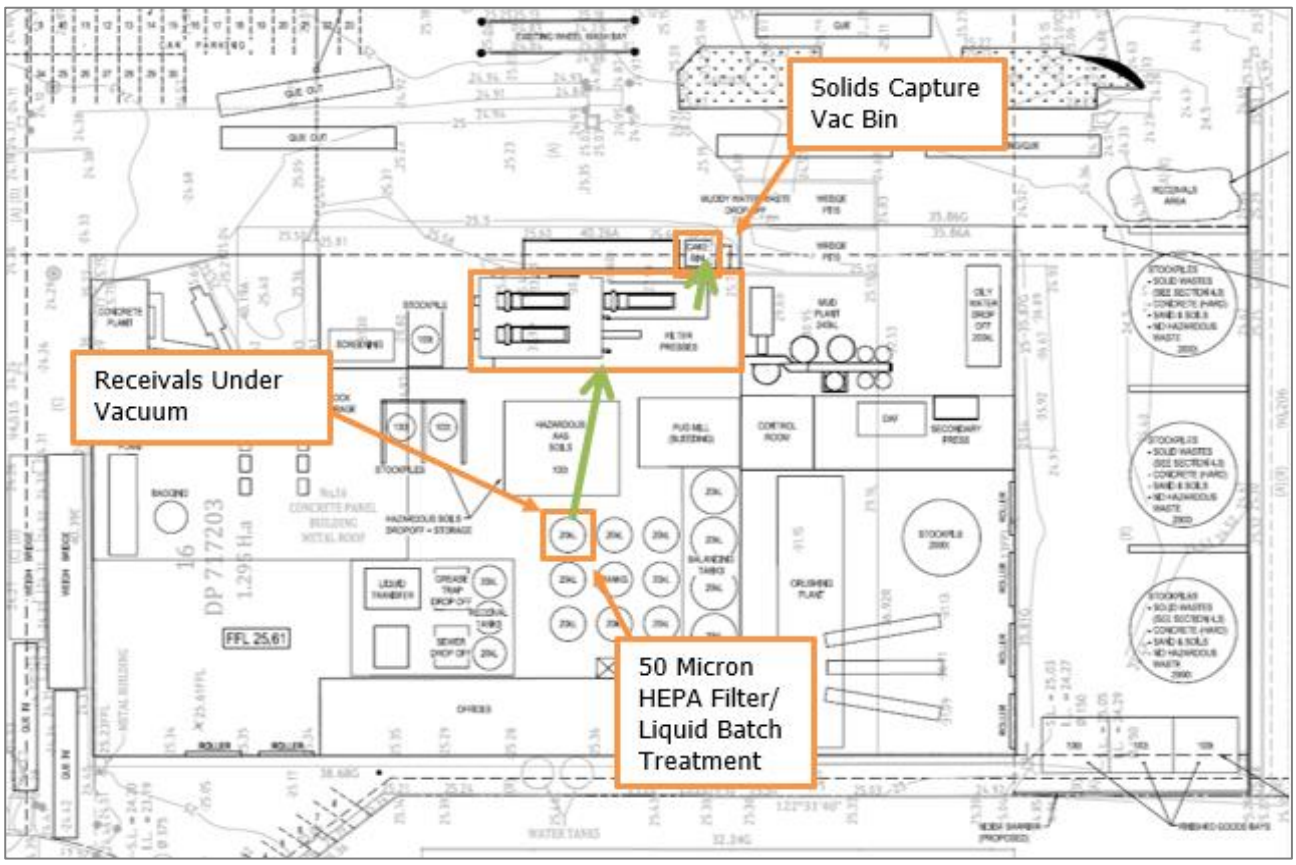


Figure 19 – Asbestos Containing Water Waste Processing Location and Process Flow



4.6 Solid and Liquid Waste Transfer

Types of waste to be brought onto site for holding and transfer to approved facilities for processing will include:

- ENM and VENM;
- Paints, Solvents and Lacquers; and
- Hydrocarbons such as Fuels and Kerosene.

The unloading and loading procedure for liquid waste is proposed to be as follows:

- Vehicle enters the site and is cleared for entry;
- Vehicle moves to unloading within the main building;
- Waste material is sampled for verification;
- If cleared, liquid waste is pumped directly into holding tank and vehicle is cleared to leave the site; and
- For transport offsite, liquid is directly transferred to vehicle with required verification provided.

Solid waste transfer materials will be unloaded and loading similarly to the solid waste process as follows:

- Vehicle enters site, load is inspected, and is cleared for entry;
- Vehicles to unload in designated area;
- Sampling of the load undertaken. Once cleared, vehicle exits the site;
- Front end loader moves material to designated area for storage; and
- When vehicle arrives for transport from the site, front end loader moves material from designated area directly to vehicle.

Each transfer only liquid will be limited to 1,000L. In total, 5,000L will be provided to transfer only liquids ensuring a maximum of 5 transfer only liquid wastes are stored at any one time. Storage amounts are inline with relevant Standards. Each will be held in bunded tanks for transfer and will be cleaned to ensure cross-contamination does not occur when it is intended to store different wastes.

Storage of VENM and ENM is largely based on market demand however will not exceed 20,000t at any one time. These materials will be kept in bunded areas and segregated according to waste type.

The receival of these transfer wastes is included within the proposed 225,000tpa limit for the site.

4.7 Concrete Works

4.7.1 Concrete Batching Plant Operation

The concrete batch plant at the northern corner of the warehouse is proposed to be upgraded to a modern rationalised design, see Appendix A for site plan. The cement and sand silos are located inside the building and the concrete batcher and truck loading will be erected on the external wall within a proposed external structure (refer to architectural plans in Appendix A). All equipment proposed to be installed as outlined in Table 12, will be designed to suit the proposed batching structure and have been selected to minimise impacts.

The current concrete batching element is approved to process up to 50,000tpa of concrete under (Order No.10257 of 2006 approved on 9 March 2007) and is proposed to operate between 3am – 10pm to meet market demand. Allowing operation of the batch plant early in the morning will ensure that concrete can be readily loaded into trucks and delivered to construction sites.

The concrete batching process displayed in the flow diagram provided at in Figure 20, will (where possible) utilises recovered resources from the crushing and liquid waste processing. This includes foundry sand, fly ash, and recovered aggregates. Table 12 provides a full list of the equipment required.

Figure 20 – Product Destruction Configuration

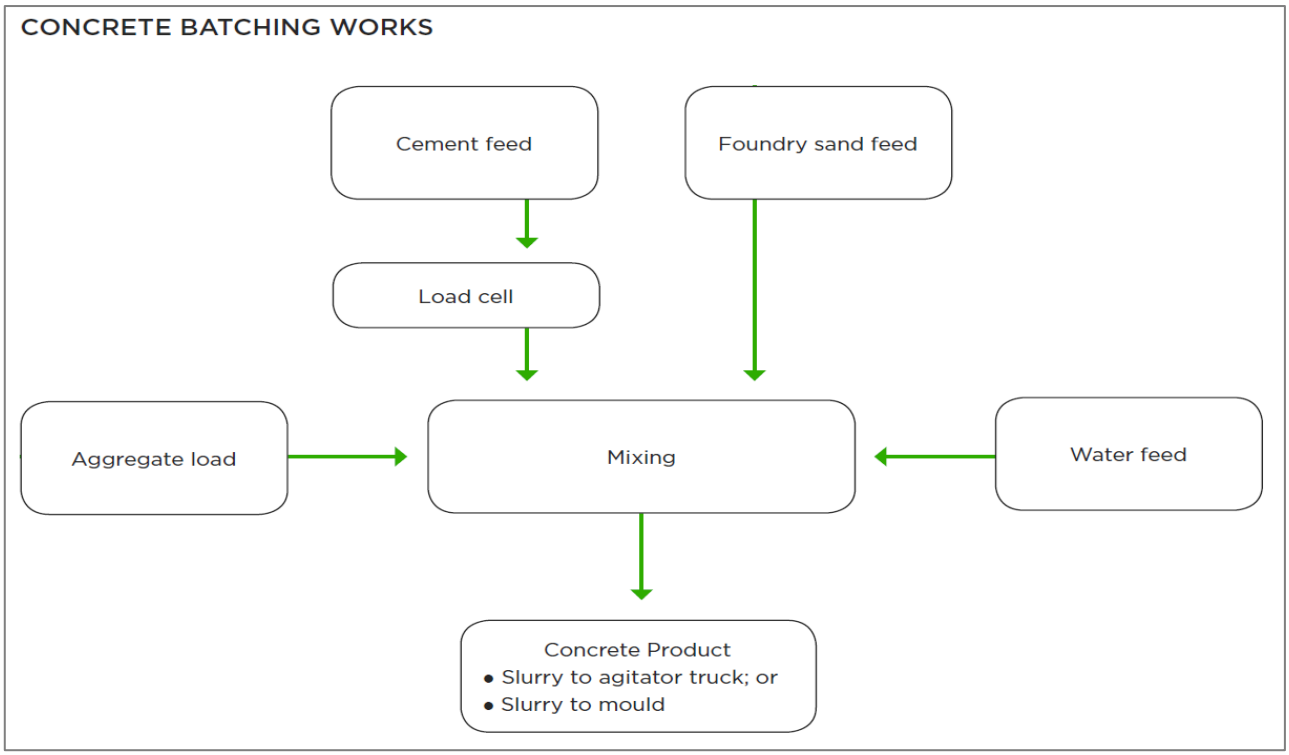


Table 12 – Concrete Batch Plant Equipment and Vehicles

Concrete Batching Plant	Vehicles
2 x Silos 1 x Finger Crusher 2 x Load Cell 1 x Gob Hopper 4 x Additive Tanks and Feeds	2 x Excavators 3 x Front End Loader 1 x Forklift 1 x Street Sweeper 1 x Water Cart

4.7.2 Concrete Block Manufacture

Concrete blocks are manufactured on site within the building within close proximity to the concrete batching plant (refer Appendix A). The concrete blocks are manufactured from almost 100% recovered product for supply to construction projects and landscape material suppliers. This is an initiative being trialled by BRS to reduce waste going to landfill by reusing waste material and replacing traditional virgin materials used in concrete manufacture. Prior to inclusion in the process, all wastes are classified for use with any contamination to be within acceptable standards.

Recovered materials will be sourced on site or purchased from other suppliers and include:

- Foundry sands;
- Reject glass fines;
- Timber waste;
- Reject concrete;
- Reclaimed asphalt;
- Slag;
- Contaminated soils;
- Various baghouse fines and 'dusts' from dust collection operations;
- Recovered aggregates;
- Drilling muds;
- Fly ash; and
- Reject cement.

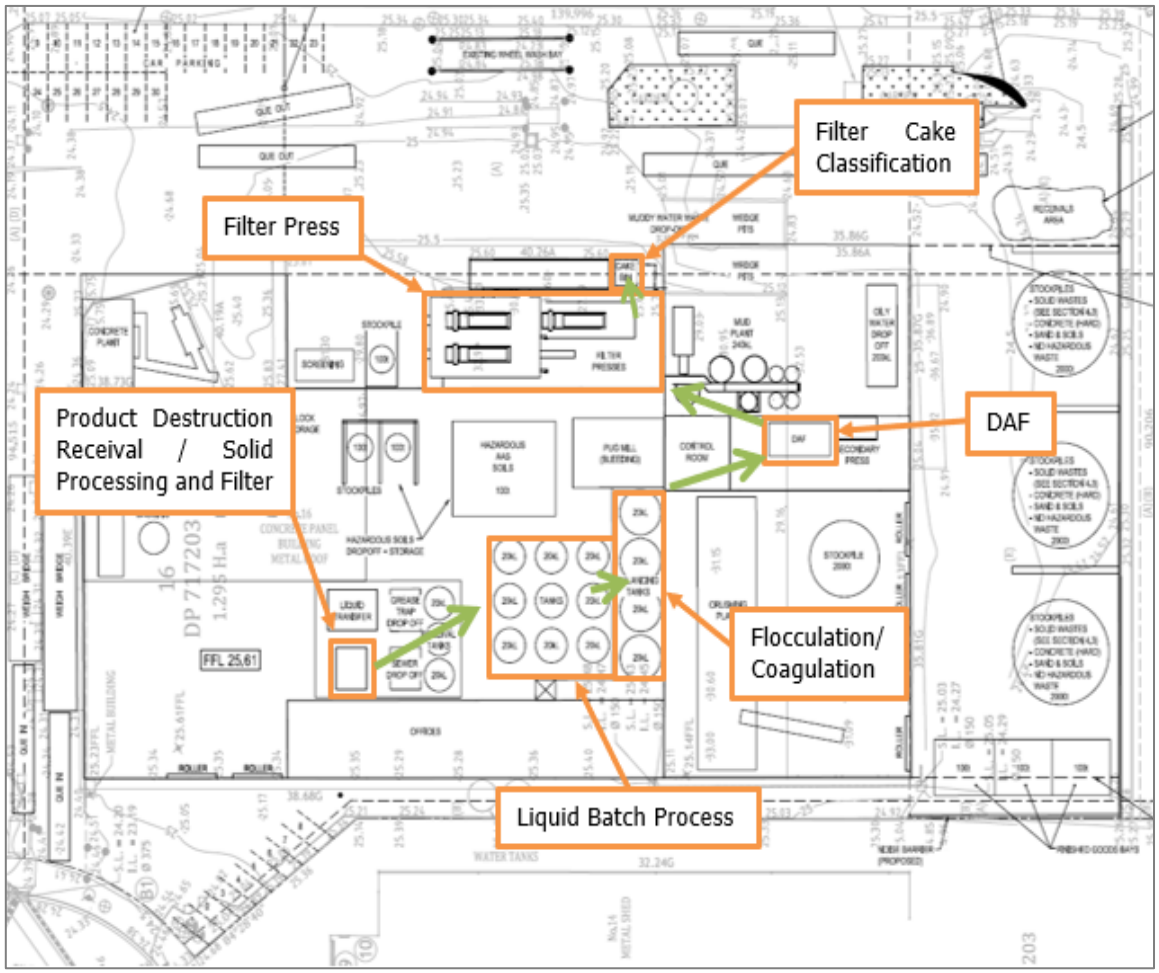
Water used in the process is also recovered from drilling muds and water capture processes.

A range of concrete blocks are sold by BRS and include 900kg and 2.3t blocks. These blocks are used at construction sites and operations which stockpile material such as landscape material suppliers and resource recovery facilities.

4.8 Product Destruction

Product will be received on site in pallets or boxes and will generally be liquid products such as soft drink and alcoholic beverages. The storage of waste material will be capped at 20kL at any one time with the annual amount processed expected to be small and as required by clients. The packaging will be put through a shredder or crusher dependent on packaging material. Liquid products will be put through a filter to capture any solids such as glass before being transported off site for soil injection. The remaining material will be processed to remove residues via a spray bar on a conveyor. The resultant waste will then be then sent to an appropriately licenced recycling facility for further processing. Any liquid will be directed to the liquid treatment plant for batch treatment. The layout of the process is displayed at Figure 21.

Figure 21 – Product Destruction Location



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5 Statutory Context

The statutory provisions of the following NSW and Commonwealth legislation, regulations and Environmental Planning Instruments (EPIs) are relevant to the proposed development and are therefore addressed in this Section of the EIS. They include;

- *Environmental Protection and Biodiversity Conservation Act 1999;*
- *Environmental Planning and Assessment Act, 1979;*
- *Environmental Planning and Assessment Regulation 2000;*
- *Protection of the Environment Operations Act 1997;*
- *Protection of the Environment Operations (General) Regulation 2009;*
- *Protection of the Environment Operations (Waste) Regulation 2014;*
- *State Environmental Planning Policy (State and Regional Development) 2011;*
- *State Environmental Planning Policy (Infrastructure) 2007;*
- *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;*
- *State Environmental Planning Policy No. 55 – Remediation of Land;*
- *The Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment; and*
- *Campbelltown Local Environmental Plan 2015.*

5.1 Environmental Protection and Biodiversity Conservation Act 1999

The provisions of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) have been considered. A desktop investigation and an EPBC Protected Matters Search has been undertaken and found no protected areas; RAMSAR Wetlands; nationally important wetland; Commonwealth, World, or National heritage places, or marine reserves within or near the site. As such, no Commonwealth Environmental Matters applicable to the site or the surrounds were found under Division 1 of Part 3 of the EPBC Act.

5.2 Environmental Planning and Assessment Act 1979

The proposed development, as with all development applications in NSW, is subject to the provisions of the *Environmental Planning and Assessment Act 1979* (EPA Act 1979) and associated Regulation 2000.

Section 4.36 provides provisions for EPIs or the Minister to declare development to be State Significant Development. The proposed expansion is considered to be SSD under the SEPP (State and Regional Development) 2011 by way of Schedule 1 Clause 23 *Waste and resource management facilities*. See Section 5.5.1 for further details on how the proposed expansion is declared to be SSD.

5.2.1 State Significant Development Assessment

Part 4 Division 4.7 of the EP&A Act deals with SSD, for which the Minister is the consent authority.

Section 4.40 designates the matters outlined within Section 4.15 for the evaluation of SSD, as addressed throughout this EIS.

Section 4.42 - Approvals etc legislation that must be applied consistently

(1) An authorisation of the following kind cannot be refused if it is necessary for carrying out State significant development that is authorised by a development consent under this Division and is to be substantially consistent with the consent:

(a) an aquaculture permit under section 144 of the Fisheries Management Act 1994,

(b) an approval under section 15 of the Mine Subsidence Compensation Act 1961,

(c) a mining lease under the Mining Act 1992,

(d) Note. Under section 380A of the Mining Act 1992, a mining lease can be refused on the ground that the applicant is not a fit and proper person, despite this section.

(e) a production lease under the Petroleum (Onshore) Act 1991,

(f) Note. Under section 24A of the Petroleum (Onshore) Act 1991, a production lease can be refused on the ground that the applicant is not a fit and proper person, despite this section.
(g) an environment protection licence under Chapter 3 of the Protection of the Environment Operations Act 1997 (for any of the purposes referred to in section 43 of that Act),
(h) a consent under section 138 of the Roads Act 1993,
(i) a licence under the Pipelines Act 1967.

As discussed in the following pages, the operation must amend their existing environmental protection licence (EPL) following the granting of any development consent.

5.2.2 Section 4.15 Assessment

Under Section 4.15 of the EP&A Act, in determining a development application a consent authority is to take into consideration specified matters that are of relevance to the development. The following provides a summary evaluation of the proposed SSD against the relevant Section 4.15 specified matters:

(a)(i) the provisions of any Environmental Planning Instrument

Response: The relevant EPIs applying to the development have been addressed in detail in Section 5 of this EIS. The proposed development is consistent with the applicable EPI's.

(a)(ii) the provisions of any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved)

Response: There are no draft instruments of relevance to the proposal.

(a)(iii) the provisions of any development control plan

Response: For SSD, the provisions of a development control plan (DCP) are not applicable as provided by Clause 11 of SEPP (State and Regional Development) 2011.

(a)(iiia) the provisions of any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F

Response: No planning agreements apply to the site or are relevant to the proposed development.

(a)(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph)

Response: Clause 92(1) of the Regulation outlines the additional prescribed matters that a consent authority must consider in determining a development application, as follows:

'(a) in the case of a development application for the carrying out of development:
(i) in a local government area referred to in the Table to this clause, and
(ii) on land to which the Government Coastal Policy applies,
the provisions of that Policy…'

Response: Campbelltown is not a listed local government area within the stated table.

'(b) in the case of a development application for the demolition of a building, the provisions of AS 2601…'

Response: the proposal does not involve the demolition of a structure or building.

'(c) in the case of a development application for the carrying out of development on land that is subject to a subdivision order made under Schedule 5 to the Act, the provisions of that order and of any development plan prepared for the land by a relevant authority under that Schedule…'

Response: The site is not subject to a subdivision order.

'(d) in the case of the following development, the Dark Sky Planning Guideline:
(i) any development on land within the local government area of Coonamble, City of Dubbo, Gilgandra or Warrumbungle Shire,
(ii) development of a class or description included in Schedule 4A to the Act, State significant development or designated development on land less than 200 kilometres from the Siding Spring Observatory.'

Response: The proposed development is not within 200km of the Siding Spring Observatory and is not located within the listed local government areas.

(a)(v) (Repealed)

Response: Repealed

1(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality

Response: The matters relating to impacts on the natural and built environments along with social and economic impacts on the area have been addressed throughout this EIS.

1(c) the suitability of the site for the development

The suitability of the site has also been discussed throughout this EIS. The expansion of the existing operation is consistent with the objectives of the IN1 General Industrial Zone and is compatible with the existing and permissible land uses within the locality of Ingleburn. The site is acknowledged as being a highly accessible site with excellent access and proximity to services and facilities.

Detailed site investigations undertaken have identified the suitability of the site for the proposal, along with mitigation measures and management practices to ensure quality environmental outcomes.

Once operational, an operational environmental management plan will guide the management practices on the site ensuring safe and effective operation of the site in an environmentally conscious manner; a waste management plan will be implemented to ensure the effective and efficient management of waste for the development and a heavy vehicle travel plan will be implemented to minimise vehicle impacts on the surrounding road network.

Once the operation has implemented all recommended mitigation measures outlined within Section 9 of this EIS there should not be any significant environmental constraints that hinder the proposed expansion of the operation and accordingly, the site is considered suitable for the proposal.

1(d) any submissions made in accordance with this Act or the regulations

Response: Any submissions made will be assessed by the DoP. Consultation has been undertaken during the preparation of this EIS. This involved consultation with the community and referral to agencies relevant to the proposed development to communicate the development proposal and the matters being further investigated and assessed during resolution of the final design.

As discussed in Section 3, agency correspondence received has been taken into account in the design of the development. No responses from the community were received.

1(e) the public interest

Response: The proposed expansion of the existing RRF is considered consistent with the zone objectives as it enhances the resource recovery opportunities while being located in proximity to industrial development within Ingleburn. The proposal will also increase employment opportunities in an area with good public transport access.

The proposed development provides an enhanced operation which will meet the resource recovery needs of the broader Sydney region while achieving the resource recovery goals outlined within the following NSW State Government publications:

- A Metropolis of Three Cities – Greater Sydney Regional Plan (2018);
- Our Greater Sydney 2056 – Western City District Plan (2018);
- Protection of the Environment Operations (Waste) Regulation, 2014; and
- NSW Waste Avoidance and Resource Recovery Strategy 2014 – 2021.

As discussed throughout this EIS the likely impact on the environment has been minimised with the adoption of physical and operational mitigation measures. The proposal is therefore considered to be in the public interest.

5.3 Environmental Planning and Assessment Regulation 2000

Part 1 of Schedule 3 of the *Environmental Planning and Assessment Regulation 2000 (Regulation),* lists a number of developments declared to be designated development for the purpose of Section 77A of the EP&A Act. The proposed development would trigger designated development under clause 32 of Part 1 Schedule 3 of the EP&A Regulation as it proposes to produce greater than 30,000tpa and is located within 250 metres of a dwelling not associated with the development.

However, as the proposal also triggers state significant development under the SEPP (State and Regional Development) 2011, it is not treated as designated development.

5.4 Protection of the Environment Operations Act 1997 and Regulations

The existing operation holds an existing Environmental Protection Licence (EPL) from the NSW EPA as required under Section 48 of the Protection of the Environment Operations Act 1997 (POEO Act) with requirements outlined within the POEO (General) Regulation and the POEO (Waste) Regulation. This licence provides conditions under which the operation must comply related to materials, monitoring requirements and reporting requirements.

Conditions within the EPL will need to be amended to facilitate the proposed expansion to the development. If development consent is granted an application to the appropriate regulatory authority, the NSW EPA, will be submitted requesting amendments to the existing EPL under Section 58.

5.5 State Environmental Planning Policies (SEPPs)

The proposal is consistent with all applicable SEPPs, as outlined in the Table 13 and Deemed SEPPs as outlined in Table 14. Each applicable SEPP and Deemed SEPP has been addressed in their respective sections.

Table 13 – Outline of SEPP Applicability

No.	Title	Consistency with the Planning Proposal
19	Bushland in Urban Areas	As the proposal will not affect native vegetation this SEPP is not applicable.
21	Caravan Parks	Not applicable.

26	Littoral Rainforests	Not applicable.
30	Intensive Aquaculture	Not applicable.
33	Hazardous and Offensive Development	Due to the nature of the proposal, this SEPP has been addressed at Section 5.5.3.
36	Manufactured Home Estates	Not applicable.
44	Koala Habitat Protection	Not applicable.
47	Moore Park Showground	Not applicable.
50	Canal Estate Development	Not applicable.
52	Farm Dams and other works in Land and Water Management Plan Areas	Not applicable.
55	Remediation of Land	The relevant issues raised in SEPP 55 has been addressed at Section 5.5.4
62	Sustainable Aquaculture	Not applicable.
64	Advertising and Signage	Not applicable.
65	Design Quality of Residential Flat Development	Not applicable.
70	Affordable Housing (Revised Schemes)	Not applicable.
	Affordable Rental Housing 2009	Not applicable.
	Building Sustainability Index (BASIX) 2004	Not applicable.
	Coastal Management 2018	Not applicable.
	Exempt and Complying Development Codes 2008	In accordance with this SEPP certain minor development may be undertaken as exempt or complying development. The proposal is consistent with this SEPP.
	Housing for Seniors or People with a Disability 2004	Not applicable.
	Infrastructure 2007	The relevant provisions of the infrastructure SEPP have been addressed at Section 5.5.2.
	Integration and Repeals 2016	Not applicable.
	Kosciuszko National Park - Alpine Resorts 2007	Not applicable.
	Kurnell Peninsula 1989	Not applicable.
	Mining Petroleum Production and Extractive Industries 2007	Not applicable.
	Miscellaneous Consent Provisions 2007	Not applicable.
	Penrith Lakes Scheme 1989	Not applicable.
	Rural Lands 2008	Not applicable.

	State and Regional Development 2011	As the proposal triggers state significant development, the relevant provisions of this SEPP have been addressed at Section 5.5.1.
	State Significant Precincts 2005	Not applicable.
	Sydney Drinking Water Catchment 2011	Not applicable.
	Sydney Region Growth Centres 2006	Not applicable.
	Three Ports 2013	Not applicable.
	Urban Renewal 2010	Not applicable.
	Vegetation in Non-Rural Areas 2017	No vegetation is proposed to be removed.
	Western Sydney Employment Area	Not applicable.
	Western Sydney Parklands 2009	Not applicable.

Table 14 – Applicability of Deemed SEPPs

No	Title	Consistency with the Proposal
2	Georges River Catchment	The site is located within the Georges River catchment area. The deemed SEPP has been addressed at Section 5.5.5.
8	Central Coast Plateau Areas	Not applicable.
9	Extractive Industry 1995	Not applicable.
16	Walsh Bay	Not applicable.
20	Hawkesbury-Nepean River 1997	Not applicable.
24	Homebush Bay Area	Not applicable.
26	City West	Not applicable.
30	St Mary's	Not applicable.
33	Cooks Grove	Not applicable.
	Sydney Harbour Catchment 2005	Not applicable.

5.5.1 SEPP (State and Regional Development) 2011

Clause 8 of SEPP (State and Regional Development) 2011 details what development is declared to be SSD under the SEPP.

Clause 8 Declaration of State significant development: section 4.36

(1) Development is declared to be State significant development for the purposes of the Act if:
(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and
(b) the development is specified in Schedule 1 or 2.

Waste and Resource Management Facilities are referred to within Schedule 1 of the State and Regional Development SEPP.

(1) Development for the purpose of regional putrescible landfills or an extension to a regional putrescible landfill that:
(a) has a capacity to receive more than 75,000 tonnes per year of putrescible waste, or
(b) has a capacity to receive more than 650,000 tonnes of putrescible waste over the life of the site, or
(c) is located in an environmentally sensitive area of State significance.
(2) Development for the purpose of waste or resource transfer stations in metropolitan areas of the Sydney region that handle more than 100,000 tonnes per year of waste.
(3) Development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes per year of waste.
(4) Development for the purpose of waste incineration that handles more than 1,000 tonnes per year of waste.
(5) Development for the purpose of hazardous waste facilities that transfer, store or dispose of solid or liquid waste classified in the Australian Dangerous Goods Code or medical, cytotoxic or quarantine waste that handles more than 1,000 tonnes per year of waste.
(6) Development for the purpose of any other liquid waste depot that treats, stores or disposes of industrial liquid waste and:
(a) handles more than 10,000 tonnes per year of liquid food or grease trap waste, or
(b) handles more than 1,000 tonnes per year of other aqueous or non-aqueous liquid industrial waste.

With a proposed yearly handling rate of 225,000 tonnes per annum the proposed Resource Recovery expansion is covered by Schedule 1 Part 23 (3). In addition, the site will accept greater than 1,000 tonnes per year of aqueous liquid industrial waste which also triggers Schedule 1 Part 23 (6). As such the development is deemed to be State Significant Development under the State and Regional Development SEPP 2011.

5.5.2 SEPP (Infrastructure) 2007

Part 3 Division 23 provides provisions relating to the establishment of waste and resource management facilities on specific land zonings.

Part 3 Division 23 - Waste and Resource Management Facilities

Waste and Resource Management Facilities are included in the Infrastructure SEPP 2007 under Part 3 Division 23. Clause 121 of the SEPP establishes locations in which waste or resource transfer station are permissible with consent under this SEPP.

121 Development permitted with consent

(1) Development for the purpose of waste or resource management facilities, other than development referred to in subclause (2), may be carried out by any person with consent on land in a prescribed zone.
(2) Development for the purposes of a waste or resource transfer station may be carried out by any person with consent on:
(a) land in a prescribed zone, or
(b) land in any of the following land use zones or equivalent land use zones:
(i) B5 Business Development,
(ii) B6 Enterprise Corridor,
(iii) IN2 Light Industrial,
(iv) IN4 Working Waterfront, or
(c) land on which development for any of the following purposes is permitted with consent under any environmental planning instrument:
(i) industry,
(ii) business premises or retail premises,
(iii) freight transport facilities.

(3) Development for the purpose of the recycling of construction and demolition material, or the disposal of virgin excavated natural material (as defined by the Protection of the Environment Operations Act 1997) or clean fill, may be carried out by any person with consent on land on which development for the purpose of industries, extractive industries or mining may be carried out with consent under any environmental planning instrument.

A prescribed zone is defined under Clause 120 Definitions of the Infrastructure SEPP as the following:

prescribed zone *means any of the following land use zones or a land use zone that is equivalent to any of those zones:*

(a) RU1 Primary Production,
(b) RU2 Rural Landscape,
(c) IN1 General Industrial,
(d) IN3 Heavy Industrial,
(e) SP1 Special Activities,
(f) SP2 Infrastructure.

As waste management facility are permissible with consent in prescribed zones under Clause 121(1) and the site is located within an IN1 General Industrial zone which is defined as a prescribed zone the proposed waste management facility is permissible under the Infrastructure SEPP 2007.

Schedule 3 – Traffic generating development to be referred to RMS

Under Schedule 3 of the Infrastructure SEPP 2007 any applications for landfill operation, recycling facilities, and waste or resource transfer stations must be referred to the NSW Roads and Maritime Services (RMS) no matter what size or capacity. As such, this development will be required to be referred to the RMS

5.5.3 SEPP 33 – Hazardous and Offensive Development

State Environmental Planning Policy No 33 (SEPP 33) aims to ensure that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimise any adverse impact.

Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines provides guidance to on whether SEPP 33 applies to the development as either a potentially hazardous or offensive industry or a potentially hazardous or offensive storage facility.

In accordance with SEPP 33, a Risk Screening Report has been prepared by Hazkem Pty Ltd in accordance with the current circulars and guidelines. This report classifies material to be found on the site and provides an assessment of the risk associated with the material.

This report determines that none of the materials which are proposed to be brought to the site are dangerous goods under the Australian Code for Transportation of dangerous Goods by Road and Rail (Dangerous Goods Code). The report concludes that the development would not be classified as "potentially hazardous" hence the requirements of SEPP 33 have been addressed.

The site as a resource recovery facility is deemed to be a potentially offensive industry however it was not considered to be an offensive industry if it falls within a licensable activity of the Department of Environment Climate Change and Water (DECCW). This proposal falls within a Schedule 1 Activity under the POEO Act and currently holds a required licence which will be amended to accommodate the proposed development. Based on the ability to comply with the POEO Act and its licence requirements it is determined that the proposed activity is not considered to be an offensive industry.

5.5.4 SEPP 55 - Remediation of Land

State Environmental Planning Policy No 55 – Remediation of Land (SEPP 55) contains guidelines and prescriptive measures with regard to site contamination and remediation requirements for all land-based development across NSW. In considering a development application for new development, the consent authority is to have regard for the prescriptive requirements of Clause 7 of the SEPP, namely:

Contamination and remediation to be considered in determining development applications.

A consent authority must not consent to the carrying out of any development on land unless:

(a) It has considered whether the land is contaminated. And
(b) If the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and
(c) If the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

A Stage 2 Environmental Investigation has been undertaken by *Dirt Doctors* (refer to Appendix E), to determine the current contamination status of the site and identify appropriate management practices in relation to the proposed SSD.

Based on a review of documentation the site was previously vacant before being used as an industrial development of similar nature to the existing with no major changes noted. A search of the NSW EPA Contaminated Land Management record of notices found no notices have been issued to the site nor were any noted in the surrounding area. In addition, a search of the POEO public register for licenced and delicensed operations found no premises currently holding or have held a licence within 200 metres of the site.

Soil investigations were undertaken on the site with the collection of thirty two (32) soil samples with two (2) ground water samples. No traces of contamination within soil and groundwater samples were found. Based on both soil and ground water testing and site investigation, no asbestos was found on the site.

As a result of the assessment and consideration of the land use, the site has been deemed to be suitable for ongoing use in the industrial setting and does not require any remediation works. It is therefore considered the site is compliant with SEPP 55.

5.5.5 Greater Metropolitan Regional Environmental Plan No.2–Georges River Catchment

The site is within the Campbelltown local government area which is defined as contributing to the Georges River Catchment. The site is therefore subject to the provisions of the Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment (GMREP).

Waste management facilities are identified within the Planning Controls Table at *Part 3 Clause 11* of the GMREP and is therefore subject to the prescribed controls.

22 WASTE MANAGEMENT FACILITY OR WORKS

Definition

Development for the purpose of waste management facilities or works described in Schedule 3 (Designated Development) to the Environmental Planning and Assessment Regulation 1994.

Planning controls

Development consent required unless on flood liable land, in which case it is prohibited.

Advertised.

Specific matters for consideration

- *A system is to be required to manage leachate surface controls on the land on which the waste management facility or works is or are proposed.*
- *A site management plan is to be required for the land on which the waste management facility or works is or are proposed.*
- *The likelihood of groundwater contamination.*
- *The adequacy of the proposed leachate management system and surface water controls.*
- *The long-term stability of the final landform and the adequacy of the site management plan.*
- *Where the proposed development involves extraction of material, whether an adverse impact on the Georges River or its tributaries will result.*

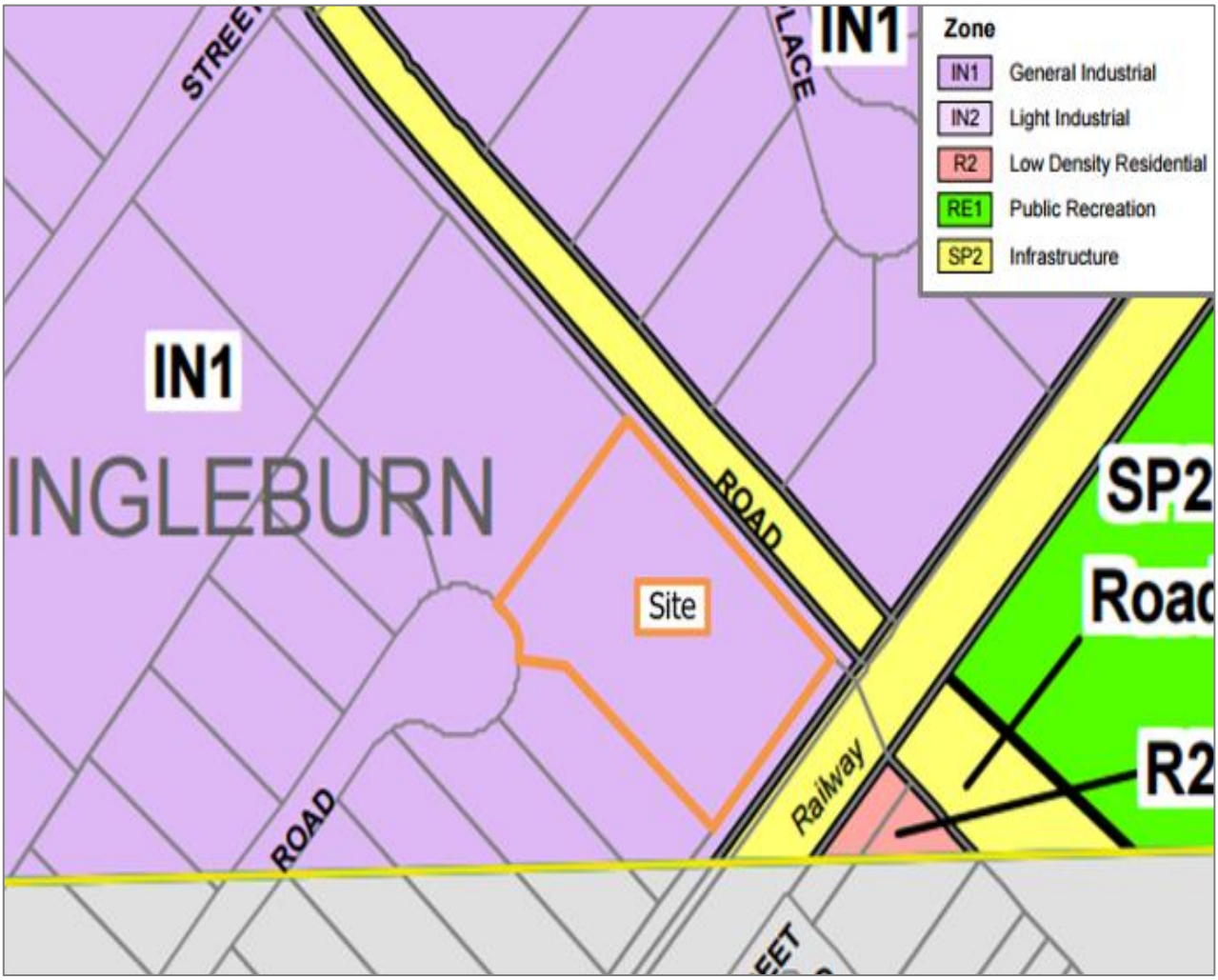
The proposed development is an expansion of an existing resource recovery facility previously approved whilst subject the GMREP.

The existing development includes an extensive hardstand area which channels surface water and leachate into a water management system which treats, and re-uses captured water within the resource recovery process, the adequacy of the system is outlined at Appendix B.

5.6 Campbelltown Local Environmental Plan 2015

The Campbelltown LEP 2015 indicates that the site is within the IN1 General Industrial Zone, as illustrated in Figure 22.

Figure 22 – Extract from CLEP 2015 (Map LZN_011)



The Land Use Table for the IN1 General Industrial Zone follows.

Zone IN1 General Industrial

1 Objectives of zone

- *To provide a wide range of industrial and warehouse land uses.*
- *To encourage employment opportunities.*
- *To minimise any adverse effect of industry on other land uses.*
- *To support and protect industrial land for industrial uses.*
- *To provide for a range of facilities and services to meet the day-to-day needs of workers in the area.*
- *To enable non-industrial land uses that are compatible with and do not detract from industrial and warehouse uses or impact on the viability of existing centres.*
- *To ensure that any commercial, retail or other non-industrial development is not likely to adversely affect employment generating activities or opportunities.*
- *To facilitate diverse and sustainable means of access and movement.*

2 Permitted without consent

Nil

3 Permitted with consent

Animal boarding or training establishments; Boat building and repair facilities; Car parks; Depots; Environmental facilities; Environmental protection works; Flood mitigation works; Freight transport facilities; Garden centres; General industries; Hardware and building supplies; Helipads; Highway service centres; Industrial retail outlets; Industrial training facilities; Kiosks; Landscaping material supplies; Light industries; Mortuaries; Neighbourhood shops; Passenger transport facilities; Places of public worship; Roads; Rural industries; Rural supplies; Service stations; Sex services premises; Signage; Storage premises; Take away food and drink premises; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Veterinary hospitals; Warehouse or distribution centres

4 Prohibited

Any development not specified in item 2 or 3

The following definition from the LEP 2015 is provided:

waste or resource management facility *means any of the following:*

(a) a resource recovery facility,
(b) a waste disposal facility,
(c) a waste or resource transfer station,
(d) a building or place that is a combination of any of the things referred to in paragraphs (a)–(c).

resource recovery facility *means a building or place used for the recovery of resources from waste, including works or activities such as separating and sorting, processing or treating the waste, composting, temporary storage, transfer or sale of recovered resources, energy generation from gases and water treatment, but not including re-manufacture or disposal of the material by landfill or incineration.*

Both waste or resource management facilities and resource recovery facilities are not permissible within the IN1 General Industrial zone under the Campbelltown LEP 2015. However, as the site is zoned IN1 General Industrial which is a prescribed zone under the Infrastructure SEPP, the proposed development is permissible, see Section 5.5.2 for further detail.

5.6.1 Applicable Local Environmental Plan Clauses

The following clauses of CLEP 2015 are applicable to the site:

Clause 4.1 – Minimum Subdivision Lot Size

A minimum subdivision lot size of 4,000m^2 is applicable to the site under the Campbelltown LEP 2015. No subdivision is proposed as part of this application.

Clause 4.3 – Height of Buildings

In accordance with this clause and adopted Height of Buildings Map, building on the site is permitted to have a maximum height of 12 metres. The warehouse on the site is existing with no vertical extensions proposed as part of this application.

6 Strategic Context

The relevant provisions, goals and strategic planning objectives of the following strategic documents are addressed in this Section of the EIS:

- NSW: Making It Happen;
- Greater Sydney Regional Plan – A Metropolis of Three Cities (2018);
- Western City District Plan – Our Greater Sydney 2056 (2018);
- NSW Waste and Resource Recovery Strategy 2014–21;
- Guide to Traffic Generating Development s (2002);
- Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development;
- Noise Policy for Industry (2017); and
- Campbelltown Section 94A Development Contributions Plan 2011.

6.1 NSW Making It Happen

NSW: Making it Happen was released by the Premier for NSW on 14 September 2015 and replaces the State's previous 10-year plan NSW 2021. *NSW: Making it Happen* outlines 30 key reforms for the State, including personal priorities for the Premier.

The Premier's priorities include:

- Creating jobs
- Driving public sector diversity
- Improving government services
- Keeping our environment clean
- Protecting our kids
- Reducing youth homelessness
- Delivering infrastructure
- Improving education results
- Improving service levels in hospitals
- Making housing more affordable
- Reducing domestic violence reoffending
- Tackling childhood obesity

The State Priorities include:

- Making it easier to start a business
- Boosting apprenticeships
- Increasing housing supply
- Delivering strong budgets
- Transitioning to the National Disability Insurance Scheme
- Cutting waiting times for planned surgeries
- Ensure on-time running for public transport
- Improving road travel reliability
- Reducing adult re-offending
- Encouraging business investment
- Accelerating major project assessment
- Protecting our credit rating
- Improving Aboriginal education outcomes
- Better government digital services
- Increasing cultural participation
- Creating sustainable social housing
- Reducing violent crime
- Reducing road fatalities

The proposal aligns with these priorities, in particular through:

- Creating more jobs both directly within the business and indirectly through material transport; and
- Keeping our environment clean through establishing cost-effective resource recovery options diverting waste from landfill.

6.2 Greater Sydney Regional Plan – A Metropolis of Three Cities (2018)

The Greater Sydney Regional Plan released in March 2018 provides the future strategic vision for the Sydney Region extending to 2056.

Vision

"Greater Sydney is Australia's global city; an economic powerhouse of 4.7 million people, endowed with the natural beauty of its Harbour, bushland, beaches and the Blue Mountains. Greater Sydney's people have embraced this place for its opportunities and its potential."

The proposed development accords with the overall vision for the Sydney region by contributing to the sustainability and economic growth the western economic corridor and the region as a whole.

Goals, directions and actions

The proposal is consistent with the relevant goals and directions of the Greater Sydney Regional Plan, as outlined in the Table 15.

Table 15 – Consistency with the Greater Sydney Regional Plan

Directions	Objectives	How the Proposal Relates to Relevant Actions
Jobs and skills for the city	Objective 23: Industrial and urban services land is planned, retained and managed	The proposed expansion represents an opportunity to bolster an existing industrial development which contributes to the success of the broader industrial precinct.
An efficient city	Objective 33: A low-carbon city contributes to net-zero emissions by 2050 and mitigates climate change	As part of the outline for Objective 33, waste diversion from landfill is stated to be a pathway to net-zero emissions in Greater Sydney. Strategy 33.1 which supports the objective endorses support for initiatives which contribute to the objective of net zero emissions by 2050. As the proposal will directly reduce the amount of waste diverted to landfill it is considered to support the Greater Sydney Regional Plan.
	Objective 34: Energy and water flows are captured, used and re-used	The existing operation employs an extensive water management system which includes stormwater catchment, treatment and reuse. The system already caters to the needs of the proposed expansion and is therefore consistent with objective 34.
	Objective 35: More waste is re-used and recycled to support the development of a circular economy	The proposed expansion directly supports Objective 35 as it will afford an existing RRF the capacity to handle its current demand. The operation achieves the resource recovery targets outlined within *NSW Waste and Resource Recovery Strategy 2014–21.* It must be highlighted that as part of Strategy 35.1 the protection of existing waste management operations is key to achieve the objective and it is considered that the proposed expansion will improve the long-term viability of the RRF.

6.3 Western City District Plan – Our Greater Sydney 2056 (2018)

Supporting the Greater Sydney Regional Plan, the Western City District Plan provides a specific future strategic vision for Western Sydney as it develops towards 2056.

The Western Sydney District will form a city cluster representing one of the three cities envisioned within the Greater Sydney Regional Plan which includes Penrith, Liverpool, and Campbelltown-Macarthur.

Goals, directions and actions

The proposal is consistent with the relevant goals and directions of the Greater Sydney Regional Plan, as outlined in the Table 16.

Table 16 – Consistency with the Western City District Plan

Directions	Objectives	How the Proposal Relates to Relevant Actions
Planning Priority W10	Maximising freight and logistics opportunities and planning and managing industrial and urban services land	The proposal enhances existing industrial land by intensifying an established RRF located within the Ingleburn Industrial area which is listed as having 10 hectares of 315 hectares remaining undeveloped. The proposal represents a key opportunity to enhance an existing development which will contribute to the overall success of the area and provide services which will support the local community and Greater Sydney area.
Planning Priority W19	Reducing carbon emissions and managing energy, water and waste efficiently	The proposed expansion to an existing RRF directly supports the reduction in waste generation by providing a service which diverts waste from landfill and provides cost effective recovered resources for sale within the Greater Sydney region.

6.4 Guide to Traffic Generating Developments (2002)

The Traffic Impact Assessment undertaken by *Intersect Traffic* has considered this Guide and concluded that the proposal is satisfactory having regard to the traffic generation rates within the Guide. It also confirms that it meets the recommended minimum parking rates for the proposed land uses. A copy of the Traffic Impact Assessment Report is provided at Appendix D.

6.5 Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development

The Traffic Impact Assessment undertaken by *Intersect Traffic* has been prepared taking into account this Guide and concluded that the proposal is satisfactory. A copy of the Traffic Impact Assessment is provided at Appendix D.

6.6 Noise Policy for Industry (2017)

The Noise Impact Assessment undertaken by *Muller Acoustic Consulting* has considered these Guidelines and concludes that the proposal is satisfactory in terms of noise impact.

A copy of the Noise Impact Assessment Report is provided at Appendix F.

6.7 Campbelltown Section 94A Development Contributions Plan 2011

The site is situated within the land application area of the Campbelltown Section 94A Contribution Plan (2011). The proposal has a capital investment value (CIV) of approximately $2 Million as determined by the Quantity Surveyor's Report (refer to Appendix J).

Under Part B of the Plan, the maximum development levy applied in accordance with the Plan is outlined in Table 17.

Table 17 – Development Contribution Levy

Type of Development	Levy
Development, comprising work valued at less than (or equal to) $100,000	0%
Development, comprising work valued at between $100,001 and $200,000 (inclusive).	0.5%
Development, comprising work valued at more than $200,000	1%

As the proposed cost of works is greater than $200,000 as demonstrated within the Quantity Surveyors Report at Appendix J, the 1% levy is likely to be applied.

The development levy payable will contribute toward the provision of various public domain works as listed in the Plan.

6.8 Summary of Approvals and Licenses

In addition to securing development consent for the proposed expansion of the RRF, the operation is required to modify their existing Environmental Protection Licence (EPL) issued by the NSW Environment Protection Authority. The existing Trade Waste Agreement with Sydney Water (see Appendix N) will also need to be reaffirmed with the increase in discharge.

7 Environmental Assessment

Section 7 provides an assessment of the potential environmental impacts associated with the proposed expansion of an existing RRF. The assessment has been conducted against the matters for consideration of Section 4.15 of the EP&A Act; Clauses 6 and 7 of Schedule 2 of the EP&A Regulation; the items outlined within the received SEARs dated 27/09/2017; and relevant policies, guidelines and plans.

7.1 Visual Impact

In accordance with the SEARs for the proposed development, an assessment of the visual impact created by the proposed expansion has been undertaken by KDC. The assessment discusses the surrounding landscape character and character types, various viewpoints to the site, and provides an assessment of the impacts, proposed mitigation measures and conclusion.

7.1.1 Landscape Character

The landscape character of a site refers to the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how this is perceived by people. It reflects a particular combination of geology, landform, soils, vegetation, land use and human settlement and creates a particular sense of place for different areas within the landscape.

The existing landscape character of Ingleburn consists of the following key elements:

- Residential Areas;
- Industrial Precinct;
- Park Land;
- Unused Land; and
- Infrastructure – Roads and Rail.

These landscapes combined contribute to the Ingleburn setting and are the grounds on which this proposal is to be assessed. The aerial image at Figure 23 illustrates the landscape features associated with the site.

Development within the immediate vicinity of the site consists of mostly industrial premises as part of the Ingleburn Industrial Area with a residential area located to the east across a rail corridor. The character of the development is consistent with the industrial land use zoning and services the industrial precinct.

The site is located at the end of the Kerr Road cul-de-sac with Henderson Road situated to the north of the site consisting of a bridge over the adjoining rail corridor.

The topography of the site is flat which limits views from the site however, the Henderson Road bridge is elevated facilitating easy views into the site whilst on the bridge.

Figure 23 – Site Aerial

7.1.2 Character Types

Residential Area

To the south east of the site across the rail corridor is a residential area consisting of both low density and medium density residential development.

Industrial Precinct

The site sits within the existing Ingleburn Industrial Area. The area has been designed to provide a range of general industrial lots to accommodate a wide variety of warehouse and other development.

Parkland

A large park area is located to the east across Henderson Road and the rail corridor. The park area consists of large playing areas along with a variety of trees and scattered vegetation.

Infrastructure – Rail and Roadways

The site adjoins the Henderson Road rail bridge along the north eastern boundary and adjoins a rail corridor along its south eastern boundary.

Undeveloped Land

To the north east across Henderson Road is cleared land, but this is a proposed industrial precinct.

7.1.3 View Impact

This part of the visual assessment considers the likely impact that the proposal would have on the existing landscape character and visual amenity by selecting prominent sites, otherwise referred to as viewpoints. The viewpoint locations have been outlined in Figure 24.

Figure 24 – Viewpoint Locations

Viewpoint 1

Viewpoint 1 provides a south east view of the site from north of the site on Henderson Road (see Figure 24). Henderson Road is a busy 4 lane road extending from north west to south east crossing a rail corridor via a bridge. The roadway is bound by Industrial land uses north west of the rail corridor along with residential and recreational area to the south east of the rail corridor.

From this viewpoint, the operation is visible from the roadway, however the site is setback from the roadway with vegetation providing a buffer (see Figure 25). The view is dominated by the roadway and industrial development which adjoins the site. As a result, the site continues to appear as part of the existing developments which line Henderson Road. No visually significant vistas, landscape features, or buildings are visible from the viewpoint.

As the site is consistent with the development in the viewpoint and no visually significant views or landscapes are visible from the viewpoint, the visual sensitivity is considered low.

Figure 25 – South Eastern View of Site from North of the Site on Henderson Road (Google Streetview)

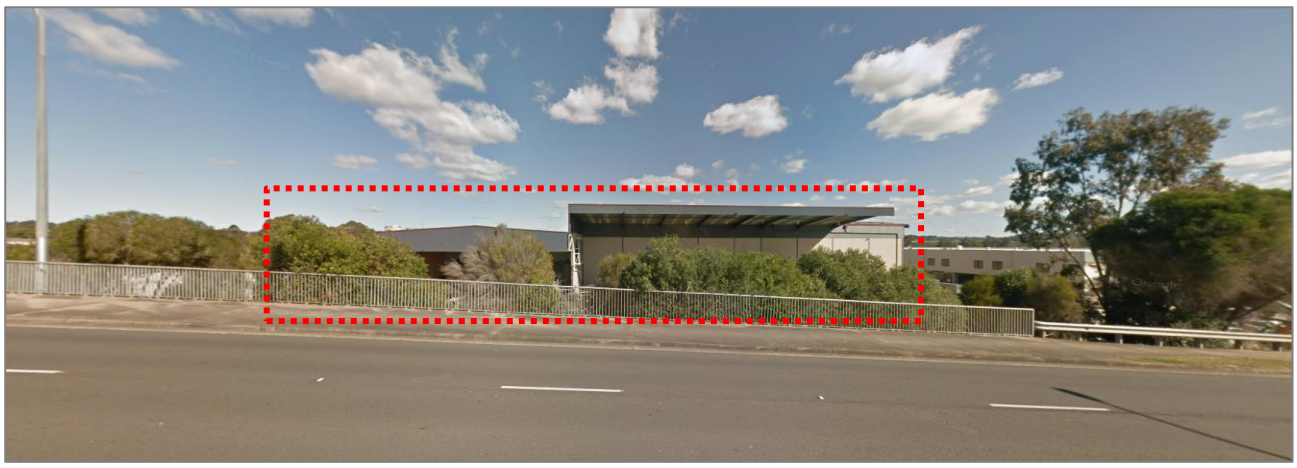
Viewpoint 2

Viewpoint 2 provides a south western view of the site from a north easterly aspect from Henderson Road (see Figure 24). Henderson Road in this section forms a bridge, which is elevated above the ground level of the site. It is bound by the site, an adjoining industrial development, and cleared undeveloped industrial land.

From this viewpoint, the operation is visible from the roadway due to proximity to the site however the site is setback from the roadway, at a lower level to the bridge, and has trees providing a visual buffer to the sit, (see Figure 26).

The site continues to appear as part of the existing developments which line Henderson Road. No visually significant vistas, landscape features, or buildings are visible from the viewpoint. Given the proximity of the viewpoint to the site, the visual sensitivity is considered to be low due to visual buffering and the context of the development within an industrial area.

Figure 26 – South Western View from North East of the Site on Henderson Road (Google Streetview)



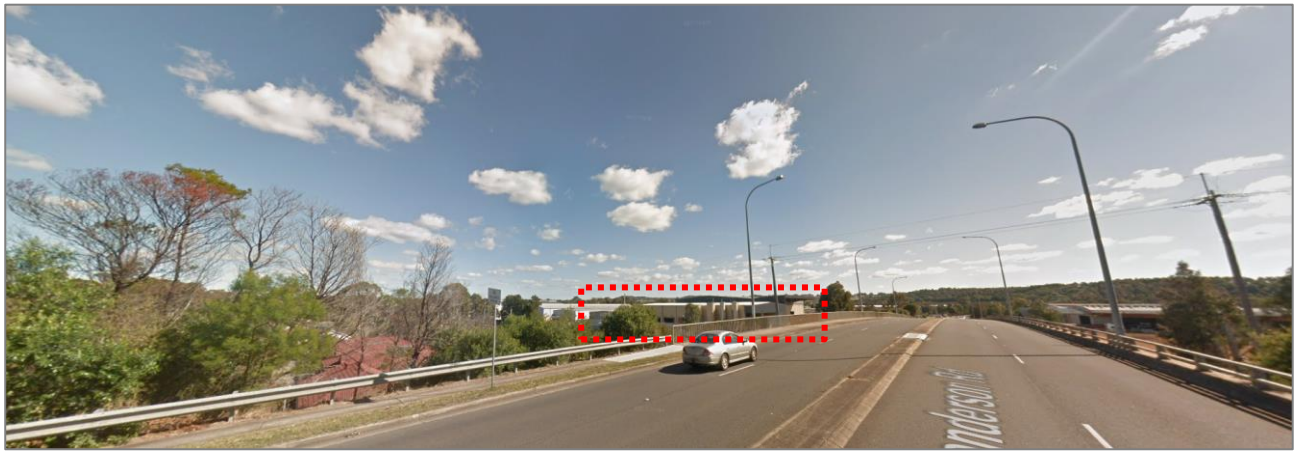
Viewpoint 3

Viewpoint 3 provides a west north western view of the site from the east from Henderson Road (see Figure 24). Henderson Road in this section forms a bridge and is elevated above the ground level of the site. It is bound by residential to the south and a park area to the north.

From this viewpoint, the operation is partially visible from the roadway however the site is setback from the roadway, at a lower level to the bridge, and has trees and the bridge safety railing providing a visual buffer to the site (see Figure 27).

The site continues to appear as part of the existing developments within the Ingleburn industrial precinct. No visually significant vistas, landscape features, or buildings are visible from the viewpoint. As the site is consistent with the visual scheme of the industrial area and is buffered through elevation differences, the visual sensitivity is considered to be low due to visual buffering and the context of the development within an industrial area.

Figure 27 – West North West View from East of the Site on Henderson Road (Google Streetview)



Viewpoint 4

Viewpoint 4 provides a south western view of the site from north east on Austool Place, approximately 150m to the north east measured from the site boundary (see Figure 24). Austool Place is an industrial area cul-de-sac lined with industrial development and some cleared undeveloped land intended to be future industrial type buildings based on existing land use zoning.

The view is dominated by the Henderson Road bridge which traverses the rail corridor with elements of the roof line and portions of the building wall on the north-eastern building elevation partially visible through street trees along Henderson Road (see Figure 28).

Given the context of the viewpoint, the site appears to be a part of a larger industrial area. No visually significant vistas, landscape features, or buildings are visible from the viewpoint. As the site is largely obscured by the bridge with roof elements partially buffered by street trees the visual sensitivity is considered to be low. It must be noted that due to the existing zoning the undeveloped land is likely to be developed with industrial type buildings which could obscure views to the site from this viewpoint in the future.

Figure 28 – South Western View from North East of the Site on Austool Place (Google Streetview)

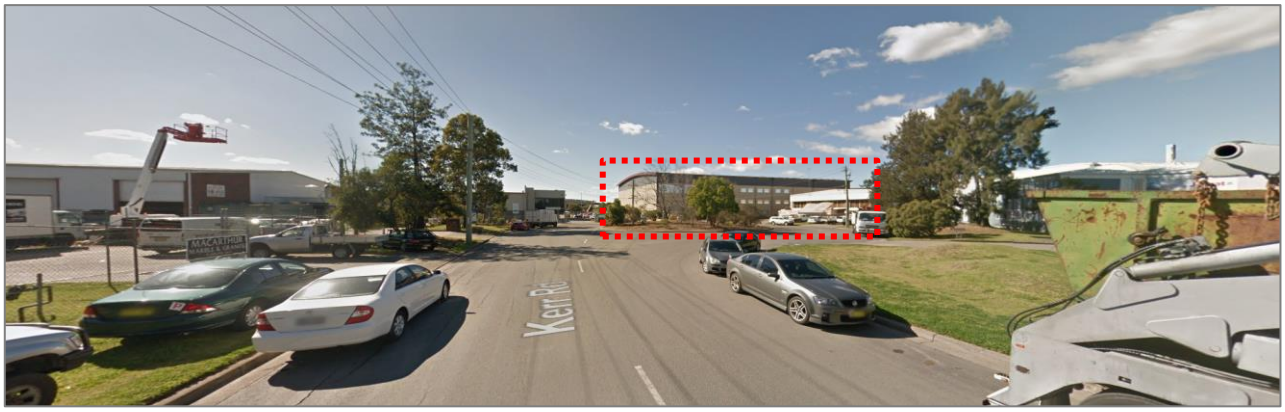
Viewpoint 5

Viewpoint 5 provides a north eastern view of the site from approximately 85m (measured from site boundary) south west of the site on Kerr Road (see Figure 24). Kerr Road is an industrial area cul-de-sac lined with industrial development.

The view consists largely of industrial buildings, Kerr Road, and street trees. The site's existing building is visible from the viewpoint and is partially buffered by street trees (see Figure 29).

From the viewpoint the site appears to be a part of a larger industrial area. No visually significant views, landscapes, features, or buildings are visible from the viewpoint. As the site is consistent with the surrounding industrial development and the view lacks significant vistas, landscape features or buildings the visual sensitivity is considered to be low.

Figure 29 – North Eastern from South West of the Site on Kerr Road (Google Streetview)



Viewpoint 6

Viewpoint 6 provides a north western view of the site from approximately 85m (measured from site boundary) south east of the site on Gordon Avenue (see Figure 24). Gordon Avenue is a two-way residential street lined with residential properties and a rail corridor.

The site is visible from the viewpoint across the rail corridor with the surrounds consisting of industrial buildings which line Kerr Road to the west, the rail corridor, residential development and street trees. The site's existing building is visible from the viewpoint (see Figure 30).

Given due consideration to the surrounding land uses, the site appears to be a part of a larger industrial area located across the rail corridor. No visually significant vistas, landscape features, or buildings are visible from the viewpoint. As the site is consistent with the surrounding industrial development and the view lacks significant vistas, landscape features, or buildings the visual sensitivity is considered to be low.

Figure 30 – North West View from South East of the Site on Gordon Avenue (Google Streetview)

7.1.4 Assessment of Visual Impacts

Overall, the proposed development would result in minimal visual impact upon the existing surrounding environment in terms of visual amenity. The visual impact associated with the proposal may vary depending on the viewing location, however as the site is existing, any perceived impact would be of minor significance to those areas affected.

As the proposal sits within the Ingleburn industrial precinct, the most direct visual impact will be the residential properties located to the south east across the rail corridor.

Generally, the low visual impact rating for all viewpoints is a result of a low visual sensitivity combined with the existing nature of the site. The specific impact on surrounding development pertaining to the site are outlined in the following pages.

Residential Area

The residential area located to the south east of the site represents the most impacted area due to the lack of visual buffer created by the rail corridor. However, as the site is located adjoining other industrial buildings of a similar nature the building is consistent with the industrial precinct which reduces the impact.

Industrial Precinct

As the site consists of an existing industrial building within the industrial precinct there will be minimal impact on the industrial precinct.

Parkland

The site is largely obscured by the location of the Henderson Road rail bridge and vegetation in the area.

Infrastructure – Rail and Roadways

The site is visible from Henderson Road and along the rail corridor however the site is located adjoining other industrial buildings as part of the larger Ingleburn industrial area. Due to the industrial nature of the area the visual impact is considered to be low.

Undeveloped Land

The cleared undeveloped land to the north east across Henderson Road is part of a future industrial precinct and is adjoined by industrial land uses. As the area is industrial in nature, the future development of the land is consistent with the industrial character of the area. As the site is being obscured by the Henderson Road rail bridge the impact on the undeveloped land is considered to be low.

7.1.5 Mitigation Measures

Recommendations for mitigating any potential impact include:

- Trees to be planted to create a visual buffer along the south eastern boundary;
- The existing established vegetation along Henderson Road and the rail corridor be retained where possible and maintained long term. This will continue to fragment views of the site; and
- The built elements of the development be maintained to a high standard, in line with the existing developments within the industrial precinct.

The mitigation measures proposed seek to avoid, reduce, and where possible, remedy adverse impacts on the environment arising from the proposal. Implementation of the mitigation measures, which propose a combination of primary mitigation measures such as tree planting and tree retention. Secondary measures such as building maintenance are proposed to reduce localised negative impacts.

When implemented, the recommended mitigation measures are likely to effectively ameliorate any significant adverse visual impact.

7.1.6 Conclusion

With the development situated within the existing Ingleburn industrial precinct, the building theme for the site is consistent with its surrounds. The south eastern residential area is separated from the industrial area by a clear break created by the rail corridor which adjoins the site however this only provides distance with no visual buffering.

It is recognised that the proposal relates to an intensification of use at an existing building with only minor building works proposed. The mitigation measures proposed in Section 7.1.5 seek to avoid, reduce and where possible, remedy any adverse effects on the environment arising from the proposed development.

7.2 Noise Impact

A Noise Impact Assessment (NIA) has been undertaken by Muller Acoustic Consulting and is summarised in this section of the EIS. The full report is presented in Appendix F.

7.2.1 Existing Noise Environment

The site is located within an industrial area bounded by Henderson Road to the north east, the Main Southern Railway to the south east and industrial receivers to the north west, west and south. The nearest residential receivers are located approximately 50 metres to the south east of the site, across the Main Southern Railway. The location of the nearby receivers is illustrated in Figure 31.

To quantify the existing background noise environment of the area, unattended noise monitoring was conducted at two locations adjacent to the site. The locations were selected to represent noise levels for two noise catchments primarily controlled by ambient traffic noise, non-site related industrial noise and urban ambient sources. Location 1, located on 24 Gordon Avenue, Ingleburn and is representative of Receivers R1 – R15. Location 2 was at 7 James Street; Ingleburn is representative of receivers R16 – R21.

Figure 31 – Assessed Sensitive Receiver Locations – Noise Impact Assessment

Noise monitoring was undertaken at two locations from 28 February to 12 March 2018 to quantify the existing ambient acoustic environment. The noise loggers continuously recorded statistical noise data over 15-minute integration periods. Calibration of all instrumentation was checked prior to and following measurements and was found to be compliant. Data affected by adverse meteorological conditions was excluded from the results and the rating background levels (RBL) were calculated for each monitoring position in accordance with the NPI.

The rating background level (RBL) and overall $L_{Aeq\ (period)}$ for the time periods of day, evening and night for the two representative monitoring locations is presented in Table 18.

Table 18 – Background Noise Monitoring Summary

Catchment and Representative Residential Receivers	Period[1]	Measured dB L_{A90} (RBL)	Measured dB $L_{Aeq\ (period)}$
L1 – Gordon Avenue (R1 – R15)	Day	42	53
	Evening	42	53
	Night	35	46
L2 – James Street (R16 – R21)	Day	42	57
	Evening	42(43)[2]	58
	Night	38	55

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Note 2: Bracketed value is measured RBL, although as per the NPI the RBL for evening can't be higher than day.

7.2.2 Noise Criteria

The NIA assessed the proposed expansion against the relevant noise guidelines including the following:

- Environment Protection Authority (EPA) 2017, *NSW Noise Policy for Industry* (NPI);
- Department of Environment and Climate Change (DECC) 2009, *Interim Construction Noise Guideline* (ICNG); and
- Department of Environment, Climate Change and Water NSW (DECCW), *Road Noise Policy* (RNP), 2011.

Operational Noise

The NPI sets out the procedure to determine the Project Noise Trigger Levels (PNTLs) relevant to an industrial development. The NPI requires the consideration of both the intrusiveness noise criteria and the amenity noise criteria, with the more stringent value representing the project specific criteria.

The purpose of the intrusiveness criteria is to limit the degree of change a new noise source introduces to an existing environment by limiting the $L_{Aeq\ (15\ minute)}$ of the new noise source RBL plus 5 dB. The intrusiveness criteria only apply to residential receivers and are presented in Table 19.

Table 19 – Intrusiveness Noise Criteria

Catchment and Representative Residential Receivers	Intrusiveness Criteria $L_{Aeq\ (15\ minute)}$		
	Day	Evening	Night
L1 – Gordon Avenue (R1 – R15)	47	47	40
L2 – James Street (R16 – R21)	47	47	43

The purpose of the amenity noise criteria is to set reasonable cumulative industrial noise levels for an area based on the receiver land use. The NPI suggests that to enable industrial noise levels (existing plus new) to remain within the recommended amenity noise levels for an area, a project amenity noise level applies for

each new source of industrial noise, where the project amenity level is 5 dB less than the recommended amenity noise level. To convert the amenity period level to a 15-minute assessment period, a plus 3 dB adjustment is applied as per Table 2.2 of the NPI. The recommended amenity noise levels and project amenity noise levels (dB $L_{Aeq\ (15\ minute)}$) are provided in Table 20.

Table 20 – Amenity Noise Criteria

Receiver Type	Amenity Category	Period	Recommended Amenity Noise Level dB $L_{Aeq\ (period)}$	Project Amenity Noise Level dB $L_{Aeq\ (15\ minute)}$
Residential	Urban	Day	60	58
		Evening	50	48
		Night	45	43
Industrial		When in use	70	68
Active Recreation		When in use	55	53

The noise goal at each receiver location is derived from the lower (more stringent) of the amenity and intrusiveness criteria. The project specific criteria are presented in Table 21.

Table 21 – Project Noise Trigger Levels

Receiver Type	Period	Intrusiveness Noise Level, dB $L_{Aeq\ (15\ minute)}$	Project Amenity Noise Level, dB $L_{Aeq\ (15\ minute)}$	PNTL, dB $L_{Aeq\ (15\ minute)}$
Residential (R1 – R15)	Day	47	58	47
	Evening	47	48	47
	Night	40	43	40
Residential (R16 – R21)	Day	47	58	47
	Evening	47	48	47
	Night	43	43	43
Industrial (I1 – I7)	When in use	N/A	68	68
Active Recreation (AR1)	When in use	N/A	53	53

Road Traffic Noise

The road traffic noise criteria are provided in the Department of Environment, Climate Change and Water NSW (DECCW), Road Noise Policy (RNP), 2011.

The 'Local Road' category, as specified in the RNP, has been adopted for Aero Road for this assessment.

Table 22 reproduces the road traffic noise assessment criteria for residential land uses are reproduced from the RNP relevant for this road type.

Table 22 – Road Traffic Noise Assessment Criteria for Residential Land Uses

Road Category	Type of Development	Assessment Criteria	
		Day (7am to 10pm)	Night (10pm to 7am)
Local Roads	Existing residences affected by additional traffic on existing local roads generated by land use developments	55 dB, $LA_{eq\ (1\ hour)}$	50 dB, $LA_{eq\ (1\ hour)}$

In addition to the criteria identified in Table 22, the RNP application notes state that where the existing road noise level exceeds, or is within 2 dB of the relevant noise criterion, the total road noise after the development should be limited to an increase of 2 dB.

Maximum Noise Level Assessment Criteria

The potential for sleep disturbance impacts from a development/premises during the night-time period is assessed in accordance with the maximum noise level assessment criteria prescribed in the NPI. The NPI states that where the subject development/premises night-time noise levels at a residential location exceeds:

- $L_{Aeq,\ 15\ minute}$ 40 dB(A) or the prevailing RBL plus 5 dB(A), whichever is greater; and/or,
- L_{AFmax} 52 dB(A) or the prevailing RBL plus 15 dB, whichever is greater,

a detailed maximum noise level event assessment should be undertaken. The sleep disturbance screening criteria for the nearest residential receivers is presented in Table 23.

Table 23 – Maximum Noise Level Assessment Screening Criterion

Receiver	$L_{Aeq\ (15\ minute)}$ 40 dB $L_{Aeq\ (15\ minute)}$ or RBL + 5 dB		L_{AFmax} 52 dB L_{AFmax} or RBL = 15 dB	
Residential (R1 – R15)	Trigger	40	Trigger	52
	RBL + 5 dB	40	RBL + 5 dB	50
	Highest	**40**	**Highest**	**52**
Residential (R16 – R21)	Trigger	40	Trigger	52
	RBL + 5 dB	43	RBL + 5 dB	53
	Highest	**43**	**Highest**	**53**

Construction Noise

The Interim Construction Noise Guideline (ICNG) (DECC, 2009) establishes construction noise management levels (NMLs) for two levels of magnitude. The *Noise Affected* NML, represented as the RBL plus 10 dB (day-period), is considered to be the noise level above which there may be some community reaction to the noise. The *Highly Noise Affected* NML, represented by the set level of 75 dB, is considered to be the noise level above which communities may react strongly to the noise.

The construction noise management levels (criteria), established in accordance with the ICNG are presented in Table 24.

Table 24 – Construction Noise Management Levels

Receiver Type	Period	Rating Background Level RBL, dB L_{A90}	Noise Management Level RBL, dB $L_{Aeq\ (15\ minute)}$
Residential (R1 – R15)	Day	42	52
Residential (R16 – R21)	Day	42	52
Industrial (I1 – I7)	Day	N/A	75
Active Recreation (AR1)	Day	N/A	75

All construction activities will be undertaken during standard construction hours.

7.2.3 Noise Assessment Methodology

Noise impacts during construction and operational stages were determined using Brüel and Kjær Predictor Type 7810 (Version 11.10) noise modelling software. The calculation method used to predict noise levels was in accordance with the ISO 9613-1 and ISO 96130-2 algorithms, with consideration of noise enhancing meteorological conditions to account for the worst case operational conditions.

The noise model used relevant noise source data (measured on site at the BRS site), ground type, shielding such as barriers and/or adjacent buildings and atmospheric information to predict noise levels at the nearest potentially affected receivers. Plant and equipment were modelled at various locations and heights, representative of realistic operating conditions for assessed scenarios. The model was calibrated against attended noise measurement data for various operational modes of the plant. Where relevant, modifying factors in accordance with Fact Sheet A of the NPI have been applied to calculations.

The prevailing meteorological conditions were determined for the site using weather data obtained from the nearest Bureau of Meteorology's (BOM) weather station at Holsworthy Aerodrome located approximately 5km west of the site, for the period between January 2017 and January 2018. The data was analysed using the EPA's Noise Enhancement Wind Analysis (NEWA) program to determine the frequency of occurrence of winds speeds up to 3m/s in each seasonal period. The wind directions considered in the noise assessment were east-south-east and west-south-west, during the evening and night-time periods. Temperature inversions were assessed during the night-time period.

7.2.4 Operational Noise Assessment

Fixed and mobile plant noise emission data used in modelling for this assessment were measured onsite at the BRS facility or obtained from the acoustic consultant's noise database for relevant noise sources that are proposed to be used for the proposed development. The noise emission levels used in modelling are summarised in Table 25.

Table 25 – Equipment Sound Power Levels and Operational Periods

Plant/Equipment	No of	Sound Power Level (LW), dBA	Day	Evening	Night
Excavators	2	98	✓	✓	
Front end loaders	1	106	✓	✓	
Front end loaders	2	101	✓	✓	
Truck & dog manoeuvring	4 movements per period[2]	102	✓	✓	
Truck & dog tipping	2	102	✓	✓	
Agitator manoeuvring	3 movements per period[2]	102	✓	✓	✓
Slump Stand Operations[1]	1	109	✓	✓	✓
Mud Flocculant Plant	1	110	✓	✓	✓
Pugmill	1	102	✓	✓	
Crusher/Liquid Waste	1	119	✓	✓	
Concrete Plant[1]	1	101	✓	✓	✓
Forklift	1	87	✓	✓	✓

Note 1: Internal sources
Note 2: Period of 15 minutes in duration

The modelled scenarios assumed that all plant and equipment operate simultaneously. In practice, such an operating scenario would be unlikely to occur, and the results should therefore be considered to be highly conservative.

A summary of the operational noise results for each of the modelled scenarios is presented in Table 26. The full suite of modelling results is provided in Appendix F. The results of the operational noise modelling showed

that noise emissions from the proposed development comply with the PNTLs for all assessment periods at all assessed receiver locations. These results are inclusive of the mitigation measures detailed above.

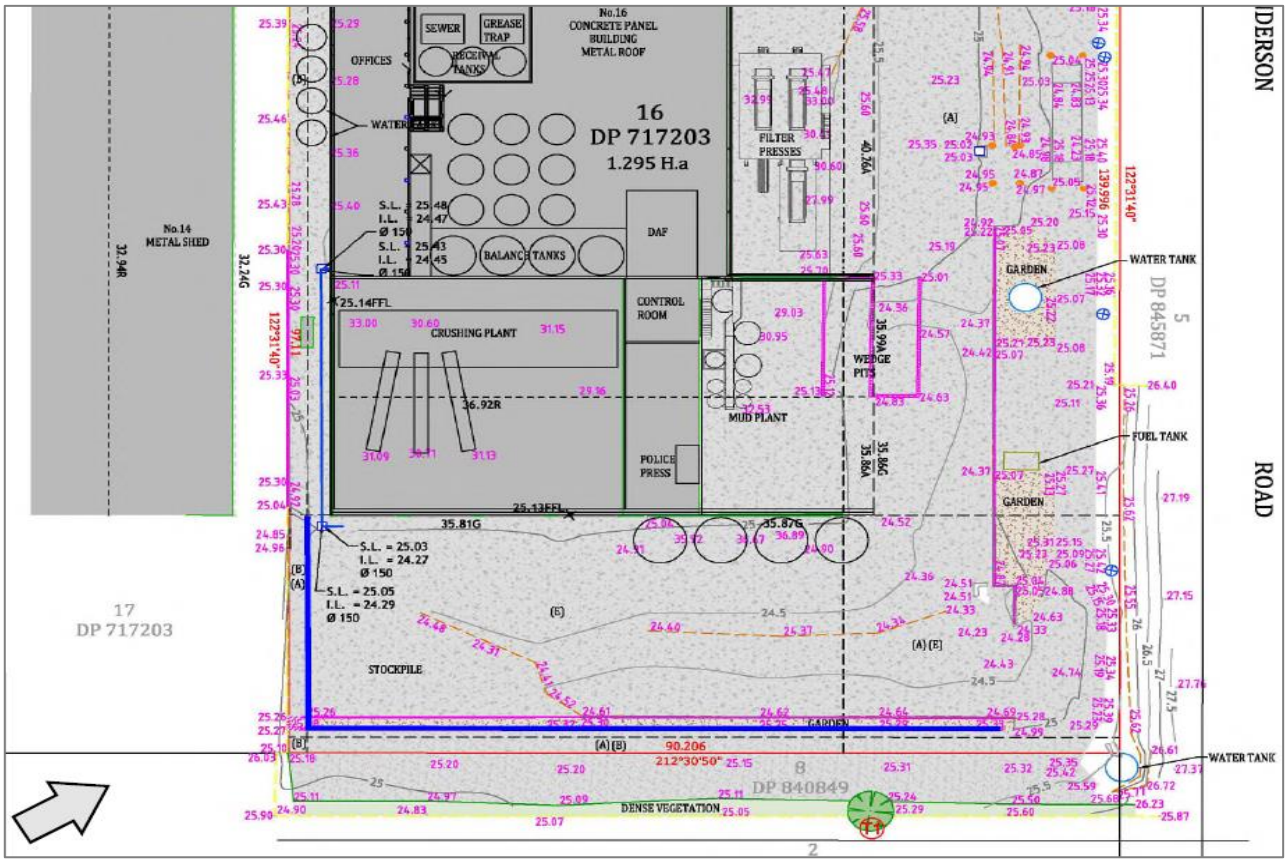
Table 26 – Summary of Operational Noise Results

Receiver Type	Period	Highest Predicted Noise Level, dB $L_{Aeq\ (15\ minute)}$			PNTL, dB $L_{Aeq\ (15\ minute)}$
		Calm	Prevailing Wind	Inversion	
Residential (R1 – R15)	Day	45 (R01)	N/A	N/A	47
	Evening	45 (R01)	46 (R01)	N/A	47
	Night	37 (R01, R04)	37 (R01, R04)	39 (R04, R06)	40
Residential (R16 – R21)	Day	41 (R16)	N/A	N/A	47
	Evening	41 (R16)	42 (R16)	N/A	47
	Night	<30 (all)	<30 (all)	<30 (all)	43
Industrial (I1 – I7)	When in use	60 (I2)	60 (I2)	56 (I2)	68
Active Recreation (AR1)	When in use	39	42	39	53

The noise model adopted the following noise controls and mitigation measures:

- A wall should be constructed to enclose the south west corner of the rear yard. The wall should be constructed to a height of 6.5 metres (of equivalent to the height of the existing wall) and consist of materials with a surface density of at least 10kg/m^2, and not contain any gaps (see Figure 32); and
- The lumping stand will be a minimum set back distance of 10m from the eastern roller doors inside the main building.

Figure 32 – Recommended Noise Wall – Noise Impact Assessment



7.2.5 Road Traffic Noise Assessment

The proposed modification would result in a total of 144 heavy vehicle movements per day (7am – 10pm) to and from the site. It has been assumed that all vehicle movements would travel along Aero Road and turn into Kerr Road, with an average of 14 trucks per hour during the daytime period. Road noise was calculated at a 20m offset distance from the centre line of Aero Road. This represents the offset distance for the closest residential receivers adjacent on Aero Road from the centre of the roadway. Therefore, results should be considered worst case.

Night-time (10pm – 7am) truck movements are proposed as part of the proposed development with an average of 8 trucks per hour proposed.

The results of the traffic noise calculations are presented in Table 27 and demonstrate the noise levels from proposed development vehicle movements would remain below the relevant day criteria.

Table 27 – Operational Road Traffic Noise Levels – Day $L_{Aeq\ (1\ hour)}$, dB

Period	Distance to Nearest Receiver (m)	Assessment Criteria	Future Project Traffic Noise	Compliant
Day	20	55	53	✓
Night		50	50	✓

7.2.6 Maximum Noise Level Assessment

In assessing sleep disturbance, typical L_{AFmax} noise levels from transient events were assessed to the nearest residential receivers. The use of the L_{AFmax} noise level provides a worst-case prediction since the $L_{A1\ (1\ minute)}$ noise level of a noise event is likely to be less than the L_{AFmax}. For the sleep disturbance assessment, a sound power level of 102 dBA for impact noise emissions are adopted for this assessment with the night-time operational scenario adopted for the awakenings assessment.

Predicted noise levels from $L_{Aeq\ (15\ minute)}$ and L_{AFmax} events for assessed receivers are summarised in Table 28. Results identify that the sleep disturbance screening criterion will be satisfied for all assessed receivers.

Table 28 – Summary of Maximum Noise Levels Assessment (Night)

Receiver	Predicted Noise Level		Screening Criterion	
	dB $L_{Aeq\ (15\ minute)}$	dB L_{AFmax}	dB $L_{Aeq\ (15\ minute)}$	dB L_{AFmax}
Residential (R1 – R15)	35 (R01)	48 (R01)	40	53
Residential (R16 – R21)	<30 (all)	33 (R16)	43	53

7.2.7 Construction Noise Assessment

The construction noise emission levels used in the modelling are summarised in Table 29. The construction scenario adopted a generic construction fleet representative of plant used in building construction (i.e. excavations/footings). Plant items for this assessment were situated in and around the proposed wall extension and concrete plant to provide an indicative worst-case representation of noise emissions during construction. The construction modelling assessment adopted methodologies consistent with the operational assessment for calm meteorological conditions.

Table 29 – Construction Equipment Sound Power Levels

Plant/Equipment	Sound Power Level (LW), dBA
Road Trucks	103
Excavator / Backhoe / Concrete Truck	106
Hand tools (power tools)	97
Combined fleet construction / demolition noise level	108

$L_{Aeq\ (15\ minute)}$ noise levels for construction are predicted to be above the relevant construction noise management levels at several receivers. Accordingly, the site will adopt reasonable and feasible noise management initiatives to reduce construction noise impacts to the surrounding community. Table 30 presents the results of the construction noise model assessment, for receiver locations where exceedances of the noise management level are predicted.

Table 30 – Construction Noise Assessment Results – Predicted Exceedances (Day)

Receiver	Receiver Type	Predicted Noise Level dB	NML dB $L_{Aeq\ (15\ minute)}$
R01 – R11	Residential	≤52	52
R12	Residential	**60**	52
R13	Residential	**57**	52
R14	Residential	**58**	52
R15	Residential	**57**	52
R16	Residential	**56**	52
R17	Residential	**55**	52
R18	Residential	**54**	52
R19	Residential	**53**	52
I1 – I4 & I6 – I7	Industrial	≤75	75
I5	Industrial	**76**	75
AR1	Active Recreation	≤75	75

Note: Exceedances of NML shown in bold

Recommendations for consideration during construction activities to reduce emissions to the surrounding community for this site may include:

- Toolbox and induction of personnel prior to shift to discuss noise control measures that may be implemented to reduce noise emissions to the community;
- Implement any boundary fences/retaining walls as early as possible to maximise their attenuation benefits;
- Where possible use mobile screens or construction hoarding to act as barriers between construction works and receivers;
- All plant should be shut down when not in use. Plant to be parked/started at farthest point from relevant assessment locations;
- Operating plant in a conservative manner (no over-revving);

- Selection of the quietest suitable machinery available for each activity;
- Avoidance of noisy plant/machinery working simultaneously where practicable;
- Minimisation of metallic impact noise;
- All plant is to utilise a broadband reverse alarm in lieu of the traditional hi frequency type reverse alarm; and
- Undertake letter box drops to notify receivers of potential works.

Furthermore, working hours on site during construction are to be restricted to:

- 7:00 am to 6:00 pm between Monday and Friday (or as specified by consent conditions).
- 8:00 am to 1:00 pm on Saturday (or as specified by consent conditions).

Work shall not be undertaken on Sundays or public holidays.

7.3 Air Quality, Odour, and Greenhouse Gas Emissions

An Air Quality Impact Assessment (AQIA) has been prepared by Todoroski Air Sciences and is summarised in this section of the EIS. The full report is provided in Appendix C.

7.3.1 Existing Air Quality

The main sources of air pollutants in the area surrounding the site include emissions from local anthropogenic activities such as various commercial or industrial activities, motor vehicle exhaust and domestic wood heaters.

Ambient air quality monitoring data from the site are not available. The NSW OEH air quality monitors at Liverpool and Campbelltown West are located approximately 7.5km and 10.8km from the site respectively and are taken to be generally representative of the background levels in the vicinity of the site. The data from these monitors have therefore been used to quantify the existing ambient levels of air pollutants in this study.

A review of the ambient air quality monitoring data indicated that the annual average PM_{10} concentrations were below the relevant criterion of 25µg/m^3 for each of the monitoring stations, while the $PM_{2.5}$ concentrations were found to exceed the annual average criterion of 8µg/m^3. The maximum 24-hour average PM_{10} and $PM_{2.5}$ concentrations were found to exceed the relevant criteria during the review period.

The annual average background air quality levels applied in this assessment are as follows:

- PM10 concentrations – 19.8µg/m³;
- PM2.5 concentrations – 8.5µg/m³;
- TSP concentrations – 71.3µg/m³; and,
- Deposited dust levels – 3.2g/m²/month.

7.3.2 Air Quality Criteria

The potential for air quality impacts from the proposed development are determined by the level of compliance with the air quality criteria set by the EPA as part of its *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (Approved Methods) (EPA, 2016). These criteria apply to existing sensitive receptors (refer Figure 33) including residences in the vicinity of the site. Sensitive receptor refers to the location where members of the community that are easily susceptible to air quality impacts, work or reside. As per the Approved Methods, this relates to dwellings, schools, hospitals, offices or public recreation areas. Given that the proposal is located within the Ingleburn Industrial Estate, and industrial premises are typically considered to be less sensitive and have lower duration of exposure, the nearby industrial premises are not deemed to be sensitive receptors and as per standard industry practices, are not considered further in this assessment.

The assessment criteria for air quality parameters relates to the total concentration of pollutant in the air rather than only the contribution from project-specific sources. The relevant odour criterion has been refined to take into account the population density of the community and is based on a 99th percentile of dispersion model predictions calculated as 1-second averages (nose-response time).

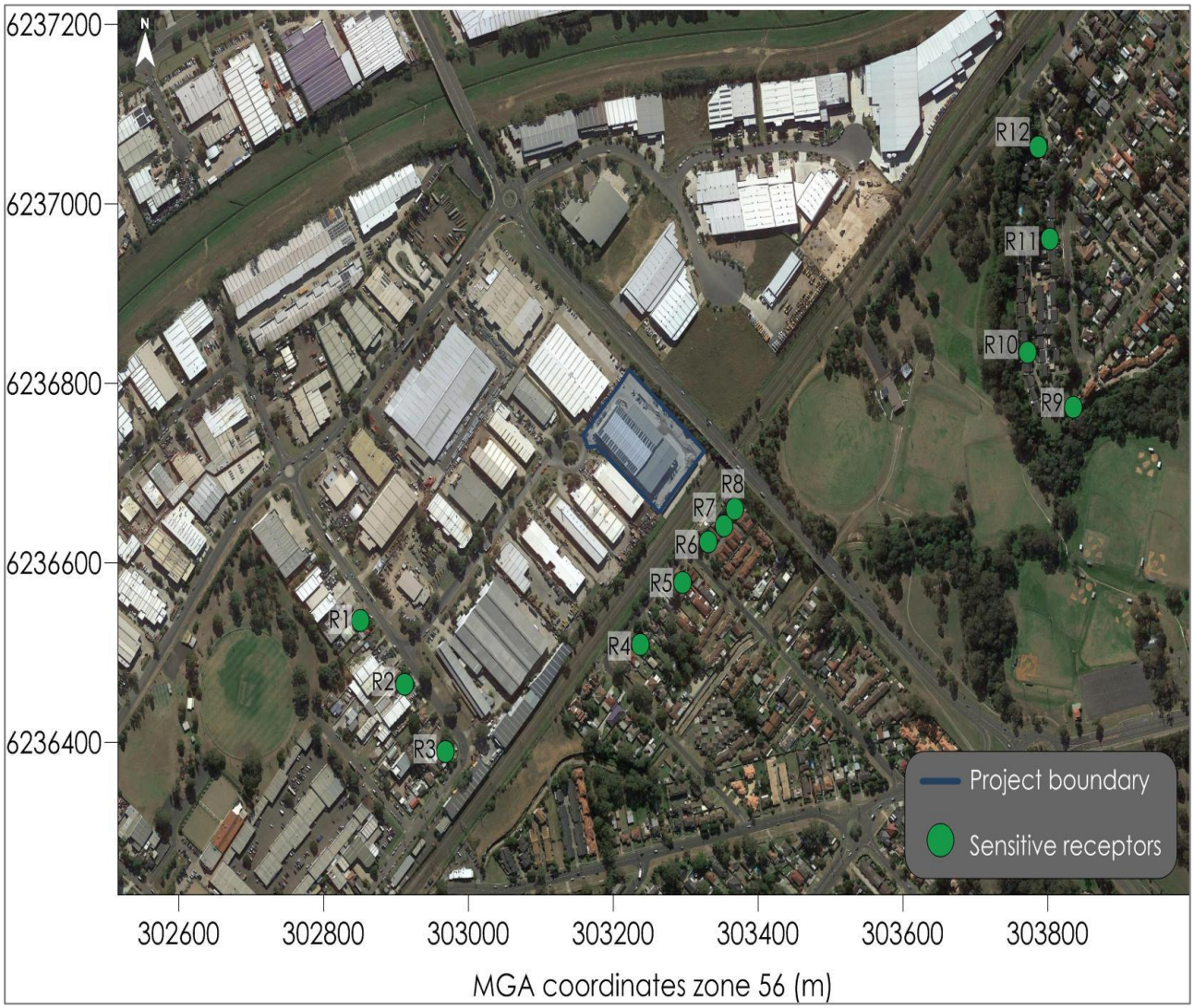
The relevant air quality assessment criteria are presented in Table 31.

Table 31 – NSW EPA Air Quality Impact Assessment Criteria

Pollutant	Averaging Period	Impact	Criterion
TSP	Annual	Cumulative	90µg/m^3
PM_{10}	Annual	Cumulative	25µg/m^3
	24 hour	Cumulative	50µg/m^3
$PM_{2.5}$	Annual	Cumulative	8µg/m^3
	24 hour	Cumulative	25µg/m^3
Deposited Dust	Annual	Incremental	2g/m^2/month
		Cumulative	4g/m^2/month
Odour	N/A	Incremental	2 OU[1]

Note 1: Population dependent criterion (more than 2,000 people)
µg/m^3 = micrograms per cubic metre
g/m^2/month = grams per square metre per month
OU = odour units

Figure 33 – Assessed Sensitive Receptor Locations – Air Quality Impact Assessment



7.3.3 Assessment Methodology

A 'Level 2' air quality impact assessment was undertaken in accordance with the EPA (2016) Approved Methods. Air dispersion modelling was undertaken using a combination of the CALPUFF Modelling System and The Air Pollution Model (TAPM), with consideration of site representative meteorological data. CALPUFF is an advanced 'puff' air dispersion model capable of representing the effects of complex local terrain on the dispersion meteorology over the entire modelling domain in a three-dimensional, hourly varying time step.

The significant dust generating activities associated with operation were identified as loading/unloading of material; crushing and screening of material; concrete batching processes; vehicles travelling on-site, including from diesel exhaust; and windblown dust generated from stockpiles. The assessment considered a potential worst-case scenario for dust generation based on the maximum proposed amount of material processed via crushing, i.e. 225,000tpa, and a yearly production of approximately 10,000t of concrete. The dust emission rates were calculated by analysing various types of dust generating activities and utilising suitable emission factors sourced from US EPA developed documentation (US EPA, 1985 and Updates).

The potential odour sources associated with the operation were identified to arise from the stockpiling of foundry sand from the DAF treatment of liquid waste located within the building at the site. Odour emissions estimates were calculated based on the approximate dimensions of the foundry sand and the DAF sources at the site modelled as volume sources.

Modelled meteorological data for the site was generated by applying the TAPM model to measured weather data. The 2012 calendar year was selected as the meteorological year for the dispersion modelling based on analysis of long-term data trends in meteorological data recorded for the area. The available meteorological data for January 2012 to December 2012 from relevant BoM meteorological monitoring sites were included in the simulation.

Local land use and detailed topographical information was included in the simulation to produce realistic fine scale flow fields (such as terrain forced flows) in surrounding areas.

7.3.4 Air Quality Impact Assessment

The dispersion model predictions undertaken for the AQIA include those for the operation in isolation (incremental impact) and the operation with consideration of other sources (total cumulative impact). The results show the predicted:

- Maximum 24-hour average PM2.5 and PM10 concentrations;
- Annual average PM2.5, PM10 and TSP concentrations; and,
- Annual average dust (insoluble solids) deposition rates.

It is important to note that when assessing impacts per the maximum 24-hour average levels, these predictions are based on the highest predicted 24-hour average concentrations that were modelled at each point within the modelling domain for the worst day (i.e. a 24-hour period) in the one year long modelling period.

Dust Assessment Results

The predicted incremental particulate dispersion modelling results at each of the assessed sensitive receptor locations are presented in Table 32. The results show that low incremental effects would arise at the sensitive receptor locations due to the operations on the site.

Table 32 – Particulate Dispersion Modelling Results – Incremental Impact

Receptor ID	PM2.5 (µg/m³)		PM10 (µg/m³)		TSP (µg/m³)	DD[1] (g/m²/month)
	24-hour Average	Annual Average	24-hour Average	Annual Average	Annual Average	Annual Average
	Air Quality Impact Criteria					
	-	-	-	-	-	2
R1	0.4	0.1	1.9	0.3	0.8	<0.1
R2	0.5	0.1	2.2	0.3	0.7	<0.1
R3	0.5	<0.1	2.2	0.2	0.6	<0.1
R4	1.2	0.1	6.0	0.5	1.5	0.1
R5	2.0	0.2	11.1	1.0	2.8	0.2
R6	2.7	0.3	14.5	1.5	4.6	0.3
R7	2.6	0.3	13.6	1.7	5.3	0.4
R8	2.5	0.4	12.7	2.0	6.3	0.5
R9	0.4	0.1	1.7	0.3	0.8	<0.1
R10	0.4	0.1	2.0	0.4	1.2	<0.1
R11	0.4	0.1	2.0	0.5	1.3	<0.1
R12	0.4	0.1	1.8	0.4	1.3	<0.1

Note 1: Deposited dust

The predicted cumulative annual average PM2.5, PM10, TSP and dust deposition levels due to the operations at the site together with the estimated background levels are presented in Table 33. The cumulative (total) impact is defined as the modelling impact associated with the operation combined with the estimated ambient background levels.

The results in Table 33 indicate that all of the assessed sensitive receptors are predicted to experience levels below the relevant criteria for the assessed dust metrics with the exception of annual average $PM_{2.5}$.

As demonstrated in Section 7.3.1, the annual average $PM_{2.5}$ background level is already above the relevant criterion of 8µg/m³. A review of the incremental predictions of annual average $PM_{2.5}$ in Table 32 indicate only minimal contribution from the operations on the site and would not be discernible from the existing background level. The cumulative annual average $PM_{2.5}$ predictions are therefore not considered significant. Nonetheless, appropriate mitigation and management practices will be implemented to minimise $PM_{2.5}$ emissions as far as it is practical.

Table 33 – Particulate Dispersion Modelling Results – Cumulative Impacts

Receptor ID	PM2.5 (µg/m³)	PM10 (µg/m³)	TSP (µg/m³)	DD[1] (g/m²/month)
	Annual Average			
	Air Quality Impact Criteria			
	8	25	90	4
R1	**8.6**	20.1	72.1	3.2
R2	**8.6**	20.1	72.0	3.2
R3	**8.5**	20.0	71.8	3.2
R4	**8.6**	20.3	72.7	3.2

R5	**8.7**	20.8	74.1	3.3
R6	**8.8**	21.3	75.9	3.5
R7	**8.8**	21.5	76.6	3.5
R8	**8.9**	21.8	77.5	3.6
R9	**8.6**	20.1	72.1	3.2
R10	**8.6**	20.2	72.5	3.2
R11	**8.6**	20.3	72.6	3.2
R12	**8.6**	20.2	72.6	3.2

Note 1: Deposited dust

As detailed in Section 7.3.1, the maximum measured 24-hour concentrations of $PM_{2.5}$ and PM_{10} have in the past exceeded or come close to the relevant criterion level on occasion. Due to this, a Level 2 contemporaneous assessment was undertaken to determine whether the addition of measured background levels to the day's corresponding predicted dust levels from the site would result in an increase in the number of days above the 24-hour average criterion at the nearby receptors.

The results indicate that the operations on the site do not increase the number of days above the 24-hour average criterion at the assessed receptors for PM_{10} and only one additional day above the 24-hour average criterion for $PM_{2.5}$ is predicted for receptors, R7, R8, R9, R10, R11 and R12.

With regard to the predicted additional day above the 24-hour average $PM_{2.5}$ criterion at receptors R7, R8, R9, R10, R11 and R12, the measured $PM_{2.5}$ background level on this day was 24.9µg/m^3. The incremental contribution from the site at R7, R8, R9, R10, R11 and R12 was 0.2µg/m^3, 0.4µg/m^3, 0.2µg/m^3, 0.3µg/m^3, 0.3µg/m^3 and 0.2µg/m^3, respectively.

It is noted that the emissions estimation was conservative in assuming a worst-case scenario with the maximum amount of solid material processed resulting in the maximum amount of potential dust generated from the site. The modelling also conservatively assumed the dust emissions sources are located out in the open. The predicted impact from the operations on site are minor even with the conservative assumption and predicted impacts are unlikely to occur in reality. Nevertheless, appropriate mitigation measures would be implemented on-site to minimise emissions of $PM_{2.5}$ as detailed in Table 35.

Odour Assessment Results

Table 34 presents the discrete dispersion modelling results at each of the assessed sensitive receptor locations. The results indicate that odour levels due the operations on site will be below the applicable criteria at all assessed sensitive receptor locations.

Table 34 – 99th Percentile Nose-Response Average Ground Level Odour Concentrations

Receptor ID	Predicted Level (OU)	Odour Assessment Criterion
R1	0.3	2
R2	0.3	2
R3	0.3	2
R4	0.6	2
R5	0.9	2
R6	1.2	2
R7	1.3	2
R8	1.4	2

R9	0.2	2
R10	0.3	2
R11	0.3	2
R12	0.3	2

7.3.5 Air Quality Mitigation and Management

BRS currently employ an air suppression system to minimise the potential emissions of dust and odour from the site. Strategies currently implemented include the installation of roller doors on external openings, sealed vessels for liquid waste types, and water misting sprays for internal and external stockpiles. Further air quality management and recommended mitigation measures to minimise the potential occurrence of excessive air and odour missions from the site are set out in Table 35.

Table 35 – Air and Odour Mitigation Measures

Source	Mitigation Measure
General	Activities to be assessed during adverse weather conditions and modified as required (e.g. cease activity where reasonable levels of dust cannot be maintained using the available means).
	Weather forecast to be checked prior to undertaking material handling or processing.
	Engines of on-site vehicles and plant switched off when not in use.
	Vehicles and plant are to be fitted with pollution reduction devices where practicable.
	Maintain and service vehicles according to manufacturer's specifications.
	External area is to be kept clean, any incidental spills to be cleaned immediately.
	Water misting sprays are to be used for dust suppression within concrete batching structure
	Regular sweeping and/ or watering of hardstand area.
	Sprinkler system to be used in the rear yard area.
	Conduct visual checks for dust beyond the boundary.
Material processing	Solid waste processing and raw material stockpiling occurs primarily within the enclosed building where practicable.
	Wet suppression used for crushing and screening processes.
	Cement storage silos are fitted with dust filters.
	Daily inspections and regular servicing of dust suppression equipment on plant.
	Identified odorous materials to be blended with other materials to minimise odour.
	Sludge material to be processed and encapsulated in concrete as soon as practicable.
	Liquid waste processing to be vacuum pressurised to prevent the release of odour.
	Charcoal filters to be installed on DAF to mitigate odour from this process.
Materials storage	Material to be primarily stored inside where possible to prevent wind erosion.
	Finished products to be stored in storage bays enclosed on three sides
	Water sprays used on finished product storage to minimise windblown dust.
	Material stockpile size maintained appropriately.
Material handling	Reduce drop heights from loading and handling equipment where practical.
	Dampen aggregates and other material when excessively dusty.
Hauling activities	Sealed driving surfaces on the site to be cleaned regularly.
	Vehicles are to abide by site speed limits.
	Vehicle loads are covered when transporting material on and off-site.
	The access driveway to the site is checked and any dust, material or mud tracked onto the public road is cleaned immediately.

7.3.6 Greenhouse Gas Emissions

Todoroski Air Sciences undertook a greenhouse gas emissions assessment (GHGEA) to determine the estimated contribution the proposed development will have to the cumulative greenhouse gas emissions for NSW and Australia. The GHGEA was prepared with reference to the most recent Australian emission factors

published in the National Greenhouse Accounts (NGA) Factors (Department of the Environment and Energy, 2018).

The NGA defines three distinct emissions classes (Scopes) for GHG accounting and reporting purposes based on whether the emissions generated are from 'direct' or 'indirect' sources.

Scope 1 emissions encompass the direct sources from the site defined as:

> *"...from sources within the boundary of an organisation and as a result of that organisation's activities"*

Scope 2 and 3 emissions occur due to the indirect sources from the site as:

> *"...emissions generated in the wider economy as a consequence of an organisation's activities (particularly from its demand for goods and services), but which are physically produced by the activities of another organisation"*

It is noted that Scope 3 emissions have the potential to arise from a greater number of sources associated with the operations on the site. As these are often difficult to quantify due to the diversity of sources and relatively minor individual contributions, they have not been considered in this assessment.

Scope 1 and 2 GHG emission sources identified from the operations on the site are the on-site combustion of diesel fuel and the on-site consumption of electricity. Scope 3 emissions have been identified as resulting from the purchase of diesel, electricity for use on-site and the transport of the materials to their final destination.

The estimated quantities of materials that have the potential to emit GHG emissions associated with the operations on the site have been summarised in Table 36. The assessment provides a reasonable worst-case approximation of the potential GHG emissions of this assessment.

Table 36 – Summary of Quantities of Materials Estimated for the proposed development

Period	Diesel (on-site) (kL)	Electricity (on-site) (kWh)	Diesel (transportation of materials) (kL)
Annual	96	312,000	180

To quantify the amount of carbon dioxide equivalent (CO_2-e) material generated from the site, emission factors have been obtained from the NGA Factors (Department of the Environment and Energy, 2018) and other sources as required and are summarised in Table 37.

Table 37 – Summary of Emission Factors

Type	Energy Content Factor	Emission Factor			Units	Scope
		CO_2	CH_4	N_2O		
Diesel	38.6	69.9	0.1	0.5	Kg CO_2-e/GJ	1
		3.6	-	-		3
Electricity	-	0.82	-	-	Kg CO_2-e/kWh	2
		0.1	-	-		3

The GHG emissions associated with the operations on the site, based on Scopes 1, 2 and 3, are summarised in Table 38. The results indicate that when compared to the *National Greenhouse Accounts Factors* (Department of the Environment and Energy, 2018), the estimated annual average GHG emission of 0.000517Mt CO_2-e (Scope 1 and 2), represents approximately 0.0001 per cent of the Australian GHG emissions for the 2017 period, and approximately 0.00039 per cent of the NSW GHG emissions for the 2016 period.

Table 38 – Summary of CO_2-e Emissions Per Scope (Mt CO_2-e)

Period	Scope 1	Scope 2	Scope 3	Scope 1+2
Annual	0.000261	0.000256	0.000070	0.000517

The operation will utilise various mitigation measures to minimise the overall generation of GHG emissions. These measures include developing a basis for identifying and implementing energy efficiency opportunities and mitigation measures for various activities. Examples of mitigation measures which may be implemented include:

- Monitor the consumption of fuel and regularly maintain diesel powered equipment to ensure operational efficiency;
- Turning diesel equipment off when not in use for extended periods;
- Minimise double handling of material and using efficient transport routes;
- Monitor the total site electricity consumption and investigate avenues to minimise the requirement;
- Conduct a review of alternative renewable energy sources;
- Provide energy awareness programs for staff and contractors within site induction process; and
- Minimise the production of waste generated on-site.

BRS aims to provide an ecologically sustainable operation which actively works to minimise its greenhouse gas emissions. The existing operation utilises solar photovoltaic panels to offset grid electricity use throughout the day. Further detail of the mitigation measures that will be implemented to reduce the GHG emissions are provided in Section 9.

7.4 Hazard and Risk

A Risk Screening Report has been prepared for the proposed development by Hazkem Pty Ltd and is summarised in this section of the EIS. The full report is provided in Appendix I.

For a proposed development where storages of dangerous goods are above minor quantities, a preliminary risk screening is required in accordance with *SEPP 33 - Hazardous and Offensive Development* (Department of Planning, 1992), to determine the need for a Preliminary Hazard Analysis (PHA). The screening method is based on broad estimates of the possible off-site effects or consequences from hazardous materials present on site, taking into account locational characteristics.

If the quantity/distance is less than the screening threshold, then no further analysis is necessary. If the quantities/distances exceed the screening threshold, further analysis is necessary.

Hazardous Material Storage

As defined within the SEPP 33 documentation, the Risk Screening process is based on the notion of Hazardous Materials being present on site. Hazardous Materials that are considered, and to be assessed under SEPP 33, must be classified as a 'Dangerous Good' in accordance with *the Australian Code for Transportation of Dangerous Goods by Road and Rail* (Dangerous Goods Code)" (otherwise known as the ADG Code).

Table 39 provides a list of the hazardous materials to be stored at the site, the storage quantities, United Nations numbers, and the dangerous goods class of the materials. All hazardous materials, including waste oil and kerosene, and paint, lacquer and varnish will be stored in bunded intermediate bulk containers (IBC) next to the dissolved air flotation (DAF) area.

It is noted that there are many varying products that are proposed to be stored at the site, however, most of these are not defined as Dangerous Goods under the ADG Code. The complete list of 'solid waste types and 'liquid and muddy water waste types' considered in the assessment, are provided in the Risk Screening Document (Appendix I).

Table 39 – Hazardous Materials List

Product	UN Number	Storage Location	Estimated Storage Quantity	Class and PG	Trigger SEPP 33
Hydrocarbons	3295	Liquid Waste Drop off	500L	3 PG II, III	No
Paints, Lacquer, Varnish	1263	Liquid Waste Drop off	500L	3 PG II, III	No
Kerosene, Oil	1223	Liquid Waste Drop off	500L	3 PG III	No
Diesel	1202	Diesel Fuel Station	13,000L	C1	NA

Bulk Recovery Solutions store only minor quantities of dangerous goods with relevant SEPP 33 screening thresholds on site. In this instance, the proposed storages are estimated to be approximately 1500 litres and do not exceeding the 5t minimum storage. Diesel is classified as Combustible Class 1 and is stored away from any flammable liquids and as such is not considered flammable. The site is therefore deemed 'not potentially hazardous', and the application of SEPP 33 does not apply.

To minimise the risk from hazardous activities and materials, the Operation implements a range of measures following the NSW WorkCover *Hierarchy of Hazard Controls*. Each measure is appropriate for the hazard it controls, and includes both physical and procedural controls including the following:

Physical Controls:

- Separation of processes through site design;
- Separation of stockpiles through location and walls;
- Implementation of fire management system;
- Any hazardous components are design and constructed to comply with relevant standards *AS1940:2004 The Storage and Handling of Flammable and Combustible Liquids*; and
- Any hazardous components are to be enclosed (eg) bunded chemical storage.

Procedural Controls:

- Development and routine updating of management plans;
- Implementation of a pollution incident response management plan;
- Adoption of best practice operational procedures;
- Incoming material verification processes;
- Implementation of a maintenance schedule; and
- Routine training and reinforcement of correct handling, pollution incident, and fire management procedures.

Through the implementation of these controls whether physical or procedural, any potential hazard from material is effectively managed and its associated risk minimised to acceptable operational levels.

7.5 Waste Management

BRS endeavours to establish an environmentally sustainable operation and in accordance with the philosophy of waste minimisation, reuse, and recycling, are all key to its success. Very little waste is generated by the resource recovery operation and its processes. The site achieves close to a 100% recycling rate and would seek to reuse bi-products generated on site in the process.

Table 40 describes waste generated by the operation.

Table 40 – Waste Generated by the Proposed Expansion

Waste	Process / Activity	Likely Classification	Management/ Mitigation	Estimate Annual Quantity
Sediment and Grit	Cleaning and Maintenance	General Solid Waste (Non-Putrescible)	Where it is not possible to reprocess the waste, it will be sent to a licenced waste facility.	Minor Quantities (<5t)
Concrete	Concrete production	General Solid Waste (Non-Putrescible)	On site recycling. Crushed and processed to produce product for sale.	Minor Quantities (<5t)
Excess process water	Process pits and drum filter	Liquid waste (Trade Waste)	Discharge under Trade Waste Agreement only when required otherwise water is reused in process, evaporated or, used for garden maintenance.	Unknown
Oils and Lubricants	Maintenance	Hazardous waste	This waste needs to be tracked and would be stored on site in enclosed containers within a bunded area and sent to a licensed oil recycler on an as needs basis.	Minor Quantities (<1t)
General Office Waste	Office	General Solid Waste (Putrescible)	Stored in waste bins on site and removed on an as needs basis using a licensed waste contractor.	Minor Quantities (<1t)
Asbestos (Special Waste)	Screened Asbestos Liquid Waste	Special Waste	This waste needs to be tracked and would be stored on site in appropriately sealed containers within a bunded area and sent to appropriately licenced facility on an as needs basis.	Unknown
PASS/ASS	Treated Acid Sulfate Soils	General Solid Waste	Waste taken to appropriately licenced facility.	Unknown
General Solid Waste	Non-recoverable material from process	General Solid Waste	If all recovery options exhausted, removed to appropriately licenced facility.	Unknown
Restricted Solid Waste	Treated Waste	Restricted Solid Waste	Stored on site within appropriately bunded area and sent to appropriately licenced facility on an as needs basis.	Unknown
Hazardous Solid Waste	Treated Waste	Hazardous Solid Waste	This waste needs to be tracked and would be stored on site in	Unknown

			appropriately sealed containers within a bunded area and sent to appropriately licenced facility on an as needs basis.	

To maximise reuse and recycling potential, waste generated by the operation is separated on site into dedicated bins/areas, where practicable, for either reuse or collection by a licensed waste contractor and transport off the site to licensed facilities for resource recovery. In turn, BRS actively encourages wastes to be sorted by waste contractors prior to delivery to the site.

Waste and materials generated by operational activities will be reused on site where possible. If required, waste generated will be stockpiled on site for future reuse where practicable. To facilitate the proposed waste processing and storage quantities, internal and external stockpiles would be required, including the solid waste stockpiles located along the south eastern boundary of the site. External stockpiles will be covered by a steel awning which will include dust management systems to minimise any potential dust impacts.

The existing waste management procedures on the site are summarised in Table 41.

Table 41 – Waste Management Procedures

Issue	Mitigation measure
Non-compliance and rejected loads	A waste material reception procedure implemented to ensure only permitted materials are accepted on site.
	Records of acceptance shall be kept on site
	Receipt of wastes shall be regularly audit on site to ensure no unapproved waste is accepted and maximise appropriate recovery is occurring.
Wastewater	Ensure wastewater systems are maintained in good working order.
Waste Storage and Disposal	All waste is to be segregated where possible.
	All waste to be disposed of in an appropriate manner to appropriately licenced facility.
Procedure and Planning	All waste is to be managed in accordance with the waste management plan.
	Waste management plan to be updated to suit proposed expansion.

7.6 Access, Traffic, and Parking

A Traffic Impact Assessment (TIA) has been prepared by *Intersect Traffic* for the proposed development and is provided at Appendix D.

7.6.1 Existing Road Network

The site is located at the end of Kerr Road, an industrial standard cul-de-sac within the Ingleburn Industrial area, approximately 1.2km east of the Hume Motorway. The surrounding area is made up of industrial standard roads with kerb and guttering and longitudinal drainage constructed to a suitable standard for heavy vehicle use. Each of the roads identified as likely travel routes are approved B-Double routes as per the Roads and Maritime restricted vehicle maps.

Intersections on the likely travel routes generally have high standard intersection controls in the form of roundabouts. The Aero Road / Kerr Road intersection is controlled by way of a give way-controlled priority-intersection and has conditional approval for B-Doubles.

A summary of the existing road network for the likely travel routes is provided in Table 42.

Table 42 – Summary of Existing Road Network

Road Name	Road Hierarchy	Sign-posted Speed Limit (km/h)	Lane Width (m)	Pavement Condition
Campbelltown Road	Sub-arterial	70	3 – 3.5	Good
Brooks Road	Local collector road	60	3.5	Good
Williamson Road	Local collector road	50	3.1 – 3.5	Good
Henderson Road	Local collector road	50	3.1 – 3.5	Good
Lancaster Street	Local industrial road	50	3 – 3.5	Good
Aero Road	Local industrial road	50	3 – 3.5	Fair
Kerr Road	Local industrial cul-de-sac	50	3 – 3.5	Good

7.6.2 Site Access and Parking

The existing access is approximately 10 metres wide and provides segregated entry/exit points for heavy vehicles and light vehicles, compliant with AS2890.1-2004 *Parking facilities – Part 1 - Off-street car parking*, and AS2890.2-2002 *Parking facilities – Part 2 - Off-street commercial vehicle facilities*. Swept paths provided at Appendix A confirms the adequacy of the site's access to accommodate the heavy vehicles such as B-Doubles and Truck and Dogs which may access the site. The proposed construction of a second weighbridge will allow for increased efficiency of movement of heavy vehicles on the site, minimising the requirement for stacking and queuing off site.

On-site parking requirements for development in the Campbelltown LGA are contained within the Campbelltown (Sustainable City) Development Control Plan (2015). Part 6 deals with Industrial Development and Section 6.3 details the requirements for car parking and access.

The requirements for car parking relevant to the site are:

For offices / lunch rooms / storage – 1 space per 35 m^2;
For other areas - minimum of 2 spaces per unit;
1 space per 100 m^2 GFA up to 2,000 m^2;
1 space per 250 m^2 GFA above 2,000 m^2; plus
1 space per 300 m^2 outdoor storage area.

It is proposed to provide 30 car parking spaces compliant with AS2890.1-2004 *Parking facilities – Part 1 Off-street car parking.* A total of eight visitor spaces are already provided via a separate access on Kerr Road with another 22 car parking spaces provided within the site dedicated to employees only.

The site provides a large number of truck queuing spaces within the site to minimise impacts on Kerr Road. The two weighbridges provide space for two heavy vehicles to stand accompanied by another two que spaces provided behind. For vehicles past the weighbridges, a total of five heavy vehicle queuing spaces are provided throughout the site to allow for appropriate management of internal traffic. In total, nine queuing spaces are provided within the site to facilitate safe and efficient site operations.

7.6.3 Traffic Generation and Road Network Capacity

The traffic generation rates for the proposed development have been modelled in accordance with the RTA Guide to Traffic Generating Development for each of the land uses proposed. The traffic generation calculation figures are provided as follows:

- Waste delivery – 225,000tpa / 50 weeks per annum / 65 hours per week / 20t per vehicle 2 trips per vehicle = approximately 8 vehicle trips per hour (vtph).
- Waste removal – 225,000tpa / 50 weeks per annum / 65 hours per week / 24t per vehicle 2 trips per vehicle = approximately 6 vtph.
- Staff trips – Peak hour considers to be arrival at work (AM) all inbound trips – 15 vtph and departure from work (PM) all outbound trips – 15 vtph.
- Concrete trucks – Peak hour – 50,000t / 50 weeks per annum / 5.5 days per week / 10 hours per day / 15t per load = 2 deliveries per hour maximum i.e. 2 inbound and 2 outbound trips.

The Weekday Daily Vehicle Trips were calculated to be 212 vehicle trips per day (vtpd), the AM Peak hour trips were calculated to be 33 vtph (24 inbound and 9 outbound), and the PM Peak hour trips were calculated to be 33 vtph (9 inbound and 24 outbound).

The TIA identifies that the local road network is currently operating well within its technical capacity; and that the modelling of the proposed development will not result in the capacity thresholds for the surrounding roads being reached.

7.6.4 Intersection Capacity

With respect to nearby intersection operation, the SIDRA modelling undertaken in the assessment identifies that all intersections along the heavy vehicle route will continue to operate satisfactorily post development and local areas have sufficient spare capacity to cater for the proposal noting they will continue to operate satisfactorily post development through to at least 2028. Average delays, LoS and queue lengths remain within the acceptable criteria set by NSW RMS. Therefore, the development will not adversely impact on the local road network and it is considered that no road upgrading is required.

During construction it is anticipated that there would be minimal additional traffic generated, with the majority of construction materials (e.g. concrete) produced on site. Traffic generated would generally be in the form of light vehicles for construction workers, with few delivery trucks (medium rigid truck) and specialist mobile plant. It is therefore considered that traffic generated by construction activities would not result in any undue strain on the local road network.

7.6.5 Road Pavement and Safety Impacts

The local road network has been designed and constructed specifically to service the industrial area. The local collector roads are four-lane industrial standard roads with good pavement conditions and long sight lines. The local industrial roads are two-lane industrial standard roads with long sight lines and wide shoulders. Each of the designated travel routes are approved B-Double routes as per the Roads and Maritime restricted vehicle maps and are currently used by B Doubles and Truck and Dogs. Advice from Council confirmed that under Council's current road maintenance schedule, local roads are resurfaced / rehabilitated based on their condition, and not based on the age of the road surface.

An increase in the number of heavy vehicles using the road network would result in additional pavement wear, however, the pavement is constructed to an industrial standard to cater for heavy vehicles, and the road network is currently operating well within its technical capacity. It is therefore considered that the proposal would not have a significant impact to the road pavement lifespans.

As an industrial standard road network, the road design elements have implicitly considered the safety of all road users including light and heavy vehicles. Specific features of the road design along the designated travel route include the following elements:

- The road network has been designed with long sight lines and few curves.

- Local collector roads are dual carriageway, with raised centre medians to separate travel lanes, and no on-street parking.
- Local industrial roads are single carriageway with wide shoulders.
- The intersections along the designated travel route are controlled by roundabouts for all local collector roads and local industrial roads. Only the intersection between Kerr Road (local industrial cul-de-sac) and Aero Road is controlled by a T-intersection.
- The sign posted speed limit is typically 50 km/h within the industrial area with Brooks Road (60 km/h) and Campbelltown Road (70 km/h) allowing higher travel speeds.

The pedestrian facilities within the locality have been designed to minimise the interactions between pedestrians and vehicles, with a suitable concrete pedestrian footpath providing off-road access along the major roads in the area and linking the industrial premises to Ingleburn Railway Station. The only gap in the pedestrian footpath is along Kerr Road where pedestrians would use the grass verges for trip making purposes. It is noted that Kerr Road is a cul-de-sac with no through traffic. Cyclists in the area generally share the road network with vehicles, however, an off-road shared pathway on Henderson Road from Lancaster Road to Williamson Road provides safe passage for cyclists through a difficult and dangerous section of the road network.

While the proposed development would result in an increase in weekday daily vehicle trips, the road network and pedestrian facilities have been designed to ensure the safety of road users and reduce the incidence of interactions between vehicles and pedestrians. As noted, the road network is currently operating well within its technical capacity. As the proposed development would not result in the capacity thresholds for the local roads being reached, it is anticipated that the safety of road users and pedestrians would not be significantly impacted by increased traffic movements associated with the proposal.

To ensure operational efficiency and minimise impacts to the amenity of the locality, a Traffic Management Plan (TMP) will be prepared and implemented. The TMP will detail on site travel routes and operational procedures, heavy vehicle routes and turn restrictions, and traffic congestion procedures. The TMP will require that drivers are appropriately licenced and fit for work and promote a high level of professional conduct.

7.6.6 Onsite Traffic Management

With 225,000t of material to be delivered to the site per annum across a range of vehicle types, management of these vehicles is paramount to ensure efficient movement through the site, safety, and minimise impacts on Kerr Road. Table 43 provides the daily expectations for heavy vehicles to the site based on projected material loads. As previously noted, waste amount is subject to change based on market demand so therefore the waste amounts used reflect expected demands.

Table 43 – Vehicle loading for each waste material group and operation

Material Group/ Operation	Daily Material (t)	Daily Vehicles	Onsite Time Per Vehicle (mins)	Daily Time Per Day (hours)
Solids Waste	123	4 (3.8)	10	0.7
Concrete Waste	92	3 (2.9)	10	0.5
Sands and Soil	92	3 (2.9)	10	0.5
Oily Water	92	7 (6.6)	19	2.2
Sewer	61	5 (4.4)	19	1.6
Grease Trap	30	3 (2.1)	19	1.0
Other Liquid Waste	30	3 (2.1)	19	1.0
Muddy Water	92	7 (6.6)	19	2.2
Concrete Batching	137	10 (9.1)	20	3.3

With a maximum of 45 heavy vehicles arriving and departing the site each day, effective management of the vehicle load is critical. To achieve this, the proposed development will be operated in accordance with a traffic management plan which will outline procedures and methods for safe operation both on the site and moving to and from the site on public roads. All drivers will be required to undertake the site induction with relevant documents provided to both the driver and the companies they represent.

An outline of the procedure for each waste group arriving at site is provided in the following pages:

Articulated Vehicles – solid waste, solid concrete waste, sands, and soils

Generally delivered to site via a truck and dog or other large articulated vehicle, an average payload equates to around 32 tonnes of material.

Prior to vehicles travelling to the site, the trip must be scheduled in advance. The vehicle will be required to follow the designated vehicle path upon entering the Ingleburn area.

When the vehicle arrives at site it will move onto the weighbridge or to the designated queuing space. Articulated vehicles will be limited to using the existing weighbridge due to size. Once the vehicle arrival procedure has been undertaken and approval is given, the vehicle will proceed to the tipoff/loading zone. If this zone is currently occupied, queuing spaces are provided to allow safe standing within the site.

Once the delivery or loading has occurred, the vehicle will proceed through the wheel wash and will stop in one of two outbound queuing spaces to give-way to inbound traffic on the weighbridges. With the weighbridge clear, the vehicle will proceed to the weighbridge for the departure procedure.

As soon as the vehicle is cleared, it will proceed off site and follow the designated vehicle path outbound.

Liquid Truck – muddy water waste and oily water waste

Liquid wastes will be transported to site via liquid trucks with a general capacity of 14,000L. The liquid trucks carrying muddy or oily water wastes will be differentiated from other liquid trucks travelling to the site as their tipoff locations are external to the building within the dirty area and require travel through the wheel wash.

Prior to vehicle travel to site, the trip must be scheduled in advance. The vehicle will travel to the site and will follow the designated vehicle path upon entering the Ingleburn Industrial area.

When the vehicle arrives at site it will move onto the weighbridge or to the designated queuing space. Liquid trucks have access to both weighbridges and the preceding que spaces if clear. Once the vehicle arrival procedure has been undertaken and approval is granted, the vehicle will proceed to the discharge points. If the discharge points are occupied, queuing spaces will be available to allow safe standing within the site.

Once the delivery has occurred, the vehicle will proceed through the wheel wash and will stop in one of two outbound queuing spaces to give-way to inbound traffic on the weighbridges. Once the weighbridge is clear, the vehicle will proceed to the weighbridge for the departure procedure.

As soon as the vehicle is cleared, it will proceed off site and follow the designated vehicle path outbound.

Liquid Truck – all other liquid wastes

Liquid wastes are transported to site via liquid trucks with a general capacity of 14,000L. With the exception of muddy and oily water wastes, all other liquid wastes are transported to within the main building for discharge and will remain in the site's clean zone at all times.

Prior to vehicle travel to site, the trip must be scheduled in advance. The vehicle will be required to travel to the site and follow the designated vehicle path upon entering the Ingleburn Industrial area.

When the vehicle arrives at site it will move onto the weighbridge or to the designated queuing space. Liquid trucks have access to both weighbridges and the preceding que spaces if clear. Once the vehicle arrival procedure has been undertaken and approval is granted, the vehicle will travel to the entry point of the building and will stop at a designated line and give-way to any exiting vehicles.

The vehicle will then proceed inside to the discharge point. If the discharge point is occupied, queuing spaces will be made available to allow safe standing within the site.

Once delivery has occurred, the vehicle will proceed outside the building following safety procedures and will stop in one of two outbound queuing spaces to give-way to inbound traffic on the weighbridges. Once the weighbridge is clear, the vehicle will proceed to the weighbridge for the departure procedure.

As soon as the vehicle is cleared, it will proceed off site and follow the designated vehicle path outbound.

Concrete Vehicles

Concrete vehicles mainly arrive to site to receive batched concrete slurry for construction projects. However, some concrete vehicles may arrive to site for discharging excess or washout material after a construction project delivery.

Prior to vehicle travel to site, the trip must be scheduled in advance. The vehicle must travel to the site and follow the designated vehicle path upon entering the Ingleburn Industrial area.

When the vehicle arrives at site it will move onto the weighbridge or to the designated queuing space. Concrete trucks have access to both weighbridges and the preceding que spaces if clear. Once the vehicle arrival procedure has been undertaken and approval is granted, the vehicle will proceed to the concrete batching plant, reversing into the structure for loading.

For loading occurring within the night time period (from 3am to 7am), concrete trucks will travel to the entry point of the main building and will stop at a designated line and give-way to any exiting vehicles and then proceed to a standover parking space which is located within the main building.

During day-time operation, this process can occur within the concrete batching structure so concrete trucks will not travel within the main building.

Once the full loading process has been finalised, the vehicle will proceed outside the building following safety procedures and will stop in one of two outbound queuing spaces to give-way to inbound traffic on the weighbridges. Once the weighbridge is clear, the vehicle will proceed to the weighbridge for the departure procedure.

As soon as the vehicle is cleared, it will proceed off site and follow the designated vehicle path outbound.

Other Heavy Vehicles

A number of wastes will be accepted in very small quantities such as the waste transfer materials, product destruction, and ASS/PASS soils. These utilise a variety of trucks however they will be generally limited in size to non-articulated vehicles only. All delivery and loading points for these wastes are located inside the main building, therefore they will not travel into the designated dirty area.

Prior to vehicle travel to site, the trip must be scheduled in advance. The vehicle must travel to the site and follow the designated vehicle path upon entering the Ingleburn Industrial area.

When the vehicle arrives at site it will move to the weighbridge or to the designated queuing space. Heavy vehicles have access to both weighbridges and the preceding que spaces if clear. Once the vehicle arrival procedure has been undertaken and approval is granted, the vehicle will travel to the entry point of the building and will stop at a designated line and give-way to any exiting vehicles.

The vehicle will then proceed inside to the deposit/loading space. If the spaces are currently occupied, queuing spaces are available to allow safe standing within the site.

Once delivery/loading has occurred, the vehicle will proceed outside the building following safety procedures and will stop in one of two outbound queuing spaces to give-way to inbound traffic on the weighbridges. Once the weighbridge is clear, the vehicle will proceed to the weighbridge for the departure procedure.

As soon as the vehicle is cleared, it will proceed off site and follow the designated vehicle path outbound.

Small Vehicles

All visitors will be required to park in the visitor parking spaces at the front of the site. These parks are accessed by a separate driveway crossover.

Employees are provided with car parking spaces which are located within the site. Access is via the heavy vehicle crossover. Employees working on the concrete batching operation arrive prior to concrete trucks arriving at the site and as such will proceed to an employee space following traffic safety procedures.

Employees arriving for other site operations enter the site via the heavy vehicle crossover and proceed over the weighbridges to employee car parking spaces. It should be noted that arrival times for employees are set times and heavy vehicles will be scheduled away from these periods.

7.6.7 Alternate Transportation

Bus services in the area are provided by Interline Bus Services with service route 869 Ingleburn to Liverpool via Edmondson Park running past the site along Henderson Street. This route connects Ingleburn Railway Station to Edmondson Park Railway Station and Liverpool Railway Station. Other bus and rail connections at these locations provides access to all the major residential, commercial, retail, health and educational areas near the site. The nearest bus stops to the site are located on Henderson Road near the Lancaster Road roundabout about 350 metres north west of the site.

The proposed development will not increase use of the existing public transport service significantly therefore there would be no nexus from this development for the provision of additional infrastructure or changes to the existing service resulting from this development.

Similarly, the development is unlikely to significantly increase pedestrian and cycle traffic on the local road network therefore no nexus exists for the provision of additional external pedestrian or cycle way infrastructure.

7.7 Water

DRB Consulting Engineers undertook an assessment of the water impacts of the proposed development on water including:

- Stormwater drainage and overland flow paths;
- Stormwater detention and water quality;
- Water reuse and mains water demand; and
- Flood levels and conveyance.

The abovementioned water management plan has been provided at Appendix B.

7.7.1 Stormwater Drainage and Overland Flow Paths

The proposed development involves only minor construction work for the upgraded concrete batching structure which will be under the existing cover. No other changes to the building are proposed and no alteration to any of the hardstand areas is proposed.

The site has 2x 10kL of rainwater tanks fed by 3,036m^2 of roof area providing water for internal use and external irrigation.

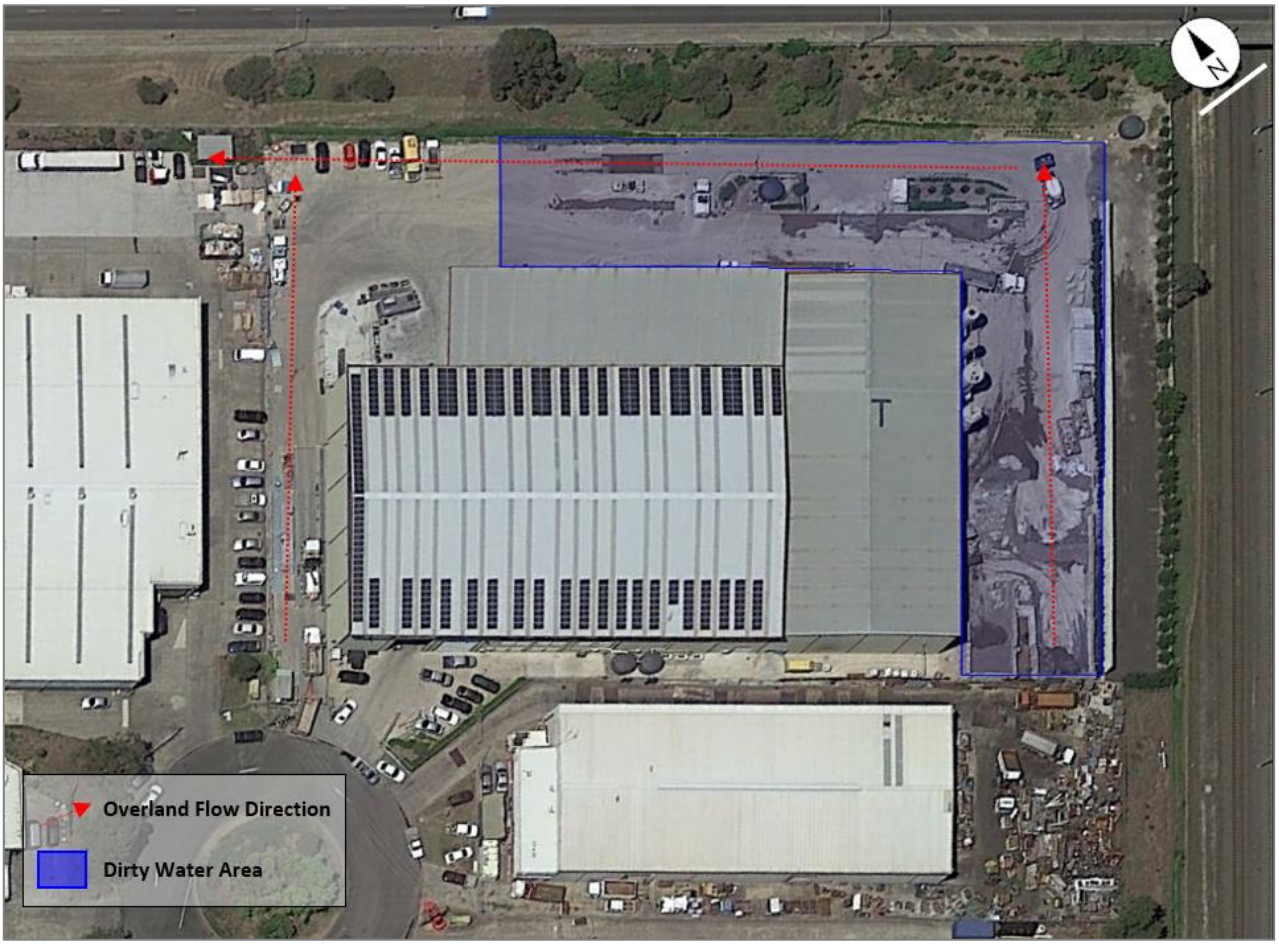
Internal activities are undertaken in a bunded, enclosed building. 'Dirty' water captured from internal activities is reused for site operations.

Any runoff from the 'rear' external operational area, consisting of 3,932m^2 of hardstand area, is directed via two first flush pits to on site dirty water aboveground storage with a total capacity of 426.5kL. The dirty water area has been fully bunded, and stormwater drains in this area have been isolated to prevent the dirty water

runoff entering general stormwater and enabling reuse of this water for site operations and dust suppression. The dirty water capture area is delineated in blue as shown in Figure 34.

The remaining 3,369m^2 hardstand area, deemed to be 'clean' water is directed to the existing stormwater system via drains that are bunded with bags and would be protected using drain wardens to capture debris. Stormwater runoff currently flows via two easements which include a 30m wide easement along the north eastern boundary, adjacent to Henderson Road, providing an overland flow towards the north west, and a 2m wide easement to drain stormwater for both a stormwater pipe and overland flow towards the north east from the Kerr Road cul-de-sac. The overland flow paths are identified by red arrows in Figure 34.

Figure 34 – Delineation of Dirty Water Capture Area and Overland Flow Paths



7.7.2 Stormwater Detention and Water Quality

Stormwater Detention

While neither the stormwater system nor the impervious area of the site is proposed to be altered, an assessment of the site's Onsite Stormwater Detention (OSD) was conducted to demonstrate the site's ability to meet OSD requirements. The assessment was undertaken in accordance with Council's Guidelines for OSD.

Based on a Pre-Development flow rate the site accommodated 355.5L/s however post-development of the site resulted 763.1L/s. Based on the difference between Pre- and Post- development flows, an OSD requirement of 122.3kL of storage capacity would be required.

The proposed development will have the pump out from the pavement storage area increased to 130kL/day. As such, a minimum storage volume of 122.3kL will be available in any 24-hour period and therefore, OSD requirements are met.

Further discussion on OSD can be found within the water impact assessment provided at Appendix B.

Water Quality

The site handles a number of different water types dependent on where they are collected and their nature. These water types include:

- Dirty water;
- Roof Water either directed to storage or directed to stormwater; and
- Clean Water.

Dirty water is collected from the external operations area, including external stockpiles, which will carry dust/sediment from this area. Due to the existing site conditions, including bunding of the dirty water area, only falls of 17.3mm or greater will allow water to overflow into stormwater. Any rain event of this size exceeds the parameters of WQ assessment as pollutants with any potential for pollution are largely diluted.

Roof water directed to tanks is utilised for irrigation on the site's landscaped areas. The rainwater tanks capture sediment and generally improving the water quality for irrigation or overflow from the tank.

Roof water directed to stormwater is considered susceptible to pollutants during small storm events. A first flush system to capture a minimum of the first 1.0mm of rain is proposed to be installed to minimise the potential pollution.

Clean water is collected from outside the external operational area and is directed to the stormwater drainage network. To improve water quality of this water a SPEL Stormsack or equivalent is proposed to be installed to capture any potential pollution. No additional pollutants are anticipated to be introduced to the clean water areas.

With the recommended pollution capture measures implemented, the water quality discharged from the site into the local waterways and the Georges River catchment is expected to meet ANZECC guidelines.

Further discussion on water quality can be found within the water impact assessment provided at Appendix B.

7.7.3 Water Reuse and Mains Water Demand

BRS has actively sought to improve the site's sustainability by implementing a range of water re-use measures despite only small amounts of water being required for operations on the site. The operation collects as much water as possible, treats, and reuses it for irrigation and for dust suppression via sprinklers or water cartage. The water used is contained within the external operational area where it will be again captured, treated, and re-used.

Based on current operations the site achieves a 37.6% water re-use efficiency with an average 44.9kL/day sourced from mains water supply. The proposed expansion has been calculated to achieved 100% water re-use efficiency with no water sourced from mains water supply. This is largely associated with the introduction of liquid waste processing on the site with approximately 208kL/day available for re-use. This will increase the daily discharge to sewer to 164kL/day however this is below the maximum of 172.8kL/day.

Flood Levels and Conveyance

As noted within the water impact assessment at Appendix B, the current Flood Study for the Bow Bowing Bunbury Curran Creek Catchment was still being finalised, and as such, the results were not available. The flood liability of the site was previously considered on the basis on the flood study conducted by Lean and Haywood (2002), as addressed in the earlier EIS for the Site (Benbow Environmental, April 2015).

As per the findings of the Lean and Haywood study, the site is subject to the 100 year Average Recurrence Interval (ARI) flood in the nearby Bunbury Curran Creek, with a flood level of RL 25.10m AHD. The minimum floor level of the existing facility is RL 25.60m AHD. It is noted that the proposed development will not involve construction activity that will alter the existing floor levels of the site.

It is understood that the 30m wide easements along the eastern and northern boundaries of the site have been created for stormwater conveyance. It is noted that the existing approved development (948/2015/DA-I/B) has bunded finished goods bays within the eastern easement, adjacent to the southern boundary. These bays partially restrict the conveyance of stormwater flows through this easement. The introduction of stockpiles behind these bunded walls will not reduce the ability of the existing easement to convey stormwater flows. As such, it can be concluded that, the proposed development:

- will not increase flood levels on the site or its neighbouring sites;
- will not have a negative effect on existing flood level; and.
- will not increase the risks to occupants of the site.

7.8 Contamination

A Stage 2 Environmental Investigation was undertaken by Dirt Doctors, refer to Appendix E, to assess whether the site presents a risk to human health and/or the environment as a result of contamination to soils and groundwater arising from site or neighbouring activities.

A search of both the NSW EPA Contaminated Land Management record of notices found no records for the site or the area. Further to this, a search of the POEO public register of licenced and delicensed premises indicated no licenced premises within the immediate surrounding area of the site.

Based on the existing land use on the site the potential sources of environmental concern include:

- Potential importation of uncontrolled fill that may contain various contaminants; and
- Hardstand areas where leaks and spills from vehicles and waste storage may have occurred.

It was determined that to assess the potential for contamination, intrusive soil investigations were required. Based on a total of thirty-two (32) soil samples and two (2) groundwater samples, all relevant contaminants sampled for including heavy metals, petroleum hydrocarbons, and polycyclic aromatic hydrocarbons, were below the acceptable criteria. The results of the chemical analysis indicated the site does not present a risk to human health or the environment considering the industrial context of the Ingleburn industrial precinct.

To minimise any potential risk of contamination the following physical and procedural measures will be implemented. These controls include the following:

Physical Controls:

- Use of filters on stormwater drains;
- Use of wheel wash for heavy vehicles;
- Separation of waste material using storage bund;
- Internal storage and operations;
- Implementation of misting sprays for dust suppression within concrete batching structure; and
- Implementation of filters for liquid waste processing.

Procedural Controls:

- Development and routine updating of management plans;
- Routine inspection, maintenance, and cleaning of hardstand area;
- Maintenance and efficiency check of water management system;
- Implementation of a pollution incident response management plan;
- Adoption of best practice operational procedures;
- Implementation of a maintenance schedule; and
- Routine training and reinforcement of correct procedures.

Through the implementation of the above controls whether physical or procedural, any potential contamination is likely to be effectively managed to avoid contamination events. In the event that a spill occurs on site, the pollution incident response management plan would be actioned. Spill kits are provided at locations around the site.

For further discussion and detail on methodology, please see Appendix E for the Stage 2 Environmental Investigation conducted by Dirt Doctors.

7.9 Fire Management

DPC Group has prepared a Statutory Compliance Report which assesses compliance with the EP&A Regulation 2000. This includes an investigation into the suitability of the existing building in relation to BCA requirements (National Construction Code 2016 Volume 1 Building Code of Australia Class 2 to 9 Buildings).

To provide compliance with Clause 94 of the EP&A Regulation 2000, the Statutory Compliance Report at Appendix G recommended an existing small roller door be replaced with a double leaf pedestrian swing door complying with BCA Clause D2.19 and fitted with BCA Clause D2.21 compliant lever action door hardware.

The existing building has an integrated a fire management system which includes easy and visible fire hoses and extinguishers throughout the site, appropriate training for employees, induction for evacuation and management for all employees and visitors, and regular inspections of fire emergency equipment and systems. The current fire management plan has been provided at Appendix P.

This system is routinely evaluated and updated in response to any new information and guidelines released. With the implementation of the recommendation, the proposed development is considered to be consistent with the EP&A Regulation and BCA requirements, and is appropriate for operation.

The type of waste material currently processed and stored on site consists of organic inert materials such as crushed concrete and aggregate, foundry sand, drilling mud, recovered aggregate, virgin excavated material etc, that are largely either non-combustible or present minimal risk of combustion. It is not anticipated that the proposed development would result in significant quantities of combustible waste materials being stored on the site. Minor quantities of flammable liquids including paints, lacquer and varnish, and kerosene and oil would be accepted on site, however, these products would not be stored in close proximity to bulk wastes.

7.10 Community and Socio-Economic Impacts

The proposed expansion aims to leverage the success of an existing RRF which currently employs 11 local people. Based on the 2016 Census, the Australian Bureau of Statistics calculated that 7.9% of people within the Campbelltown LGA are unemployed which is higher than the NSW average of 6.3% and for Australia at 6.9%.

The NSW Waste Avoidance and Resource Recovery Strategy 2014 – 2021 advocates for enhanced resource recovery operations with a vision to improve recovery rates but also create new jobs within the industry. The strategy estimates that approximately 9.2 full time equivalent employees (both directly and flow on) are generated per 10,000 tonnes of material processed compared to 2.8 jobs for 10,000 tonnes directed to landfill.

The proposed expansion is estimated to create an additional 11 job opportunities on the site with approximately 15 jobs for the construction/installation phase of the proposed development.

The proposed development will also contribute to a number of other socio-economic benefits including:

- Sustainable use of an existing industrial site;
- Improved environmental outcomes associated with resource recovery activities; and
- Improved environmental outcomes associated with the implementation of improved mitigation measures on the site.

The proposed expansion is considered to be in the public interest as it will generate employment opportunities both directly and indirectly and have flow on benefits as well as providing a sustainable waste management service within the Ingleburn Industrial area.

8 Environmental Risk Assessment

8.1 Methodology

To evaluate the risk to the environment created by the proposed expansion, an Environmental Risk Assessment (ERA) has been conducted assessing the risks identified throughout the Environmental Assessment (see Table 44). Mitigation measures currently implemented or proposed to be implemented to control risks will be considered with residual risks assessed. Table 44 provides the risk rating matrix.

The ERA has been conducted in accordance with the methodology outlined in Standards Australia's HB 203:2006 Environmental Risk Management – Principles and Process, Australian Standard AS/NZ 4360:2004 Risk Management, and AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines.

Table 44 – Risk Rating Matrix

	Consequence				
Probability	**A – Not Significant**	**B - Minor**	**C- Moderate**	**D - Major**	**E - Severe**
5 – Almost Certain	**Medium**				**High**
4 – Likely					
3 – Possible					
2 – Improbable					
1 - Rare	**Low**				

8.2 Assessed Environmental Risk

Table 45 provides an assessment of the risks associated with the proposed expansion with a rating and discussion on predicted impacts.

Table 45 – Environmental Risk Assessment

Risk Description	Consequence	Probability	Risk Rating	Predicted Impacts
Surface Water				
Stormwater runoff flows off site	A	3	Low	The site implements surface water controls which effectively reduce surface sediment and reduces excessive stormwater flows. An easement on the site allows water flow to adjoining sites however the easement area is kept clean with management systems and the first flush system.
Operation impacts water available for other users	A	1	Low	The site captures a total of 426.5kL of water storage for operations. 20kL rainwater capture is also achieved for office use. A site water balance has been provided within the water impact assessment at Appendix B.

Operation pollutes water	B	3	Low	The site's surface water controls and erosion and sediment controls effectively manage water on the site.
Operation impacts salinity	A	3	Low	The operation is located on a hardstand area effectively separating the site from the ground. As a result, the operation is not predicted to impact the water table.
Operation increases flood risk	A	1	Low	The site will not impact flood behaviour in the area.
Operation disturbs acid sulfate soils	A	1	Low	The site is not located within a potential acid sulfate soil zone and will not impact on acid sulfate soils.
Groundwater				
Reduce groundwater availability to others	A	1	Low	The site will not extract any groundwater.
Reduce water availability to groundwater dependent ecosystems	A	1	Low	The site will not extract any groundwater.
Pollution of groundwater	A	2	Low	The operation is located on a hardstand area effectively preventing pollution reaching the groundwater.
Air Quality				
Dust levels exceed criteria at sensitive receptors	C	2	Low	A minor exceedance in air quality relating to the $PM_{2.5}$ criteria (of 25µg/m³) when background levels reach 24.9µg/m³. All other relevant environmental parameters meet the relevant criteria with appropriate mitigation measures are in place.
Odour is detected at sensitive receptors	A	2	Low	Odour emissions are managed through sealed systems and internal processing. Emissions are predicted to be below the relevant criteria as demonstrated by the Air and Odour Report at Appendix C.
Significant GHG emissions generated	A	3	Low	The operational GHG emissions are considered to be extremely low.
Noise				
Noise level exceeds noise criteria at sensitive receptor	B	3	Low	The noise impact assessment at Appendix F demonstrates that operational noise will be below relevant criteria at sensitive receivers.

Noise levels from road transport exceeds noise criterial at sensitive receptor	B	3	Low	The noise impact assessment at Appendix F demonstrates that transport noise will be below relevant criteria at sensitive receivers.
Ecology				
Direct impacts such as loss of native vegetation and fauna habitat	A	1	Low	The site is currently development with no vegetation proposed to be removed.
Indirect impacts such as edge effects, introduced species, noise, and impacts to RAMSAR wetlands	A	1	Low	No RAMSAR wetlands are located near the site.
Heritage				
Potentially disturb areas of Aboriginal cultural significance	B	1	Low	The site is already developed and no known areas of Aboriginal cultural heritage significance will be disturbed.
Potential to disturb areas of historic (non-Aboriginal) significance	B	1	Low	No listed heritage items are located in the vicinity of the site.
Traffic and Transport				
Traffic volumes exceed the capacity of local roads and intersections.	B	1	Low	As demonstrated within the traffic impact assessment at Appendix D the traffic generated is not predicted to exceed the predicted 2027 road capacity or 2028 intersection capacity.
Traffic volumes exceed the capacity of regional roads and intersections.	A	1	Low	Vehicle movements generated by the proposal are not predicted to impact the capacity on regional roads and intersections.
Visual Amenity				
Local visual amenity is significantly impacted	A	1	Low	The facility is currently operating. Construction works are minor in nature and will not significantly impact the visual amenity of the neighbourhood.
Soils and Contamination				
Disturbance of existing contamination	C	2	Low	The operation is located on a hardstand area effectively preventing soil disturbance.
Contamination of soil	C	2	Low	The operation is located on a hardstand area effectively preventing contamination of the soil.

Community				
Disruption to the community during construction	B	2	Low	The proposed construction works are minor in nature and are unlikely to impact the community during the works with appropriate procedures in place.
Disruption to the community during operation.	C	2	Low	Community may be impacted when background air quality in the Ingleburn area is high (exceeding $PM_{2.5}$ criteria). With dust mitigation measures implemented the impact of the proposal on air quality will be minimal.

Due to the environmental risk associated with the land use it is essential to implement mitigation measures to minimise potential impacts. A range of mitigation measures are proposed to be implemented to facilitate the appropriate management of the operation as outlined in Section 9.

Of the potential impacts, a minor exceedance in air quality relating to the $PM_{2.5}$ criteria (of 25µg/m³) has been modelled as part of the AQIA provided at Appendix C. This exceedance occurs only when background levels in the Ingleburn Industrial area reach 24.9µg/m³. Due to this, it is considered that most activities in the Ingleburn Industrial area would likely exceed this threshold in such circumstances. Dust will be managed through the existing and proposed mitigation measures with minimal dust impacts expected.

Through a combination of existing and proposed mitigation measures the resulting environmental risk associated with the proposed development are considered to be low overall and as a result is appropriate for this industrial location.

9 Management and Mitigation Measures

In accordance with the requirements of Section 7 of Schedule 2 of the Regulation 2000 this section of the EIS addresses the likely impacts of the proposed development on the environment and the measures proposed to mitigate any adverse impacts.

As detailed in this EIS various mitigation measures have been incorporated in the design of the proposal. Table 46 provides a list of the existing mitigation measures and recommended mitigation measures to be implemented on the site.

Table 46 – Mitigation Measures

Key Issue	Mitigation Measure
Water Management	The existing stormwater system and management procedures will be retained for use. These include: • Sweeping of internal and external hardstand areas; • Misting Systems; • Grading of operational surfaces to stormwater capture; • Wheel wash; • Existing bunding for fuel store in accordance with AS1940:2004; • Waste processing internal to building or undercover; • Waste storage only in managed areas; and • Stormwater treatment devices including gross pollutant traps, pit inserts, and storm filters. The water impact assessment at Appendix B recommends the following systems be installed: • first flush tank be provided that collects a minimum of the first 1.0mm of the storm event runoff; and • SPEL Stormsacks (or approved equivalent) be installed in all surface inlet pits. The OEMP includes management procedures, a maintenance and cleaning schedule to ensure system devices are regularly cleaned, and spill management procedures for a range of liquids.
Air Quality	The existing mitigation measures implemented on the site include the following: • Engines of on-site vehicles and plant switched off when not in use. • Maintain and service vehicles according to manufacturer's specifications • External area is to be kept clean, any incidental spills to be cleaned immediately. • Water misting sprays used for dust suppression within concrete batching structure. • Regular sweeping and/ or watering of hardstand area. • Sprinkler system used in rear yard area. • Conduct visual checks for dust beyond the boundary. • Wet suppression used for crushing and screening processes. • Cement storage silos are fitted with dust filters. • Inspections and regular servicing of dust suppression equipment on plant. • Finished products to be stored in storage bays enclosed on three sides by blocks.

	• Water sprays used on finished product storage to minimise windblown dust. • Material stockpile size maintained appropriately. • Sealed driving surfaces of the site to be cleaned regularly. • Dampen aggregates and other material when excessively dusty. • Vehicles are to abide by site speed limits. • Vehicle loads are covered when transporting material on and off-site. • The access driveway to the site is checked and any dust, material or mud tracked onto the public road is cleaned immediately. Based on the recommendations within the AQIA report (Appendix C) the following mitigation measures to be implemented by the operation: • Activities to be assessed during adverse weather conditions and modified as required (e.g. cease activity where reasonable levels of dust cannot be maintained using the available means). • Weather forecast to be checked prior to undertaking material handling or processing. • Vehicles and plant are to be fitted with pollution reduction devices where practicable. • Identified odorous materials to be blended with other materials to minimise odour. • Sludge material to be processed and encapsulated in concrete as soon as practicable. • Liquid waste processing to be vacuum pressurised to prevent the release of odour. • Appropriate filters to be installed on DAF to mitigate odour from this process. • Material to be primarily stored inside where possible to prevent wind erosion. • Reduce drop heights from loading and handling equipment where practical. Furthermore, the following greenhouse gas mitigation measures will be implemented on the site: • Monitor the consumption of fuel and regularly maintain diesel powered equipment to ensure operational efficiency; • Turning diesel equipment off when not in use for extended periods; • Minimise double handling of material and using efficient transport routes; • Monitor the total site electricity consumption and investigate avenues to minimise the requirement; • Conduct a review of alternative renewable energy sources; • Provide energy awareness programs for staff and contractors within site induction process; and • Minimise the production of waste generated on-site. Further discussion on Air and Odour impacts can be found at Section 7.3.
Noise	The noise impact assessment undertaken by MAC (see Appendix F) and existing operational procedures serve to mitigate against noise impacts on the surrounding environment. Noise levels generated by the site are managed through the following recommendations and existing measures:

	• Construction of a 10kg/m^2 6.5m yard wall along the south eastern site boundary and along the rear south western portion to the building line; • The slumping stand will be a minimum set back distance of 10m from the eastern roller doors inside the main building with doors open; • All solid waste processing to occur inside; and • Solid waste processing limited in operational time. Construction noise is to be managed through the below procedures: • Toolbox and induction of personnel prior to shift to discuss noise control measures that may be implemented to reduce noise emissions to the community; • Implement any boundary fences/retaining walls as early as possible to maximise their attenuation benefits; • Where possible use mobile screens or construction hoarding to act as barriers between construction works and receivers; • All plant should be shut down when not in use. Plant to be parked/started at farthest point from relevant assessment locations; • Operating plant in a conservative manner (no over-revving); • Selection of the quietest suitable machinery available for each activity; • Avoidance of noisy plant/machinery working simultaneously where practicable; • Minimisation of metallic impact noise; • All plant is to utilise a broadband reverse alarm in lieu of the traditional hi frequency type reverse alarm; and • Undertake letter box drops to notify receivers of potential works.
Traffic and Transport	The site is managed by an existing traffic management for heavy vehicle movements within the site. The traffic management includes measures for the following: • directions and rules for engagement with mobile equipment; • directions for permitted and non-permitted methods of work on and around vehicles; • specifications for safety signs which shall be in place to support site controls; • specifications for PPE that shall be available and used by staff, visitors, and contractors on-site a traffic management map; • a summary of the hazard identification and risk assessment process used; • details of the process used to evaluate controls once they are in place; and • Update of traffic management plan in accordance with expansion.
Visual Amenity	The site has implemented landscaping within the site to enhance visual amenity. This includes a number of garden beds and trees. The site is kept clean through routine hardstand cleaning and upkeep of the building and other structures. As discussed in Section 7.1.5, it is recommended that: • Trees to be planted to create a visual buffer along the south eastern boundary; • The existing established vegetation along Henderson Road and the rail corridor be retained where possible and maintained long term. This will continue to fragment views of the site; and

	• The built elements of the development be maintained to a high standard, in line with the existing developments within the industrial precinct. With the implementation of the recommended measures, visual amenity should not be negatively impacted.
Waste Management	As discussed within Section 7.5, a range of waste management procedures are implemented by the operation including the following: • A waste material reception procedure implemented to ensure only permitted materials are accepted on site; • Records of acceptance shall be kept on site; • Quality assurance checks of material accepted to the site shall be conducted on a regular basis; • Ensure waste-water systems are maintained in good working order; • All waste is to be segregated where possible; • All waste to be disposed of in an appropriate manner to appropriately licenced facility; • All waste is to be managed in accordance with the waste management plan; and • Waste management plan to be updated to suit proposed expansion.
Soils and Contamination	The site is covered in hardstand providing an effective barrier to contamination reaching the natural ground. Water and sediment on the site are directed to the site's water management system where water is cleaned and reused or directed to sewer and sediment is removed and directed back into the crushing process. To ensure the site's soil remain contaminant free, the following management procedures are to be undertaken: Physical Controls: • Use of filters on stormwater drains; • Use of wheel wash for heavy vehicles; • Separation of waste material using storage bund; • Internal processing; • Implementation of misting sprays for dust; and • Implementation of filters for liquid waste processing. Procedural Controls: • Development and routine updating of management plans; • Routine inspection, maintenance, and cleaning of hardstand area; • Maintenance and efficiency check of water management system; and • Implementation of a pollution incident response management plan; • Adoption of best practice operational procedures; • Implementation of a maintenance schedule; and • Routine training and reinforcement of correct procedures.

Hazard Management	The following hazard management measures are to be implemented on the site: Physical Controls: • Separation of processes through site design; • Separation of stockpiles through location and walls; • Implementation of fire management system; • Any hazardous components are design and constructed to comply with relevant standards (e.g.) *AS1940:2004 The Storage and Handling of Flammable and Combustible Liquids*; and • Any hazardous components are to be enclosed (e.g.) bunded chemical storage. Procedural Controls: • Development and routine updating of management plans; • Implementation of a pollution incident response management plan; • Adoption of best practice operational procedures; • Incoming material verification processes; • Implementation of a maintenance schedule; and • Routine training and reinforcement of correct handling, pollution incident, and fire management procedures.
Fire Management	The existing building has a fire management system which includes fire sprays, easy and visible fire hoses and extinguishers throughout the site, appropriate training for employees, induction for evacuation and management for all employees and visitors, and regular inspections of fire emergency equipment and systems. To provide compliance with Clause 94 of the EP&A Regulation 2000, the Statutory Compliance Report at Appendix G an existing small roller door will be placed where a double leaf pedestrian swing door currently exists, thereby complying with BCA Clause D2.19 and it will be fitted with BCA Clause D2.21 compliant lever action door hardware.
Community	As part of its social responsibility, BRS posts letters to surrounding residents in the nearby residential area and neighbouring industrial operations informing them of any updates regarding the operation or any solutions implemented.

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10 Ecologically Sustainable Development

The proposed expansion is compliant with the principles of Ecologically Sustainable Development (ESD) defined within Schedule 2 Clause 7(4) of the EP&A Regulation 2000. The principles of ecologically sustainable development include:

(4) The principles of ecologically sustainable development are as follows:

- *(a) the precautionary principle, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:*
  - *(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and*
  - *(ii) an assessment of the risk-weighted consequences of various options,*
- *(b) inter-generational equity, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,*
- *(c) conservation of biological diversity and ecological integrity, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,*
- *(d) improved valuation, pricing and incentive mechanisms, namely, that environmental factors should be included in the valuation of assets and services, such as:*
  - *(i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,*
  - *(ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,*
  - *(iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*

10.1 Precautionary Principle

In order to prevent serious and irreversible environmental damage, the precautionary principle requires proponents to undertake an environmental assessment to demonstrate the proposal has been designed to avoid serious and irreversible environmental damage. To ensure compliance with the principle, this EIS is supported by a number of specialist studies which provide accurate modelling and information which allow for full and effective evaluation of the proposal. Furthermore, an ERA has been conducted utilising the findings of all specialist studies, see Section 8. This risk assessment found the proposal to effectively minimise risk successfully avoiding serious and irreversible environmental damage.

If any uncertainty was encountered, specialists were advised to utilise the worst-case scenario in their modelling and assessments. In addition to the existing mitigation measures implemented on the site, all mitigation measures recommended within the specialist studies will be implemented.

With the implementation of the recommended mitigation measures, the ERA found that there would not be serious or irreversible environmental damage.

10.2 Inter-generational Equity

The existing operation processes waste producing high quality recycled material for the construction industry. This action directly provides inter-generational benefits in a number of areas such as reducing virgin material use, energy use, contributing to a circular material economy, reducing freight loads, and reducing the amount of waste diverted to landfill. These factors will preserve land for future land uses while reducing greenhouse gas emissions and reducing the costs of material. This will benefit current and future generations.

10.3 Conservation of Biological Diversity and Ecological Integrity

The site has previously been developed with minimal landscaping on the site. As a result, biological diversity and ecological integrity will not be impacted by the proposed expansion.

The proposed expansion will result in a reduced reliance of virgin extracted materials from mines or quarries. This reduction will lead to a decrease in the amount of land required to be disturbed to win such materials. By reducing the amount of land disturbed, the proposal will indirectly lead to the preservation of ecological communities assisting with conservation of biological diversity and maintaining ecological integrity.

10.4 Improved Valuation, Pricing, and Incentive Mechanisms

While this principle is targeted towards policy which establishes ESD mechanisms, the proposed expansion will contribute to those policies implemented by NSW Stage Government agencies such as the EPA and DoP.

As discussed within Section 11.1 and 11.2 BRS aims to provide a reliable resource recovery service which produces high quality recovered material for use in the construction industry or liquid waste handling for industry. In doing so, BRS will contribute to the success of these policies by reducing the cost of recovered resources compared to virgin material through high efficiency processes and reduced transportation cost.

By supporting state policy, the proposed expansion is considered to be consistent with the principle for improved valuation, pricing, and incentive mechanisms.

11 Justification and Conclusion

This section of the EIS provides justification for the proposed development, analyses any potential alternatives to the proposal, and provides a concluding statement.

11.1 Need and Justification

The aim of the proposed development is to expand an existing facility to meet the demand for its services. Incoming waste arrives from within NSW, mainly within the Sydney region, from various operations, construction sites and projects.

The Sydney region generates considerable demand for waste management facilities. The NSW Waste Avoidance and Resource Recovery Strategy 2014-21 (NSW WARRS) indicates that 17.1 million tonnes of material entered the NSW waste management system in the 2010 – 11 financial year, up from 16.3 million tonnes two years earlier representing an increase of 5.2%. Waste generation rates continued to outstrip population growth during the same period.

The construction and demolition markets in Western Sydney are anticipated to grow based on several major projections and the NSW State Government planning initiatives. This growth is likely to lead to an overall increase in waste generation of construction and demolition wastes ranging from bricks, ceramics and concrete to contaminated soils.

BRS is currently in a position where it is forced to turn away deliveries due to the site's existing waste limits. In addition, existing clientele have indicated that they wish to significantly increase their deliveries and purchases. The following businesses have indicated an interest in increasing the business they do with BRS:

- Cleanaway has expressed interest in delivering an additional 20,000tpa of waste to the site however this cannot happen given the existing capacity limits at the site;
- Non-destructive digging operations such as Patriot Environmental, SureSearch, and Dig Smart have expressed interest in further deliveries once the site limit has been increased;
- Concrete operators such as Hanson, Boral, and Holcim who are currently utilising BRS services have all been limited in the deliveries they can make to the site;
- Pipe Management Australia has expressed interest in utilising J120, oily waters, and sewer silt and debris services once approved;
- Borg Civil has expressed a need for expanded BRS services to meet their current demand;
- Deliveries of foundry sand from Weir Minerals and John Heine & Sons are currently limited by the thresholds which cannot be exceeded; and
- Lend Lease has indicated they wish to use BRS to dispose of the soils and sandstone waste generated from major projects.

This inability to accept additional waste is harming the business as it creates uncertainty for clientele who wish to utilise their services leading to negative perceptions in the marketplace. In addition, the current limits are undesirable as waste that does not reach resource recovery operations such as BRS may be delivered to landfill which is a far less favourable outcome.

By expanding the site's waste limits, the operation will be better able to cater to the needs of their existing clientele and be able to start accepting new clients such as Cleanaway. This will create certainty within the market and achieve superior environmental outcomes. The proposed expansion is integral to the future growth and ongoing success of BRS.

11.2 Consistency with Strategic Planning and Waste Policy Framework

The increase in demand for waste management has prompted the NSW State Government to adopt a range of initiatives which encourage and improve the recovery of resources within the waste management industry. These initiatives are documented in the following publications:

- A Metropolis of Three Cities – Greater Sydney Regional Plan (2018);

- Our Greater Sydney 2056 – Western City District Plan (2018);
- Protection of the Environment Operations (Waste) Regulation, 2014; and
- NSW Waste Avoidance and Resource Recovery Strategy 2014 – 2021.

The Greater Sydney Regional Plan (2018) and associated Western City Regional Plan (2018) provides the strategic framework to meet the needs of the Sydney area moving forward. The regional plans recognise the demand for waste management noting that existing waste management facilities do not have the capacity to accommodate the projected growth in waste. In addition, the Regional Plan also notes that several large landfills located within the Sydney region are set to close as they reach capacity leading to increased cost of landfill. Additional waste management facilities located within the Sydney region will fill this gap by providing a cost effective and efficient alternative to disposal.

To facilitate the establishment of waste management facilities to cater to demand the Regional Plan provides guidance on waste and recovery of resources under Objective 35 and aims increase the amount of waste that is re-used and recycled to support the establishment of a circular economy.

Under Objective 35 there are two strategies which will drive the aim of the objective:

- Strategy 35.1 – Protect existing, and identify new, locations for waste recycling and management; and
- Strategy 35.2 – Support innovative solutions to reduce the volume of waste and reduce waste transport requirements

The BRS operation incorporates innovative solutions into its resource recovery process consistent with strategy 35.2. The proposal represents an opportunity to capitalise on the established process employed at BRS through the maximisation of the operations capability leading to improved resource recovery yields and reduce waste diverted to landfill.

The NSW Waste Avoidance and Resource Recovery Strategy 2014 – 2021 (WARRS) sets a range of objectives and targets for waste avoidance and the recovery of resources. The following are the relevant objectives and targets for the proposal:

- Avoid and reduce waste generation;
- Increase recycling
  - 70% for municipal solid waste
  - 70% for commercial and industrial waste
  - 80% for construction and demolition waste; and
- Divert more waste from landfill
  - increasing waste diverted from landfill to 75%

The proposed expansion of the BRS resource recovery facility will contribute to the success of the strategy through the recovery of resources which reduces costs, improves recovery yields, and diverts waste from landfill.

11.3 Alternatives to the Proposal

11.3.1 'No Development' Option

The direct alternative to the proposed development is the 'No Development' option. This alternative consists of the existing operations continuing to operate under its existing approval.

The 'no development' option would mean the site would continue to operate at existing levels. The operation will continue to accept and process 30,000tpa of approved waste with the existing number of people employed.

The site consists of a large warehouse structure with a concrete hardstand spanning the site.

As a result of this option the site would be underutilised as the existing operation has sufficient capacity to increase processing rates.

With the existing operation capped at current levels, the site will lack the ability to significantly contribute to the resource recovery network present within the Sydney region. As a result, the cost of resource recovery options will remain at present levels leading to a continued reliance on waste disposal and options located further from the waste generator. This will increase the overall cost of waste management for relevant waste generators in the form of increased transport costs and disposal costs. In addition to increased costs, there will be an increase in the associated transport risk for waste generators.

With the 'No Development' option not increasing its contribution to the diversion of waste from disposal the it would not be consistent with the Greater Sydney Regional Plan, Western City Regional Plan, and WARRS.

As the proposal will enhance an existing resource recovery operation which will capitalise on the economic benefits whilst minimising social and environmental impacts the benefits, will outweigh the alternative option of 'No Development'.

11.4 Conclusion

The proposed expansion of an existing resource recovery facility at 16 Kerr Road, Ingleburn, will ensure the continued success of the existing resource recovery facility by enhancing the operations on the site allowing the processing of a range of liquid wastes and providing increased production capacities to meet existing demand.

Potential impacts of the development have been carefully considered in the evolution of the design for the site, which presents no significant adverse environmental impacts. The operation endeavours to minimise impacts on the surrounding environment through the implementation of existing and recommended mitigation measures and management procedures. As a result, all the specialist investigations have demonstrated that the proposed expansion is consistent with relevant guidelines and criteria. The proposal is compliant with applicable planning controls and instruments, and this EIS has addressed all relevant statutory considerations.

The expansion is consistent with the desired character and outcomes for industrial land within the Ingleburn locality and broader Sydney region, bringing high quality and cost effective recovered materials for use in construction and waste processing services for various industries.

Given the consistency with the industrial zoning, the appropriateness of the site for the proposed expansion, consistency with relevant government strategies, and the absence of any significant adverse environmental impacts, the proposed expansion is considered to be in the public interest and worthy of support.

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Appendix A – Architectural Drawings

DRB Consulting Engineers

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Appendix B – Water Management Plan

DRB Consulting Engineers

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Appendix C – Air Quality Impact Assessment

Todoroski Air Sciences

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Appendix D – Traffic Impact Assessment

Intersect Traffic

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Appendix E – Stage 2 Environmental Assessment

Dirt Doctors

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Appendix F – Noise Impact Assessment

Muller Acoustic Consulting

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Appendix G – Statutory Compliance Report

DPC Group

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Appendix H – Site Survey

Delfs Lascelles Consulting Surveyors

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Appendix I – SEPP 33 Risk Screening Document

Hazkem Pty Ltd

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Appendix J – Capital Investment Value Report

RPS Australia

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Appendix K – Secretary's Environmental Assessment Requirements

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Appendix L – Consultation Documents

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Appendix M – Process Flow Diagrams

AWE

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Appendix N – Current Sydney Water Trade Waste Agreement

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Appendix O – Existing Approval Documents

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Appendix P – Fire Management Plans

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