# WASTE MANAGEMENT REPORT FOR GOW STREET RECYCLING CENTRE 81 GOW STREET, PADSTOW

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# Engineering a Sustainable Future for Our Environment

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# **Attachments**

Attachment 1: Waste Management Plan Template

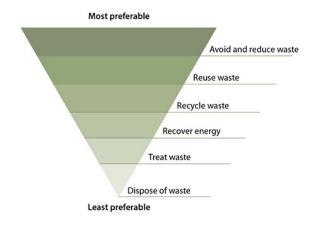




# 1. INTRODUCTION

This Waste Management Report documents the waste types to be received, processed and stored in relation to the proposed liquid waste dewatering plant and existing recycling facility located at 81 Gow Street, Padstow NSW. Procedures for managing the waste at the facility are also described and how the facility will adhere to relevant waste legislation. The report accompanies the Environmental Impact Statement (EIS) prepared by Benbow Environmental Ref: 191290\_EIS that supports the development application for establishment of the proposed liquid waste dewatering plant at the existing facility.

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



# 1.1 SCOPE OF WORKS

Secretary's Environmental Assessment Requirements (SEAR) 10450. Requirements specific to waste management were provided by the Department of Planning and The NSW Environment Protection Authority. These requirements are listed in the following table and form the scope of this report.

Table 1-1: SEARs

Requirement	Comment / Section
Department of Planning Industry and Environment	
Waste management – including:	
<ul> <li>a description of all waste streams that would be accepted at the site including the maximum weekly, monthly and annual throughputs;</li> </ul>	Sections 2.6 and 4
• details of the source of the waste streams to justify the need for the	Sections 2.6
proposed processing capacity;	
<ul> <li>a description of waste processing operations, including a description of the technology to be installed, resource outputs, and the quality control measures that would be implemented;</li> </ul>	Section Error! Reference source not found. Section 2.6.2 Section 4.9
<ul> <li>details of the existing operations including the storage and processing of construction and demolition waste;</li> </ul>	Section 2.1

*Ref:* 191290\_WASTE\_REV3 August 2021



Table 1-1: SEARs

Table 1 1. SEARS	
Requirement	Comment / Section
<ul> <li>details of the interaction between the existing operations and the proposed operations</li> </ul>	Section 2.1
details of how waste would be stored and handled on site, and	Section 4.6 and 4.7
transported to and from the site including details of how the receipt of	Section 4.8
non-conforming waste would be dealt with	Section 5
a details of the development's waste tracking existent for incoming and	Note: waste types
<ul> <li>details of the development's waste tracking system for incoming and</li> </ul>	are not trackable.
outgoing waste	Section 4.10
<ul> <li>details of the waste management strategy for construction and ongoing operational waste generated</li> </ul>	Section 4.9.2
• The measures that would be implemented to ensure that the	Section 3.3.1
proposed development is consistent with the aims, objectives and	
guidelines in the NSW Waste Avoidance and Resource Recovery	
Strategy 2014-21.	
NSW EPA	
2. Waste Management – the environmental impact statement (EIS) must	
include a detailed assessment of the waste management processes to be	
undertaken at the Premises. This includes but is not limited to:	
<ul> <li>details of the sources of waste to be received at the Premises;</li> </ul>	Sections 2.6
• details of the types and quantities of each type of waste to be received	Section 2.6.1 and
at the Premises;	4.2
• details of the maximum volume of waste to be stored on the Premises	Section 2.4 and 4.7
at any one time;	
details of the maximum annual throughput of waste for be processed	Section 2.3
at the Premises;	
	Section Error!
<ul> <li>a description of waste processing procedures for each waste type;</li> </ul>	Reference source not found.
• a description of how the proponent will meet the EPA's record keeping	Section 3.5 and 4.10
and reporting requirements, including weighing material in and out of	
the Premises (refer to the EPA's Waste Levy Guidelines for more	
information – available at http://www.epa.nsw.gov.au/your-	
environment/waste/waste-levy;	
<ul> <li>a detailed site plan(s) identifying areas for:</li> </ul>	See site plan
► haulage;	
<ul> <li>waste receival, processing, storage and loading (for each waste</li> </ul>	
type)	
► quarantine;	
► infrastructure for environmental controls including dust, noise,	
water and wheelwash;	
► weighbridge;	
► site boundaries;	
► stormwater drainage areas; and	
unused stabilised areas;	C1' 1 2
details of the type and quantities of materials to be produced and	Section 4.2
their intended fate;	



# Table 1-1: SEARs

Re	quirement	Comment / Section
•	details of any materials produced under a Resource Recovery Order,	Section 4.9.2
	and the controls in place for meeting the conditions of that order; and	
•	a description of procedures for dealing with non-conforming waste	Section 5
	(i.e. waste not permitted to be received at the Premises).	



# 2. SITE DETAILS

The proposed development seeks approval to establish a liquid waste dewatering facility on the existing resource recovery facility. Additions would include:

- Construct a liquid waste (drilling mud) dewatering facility;
- Process 250,000 tonnes of liquid waste per year; and
- Storage of up to 900 tonnes of waste.

The dewatering facility would operate 24/7.

The site currently holds an environment protection licence (EPL 10943) for resource recovery and waste storage for building and demolition waste and asphalt waste (including asphalt resulting from road construction and waterproofing works), with an approved processing capacity of 80,000 tonnes per year, and a maximum storage quantity of 7,300 tonnes at any one time.

Addition of the liquid waste dewatering facility would result in a total processing quantity of 330,000 tonnes per annum of waste and a maximum total storage quantity of 8,700 tonnes of waste at any one time.

The proposed development will require construction of a new office, extension to the existing workshop and construction of the dewatering facility which would be built within an enclosed building.

The waste accepted for the proposed dewatering plant would include "residues of rejects" (RES), classified as "liquid waste" under the *NSW Waste Classification Guidelines*. Existing waste received includes construction and demolition waste, classified as "General Solid Waste (Non-putrescible) under the *NSW Waste Classification Guidelines*.

The incoming material would be made up of the following waste streams and types. Shaded cells indicate existing waste received:

Waste Stream:	Construction & Demolition (C&D)	Commercial & Industrial (C&I)
Waste type &	Bricks or Concrete (BC)	Residues or rejects (RES)
code:	<ul> <li>Ceramics, tiles, pottery (CER)</li> </ul>	
	Asphalt (ASPH)	
	Aggregate, road base or ballast (AGG)	
	Soil – not contaminated or VENM	
	(SOIL)	
	Virgin excavated natural material	
	(VENM)	

Waste descriptions are provided in Section 2.6.1



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#### 2.1 **EXISTING RESOURCE RECOVERY FACILITY**

The site contains an existing resource recovery facility with approval under DA-51/1997 to process up to 80,000 tonnes per year and store tpa of construction and demolition (C&D) waste and has a storage capacity of 7,300 tonnes at any one time. The facility is authorised to accept the following wastes:

- General solid waste (non-putrescible) including:
  - ▶ Glass, plastic, rubber, plasterboard, ceramics, bricks, concrete or metal;
  - Virgin excavated material;
  - Building and Demolition waste;
  - Asphalt waste;
  - ► Cured concrete waste;
  - ▶ Any mixture of the wastes referred to above.
- Drilling mud, meaning a mixture of naturally occurring rock and soil, including but not limited to materials such as sandstone, shale and clay, and drilling fluid generated during drilling operations such as horizontal or directional drilling or potholing. This does not included drilling mud that has been generated by:
  - ▶ Deep drilling for mineral, gas or coal exploration; or
  - ▶ Drilling through contaminated soils, acid sulphate soils (ASS) or potential acid sulphate soils (PASS).

It should be noted that the facility currently does not accept drilling mud and this waste type is currently not included on the Site's EPL.

The site is fully developed and consists of two weighbridges, a wheel wash, a warehouse building, demountable office and a demountable lunchroom. Crushing and screening equipment are located in the south-east corner and there are 12 pre-cast concrete external storage bunkers for the storage of incoming wastes and recovered materials.

The existing development site is a fully developed industrial premises with a total area of approximately 10,115 m<sup>2</sup>. The entire site consists of sealed concrete hardstand.

Approved hours of operation of the existing resource recovery facility are between 6.00am -6.00pm on weekdays and 7.00 am - 6.00 pm weekends.

A description of the existing processes is provided in the following section.

#### 2.1.1 Existing Process Description

The following steps are undertaken at the existing approved resource recovery facility:

- Incoming waste is received pre-sorted from skip bin facilities and is inspected at the weighbridge upon arrival at the site.
- Acceptable waste is weighed and recorded.
- Trucks unload the waste at the pre-crushed storage area.
- Material is crushed and screened to suitable sizes.
- Recovered material is stored in designated external storage bunkers.

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 Materials are loaded onto trucks and weighed before leaving the site via the wheel wash for off-site reuse as road-base material.

Waste dockets are maintained for record keeping purposes.

# 2.2 Proposed Liquid Waste Dewatering Facility

Establishment and operation of a liquid waste dewatering plant is proposed. This plant would essentially operate separately from the existing approved resource recovery facility, however, there would be some minor interactions between processes. The proposal consists of the following elements:

- Construction of purpose-built building to enclose the dewatering facility. This would replace the existing warehouse building that would be demolished.
- A new office building would be constructed. This would replace the existing demountable
  office and amenities building as well as the demountable lunchroom that would be removed
  from site. The new office building would be used by staff of both the existing and proposed
  developments.
- Installation of dewatering equipment including a flocculant station/pit, screw separator and screen, slurry homogeniser, 2 x 60 kL silos, and filter press.
- A truck unloading area inside the building.
- Six (6) inground pits and sumps inside the building. Pits and sump details are as follows:
  - ▶ Inground Pit (receivals), 8.0 x 4.5 x 3.0 m deep (Volume: 108,000 L)
  - ► Floc Plant: Clean water pit, 3.0 x 2.835 x 2.5 m deep (Volume: 21,263 L)
  - ► Floc Plant: Dirty water pit (1), 2 x 2.835 x 2.5 m deep (Volume: 14,175 L)
  - ▶ Floc Plant: Dirty water pit (2), 3.33 x 2.835 x 2.5 m deep (Volume: 23,601 L)
  - ► Floc Plant: Sump Pit, 1.6 x 2.835 x 2.5 m deep (Volume: 11,340 L)
- Six (6) bunkers. Four (4) bunkers would be located inside the building and two (2) would be located external to the building under an awning. Bunker contents and dimensions are:
  - ▶ Bunker 1: Filter cake 6.3 x 8.5 m
  - ▶ Bunker 2: Sand 5.07 x 5.805 m
  - ▶ Bunker 3: Sand 5.295 x 5.805 m
  - ▶ Bunker 4: Sand 5.295 x 5.805 m
  - ▶ Bunker 5: Aggregate, 6.2 x 4.0 m
  - ▶ Bunker 6: Aggregate, 6.2 x 4.0 m
- Extension of the boundary wall up to new building behind the new aggregate bunkers.
- Connection to Sydney Water tradewaste under an agreement.
- Stormwater upgrades including a first flush system that directs the first 20 mm of on-site stormwater to a silt arrester and detention tank which will be used in the dewatering plant while the clean overflow is discharged to the stormwater easement using the existing stormwater connection during a heavy rain event.

A proposed site plan and equipment layout are provided in Appendix 8. A description of the dewatering process is provided in the following sub-section.

# 2.2.1 Proposed Process Description

The dewatering facility would operate as a recycling facility for the drilling mud and concrete washout water and stormwater captured onsite. The facility would involve the following activities:

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- Unloading of drilling mud/concrete washout water into dirty water containment pits.
- This liquid is transferred into the dirty water pit and then into the flocculent station.
- The flocculants assist in settling sediments at the bottom of the tank.
- The sand/rock/sediment slurry is pumped from the bottom of the tank and into a screw separator.
- The screw separator removes the solids from the water.
- The solids are then transferred to a vibrating screen where the aggregates and sands are conveyed to internal and external storage bays.
- The water from the flocculent station and the screw separator is pumped to the two 60 kL silos, the slurry homogeniser tank and then into the filter press.
- The filter press removes the remaining silts and the cleaned water is pumped to the clean water pit.
- The sediments/silt from the filter press becomes a fine biscuit which is removed offsite as for application to land under the Treated Drilling Mud Exemption 2014 or to landfill.
- The filter press requires intermittent backwashing where backwash water is pumped to the dirty water pit to be reprocessed through the system.
- The clean water pit would be pH adjusted and then used for cleaning aggregates and sand during the screening process, dust suppression and washdown onsite. Excess water would be sent to tradewaste under a Trade Waste Agreement.

Site washdown water and stormwater will be collected in a 200 kL underground tank and through the above dewatering system.

The maximum quantity of liquid waste that can be processed through the dewatering plant in a 24-hour period is approximately 1,500 tonnes. Approximately 450 tonnes of clean water is generated each day. This can easily accommodate stormwater runoff and the proposed 250,000 tonnes per annum.

#### 2.3 MAXIMUM THROUGHPUT

The site has an approved processing capacity of 80,000 tonnes per year of C&D waste.

The proposed dewatering facility would process 250,000 tonnes per year.

This would result in a total maximum processing quantity of 330,000 tonnes per annum of waste at the facility.

#### 2.4 MAXIMUM STORAGE CAPACITY

The current waste storage capacity on site is 7,300 tonnes.

The proposed dewatering plant would require storage of an estimated additional 1,400 tonnes of waste at the site.

Therefore, the site would store a maximum of 8,700 tonnes of waste on site at any one time.

# 2.5 EQUIPMENT

Existing equipment that is currently used at the facility includes;

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- Crusher;
- Screen;
- Front End Loader x 2;
- Excavator x 2; and
- Trucks x 3.

Establishment of the dewatering facility will require the following equipment to be installed:

- Screen spray bar pump;
- Vibrating screen;
- Conveyors;
- Screw separator;
- Submersible pump;
- Flocculant station and dosing system;
- Stainless steel tank/silo;
- Slurry homogeniser tank;
- Filter feeding centrifugal pump;
- Filter press; and
- Pipework valves etc.

# 2.6 WASTE STREAMS & TYPES & SOURCES

Waste streams and types and defined under the NSW Waste Levy Guidelines.

Two waste streams would be accepted at the facility and these include:

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

The source of the waste streams (drilling mud and concrete washout water) for the dewatering plant include construction sites within the regional area associated with infrastructure projects.

Waste types and descriptions are provided in the following sub-sections.

# 2.6.1 Incoming Waste

# 2.6.1.1 Dewatering Plant

Incoming waste for the proposed dewatering plant would include drilling mud from industrial or manufacturing processes and concrete washout water.

Drilling mud is sourced from construction sites across NSW where wet drilling or non-destructive digging takes place where the soil/water slurry is sucked up using a vacuum truck.

Concrete washout waste is sourced from concrete mixing trucks which contain residue concrete after the completion of a job and this material needs to be washout out before a new batch of concrete can be loaded in the concrete mixing truck.

This waste is classified as "liquid waste". The following waste description is applicable:

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**Residues or rejects** (RES): Residues from industrial or manufacturing processes such as wool wash, drilling mud, pond waste, slag, filter cake, fibre cement, cell scale. (exclusions: fly ash or bottom ash).

The above definition applies to both drilling mud and concrete washout water as these are both residues from industrial or manufacturing processes.

The dewatering facility would also treat stormwater captured onsite.

# 2.6.1.1.1 **Drilling Mud**

The definition of drilling mud is provided in the facility's current Council approval as follows:

- a) Drilling mud, meaning a mixture of naturally occurring rock and soil, including but not limited to materials such as sandstone, shale and clay, and drilling fluid generated during drilling operations such as horizontal or directional drilling or potholing. This does not included drilling mud that has been generated by:
  - i) Deep drilling for mineral, gas or coal exploration; or
  - ii) Drilling through contaminated soils, acid sulphate soils (ASS) or potential acid sulphate soils (PASS).

The drilling mud to be received is to be non-destructive digging waste which is a water-based drilling mud containing clay (usually bentonite) and various non-odorous chemicals. The odorous drilling mud types include oil-based muds and synthetic based muds which are generally used on offshore rigs. The site would <u>not</u> receive oil-based or synthetic-based muds.

Under the Treated Drilling Mud Order 2014, the following definitions are provided:

**Drilling fluid** means a mixture of water and chemical additives including but not limited to bentonite, soda ash (sodium carbonate), sodium hydroxide, lime and polymers.

**Drilling mud** means a mixture of naturally occurring rock and soil, including but not limited to materials such as sandstone, shale and clay, and drilling fluid generated during drilling operations such as horizontal directional drilling or potholing. This does not include drilling mud that has been generated by:

- (a) Deep drilling for mineral, gas or coal exploration; or
- (b) Drilling through contaminated soils, acid sulphate soils (ASS) or potential acid sulphate soils (PASS)

The drilling mud would meet the above definitions. The chemical additives listed above are all known to be odorless as stated in relevant safety data sheets. One chemical of concern is barium sulphate which has the potential to be odorous due to the presence of sulphate which could potentially be reduced to hydrogen sulphide under anaerobic conditions. Drilling mud containing barium sulphate will NOT be accepted.



#### 2.6.1.1.2 Concrete washout waste

Concrete washout waste is the resulting slurry generated after concrete is poured at a construction site. The concrete washout waste is produced when the chutes and drums of ready mixed concrete trucks, the hoppers of concrete pump trucks, wheelbarrows and hand tools are washed out with water to remove the residual concrete and prevent this from hardening on the equipment.

Concrete is a mixture of cement, water and aggregate material, usually a mixture of sand and gravel or crushed stone. The cement is generally made from a mixture of limestone and other clay containing oxides of calcium, aluminium, silicon and other metals. These materials are heated in a kiln, then pulverised to produce cement powder.

Concrete washout waste may therefore contain traces of toxic metals such as Chromium VI and is caustic and corrosive, with a pH of around 12. pH adjustment through addition of an acid or carbon dioxide would reduce the pH to acceptable levels.

Concrete wash out water would be sourced from concrete trucks returning from construction jobs that need to be washed out before returning to their existing concrete batching plants. Many concrete batching plants do not contain the facilities on site to manage concrete wash out water and therefore the new dewatering plant would provide a facility to treat this waste.

Concrete trucks would enter the loading area of the dewatering plant and wash out directly into the dirty water containment pit. This process would be enclosed within the facility.

#### 2.6.1.1.3 On-site stormwater

On-site stormwater would be captured from the hardstand area into a first flush system where the first 20mm of rainwater would be treated through the dewatering plant. Any clean overflow would be captured on site through a silt arrestor before being discharged to the street stormwater system.

#### 2.6.1.2 C&D Recycling Plant

The C&D waste is sourced from other recycling/sorting facilities in NSW, these facilities typically received mixed construction and demolition waste skip bins and sort the material into various streams. One of these streams is concrete/bricks/tiles/soil which is then transported via tipper truck to the site. Alternatively, some construction sites sort their waste materials onsite, into similar streams, in bins or stockpiles, which are appropriately classified, and suitable wastes (concrete/bricks/tiles/soil) are sent onto Gow Street Recycling.

The existing C&D recycling plant is licensed to accept the following materials:

- Building and demolition waste; and
- Asphalt waste (including asphalt resulting from road construction and waterproofing works).

Building and demolition waste is defined under the Protection of the Environment Operations Act, 1997 as:

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unsegregated material (other than material containing asbestos waste or liquid waste) that results from –

- (a) the demolition, erection, construction, refurbishment or alteration of buildings other than—
  - (i) chemical works, or
  - (ii) mineral processing works, or
  - (iii) container reconditioning works, or
  - (iv) waste treatment facilities, or
- (b) the construction, replacement, repair or alteration of infrastructure development such as roads, tunnels, sewage, water, electricity, telecommunications and airports, and includes materials such as—
- (c) bricks, concrete, paper, plastics, glass and metal, and
- (d) timber, including unsegregated timber, that may contain timber treated with chemicals such as copper chrome arsenate (CCA), high temperature creosote (HTC), pigmented emulsified creosote (PEC) and light organic solvent preservative (LOSP),

but does not include excavated soil (for example, soil excavated to level off a site prior to construction or to enable foundations to be laid or infrastructure to be constructed).

Definitions of waste types accepted at the site are as per the NSW EPA website for waste reporting definitions.

**Bricks or Concrete** (BC): Bricks, mortar or concrete including bricks with mortar and concrete containing steel reinforcing. (exclusions: fibre cement)

**Ceramics, tiles, pottery** (CER): Terracotta roof tiles, pottery, porcelain products (exclusions: bricks and concrete)

**Asphalt** (ASPH): Asphalt and other bituminous waste arising from activities such as road construction and waterproofing works.

**Aggregate, road base or ballast** (AGG): Rock and/gravel material such as asphalt, road base, railway ballast or processed sandstone. (exclusions: crushed concrete)

Virgin excavated natural material (VENM): Virgin excavated natural material (VENM) that is not mixed with any other waste (clay, gravel, sand, soil and rock) and that (a) has been excavated from areas that are not contaminated as the result of industrial, commercial, mining or agricultural activities, with manufactured chemicals and does not contain sulfidic ores or soils, or (b) consists of excavated natural materials that meet such criteria as may be approved by the EPA.

The above waste is classified as "general solid waste (non-putrescible)" in accordance with the Waste Classification Guidelines.

#### 2.6.2 Recovered Materials

The recovered materials generated from the existing C&D facility include aggregates, soils and sands that are sold to the public from the site.



Materials recovered from the proposed dewatering plant would include treated water, recycled aggregates and biscuit resulting from the filter pressing of the sediments/silt in the liquid waste. The treated water would be reused on-site for cleaning purposes or for dust suppression. Any remaining water would be discharged to tradewaste.



# 3. LEGAL AND OTHER REQUIREMENTS

#### 3.1 Protection of the Environment Operations Act 1997

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

Part 1 in Schedule 1 of the POEO Act lists premise-based activities that are scheduled activities and, as such, that require a licence under the Act. The development falls under the following definitions:

# 34 Resource recovery

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

#### Comment:

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

# 41 Waste processing (non-thermal treatment)

"non-thermal treatment of liquid waste", meaning the receiving of liquid waste (other than waste oil) from off-site and its processing otherwise than by thermal treatment.

#### Comment:

Under Clause 41, the proposed dewatering activity to be undertaken at the site is a scheduled activity under 41(1) as it meets the criteria in column 2 of the table (being having on site at any time more than 200 kilograms of liquid waste.

#### 42 Waste storage

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



#### Comment:

Under Clause 42, the proposed development is a scheduled activity under 42(3)(a), 42(3)(c)(i) and 42(3)(d)(i) as it is located in a regulated area and would store more than 5 tonnes of liquid waste, 1,000 tonnes of waste at the premises at any one time and would receive more than 6,000 tonnes of waste per year from off site.

Therefore the existing EPL No. 10943 would require a variation application for the proposed activities including:

- Non-thermal treatment of liquid waste; and
- Waste storage

# 3.2 PROTECTION OF THE ENVIRONMENT OPERATIONS (WASTE) REGULATION 2014

The Protection of the Environment Operations (Waste) Regulation 2014, referred to as the 'Waste Regulation', identifies provisions relating to waste management and disposal. Part 4 of the Waste Regulation details the requirements associated with tracking waste. Certain types of waste listed in Schedule 1 of the Waste Regulation have the potential to be harmful to the environment and are required to be tracked from the source to the waste disposal facility. The facility currently does not generate, receive, handle or process waste types that require tracking under the Waste Regulation. A liquid waste that does not meet at least one of the criteria in both Part 1 and Part 3 of Schedule 1 is not classified as trackable liquid waste. The liquid waste to be accepted at the site consists of drilling mud and concrete washout water and does not meet criteria in Part 1 or Part 3 of Schedule 1. Therefore the liquid waste is not subject to tracking requirements under the regulation and therefore the facility is not subject to the waste levy for this waste.

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

Clause 112 – Requirements relating to the storage of waste generally

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

The facility will need to comply with the above requirements.

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

- The recovered aggregate order 2014; and
- The treated drilling mud order 2014.

Controls to be put in place for meeting the conditions of these orders are addressed in Section 4.9.2.

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#### 3.3 Waste Avoidance and Resource Recovery Act 2001

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

Waste minimisation and resource recovery are the main goals of the facility. Resource recovery practices implemented at the site are in accordance with the primary goal of the *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021*, which is "to enable all of the NSW community to improve environment and community well-being by reducing the environmental impact of waste and using resources more efficiently." Overall, the proposed development would have an important positive impact on the waste management practices in the local region since it enables the recovery and recycling of predominant and challenging waste streams. This is demonstrated further in the following sub-section.

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

## 3.3.1 Waste Avoidance and Resource Recovery (WARR) Strategy 2014-2021

The proposed development will continue to support and remain consistent with a number of statutory policies including the "Waste Avoidance and Resource Recovery Act, 2001" (WARR Act) and the "NSW Waste Avoidance and Resource Recovery Strategy 2014-21". The NSW Waste Avoidance and Resource Recovery Strategy 2014-21 is a key policy tool under the WARR Act.

The site currently operates as a C&D waste recycling facility. Additionally, the proposed development aims to provide a liquid waste recycling facility on site. In line with the most relevant *Waste Avoidance and Resource Recovery Strategy 2014-2021* objectives and targets to the site, Gow Street Recycling Centre will:

 Increase recycling – by 2021-22 increase recycling rates for municipal solid waste from 52% to 70%, commercial and industrial waste from 57% to 70% and for construction and demolition waste from 75% to 80%.

<u>Comment</u>: The proposed development would continue its C&D resource recovery and establish a dewatering facility to enable recycling of liquid wastes, thereby supporting an increase in the recycling rates for these wastes.

• Divert more waste from landfill – by 2021-22 increase the waste diverted from landfill from 63% to 75%.

<u>Comment</u>: The recycling facility would continue to enable more wastes to be diverted from landfill.

Reduce illegal dumping.

<u>Comment</u>: The proposed development supports the reduction in illegal dumping by providing a facility that accepts unwanted wastes.



Gow Street Recycling Centre are continually looking to increase the percentage of wastes that can be reused in order to improve the economic efficiency of the process and the principles of ESD.

# 3.4 BANKSTOWN DEVELOPMENT CONTROL PLAN 2015 – PART B13 WASTE MANAGEMENT AND MINIMISATION

Part B13 of the Bankstown Development Control Plan 2015 relates to waste management and minimisation. Requirements relevant to the proposed development are in Section 6 – Industrial Development and are addressed in the following table.

Table 3-1: Requirements of Part B13 Waste Management and Minimisation under Bankstown DCP

Clause	Requirement	Comment
4.1	Development must provide bin storage and	Bin storage and separation
	separation facilities.	facilities are provided.
4.2	Development must provide an appropriate and	Waste storage system for the C&D
	efficient waste storage system that considers:	component is established.
	(a) the volume of waste generated on–site;	The waste storage system for the
	(b) the number of bins required for the	dewatering plant consists of dirty
	development and their size; and	and clean water supply tanks,
	(c) waste and recycling collection frequencies.	aggregate bays and a bin for filter
		cake (biscuit) storage. Waste
4.2	NA/Is and also also associated as a second size of the second size of	storage is detailed in Section 4.7.
4.3	Where development involves multiple tenancies,	Not relevant.
	individual bin storage for each tenancy is to be provided.	
4.4	Development is to consider potential future uses,	There would be adequate waste
7.7	particularly where separate waste containers	storage for future use of the site.
	may be required for industrial process type waste	storage for fatare use of the site.
	and bunding of bin storage areas.	
4.5	Where development involves multiple tenancies,	Not relevant.
	the design of development must ensure each	
	tenancy will be able to obtain a Trade Waste	
	Licence.	
4.6	Bin storage areas are to be integrated with the	Storage areas for waste generated
	overall design and functionality of the	at the site that cannot be on-sold
	development and are to locate within the	or recycled are already provided
	building envelope to enable these areas to be	and adequate for the proposed
	screened from view from the public domain.	use as the majority of the
		proposed waste is liquid waste
		with by-products to be stored in
		aggregate bays or a bin under the
		filter press for the "biscuit".



Table 3-1: Requirements of Part B13 Waste Management and Minimisation under Bankstown DCP

Clause	Requirement	Comment
4.7	The design of the bin storage area must comply with the requirements of the Waste Management Guide for New Developments.	The site has a skip bin for general waste. This is adequate for the facility as it receives pre-sorted waste that is further processed into reusable products, therefore little non-recyclable waste is generated.
		Not relevant to proposed dewatering plant.
4.8	An on–site collection point is to be nominated for development. The location of the collection point must allow collection vehicles to enter and exit the site in a forward direction and allow all vehicle movements to comply with AS 2890.2. The location of the collection point must ensure	The existing skip bin is shown on the site plan. Collection vehicles enter and exit in a forward direction and no further changes are required.
	waste servicing does not impact on any access points, internal roads and car parking areas.	Not relevant to proposed dewatering plant.
4.9	Waste collection frequency is to be a minimum of once per week. Higher collection frequency may be required for development with larger waste generation rates and to ensure bin storage areas are kept clean, hygienic and free from odours.	This is not relevant as the facility is a waste facility.

#### 3.5 WASTE LEVY GUIDELINES

Licensed waste facilities are liable to pay a levy under Section 88 of the Protection of the Environment Operations Act, 1997. Resource recovery facilities are required to record waste inputs and outputs and submit monthly reports to the NSW EPA that will determine whether they are required to pay a waste levy. The facility has a system in place using the weighbridges for recording and reporting of waste related to the C&D component of the facility.

The proposed dewatering plant accepts liquid waste that is not trackable liquid waste and therefore is not liable for the waste levy.

# 3.6 STANDARDS FOR MANAGING CONSTRUCTION WASTE IN NSW

Under Part 8A of the Waste Regulation, the facility must comply with the Standards for managing construction waste in NSW (NSW EPA, 2018) as a condition of the EPL. This standard is not applicable to the proposed dewatering plant. Therefore the table below demonstrates compliance with the existing C&D facility.



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

No.	Standard	Comment
1	Inspection requirements	1.1 An inspection point is located at the
		existing weighbridge
	1.1 Inspection point 1 – verified	1.2 There is no tip and spread area as the
	Weighbridge inspection	waste is received pre-sorted.
	1.2 Inspection point 2 – Tip and spread	1.3 Training requirements are detailed in
	inspection area	the EMP
	1.3 Training requirements for personnel	1.4 Rejected loads are recorded.
	1.4 Rejected loads register	
2	Sorting requirements	Not relevant - Waste is received pre-sorted.
	Landa and mind and a Charlest 4	
	Loads not rejected under Standard 1	
	must be sorted and classified into individual listed waste types before being	
	transferred to the waste storage area	
	referred to in Standard 4.	
3	No mixing of waste	Mixing is undertaken in accordance with
		relevant RRO's.
	C&D waste that has been inspected and	
	sorted in accordance with Standards 1	
	and 2 must not be mixed with any other	
	waste at the facility unless:	
	That other waste has been inspected	
	and sorted at the facility in	
	accordance with Standards 1 and 2;	
	and	
	It is of the same listed waste type as	
	the other waste; or	
	The mixing is carried out to meet the	
	requirements of an RRO or the	
	recovered fines specifications.	
4	Waste storage requirements	Waste storage at the facility would comply
	4.1.Wests storage area	with this standard as described in Section
	4.1 Waste storage area	4.7.
	4.2 Inspection point 3 – waste storage	
	area	



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

No.	Standard	Comment
5	Transport requirements	The facility would comply with this standard as described in Section 4.8
	Construction waste must not be transported from the facility unless it has been inspected, sorted and stored in accordance with these standards and the load of waste consists solely of a single listed waste type or waste that meets the	
	requirements of a resource recovery exemption or the recovered fines specification.  (Except where waste is rejected at inspection points 1 or 2)	

The C&D waste is received pre-sorted from other waste transfer and sorting facilities that have already sorted the waste. The facility does not accept waste from the general public. Customers supplying pre-sorted waste to the facility include skip bin companies such as:

- Jim's Skip Bins
- Metro Bins
- Pink Skips

Waste records for receipt of this waste are received with every load.



# 4. WASTE CLASSIFICATION & MANAGEMENT

# 4.1 WASTE CLASSIFICATION

In the NSW EPA's Waste Classification Guidelines (2014), waste is described as:

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

All waste materials generated or received on the subject site must be classified into one of six different categories described the *Waste Classification Guidelines* (see table below).

Table 4-1: Classes of Waste from Waste Classification Guidelines

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

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



# 4.2 ONGOING WASTE

The expected type, quantity, onsite management and offsite destination of wastes associated with the facility are estimated in the following tables. The tables include the existing and proposed waste activities.

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

Shaded cells indicate the existing waste types received and despatched at the site.

Only pre-sorted C&D and C&I being liquid waste (drilling mud and concrete washout water) would be accepted at the site. These wastes would be sourced from construction sites.

Examples of wastes that are not accepted include:

- Tyre waste
- Household waste
- Food waste
- Animal waste
- Garden waste
- Wood waste
- Radioactive waste
- Flammable material
- Medical waste
- Hazardous material
- Asbestos;
- Fibro;
- Villaboard
- Glass
- Plastic
- Rubber
- Plasterboard
- Gyprock
- Metal
- Paper and Cardboard
- General waste.

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



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

Waste Stream	Estimated Total Incoming Quantity	Waste Classification	Waste Description	Weekly Quantity (tonnes)	Monthly Quantity (tonnes)	Yearly Quantity (tonnes)	Management
			Bricks	308	1333	16,000	Incoming pre-sorted waste loads undergo initial
			Tiles	154	667	8,000	inspection via the weighbridge then is placed in
	80,000 tpa	General Waste (Non- putrescible)	Concrete	492	2133	25,600	designated storage bays (Areas 1, 2 and 3 –
C&D Waste			Asphalt	154	667	8,000	processing area, waste receivals and uncrushed
			Sandstone	123	533	6,400	concrete bays) to be crushed and screened through
			VENM/ENM	308	1333	16,000	existing infrastructure. Recovered products are stored on site within existing designated bays.
C&I Waste	250,000	Liquid waste	Drilling mud	3846	16667	200,000	Drilling mud and concrete washout waste would be brought onto site in tankers/concrete trucks and
	250,000 tpa		Concrete washout water	962	4167	50,000	unloaded into the dirty water pit inside the building. The liquid is treated within the enclosed facility.

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

Waste Type	Estimated Maximum Quantity	EPA Waste Classification <sup>1</sup>	Relevant Resource Recovery Order	Management	
Aggregates – 20 mm or 10 mm	60,000 tpa	General soil waste (non-putrescible)	The recovered aggregate order 2014	This crushed then screened into varying standard sizes and directed to the designated external storage bays in Area 4. Sold for reuse in construction projects under the recovered aggregates order 2014.	
Fines (-60 aggregate)	4,000 tpa	General soil waste (non-putrescible)	The recovered aggregate order 2014  The smallest aggregate size that is screened throup process. This is stored in external storage bay in Area 4. reuse in landscape supplies.		
Soil	16,000 tpa	General soil waste The recovered aggregate (non-putrescible) order 2014		Excavated material that is brought on site is processed into soils that are reused as engineered materials off-site under the recovered aggregate order 2014. This material is stored in designated bays in Areas 5 and 6.	
Treated water	150,000 tpa	Liquid waste	N/A	This is the treated water from the dewatering plant that is stored in the clean water pit. This water would be of a suitable quality to reuse on site for various dust suppression and cleaning purposes. Excess water would be sent to tradewaste.	
Aggregates & Sand	95,000 tpa	General soil waste (non-putrescible)	The recovered aggregates order 2014	Aggregates including sand generated from the dewatering process are transferred via conveyor to be stored in five designated storage bays within the enclosed dewatering facility. These aggregates may be sold for reuse off site under the recovered aggregates order if applicable or further processed through the C&D plant.	

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

Waste Type	Estimated Maximum Quantity	EPA Waste Classification <sup>1</sup>	Relevant Resource Recovery Order	Management
Filter cake (biscuit)	5,000 tpa	General soil waste (non-putrescible)	The treated drilling mud order 2014 The recovered aggregates order 2014	Filter cake (biscuit) is generated from the filter press and stored in a bunker inside the building. Where possible, the filter cake would be applied to land off site under the treated drilling mud order 2014 or the recovered aggregates order if applicable. Where the RRO does not apply, filter cake is to be sent to landfill.
Non-recyclable waste	150 tpa	General solid waste (non-putrescible) N/A		General waste that cannot be recycled may be generated from time to time. This is stored within a designated bin on site and sent to a licensed landfill.
Office & Amenities Waste	ties 10 tpa General solid waste (Putrescible) N/A		N/A	This waste is ancillary to the process and is serviced by a licensed waste contractor.
Office Recyclables	24 tpa	General solid waste (non-putrescible)	N/A	This waste is ancillary to the process. It is transferred offsite to a licensed recycling facility for further processing. E.g. Visy Recycling

#### Notes:

1. Waste classification according to Waste Classification Guidelines provided.



# 4.3 DEMOLITION WASTE

No demolition works are required for the proposed development.

# 4.4 CONSTRUCTION WASTE

Construction works would involve excavations for establishment of water containment pits and stormwater infrastructure, construction of an office, extension of an existing building and installation of associated equipment and infrastructure. Estimations of construction waste and how this will be managed is detailed in the table below.

Table 4-4: Expected Construction Waste

Waste Type	Estimated Maximum Quantity (tonnes)	EPA Waste Classification <sup>1</sup>	Management	
Excavated material/ spoil (e.g. soil, rock)	1,000	ТВА	An acid sulfate soil management plan is required to be implemented during construction works. The excavated material would need to be managed in accordance with this plan.	
Greenwaste	0	General solid waste (non-putrescible)	N/A	
Bricks	0	General solid waste (non-putrescible)	N/A	
Concrete	10	General solid waste (non-putrescible)	Placed in existing concrete storage bay to remain and processed on site.	
Timber	2	General solid waste (non-putrescible)	Placed in designated skip bin be removed from site by a recycling contractor.	
Plasterboard	2	General solid waste (non-putrescible)	Placed in designated skip bin and transported to an authorised recycling facility EG: SUEZ Kemps Creek.	
Metals: Scrap Colorbond	10	General solid waste (non-putrescible)	Placed in designated skip bin and transported to a metal recycling facility EG: Sims Metals.	



Table 4-4: Expected Construction Waste

Waste Type	Estimated Maximum Quantity (tonnes)	EPA Waste Classification <sup>1</sup>	Management
Other	5	N/A	Placed in designated skip bin and removed by a licensed waste contractor.

#### Notes:

• Waste classification according to Waste Classification Guidelines provided.

#### 4.5 WASTE MANAGEMENT PLAN

The "Waste Management Plan" template provided by the Bankstown DCP 2015 has been prepared as Attachment 2. This addresses all waste expected to be generated during the construction and operational phases of the proposed development as described in the previous sections.

#### 4.6 RECEIPT & HANDLING OF WASTE

A description of the management of each waste type accepted and sorted on site is provided in Table 4-2 and Table 4-3.

The way waste is managed on site will be different for the C&D facility and dewatering plant. The C&D component of the facility is already licensed and management is already established as described in Section 2.1, The process description provided in Section Error! Reference source not found. describes the receipt, handling and management of incoming liquid waste and resulting solid wastes (aggregates, sand and filter cake) associated with the dewatering facility.

Appropriate documentation would be obtained at the receipt of liquid waste at the weighbridge and this would be sourced from known and reputable customers.

Overall, waste management practices that would be in place at the facility are considered adequate and comply with S48 of the *Protection of the Environment Operations Regulation 1997*, which states the facility must store and manage waste in an environmentally safe manner.

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

- Visually screening designated waste areas and receptacles from public places (dewatering plant is inside a building);
- Ensuring waste is stored adequately and cannot escape receptacles and storage areas; and
- Ensuring easy access to each waste storage area for collection services.

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

#### 4.7 Waste Storage

The facility would need approval to store a total of 8,700 tonnes of waste on site at any one time. As previously mentioned, the site is licensed to store 7,300 tonnes of C&D waste. An additional 1,400 tonnes of waste would need to be stored on site for the dewatering plant.

Designated waste storage areas exist for C&D waste and additional storage areas will be established for the dewatering plant. The waste storage areas are described below, including the estimated maximum waste quantity stored, and the locations of storage areas are shown on the site plan.

# 4.7.1 Existing Waste Storage Areas

The facility currently contains a number of designated storage areas that in total have a maximum capacity to store 7,300 tonnes at any one time. These areas are approved under the existing EPL and will remain unchanged and are listed below:

- Area 1: DGB Roadbase Bay
- Area 2: Uncrushed material Brick/tile/concrete Bay
- Area 3: Uncrushed concrete Bay
- Area 4: Aggregate Bays (4 bays)
- Area 5: Screened ENM Bays (3 bays)
- Area 6: Soil bays (5 bays)

The areas contain a total of 15 storage bunkers, the details of these are listed in Table 4-5. Dimensions of bunkers are shown on the proposed site plan. Stockpile height is limited to 4m as per the existing EPL. The stockpile height is clearly labelled on existing material bunkers at the site.

Table 4-5: C&D Facility Existing Waste Storage Bunker Details

Area	Bunker	Material Description	Width (m)	Length (m)	Volume (m³)
1	1	Incoming C&D waste (Processing area	12	18	864
2	1	Waste receivals – uncrushed material – Bick/tile/concrete	14	12.09	677
3	1	Uncrushed concrete	6	12.09	290
	1	10 mm Aggregate	4.04	6.654	108
4	2	20 mm Aggregate	35.289	7.825	1105
4	3	30-100 mm Aggregate	4.121	4	66
	4	Fine aggregates	8.542	7.825	267
	1	ENM/VENM/GSW (1)	5.337	9.225	197
5	2	ENM/VENM/GSW (2)	3.96	5.967	95
	3	ENM/VENM/GSW (3)	6.087	12.886	314
6	1	Sand	4.725	6.654	126

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Table 4-5: C&D Facility Existing Waste Storage Bunker Details

Area	Bunker	Material Description	Width (m)	Length (m)	Volume (m³)
	2	Topsoil	4.019	6.654	107
	3	Turf Underlay	3.954	6.654	105
	4	Organic garden mix (soil)	4.042	6	97
	5	Dust	14.91	7.825	467
		To	otal Maximun	n Capacity	4883m³
					7300 tonnes

# 4.7.2 Proposed Waste Storage Areas

New waste storage areas would be established for the dewatering plant and include:

#### Area 7: Dirty water pit

This would consist of a 108,000 Litre (108 tonne) below ground pit located within the proposed dewatering facility building. It would store incoming liquid waste and is the pit where vacuum tankers unload at the start of the dewatering process. This pit is shown in the detailed drawings of the dewatering facility.

#### Area 8: Clean water pit

This is a below ground pit for clean water from the dewatering plant and has a capacity of 70,400 Litres (70.4 tonnes).

# Area 9: Stainless steel silos

These are two cylindrical tank that have the capacity to hold 60,000 Litres each (Total 120 tonnes).



#### Area 10: New Aggregate Bays

There would be six new aggregate bays associated with the dewatering facility. Two aggregate bays would be covered and walled bays located external to the dewatering plant as shown on the proposed site plan. Four aggregate bays would be stored within the building. Details of these bays are shown in Table 4-6.

Table 4-6: Dewatering Facility Aggregate Storage Bay Details

Bunker	Material Description	Width (m)	Length (m)	Volume (m³)
1	Aggregate – external bunker	4	6.2	99.2
2	Aggregate – external bunker	4	6.2	99.2
3	Fine aggregate/sand – internal bunker	5.07	5.805	117.7
4	Fine aggregate/sand – internal bunker	5.295	5.805	122.9
5	Fine aggregate/sand – internal bunker	6.225	5.805	144.5
6	Filter press waste – internal bunker	6.66	5.5	146.5
·		Total maxim	um capacity	730 m <sup>3</sup>
				1095 tonnes

Note: A nominal storage height of 4 metres has been assumed

A total of approximately 1,393.4 tonnes of waste would require storage for the dewatering plant. With a factor of safety, it is assumed an increase of 1,400 tonnes of waste would be stored on site at any one time in relation to the dewatering facility.

## 4.8 Transport of waste

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

Under Part 6 of the Protection of the Environment Operations (Waste) Regulation 2014, the following is required:

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

Under Section 143 of the Protection of the Environment Operations Act, 1997, waste is required to be transported to a place that can lawfully accept it.

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

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

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## 4.9 QUALITY CONTROL

Procedures would be put in place to manage the input and output quality of the incoming waste and recovered material. The following description is provided in relation to the dewatering facility.

# 4.9.1 Incoming Waste

Quality control for incoming waste includes:

- Control of the wastes accepted into the facility, as described in the incoming waste procedure in Section 5.
- Ensuring the appropriate paperwork is obtained at the receipt of the liquid waste. Suppliers
  of waste would be from authorised reputable companies whose details would be recorded
  with all incoming loads.
- Regular maintenance of the dewatering equipment as per manufacturer's specifications.

#### 4.9.2 Recovered Material

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

- Receipt of liquid waste from authorised reputable companies only.
- Aggregates recovered from the waste would be sampled and tested in accordance with relevant resource recovery orders. Controls to be put in place to meet the conditions of the orders as detailed in the sub-sections below.

#### 4.9.2.1 Resource Recovery Orders

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

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



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

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

# 4.10 Monitoring & Records

## 4.10.1 Waste Tracking

The existing and proposed facility does not accept waste that needs to be tracked under the waste tracking system, Schedule 1 of the Waste Regulation. The facility currently has procedures in place to record incoming and outgoing waste. This is described in the following section.

# 4.10.2 Recording of Waste Movements

The site has a current system of tracking waste which includes a paper trail of waste dockets.

As the incoming liquid waste is not trackable waste, it is not subject to tracking requirements. The following records shall be maintained:

For each vehicle entry and exit the following will be recorded using at the weighbridge:

#### Incoming Loads:

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

#### Outgoing Loads:

- Date & time dispatched;
- Name of destination;
- Address of destination;
- Environment Protection Licence Number of destination (if applicable);

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- Estimated Weight/Volume of load to two decimal places;
- Storage Bay or Bin ID No. from which the material was removed;
- Vehicle registration number;
- Name of driver; and
- Contents of load e.g.: Waste type.

# 4.10.3 Contingency Plan

If machinery breakdown occurs, solid or liquid, then the incoming material storage areas would accumulate waste. A technician would be called out to review the breakdown immediately. The following contingency measures are available:

- Hiring replace equipment such as mobile crusher and screen;
- Call off scheduled deliveries of waste if the storage capacity of the waste related to the specific machinery breakdown is likely to be exceeded;
- Transporting unprocessed waste offsite to another resource recovery facility if storage capacity is reaching or exceeding capacity due to the breakdown.

Contingencies for machinery breakdown is included in the site's maintenance plan.



# 5. INCOMING WASTE PROCEDURE

# **5.1** Purpose

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

## **5.2 DEFINITIONS**

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

#### **Contaminated Material**

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

## **Acceptable wastes**

Acceptable wastes include construction and demolition (C&D) waste and commercial and industrial (C&I) waste from reputable sources (drilling mud and concrete washout water) and is expected to include:

- Bricks or Concrete (BC);
- Ceramics, tiles, pottery (CER);
- Asphalt (ASPH);
- Aggregate, road base or ballast (AGG);
- Soil not contaminated or VENM (SOIL);
- Virgin excavated natural material (VENM); and
- Residues or rejects (RES).

## Suspect material / Not accepted

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

- Tyre waste
- Household waste
- Food waste
- Animal waste
- Garden waste
- Wood waste
- Radioactive waste
- Flammable material
- Medical waste
- Hazardous material
- Asbestos;
- Fibro;
- Villaboard
- Glass
- Plastic



- Rubber
- Plasterboard
- Gyprock
- Metal
- Paper and Cardboard
- General waste.

# **5.3** Training Requirements

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

- Training in legal and other requirements for waste including:
  - ▶ Relevant requirements of the POEO Act (including the waste regulation);
  - Requirements of any waste conditions in the facility's EPL;
  - ▶ The five standards of the Standards for managing construction waste in NSW.
  - Successful completion of a nationally accredited asbestos awareness course;
- Personnel involved in removing bonded asbestos must complete nationally accredited course in bonded asbestos removal before undertaking any task that involves removing bonded asbestos.
- Personnel responsible for inspecting or accepting incoming loads of drilling mud must have knowledge of the waste specifications as required for acceptance at the site.

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

## 5.4 PROCEDURE

#### 5.4.1 **C&D Loads**

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

- 1. At the weighbridge.
- 2. While unloading in the waste storage bay.

Upon the finding of suspect or contaminated material at the weighbridge, the non-conforming load shall be directed by the gate house personnel to immediately leave the property. Record details in the rejected loads register.

Upon the finding of suspect or contaminated material within a load during unloading in the presorting area, the following actions are required:

- If possible, re-load the truck.
- Report the non-conforming material to the gate house personnel. Weighbridge personnel will need to record details in the rejected loads register.
- Direct the truck to leave the facility.
- If re-loading the truck is not possible, secure the area, secure the material using temporary barricades within the quarantine area.
- Contact the customer and direct them to pick up the material.

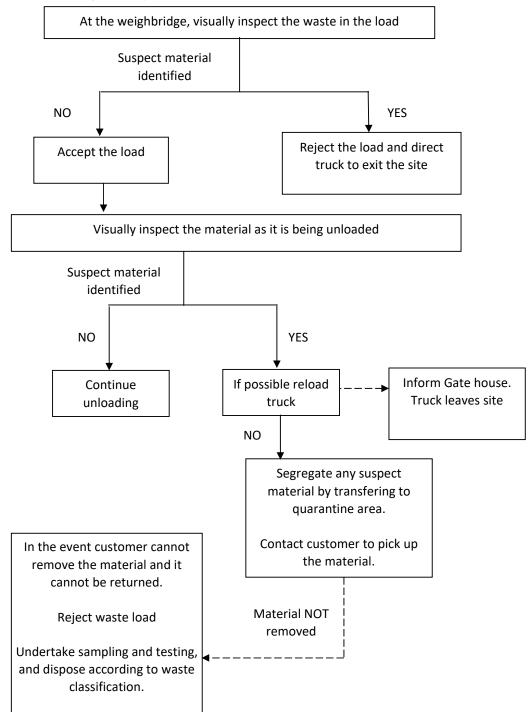


As a contingency, should the customer be unable to collect the material, contact a suitably
qualified consultant to determine the appropriate waste classification. This may involve
sampling and testing of the material in accordance with regulatory guidelines. Once the
waste classification for the material is known, dispose of this lawfully using a licensed waste
contractor.

The following figure presents the steps to be followed in the event of suspect or contaminated material being found:



Figure 5-1: Incoming load inspection





# 5.4.2 Liquid Waste Loads

All liquid waste tankers entering the site must enter via the weighbridge. At the weighbridge:

- Maintain a list of reputable customers for liquid waste.
- The weighbridge operator must obtain appropriate paperwork from tanker driver confirming contents of the load.
- Upon receipt of paperwork, check the type and source of the load. Eg: concrete washout waste, drilling mud.
- If the waste load contains drilling mud, confirm the following:
  - ► Source of the drilling mud;
  - ► The drilling mud is not odorous;
  - ► The drilling mud is not oil or synthetic based;
  - ▶ The drilling mud does not contain barium sulphate
- For incoming loads of drilling mud, ensure that waste specification is met and signed for.
- Record load details and direct driver to dewatering plant.
- If appropriate paperwork is not provided, direct tanker driver to leave the site.

## 5.4.3 Drilling Mud Waste Specification

Drilling mud received at the site would need to comply with the following waste specification criteria. Customers would need to confirm the load complies with this specification prior to receipt of any deliveries.

- 1. A mixture of naturally occurring rock and soil, including but not limited to materials such as sandstone, shale and clay, and drilling fluid generated during drilling operations such as horizontal directional drilling or potholing.
- 2. Does not include drilling mud generated by:
  - a. deep drilling for mineral gas or coal exploration; or
  - b. drilling through contaminated soils, acid sulphate soils (ASS) or potential acid sulphate soils (PASS); or
  - c.drilling through soil contaminated by a hazardous contaminant
- 3. Does not contain any of the following:
  - a. Restricted simulation fluids
  - b. Any characteristics under the Australian dangerous goods code (e.g. explosives, flammable or emitting flammable gases, oxidising, containing organic peroxides, poisonous, infectious, corrosive, toxic)
- 4. Free from:
  - a. Detectable offensive odours;
  - b. Glass, metal, plastics, rubber and coatings; and
  - c.Pests or vermin infestations



## 5.5 INSPECTION AND RECORDS

# 5.5.1 Records of Incoming Loads

The following details for incoming waste need to be maintained:

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

## 5.5.2 Rejected Loads Register

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

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

## 5.5.3 Other Non-Conforming Waste

Any non-conforming waste would be immediately removed from site. In the rare case where this is not possible, the waste would be transferred to a segregated area within temporary barricades. If customer cannot remove this waste, sampling and testing by a suitably qualified consultant is to be undertaken to determine the waste classification. Waste is to be managed in accordance with requirements relating to its determined waste classification.

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

This concludes the report.

Linda Zanotto

Senior Environmental Engineer

R T Benbow

Principal Consultant

R7Bh box



# 6. LIMITATIONS

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

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

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

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

**ATTACHMENTS** 



# WASTE MANAGEMENT PLAN FOR BANKSTOWN, BASS HILL & REVESBY WARDS



Demolition, construction and ongoing management

The applicable sections of this Plan must be completed and submitted with your Development Application.

Completing this Plan will assist you in identifying the type of waste that will be generated and in advising Council how you intend to reuse, recycle or dispose of the waste. The information provided will be assessed against the objectives of the DCP. If you require assistance completing your Waste Management Plan, please contact Council's **Resource Recovery Team – Bankstown Branch on 9707 9000.** 

If there is insufficient space, please provide attachments.

Site details	
Site address:	81 GOW STREET
Suburb:	PADSTOW NSW
Postcode:	2211
Amplicants d	
Applicants de	etaits
Name:	GOW STREET RECYCLING CENTRE
Address:	81 GOW STREET
Suburb:	PADSTOW NSW
Postcode:	2211
Telephone:	(02) 9709 2773
Mobile:	
Email:	info@gsrc.com.au
<b>✓</b> The deta	ils provided on this form are for the intention of managing waste relating to this project.



WASTE MANAGEMENT PLAN
DEMOLITION (PLEASE FILL IF APPLICABLE)
Do the works involve asbestos removal?  ■ N/A Under 10m² Over 10m²  (If N/A or under 10m², only complete General Demolition Waste details)
Work Cover License No.
Demolition Contractor Details:
Licensed Landfill:
LICENSEA LANGINI.

Tick if a demolition contractor has not been appointed. If approved, a condition of consent may be placed on the Development Application requiring the above details prior to works commencing on-site.

General demolition waste						
	Amount		How will you manage this waste			
Type of material	Less than 10m³	More than 10m³	Reuse on-site	Recycle	Landfill	
Bricks						
Concrete						
Tiles						
Timber (clean)						
Timber (treated)						
Asphalt						
Metals						
Plasterboard						
Green waste						
Other - specify						
Other - specify						
Principal Off-Site Recyclers:						
Principal Licensed Landfill Sites:						

Date:



Signature:

WASTE MANAGEMENT PLAN						
CONSTRUCTION (PLEASE F	ILL IF APPLICABLE)					
Will a skip bin hire company be used?  ● Yes for some work Yes for all work No						
Estimated total volume of waste:	1,029 cubic metres					
Name of skip bin hire company us	sed:					
Address:						
Suburb:			F	Postcode:		
ABN Number:		Contractor	License Number:	:		
Tick ✓ if a skip bin hire company Development Application requiri				nt may be placed o	on the	
If using a skip bin hire company f	or all work, please stop here.					
All excavation material including swimming pools	Less than 10 m³ ● N Reuse on-site ● R			sposal		
Address if reused off-site: Un	known. The excavated materia	l would be ma	anaged under an	acid sulfate soil m	anagement plan	
Name of licensed landfill:						
Address of licensed landfill:						
	Amount		Howw	vill you manage this	s waste	
Type of material		re than 10m³	Reuse on-site	Recycle	Landfill	
Bricks	✓		<b>√</b>			
Concrete		✓	<b>√</b>			
Tiles	✓		✓			
Timber (clean)	$\checkmark$		✓			
Timber (treated)						
Asphalt						
Metals		✓		$\checkmark$		
Plasterboard	$\checkmark$			$\checkmark$		
Green waste						
Other - specify						
Other - specify						
Principal Off-Site Recyclers:	SUEZ, Sims Metals					
Principal Licensed Landfill Sites:						
I certify that:				ion administered by t		
(a) any material moved off-site is transported in accordance with the requirements of the Protection of the Environment Operations Act 1997;  relevant Work Health and Safety legislation administered by WorkCover NSW; and (d) all records demonstrating lawful disposal of waste and evidence						
(b) waste is only transported to a place waste facility;	(b) waste is only transported to a place that can lawfully be used as a waste facility;  such as weighbridge dockets and invoices for waste disposal or recycling services is retained and kept readily accessible for					
(c) generation, storage, treatment and disposal of hazardous waste and special waste (including asbestos) is conducted in accordance						



WASTE MANAGEN	MENT PLAN					
ONGOING MANAG	SEMENT					
Multi dwelling hou Multi dwelling hou Mixed use develop  ✓ Commercial/retail	sing or Residential oment	Flat Building with comr	munal bin storage area			
Proposed number of re	esidential dwelling	s: 0	Proposed number of comme	ercial dwellings: (	)	
must be provided. Co	uncil provides a co 07 9000 to confirm	mmercial waste collec	r industrial development' opt ction service for garbage only e for your development.			
	at the rates prescri	ibed in Section 3.2 of th	ne Waste Management Guide.	Standard bin dim	ensions	are
Service	ı	Bin Size	Number of bins required	Standard collection frequency		d alternate on frequency*
Garbage		120L 660L 1100L		Weekly	-	
Recycling		240L 660L 1100L		Fortnightly	-	
Garden waste		240L		Fortnightly		N/A
*Alternate collection fi	requencies must be	ections are at Council's e approved by Council ease provide details of	prior to lodgement. Where thi	is has been discus	sed with	n and
Storage of waste  1. Is there sufficient sprecycling?	ace allocated withi	in each dwelling for two	o day's capacity of waste and	YES	NO O	N/A
	e area(s) have suffic	cient space to store the	e required number of bins?	0	0	
3. Does the developme						
a) behind the building line of the dwelling where it is screene the public domain?			ed or cannot be viewed from	0	0	
b) away from habit and odour?	able windows and	doors of adjoining dwe	ellings to reduce noise	0	0	
c) such that reside dwelling?	nts are able to con	veniently carry their wa	aste to the correct bin from th	eir O	0	
d) such that the bi		the collection point do	es not pass through any intern	al O	0	
e) such that the bi	n-carting route to t	he collection point avo	oids steps and slopes?	0	0	
f) such that the bir	ns can be moved sa	afely to the collection p	oint?	0	0	
4. Has the design ensu point is a minimum o			in storage area to the collecti	on O	0	
5. Has the bin-carting route been illustrated on the plans accompany			panying the DA?	0	0	
6. Is the bin-carting rou	ute:					
a) non-slip?				0	0	0
b) free from obstructions and steps?				0	0	
c) a maximum grac	le of 1:14 (or 1:30 wh	ere 660L or 1100L bins a	are used)?	0	0	



Storage of waste	YES	NO	N/A
7. Has the required cleaning equipment been provided to manage waste, bins and the bin storage area, including access to water supply?	0	0	
8. For kerbside collection, is the bin storage area located within 50 metres of the collection point?	0	0	
9. For collect and return service:			
a) Is the bin storage area located within 10 metres of a layback to the collection point?	0	0	
b) If no, has a temporary bin holding area been provided within 10 metres of a layback the to the collection point?	0	0	
c) What is the bin-carting distance from the bin storage area to the temporary bin holding area?			
d) Is bin-handling equipment (e.g. bin tugs) provided to assist the caretaker with bin-carting (to comply with WH&S requirements)?	0	0	
10. Is there a garbage chute system proposed?	0	0	
a) How many floors will the chute service?			
b) Is there a recycling cupboard provided on each residential floor adjacent to the chute hopper?	0	0	
c) Has a bin storage room been provided where the waste chute terminates?	0	0	
d) Is there a bin lifting machine provided to assist with condensing 240L recycling bins on each floor into bulk bins for collection?	0	0	
11. Is the residential bin storage area separated from the commercial bin storage area with access restricted to each type of tenancy? (mixed use developments only)	0	0	
12. Has a minimum of 4m² per building been allocated for the storage of bulky waste?	0	0	
13. Has a scaled plan been submitted illustrating the layout of the bin storage area(s)?	0	0	
Collection of waste	YES	NO	N/A
Has a kerbside collection point been nominated on the plans accompanying the DA?	0	0	
2. For collect and return service, does the collection point have a convenient layback to the roadway or remain flat to the truck loading area?	0	0	
3. For kerbside collection:			
a) is there enough kerbside space for each dwelling to present all bins for collection in single file, also allowing for a 30 centimetre gap between bins?	0	0	
<ul> <li>b) can all allocated bins be placed within the site's allocated frontage and not in front of driveways or neighbouring lots?</li> </ul>	0	0	
4. Is there a separation distance of at least 2 metres between all bins and street trees, bus stops, street furniture and road infrastructure such as round-a-bouts and speed humps?			
5. a) Does the development require the collection vehicle to access the site to service the bins?			
b) If yes, is the DA accompanied by scaled swept path diagrams for the waste collection vehicle which demonstrates the vehicle can enter and exit in a forward direction, minimises manoeuvring within the site and can access the nominated loading area?			
6. Has the development been designed to ensure that access to the collection point can be undertaken by a Heavy Rigid Vehicle?			
7. Is the DA accompanied by a traffic statement confirming the site and collection point has been designed to comply with AS 2890.2 Parking Facilities: Off-Street Commercial Vehicle Facilities?			



Ongoing use	YES	NO	N/A
1. a) Is there a caretaker on site responsible for managing waste?			
b) How often are they on site and what is their role?			
2. Is the bin storage area accessible to waste collection staff (no security locks or devices)?			
3. Additional information:			