



Operational Environmental Management Plan

Mint Biominining Pty Ltd

E-Waste Recycling Facility
55 Long Street, Smithfield

Date: 08/11/2021

Prepared by: Jackson Environment and Planning Pty Ltd

Version: Rev 2

Table of Contents

Table of Contents.....	1
1. Introduction.....	3
1.1. Policy drivers supporting the project	3
1.2. OEMP objectives	4
1.3. Facility Objectives	4
2. Development description.....	5
2.1. Site description	5
2.2. Nearest sensitive receptors	5
2.2.1. Waterway.....	5
2.2.2. Habitat	5
2.2.3. Adjoining premises.....	5
2.3. Key contact details	11
2.4. Site Processes	12
2.4.1. Operating hours	12
2.6. Quantities of liquid chemical reagents for processing	13
2.7. Waste Management	14
2.7.1. Liquid waste management	18
2.8. Infrastructure.....	19
3. Environmental Management Framework.....	21
3.1. Development Consent	21
3.2. Legal Requirements	21
3.3. Inductions and Training.....	22
3.4. Mint Biomining Pty Ltd’s Environmental Policy.....	23
3.4.1. Purpose	23
3.4.2. Scope.....	23
3.4.3. Policy.....	23
3.4.4. Responsibilities	24
4. Environmental Aspects, Impacts and Mitigation Measures	26
4.1. Chemical storage.....	26
4.1.1. Mitigation measures	26
4.2. Fire prevention.....	29
4.2.1. Mitigation measures	29
4.3. Air quality.....	30
4.3.1. Mitigation measures	31
4.4. Waste management.....	33
4.4.1. Solid waste management	33
4.4.2. Liquid waste management	34
4.4.3. Mitigation measures	34
4.5. Stormwater pollution.....	35
4.5.1. Mitigation measures	35
4.6. Noise 36	
4.6.1. Mitigation measures	37
4.7. Traffic, access and parking	37

4.7.1. Mitigation measures	38
4.8. Pollution Incident Response Management Plan.....	41
5. Environmental incidents management strategy.....	42
5.1. Responsibility.....	42
5.2. Handling procedure	42
5.2.1. Preventative action	42
5.2.2. Notify	42
5.2.3. Assistance.....	43
5.2.4. Investigate.....	43
5.2.5. Remedial action	43
5.2.6. Record.....	43
5.2.7. Review.....	43
5.3. Preventative action	43
5.4. Environmental management plans	44
6. Implementing the OEMP.....	45
6.1. Roles and responsibilities.....	45
6.1.1. General Manager	45
6.1.2. Operations Manager	45
6.1.3. Employees.....	45
6.2. Training and Awareness	45
6.2.1. General Induction Training.....	45
6.2.2. General environmental awareness	46
6.2.3. Induction	46
6.2.4. Ongoing training.....	46
7. Communicating the OEMP	47
7.1. Internal Communications.....	47
7.2. External Communications	47
7.3. Community complaints	48
7.3.1. Handling Procedure.....	48
8. Document Control	50
8.1. Document Control Procedure	50
9. Checking the OEMP.....	51
9.1. Evaluation of Compliance	51
9.2. Review of Environmental Impacts and Management Plans	51
9.3. Auditing the OEMP and Associated Plans	52
10. Adjusting the OEMP.....	53
10.1. Management Review and Updating the OEMP	53
11. Continuous Improvement	54
Attachment 1: Procedure for chemical storage and spill prevention	55
Attachment 2: Procedure for fire prevention	56
Attachment 3: Procedure for minimising air pollution	57
Attachment 4: Waste Management Plan	58
Attachment 5: Procedure for stormwater pollution prevention	59
Attachment 6: Procedure for noise prevention	60
Attachment 7: Procedure for managing traffic.....	61
Attachment 8: Pollution Incident Response Management Plan.....	62

1. Introduction

This Operational Environmental Management Plan has been prepared by Jackson Environment and Planning Pty Ltd (JEP), on behalf of Mint Biomining Pty Ltd for the E-Waste Recycling Facility (the Facility) located at 55 Long Street, Smithfield.

The proposed development will accept up to 3,000 tonnes per year of scrap Printed Circuit Boards for the recovery of valuable metals. This Operational Environmental Management Plan (OEMP) sets out specific mitigation measures or controls to avoid or minimise negative environmental impacts associated with the operation of the development.

This OEMP summarises the characteristics of the Facility, the location, operating hours, how waste will be received, processed and recycled, including traffic management, unloading of waste and loading of recycled product for off-site recycling or further processing.

This OEMP also outlines the internal movements of waste within the Facility environment, the air and odour mitigation measures, storage and management of dangerous goods, storage of recycled products and off-site transport of final recycled materials from the operation.

The OEMP has been developed in alignment with AS/NZS ISO 14001:2016 *Environmental management systems* and has considered *Environmental Management Systems Guidelines - Risk-based licensing* (NSW EPA, 2015). The OEMP outlines the policies, systems and procedures that Mint Biomining have committed to for protecting the environment during the operation of the Facility, and considers how key environmental and operational issues will be managed, including:

- Chemical storage and spill prevention;
- Fire prevention;
- Air pollution;
- Waste management;
- Stormwater pollution;
- Noise;
- Traffic; and
- Pollution Incident Response.

The OEMP has also been prepared to support the application for an NSW EPA licence under Schedule 1 of the *Protection of the Environment Operations Act 1997*. The NSW EPA (2016) *Guide to Licensing* has also been considered in developing the OEMP for the Facility.

1.1. Policy drivers supporting the project

The NSW Waste and Sustainable Materials Strategy 2041: Stage 1 – 2021-2027 is the recent update to the NSW Waste Avoidance and Resource Recovery Strategy 2014–21. It sets out the long-term vision for managing waste, planning for infrastructure, reducing carbon emissions, creating jobs, and refocusing the way NSW produces, consumes and recycles products and materials. The strategy will be used to track, review and measure NSW's progress toward meeting the targets set out in the National Waste Policy Action Plan. The targets are to:

- Reduce total waste generated by 10% per person by 2030;
- Have an 80% average recovery rate from all waste streams by 2030;
- Significantly increase the use of recycled content by governments and industry;
- Phase out problematic and unnecessary plastics by 2025; and
- Halve the amount of organic waste sent to landfill by 2030.

In addition to the above National targets, NSW has committed to:

- Introduce a new overall litter reduction target of 60% by 2030;
- Introduce a plastic litter reduction target of 30% by 2025, as set out in the NSW Plastics Action Plan;
- Set a goal to triple the plastics recycling rate by 2030, as set out in the NSW Plastics Action Plan;
- Reaffirm NSW's commitment to the goal of net zero emissions from organic waste by 2030, as laid out in the NSW Net Zero Plan Stage 1: 2020–2030;
- Establish new indicators to help track NSW's progress on infrastructure investment and the cost of waste services; and
- Develop a new measure of the emissions performance of NSW's waste and materials management. This will help to track performance across the lifecycle of materials.

A major focus area of the strategy is to increase waste infrastructure and services to meet future needs. The highest priority is to extend the life of existing landfills by reducing the volumes of waste being sent to landfill. Whilst the main focus is on waste avoidance, improving recycling capacity is an important aspect of waste management.

1.2. OEMP objectives

The objectives of the OEMP are to:

- Support operations of the Development in accordance with the Conditions of Consent;
- Ensure compliance with all relevant regulatory requirements;
- Minimise the environmental impacts of the Development during operations;
- Engage with the community to minimise complaints;
- Maintain a high level of environmental performance through on-going training and inductions;
- Ensure the commitments made in the approval's documentation are fully implemented and/or complied with during operations; and
- Ensure the environmental risks associated with the operations of the Development are effectively managed.

1.3. Facility Objectives

The key objective of the proposed development is to enable processing of scrap e-waste from the Sydney region through a best practice facility to increase landfill diversion, recover precious metals and return these materials into the local economy.

2. Development description

2.1. Site description

The facility will have the capacity to receive and process up to 3,000 tonnes per annum of scrap Printed Circuit Boards. Key operational features of the development within the footprint of the Site include:

- A hammer mill for grinding of scrap printed circuit boards;
- Leaching, treatment and electrowinning plant and equipment;
- Chemical storage tanks; and
- A small kiln.

The layout of the Facility is shown in Figure 2.1.

This Facility is located at 55 Long Street, Smithfield, identified as Lot 173, DP 548880. The lot has a total area of approximately 11,600 m² and is zoned IN1 General Industrial (refer to Figure 2.2). The site is within the Cumberland City Council local government area and falls under the *Holroyd Local Environmental Plan 2013* (Holroyd LEP).

The Site contains a single warehouse building that is predominately single storey with a smaller first floor office and mezzanine area. The ground floor storey is approximately 3,682 m² and the first-floor office/mezzanine level has floor area is approximately 236 m² and 269 m², respectively. The western elevation on the allotment boundary is a block work wall and the front southern elevation is also block work/masonry walls to the height of 4-5 m with the top gable end lightweight metal cladding. Eastern elevation is also block work walls which is setback >3 m to the boundary with the driveway along this boundary.

An aerial view of the entire lot and the site is shown in Figure 2.3.

2.2. Nearest sensitive receptors

The Site is located within a heavily industrialised area. All immediately adjoining premises are industrial lots. The closest residential properties (R2 Low Density Residential) are located 490 m to the west. However, they are separated from the Site by other commercial and industrial sites and an intervening waterway buffer.

2.2.1. Waterway

The industrial areas of Long Street and surrounds consist of underground piped storm drainage networks that appear to eventually drain into Prospect Creek, which is approximately 90 m to the south of the Site. A council-owned open channel drainage easement on the east side of the lot drains into Prospect Creek not far from the site. The drainage channel is not mapped as a waterway. Prospect Creek is part of the Georges River Catchment.

2.2.2. Habitat

The Site is located in a heavy industrialised area. The nearest mapped Terrestrial Biodiversity area near the Site is approximately 177 m to the east.

2.2.3. Adjoining premises

Table 2.1 provides details on adjoining businesses which are shown in Figure 2.4.

Table 2.1. Adjoining business details.

Map Ref.	Business	Address	Contact	Main Activity
1	Computertrans Group	63 Britton Street, Smithfield	(02) 8845 0000	Transportation service
2	Carways Pty Ltd	65 Britton Street, Smithfield	1300 227 929	Transportation service
3	Dimension 1	69 Britton Street, Smithfield	(02) 9725 5077	Paper, film and board converters.
4	Five Star Scaffolding	61 Long Street, Smithfield	(02) 9632 3466	Scaffolding Hire Service
5	RTB Refrigerated Truck Bodies Pty Ltd	63 Long Street, Smithfield	0484 635 236	Refrigerated transportation service

Figure 2.1. Site layout plan.

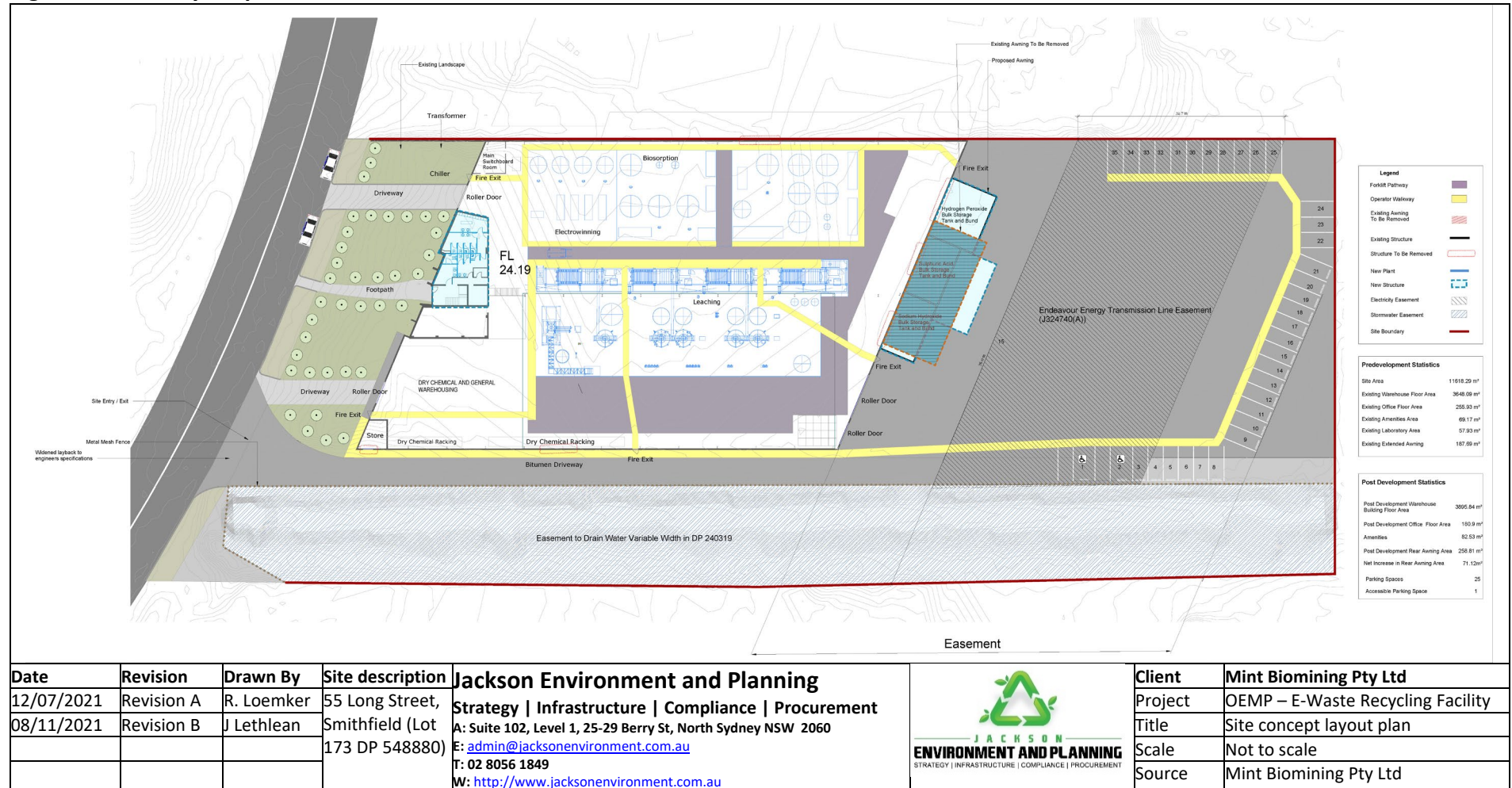


Figure 2.2. Aerial view of the nearby region. Approximate Lot boundary shown in yellow and Site boundary shown in yellow.



Date	Revision	Drawn By	Site description	Jackson Environment and Planning		Client
12/07/2021	Revision A	R. Loemker	55 Long Street, Smithfield (Lot 173 DP 548880)	Strategy Infrastructure Compliance Procurement	ENVIRONMENT AND PLANNING STRATEGY INFRASTRUCTURE COMPLIANCE PROCUREMENT	Mint Biomining Pty Ltd
				A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060		Project
				E: admin@jacksonenvironment.com.au		Title
				T: 02 8056 1849		Scale
				W: http://www.jacksonenvironment.com.au		Source
						Not to scale
						Nearmap

Figure 2.3. Aerial view of the Site at 55 Long Street, Smithfield (Lot 173 DP 548880). Approximate Site boundary shown in yellow.



Date	Revision	Drawn By	Site description	Jackson Environment and Planning Strategy Infrastructure Compliance Procurement A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060 E: admin@jacksonenvironment.com.au T: 02 8056 1849 W: http://www.jacksonenvironment.com.au	 JACKSON ENVIRONMENT AND PLANNING <small>STRATEGY INFRASTRUCTURE COMPLIANCE PROCUREMENT</small>	Client	Mint Biomining Pty Ltd
12/07/2021	Revision A	R. Loemker	55 Long Street, Smithfield (Lot 173 DP 548880)			Project	OEMP – E-Waste Recycling Facility
						Title	Local Aerial View
						Scale	Not to scale
						Source	Nearmap

Figure 2.4 Adjoining premises. Approximate Site boundary shown in yellow.



Date	Revision	Drawn By	Site description	Jackson Environment and Planning		Client	Mint Biomining Pty Ltd
12/07/2021	Revision A	R. Loemker	55 Long Street, Smithfield (Lot 173 DP 548880)	Strategy Infrastructure Compliance Procurement	ENVIRONMENT AND PLANNING STRATEGY INFRASTRUCTURE COMPLIANCE PROCUREMENT	Project	OEMP – E-Waste Recycling Facility
				E: admin@jacksonenvironment.com.au		Title	Adjoining premises
				T: 02 8056 1849		Scale	Not to scale
				W: http://www.jacksonenvironment.com.au		Source	Nearmap

2.3. Key contact details

Table 2.2 lists the key contacts for the Development.

Table 2.2. Mint Biomining Pty Ltd Contact Details.

Location / Personnel	Contact Details
Customer Inquiries	Johann Havenga Interim Site Manager / Program Manager 0448 949 911 johann@mint.bio
Emergency Spills Response	Ben McDonough Interim Site Environmental Manager / Project Manager 0422 059 729 ben@mint.bio
Complaints and Feedbacks	Ben McDonough Interim Site Environmental Manager / Project Manager 0422 059 729 ben@mint.bio

Table 2.3 lists the contact details for the regulatory authorities that have an interest in the operations of the Development.

Table 2.3. Regulatory Authority Contact List.

Regulatory Authority	Contact Details
Environment Protection Authority (EPA)	
Environment Line	131 555 or (02) 9995 5555 info@epa.nsw.gov.au
Council	
Cumberland City Council	(02) 8757 9000 council@cumberland.nsw.gov.au
SafeWork NSW	
Incident notification	13 10 50
Emergency Services	
Fire and Rescue NSW Smithfield Fire Station Yennora Fire Station	(02) 9609 2343 (02) 9493 1073
NSW Police and / or NSW Ambulance Service	000

2.4. Site Processes

The development will include facilities to accept and process scrap electronic Printed Circuit Boards for the recovery of valuable metals.

Printed Circuit Boards will be delivered to 55 Long Street, Smithfield within the building. A new bulk unloading bay would be established at the rear of the warehouse, where four existing roller doors would be closed in.

The material will be accepted into a receiving and batching area, then conveyed into a fully enclosed size reduction unit (SRU) to be ground into fine sand-like powder. The SRU incorporates a hammermill to grind the PCB material, a vibrating screen to separate oversized materials (and returned to the hammermill), a filter press and an enclosed conveyor to transfer the material to the various reaction tanks. The grinding process assists in maximising exposure of the metals to the leaching process and is run wet to ameliorate any dust generated.

The base metals process tanks (BMPT) receive the wet crushed PCB material from the SRU by enclosed conveyor which deposits the material into the three batch reactor tanks to start the process of extracting metals including copper, metal hydroxides. The inputs to this leaching process are non-cyanide based, and include dilute sulfuric acid, hydrogen peroxide, magnesium oxide, sodium hydroxide and water. Solids are then separated from the base metal liquor.

The product from the BMPT is transferred to the electrowinning cells (EC) by enclosed conveyor, where metals (principally copper) are precipitated through electrolysis in enclosed reactor tanks.

Conveyed wet material is deposited into the precious metal process tanks (PMPT) to start the process. At this stage, microbes are added to the reactor to absorb the gold metal ions through selective biosorption.

The PCB material is discharged from the PMPT process to a further enclosed filter press for partial dewatering before exiting the reactive process by enclosed conveyor.

The dry biomass material will be fed into one of four electric-powered drying kilns to drive off water vapour and any hydrocarbons to produce a dry metal-rich ash.

A summary of the process outputs is shown in Table 2.7.

Storage of liquid chemical reagents will be in bulk chemical storage tanks (acids, bases, peroxide). These will be installed to industry best-practice, with secondary containment bunding.

While much of the process water will be re-used, Mint will establish a Trade Waste Agreement with Sydney Water for acceptance of wastewater discharge to sewer.

A bulk unloading bay is established at the rear of the warehouse, where four existing roller doors would be closed in.

2.4.1. Operating hours

Table 2.4 provides the proposed operational hours.

Table 2.4. Operational Hours.

Operational Activity	Hours
Opening hours (staffed)	7am to 5pm, Monday to Sunday
Waste / product deliveries	7am to 5pm, Monday to Friday
Equipment operating hours	24hrs

2.6. Quantities of liquid chemical reagents for processing

Liquid chemical reagents will be stored safely in bulk chemical storage tanks (acids, bases, peroxide). These will be installed to industry best-practice, with secondary containment bunding. Table 2.5 provides a list of chemicals and volumes that correspond to the Tag Numbers shown in Figure 2.1.

Table 2.5. Process tank, contents and volumes. See Figure 2.1 for plans showing locations.

Tag No.	Description	Contents	Volume (L)
T-103	Process Tank	Water	
T-201	Process Tank	Dilute Sulphuric Acid in Water	15,000
T-301	Process Tank	Dilute Sulphuric Acid in Water	15,000
T-302	Process Tank	Dilute Sulphuric Acid in Water	15,000
T-401	Process Tank	Dilute Sulphuric Acid in Water	15,000
T-402	Process Tank	Dilute Sulphuric Acid in Water	15,000
T-501	Process Tank	Dilute Sulphuric Acid in Water	35,000
T-502	Process Tank	Dilute Sulphuric Acid in Water	35,000
T-503	Process Tank	Dilute Sulphuric Acid in Water	15,000
T-601	Process Tank	Grey Water	15,000
T-602	Process Tank	Grey Water	15,000
T-701	Process Tank	Grey Water	15,000
T-702	Process Tank	Grey Water	15,000
T-801	Process Tank	Dilute Sulphuric Acid in Water	15,000
T-802	Process Tank	Dilute Sulphuric Acid in Water	15,000
T-901	Process Tank	Dilute Sulphuric Acid in Water	15,000
T-902	Process Tank	Dilute Sulphuric Acid in Water	15,000
T-1002	Process Tank	Water	15,000
T-1101	Process Tank	Dilute Trichloroisocyanuric Acid in Water	15,000
T-1102	Process Tank	Dilute Trichloroisocyanuric Acid in Water	15,000
T-1201	Process Tank	Dilute Trichloroisocyanuric Acid in Water	15,000
T-1301	Process Tank	Dilute Trichloroisocyanuric Acid in Water, Microbes	15,000
T-1302	Process Tank	Microbes	15,000
T-1303	Process Tank	Dilute filter cellulose in Water	15,000
T-1401	Process Tank	Dilute Trichloroisocyanuric Acid in Water	15,000
T-1501	Process Tank	Grey Water	15,000
T-1502	Process Tank	Grey Water	15,000
T-1601	Process Tank	Dilute Trichloroisocyanuric Acid in Water	15,000
T-1602	Process Tank	Dilute Trichloroisocyanuric Acid in Water	15,000
T-1603	Process Tank	Dilute Trichloroisocyanuric Acid in Water	15,000
T-1701	Process Tank	Water	15,000
T-2001	Sodium Hydroxide Bulk Storage Tank	Sodium Hydroxide Solution 50%	30,000
T-2002	Sulphuric Acid Bulk Storage Tank	Concentrated Sulphuric Acid 95-98%	30,000
T-2003	Hydrogen Peroxide Bulk Storage Tank	Hydrogen Peroxide 50-60%	50,000

2.7. Waste Management

A summary of the inputs, outputs and managed of waste generated by the development during the operational phase is summarised in Tables 2.6 and Table 2.7.

Up to 3,000 tpa of Printed Circuit Boards will be accepted at the site for processing. The Printed Circuit Boards will be delivered in “bulka bags” or skip bins. Incoming bags of Printed Circuit Boards will be unloaded in a designated area and temporarily stored there until ready for processing. Incoming loads will be subject to a two-stage inspection process to ensure no non-conforming waste enters the process. A non-conforming waste procedure is provided at Attachment 4 - Waste Management Plan. Non-conforming waste will be stored in a small (20 L) non-conducting container (e.g. plastic bucket) prior to being disposed off-site by a specialist recycler.

Printed Circuit Boards will be ground, processed in an aqueous chemical process and separated into a number of material-based streams. Metals are recovered using a series of biological and chemical processes and on-sold to various refiners. There are two other byproducts of the chemical process: gypsum and cyanuric acid. Gypsum is commonly used in the construction and concrete industry for various applications e.g. drywall, or use in cement to regulate setting time. Mint has been working with Boral toward an offtake arrangement. Cyanuric acid is an odourless, non-hazardous compound with a number of industrial uses, e.g. manufacture of resins, or as a swimming pool stabiliser. Mint is in the process of finding a local chemical company to purchase this material when operations commence. As a backstop to ensure adherence to regulations and EPA requirements, Mint has contacted SUEZ to understand if gypsum and cyanuric acid could be disposed of at their local Kemps Creek facility. Suez has confirmed that disposal as general solid waste or restricted waste is acceptable. It should be emphasised that disposal to landfill is a last resort and not ideal from Mint’s point of view, but is included for completeness.

Finally, the remaining plastic, ceramics and glass from the circuit boards exits the process as a dewatered filter cake. This waste stream will be regularly tested in the on-site laboratory to determine its properties and waste classification. In the short-term, this waste stream will be disposed to landfill. As a longer-term solution, Mint is working with Boral Cement to dispose of this waste stream in its cement kiln at Berrima. This will require the material to be assessed as a non-standard fuel, and for Boral to amend its EPL. Where the waste stream does not meet the criteria for general solid waste – non-putrescible, and/or the criteria for classification as a non-standard fuel, the material will require disposal to landfill. As above, landfill is not what Mint wants to contribute to, and every effort will be made to divert the stream to other uses, e.g. cement manufacturing as a fuel, or as a supplementary cementitious material in concrete. The overall recovery rate for the process is expected to be approximately 100%.

Approximately 25 tonnes per year of general solid waste is expected to be generated through operation of the office, packaging from maintenance activities, staff meals, etc. A commercial waste and recycling contractor will be engaged to provide waste and recycling services for this material. It is expected that general waste will be collected 2 x 240L MGBs, and recyclables will be collected in a 2 x 660L MGBs. However, the configuration may change, depending on circumstances and the services offered. It is anticipated that the recovery rate for this waste stream will be approximately 80%.

Table 2.6. Solid waste amounts received per year.

Waste stream	Annual amounts (tonnes)	Waste classification	Treatment	Destination / end product	Estimated recovery rate
Incoming printed circuit boards (Printed Circuit Boards)	3,000	General solid waste – non-putrescible	Shredded in a hammer mill and then dissolved. Non-metal components recovered as filter cake are either disposed to landfill or used in other industrial processes. Metal-rich aqueous solution is processed to recover metals.	Elements are sorted and the different streams. Metal-rich stream processed further on-site. Other materials sent off-site for recycling (see below).	100% (of all incoming printed circuit boards are processed and subject to a recovery process)

Table 2.7. Estimated solid waste amounts generated per year.

Type	Name	Quantity (tonnes/yr; dry)	Destination	Recovery rate (expected)	Non-conformance causes	Waste classification (if non-conforming)
Product	Metal hydroxide mix (copper/tin/iron etc.)	900	Nyrstar Port Pirie (SA; EPL 775), or WRC Wurzen (World Resources Company, Wurzen, Germany)	100%	N/A; smelters take as concentrated feedstock to purify contained metals	N/A
Product	Gypsum (chemical precipitate from process)	3,600	Boral cement works Berrima (EPL 1698), or CSR Hebel Somersby (EPL 3427)	99%	High metal or hydroxide content (highly unlikely due to upstream process steps); high moisture content (can be reprocessed to dewater further)	General solid waste (non-putrescible)

Type	Name	Quantity (tonnes/yr; dry)	Destination	Recovery rate (expected)	Non-conformance causes	Waste classification (if non- conforming)
Product	Copper sheet (electrowinning product)	447	Spot market; metal trader TBC	100%	N/A; electrowon copper sheet is >99.9% pure, commodity grade	N/A
Product	Cyanuric acid (chemical precipitate from process)	285	End user TBC, or SUEZ Kemps Creek landfill (EPL 4068)	99%	High metal or residual oxidant content (highly unlikely due to upstream process steps); high moisture content (can be reprocessed to dewater further)	Restricted solid waste (trackable waste, B100)
Product	Precious metal ash (final product from kiln)	1	ABC Bullion Marrickville refinery	100%	N/A; ash product is >30% gold by mass, remainder refractory oxides, well suited to refining	N/A
Waste	Filter cake of ground glass fibres, plastic and ceramics (non-metallic fraction of printed circuit board feedstock) *NB: efforts ongoing to divert stream from landfill via use as cement kiln fuel or supplementary	2,100	SUEZ Kemps Creek landfill (EPL 4068)	0%*	High metal content exceeding SCC1/TCLP1 thresholds would place this stream as restricted solid waste	General solid waste (non-putrescible) or restricted solid waste

Type	Name	Quantity (tonnes/yr; dry)	Destination	Recovery rate (expected)	Non-conformance causes	Waste classification (if non- conforming)
	cementitious material for concrete					
Waste	Waste water (from plant process)	≈45,000	Sydney Water (trade waste application awaiting consideration)	0%	High total dissolved solids or residual metal content (highly unlikely due to upstream process steps)	N/A

¹ Cyanuric acid will be managed in accordance its Material Safety Data Sheet (<https://www.jcichem.com/images/MSDS/Cyanuric-Acid.pdf>).

2.7.1. Liquid waste management

The process produces approximately 45,000 kL per year of liquid waste. This equates to approximately 125 kL per day (operating 7 days per week), with a maximum discharge rate of 10 L/s.

The liquid waste will be non-hazardous. A trade waste agreement from Sydney Water, to allow the liquid waste to be disposed to sewer will be established. This application process has commenced.

Treatment of waste stream for discharge.

The input to the treatment process is an aqueous dilute solution of metal chlorides. This is treated with sodium hydroxide until the pH is above 10 to precipitate any metals in the solution as metal hydroxides. These solids are collected by filtration, and on sold to a specialist refinery for further metal recovery.

At this stage the waste stream will meet trade waste acceptance criteria, apart from the pH being 10-11. Discharge from this holding tank will have the pH lowered to acceptance criteria by the addition of a small amount of dilute sulphuric acid, making sure to keep the TDS <10,000 mg/L and sulphate <2,000 mg/L. This pH control addition will be inline on the discharge line from the tank via a static mixer, and be under feedback control via redundant pH meters and the plant's PLC. If pH >10 is detected on the discharge flow, discharge will immediately cease. A sample port will be included on the discharge line (downstream of pH correction) for wastewater samples to be taken.

The total average volume of discharge is estimated to be 125 m³ per day, which may be discharged over 4 batches. Discharge of each batch is proposed to occur over ≈90 minutes at a flow rate of ≈350 L/min; discharge can be spread out over a longer time period if necessary.

2.8. Infrastructure

The key infrastructure at the Facility is summarised in Table 2.8.

Table 2.8. Key Infrastructure at the Facility.

Operational Equipment	Description
Hammer Mill	Dual Stage E-waste Hammer Mill
Vibrating Screen	Rotary Vibrating Screen
Electrowinning	Copper Electrowinning Cell
Air Compressor	Oilless Scroll Compressor
Chiller	Air cooled modular chiller
Centrifuge	CaSO ₄ and Mg(OH) ₂ Separation
Agitators	Displacement Reactor Agitator
	Piranha Reactor 1 Agitator
	Piranha Reactor 2 Agitator
	Magnesium Hydroxide Tank Agitator
	Citric Acid Agitator
	Ca(OH) ₂ Slurry Agitator
	MgSO ₄ and Ca(OH) ₂ Mixing Tank Agitator
	CaSO ₄ Precipitation Tank Agitator
	Precious Metal Reactor 1 Agitator
	Precious Metal Reactor 2 Agitator
Conveyors	Size reduction feed conveyor
	Size reduction live bottom bin
	Displacement loading conveyor
	Displacement live bottom bin
	Piranha loading conveyor
	Piranha discharge transfer conveyor
	Piranha live bottom bin
	Piranha return transfer conveyor
	PML loading conveyor
	PML discharge transfer conveyor
Filter Presses	PML live bottom bin
	Hammer Mill Filter Press
	Displacement Filter Press
	Piranha Filter Press

Operational Equipment	Description
	MgX Filter Press
	Gypsum Filter Press
	PML Filter Press
	CYA Filter Press
	Biosorption Filter Press
Air Operated Diaphragm Pumps (Note: Pumps will be installed with appropriate enclosure to achieve the allowable dBA limit)	Undersized E-waste Filter Press Feed Pump (DN50)
	Displacement Filter Press Feed Pump (DN80)
	Piranha Reactor 1 Recirculating Pump (DN50)
	Piranha Reactor 2 Recirculating Pump (DN50)
	Piranha Filter Press Feed Pump (DN80)
	Displacement Recycle Solution Pump (DN80)
	MgO Neutralization Pump (DN80)
	Displacement Recycle Solution Pump
	Citric Acid Feed Pump (DN80)
	Ca(OH) ₂ Slurry Feed Pump (DN80)
	MgSO ₄ and Ca(OH) ₂ Recirculating Pump (DN50)
	Grey Water Feed Pump (DN80)
	CaSO ₄ Recirculating Pump 1 (DN50)
	CaSO ₄ Recirculating Pump 2 (DN50)
	Electrowinning Feed Pump (DN50)
	Electrowinning Discharge Pump (DN50)
	Piranha Recycle Solution Pump(DN50)
	Precious Metal Reactor 1 Recirculating Pump (DN50)
	Precious Metal Reactor 2 Recirculating Pump (DN50)
	Precious Metal Filter Press Feed Pump (DN80)
	Pre-biosorption Recirculation Pump (DN50)
	Pre-biosorption Filter Press Feed Pump (DN80)
	Biosorption Pump (DN80)
	NaOH Neutralization Feed Pump (DN80)

3. Environmental Management Framework

3.1. Development Consent

The facility will be operated in accordance with this Operational Environmental Management Plan, conditions of development consent and EPA licence.

3.2. Legal Requirements

This section applies to activities which Mint Biomining Pty Ltd can be held responsible and includes:

- Requirements stipulated in legislation, including regulatory requirements, codes of practice and industry standards at a National, State and Local government level;
- Requirements stipulated in corporate standards; and
- Other environmental requirements as required generally.

Management shall also access and review appropriate sources of information (at least annually) and identify significant changes in legal requirements related to environmental aspects. These sources of information may include:

- Lawlex Legislation Service;
- Publications relevant to the waste industry;
- Environment Manager Magazine;
- NSW EPA news bulletins;
- Department of Planning, Industry and Environment publications; and
- Direct notification by Commonwealth and State Government Departments.

Management shall maintain summaries of legal requirements related to the operations and environmental aspects. Such summaries shall be updated at least every 12 months by a competent person.

Table 3.1 Legal Requirements.

Legislation	Associated regulations	General intent	Relevance to the Facility
<i>Protection of the Environment Operations Act 1997</i>	<i>Protection of the Environment Operations (General) Regulation 2009</i> <i>Protection of the Environment Operations (Clean Air) Regulation 2010</i> <i>Protection of the Environment Operations (Noise Control) Regulation 2008</i> <i>Protection of the Environment Operations (Waste) Regulation 2014</i>	To enhance the quality of the environment in NSW.	Outlines requirements for a range of activities related to waste facilities including licensing, monitoring and reporting and Resource Recovery Orders and Exemptions
<i>Waste Avoidance and Resource Recovery Act 2001</i>		Minimise the consumption of natural resources and the final disposal of waste and achieve integrated waste and resource management planning.	The operation of the Facility must uphold principles of ecologically sustainable development and focus on waste minimisation and resource recovery over disposal.

Legislation	Associated regulations	General intent	Relevance to the Facility
<i>Environmental Planning and Assessment Act 1979</i>	<i>Environmental Planning and Assessment Regulation 2000</i>	Encourage the proper management, development and conservation of natural and artificial resources and protection of the environment.	Determines the development approval process.
<i>State Environmental Planning Policy (Infrastructure) 2007</i>	-	Identifies the environmental assessment category into which different types of infrastructure and services development fall (including identifying certain development of minimal environmental impact as exempt development).	Determines the development approval process.
<i>Work Health and Safety Act 2011</i>	<i>Work Health and Safety Regulation 2011</i>	To secure and promote the health, safety and welfare of people at work.	The operations must provide a safe work environment.
<i>Environmentally Hazardous Chemicals Act 1985</i>	<i>Environmentally Hazardous Chemicals Regulation 2008</i>	Control of activities related to chemical waste.	Influences waste permissibility.
<i>Public Health Act 1991</i>	-	To increase the standard of health in NSW.	Outlines requirements for safe drinking water.
<i>Water Management Act 2000</i>	-	To protect, enhance and restore water, associated ecosystems and water quality.	Effects of the facility and waste operations must be managed.

3.3. Inductions and Training

Mint Biomining management will ensure that all employees and contractors involved with the operations of the Facility are suitably inducted and trained prior to commencing any work on site. Training in relation to environmental responsibilities and implementation of this OEMP will take place initially through a site induction and then on an on-going basis through “toolbox talks” (or similar). Further details are provided in Section 6.2.

The topics to be covered during the induction and toolbox talks include:

- General site maintenance and management expectations and requirements;
- Traffic management;
- Familiarisation with site environmental management and mitigation measures in this OEMP;
- The environmental management commitments and responsibilities in this OEMP;
- Waste avoidance and management strategies;
- Appropriate response and management of complaints received from the public, government agencies or other stakeholders in accordance with the protocol detailed in Section 7.3; and
- Appropriate response and management of environmental incidents in accordance with the strategy detailed in Section 5.

Records of all inductions and training undertaken will be recorded in a Training Register.

3.4. Mint Biomining Pty Ltd's Environmental Policy

3.4.1. Purpose

Mint Biomining's vision is to provide a low cost and sustainable solution to recover valuable metals from the urban mine. Mint's mission is to have a biorefinery in every major city around the world. Guiding this mission is Mint's pursuit of 'best practice' in all its activities and to that end, strives to operate and manage the business such that this vision, and the aims and objectives below are met and exceeded.

Mint Biomining aims to:

- Recover valuable metals from the urban mine through a low-cost process,
- Use efficient and sustainable processing methods,
- Build and operate low-cost local bio-refineries that return materials to the local economy.

3.4.2. Scope

This Policy applies to all sites where Mint Biomining has operational control and activities conducted on these sites irrespective of whether the activity is undertaken by Mint Biomining personnel, third party Contractors and Subcontractors working for Mint Biomining. The Policy also supports the achievement of the environmental objectives of Mints Biomining long-term sustainability vision: to recover valuable metals through a low cost and sustainable processes from the urban mine.

3.4.3. Policy

Mint Biomining is committed to responsible environmental management. To Mint, environmental management is the sustainable protection of the natural environment. Recognising the moral and legal responsibility, Mint Biomining will ensure that its activities, products, and services are designed to protect and enhance the environment in the communities in which we operate.

Mint Biomining is committed to environmental improvement and the prevention of pollution. This will be achieved by working with customers, suppliers, and the community, and by adopting procedures that:

- reduce waste through innovative work practices and recycling practices;
- minimise environmental impacts by reduction of polluting substances produced by our operations, activities, products, or services;
- minimise the impact of our operations on the neighbouring community;
- increase the use of environmentally acceptable materials, equipment, and technology in place of those which are considered harmful;
- ensure that our suppliers follow acceptable environmental policies; and
- actively promote environmental awareness among workers, clients, customers, and the general public.

To bring this Policy to life, Mint will develop and implement strategies, practices and actions based on the following principles:

Management Processes

- Environmental Management System: manage environmental related risks and opportunities related to Mint's operations in accordance with Mints' EMS including ensuring regulatory compliance in the jurisdiction of operation.
- Independent Certification: Gain independent accreditation for the EMS. Certification will be achieved through ISO 14001 certification.
- Ensure Transparency: Promote openness and dialogue with all of our stakeholders.

Training and Awareness

- Education: Educate, train and motivate our employees to conduct their activities in accordance with this Policy.
- Community Engagement: Actively engage with the community and provide opportunities for public tours and discussions to help communities rethink their waste streams.

Operations and Activities

- Monitor Performance: Routinely measure our environmental performance; conduct regular environmental assessments and audits of compliance; and accurately report to the Board of Directors, shareholders, employees, the authorities and the public
- Continuous Improvement: Actively modify and improve the services, operations and the activities we conduct in accordance with scientific and technical understanding.
- Prepare for and Manage Emergencies: In accordance with Mints' Emergency Management Policy and Emergency Procedures

3.4.4. Responsibilities

Mint Biomining recognises that the overall responsibility for environmental sustainability rests with management, who will be accountable for the implementation of this policy. These responsibilities include:

- Understand the nature of current environmental hazards, risks and opportunities and long-term sustainability issues associated with Mint's operations;
- Ensure Mint has appropriate resources and processes to eliminate or minimise those risks and to comply with its regulatory obligations, and that the business uses them;
- Ensure all environmental legislative governance requirements are satisfied;
- Establishing measurable objectives and targets to ensure continued improvement aimed at the elimination of waste, pollution, and environmental harm;
- Encouraging consultation and cooperation between management, workers and stakeholders in matters which may affect or impact on the environment; and
- Approve Mint's environmental and sustainability targets and monitor its performance in meeting those targets; and
- Approve this policy and any updates or amendments which occur from time to time.

Mint Biomining's employees also have responsibilities, which include:

- Understand the nature of current environmental hazards, risks and opportunities and longer-term sustainability issues associated with Mint's operations;
- Take all reasonably practicable steps to ensure that their actions, or inactions, don't cause harm to themselves or the broader environment;
- Become aware of Mint's environmental requirements and rules and follow all environmental operating procedures;
- Complete all necessary Mint environmental induction and training programmes;
- Comply with all relevant environmental laws and regulations, including any of Mint's consent conditions that are relevant to their specific operation;
- Immediately inform Mint's management team if they have a serious environmental concern;
- Report all environmental hazards, near-miss incidents and incidents as soon as possible; and
- Engage in a productive manner on improving environmental and sustainability performance.

Mint Biomining Contractors and Subcontractors, have a duty to:

- Take all reasonably practicable steps to ensure that their actions or inactions don't cause harm to themselves or the broader environment;
- Undertake, and encourage others to undertake, appropriate behaviour that minimises potential environmental risks of their actions;
- Acquire, and keep up to date, an awareness of the environmental hazards and risks associated with their operations and activities on Mint sites;
- Become familiar with, and follow, all relevant Mint environmental rules and environmental operating procedures;
- Consult, cooperate and coordinate activities with Mint and other users to minimise environmental impacts;
- Comply with all relevant environmental laws and regulations, including any of POAL's consent conditions that are relevant to their specific operation;
- Participate, where required, in environmental meetings, identifying and reporting; environmental hazards, incidents and accidents, and developing appropriate corrective actions;
- Report all incidents, including near misses, irrespective of whether or not these incidents result in an environmental impact;
- Complete all necessary environmental induction and management training programmes; and
- Engage with Mint in a productive manner on improving environmental performance.

4. Environmental Aspects, Impacts and Mitigation Measures

The key environmental aspects and associated impacts of the Facility, as identified in the Statement of Environmental Effects, and which are covered by this OEMP include:

- Chemical storage and spill prevention;
- Fire prevention;
- Air pollution;
- Waste management;
- Stormwater pollution;
- Noise;
- Traffic; and
- Pollution Incident Response.

The key environmental aspects and associated impacts of the Facility are summarised below.

4.1. Chemical storage

The dangerous goods stored at the facility as part of the operations have been summarised in Table 4.1. The Aggregate Quantity Ratio (AQR) is 0.685, hence the facility is not classified as a Major Hazard Facility.

Table 4.1. Maximum classes and quantities of dangerous goods stored and major hazard facility Schedule 15 thresholds.

Class	Packing Group	Description	Storage Type	Threshold (tonnes)	Maximum Quantity (tonnes)
5.1	II	Trichloroisocyanuric acid, dry	Racked storage	200	75
5.1	II	Hydrogen peroxide (60%)	Bulk tank (50 m ³)	200	62
8	II	Sulphuric acid (98%)	Bulk tank (30 m ³)	n/a	55.2
8	II	Sodium Hydroxide (50%)	Bulk tank (30 m ³)	n/a	45.6

The main storage of dangerous goods occurs in bulk tanks which are located external to the building within the Endeavour Energy easement as shown in Figure 4.1. The storage areas comply with either AS 3780-2008 or AS 4326-2008 for both indoor and outdoor storage configurations to ensure compliance with the standard and the *Work Health and Safety Regulations 2017*.

4.1.1. Mitigation measures

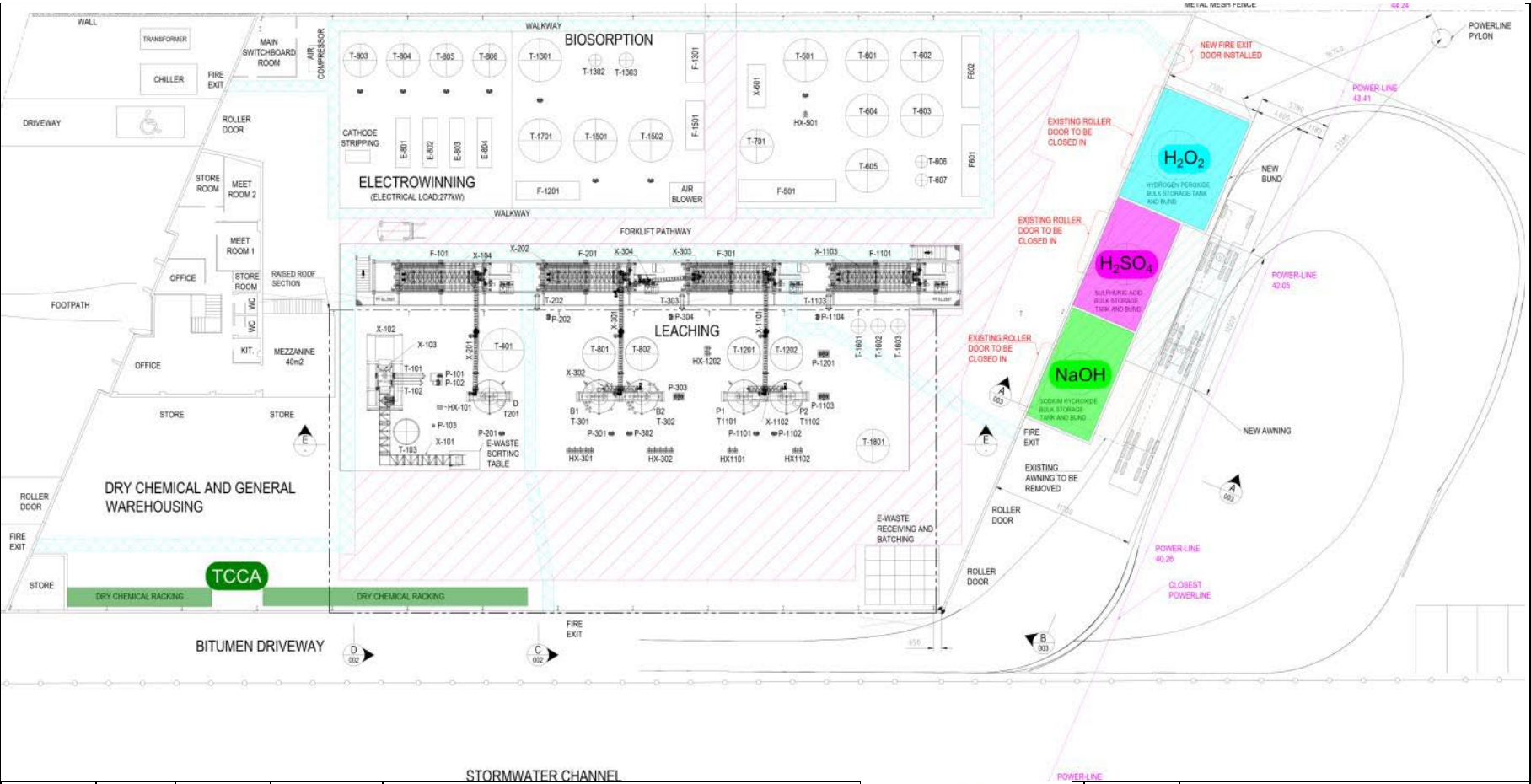
Table 4.2 provides specific mitigation measures for the management of chemicals at the facility.

Table 4.2. Chemical storage mitigation measures.

Mitigation Measures	Responsibility	Timing / Frequency
Maintain a Dangerous Goods Register, indicating the type of chemical, any notations that may be required from the risk assessment and the Safety Data Sheet for the chemical.	Operations Manager	On-going
Maintain a Dangerous Goods manifest indicating quantities of DGs stored.	Operations Manager	On-going
Placards and Signage to be affixed to the site entrance.	Operations Manager	On-going
Bulk tank placards to be provided for bulk tanks.	Operations Manager	On-going
Maintain an emergency response plan in accordance with the Hazardous Industry Planning Advisory Paper (HIPAP) No. 1.	Operations Manager	On-going
Maintain an emergency services information pack (ESIP)	Operations Manager	On-going
All tanks shall be protected by a hydrant.	Operations Manager	On-going
A safety shower shall be provided within no closer than 2 m and no further than 10 m from the storage / filling area.	Operations Manager	On-going
Spills, leaks or other discharge of any waste(s) or other material(s) will be cleaned up as soon as practicable after it becomes known.	Operations Manager	On-going
The use of drains covers in the event of an emergency shall be included within the site emergency response plan	Operations Manager	On-going
Operators and site personnel shall be trained in the use of the drain covers.	Human Resource Officer	On-going
In the event of an incident, notification and actions in the Pollution Incident Response Management Plan are to be activated	Environment Manager	As required
Pollution Incident Response Management Plan training is to be provided in weekly toolbox meetings and the plan is to be tested at least once a year.	Operations Management/ Environment Manager	Weekly/ Annually

A procedure for chemical storage and spill prevention is provided in Attachment 1.

Figure 4.1. Dangerous Goods Storage Layout.



Date	Revision	Drawn By	Site description	Jackson Environment and Planning Pty Ltd	Client	Mint Biomining Pty Ltd.
04/08/2021	Revision A	R. Loemker	55 Long Street, Smithfield (Lot 173 DP 548880)	Strategy Infrastructure Compliance Procurement A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060 E: admin@jacksonenvironment.com.au P: 02 8056 1849 W: http://www.jacksonenvironment.com.au	Project	E-waste recycling facility
				 JACKSON ENVIRONMENT AND PLANNING STRATEGY INFRASTRUCTURE COMPLIANCE PROCUREMENT	Title	Dangerous Goods Storage Layout
					Scale	As shown
					Source	Jackson Environment and Planning

4.2. Fire prevention

There are limited combustible materials stored on-site. The incoming and outgoing waste streams that contain combustible materials include:

- Incoming bulk bags or skip bins full of printed circuit boards;
- Outgoing general solid waste (garbage) and recycling; and
- A solid waste stream consisting of ground plastic, ceramic and glass fibres. This waste stream is produced at the end of the process and is in the form of a damp filter cake. It will be stored in sealed containers. While technically combustible, it would be difficult to ignite.

Overall, the solid waste materials represent a very small potential fire fuel load. Further, as most of the material contains fire retardants, it is a very low fire risk.

None of the materials are classified as “flammable”. Class 5.1 is for “oxidising substances” and Class 8 is for “corrosive substances”. While a fire leading to rupture of the storage tanks would be a significant hazard, the dangerous goods stored on-site could not be considered a fuel source.

In the event of a large fire along the northern wall of the warehouse, it is possible that the sulphuric acid and/or hydrogen peroxide could begin to decompose into flammable and toxic gases. Although such an event is highly unlikely, if materials are stored appropriately, firefighters would need to be made aware of the presence of these materials in the event of a fire on-site.

Fire safety measures at the site include:

- A Sprinkler System.
- Smoke Hazard Management.

4.2.1. Mitigation measures

Table 4.3. provides specific mitigation measures for the prevention of fires at the facility.

Table 4.3. Fire prevention mitigation measures.

Mitigation Measures	Responsibility	Timing / Frequency
Maintain fire extinguishers and fire blankets, suitable to the location, at multiple points around the building and the processing equipment	Operations Manager	On-going
The waste inspection and receiving protocols listed in the Waste Management Plan should be adhered to, to ensure any batteries contained in the printed circuit board loads are quickly detected and removed (refer to Attachment 4)	Operations Manager	On-going
Any batteries removed from the incoming waste stream should be stored in a non-conducting container and removed from site as soon as practicable.	Operations Manager	On-going
All waste should be stored in containers, within the designated waste receiving and storage areas	Operations Manager	On-going
No combustible materials to be stored near the kiln.	Operations Manager	On-going
Operation of the kiln to be subject to strict protocols, with only designated staff permitted to operate the kiln.	Operations Manager	On-going
Outdoor area to be regularly inspected for litter and debris, which will be removed.	Operations Manager	On-going

Mitigation Measures	Responsibility	Timing / Frequency
The use of drains covers in the event of an emergency shall be included within the site emergency response plan	Operations Manager	On-going
Operators and site personnel shall be trained in the use of the drain covers and provision of 80mm bunding within the warehouse for firewater containment	Human Resource Officer; Operations Manager	On-going
In the event of an incident, notification and actions in the Pollution Incident Response Management Plan are to be activated	Environment Manager	As required
Pollution Incident Response Management Plan training is to be provided in weekly toolbox meetings and the plan is to be tested at least once a year.	Operations Management/ Environment Manager	Weekly/ Annually
All staff should undergo annual training on the use of fire hose reels and fire extinguishers.	Human Resource Officer	On-going

A procedure for fire prevention is provided in Attachment 2.

4.3. Air quality

The processes which may result in the emission of pollutants to air include:

- Size reduction unit;
- Base Metals Process Tanks;
- Electrowinning Cells;
- Precious Metal Process Tanks; and
- Fume cupboard.

Air pollution controls (APCs) will be employed at the site to manage the risk of off-site impacts from the controlled discharge points. Each APC has been selected to control the anticipated emissions from the various discharge points, which consequently varies by application. Table 4.4 summarised the potential emissions to air and includes nominated air pollution control (APC) for various discharges to control the anticipated emissions from each process. Figure 4.2 shows the various potential air emission locations (denoted as Emission 1A, 1B, 1C, 2, 3A, 3B, 4, 5, 6 and 7).

The modelled emissions have been compared to the relevant NSW guidelines and are not predicted to exceed any impact assessment criteria for the modelled emissions

Table 4.4. Summary of identified potential emissions to air.

Process	Emission Point ID (refer to Figure 10.2)	Co-ordinates		APC	Identified Potential Emissions				
		mE	mS		PM	Cl ₂	H ₂ SO ₄	VOC	Cu
Bulk storage tank (60 % (v/v) H ₂ O ₂)	1A	309 207	6 253 204	-	Negligible emissions				
Bulk storage tank (60 % (v/v) H ₂ SO ₄)	1B	309 214	6 253 201	-	Negligible emissions				
Bulk storage tank (60 % (v/v) H ₂ SO ₄)	1C	309 224	6 253 196	-	Negligible emissions				

Process	Emission Point ID (refer to Figure 10.2)	Co-ordinates		APC	Identified Potential Emissions				
		mE	mS		PM	Cl ₂	H ₂ SO ₄	VOC	Cu
Size Reduction Unit	2	309 222	6 253 144	Condenser	✓				
Base Metals Process Tanks	3A	309 218	6 253 156	None			✓	✓	
Base Metals Process Tanks	3B	309 217	6 253 163	None			✓	✓	
Electrowinning Cells	4	309 200	6 253 147	Condenser			✓		✓
Precious Metal Process Tanks	5	309 220	6 253 184	Wet scrubber		✓			
Kiln	6	309 226	6 253 140	Wet venturi	✓				
Fume cupboard	7			-	Negligible emissions				

4.3.1. Mitigation measures

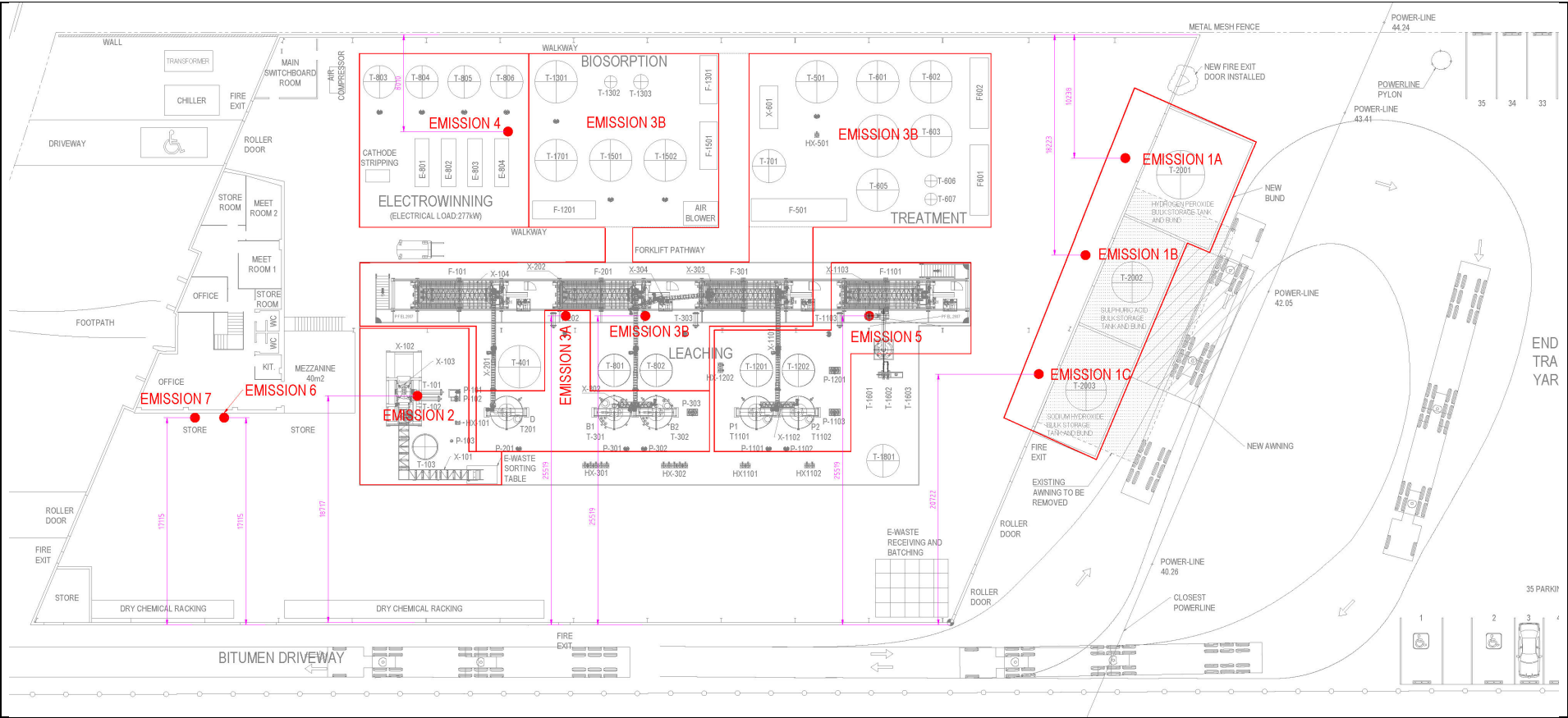
Table 4.5. provides specific mitigation measures for the management of air quality at the facility.

Table 4.5. Air quality mitigation measures.

Mitigation Measures	Responsibility	Timing / Frequency
Maintain All LEV systems, configured with appropriate interlocks to the operation of each respective process, such that in the event of LEV failure (such as during unexpected power failure) the processes will also simultaneously (and automatically) cease.	Operations Manager	On-going
Implement a suitable program of emission monitoring, to be performed by a suitably qualified NATA Accredited testing body within 3-months of the start of operations to quantify emission concentrations and rates	Operations Manager	within 3-months of the start of operations
All vehicles to comply with strict speed limit of 5km/hr internal and external to the building	Operations Manager / truck drivers	During the transport of waste
All trucks entering and leaving the premises carrying loads must be covered at all times, except during loading and unloading.	Operations Manager / truck drivers	During the transport of waste
Training of all staff and personnel accessing the Site in the need to minimise dust generation.	Operations Manager	On-going
Doors to be closed during waste processing	Operations Manager	On-going
Regularly transport waste to other recycling facility or dispose of off-site to landfill where any waste has the potential to generate air quality issues (dust / odour)	Operations Manager	On-going
Review of any complaints received relating to dust and reports from monitoring conducted as a result.	Operations Manager	On-going
Toolbox meetings to discuss any safety and compliance issues, including dust and odour, that have arisen since the previous meeting.	Operations Manager	On-going

A procedure for minimising air pollution is provided in Attachment 3.

Operational Environmental Management Plan
Mint Biomining Pty Ltd
Figure 4.2. Site layout with emission points.



Date	Revision	Drawn By	Site description	Jackson Environment and Planning Pty Ltd	Client	Mint Biomining Pty Ltd.
04/08/2021	Revision A	R. Loemker	55 Long Street,	Strategy Infrastructure Compliance Procurement	Project	E-waste recycling facility
08/11/2021	Revision B	J Lethlean	Smithfield (Lot 173 DP 548880)	A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060 E: admin@jacksonenvironment.com.au T: 02 8056 1849 W: http://www.jacksonenvironment.com.au	Title	Air emissions points
					Scale	As shown
					Source	Etech Engineering Services

4.4. Waste management

4.4.1. Solid waste management

The site is approved to receive up to 3,000 tpa of Printed Circuit Boards for processing. The Printed Circuit Boards will be delivered in “bulka bags” or skip bins. Incoming bags of Printed Circuit Boards will be unloaded in a designated area and temporarily stored there until ready for processing. Incoming loads will be subject to a two-stage inspection process to ensure no non-conforming waste enters the process. A non-conforming waste procedure is provided at Appendix A of the waste management plan (Attachment 4). Non-conforming waste will be stored in a small (20 L) non-conducting container (e.g., plastic bucket) prior to being disposed off-site by a specialist recycler.

Printed Circuit Boards will be ground, processed in an aqueous chemical process and separated into a number of material-based streams. Metals are recovered using a series of biological and chemical processes. There are two byproducts of the chemical process; Gypsum and Cyanuric Acid. Gypsum is commonly used in the construction and concrete industry for various applications e.g. use in cement to regulate setting time. Mint has been working with Boral toward an offtake arrangement. Cyanuric Acid is a common precursor to cleaning and disinfectant chemicals. It is envisaged that Mint will find an appropriate industrial application in the near future. To ensure adherence to regulations and EPA requirements, Mint has contacted Suez, Kemps Creek Landfill to understand if Gypsum and Cyanuric Acid could be disposed of at the facility. Suez has confirmed that disposal as general solid waste or restricted waste is acceptable. Disposal to landfill is a last resort and expensive, which Mint is working towards eliminating.

The plastic, ceramics and glass (as a dewatered filter cake) will be disposed to landfill, for the short-term. As a longer-term solution, Mint Biomining is working towards finding a use for this waste stream as a non-standard fuel. Where the waste stream does not meet the non-standard fuel criteria for General solid waste – non-putrescible and/or the criteria for classification as a non-standard fuel, the material will be disposed to landfill. The overall recovery rate for the process is expected to be approximately 100%. The wet filter cake will be stored in sealed containers.

Approximately 25 tonnes per year of general solid waste is expected to be generated through operation of the office, packaging from maintenance activities and staff meals, etc. A commercial waste and recycling contractor will be engaged to provide waste and recycling services for this material. It is expected that general waste will be collected 2 x 240L MGBs, and recyclables will be collected in a 2 x 660L MGBs. However, the configuration may change, depending on circumstances and the services offered. It is anticipated that the recovery rate for this waste stream will be approximately 80%.

The maximum quantities of waste stored on site are provided in Table 4.6 which is based on the site storing up to one weeks’ worth of waste.

Table 4.6. maximum amount of solid waste and product stored on-site at any one time.

Stream	Location	Waste	Maximum Volume Stored (m ³)	Density (t/m ³)	Weight (tonnes)
Incoming waste	Receiving area in north-east corner of warehouse	Printed circuit boards	49	1.385	67.9
Waste outputs	Receiving area in north-east corner of warehouse	Filter cake of ground glass fibres, plastic and ceramics	31.2	1.292	40.3
	Receiving area in north-east corner of warehouse	General waste and recycling	1.6	0.3	0.5
Product outputs	Secure storage area	Metals	1.9	9	17
	Secure storage area	Gypsum	28	0.25	65

Stream	Location	Waste	Maximum Volume Stored (m ³)	Density (t/m ³)	Weight (tonnes)
	Secure storage area	Precious metal ash	0.06	0.9	0.06
	Secure storage area	Metal Hydroxide	33.3	1.5	50
	Secure storage area	Cyanuric Acid	8	2.5	20
Total amount of wastes and product stored on site (tonnes)					260.7

4.4.2. Liquid waste management

The process produces approximately 45,000 kL per year of discharge to trade waste. This equates to approximately 125 kL per day (operating 7 days per week for most of the year), with a maximum discharge rate of 10 L/s.

The input to the treatment process is an aqueous dilute solution of metal chlorides. This is treated with sodium hydroxide until the pH is above 10 to precipitate any metals in the solution as metal hydroxides. These solids are collected by filtration, and on sold to a specialist refinery for further metal recovery.

At this stage the waste stream will meet trade waste acceptance criteria, apart from the pH being 10-11. Discharge from this holding tank will have the pH lowered to acceptance criteria by the addition of a small amount of dilute sulphuric acid, making sure to keep the TDS <10,000 mg/L and sulphate <2,000 mg/L. This pH control addition will be inline on the discharge line from the tank via a static mixer, and be under feedback control via redundant pH meters and the plant's PLC. If pH >10 is detected on the discharge flow, discharge will immediately cease. A sample port will be included on the discharge line (downstream of pH correction) for wastewater samples to be taken.

The total average volume of discharge is estimated to be 125 m³ per day, which may be discharged over 4 batches. Discharge of each batch is proposed to occur over ≈90 minutes at a flow rate of ≈350 L/min; discharge can be spread out over a longer time if necessary.

4.4.3. Mitigation measures

Table 4.7 provides specific mitigation measures for the management of waste at the facility.

Table 4.7. Waste management mitigation measures.

Mitigation Measures	Responsibility	Timing / Frequency
The site will not receive or process on the site more than 3,000 tonnes of Printed Circuit Boards per calendar year. Waste received at the Facility is assessed and classified in accordance with the EPA's Waste Classification Guidelines as in force, from time to time	Operations Manager	On-going
All incoming solid waste will be unloaded within the warehouse	Operations Manager	On-going
All process waste or products to be loaded inside the warehouse	Operations Manager	On-going
General waste and recycling to be contained inside bins	Operations Manager	On-going
All solid waste or products to be stored in designated storage areas	Operations Manager	On-going

Mitigation Measures	Responsibility	Timing / Frequency
Litter will be regularly picked up and removed from the site	Operations Manager	On-going
Liquid waste will be continually monitored for pH and temperature	Operations Manager	On-going
Liquid waste streams will be regularly sampled and tested for chemical levels	Operations Manager	Weekly
Staff and subcontractors will be informed of site waste management procedures.	Human Resource Officer	On-going
Liquid and non-liquid waste(s) will not be unlawfully deposited on the premises	Operations Manager	On-going
Waste received at the Facility is assessed and classified in accordance with the EPA's Waste Classification Guidelines as in force, from time to time	Operations Manager	On-going

A waste management plan is provided as Attachment 4. The waste management plan also provides a procedure for non-conforming waste procedure (Appendix A) and Trade waste standards for the liquid waste stream (Appendix B).

4.5. Stormwater pollution

The existing warehouse has an eaves gutter on the eastern side and a box gutter on the western side. The box gutter drains to a stormwater pipe laid under the warehouse concrete slab and this drains to the south to the street. The eaves gutter drains to a stormwater pipe located under the driveway which also drains to the south.

There is a junction pit located at the south-eastern corner of the building which collects drainage lines from both side of the development which then drains by gravity to Council's stormwater system in the street.

The rear hardstand is drained by a single stormwater pit located within a defined sag. This pit drains to the open channel to the east of the site. The awning area at the rear of the warehouse drains to this sag pit.

The site falls to the street and is elevated well above the road. Apart from the easement the site is not subject to 1% AEP flooding. The development is elevated above the western adjoining development of which it was once part. Flood mapping which shows the PMF flood inundating part of the western side of the site which is covered by a warehouse with a surveyed floor level above the PMF level is in fact unlikely to be flood liable. It is noted flood modelled extents are based on LiDAR and not on surveyed floor levels.

The outside chemical storage area is bunded, fully covered with an awning and splash guard as required by AS3870. A further 50 mm rollover bund is provided to capture any spills during loading of bulk chemical storage tanks.

4.5.1. Mitigation measures

Table 4.8. provides specific mitigation measures for the management of stormwater at the facility.

Table 4.8. Stormwater pollution mitigation measures.

Mitigation Measures	Responsibility	Timing / Frequency
Inspect and remove any build-up of sediment, debris, litter, and vegetation within drainage system.	Operations Manager	Monthly or after rain event
Inspect all drainage structures noting any dilapidation, carry out required repairs.	Operations Manager	Bi-annually
No development is to take place within the drainage easement.	Operations Manager	On-going
During a flood, a “shelter in place” approach will be adopted.	Safety Officer	during a PMF event

A procedure for stormwater pollution prevention is provided in Attachment 5.

4.6. Noise

The site is situated in an established industrial area. The proposed development is surrounded by the following uses:

- Industrial uses to the east, north, west and south beyond Prospect Creek;
- Long Street Park and Prospect Creek to the south across Long Street; and
- Single storey residential dwellings, more than 500 metres to the south-west of the subject site.

The proposed development has the potential to create noise impacts on nearby residences (R1), local park (R2) and industrial (R3 to R5). The key noise sources for the site are continuous in nature and associated with fixed plant operating inside the main processing building. Proposed operational hours are summarised as follows:

- Operation of machinery: 24 hours a day, 7 days a week;
- Deliveries, twice a day, maximum of one an hour; and
- Closed public holidays.

The predicted LAeq noise levels for operation of the E-Waste facility are shown in Table 4.9.

Table 4.9. Predicted noise levels at the residential receivers.

Receiver	Receiver Group	Limit	Highest Predicted LAeq Noise Levels, dBA
R1	South-western residence	40/40/35 (D/E/N)	21
R2	Active Use Recreation	53	51
R3	Industrial	68	38
R4	Industrial	68	46
R5	Industrial	68	39

4.6.1. Mitigation measures

Table 4.10 provides specific mitigation measures for the management of noise at the facility.

Table 4.10. Noise management mitigation measures.

Mitigation Measures	Responsibility	Timing / Frequency
The southern roller door (closest to the nearest residences) is to remain closed during night-time operations.	Operations Manager	On-going
All mobile equipment is to utilise broadband reversing alarms on (instead of tonal beepers).	Operations Manager	On-going
Equipment is to be maintained and operated in a proper and efficient manner and in accordance with manufacturers specifications	Operations Manager	On-going
Ensuring staff are made aware of noise-sensitive neighbours and adopting noise management practices	Human Resource Officer	Six monthly

A procedure for noise prevention is provided in Attachment 6.

4.7. Traffic, access and parking

The facility will operate 24 hours, 7 days per week.

The administration office will be operated between 7am and 5pm Monday to Friday by up to 10 staff members. The processing plant will be operated 24hrs, 7 days per week over three 8-hour shifts. Up to 10 staff members will be operating the plant during each 8-hour shift. Table 4.11 summarises the operating hours at the site.

Table 4.11. Operating hours.

Shift	Maximum number of staff per shift	Shift times	Frequency
Administration	10	7am to 5pm	Mon-Fri
Operations 1	10	7am to 3pm	7 days/week
Operations 2	10	3pm to 11pm	7 days/week
Operations 3	10	11pm to 7am	7 days/week

Based on the above operating hours, the project will generate 80 vehicle movements per day Monday to Friday and 60 vehicle movements per day on a Saturday and Sunday.

Allowing for the majority of traffic movements to have an origin/destination to the east of the site, inbound movements will be a right in. The truck volumes associated with the project requires two trucks per day. Therefore, minor delays are expected for trucks entering the site for the right turn in.

Outbound movements will generally be a left turn out of the site. Any queues associated with vehicles exiting the site will be contained within the site and do not impact upon the external road network.

All vehicles will enter and exit the site in a forward direction. Heavy vehicles will be able to turn around within the site to the rear of the building to ensure all vehicles can then exit in a forward direction. Refer to Figure 4.1 and Figure 4.2 for truck turning

The site provides 35 parking spaces (including two mobility spaces) on site, with extra space available if required for visitors.

4.7.1. Mitigation measures

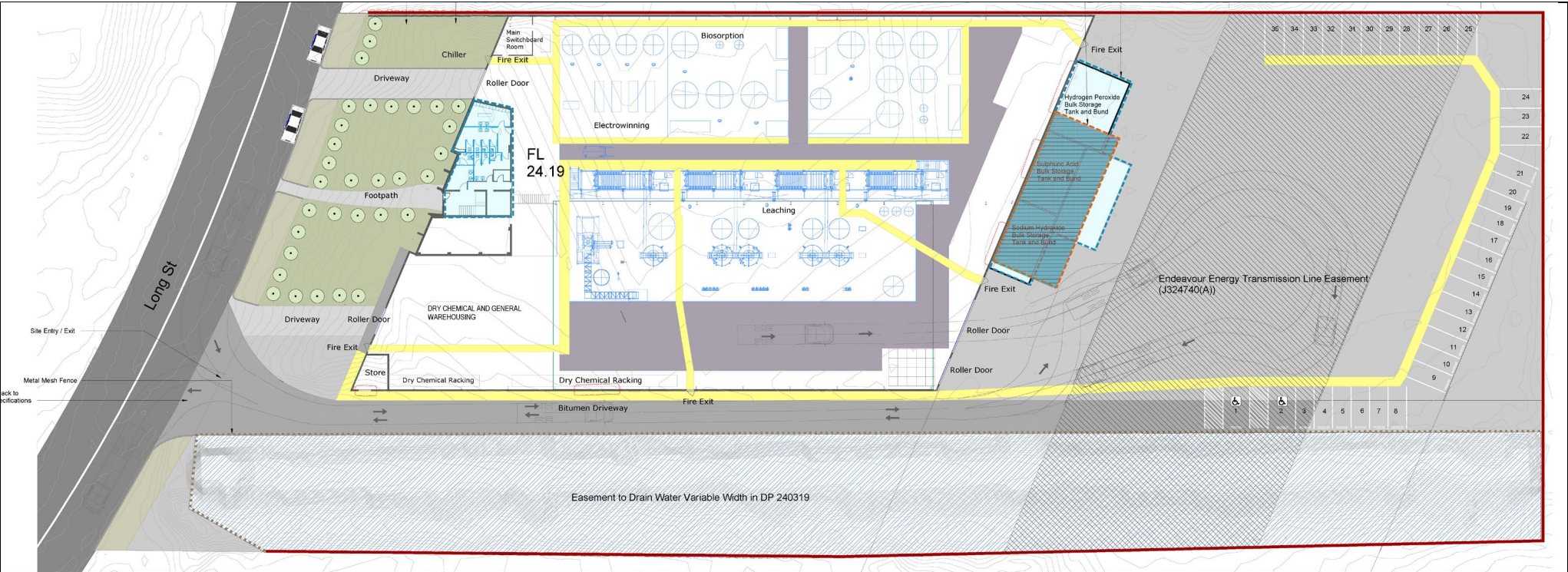
Table 4.12 provides specific mitigation measures for the management of traffic at the facility.

Table 4.12. Traffic management mitigation measures.

Mitigation Measures	Responsibility	Timing / Frequency
A total of 35 car parking spaces will be marked and provided at the rear of the site for staff and visitors	Operations Manager	On-going
All vehicles will enter and leave the site in a forward direction	Operations Manager / Truck Drivers	On-going
Site access, driveways and parking areas will be maintained in accordance with the latest versions of Australian Standards AS 2890.1, AS 2890.2, AS 2890.6 and AS 1428.1	Operations Manager	On-going
Signage will be maintained to ensure safe and efficient traffic flow. Waiting bays to be clearly marked.	Operations Manager	On-going
All vehicles will turn off their engines when stationary (no idling), where practicable.	Operations Manager / Truck Drivers	On-going
The Facility will not result in any vehicles parking or queuing on the public road network.	Operations Manager	On-going
All vehicles will be wholly contained on site before being required to stop, where practical	Operations Manager / Truck Drivers	On-going
The turning areas in the car park will be kept clear of any obstacles, including parked cars, at all times.	Operations Manager	On-going
Trucks entering and leaving the premises that are carrying loads will be covered at all times, except during loading and unloading.	Operations Manager / Truck Drivers	On-going
Impose site speed limits (<5 km/hr)	Operations Manager / Truck Drivers	On-going

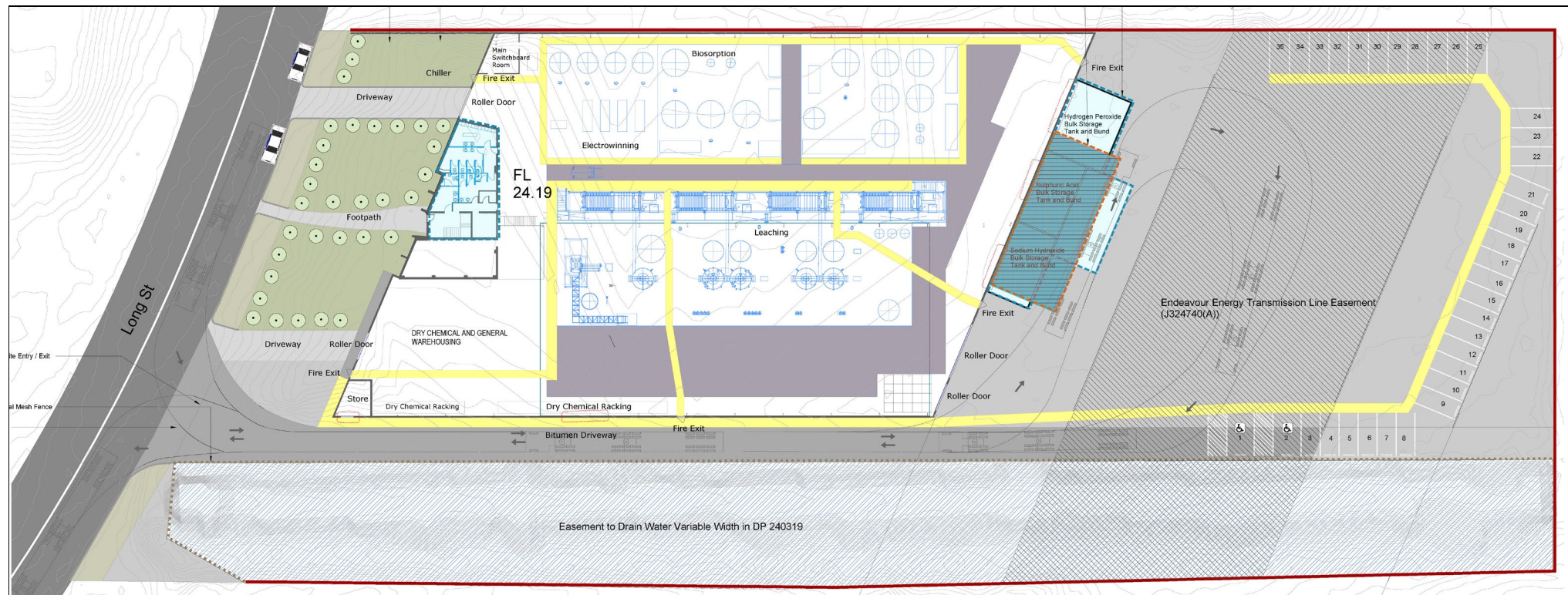
A procedure for managing traffic is provided in Attachment 7.

Figure 4.1. Truck turning paths - Swept Path Analysis – 12.5m heavy vehicle.



Date	Revision	Drawn By	Site description	Jackson Environment and Planning Pty Ltd	Client	Mint Biomining Pty Ltd.
13/08/2021	Revision A	R. Loemker	55 Long Street,	Strategy Infrastructure Compliance Procurement	Project	E-waste recycling facility
08/11/2021	Revision B	J Lethlean	Smithfield (Lot 173 DP 548880)	A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060 E: admin@jacksonenvironment.com.au T: 02 8056 1849 W: http://www.jacksonenvironment.com.au	Title	Truck turning paths -12.5m Truck
					Scale	As shown
					Source	SECA Solutions Pty Ltd

Figure 4.2. Truck turning paths - Swept Path Analysis – B-Double heavy vehicle.



Date	Revision	Drawn By	Site description	Jackson Environment and Planning Pty Ltd		Client	Mint Biomining Pty Ltd.
13/08/2021	Revision A	R. Loemker	55 Long Street,	Strategy Infrastructure Compliance Procurement		Project	E-waste recycling facility
08/11/2021	Revision B	J Lethlean	Smithfield (Lot 173 DP 548880)	A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060 E: admin@jacksonenvironment.com.au T: 02 8056 1849 W: http://www.jacksonenvironment.com.au	JACKSON ENVIRONMENT AND PLANNING STRATEGY INFRASTRUCTURE COMPLIANCE PROCUREMENT	Title	Truck turning paths – B-Double Truck
						Scale	As shown
						Source	SECA Solutions Pty Ltd

4.8. Pollution Incident Response Management Plan

A Pollution Incident Response Management Plan (PRIMP) has been prepared for the facility to meet the requirements of the *POEO Act and POEO (General) Regulations* (refer to Attachment 8) and has been incorporated into this OEMP. The PIRMP outlines the protocol to immediately notify the following agencies in the event of an emergency or incident which is determined to have caused or threatened material harm to the environment:

- NSW EPA;
- Fire & Rescue NSW;
- NSW Health Department - Public Health Unit;
- SafeWork NSW; and
- Cumberland City Council.

The PRIMP provides the general management strategy to minimise the risk to the public and all personnel in the event of an emergency including;

- Providing adequate resources including staffing and firefighting equipment;
- Ensuring that all relevant employees would be familiar with the PIRMP;
- Training staff so that a high level of preparedness would be maintained by all people who could be involved in an emergency; and
- Periodic review and update of emergency procedures for the Site.

Table 4.13 lists the management and mitigation measures that will be implemented during operation of the Facility to minimise the potential for pollution incidents.

Table 4.13. Pollution Management and Mitigation Measures.

Mitigation Measures	Responsibility	Timing / Frequency
All chemicals on site will be stored in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's <i>Storing and Handling Liquids: Environmental Protection – Participant's Manual 2007</i>	Operations Manager	On-going
Accidental spillage or poor management chemicals during the operation of the development will be controlled through spill management actions to prevent water quality and ecological impacts.	Operations Manager	On-going
Spills, leaks or other discharge of any waste(s) or other material(s) will be cleaned up as soon as practicable after it becomes known.	Operations Manager	On-going
Dangerous goods will be stored on site according to their respective ADG classes and compatibility.	Operations Manager	On-going
In the event of an incident, notification and actions in the Pollution Incident Response Management Plan are to be activated	Operations Manager	On-going
Pollution Incident Response Management Plan training is to be provided in weekly toolbox meetings and the plan is to be tested at least once a year.	Operations Manager / Environment Manager	Weekly/ Annually

5. Environmental incidents management strategy

An environmental incidents management strategy has been developed to ensure that any environmental incident caused by or relating to the operation of the Development is effectively responded to, and any resulting adverse environmental and/or community impact is promptly prevented or effectively managed.

The following procedure is for general environmental incidents that have the potential to cause material harm to the environment. Smaller, minor incidents will be managed in accordance with the Facility's Environmental Emergency Response Plans attached to this document.

5.1. Responsibility

Mint Biomining's Management is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an environmental incident.

All employees and contractors are to:

- Take immediate action to notify Site Management of any environmental incident; and
- Take immediate action (where it is safe to do so) to prevent, stop, contain and/or minimise the environmental impact of the incident.

5.2. Handling procedure

Upon becoming aware of an environmental incident, Mint Biomining's Management is to undertake the following:

5.2.1. Preventative action

Where possible and it is safe to do so, immediate action should be taken to prevent, stop, contain and/or minimise the environmental impact of the incident. This may include:

- Making all efforts to contain all fire water at the Facility;
- Making all efforts to control air pollution from the Facility;
- Making all efforts to contain any discharge, spill or run-off from the Facility;
- Making all efforts to prevent flood water entering the Facility; and
- Making the Facility secure.

In the unlikely event that a pollution incident requires the evacuation of the Site, actions will be completed in accordance with the Pollution Incident Response Management Plan (Attachment 9). All employees and contractors are informed of the location of emergency assembly areas through site inductions, signage and toolbox talks.

5.2.2. Notify

Under the provisions of the POEO Act, there is a duty to notify any incident that has caused or threatens to cause material harm to the environment and all relevant information about the incident. This duty extends to the following:

- A person engaged as an employee or contractor must, immediately after becoming aware of the incident, notify the employer of the incident and all relevant information. If the employer cannot be contacted, the person is required to notify each relevant authority and provide all relevant information; and
- An employer who is notified of an incident or who otherwise becomes aware of an incident must, immediately after becoming aware of the incident, notify each relevant authority and provide all relevant information.

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

- The appropriate regulatory authority (refer to Table 2.3 above);
- If the NSW EPA is the appropriate regulatory authority - the NSW EPA;
- If the EPA is not the appropriate regulatory authority - the local authority for the area in which the pollution incident occurs (i.e., Council);

- NSW Health;
- SafeWork NSW; and
- Fire and Rescue NSW.

Relevant contact details for the regulatory authorities that have an interest in the facility are listed in Table 2.3.

Mint Biomining will provide written details of the notification to Cumberland Council, EPA and any other relevant agencies within 7 days of the date on which the incident occurred.

In the event of a serious incident or emergency, it is more than likely that the Fire and Rescue NSW and/or the EPA will take control and manage the required investigation and remedial activities. Any instructions issued must be strictly adhered to.

5.2.3. Assistance

Where assistance is required handling the situation, the Operations Manager should be contacted.

Where the incident is reported via a government agency (i.e. Council or the EPA), the Operations Manager must be notified immediately (even if outside of normal business hours).

If adequate resources are not available and the incident threatens public health, property or the environment, it is essential that Fire and Rescue Service NSW and/or the EPA be contacted. Relevant contact details are listed in Table 2.2.

5.2.4. Investigate

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

5.2.5. Remedial action

Undertake appropriate remedial action to address the cause of the incident and mitigate any further environmental impact. In some instances, outside resources such as specialist contractors/consultants may be required.

Remedial action may include:

- Remediate and rehabilitating any exposed areas of soil and/or waste; and
- Monitoring surface water leaving the premises.

5.2.6. Record

An assessment of the incident will be conducted and documented to minimise the potential for similar events in the future. Every environmental incident will be recorded in Mint Biomining's electronic record system. If the system is unavailable, then the incident will be recorded on Mint Biomining's Non-Conformance Report. A copy of all completed forms should be maintained for at least four years.

5.2.7. Review

In the instance an incident report is submitted, the Environmental Incident Management Strategy will be reviewed in accordance with Table 9.1 below.

5.3. Preventative action

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

5.4. Environmental management plans

The following documents include identification of situations that have the potential to impact the environment and measures to prevent, respond to and mitigate such impacts:

- Procedure for chemical storage and spill prevention;
- Procedure for fire prevention;
- Procedure for minimising air pollution;
- Waste Management Plan (incl. non-conforming waste procedure);
- Procedure for stormwater pollution prevention;
- Procedure for noise prevention;
- Procedure for managing traffic;
- Pollution Incident Response Management Plan; and
- Trade waste agreement.

Collectively, these documents are known as the Facility's Environmental Management Plans and are attachments to this OEMP.

Table 5.1 provides an overview of each Environmental Management Plans.

Table 5.1. Environmental management plans.

Environmental Management Plan	Purpose of the Plan
Procedure for chemical storage and spill prevention	<ul style="list-style-type: none"> • To ensure chemicals are appropriately stored and handled correctly • To ensure that all spill risks are minimised on the site
Procedure for fire prevention	<ul style="list-style-type: none"> • To ensure that fire safety requirements are met and to identify fire hazards to human health and the environment; and • To ensure that all fire risks are minimised on the site.
Procedure for minimising air pollution	<ul style="list-style-type: none"> • To ensure that no dust leaves the site • To ensure that no litter escapes the facility • To ensure that odours (including chemical volatiles) are detected outside of the facility
Waste Management Plan (incl. non-conforming waste procedure)	<ul style="list-style-type: none"> • Ensure waste minimisation through source separation, reuse and recycling • Ensure efficient storage, access, collection of waste and quality design of facilities • Implement the principles of the waste hierarchy of avoiding, reusing and recycling during the demolition, construction and ongoing use of the premises through efficient resource recovery • Promote the principles of ecologically sustainable development through waste avoidance, resource recovery and recycling to achieve improved environmental outcomes
Procedure for stormwater pollution prevention	<ul style="list-style-type: none"> • To ensure that the stormwater system functions effectively • To ensure that the quality of receiving watercourses and rivers is not impacted by stormwater from the site
Procedure for noise prevention	<ul style="list-style-type: none"> • To ensure that noise pollution is minimised on the site and the facility fully complies with the EPA's Noise Policy for Industry
Procedure for managing traffic	<ul style="list-style-type: none"> • To ensure the safe movement of vehicular and pedestrian traffic, the protection of workers from passing traffic and to minimise conflict between vehicles accessing parts of the Facility
Pollution Incident Response Management Plan	<ul style="list-style-type: none"> • Provides procedures are in place to minimise the risk of a pollution incident on a premises.

6. Implementing the OEMP

The primary objective of the implementation and operation stage is to ensure that the support processes are in place to manage environmental risk.

6.1. Roles and responsibilities

Personnel have allocated responsibilities under this OEMP. These responsibilities relate predominantly to overall accountability, setting and maintaining strategic direction, allocation of resources, provision of business support services and management review. These are summarised below:

6.1.1. General Manager

Under this OEMP, the General Manager is accountable for:

- Corporate environmental commitment for the facility;
- Endorsing the Environmental Policy; and
- Ensuring the availability of resources to implement the OEMP.

6.1.2. Operations Manager

Under this OEMP, the Operations Manager is accountable for:

- Implementation of the Environmental Policy;
- Establishment, maintenance and implementation of the OEMP and its procedures;
- Establishment, maintenance, and implementation of the PIRMP;
- Reporting environmental performance against the OEMP to the General Manager; and
- Management of allocated resources to implement and maintain the OEMP.

6.1.3. Employees

Under this OEMP, the Employees are accountable for:

- Implementation of the Environmental Policy (as applicable);
- Implementation of the OEMP and its procedures (as applicable); and
- Implementation of the PIRMP (as applicable).

6.2. Training and Awareness

The management of training and awareness generally incorporates the following elements.

6.2.1. General Induction Training

The general induction is general training that incorporates the WHS requirements for the relevant position. Contractor personnel are required to undertake this WHS training. The induction training is to be delivered by the Operations Manager. This training will be specific to the individual role of the staff member and will require a detailed review and acceptance of these documented procedures.

The specific induction is to include but not be limited to:

- Safety and operating procedures and the correct identification of environmental hazards;
- Operation of plant and equipment;
- Identification of wastes;
- Accurate data recording;

- Emergency Response Plan as outlined in this OEMP; and
- Pollution incident response management plan.

6.2.2. General environmental awareness

All employees and contractor personnel shall receive Environmental Awareness training. The General Environmental Awareness Training program shall include the following:

- The Environmental Policy;
- Sensitive environments and neighbours around their work area;
- Significant Environmental Activities;
- Site Legal and other requirements; and
- OEMP non-conformance reporting requirements.

6.2.3. Induction

All employees shall undergo induction training which comprises:

- Overview of the OEMP;
- Objectives and targets;
- Environmental Management Plans and their responsibilities under their OEMP; and
- Reporting the status of their actions under the OEMP.

6.2.4. Ongoing training

The ongoing competency and training requirements will be reviewed on an annual or as-needs basis depending on staffing at the site and triggers for ongoing training such as:

- Changes in procedures;
- Changes in regulations;
- Equipment upgrades or changes in equipment;
- Errors or deficiencies in job performance; and
- Errors in data reporting.

7. Communicating the OEMP

7.1. Internal Communications

The minimum internal communications required to administer, maintain and update the OEMP is outlined in Table 7.1.

Table 7.1 Minimum internal communications.

Position	Internal communications with:
General Manager	<ul style="list-style-type: none"> Operations Manager <ul style="list-style-type: none"> Promote Environmental Policy Performance against the OEMP Objectives and Targets OEMP and compliance audit results
Operations Manager	<ul style="list-style-type: none"> General Manager: <ul style="list-style-type: none"> Consult and obtain approval for Objectives and Targets Immediate notification of pollution incidents of material harm to the environment Annual reporting on: <ul style="list-style-type: none"> Performance against the OEMP Objectives and Targets OEMP and compliance audit results Quarterly reporting on: <ul style="list-style-type: none"> Performance against the OEMP Objectives and Targets Pollution incidents and status of incident closure Progress implementing the OEMP Status of corrective actions closure Operational Staff <ul style="list-style-type: none"> Leading the OEMP Management Review Liaison and annual update of OEMP and EMPs
Operator/contractors	<ul style="list-style-type: none"> Operations Manager <ul style="list-style-type: none"> Immediate notification of pollution incidents of material harm to the environment Notification of non-material of pollution incidents within 24 hours of occurrence Monthly reporting on: <ul style="list-style-type: none"> Pollution incidents and status of incident closure Progress implementing the OEMP Corrective actions arising from site inspections and other surveillance

7.2. External Communications

All external communications must be undertaken in accordance with corporate protocols on communications with stakeholders and the media.

The minimum external communications required to administer, maintain and update the OEMP and personnel responsible for the communication is outlined in Table 7.2.

Table 7.2. Minimum external communications.

Message type/frequency	Responsibility allocated to:	Method of communication:
Media response, media releases and/or material pollution incidents (As required)	General Manager	Telephone, email, letter. Media release website
Licence Monitoring Data (as required)	Operations Manager	Website
Notification to regulators and emergency response of material pollution incident (as required)	General Manager / Operations Manager	As per PIRMP
Notification to stakeholders of non-material pollution incident (as required)	General Manager / Operations Manager	Telephone, email, letter, website
Response to community complaints and/or non- material pollution incidents	General Manager / Operations Manager	Telephone, email, letter.

7.3. Community complaints

A community complaint handling process has been developed to ensure all environmental complaints regarding the operation of the Facility are promptly and effectively received, handled, and addressed.

Mint Biomining is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of a complaint. All employees and contractors who receive a complaint, either verbal or written, are to immediately notify Site Management.

Community complaints relating to the Facility can be received via:

- Mint Biomining company or site office;
- Mint Biomining Complaints and Feedback number;
- Mint Biomining Internet enquiry; and/or
- Through a government agency (i.e., Council or EPA).

7.3.1. Handling Procedure

Upon becoming aware of a complaint, Mint Biomining Site Management is to undertake the following:

Receive

In the normal course of events, the first contact for complaints will usually be made in person or by telephone.

While this should instigate investigative action, a formal written complaint should be requested. Where the initial contact reaches an employee or contractor who is not a representative of Site Management, the call should be directed to Site Management. If unavailable, the complainant's details should be taken with a view to returning the contact once Site Management is in a position to discuss the matter.

The complainant's name, address and contact details, along with the nature of the complaint, must be requested. If the complainant refuses to supply the requested information, a note should be made on the form and complainant advised of same. The date and time of the complaint will also be recorded along with the method the complaint was made.

Assistance

Where assistance is required handling the situation, Mint Biomining Management should be contacted. Where the complaint is reported via a government agency (i.e. Council or the EPA), Mint Biomining's General Manager must be notified immediately (even if outside of normal business hours).

Investigate

A field investigation should be initiated in an attempt to establish the legitimacy of the complaint and the cause of the problem. Mint Biomining's Management should be consulted to identify any abnormality or incident that may have resulted in the complaint. Details may include heavy vehicle activity, equipment, and machinery activities, etc.

If the complaint is due to an environmental incident, the management strategy outlined in Section 5 should be followed, and if the incident has caused or threatens to cause material harm to the environment each of the relevant regulatory agencies must be immediately notified.

Action

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

Inform

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

Record

Every complaint received is to be recorded within the complaints register located in Mint Biomining's electronic record system. If the system is unavailable, then the complaint is to be recorded on Mint Biomining's Incident Non-Conformance Report Form. The complaints register will be updated on a monthly basis and made publicly available on the Mint Biomining's website.

The complaints register will record the action taken by Mint Biomining in relation to the complaint or if no action taken the reason why no action was taken. Complaint records will be kept for at least 4 years after the complaint was made.

Preventative Action

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

Dispute Resolution

In the event that a dispute arises between Mint Biomining and Council or a public authority, in relation to an applicable requirement of the Development Consent or relevant matter relating to the site, either party may refer the matter to the DPIE (Secretary of) for resolution. The Secretary's determination of any such dispute must be final and binding on the parties.

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

8. Document Control

The following documents are controlled documents controlled by Operations Manager:

- The OEMP;
- Environmental Management Plans;
- Forms, templates and proformas;
- Registers;
- Progress reports;
- Monitoring data;
- Annual progress report to management; and
- Statutory monitoring and reporting.

8.1. Document Control Procedure

The current versions of all OEMP Documents are available as 'read-only' documents. An up-to-date copy (with version control) of each document will be held on a secure server with relevant linkages to systems and management.

Only the current, electronic versions of OEMP Documents accessed through the above link are controlled. If using hard copies of OEMP Documents, it is the users' responsibility to ensure that they are using the latest version. All hard copies are uncontrolled.

The Operations Manager is responsible for the storage, review and update of all controlled OEMP documents.

The Operations Manager will maintain a Register of Current Version of OEMP documents. The Register will record Document Title, Current Version Number and Date current version was made effective.

The Operations Manager will ensure that each controlled document is appropriately tagged with Document Title, Current Version Number and Date current version was made effective. In addition, a summary of each revision will be documented in the revision history table on each controlled document.

9. Checking the OEMP

The primary objective of the checking and corrective action stage is to monitor the implementation and effectiveness of the environmental actions identified by the OEMP planning and implementation documentation and identify corrective actions where necessary.

9.1. Evaluation of Compliance

Non-conformances relating to the Facility activities and the OEMP include the following:

- An incident or near miss with actual, or the potential for, environmental impact;
- An incident or near miss with actual, or the potential for, environmental compliance impact with legal requirements;
- A non-conformance with the OEMP requirements described in the EMPs or other environmental directives;
- Non-conformances generated from monitoring and auditing the OEMP and EMPs;
- Significant failure to implement mitigation measures; and
- Complaints not resolved within 24 hours.

The Operations Manager, personnel and associated contractors shall be trained in what constitutes a non-conformance and how non-conformance are to be managed.

Non-conformances are to be reported to the Operations Manager who is responsible for the following:

The Operations Manager must:

- Notify the General Manager of the non-conformance in accordance with the timeframe stipulated on the form;
- Implement the corrective actions determined as part of the process; and
- Report to the General Manager on progress and when the corrective actions have been closed out.

Where corrective actions are beyond the control of the Operations Manager, these corrective actions are to be drawn to the attention of the General Manager for support.

The General Manager must:

- Enter the non-conformance on the non-conformance register for tracking;
- Provide support to the supervisor when corrective actions are beyond the control of the supervisor;
- Monitor progress and close out corrective actions on the register; and
- Undertake targeted inspections to verify close out corrective actions.

9.2. Review of Environmental Impacts and Management Plans

The Operations Manager / General Manager shall determine whether the activity generating the non-compliance warrants a re-evaluation of the risk it presents to the environment and associated management plans.

9.3. Auditing the OEMP and Associated Plans

Table 9.1 provides a schedule for auditing the OEMP and associated documents.

Table 9.1. Audit Schedule.

Audit Document	January	February	March	April	May	June	July	August	September	October	November	December
Internal Audit						✓						
External Audit						✓						
Performance of EMS and Plans (Internal)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Compliance with EPL (External)			✓									
Achieving objectives and targets									✓			
Pollution Incident Response Management Plan ¹			✓									

¹ A review of the PIRMP is required to be completed within 30 days of a pollution incident.

10. Adjusting the OEMP

The process is established to facilitate improvement of the OEMP through periodic formal review and discussion of OEMP performance to determine whether the OEMP remains suitable, adequate and effective for the Facility. Consequently, this OEMP is a working document that is designed to ensure any changes that could affect an environmental incident are captured.

10.1. Management Review and Updating the OEMP

Three levels of monitoring are required to implement the obligations under this OEMP. The objectives of these levels of environmental monitoring are to assess whether operations are:

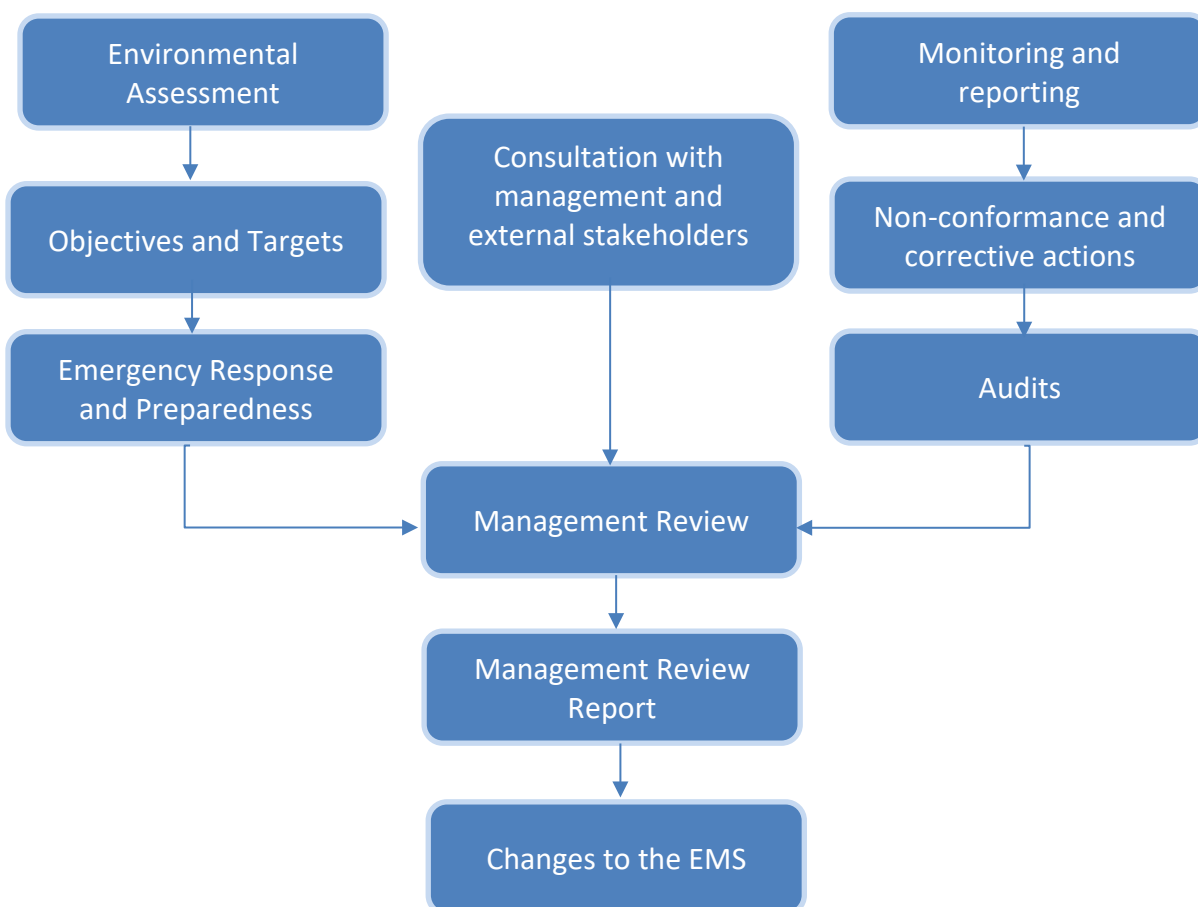
- Meeting environmental regulatory and other obligations;
- Managing significant environmental risks; and
- Meeting Corporate Objectives and Targets.

Monitoring is undertaken via:

- Monitoring required by licences and other statutory instruments;
- Internal and external compliance and system audits; and
- Senior management review.

Management Review process is established to facilitate improvement of the OEMP through periodic formal review and discussion of OEMP performance to determine whether the OEMP is suitable, adequate and effective for the Facility. The Management Review is facilitated by the General Manager, ensuring the recommendations of the Management Review are implemented. This OEMP is to be reviewed annually as a minimum.

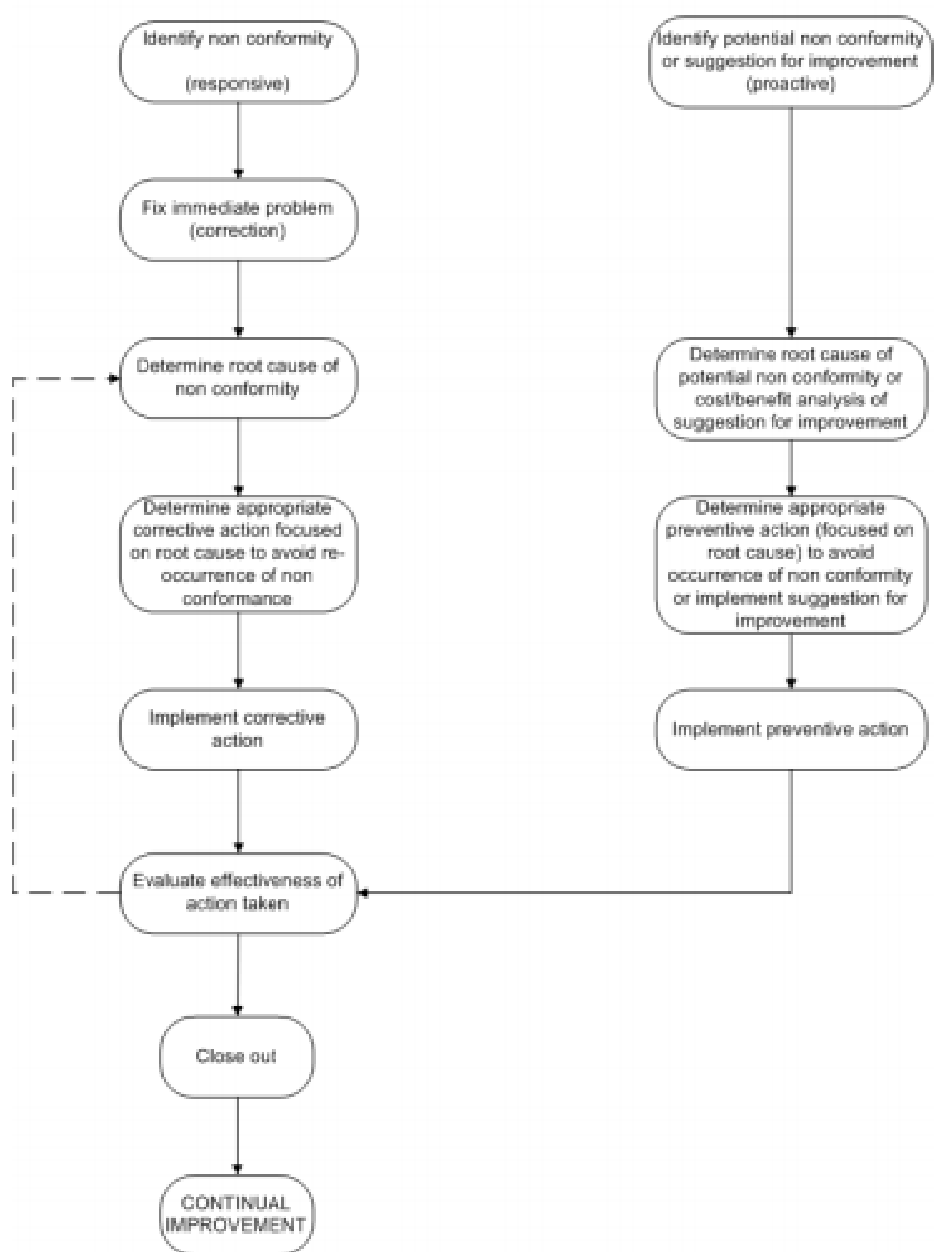
Figure 10.1. Environmental Monitoring, Audit and Review Procedure.



11. Continuous Improvement

The system audits will be conducted in accordance with a schedule nominated in this OEMP. This will include a schedule of independent audits by accredited external auditors. Environmental audits will also assess the Facility against any Conditions of Approval imposed by statutory authorities. The register that is completed during compliance audits become a record of the evaluation of compliance. All detected non-compliances will be followed up with corrective actions as per the flow chart below Figure 11.1).

Figure 11.1. Continuous Improvement Process.



Attachment 1: Procedure for chemical storage and spill prevention



PROCEDURE FOR CHEMICAL STORAGE AND SPILL PREVENTION

Mint Biomining Pty Ltd
E-Waste Recycling Facility
55 Long Street, Smithfield

1. PURPOSE OF THIS PROCEDURE

To ensure chemicals are appropriately stored and handled correctly

To ensure that all spill risks are minimised on the site.

2. RESPONSIBLE PERSON

Operations Manager

3. ASSOCIATED INTERNAL DOCUMENTS

Operational Environmental Management Plan



Pollution Incident Response Management Plan

4. EXTERNAL REFERENCE DOCUMENTS

NSW *Protection of the Environment Operations Act 1997*

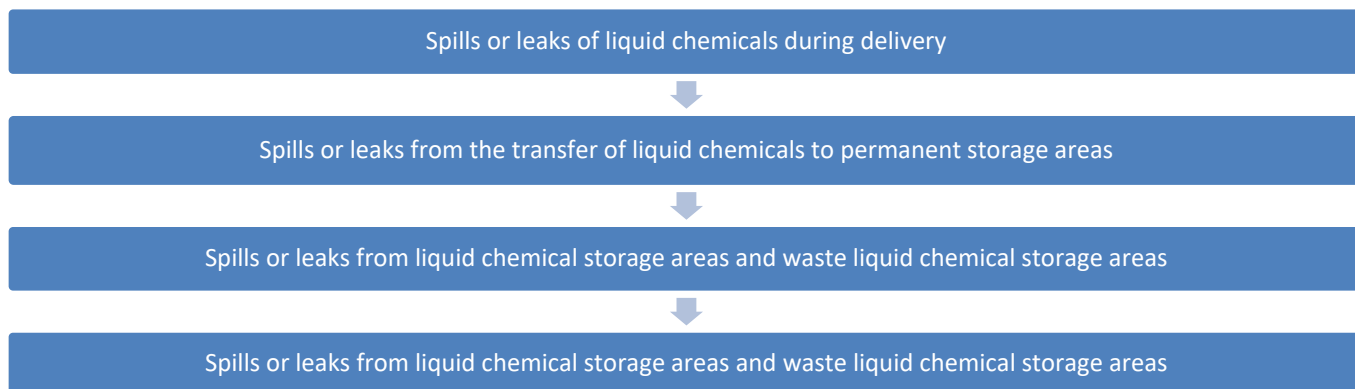


Department of Environment and Conservation (2005) *Environmental Compliance Report Liquid Chemical Storage, Handling and Spill Management Part B Review of Best Practice and Regulation*

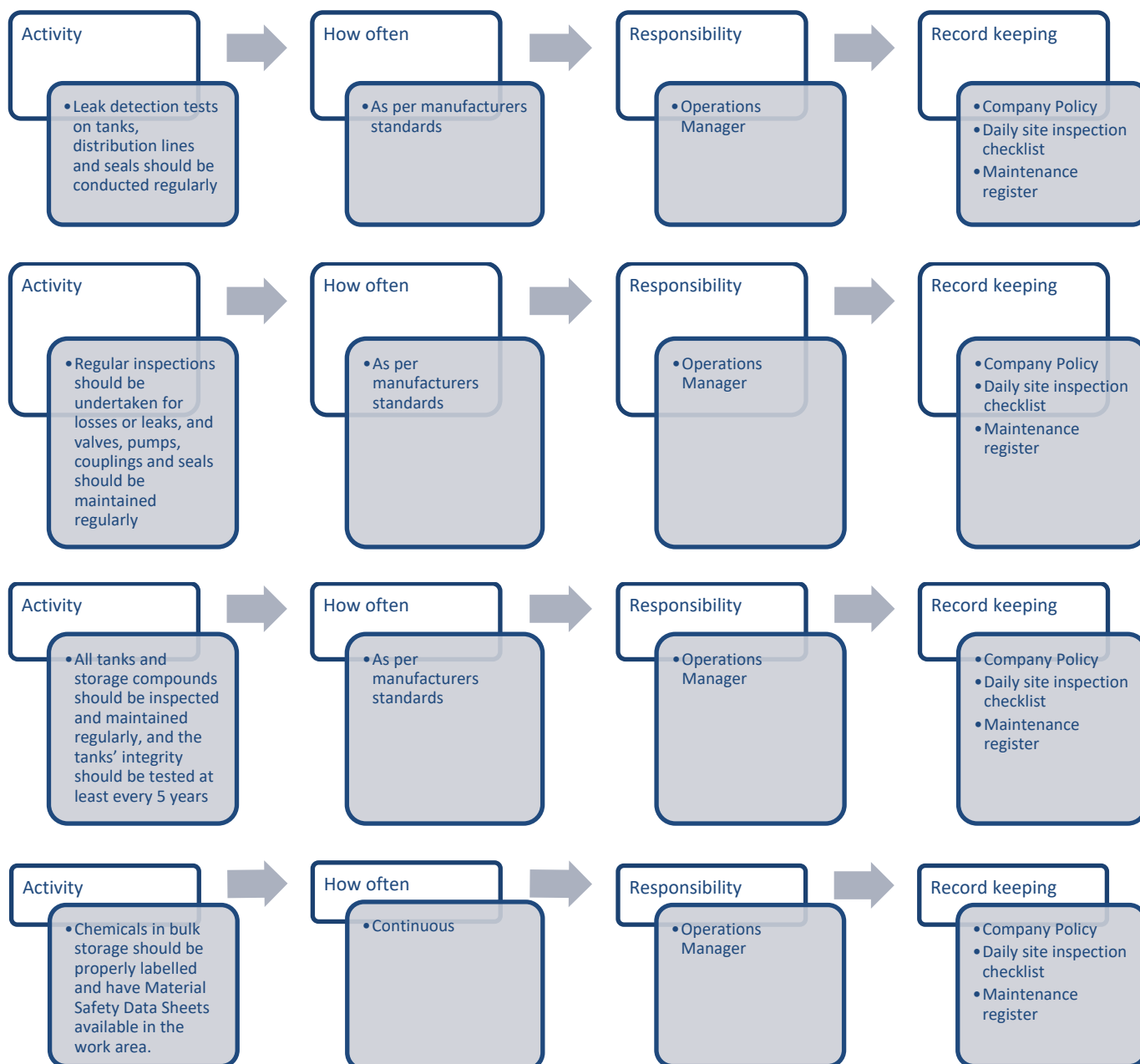


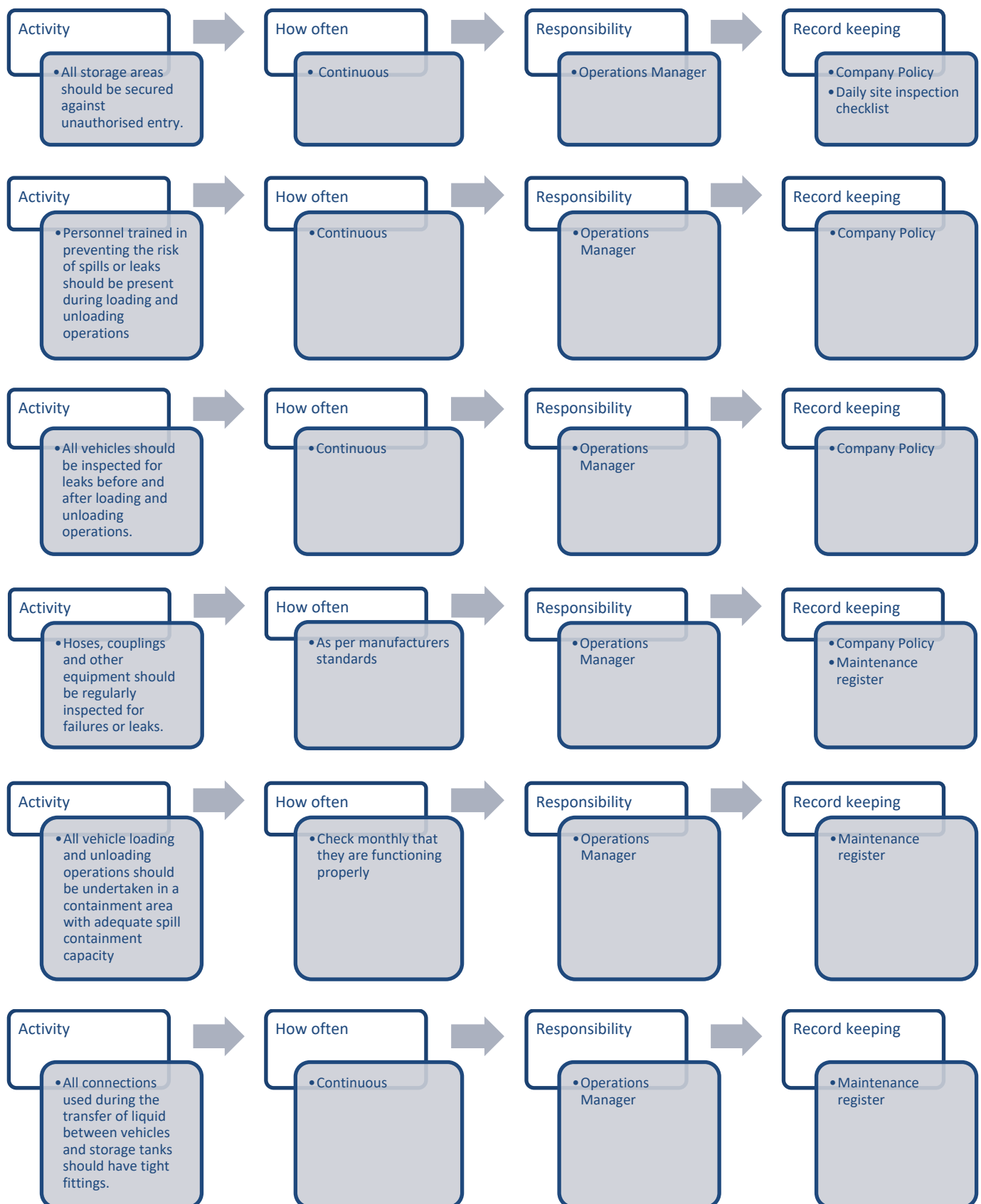
Fire & Rescue NSW (2020) *Fire safety guideline: Fire safety in waste facilities*

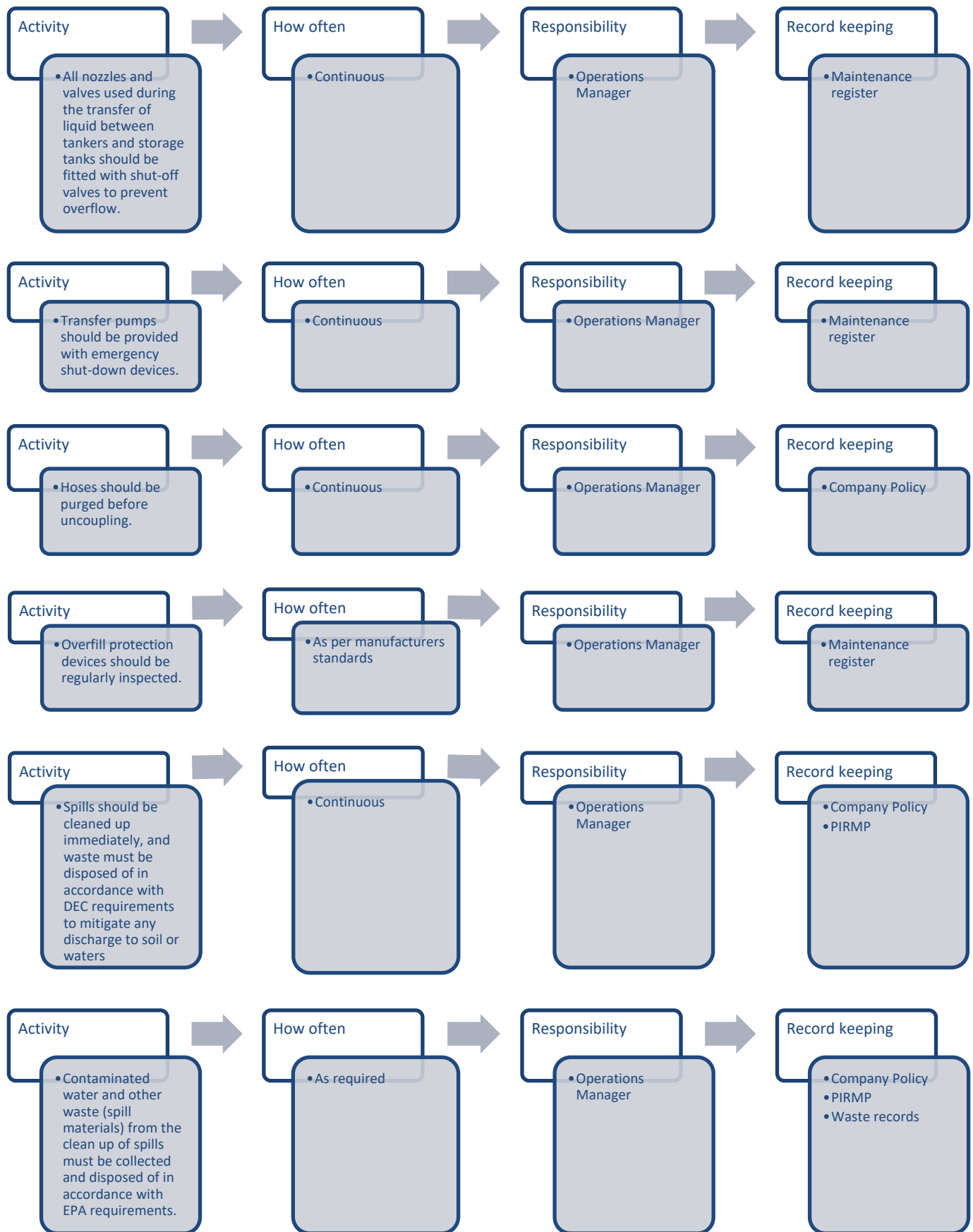
5. MAIN CHEMICAL STORAGE AND SPILL RISKS AT THE SITE

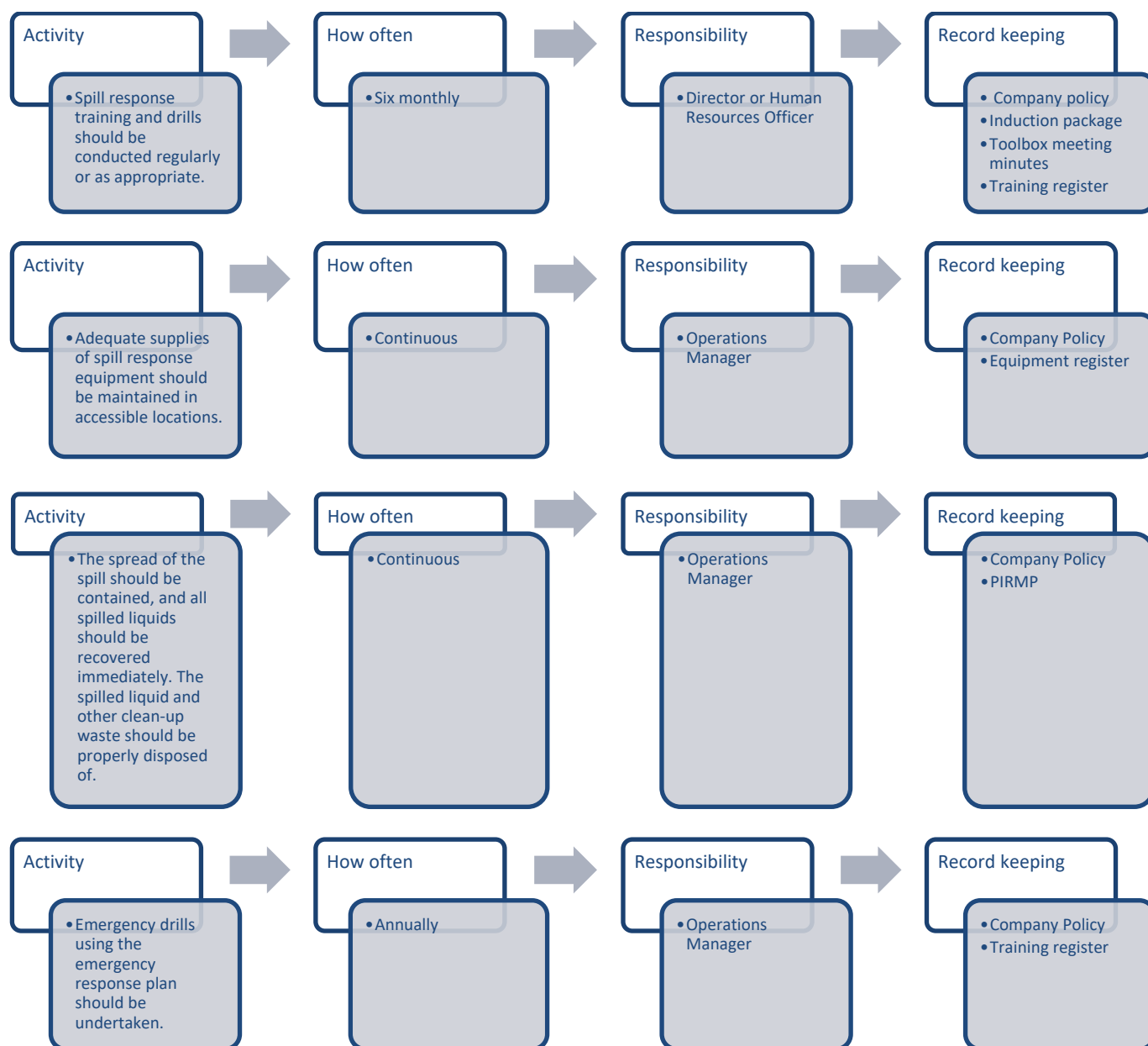


6. PREVENTATIVE MEASURES TO BE UNDERTAKEN









7. LOCATION OF SPILL RESPONSE EQUIPMENT

Equipment	Location
Spill kits	Throughout warehouse
Safety Data Sheets (SDS)	Office
Personal Protective Equipment	Worn by staff, spares in office
Traffic bollards and traffic cones	Office

8. STEPS TO TAKE IF A SPILL OCCURS

Activate the Pollution Incident Response Management Plan

Attachment 2: Procedure for fire prevention



PROCEDURE FOR FIRE PREVENTION

Mint Biomining Pty Ltd
E-Waste Recycling Facility
55 Long Street, Smithfield

1. PURPOSE OF THIS PROCEDURE

To ensure that fire safety requirements are met and to identify fire hazards to human health and the environment

To ensure that all fire risks are minimised on the site.

2. RESPONSIBLE PERSON

Operations Manager

3. ASSOCIATED INTERNAL DOCUMENTS

Operational Environmental Management Plan



Pollution Incident Response Management Plan

4. EXTERNAL REFERENCE DOCUMENTS

NSW *Protection of the Environment Operations Act 1997*



Fire & Rescue NSW (2020) *Fire safety guideline: Fire safety in waste facilities*

5. MAIN FIRE RISKS AT THE SITE

Battery fire in incoming waste

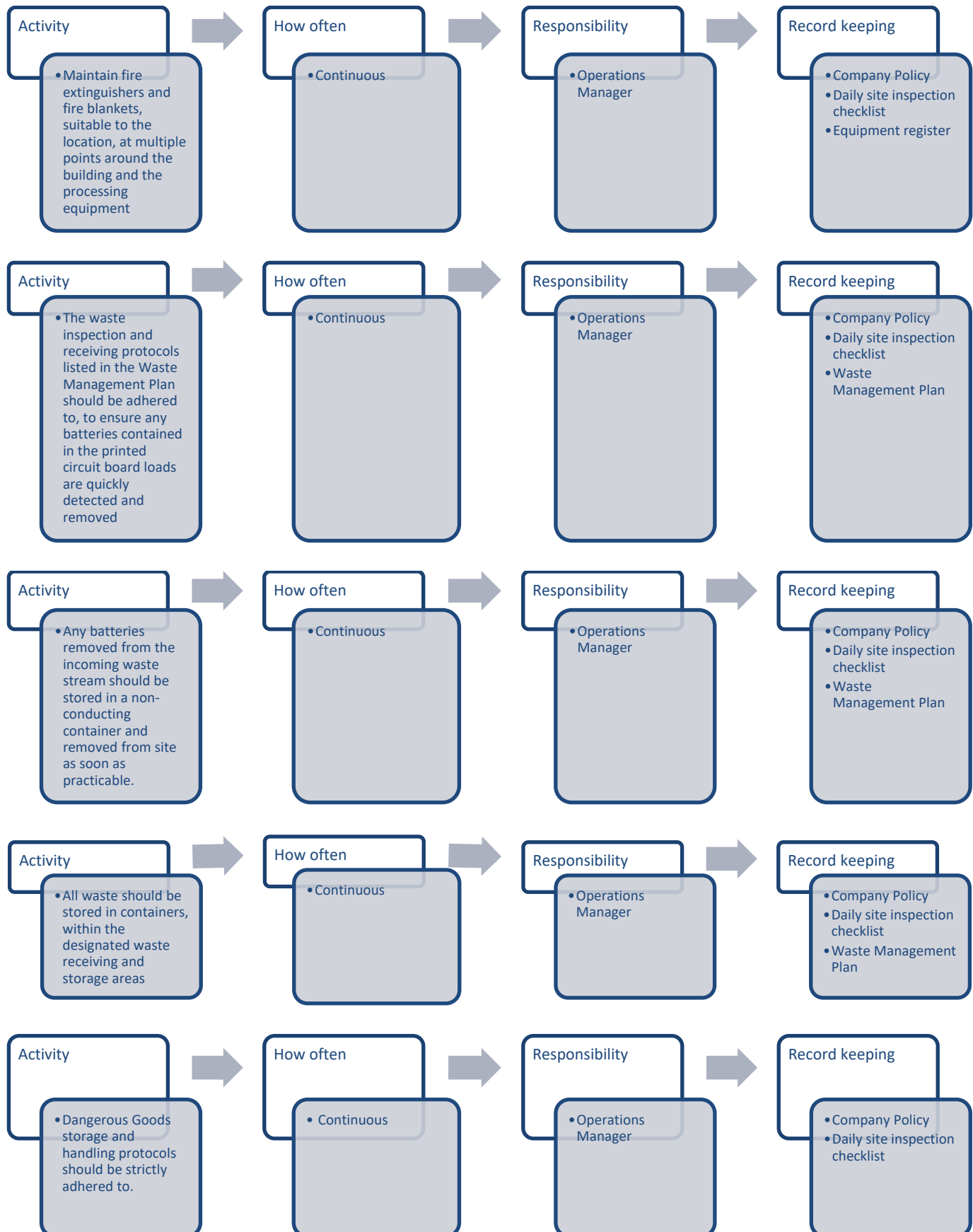


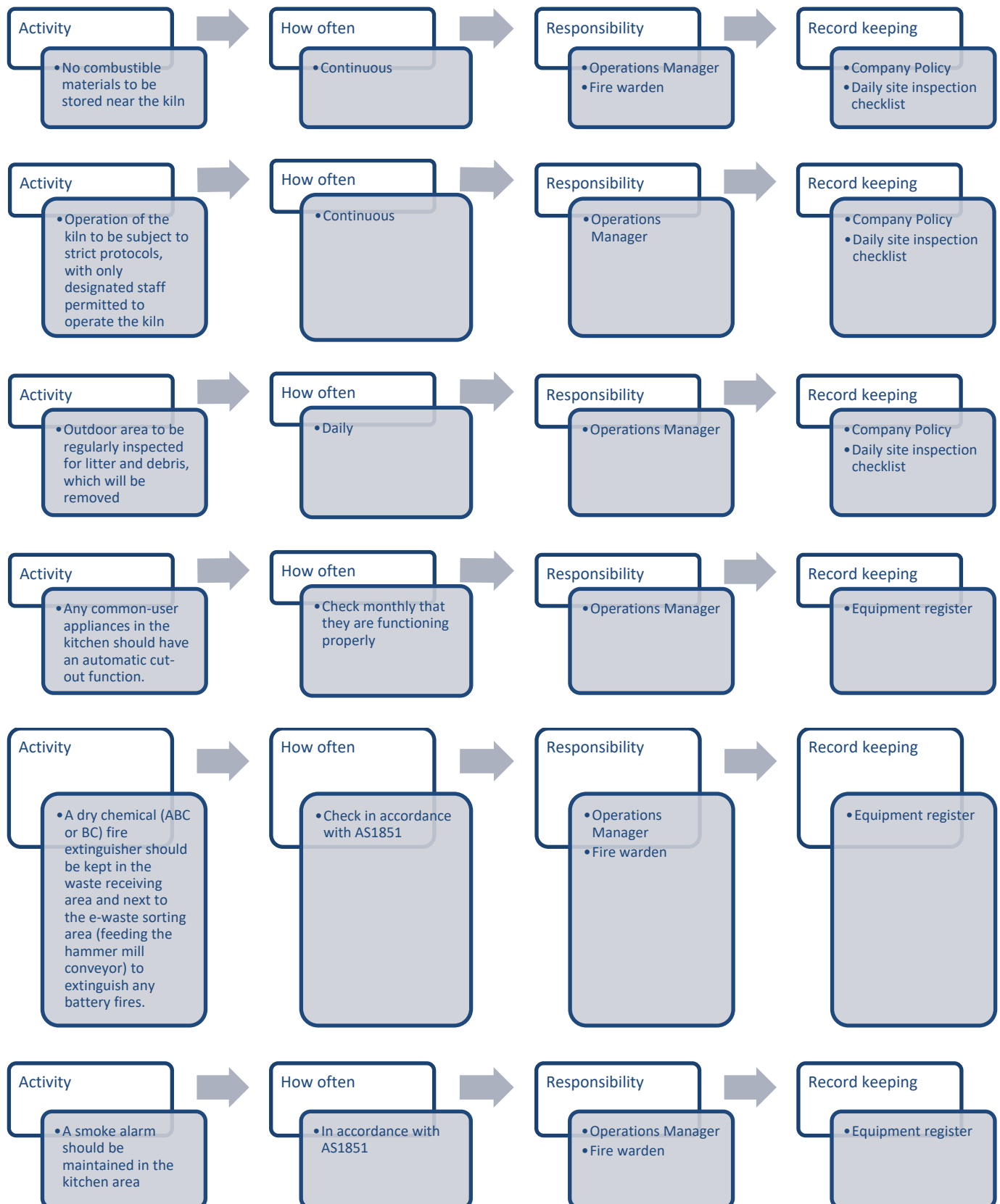
Fire in general waste bin or recycling bin; chemical storage area; office/kitchen area; near kiln

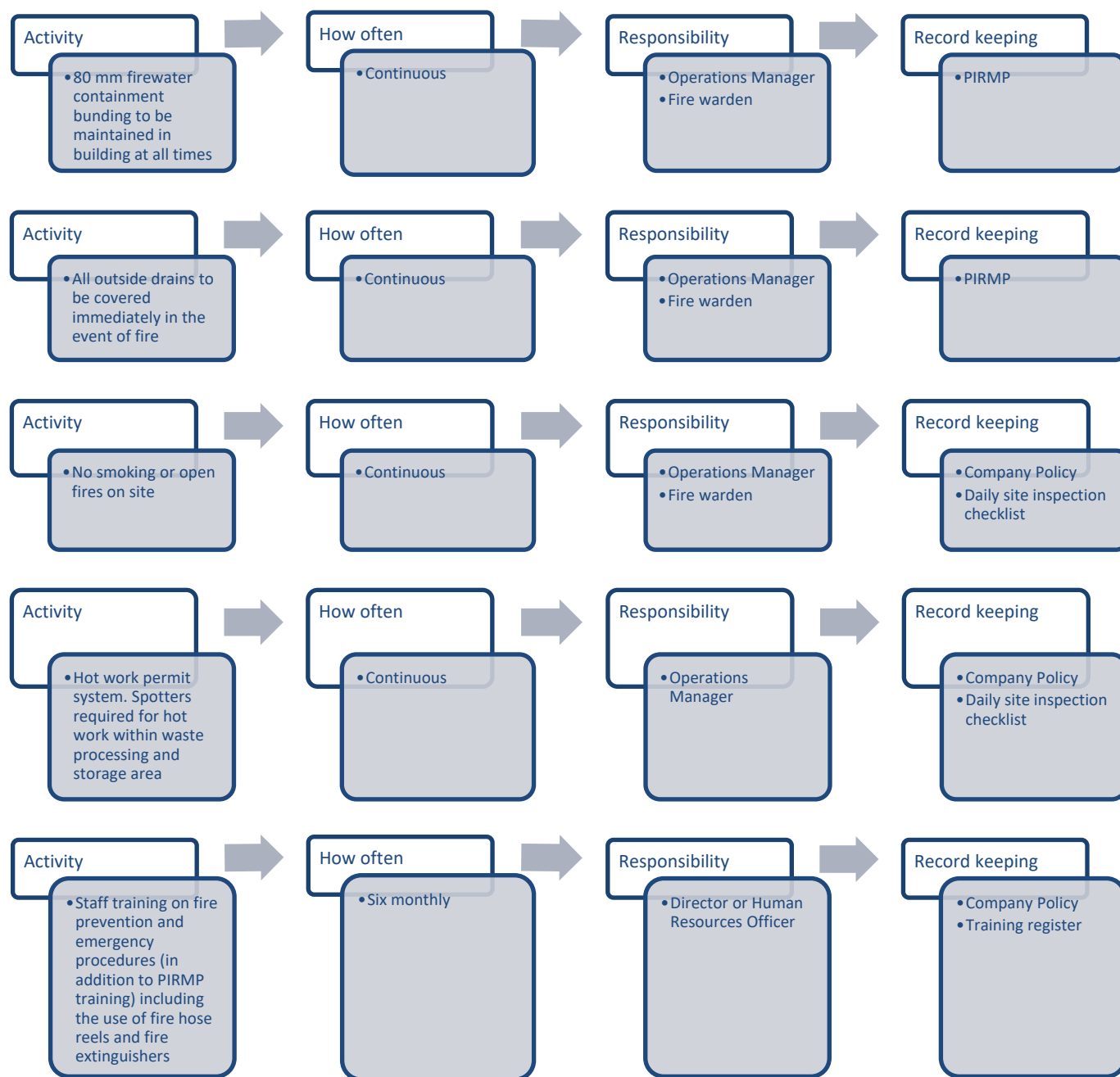


Electrical fire in process area

6. PREVENTATIVE MEASURES TO BE UNDERTAKEN







7. LOCATION OF FIRE FIGHTING EQUIPMENT

Equipment	Location
Spill kits	Throughout warehouse
Safety Data Sheets (SDS)	Office
First Aid Kit	Office
Fire hydrants	Throughout warehouse
Fire extinguishers	Throughout warehouse
Fire hose reels	Throughout warehouse
Personal Protective Equipment	Worn by staff, spares in office
Traffic bollards and traffic cones	Office

8. STEPS TO TAKE IF A FIRE OCCURS

Activate the Pollution Incident Response Management Plan

Attachment 3: Procedure for minimising air pollution



PROCEDURE FOR MINIMISING AIR POLLUTION

Mint Biominining Pty Ltd
E-Waste Recycling Facility
55 Long Street, Smithfield

1. PURPOSE OF THIS PROCEDURE

To ensure that no dust leaves the site



To ensure that no litter escapes the facility



To ensure that odours (including chemical volatiles) are detected outside of the facility

2. RESPONSIBLE PERSON

Operations Manager

3. ASSOCIATED INTERNAL DOCUMENTS

Operational Environmental Management Plan

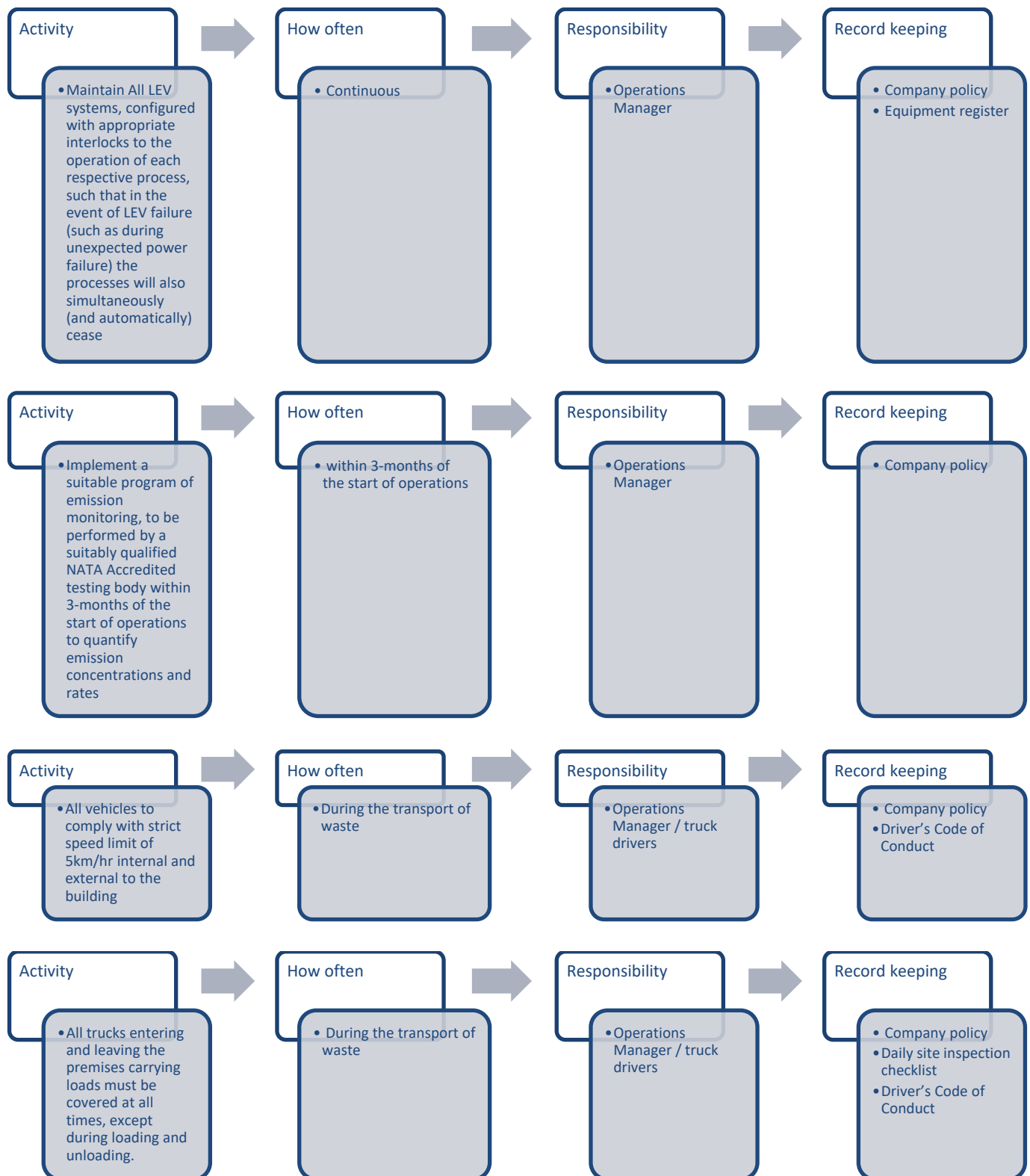


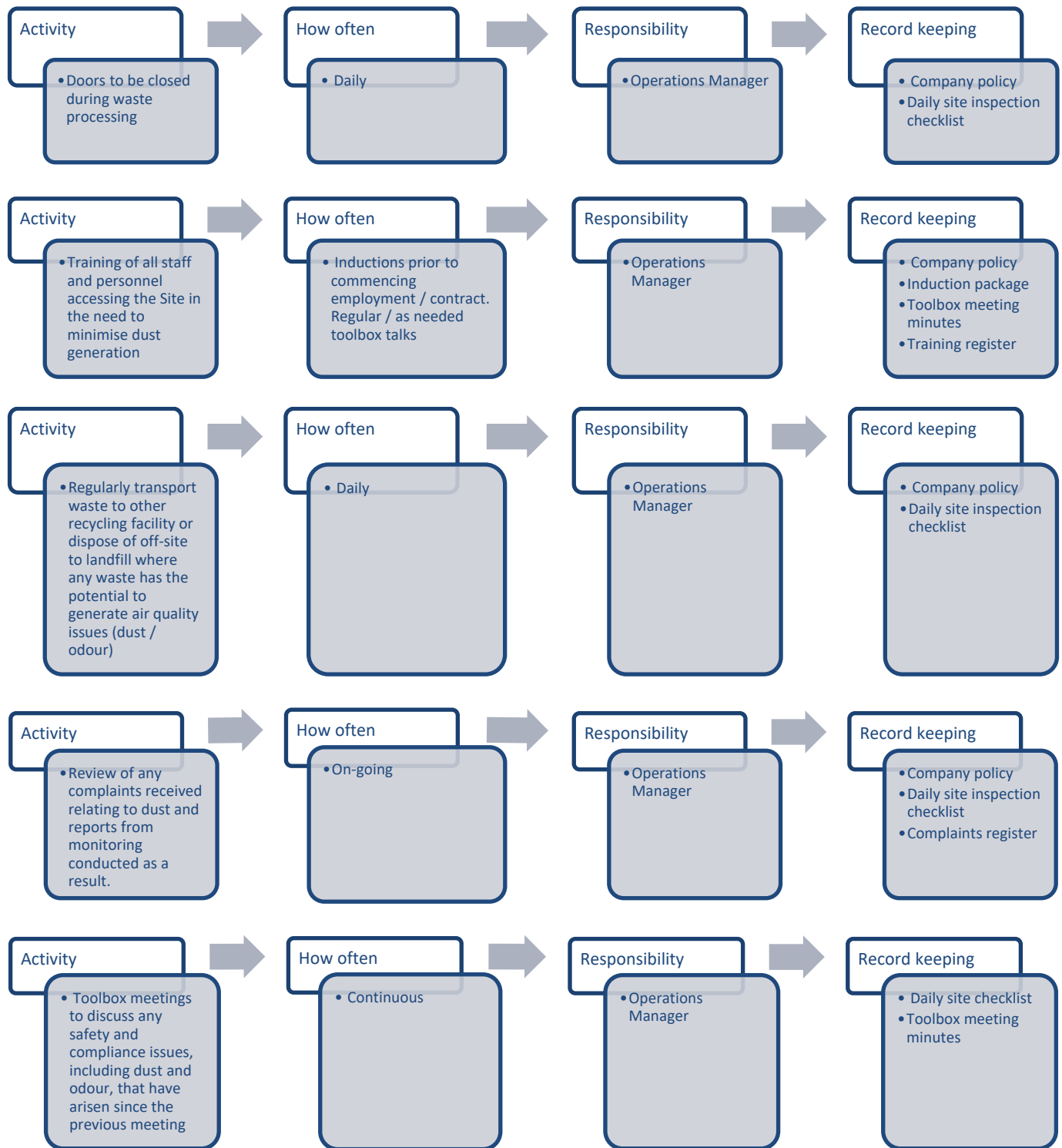
Pollution Incident Response Management Plan

4. EXTERNAL REFERENCE DOCUMENTS

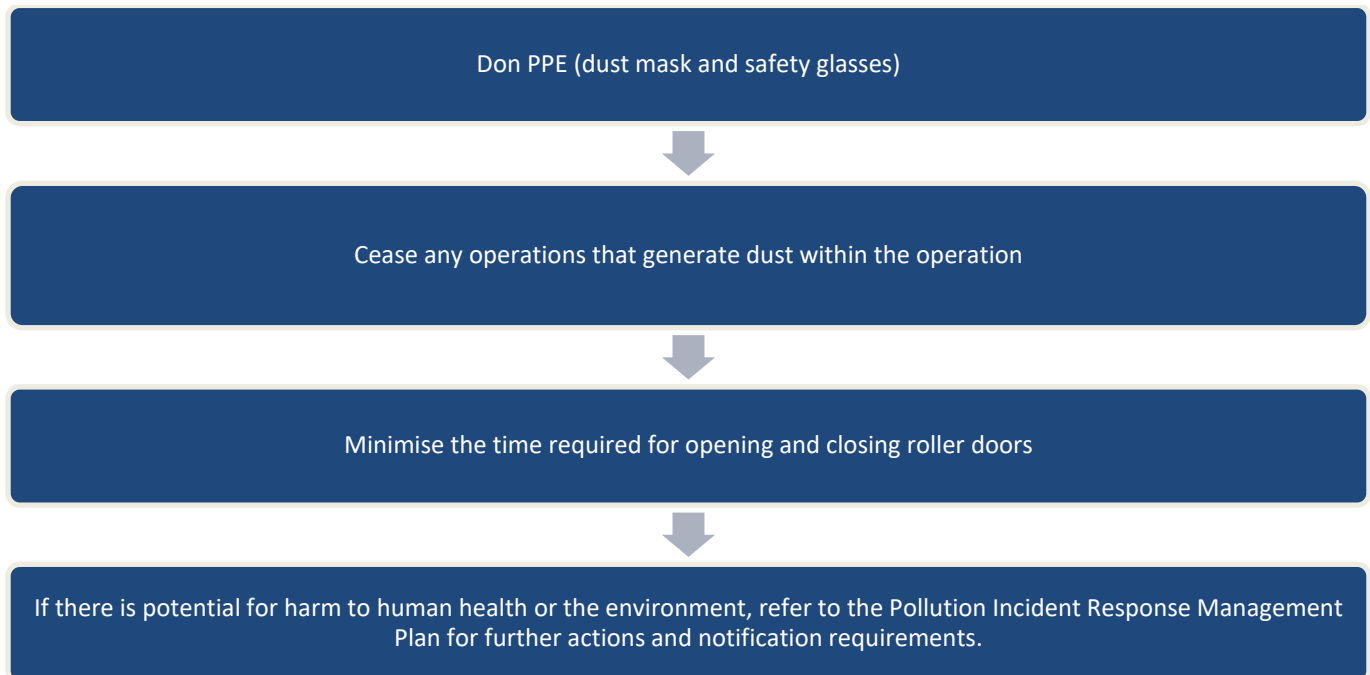
NSW Protection of the Environment Operations Act 1997

5. PREVENTATIVE MEASURES TO BE UNDERTAKEN

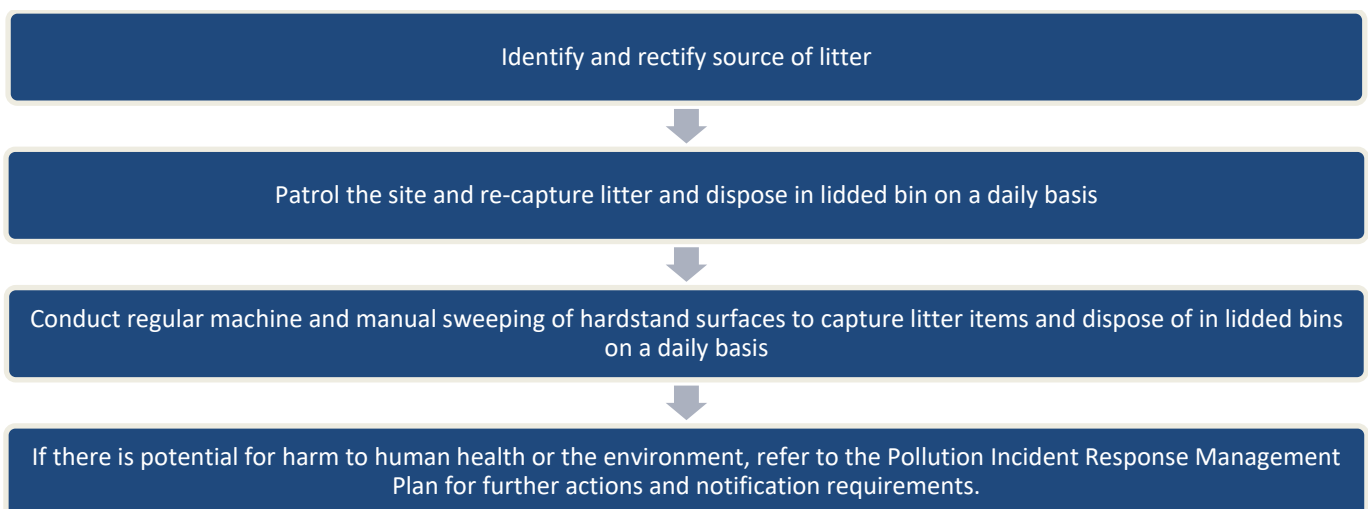




6. STEPS TO TAKE IF DUST IS GENERATED OR IN WINDY WEATHER CONDITIONS



7. STEPS TO TAKE IF LITTER IS GENERATED



Attachment 4: Waste Management Plan



PROCEDURE FOR WASTE MANAGEMENT

Mint Biominining Pty Ltd
E-Waste Recycling Facility
55 Long Street, Smithfield

1. PURPOSE OF THIS PROCEDURE

To ensure all solid and liquid waste are appropriately stored and handled correctly to prevent pollution

To ensure that all solid and liquid wastes are appropriately classified and managed for lawful off-site recycling or disposal

2. RESPONSIBLE PERSON

Operations Manager

3. ASSOCIATED INTERNAL DOCUMENTS

Operational Environmental Management Plan



Pollution Incident Response Management Plan



Waste Management Plan



Sydney Water Trade Waste Agreement (application made and under assessment)

4. EXTERNAL REFERENCE DOCUMENTS

NSW Protection of the Environment Operations Act 1997



Protection of the Environment Operations (Waste) Regulation 2014



Waste Avoidance and Resource Recovery Act 2001



NSW EPA (2014). Waste Classification Guidelines



Draft Cumberland Council Development Control Plan (Parts G8, C2 & C3)



Fire & Rescue NSW (2020) Fire Safety Guideline: Fire Safety in Waste Facilities

5. MAIN RISKS ASSOCIATED WITH MANAGEMENT OF SOLID AND LIQUID WASTES

Improper storage of solid wastes, leading to impacts on stormwater and litter



Wastes not being stored in appropriate locations, creating potential safety hazards and risk of fire

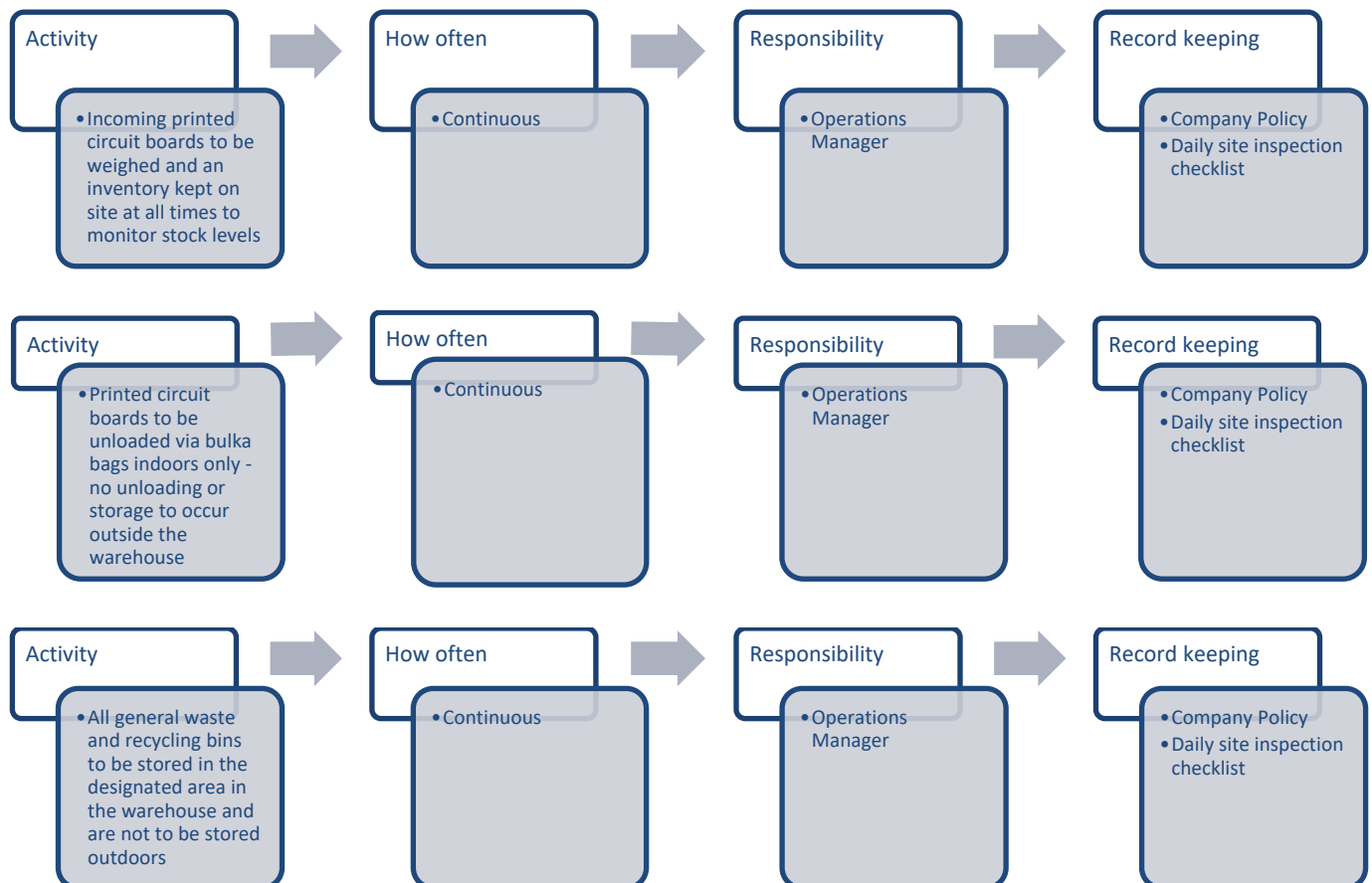


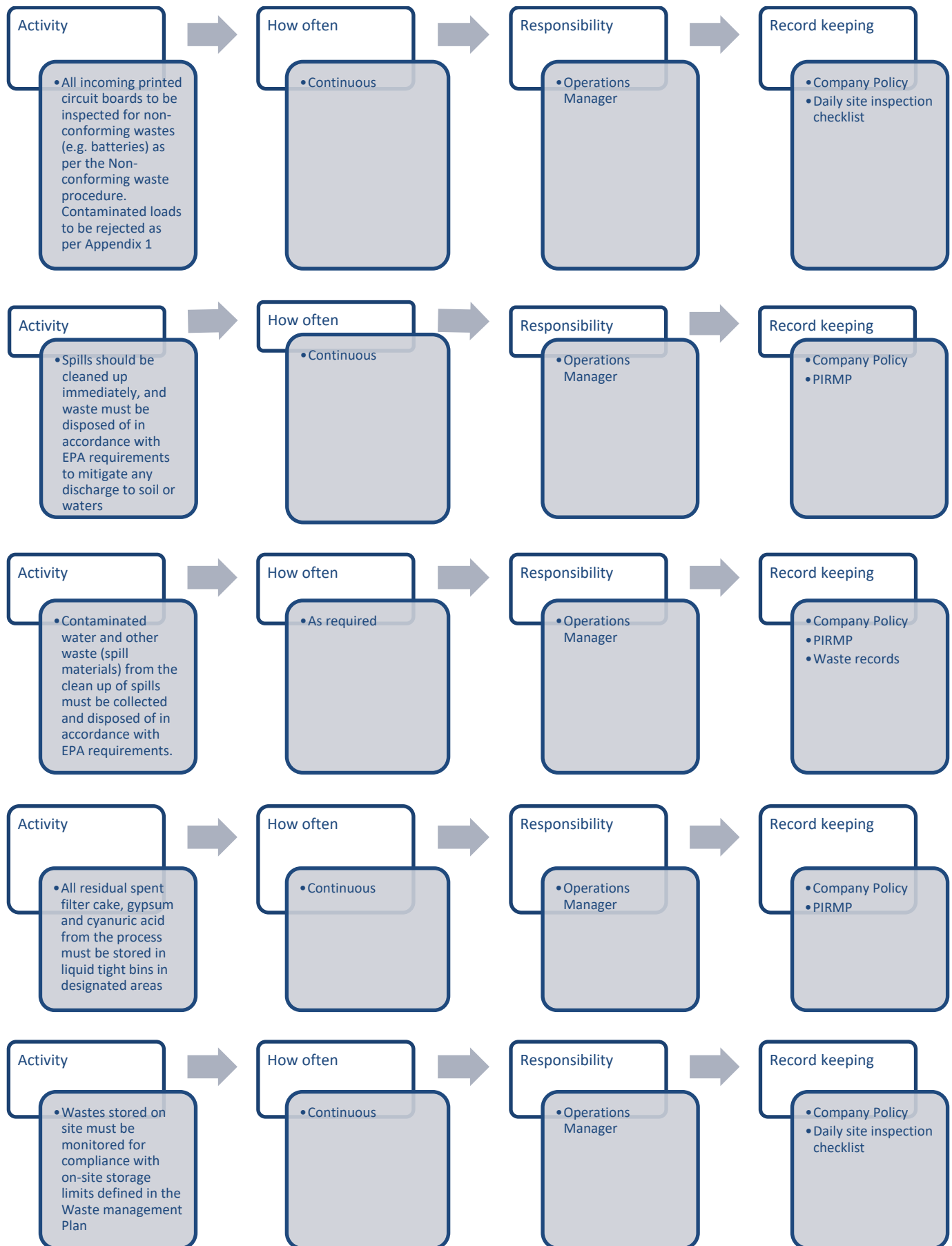
Spills or leaks from liquid chemical storage areas and waste liquid chemical storage areas

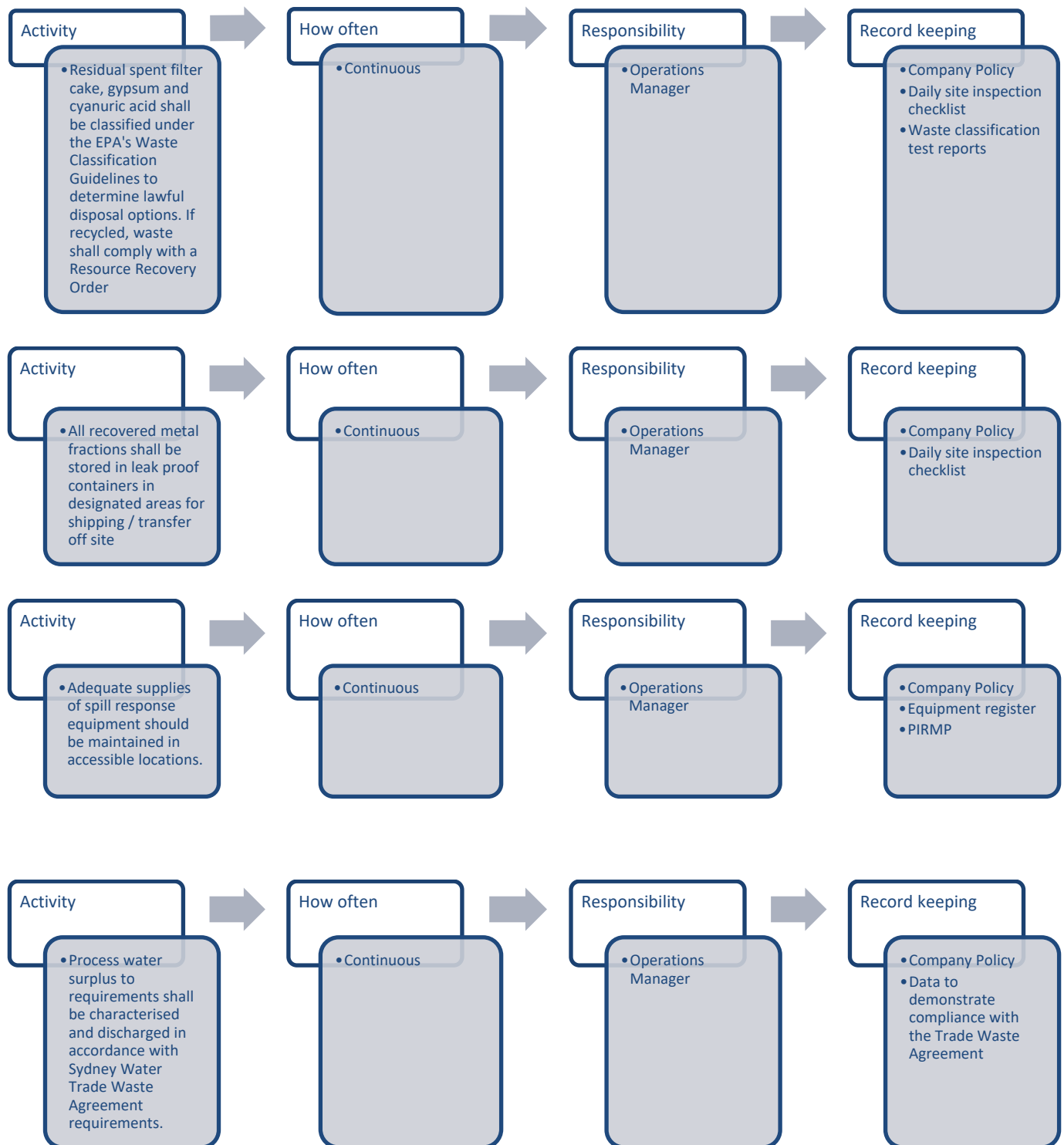


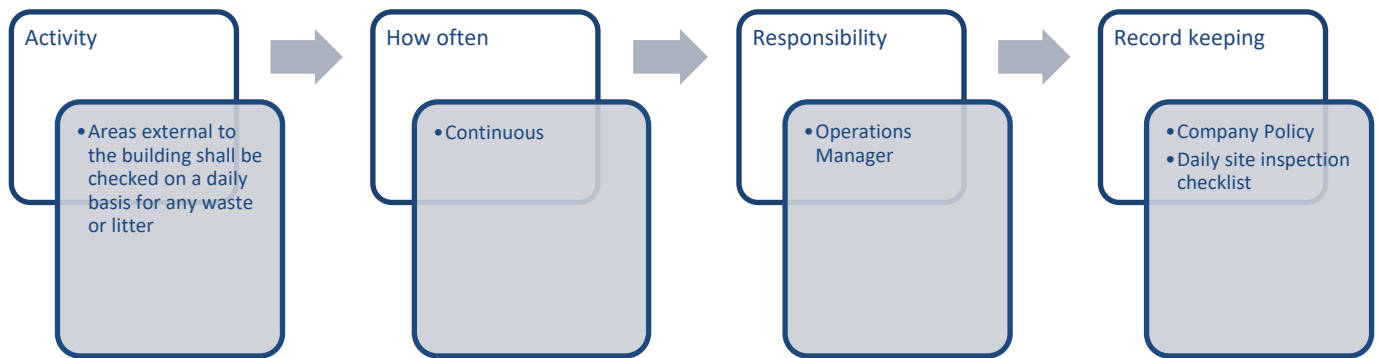
Solid and liquid wastes not being characterised, leading to inappropriate off-site recycling or disposal

6. PREVENTATIVE MEASURES TO BE UNDERTAKEN









7. STEPS TO TAKE IF NON-CONFORMING WASTE RECEIVED OR WASTE IS SPILLED

Implement the non-conforming waste procedure



Activate the Pollution Incident Response Management Plan

Appendix 1 – Non-confirming Waste Procedure

NON-CONFORMING WASTE PROCEDURE

Mint Biominer Pty Ltd

E-Waste Recycling Facility

55 Long Street, Smithfield, NSW

1. Purpose of This Procedure

To ensure that non-confirming waste (waste that does not meet the NSW EPA classification of *General waste – non putrescible*) is not received at the site



If non-confirming waste is found on the site, to ensure it is managed in a way that minimises harm to human health and the environment.

2. Responsible Person

Operations Manager

3. Associated Internal Documents

Pollution Incident Response Management Plan

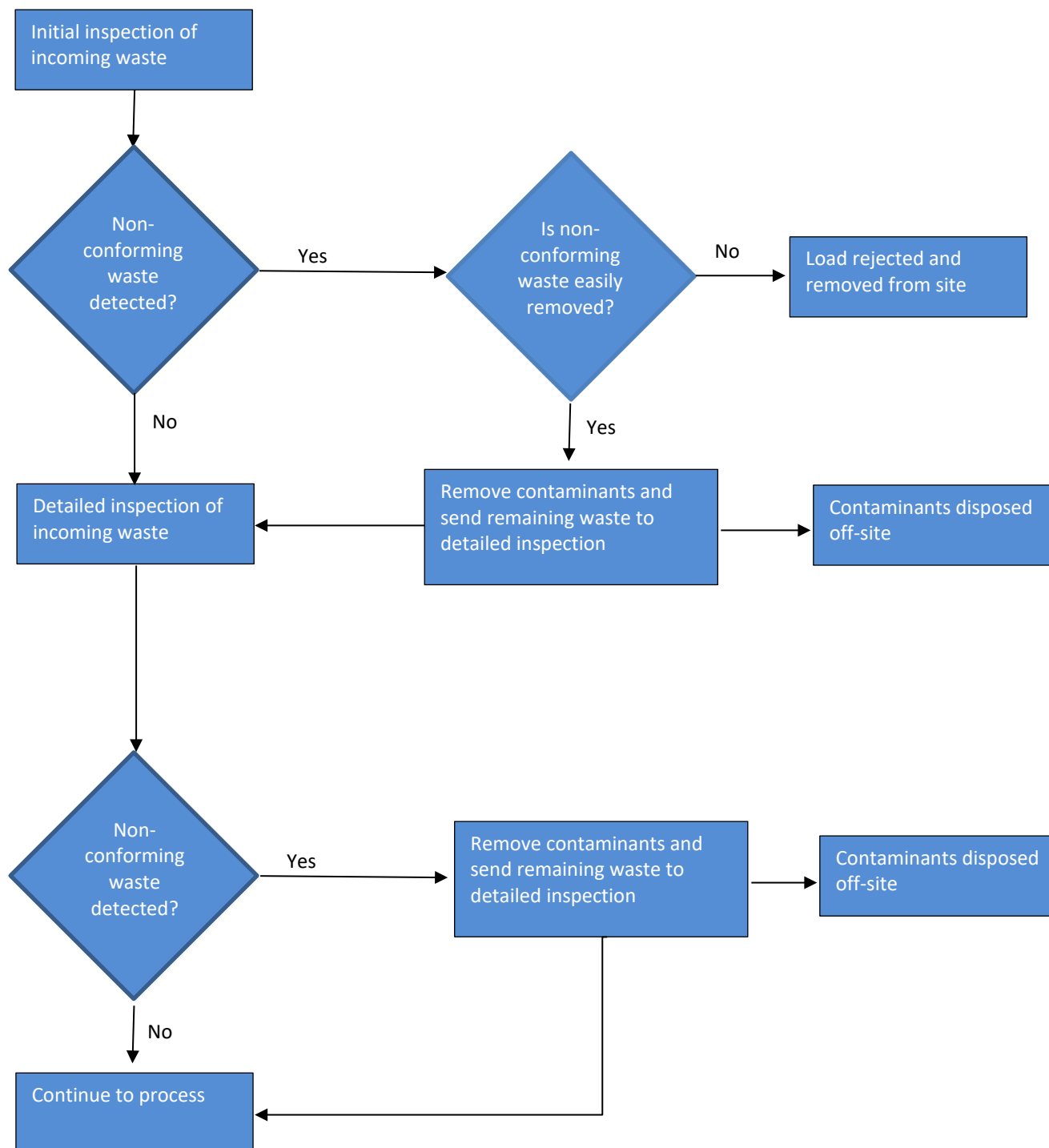
4. External Reference Documents

NSW EPA *Waste Classification Guidelines* 2014



NSW *Protection of the Environment Operations Act* 1997

5. Steps to be undertaken for all incoming loads of printed circuit boards



6. Detail of Each Step in the Procedure

6.1 Initial inspection of incoming waste

When a load arrives at the facility, check the top of the load to see if non-conforming waste is visible. If non-conforming waste can be easily removed, remove the contaminants. Dispose of contaminants the most appropriate manner.



If non-conforming waste is a large quantity, is not easily removed or you can smell putrescible waste, reject the load
(see *Rejection of non-conforming loads*)



If non-conforming waste is not suspected, allow provisional acceptance of the waste

6.2 Rejection of non-conforming loads

Inform driver that load is being rejected due to presence of non-conforming waste.



Record details of the rejected load in the Rejected Load Register.



Issue the driver with a Rejected Load Certificate and keep a copy on file.

Attachment 5: Procedure for stormwater pollution prevention



PROCEDURE FOR STORMWATER POLLUTION PREVENTION

Mint Biominer Pty Ltd
E-Waste Recycling Facility
55 Long Street, Smithfield

1. PURPOSE OF THIS PROCEDURE

To ensure that the stormwater system functions effectively



To ensure that the quality of receiving watercourses and rivers is not impacted by stormwater from the site.

2. WHAT IS STORMWATER?

Stormwater is rainwater that flows across surfaces into stormwater drains and then directly into waterways.

3. RESPONSIBLE PERSON

Operations Manager

4. ASSOCIATED INTERNAL DOCUMENTS

Pollution Incident Response Management Plan



Procedure for Minimising Air Pollution

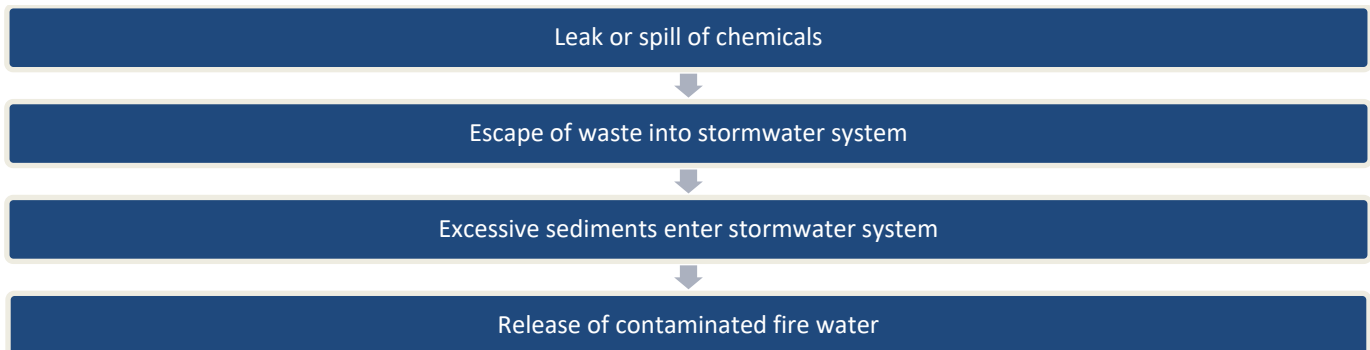
5. EXTERNAL REFERENCE DOCUMENTS

NSW *Protection of the Environment Operations Act 1997*

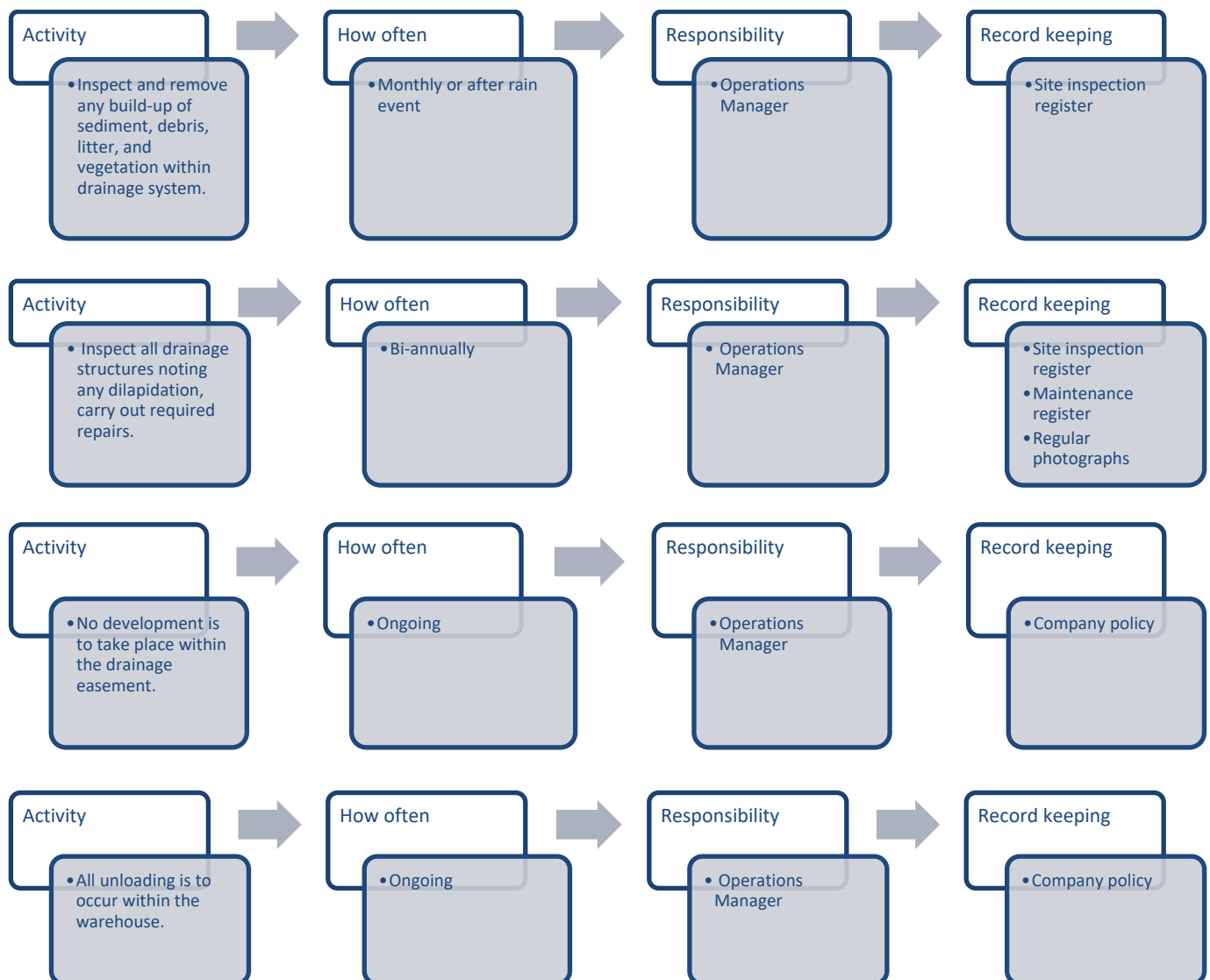


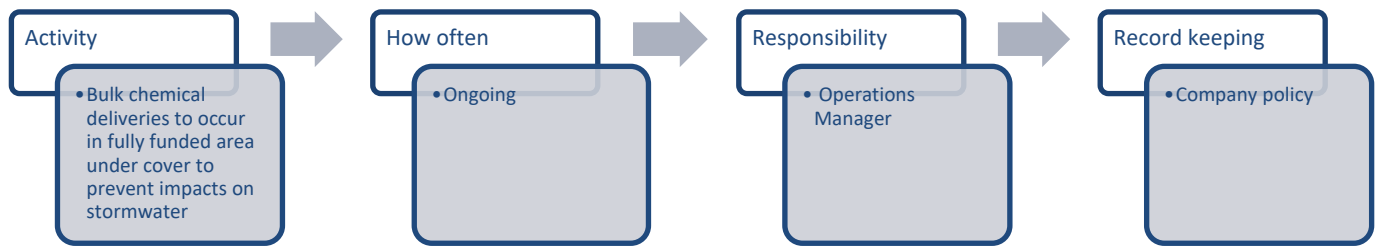
NSW DECC *Managing urban stormwater: soils and construction* (2008)

6. MAIN RISKS FOR STORMWATER POLLUTION



7. PREVENTATIVE MEASURES TO BE UNDERTAKEN





8. STEPS TO TAKE IF POLLUTANTS ENTER THE STORMWATER

Activate the Pollution Incident Response Management Plan

Attachment 6: Procedure for noise prevention



PROCEDURE FOR NOISE PREVENTION

Mint Biomining Pty Ltd
E-Waste Recycling Facility
55 Long Street, Smithfield

1. PURPOSE OF THIS PROCEDURE

To ensure that noise pollution is minimised on the site and the facility fully complies with the EPA's *Noise Policy for Industry*

2. RESPONSIBLE PERSON

Operations Manager

3. ASSOCIATED INTERNAL DOCUMENTS

Pollution Incident Response Management Plan

4. EXTERNAL REFERENCE DOCUMENTS

NSW *Protection of the Environment Operations Act 1997*
NSW Noise Policy for Industry (NSW EPA, 2017)

5. MAIN NOISE RISKS AT THE SITE

Vehicle movements entering and exiting the site

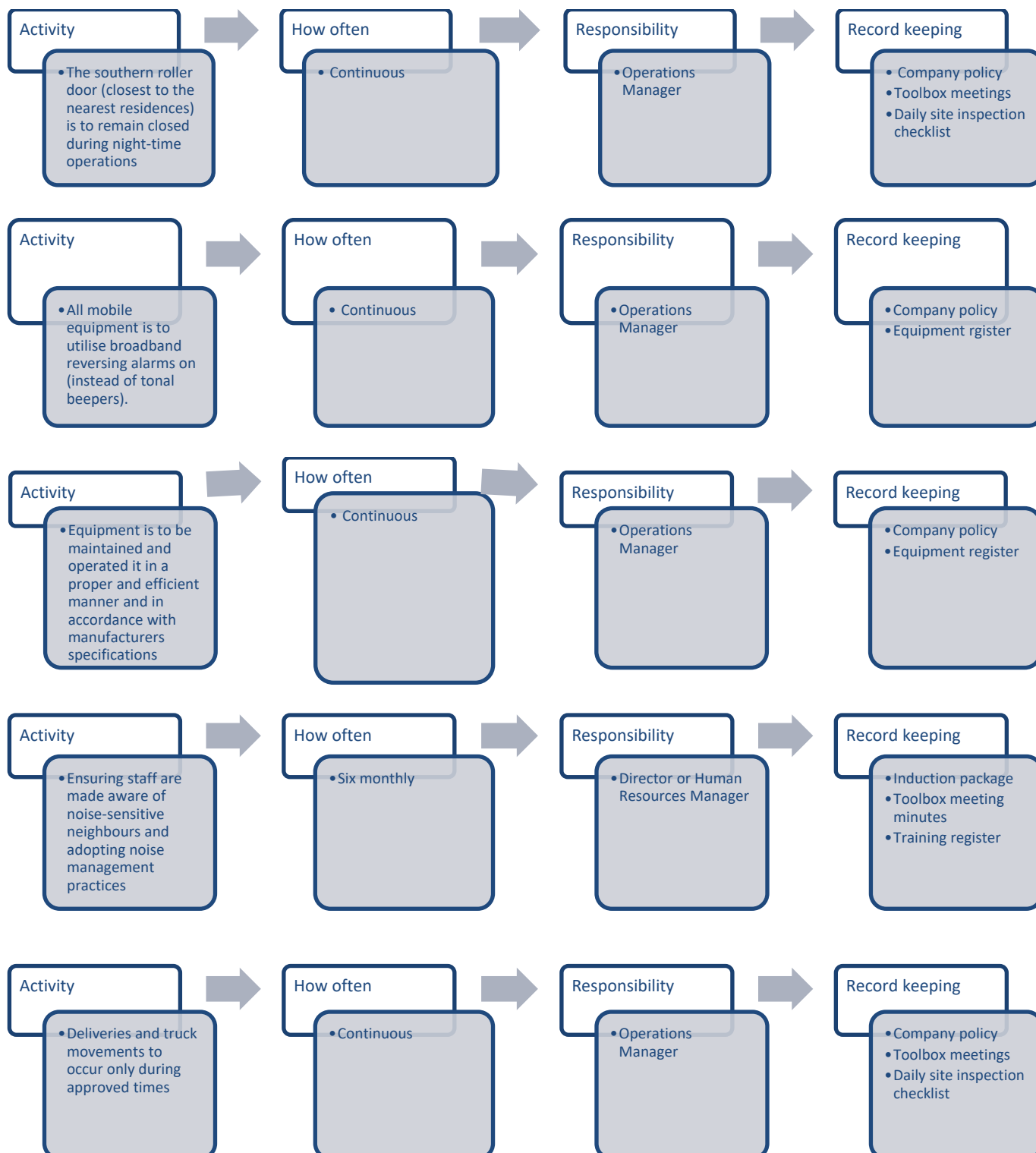


Operational noise generated during operation of the processing plant

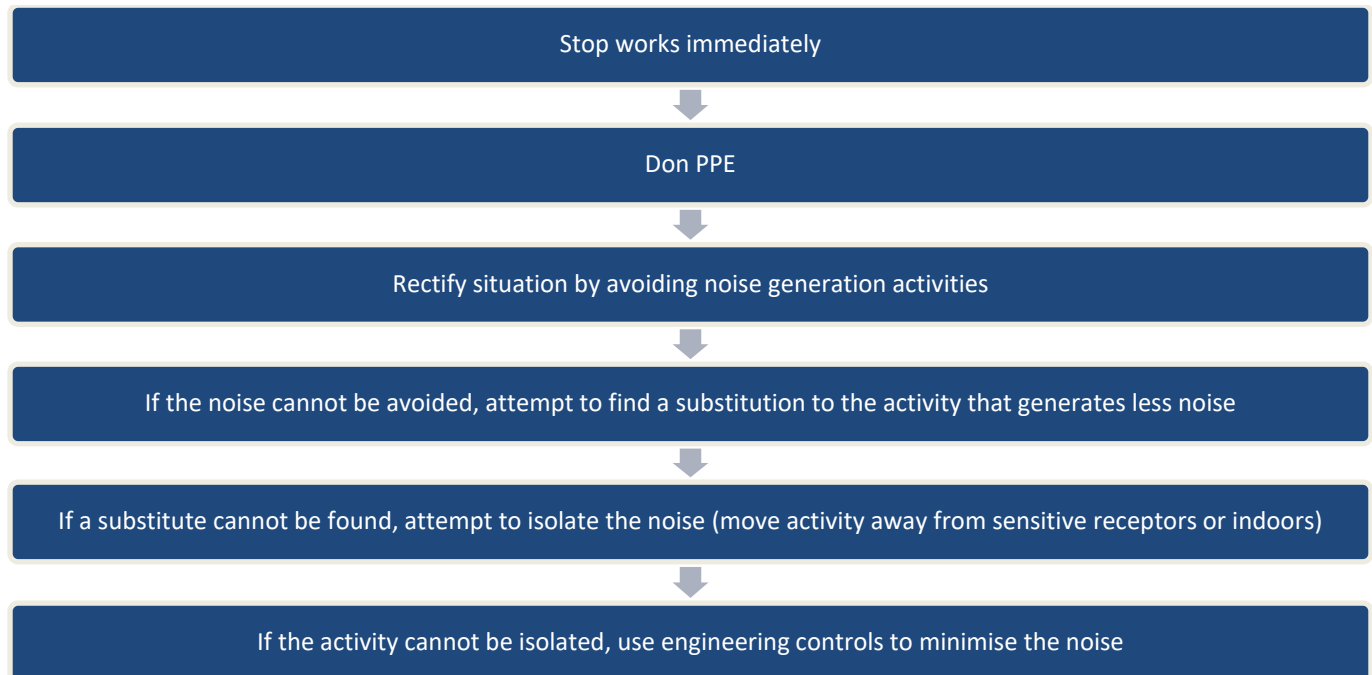


Loading and unloading vehicles

6. PREVENTATIVE MEASURES TO BE UNDERTAKEN



7. STEPS TO TAKE IF EXCESSIVE NOISE IS GENERATED



Attachment 7: Procedure for managing traffic



PROCEDURE FOR MANAGING TRAFFIC

Mint Biomining Pty Ltd
E-Waste Recycling Facility
55 Long Street, Smithfield

1. PURPOSE OF THIS PROCEDURE

To ensure the safe movement of vehicular and pedestrian traffic, the protection of workers from passing traffic and to minimise conflict between vehicles accessing parts of the Facility

2. RESPONSIBLE PERSON

Operations Manager

3. ASSOCIATED INTERNAL DOCUMENTS

Operational Environmental Management Plan

Pollution Incident Response Management Plan

4. EXTERNAL REFERENCE DOCUMENTS

NSW Protection of the Environment Operations Act 1997

NSW Noise Policy for Industrial (NSW EPA, 2017)

Work Health and Safety Act 2011

Roads Regulation 2008

5. MAIN TRAFFIC RISKS AT THE SITE

Increase in truck movements has the potential for more frequent noise and vibrations at nearby premises and residential houses along the truck haul route.

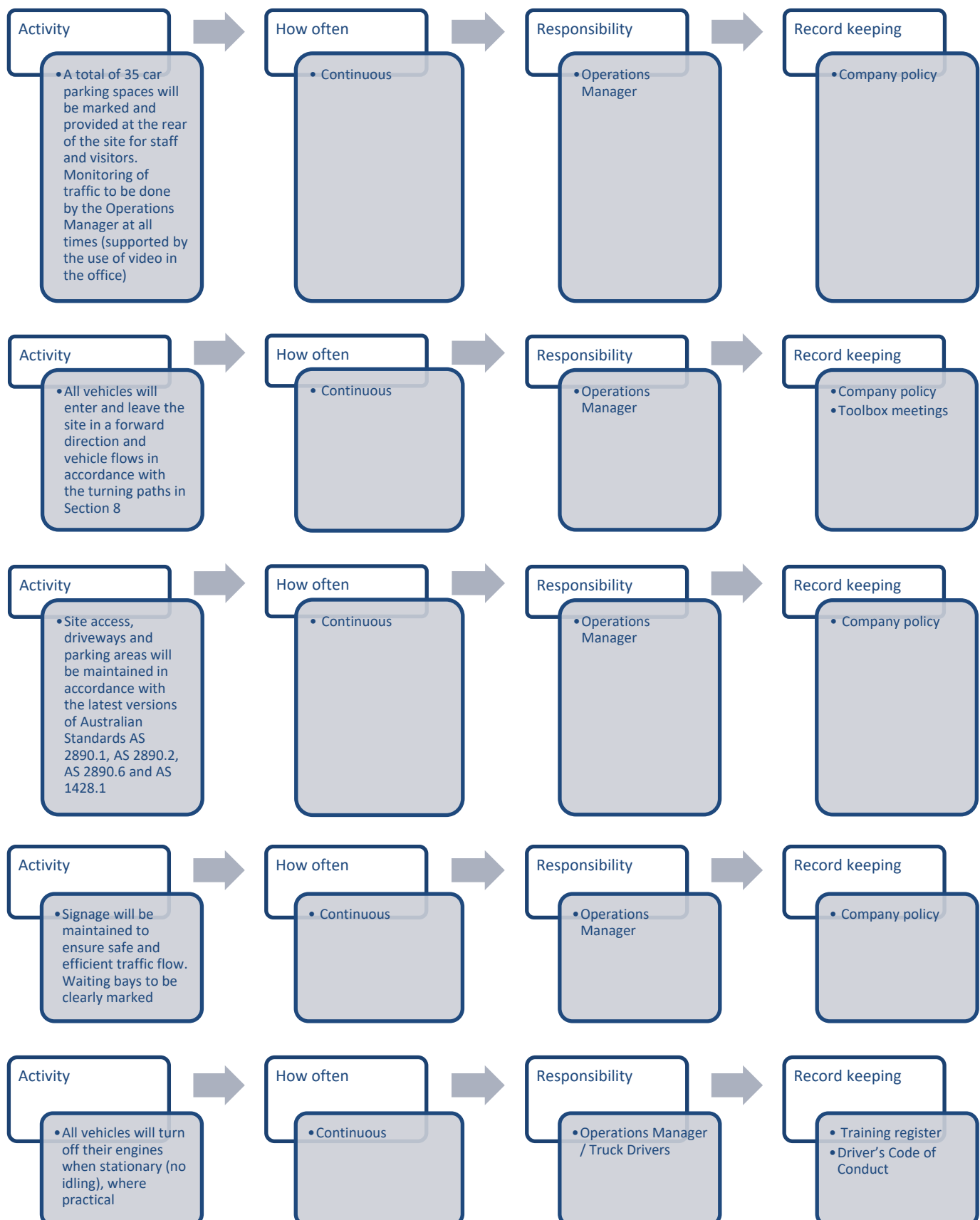


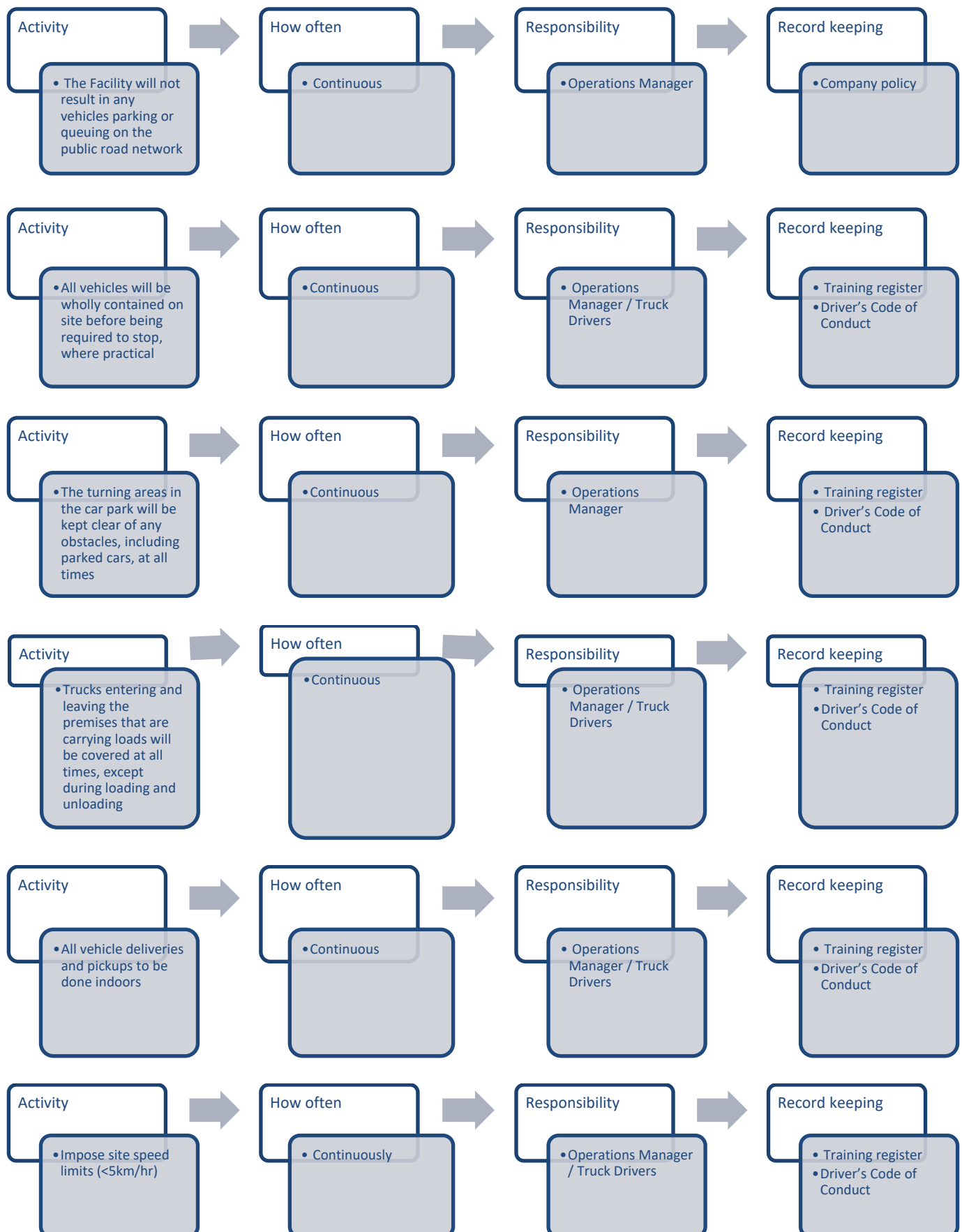
Interaction between vehicles and pedestrians/employees

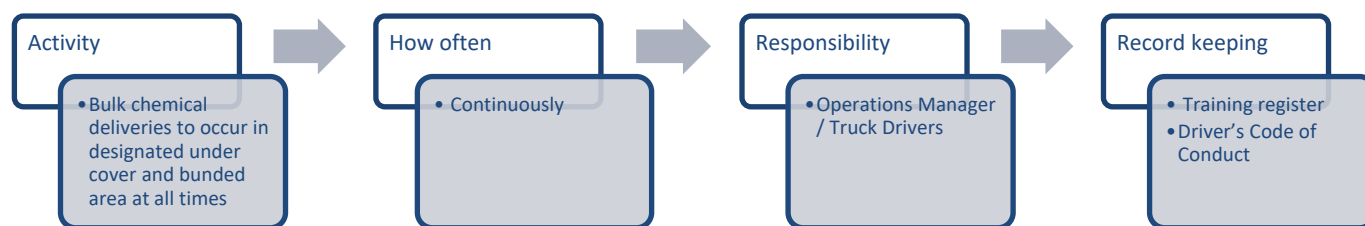


Transportation to and from the site outside of approved operating hours

6. PREVENTATIVE MEASURES TO BE UNDERTAKEN





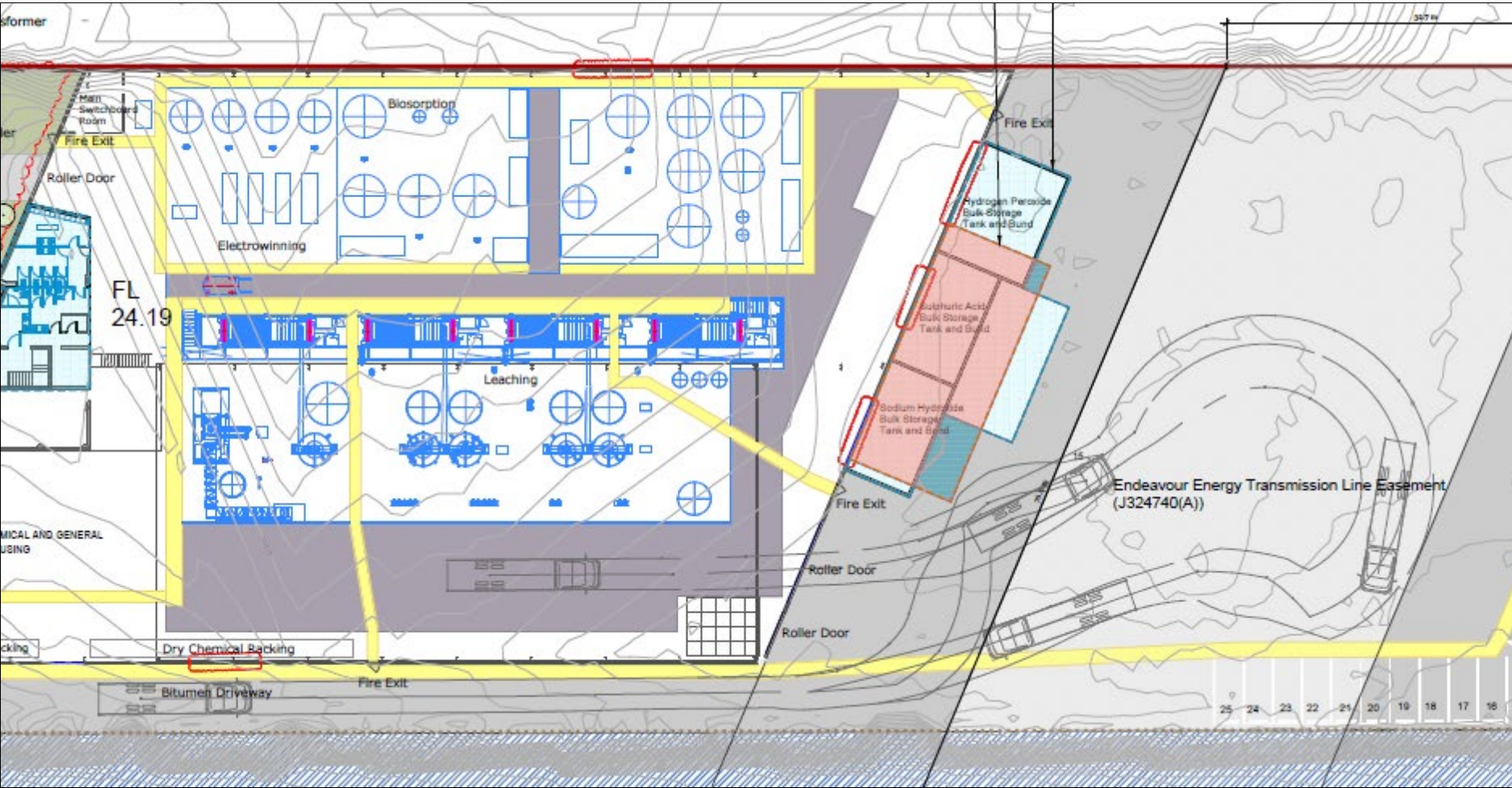


7. OTHER TRAFFIC MANAGEMENT CONTROL MEASURES



8. TRUCK TURNING PATHS

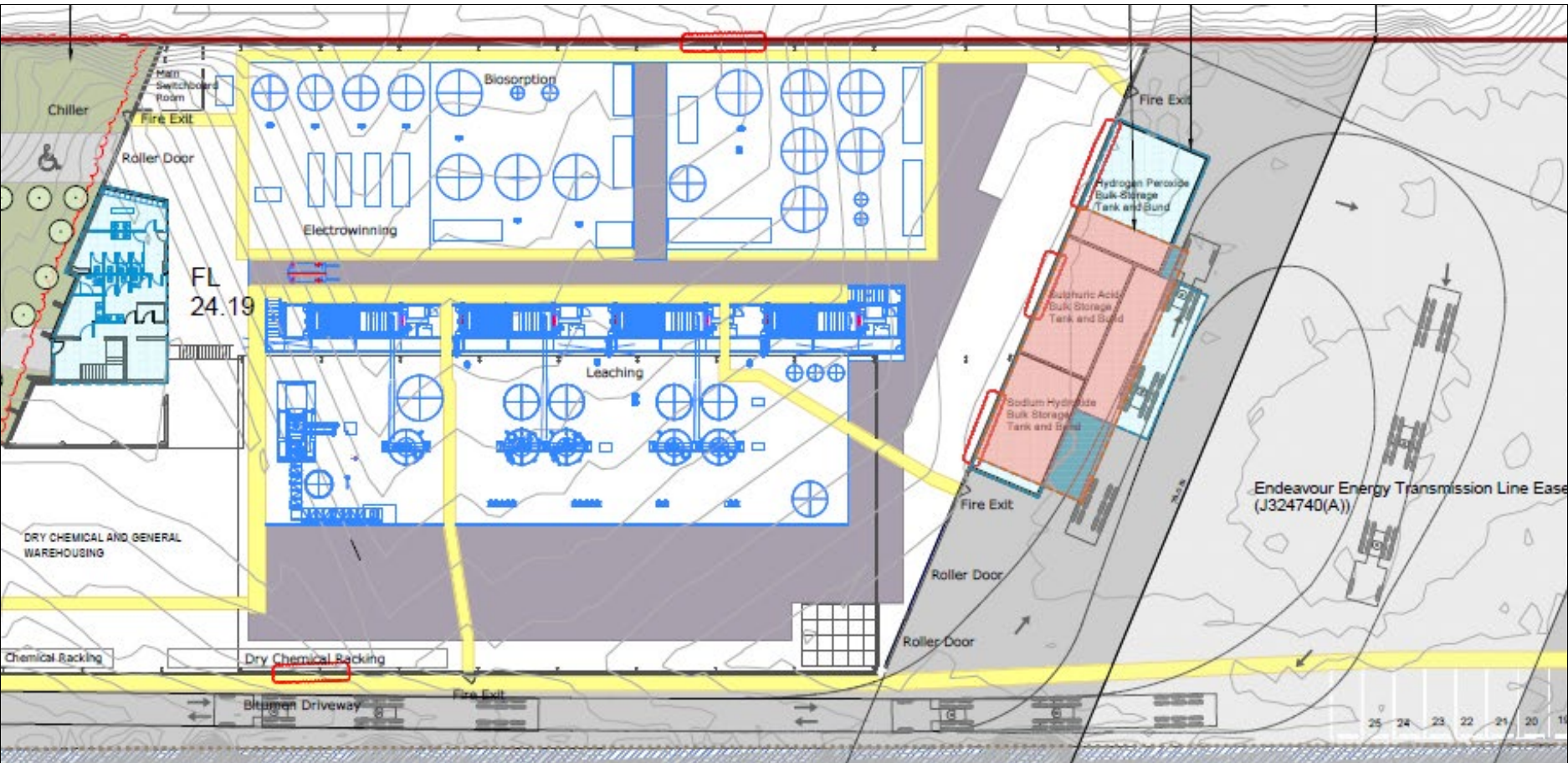
Truck turning paths - Swept Path Analysis – 12.5m Truck.



Date	Revision	Drawn By	Site description	Jackson Environment and Planning Pty Ltd		Client	Mint Biomining Pty Ltd.
13/08/2021	Revision A	R. Loemker	55 Long Street, Smithfield (Lot 173 DP 548880)	Strategy Infrastructure Compliance Procurement		Project	E-waste recycling facility
				A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060		Title	Truck turning paths -12.5m Truck
				E: admin@jacksonenvironment.com.au		Scale	As shown
				T: 02 8056 1849		Source	SECA Solutions Pty Ltd
				W: http://www.jacksonenvironment.com.au			



Truck turning paths - Swept Path Analysis – B-Double Truck.



Date	Revision	Drawn By	Site description	Jackson Environment and Planning Pty Ltd	Client	Mint Biomining Pty Ltd.
13/08/2021	Revision A	R. Loemker	55 Long Street, Smithfield (Lot 173 DP 548880)	Strategy Infrastructure Compliance Procurement	Project	E-waste recycling facility
				A: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060	Title	Truck turning paths – B-Double Truck
				E: admin@jacksonenvironment.com.au	Scale	As shown
				T: 02 8056 1849	Source	SECA Solutions Pty Ltd
				W: http://www.jacksonenvironment.com.au		



Attachment 8: Pollution Incident Response Management Plan

Draft PIRMP – Smithfield E-Waste Recycling Facility

55 Long Street, Smithfield

August 2021



POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN

LICENCE NUMBER: <insert licence number>

Approved by: <insert name>

Signature: <insert signature>

Position/Title: <insert position/title>

Date: <insert date>

PURPOSE:

Mint Biominer Pty Ltd holds an Environment Protection Licence with the NSW Environment Protection Authority (EPA) for E-Waste Recycling Facility located at 55 Long Street, Smithfield. As per the *Protection of the Environment Operations Act 1997* (the POEO Act), the holder of an Environment Protection Licence must prepare, keep, test and implement a pollution incident response management plan (PIRMP) that complies with Part 5.7A of the POEO Act in relation to the activity to which the licence relates.

If a pollution incident occurs in the course of an activity so that material harm to the environment (within the meaning of section 147 of the POEO Act) is caused or threatened, the person carrying out the activity must **immediately** implement this plan in relation to the activity required by Part 5.7A of the POEO Act.

A copy of this plan must be kept at the licensed premises, or where the activity takes place in the case of mobile plant licences and be made available on request by an authorised EPA officer and to any person who is responsible for implementing this plan.

Parts of the plan must also be available either on a publicly accessible website, or if there is no such website, by providing a copy of the plan to any person who makes a written request. The sections of the plan that are required to be publicly available are set out in clause 98D of the *Protection of the Environment Operations (General) Regulation 2009*.

Environment Protection Licence (EPL) Details

Name of licensee: Mint Biominining Pty Ltd

(Including ABN) ABN: 93 643 458 146

EPL number: <insert EPL number> - TBC

Premises name and address: 55 Long Street, Smithfield

Company or business contact details

Name of person responsible: Johann Havenga

Position or title: Program Manager (Australia based)

Business hours contact number/s: 0448 949 911

After hours contact number/s: 0448 949 911

Email: johann@mint.bio

Website address: bincity.com.au

Scheduled activity/activities on EPL: To be confirmed

Fee-based activity/activities on EPL: To be confirmed

Contact details must include the names, position titles and 24-hour contact details. Details are to include alternative person/s, should the primary contact be unavailable.

PIRMP activation

Name of person responsible: Ben McDonough

Position or title: Site Environmental Manager

Business hours contact number/s: 0422 059 729

After hours contact number/s: 0422 059 729

Email: ben@mint.bio

Notifying relevant authorities

Notification should be made by a person with an appropriate level of authority within the company.

Name of person responsible: Ben McDonough

Position or title: Site Environmental Manager

Business hours contact number/s: 0422 059 729

After hours contact number/s: 0422 059 729

Email: ben@mint.bio

Managing response to pollution incident

Name of person responsible: Ben McDonough

Position or title: Site Environmental Manager

Business hours contact number/s: 0422 059 729

After hours contact number/s: 0422 059 729

Email: ben@mint.bio

Identify any persons or authorities required to be notified as per Part 5.7A of the POEO Act in the case of a pollution incident that causes or threatens to cause material harm to the environment.

Relevant authorities include:

1. Fire & Rescue NSW and/or Rural Fire Service as applicable – 000 (first notification)

Environment Protection Licence (EPL) Details

2. EPA – 131 555
3. NSW Health (nearest public health unit) – see <https://www.health.nsw.gov.au/Infectious/Pages/phus.aspx#Port>
4. SafeWork NSW – 131 050
5. Local authority (usually the local council) in which the pollution has occurred.

Note: The local council and public health unit will vary depending on the location of the pollution incident. For mobile plant licences the PIRMP will need to include the person or people who are responsible for identifying the local authority and nearest public health unit.

Fire & Rescue NSW / Rural Fire Service	Contact number/s:	Emergency 000 or 112
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Fire and Rescue NSW Smithfield Fire Station		(02) 9609 2343
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Fire and Rescue NSW Yennora Fire Station		(02) 9493 1073
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EPA – Pollution Hotline	Contact number/s:	131 555
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NSW EPA Metro		(02) 9995 5555
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NSW Health – Public Health Unit	Health Service:	Liverpool Shoalhaven LHD
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	Contact number/s:	(02) 9794 0855
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		AH: (02) 8738 3000
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SafeWork NSW	Contact number/s:	13 10 50
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Local authority	Contact number/s:	(02) 8757 9000
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Cumberland City Council		
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Any other identified organisation or agency requiring notification (if applicable)	Contact number/s:	(02) 9860 1500
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Department of Planning Industry and Environment – Parramatta Offices		
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Notification of neighbours and the local community

Identify owners or occupiers of premises in the vicinity of the licensed premises, including any sensitive premises (e.g. schools, preschools, hospitals, nursing homes):

Map Ref.	Business	Main Activity	Address	Method of contact
1	Computertrans Group	Transportation service	63 Britton Street, Smithfield	(02) 8845 0000
2	Carways Pty Ltd	Transportation service	65 Britton Street, Smithfield	1300 227 929
3	Dimension 1	Paper, film and board converters.	69 Britton Street, Smithfield	(02) 9725 5077
4	Five Star Scaffolding	Scaffolding Hire Service	61 Long Street, Smithfield	(02) 9632 3466
5	RTB Refrigerated Truck Bodies Pty Ltd	Refrigerated transportation service	63 Long Street, Smithfield	0484 635 236



Description and likelihood of hazards

Provide a description of the hazards to human health or the environment associated with the activity to which the licence relates:

Hazard	Likelihood	Consequences	Risk rating	Circumstances likely to increase likelihood or consequences	Mitigating measures to reduce risk
Fire in Storage/Waste Processing Building	Possible	3	Medium	<ul style="list-style-type: none"> Careless operating procedures Poor maintenance Poor staff training Smoking inside Lack of inspection / maintenance of fire equipment Arson Contamination in incoming loads 	<ul style="list-style-type: none"> Staff induction and ongoing training Staff supervision Regular maintenance schedule Hot work permit system Fire detection system Smoke detection system Annual fire equipment inspection (required by law) Site security
Chemical spill	Possible	4	High	<ul style="list-style-type: none"> Careless operating procedures Poor maintenance /equipment failure Accidental spill 	<ul style="list-style-type: none"> Staff induction and training Regular maintenance and repair schedule Bunding and containment around chemical storage areas Spill kit positioned near chemical storage. Incoming load inspection protocols
Release of dust/litter/odour	Possible	5	Low	<ul style="list-style-type: none"> Careless operating procedures Accidental spill Vehicle crash 	<ul style="list-style-type: none"> Staff induction and ongoing training Staff supervision Regular maintenance schedule Onsite vehicle movement controls
Moving vehicles	Possible	4	Low	<ul style="list-style-type: none"> Careless operating procedures Poor staff training 	<ul style="list-style-type: none"> Staff induction and ongoing training Maintenance of clear pedestrian walkways High visibility PPE Onsite vehicle movement controls
Moving machinery	Possible	4	Low	<ul style="list-style-type: none"> Careless operating procedures Poor maintenance Equipment failure Poor staff training 	<ul style="list-style-type: none"> Staff induction and ongoing training Staff supervision Regular maintenance schedule Lockout/tag procedure during equipment maintenance

Safety equipment

Describe the safety equipment or other devices used to minimise the risks to human health or the environment and to contain or control a pollution incident:

Equipment	Location
Personal Protection Equipment	<ul style="list-style-type: none">• Worn by staff, spares in office
Fire Hydrant	<ul style="list-style-type: none">• Throughout warehouse
Fire Hose Reel	<ul style="list-style-type: none">• Throughout warehouse
Fire Extinguishers	<ul style="list-style-type: none">• Throughout warehouse
Chemical Spill kit	<ul style="list-style-type: none">• Throughout warehouse
First Aid Kit	<ul style="list-style-type: none">• Office
Traffic bollards and traffic cones	<ul style="list-style-type: none">• Office

Minimising harm to persons on the premises

Identify the arrangements for minimising the risk of harm to any persons who are on the premises or who are present where the scheduled activity is being carried out:

- All visitors to sign in at the weighbridge and/or office
- All staff and visitors to adhere to safety paths and follow instructions
- All staff and visitors to wear appropriate Personal Protection Equipment at all times
- In an emergency, all staff and visitors to follow the instructions of the Chief Warden (see Emergency Plan)
- Audible alarms will sound if evacuation is necessary.

Actions to be taken during or immediately after a pollution incident

Develop a detailed description of the actions to be taken immediately after a pollution incident to reduce or control any pollution. These should include as a minimum, early warnings, updates and actions to be taken during and after an incident:

Incident type	Action	Responsible person
Small, localised fire	<ul style="list-style-type: none"> Attempt to extinguish fire with fire extinguisher or fire hose reel Engage stormwater drain covers Notify supervisor, Area Warden and/or Chief Warden 	Nearby staff member/s
	<ul style="list-style-type: none"> Assess situation Instigate Emergency Plan if necessary 	Operations manager
	<ul style="list-style-type: none"> Utilise chemical spill kit to clean up Dispose of used absorbent litter in hazardous waste bin 	Operations manager
	<ul style="list-style-type: none"> Alert Chief Warden Call Fire Brigade Evacuate area 	All staff in area
	<ul style="list-style-type: none"> Deploy fire hose reels if safe to do so Engage stormwater drain covers Arrange for fire water to be collected by appropriate liquid waste contractor 	Operations manager
Small, localised chemical spill	<ul style="list-style-type: none"> Utilise spill kit to contain and collect spill Dispose of spill and absorbent litter in hazardous waste bin 	Nearby staff member/s
Large spill chemical spill	<ul style="list-style-type: none"> Alert supervisor and Chief Warden Evacuate area 	All staff in area
	<ul style="list-style-type: none"> Deploy absorbent "sausages" and chemical spill kits to contain spill Contact spill clean-up contractor 	Operations manager

The Chief Warden and/or Site Manager will co-ordinate responses with outside agencies.

Area Wardens will supervise implementation of Emergency Plan for their area, if necessary.

Communications Officer will co-ordinate communications and disseminate information.

Staff training

Identify the nature and objectives of any staff training program in relation to this plan:

- All staff – emergency response and pollution response to be included in employment induction
- All staff – Evacuation routes and contact details for Area Wardens, Chief Warden and Communications Officer to be displayed in each building on site
- Operations Manager / Human Resources Officer – Annual fire and emergency response training
- Operations Manager / Human Resources – OHS and Chemical Safety training every 2 years.

Testing and updating of the PIRMP

This PIRMP will be tested annually:

- Evacuation drill to occur at least annually – date and results to be recorded below.
- Relevant staff training to be recorded.
- Staff assigned to key positions of Operations Manager / Human Resources / Site Environmental Manager to be kept up-to-date on all materials, including signs around the facility
- Records of fire equipment inspections to be kept, with dates of inspection recorded.

Detail the dates on which the plan was updated:

Example: PIRMP testing details

Date tested	Tested by (to include the names of all people involved in testing)	Details of test (e.g. nature of the test, involvement of other agencies) Note: Testing must cover all components of the plan.	Finding of test, including issues identified	Next scheduled testing date (must be within 12 months from current test)
e.g. 24.02.18	Joan Smith, Environment Manager	Desktop simulation – chemical spill	Contact details, map and pollutant inventory out of date	23.02.19

PIRMP update details

Date update occurred	Reason for update (e.g. address issues identified in testing, contact details/personnel have changed)	Details of updates (nature of changes to PIRMP)	Date the updated version uploaded to website (if applicable)	Date of completion
e.g. 24.02.18	Outdated items identified in annual testing	Contact details, map and pollutant inventory updated	26.02.18	26.02.18