Air Quality and Odour Management Plan

ReDirect Recycling Pty Ltd
Resource Recovery and Recycling Facility

25 Dunheved Circuit St Marys, NSW

Date: 20/05/2025
Prepared by: Todoroski Air Sciences
Review Triggered by: 2024 Annual Compliance Report
Reviewed by: Redirect Recycling
Version: Rev 3

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1 Introduction

1.1 Project Approval

This Air Quality and Odour Management Plan (AQOMP) has been prepared by Todoroski Air Sciences on behalf of reDirect Recycling Pty Ltd (reDirect Recycling), for the operation of a Resource Recovery and Recycling Facility (the Facility) located at 25 Dunheved Circuit St Marys, NSW (the Subject Site).

Consent for State Significant Development 10474 (SSD-10474) was granted by the NSW Department of Planning and Environment (DPE) on 30 September 2021.

Approval for SSD-10474 permits the operation of a resource recovery facility with capacity to process up to 150,000 tonnes per year of waste comprising of:

- 110,000 tonnes per annum (tpa) of wood and timber waste;
- 30,000 tpa of plasterboard; and,
- 10,000 tpa of metal waste.

1.2 Project Description

The main waste types and materials to be accepted at the site include:

- wood and timber waste;
- plasterboard; and
- metal waste.

The processing of timber, wood and plasterboard waste will happen inside the existing building by way of compaction and shredding/grinding.

The majority of the processed wood waste will be transferred offsite for reuse in the manufacture of particle board and MDF products, or to be used as a non-standard fuel.

Plasterboard will be minimised and grinded, with paper removed during the grinding process. The gypsum generated by processing will be used for agricultural soil conditioning or re-used in plasterboard production.

Waste metals recovered during the timber processing will be manually sorted and separated, and then taken off-site to other waste facilities to be processed or disposed of.

A site layout indicating key features of the facility is shown in **Figure 1**.

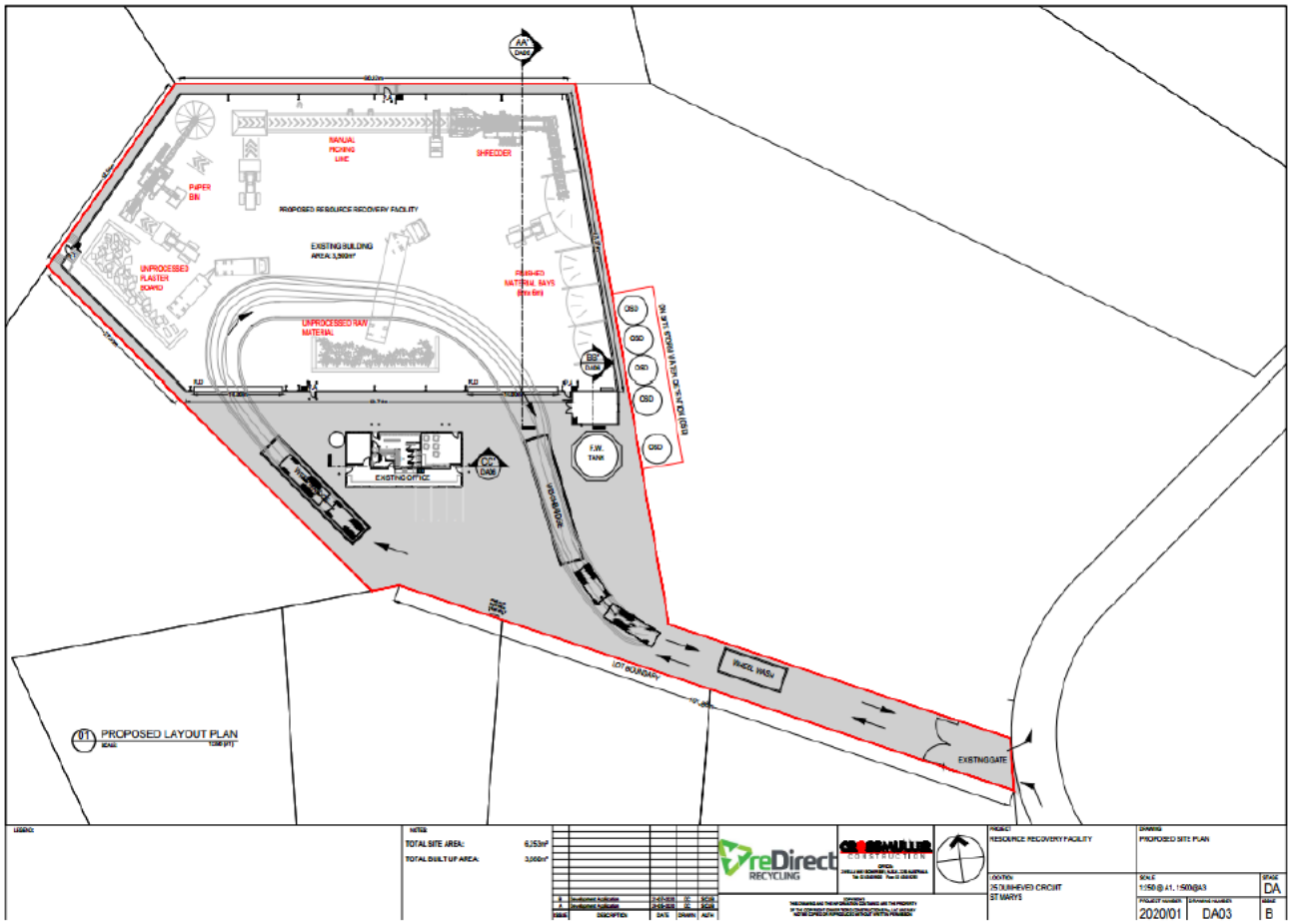

Figure 1 Site layout

1.3 Site Location

The Facility is located within an industrial precinct at Lot 143 Deposited Plan (DP) 7013185, 25 Dunheved Circuit, St Marys NSW. The site is approximately 7.5 kilometres (km) east of Penrith, 16 km south of Richmond, and 13 km west of Blacktown. The site covers an area of approximately 6,140 m^2 and is located within the Penrith Local Government Area (LGA).

The development is surrounded by existing manufacturing, processing, and heavy industry businesses, with the nearest residential dwellings located approximately 1.0 km to the west on Cadet Circuit, Jordan Springs.

Figure 2 presents the local setting.

Source: **Wilkinson Murray (2020)**

Figure 2 Project location

2 Scope & Objectives

2.1 AQOMP Scope

This AQOMP has been prepared to address Part B, Condition B22 of SSD-10474, whereby:

Prior to the commencement of operation of the development, the Applicant must prepare an Air Quality Management Plan (AQMP) to the satisfaction of the Planning Secretary. The AQMP must form part of the OEMP required by Condition C22. The AQMP must:

- *a) be prepared by a suitably qualified and experienced person(s);*
- *b) detail and rank all emissions from all sources of the development, including particulate emissions;*
- *c) describe a program that is capable of evaluating the performance of the operation and determining compliance with key performance indicators;*
- *d) identify the control measures that will be implement for each emission source; and*
- *e) nominate the following for each of the proposed controls:*
  - *(i) key performance indicator;*
  - *(ii) monitoring method;*
  - *(iii) location, frequency and duration of monitoring;*
  - *(iv) record keeping;*
  - *(v) complaints register;*
  - *(vi) response procedures; and,*
  - *(vii) compliance monitoring.*

In addition, this AQOMP has been prepared to satisfy Management Plan requirements under Part C, Condition C1, which states:

Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:

- *a) details of:*
  - *i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);*
  - *ii) any relevant limits or performance measures and criteria; and*
  - *iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the Development or any management measures.*
- *b) a description of the management measures that would be implemented to comply with the relevant statutory requirements, limits or performance measures/criteria;*
- *c) a program to monitor and report on the:*
  - *i) impacts and environmental performance of the Development; and*
  - *ii) effectiveness of any management measures set out as pursuant to paragraph (c) above*
- *d) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;*
- *e) a program to investigate and implement ways to improve the environmental performance of the development over time;*
- *f) a protocol for managing and reporting any:*
  - *i) incidents and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);*
  - *ii) complaint;*
  - *iii) failure to comply with statutory requirements; and*
- *g) a protocol for periodic review of the plan.*

Additional SSD-10474 COA referenced under this AQOMP are provided in **Section 2.2**.

2.2 SSD-10474 Conditions of Approval

Table 1 below lists conditions under the SSD-10474 Consolidated COA that are addressed under this Facility's operational AQOMP.

Table 1 Conditions relevant to this AQOMP under the SSD-10474 Consolidated COA

APPROVAL INSTRUMENT	CONDITION NUMBER	CONDITION / COMMITMENT	SECTION(S) IN AQOMP
SSD-10474	B19	The Applicant must take all reasonable steps to prevent and minimise dust generated during all works authorised by this consent	This AQOMP
	B20	During operation, the Applicant must ensure: (a) all loading, unloading, materials handling, sorting, sampling, processing and storage operations are undertaken within a fully enclosed building; (b) no waste, waste derived products and/or finished products, are stored outside of the building at any time; (c) the roller doors of the processing building are kept closed at all times, except when vehicles are entering or exiting the building; (d) a wheel wash at the vehicles egress point is operational and used at all times by trucks exiting the site; (e) all trucks entering and exiting the premises have their loads covered; (f) the following areas are sealed with concrete or asphalt: (i) roads and carparking areas; (ii) operating, storage, unloading and loading areas; and, (iii) any unused external surfaces; (g) the site is maintained in a manner that prevents and minimises the emission of air pollutants, including dust; (h) no material including sediment, it tracked off site; (i) vehicles and plant are switched off when not in use, fitted with pollution reduction devices where reasonably practicable and maintained in accordance with manufacturer's specifications; and, (j) a dust suppression system is operational and used at all times when processing materials that create dust.	Section 7.2
	B21	The Applicant must install and operate equipment in line with best practice to ensure that the development complies with all load limits, air quality criteria/air emission limits and air quality monitoring requirements as specified in the EPL applicable to the site.	Section 7.2
	B22	Prior to the commencement of operation of the development, the Applicant must prepare an Air Quality Management Plan (AQMP) to the satisfactions of the Planning Secretary. The AQMP must form part of the OEMP required by Condition C22. The AQMP must: (a) be prepared by a suitably qualified and experienced person(s); (b) detail and rank all emissions from all sources of the development, including particulate emissions; (c) describe a program that is capable of evaluating the performance of the operation and determining compliance with key performance indicators; (d) identify the control measures that will be implemented for each emission sources; and, (e) nominate the following for each of the proposed controls (i) key performance indicator; (ii) monitoring method; (iii) location, frequency and duration of monitoring; (iv) record keeping; (v) complaints register; (vi) response procedures; and (vii) compliance monitoring.	This AQOMP

APPROVAL INSTRUMENT	CONDITION NUMBER	CONDITION / COMMITMENT	SECTION(S) IN AQOMP
	B23	The Applicant must: (a) not commence operation under this consent until the AQMP required by condition B22 is approved by the Planning Secretary; and, (b) implement the most recent version of the AQMP approved by the Planning Secretary for the duration of the development.	This AQOMP
	B24	The Applicant must ensure the development does not cause or permit the emission of any offensive odour (as defined in the POEO Act)	Section 7.2
	C1	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include: (a) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures. (b) a description of the management measures to be implemented to comply with the relevant statutory requirements, limits or performance measures/criteria; (c) a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of any management measures set out pursuant to paragraph (c) above; (d) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; (e) a program to investigate and implement ways to improve the environmental performance of the development over time; (f) a protocol for managing and reporting any: (i) incidents and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); (ii) complaint; (iii) failure to comply with statutory requirements; and (g) a protocol for periodic review of the plan. *Note: The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans*	This AQOMP
	C5	Within three months of: (a) the submission of a Compliance Report under condition C111; (b) the submission of an incident report under condition C77; (c) the submission of an Independent Audit under condition C133; (d) the approval of any modification of the conditions of this consent; or (e) the issue of a direction of the Planning Secretary under condition A2(b) which requires a review, the strategies, plans and programs required under this consent must be reviewed, and the Planning Secretary must be notified in writing of the outcomes of any review.	Section 11.1

APPROVAL INSTRUMENT	CONDITION NUMBER	CONDITION / COMMITMENT	SECTION(S) IN AQOMP
	C6	If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review required under condition C8, or such other timing as agreed by the Planning Secretary. Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.	Section 11.1
	C7	The Planning Secretary must be notified in writing via the Major Projects website immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 3.	Section 8.6
	C8	The Planning Secretary must be notified in writing via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance.	Section 8.5
	C9	A non-compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.	Section 8.5
	C10	A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	Section 8.5
	C11	Within six months after the first year of commencement of operation of the development, and in the same month each subsequent year (or such other timing as agreed by the Planning Secretary), the Applicant must submit a Compliance Report to the Planning Secretary reviewing the environmental performance of the development to the satisfaction of the Planning Secretary. Compliance Reports must be prepared in accordance with the Compliance Reporting Post Approval Requirements (Department 2020) and must also: (f) identify any trends in the monitoring data over the life of the development; (g) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and (h) describe what measures will be implemented over the next year to improve the environmental performance of the development.	Section 8.4
	C12	The Applicant must make each Compliance Report publicly available no later than 60 days after submitting it to the Planning Secretary and notify the Planning Secretary in writing at least 7 days before this is done.	Section 8.4

APPROVAL INSTRUMENT	CONDITION NUMBER	CONDITION / COMMITMENT	SECTION(S) IN AQOMP
	C13	Within one year of the commencement of operations of the development, and every three years after, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit (Audit) of the development. Audits must: (i) be prepared in accordance with the Independent Audit Post Approval Requirements (Department 2020) (j) be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Planning Secretary; and (k) be submitted to the satisfaction of the Planning Secretary within three months of commissioning the Audit (or within another timeframe agreed by the Planning Secretary).	Section 11.2
	C14	In accordance with the specific requirements in the Independent Audit Post Approval Requirements (Department 2020), the Applicant must: (l) review and respond to each Independent Audit Report prepared under condition C13 of this consent; (m) submit the response to the Planning Secretary and any other NSW agency that requests it, together with a timetable for the implementation of the recommendations; (n) implement the recommendations to the satisfaction of the Planning Secretary; and (o) make each Independent Audit Report and response to it publicly available no later than 60 days after submission to the Planning Secretary and notify the Planning Secretary in writing at least 7 days before this is done.	Section 11.2
	C16	At least 48 hours before the commencement of the development (or such other time as agreed by the Planning Secretary), the Applicant must: (p) make the following information and documents (as they are obtained or approved) publicly available on its website: (i) the documents referred to in condition A2 of this consent; (ii) all current statutory approvals for the development; (iii) all approved strategies, plans and programs required under the conditions of this consent; (iv) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent; (v) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs; (vi) a summary of the current stage and progress of the development; (vii) contact details to enquire about the development or to make a complaint; (viii) a complaints register, updated monthly; (ix) the Compliance Report of the development; (x) audit reports prepared as part of any Independent Audit of the development and the Applicant's response to the recommendations in any audit report; (xi) any other matter required by the Planning Secretary; and (q) keep such information up to date, to the satisfaction of the Planning Secretary.	Section 11.3

2.3 AQOMP Objectives

The key objective of the Operational AQOMP is to describe how the Project will manage and control air emissions when operating the facility and ensure that any air quality impacts are minimised and managed in accordance with SSD-10474.

2.4 Environmental Protection Licence

At the time of writing, an application for an Environmental Protection Licence (EPL) has not yet been submitted for the facility. This management plan is to be updated in accordance with any relevant requirements of the EPL once received.

2.5 Consultation

Consultation with the NSW EPA regarding the AQOMP will be sought when the application of the EPL is submitted.

2.6 Legislation

Legislation relevant to air quality and odour management includes:

- *Protection of the Environment Operations Act 1997* (POEO Act);
- *Protection of the Environment Operations (General) Regulation 2021*;
- *Protection of the Environment Operations (Clean Air) Regulation 2021*;

Relevant provisions of the above legislation are explained in the register of legal and other requirements included in the OEMP.

2.7 Guidelines and Standards

The main guidelines, specifications and policy documents relevant to this AQOMP include:

- *National Environment Protection (Ambient Air Quality) Measure (**National Environment Protection Council, May 2021**).*
- *Approved Method for the Modelling and Assessment of Air Pollutants in New South Wales (**NSW EPA, 2017**)*
- *Technical framework Assessment and management of odour from stationary sources in NSW (**NSW DEC, 2006a**)*
- *Technical notes Assessment and management of odour from stationary sources in NSW (**NSW DEC, 2006b**).*

3 Development description

3.1 Facility Description

Table 2 provides a summary of key components of the Facility as approved under SSD-10474.

Table 2: Summary of SSD-10474

ELEMENT	SSD-10474
Use	Waste or resource management facility, specifically a resource recovery facility.
Processing Capacity	Total of up to 150,000 tonnes per annum (tpa) made up of: (a) 110,000 tpa of wood and timber. (b) 30,000 tpa of plasterboard. (c) 10,000 tpa of metal waste.
Site Area	Site and development footprint measures approximately 6,140 m² in area.
Receival / Dispatch Area	Two weighbridges, main administration office including staff amenities and car parking.
Processing Plant and Equipment	Existing building encompassing all processing plant and equipment, including truck unloading area and stockpiles. Building area, 3,500m^2. Shredder / grinder. Material storage bays inside shed.
Workforce	• Up to 10 full-time operational jobs.

3.1.1 Operating hours

Table 3 provides the approved operational hours.

Table 3 Operational Hours as approved under SSD-14074

Activity	Day	Time
Construction/ Fit out	Monday – Friday Saturday	7 am to 6 pm 8 am to 1 pm
Operation	Monday - Sunday	24 hours

3.2 Key contact details

Table 4 lists the key contacts for the Facility.

Table 4 Resource Recovery and Recycling Facility Contact Details.

LOCATION / PERSONNEL	CONTACT DETAILS
reDirect St Marys Recycling Facility	1300 001 306
Customer Inquiries	1300 001 306
Emergency Spills Response	Emergency Services (Fire & Rescue, Police or Ambulance) – 000

	St Marys Fire Station 9623 3897
Complaints and Feedbacks	1300 001 306

Table 5 lists the contact details for the regulatory authorities that have an interest in the operations of the Facility.

Table 5 Regulatory Authority Contact List.

REGULATORY AUTHORITY	CONTACT DETAILS
Department of Planning and Environment (DPE) **Head Office - Parramatta**	Ph: 1300 305 695 (Planning) Ph: 1300 361 967 (Environment, Energy and Science) info@planning.nsw.gov.au
Environment Protection Authority (EPA) **Environment Line**	131 555 or 02 9995 5555 info@epa.nsw.gov.au
Penrith City Council	(02) 4732 777 council@penrith.city
SafeWork NSW **Incident notification**	13 10 50
Fire and Rescue NSW	St Marys Fire Station (permanently staffed): 02 9623 3897 Ropes Crossing Fire Station (retained staff): 02 9628 0661
NSW Police and / or NSW Ambulance Service	000

4 Site Processing

1. **Weighing loads at the weighbridge and data recording**

Vehicles enter via Dunheved Circuit. All vehicles transporting recyclable material to site is required to stop at the in-bound weighbridge and be weighed. The weighbridge operator inspects the loads for obvious contamination. Contaminated loads are rejected and instructed to leave the site without unloading. All rejected loads are recorded on the rejected load register.

Accepted vehicles are directed to the waste tipping area inside the warehouse and once tipping is complete proceed to the exit weighbridge to complete the transaction.

In the event of weighbridge breakdown, the above details will be recorded manually, to be uploaded into the system as soon as possible following resumption of operation.

2. **Tipping, spreading and inspection of waste**

The incoming loads will be tipped onto floor in the centre of the warehouse. The waste is spread to 100mm thick and inspected for contaminants and other non-conforming materials.

3. **Removal of contaminants and sorting of waste**

For loads with only a small amount of contaminants, the contaminants are picked out and placed in a “residuals” skip bin for disposal off-site. Loads with large amounts of contamination are immediately re-loaded and removed from site by the delivering vehicle. If necessary, a quarantine area has been allocated against the western wall of the warehouse for storing non-conforming waste awaiting removal from site.

4. **Processing clean waste**

Limited processing will occur. Some size reduction may be performed using the excavator or shredder to facilitate efficient transport of processed materials to off-site markets.

5. **Storage**

Clean, sorted material will be transferred to storage bunkers constructed of moveable concrete blocks. The storage area for outgoing product is along the eastern wall of the warehouse. Bays will be signposted for easy identification.

6. **Loading and transfer of material off-site for recycling**

Products are loaded from the storage bays into vehicles using an excavator or front-end loader. Loaded vehicles exit the warehouse in the forward direction via the eastern door, then exit the site via the outbound weighbridge. Vehicles are weighed on the way out. Vehicles exit the site via Dunheved Circuit in the forward direction.

Figure 3 provides a process flow chart for the operation of the facility.

Figure 3.Process flow chart for the operation of the Waste Management and Recycling Facility.

5 Baseline data

This section describes the existing baseline environment including the climate, meteorology and ambient air quality in the area surrounding the site.

5.1 Local climatic conditions

Long-term climatic data from the Bureau of Meteorology (BoM) weather station at Penrith Lakes Automatic Weather Station (AWS) (Site No. 067113) were analysed to characterise the local climate in the proximity of the site. Penrith Lakes is located approximately 8.5km west of the facility.

Table 6 and **Figure 4** present a summary of data from the Penrith Lakes AWS collected over a 14-to-27-year period for the various meteorological parameters.

The data indicate that January is the hottest month with a mean maximum temperature of 31.1 degrees Celsius (ºC) and July is the coldest month with a mean minimum temperature of 5.3ºC.

Rainfall decreases during the cooler months, with an annual average rainfall of 740.0 millimetres (mm) over 73.4 days. The data indicate that February is the wettest month with an average rainfall of 122.1mm over 8.3 days and July is the driest month with an average rainfall of 29.8mm over 4.2 days.

Relative humidity levels exhibit variability over the day and seasonal fluctuations. Mean 9am relative humidity ranges from 60% in October to 85% in June. Mean 3pm relative humidity levels range from 40% in September to 55% in June.

Wind speeds exhibit seasonal variations with lower wind speed records for 9am and higher observations for 3pm conditions. Mean 9am wind speeds range from 7.2 kilometres per hour (km/h) in May to 10.6km/h in October. Mean 3pm wind speeds range from 12.2km/h in May to 18.4km/h in September.

Table 6 Monthly climate statistics summary – Penrith Lakes AWS

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann.
Temperature													
Mean max. temp. (ºC)	31.1	29.5	27.5	24.7	21.2	18.2	18.0	19.9	23.4	25.9	27.5	29.6	24.7
Mean min. temp. (ºC)	18.7	18.5	16.8	13.2	9.3	6.8	5.3	6.1	9.3	12.2	15.0	17.1	12.4
Rainfall													
Rainfall (mm)	94.3	122.1	110.5	48.8	36.3	46.4	29.8	30.4	31.7	56.4	85.5	65.0	740.0
No. of rain days (≥1mm)	7.7	8.3	8.8	5.6	4.3	5.6	4.2	3.3	4.6	5.6	8.0	7.4	73.4
9am conditions													
Mean temp. (ºC)	22.3	21.7	19.7	17.6	13.8	10.5	9.6	11.7	15.8	18.5	19.6	21.4	16.8
Mean R.H. (%)	73	79	80	76	81	85	83	72	64	60	68	69	74
Mean W.S. (km/h)	9.3	9.2	7.7	8.1	7.2	7.7	7.4	8.7	10.5	10.6	10.4	9.3	8.8
3pm conditions													
Mean temp. (ºC)	29.0	27.7	26.1	23.3	19.8	17.1	16.6	18.6	21.7	23.7	25.3	27.6	23.0
Mean R.H. (%)	47	53	52	49	52	55	50	41	40	41	46	45	48
Mean W.S. (km/h)	15.7	14.3	13.7	13.2	12.2	12.7	13.5	16.5	18.4	18.0	17.4	16.4	15.2

Source: **Bureau of Meteorology, 2022**
R.H. – Relative Humidity, W.S. – wind speed

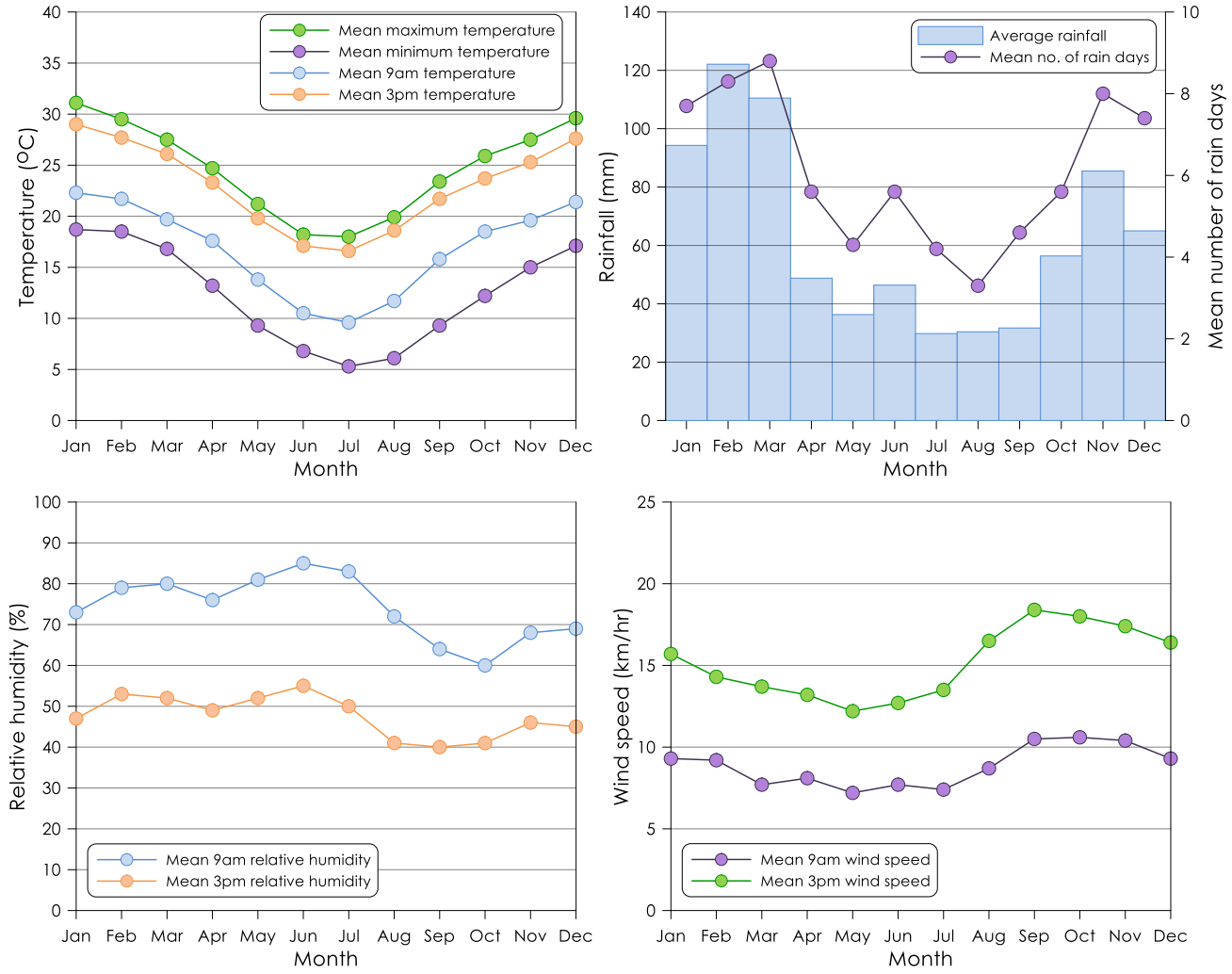

Figure 4 Monthly climate statistics summary – Penrith Lakes AWS

5.2 Local meteorological conditions

Annual and seasonal windroses for the Penrith Lakes AWS during the 2021 calendar period are presented in **Figure 5**.

Analysis of the windroses shows that the wind directions are predominately from the south-southwest. In summer, winds from the south-southwest and south are most frequent with fewer winds from the west. The autumn windrose show a similar distribution pattern as the annual windrose with the greatest winds from the south-southwest. During winter, the winds predominantly occur from the southwest and northwest quadrants. In spring, the distribution pattern indicates most winds occur from the south-southwest with some strong winds arising from the west and west-northwest sectors.

Figure 5 Annual and seasonal windroses – Penrith Lakes AWS (2021)

5.3 Local air quality monitoring

The main sources of air pollutants in the area surrounding the facility are emissions from surrounding industrial and commercial operations and from other anthropogenic activities such as wood heaters and motor vehicle exhaust.

Data from the nearest air quality monitor operated by the NSW DPE at St Marys is used to characterise the baseline background pollutant levels in the vicinity of the site. The St Marys monitor is located approximately 6km south of the facility.

5.3.1 PM_{10} monitoring

A summary of the available PM_{10} monitoring data from 2015 to 2021 is presented in **Table 7**. Recorded 24-hour average PM_{10} concentrations are presented in **Figure 6**.

The data indicate that annual average PM_{10} levels were generally below the National Environmental Protection (Ambient Air Quality) Measure (NEPM) standard of 25µg/m^3 whereas the 24-hour average NEPM standard of 50µg/m^3 was exceeded on occasion. It is noted that the elevated PM_{10} concentrations recorded in late 2019 and early 2020 are attributed to the widespread bushfires and drought affecting NSW.

Table 7 Summary of PM_{10} levels from St Marys (µg/m^3)

Year	Annual average	NEPM annual standard	Maximum 24-hour average	NEPM 24-hour standard
2015	15.0	25	53	50
2016	16.1	25	100.2	50
2017	16.2	25	49.8	50
2018	19.4	25	100.5	50
2019	24.7	25	159.8	50
2020	18.9	25	260.3	50
2021	16.2	25	54.9	50

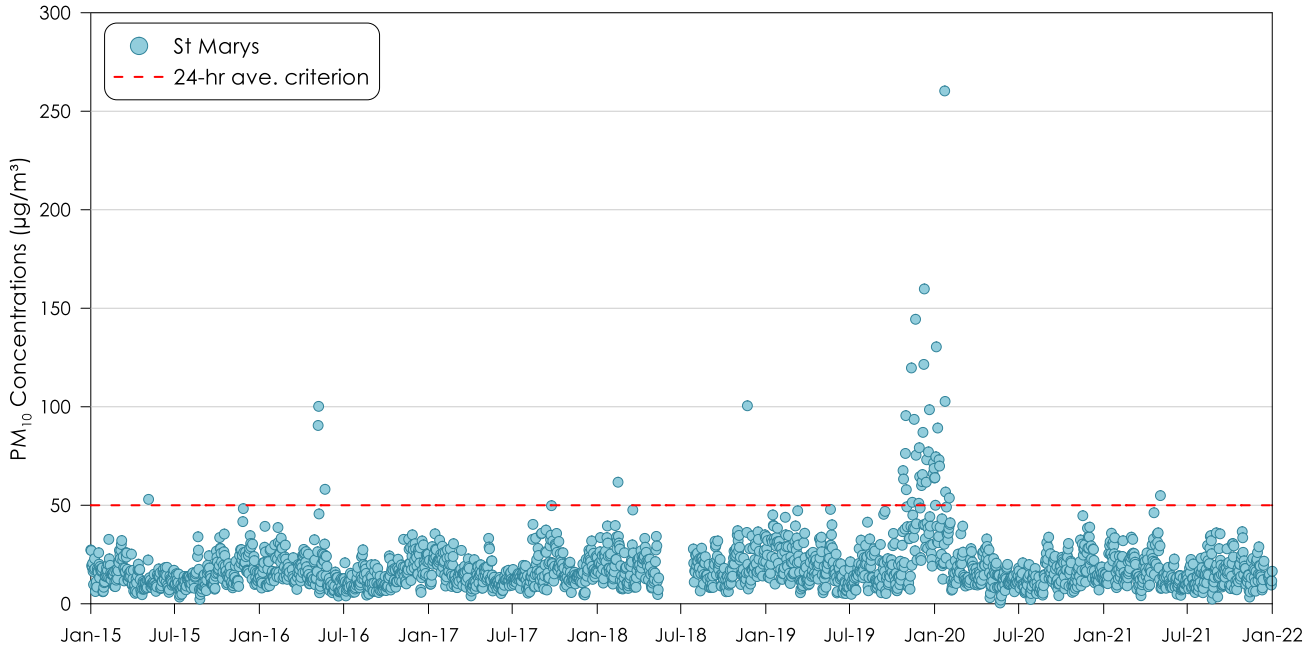

Figure 6 24-hour average PM_{10} concentrations

5.3.2 $PM_{2.5}$ monitoring

A summary of the available data is presented in **Table 8**. Recorded 24-hour average $PM_{2.5}$ concentrations are presented in **Figure 7**.

The data indicate that annual average $PM_{2.5}$ levels were generally above the National Environmental Protection (Ambient Air Quality) Measure (NEPM) standard of 8µg/m^3. The 24-hour average NEPM standard of 25µg/m^3 was exceeded on occasion. It is noted that the elevated PM_{10} concentrations recorded in late 2019 and early 2020 are attributed to widespread bushfires and drought affecting NSW.

Table 8 Summary of $PM_{2.5}$ levels from St Marys (µg/m³)

Year	Annual average	NEPM annual standard	Maximum 24-hour average	NEPM 24-hour standard
2015	-	8	-	25
2016	7.9	8	93.2	25
2017	7.0	8	38.2	25
2018	7.8	8	80.5	25
2019	9.8	8	88.3	25
2020	7.6	8	82.5	25
2021	5.8	8	40.3	25

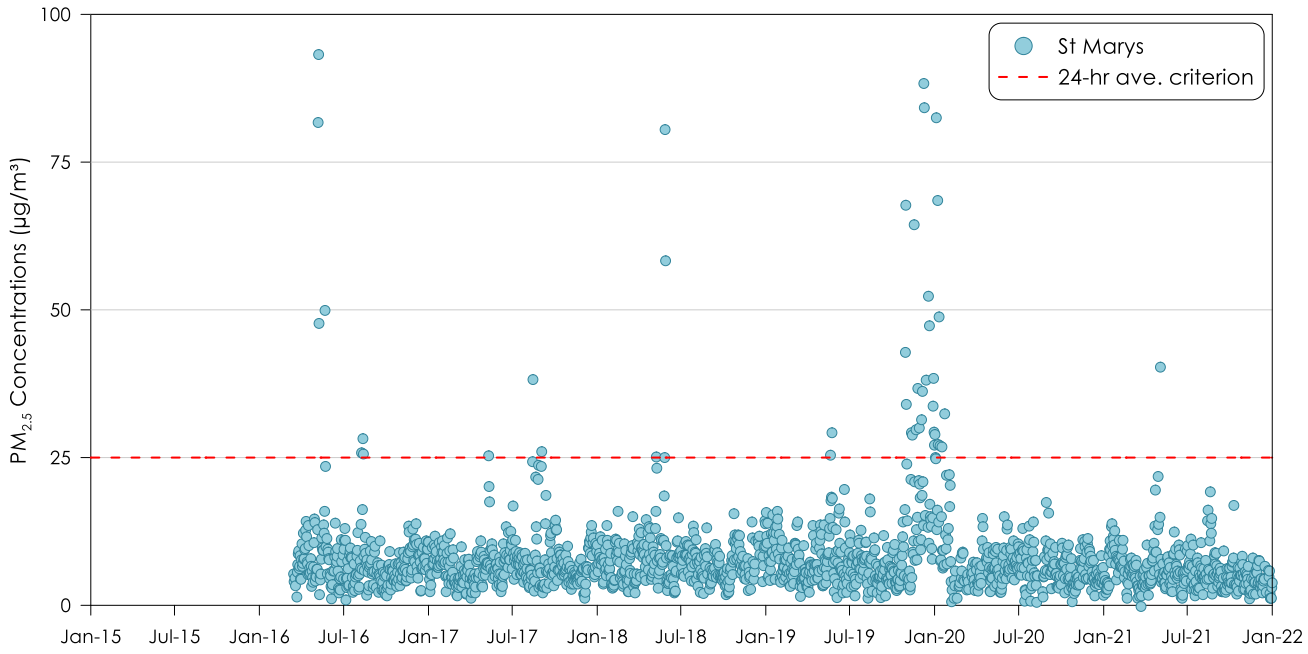

Figure 7 24-hour average $PM_{2.5}$ concentrations

6 Air quality criteria and performance indicators

There are no load limits, air quality criteria or air emission limits specified for the facility in the development consent conditions.

6.1 Performance indicators

Table 9 presents the air quality related key performance indicators that will be used to assess the air quality performance of the facility.

Table 9 Key performance indicators

Measure	Key performance indicator
Training	All site personnel have completed air quality training
Implementation of the management practices	Annual compliance checklist shows that all management practices listed in this plan were implemented
Visual monitoring	No excessive dust visible beyond the boundary
Validated air quality complaints are minimised and appropriate management actions are implemented following receipt of a complaint	No validated air quality complaints

7 Air quality management and control measures

The activities at the site will generate some amount of dust, therefore it is prudent to take reasonable and practicable measures to prevent and minimise excessive generation of emissions which may affect the surrounding environment.

The effectiveness of air quality management and control measures will be assessed and continually improved through the plan review.

7.1 Air pollutant sources

The most significant pollutant generated from the Facility is dust.

The Air Quality Impact Assessment (AQIA) for the Facility was prepared by **Wilkinson Murray (2020)**.

Table 10 ranks the annual particulate emissions for the various activities associated with the facility. Estimates of air pollutant emissions associated with the facility have been obtained from the AQIA.

Table 10 Summary of estimated dust emissions for the facility (kg/year)

Activity	TSP emissions
Processing/ screening	684.0
Loading/ unloading	188.4
Hauling material	173.1
Exhaust emissions	87.6

7.2 Control measures and management practices

In addition to procedural items stated in the preceding Sections of this AQOMP, mitigation measures stated under **Table 11** below will be applied for the duration of operation for the Facility.

These measures are applied to the on-site activities to minimise the generation and hence potential for dust impacts at the nearest sensitive receptors and in the surrounding environment. Equipment is installed and operated in line with best practice. All reasonable and feasible steps are undertaken to ensure that the site does not cause emissions of offensive odour beyond the boundary of the site.

The air quality management tools include a comprehensive set of both proactive and reactive control measures and management practices.

The site is to keep a compliance checklist of control measures and management practices to confirm they are being implemented.

Table 11: Air quality and odour related management and mitigation measures to be applied to the Facility

CONSIDERATION	CONTROL
General	Training is provided to all site personnel on appropriate air quality control practices and the requirements per this plan.
	The weather forecast is checked daily, and appropriate management measures are implemented prior to adverse weather conditions to minimise particulate emissions from the site.
	If adverse weather conditions occur during operations, activities are assessed and modified as required. Cease activity where reasonable levels of dust cannot be maintained using available means.
	Visual monitoring of activities is undertaken to identify dust generation.

CONSIDERATION	CONTROL
	Procedures developed for staff to report the presence of strong odours around the perimeter of the site.
	The site maintains an Environmental Complaints Register
	In the event of an odour complaint, an immediate investigation of any odour sources is undertaken, together with appropriate actions to eliminate any identified excessive odour.
	Site is to be sealed with concrete or asphalt.
	No waste, waste derived products and/or finished products, are stored outside of the building at any time.
	The roller doors of the processing building are kept closed at all times, except when vehicles are entering or exiting the building.
Plant, equipment and vehicles	Engines of on-site vehicles and plant are switched off when not in use.
	Vehicles and plant are fitted with pollution reduction devices where practicable.
	Vehicles are maintained and serviced according to manufacturer's specifications.
Material handling	Drop heights from loading and handling equipment are reduced where practical.
	All loading, unloading, materials handling, sorting, sampling, processing and storage operations are undertaken within a fully enclosed building.
Hauling/ vehicle movements	On-site speed limits of 10 kilometres per hour are enforced.
	Vehicle traffic is restricted to designated routes.
	Driveways and hardstand areas are swept/cleaned regularly as required.
	Wheel wash/wheel cleaning for vehicles leaving the site.
	Spills onto trafficked areas are cleaned as soon as possible.
	All trucks entering and exiting the premises have their loads covered.
	Delivery schedules are coordinated to avoid a queue of the incoming or outgoing trucks for extended periods of time.
Material processing	Shredding/ grinding plant to be operated within processing building.
	A dust suppression system is operational and used at all times when processing materials that create dust.

7.3 Contingency plan

In the event that a performance indicator (refer to **Section 6.1**) has not been met, reDirect will implement the following contingency plan to manage any unpredicted impacts and their consequences to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible:

- Report the non-compliance or incident if required per Sections 8.5 and 8.6 respectively;
- Investigate and identify the cause of the non-compliance or incident;
- Consider options to manage the identified impacts; and,

Implement the appropriate course of action to ensure that the exceedance / incident ceases and does not reoccur to the satisfaction of the Planning Secretary.

8 Environmental Performance

8.1 Air quality inspections

Monitoring for dust will involve regular inspections of activities. Routine inspections will be conducted as per the frequency and performance indicator as stated in **Table 12**.

Table 12 Air quality inspections

Inspection	Frequency	Performance indicator
Visual surveillance for dust emission or mud tracking off-site.	Daily	No dust emission or mud tracking off-site.
Inspection of dust controls to ensure implemented and working effectively.	Daily	All dust controls implemented as required and working effectively.
Site inspections for visible dust emissions and dust deposits on surfaces.	Daily	Visible dust emissions and minimisation of deposits on surfaces indicate effective dust suppression.
Plant/ equipment inspections including maintenance and emissions.	As required, prior to use	Inspections undertaken in line with manufacturers specifications.

8.2 Visual dust monitoring

Visual dust monitoring is to be undertaken continually during operation. **Table 13** presents the visual dust trigger action response plan (TARP). If a visible dust plume generated by the site is observed with the potential to cross or having already crossed the facility boundary, an immediate investigation of any dust sources must be undertaken together with appropriate actions to eliminate any identified excessive dust.

Table 13 Visual dust TARP

Alert level	Trigger	Action
Green	No visible dust leaving the site	Continue visual monitoring
Amber	Visible dust plume observed with potential to cross facility boundary	Review and investigate activities and respective control measures. Where appropriate, implement additional remedial measures.
Red	Visible dust plume observed crossing the facility boundary	Undertaken an investigation of dust generating activities and if necessary, modify or cease dust generating activities.

A site visual dust log is to be kept by reDirect recording any observation of excessive dust generated by the facility. Records are to include the following details where relevant:

- The date, time, duration and location of the observation;
- Meteorological conditions at the time of observation (obtained from the nearest BoM or DPE weather stations);
- Whether the visual dust plume travelled off-site;
- Any source/s of dust specifically identified as contributing to the visual dust plume; and,
- The action taken by reDirect to minimise dust levels and prevent the issue from recurring.

8.3 Performance evaluation

The performance of the facility is to be evaluated against the key performance indicators outlined in **Table 9**.

Table 14 indicates the evaluation schedule for each key performance indicator.

Where performance indicators are not being met, the contingency plan per **Section 7.3** is to be implemented.

Table 14 Evaluation schedule of key performance indicators

Key performance indicator	Performance evaluation schedule
All site personnel have completed air quality training	Annual
Annual compliance checklist shows that all management practices listed in this plan were implemented	Annual
No excessive dust visible beyond boundary	Continuous
No validated air quality complaints	As required

8.4 Compliance reporting

Within six months after the first year of commencement of operation of the facility, and in the same month each subsequent year (or such other timing as agreed by the Planning Secretary), the Applicant must submit a Compliance Report to the Planning Secretary reviewing the environmental performance of the development to the satisfaction of the Planning Secretary. Compliance Reports must be prepared in accordance with the Compliance Reporting Post Approval Requirements (Department 2020) and must also:

- Identify any trends in the monitoring data over the life of the development;
- Identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and,
- Describe what measures will be implemented over the next year to improve the environmental performance of the development.

The Applicant must make each Compliance Report publicly available no later than 60 days after submitting.

8.5 Non-compliance

The Planning Secretary must be notified in writing via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance.

A non-compliance notification is to set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

8.6 Incident reporting

The Planning Secretary is to be notified in writing via the Major Projects website immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Appendix 3 Incident Notification and Reporting Requirements of SSD-10474.

9 Inductions and Training

reDirect Recycling 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).

9.1 General Site Induction

All personnel will undertake a compulsory site induction prior to commencing work on site. The site induction will include an environmental component which will address the following as a minimum:

- Relevant details of the facility OEMP and this AQOMP including purpose and objectives.
- Overview of sub-plans of the facility OEMP and this AQOMP, including specific requirements relating to personnel onsite.
- Key environmental issues.
- Environmental licenses, permits and approval conditions.
- Relevant legislation.
- Environmental management requirements and responsibilities.
- Mitigation measures for the control of environmental issues.
- Environmental incident response and reporting requirements.
- Information relating to the location of environmental constraints.
- Environmental personnel and key contacts.
- Appropriate response and management of complaints received from the public, government agencies or other stakeholders in accordance with the protocol detailed in **Section 10.2**.
- Appropriate response and management of environmental incidents in accordance with the strategy detailed in Section 6 of the Facility OEMP.

9.2 Works Specific Induction

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.
- Pollution incident response management plan.

9.3 General Environmental Awareness

All employees and contractor personnel shall receive Environmental Awareness training, which may be undertaken concurrently with the General Site Induction and / or Works Specific Induction. 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.
- OEMP non-conformance reporting requirements.

9.4 Tool-box Talks

All personnel will attend toolbox talks on a daily basis at pre-start meetings. Toolbox talks may include, but not limited to:

- Noise and dust control.
- Erosion and sediment control.

- Water management.
- Operation hours.
- Waste management.
- Spill control.
- Environmental exclusion areas.
- Environmental incidents.
- Predicted weather and associated hazards (e.g. flooding, high winds, bushfire).

9.5 Training records

Records of all training will be recorded and maintained and will include information on:

- Who was trained.
- When the person was trained.
- The name of the trainer.
- A general description of the training content.

Training records for the facility will be stored on the online project management system *DataStation*. reDirect Recycling will maintain in internal management system within the *DataStation* for the facility.

9.6 Training Review

The ongoing competency and training requirements will be reviewed on a routine basis depending on staffing and current operations at the site. Potential triggers for a review of training methodology under this OEMP include:

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

10 Incidents and Complaints

10.1 Incident Management

The management of environmental incidents, including potential pollution incidents, will be undertaken as outlined under Section 6.2 of the Facility OEMP.

Incident reporting will occur as outlined under Section 6.2.2 of the Facility OEMP. In accordance with Condition C10 of SSD-10474, **within 24 hours of any incident or potential incident with actual or potential significant off-site impacts on people or the biophysical environment**, a report shall be supplied to DPE outlining the basic facts. A further detailed report shall be prepared and submitted following investigations of the causes and identification of necessary additional preventive measures. That report must be submitted to the Secretary no later than 30 days after the incident or potential incident.

10.2 Complaint Management

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

reDirect Recycling 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:

- reDirect Recycling company or site office;
- reDirect Recycling Complaints and Feedback number – 02 4340 9800 (BORG Group Head Office).
- reDirect Recycling Internet enquiry - www.redirectrecycling.com.au; and
- Through a government agency (i.e. Council or EPA).

10.2.1 Complaint Handling Procedure

Upon becoming aware of a complaint, reDirect Recycling Site Management are to follow the below process.

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, reDirect Recycling Management should be contacted. Where the complaint is reported via a government agency (i.e. Council or the EPA), redirect Recycling's Operations 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. Redirect Recycling'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 6.2 of the Facility OEMP 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, reasonable and feasible 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 redirect Recycling's electronic record system. If the system is unavailable, then the complaint is to be recorded on redirect Recycling's Incident Non-Conformance Report Form. The complaints register will be updated on a monthly basis and made publicly available on redirect Recycling's website.

The following details will be recorded at minimum:

- The date and time of the complaint.
- The method by which the complaint was made.
- Any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect.
- The nature of the complaint.
- The action taken by the licencee in relation to the complaint, including any follow-up contact with the complainant.
- If no action was taken by the licensee, the reasons why no action was taken.

The complaints register will record the action taken by reDirect Recycling 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. The record must be produced to any authorised officer of the EPA who asks to see them.

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 reDirect Recycling and Council or a public authority, in relation to an applicable requirement of the COA or relevant matter relating to the site, either party may refer the matter to the DPE (the Planning Secretary) 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 redirect Recycling 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.

11 Review and Improvement of Environmental Performance

11.1 Review and continuous improvement

A performance review of this AQOMP is to be conducted within three months of:

- The submission of a Compliance Report
- The submission of an incident report;
- The submission of an independent audit
- The approved of any modification of the conditions of this consent; or
- The issue of a direction of the Planning Secretary which requires a review.

If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, this plan will be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review.

This review includes;

- A description of any changes to site operations with potential for air quality impacts;
- A review of air quality monitoring data trends (if applicable);
- A review of incidents and non-compliances;
- A review of air quality complaint records for the year;
- A description of measures to be implemented to improve the air quality performance of the facility.

The most recent approved version of this AQOMP as approved by the Planning Secretary is to be implemented and be made publicly available on the ReDirect website.

11.2 Independent audits

Within one year of the commencement of operations of the facility, and every three years after, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit (Audit) of the development. Audits must:

- Be prepared in accordance with the Independent Audit Post Approval Requirements (Department 2020);
- Be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Planning Secretary; and,
- Be submitted to the satisfaction of the Planning Secretary within three months of commissioning the Audit (or within another timeframe agreed by the Planning Secretary).

The Applicant must:

- Review and respond to each Independent Audit Report prepared under condition C13 of the consent;
- Submit the response to the Planning Secretary and any other NSW agency that requests it, together with a timetable for the implementation of the recommendations;
- Implement the recommendations to the satisfaction of the Planning Secretary; and,
- Make each Independent Audit Report and response to it publicly available no later than 60 days after submission to the Planning Secretary and notify the Planning Secretary in writing at least 7 days before this is done.

11.3 Access to information

At least 48 hours before the commencement of construction of the development until the completion of all works under this consent, including remediation, the Applicant must:

a) make the following information and documents (as they are obtained or approved) publicly available on the reDirect Recycling website:
    i. the documents referred to in condition A2 of this consent;
    ii. all current statutory approvals for the development;
    iii. all approved strategies, plans and programs required under the conditions of this consent;
    iv. regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;

v. a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
vi. a summary of the current stage and progress of the development;
vii. contact details to enquire about the development or to make a complaint;
viii. a complaints register, updated monthly;
ix. the Compliance Report of the development;
x. audit reports prepared as part of any Independent Audit of the development and the Applicant's
xi. response to the recommendations in any audit report;
xii. (xi) any other matter required by the Planning Secretary; and

b) keep such information up to date, to the satisfaction of the Planning Secretary.

12 Conclusion

This AQOMP has been prepared by Todoroski Air Sciences on behalf of reDirect Recycling, for the operation of the Resource Recovery and Recycling Facility, located at 25 Dunheved Circuit St Marys, NSW.

This AQOMP has been prepared in accordance with the SSD-10474 Consolidated COA to address air quality and odour management, tracking and reporting requirements for the operation of the Facility.

This AQOMP may require updates to remain consistent with site operations and supporting management plans. This will be undertaken in accordance with Section 11 of the OEMP where applicable.

13 References

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"Technical Framework Assessment and Management of Odour from Stationary Sources in NSW", Department of Environment and Conservation (DEC) NSW, November 2006.

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"Technical Notes Assessment and Management of Odour from Stationary Sources in NSW", Department of Environment and Conservation (DEC) NSW, November 2006.

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