REPORT

MET WASTE MANAGEMENT PTY LTD - PROPOSED PROCESSED ENGINEERED FEEDSTOCK PRODUCTION FACILITY

134 CARNARVON STREET, SILVERWATER, NSW 2128

AIR QUALITY AND ODOUR IMPACT ASSESSMENT
RWDI # 2600905
29 April 2026

SUBMITTED TO

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DOCUMENT CONTROL

Version	Status	Date	Prepared By	Reviewed By
A	Draft	14 November 2025	AC	RR- CAQP
B	Final	02 December 2025	AC	RR- CAQP
C	Updated with increased processing capacity	31 March 2026	AC	RR- CAQP
D	Final Update	7 April 2026	AC	RR- CAQP
E	Final Update	23 April 2026	AC	RR- CAQP
F	Final Update	29 April 2026	AC	RR- CAQP

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EXECUTIVE SUMMARY

This Air Quality and Odour Impact Assessment report has been prepared by RWDI Australia Pty Ltd in support of approval for the development of a Processed Engineered Feedstock (PEF) Production Facility at MET Waste Management Pty Ltd (MET Waste Management) located at 134 Carnarvon Street, Silverwater NSW 2128 (Lot 1 DP 713708). The PEF Production Facility will receive, sort and process up to 450,000 tonnes per annum of residual Municipal Solid Waste (MSW) and Commercial and Industrial (C&I) waste in a ratio of approximately 40% to 60% by weight respectively and provide new critical infrastructure to address the projected shortfall in Sydney's waste disposal needs by 2030 (the Proposal).

The report assessed the potential construction and operational dust, and odour impacts associated with the Proposal in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2022).

A risk-based approach was adopted to assess dust emissions from the construction of the Proposal in accordance with the Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) "Guidance on the Assessment of Dust from Demolition and Construction" (EPUK & IAQM, 2024). The assessment concluded that there would be a medium risk from construction, low risk of dust impacts from trackout, whereas negligible risks from all other construction activities (demolition, and earthworks) and with the implementation of recommended mitigation measures, no significant air quality impacts are expected to occur during the construction of the Proposal.

A quantitative dispersion modelling assessment was undertaken to evaluate potential dust, and odour impacts on nearby receptors during the operation of the Proposal. The AERMOD dispersion modelling system was used to simulate ground-level pollutant concentration, incorporating building downwash effects. The model was driven by site-representative meteorological data generated using TAPM/AERMET.

Modelling results indicate the following:

- **Particulate Matter (PM_{10} and $PM_{2.5}$):**
  Predicted particulate matter concentrations under worst-case operational conditions would comply with applicable assessment criteria at the majority of sensitive receptors. Although exceedances of the 24-hour average PM_{10} and $PM_{2.5}$ criteria were predicted at some locations, these exceedances are primarily attributable to elevated background concentrations that already exceed the relevant criteria in the absence of the Proposal.
  The maximum incremental contribution from the Proposal is predicted to be less than 15% of the 24-hour average PM_{10} criterion and less than 7% of the 24-hour average $PM_{2.5}$ criterion. Accordingly, the Proposal would not materially contribute to, or exacerbate, existing particulate matter exceedances, and would not result in an unacceptable increase in exposure at nearby sensitive receptors.
- **Odour:**
  No odour impacts were predicted at any sensitive receptors under worst-case operational scenarios. With the implementation of a robust Odour Control System, including appropriate containment, extraction, and treatment measures, predicted ground-level odour concentrations are unlikely to exceed the applicable assessment criteria.

The Proposal would incorporate best-practice odour mitigation, management, and control strategies to minimise odour generation and ensure ongoing compliance, thereby reducing the potential for off-site odour impacts.

Overall, the assessment demonstrates that the proposed Processed Engineered Feedstock (PEF) Production Facility can be constructed and operated without causing adverse air quality or odour impacts on the surrounding environment. With the implementation of appropriate mitigation and management measures, the Proposal is considered acceptable from an air quality and odour impact perspective and is unlikely to adversely affect nearby sensitive receptors.

1 INTRODUCTION

RWDI Australia (RWDI) has been commissioned by JEP Environment & Planning on behalf of MET Waste Management Pty Ltd to provide an Air Quality and Odour Impact Assessment (AQOIA) to seek approval to develop a Processed Engineered Feedstock (PEF) Production Facility at its existing site located at 134 Carnarvon St, Silverwater NSW 2128 (Lot 1 DP 713708). In an Australian first, the high-tech PEF Production Facility will receive, sort and process up to 450,000 tonnes per annum of residual Municipal Solid Waste (MSW) and Commercial and Industrial (C&I) waste in a ratio of approximately 40% to 60% by weight respectively and provide new critical infrastructure to address the projected shortfall in Sydney's waste disposal needs by 2030 ("Proposal").

This AQOIA report provides the following details:

- The existing environment;
- The land zoning of the site and neighbouring area;
- The closest existing residential and industrial receivers;
- Relevant air quality criteria;
- Construction and operational air quality predictions for the Proposal and assumptions used in the assessment; and
- Recommendations to minimise air quality impacts on affected receivers, if required.

This AQOIA has been completed with reference to relevant guidelines and policies, namely:

- Climate Averages Australia, Bureau of Meteorology (BOM, 2024);
- Environment Protection Authority (EPA) guideline entitled "Approved Methods for the Modelling and Assessment of Air Pollutants in NSW" (NSW EPA, 2022);
- Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) "Guidance on the Assessment of Dust from Demolition and Construction" (EPUK & IAQM, 2024);
- Protection of the Environment Operations Act 1997 No 156 (NSW Parliament, 2023); and
- Technical Notes - Assessment and management of odour from stationary sources in NSW (NSW EPA, 2006).

This assessment has been carried out based on the "Concept Architectural Plans" drawings, prepared by JEP Environment & Planning, issued and dated 12 February 2026.

2 PROPOSAL DESCRIPTION

2.1 Proposal Location

The Site is located in the Silverwater Industrial Estate and is zoned E4 General Industrial under the Parramatta Local Environmental Plan 2023. The Site currently operates under development consent DA384/87 permitting waste management operations including receiving, sorting and processing of building, civil and related construction materials (under the entity MET Recycling Pty Ltd). Current site operations are licensed under NSW Environment Protection Authority licence 20948 and are currently limited to store no more than 20,000 tonnes on site under Limit Condition L2.3. The location of the site is presented in Figure 2-1.

Surrounding land uses are predominantly industrial and commercial in nature. To the north, east and south-east of the Site, there are large-scale warehouse, manufacturing and logistics facilities, consistent with the industrial zoning. The residential and other sensitive receptors (R16 in Table 2-1) are located approximately 110m away from the Site. The locations of all nearby sensitive receptors are included in Figure 2-1 and listed in Table 2-1.

Table 2-1: Sensitive Receptors Surrounding the Site

Receptor	Address	Receiver Type	Distance to Site (m)	UTM Coordinates (Zone 56 H)	
				X (m E)	Y (m S)
I1	2/107 Carnarvon Street Silverwater	Industrial	40	318,150	6,254,577
I2	149 Beaconsfield Street Silverwater	Industrial	30	318,129	6,254,324
I3	1-3 Short Street Auburn	Industrial	110	317,848	6,254,132
P4	107 Derby Street Silverwater	Place of Worship	300	318,405	6,254,651
P5	191 Parramatta Road Auburn	Place of Worship	450	318,126	6,253,806
E6	153-159 Parramatta Road Auburn	Educational	500	318,474	6,253,718
E7	96 Adderley Street West Auburn	Educational	510	318,575	6,253,708
E8	75 Macquarie Road Auburn	Educational	550	318,341	6,253,489
E9	Hunter Street Auburn	Educational	500	318,111	6,253,495
R10	79 Hampstead Road Auburn	Residential	410	317,854	6,253,798

Receptor	Address	Receiver Type	Distance to Site (m)	UTM Coordinates (Zone 56 H)	
				X (m E)	Y (m S)
C11	13-15 Newton Street South Auburn	Commercial	170	317,931	6,254,031
R12	63 Asquith Street Silverwater	Residential	470	318,532	6,254,181
I13	5 Junction Street, Auburn	Industrial	35	317,829	6,254,364
I14	3-11 Shirley Street, Rosehill	Industrial	220	317,751	6,254,553
I15	9 Devon Street, Rosehill	Industrial	150	317,972	6,254,647
R16	105 Asquith Street, Silverwater	Residential	110	318,220	6,254,374
C17	97 Asquith Street Silverwater	Commercial	170	318,270	6,254,339
R18	127 Beaconsfield Street Silverwater	Residential	250	318,286	6,254,203
R19	29 Stubbs Street Silverwater	Residential	475	318,503	6,254,132
C20	92 Asquith Street Silverwater	Commercial	245	318,320	6,254,258
R21	91 Deakin Street Silverwater	Residential	470	318,423	6,253,998
R22	82-84 Beaconsfield Street Silverwater	Residential	475	318,456	6,254,053
I23	111-113 Deakin Street Silverwater	Industrial	240	318,243	6,254,119

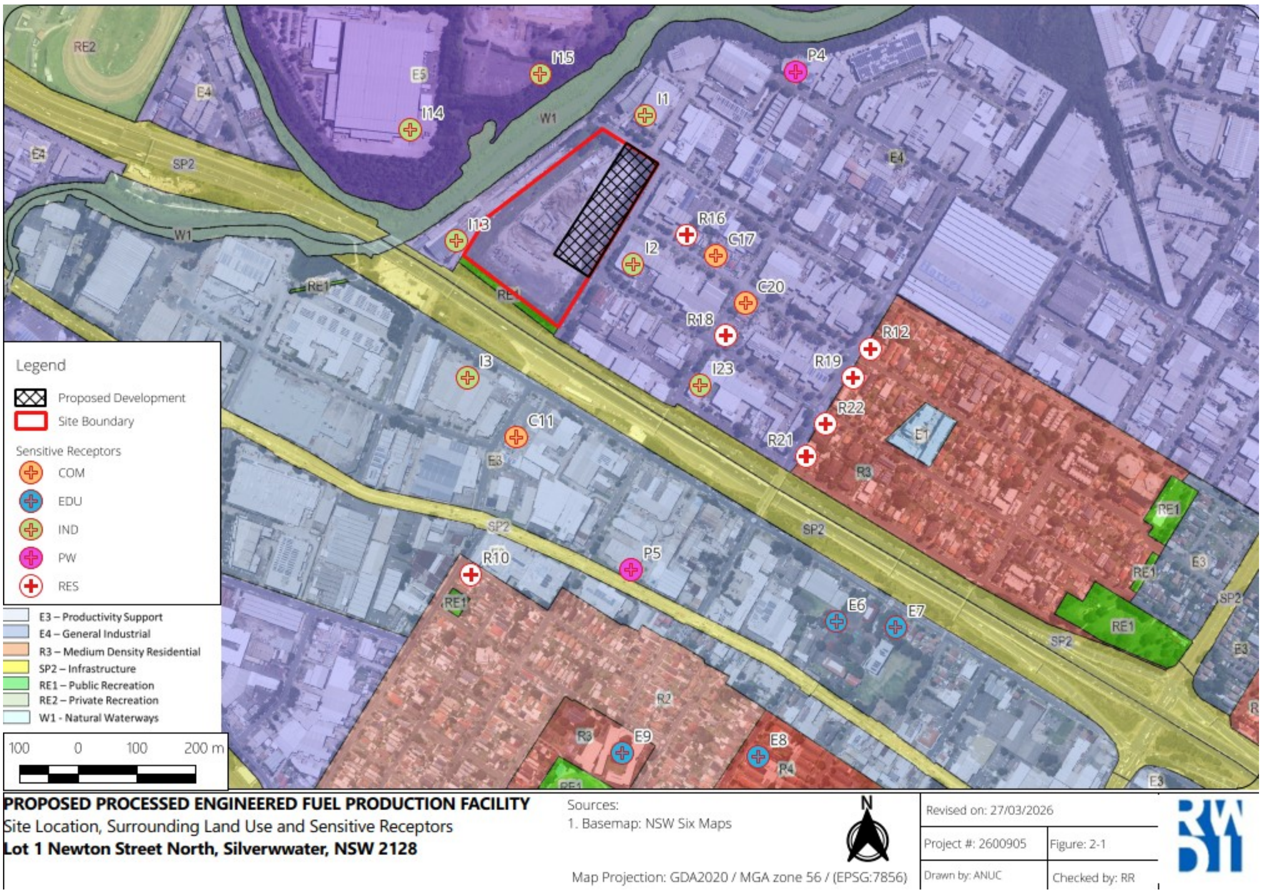

Figure 2-1: Site Location, Surrounding Land Use and Sensitive Receptors

2.2 Proposed Development

MET Waste Management Pty Ltd is seeking approval to develop a Processed Engineered Feedstock (PEF) Production Facility at its existing site located at 134 Carnarvon St, Silverwater NSW 2128 (Lot 1 DP 713708). The Site is located in the Silverwater Industrial Estate and is zoned E4 General Industrial under the Parramatta Local Environmental Plan 2023. The Site currently operates under development consent DA384/87 permitting waste management operations including receiving, sorting and processing of building, civil and related construction materials. Current site operations are licensed under NSW Environment Protection Authority licence 20948.

In an Australian first, the high-tech PEF Production Facility will receive, sort and process up to 450,000 tonnes per annum of residual Municipal Solid Waste (MSW) and Commercial and Industrial (C&I) waste in a ratio of approximately 40% to 60% by weight respectively and provide new critical infrastructure to address the projected shortfall in Sydney's waste disposal needs by 2030 (the Proposal).

A key objective of the Proposal is to provide a sustainable end-of-life solution for residual wastes that have no other option apart from landfill. In a European style approach, residual (red bin) waste from households and businesses will undergo advanced and automated processing with a fully enclosed building with advanced environmental control systems. Waste materials received will be decontaminated to remove hazardous waste items (e.g. batteries, gas bottles, smoke detectors, chemical containers and asbestos). Additional recoverable materials such as paper, carboard, plastics, PVC, ferrous and non-ferrous materials will be removed and sent off-site for recycling.

The high calorific material remaining will be refined, dried, shredded, baled, sampled and tested for compliance with end user requirements. The PEF will be transported to markets via road or rail for use in sustainable chemical production (e.g. methanol) or for sustainable energy generation in Australia or overseas. PEF will be placed in forty cubic foot shipping containers within the warehouse building. The PEF containers will be transported via 19m semi-trailers. These shipping containers will be transported to Port Botany using the State road network, or transported intra or interstate via rail by delivering the shipping containers to either the Enfield or Moorebank intermodal facilities. All trucks entering and leaving the Proposal will be via a defined haul route within the Silverwater Industrial Estate onto Silverwater Rd, to avoid the generation of any new truck traffic near residents along Carnarvon St (or any other local residential streets in the area).

Recyclables may be baled or loose then transported from the Site in enclosed trucks up to semi-trailers. These recyclables will be transported to processing facilities for manufacturing. Residual or non-compliant wastes will be transported in appropriate sealed containers on trucks for lawful processing or disposal off-site.

The Proposal seeks to divert up to 85% of red bin residual waste from landfill from households and businesses, helping to preserve and extend the life of existing landfills and accelerating the transition to a Circular Economy in an advanced and highly controlled facility within the population centre of Sydney.

Several sustainability measures and targets have been included in the plant design, such as: overall target to have nil air quality impacts in the local area from the operation, helping to protect local air quality at all times; negative air pressure system maintained in the warehouse, to avoid the release of any odour external to the building; advanced wet scrubbing of all process air within the building, with treatment through two high capacity activated carbon scrubber systems (with redundant capacity) prior to discharge of air; objective of net-zero greenhouse gas emissions, through the installation of a significant solar array and battery energy storage system; minimal solid electric plant and equipment, to avoid the need for fossil fuels, with charging facilities provided for all mobile plant on site; advanced thermal detection and fire suppression systems, to quickly detect and extinguish any fires within the building; waste disposal; and full rainwater harvesting and reuse, to reduce net water requirements.
The layout of the site, proposed floor plan and elevation views are shown in Figure 2-2 to Figure 2-4 respectively.

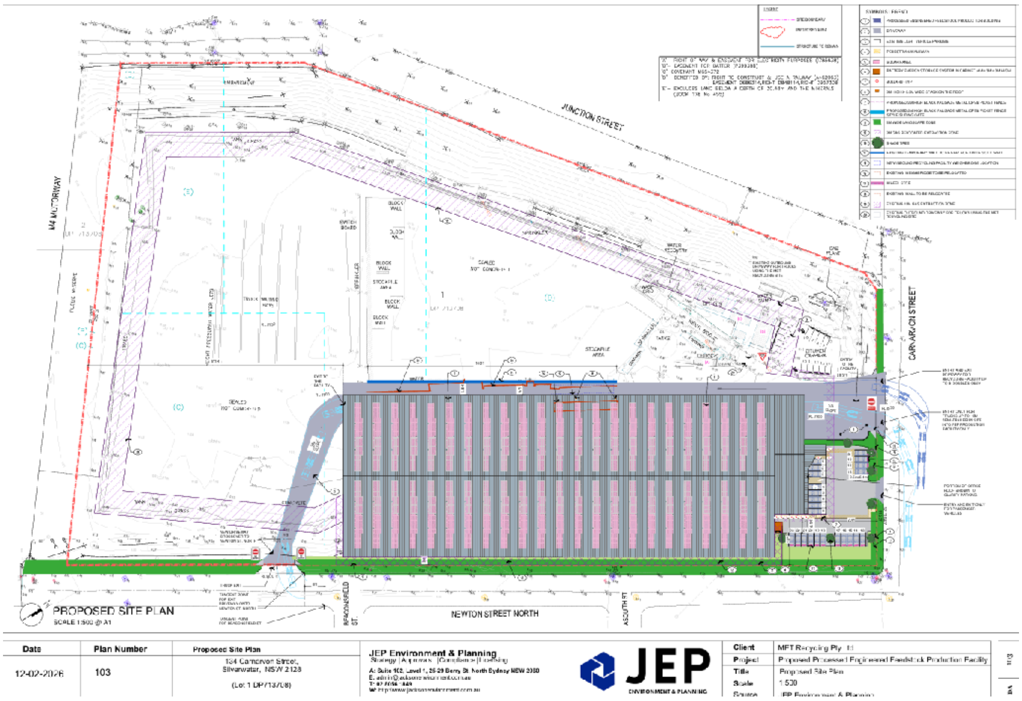

Figure 2-2: Proposed Site Layout (Source: JEP Environment & Planning, dated 12 February 2026)

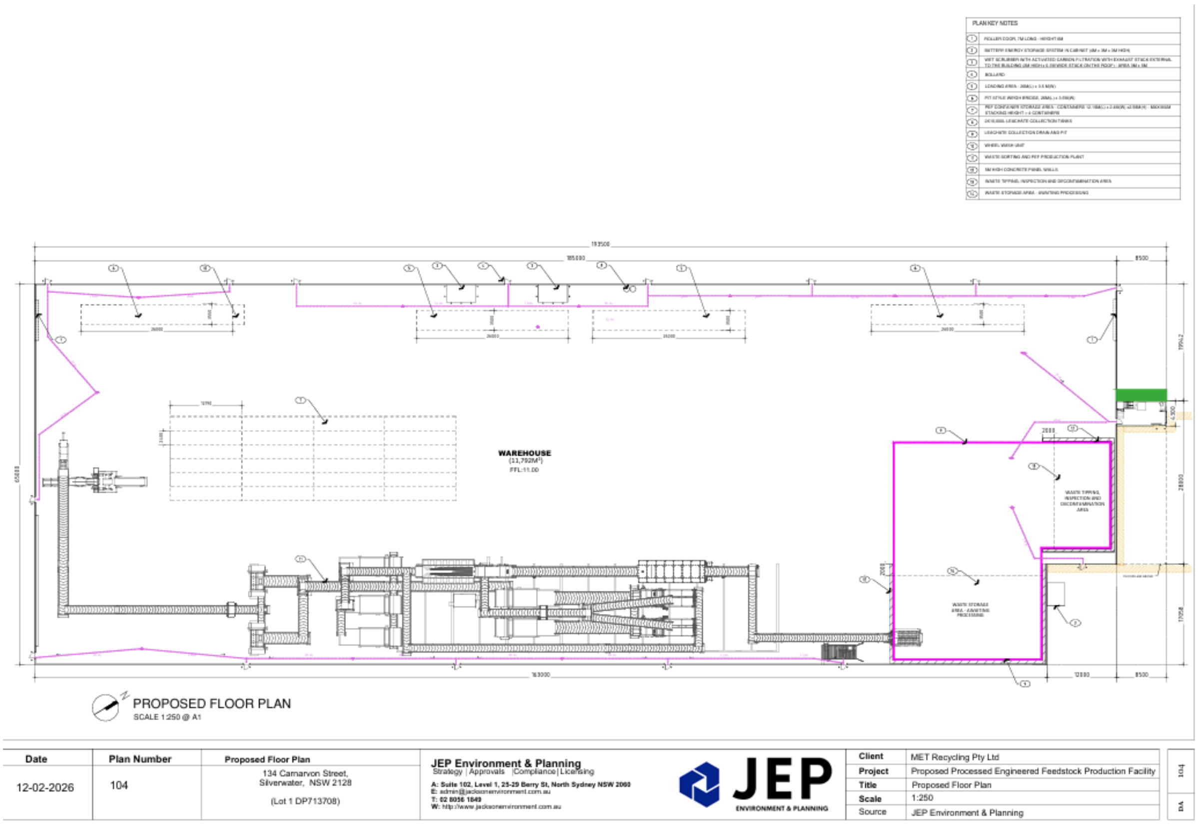

Figure 2-3: Proposed Floor Plan (Source: JEP Environment & Planning, dated 12 February 2026)

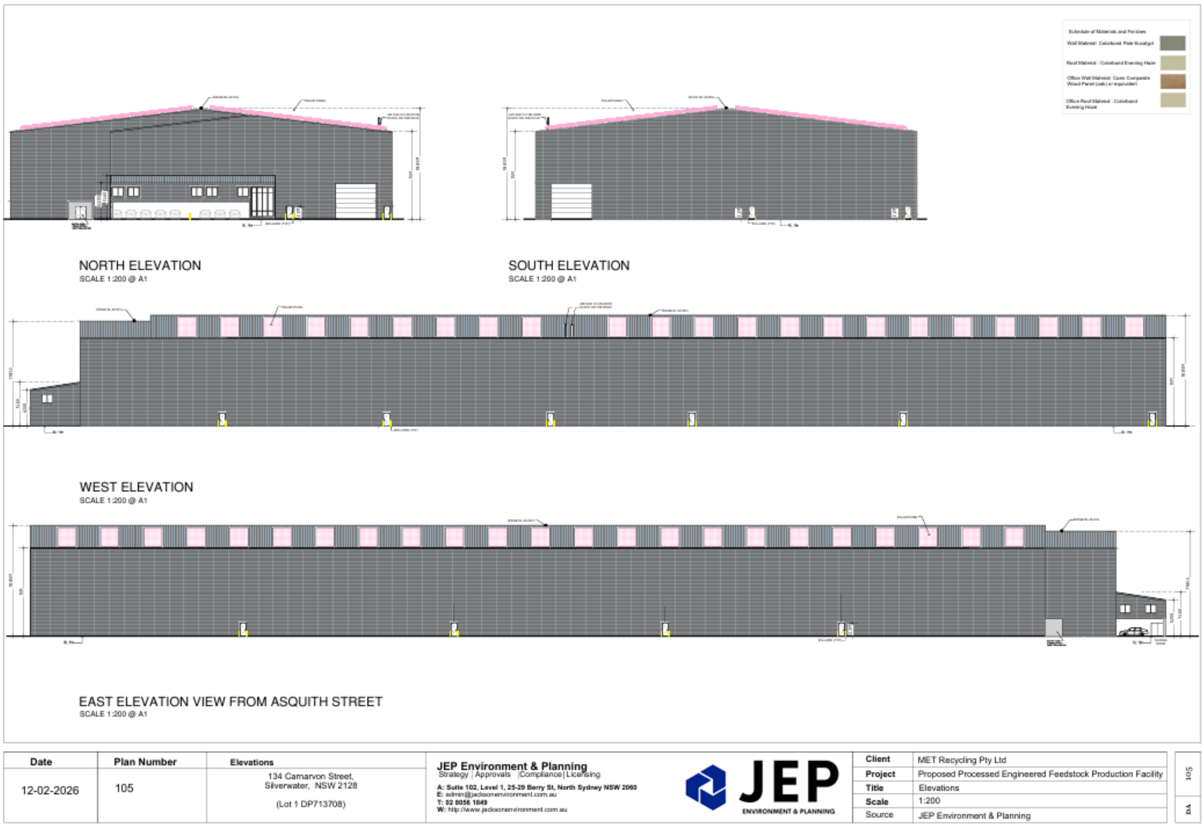

Figure 2-4: Proposed Elevations (Source: JEP Environment & Planning, dated 12 February 2026)

The Proposal will operate on a 24/7 basis. During construction, approximately fifty (50) jobs will be created over a twelve (12) month construction period. A total of ten (10) staff will be required to support operations during each shift. To support operations, three (3) shifts will be established. The Proposal will therefore create 30 direct jobs during operations. The construction cost for the Proposal is expected to be approximately $30 million.

The Proposal is a State Significant Development (SSD) under Clause 23(2) and (3) of Schedule 1 of the State Environmental Planning Policy (Planning Systems) 2021 as the Proponent intends to seek approval for the receival and processing of more than 100,000 tonnes of waste per year.

2.2.1 Proposed Operational Activity

The proposed operation is presented in a flow chart as shown in Figure 2-5

Figure 2-5: Summary of Operation/Process at Proposed PEF Production Facility

The current waste processing plant flow diagram is shown in Figure 2-6.

Figure 2-6: Summary of MET Waste Management Pty Ltd - Processed Engineered Feedstock Production Facility - 450,000 tpa

3 AIR QUALITY CRITERIA

3.1 Introduction

The NSW EPA's Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (the Approved Methods - 2022) provides applicable impact assessment criteria for a number of air pollutants. The sections below identify the pollutants of interest in this study and the applicable impact assessment criteria.

3.2 Pollutants of Interest

Dust, odour and particulate matter (PM) are the major air pollutants associated with the Proposal. Specifically, the following pollutants are identified:

- Dust, specifically:
  - Total suspended particulates (TSP)
  - Fine and coarse PM ($PM_{2.5}$ and PM_{10})
  - Deposited Dust
- Nitrogen Dioxide (NO_2)
- Odour

3.3 Impact Assessment Criteria

Air quality criteria are benchmarks set to protect the general health and amenity of the community. The criteria presented in the Approved Methods (NSW EPA, 2022) are consistent with the National Environment Protection Council's National Environment Protection (Ambient Air Quality) Measure (NEPC, 2021). Table 3-1 summarises the air quality goals for NO_2 and particulate matter that are relevant to this study. The air quality goals relate to the total concentrations of dust and particulate matter in the air and not just that from the Proposal. Therefore, some consideration of background levels needs to be made when using these goals to assess impacts.

Table 3-1: Impact Assessment Criteria – Dust and Particulate Matter

Pollutant	Averaging period	Criteria
Total suspended particulates (TSP)	Annual	90 µg/m³
Particulate matter ≤10 µm (PM_{10})	Annual	25 µg/m³
	24-hour	50 µg/m³
Particulate matter ≤2.5 µm ($PM_{2.5}$)	Annual	8 µg/m³
	24-hour	25 µg/m³
NO_2	Annual	31 µg/m³
	1-hour	164 µg/m³
Deposited Dust	Annual	4 g/m²/month (Total) (1)
	Annual	2 g/m² (Incremental)

Note: (1) For air quality criteria related to the total impact, Proposal contributions and background levels need to be considered. Incremental impacts are from Proposal only.

3.4 Odour Assessment Criteria

Odours from the Proposal have the potential to cause nuisance. In a regulatory context, odour needs to be considered in two ways, depending on the situation. NSW legislation prohibits emissions that cause offensive odour to occur at any off-site receptor. Offensive odour is evaluated in the field by authorised officers, who are obliged to consider the odour in the context of its receiving environment, frequency, duration, character and so on and to determine whether the odour would unreasonably interfere with the comfort and repose of the normal person. In this context, the concept of offensive odour is applied to operational facilities and relates to actual emissions in the air.

However, in the approval and planning process for proposed new operations or modifications to existing projects, no actual odour exists, and it is necessary to consider hypothetical odour. In this context, odour concentrations are used and are defined in odour units. The number of odour units represents the number of times that the odour would need to be diluted to reach a level that is just detectable to the human nose. Thus, by definition, odour less than one odour unit (1 OU), would not be detectable to most people. The range of a person's ability to detect odour varies greatly in the population, as does their sensitivity to the type of odour. Therefore, there can be a wide range of variability in the way odour response is interpreted.

It should be noted that odour refers to complex mixtures of odours, and not “pure" odour arising from a single chemical. Odour from a single, known chemical very rarely occurs (when it does, it is best to consider that specific chemical in terms of its concentration in the air). In most situations, odour will be comprised of many substances, referred to as a “complex mixture of odorous pollutants”, or more simply “odour”. For developments with potential for odour it may be necessary to predict the likely odour impact that may arise. This is done by using air dispersion modelling which can calculate the level of dilution of odours emitted from the source at the point that it reaches surrounding receptors. This approach allows the air dispersion model to produce results in terms of odour units. The NSW criteria for acceptable levels of odour range from 2 to 7 OU, with the more stringent 2 OU criteria applicable to densely populated urban areas and the 7 OU criteria applicable to sparsely populated rural areas, as outlined in Table 3-2 for complex mixtures of odorous pollutants.

The land use immediately surrounding the Site is largely industrial, with other sensitive receptors (place of worship, educational and residential) development located 110 m at 105 Asquith Street, Silverwater away from the Site. Therefore, in accordance with the criteria in Table 3-2, an impact assessment criterion of 2 OU was selected for all sensitive receptors. The NSW odour goals are based on the risk of odour impact within the general population of a given area. In sparsely populated areas the criteria assume there is lower risk that some individuals within the community would find the odour unacceptable, hence higher criteria can be applied.

Table 3-2: Impact Assessment Criteria – Complex Mixture of Odorous Pollutants

Population of affected community	Impact Assessment Criteria (OU) (1)
Urban (≥~2000) and/or schools and hospitals	2.0
~ 500	3.0
~ 125	4.0
~ 30	5.0
~ 10	6.0
Single rural residence (≤ ~2)	7.0

Note: (1) 99th percentile nose-response time.

4 EXISTING ENVIRONMENT

4.1 Local Meteorology

Meteorological conditions strongly influence air quality. Most significantly, wind speed, wind direction, temperature, relative humidity, and rainfall affect the dispersion of air pollutants. The following sub-sections discuss the local meteorology near the Proposal site.

4.1.1 Long-Term Climate

Long-term meteorological data for the area surrounding the Site is available from the Bureau of Meteorology (BoM) operated Automatic Weather Station (AWS) at the Sydney Olympic Park (Vis Meter) – Station# 066195. The Sydney Olympic Park Station AWS is located approximately 2.8 km south-east of the Site and records observations of meteorological data including wind speed, wind direction, temperature, humidity and rainfall.

Long-term climate statistics are presented in Table 4-1. Temperature data recorded at the Sydney Olympic Park Station AWS indicates that January is the hottest month of the year, with a mean daily maximum temperature of 28.4°C. July is the coolest month with a mean daily minimum temperature of 7.8°C. February is the wettest month with an average rainfall of 110 mm falling over 8 days. There are, on an average, 82 rain days per year, delivering 884 mm of rain.

Table 4-1: Climate Averages for Sydney Olympic Pk (Vis Meter) Station AWS

Obs.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
9am Mean Observations													
Temp (°C)	22.3	21.9	20.3	18.0	14.6	12.0	11.2	12.9	16.4	18.7	19.6	21.5	17.4
Hum (%)	67	72	72	68	70	71	68	61	57	56	64	64	66
3pm Mean Observations													
Temp (°C)	26.3	26.1	24.9	22.4	19.5	17.3	16.6	18.1	20.6	22.1	23.2	25.3	21.9
Hum (%)	53	55	53	51	51	52	48	41	43	45	51	50	49
Monthly Averaged Minimum and Maximum Temperatures													
Min (°C)	19.3	19.4	17.8	14.3	11.2	8.9	7.8	8.7	11.6	13.7	15.8	17.9	13.9
Max (°C)	28.4	28.1	26.6	23.9	20.8	18.3	17.6	19.5	22.5	24.3	25.3	27.4	23.6
Rainfall													
Rain (mm)	84.4	109.8	66.0	89.2	88.2	75.8	63.5	56.7	52.7	64.9	76.2	58.0	884.0
Rain (days)	7.6	7.7	7.6	6.9	7.7	6.9	6.3	4.4	5.5	7.1	7.8	6.8	82.3

Figure 4-1 presents the annual wind-roses for 9 am and 3 pm from the Sydney Olympic Pk Station AWS (from 1995 to 2010). The wind-rose diagram indicates a notable emphasis of westerly and north-westerly winds at 9 am and easterly and east- southeast winds at 3 pm.

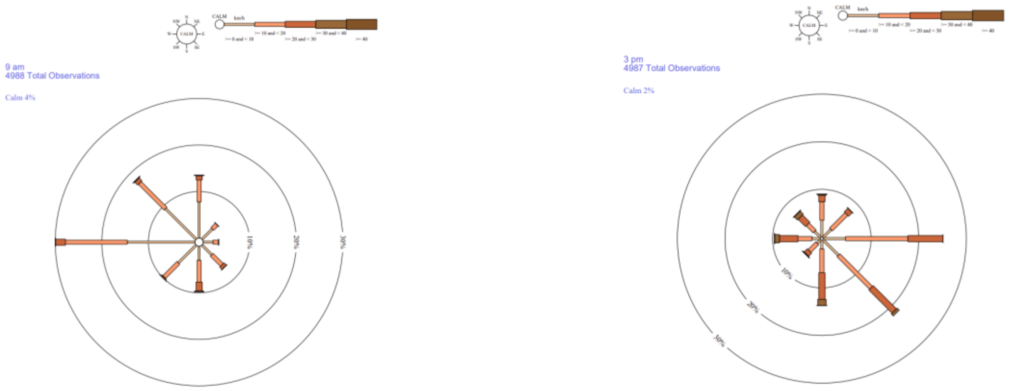

Figure 4-1: Sydney Olympic Park Station (Vis Meter) AWS 9am and 3pm Annual Wind Roses – Wind Speed in km/h (29 Dec 1995 to 23 Aug 2010)

4.1.2 Wind

The dispersion of dust emissions is primarily influenced by the following meteorological factors:

- Wind speed and direction;
- Wind profile and turbulence intensity (which are affected by terrain);
- Temperature gradient, which affects atmospheric stability and is determined from wind speed, cloud cover and solar radiation; and
- Mixing height, which is the depth of the atmospheric boundary layer, where most of the dispersion occurs.

Wind speed and atmospheric stability are examined with respect to flow direction to investigate typical flow regimes and directions of poor dispersion.

Observations of wind speed and direction recorded at the Sydney Olympic Park Station (Archery Centre) AWS – Station# 066212, have been used to describe typical wind patterns in the area surrounding the Site and have been incorporated into the dispersion modelling for this assessment.

Figure 4-2 to Figure 4 7 show the annual and seasonal "wind rose" plots from Sydney Olympic Park Station (Archery Centre) AWS for the period from 2019 to 2023. As can be seen, winds from the north-west octants, east and south-east octants are most common in the annual wind roses. The 2023 meteorological data recorded noted in Section 4.1.3 at the site and provided by the client are consistent with the multi-year average wind roses.

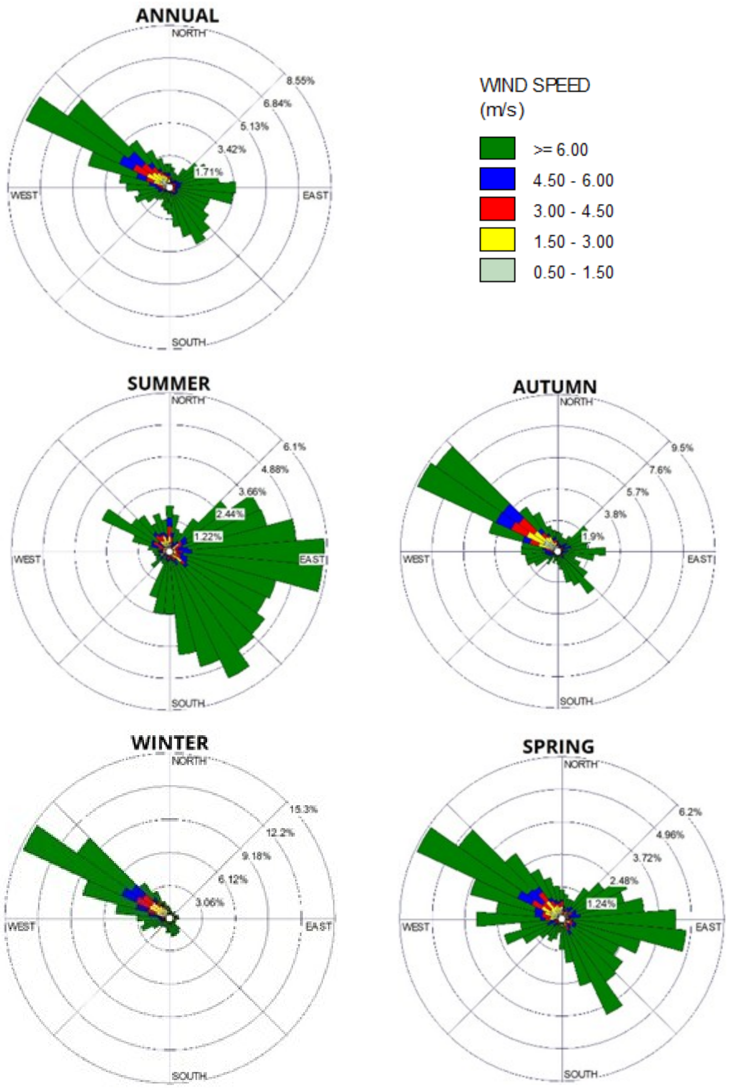

Figure 4-2: **Sydney Olympic Park Station AWS Wind Roses, 2019**

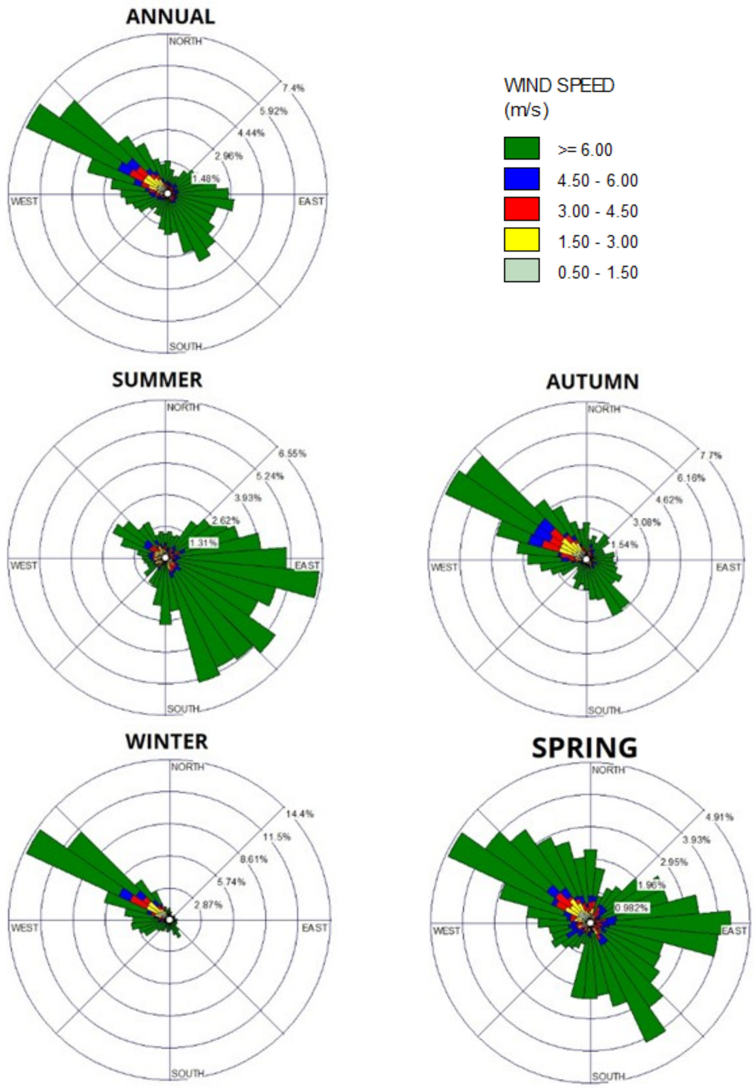

Figure 4-3: **Sydney Olympic Park Station AWS Wind Roses, 2020**

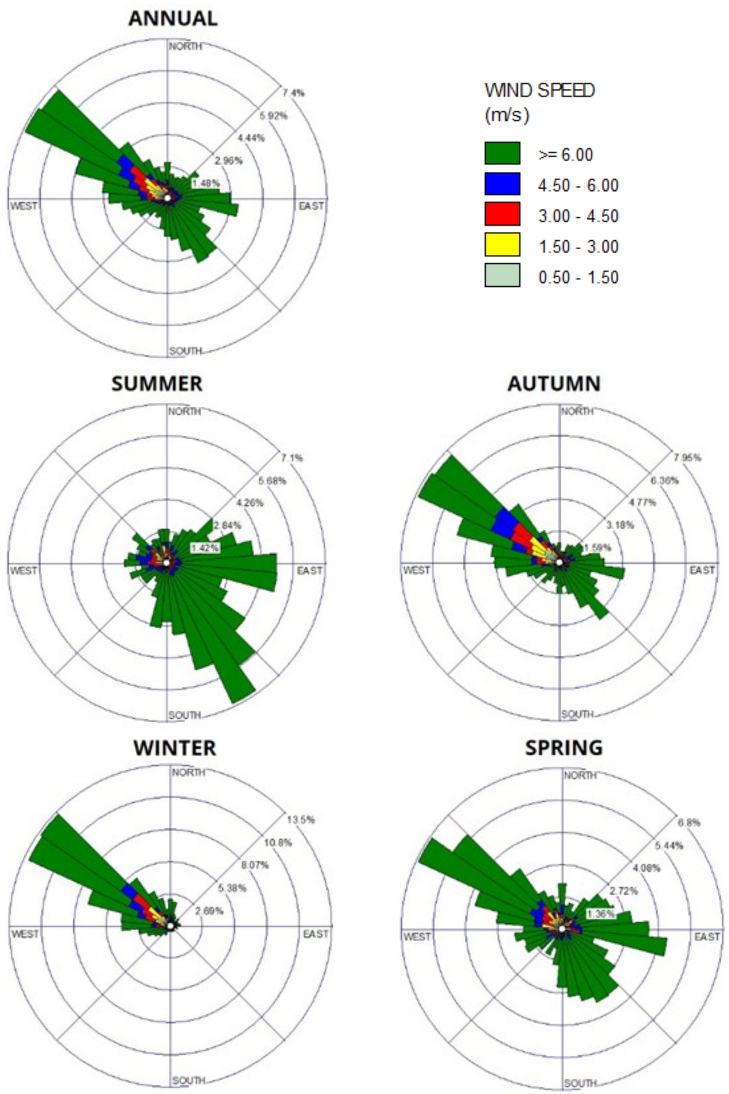

Figure 4-4: Sydney Olympic Park Station AWS Wind Roses, 2021

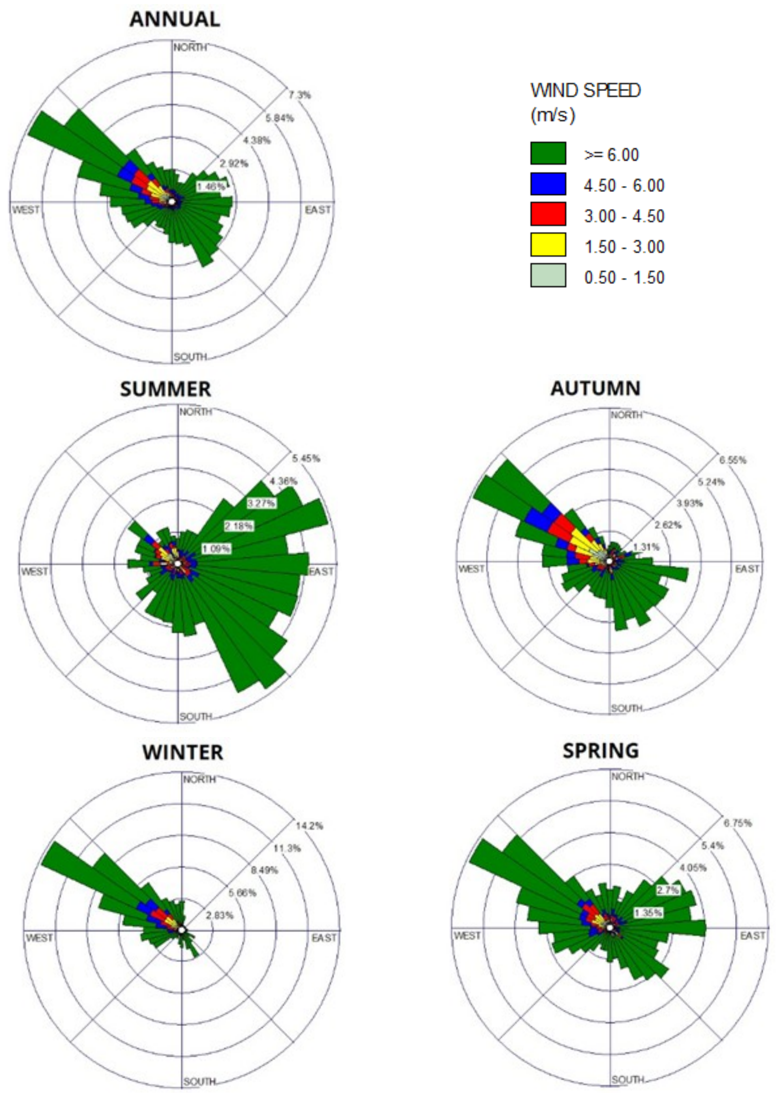

Figure 4-5: Sydney Olympic Park Station AWS Wind Roses, 2022

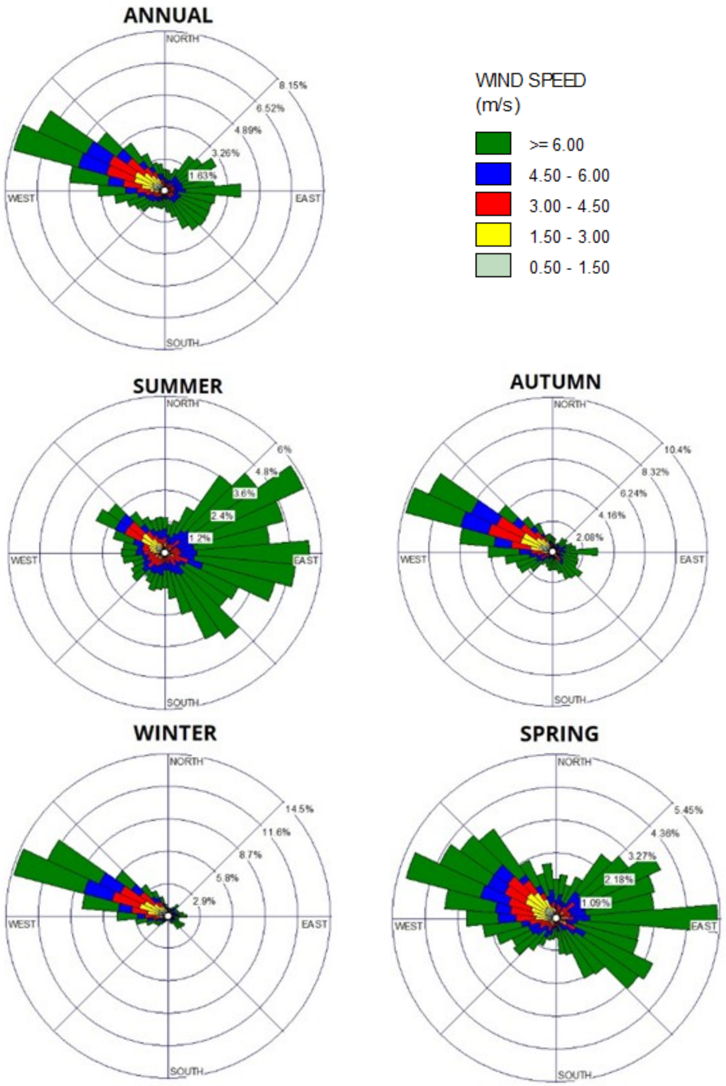

Figure 4-6: Sydney Olympic Park Station AWS Wind Roses, 2023

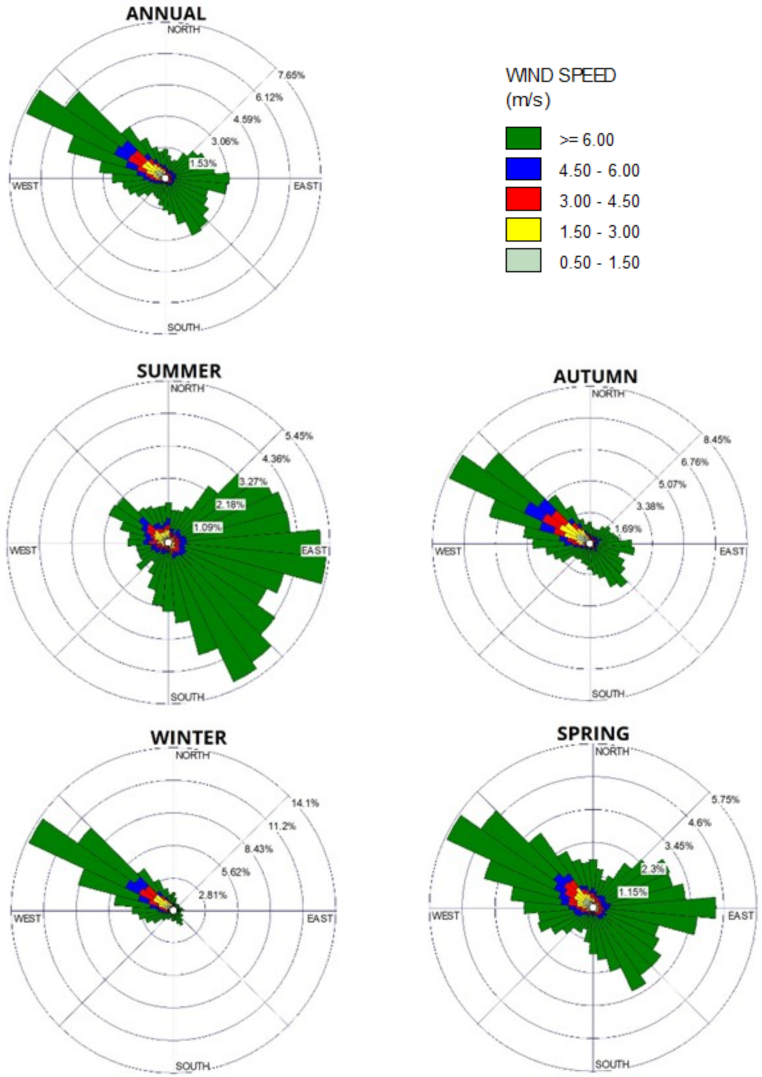

Figure 4-7: Sydney Olympic Park Station AWS Wind Roses, 2019 - 2023

4.1.3 On-Site Meteorological Station

MET Recycling Pty Ltd Facility operates an on-site meteorological monitoring station in accordance with Environment Protection Licence (EPL) 20948. Data from this station provide a site-specific record of meteorological conditions and can be used to confirm local weather trends at the facility over the past 4–5 years. The station was upgraded in 2020, replacing the unit originally recommended in the Air Quality Monitoring and Management Plan (AQMMP), and air quality and meteorological monitoring have been undertaken at the Project Site since the original EPL was granted on 11 September 2017.

For the purposes of this assessment, meteorological data from the Australian Government Bureau of Meteorology (BoM) and the NSW Department of Planning and Environment (DPE) have been adopted to characterise existing conditions and to support air dispersion modelling, consistent with standard EPA practice for regulatory assessment.

Wind rose plots generated using available on-site meteorological data (refer to Figure 4-8) indicate that annual wind patterns are predominantly from the west-south westerly and south-easterly sectors. These patterns are consistent with wind observations recorded at nearby reference stations, including the Parramatta North and Sydney Olympic Park Automatic Weather Stations (AWS) during 2023.

Overall, the meteorological data adopted for dispersion modelling are considered sufficiently representative of conditions at the Proposed Site. The on-site monitoring station provides supporting confirmation that site-specific weather trends are consistent with the broader regional meteorological regime.

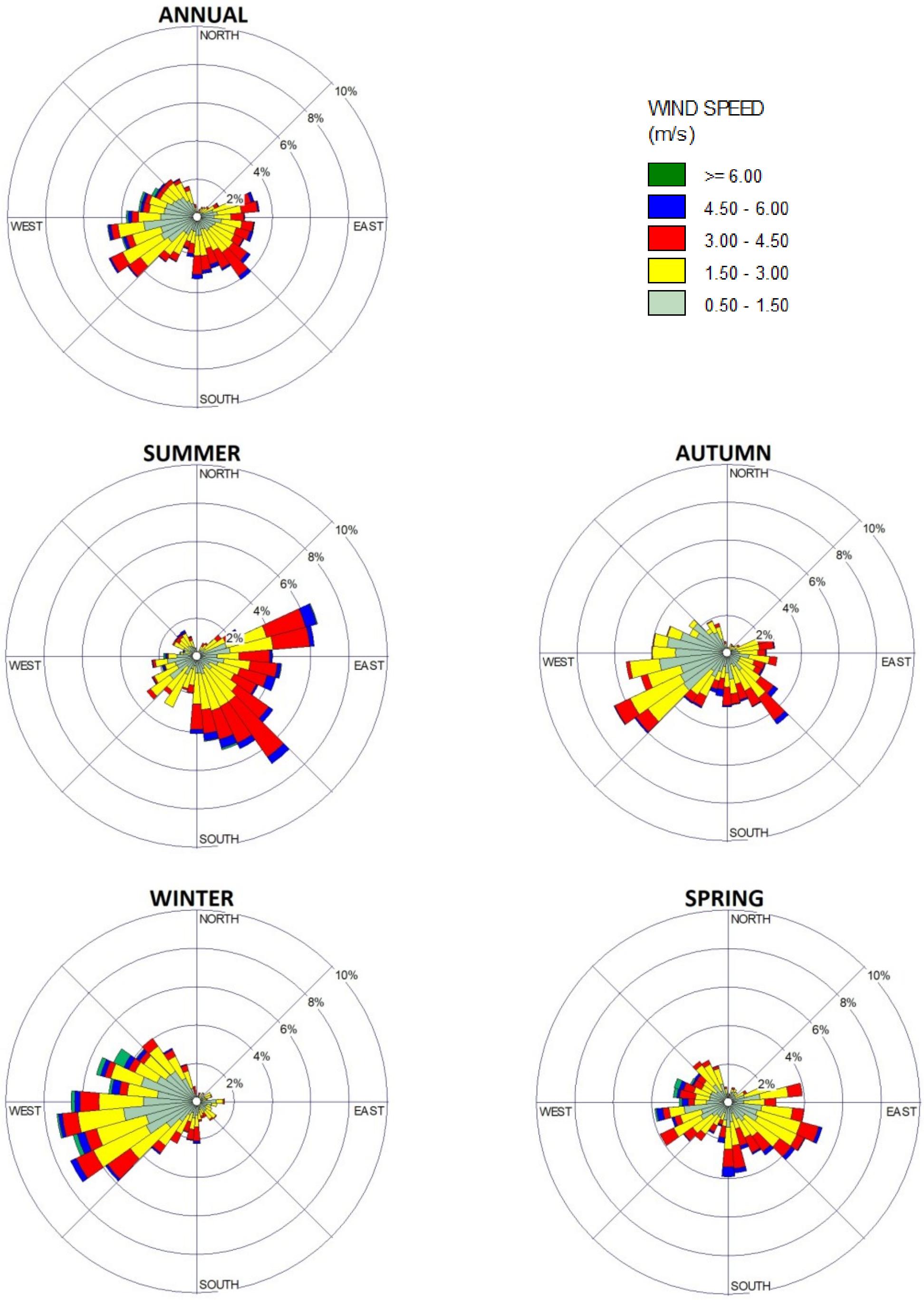

Figure 4-8: On-Site Meteorological Station Wind Rose Plots

4.2 Local Ambient Air Quality

Site-specific data on existing ambient air pollutant concentrations in the vicinity of the Proposal were available for this assessment. Background air quality data were obtained from the MET Recycling Pty Ltd, which operates two on-site air quality monitoring stations in accordance with the requirements of Environment Protection Licence (EPL) 20948.

All air quality monitoring locations were selected in accordance with the requirements of the NSW EPA Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (NSW EPA, 2022). One monitoring station is located near the north-western boundary of the facility, with a second station located near the south-eastern boundary. These locations were selected to characterise potential downwind air quality impacts associated with site operations affecting receptors along Asquith Street and Carnarvon Road, respectively.

For nitrogen dioxide (NO_2), data from the Lidcombe Air Quality Monitoring Station (AQMS)—the closest EPA reference station to the MET Waste Management Pty Ltd Facility—were adopted for the dispersion modelling assessment.

Air Quality data from monitoring Station B were incorporated into the assessment, and a summary of the ambient air quality monitoring data collected during 2023 is presented in Table 4 2. Note that Total Suspended Particulates (TSP) and deposited dust are not monitored at the station. Instead, annual average background TSP concentrations were estimated from a relationship with measured PM_{10} concentrations. This relationship assumes that 40% of the TSP is PM_{10} and was established as part of a review of ambient monitoring data collected by co-located TSP and PM_{10} monitors operated for reasonably long periods of time in the Hunter Valley (NSW Minerals Council, 2000). To estimate annual average dust deposition levels, a similar process to the method used to estimate TSP concentrations is applied. This approach assumes that a TSP concentration of 90 µg/m³ will have an equivalent dust deposition value of 4 g/m²/month.

Table 4-2: Ambient Air Quality Monitoring Concentrations Used in the AQ Assessment

Pollutant	Averaging Period	Concentration	Impact Criteria	Ambient Air Quality Concentration as % of Criteria
Particulate matter ≤2.5 µm ($PM_{2.5}$)	Annual[1]	11.0 µg/m³	8 µg/m³	138%
	24-hour[2]	45.1 µg/m³	25 µg/m³	180%
Particulate matter ≤10 µm (PM_{10})	Annual[1]	18.0 µg/m³	25 µg/m³	72%
	24-hour[2]	84.4 µg/m³	50 µg/m³	169%
Total suspended particulates (TSP)	Annual	44.9 µg/m³	90 µg/m³	50%
Deposited Dust	Annual	2 g/m²/month	4 g/m²/month	50%

Note 1. Average of 1-hour data over the year
2. Maximum of 1-hour or 24-hour data over the year

As seen in Table 4-2, the ambient concentrations of $PM_{2.5}$ exceed the criteria for both annual and 24-hour averaging periods, while PM_{10} exceeds the criteria for the 24-hour averaging period. Review of data from the

Lidcombe AQMS and NSW annual air quality statement for 2023[1], indicates that these exceedances of particulate matter standards within the Central West Sydney Region were primarily attributed to regional influences, including September hazard reduction burns, winter woodsmoke, and smoke impacts from the Duck Creek Pilliga Forest bush fire, rather than localised industrial emissions.

Figure 4-9, Figure 4-10, and Figure 4-11 present historical ambient air quality (for $PM_{2.5}$, PM_{10} and NO_2 respectively) data recorded at the Lidcombe AQMS over the past five years. These figures show 24-hour average $PM_{2.5}$ concentrations, 24-hour average PM_{10} concentrations, and 1-hour average NO_2 concentrations, respectively, for the period 2020 to 2024. Figure 4-12 and Figure 4-13 presents the historical ambient air quality data recorded at the air quality monitoring stations located at the MET Recycling Pty Ltd facility over the past three years and show 24-hour average $PM_{2.5}$ concentrations and 24-hour average PM_{10} concentrations, respectively. Collectively, these figures indicate that ambient particulate matter concentrations during 2023 were relatively elevated, largely due to regional influences, rather than site-specific emission sources.

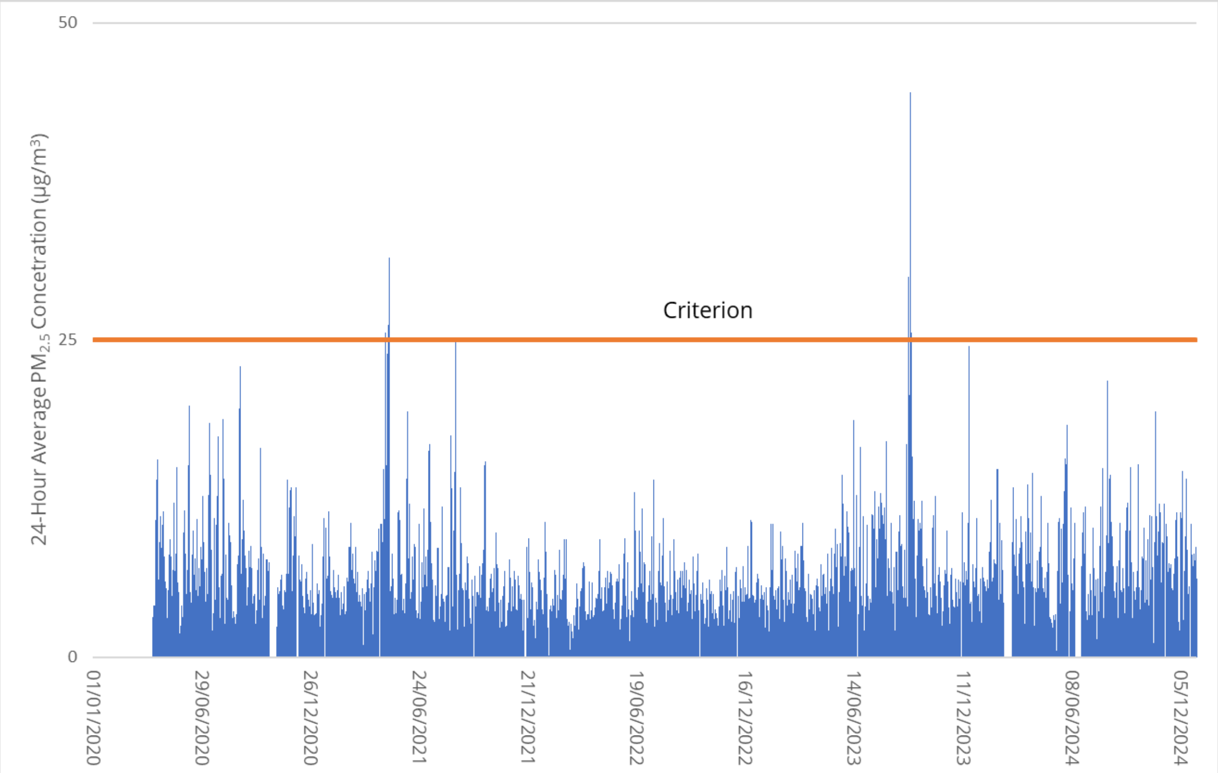

Figure 4-9: 24-Hour Average $PM_{2.5}$ Concentrations at Lidcombe AQMS (2020-2024)

[1] https://www2.environment.nsw.gov.au/topics/air/nsw-air-quality-statements/annual-air-quality-statement-2023/air-quality-regional-summary

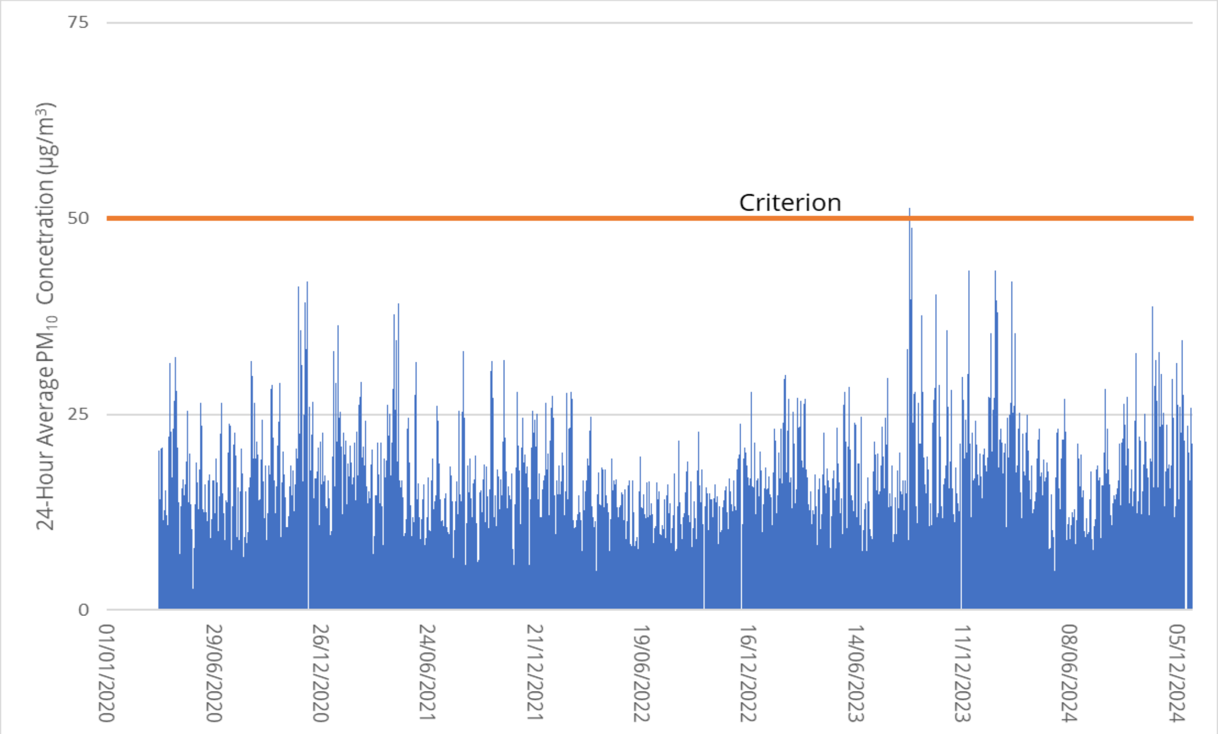

Figure 4-10: 24-Hour Average PM_{10} Concentrations at Lidcombe AQMS (2020-2024)

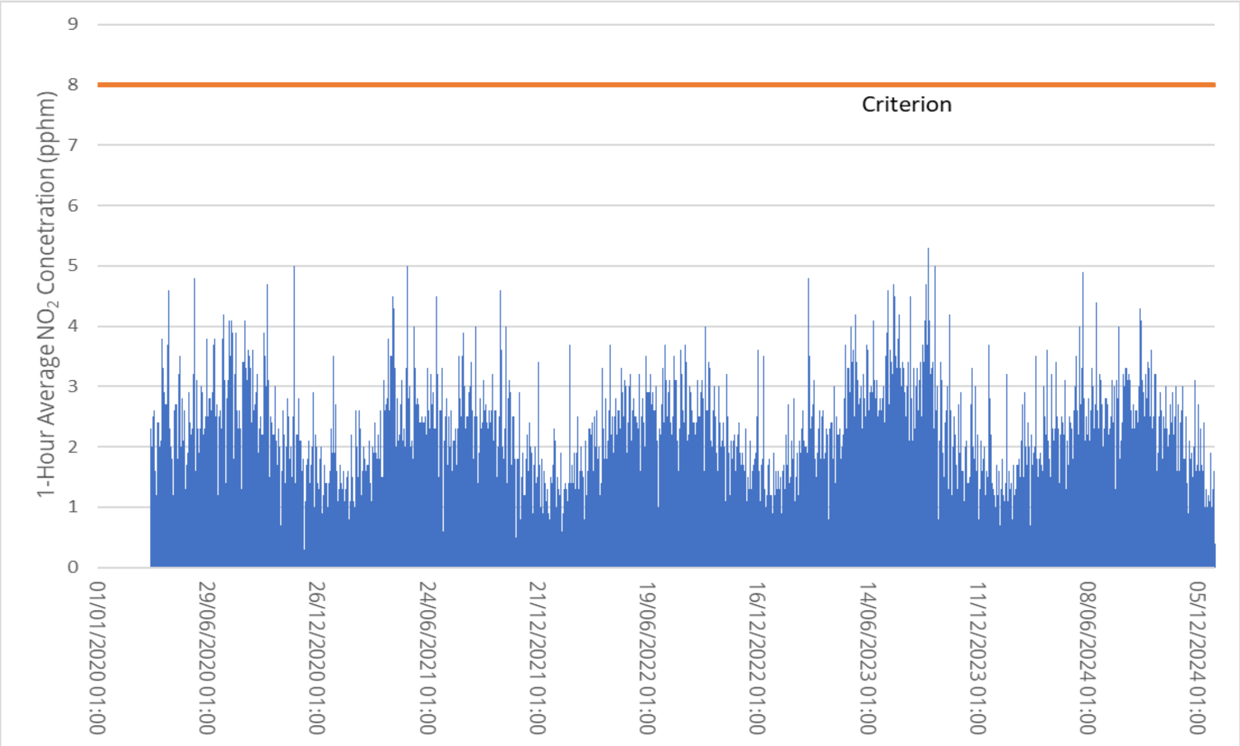

Figure 4-11: 1-Hour Average NO_2 Concentrations at Lidcombe AQMS (2020-2024)

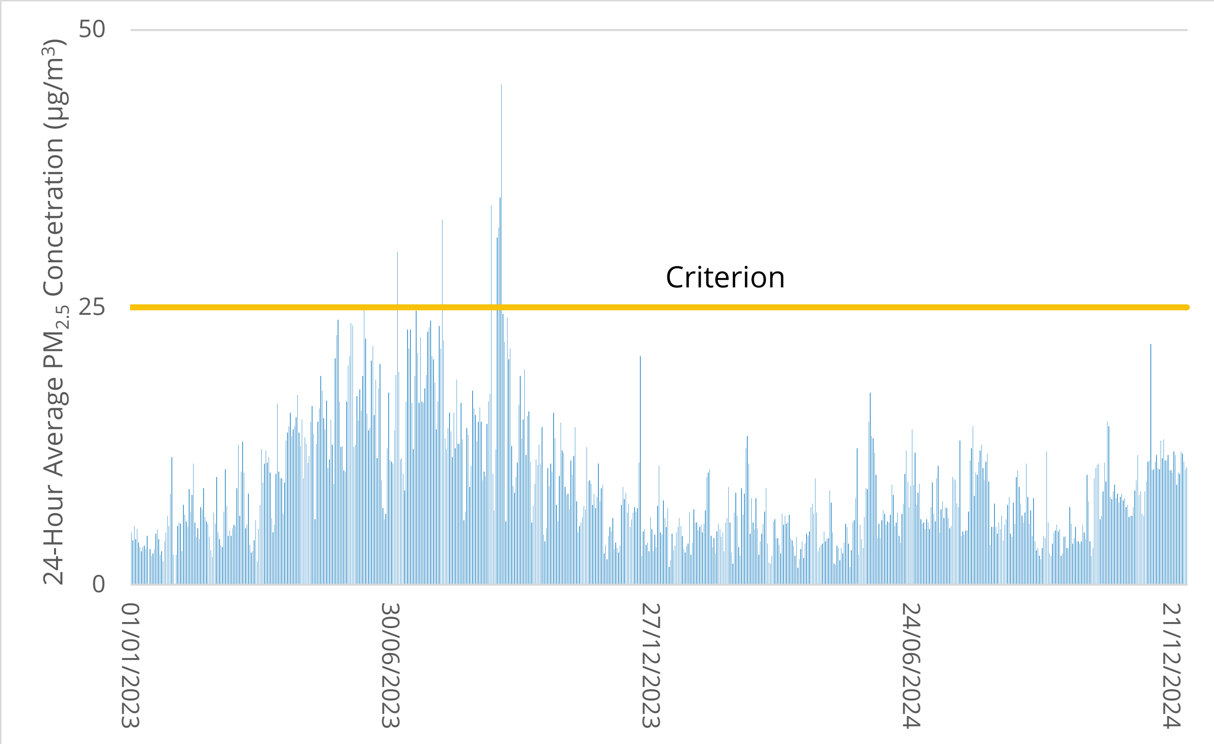

Figure 4-12: 24-Hour Average $PM_{2.5}$ Concentrations at Monitoring Station (2023-2025)

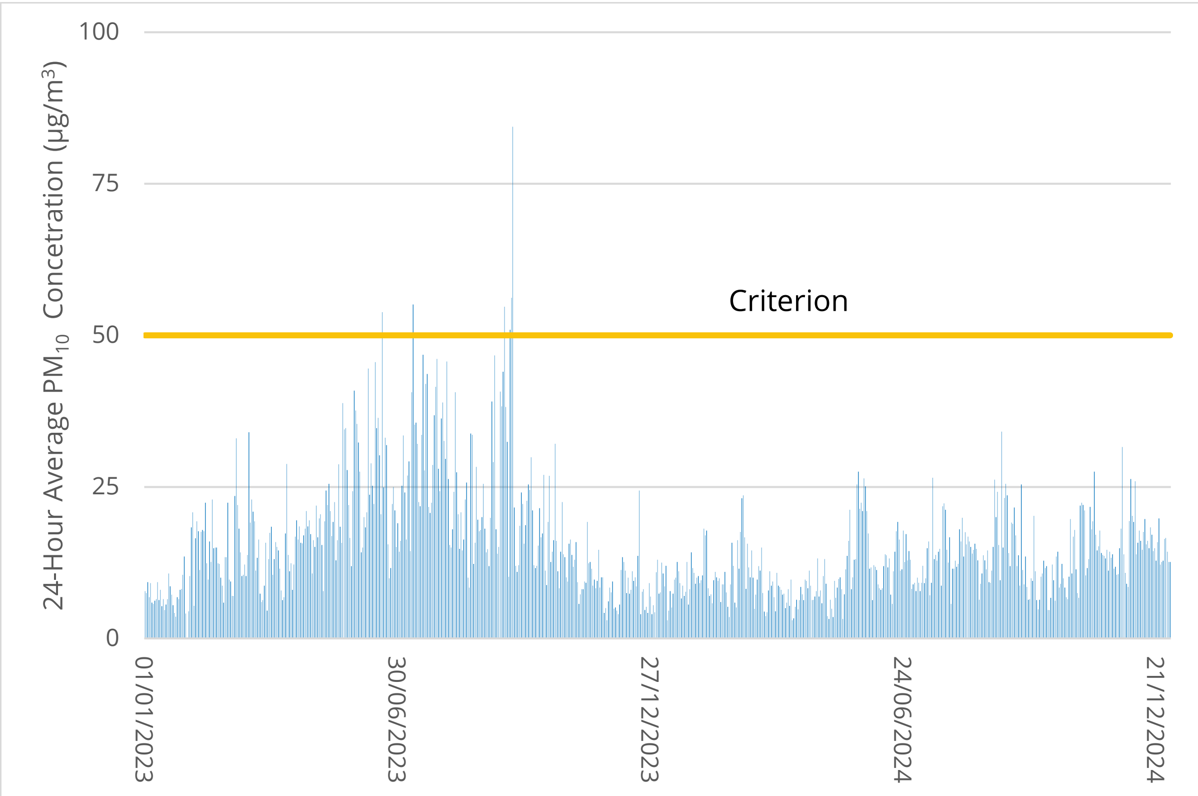

Figure 4-13: 24-Hour Average PM_{10} Concentrations at Monitoring Station (2023-2025)

5 POTENTIAL SOURCES OF AIR EMISSIONS

Air emissions are expected to occur during both the construction and operational phases of the Proposal. The development comprises a separate waste tipping, inspection, decontamination and primary sorting bay. A second bay containing compliant waste ready for processing in the PEF sorting plant is provided. The development comprises four bays designated for receiving material and handling: Bay 1 and Bay 2 are allocated for Municipal Solid Waste (MSW), while Bay 3 and Bay 4 are designated for Commercial and Industrial (C&I) waste. Additionally, the processed materials are stored in dedicated bays located on the southern side of the development. The most likely air emissions sources for construction and operation are summarised in the following sections.

5.1 Construction Phase

The construction activities associated with the Proposal include the following:

- construction of the warehouse building for receival, processing and storage of MSW and C&I Waste;
- installation of Waste Processing plant machinery and associated air quality control measures; and
- construction of staff car parking, stormwater and drainage systems.

As only minimal construction works are proposed, with limited earthworks and civil activities, minor and localised dust emissions are anticipated. These emissions are expected to be short-term, intermittent, and non-significant in nature.

5.2 Operational Phase:

Potential sources of particulate and NO_2 emissions associated with the operation of the Proposal are identified as:

- Truck and vehicle movements on the paved internal roads;
- Loading and unloading of waste materials;
- Screening, transfer and processing of waste materials;
- Wind erosion emissions from stockpiles; and
- Vehicle exhaust emissions.

A detailed emission inventory is provided in Appendix A and discussed further in Section 7.4.

The facility is designed to process up to approximately 450,000 tonnes per annum of MSW (General Solid Waste Putrescible) and C&I waste, with maximum receival rate of approximately 480 tonnes per hour.

Due to its organic composition, putrescible MSW has potential to generate odour, whereas non-putrescible C&I waste is generally non-odorous, but may contribute to dust emissions. Accordingly, the potential for odour generation is primarily associated with the MSW stream. The significant sources of odour emissions during operations may arise from both fugitive emissions within the facility and point source emissions from the exhaust stack.

The site currently operates as construction and demolition (C&D) waste facility, receiving materials such as brick, concrete, asphalt, general solid waste, sand etc, within the existing capacity. The materials are crushed, screened and loaded into storage bins or stockpiles prior to being loaded to trucks. No putrescible materials are currently accepted or processed as a part of existing operations, and therefore odour generation from these activities is not anticipated. Pollutants potentially emitted from the current site operations include combustion gases and particulate matter from vehicle exhausts, as well as particulate matter generated from vehicle movements and handling, crushing, screening and storage of materials.

Emissions associated with the transport, unloading, handling, processing and storage of materials for existing site operations are therefore primarily associated with potential particulate matter emissions.

A detailed particulate matter emission inventory for the existing site operations is provided in Appendix A. The detailed odour emission inventory of the proposed development is provided in Appendix B and further discussed in Section 7.5

6 CONSTRUCTION DUST ASSESSMENT

6.1 Methodology

A qualitative assessment method of dust impacts associated with the construction of the Proposal is considered appropriate for this Proposal. The assessment follows the "Guidance on the Assessment of Dust from Demolition and Construction" published by the Institute of Air Quality Management in the United Kingdom (IAQM 2024).

This approach has been widely used for performing qualitative assessments of dust emissions from construction sites and has been used in NSW by RWDI and other consultants. Furthermore, it has been accepted as a suitable approach in the absence of any guidance by Australian regulatory authorities.

This approach presents the risk of dust soiling and human health impacts associated with four types of activities that occur on construction sites (demolition, earthworks, construction and trackout) and involves the following steps:

- Step 1: Screen the need for a detailed assessment;
- Step 2: Assess the risk of dust impacts arising, based on:
    - The potential magnitude of dust emissions from the works; and
    - The sensitivity of the surrounding area.
- Step 3: Identify site-specific mitigation; and
- Step 4: Consider the significance of residual impacts, after the implementation of mitigation measures.

For this assessment, the process outlined above will be applied to the worst-case on-site and off-site activities that are likely to result in the highest generation of dust. This approach will result in a conservative assessment of the potential risks for human health and dust soiling impacts.

6.2 Assessment of Construction Dust Impacts

The following qualitative risk assessment of potential dust impacts has been conducted for the proposed construction works.

6.2.1 Step 1 – Screen the Need for a Detailed Assessment

The IAQM guidance recommends that a risk assessment of potential dust impacts from construction activities be undertaken when human receptors are located within:

- 250 m of the boundary of the site; or,
- 50 m of the route(s) used by construction vehicles on public roads up to 250 m from the site entrance(s).

For this assessment, the process outlined above will be applied to the worst-case on-site and off-site activities that are likely to result in the highest generation of dust. This approach will result in a conservative assessment of the potential risks for human health and dust-soiling impacts.

6.2.2 Step 2A – Potential Dust Emission Magnitude

6.2.2.1 Demolition

The land is almost devoid of buildings and hence, site clearing works is less than 12,000 m^2, such that demolition activities is considered to be negligible. The potential magnitude of demolition is therefore assessed as **Small**.

6.2.2.2 Earthworks

The area affected by the proposed earthworks is less than 18,000 m^2, and at any one time, less than 5 heavy earth moving vehicles would be active on the road with a single lane in each direction. It is therefore conservatively assumed that the potential magnitude of earthworks is **Small**.

6.2.2.3 Construction

The constructed building volume is more than more than 75,000m^3; therefore, the potential magnitude of construction is assessed as **Large**.

6.2.2.4 Track out

Track out is expected to result in 20- 50 heavy vehicle movements per day leaving the site (this would not occur for the entire duration), and all on-site haulage would include unpaved sections of road less than 50 m long. The potential magnitude of Track out is therefore assessed as **Medium**.

6.2.2.5 Summary of Dust Emission Magnitudes

The estimated dust emission magnitudes are summarized in Table 6-1:

Table 6-1: Summary of Dust Emission Magnitudes

Activity	Dust Emission Magnitude
Demolition	Small
Earthworks	Small
Construction	Large
Trackout	Medium

6.2.3 Step 2B – Sensitivity of Surrounding Area

The sensitivity of the surrounding area to dust impacts considers several factors, including:

- Specific receptor sensitivities;
- The number of receptors and their proximity to the works;

- Existing background dust concentrations; and
- Site-specific factors that may reduce impacts, such as trees that may reduce wind-blown dust.

In accordance with the IAQM guideline, the following receptor sensitivities have been determined:

Residential/Industrial/Commercial Receivers:

- **High** sensitivity to dust soiling.
- **High** sensitivity to human health.

Place of Worship/Educational Receivers:

- **Low** sensitivity to dust soiling.
- **Low** sensitivity to human health.

Considering the above receptor sensitivities, Table 6-2 and Table 6-4 have been reproduced from the IAQM (only showing the "high and low" receptor sensitivity) to determine the sensitivity of the area. For human health impacts, the mean background PM_{10} concentration of 17.97 $\mu g/m^3$ was chosen from Table 4-2.

Table 6-2: Area Sensitivity Decision Matrix – Dust Soiling

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		<20	<50	<100	<250
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	> 1	Medium	Low	Low	Low
Low	> 1	Low	Low	Low	Low

Residential/Industrial/Commercial Receivers

Place of Worship/Educational Receivers

Table 6-3: Area Sensitivity Decision Matrix – Human Health

Receptor Sensitivity	Annual Mean PM_{10} Concentration[1]	No. of Receptors	Distance from the Source (m)			
			<20	<50	<100	<250
High	> 20 µg/m³	>100	High	High	High	Medium
		10-100	High	High	Medium	Low
		1-10	High	Medium	Low	Low
	17.5 - 20 µg/m³	>100	High	High	Medium	Low
		10-100	High	Medium	Low	Low
		1-10	High	Medium	Low	Low
	15 – 17.5 µg/m³	>100	High	Medium	Low	Low
		10-100	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	< 15 µg/m³	>100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Medium	> 20 µg/m³	>10	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	17.5 - 20 µg/m³	>10	Medium	Low	Low	Low
		1-10	Low	Low	Low	Low
	15 – 17.5 µg/m³	>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
	< 15 µg/m³	>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Low	-	≥ 1	Low	Low	Low	Low

Residential/Industrial/Commercial Receivers

Place of Worship/Educational Receivers

Note 1: The PM_{10} values have been adjusted from the IAQM guidance according to the ratio between the Australian and UK annual mean standards (25 and 40 µg/m³ respectively). There is some inherent uncertainty in this adjustment. The upper PM_{10} threshold in the IAQM guidance is based on an annual mean concentration at which an exceedance of the UK's 24-hour objective of 50 µg/m³ is likely, allowing for 35 exceedances per year. In other words, for the UK the annual average approximately corresponds to the 90th percentile of the 24-hour values. However, there are far fewer allowed exceedances in Australia and New Zealand and therefore, there is no direct comparison. Nevertheless, experience with the adjusted values has shown that they work reasonably well for Australian conditions. The values are also taken to be appropriate for New Zealand. Although New Zealand has a lower annual mean guideline than the Australian standard, the 24-hour standards are numerically equivalent.

The sensitivity of the surrounding area (for all identified receivers) is summarized in Table 6-4.

Table 6-4: Summary of Surrounding Area Sensitivity

Potential Impact	Sensitivity of the Surrounding Area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Low	Low	Medium	Low
Human Health	Low	Low	Medium	Low

6.2.4 Step 2C – Define the Risk of Impacts

To define the risk of impacts, the dust emission magnitude ("medium" for this Site) is combined with the sensitivity of the area, as per Table 6-5, to Table 6-8 for demolition, earthworks, construction and trackout, respectively.

Table 6-5: Risk of Dust Impacts – Demolition

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible

Table 6-6: Risk of Dust Impacts – Earthworks

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Table 6-7: Risk of Dust Impacts – Construction

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Table 6-8: Risk of Dust Impacts – Trackout

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

In accordance with Table 6-5 through Table 6-8, construction is considered to have medium risk and trackout is considered to have a “low” risk whereas earthworks and demolition is considered to have a “negligible” risk of dust soiling and human health impacts. It is important to note that the above risks assume that dust mitigation measures are not implemented.

6.2.5 Step 3 – Site-Specific Mitigation

The IAQM guidance document identifies a range of appropriate dust mitigation measures that should be implemented as a function of the risk of impacts. These measures are presented in Section 8.1.

6.2.6 Step 4 – Significance of Residual Impacts

In accordance with the IAQM guidance document, the final step in the assessment is to determine the significance of any residual impacts, following the implementation of mitigation measures. To this end, the guidance states:

> *For almost all construction activity, the aim should be to prevent significant effects on receptors through the use of effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be “not significant”.*

Based on the proposed works, and the advice in the IAQM guidance document, it is considered unlikely that these works would result in unacceptable air quality impacts. However, the mitigation measures outlined in Section 8.1 should be considered to implement best management practises.

7 OPERATION PHASE ASSESSMENT

7.1 Assessment Methodology

The approach taken for the operational air quality impact assessment is as follows:

1. Meteorological Modelling: with TAPM and AERMET models;
2. Estimate annual dust and odour emissions of each activity associated with worst-case operations of the proposed development (Section 7.4).
3. Provide emissions and meteorological information to a computer-based dispersion model to predict dust concentrations in the region and at the nearest sensitive receptors for the above scenarios (Section 7.3).
4. Compare predicted concentrations with relevant air quality criteria (Sections 7.6).

7.2 Meteorological Modelling

7.2.1 TAPM

Site-specific meteorological data are available from an on-site monitoring station at the Proposed Site. Review of the available on-site dataset indicates that prevailing wind patterns are consistent with those observed at nearby regional reference stations operated by the Australian Government Bureau of Meteorology (BoM), including the Parramatta North and Sydney Olympic Park Automatic Weather Stations (AWS).

As indicated in Section 4.1.3, the on-site monitoring station provides supporting confirmation that site-specific weather trends are consistent with the broader regional meteorological regime. To support air dispersion modelling, site-specific meteorological datasets were generated using the prognostic meteorological model The Air Pollution Model (TAPM), developed and distributed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO). TAPM is widely used for regulatory air quality assessments and is designed to simulate local-scale meteorological processes relevant to pollutant dispersion.

TAPM is an incompressible, non-hydrostatic, primitive equations prognostic model with a terrain-following vertical coordinate for three-dimensional simulations. It predicts the flows important to local scale air pollution, such as sea breezes and terrain induced flows, against a background of large-scale meteorology provided by synoptic analyses. TAPM benefits from having access to databases of terrain, vegetation and soil type, leaf area index, sea-surface temperature, and synoptic scale meteorological analyses for various regions around the world.

The prognostic modelling domain was centred at 33.833°S, 151.033°E and involved four nesting grids of 30 km, 10 km, 3 km and 1 km with 41 grid points in the lateral dimensions and 25 vertical levels.

The TAPM model included assimilation of wind data collected at the Parramatta North, and Sydney Olympic Park AWS during 2023. The consistency observed between on-site meteorological data and regional BoM observations provides confidence that the modelled meteorological conditions are representative of the Proposed Site and suitable for use in dispersion modelling.

7.2.2 AERMET

The TAPM outputs, including predictions of wind speed, wind direction, temperature, humidity, cloud cover, solar radiation and rainfall, were processed through AERMET, the meteorological pre-processor for AERMOD. AERMET uses the TAPM data in combination with land use parameters, to derive boundary layer characteristics mixing heights and velocity scaling parameters.

The NSW EPA Approved Methods recognize the use of prognostic meteorological models, such as TAPM, to generate site-specific meteorological datasets. TAPM is particularly suited for this purpose as it incorporates regional synoptic influences, local terrain, land-use characteristics and surface energy balance processes, providing a physically consistent and spatially representative meteorological dataset for dispersion modelling.

The wind-rose plots generated by AERMET using TAPM modelling results are shown in Figure 7-1 . The modelled annual wind roses produced by AERMET have predominately winds from the westerly, northeast and southeast octants which are similar to winds observed at the Parramatta North, and Sydney Olympic Park AWS during 2023. Wind speeds tend to be somewhat lower than observed, providing a conservative basis for dispersion assessment.

Overall, the meteorological dataset used for dispersion modelling is considered representative of conditions at the Proposed Site. In addition, the onsite weather monitoring data, as discussed in Section 4.1.3, show consistency with the wind-rose patterns generated by AERMET. On this basis, the TAPM-derived meteorological data are considered suitable and appropriate for use in this assessment in accordance with the NSW EPA Approved Methods.

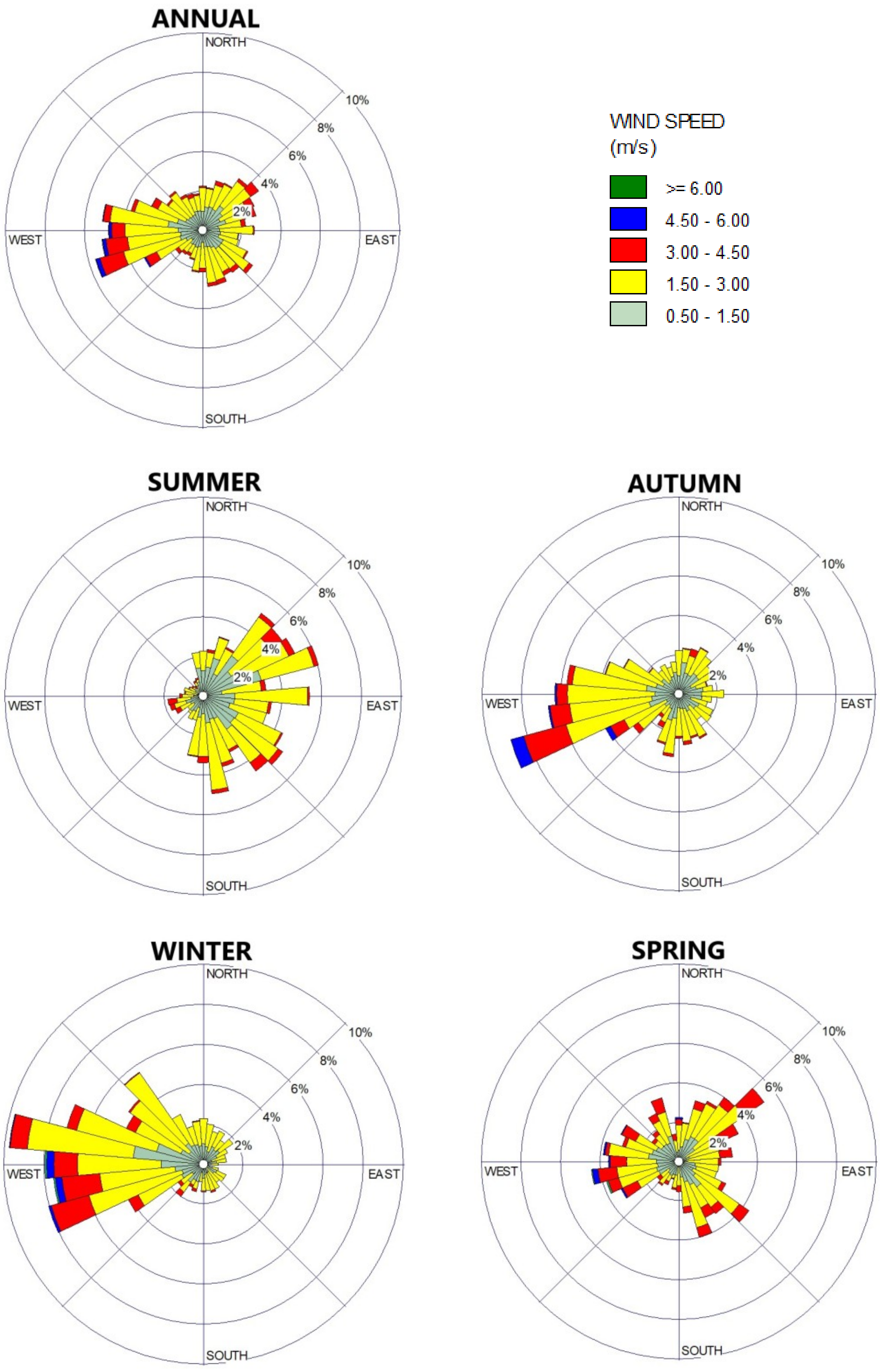

Figure 7-1: AERMET Wind Roses Based on TAPM Output, 2023

7.3 Dispersion Modelling

The dispersion model chosen for this assessment was AERMOD – the US EPA regulatory Gaussian plume air dispersion model. AERMOD is a steady state plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts. It includes treatment of both surface and elevated sources and both simple and complex terrain. AERMOD is accepted by NSW EPA for use in air quality impact assessments.

For the current study, the worst-case operational scenario of dust and odour emissions were modelled. Emission rates for each source were estimated considering maximum activities that would take place at that location. The proposed building and the existing buildings which may affect the dispersion of the pollutants emitted by the stack through building downwash were included in the modelling. The locations of these buildings, along with the emission sources, are shown in Figure 7-2.

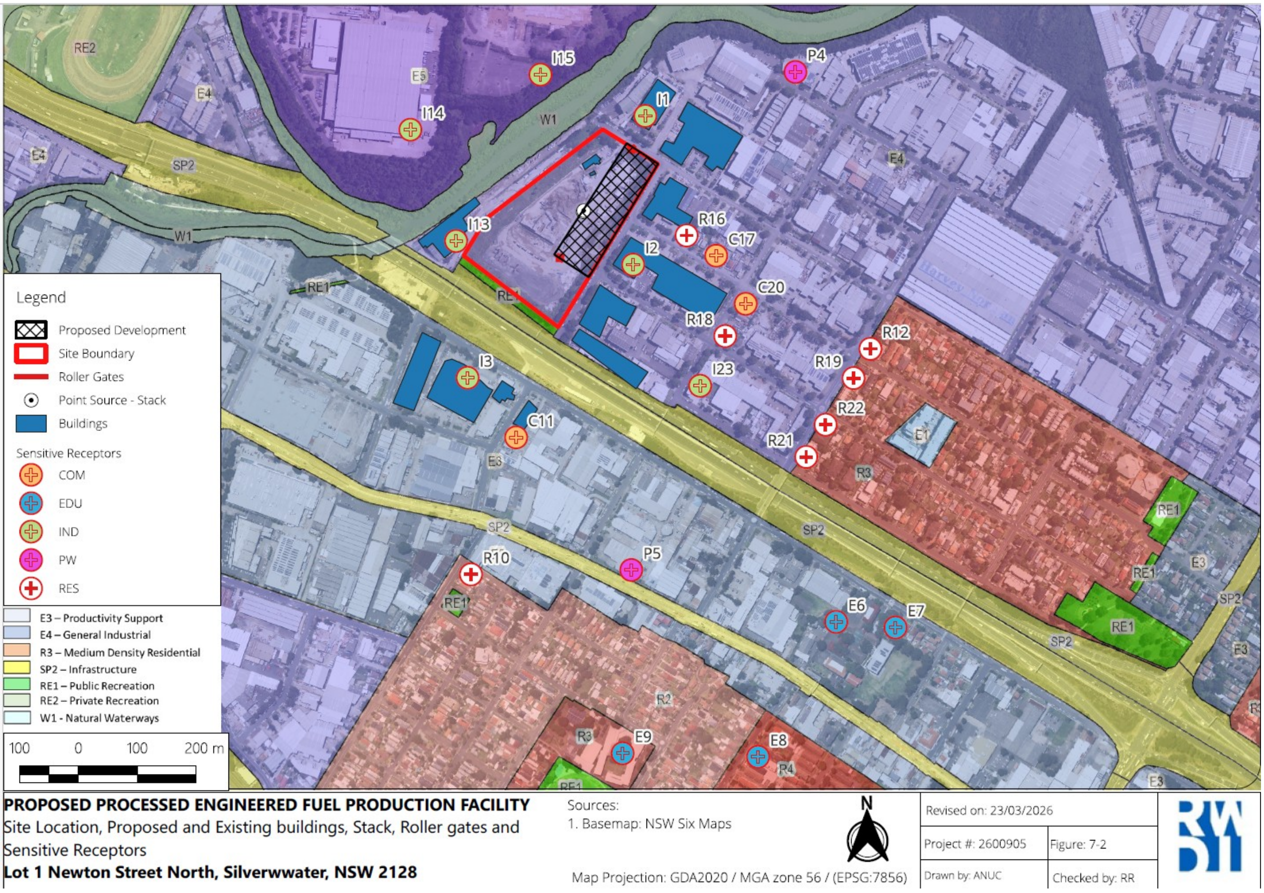

Figure 7-2: Location of existing and proposed buildings, proposed stack and volume sources

In addition to discrete sensitive receptors, the AERMOD model was configured to predict ground-level pollutant concentrations across the wider modelling domain using a system of nested grid receptors. This approach enables identification of maximum impact locations and supports comparison against relevant air quality assessment criteria.

For the cumulative impact assessment, the emissions from the existing MET Recycling Pty Ltd facility were incorporated into the modelling. Predicted hourly (or daily, as applicable) pollutant concentrations from the model were combined with contemporaneous background air quality data obtained from the relevant monitoring Stations (either the existing MET Recycling Pty Ltd facility monitoring stations or Lidcombe AQMS). Cumulative concentration at all sensitive receptors were then assessed against the applicable air quality criteria in accordance with NWS regulatory guidelines.

7.4 Dust Emissions Estimation

Dust emissions during the operation of the Proposal have been estimated based on information provided by the client, using emission factors sourced from National Pollutant Inventory (NPI) Emission Estimation Technique (EET) manuals and United State Environmental Protection Agency (USEPA) AP 42 Emission Factors.

The significant sources of dust/particulate emissions associated with the operation of the Proposal are identified as:

- Truck movements on paved roads:
    - Estimates of the re-entrained road PM emission rates from vehicle movements were obtained using the USEPA AP 42 Section 13.2.1 for Paved Roads. This document provides a reasonable general estimate of emission rates in dry conditions on paved roads.
- Loading/unloading and transferring of material:
    - Estimates of these PM emissions were obtained using the USEPA AP 42 Section 13.2.4.
- Screening/Processing of material:
    - Estimates of these PM emissions were obtained using the USEPA AP 42 Section 10.3.1.
- Wind Erosion emissions from the stockpiles:
    - Estimates of these PM emissions were obtained using the NPI EET manual for Mining Version 3.1, Jan 2012, Section 1.1.18.
- Vehicle Combustion exhaust:
    - Estimates of these PM emissions were obtained using the NPI EET manual for Combustion engines, version 3.0, Section 5.4.1.1 and 5.4.1.2.

No material handling, processing or stockpiling would occur outside the building. Therefore, a control factor of a minimum of 70% has been applied to all sources located inside the building based on 2012 NPI EET manual for mining. Since the building is under negative pressure, most of the dust emissions from the above activities will be exhausted through the stack. It is conservatively assumed that 10% of the dust emissions will be released though roller doors.

Dust emissions associated with the operation of the existing MET Recycling Pty Ltd facility were estimated using USEPA AP-42 emission factors and include the following sources:

- Truck movements on paved roads unpaved roads (USEPA AP-42, Sections 13.2.1 and 13.2.2)
- Truck loading, loading to crusher, hydraulic hammer use, and conveyor transfer to screens (UUSEPA AP-42, Section 13.2.4 - Aggregate handling)
- Crushing Operations (USEPA AP-42, Section 11.19.2 - Tertiary Crushing)
- Wind erosion emissions from the stockpiles (USEPA, AP-42, Section 11.9 - Western Surface Coal mining).

The estimated dust emissions associated with the operation of the Proposal are in Appendix A.

7.5 Odour Emission Estimation

Odour emissions from the Proposal are anticipated to occur from waste stored in the warehouse building (released primarily via the ventilation stack and minor fugitive emissions from the operable roller doors while open).

To determine odour emission rates for MSW and C&I, a review of odour sampling undertaken at a comparable facility presented in Banksmeadow Transfer Terminal Odour Emissions and Control (The Odour Unit, 2014) attached as Appendix B. The Odour Unit (2014) conducted odour sampling from the building ventilation stack at Clyde Transfer Terminal (CTT). At the time of odour sampling, CTT utilised a similar arrangement to the Proposal consisting of a waste transfer area where municipal waste (same waste type as our Proposal) was placed on the floor and odour was managed using an odour control system consisting of a building ventilation system to collect odour and a stack to disperse it. Consequently, the odour sampling data presented in The Odour Unit (2014) is considered suitable for use in this air quality assessment.

A summary of The Odour Unit (2014) odour sampling is provided in Table 7-1.

Table 7-1: Summary of Odour Sampling Results

Waste tonnage on floor (t)	Maximum Odour Concentration (OU)	Odour emission rate per tonnage (OU.m^3/t/s)
250	430	152.6 (based on stack flow rate of 88.7 m^3/s)

Therefore, an odour emission rate of 152.6 OU.m^3/t/s was adopted for the stack emissions. The worst-case operational scenario of odour emissions was modelled assuming that 480 tonnes of waste, will be present at all times.

To ensure that air/odorous emissions generated during operational activities are minimized as far as practicable, the exhaust stack will be fitted with wet scrubber and activated carbon filters (generally achieves 99.9% of odour destruction efficiency):

- Exhaust stack will be located at a height of 2 m high above the roof and 0.3 m wide stack on the roof above the wet scrubber with activated carbon filtration prior to the discharge;
- The exhaust velocity of stack is 38.62 m/s with stack diameter of 0.3 m and stack height of 17 m (total from the ground);
- Building will be kept under negative pressure to avoid fugitive release of odour; and
- All the indoor air associated with the plant would be captured and dispersed into the ambient air via the roof-top exhaust stack with activated carbon filters.

The proposed building would be enclosed, with the exception of vehicle access openings automatically minimising fugitive odour emissions. The ventilation system for the building has been designed to capture and disperse odour emissions from all significant odour sources within the structure including the putrescible waste storage and processing areas within the development. The bulk air exchange rate within the building is proposed to achieve approximately nine air changes per hour. The ventilation system inside the building will have a strong effect on reducing or negating odours escaping to atmosphere through the doorway or any small gaps in the building.

Although the building will be under negative pressure, and all the odour emission will be exhausted through the stack. It is conservatively assumed that minor fugitive odour emissions from the operable doors will be released and are calculated based on the following assumptions:

- Internal waste has an odour concentration of 430 OU;
- Total roller door area of 84 m^2;
- The roller door would be open approximately 10% of the time and air velocity out of the door is approximately 0.1 metres per second while the roller door are open.

Odour emission rates have been multiplied by the recommended peak-to-mean ratios for different source types to predict odour levels for nose response times. Peak-to-mean factors are applied to account for any odour fluctuation above and below the mean odour level of the 1-hour averaging time. Peak-to-mean factors of 2.3 for point and volume sources were applied. The 99th percentile nose-response 1-hour average ground-level odour concentrations have been predicted at nearby sensitive receptors to determine the impact at these locations. The estimated odour emissions and stack parameters associated with the operation of the Proposal are in Appendix B.

7.6 Assessment of Operational Dust Impacts

This section presents the dispersion modelling results and discusses the potential off-site air quality impacts associated with the existing MET Recycling Pty Ltd Facility operations and the operation of the Proposal.

7.6.1 Total Suspended Particles (TSP)

Table 7-2 presents the summary of the predicted incremental, existing, background and cumulative annual average TSP concentrations, as well as the dust deposition rates at surrounding industrial and other sensitive receptors.

Table 7-2: Predicted Annual Average TSP Concentrations and Dust Deposition at Industrial and other Sensitive Receptors

Receptor	Annual Average TSP (µg/m³)				Deposited Dust (g/m²/month)			
	Incremental	Existing MET Recycling Pty Ltd Operations	Background	Cumulative Impact (Criterion: 90)	Incremental	Existing MET Recycling Pty Ltd Operations	Background	Cumulative Impact (Criterion: 4)
I1	15.2	22.4	44.9	82.4	0.49	0.68	2.00	3.17
I2	25.1	17.6	44.9	87.6	0.72	0.45	2.00	3.17
I3	4.4	3.6	44.9	52.9	0.11	0.09	2.00	2.21
P4	2.4	3.1	44.9	50.4	0.07	0.10	2.00	2.17

Receptor	Annual Average TSP (µg/m³)				Deposited Dust (g/m²/month)			
	Incremental	Existing MET Recycling Pty Ltd Operations	Background	Cumulative Impact (Criterion: 90)	Incremental	Existing MET Recycling Pty Ltd Operations	Background	Cumulative Impact (Criterion: 4)
P5	0.9	0.9	44.9	46.7	0.02	0.02	2.00	2.04
E6	0.6	0.7	44.9	46.2	0.02	0.02	2.00	2.03
E7	0.6	0.7	44.9	46.2	0.01	0.02	2.00	2.03
E8	0.4	0.5	44.9	45.8	0.01	0.01	2.00	2.02
E9	0.4	0.4	44.9	45.7	0.01	0.01	2.00	2.02
R10	0.9	0.9	44.9	46.6	0.02	0.02	2.00	2.05
C11	2.3	1.9	44.9	49.1	0.06	0.05	2.00	2.12
R12	2.7	2.5	44.9	50.1	0.06	0.05	2.00	2.11
I13	5.7	8.7	44.9	59.3	0.17	0.25	2.00	2.42
I14	2.5	3.9	44.9	51.3	0.08	0.12	2.00	2.20
I15	5.0	8.3	44.9	58.2	0.17	0.27	2.00	2.44
R16	14.8	16.7	44.9	76.4	0.40	0.40	2.00	2.81
C17	9.9	10.8	44.9	65.6	0.25	0.25	2.00	2.51
R18	5.6	4.2	44.9	54.7	0.13	0.10	2.00	2.23
R19	2.4	2.1	44.9	49.4	0.05	0.05	2.00	2.10
C20	6.3	5.4	44.9	56.6	0.15	0.12	2.00	2.28
R21	1.5	1.5	44.9	47.9	0.04	0.04	2.00	2.07
R22	1.8	1.7	44.9	48.4	0.04	0.04	2.00	2.08
I23	3.5	3.0	44.9	51.4	0.09	0.07	2.00	2.16

The results presented in Table 7-2indicate that the incremental contributions from the Proposal to annual average TSP concentrations and dust deposition are low at all assessed receptors. When combined with emissions from existing MET Recycling Pty Ltd operations and regional background concentrations, the predicted cumulative annual average TSP concentrations remain below the applicable criterion of 90 µg/m³ at all industrial and other sensitive receptors.

Similarly, the predicted cumulative dust deposition rates at all receptors comply with the applicable criterion of 4 g/m²/month.

Overall, the results demonstrate that the operation of the Proposal, in combination with existing site activities, will not result in exceedances of the relevant annual average TSP or dust deposition criteria at any surrounding industrial or other sensitive receptors.

Contour plots of annual average TSP concentrations are not presented, as the predicted incremental concentrations are well below the relevant assessment criteria and do not materially influence cumulative impacts.

7.6.2 Coarse Particulate matter (PM_{10})

Table 7-3 summarizes the predicted incremental, existing MET Recycling Pty Ltd facility operations, background and cumulative 24-hour and annual average PM_{10} concentrations at surrounding sensitive receptors.

Table 7-3: Predicted Maximum 24-hour and Annual Average PM_{10} Concentrations at Sensitive Receptors

Receptor	24 hour Averaging Time (Criterion: 50 µg/m³)				Annual Averaging Time (Criterion: 25 µg/m³)			
	Incremental	Existing	Background	Cumulative Impact	Incremental	Existing	Background	Cumulative Impact
I1	18.1	45.8	**84.4**	**148.3**	2.46	7.47	17.97	**27.9**
I2	11.2	42.6	**84.4**	**138.2**	4.03	8.68	17.97	**30.7**
I3	5.1	12.1	**84.4**	**101.6**	0.82	2.04	17.97	20.8
P4	2.7	9.2	**84.4**	**96.2**	0.45	1.47	17.97	19.9
P5	3.4	11.0	**84.4**	**98.8**	0.17	0.49	17.97	18.6
E6	1.4	4.7	**84.4**	**90.5**	0.11	0.33	17.97	18.4
E7	1.3	4.9	**84.4**	**90.6**	0.11	0.32	17.97	18.4
E8	1.7	5.6	**84.4**	**91.7**	0.08	0.25	17.97	18.3
E9	1.5	5.9	**84.4**	**91.9**	0.08	0.24	17.97	18.3
R10	1.0	3.0	**84.4**	**88.4**	0.18	0.51	17.97	18.7
C11	2.3	5.8	**84.4**	**92.6**	0.44	1.11	17.97	19.5
R12	2.5	8.8	**84.4**	**95.7**	0.52	1.45	17.97	19.9
I13	4.9	27.8	**84.4**	**117.1**	1.03	4.87	17.97	23.9
I14	2.3	11.4	**84.4**	**98.1**	0.48	2.12	17.97	20.6
I15	4.8	24.8	**84.4**	**114.0**	0.90	3.94	17.97	22.8

Receptor	24 hour Averaging Time (Criterion: 50 µg/m³)				Annual Averaging Time (Criterion: 25 µg/m³)			
	Incremental	Existing	Background	Cumulative Impact	Incremental	Existing	Background	Cumulative Impact
R16	7.2	31.6	**84.4**	**123.2**	2.51	8.35	17.97	**28.8**
C17	5.4	25.3	**84.4**	**115.1**	1.72	5.52	17.97	**25.2**
R18	4.3	13.5	**84.4**	**102.2**	1.01	2.18	17.97	21.2
R19	2.4	8.9	**84.4**	**95.7**	0.46	1.17	17.97	19.6
C20	4.1	16.4	**84.4**	**104.9**	1.12	2.96	17.97	22.0
R21	2.1	7.5	**84.4**	**94.1**	0.26	0.72	17.97	19.0
R22	2.2	6.7	**84.4**	**93.3**	0.34	0.87	17.97	19.2
I23	3.5	11.5	**84.4**	**99.4**	0.65	1.63	17.97	20.2

The modelling results indicate that predicted cumulative 24-hour average PM_{10} concentrations exceed the assessment criterion of 50 µg/m³ at all sensitive receptors. This exceedance is driven by the elevated background PM_{10} concentration of 84.4 µg/m³, which exceeds the criterion in the absence of any contribution from the Site.

The incremental contribution from the Proposal to 24-hour average PM_{10} concentrations is low across all receptors. The maximum predicted incremental concentration is 7.2 µg/m³ (without inclusion of industrial receptors) at receptor R16, which represents less than 14.4% of the 24-hour criterion. Incremental contributions at all other sensitive receptors are lower. Accordingly, emissions from the Proposal are not expected to materially contribute to, or exacerbate, the existing background-driven exceedances.

For the annual averaging period, predicted cumulative PM_{10} concentrations marginally exceed the assessment criterion of 25 µg/m³ at receptors R16 and C17. These exceedances are primarily attributable to the inclusion of maximum background concentrations, representing a conservative worst-case assessment scenario. Incremental annual average PM_{10} contributions from the Proposal at these receptors are low and remain well below the applicable annual criterion.

A contemporaneous assessment of 24-hour average PM_{10} concentrations for residential, place of worship and educational sensitive receptors is provided in Appendix C. Predicted incremental PM_{10} concentration contours for the 24-hour and annual average periods are presented in Appendix D.

The predicted cumulative 24-hour average PM_{10} concentration exceeds the criteria at receptors R16 and C17. Time-series plots of the 24-hour average PM_{10} concentrations predicted at sensitive receptors R16 and C17 are shown in Figure 7-3 and **Figure 7-4**, respectively. Overall, the modelling demonstrates that incremental PM_{10} impacts associated with the Proposal comply with the relevant 24-hour and annual average assessment criteria at all sensitive receptors. The predicted exceedances of cumulative PM_{10} concentrations are driven by elevated regional background levels rather than emissions from the Proposal or existing site operations. Operation of the Proposal is therefore not anticipated to significantly worsen local air quality conditions.

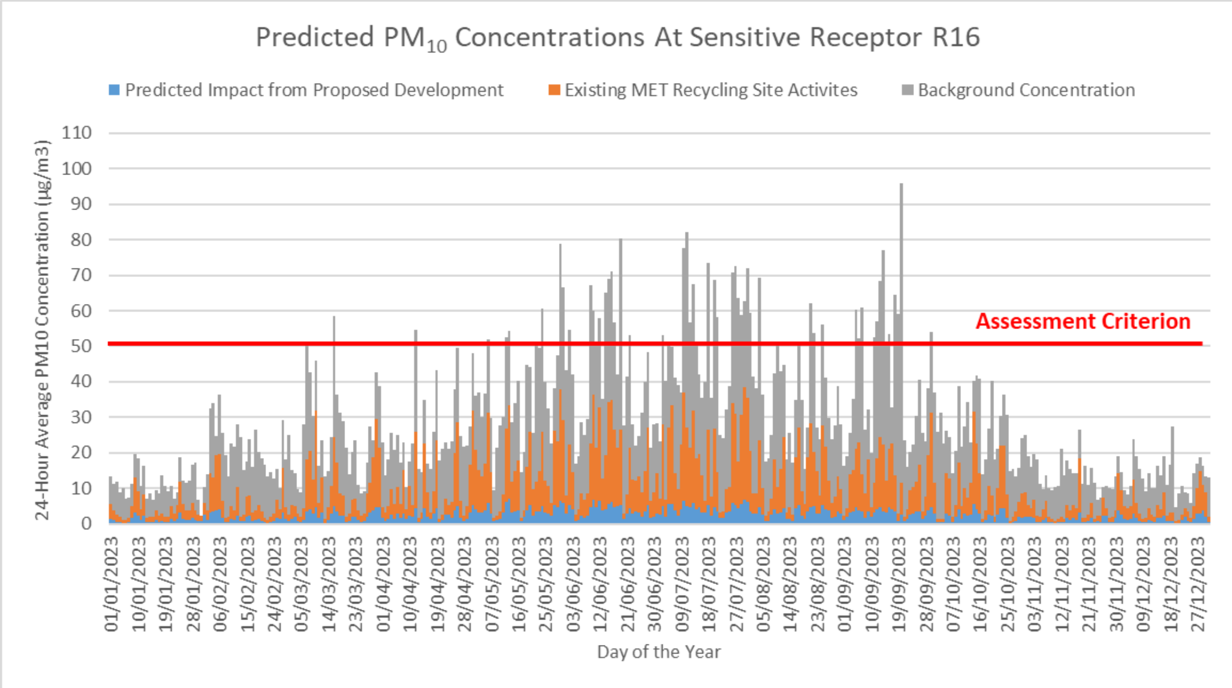

Figure 7-3: Time Series of 24-Hour Average PM$_{10}$ Concentrations Predicted at Sensitive Receptor R16

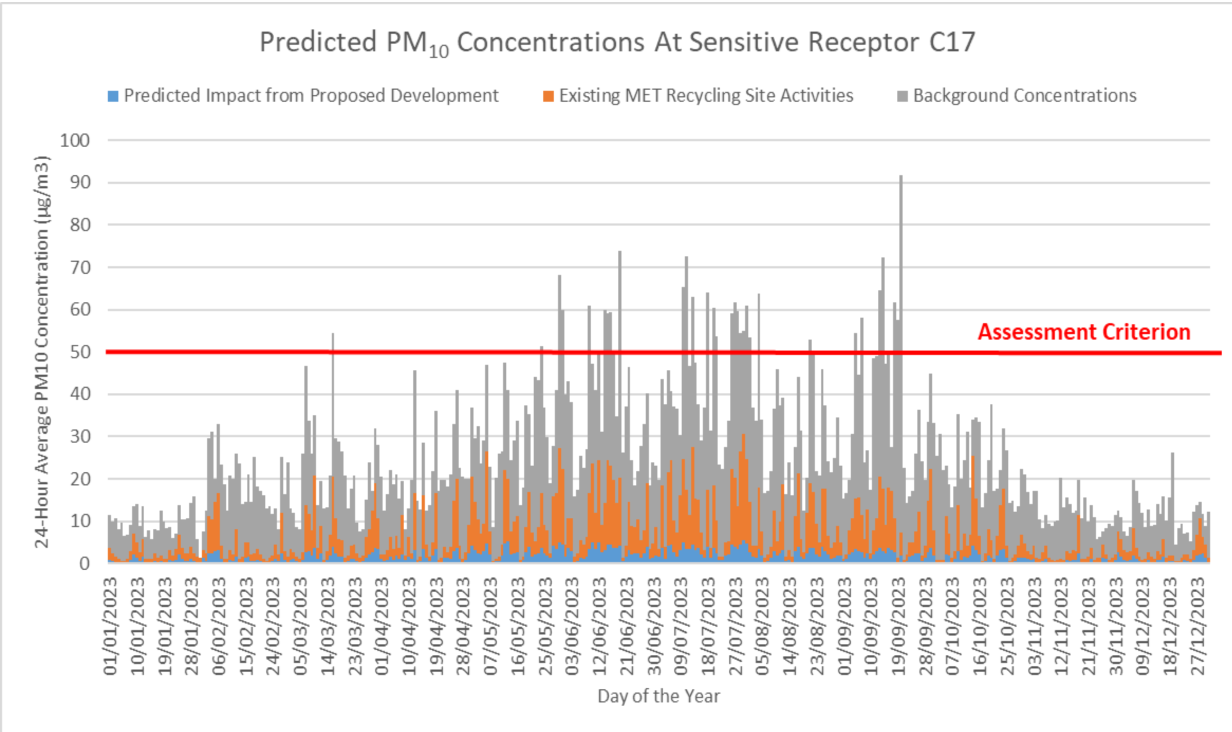

Figure 7-4: Time Series of 24-Hour Average PM$_{10}$ Concentrations Predicted at Sensitive Receptor C17

7.6.3 Fine Particulate matter (PM$_{2.5}$)

Table 7-4 summarizes the predicted incremental, existing MET Recycling Pty Ltd operations, background and cumulative 24-hour and annual average PM$_{2.5}$ concentrations at surrounding sensitive receptor.

Table 7-4: Predicted Maximum 24-hour and Annual Average $PM_{2.5}$ Concentrations at Sensitive Receptors

Receptor	24 hour Averaging Time (Criterion: 25 µg/m³)				Annual Averaging Time (Criterion: 8 µg/m³)			
	Incremental	Existing	Background	Cumulative Impact	Incremental	Existing	Background	Cumulative Impact
I1	4.5	16.1	**45.1**	**65.7**	0.62	2.59	11.02	14.23
I2	2.8	17.2	**45.1**	**65.1**	1.01	3.42	11.02	15.45
I3	1.3	4.6	**45.1**	**51.0**	0.21	0.81	11.02	12.03
P4	0.7	3.6	**45.1**	**49.3**	0.11	0.56	11.02	11.70
P5	0.9	4.6	**45.1**	**50.5**	0.04	0.20	11.02	11.26
E6	0.4	1.9	**45.1**	**47.4**	0.03	0.13	11.02	11.18
E7	0.3	2.0	**45.1**	**47.5**	0.03	0.13	11.02	11.18
E8	0.4	2.3	**45.1**	**47.9**	0.02	0.10	11.02	11.14
E9	0.4	2.5	**45.1**	**48.0**	0.02	0.10	11.02	11.14
R10	0.2	1.2	**45.1**	**46.5**	0.04	0.20	11.02	11.27
C11	0.6	2.3	**45.1**	**48.0**	0.11	0.44	11.02	11.57
R12	0.6	3.6	**45.1**	**49.4**	0.13	0.58	11.02	11.73
I13	1.2	11.9	**45.1**	**58.2**	0.26	2.00	11.02	13.27
I14	0.6	4.9	**45.1**	**50.6**	0.12	0.88	11.02	12.01
I15	1.2	11.0	**45.1**	**57.3**	0.23	1.60	11.02	12.85
R16	1.8	14.4	**45.1**	**61.3**	0.63	3.40	11.02	15.05
C17	1.4	11.1	**45.1**	**57.6**	0.43	2.23	11.02	13.68
R18	1.1	5.5	**45.1**	**51.7**	0.25	0.85	11.02	12.13
R19	0.6	3.6	**45.1**	**49.3**	0.11	0.46	11.02	11.60
C20	1.0	6.8	**45.1**	**53.0**	0.28	1.17	11.02	12.47
R21	0.5	3.1	**45.1**	**48.8**	0.07	0.29	11.02	11.37
R22	0.6	2.7	**45.1**	**48.4**	0.09	0.34	11.02	11.45
I23	0.9	4.6	**45.1**	**50.6**	0.16	0.65	11.02	11.83

The modelling results indicate that predicted cumulative 24-hour average $PM_{2.5}$ concentrations exceed the assessment criterion of 25 µg/m³ at all receptors. These exceedances are driven by the elevated background $PM_{2.5}$ concentration of 45.1 µg/m³, which exceeds the criterion in the absence of any contribution from the Site.

The incremental contribution from the Proposal to 24-hour average $PM_{2.5}$ concentrations is low at all receptors. The maximum predicted incremental concentration is 1.8 µg/m³ at receptor R16 (without inclusion of industrial receptors), which represents less than 7% of the 24-hour $PM_{2.5}$ criterion. Incremental contributions at all other sensitive receptors are lower. Emissions from existing site operations are also relatively low, with maximum contributions of 14.4 µg/m³, or less than 57% of the 24-hour criterion. Accordingly, the observed cumulative exceedances are attributable solely to elevated background concentrations, rather than emissions from the Proposal or existing site activities.

For the annual averaging period, predicted cumulative $PM_{2.5}$ concentrations exceed the assessment criterion of 8 µg/m³ at all sensitive receptors. These exceedances are again primarily driven by background $PM_{2.5}$ concentrations, which alone exceed the annual criterion. Contributions from both the existing operations and the Proposal are comparatively small and do not materially influence the cumulative results. Operation of the Proposal is therefore not anticipated to significantly exacerbate existing elevated background $PM_{2.5}$ concentrations.

A contemporaneous assessment of 24-hour average $PM_{2.5}$ concentrations for residential, place of worship and educational sensitive receptors is presented in Appendix C. Predicted incremental 24-hour and annual average $PM_{2.5}$ concentration contours are presented in Appendix D.

The predicted cumulative 24-hour average $PM_{2.5}$ concentration exceeds the criteria at receptors P4, R16 and C17. Time-series plots of the 24-hour average $PM_{2.5}$ concentrations predicted at sensitive receptors P4, R16 and C17 are shown in Figure 7-5, **Figure 7-6** and Figure 7-7, respectively. Overall, the modelling demonstrates that incremental $PM_{2.5}$ impacts associated with the Proposal comply with the relevant 24-hour and annual average assessment criteria at all sensitive receptors. The predicted exceedances of cumulative $PM_{2.5}$ concentrations are driven by elevated regional background levels rather than emissions from the Proposal or existing site operations. Operation of the Proposal is therefore not anticipated to significantly worsen local air quality conditions.

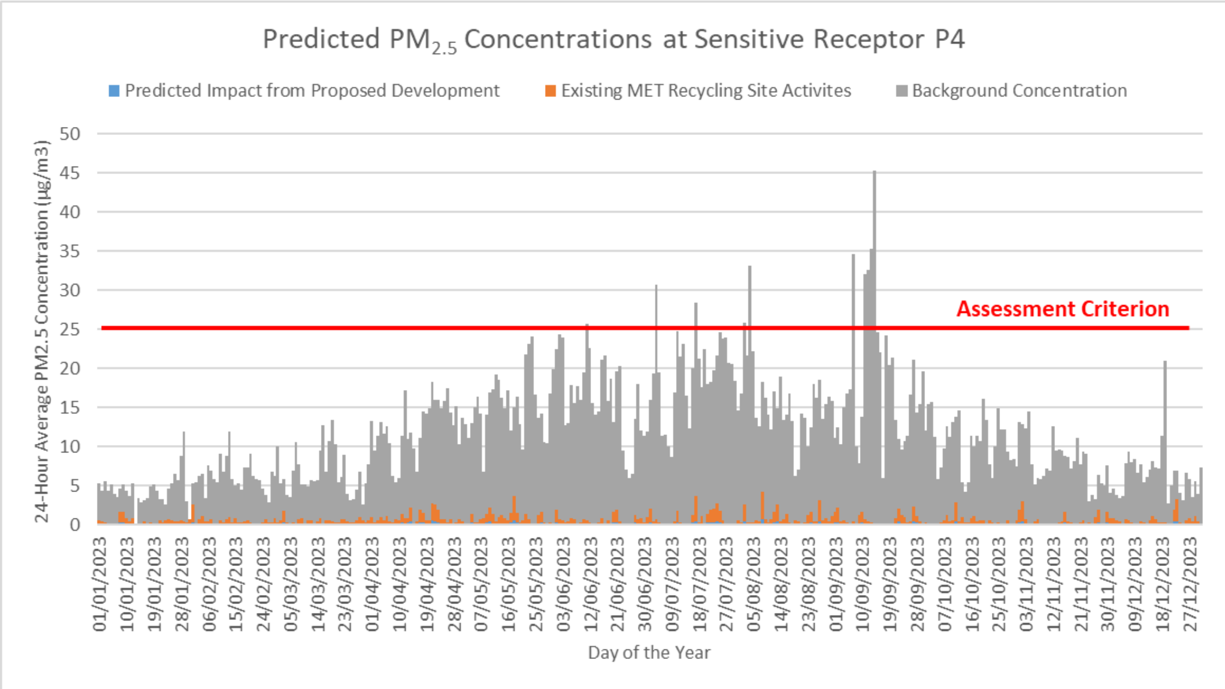

Figure 7-5: Time Series of 24-Hour Average $PM_{2.5}$ Concentrations Predicted at Sensitive Receptor P4

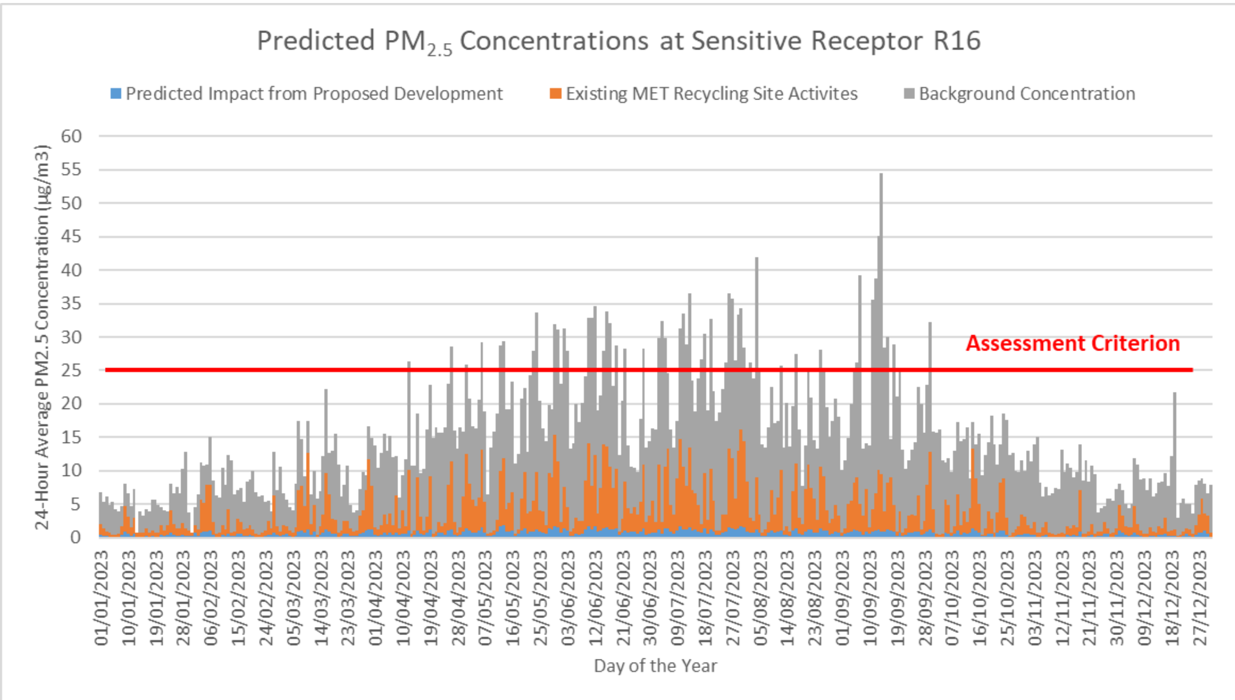

Figure 7-6: Time Series of 24-Hour Average $PM_{2.5}$ Concentrations Predicted at Sensitive Receptor R16

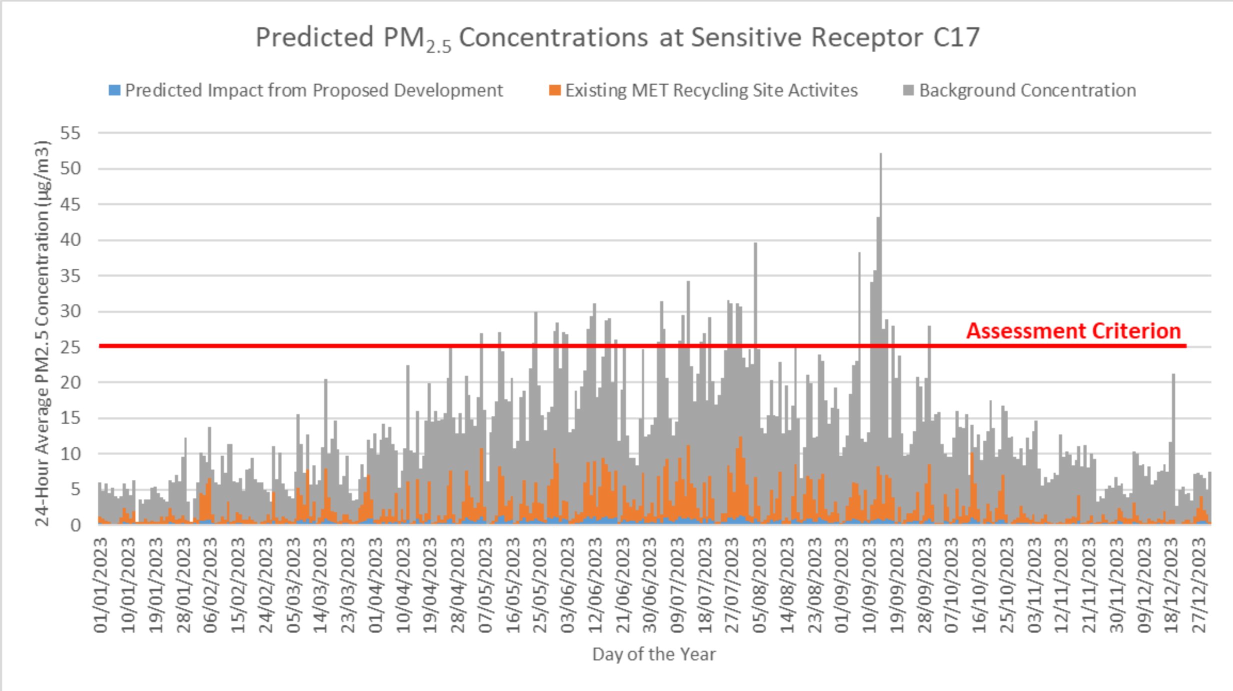

Figure 7-7: Time Series of 24-Hour Average $PM_{2.5}$ Concentrations Predicted at Sensitive Receptor C17

7.6.4 Nitrogen Dioxide (NO_2)

This section presents the dispersion modelling results of nitrogen dioxide (NO_2). The averaging periods associated with the criteria for this pollutant are 1-hour and annual. Given that NOx is mostly a mixture of NO_2 and nitric oxide (NO), conversion of NOx predictions to NO_2 concentrations was estimated using a using a total conversion, i.e., it was assumed that all NO is converted to NO_2 before reaching the receptors. This approach represents a worst-case assumption and is consistent with NSW EPA accepted NO_2 impact assessments. The background data used for the assessment included the Lidcombe AQMS.

The predicted maximum incremental and cumulative 1-hour and annual average NO_2 concentrations resulting from the proposed operations are presented in Table 7-5.

Table 7-5: Predicted Maximum 1-hour and Annual Average NO_2 Concentrations at Sensitive Receptors

Receptor	1-hour Averaging Time (Criterion: 164 µg/m³)		Annual Averaging Time (Criterion: 31 µg/m³)	
	Incremental Impact (µg/m³)	Cumulative Impact (µg/m³)	Incremental Impact (µg/m³)	Cumulative Impact (µg/m³)
I1	9.17	108.9	0.55	21.47
I2	3.99	110.6	0.88	21.81
I3	3.59	108.7	0.18	21.11
P4	1.90	108.7	0.10	21.02

Receptor	1-hour Averaging Time (Criterion: 164 μg/m³)		Annual Averaging Time (Criterion: 31 μg/m³)	
	Incremental Impact (μg/m³)	Cumulative Impact (μg/m³)	Incremental Impact (μg/m³)	Cumulative Impact (μg/m³)
P5	1.82	108.7	0.04	20.96
E6	1.08	109.1	0.02	20.95
E7	0.95	108.9	0.02	20.95
E8	1.03	108.8	0.02	20.94
E9	1.18	108.7	0.02	20.94
R10	0.74	108.7	0.04	20.96
C11	1.54	108.7	0.10	21.02
R12	1.45	108.7	0.11	21.04
I13	2.41	108.8	0.23	21.15
I14	1.47	108.7	0.10	21.03
I15	2.48	108.7	0.20	21.12
R16	3.21	109.4	0.55	21.47
C17	2.57	109.0	0.38	21.30
R18	2.22	109.2	0.22	21.15
R19	1.42	108.7	0.10	21.03
C20	2.08	108.9	0.25	21.17
R21	1.37	109.0	0.06	20.98
R22	1.21	108.8	0.08	21.00
I23	1.70	109.5	0.14	21.07

The modelling results indicate that predicted incremental NO_2 concentrations from the Proposal are low for both the 1-hour and annual averaging periods at all sensitive receptors. When combined with background concentrations, the predicted cumulative NO_2 concentrations remain below the applicable assessment criteria of 164 μg/m³ (1-hour) and 31 μg/m³ (annual) at all assessed receptors.

Accordingly, the results demonstrate that emissions associated with the operation of the Proposal will not result in exceedances of the relevant NO_2 air quality criteria and are not expected to result in adverse off-site air quality impacts. Given the low incremental contributions and compliance with the applicable criteria, contour plots for NO_2 concentrations have not been presented.

7.7 Assessment of Operational Odour Impacts

Table 7-6 presents the summary of the highest predicted 1-hour average 99th percentile ground-level odour concentrations at the nearest sensitive receptors, with 99% odour destruction efficiency through the Odour Control System (OCS).

Table 7-6: Predicted 1-hour Average 99th Percentile Ground Level Odour Concentrations at Sensitive Receptors

Receptor	Highest Predicted 1-hour Average 99th Percentile Ground-Level Odour Concentration (Criterion: 2 OU)
I1	1.3
I2	1.2
I3	0.6
P4	0.2
P5	0.2
E6	0.1
E7	0.1
E8	0.1
E9	0.1
R10	0.1
C11	0.3
R12	0.2
I13	0.4
I14	0.3
I15	0.3
R16	0.4
C17	0.4
R18	0.4
R19	0.2
C20	0.4
R21	0.2
R22	0.2
I23	0.2

The results in Table 7-6 show that odour emissions from the Proposal are not predicted to result in exceedances of the impact assessment criterion for odour concentration. Therefore, odour emissions from the Proposal are expected to have a low impact on the nearest industrial and other sensitive receptors. The predicted odour impacts near the surrounding locations are presented as contour plots of 1-hour average 99th Percentile Ground Level Odour Concentrations in Appendix E.

7.7.1 Odour Sensitivity Analysis

To assess the robustness of the odour management strategy and investigate the potential risk of an odour impacts under upset or reduced performance conditions, a sensitivity analysis was undertaken. The analysis considered odour destruction efficiencies of 90%, 95% and 99.9% for the wet scrubber with activated carbon filter. Table 7-7 shows the predicted 1-hour Average 99th Percentile Ground Level Odour Concentrations at different odour reduction percentages of OCS.

Table 7-7: Predicted 1-hour Average 99th Percentile Ground Level Odour Concentrations at different odour reduction percentages of OCS

Receptor	90% Odour reduction	95% Odour reduction	99.9% Odour reduction
I1	3.49	2.30	1.10
I2	7.39	3.72	1.18
I3	2.26	1.30	0.41
P4	1.22	0.68	0.15
P5	0.82	0.46	0.09
E6	0.68	0.39	0.07
E7	0.72	0.38	0.06
E8	0.57	0.32	0.06
E9	0.38	0.21	0.03
R10	0.94	0.50	0.06
C11	1.56	0.85	0.13
R12	1.09	0.57	0.15
I13	2.34	1.20	0.32
I14	1.90	0.96	0.13
I15	2.08	1.10	0.22
R16	3.19	1.62	0.36
C17	2.34	1.19	0.32
R18	1.54	0.80	0.31
R19	1.10	0.56	0.15

Receptor	90% Odour reduction	95% Odour reduction	99.9% Odour reduction
C20	1.78	0.90	0.30
R21	0.90	0.47	0.10
R22	0.97	0.52	0.09
I23	1.37	0.75	0.16

The results in Table 7-7 (sensitivity analysis) indicate the following:

- At 99.9% odour reduction efficiency, predicted odour concentrations at all sensitive receptors remain well below the assessment criteria of 2 OU limit.
- At 95% odour reduction efficiency, predicted odour concentrations at all educational, place of worship and residential receptors remain below the 2 OU criterion, indicating that acceptable amenity outcomes are maintained even under conservative reduced-performance conditions.
- At 90% odour reduction efficiency, predicted odour concentrations exceed the 2 OU criterion at some nearby industrial and commercial receptors (I1, I2, I3, I15, R16 and C17). Odour impacts exceed 2 OU at nearby industrial, residential and commercial receptors (I1, I2, I3, I15, R16 and C17). Odour nuisance perception typically ranges from 2 OU to 10 OU (NSW DEC 2005), depending on factors such as odour quality, intensity, frequency, timing, duration, population sensitivity, background levels, public expectations, and source characteristics. The industrial receptors generally have higher tolerance and are not likely occupied for many of the higher nighttime predicted odour impacts. Many of these facilities are also enclosed with limited staff that work in any outdoor area with potential for amenity impacts. Therefore, it is considered to have low risk of odour impacts on the industrial receivers. While these conditions represent a conservative upset scenario, they highlight the importance of maintaining odour control system performance.

Overall, the sensitivity analysis demonstrates that the odour impact assessment criteria can be achieved under normal and conservative worst-case operational conditions, provided the Odour Control System is operated and maintained as designed.

In addition, the implementation of liquid-sealed shipping containers equipped with charcoal filtration vents will effectively prevent odour release during transport, ensuring that odour emissions remain negligible or insignificant.

8 RECOMMENDED MITIGATION AND MANAGEMENT

8.1 Construction Dust Mitigation Measures

The assessment of potential dust impacts from the proposed construction works indicates a negligible risk of dust soiling and human health impacts from all activities (demolition, earthworks, construction and trackout) if dust mitigation measures were not implemented.

To ensure best practice management, the following mitigation measures are recommended to minimize construction dust impacts.

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to relevant authorities (Council, EPA, etc).
- Record exceptional incidents that cause dust and/or air emissions, on or off site, and the actions taken to resolve the situation in the logbook.

Measures for General Construction Activities

- Ensure an adequate water supply on the Site for effective dust/PM suppression/mitigation, using non-potable water where possible and appropriate.
- Ensure equipment is readily available on the Site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

8.2 Operational Mitigation Measures

Dispersion modelling indicates that operational activities associated with the Proposal are not expected to result in adverse air quality or odour impacts at surrounding sensitive receptors. While additional mitigation measures are therefore not strictly required, the implementation of the following best management practices (BMPs) is considered prudent to minimise emissions and ensure ongoing compliance with applicable air quality and odour objectives.

In addition, the existing Dust Management Plan (DMP) currently implemented for the MET Recycling Pty Ltd Facility will continue to be applied and enforced for the Proposal, with no reduction in the level of dust control or management. Where relevant, the existing DMP will be reviewed and updated to reflect minor operational layout changes associated with the Proposal.:

Best Management Practices to Minimize Dust Emissions:

- Continued implementation of the existing Dust Management Plan for the MET Recycling Pty Ltd Facility, including all inspection, monitoring, reporting and corrective action procedures;
- Proper and appropriate use of all plant and equipment.
- Effective preventative maintenance on all plant and equipment concerned with the control of emissions to air;

- Routine sweeping of paved areas to minimise the accumulation of dust;
- Avoidance of unnecessary idling of truck engines on site;
- Ensuring truck maintenance is up to date;
- Washing down of vehicles prior to leaving the Site;
- Implementation and continuation of an inspection and maintenance regime for all dust suppression and control infrastructure, consistent with the existing DMP;
- Sealing of all surfaces accessed by trucks within the Site, consistent with current site practices; and
- Regularly check, maintain and replace all building ventilation dust filters in accordance with manufacturer specifications.
- installation and operation of a comprehensive water misters system to minimise the generation and emission of dust

The effectiveness of these measures will continue to be assessed in accordance with the existing complaint handling, incident response and corrective action procedures outlined in the current Dust Management Plan.

Best Management Practices to Minimize Odour Emissions:

The Proposal incorporates a suite of odour mitigation and management measures, supported by good housekeeping practices, to minimize the potential for any off-site odour impacts. The odour management strategies that would be implemented at the Proposal are:

- **Engineering and Design Controls**
  - Maintenance of negative pressure throughout the warehouse;
  - Installation of two (2) wet scrubbers fitted with activated charcoal filtration for the discharge of clean, filtered air through stacks in the roof;
  - Use of rapid close automatic roller doors to minimize fugitive air releases;
  - Installation of air curtains at entry and exit roller doors; and
  - Use of liquid sealed shipping containers for the transfer of baled waste products, including charcoal filtration vents to prevent odour leaving the container during transport.
  - Install and operate neutralising and/or deodorising system to neutralise odours
- **Operational Management Controls**
  - Spill management procedures to include immediate cleaning up of any spill/leakage from incoming and outgoing trucks;
  - Regularly check and maintain the installed scrubbers with activated charcoal filtration in accordance with manufacturer specifications;
  - Regularly check and maintain the negative pressure air handling system in accordance with manufacturer specifications;
  - Institute a routine monitoring protocol for the scrubber and air handling system;
  - Keeping putrescible and non-putrescible waste stream(s) separate within the warehouse;
  - Ensuring the floor area of the warehouse is cleaned daily;
  - Keep the main building as clean as possible by sweeping and washing down floors regularly when they are clear of waste;
  - Minimise the accumulation of waste inside the main building as much as practicable by regularly transporting waste offsite;
  - A wheel wash should be provided prior to the outbound weighbridge to clean, disinfect and deodorise the wheels of all trucks leaving the facility;

- Reviewing operational practices and management plans regularly and training of relevant staff regarding waste handling and transfer; and
- Maintain an odour complaint logbook. When odour complaints are received, a Site investigation would be conducted to identify any unusual odour sources within the Site boundary and take appropriate action as required.

Although impacts on surrounding receptors are considered unlikely, it is recommended to keep records of any dust and odour complaints from neighbouring receptors and the responses to these complaints. Responses should be prompt and responsive to the complaints.

9 CONCLUSION

RWDI Australia (RWDI) has been commissioned by JEP Environment & Planning on behalf of MET Waste Management Pty Ltd to provide an Air Quality and Odour Impact Assessment (AQOIA) to develop a Processed Engineered Feedstock (PEF) Production Facility at its existing site located at Lot 134 Carnarvon St, Silverwater NSW 2128 (Lot 1 DP 713708). The PEF Production Facility will receive, sort and process up to 450,000 tonnes per annum of residual Municipal Solid Waste (MSW) and Commercial and Industrial (C&I) waste in a ratio of approximately 40% to 60% by weight respectively and provide new critical infrastructure to address the projected shortfall in Sydney's waste disposal needs by 2030.

The construction phase would be adequately managed so that the short-term and temporary dust related impacts would be medium risk for construction, low risk for track out and negligible risk for demolition and earthwork of dust soiling and human health impacts.

Operational air quality impacts were assessed using AERMET-processed meteorological data and the AERMOD dispersion modelling system. The assessment concludes the following:

- **Particulate Matter (PM_{10} and $PM_{2.5}$):**
  Predicted particulate matter concentrations under worst-case operational conditions would comply with applicable assessment criteria at the majority of sensitive receptors. Although exceedances of the 24-hour average PM_{10} and $PM_{2.5}$ criteria were predicted at receptors R16 and C17, these exceedances are primarily attributable to elevated background concentrations that already exceed the relevant criteria in the absence of the Proposal.
  The maximum incremental contribution from the Proposal is predicted to be less than 15% of the 24-hour average PM_{10} criterion and less than 7% of the 24-hour average $PM_{2.5}$ criterion. Accordingly, the Proposal would not materially contribute to, or exacerbate, existing particulate matter exceedances, and would not result in an unacceptable increase in exposure at nearby sensitive receptors.
- **Odour:**
  No odour impacts were predicted at any sensitive receptors under worst-case operational scenarios. With the implementation of a robust Odour Control System, including appropriate containment, extraction, and treatment measures, predicted ground-level odour concentrations are unlikely to exceed the applicable assessment criteria.

The Proposal incorporates best-practice odour mitigation and management strategies to ensure odour impacts are reduced. Proper dispersion from a stack is generally considered the most appropriate method, and the scrubber with activated carbon filter is used as part of the onsite pollution control system. This pollution control system is considered best practice for a waste facility in order to capture and treat odours and particulates as required, prior to discharge which can typically achieve 99.9% of odour destruction efficiency with proper maintenance.

Overall, the assessment demonstrates that the proposed Processed Engineered Feedstock (PEF) Production Facility can be constructed and operated without causing adverse air quality or odour impacts on the surrounding environment. With the implementation of appropriate mitigation and management measures, the Proposal is considered acceptable from an air quality and odour impact perspective and is unlikely to adversely affect nearby sensitive receptors.

10 REFERENCES

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11 STATEMENT OF LIMITATIONS

This report entitled MET Waste Management Pty Ltd – Proposed Processed Engineered Feedstock Production Facility (PEF Production Facility)– Air Quality Assessment, dated 29 April 2026, was prepared by RWDI Australia Pty Ltd ("RWDI") for JEP Environment & Planning on behalf of MET Waste Management Pty Ltd ("Client"). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein ("Proposal"). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared. Because the contents of this report may not reflect the final design of the Proposal or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client during the final stages of the project to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Proposal.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilize the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.

APPENDIX A

EMISSION INVENTORY OF DUST

Appendix A1: Hauling Roads Emissions

Project #2600905

MET Waste Management Pty Ltd - Lot 1, Newton Street North, Silverwater NSW 2128

UNPAVED ROAD SECTIONS - AP-42 Section 13.2.2
PAVED ROAD SECTIONS - AP-42 Section 13.2.1

Paved Roads: $E = k\,(sL)^{0.91}\,(W)^{1.02}$
Unpaved Roads - Industrial: $E = 281.9\,k\,(s / 12)^{a}\,(W / 3)^{b}$
Unpaved Roads - Public: $E = 281.9\,k\,(s / 12)^{a}\,(S / 30)^{d} / (M / 0.5)^{c} - C$

E particulate emission factor (g/VKT) — **W** average weight of the vehicles traveling the road (US short tons) — **M** surface material moisture content (%)
k particle size multiplier (see below) — **s** surface material silt content (%) — **S** mean vehicle speed (mph)
sL road surface silt loading (g/m^2) — **C** emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear — **a,b,c,d** constants (see below)

Activity	Vehicle Type	Activity Code	Traffic Passes [2] Daily [1] (#/d)	Weekly (#/w)	Monthly (#/m)	Segment Length [2] (m)	Road Surface [3]	Roadway Type [4]	Mean Vehicle Speed (km/h)	(mph)	Average Vehicle Weight [5] (tons)	Surface Material Moisture Content [6] (%)	Surface Silt Content [7] (%)	Road Surface Silt Loading [8] (g/m^2)	Emission Control [9] (%)	Base AP-42 Emission Factor TSP (g/VKT)	PM_{10} (g/VKT)	$PM_{2.5}$ (g/VKT)	Base Emission Rate TSP (g/s)	PM_{10} (g/s)	$PM_{2.5}$ (g/s)
Total Trucks Incoming and Outgoing - Paved Road	Heavy Trucks	HAUL1	384	2,168	8,672	304	Paved	Industrial	25	16	39			3	60.0%	5.5E+02	7.1E+01	1.7E+01	2.95E-01	3.81E-02	9.23E-03
Passenger Cars at Entrance- Paved Road (Zone 1)	Light Vehicles	PC1	60	420	1,680	34	Paved	Industrial	25	16	3			3	60.0%	4.3E+01	5.5E+00	1.3E+00	3.99E-04	5.17E-05	1.25E-05

Constants for Mobile Emission Equations

Roadway Type	Contaminant	k	a	b	c	d	Quality
Paved Roads:	**$PM_{2.5}$**	0.15	-	-	-	-	-
	PM_{10}	0.62	-	-	-	-	-
	PM_{30}	3.23	-	-	-	-	-
	TSP	4.79	-	-	-	-	-
Unpaved Roads - Industrial:	**$PM_{2.5}$**	0.15	0.9	0.45	-	-	C
	PM_{10}	1.5	0.9	0.45	-	-	B
	PM_{30}	4.9	0.7	0.45	-	-	B
	TSP	7.32	0.6	0.45	-	-	C
Unpaved Roads - Public:	**$PM_{2.5}$**	0.18	1	-	0.2	0.5	C
	PM_{10}	1.8	1	-	0.2	0.5	B
	PM_{30}	6	1	-	0.3	0.3	B
	TSP	8.96	1	-	0.49	0.2	C

Comments

Constants for TSP (PM44) extrapolated from published factors for PM30, PM10 and PM2.5. Data quality downgraded by one step.

Hours per day 24 24 hours 7 days a week

Notes:

[1] Number of Traffic Passes provided by client
[2] Length of a specific road segment. A separate segment should be used whenever one or more parameters change
[3] Paved surfaces include asphalt, concrete, and recycled asphalt (if it forms a relatively consistent surface).
[4] Publicly accessible and dominated by light vehicles, or industrial, and dominated by heavy vehicles.
[5] The average vehicle weight reflects the average of the empty and loaded vehicle weight, for travel in both directions.
[6] Required only for publicly accessible unpaved roads.
[7] Required only for unpaved roads (public and industrial)
For Truck Deliveries **(HAUL1 and PC1)**- Table 4: Default Values of sL of 3 g/m2 for Paved Roads, Emissions Estimation Technique Manual for Aggregated Emissions from Paved and Unpaved Roads
[8] (https://www.dcceew.gov.au/sites/default/files/documents/pavedunpavedff.pdf)
[9] For Paved Roads, the following emission control techniques are used - Regular Sweeping of Route, speed limit and wheel wash system - combined control of 60% (USEPA -2011 - https://www.epa.gov/sites/default/files/2020-10/documents/emission_factor_documentation_for_ap-42_section_13.2.1_paved_roads_.pdf)

Sample calculation for uncontrolled TSP emission factor for Activity Total Trucks Incoming and Outgoing - Paved Road: Heavy Trucks

EF = 4.79 x (3)^(0.91) x (39)^(1.02) = 546 g TSP / vehicle kilometer travelled (vkt) 217.01

Sample calculation for TSP emission rate for Activity Total Trucks Incoming and Outgoing - Paved Road: Heavy Trucks

384 vehicles	304 m	1 km	546 g_{TSP}	1.00 day	1 hr	60% Emission Control		0.44211
1 day		1000 m	1 vehicle km	24 hr	3600 s	1	=	2.95E-01 g_{TSP} / s

Appendix A2: Loading / Unloading / Transferring Material Emissions

Project #2600905

MET Recycling Pty Ltd - Lot 1, Newton Street North, Silverwater NSW 2128

US EPA emission factor (US EPA, 1985 and updates, Section 13.2.4)

$$E[kg/t] = k \times 0.0016 \times \left(\frac{\left(\frac{U}{2.2}\right)^{1.3}}{\left(\frac{M}{2.0}\right)^{1.4}} \right)$$

k = 0.74 for TSP, 0.35 for PM10 and 0.053 for PM2.5
U = wind speed [ms-1]
M = moisture content [%]

Activity	Activity Code	Max Wind Speed [1]	Moisture Content [2]	Emission Control [3]	Base AP-42 Emission Factor			Base Emission Rate		
					TSP	PM_{10}	$PM_{2.5}$	TSP	PM_{10}	$PM_{2.5}$
		(m/s)	(%)	(%)	(kg/t)	(kg/t)	(kg/t)	(g/s)	(g/s)	(g/s)
Truck Drop-off - Receival Area (Bay-1, Bay-2 - MSW Receival Area; Bay 3, Bay 4 - C&I Receival Area)	LOAD1	4.3	11.0	70.0%	2.60E-04	1.23E-04	1.86E-05	1.11E-03	5.27E-04	7.98E-05
Turmec Mechnical Processing Plant Loading	LOAD2	4.3	11.0	70.0%	2.60E-04	1.23E-04	1.86E-05	1.11E-03	5.27E-04	7.98E-05
Load-up of finished materials to outgoing haul trucks	LOAD3	4.3	11.0	70.0%	2.60E-04	1.23E-04	1.86E-05	1.11E-03	5.27E-04	7.98E-05

Constants Emission Equations

Contaminant	k
$PM_{2.5}$	0.053
PM_{10}	0.35
PM_{30}	0.74
TSP	0.74
Annual throughput of MSP and C&I - waste [t]	4,50,000 tons/year
Hours per day	24
Days per year	365

Notes

[1] Average Wind Speed from TAPM calculated Met Data for 2023
[2] For Municpal Solid Waste - Mis. Fill material, Source: US EPA AP-42, mean moisture content range - 11%
[3] 70% Emission reduction for enclosure (NPI 2012) for activities occurring within the processing shed;

Sample calculation for uncontrolled TSP emission factor for Activity Truck Drop-off - Receival Area (Bay-1, Bay-2 - MSW Receival Area; Bay 3, Bay 4 - C&I Receival Area)

EF = 0.74 x 0.0016 x ((3.2/2.2)^(1.3))/(4.8/2.0)^(1.4))) = 2.60E-04 kg TSP / ton (material)

Sample calculation for TSP emission rate for Activity Truck Drop-off - Receival Area (Bay-1, Bay-2 - MSW Receival Area; Bay 3, Bay 4 - C&I Receival Area)

2.60E-04 kg_{TSP}	1000 g	450000 ton	1 year	1.00 day	1 hr	70% Emission Control	
1 ton	kg	1 year	365 days	24 hours	3600 s	=	1.11E-03 g_{TSP} / s

Appendix A3: Processing/Screening Emissions

Project #2600905

MET Recycling Pty Ltd - Lot 1, Newton Street North, Silverwater NSW 2128

US EPA emission factor (US EPA, 1985 and updates - Section 10.3.1, Table 10.3-1)

Activity	Activity Code	Emission Control [1]	Tonnage (t/year)	Base AP-42 Emission Factor [2]			Base Emission Rate		
				TSP (kg/t)	PM_{10} (kg/t)	$PM_{2.5}$ (kg/t)	TSP (g/s)	PM_{10} (g/s)	$PM_{2.5}$ (g/s)
Screening Material	SCREEN	70.0%	450000	9.98E-04	3.40E-04	3.18E-05	4.27E-03	1.46E-03	1.36E-04
Processing Material	PROCESS	70.0%	450000	5.44E-04	2.45E-04	4.54E-05	2.33E-03	1.05E-03	1.94E-04

Notes

[1] No material handling, processing, or stockpiling would occur outside the building. A control factor of 70% has been applied to all sources located inside the building.

[2] Controlled Emission Factors

Hours per day 24

Days per year 365

Sample calculation for TSP emission rate for Activity Screening Material

$$\frac{9.98\text{E-04 kg}_{TSP}}{1\text{ ton}} \times \frac{1000\text{ g}}{\text{kg}} \times \frac{450000\text{ ton}}{1\text{ year}} \times \frac{1\text{ year}}{365\text{ days}} \times \frac{1.00\text{ day}}{24\text{ hours}} \times \frac{1\text{ hr}}{3600\text{ s}} \times 70\%\text{ Emission Control} = 4.27\text{E-03 g}_{TSP}/\text{s}$$

Annual throughput [t] 450000

Appendix A4: Wind Erosion - Stockpiles Emissions

MET Recycling Pty Ltd - Lot 1, Newton Street North, Silverwater NSW 2128

US EPA emission factor (US EPA, 1985 and updates)
NPI Emission Estimation Techniques -
Emission on Mining Version 3.1, Jan 2012, Section 1.1.18

Activity	Activity Code	Emission Control [1]	Emitting Surface Area	Emission Factor			Base Emission Rate		
				TSP	PM_{10}	$PM_{2.5}$ [2]	TSP	PM_{10}	$PM_{2.5}$
			(m^2)	(kg/ha/hr)	(kg/ha/hr)	(kg/ha/hr)	(g/s)	(g/s)	(g/s)
Receiving Storage Area (Bay-1, Bay-2 - MSW Receival Area; Bay 3, Bay 4 - C&I Receival Area)	REC	70.0%	300	4.00E-02	2.00E-02	2.00E-03	1.00E-04	5.00E-05	5.00E-06
Unloading Area	UNL	70.0%	200	4.00E-02	2.00E-02	2.00E-03	6.67E-05	3.33E-05	3.33E-06

Notes

[1] No material handling, processing, or stockpiling would occur outside the building. A control factor of 70% has been applied to all sources located inside the building.

[2] AP-42, USEPA 2009, $PM_{2.5}$ is 10% of PM_{10}

Hours per day	24
Days per year	365

Sample calculation for TSP emission rate for Activity Receiving Storage Area (Bay-1, Bay-2 - MSW Receival Area; Bay 3, Bay 4 - C&I Receival Area)

$$\frac{4.00E\text{-}02\ kg_{TSP}}{1\ ha/hr} \times \frac{1000\ g}{kg} \times \frac{1\ ha}{10000\ m^2} \times 300\ m^2 \times \frac{1\ hr}{3600\ s} \times 70\%\ \text{Emission Control} = 1.00E\text{-}04\ g_{TSP}/s$$

Annual throughput [t] 450000

Appendix A5: Vehicle Combustion Exhaust Emissions

Project #2600905

MET Recycling Pty Ltd - Lot 1, Newton Street North, Silverwater NSW 2128

US EPA emission factor (US EPA, 1985 and updates)
NPI Emission Estimation Techniques -
Emissions for Combustion engines, version 3.0, Section 5.4.1.1 and 5.4.1.2

Vehicle Combustion Exhust Emissions:

For Road Transport Particulate emissions
E = L x EF
L = Distance Travelled (km/annum), EF = Emission Factor (kg/km)
For Industrial Vehicles
E = P x OpHrs x LF x EF
P = Rated Engine Power (kW), OpHrs = Vehicle Operating Hours (h/annum)
LF = Load Factor, EF = Emission Factor (kg/kWh)

Activity	Activity Code	Distance Travelled (L) [1] (km/year)	Rated Engine Power (P) [1] (kW)	Vehicle Operating Hours (OpHrs) [1] (h/annum)	Load Factor (LF) [2]	Emission Factor				Base Emission Rate			
						TSP [3]	PM_{10} [4]	$PM_{2.5}$ [4]	NO2 [4]	TSP (g/s)	PM_{10} (g/s)	$PM_{2.5}$ (g/s)	NO2 (g/s)
Vehicle Exhaust Emissions - Incoming and Outgoing Trucks	EXH1	42538.6	-	-	-	1.29E-03	5.15E-04	4.86E-04	6.58E-03	1.74E-03	6.94E-04	6.94E-04	8.87E-03

Notes

[1] # of vehicles per day x segment length in km x (365-52) workdays
[2] AP-42, USEPA 2009, TSP is 40% of PM_{10}
[3] Based on Emission Factors from Appendix B and C of NPI Emissions for Combustion engines, version 3.0, Section 5.4.1.1 and 5.4.1.2
converted kg/m3 to kg/km based on 0.286 l/km of diesel consumption - https://www.abs.gov.au/statistics/industry/tourism-and-transport/survey-motor-vehicle-use-australia/latest-release

Hours per day	24
Days per year	365

Sample calculation for uncontrolled PM10 emission factor for Activity Vehicle Exhaust Emissions - Incoming and Outgoing Trucks

EF = 0.00252 = 5.15E-04 kg PM10 / km

Sample calculation for PM10 emission rate for Activity Vehicle Exhaust Emissions - Incoming and Outgoing Trucks

$$\frac{5.15E\text{-}04\ kg_{TSP}}{1\ km} \times \frac{1000\ g}{kg} \times \frac{42539\ km}{year} \times \frac{1\ Year}{365\ days} \times \frac{1\ day}{24\ hour} \times \frac{1\ hour}{3600\ s} = 6.94E\text{-}04\ gPM_{10} / s$$

Appendix A6: Summary of Emission Inventory

MET Recycling Pty Ltd - Lot 1, Newton Street North, Silverwater NSW 2128

Project #2600905

Source ID's	Activity ID	Activity	Base Emission Rate (g/s)			
			TSP	PM_{10}	$PM_{2.5}$	NO_2
SLINE1- Line Volume Soure	HAUL1	Total Trucks Incoming and Outgoing - Paved Road	2.95E-01	3.81E-02	9.23E-03	0.00E+00
	EXH1	Vehicle Exhaust Emissions - Incoming and Outgoing Trucks	1.74E-03	6.94E-04	6.94E-04	8.87E-03
SLINE2- Line Volume Soure	PC1	Passenger Cars at Entrance- Paved Road (Zone 1)	3.99E-04	5.17E-05	1.25E-05	0.00E+00

Volume Source ID's	Activity	Total Emissions (kg/year)			Base Emission Rate (g/s)		
		TSP	PM_{10}	$PM_{2.5}$	TSP	PM_{10}	$PM_{2.5}$
RA1- Volume source- Roller doors	Truck Drop-off - Receival Area (Bay-1, Bay-2 - MSW Receival Area; Bay 3, Bay 4 - C&I Receival	35.1	16.6	2.5	1.11E-03	5.27E-04	7.98E-05
	Receiving Storage Area (Bay-1, Bay-2 - MSW Receival Area; Bay 3, Bay 4 - C&I Receival Area)	3.2	1.6	0.2	1.00E-04	5.00E-05	5.00E-06
	Screening Material	134.7	45.9	4.3	4.27E-03	1.46E-03	1.36E-04
	Processing Material	73.5	33.1	6.1	2.33E-03	1.05E-03	1.94E-04
	Unloading Area	2.1	1.1	0.1	6.67E-05	3.33E-05	3.33E-06
	Turmec Mechnical Processing Plant Loading	35.1	16.6	2.5	1.11E-03	5.27E-04	7.98E-05
	Load-up of finished materials to outgoing haul trucks	35.1	16.6	2.5	1.11E-03	5.27E-04	7.98E-05

Volume Source ID's	Activity	Base Emission Rate (g/s)		
		TSP	PM_{10}	$PM_{2.5}$
10% Fugitive Source	Loading/Unloading/Screening/Processing/Stoc piles	5.05E-04	2.08E-04	2.89E-05

Volume Source ID's	Activity	Base Emission Rate (g/s)		
		TSP	PM_{10}	$PM_{2.5}$
90% Stack Source	Dust Emission through Stack (without any Dust controls from scrubber)	4.55E-03	1.88E-03	2.60E-04

Appendix A7: Volume Source Emissions

Project #2600905

MET Recycling Pty Ltd - Lot 1, Newton Street North, Silverwater NSW 2128

Source ID's	Base Emission Rate (g/s)			
	TSP	PM_{10}	$PM_{2.5}$	NO_2
RA1- Volume source	1.011E-02	4.167E-03	5.777E-04	0.000E+00
SLINE1- HAUL1	2.965E-01	3.884E-02	9.924E-03	8.873E-03
SLINE2- PC1	3.991E-04	5.166E-05	1.250E-05	0.000E+00

Appendix A8: Existing EPL Application (EPL License# 20948), MET Recycling Pty Ltd

MET Recycling Pty Ltd - Lot 1, Newton Street North, Silverwater NSW 2128 Project #2600905

UNPAVED ROAD SECTIONS - AP-42 Section 13.2.2
PAVED ROAD SECTIONS - AP-42 Section 13.2.1
AP42 - 13.2.4 Aggregate handling
AP 42 - 11.9 Western Surface Coal mining
(Based on North Star Air Quality Modelling Advice Note Report, dated Friday, 17 June 2022)

Existing EPL Application (EPL License# 20948), MET Recycling Pty Ltd, Silverwater NSW - Emissions Sources (Controlled Emissions rates)

Activity	EF Refernce	Existing Dust Controls Followed By The Facility	CF1	CF2	Controlled Emission Rate (Kg/Year)			Controlled Emission Rate (g/s)		
					TSP	PM_{10}	$PM_{2.5}$	TSP	PM_{10}	$PM_{2.5}$
			(%)	(%)	(kg/year)	(kg/year)	(kg/year)	(g/s)	(g/s)	(g/s)
Delivery of raw materials to site (paved road IN)	AP42 - 13.2.1 Paved Roads	Paved, water cart		30	1088.8	209.0	50.6	9.69E-02	1.86E-02	4.50E-03
Delivery / pickup of raw materials to / from site (unpaved road loop on site)	AP42 - 13.2.2 Unpaved Roads	Unpaved, water cart, speed limit	75	85	675.6	192.1	19.2	6.01E-02	1.71E-02	1.71E-03
Truck unloading	AP42 - 13.2.4 Aggregate handling	Water sprays	50		371.2	175.6	26.6	3.30E-02	1.56E-02	2.37E-03
Material rehandling to stockpile	AP42 - 13.2.4 Aggregate handling	Water sprays	50		371.2	175.6	26.6	1.18E-02	5.57E-03	8.43E-04
Hydraulic Hammer	AP42 - 13.2.4 Aggregate handling	-	-	-	-	-	-	-	-	-
Loading to crusher	AP42 - 13.2.4 Aggregate handling	Water sprays, container barriers	50	30	78.0	36.9	5.6	2.47E-03	1.17E-03	1.78E-04
Crushing	AP 42 - 11.19.2 Tertiary Crushing	Water sprays, container barriers	77.7	30	70.8	31.5	5.8	2.25E-03	9.99E-04	1.84E-04
Conveyor to Screen (7 to 17)	AP 42 - 13.2.4 Aggregate handling	Moist materials, container barrier	91.6	30	6.2	2.9	0.4	1.97E-04	9.20E-05	1.27E-05
Loading to Screen (17 to 7)	AP42 - 13.2.4 Aggregate handling	Moist materials, container barrier	91.6	30	8.7	4.1	0.6	2.76E-04	1.30E-04	1.90E-05
Screening (7 to 17)	AP 42 - 11.19.2 Screening	Water sprays, container barriers	91.6	30	102.9	35.4	6.5	3.26E-03	1.12E-03	2.06E-04
Screening (17 to 7)	AP 42 - 11.19.2 Screening	Water sprays, container barriers	91.6	30	144.1	49.6	9.1	4.57E-03	1.57E-03	2.89E-04
Loading to Stockpiles/bins	AP42 - 13.2.4 Aggregate handling	Water sprays, container barriers	50	30	36.8	17.4	2.6	1.17E-03	5.52E-04	8.24E-05
Loading to Stockpiles/bins	AP42 - 13.2.4 Aggregate handling	Water sprays, container barriers	50	30	51.6	24.4	3.7	1.64E-03	7.74E-04	1.17E-04
Loading truck and other ancillary operations	AP42 - 13.2.4 Aggregate handling	Water sprays	50		123.7	58.5	8.9	1.10E-02	5.21E-03	7.92E-04
Loading truck and other ancillary operations	AP42 - 13.2.4 Aggregate handling	Water sprays	50		123.7	58.5	8.9	1.10E-02	5.21E-03	7.92E-04
Loading truck and other ancillary operations	AP42 - 13.2.4 Aggregate handling	Water sprays	50		123.7	58.5	8.9	1.10E-02	5.21E-03	7.92E-04
Removal of product from Site	AP 42 - 13.2.1 Paved Roads	Paved, water cart		30	855.5	164.2	39.7	7.62E-02	1.46E-02	3.53E-03
Wind erosion of raw materials	AP 42 - 11.9 Western Surface Coal mining	Water sprays	50		82.2	41.1	6.2	2.61E-03	1.30E-03	1.97E-04
wind erosion of product mateial	AP 42 - 11.9 Western Surface Coal mining	3 sided bays, water sprays	75	50	6.2	3.1	0.5	1.97E-04	9.83E-05	1.59E-05
Wind erosion of distributed mateials	AP 42 - 11.9 Western Surface Coal mining	None			163.8	81.9	12.3	5.19E-03	2.60E-03	3.90E-04

Appendix A9: Existing EPL Application (EPL License# 20948), MET Recycling Pty Ltd

MET Recycling Pty Ltd - Lot 1, Newton Street North, Silverwater NSW 2128 Project #2600905

Existing EPL Application (EPL License# 20948), MET Recycling Pty Ltd, Silverwater NSW - Emissions Sources (Controlled Emissions rates)

Plant and Machinery emissions

Activity	Activity			Controlled Emission Rate (Kg/Year)			Controlled Emission Rate (g/s)		
Diesel Combustion	Power Outpur (kW)	Operating Hours	Load Factors	TSP (kg/year)	PM_{10} (kg/year)	$PM_{2.5}$ (kg/year)	TSP (g/s)	PM_{10} (g/s)	$PM_{2.5}$ (g/s)
Mobile crusher (x1)	140	3016	0.59	51.3	51.3	49.8	4.72E-03	4.72E-03	4.59E-03
Screen (x1)	151	7488	0.59	137.4	137.4	133.4	5.10E-03	5.10E-03	4.95E-03
Front end loader 1	143	7488	0.59	130.1	130.1	126.4	4.83E-03	4.83E-03	4.69E-03
Front end loader 2	143	3016	0.59	52.4	52.4	50.9	4.83E-03	4.83E-03	4.69E-03
Excavators with bucket 1	64	3016	0.59	46.9	46.9	45.6	4.32E-03	4.32E-03	4.20E-03
Excavators with bucket 2	64	3016	0.59	46.9	46.9	45.6	4.32E-03	4.32E-03	4.20E-03
Excavators with bucket 3	64	3016	0.59	46.9	46.9	45.6	4.32E-03	4.32E-03	4.20E-03
Excavators with bucket 4	64	3016	0.59	46.9	46.9	45.6	4.32E-03	4.32E-03	4.20E-03
MACK Truck	11007 (VKT)			6.6	6.6	6.4	5.88E-04	5.88E-04	5.70E-04

APPENDIX B

EMISSION INVENTORY OF ODOUR

Appendix B1: Estimating Odour Emissions

Project #2600905

Proposed MET Waste Management Pty Ltd, Silverwater, NSW 2128

Worst-Case Operations MET Recycling Facility

Odour Emissions From Waste Storage Area			
Parameter	**Value**	**Units**	**Comments**
Annual Waste Processing	4,50,000	tonnes per year	The proposed PEF Production Facility would receive and process up to 450,000 tonnes per annum of Municipal Solid Waste (MSW) and Commercial & Industrial (C&I) Waste in a ratio of 40% to 60% respectively
Assumed Density of waste	0.8	tonnes per m^3	Density of waste (mix of putrescible and non-putrescible) range is 0.7 - 1 t/m3 (EPA, 2015). Conservatively assumed 0.8 t/m3
Storage and Processing of Putrescible Waste at any time	11792.0	m^2	Based on Proposed Floor Plan and Operational Analysis provided by JEP - Total warehouse area 11,792 m2
Storage and Processing of Putrescible Waste at any time	480.00	tonnes	Worst-case scaenario of waste storage
Odour Emission Rate per Tonnage	152.6	$ou.m^3/t/s$	Odour emissions from the facility was based on odour sampling undertaken at a comparable facility presented in Banksmeadow Transfer Terminal Odour Emissions and Control (The Odour Unit, 2014) attached as Appendix B. The Odour Unit (2014) conducted odour sampling from the building ventilation stack at Clyde Transfer Terminal (CTT). Based on Stack flowrate and waste tonnage on floor at the time of the sampling was provided to The Odour Unit by Veolia Environmental Services. The maximum odour concentration (maximum of 4 samples) was used in this calculation.
Stack odour emission rate	73,248	$ou.m^3/s$	As a worst-case scenarios 480 tonnes of waste will be present at all times at the facility
Stack Odour Emission rate after Wet Scrubber	732	$ou.m^3/s$	Conservatively assumed 99% odour reduction through the Odour Control System
Peak to Mean Ratio	2.3		Wake-affected point source
Modelled Stack Odour Emission Rate	1,684.7	$ou.m^3/s$	
Fugitive Odour Emission rate	361	$ou.m^3/s$	Odour emissions from the operable roller doors were calculated based on the following assumptions: • Internal waste has an odour concentration of 430 OU • Total roller door area of 84 square metres • The roller door would be open approximately 10% of the time • Air velocity out of the door is approximately 0.1 metres per second while the roller door are open
Peak to Mean Ratio	2.3		Fugitive emissions escape through doorway (Volume Source)
Modelled Fugitive Odour Emission Rate	830.8	$ou.m^3/s$	
Stack Parameters			
Stack diameter (m)	0.30	m	Client data
Total Building Volume	176880	m^3	Building area (11792 m2) x Building height (15 m)
Building Ventilation	19653	m^3/h	Assumed 9 air changes per hour
Mean Stack gas Exit velocity (m/s)	38.62	m/s	For Each Stack
Mean Stack Gas Flowrate@ 25C	2.73	m^3/s	For each stack
Stack Height	17	m	Height above ground

THE ODOUR UNIT

Odour Concentration Test Reports

THE ODOUR UNIT PTY LIMITED

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Form 06 - Sydney Laboratory
Odour Concentration Measurement Results

The measurement was commissioned by:

Organisation	Veolia Environmental Services	Telephone	(02) 9841 2927
Contact	S.Hambly, R. Bachu	Facsimile	(02) 9841 2992
Sampling Site	Clyde Waste Transfer Terminal	Email	Steven.Hambly@veolia.com.au; Ramona.Bachu@veolia.com.au
Sampling Method	Drum and pump	Sampling Team	TOU

Order details:

Order requested by	T. Muddle	Order accepted by	S. Hayes
Date of order	18/08/2008	TOU Project #	1230
Order number	CT45-884468	Project Manager	T. Schulz
Signed by	S. Lawrence	Testing operator	J. Schulz

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag. Odour character is also assessed, however, this assessment is not covered by AS4323.3:2001.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian Standard 'Determination of Odour Concentration by Dynamic Olfactometry AS/NZS4323.3:2001. The odour perception characteristics of the panel within the presentation series for the samples were analogous to that for butanol calibration. Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.
Environment	The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained between 22°C and 25°C.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT SERIES V02
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V02: $r = 0.1217$ (19/20 March, 2008) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V02: $A =$ 0.1282 (19/20 March, 2008) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 23 ou (blank bag odour concentration)
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Date: Friday, 22 August 2008

Report Number / Panel Roster Number: SYD20080821_075

T. Schulz
Principal and Managing Director

J. Schulz
Authorised Signatory

Odour Sample Measurement Results

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Odour Character
Stack - Sample 1	SC80295	20/08/2008 1420	21/08/2008 1128	4	8	No Dilution	No Dilution	430	430	Garbage.
Stack - Sample 2	SC80296	20/08/2008 1138	21/08/2008 1208	4	8	No Dilution	No Dilution	332	332	Garbage.
Stack - Sample 3	SC80297	20/08/2008 1450	21/08/2008 1243	4	8	No Dilution	No Dilution	304	304	Garbage.
Stack - Sample 4	SC80298	20/08/2008 1505	21/08/2008 1326	4	8	No Dilution	No Dilution	215	215	Garbage.

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20080821_075	49,600	$20 \leq \chi \leq 80$	861	58	Yes

Comments None.

Disclaimer Parties, other than TOU, responsible for collecting odour samples hereby certify that they have voluntarily furnished these odour samples, appropriately collected and labelled, to The Odour Unit Pty Limited for the purpose of odour testing. The collection of odour samples by parties other than The Odour Unit Pty Limited relinquishes The Odour Unit Pty Limited from all responsibility for the sample collection and any effects or actions that the results from the test(s) may have.

Note This report shall not be reproduced, except in full, without written approval of The Odour Unit Pty Limited.

END OF DOCUMENT

APPENDIX C

CONTEMPORANEOUS ASSESSMENT OF 24-HOUR AVERAGE $PM_{2.5}$ AND PM_{10} CONCENTRATION

Summary of Contemporaneous Impact and Background – Days with Highest Background at Each Receptor

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at P4 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		P4	
18/07/2023	46.80	0.194	46.99
07/09/2023	46.70	0.260	46.96
28/07/2023	46.10	0.107	46.21
04/08/2023	45.70	0.181	45.88
14/06/2023	45.60	0.093	45.69
09/06/2023	44.50	0.211	44.71
13/09/2023	44.00	0.231	44.23
21/07/2023	43.60	0.916	44.52

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at P5 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		P5	
18/07/2023	46.80	0.059	46.86
07/09/2023	46.70	0.313	47.01
28/07/2023	46.10	0.052	46.15
04/08/2023	45.70	0.428	46.13
14/06/2023	45.60	0.014	45.61
09/06/2023	44.50	0.051	44.55
13/09/2023	44.00	0.271	44.27
21/07/2023	43.60	0.018	43.62

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at E6 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		E6	
18/07/2023	46.80	1.165	47.97
07/09/2023	46.70	0.283	46.98
28/07/2023	46.10	0.559	46.66
04/08/2023	45.70	0.819	46.52
14/06/2023	45.60	0.010	45.61
09/06/2023	44.50	0.412	44.91
13/09/2023	44.00	0.027	44.03
21/07/2023	43.60	0.010	43.61

Summary of Contemporaneous Impact and Background – Days with Highest Background at Each Receptor

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at E7 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		E7	
18/07/2023	46.80	1.038	47.84
07/09/2023	46.70	0.340	47.04
28/07/2023	46.10	0.674	46.77
04/08/2023	45.70	0.688	46.39
14/06/2023	45.60	0.038	45.64
09/06/2023	44.50	0.522	45.02
13/09/2023	44.00	0.023	44.02
21/07/2023	43.60	0.034	43.63

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at E8 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		E8	
18/07/2023	46.80	0.137	46.94
07/09/2023	46.70	0.211	46.91
28/07/2023	46.10	0.087	46.19
04/08/2023	45.70	0.209	45.91
14/06/2023	45.60	0.005	45.60
09/06/2023	44.50	0.091	44.59
13/09/2023	44.00	0.151	44.15
21/07/2023	43.60	0.006	43.61

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at E9– PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		E9	
18/07/2023	46.80	0.016	46.82
07/09/2023	46.70	0.158	46.86
28/07/2023	46.10	0.013	46.11
04/08/2023	45.70	0.199	45.90
14/06/2023	45.60	0.007	45.61
09/06/2023	44.50	0.012	44.51
13/09/2023	44.00	0.108	44.11
21/07/2023	43.60	0.009	43.61

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at R10 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		R10	
18/07/2023	46.80	0.075	46.87
07/09/2023	46.70	0.228	46.93
28/07/2023	46.10	0.055	46.15
04/08/2023	45.70	0.265	45.96
14/06/2023	45.60	0.029	45.63
09/06/2023	44.50	0.052	44.55
13/09/2023	44.00	0.115	44.12
21/07/2023	43.60	0.040	43.64

Summary of Contemporaneous Impact and Background – Days with Highest Background at Each Receptor

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at C11 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		C11	
18/07/2023	46.80	0.181	46.98
07/09/2023	46.70	0.568	47.27
28/07/2023	46.10	0.133	46.23
04/08/2023	45.70	0.648	46.35
14/06/2023	45.60	0.072	45.67
09/06/2023	44.50	0.127	44.63
13/09/2023	44.00	0.281	44.28
21/07/2023	43.60	0.098	43.70

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at R12 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		R12	
18/07/2023	46.80	0.973	47.77
07/09/2023	46.70	1.066	47.77
28/07/2023	46.10	1.159	47.26
04/08/2023	45.70	1.346	47.05
14/06/2023	45.60	1.256	46.86
09/06/2023	44.50	1.148	45.65
13/09/2023	44.00	1.782	45.78
21/07/2023	43.60	0.835	44.43

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at R16 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		R16	
18/07/2023	46.80	5.397	52.20
07/09/2023	46.70	3.532	50.23
28/07/2023	46.10	4.553	50.65
04/08/2023	45.70	4.782	50.48
14/06/2023	45.60	4.033	49.63
09/06/2023	44.50	4.831	49.33
13/09/2023	44.00	4.651	48.65
21/07/2023	43.60	3.384	46.98

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at C17 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		C17	
18/07/2023	46.80	3.868	50.67
07/09/2023	46.70	2.695	49.40
28/07/2023	46.10	3.357	49.46
04/08/2023	45.70	3.510	49.21
14/06/2023	45.60	3.097	48.70
09/06/2023	44.50	3.568	48.07
13/09/2023	44.00	3.599	47.60
21/07/2023	43.60	2.376	45.98

Summary of Contemporaneous Impact and Background – Days with Highest Background at Each Receptor

Date	Background – PM_{10} 24-hour average (µg/m^3) less than criteria	Predicted Increment at R18 – PM_{10} 24-hour average (µg/m^3) less than criteria	Total
		R18	
18/07/2023	46.80	2.810	49.61
07/09/2023	46.70	2.251	48.95
28/07/2023	46.10	3.190	49.29
04/08/2023	45.70	3.042	48.74
14/06/2023	45.60	2.071	47.67
09/06/2023	44.50	2.553	47.05
13/09/2023	44.00	2.724	46.72
21/07/2023	43.60	1.425	45.02

Date	Background – PM_{10} 24-hour average (µg/m^3) less than criteria	Predicted Increment at R19 – PM_{10} 24-hour average (µg/m^3) less than criteria	Total
		R19	
18/07/2023	46.80	0.816	47.62
07/09/2023	46.70	1.248	47.95
28/07/2023	46.10	1.493	47.59
04/08/2023	45.70	1.258	46.96
14/06/2023	45.60	1.210	46.81
09/06/2023	44.50	1.137	45.64
13/09/2023	44.00	1.601	45.60
21/07/2023	43.60	0.808	44.41

Date	Background – PM_{10} 24-hour average (µg/m^3) less than criteria	Predicted Increment atC20 – PM_{10} 24-hour average (µg/m^3) less than criteria	Total
		C20	
18/07/2023	46.80	2.742	49.54
07/09/2023	46.70	2.063	48.76
28/07/2023	46.10	2.706	48.81
04/08/2023	45.70	2.745	48.45
14/06/2023	45.60	2.322	47.92
09/06/2023	44.50	2.575	47.07
13/09/2023	44.00	2.840	46.84
21/07/2023	43.60	1.649	45.25

Date	Background – PM_{10} 24-hour average (µg/m^3) less than criteria	Predicted Increment at R21 – PM_{10} 24-hour average (µg/m^3) less than criteria	Total
		R21	
18/07/2023	46.80	1.403	48.20
07/09/2023	46.70	1.032	47.73
28/07/2023	46.10	1.805	47.91
04/08/2023	45.70	1.164	46.86
14/06/2023	45.60	0.559	46.16
09/06/2023	44.50	1.069	45.57
13/09/2023	44.00	0.366	44.37
21/07/2023	43.60	0.452	44.05

Summary of Contemporaneous Impact and Background – Days with Highest Background at Each Receptor

Date	Background – PM_{10} 24-hour average (µg/m^3) less than criteria	Predicted Increment at R22– PM_{10} 24-hour average (µg/m^3) less than criteria	Total
		R22	
18/07/2023	46.80	1.003	47.80
07/09/2023	46.70	1.235	47.93
28/07/2023	46.10	1.807	47.91
04/08/2023	45.70	1.092	46.79
14/06/2023	45.60	0.906	46.51
09/06/2023	44.50	1.053	45.55
13/09/2023	44.00	0.849	44.85
21/07/2023	43.60	0.641	44.24

Summary of Contemporaneous Impact and Background – Days with Highest Predicted Increment at Each Sensitive Receptor

Date	Background – PM_{10} 24-hour average (µg/m^3)	Predicted Increment at P4 – PM_{10} 24-hour average (µg/m^3) less than criteria	Total
		P4	
08/08/2023	18.00	2.651	20.65
18/05/2023	16.20	2.255	18.46
21/04/2023	18.50	2.141	20.64
17/07/2023	33.60	1.919	35.52
11/10/2023	17.30	1.896	19.20
02/08/2023	32.60	1.871	34.47
27/08/2023	17.70	1.859	19.56
23/12/2023	4.70	1.755	6.46

Date	Background – PM_{10} 24-hour average (µg/m^3)	Predicted Increment at P5 – PM_{10} 24-hour average (µg/m^3) less than criteria	Total
		P5	
26/02/2023	5.90	3.402	9.30
30/08/2023	25.50	2.515	28.01
28/04/2023	19.50	1.945	21.45
05/12/2023	5.60	1.596	7.20
29/08/2023	20.00	1.550	21.55
04/07/2023	33.50	1.362	34.86
17/02/2023	12.60	1.182	13.78
27/04/2023	18.50	1.115	19.61

Date	Background – PM_{10} 24-hour average (µg/m^3)	Predicted Increment at E6 – PM_{10} 24-hour average (µg/m^3) less than criteria	Total
		E6	
03/08/2023	29.60	1.437	31.04
25/09/2023	18.60	1.255	19.85
18/07/2023	46.80	1.165	47.97
13/06/2023	22.20	1.081	23.28
24/06/2023	9.90	0.832	10.73
04/08/2023	45.70	0.819	46.52
18/03/2023	22.90	0.810	23.71
16/02/2023	16.00	0.807	16.81

Summary of Contemporaneous Impact and Background – Days with Highest Predicted Increment at Each Sensitive Receptor

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$)	Predicted Increment at E7 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		E7	
13/06/2023	22.20	1.344	23.54
25/09/2023	18.60	1.185	19.79
15/07/2023	22.50	1.053	23.55
18/07/2023	46.80	1.038	47.84
24/06/2023	9.90	1.035	10.94
03/08/2023	29.60	0.820	30.42
12/06/2023	25.20	0.771	25.97
29/10/2023	9.40	0.737	10.14

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$)	Predicted Increment at E8 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		E8	
30/08/2023	25.50	1.683	27.18
03/08/2023	29.60	1.530	31.13
26/02/2023	5.90	1.020	6.92
26/11/2023	3.00	0.821	3.82
28/04/2023	19.50	0.759	20.26
12/10/2023	27.00	0.689	27.69
05/12/2023	5.60	0.679	6.28
25/09/2023	18.60	0.630	19.23

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$)	Predicted Increment at E9 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		E9	
26/02/2023	5.90	1.517	7.42
30/08/2023	25.50	1.097	26.60
29/08/2023	20.00	0.910	20.91
28/04/2023	19.50	0.816	20.32
19/11/2023	9.50	0.774	10.27
05/12/2023	5.60	0.674	6.27
04/07/2023	33.50	0.663	34.16
17/02/2023	12.60	0.626	13.23

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$)	Predicted Increment at R10 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		R10	
05/03/2023	7.00	1.018	8.02
27/03/2023	8.70	0.906	9.61
17/02/2023	12.60	0.901	13.50
08/11/2023	8.10	0.876	8.98
29/08/2023	20.00	0.786	20.79
18/02/2023	22.90	0.774	23.67
11/03/2023	10.30	0.749	11.05
18/03/2023	22.90	0.732	23.63

Summary of Contemporaneous Impact and Background – Days with Highest Predicted Increment at Each Sensitive Receptor

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$)	Predicted Increment at C11 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		C11	
05/03/2023	7.00	2.333	9.33
17/02/2023	12.60	2.098	14.70
27/03/2023	8.70	2.026	10.73
08/11/2023	8.10	1.981	10.08
29/08/2023	20.00	1.863	21.86
11/03/2023	10.30	1.686	11.99
18/02/2023	22.90	1.676	24.58
18/03/2023	22.90	1.663	24.56

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$)	Predicted Increment at R12 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		R12	
30/07/2023	24.30	2.486	26.79
13/07/2023	35.60	2.338	37.94
06/05/2023	20.50	2.200	22.70
29/07/2023	28.00	2.160	30.16
12/05/2023	25.50	2.148	27.65
30/05/2023	40.90	2.042	42.94
14/10/2023	8.80	1.985	10.78
16/03/2023	34.00	1.828	35.83

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$)	Predicted Increment at R16 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		R16	
13/05/2023	21.00	7.202	28.20
30/07/2023	24.30	6.851	31.15
10/06/2023	23.70	6.799	30.50
12/06/2023	25.20	6.428	31.63
10/07/2023	40.60	6.421	47.02
30/05/2023	40.90	6.398	47.30
12/05/2023	25.50	6.357	31.86
31/07/2023	36.30	6.179	42.48

Date	Background – PM_{10} 24-hour average ($\mu g/m^3$)	Predicted Increment at C17 – PM_{10} 24-hour average ($\mu g/m^3$) less than criteria	Total
		C17	
30/07/2023	24.30	5.447	29.75
13/05/2023	21.00	5.263	26.26
30/05/2023	40.90	5.033	45.93
10/06/2023	23.70	5.012	28.71
10/07/2023	40.60	4.966	45.57
12/06/2023	25.20	4.914	30.11
12/05/2023	25.50	4.859	30.36
31/07/2023	36.30	4.722	41.02

Summary of Contemporaneous Impact and Background – Days with Highest Predicted Increment at Each Sensitive Receptor

Date	Background – PM_{10} 24-hour average (µg/m^3)	Predicted Increment at R18 – PM_{10} 24-hour average (µg/m^3) less than criteria	Total
		R18	
12/05/2023	25.50	4.308	29.81
12/06/2023	25.20	3.699	28.90
13/07/2023	35.60	3.609	39.21
06/05/2023	20.50	3.559	24.06
30/07/2023	24.30	3.530	27.83
29/07/2023	28.00	3.448	31.45
15/07/2023	22.50	3.373	25.87
22/08/2023	33.60	3.361	36.96

Date	Background – PM_{10} 24-hour average (µg/m^3)	Predicted Increment at R19 – PM_{10} 24-hour average (µg/m^3) less than criteria	Total
		R19	
12/05/2023	25.50	2.395	27.89
13/07/2023	35.60	2.082	37.68
30/07/2023	24.30	2.077	26.38
22/08/2023	33.60	2.011	35.61
06/05/2023	20.50	2.007	22.51
29/07/2023	28.00	1.937	29.94
16/03/2023	34.00	1.850	35.85
16/09/2023	32.40	1.839	34.24

Date	Background – PM_{10} 24-hour average (µg/m^3)	Predicted Increment at C20 – PM_{10} 24-hour average (µg/m^3) less than criteria	Total
		C20	
30/07/2023	24.30	4.066	28.37
12/05/2023	25.50	3.949	29.45
12/06/2023	25.20	3.791	28.99
13/07/2023	35.60	3.684	39.28
30/05/2023	40.90	3.659	44.56
06/05/2023	20.50	3.616	24.12
29/07/2023	28.00	3.503	31.50
31/05/2023	37.60	3.426	41.03

Date	Background – PM_{10} 24-hour average (µg/m^3)	Predicted Increment at R21 – PM_{10} 24-hour average (µg/m^3) less than criteria	Total
		R21	
13/06/2023	22.20	2.130	24.33
15/07/2023	22.50	1.954	24.45
25/09/2023	18.60	1.844	20.44
28/07/2023	46.10	1.805	47.91
12/05/2023	25.50	1.742	27.24
24/06/2023	9.90	1.709	11.61
03/06/2023	27.50	1.688	29.19
12/06/2023	25.20	1.487	26.69

Summary of Contemporaneous Impact and Background – Days with Highest Predicted Increment at Each Sensitive Receptor

Date	Background – PM_{10} 24-hour average (µg/m^3)	Predicted Increment at R22 – PM_{10} 24-hour average (µg/m^3) less than criteria	Total
		R22	
12/05/2023	25.50	2.226	27.73
15/07/2023	22.50	1.817	24.32
28/07/2023	46.10	1.807	47.91
22/08/2023	33.60	1.799	35.40
13/06/2023	22.20	1.691	23.89
03/06/2023	27.50	1.553	29.05
12/06/2023	25.20	1.514	26.71
16/09/2023	32.40	1.479	33.88

Summary of Contemporaneous Impact and Background – Days with Highest Background at Each Receptor

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at P4 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		P4	
17/07/2023	24.70	0.479	25.18
15/09/2023	24.40	0.030	24.43
18/09/2023	24.10	0.027	24.13
24/05/2023	23.90	0.035	23.94
27/07/2023	23.80	0.029	23.83
02/06/2023	23.60	0.116	23.72
03/06/2023	23.40	0.101	23.50
02/08/2023	23.30	0.468	23.77

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at P5 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		P5	
17/07/2023	24.70	0.097	24.80
15/09/2023	24.40	0.039	24.44
18/09/2023	24.10	0.063	24.16
24/05/2023	23.90	0.045	23.94
27/07/2023	23.80	0.018	23.82
02/06/2023	23.60	0.099	23.70
03/06/2023	23.40	0.025	23.43
02/08/2023	23.30	0.137	23.44

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at E6 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		E6	
17/07/2023	24.70	0.044	24.74
15/09/2023	24.40	0.137	24.54
18/09/2023	24.10	0.110	24.21
24/05/2023	23.90	0.035	23.93
27/07/2023	23.80	0.081	23.88
02/06/2023	23.60	0.067	23.67
03/06/2023	23.40	0.087	23.49
02/08/2023	23.30	0.004	23.30

Summary of Contemporaneous Impact and Background – Days with Highest Background at Each Receptor

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at E7 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		E7	
17/07/2023	24.70	0.022	24.72
15/09/2023	24.40	0.114	24.51
18/09/2023	24.10	0.107	24.21
24/05/2023	23.90	0.036	23.94
27/07/2023	23.80	0.091	23.89
02/06/2023	23.60	0.065	23.67
03/06/2023	23.40	0.135	23.53
02/08/2023	23.30	0.004	23.30

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at E8 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		E8	
17/07/2023	24.70	0.051	24.75
15/09/2023	24.40	0.060	24.46
18/09/2023	24.10	0.055	24.15
24/05/2023	23.90	0.026	23.93
27/07/2023	23.80	0.023	23.82
02/06/2023	23.60	0.018	23.62
03/06/2023	23.40	0.009	23.41
02/08/2023	23.30	0.012	23.31

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at E9 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		E9	
17/07/2023	24.70	0.032	24.73
15/09/2023	24.40	0.010	24.41
18/09/2023	24.10	0.017	24.12
24/05/2023	23.90	0.027	23.93
27/07/2023	23.80	0.006	23.81
02/06/2023	23.60	0.059	23.66
03/06/2023	23.40	0.013	23.41
02/08/2023	23.30	0.089	23.39

Summary of Contemporaneous Impact and Background – Days with Highest Background at Each Receptor

Date	Background – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Predicted Increment at R10 – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Total
		R10	
17/07/2023	24.70	0.092	24.79
15/09/2023	24.40	0.035	24.44
18/09/2023	24.10	0.036	24.14
24/05/2023	23.90	0.059	23.96
27/07/2023	23.80	0.076	23.88
02/06/2023	23.60	0.045	23.64
03/06/2023	23.40	0.053	23.45
02/08/2023	23.30	0.110	23.41

Date	Background – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Predicted Increment at C11 – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Total
		C11	
17/07/2023	24.70	0.251	24.95
15/09/2023	24.40	0.085	24.48
18/09/2023	24.10	0.085	24.19
24/05/2023	23.90	0.143	24.04
27/07/2023	23.80	0.180	23.98
02/06/2023	23.60	0.107	23.71
03/06/2023	23.40	0.128	23.53
02/08/2023	23.30	0.264	23.56

Date	Background – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Predicted Increment at R12 – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Total
		R12	
17/07/2023	24.70	0.043	24.74
15/09/2023	24.40	0.202	24.60
18/09/2023	24.10	0.264	24.36
24/05/2023	23.90	0.284	24.18
27/07/2023	23.80	0.316	24.12
02/06/2023	23.60	0.126	23.73
03/06/2023	23.40	0.217	23.62
02/08/2023	23.30	0.058	23.36

Summary of Contemporaneous Impact and Background – Days with Highest Background at Each Receptor

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at R16 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		R16	
17/07/2023	24.70	0.678	25.38
15/09/2023	24.40	0.068	24.47
18/09/2023	24.10	0.070	24.17
24/05/2023	23.90	0.061	23.96
27/07/2023	23.80	0.228	24.03
02/06/2023	23.60	0.471	24.07
03/06/2023	23.40	0.163	23.56
02/08/2023	23.30	0.515	23.82

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment atC17 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		C17	
17/07/2023	24.70	0.479	25.18
15/09/2023	24.40	0.030	24.43
18/09/2023	24.10	0.027	24.13
24/05/2023	23.90	0.035	23.94
27/07/2023	23.80	0.029	23.83
02/06/2023	23.60	0.116	23.72
03/06/2023	23.40	0.101	23.50
02/08/2023	23.30	0.468	23.77

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at R18 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		R18	
17/07/2023	24.70	0.097	24.80
15/09/2023	24.40	0.039	24.44
18/09/2023	24.10	0.063	24.16
24/05/2023	23.90	0.045	23.94
27/07/2023	23.80	0.018	23.82
02/06/2023	23.60	0.099	23.70
03/06/2023	23.40	0.025	23.43
02/08/2023	23.30	0.137	23.44

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at R19 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		R19	
17/07/2023	24.70	0.044	24.74
15/09/2023	24.40	0.137	24.54
18/09/2023	24.10	0.110	24.21
24/05/2023	23.90	0.035	23.93
27/07/2023	23.80	0.081	23.88
02/06/2023	23.60	0.067	23.67
03/06/2023	23.40	0.087	23.49
02/08/2023	23.30	0.004	23.30

Summary of Contemporaneous Impact and Background – Days with Highest Background at Each Receptor

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at C20 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		C20	
17/07/2023	24.70	0.022	24.72
15/09/2023	24.40	0.114	24.51
18/09/2023	24.10	0.107	24.21
24/05/2023	23.90	0.036	23.94
27/07/2023	23.80	0.091	23.89
02/06/2023	23.60	0.065	23.67
03/06/2023	23.40	0.135	23.53
02/08/2023	23.30	0.004	23.30

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at R21 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		R21	
17/07/2023	24.70	0.051	24.75
15/09/2023	24.40	0.060	24.46
18/09/2023	24.10	0.055	24.15
24/05/2023	23.90	0.026	23.93
27/07/2023	23.80	0.023	23.82
02/06/2023	23.60	0.018	23.62
03/06/2023	23.40	0.009	23.41
02/08/2023	23.30	0.012	23.31

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Predicted Increment at R22 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		R22	
17/07/2023	24.70	0.032	24.73
15/09/2023	24.40	0.010	24.41
18/09/2023	24.10	0.017	24.12
24/05/2023	23.90	0.027	23.93
27/07/2023	23.80	0.006	23.81
02/06/2023	23.60	0.059	23.66
03/06/2023	23.40	0.013	23.41
02/08/2023	23.30	0.089	23.39

Summary of Contemporaneous Impact and Background – Days with Highest Predicted Increment at Each Sensitive Receptor

Date	Background – $PM_{2.5}$ 24-hour average (µg/m³)	Predicted Increment at P4 – $PM_{2.5}$ 24-hour average (µg/m³) less than criteria	Total
		P4	
08/08/2023	14.10	0.662	14.76
18/05/2023	11.30	0.562	11.86
21/04/2023	15.50	0.534	16.03
17/07/2023	24.70	0.479	25.18
11/10/2023	10.90	0.474	11.37
02/08/2023	23.30	0.468	23.77
27/08/2023	15.30	0.466	15.77
23/12/2023	3.60	0.437	4.04

Date	Background – $PM_{2.5}$ 24-hour average (µg/m³)	Predicted Increment at P5 – $PM_{2.5}$ 24-hour average (µg/m³) less than criteria	Total
		P5	
26/02/2023	2.50	0.853	3.35
30/08/2023	16.00	0.632	16.63
28/04/2023	12.50	0.486	12.99
05/12/2023	3.50	0.400	3.90
29/08/2023	14.70	0.389	15.09
04/07/2023	30.00	0.341	30.34
17/02/2023	4.10	0.295	4.40
27/04/2023	13.70	0.279	13.98

Date	Background – $PM_{2.5}$ 24-hour average (µg/m³)	Predicted Increment at E6 – $PM_{2.5}$ 24-hour average (µg/m³) less than criteria	Total
		E6	
03/08/2023	21.30	0.358	21.66
25/09/2023	11.00	0.314	11.31
18/07/2023	20.90	0.290	21.19
13/06/2023	15.40	0.270	15.67
24/06/2023	6.90	0.208	7.11
04/08/2023	32.90	0.204	33.10
16/02/2023	5.10	0.201	5.30
18/03/2023	10.20	0.200	10.40

Summary of Contemporaneous Impact and Background – Days with Highest Predicted Increment at Each Sensitive Receptor

Date	Background – $PM_{2.5}$ 24-hour average (µg/m^3)	Predicted Increment at E7 – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Total
		E7	
13/06/2023	15.40	0.334	15.73
25/09/2023	11.00	0.296	11.30
15/07/2023	12.20	0.262	12.46
18/07/2023	20.90	0.258	21.16
24/06/2023	6.90	0.257	7.16
03/08/2023	21.30	0.204	21.50
12/06/2023	22.20	0.191	22.39
29/10/2023	8.10	0.183	8.28

Date	Background – $PM_{2.5}$ 24-hour average (µg/m^3)	Predicted Increment at E8 – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Total
		E8	
30/08/2023	16.00	0.420	16.42
03/08/2023	21.30	0.381	21.68
26/02/2023	2.50	0.255	2.76
26/11/2023	2.30	0.205	2.50
28/04/2023	12.50	0.189	12.69
12/10/2023	14.20	0.171	14.37
05/12/2023	3.50	0.169	3.67
25/09/2023	11.00	0.157	11.16

Date	Background – $PM_{2.5}$ 24-hour average (µg/m^3)	Predicted Increment at E9 – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Total
		E9	
26/02/2023	2.50	0.379	2.88
30/08/2023	16.00	0.274	16.27
29/08/2023	14.70	0.227	14.93
28/04/2023	12.50	0.203	12.70
19/11/2023	7.90	0.193	8.09
05/12/2023	3.50	0.169	3.67
04/07/2023	30.00	0.164	30.16
17/02/2023	4.10	0.156	4.26

Summary of Contemporaneous Impact and Background – Days with Highest Predicted Increment at Each Sensitive Receptor

Date	Background – $PM_{2.5}$ 24-hour average (µg/m^3)	Predicted Increment at R10 – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Total
		R10	
05/03/2023	3.40	0.250	3.65
27/03/2023	4.00	0.225	4.22
17/02/2023	4.10	0.223	4.32
08/11/2023	5.60	0.216	5.82
29/08/2023	14.70	0.195	14.90
18/02/2023	7.00	0.190	7.19
11/03/2023	4.40	0.182	4.58
18/03/2023	10.20	0.182	10.38

Date	Background – $PM_{2.5}$ 24-hour average (µg/m^3)	Predicted Increment at C11 – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Total
		C11	
05/03/2023	3.40	0.580	3.98
17/02/2023	4.10	0.525	4.63
27/03/2023	4.00	0.505	4.51
08/11/2023	5.60	0.493	6.09
29/08/2023	14.70	0.465	15.17
18/02/2023	7.00	0.416	7.42
11/03/2023	4.40	0.416	4.82
18/03/2023	10.20	0.415	10.62

Date	Background – $PM_{2.5}$ 24-hour average (µg/m^3)	Predicted Increment at R12 – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Total
		R12	
30/07/2023	18.20	0.622	18.82
13/07/2023	23.00	0.584	23.58
06/05/2023	16.10	0.550	16.65
29/07/2023	20.30	0.540	20.84
12/05/2023	18.80	0.535	19.34
30/05/2023	16.50	0.513	17.01
14/10/2023	3.90	0.497	4.40
16/03/2023	12.60	0.456	13.06

Summary of Contemporaneous Impact and Background – Days with Highest Predicted Increment at Each Sensitive Receptor

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$)	Predicted Increment at R16 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		R16	
13/05/2023	17.50	1.807	19.31
30/07/2023	18.20	1.704	19.90
10/06/2023	18.80	1.684	20.48
12/06/2023	22.20	1.610	23.81
10/07/2023	16.50	1.602	18.10
12/05/2023	18.80	1.598	20.40
30/05/2023	16.50	1.594	18.09
31/07/2023	14.00	1.542	15.54

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$)	Predicted Increment at C17 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		C17	
30/07/2023	18.20	1.355	19.55
13/05/2023	17.50	1.323	18.82
30/05/2023	16.50	1.256	17.76
10/06/2023	18.80	1.251	20.05
10/07/2023	16.50	1.243	17.74
12/06/2023	22.20	1.230	23.43
12/05/2023	18.80	1.217	20.02
31/07/2023	14.00	1.181	15.18

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$)	Predicted Increment at R14 – $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		R18	
12/05/2023	18.80	1.078	19.88
12/06/2023	22.20	0.929	23.13
13/07/2023	23.00	0.911	23.91
06/05/2023	16.10	0.897	17.00
30/07/2023	18.20	0.893	19.09
29/07/2023	20.30	0.871	21.17
31/05/2023	19.80	0.843	20.64
22/08/2023	13.50	0.839	14.34

Date	Background – $PM_{2.5}$ 24-hour average ($\mu g/m^3$)	Predicted Increment at C15– $PM_{2.5}$ 24-hour average ($\mu g/m^3$) less than criteria	Total
		R19	
12/05/2023	18.80	0.597	19.40
13/07/2023	23.00	0.524	23.52
30/07/2023	18.20	0.523	18.72
06/05/2023	16.10	0.504	16.60
22/08/2023	13.50	0.498	14.00
29/07/2023	20.30	0.487	20.79
16/03/2023	12.60	0.461	13.06
16/09/2023	21.90	0.458	22.36

Summary of Contemporaneous Impact and Background – Days with Highest Predicted Increment at Each Sensitive Receptor

Date	Background – $PM_{2.5}$ 24-hour average (µg/m^3)	Predicted Increment at R12 – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Total
		C20	
30/07/2023	18.20	1.019	19.22
12/05/2023	18.80	0.982	19.78
12/06/2023	22.20	0.948	23.15
13/07/2023	23.00	0.920	23.92
30/05/2023	16.50	0.919	17.42
06/05/2023	16.10	0.905	17.00
29/07/2023	20.30	0.876	21.18
31/05/2023	19.80	0.856	20.66

Date	Background – $PM_{2.5}$ 24-hour average (µg/m^3)	Predicted Increment at R13 – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Total
		R21	
13/06/2023	15.40	0.530	15.93
15/07/2023	12.20	0.487	12.69
25/09/2023	11.00	0.461	11.46
28/07/2023	20.60	0.452	21.05
12/05/2023	18.80	0.439	19.24
24/06/2023	6.90	0.425	7.32
03/06/2023	23.40	0.423	23.82
12/06/2023	22.20	0.373	22.57

Date	Background – $PM_{2.5}$ 24-hour average (µg/m^3)	Predicted Increment at R14 – $PM_{2.5}$ 24-hour average (µg/m^3) less than criteria	Total
		R22	
12/05/2023	18.80	0.558	19.36
15/07/2023	12.20	0.453	12.65
22/08/2023	13.50	0.452	13.95
28/07/2023	20.60	0.451	21.05
13/06/2023	15.40	0.421	15.82
03/06/2023	23.40	0.386	23.79
12/06/2023	22.20	0.380	22.58
16/09/2023	21.90	0.372	22.27

APPENDIX D

CONTOUR PLOTS OF 24-HOUR AND ANNUAL AVERAGE INCREMENTAL PM_{10} AND $PM_{2.5}$ CONCENTRATIONS

PROPOSED PROCESSED ENGINEERED FUEL PRODUCTION FACILITY

Contour Plots 24-Hour Average Incremnetal PM10 Concentration

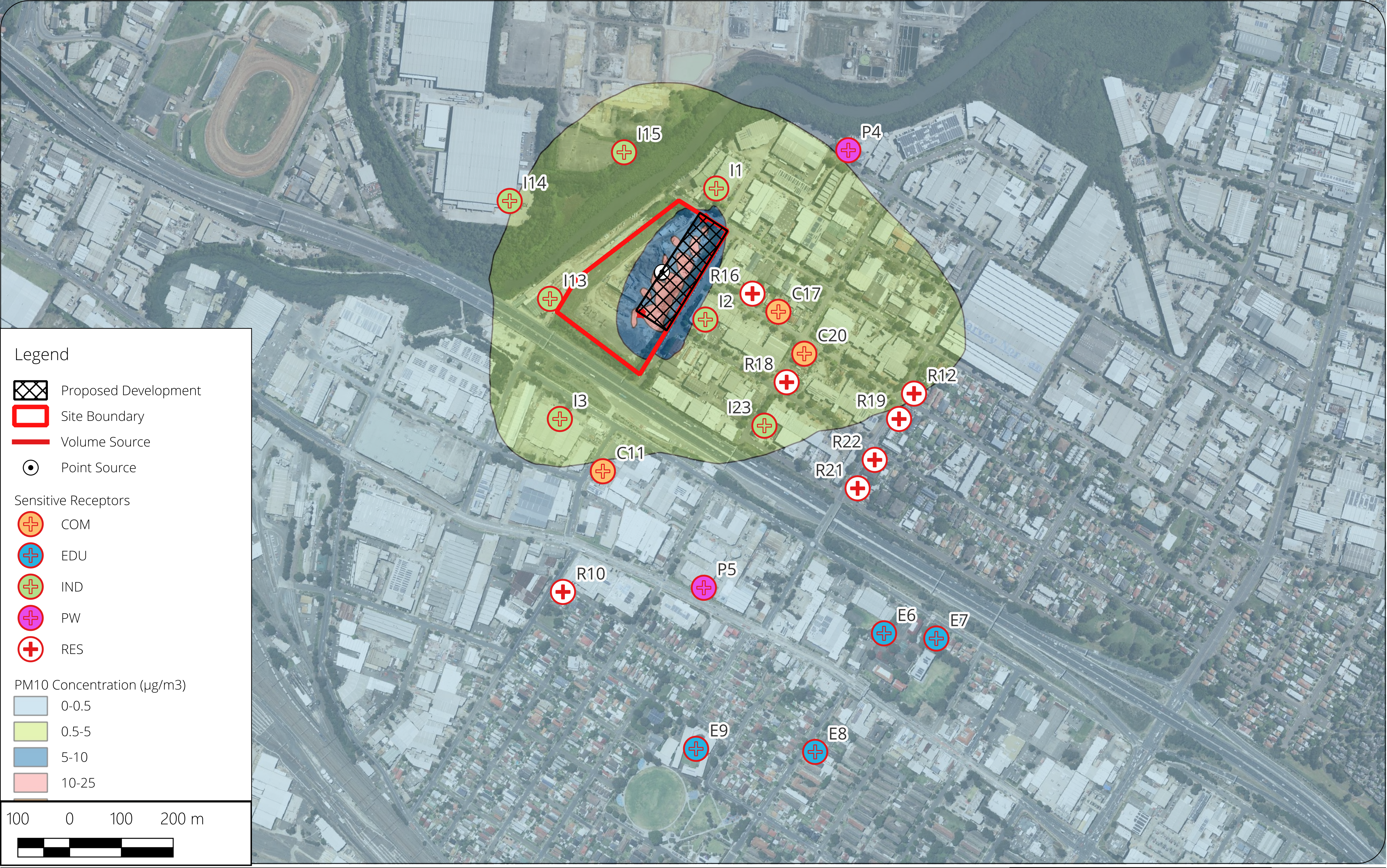
Lot 1 Newton Street North, Silverwater, NSW 2128

Sources:

1. Basemap: NSW Six Maps

Map Projection: GDA2020 / MGA zone 56 / (EPSG:7856)

Revised on: 25/03/2026	
Project #: 2600905	Figure: D-1
Drawn by: ANUC	Checked by: RR

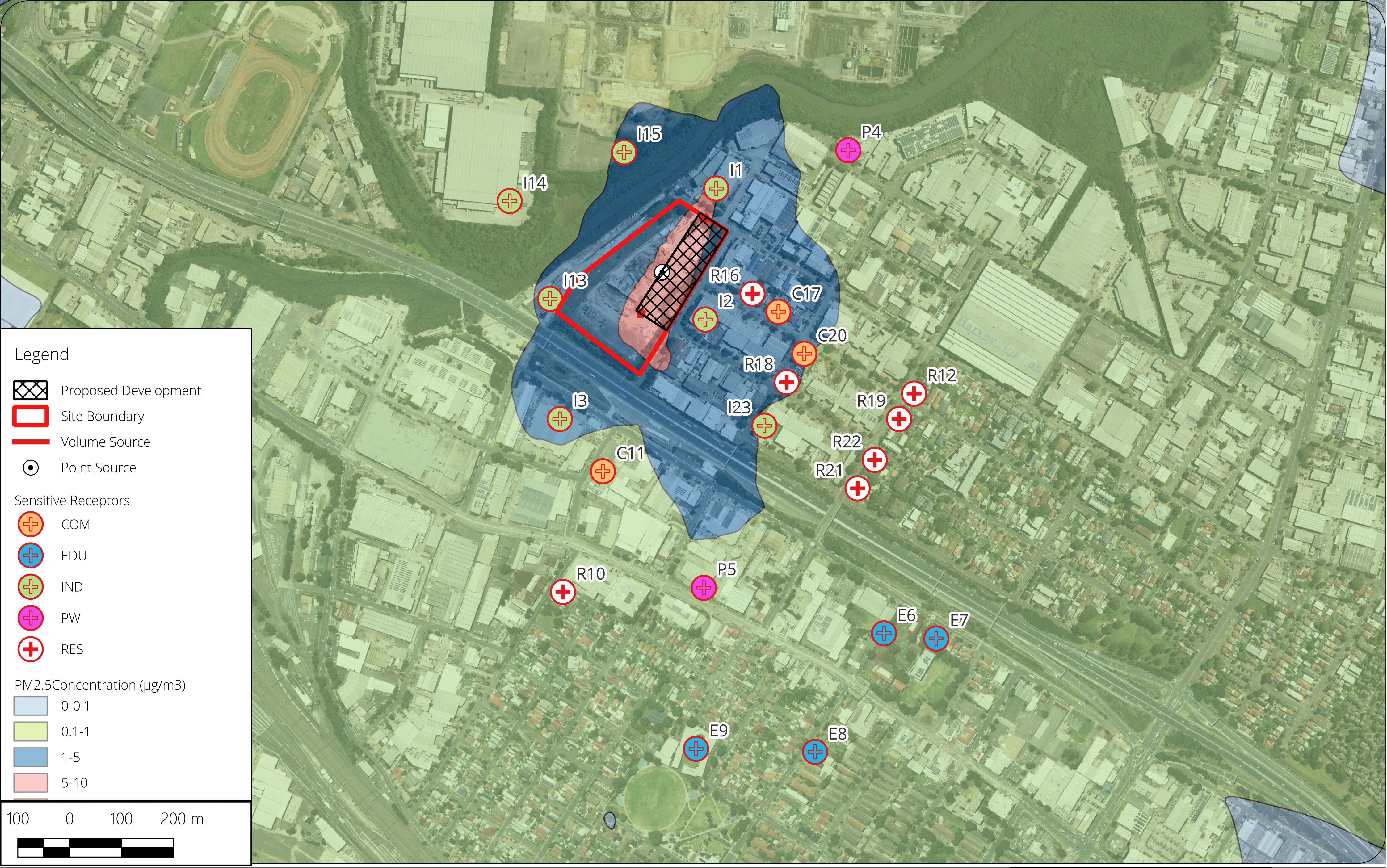


PROPOSED PROCESSED ENGINEERED FUEL PRODUCTION FACILITY
Contour Plots Annual Average Incremnetal PM10 Concentration
Lot 1 Newton Street North, Silverwater, NSW 2128

Sources:
1. Basemap: NSW Six Maps

Map Projection: GDA2020 / MGA zone 56 / (EPSG:7856)

Revised on: 25/03/2026	
Project #: 2600905	Figure: D-2
Drawn by: ANUC	Checked by: RR

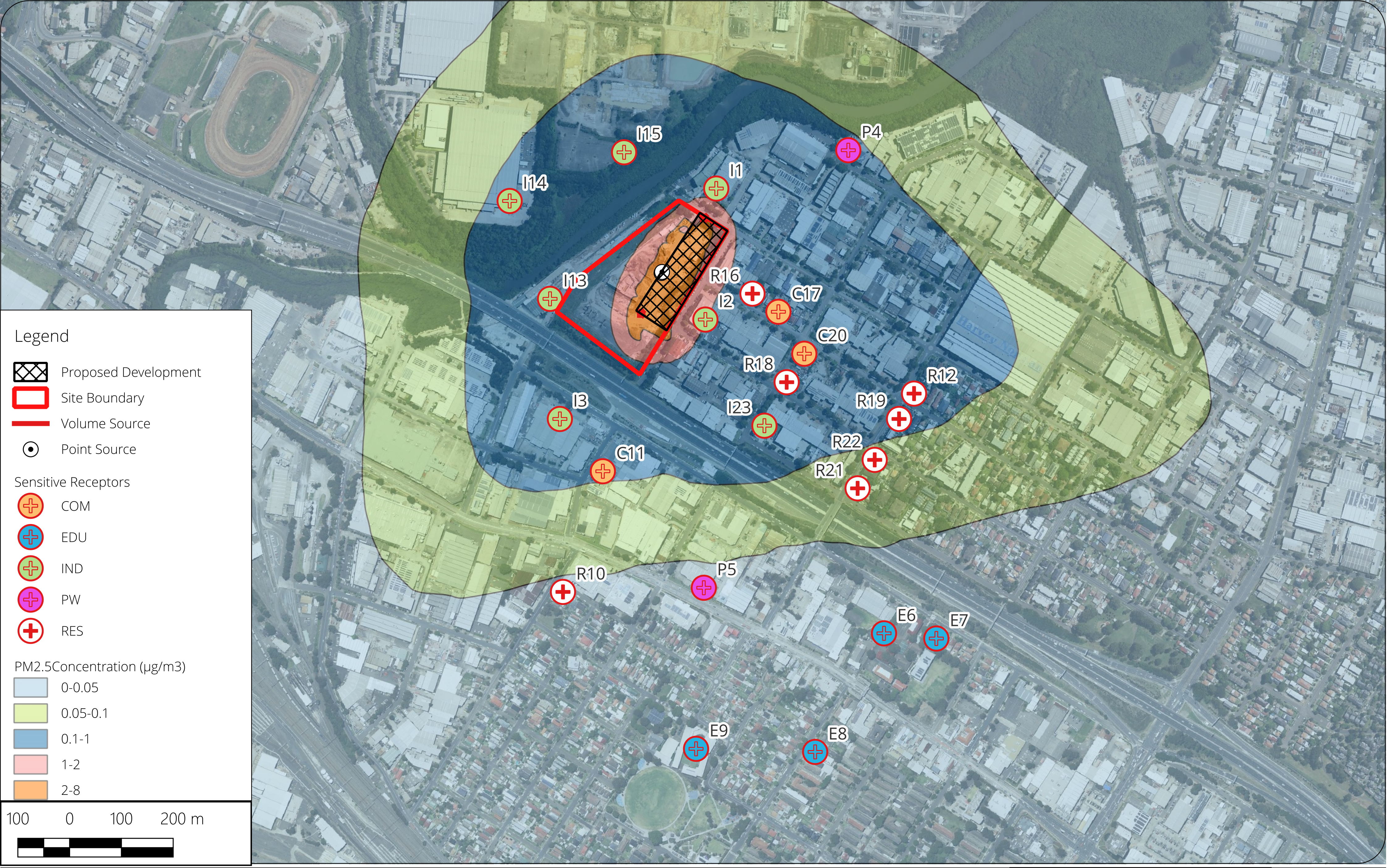


PROPOSED PROCESSED ENGINEERED FUEL PRODUCTION FACILITY
Contour Plots 24-Hour Average Incremnetal PM25 Concentration
Lot 1 Newton Street North, Silverwater, NSW 2128

Sources:
1. Basemap: NSW Six Maps

Map Projection: GDA2020 / MGA zone 56 / (EPSG:7856)

Revised on: 25/03/2026	
Project #: 2600905	Figure: D-3
Drawn by: ANUC	Checked by: RR



PROPOSED PROCESSED ENGINEERED FUEL PRODUCTION FACILITY

Contour Plots Annual Average Incremnetal PM25 Concentration

Lot 1 Newton Street North, Silverwater, NSW 2128

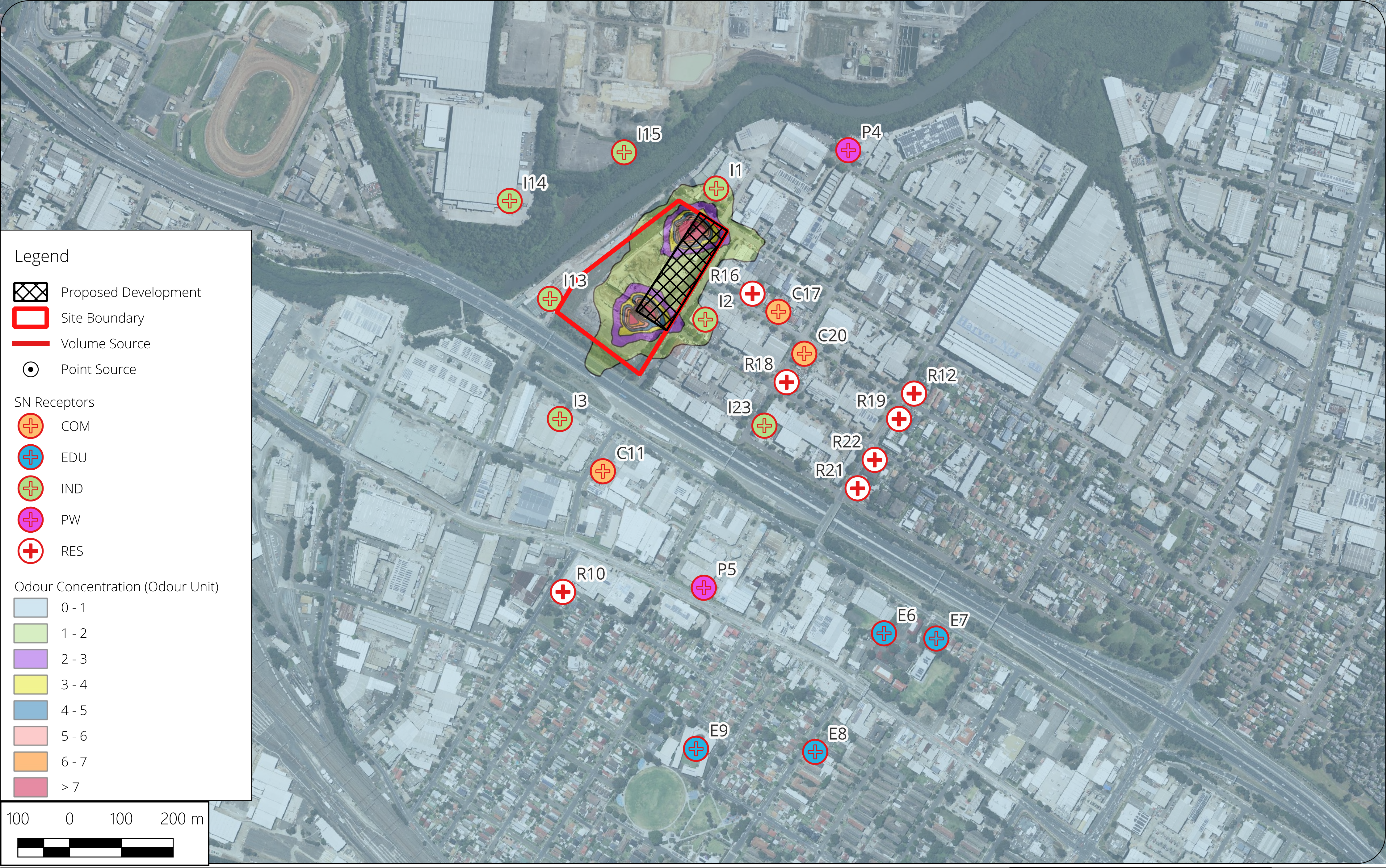
Sources:
1. Basemap: NSW Six Maps

Map Projection: GDA2020 / MGA zone 56 / (EPSG:7856)

Revised on: 25/03/2026	
Project #: 2600905	Figure: D-4
Drawn by: ANUC	Checked by: RR

APPENDIX E

CONTOUR PLOTS OF 1-HOUR AVERAGE 99TH PERCENTILE ODOUR CONCENTRATIONS



PROPOSED PROCESSED ENGINEERED FUEL PRODUCTION FACILITY
Contour Plots 1-Hour Average 99th Percentile Odour Concentration
Lot 1 Newton Street North, Silverwater, NSW 2128

Sources:
1. Basemap: NSW Six Maps

Map Projection: GDA2020 / MGA zone 56 / (EPSG:7856)

Revised on: 30/03/2026	
Project #: 2600905	Figure: E-1
Drawn by: RAMA.ROBBI	Checked by: RR