FINAL REPORT

200 ALDINGTON ROAD INDUSTRIAL ESTATE - LOT E WAREHOUSE

106 - 228 ALDINGTON ROAD

AIR QUALITY IMPACT ASSESSMENT (MOD 6 & SSD-85510213)
RWDI # 2407556
26 February 2026

SUBMITTED TO

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EXECUTIVE SUMMARY

This Air Quality Impact Assessment report has been prepared by RWDI Australia Pty Ltd to accompany an Environmental Impact Statement (EIS) in response to Secretary's Environmental Assessment Requirements (SEARs) for State Significant Development (SSD) Application SSD-85510213 for Lot E /Modification 6 of SSD-10479, Kemps Creek Industrial Estate being part of the Concept Master Plan at 200 Aldington Road, Kemps Creek, under the SSD-10479 project approval (200 Aldington Road Industrial Estate) formally now known as part Lot 200 DP 1285691 (the Site).

The proposed Lot E development is comprised of the construction and operation of two warehousing and distribution facilities within the Kemps Creek Industrial Estate. The Lot E site layout is to be reflected in a contemporaneous Modification of the approved Concept Master Plan SSD-10479, proposed as SSD-10479 (Modification No. 6).

The report assessed the potential construction and operational air quality impacts associated with the proposed industrial development which is in general accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (NSW EPA, 2022).

A risk-based approach was adopted to assess dust emissions from the construction of the proposed development 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 low risk for all activities that include construction, earthwork, and track-out activities (no demolition proposed as it is serviced and benched land), and with the implementation of recommended mitigation measures, no significant air quality impacts are expected to occur during the construction of the proposed development.

A quantitative approach was adopted to assess air quality impacts on nearby receptors during the operation of the Project. The results of the dispersion modelling indicate that particulate matter (PM) and nitrogen dioxide (NO_2) concentrations due to the operation of the proposed development would comply with the established criteria at all sensitive receptors. Therefore, the operation of the Proposal is not expected to adversely affect sensitive receptors.

Therefore, no adverse air quality impacts associated with the construction and operation of the proposed industrial development are expected.

1 INTRODUCTION

RWDI Australia Pty Ltd (RWDI) has been commissioned by Stockland Fife Kemps Creek Pty Ltd (SFKC) to provide an Air Quality Impact Assessment (AQIA) supporting the State Significant Development Application (SSDA) (SSD-85510213 and Modification No. 6 of SSD-10479) for two warehousing and distribution facilities. This application relates to the development of Lot E (the Site) within the 200 Aldington Road Industrial Estate, Kemps Creek, NSW.

This AQIA 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 proposed two warehousing and distribution facilities and assumptions used in the assessment; and
- Recommendations to minimise the air quality impact on the affected receivers, if required.

This AQIA has been completed with reference to relevant guidelines and policies:

- Environmental Protection Authority (EPA) guideline entitled "Approved Methods for the Modelling and Assessment of Air Pollutants in NSW" (NSW EPA, 2022); and
- Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) "Guidance on the Assessment of Dust from Demolition and Construction" (EPUK & IAQM, 2024).

This report has been prepared to address Environmental Impact Statement (EIS) in response to Secretary's Environmental Assessment Requirements (SEARs) issued for SSD-85510213 on 12 June 2025 with respect to the proposed development. Table 1-1 states the SEARs and identifies the section in the report where the requirements are addressed.

Table 1-1 SEARs

Item	Description of Requirement	Section Reference (This Report)
Air Quality and Odour	Identify significant air emission sources at the proposed development (during construction and operation), assess their potential to cause adverse off-site impacts, and detail proposed management and mitigation measures that would be implemented. Where air emissions during operation have the potential to cause adverse off-site impacts, provide a quantitative air quality impact assessment prepared in accordance with the relevant NSW Environment Protection Authority (EPA) guidelines.	The construction phase was assessed qualitatively UK by the IAQM as per the guideline EPUK & IAQM (2024). Operational activities were assessed quantitatively in accordance with the NSW EPA, 2022. In this report, Section 5.2 – Identifies the location of sensitive receptors. Section 5 - Assessment of Air Quality during Construction Phase Section 6 - Assesses air quality during the Operation Phase Section 7 – Provides the proposed mitigation measures.

2 PROJECT DESCRIPTION

An Environmental Impact Statement (EIS) has been prepared in response to the SEARs SSD-85510213 issued for Lot E, Kemps Creek Industrial Estate being part of the Concept Master Plan at 200 Aldington Road, Kemps Creek, under the State Significant Development SSD-10479 project approval (200 Aldington Road Industrial Estate) formally now known as part Lot 200 DP 1285691.

The applicant, Stockland Fife Kemps Creek Pty Ltd (SFKC) is a joint venture between Stockland and Fife Capital.

The proposed Lot E development is to construct and operate two warehouses within Lot E of the approved 200 Aldington Road Industrial Estate at 106-228 Aldington Road, Kemps Creek. The Development for Lot E Warehouse and ancillary offices site layout is to be reflected in a contemporaneous Modification of the approved Concept Master Plan SSD-10479, proposed as Modification No. 6 of SSD-10479.

Condition A4 of SSD-10479 requires that, in accordance with section 4.22 of the Environmental Planning and Assessment Act 1979, each subsequent stage of the development is to be subject to further development applications.

As part of the staged development of the Kemps Creek Industrial Estate, SFKC is seeking to construct a warehouse and distribution centre on Lot E within the Kemps Creek Industrial Estate.

Development of the Lot E Warehouse and ancillary offices is a bespoke warehouse and distribution centre which represents a contemporary and innovative response to site operational arrangements and logistical requirements for a major business. The development is comprised of two warehouses (Warehouse 4A and Warehouse 4B) within one building structure comprising of docking facilities, ancillary offices, carparking, hardstand vehicle parking, a weighbridge and freestanding gate house, surrounded by perimeter landscaping and visual treatments to achieve minimal visual impact to neighbouring lots.

The proposed two warehousing and distribution facilities is classified as State significant development on the basis of the capital investment value, which is greater than $50 million, and which therefore meets the SSD threshold for a warehouse or distribution centre as set under Section 12 of Schedule 1 to the State Environmental Planning Policy (Planning Systems) 2021.

The site is zoned IN1 General Industrial under the Chapter 2 of the State Environmental Planning Policy (Industry and Employment) 2021 (I&E SEPP). Industries (other than offensive or hazardous industries) are permitted with development consent within land zoned IN1. Development for the purpose of a two warehousing and distribution facilities is defined as a type of 'general industry' and therefore falls within the permissible development of 'industries'.

The vision for Lot E, and other lots within the Kemps Creek Industrial Estate, is to create a world class facility for industrial businesses with an emphasis on design quality, sustainability, innovation and a complementary mix of estate occupants.

2.1 Project Location

The Site is located east of Aldington Road, Kemps Creek, within the Penrith City Council (Council) Local Government Area (LGA). The Site forms part of the Mamre Road Precinct, which sits within both the Western Sydney Employment Area and the Western Sydney Aerotropolis.

Land surrounding the Site was originally rural in nature comprising a variety of rural dwellings, rural land, farm, dams and scattered vegetation. Specific land uses close to the Site are:

- Oakdale industrial estate located immediately to the east;
- The existing Catholic Healthcare Emmaus aged care and retirement village, Little Smarts Early Learning Centre, Trinity Primary School, and Emmaus Catholic College located approximately 1.5 km north-west; and
- Existing established residential housing community at Mount Vernon located approximately 1.5 km to the south-east.
- The BAPs temple complex (under construction) to the south of the Site.

The area is now transitioning to industrial uses with numerous approved industrial developments being constructed across the Mamre Road Precinct. This includes Aspect Industrial Estate to the west of the Site and Westlink Industrial Estate to the south.

The Project forms part of the approved 200 Aldington Road Industrial Estate comprising one lot described as Lot 200 DP 1285691. The location and context of the Site is shown in Figure 2-1.

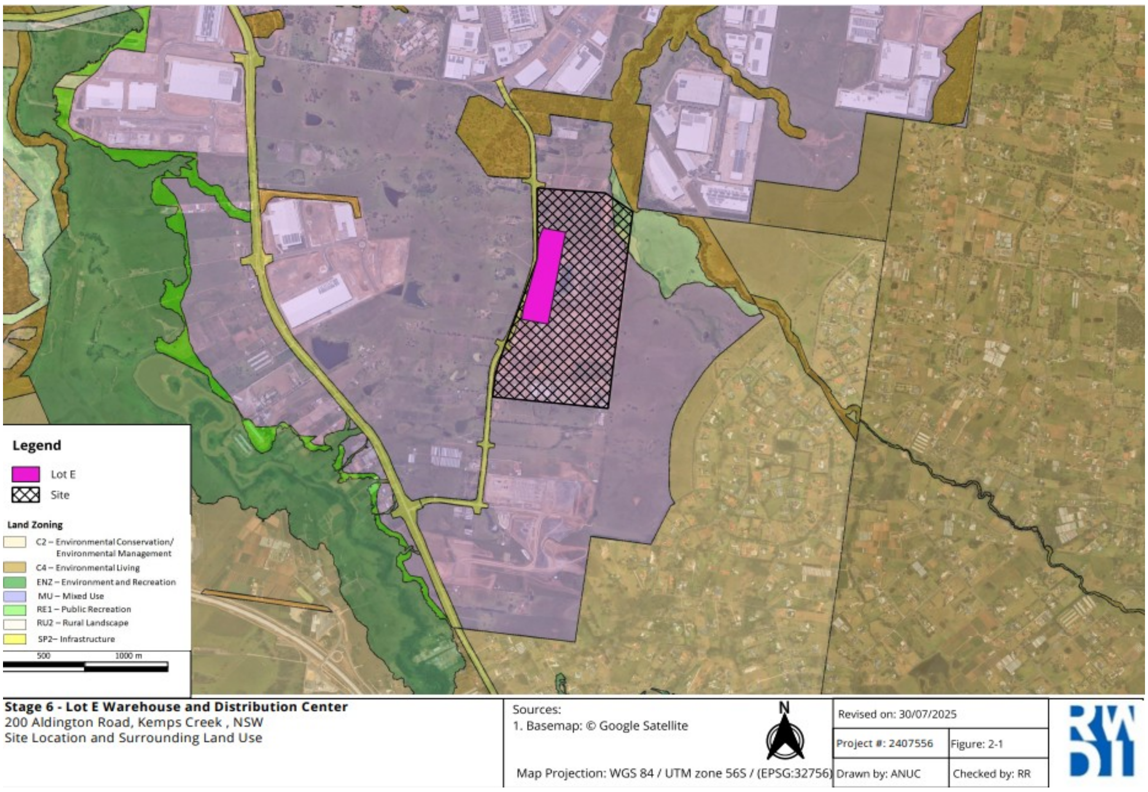

Figure 2-1 Site Location and Surrounding Land Use

2.2 Summary of Approved Development

The concept master plan was approved under SSD-10479 (200 Aldington Road Industrial Estate) formally now known as Lot 200 DP 1285691. The approved development involves staged construction of a Concept Proposal for an industrial estate comprising 13 buildings with hardstands, offices and car parking and an internal road network. It also includes a Stage 1 development application involving site preparation, construction, and operation of one warehouse building, internal roads and external road upgrades, stormwater infrastructure and landscaping. There are several modifications to the approved SSD-10479 as noted below:

- Modification 1 or MOD 1 - relates to minor civil, subdivision and building works which reflects refinement of design development undertaken since approval. This includes removal of a temporary access road, lot boundary readjustments and pad level adjustments.
- Modification 2 or MOD 2 – includes refinements and amendments the warehouse envelopes and the general layout of the approved Concept Plan and approved Stage 1 component of the approval to align with tenant specifications.
- Modification 3 or MOD 3 -incudes amendment to the concept and Stage 1 component of the approved development to include external works encompassing road widening and upgrades to Aldington and Abbotts Road, and the upgrade of the Mamre Road and Abbotts Road intersection. MOD 3 was approved on 27 February 2024.
- Modification 4 or MOD 4 – includes amendment to the concept and Stage 1 component of the approved development to make minor modifications to the building structure on Lot F to cater for tenant specifications. MOD 4 was approved by DPHI on 25 July 2025.
- Modification 5 (MOD 5) is a subsequent modification comprising the following (consistent with that documented in this SSDA):
    - A boundary adjustment between Lot K and Lot G by moving the boundary 11m to the north (increasing the area of Lot K and reducing the area of Lot G).
    - Changes to the site ingress and egress for Lot K under the Concept Master Plan.
    - Changes to the building footprint and general arrangement for Lot K under the Concept Master Plan

The latest approved MOD 5 and proposed MOD 6 are shown in Figure 2-2.

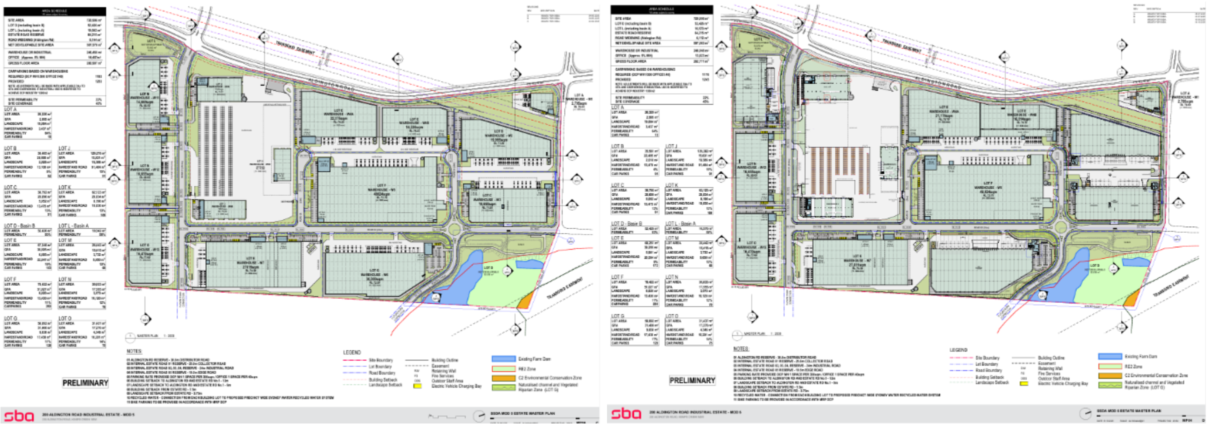

Figure 2-2 Overview of Concept Master Plan Latest Approved MOD 5 and proposed MOD 6

There are further modifications to the approved concept master plan under SSD-10479 as noted below:

- Modification 6 (MOD 6) relates to Lot E of the Concept Master Plan of SSD-10479 approval for the 200 Aldington Road Industrial Warehousing and Distribution Centre located on Lot 200 DP1285691 Mamre Road, Kemps Creek.

2.3 Proposed Development

The proposed development at Lot E consist of two warehousing and distribution facilities that corresponds to a contemporary and innovative response to site operational arrangements and logistical requirements for a major business. The development is comprised of two large-format warehouse and distribution facilities on Lot E with docking facades, ancillary offices, carparking, surrounded by perimeter landscaping and visual treatments to achieve pleasant micro-climates and desirable streetscapes and installation of signage.

The proposal is lodged as a State Significant Development Application (SSD-85510213) and is accompanied by Modification 6 (MOD 6) to the Concept Master Plan approval (SSD-10479), which provides for delivery of Lot E under the established estate-wide planning framework.

The Proposed development comprises two warehouse buildings as noted in Table 2-1 and site plan is as shown in Figure 2-3.

The combined site area for Lot E is 68,251 m², with the following Gross Floor Areas (GFA) provisions are as noted below:

Table 2-1 Development Schedule

Use	Lot 4A	Lot 4B
Warehouse GFA	21,179 m^2	16,314 m^2
Office GFA	900m^2	721 m^2
Dock Office	64 m^2	80 m^2

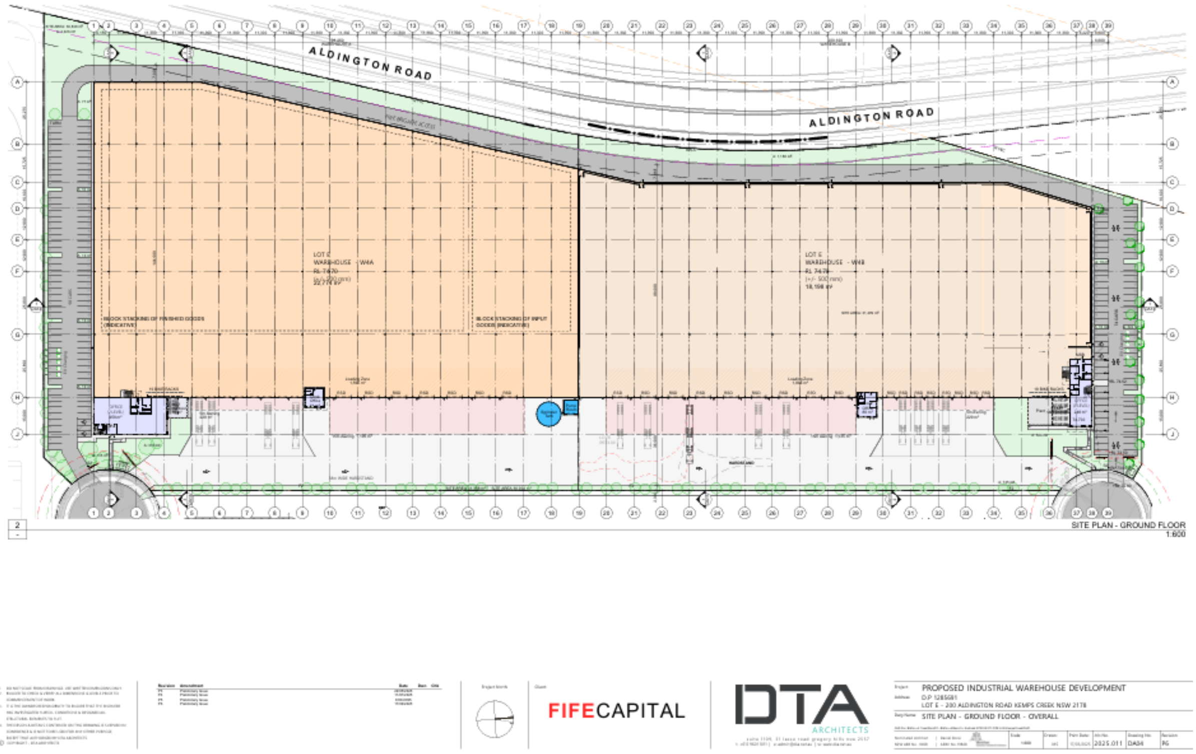

Figure 2-4 Lot E Site Plan – Ground Floor

2.4 Potential Sources of Air Emissions

Air emissions are likely during the construction and operation of the proposed industrial development. The most likely sources are summarised in the following sections.

2.4.1 Construction phase

At the time of preparing this assessment, a detailed construction programme had not been developed, yet, but the following stages and typical activities can be expected from this project:

Earthworks:

- Likely to be the middle stage of work and of most impact;
- Detailed earthworks for creating pad footings and trenching for underground services that will involve trucks, excavators, dozers and associated equipment.

Construction and Interior Fit out of Warehouse:

- Likely to be the longest stage of work and of most impact;
- Building works likely to involve many truck movements, cranes and power tools;
- Typical equipment includes concrete trucks, mobile cranes and vibratory rollers.
- Interior fit-out work involves movement of trucks; and
- Interior fit out of the ancillary office space.

During the earthworks, construction and interior fit out of the warehouse, which include moving of material and truck movements (wheel generated dust – only excavators and rollers on the pad itself), short-term periods of elevated dust levels are likely.

Dust or airborne particles at elevated levels can be hazardous to human health or cause nuisance. Potential health effects of airborne particles are closely related to particle size. The most common particle size distributions considered in air quality studies are:

- $PM_{2.5}$: Particulate matter (PM) consisting of particles less than 2.5 µm (micrometres) in diameter – for assessment against health-based criteria;
- PM_{10}: PM consisting of particles less than 10 µm in diameter – for assessment against health-based criteria;
- TSP: total suspended particulates, generally up to 100 µm in diameter – for assessment against predominantly nuisance-based criteria; and
- Deposited dust particles – for assessment of dust nuisance.

PM_{10} and $PM_{2.5}$ are typically invisible, while larger particulates are typically visible to the naked eye.

During the temporary phases of earthwork and construction activities, including moving of material and truck movements along haul roads (wheel generated dust), short-term elevated levels of PM_{10} and $PM_{2.5}$ are likely to occur.

2.4.1 Operational phase

The following sources of dust/particulate emissions associated with the operation of the proposed development were identified:

- Off-site and on-site vehicular movements including trucks idling;

Generally, any dust particles created within the warehouse are contained within the warehouse and captured in the waste management process. No processing or stockpiling would occur outside the building. Therefore, windblown dust emissions would be negligible. A control factor of 70% has been applied to all sources located inside the building.

Off-site and on-site vehicular movements will result in wheel-generated dust from vehicles travelling (on sealed roads) within the complex and on the local road network. In addition, contaminant emissions from vehicle exhaust include:

- PM_{10} and $PM_{2.5}$; and
- Oxides of nitrogen (NO_x), particularly as nitrogen dioxide (NO_2).

The risk of odour impacts from the Proposal is negligible and odour impacts are not discussed any further in this report.

3 AIR QUALITY CRITERIA

3.1 Introduction

The Environmental Protection Authority (EPA) developed a guideline ("the Approved Methods") that sets out applicable impact assessment criteria for several air pollutants (NSW EPA, 2022).

3.2 Impact Assessment Criteria

Air quality criteria are benchmarks set to protect the general health and amenity of the community in relation to air quality. 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 PMs that are relevant to this study. The air quality goals relate to total ambient concentrations of dust and PMs and not only impacts from the project. Therefore, some consideration of background levels needs to be made when using these goals to assess impacts.

Table 3-1 Impact Assessment Criteria – Dust, PM and NO_2

Pollutant	Averaging Period	Impact Criteria (µg/m³)
Total suspended particulates (TSP)	Annual	90
Particulate matter ≤10 µm (PM_{10})	Annual	25
	24-hour	50
Particulate matter ≤2.5 µm ($PM_{2.5}$)	Annual	8
	24-hour	25
Nitrogen dioxide (NO_2)	Annual	31
	1 hour	164

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 Project Site and identify a representative set of meteorological data for use in the dispersion modelling to be undertaken for this assessment.

4.1.1 Long-Term Climate

Long-term meteorological data for the area surrounding the Site is available from the Horsley Park Equestrian Centre AWS operated by the Bureau of Meteorology (BoM). The Horsley Park Equestrian Centre AWS is located approximately 5.0 km east of the Site and records observations of several meteorological parameters including wind speed, wind direction, temperature, humidity, and rainfall.

Long-term climate statistics are presented in Table 4-1. Temperature data recorded at the Horsley Park Equestrian Centre AWS indicate that January is the hottest month of the year with a mean daily maximum temperature of 29.9°C. July is the coolest month with a mean daily minimum temperature of 5.9°C. February is the wettest month with an average rainfall of 122 mm falling over 8 days. There are, on average, 77 rain days per year, delivering 803 mm of rain.

Table 4-1 Climate Averages for Horsley Park Equestrian Centre AWS

Obs.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
9 am Mean Observations													
Temp (°C)	22.0	21.5	19.4	17.5	13.8	11.1	10.3	12.0	15.6	18.1	19.2	20.9	16.8
Hum (%)	73	77	81	76	77	80	78	70	65	61	70	71	73
3 pm Mean Observations													
Temp (°C)	28.2	27.1	25.3	22.2	19.2	16.6	16.1	17.8	20.8	22.5	24.2	26.5	22.2
Hum (%)	49	53	54	53	52	55	50	42	42	45	50	48	49
Daily Minimum and Maximum Temperatures													
Min (°C)	18.0	17.8	16.2	12.9	9.1	7.1	5.9	6.6	9.3	11.9	14.4	16.3	12.1
Max (°C)	29.9	28.7	26.8	23.8	20.5	17.6	17.4	19.2	22.4	24.7	26.4	28.4	23.8
Rainfall													
Rain (mm)	77.1	121.6	90.1	69.0	43.6	68.1	50.8	38.1	37.6	61.6	76.6	66.2	802.9
Rain (days)	8.0	7.5	8.9	6.7	4.9	6.1	5.6	4.1	4.9	6.0	7.1	7.1	76.9

Figure 4-1 presents the annual wind-roses for 9am and 3pm from the Horsley Park Equestrian Centre AWS (from 1997 to 2013). The wind-rose diagram indicates a notable emphasis of north-westerly, westerly, and south-westerly winds at 9am, and easterly and south-easterly winds at 3pm.

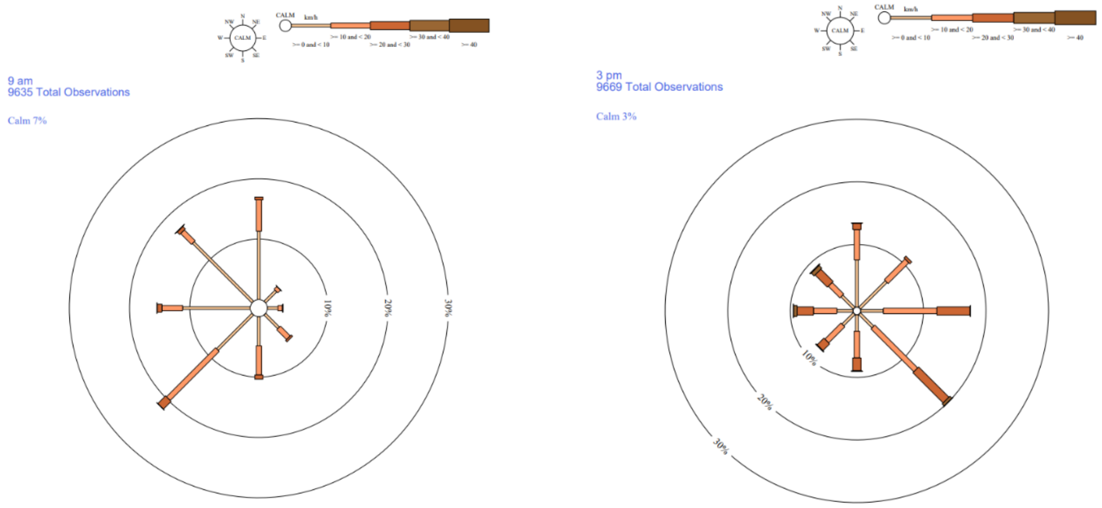

Figure 4-1: Horsley Park Equestrian Centre AWS 9am and 3pm Annual Wind Roses – Wind Speed in km/h (04 Sep 1997 to 10 Aug 2024)

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 from the Office of Environment and Heritage (OEH) Air Quality Monitoring Station (AQMS) at St. Mary's are selected to represent typical wind patterns in the area surrounding the Site and have been incorporated into the dispersion modelling for this assessment. St. Mary's AQMS is located approximately 5.6 km north-west of the Site.

Figure 4-2 through Figure 4-7 present annual and seasonal wind roses for St. Mary's AQMS for the period from 2019 to 2023. As can be seen, winds from the south-southwest and north-northwest are most common in the annual wind roses. The 2022 wind roses are in good agreement with the multi-year average wind roses and have therefore been adopted for modelling purposes.

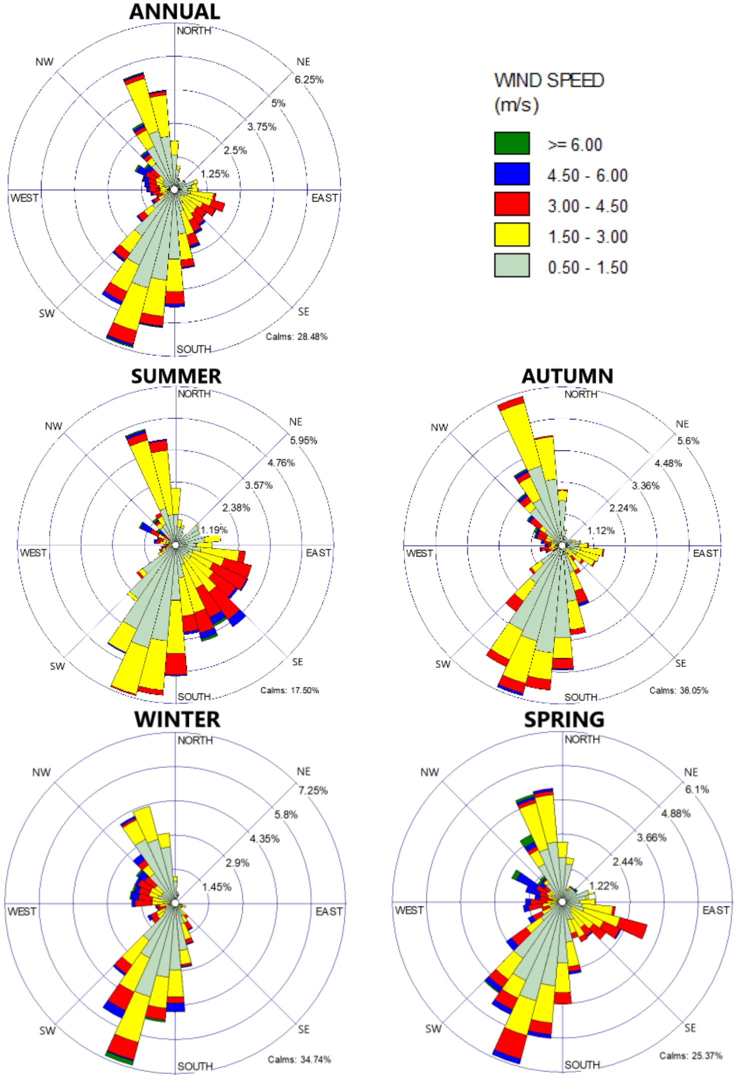

Figure 4-2: St. Mary's AQMS Wind Roses, 2019

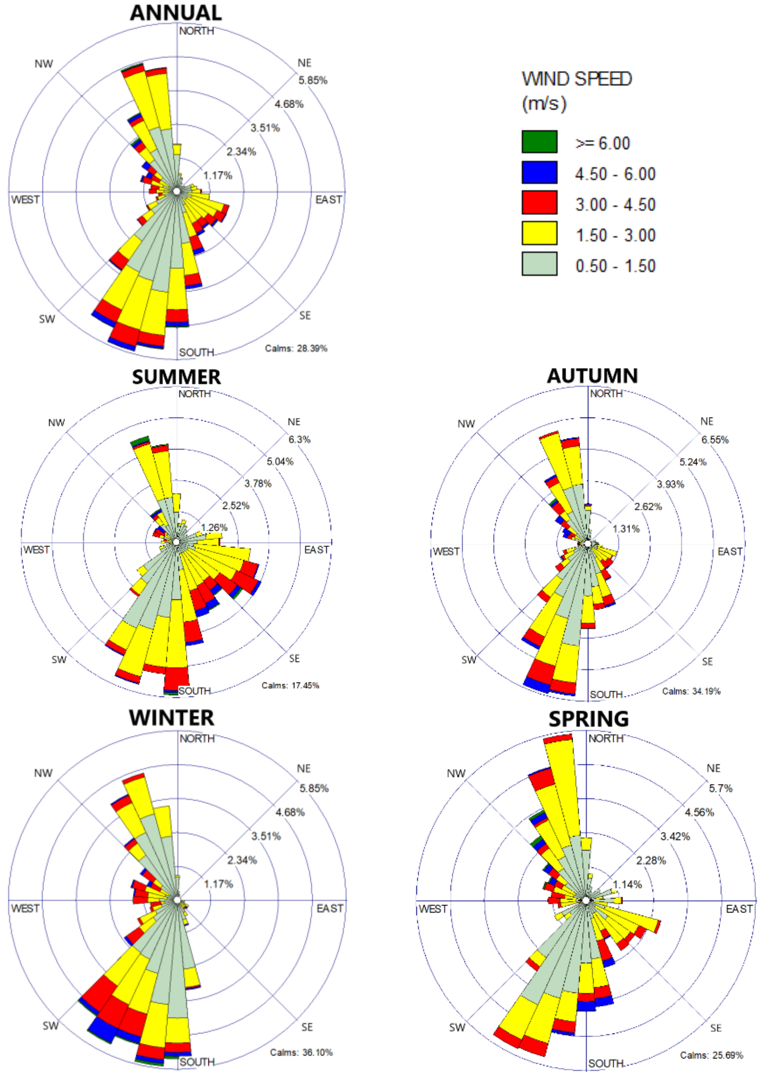

Figure 4-3: St. Mary's AQMS Wind Roses, 2020

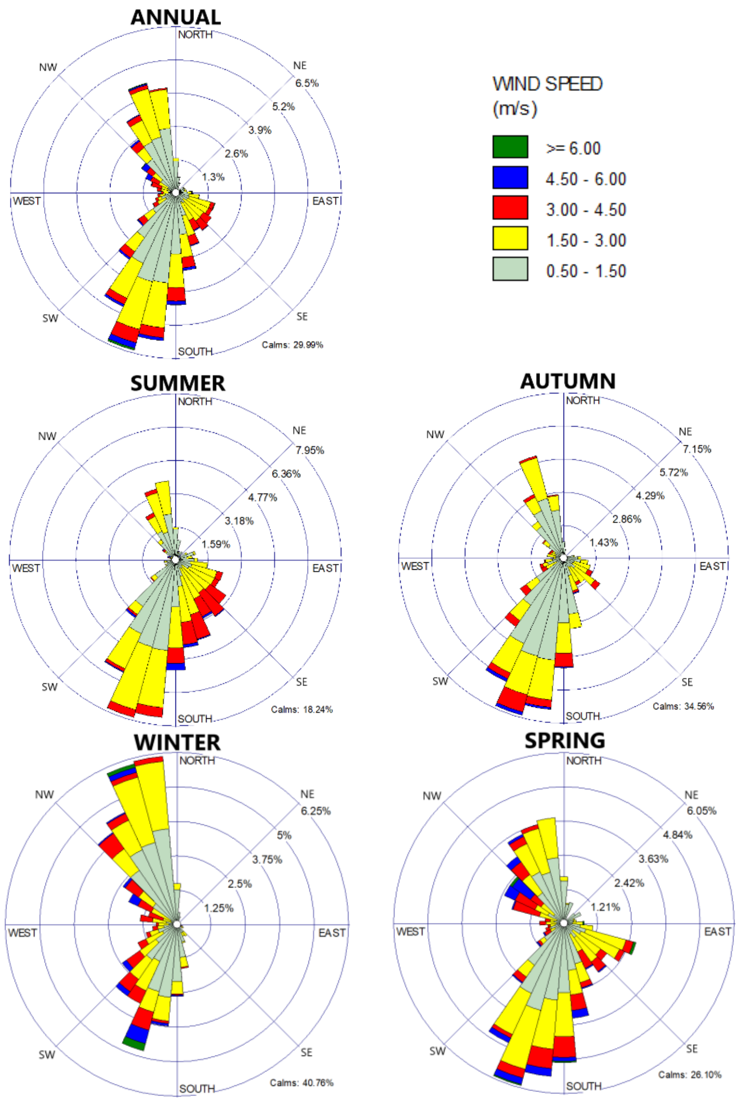

Figure 4-4: St. Mary's AQMS Wind Roses, 2021

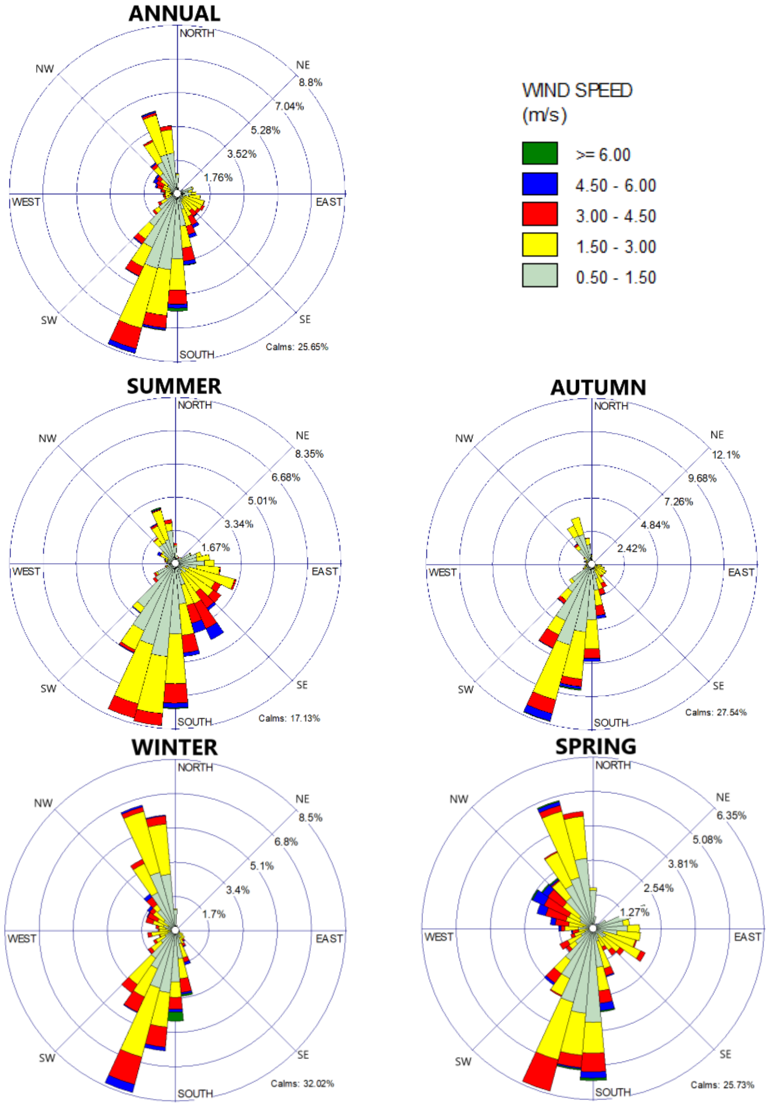

Figure 4-5: St. Mary's AQMS Wind Roses, 2022

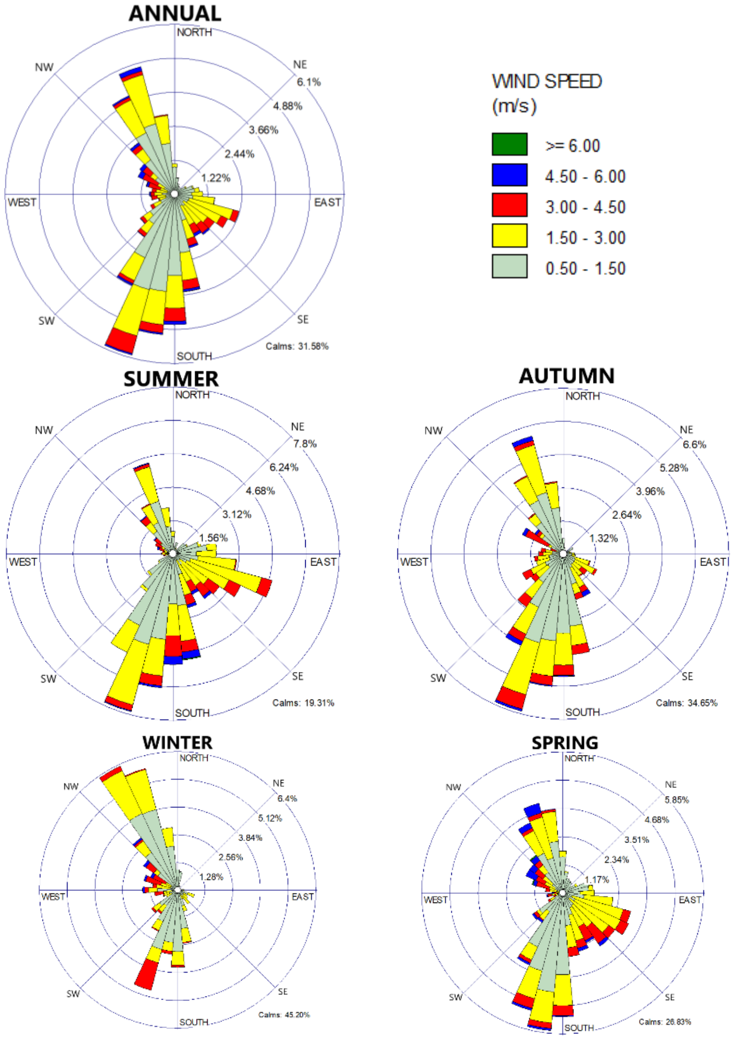

Figure 4-6: St. Mary's AQMS Wind Roses, 2023

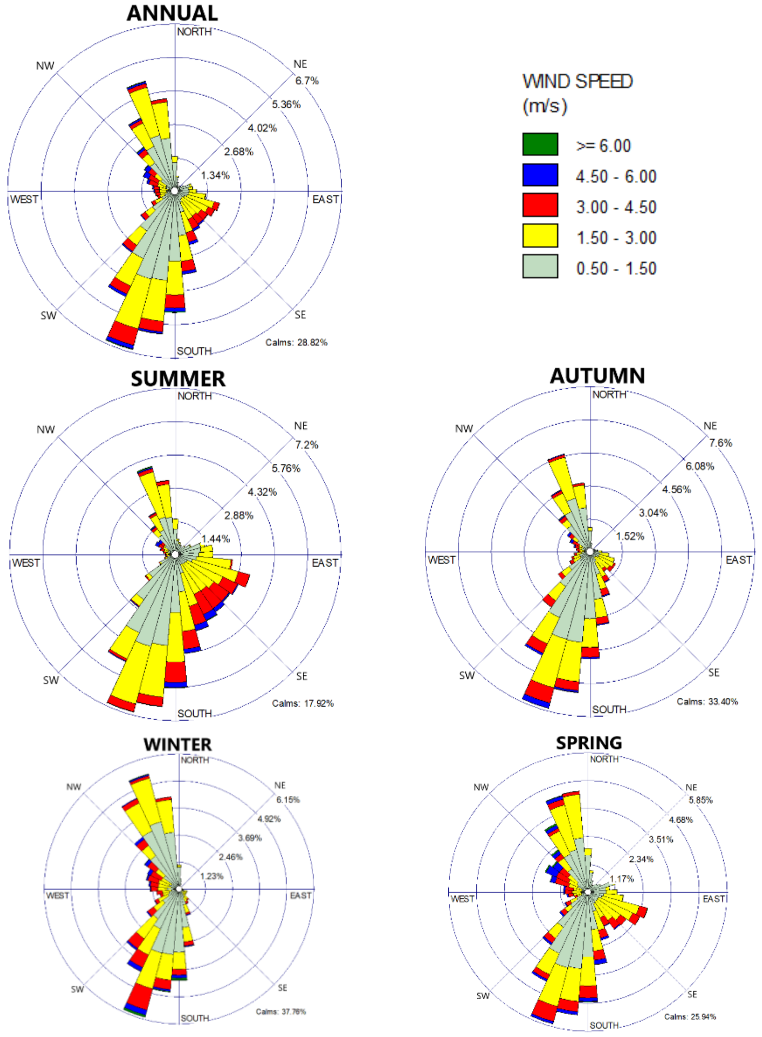

Figure 4-7: St. Mary's AQMS Wind Roses, 2019 - 2023

4.2 Local Ambient Air Quality

Site-specific data are not available to determine the existing concentrations of air pollutants at sensitive receptors near the proposed development. Data on existing background pollution concentrations were obtained from the NSW Department of Planning and Environment (DPE) Air Quality Monitoring network. The DPE operates a network of AQMS across NSW. The nearest AQMS measuring the selected pollutants is located at St. Mary's approximately 5.6 km north-west of the proposed development.

A summary of the ambient air quality monitoring data collected for the year 2022 at St. Mary's AQMS is presented in Table 4-2. Note that the 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).

Table 4-2 Ambient air quality monitoring concentrations used in the AQ Assessment

Pollutant	Averaging Period	Concentration (µg/m³)	Impact Criteria (µg/m³)	Ambient Air Quality Concentration as a % of Criteria
Total suspended particulates (TSP)	Annual[1]	26.6	90	30%
Particulate matter ≤10 µm (PM_{10})	Annual[2]	11.7	25	47%
	24-hour[3]	29.9	50	60%
Particulate matter ≤2.5 µm ($PM_{2.5}$)	Annual[2]	4.0	8	50%
	24-hour[3]	12.8	25	51%
Nitrogen dioxide (NO_2)	Annual[2]	7.8	31	25%
	1-hour[4]	56.4	164	34%

Note
1. Calculated assuming 40% of the TSP is PM_{10}
2. Average of 1-hour data over the year
3. Maximum of 24-hour data over the year
4. Maximum of 1-hour data over the year

As seen in Table 4-2, the ambient concentrations of all the pollutants are well below criteria for all the pollutants.

5 ASSESSMENT OF AIR QUALITY DURING CONSTRUCTION WORKS

5.1 Assessment Methodology

The EPA does not provide guidance specific to dust from construction sites in terms of a risk assessment and management approach. It has developed a guideline, the Approved Methods (NSW EPA, 2022). However, this guideline considers detailed modelling approaches and is not specifically relevant to construction dust impacts. A detailed modelling approach is not necessary for short-term construction impacts that can be managed.

A risk-based approach was developed in the UK by the IAQM as per the guideline EPUK & 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 section presents a qualitative assessment of potential air quality impacts associated with the proposed works and has been conducted in general accordance with the methodology described in the IAQM guideline (EPUK & IAQM, 2024).

This approach presents the risk of dust soiling, and human health impacts associated with the types of activities that occur on construction sites (construction and track out) 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 project, 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.

5.2 Risk Assessment of Dust Impacts

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

5.2.1 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).

The locations of sensitive receptors near the Site are listed below in Table 5-1.

Table 5-1 Representative Sensitive Receptors

Receptor	Address	Receiver Type	Distance to Site (m)	UTM Coordinates (Zone 56 H)	
				X (m E)	Y (m S)
I01	99-111 Aldington Road Kemps Creek	Industrial	440	296,179	6,253,507
I02	54-72 Aldington Road Kemps Creek	Industrial	630	296,565	6,253,805
I03	169-181 Aldington Road Kemps Creek	Industrial	220	296,123	6,252,778
I04	826-882 Mamre Road Kemps Creek	Industrial	1100	295,166	6,252,784
I05	754 Mamre Road Kemps Creek	Industrial	1500	295,080	6,253,571
MRP02	53A Aldington Road, Kemps Creek, NSW	Industrial	440	296,244	6,253,603
R07	258-270 Aldington Road, Kemps Creek, NSW	Industrial	960	296,567	6,251,943
E08	45-59 Bakers Lane, Kemps Creek, NSW	Educational	1600	295,205	6,254,269
E09	61-83 Bakers Lane, Kemps Creek, NSW	Educational	1850	295,366	6,254,541
E10	87-109 Bakers Lane, Kemps Creek, NSW	Educational	1500	295,582	6,254,314
REC11	4131 Bowood Road, Kemps Creek, NSW	Recreational	1130	297,518	6,252,310
R12	35-37 Greenview Place, Mount Vernon, NSW	Residential	1600	298,157	6,252,779
R13	68 Capitol Hill Drive, Mount Vernon, NSW	Residential	1620	298,139	6,252,594
R14	52-69 Centennial Court, Mount Vernon, NSW	Residential	1650	298,148	6,252,393
R15	412 Bowood Road, Mount Vernon, NSW	Residential	1250	297,705	6,252,387
R16	69-81 Bowood Road, Mount Vernon, NSW	Residential	1150	297,468	6,252,095
R17	53-59 Bowood Road, Mount Vernon, NSW	Residential	1098	297,399	6,251,947
R18	12-22 Bowood Road, Mount Vernon, NSW	Residential	1430	297,315	6,251,536

Receptor	Address	Receiver Type	Distance to Site (m)	UTM Coordinates (Zone 56 H)	
				X (m E)	Y (m S)
R19	52 Mount Vernon Road, Mount Vernon, NSW	Residential	1500	296,909	6,251,147
R20	40-46 Mount Vernon Road, Mount Vernon, NSW	Residential	1600	296,826	6,251,028
R21	30-38 Mount Vernon Road, Mount Vernon, NSW	Residential	2050	296,741	6,250,999
R22	20 Mount Vernon Road, Mount Vernon, NSW	Residential	2100	296,675	6,250,828
R23	54 Kerrs Road, Mount Vernon, NSW	Residential	2000	296,611	6,250,602
R24	44 Kerrs Road, Mount Vernon, NSW	Residential	2050	296,493	6,250,622
R25	1114 Mamre Road, Mount Vernon, NSW	Residential	1900	296,196	6,250,655
MRP04	282 Aldington Road, Kemps Creek, NSW	Residential	800	296,268	6,251,732
MRP03	272 Aldington Road, Kemps Creek, NSW	Residential	910	296,708	6,251,748
MRP05	284-288 Aldington Road, Kemps Creek, NSW	Residential	800	296,111	6,251,747
R29	983B Mamre Road, Kemps Creek, NSW	Residential	1270	295,460	6,251,596
R30	983 Mamre Road, Kemps Creek, NSW	Residential	1200	295,442	6,251,708
R31	967-981 Mamre Road, Kemps Creek, NSW	Residential	1070	295,351	6,251,904
R32	949-965 Mamre Road, Kemps Creek, NSW	Residential	1100	295,221	6,252,031
MRP07	930B Mamre Road, Kemps Creek, NSW	Residential	1050	295,393	6,252,126
R34	967-981 Mamre Road, Kemps Creek, NSW	Residential	1050	295,394	6,251,768
R35	1005-1023 Mamre Road, Kemps Creek, NSW	Residential	1050	295,503	6,251,543
36BAPS Temple	230-242 Aldington Road, Kemps Creek NSW 2178	Place of worship	350	296,405	6,252,187

Receptor	Address	Receiver Type	Distance to Site (m)	UTM Coordinates (Zone 56 H)	
				X (m E)	Y (m S)
	Areas Include – Gardens, Central Facilities and Mandir Temple				
MRP01	20 Aldington Road Kemps Creek	Residential	800	296,184	6,254,024
MRP06	287 Aldington Road Kemps Creek	Residential	780	296,012	6,251,689
MRP08	930-966 Mamre Road Kemps Creek	Residential	860	295,394	6,252,370
I40	29 Ottelia Road Kemps Creek	Industrial	800	297,139	6,253,599

As can be seen in Figure 5-1, the nearest recreational and industrial receivers are located within 250 m of the proposed Site and therefore, an assessment of dust impacts is considered necessary under the guideline.

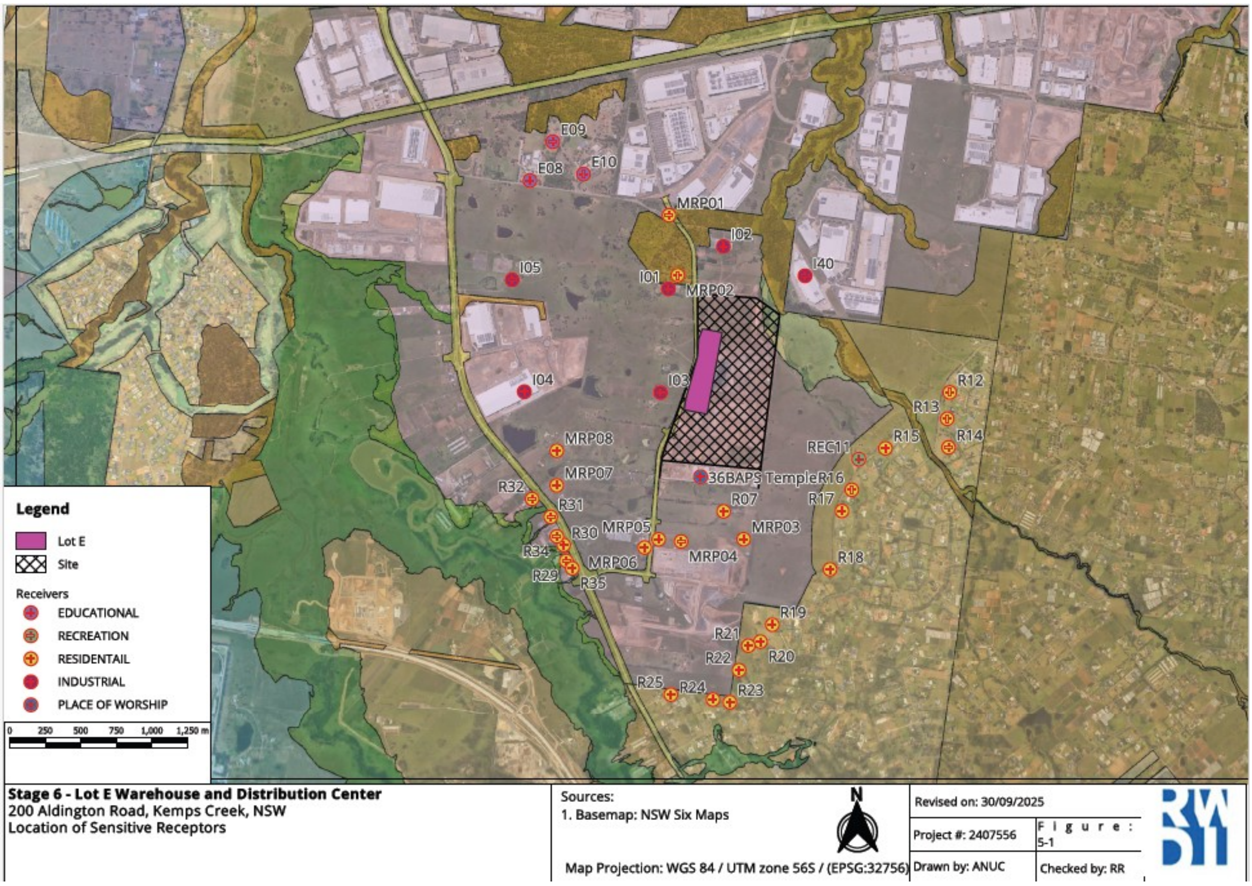

Figure 5-1: Locations of Identified Sensitive Receptors

5.2.2 Step 2A – Potential Dust Emission Magnitude

5.2.2.1 Demolition

There are no demolition activities proposed for this development as this was already carried out under the estate earthworks contractor and therefore, the potential magnitude of demolition is therefore assessed as **negligible**.

5.2.2.2 Earthworks

Regarding dust from earthworks, dust emission magnitudes may be defined as:

- Large: Total site area > Total site area >110,000 m^2, potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds >6 m in height;
- Medium: Total site area 18,000-110,000 m^2, moderately dusty soil type (e.g., silt), 5-10 heavy earth moving vehicles active at any one time, formation of bunds 3-6 m in height; and
- Small: Total site area <18,000 m^2, soil type with large grain (e.g., sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <3 m in height.

The areas affected by the proposed earthworks (for Lot E) is less than 110,000 m^2 but more than 18,000 m^2, and at any one time, minimum of 10 heavy earth moving vehicles would be active. It is therefore conservatively assumed that the potential magnitude of earthworks is **Medium**.

5.2.2.3 Construction

The key issues when determining the potential dust emission magnitude during the construction phase include the size of the building(s)/infrastructure, method of construction, construction materials, and duration of build. The dust emission magnitude from construction activities can be defined as:

- Large: Total building volume >75,000 m^3, on site concrete batching, sandblasting;
- Medium: Total building volume 12,000 m^3 – 75,000 m^3, potentially dusty construction material (e.g., concrete), on site concrete batching; and
- Small: Total building volume <12,000 m^3, construction material with low potential for dust release (e.g., metal cladding or timber).

The method of construction for Lot E warehouse and ancillary offices is conventional (build enclosed structure first, then internals, then externals) and would require at least 9 to10 months for construction of warehouses and internal fit out. The construction materials are typical of industrial development which includes steel concrete, etc. The constructed building volume (for interior fit of Lot E ancillary offices, plant and equipment and further outer site amendments) is more than 75,000 m^3; therefore, the potential magnitude of construction is assessed as **Large**.

5.2.2.4 Trackout

Regarding dust from trackout associated with haulage activities, dust emission magnitudes may be defined as:

- Large: >50 heavy vehicle (>3.5 t) outward movements per day, potentially dusty surface material (e.g. high clay content), unpaved road length >100 m;

- Medium: 20-50 heavy vehicle (>3.5 t) outward movements per day, moderately dusty surface material (e.g. high clay content), unpaved road length 50-100 m; and
- Small: <20 heavy vehicle (>3.5 t) outward movements per day, surface material with low potential for dust release, unpaved road length <50 m.

Trackout is expected to result in more than 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 more than 100 m long. The potential magnitude of Trackout is therefore assessed as **Large**.

5.2.2.5 Summary of Dust Emission Magnitudes

The estimated dust emission magnitudes are summarized in Table 5-2:

Table 5-2: Summary of Dust Emission Magnitudes

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

5.2.3 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.

The following subsections provide the descriptions for sensitivities of different types of receptors to dust soiling and human health effects.

5.2.3.1 Dust Soiling Effects

High sensitivity receptor:

- Users can reasonably expect an enjoyment of a high level of amenity; or
- The appearance, aesthetics or value of their property would be diminished by soiling; and the people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land.
- Indicative examples include dwellings, museum, and other culturally important collections, medium- and long-term car parks and car showrooms.

Medium sensitivity receptor:

- Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home; or
- The appearance, aesthetics or value of their property could be diminished by soiling; or
- The people or property would not reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land.
- Indicative examples include parks and places of work.

Low sensitivity receptor:

- The enjoyment of amenity would not reasonably be expected; or
- property would not reasonably be expected to be diminished in appearance, aesthetics, or value by soiling; or
- there is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land.
- Indicative examples include playing fields, farmland (unless commercially sensitive horticultural), footpaths, short term car parks, and roads.

5.2.3.2 Human Health Effects

For the sensitivity of people to the health effects of PM_{10}, the IAQM provides the following assessment criteria.

High sensitivity receptor:

- Locations where members of the public are exposed over a time period relevant to the air quality objective for PM_{10} (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).
- Indicative examples include residential properties. Hospitals, schools, and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.

Medium sensitivity receptor:

- Locations where the people exposed are workers, and exposure is over a time period relevant to the air quality objective for PM_{10} (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).
- Indicative examples may include office and shop workers but will generally not include workers occupationally exposed to PM_{10}, as protection is covered by Health and Safety at Work legislation.

Low sensitivity receptor:

- Locations where human exposure is transient.
- Indicative examples include public footpaths, playing fields, parks, and shopping streets.

5.2.3.3 Summary of Sensitivities of Surrounding Area

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

Industrial Receivers

- High sensitivity to dust soiling and human health.

Recreational, Educational and Residential Receivers

- Medium sensitivity to dust soiling and human health.

Considering the above receptor sensitivities, Table 5-3 and Table 5-4 are reproduced from the IAQM (showing the “high”, “medium” and “low” receptor sensitivity) to determine the sensitivity of the area. For human health impacts, the mean background PM_{10} concentration of 11.7 μg/m3 was chosen from Table 4-2.

Table 5-3: Area Sensitivity Decision Matrix – Dust Soil

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

Industrial receivers (I1 to I5, I40, MRP02 and R07)

Recreational (REC11), Educational (E8, E9 and E10), Residential receivers (R11, R12 to R35, MRP01, 03, 05, 05, 06 and 08) and BAPS Temple

Table 5-4: 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/m^3	>100	High	High	High	Medium
		10-100	High	High	Medium	Low
		1-10	High	Medium	Low	Low
	17.5 - 20 µg/m^3	>100	High	High	Medium	Low
		10-100	High	Medium	Low	Low
		1-10	High	Medium	Low	Low
	15 – 17.5 µg/m^3	>100	High	Medium	Low	Low
		10-100	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	< 15 µg/m^3	>100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Medium	> 20 µg/m^3	>10	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	17.5 - 20 µg/m^3	>10	Medium	Low	Low	Low
		1-10	Low	Low	Low	Low
	15 – 17.5 µg/m^3	>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
	< 15 µg/m^3	>10	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Low	-	$\geq$ 1	Low	Low	Low	Low

Industrial receivers (I1 to I5, I40, MRP02 and R07)

Recreational (REC11), Educational (E8, E9 and E10), Residential receivers (R11, R12 to R35, MRP01, 03, 05, 05, 06 and 08) and BAPS Temple

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/m^3 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/m^3 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 (both residential and industrial receivers) is summarized in Table 5-5:

Table 5-5: Summary of Surrounding Area Sensitivity

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

5.2.4 Step 2C – Define the Risk of Impacts

To define the risk of impacts, the dust emission magnitude ("medium" and "large" for this Site) is combined with the sensitivity of the area, as per Table 5-6, Table 5-7, Table 5-8, and Table 5-9 for demolition, earthworks, construction and trackout, respectively.

Table 5-6: Risk of Dust Impacts – Demolition

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 5-7: 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 5-8: 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 5-9: 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 5-6 through Table 5-9, demolition has negligible risk and all the other activities (earthworks, construction and trackout) are considered to have a low 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.

5.2.5 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 7.1.

5.2.6 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 if the mitigation measures outlined in Section 7.1 are implemented.

6 OPERATION PHASE ASSESSMENT

6.1 Assessment Methodology

The operational air quality assessment considers typical warehouse operations, which would generate additional traffic movements along Aldington Road and potentially adversely affect ambient air quality.

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

1. Determine meteorological parameters required for dispersion modelling.
2. Estimate annual dust emissions of each activity associated with the warehouse operations.
3. Provide emissions and meteorological information to a computer-based dispersion model to predict pollutant concentrations at nearest sensitive receptors.
4. Compare predicted concentrations with applicable air quality criteria.

6.2 Meteorological Modelling

6.2.1 TAPM

No meteorological observations are available for the Site. Therefore, site-specific meteorological data was generated using a prognostic model. The prognostic model used was The Air Pollution Model (TAPM), developed and distributed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

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 33.842° S, 150.800° 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 Horsley Park Equestrian AWS and St. Mary’s AQMS during 2022.

6.2.2 AERMET

The TAPM results, including predictions of wind speed, wind direction, temperature, humidity, cloud cover, solar radiation, and rainfall, were used as inputs to AERMET, AERMOD’s meteorological pre-processor. AERMET uses the TAPM data, along with land-use data, to calculate mixing heights and velocity scaling parameters.

The wind-rose plots generated by AERMET using TAPM modelling results are shown in Figure 6-1. The annual windroses produced by AERMET have predominately south-southwest and north-northwest winds which is similar to winds observed at directions observed at the Horsley Park Equestrian AWS and St. Mary’s AQMS. Wind speeds tend to be somewhat lower than observed. Overall, the meteorological data used in the model can be considered sufficiently representative of the Proposal Site.

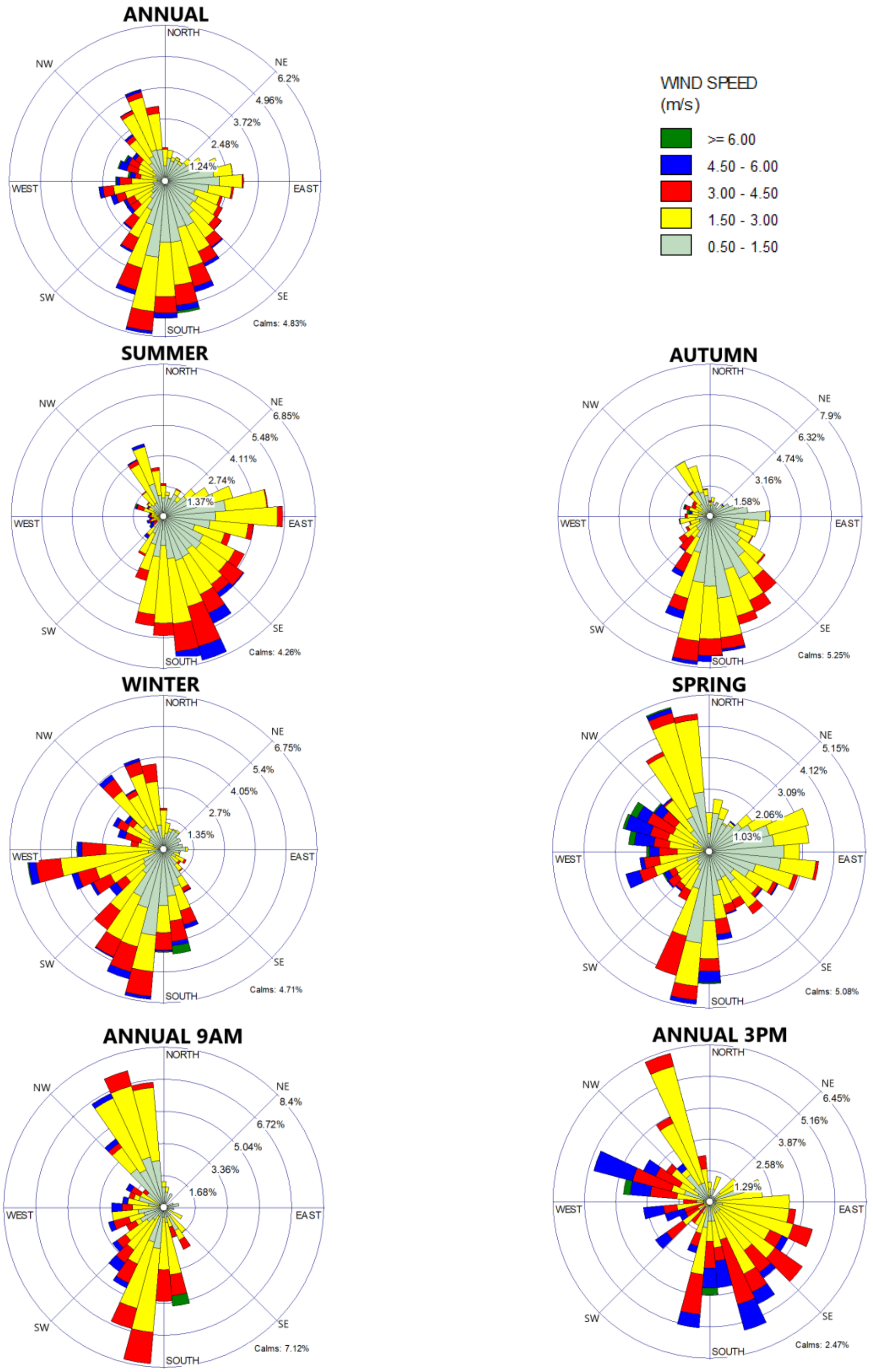

Figure 6-1: AERMET wind rose plots using TAPM modelling results

6.2.3 AERMOD

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.

6.3 Operational Air Emissions

Emissions during the operation of the Proposal have been estimated based on information provided by the client and emission factors sourced from US EPA developed documentation. The significant sources of emissions associated with the operation of the Proposal are identified as:

- Truck movements on paved roads; and,
- Diesel exhaust from idling vehicles.

There is no processing or stockpiling that would occur outside the buildings. Therefore, windblown dust emissions would be negligible. The emission rate development methodology for each source is presented in the following sections. Additional details and sample calculations are provided in the Appendices A and B.

6.3.1 Truck Movements on Paved Roads

Estimates of the re-entrained road PM emission rates from vehicle movements were obtained using the NPI Emission estimating technique and United States Environmental Protection Agency AP-42 document, Section 13.2.1 (USEPA, AP42). This document provides a reasonable general estimate of emission rates in dry conditions on paved roads.

To determine the roadway PM emissions from the re-entrained road, the required inputs include number of vehicles, average weight of vehicles, roadway length and road surface silt loading (for paved roads). Traffic distribution data was obtained from the Transport Impact Assessment (prepared by Ason Group, dated 03 July 2025, for Lot E Site plan). The data was processed to traffic generation by the Estate by the assessment year of 2026. 1065 movements were considered in a 24-hour period for Lot E: 779 light vehicles (LV) and 287 heavy vehicles (HV). An average vehicle weight of 20 tons for LV and 50 tons for HV were used for this facility. Default silt loading values for limited access roadways, as provided in USEPA, AP-42 Chapter 13.2.1, were used. The values used in the assessment are summarized in Appendix A.

In addition to these inputs, the AP-42 equation requires the use of a “k” factor, which adjusts the equation to represent the various particle sizes (TSP, PM_{10} and $PM_{2.5}$). However, the maximum “k” factors published in AP-42 Chapter 13.2.1 and 13.2.2 are representative of PM_{30}. Conservatively, the AP-42 “k” factor for TSP was scaled up logarithmically from the published PM_{30} “k” factor to the PM_{44} value of 4.79 for paved roads.

6.3.2 Diesel Exhaust from Idling Vehicles

To account for emissions of NO_x/NO_2 and PM resulting from idling vehicles at the delivery bays at each warehouse unit and other idling spots at the facility, emissions were estimated using emission factors adopted from the US EPA document “Idling Vehicle Emissions for Passenger Cars Light-Duty Trucks, and Heavy-Duty Trucks” (USEPA, 2008). Conservative assumptions were made that all bays would be occupied simultaneously and that the vehicles would be idling for a period of 10 minutes within each hour, 24 hours a day. The values used in the assessment are summarized in Appendix B.

6.4 Assessment of Impacts

This section presents the dispersion modelling results and discusses the likely off-site air quality impacts associated with the operation of the Proposal.

6.4.1 Particulate Matter (as TSP)

Table 6-1 presents the incremental and cumulative annual average TSP concentrations predicted at surrounding representative sensitive receptors. The results indicate compliance with the impact assessment criterion at all receptors.

Table 6-1 Predicted Annual Average TSP Concentrations at Closest Receptors

Receptor	Annual Averaging Time (Criterion: 90 µg/m³)	
	Incremental Impact	Cumulative Impact
	(µg/m³)	(µg/m³)
I01	13.2	40.63
I02	25.8	53.28
I03	14.6	42.42
I04	3.9	30.67
I05	3.3	30.01
MRP02	18.3	45.90
R07	4.4	31.10
E08	2.6	29.30
E09	2.5	29.24
E10	3.4	30.20
REC11	1.8	28.45
R12	1.3	27.96
R13	1.1	27.74
R14	0.9	27.48
R15	1.5	28.11
R16	1.7	28.36
R17	1.7	28.39
R18	1.6	28.19
R19	1.2	27.83
R20	1.0	27.68

Receptor	Annual Averaging Time (Criterion: 90 µg/m³)	
	Incremental Impact	Cumulative Impact
	(µg/m³)	(µg/m³)
R21	1.0	27.65
R22	1.0	27.58
R23	0.9	27.47
R24	0.9	27.53
R25	0.9	27.53
MRP04	2.9	29.63
MRP03	2.6	29.34
MRP05	2.6	29.31
R29	1.5	28.11
R30	1.6	28.27
R31	2.0	28.61
R32	2.2	28.86
MRP07	2.8	29.46
R34	1.7	28.34
R35	1.4	28.05
36BAPS Temple	8.6	35.34
MRP01	7.1	34.05
MRP06	2.3	28.94
MRP08	3.9	30.66
I40	9.6	36.32

6.4.2 Coarse Particulate Matter (as PM_{10})

Table 6-2 presents a summary of the incremental and cumulative 24-hour average and annual average PM_{10} concentrations predicted at surrounding representative sensitive receptors.

Table 6-2 Predicted Maximum 24-Hour and Annual Average PM_{10} Concentrations at Closest Receptors

Receptor	24-Hour Averaging Time (Criterion: 50 µg/m³)		Annual Averaging Time (Criterion: 25 µg/m³)	
	Incremental Impact	Cumulative Impact	Incremental Impact	Cumulative Impact
	(µg/m³)	(µg/m³)	(µg/m³)	(µg/m³)
I01	10.4	32.07	1.8	13.58
I02	18.6	34.03	3.4	15.23
I03	7.6	32.71	2.0	13.84

Receptor	24-Hour Averaging Time (Criterion: 50 µg/m³)		Annual Averaging Time (Criterion: 25 µg/m³)	
	Incremental Impact (µg/m³)	Cumulative Impact (µg/m³)	Incremental Impact (µg/m³)	Cumulative Impact (µg/m³)
I04	3.4	30.19	0.5	12.25
I05	2.9	30.14	0.4	12.16
MRP02	14.7	32.46	2.4	14.27
R07	5.4	30.25	0.6	12.32
E08	2.7	30.27	0.3	12.06
E09	2.6	30.13	0.3	12.05
E10	3.2	30.29	0.5	12.18
REC11	2.4	29.92	0.3	11.97
R12	2.3	29.91	0.2	11.89
R13	2.1	29.91	0.2	11.86
R14	1.4	29.91	0.1	11.83
R15	2.1	29.91	0.2	11.92
R16	2.5	29.93	0.2	11.95
R17	2.3	29.96	0.2	11.95
R18	3.1	30.16	0.2	11.92
R19	2.5	30.17	0.2	11.87
R20	1.8	30.08	0.1	11.85
R21	1.7	30.04	0.1	11.84
R22	1.8	29.98	0.1	11.84
R23	1.6	29.95	0.1	11.82
R24	1.7	29.92	0.1	11.83
R25	1.5	29.91	0.1	11.83
MRP04	3.4	29.93	0.4	12.12
MRP03	4.2	30.26	0.4	12.08
MRP05	3.2	29.94	0.4	12.07
R29	2.0	30.14	0.2	11.91
R30	2.1	30.23	0.2	11.93
R31	2.5	30.34	0.3	11.97
R32	2.7	30.43	0.3	12.01
MRP07	3.2	30.49	0.4	12.09
R34	2.0	30.27	0.2	11.94
R35	2.1	30.07	0.2	11.90
36BAPS Temple	8.2	30.65	1.2	12.93
MRP01	6.3	30.71	0.9	12.70
MRP06	3.1	29.95	0.3	12.02
MRP08	3.9	30.35	0.5	12.25
I40	7.2	31.21	1.3	13.01

The results in Table 6-2 show that the Incremental and cumulative 24-hour average and annual average PM_{10} concentrations predicted at each surrounding sensitive receptor caused by operational emissions are below the applicable criteria. The predicted air quality impacts near the surrounding locations are presented as contour plots of incremental 24-hour and annual average PM_{10} in Appendix C.

6.4.3 Fine Particulate Matter (as $PM_{2.5}$)

Table 6-3 presents a summary of the incremental and cumulative 24-hour average and annual average $PM_{2.5}$ concentrations predicted at surrounding representative sensitive receptors.

Table 6-3 Predicted Maximum 24-Hour and Annual Average $PM_{2.5}$ Concentrations at Closest Receptors

Receptor	24-Hour Averaging Time (Criterion: 25 μg/m³)		Annual Averaging Time (Criterion: 8 μg/m³)	
	Incremental Impact (μg/m³)	Cumulative Impact (μg/m³)	Incremental Impact (μg/m³)	Cumulative Impact (μg/m³)
I01	2.7	14.15	0.5	4.49
I02	4.7	13.81	0.9	4.90
I03	2.0	13.50	0.5	4.58
I04	0.9	13.17	0.1	4.14
I05	0.8	13.14	0.1	4.11
MRP02	3.7	13.28	0.6	4.66
R07	1.4	12.89	0.2	4.17
E08	0.7	12.90	0.1	4.09
E09	0.7	12.93	0.1	4.09
E10	0.8	12.95	0.1	4.12
REC11	0.6	12.87	0.1	4.08
R12	0.6	12.86	0.1	4.05
R13	0.6	12.86	0.0	4.04
R14	0.4	12.85	0.0	4.03
R15	0.6	12.86	0.1	4.06
R16	0.6	12.86	0.1	4.07
R17	0.6	12.86	0.1	4.07
R18	0.8	12.86	0.1	4.06
R19	0.7	12.86	0.0	4.04
R20	0.5	12.86	0.0	4.03
R21	0.5	12.86	0.0	4.03
R22	0.5	12.86	0.0	4.03
R23	0.4	12.86	0.0	4.03
R24	0.4	12.86	0.0	4.03

Receptor	24-Hour Averaging Time (Criterion: 25 µg/m³)		Annual Averaging Time (Criterion: 8 µg/m³)	
	Incremental Impact (µg/m³)	Cumulative Impact (µg/m³)	Incremental Impact (µg/m³)	Cumulative Impact (µg/m³)
R25	0.4	12.86	0.0	4.03
MRP04	0.9	12.87	0.1	4.11
MRP03	1.2	12.87	0.1	4.10
MRP05	0.8	12.87	0.1	4.10
R29	0.5	12.85	0.1	4.05
R30	0.5	12.85	0.1	4.06
R31	0.7	12.86	0.1	4.07
R32	0.7	12.86	0.1	4.08
MRP07	0.8	12.87	0.1	4.10
R34	0.5	12.85	0.1	4.06
R35	0.5	12.85	0.1	4.05
36BAPS Temple	2.2	12.95	0.4	4.36
MRP01	1.6	13.07	0.3	4.26
MRP06	0.8	12.86	0.1	4.09
MRP08	1.0	12.97	0.1	4.14
I40	1.9	13.08	0.3	4.35

The results in Table 6-3 show that the Incremental and cumulative 24-hour average and annual average $PM_{2.5}$ concentrations predicted at each surrounding sensitive receptor caused by operational emissions are below the applicable criteria. The predicted air quality impacts near the surrounding locations are presented as contour plots of incremental 24-hour and annual average $PM_{2.5}$ in Appendix C.

6.4.4 Nitrogen Dioxide (NO_2)

Results are presented in this section for the predictions of nitrogen dioxide (NO_2). The averaging periods associated with the criteria for this pollutant are 1-hour and annual. Emissions of NO_x have been estimated, with ground-level concentrations predicted using US EPA AERMOD dispersion modelling. Given that NO_x is mostly a mixture of NO_2 and nitric oxide (NO), conversion of NO_x predictions to NO_2 concentrations was conservatively estimated using a total conversion, i.e., it was assumed that all NO is converted to NO_2 before reaching the receptors.

The predicted maximum 1-hour and annual average NO_2 concentrations resulting from the Proposal's operations are presented in Table 6-4 below.

Table 6-4 Predicted Maximum 1-Hour and Annual Average NO_2 Concentrations at Closest 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)
I01	30.3	78.46	1.8	9.54
I02	28.7	64.38	2.3	10.08
I03	35.9	74.14	2.8	10.54
I04	10.1	59.88	0.6	8.37
I05	8.3	59.05	0.4	8.17
MRP02	21.8	62.86	2.0	9.76
R07	29.4	58.70	1.1	8.89
E08	8.2	57.15	0.3	8.11
E09	7.2	57.08	0.3	8.10
E10	8.7	57.30	0.4	8.21
REC11	21.8	58.75	0.8	8.56
R12	9.9	57.57	0.5	8.25
R13	10.7	57.49	0.4	8.22
R14	10.3	57.52	0.4	8.19
R15	18.3	58.18	0.7	8.43
R16	15.4	58.54	0.7	8.48
R17	13.6	58.29	0.6	8.40
R18	10.0	57.40	0.4	8.18
R19	14.5	56.65	0.3	8.04
R20	13.3	56.64	0.2	8.01
R21	14.7	56.72	0.2	8.02
R22	11.3	56.93	0.3	8.03
R23	10.0	57.07	0.2	8.02
R24	11.2	57.08	0.3	8.03
R25	11.7	57.06	0.2	8.02
MRP04	18.3	58.75	0.8	8.60
MRP03	24.5	57.67	0.8	8.54
MRP05	17.9	58.50	0.7	8.47
R29	6.2	57.40	0.3	8.09
R30	5.9	57.46	0.3	8.12
R31	6.6	57.51	0.4	8.16
R32	6.7	57.45	0.4	8.18

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)
MRP07	8.3	57.72	0.5	8.29
R34	6.2	57.46	0.3	8.12
R35	6.8	57.39	0.3	8.09
36BAPS Temple	30.2	65.34	3.1	10.84
MRP01	18.4	57.04	1.0	8.82
MRP06	15.5	58.18	0.6	8.36
MRP08	14.2	57.93	0.7	8.46
I40	20.4	59.54	1.5	9.32

The results in Table 6-4 indicate that predicted incremental concentrations of NO_2 are below the criteria at surrounding receptor locations. The predicted NO_2 air quality impacts near the surrounding locations are presented as contour plots of incremental 1-hour and annual average NO_2 in Appendix D.

7 RECOMMENDED MITIGATION AND MANAGEMENT

7.1 Construction Dust Mitigation Measures

The assessment of potential dust impacts from the proposed works indicate that the proposed project will have a **negligible risk** for demolition activity and a **low risk** for all the other activities (earthworks, construction and trackout) for both dust soiling and human health impacts if dust mitigation measures are not implemented.

To ensure best practice management, the following mitigation measures are recommended so that construction dust impacts are minimised.

- **Communications:**
  - Develop and implement a stakeholder communications plan that includes community engagement before work commences on Site.
  - Display the name and contact details of the Responsible Person accountable for air quality and dust issues on the Site boundary.
  - Display the head or regional office contact information.
  - Develop and implement a Dust Management Plan (DMP) that considers, as a minimum, the measures identified herein.
- **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.
  - Hold regular liaison meetings with other high risk construction sites within 250 m of the Site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised.
- **Monitoring:**
  - Undertake daily on-site and off-site inspections at nearby receptors to monitor dust. Record inspection results and make available to relevant authorities. This should include regular dust soiling checks of surfaces such as street furniture, cars, and windows. The existing Continuous real-time dust monitoring to be continued during the construction for this project.
  - Increase the frequency of site inspections by the person accountable for air quality and dust issues on the Site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- **Preparing & Maintaining the Site:**
  - Plan site layout so that dust generating activities are located as far away as possible from receptors.
  - If feasible, erect solid screens or barriers around dusty activities or the Site boundary that are at least as high as any stockpiles on Site.
  - Fully enclose Site or specific operations where there is a high potential for dust production and the Site is actives for an extensive period.
  - Avoid Site runoff of water or mud.

  - Keep Site fencing, barriers and scaffolding clean using wet methods.
  - Remove materials that have a potential to produce dust from Site as soon as possible, unless being re-used on Site. If being re-used, keep materials covered or contained in a way which prevents dust, for example dust suppression.
  - Cover, seed, or fence stockpiles to prevent wind erosion.
- **Construction Vehicles and Sustainable Travel:**
  - Ensure all vehicles switch off engines when stationary – no idling vehicles.
  - Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable.
  - Impose and signpost a maximum-speed-limit of 25 km/h on surfaced and 15 km/h on unsurfaced haul roads and work areas (if long haul routes are required, these speeds may be increased with suitable additional control measures provided).
  - Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.
  - Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).
- **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 Site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
  - Avoid scabbling (roughening of concrete surfaces) if possible.
  - Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
  - Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
  - For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.
- **Measures Specific to Earthworks:**
  - Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
  - Only remove the cover in small areas during work and not all at once.
- **Measures Specific to Haulage:**
  - Use water-assisted dust sweeper(s) on the access and local roads, as necessary.
  - Avoid dry sweeping of large areas.
  - Ensure vehicles entering and leaving the Site are covered to prevent escape of materials during transport.
  - Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
  - Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the Site where reasonably practicable).
  - Access gates to be located at least 10 m from receptors where possible.

7.2 Operational Mitigation Measures

Although predicted air quality impacts from operational activities do not indicate that mitigation measures are required, it would be sensible to follow the below best management practices:

- Effective preventative maintenance on all plant and equipment concerned with the control of emissions to air;
- Avoiding unnecessary idling of truck engines on-site;
- Ensuring truck maintenance is up to date;
- Paving of all operating, storage, unloading and loading areas; and
- Sealing roads if dust is considered likely to be an issue.

Although, impacts on receptors would be 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.

8 CONCLUSION

RWDI was engaged by Stockland Fife Kemps Creek Pty Ltd (SFKC) to conduct an Air Quality Impact Assessment of the proposed industrial development (SSD- 85510213 and Modification 6 to SSD-10479). This application relates to construct and operate two warehouses within Lot E of the approved 200 Aldington Road Industrial Estate at 106-228 Aldington Road, Kemps Creek (the Site).

The assessment concludes:

- The construction phases can be adequately managed so that the short-term and temporary dust related impacts will be negligible risk for demolition and all other activities that include earthwork, construction and trackout are at low risk.
- The results of the dispersion modelling indicate that the cumulative concentrations of all pollutants due to the operation of the Proposal would comply with the established criteria at nearby sensitive receptors. Operation of the facility does not cause any exceedances of the air quality criteria and therefore, is not expected to adversely affect sensitive receptors.

As such, it is expected that the air quality impacts from the development of the Project are low.

9 REFERENCES

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USEPA, AP42 (United States Environmental Protection Agency AP-42 document, Section 13.2.): "USEPA Air Emissions Factors and Quantification, AP 42, Fifth Edition, Volume I Chapter 13: Miscellaneous Sources". Accessible at: https://www3.epa.gov/ttnchie1/ap42/ch13/

10 STATEMENT OF LIMITATIONS

This report *200 Aldington Road Industrial Estate - Lot E Warehouse,* dated 26 February 2026, was prepared by RWDI Australia Pty Ltd ("RWDI") for Stockland Fife Kemps Creek 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 ("Project"). 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 Project 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 Project.

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

ONSITE EQUIPMENT EMISSIONS SPREADSHEET - FUGITIVE DUST

Appendix A1: On-Site Mobile Equipment Emissions Spreadsheet - Fugitive Dust

Project #2407556

Lot E - 200 Aldington Road, Kemps Creek NSW

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)
k particle size multiplier (see below)
sL road surface silt loading (g/m²)
W average weight of the vehicles traveling the road (US short tons)
s surface material silt content (%)
C emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear
M surface material moisture content (%)
S mean vehicle speed (mph)
a,b,c,d constants (see below)

Route ID	Route Description	Traffic Passes [2] Hourly [1] (#/h)	Daily (#/d)	Annual (#/a)	Segment Length [2] (m)	Road Surface [3]	Roadway Type [4]	Mean Vehicle Speed (km/h)	Mean Vehicle Speed (mph)	Average Vehicle Weight [5] (tons)	Surface Material Moisture Content [6] (%)	Surface Silt Content [7] (%)	Road Surface Silt Loading [8] (g/m²)	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)
R01	Heavy Vehicles- Internal Main Road R01	169	2003		709	Paved	Industrial	25	16	30			0.015	3.4E+00	4.4E-01	1.1E-01	1.12E-01	1.45E-02	3.51E-03
R02	Heavy Vehicles- Internal Main Road R02	169			1398	Paved	Industrial	25	16	30			0.015	3.4E+00	4.4E-01	1.1E-01	2.21E-01	2.86E-02	6.92E-03
R03	Heavy Vehicles- Internal Main Road R03	169			195	Paved	Industrial	25	16	30			0.015	3.4E+00	4.4E-01	1.1E-01	3.08E-02	3.99E-03	9.64E-04
R04	Heavy Vehicles- Internal Main Road R04	169			182	Paved	Industrial	25	16	30			0.015	3.4E+00	4.4E-01	1.1E-01	2.88E-02	3.73E-03	9.01E-04
R05	Heavy Vehicles- Internal Main Road R05	169			247	Paved	Industrial	25	16	30			0.015	3.4E+00	4.4E-01	1.1E-01	3.91E-02	5.06E-03	1.22E-03
LOTE_DRWY	Heavy Vehicles - Lot E Drive way	24	287		632	Paved	Industrial	25	16	30			0.015	3.4E+00	4.4E-01	1.1E-01	1.42E-02	1.84E-03	4.44E-04
LV_TOTAL	Light Vehicles - Internal Road	632	7293		1819	Paved	Industrial	25	16	30			0.015	3.4E+00	4.4E-01	1.1E-01	1.07E+00	1.39E-01	3.37E-02
LV_Lot E	Light Vehicles - LOTE	67	778		771	Paved	Industrial	25	16	30			0.015	3.4E+00	4.4E-01	1.1E-01	4.83E-02	6.26E-03	1.51E-03

Constants for Mobile Emission Equations

Roadway Type	Contaminant	k	a	b	c	d	Quality
Paved Roads:	$PM_{2.5}$	0.15	-	-	-	-	-
	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

[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).
[8] Required only for industrial paved roads.
Table 13.2.1-2. Ubiquitous Silt Loading Default Values, USEPA AP42 Emission Factor Chapter 13 for Paved Road -

Sample calculation for uncontrolled TSP emission factor for Source R01: Heavy Vehicles- Internal Main Road R01

EF = 281.9 x (4.9) x [(0% / 12)]^(0.7) x [(30 tons) / 3]^(0.45) = 3.4 g TSP / vehicle kilometer travelled (vkt)

Sample calculation for TSP emission rate for Source R01: Heavy Vehicles- Internal Main Road R01

$$\frac{169 \text{ vehicles}}{1 \text{ h}} \times 709 \text{ m} \times \frac{1 \text{ km}}{1000 \text{ m}} \times \frac{3\ g_{TSP}}{1 \text{ vehicle km}} \times \frac{1 \text{ h}}{3600 \text{ s}} \times \frac{1\ g_{TSP\ uncontrolled}}{1\ g_{TSP}} = 1.12E\text{-}01\ g_{TSP} / s$$

APPENDIX B

SUMMARY OF COMBUSTIBLE EXHAUST EMISSIONS (IDLING SOURCES)

Appendix B: Summary of Combustion Exhaust Emissions (Idling Sources)

Project #2407556

Lot E - 200 Aldington Road, Kemps Creek NSW

Source ID	Description	Number Of Units	Max. Hourly Traffic	Tailpipe Emission Factor				Tailpipe Emission Rate [1]			
				TSP	PM10	PM2.5	NOx	TSP	PM10	PM2.5	NOx
			(#/h)	(g/h)	(g/h)	(g/h)	(g/h)	(g/s)	(g/s)	(g/s)	(g/s)
V01LOTE	Heavy Truck Idiling - on Lot E	8	24		1.196	1.10	3.38E+01	4.43E-04	4.43E-04	4.07E-04	1.25E-02
VOL1	Heavy Truck Idiling	17	169		1.196	1.10	3.38E+01	9.36E-04	9.36E-04	8.61E-04	2.64E-02
VOL2	Heavy Truck Idiling	17	169		1.196	1.10	3.38E+01	9.36E-04	9.36E-04	8.61E-04	2.64E-02
VOL3	Heavy Truck Idiling	17	169		1.196	1.10	3.38E+01	9.36E-04	9.36E-04	8.61E-04	2.64E-02
VOL4	Heavy Truck Idiling	17	169		1.196	1.10	3.38E+01	9.36E-04	9.36E-04	8.61E-04	2.64E-02
VOL5	Heavy Truck Idiling	17	169		1.196	1.10	3.38E+01	9.36E-04	9.36E-04	8.61E-04	2.64E-02
VOL6	Heavy Truck Idiling	17	169		1.196	1.10	3.38E+01	9.36E-04	9.36E-04	8.61E-04	2.64E-02
VOL7	Heavy Truck Idiling	17	169		1.196	1.10	3.38E+01	9.36E-04	9.36E-04	8.61E-04	2.64E-02
VOL8	Heavy Truck Idiling	17	169		1.196	1.10	3.38E+01	9.36E-04	9.36E-04	8.61E-04	2.64E-02
VOL9	Heavy Truck Idiling	17	169		1.196	1.10	3.38E+01	9.36E-04	9.36E-04	8.61E-04	2.64E-02
VOL10	Heavy Truck Idiling	17	169		1.196	1.10	3.38E+01	9.36E-04	9.36E-04	8.61E-04	2.64E-02

[1] Conservative assumption of each vehicle Idling 10 minutes per hour

<u>Sample Calculations</u>

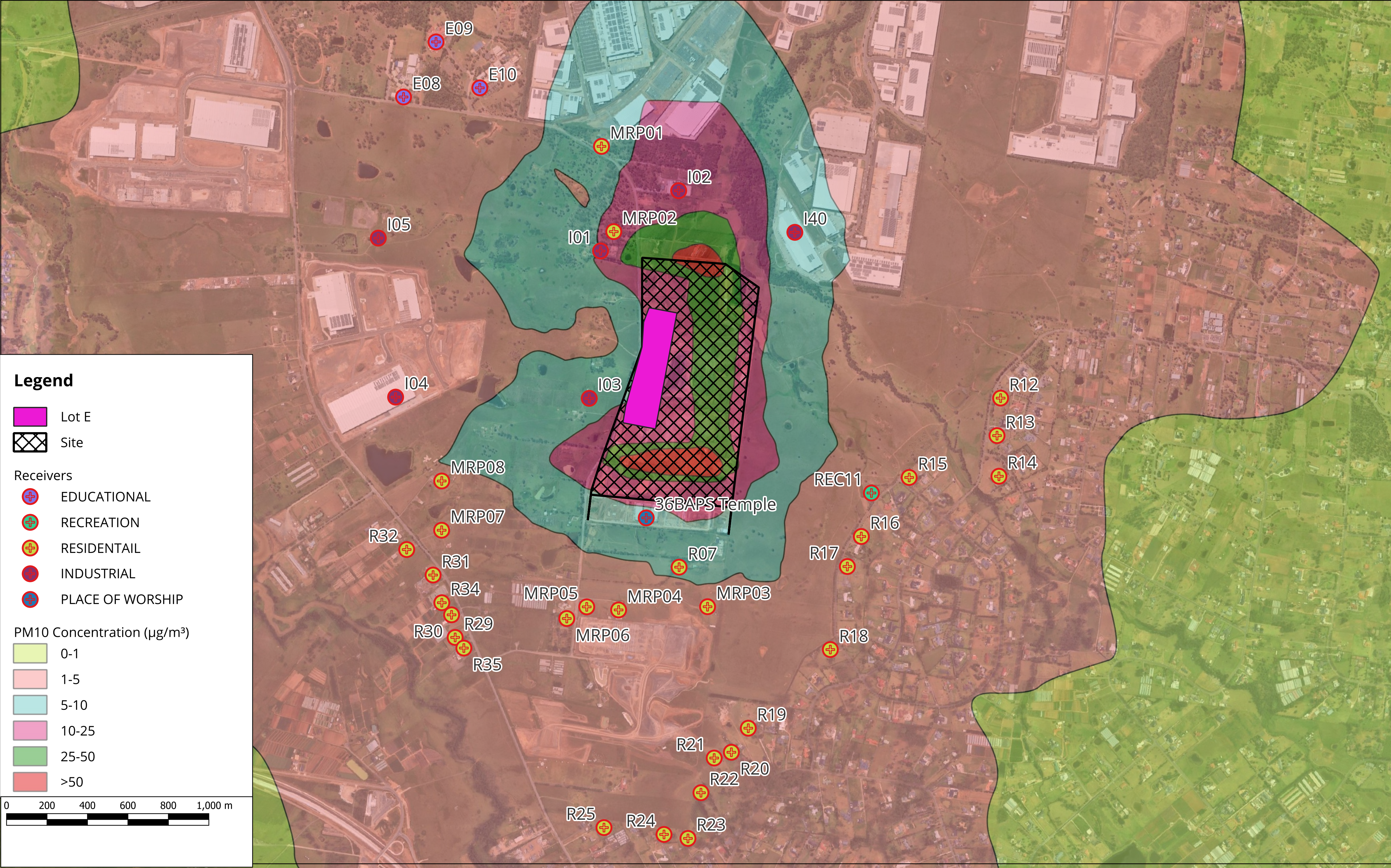
Heavy Truck Exhaust NOx Emissions:

$$\frac{33.763\ \text{g}}{\text{h}} \times \frac{1\ \text{h}}{3600\ \text{s}} \times \frac{10\ \text{min}}{60\ \text{min}} = 1.6\text{E-03}\ \text{g}_{NOx}/\text{s} \quad \text{x} \quad 10\ \text{units}$$

$$= 1.25\text{E-02}\ \text{g}_{NOx}/\text{s}$$

APPENDIX C

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



200 Aldington Road Industrial Estate Stage 6 - Lot E Warehouses
Kemps Creek, NSW
Countour Plots 24-Hour Average Incremental PM10 Concentration

Sources:
1. Basemap: NSW Six Maps

N

Map Projection: WGS 84 / UTM zone 56S / (EPSG:32756)

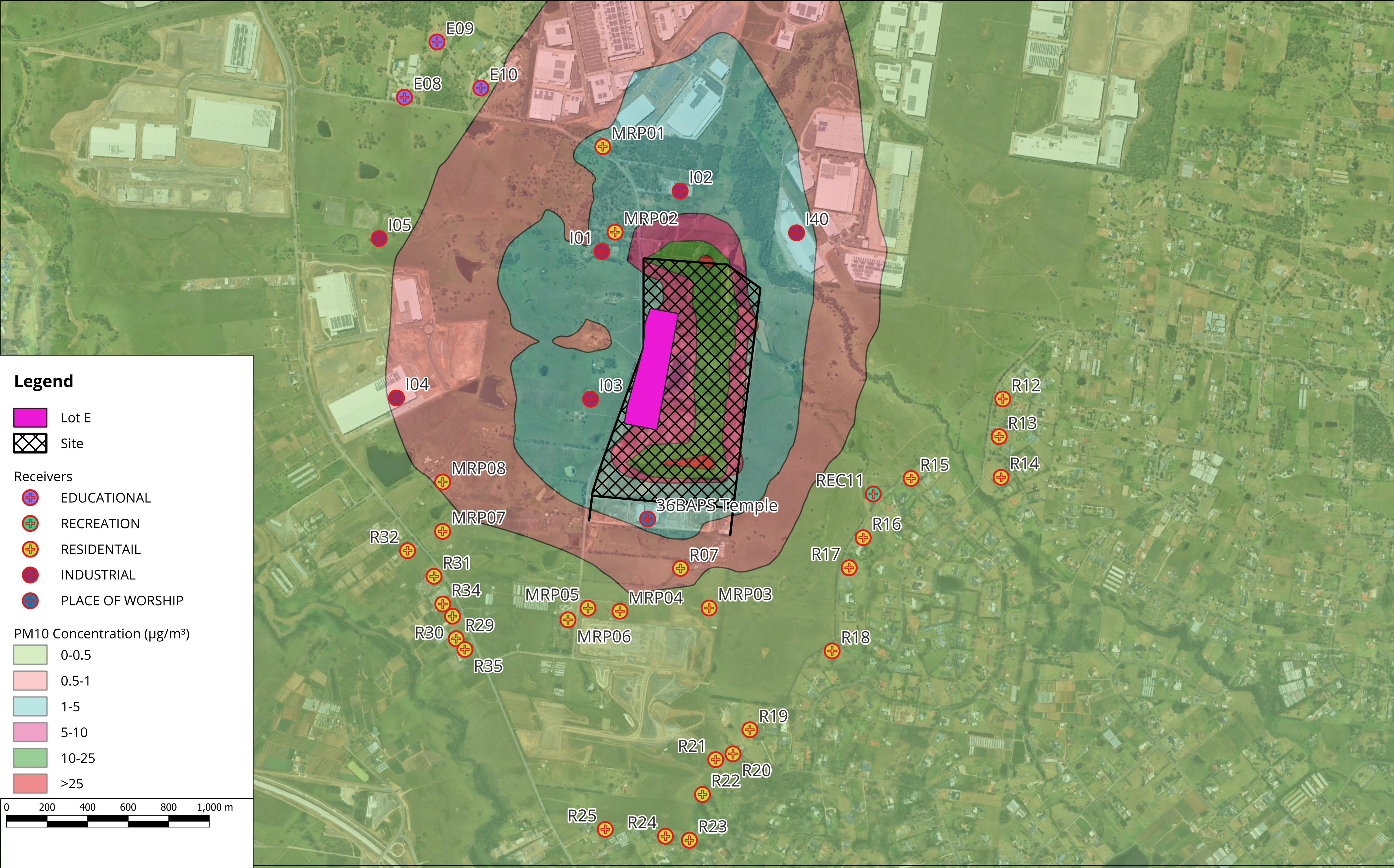
Revised on: 30/09/2025

Project #: 2407556

Figure: Appendix C 1

Drawn by: ANUC

Checked by: RR



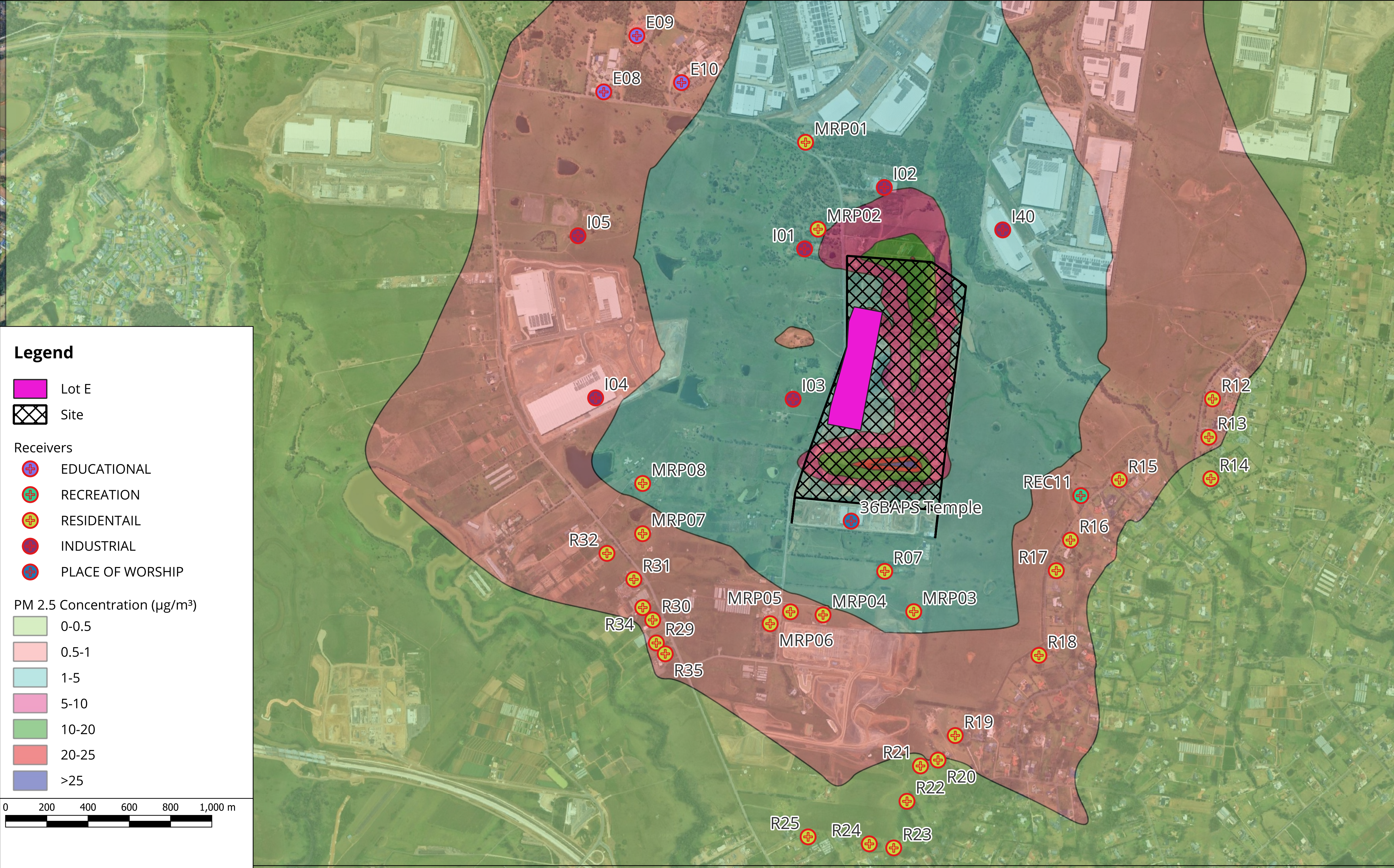
200 Aldington Road Industrial Estate Stage 6 - Lot E Warehouses
Kemps Creek, NSW
Countour Plots Annual Average Incremental PM10 Concentration

Sources:
1. Basemap: NSW Six Maps

N

Map Projection: WGS 84 / UTM zone 56S / (EPSG:32756)

Revised on: 30/09/2025	
Project #: 2407556	Figure: Appendix C2
Drawn by: ANUC	Checked by: RR

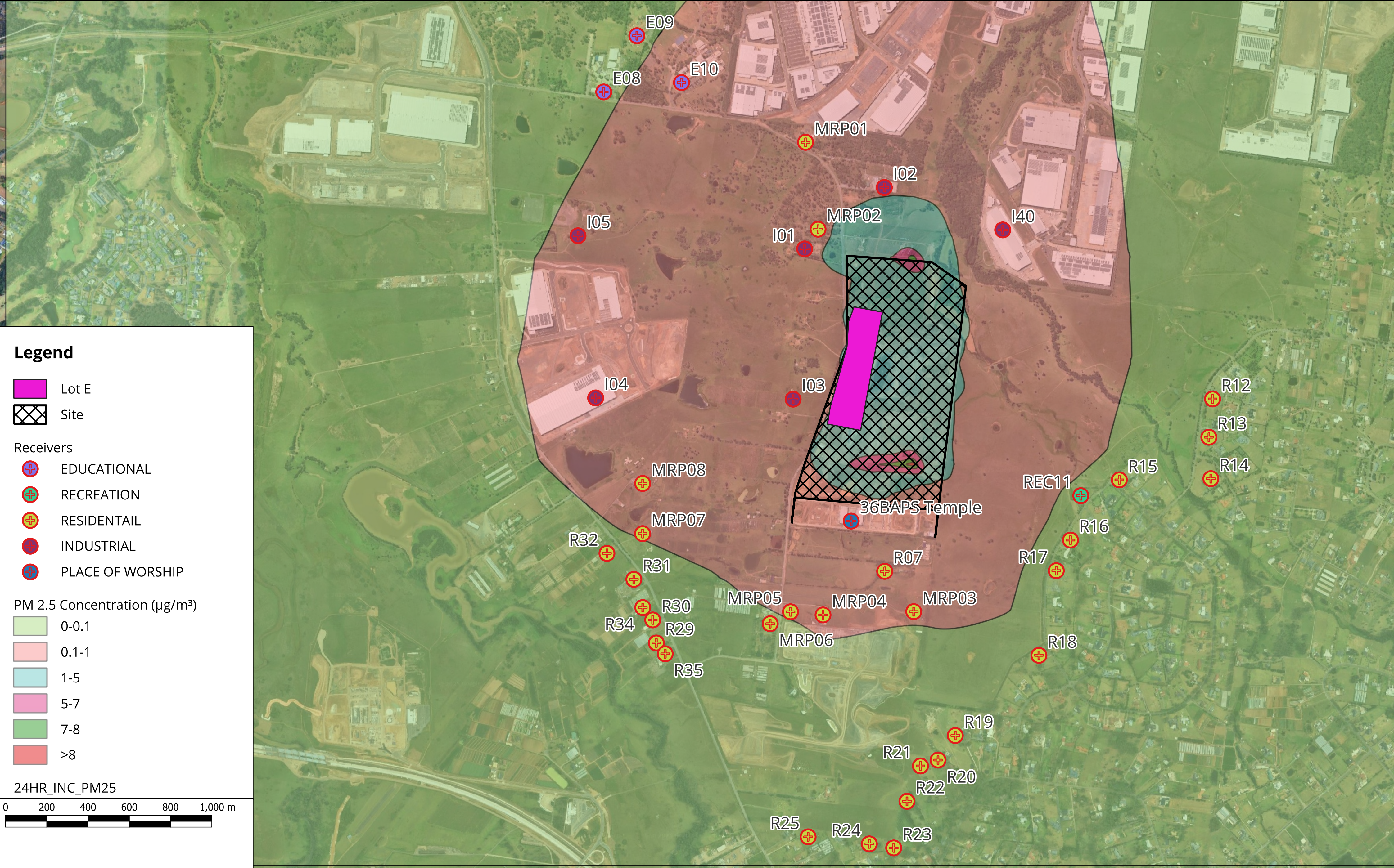


200 Aldington Road Industrial Estate Stage 6 - Lot E Warehouses
Kemps Creek, NSW
Countour Plots 24-Hour Average Incremental PM2.5 Concentration

Sources:
1. Basemap: NSW Six Maps

Map Projection: WGS 84 / UTM zone 56S / (EPSG:32756)

Revised on: 30/09/2025
Project #: 2407556
Figure: Appendix C 3
Drawn by: ANUC
Checked by: RR



200 Aldington Road Industrial Estate Stage 6 - Lot E Warehouses
Kemps Creek, NSW
Countour Plots Annual Average Incremental PM2.5 Concentration

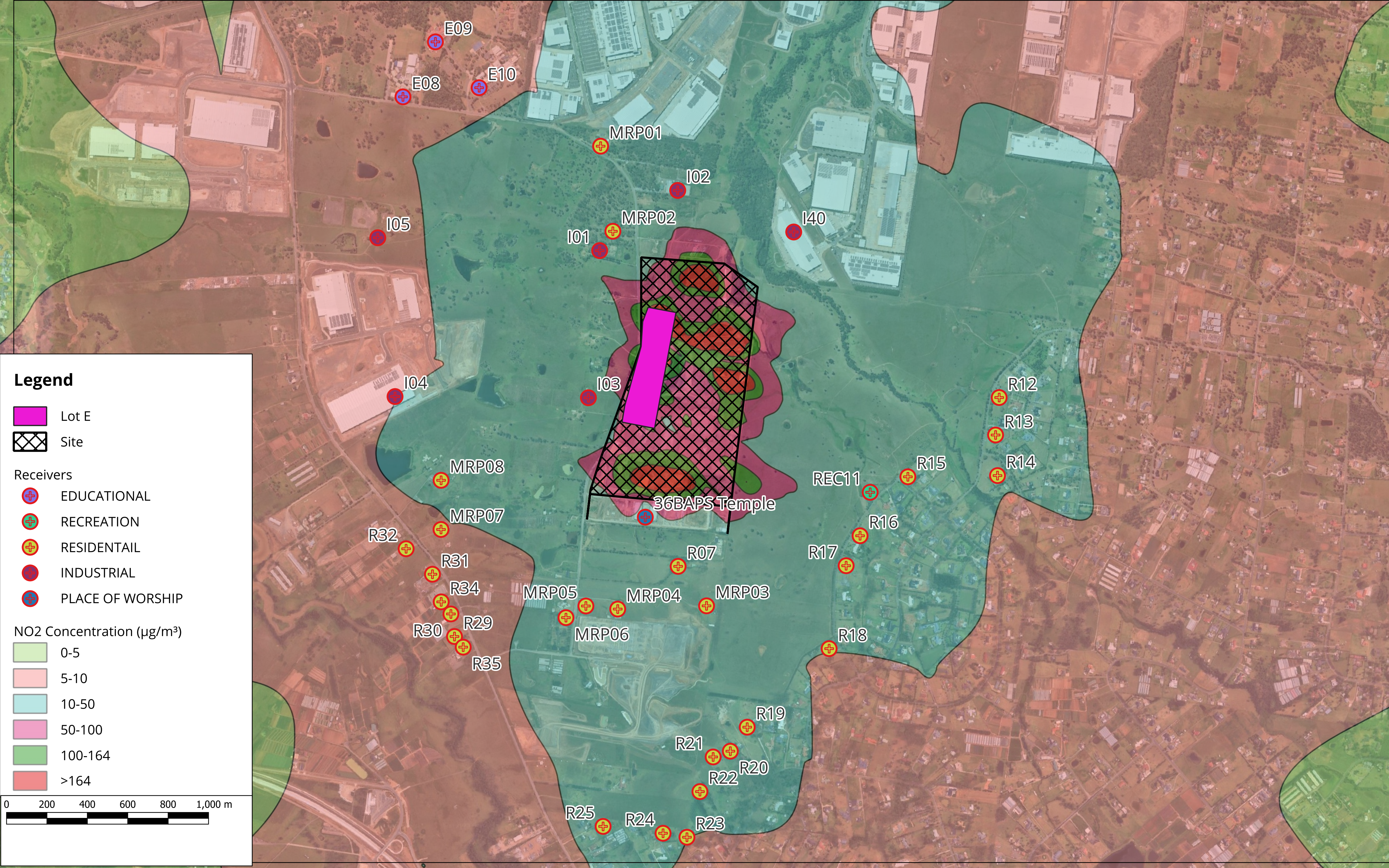
Sources:
1. Basemap: NSW Six Maps

Map Projection: WGS 84 / UTM zone 56S / (EPSG:32756)

Revised on: 30/09/2025	
Project #: 2407556	Figure: Appendix C 4
Drawn by: ANUC	Checked by: RR

APPENDIX D

CONTOUR PLOTS OF 1-HOUR & ANNUAL AVERAGE INCREMENTAL NO_2 CONCENTRATIONS

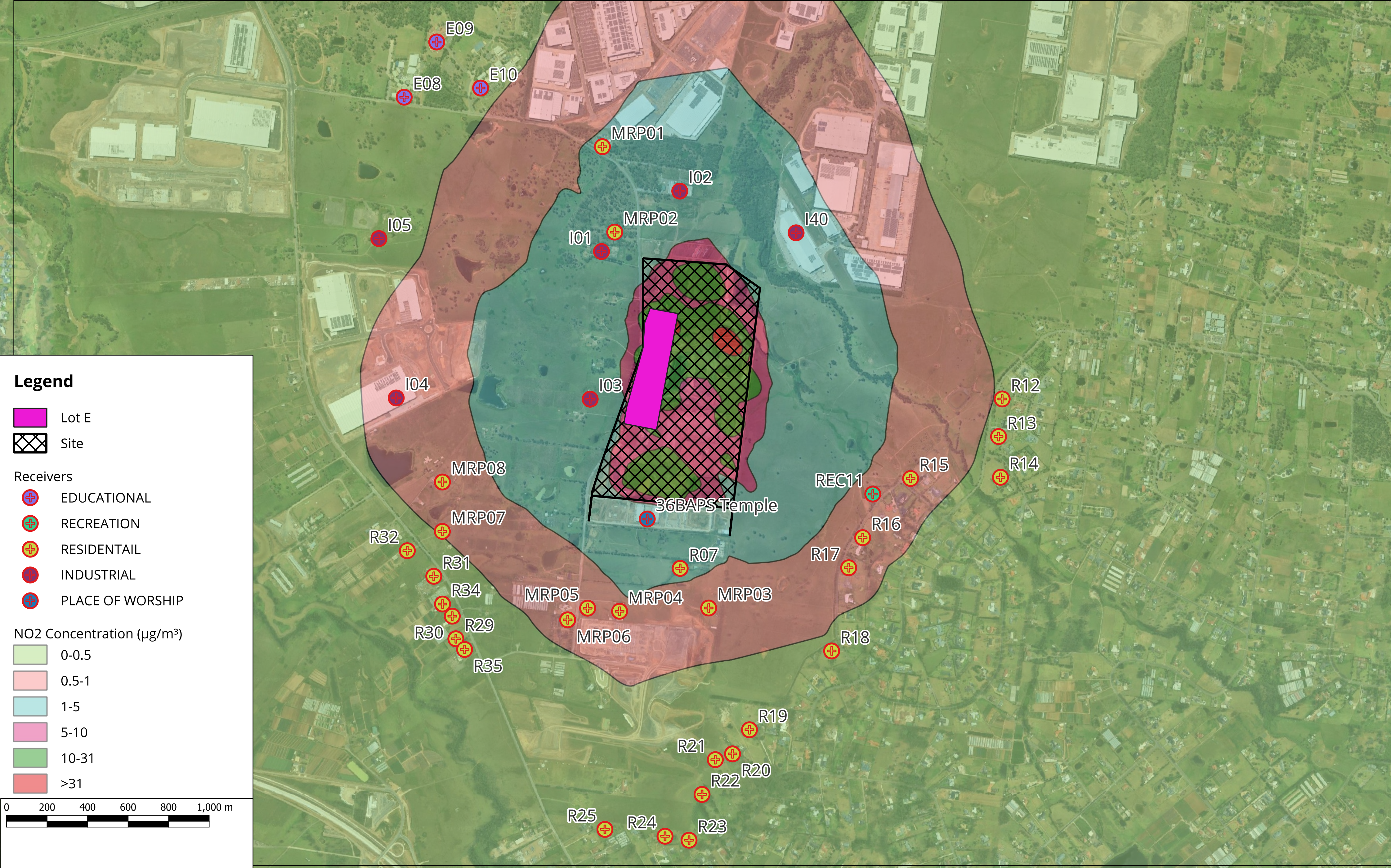


200 Aldington Road Industrial Estate Stage 6 - Lot E Warehouses
Kemps Creek, NSW
Countour Plots 1-Hour Average Incremental NO2 Concentration

Sources:
1. Basemap: NSW Six Maps

Map Projection: WGS 84 / UTM zone 56S / (EPSG:32756)

Revised on: 30/09/2025	
Project #: 2407556	Figure: Appendix D 1
Drawn by: ANUC	Checked by: RR



200 Aldington Road Industrial Estate Stage 6 - Lot E Warehouses
Kemps Creek, NSW
Countour Plots Annual Average Incremental NO2 Concentration

Sources:
1. Basemap: NSW Six Maps

Map Projection: WGS 84 / UTM zone 56S / (EPSG:32756)

Revised on: 30/09/2025	
Project #: 2407556	Figure: Appendix D 2
Drawn by: ANUC	Checked by: RR