SUBURBAN RAIL LOOP

Air Quality Monthly Report

Early Works

Tunnels South

Tunnels North

16 November – 15 December 2025

SUBURBAN RAIL LOOP AUTHORITY

VICTORIA'S BIG BUILD

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Introduction

This summary report presents the results of the monthly air quality monitoring data for the construction of SRL East. Laing O'Rourke (LOR) is delivering the Early Works (EW) as Managing Contractor (MC), Suburban Connect is delivering the Tunnels South works as Principal Contractor (PC) and Terra Verde is delivering the Tunnels North works as PC. The three delivery partners have individually prepared reports to comply with the Environmental Performance Requirement (EPR) for Air Quality.

SRL East Early Works include road modifications, relocation of underground services, ground improvement works, tram terminus works, and site preparations for tunnel boring machines.

SRL East Tunnels South is a fully tunnelled metro corridor between Cheltenham and Glen Waverley. The delivery scope encompasses station boxes and twin segmentally lined bored tunnels with cross passages.

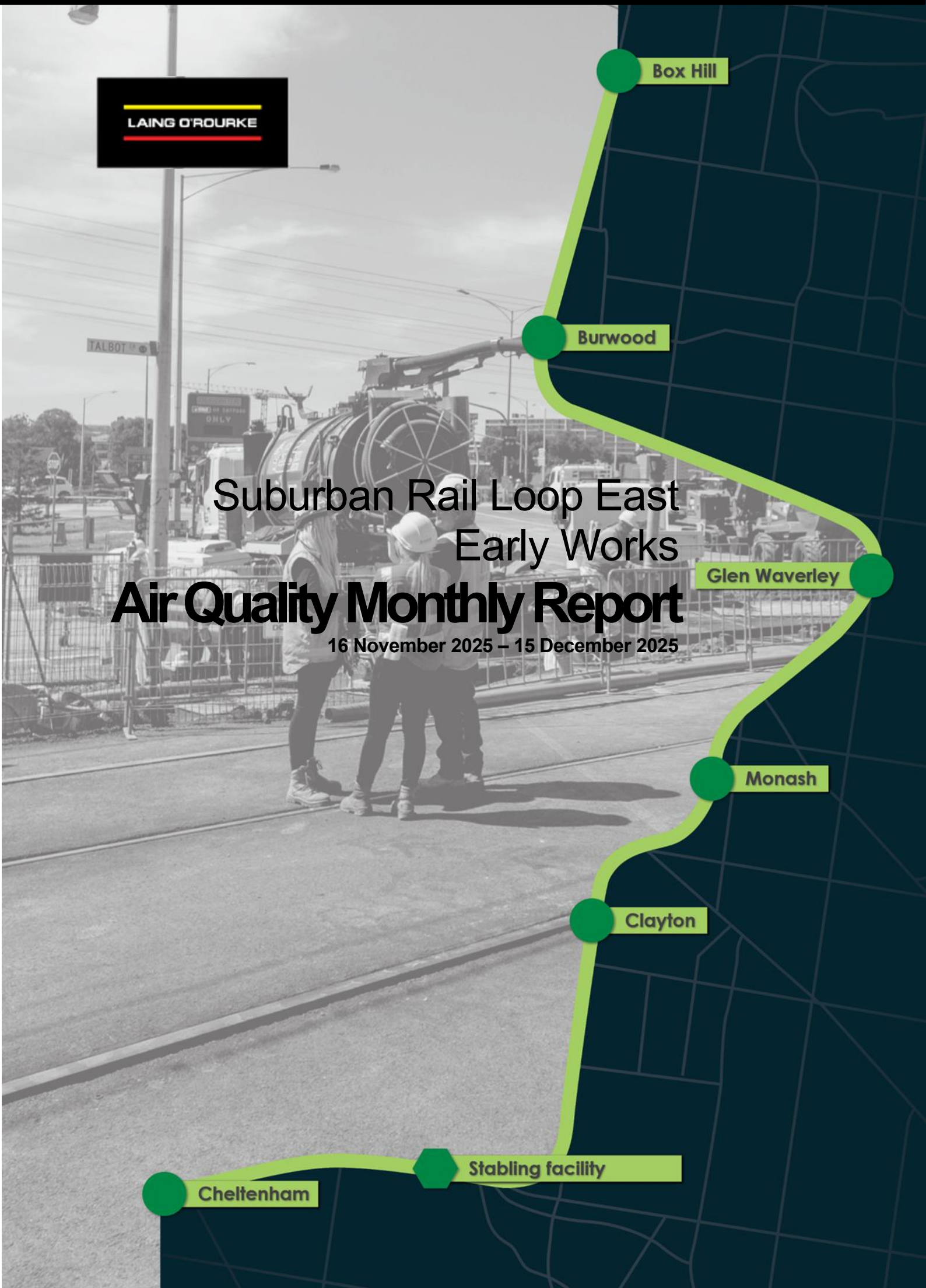
SRL East Tunnels North is a fully tunnelled metro corridor between Glen Waverley and Box Hill. The delivery scope encompasses an Emergency Support Facility Structure, station boxes, and twin segmentally lined bored tunnels with cross passages.

Appendices

Appendix 1 – Early Works

Appendix 2 – Tunnels South

Appendix 3 – Tunnels North



Suburban Rail Loop East
Early Works
Air Quality Monthly Report

16 November 2025 – 15 December 2025

Document Information

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A	Draft issued to SRLA	05/01/2026	Issued for Review
B	Addressed SRLA comments on Rev A	23/01/2026	Issued for Review

Contents

Glossary

µg/m^3 – micrograms per cubic metre is a unit of measurement used to measure the mass of air pollutants (micrograms) per volume of air (cubic metre) as a concentration.

Environment Effects Statement (EES) – In Victoria, environment assessment of the potential environmental impacts or effects of a proposed development under the *Environment Effects Act 1978*.

Environmental Air Quality and Dust Management Plan (EAQDMP) – The EAQDMP is environmental management documentation prepared by the MC to manage and monitor air quality impacts during construction of SRL East. It includes the RMMP and TARP and is verified by the IEA.

Environmental Management Framework (EMF) – The purpose of the EMF is to provide a transparent and integrated framework to manage environmental effects of the SRL East Project during construction and operation to achieve acceptable environmental outcomes.

Environmental Performance Requirements (EPRs) – The EPRs define the environmental outcomes that must be achieved during the design, construction and operation of SRL East and are included within the EMF.

Environment Protection Authority (EPA) - Victorian regulator established under the *Environment Protection Act 2017* and which has the statutory objective to protect human health and the environment from the harmful effects of pollution and waste.

Environmental Reference Standard (ERS) – The ERS is a tool made under the *Environment Protection Act 2017* to identify and assess environmental values, including air quality, in Victoria.

Independent Environmental Auditor (IEA) – The IEA is appointed by the Victorian Government to undertake independent environmental reviews and audits of project activities including assessing compliance with the EMF and EPRs.

PM_{10} – Particulate matter with an aerodynamic diameter of 10 micrometres (µm) or less. PM_{10} particles are small enough to have a potential impact on human health.

Risk Management and Monitoring Program (RMMP) – this plan outlines the approach to air quality monitoring and includes instrumental, visual monitoring, TARP and public reporting processes. The RMMP forms part of the EAQDMP.

Trigger Action Response Protocol (TARP) – The TARP defines a series of adaptive management measures that are implemented to avoid or mitigate impacts from dust emissions for nearby sensitive receptors in response to the results from monitoring. The TARP forms part of the EAQDMP.

TARP Triggered During the Reporting Month – This refers to the number of days TARP trigger criteria or the Air Quality Objective was exceeded during the reporting month.

TARP Actions Implemented During the Reporting Month – This refers to the number of additional TARP mitigation measures or actions required to be implemented as a response to project related exceedances. These actions are in addition to existing controls implemented on site.

Executive Summary

Key Outcomes

Key outcomes arising from the monthly air quality monitoring program:

- In Box Hill all Early Works are complete, and all monitors have been decommissioned.
- In Burwood all Early Works are complete, and all monitors have been decommissioned.
- In Glen Waverley, the TARP was not implemented during the reporting period. Regular water cart and street sweeper use was implemented to ensure exposed soil was watered down and hardstand surfaces were clear of tracked sediment. Site inspections were maintained during this period to ensure these measures were effective and implemented.
- In Monash, all Early Works are complete, and all monitors have been decommissioned.
- In Clayton, all Early Works are complete, and all monitors have been decommissioned.
- In Heatherton, the TARP was not implemented during the reporting period. Water carts and hoses were used during excavation, and material and spoil haulage. Dust was reduced by application of soil binder on stockpiles, regular street sweeping, and covering truck loads prior to leaving the site. Regular site inspections were undertaken to confirm these control measures were in place.
- In Cheltenham, all Early Works are complete, and all monitors have been decommissioned.

Further explanation is provided in Section 3 regarding these observations.

Purpose of the Report

This report presents the results of the monthly review of the air quality monitoring data for each Suburban Rail Loop (SRL) East Early Works construction site for the period between 16 November 2025 and 15 December 2025 in accordance with SRL East EMF and EPRs AQ1 and AQ2. Laing O'Rourke is delivering the Early Works as Managing Contractor (MC). Early Works for SRL East commenced at Burwood in May 2023, Box Hill in June 2023, Monash and Heatherton in October 2023, Clayton in December 2023, and Glen Waverley and Cheltenham in March 2024.

The MC implements an air quality monitoring program on each site that includes both visual observation and instrumental air quality monitoring. The purpose of the air quality monitors is to measure the concentration of small dust particles in the air near the construction site. These particles, known as PM_{10}, have the potential to impact human health. PM_{10} refers to particles with an aerodynamic diameter of 10 µm or less.

Measured PM_{10} concentrations may be compared to air quality objectives that are defined in the ERS which is a tool under the *Environment Protection Act 2017*. The ERS sets out the air quality objectives for PM_{10} which are measured over a 24-hour averaging period. The objectives are risk-based concentrations that are not intended to be compliance levels, but they assist the MC to understand the risk to human health. When the instrumental monitor and/or visual observations identify a change in site conditions this prompts the MC to implement mitigations on site to reduce dust impacts, and review measures applied.

Scope of Reporting

This report does not include works delivered as SRL Initial Works. The SRL Initial Works, which include investigative works, protective works, moving underground services, ground improvement works (such as at the Stabling Facility at Heatherton) and minor road modifications were subject to a separate approval process under Clause 52.30 of the Victoria Planning Provisions (VPP) and were approved by the Minister for Planning on 19 December 2021. These works are required to comply with Clause 52.30 of the VPP and are not subject to the EMF and EPRs.

This report does not include monitoring related to asbestos containing material removal, which is monitored and reported separately.

Results

The key findings are summarised in Table 1. An analysis of these findings is provided in Section 3.

Table 1: Summary of air quality monitoring results for reporting period.

Location	Parameter	Averaging Period	Max Concentration (µg/m^3)	Median Concentration (µg/m^3)	Days TARP Triggered in the Month	Days TARP Implemented in the Month
Representative Background[1]						
Alphington	PM_{10}	24-hour	31.0	16.6	-	-
Dandenong	PM_{10}	24-hour	56.9	16.6	-	-
Glen Waverley						
Site 1 North	PM_{10}	24-hour	40.8	14.7	0	0
Heatherton						
SSY - South	PM_{10}	24-hour	37.3	18.8	0	0
Site Office	PM_{10}	24-hour	27.9	13.8		
SS17	PM_{10}	24-hour	40.4	18.3		

1. Introduction

1.1. Suburban Rail Loop East

SRL will deliver a 90km rail line linking every major suburban line from the Frankston Line to the Werribee Line via Melbourne Airport, better connecting Victorians to jobs, retail, education, health services and each other. Construction of SRL East from Cheltenham to Box Hill is underway and will connect major employment, health, education and retail destinations in Melbourne's east and south-east. The new underground train line will reduce travel times and connect people travelling on the Gippsland corridor. Construction of SRL East is creating up to 8,000 direct local jobs, with trains running in 2035.

Early Works for SRL East commenced at Burwood in May 2023, Box Hill in June 2023, Monash and Heatherton in October 2023, Clayton in December 2023, Glen Waverley and Cheltenham in March 2024. Laing O'Rourke is delivering the Early Works as MC. Early Works include:

- Road modifications
- Moving underground services
- Ground improvement works
- Tram terminus works, and
- Site preparations for tunnel boring machines.

This report does not include works delivered as SRL Initial Works. The SRL Initial Works, which includes investigative works, protective works, utility relocations and installations, ground improvement works (such as at the Stabling Facility at Heatherton) and minor road modifications, were subject to a separate approval process under Clause 52.30 of the VPP and were approved by the Minister for Planning on 19 December 2021. These works are required to comply with Clause 52.30 of the VPP and are not subject to the EMF and EPRs.

[1] The EPA monitoring station at Dandenong is used as the representative control site for Heatherton. The EPA monitoring station at Alphington is used as the representative control site for Glen Waverley.

https://www.epa.vic.gov.au/for-community/airwatch

1.2. Environmental Management Framework

The EMF for SRL East (the Project) provides a transparent and integrated framework to manage environmental effects of the Project and includes EPRs that define environmental outcomes that must be achieved during the design, construction, and operation phases the SRL East website at https://bigbuild.vic.gov.au/library/suburban-rail-loop/planning/srl-east-environmental-management-framework.

The development of the EMF has been informed by relevant legislation, policy and guidelines, and the specialist impact assessment studies completed for the SRL East EES and the Minister's Assessment, dated 5 August 2022.

The EMF requires the MC to develop and implement an EAQDMP. As part of implementing this plan, the MC is required to conduct monitoring of PM_{10} concentrations and measure wind speed and direction at each Early Works construction site and at a representative control site. The EAQDMP also includes a TARP which defines a set of triggers that prompt actions on site to reduce dust impacts, and review mitigation measures applied. The EMF, and therefore this report, is not applicable to SRL Initial Works activities.

The MC regularly reviews the monitoring data at each site, for the purpose of assessing the effectiveness of EAQDMP implementation. The verified results of the PM_{10} monitoring for the applicable monthly period are contained in this report, which will be available to the public, in accordance with the requirements of the EMF.

2. Air Quality Monitoring

2.1. Context

Maintaining air quality is important for public health, the liveability of our cities and our environment. Overall air quality conditions in Melbourne are good, however like all major cities, there are days where the background concentrations of air pollutants are very high on a regional basis. Sometimes these elevated concentrations are due to regional influences such as windblown continental dust, bushfires or hazard reduction burns. Emissions from traffic, home heating, and industrial emissions across Melbourne can also cause high background concentrations, especially when the weather is calm. EPA monitoring stations measure these background levels of pollution that already exist in the air within the surrounding area. The EPA monitoring station at Dandenong is used as the representative control site for Heatherton and Cheltenham, and the EPA monitoring station at Alphington is used as the representative control site for all other SRL work sites.

Without effective management, construction of the Project has the potential to contribute to these background concentrations which may impact public health. Comparison of SRL East monitoring results with publicly available EPA monitoring data is used by the MC to identify when construction-related activities are impacting local air quality, and conversely when the local air quality results may be influenced by background conditions outside of the influence of the construction site.

Meteorological conditions such as wind direction and speed can impact on the dispersion of particulates in the air and by monitoring these, the MC can respond when conditions on site change. Having records of wind conditions is also helpful for retrospectively identifying the activity that is causing any elevated dust concentrations.

2.2. Purpose

The purpose of the air quality monitors is to measure the concentration of small dust particles in the air near the construction site. These particles, known as PM_{10} have the potential to impact human health. PM_{10} refers to particles with an aerodynamic diameter of 10 µm or less.

The measured concentrations are compared to air quality objectives that are defined in the ERS which is a tool under the *Environment Protection Act 2017*. The air quality objectives defined in the ERS informed the objectives for air quality for the Project, noting that the ambient air ERS is not a compliance standard that one can pollute up to. The ERS does not provide an indicator or objective for nuisance dust.

The objectives are risk-based concentrations that are not intended to be compliance levels, but they assist the MC to understand the risk to human health. The ERS sets out the air quality objectives for PM_{10} which are measured over a 24-hour averaging period, as reproduced below in Table 2.

Table 2: Ambient air quality objectives for PM_{10}.

Indicator	Air Quality Objective (µg/m^3)	Averaging Period
Particles as PM_{10} (maximum concentration)	50	24-hour

The measured concentrations (which include both existing background concentrations and the Project's incremental contribution over a 24-hour period) are presented in Section 3. Monitoring is continuous, even when there are no construction-related activities occurring on the site. Periods of time where there are no site activities are classified as 'Out of Hours'. The potential for dust generation from the work sites is much lower when there are no site activities occurring, however dust can still be generated at the work site during "Out of Hours" periods due to wind erosion.

2.3. Monitoring Locations

Air quality monitors are located on or adjacent to the Early Works construction sites, to represent local air quality conditions, in positions that enable the MC to adequately measure potential impact of works on local sensitive receivers including residents. This does not include monitoring undertaken as part of the SRL Initial Works as outlined in Section 1.1.

The air quality monitors were installed on the following dates at each of the following locations. The location of these monitors is shown on maps in Section 3 of this Report.

Table 3: Air quality monitoring locations active during reporting period.

Monitoring Location	Date Commissioned	Coordinates	Monitoring Parameters	Representative Control Site
Glen Waverley – Site 1 North	19 August 2024	Latitude: -37.880739° Longitude: 145.160738°	PM_{10}	Alphington EPA monitoring station
Heatherton – SSY – South	29 May 2023	Latitude: -37.955917° Longitude: 145.10239°	PM_{10}	Dandenong EPA monitoring station
Heatherton – SSY – Site Office	22 January 2024	Latitude: -37.95401° Longitude: 145.10062°	PM_{10}	Dandenong EPA monitoring station
Heatherton – SSY – SS17	26 March 2025	Latitude: -37.9544° Longitude: 145.0975 °	PM_{10}	Dandenong EPA monitoring station

2.4 Data Limitations and Verification

The following limitations apply to this data:

- Meteorological conditions on site can affect measurements made by monitoring devices. For instance, dust measurements can be impacted by rainfall, fog and/or humidity (with water droplets in the air being mistaken as dust particles). Displaying periods of inclement weather allows reviewers to identify measurements that may have been impacted.
- The monitors that measure dust concentrations and noise are located within the construction site close to the nearest homes. However, the measured levels at the nearest homes and beyond are usually less than what is measured by the monitor. This is due to the monitor being located closer to the source, due to the security requirements for the monitoring equipment.
- Monitors have been placed to record air quality and airborne noise at each site, however monitors may need to be moved as works progress. Air Quality monitoring devices are located in accordance with AS/NZS 3580.1.1-2016: Methods for sampling and analysis of ambient air (the Standard). This Standard specifies that locations must be representative of the location being monitored, which in this case is offsite receptors. Specifically, Section 7 of the Standard emphasises that locations should not be unduly influenced by immediate surroundings. Locating a monitoring device too close to the works results in increased readings as the space for air quality pollutants (i.e. dust) to dissipate is not representative of emissions at the offsite receptors. Therefore, depending on the location of the works on site and the monitoring device, the device may be moved to best represent impacts to offsite receptors, while also maintaining security and safe access.
- Breaks in data availability may occur due to sensor outages, instrument errors, technical issues, or removal of sensors during non-working periods to ensure the security of the equipment.

Data are provided in tabular and graphical form in Section 3 to visually present 24-hour averages of PM_{10} over the monthly period. The data included in this report have been verified by the MC and relevant subject matter experts.

3. Results

Data is provided in graphical form below to visually present 24-hour averages of PM_{10} dust concentration over the monthly period for each active construction site. Where the TARP has been implemented due to works occurring on the construction sites, an analysis is presented for discussion.

3.1. Box Hill

No Early Works took place at Box Hill during the reporting period, therefore no monitoring was required.

3.2. Burwood

No Early Works took place at Burwood during the reporting period, therefore no monitoring was required.

3.3. Glen Waverley

Figure 1: Glen Waverley air quality monitoring stations.

Table 4: Glen Waverley PM_{10} results.

Monitor Number	Monitoring Location	Max Daily PM_{10} Concentration ($\mu g/m^3$)	Median Daily PM_{10} Concentration ($\mu g/m^3$)	Days TARP Triggered in the Month	Days TARP Implemented in the Month
-	Representative Background - Alphington	31.0	16.6	-	-
1	Monitor 1 - Site 1 North	40.8	14.7	0	0

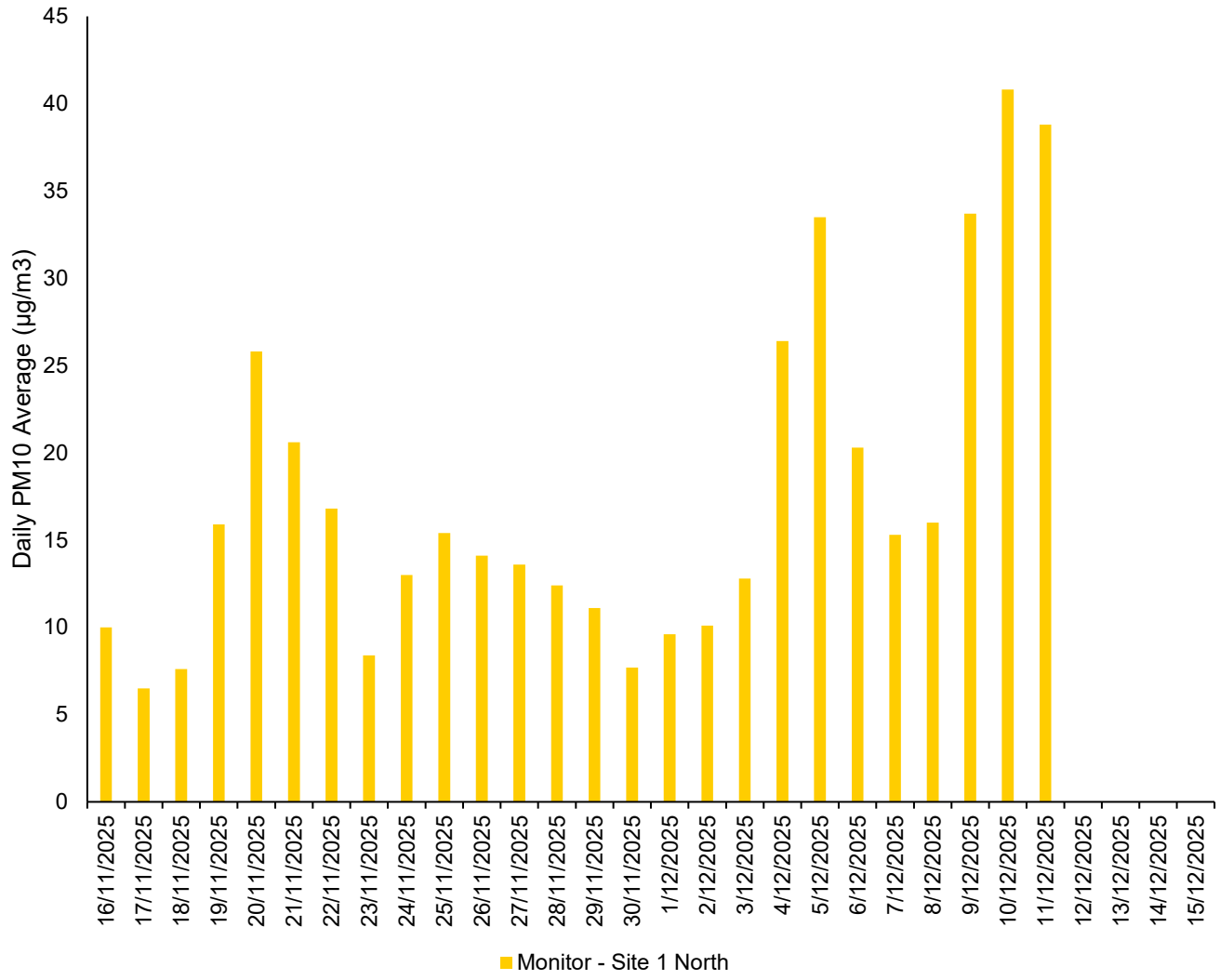

Figure 2: Glen Waverley PM_{10} daily averages.

3.3.1. Analysis

The maximum daily average PM_{10} concentration was 40.8 µg/m^3 (n = 26) at Site 1 North Location.

The TARP was not implemented during the reporting period. Regular water cart and street sweeper use was implemented to ensure exposed soil was watered down and hardstand surfaces were clear of tracked sediment. Regular site inspections were maintained during this period to ensure these measures were effective and implemented.

The gap in monitoring data from 12/12/2025 is because Early Works was completed at Glen Waverley, and the monitor was demobilised from site. No further monitoring is required at Glen Waverley for Early Works.

3.4. Monash

No Early Works took place at Monash during the reporting period, therefore no monitoring was required.

3.5. Clayton

No Early Works took place at Clayton during the reporting period, therefore no monitoring was required.

3.6. Heatherton

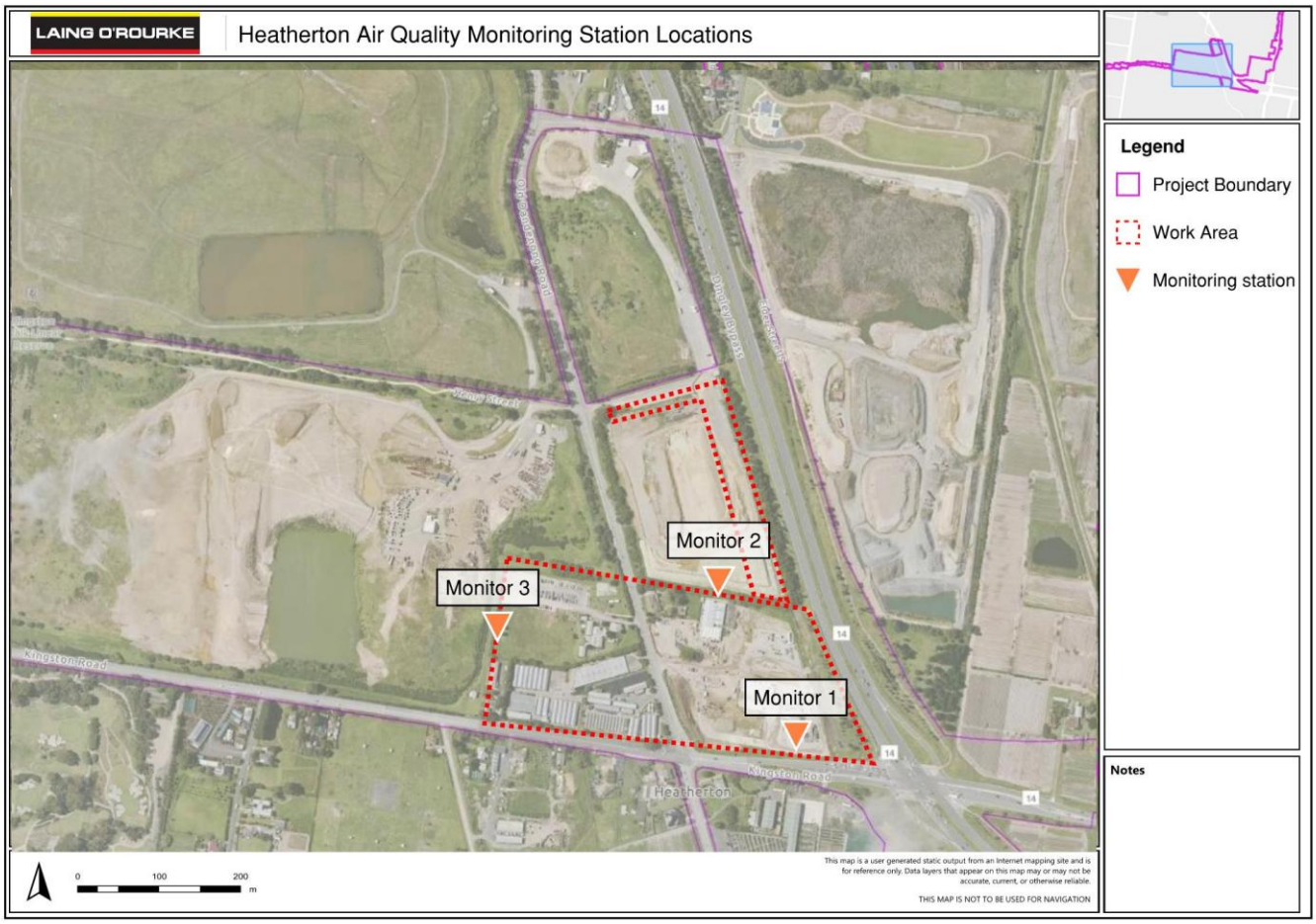

Figure 3: Heatherton air quality monitoring stations.

Table 5: Heatherton PM_{10} results.

Monitor Number	Monitoring Location	Max Daily PM_{10} Concentration ($\mu g/m^3$)	Median Daily PM_{10} Concentration ($\mu g/m^3$)	Days TARP Triggered in the Month	Days TARP Implemented in the Month
-	Representative Background - Dandenong	56.9	16.6	-	-
1	SSY - South	37.3	18.8	0	0
2	Site Office	27.9	13.8	0	0
3	SS17	40.4	18.3	0	0

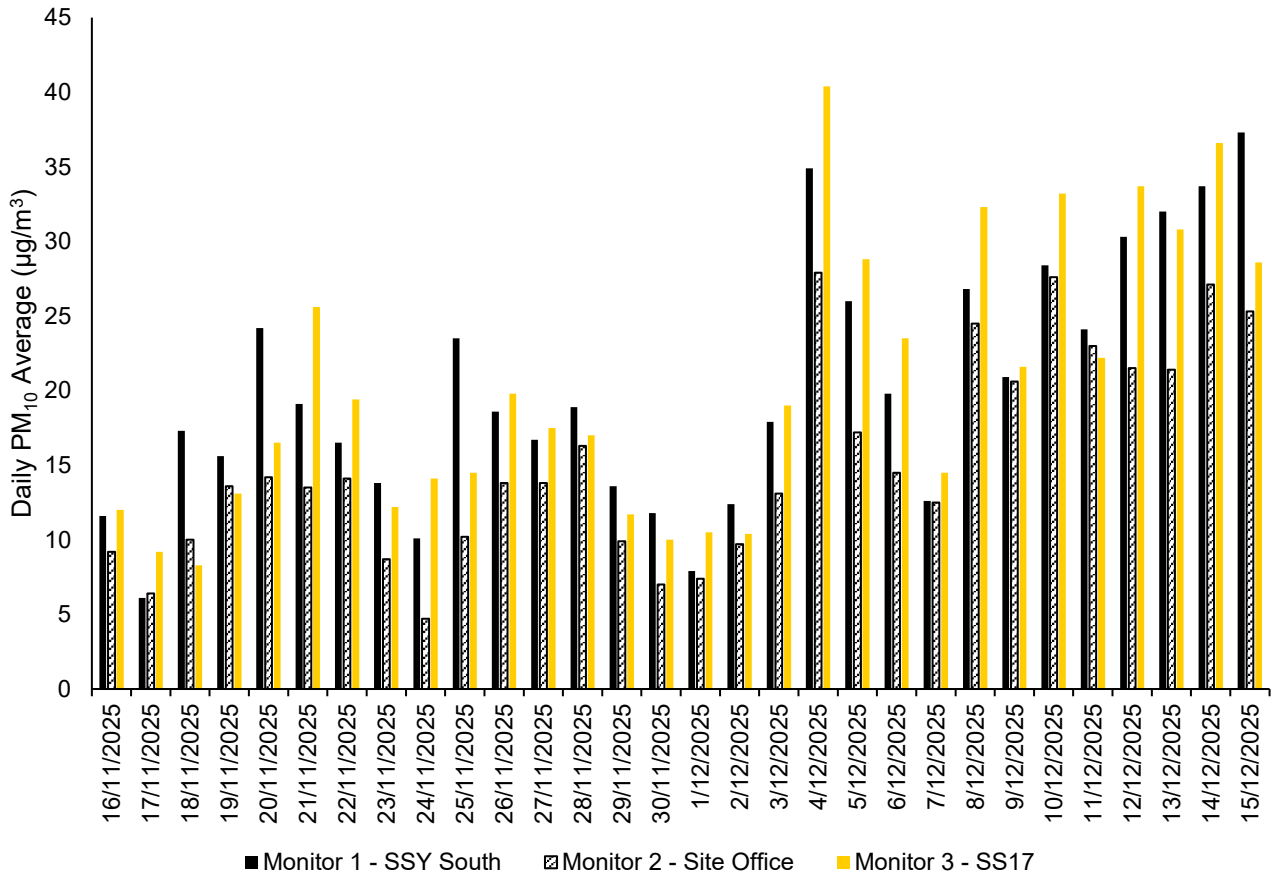

Figure 4: Heatherton PM_{10} daily averages.

3.6.1. Analysis

This report does not include monitoring related to asbestos removal, which is monitored and reported separately. Monitoring for asbestos particles in the air has consistently found levels are within a safe and allowable range.

Throughout this reporting period, there were a range of works being undertaken at the site, some of which are not subject to the reporting requirements of this document.

The maximum daily average PM_{10} concentrations were 37.3 µg/m^3 (n = 30), 27.9 µg/m^3 (n = 30), and 40.4 µg/m^3 (n = 30) at SSY South (Monitor 1), Site Office (Monitor 2), and SS17 (Monitor 3) respectively. The TARP was not implemented during the reporting period. Proactive controls were implemented such as water cart operation, soil binders on disused stockpiles and covering truck loads.

3.7. Cheltenham

No Early Works took place at Cheltenham during the reporting period, therefore no monitoring was required.

4. Meteorological Conditions

Table 6: Daily weather observations for Melbourne (Olympic Park), Victoria 16 November 2025 – 15 December 2025. Data Source BOM.

Statistic	Min Temperature (°C)	Max Temperature (°C)	Maximum Wind Gust Direction	Maximum Wind Gust Speed (km/h)	Relative Humidity @ 9:00 AM (%)
Mean	12.8	22.0	-	37.0	64.4
Lowest	8.7	16.1	N, ESE	26.0	29.0
Highest	20.2	34.5	SSW	59.0	100.0

Table 7: Daily weather observations for Melbourne (Moorabbin), Victoria 16 November 2025 – 15 December 2025. Data Source BOM.

Statistic	Min Temperature (°C)	Max Temperature (°C)	Maximum Wind Gust Direction	Maximum Wind Gust Speed (km/h)	Relative Humidity @ 9:00 AM (%)
Mean	12.0	21.5	-	44.5	66.3
Lowest	5.4	15.8	SE	28.0	27.0
Highest	18.7	34.5	WSW, NW	65.0	94.0

Table 8: Daily rain data for Melbourne (Olympic Park and Moorabbin), Victoria 16 November 2025 – 15 December 2025. Data Source BOM.

Statistic	Rain data Olympic Park (mm)	Rain data Moorabbin (mm)
Daily Low	0.0	0.0
Daily High	22.8	24.8
Total	62.6	74.0

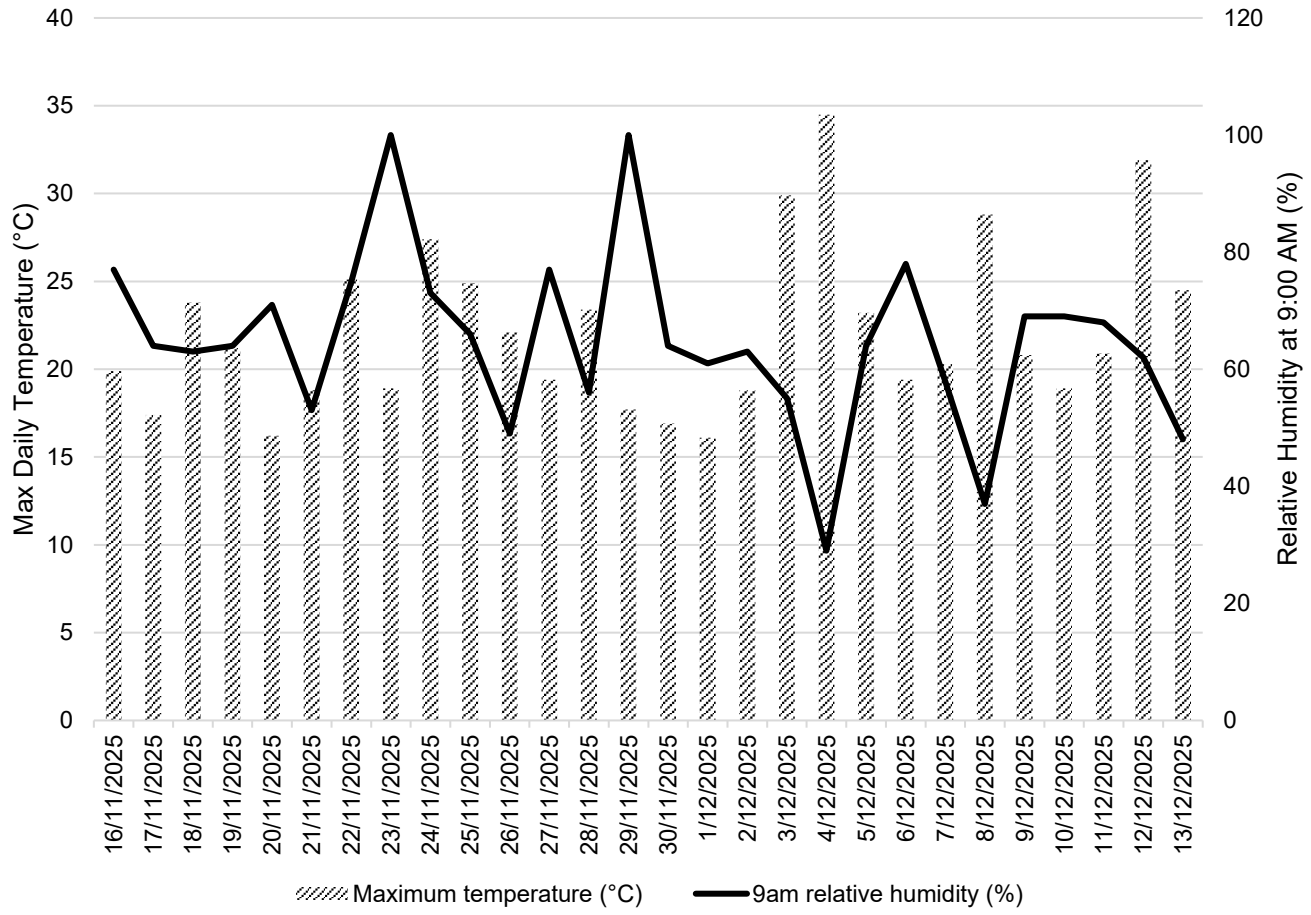

Figure 5: Daily relative humidity and temperature observations for Melbourne (Olympic Park), Victoria 16 November 2025 – 15 December 2025. Data Source BOM.

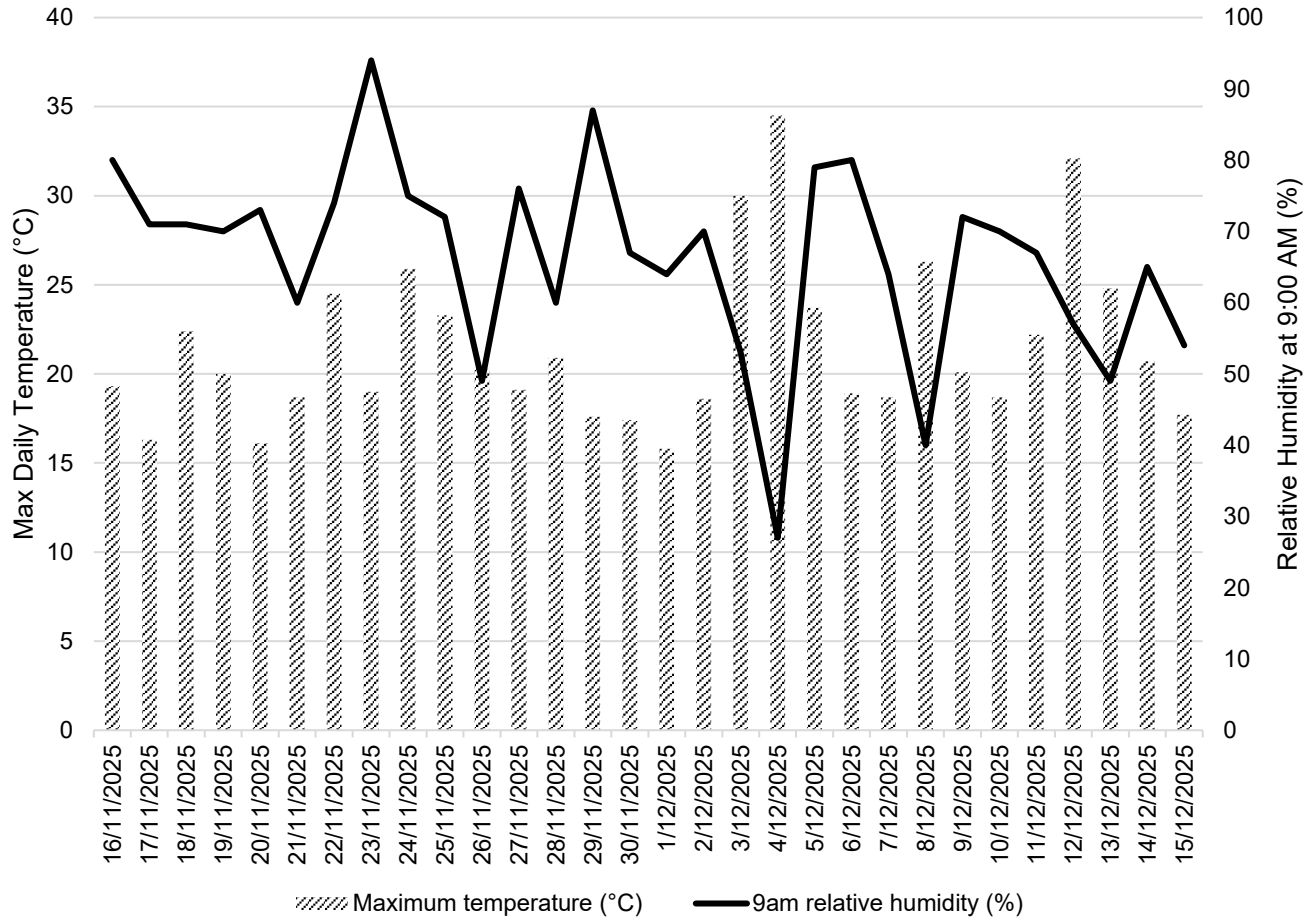

Figure 6: Daily relative humidity and temperature observations for Melbourne (Moorabbin), Victoria 16 November 2025 – 15 December 2025. Data Source BOM.

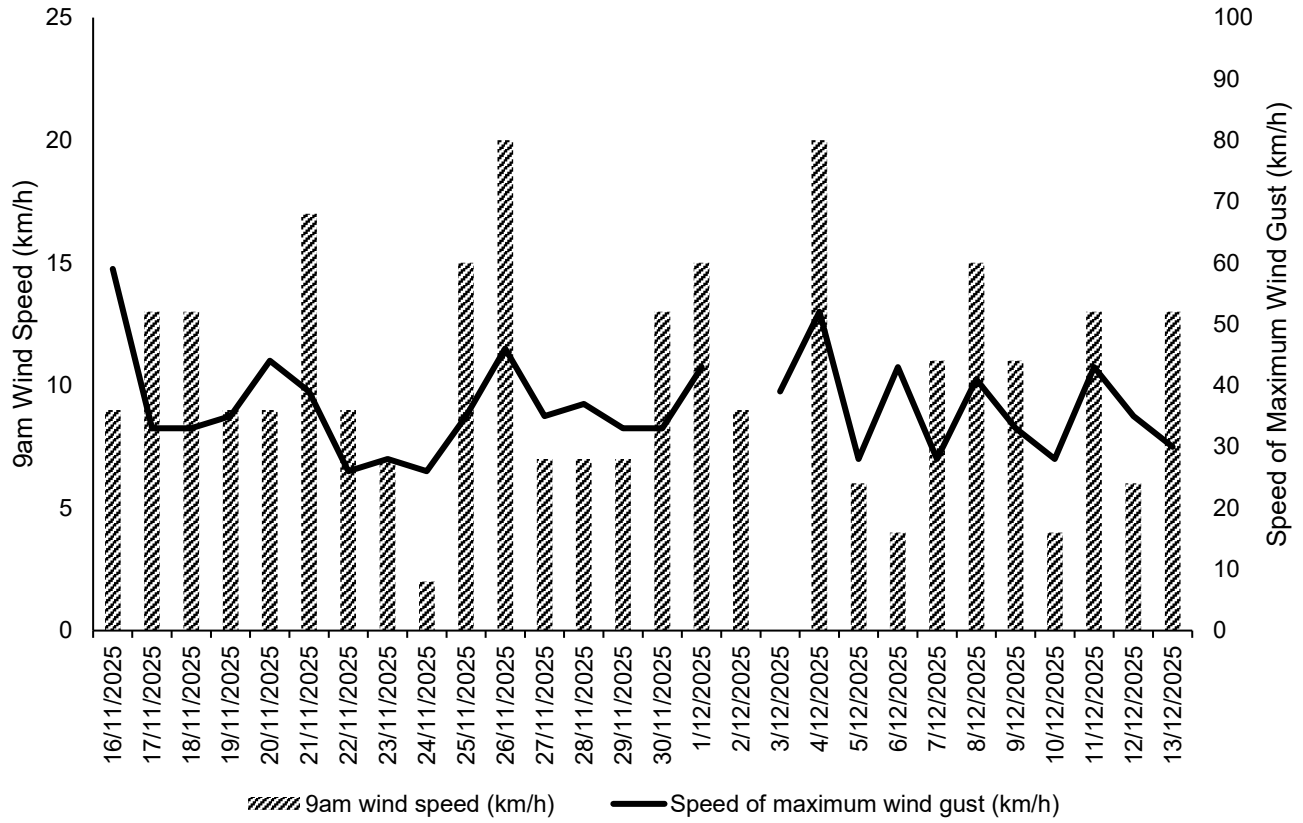

Figure 7: Daily wind speed observations for Melbourne (Olympic Park), Victoria 16 November 2025 – 15 December 2025. Data Source BOM.

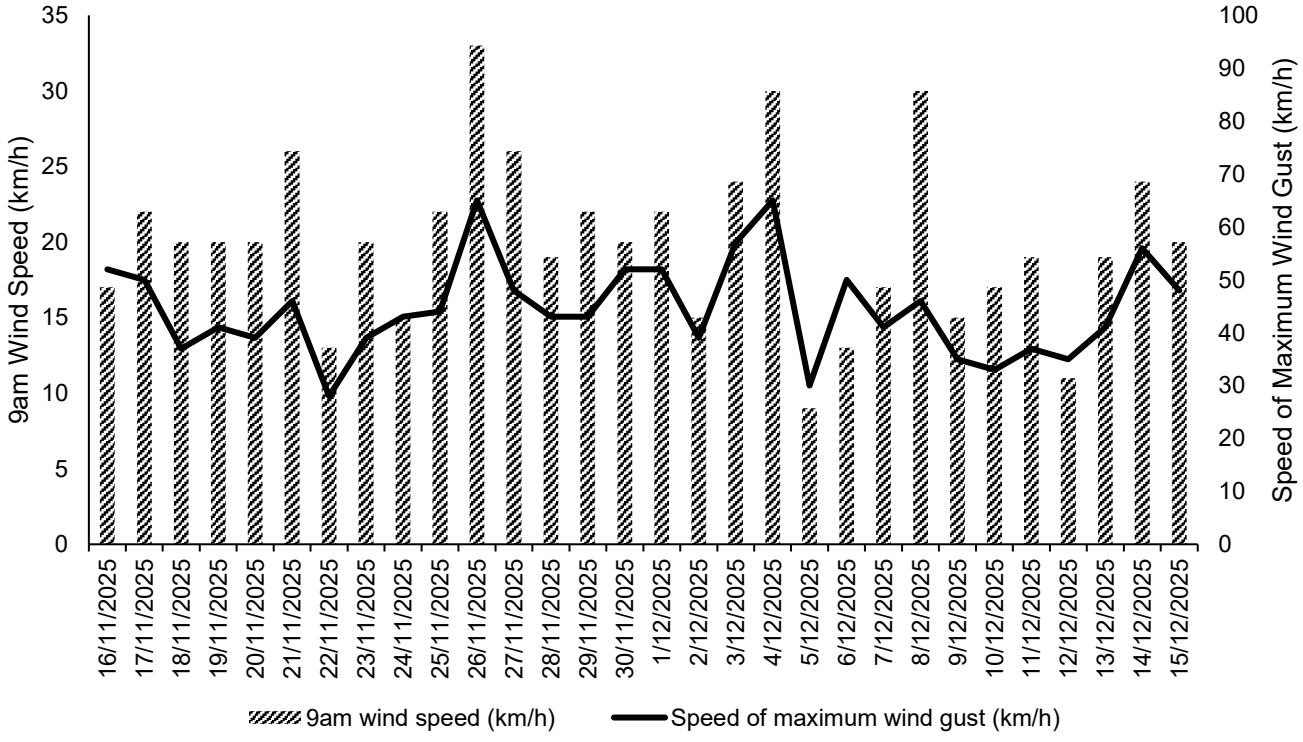

Figure 8: Daily wind speed observations for Melbourne (Moorabbin), Victoria 16 November 2025 – 16 December 2025. Data Source BOM.

5. Quality Assurance

5.1. Data Capture

Data capture is defined as the number of valid data periods collected divided by the number of available data periods. Valid data excludes period where the instrument is unavailable due to calibration and maintenance and excludes periods where the data has been rejected due to quality assurance/data validation procedures.

Data capture statistics for the reporting period 16 November 2025 to 15 December 2025 are shown in Table 9.

Data capture statistics were 100% for all parameters at all stations for the reporting period.

The construction program has been reviewed to ensure monitoring devices are installed prior to works. The MC is continuing to closely monitor the operation of the SiteHive units.

Table 9: Air quality monitoring, data capture summary

Location	Parameter	Averaging Period	Collected Periods	Available Periods	Data Capture
Glen Waverley – Site 1 North	PM_{10}	24-hours	26	26	100%
Heatherton – SSY – South	PM_{10}	24-hours	30	30	100%
Heatherton – SSY – Site Office	PM_{10}	24-hours	30	30	100%
Heatherton – SSY - SS17	PM_{10}	24-hours	30	30	100%

5.2. Data Validation

Data contained in this report has been validated against performance and calibration requirements for each instrument.

Table 10: Monitoring device calibration information.

Location	Device Serial Number	Calibration Date	Calibration Due
Glen Waverley – Site 1 North	HEX-000277	5 Feb 2025	5 Feb 2027
Heatherton – SSY – South	HEX-000350*	13 Dec 2023	13 Dec 2025
Heatherton – SSY – Site Office	HEX-000317*	13 Dec 2023	13 Dec 2025
Heatherton – SSY - SS17	HEX-000499	5 March 2025	5 March 2027

*Devices HEX-000350 and HEX-000317 are due for calibration. Due to the completion of physical works these devices are no longer required and have been returned to the supplier.

Suburban Rail Loop East Tunnels South

Air Quality Monthly Report

16 November to 15 December 2025

Document Information

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B	Updated to address comments	23/01/2026	Issued For Review
C	Issued to SRLA	28/01/2026	Final Report

Contents

Tables

Figures

Executive Summary

Key Outcomes

Key outcomes arising from the monthly air quality monitoring program:

- Visual air inspections were undertaken proactively to monitor and confirm there were no dust impacts due to works on site.
- All instances of elevated monitoring results were investigated and confirmed existing mitigation measures were sufficient to manage dust risks onsite.

Purpose of the Report

This report presents the results of the monthly review of the air quality monitoring data for each Suburban Rail Loop (SRL) East main works construction site for the period between 16 November to 15 December 2025 in accordance with SRL East Environmental Management Framework (EMF) and Environmental Performance Requirements (EPRs) AQ1 and AQ2.

Suburban Connect is implementing an air quality monitoring program on each site that includes both visual observation and instrumental air quality monitoring. The purpose of the air quality monitors is to measure the concentration of small dust particles in the air near the construction site. These particles, known as PM_{10} have the potential to impact human health. PM_{10} refers to particles with an aerodynamic diameter of 10 µm or less.

This report compares the measured concentrations to air quality objectives that are defined in the Environment Reference Standard (ERS) which is a tool under the Environment Protection Act 2017. The ERS sets out the air quality objectives for PM_{10} which are measured over a 24-hour averaging period.

The objectives are risk-based concentrations that are not intended to be compliance levels, but they assist Suburban Connect understand the risk to human health. When the instrumental monitor and/or visual observations identify a change in site conditions this prompts Suburban Connect to take actions on site to reduce dust impacts, and review mitigation measures applied.

Scope of Reporting

Construction works requiring air quality monitoring occurred at the following site/s during this reporting period:

- Train Stabling Facility West
- Clarinda TBM launch site
- Clayton
- Monash

This report does not include:

- Works delivered as SRL Initial Works. The SRL Initial Works, which include investigative works are not subject to the EMF and EPRs.
- Monitoring related to asbestos containing material removal works, which is monitored and reported separately.

Results

The key findings are summarised in Table 1. An analysis of these findings is provided in Section 3.

Table 1: Summary of air quality monitoring results

Location	Parameter	Averaging Period	Max Concentration (µg/m^3)	Median Concentration (µg/m^3)	Days TARP Triggered in the Month	Days TARP Actions Implemented in the Month
Representative Background Locations						
Dandenong	PM_{10}	24-hour	56.9	16.6	-	-
Train Stabling Facility West						
Linear Reserve North	PM_{10}	24-hour	37.4	17.3	2	0
Linear Reserve South	PM_{10}	24-hour	20.6	13.2	0	0
North	PM_{10}	24-hour	45.3	13.2	5	0
South	PM_{10}	24-hour	37.1	18.0	3	0
Clarinda TBM launch site						
CC01	PM_{10}	24-Hour	33.2	15.6	0	0
CC08	PM_{10}	24-Hour	86.1	56.2	8	0
East	PM_{10}	24-hour	105.8	42.5	12	0
North West	PM_{10}	24-hour	36.6	15	2	0
South Boundary	PM_{10}	24-Hour	73.2	35.8	9	0
Clayton						
Central	PM_{10}	24-hour	28.9	13.2	0	0
East	PM_{10}	24-hour	22.5	15.9	0	0
North West	PM_{10}	24-hour	41.8	17.1	0	0
South	PM_{10}	24-hour	38.7	20.2	0	0
Monash						
LP1 SE Boundary	PM_{10}	24-hour	48.7	14.4	0	0
54 Howleys East Boundary	PM_{10}	24-hour	37.7	21.4	6	0
Monash Site Compound	PM_{10}	24-hour	45.5	24	2	0

1 Introduction

1.1 SRL East

Suburban Rail Loop (SRL) will deliver a 90km rail line linking every major train service from the Frankston Line to the Werribee Line via Melbourne Airport and transforming our public transport network.

SRL East from Cheltenham to Box Hill is now in major construction. The new rail line will connect major employment, health, education and retail destinations in Melbourne's east and south east, slashing travel times, reducing congestion and connecting passengers travelling on the Gippsland corridor to destinations across Melbourne.

The SRL East – Tunnels South scope of works include:

- Initial launch of four TBMs from the Clarinda TBM launch site
- Construction of approximately 16km of twin tunnels between Cheltenham and Glen Waverley
- Construction of cross passages between the tunnels
- Construction of the western and eastern decline structures at the train stabling facility
- Protection of the South Eastern Trunk Sewer (SETS)
- Box excavations at Clayton and Monash station locations
- Interface works with the Melbourne Metro Rail Network.

This report does not include works delivered as SRL Initial Works. The SRL Initial Works, which includes investigative works, were subject to a separate approval process under Clause 52.30 of the Victoria Planning Provisions (VPP) and were approved by the Minister for Planning on 19 December 2021. These works are required to comply with Clause 52.30 of the VPP and are not subject to the EMF and EPRs.

1.2 Environmental Management Framework

The EMF for SRL East provides a transparent and integrated framework to manage environmental effects of the Project and includes EPRs that define environmental outcomes that must be achieved during the design, construction, and operation phases of the Project. The EMF is available on the SRL east website at https://bigbuild.vic.gov.au/library/suburban-rail-loop/planning/srl-east-environmental-management-framework.

The development of the EMF has been informed by relevant legislation, policy and guidelines, and the specialist impact assessment studies completed for the SRL East Environment Effects Statement (EES) and the Minister's Assessment, dated 5 August 2022.

The EMF requires the Principal Contractor (PC) to develop and implement an Environmental Air Quality and Dust Management Plan (EAQDMP). As part of implementing this document plan, the PC is required to conduct monitoring of PM_{10} concentrations and measure wind speed and direction at each Early Works construction site and at a representative control site. The EAQDMP also includes a Trigger Action Response Protocol (TARP) which defines a set of triggers that prompt actions on site to reduce dust impacts, and review mitigation measures applied.

The PC regularly reviews the monitoring data at each site, for the purpose of assessing the effectiveness of EAQDMP implementation. The verified results of the PM_{10} monitoring for the applicable monthly period are contained in this report, which will be available to the public, in accordance with the requirements of the EMF.

2 Air Quality Monitoring

2.1 Context

Maintaining air quality is important for public health, the liveability of our cities and our environment. Overall air quality conditions in Melbourne are good, however like all major cities, there are days where the background concentrations of air pollutants are very high on a regional basis. Sometimes these elevated concentrations are due to regional influences such as windblown continental dust, bushfires or hazard reduction burns. Emissions from traffic, home heating, and industrial emissions across Melbourne can also cause high background concentrations, especially when the weather is calm. Environment Protection Authority (EPA) monitoring stations measure these background levels of pollution that already exist in the air within the surrounding area. The EPA monitoring station at Dandenong is used as the representative control site for Suburban Connect work sites.

Without effective management, construction of the Project has the potential to contribute to these background concentrations which may impact public health. Comparison of SRL East monitoring results with publicly available EPA monitoring data is used by the PC to identify when construction-related activities are impacting local air quality, and conversely when the local air quality results may be influenced by background conditions outside of the influence of the construction site.

Meteorological conditions, such as wind direction and speed, can impact on the dispersion of particulates in the air and by monitoring these, the PC can respond when conditions on site change. Having records of wind conditions is also helpful for retrospectively identifying the activity that is causing any elevated dust concentrations.

2.2 Purpose

The purpose of the air quality monitors is to measure the concentration of small dust particles in the air near the construction site. These particles, known as PM_{10} have the potential to impact human health. PM_{10} refers to particles with an aerodynamic diameter of 10 µm or less.

The measured concentrations are compared to air quality objectives that are defined in the Environment Reference Standard (ERS) which is a tool under the Environment Protection Act 2017. The air quality objectives defined in the ERS informed the objectives for air quality for the Project, noting that the ambient air ERS is not a compliance standard that one can pollute up to. The ERS does not provide an indicator or objective for nuisance dust.

The objectives are risk-based concentrations that are not intended to be compliance levels, but they assist the PC to understand the risk to human health. The ERS sets out the air quality objectives for PM_{10} which are measured over a 24-hour averaging period, as reproduced below in Table 2.

Table 2: Ambient air quality objectives for PM_{10}

Indicator	Air Quality Objective (µg/m^3)	Averaging Period
Indicator Particles as PM_{10} (maximum concentration)	50	24-hour

The measured concentrations (which include both existing background concentrations and the Project's incremental contribution over a 24-hour period) are presented in Section 3 and compared against the air quality objective. Monitoring is continuous, even when there are no construction-related activities occurring on the site. Periods of time where there are no site activities are classified as 'out of hours'. The potential for dust

generation from the work sites is much lower when there are no site activities occurring, however dust can still be generated at the work site during 'out of hours' periods due to wind erosion.

2.3 Monitoring Locations

Air quality monitors are located on or adjacent to the construction sites, to represent local air quality conditions and measure the potential impact of works on local sensitive receivers including residents. As activities and site layouts change throughout construction, monitors will be moved to maintain the most optimal location for ongoing monitoring of air quality.

The air quality monitors were installed on the following dates at each of the following locations. The indicative locations of these monitors are shown on maps in Section 3 of this report.

Table 3: Suburban Connect air quality monitoring locations for active works during reporting period.

Monitoring Location	Date Commissioned	Monitoring Parameters	Representative Control Site
Train Stabling Facility West			
North	7 May 2025	PM_{10}	Dandenong EPA monitoring station
South	8 May 2025	PM_{10}	Dandenong EPA monitoring station
Linear Reserve North	15 May 2025	PM_{10}	Dandenong EPA monitoring station
Linear Reserve South	15 May 2025	PM_{10}	Dandenong EPA monitoring station
Clarinda TBM Launch Site			
CC01	1 June 2025	PM_{10}	Dandenong EPA monitoring station
CC08	01 Dec 2025	PM_{10}	Dandenong EPA monitoring station
South Boundary	21 Feb 2025	PM_{10}	Dandenong EPA monitoring station
East Boundary	3 Dec 2024	PM_{10}	Dandenong EPA monitoring station
Northwest Boundary	23 Jan 2025	PM_{10}	Dandenong EPA monitoring station
Clayton			
Central	21 May 2025	PM_{10}	Dandenong EPA monitoring station
North West	3 Dec 2024	PM_{10}	Dandenong EPA monitoring station
South	5 Mar 2025	PM_{10}	Dandenong EPA monitoring station
East	4 Jun 2025	PM_{10}	Dandenong EPA monitoring station
Monash			
Compound	2 Jul 2025	PM_{10}	Dandenong EPA monitoring station
54 Howleys East Boundary	2 Jul 2025	PM_{10}	Dandenong EPA monitoring station
LP1 SE Boundary	6 Aug 2025	PM_{10}	Dandenong EPA monitoring station

2.4 Data Limitations and Verification

The following limitations apply to this data:

- Meteorological conditions on site can affect measurements made by monitoring devices. For instance, dust measurements can be impacted by rainfall, fog and/or humidity (with water droplets in the air

being mistaken as dust particles). Displaying periods of inclement weather allows reviewers to identify measurements that may have been impacted.

- Breaks in data availability may occur due to sensor outages, instrument errors, technical issues, or removal of sensors during non-working periods to ensure the security of the equipment.
- Proximity of site monitors to public roads, industrial businesses and other factors will impact data recording.
- Monitors may need to be located close to works due to security requirements.
- Monitor locations will change as works progress and construction activity locations change.

Data has been provided in tabular and graphical form in Section 3 to visually present 24-hour averages of PM_{10} over the monthly period. The data included in this report has been verified by the Suburban Connect and relevant subject matter experts.

3 Results

Data has been presented in graphical form below to visually present 24-hour averages of PM_{10} dust concentration over the monthly period for each active construction site.

The indicative air monitoring levels measured by sensors show the levels are generally in the range of 10 µg/m3 and 40 µg/m3, with the exception of the Clarinda TBM Launch Site which includes indicative air monitoring levels higher than 50 µg/m3. The sensor data has been adjusted to closer align with EPA's air quality monitoring station data at Dandenong.

EPA's Dandenong air quality monitoring station is categorised to be generally representative of the area and measured levels ranging from approximately 10 µg/m3 and 40 µg/m3.

The average levels of PM_{10} measured over a 24-hour period is compared to the Environment Reference Standard of 50 µg/m3 to understand air quality impacts.

3.1 Train Stabling Facility West

Figure 1: Train Stabling Facility West site air quality monitoring stations

Table 4: Train Stabling Facility West Site PM_{10} Results

Location	Parameter	Averaging Period	Max Concentration (µg/m^3)	Median Concentration (µg/m^3)	Days TARP Triggered in the Month	Days TARP Actions Implemented in the Month
Representative Background Locations						

Location	Parameter	Averaging Period	Max Concentration (µg/m^3)	Median Concentration (µg/m^3)	Days TARP Triggered in the Month	Days TARP Actions Implemented in the Month
Dandenong	PM_{10}	24-hour	56.9	16.6	-	-
Train Stabling Facility West						
Linear Reserve North	PM_{10}	24-hour	37.4	17.3	2	0
Linear Reserve South	PM_{10}	24-hour	20.6	5.6	0	0
North	PM_{10}	24-hour	45.3	13.2	5	0
South	PM_{10}	24-hour	37.1	18	3	0

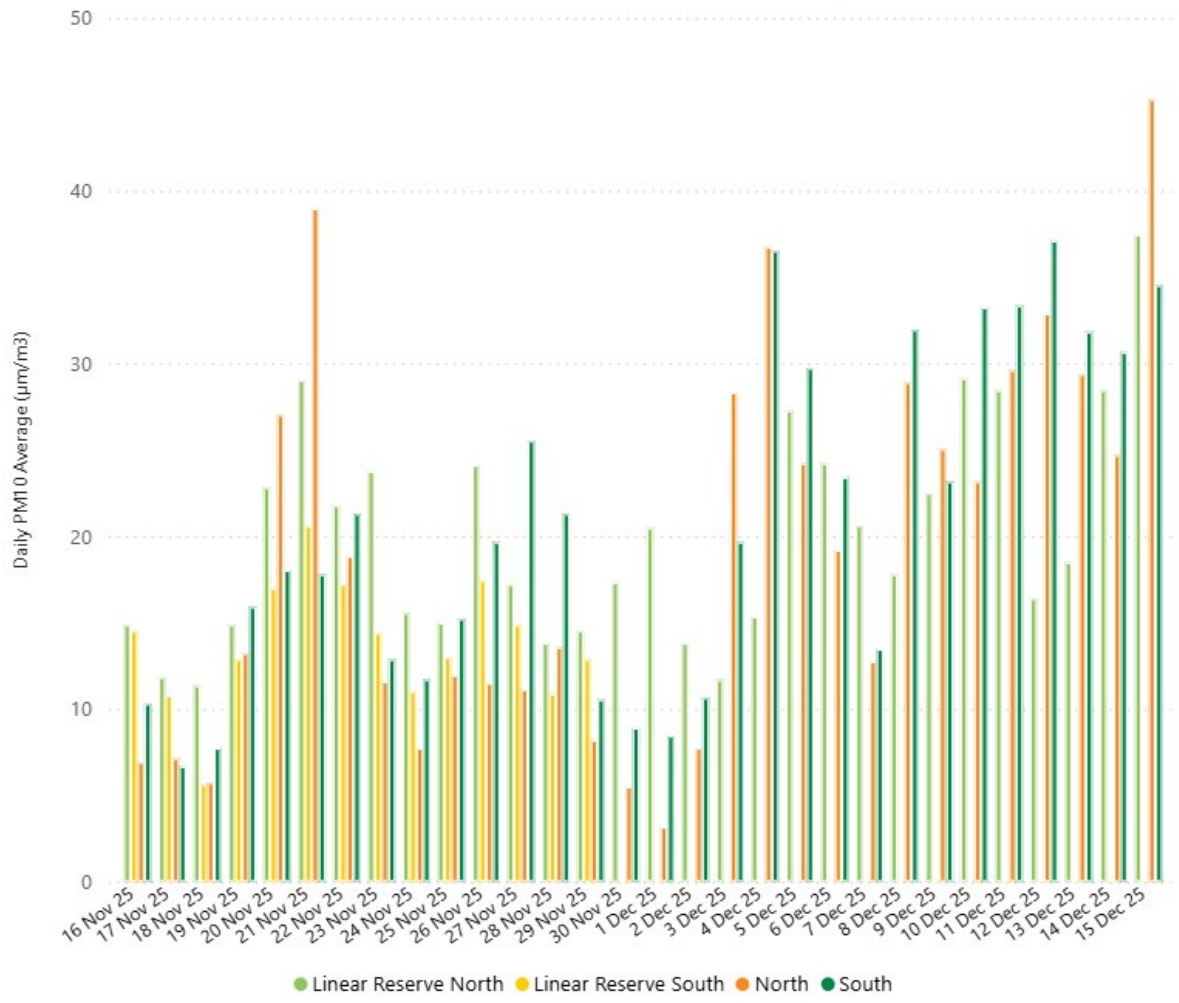

Figure 2: Daily Averages PM_{10} Results at Train Stabling Facility West

3.1.1 Analysis

Measures implemented to proactively manage dust on this site included water carts, wheel wash and street sweepers. In addition, daily observations by supervisors and environmental representatives are performed to respond to areas of concern. Visual air inspections are also undertaken to proactively monitor and confirm there was no off-site dust impacts due to construction activities on site and to mitigate any interruptions to monitoring equipment.

There were no elevated daily average PM_{10} events during the reporting period. The TARP was triggered on nine days during the period. Dust management measures were confirmed to be active and sufficient for the activities on site, and no further TARP actions were implemented.

The Linear Reserve South monitor was demobilised after the 29 November 2025 due to proximity to the road and technical difficulties with the monitor resulting in data that is not representative of works on site. It will not be replaced as the Linear Reserve North monitor provides sufficient coverage for this area.

3.2 Clarinda TBM launch site

Figure 3: Clarinda TBM launch site air quality monitoring stations

Table 5: Clarinda TBM launch site PM_{10} Results

Location	Parameter	Averaging Period	Max Concentration (µg/m³)	Median Concentration (µg/m³)	Days TARP Triggered in the Month	Days TARP Actions Implemented in the Month
Representative Background Locations						

Location	Parameter	Averaging Period	Max Concentration (µg/m^3)	Median Concentration (µg/m^3)	Days TARP Triggered in the Month	Days TARP Actions Implemented in the Month
Dandenong	PM_{10}	24-hour	56.9	16.6	-	-
Clarinda TBM launch site						
CC01	PM_{10}	24-Hour	33.2	15.6	0	0
CC08	PM_{10}	24-Hour	86.1	56.2	8	0
East Boundary	PM_{10}	24-hour	105.8	42.5	12	0
North West Boundary	PM_{10}	24-hour	36.6	15	2	0
South Boundary	PM_{10}	24-Hour	73.2	35.8	9	0

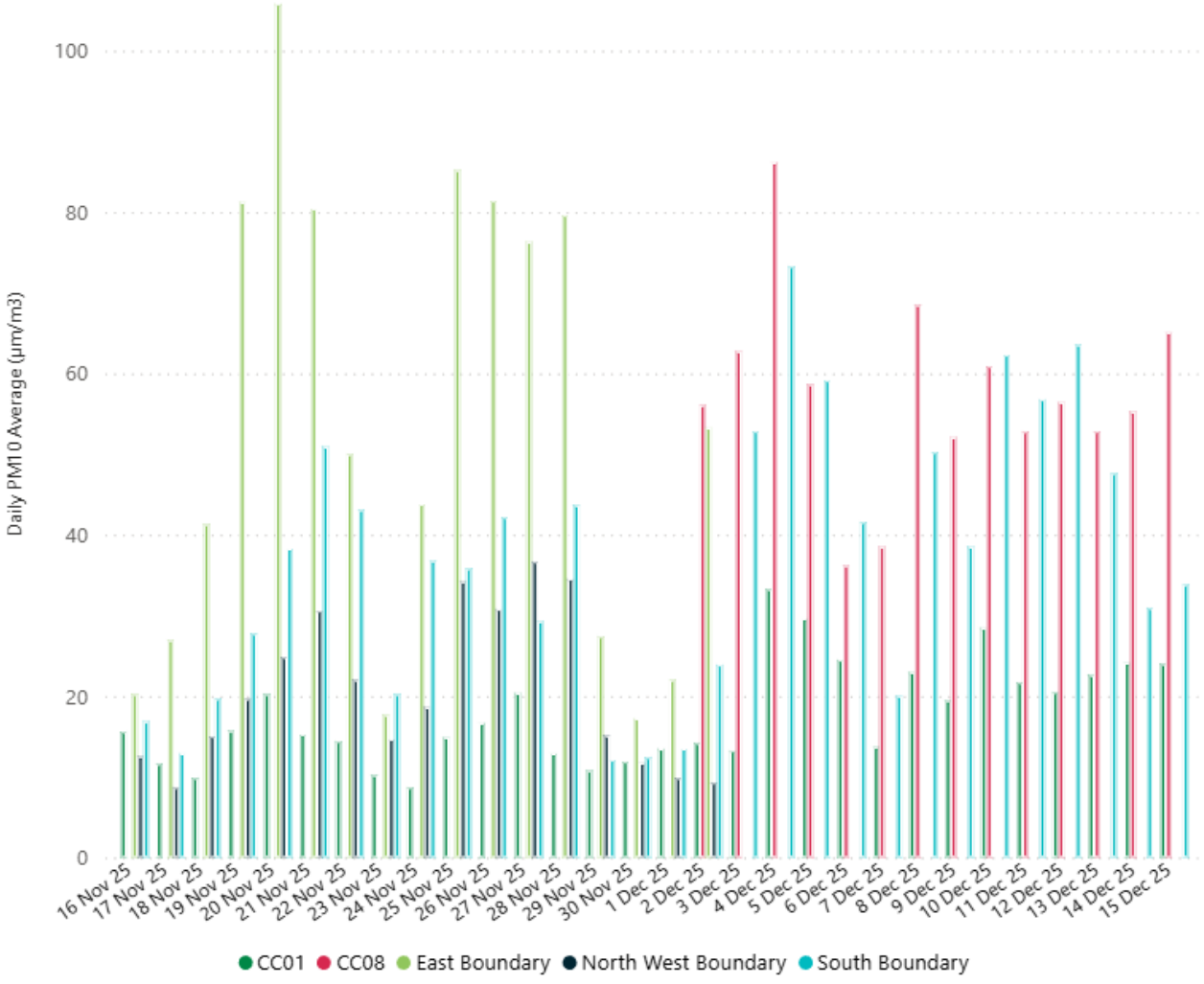

Figure 4: Daily Averages PM_{10} Results at Clarinda TBM Launch Site

3.2.1 Analysis

Measures implemented to proactively manage dust on this site included a boundary sprinkler system, water carts, rumble grids, and street sweepers. In addition, daily observations by supervisors and environmental representatives are performed to respond to areas of concern. Visual air inspections are also undertaken to proactively monitor and confirm there are no off-site dust impacts due to construction activities on site and to mitigate any interruptions to monitoring equipment.

Eight elevated daily average PM_{10} levels occurred at the South Boundary monitor, nine elevated daily average PM_{10} levels occurred at the East Boundary monitor and twelve elevated daily average PM_{10} levels occurred at CC08 during the reporting period. The TARP was triggered on twenty-one days during the reporting period.

Investigations determined the elevated levels were due to external sources, including traffic from Kingston Road. Site inspections observed no dust generation from site construction activities and no further TARP actions were implemented. Dust management measures were confirmed to be active and sufficient for the activities on site.

On 2 December 2025, the East Boundary monitor was relocated to and replaced by CC08 to better capture dust and the North West Boundary monitor was removed following a site risk assessment.

3.3 Clayton

Figure 5: Clayton air quality monitoring stations

Table 6: Clayton PM_{10} Results

Location	Parameter	Averaging Period	Max Concentration (µg/m³)	Median Concentration (µg/m³)	Days TARP Triggered in the Month	Days TARP Actions Implemented in the Month
Representative Background Locations						
Dandenong	PM_{10}	24-hour	56.9	16.6	-	-
Clayton						
Central	PM_{10}	24-hour	28.9	13.2	0	0
East	PM_{10}	24-hour	22.5	15.9	0	0
North West	PM_{10}	24-hour	41.8	17.1	0	0
South	PM_{10}	24-hour	38.7	20.2	0	0

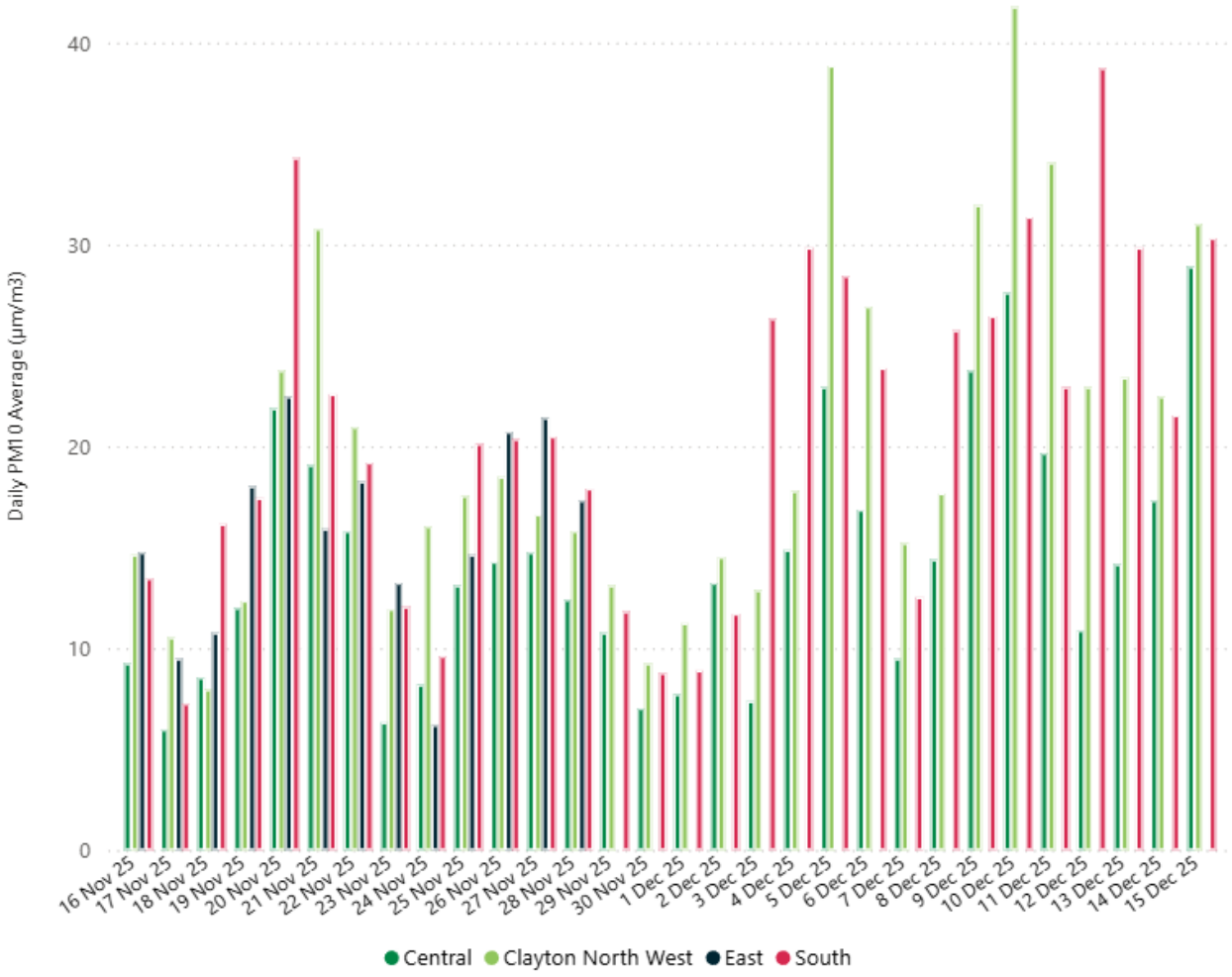

Figure 6: Daily Averages PM_{10} Results at Clayton Site

3.3.1 Analysis

Measures implemented to proactively manage dust on this site include water carts and street sweepers. Sealed surfaces have also contributed to reducing dust on site. In addition, daily observations by supervisors and environmental representatives are performed to respond to areas of concern. Visual air inspections are also undertaken to proactively monitor and confirm there are no off-site dust impacts due to construction activities on site and to mitigate any interruptions to monitoring equipment.

There were no elevated daily average PM_{10} events during the reporting period. Monitoring at the Clayton East location was disrupted from the 27 November 2025 until the monitor was replaced on the 16 December 2025. Visual air inspections monitored the dust levels for the remainder of the reporting period for Clayton East.

3.4 Monash

Figure 7: Monash air quality monitoring stations

Table 7: Monash PM_{10} Results

Location	Parameter	Averaging Period	Max Concentration (µg/m³)	Median Concentration (µg/m³)	Days TARP Triggered in the Month	Days TARP Actions Implemented in the Month
Representative Background Locations						

Location	Parameter	Averaging Period	Max Concentration (µg/m^3)	Median Concentration (µg/m^3)	Days TARP Triggered in the Month	Days TARP Actions Implemented in the Month
Dandenong	PM_{10}	24-hour	56.9	16.6	-	-
Monash						
54 Howleys East Boundary	PM_{10}	24-hour	37.7	21.4	0	0
LP1 SE Boundary	PM_{10}	24-hour	48.7	14.4	6	0
Monash - Site Compound	PM_{10}	24-hour	45.5	24	2	0

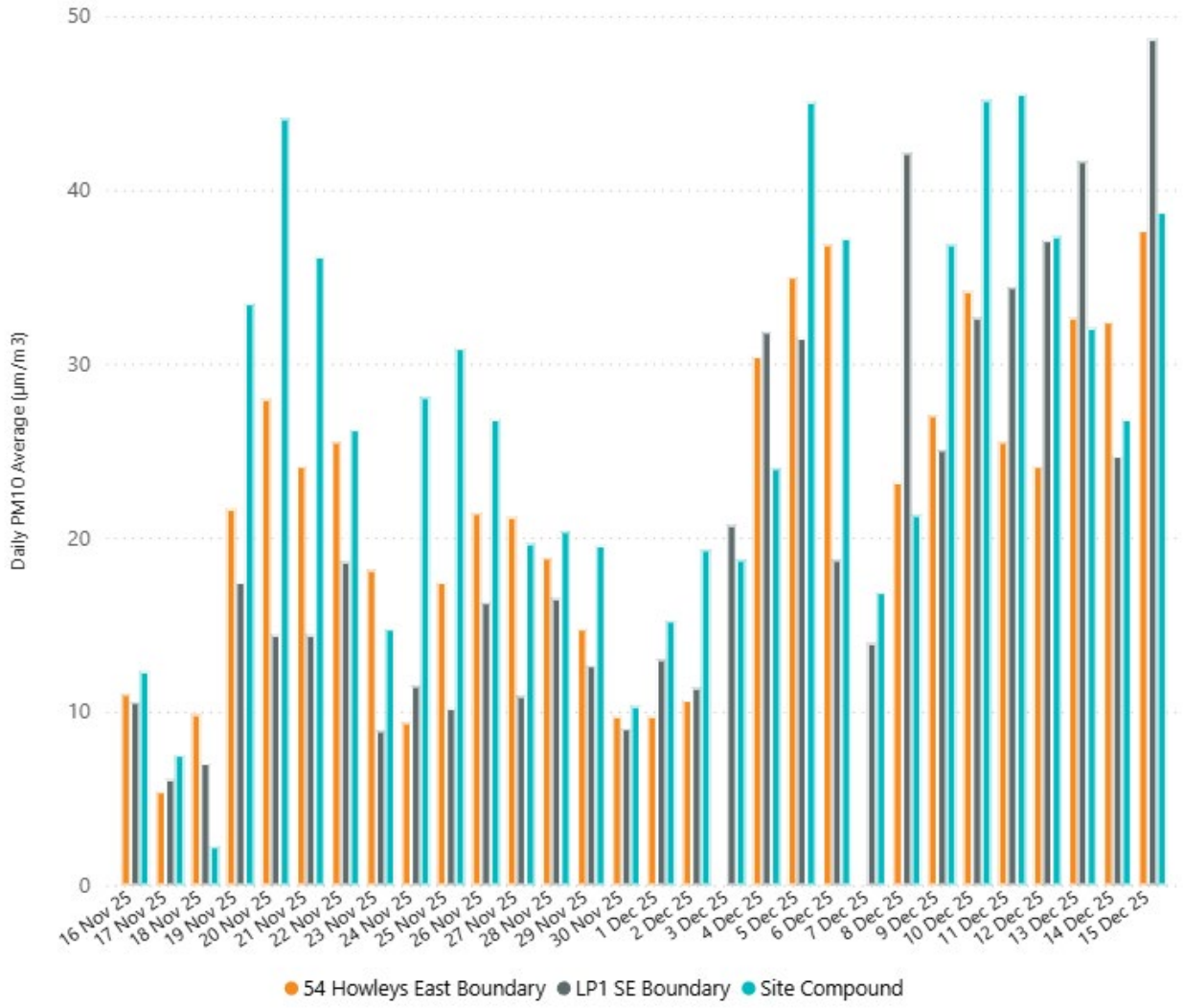

Figure 8: Daily Averages PM_{10} Results at Monash

3.4.1 Analysis

Measures implemented to proactively manage dust on this site include water carts and street sweepers. In addition, daily observations by supervisors and environmental representatives are performed to respond to areas of concern. Visual air inspections are also undertaken to proactively monitor and confirm there were no off-site dust impacts due to construction activities on site and to mitigate any interruptions to monitoring equipment.

There were no elevated daily average PM_{10} events during the reporting period. The TARP was triggered on eight days during the reporting period. Dust management measures were confirmed to be active and sufficient for the activities on site, therefore no further TARP actions were implemented.

3.5 Meteorological Conditions

Table 8: Daily weather observations for Moorabbin, Victoria

Statistic	Min Temperature (°C)	Max Temperature (°C)	Maximum Wind Gust Direction	Maximum Wind Gust Speed (km/h)	Relative Humidity @ 9:00 AM (%)
Mean	12	21.5	N/A	44.5	66.3
Lowest	5.4	15.8	SE	28	27
Highest	18.7	34.5	WSW	65	94

Table 9: Daily rain data for Moorabbin, Victoria

Statistic	Rain (mm)
Daily Low	0
Daily High	24.8
Total	74

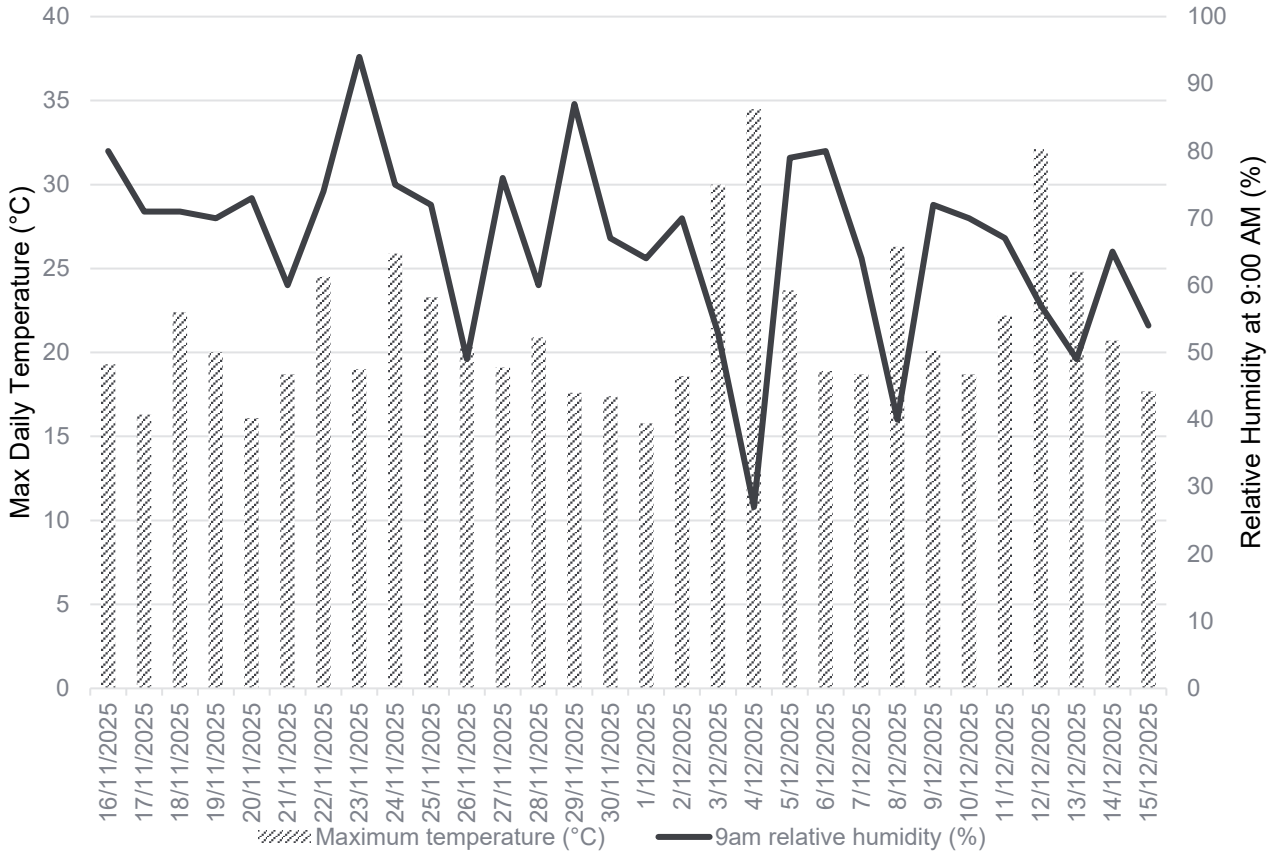

Figure 9: Daily relative humidity and temperature observations for Moorabbin, Victoria

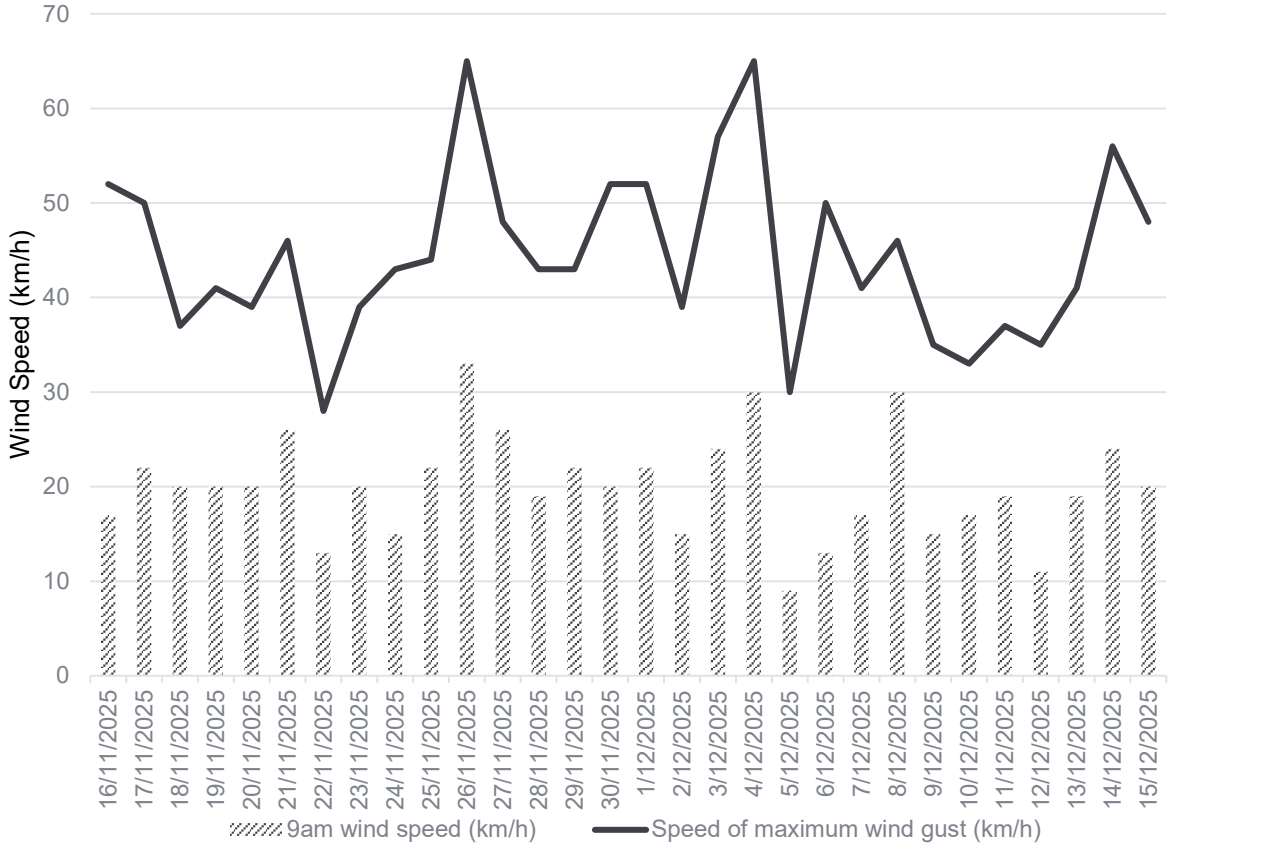

Figure 10: Daily wind speed observations for Moorabbin, Victoria

4 Quality Assurance

4.1 Data Capture

Data capture is defined as the number of valid data periods collected divided by the number of available data periods. Valid data excludes period where the instrument is unavailable due to calibration and maintenance and excludes periods where the data has been rejected due to quality assurance/data validation procedures. Data capture statistics for the reporting period 16 November to 15 December 2025 are shown below.

Table 10: Daily PM_{10} Air Quality Monitoring Data Capture

Location	Available Periods	Collected Periods	Data Capture	Details
Train Stabling Facility West				
Linear Reserve North	30	30	100%	There were no interruptions to monitoring at this location during the reporting period.
Linear Reserve South	30	14	47%	The monitor was offline from 29 November due to a technical error with monitor.
North	30	30	100%	There were no interruptions to monitoring at this location during the reporting period.
South	30	30	100%	There were no interruptions to monitoring at this location during the reporting period.
Clarinda TBM launch site				
CC01	30	30	100%	There were no interruptions to monitoring at this location during the reporting period
CC08	14	14	100%	There were no interruptions to monitoring at this location during the reporting period. Monitor was established and operational from the 2 December 2025.
East Boundary	17	17	100%	There were no interruptions to monitoring at this location during the reporting period. Monitor was relocated to CC08 on 2 December 2025.
North West Boundary	30	17	57%	Monitor was operational up to 2nd December 2025 and then was demobilized following a site risk assessment.
South Boundary	30	30	100%	There were no interruptions to monitoring at this location during the reporting period.
Clayton				
Central	30	30	100%	There were no interruptions to monitoring at this location during the reporting period.
East	30	13	43%	Monitor was offline from 27 November 2025. Visual monitoring was undertaken for this location until replacement on 16 December 2025.

Location	Available Periods	Collected Periods	Data Capture	Details
North West	30	30	100%	There were no interruptions to monitoring at this location during the reporting period.
South	30	30	100%	There were no interruptions to monitoring at this location during the reporting period.
Monash				
54 Howleys East Boundary	30	28	93%	Monitor was offline on the 3 and 7 December 2025 due to a technical error. There were no interruptions for the rest of the reporting period.
LP1 SE Boundary	30	30	100%	There were no interruptions to monitoring at this location during the reporting period.
Monash Site Compound	30	30	100%	There were no interruptions to monitoring at this location during the reporting period.

4.2 Data Validation

Data contained in this report has been validated against performance and calibration requirements for each instrument. Data during commissioning, maintenance and calibration periods has been removed from the validated data sets.

Table 11: Monitoring device calibration information

Location	Device Serial Number	Calibration Date	Calibration Due
Train Stabling Facility West			
North	HEX-000418	17 Feb 2025	17 Feb 2027
South	HEX-000498	20 Sep 2024	20 Sep 2026
Linear Reserve North	HEX-000706	19 Feb 2025	19 Feb 2027
Linear Reserve South	HEX-000795	18 Dec 2024	18 Dec 2026
Clarinda			
South Boundary	HEX-000348	19 Feb 2025	19 Feb 2027
East Boundary	HEX-000780	18 Dec 2024	18 Dec 2026
CC08	HEX-000780	18 Dec 2024	18 Dec 2026

Location	Device Serial Number	Calibration Date	Calibration Due
CC01	HEX-000628	19 February 2025	19 February 2027
North West Boundary	HEX-000791	18 Dec 2024	18 Dec 2026
Clayton			
Central	HEX-000203	19 Mar 2025	19 Mar 2027
East	HEX-001162	29 Sep 2025	29 Sep 2027
North West	HEX-000623	19 Feb 2025	19 Feb 2027
South	HEX-000782	23 Jul 2025	23 Jul 2027
Monash			
Site Compound	HEX-000727	14 Nov 2025	14 Nov 2027
LP1 SE Boundary	HEX-000432	13 Nov 2025	13 Nov 2027
54 Howleys East Boundary	HEX-000536	08 Dec 2025	08 Dec 2027

Glossary

Term / Abbreviation	Definition
µg/m^3	micrograms per cubic metre is a unit of measurement used to measure the mass of air pollutants (micrograms) per volume of air (cubic metre) as a concentration.
EAQDMP	The Environmental Air Quality and Dust Management Plan (EAQDMP) is environmental management documentation prepared by the PC to manage and monitor air quality impacts during construction of SRL East. It includes the RMMP and TARP and is verified by the IEA.
EES	Environment Effects Statement (EES) in Victoria, environment assessment of the potential environmental impacts or effects of a proposed development under the Environment Effects Act 1978.
EMF	The Environmental Management Framework (EMF) provides a transparent and integrated framework to manage environmental effects of the SRL East Project during construction and operation to achieve acceptable environmental outcomes.
EPA	Environment Protection Authority (EPA) is the Victorian regulator established under the Environment Protection Act 2017 and which has the statutory objective to protect human health and the environment from the harmful effects of pollution and waste.
EPRs	The Environmental Performance Requirements (EPRs) define the environmental outcomes that must be achieved during the design, construction and operation of SRL East and are included within the EMF.
ERS	The Environmental Reference Standard (ERS) is a tool made under the Environment Protection Act 2017 to identify and assess environmental values, including air quality, in Victoria.
IEA	The Independent Environmental Auditor (IEA) is appointed by the Victorian Government to undertake independent environmental reviews and audits of project activities including assessing compliance with the EMF and EPRs.
PC	Principal Contractor
PM_{10}	Particulate matter with an aerodynamic diameter of 10 micrometres (µm) or less. PM_{10} particles are small enough to have a potential impact on human health.
RMMP	The Risk Management and Monitoring Program (RMMP) plan outlines the approach to air quality monitoring and includes instrumental, visual monitoring, TARP and public reporting processes. The RMMP forms part of the EAQDMP.
TARP	The Trigger Action Response Protocol (TARP) defines a series of adaptive management measures that are implemented to avoid or mitigate impacts from dust emissions for nearby sensitive receptors in response to the results from monitoring. The TARP forms part of the EAQDMP.
TARP Triggered during the reporting month	This refers to the number of days TARP trigger criteria or the Air Quality Objective was exceeded during the reporting month.
TARP actions implemented during the reporting month	This refers to the number of days additional TARP mitigation measures or actions were required to be implemented as a response to project related exceedances. These actions are in addition to existing controls implemented on site.

TERRAVERDE

SUBURBAN RAIL LOOP EAST

Tunnels North

Air Quality Monthly Report 16 Nov – 15 Dec 2025

SRL-WPD-TVC-NAP-REP-XLP-PWD-000006 Rev B

22 January 2026

webuild

GS E&C Australia

BOUYGUES CONSTRUCTION AUSTRALIA

Version control and record

Version	Date	Comments
A	12/01/2026	Report Issued to SRLA
B	22/02/2026	To respond to comments from SRLA

Contents

Glossary

Term	Definition
µg/m^3	micrograms per cubic metre is a unit of measurement used to measure the mass of air pollutants (micrograms) per volume of air (cubic metre) as a concentration.
BUW	Burwood site compound
EAQDMP	The Environmental Air Quality and Dust Management Plan (EAQDMP) is environmental management documentation prepared by the PC to manage and monitor air quality impacts during construction of SRL East. It includes the RMMP and TARP and is verified by the IEA.
EES	Environment Effects Statement (EES) in Victoria, environment assessment of the potential environmental impacts or effects of a proposed development under the Environment Effects Act 1978.
EMF	The Environmental Management Framework (EMF) provides a transparent and integrated framework to manage environmental effects of the SRL East Project during construction and operation to achieve acceptable environmental outcomes.
EPA	Environment Protection Authority (EPA) is the Victorian regulator established under the Environment Protection Act 2017 and which has the statutory objective to protect human health and the environment from the harmful effects of pollution and waste.
EPRs	The Environmental Performance Requirements (EPRs) define the environmental outcomes that must be achieved during the design, construction and operation of SRL East and are included within the EMF.
ERS	The Environmental Reference Standard (ERS) is a tool made under the Environment Protection Act 2017 to identify and assess environmental values, including air quality, in Victoria.
ESF	Emergency Support Facility
IEA	The Independent Environmental Auditor (IEA) is appointed by the Victorian Government to undertake independent environmental reviews and audits of project activities including assessing compliance with the EMF and EPRs.
PC	Principal Contractor
PM_{10}	Particulate matter with an aerodynamic diameter of 10 micrometres (µm) or less. PM_{10} particles are small enough to have a potential impact on human health.
RMMP	The Risk Management and Monitoring Program (RMMP) plan outlines the approach to air quality monitoring and includes instrumental, visual monitoring, TARP and public reporting processes. The RMMP forms part of the EAQDMP.
SRL	Suburban Rail Loop
TARP	Trigger Action Response Protocol
TARP Triggered during the month	Refers to the number of days TARP trigger criteria or the Air Quality Objective was exceeded during the reporting month.
TARP actions implemented during the reporting month	Refers to the number of days additional TARP mitigation measures or actions were required to be implemented as a response to project related exceedances. These actions are in addition to existing controls implemented on site.
TV	Terra Verde

Executive Summary

Key Outcomes

Key outcomes arising from the monthly air quality monitoring program:

- All instances of elevated PM_{10} levels were investigated and additional controls implemented, where required.
- TARP was not triggered at the ESF site during the reporting period
- At Burwood, TARP Level 1 was triggered for one day. Water was used to wet down the work zone until conditions returned to normal.
- Proactive response undertaken to confirm there were no offsite dust impacts.

Purpose of the Report

This report presents the results of the monthly review of the air quality monitoring data for each Suburban Rail Loop (SRL) East main works construction site for the period between 16 Nov 2025 – 15 Dec 2025 in accordance with SRL East EMF and EPRs AQ1 and AQ2.

Tunnels North works for SRL East commenced at the ESF, 601 High Street Road, Mount Waverley, on 30 June 2025, and at the Burwood site, 200 Burwood Highway, on 30 September 2025. Terra Verde (TV) is delivering the Tunnels North works as the Principal Contractor (PC).

The PC implements an air quality monitoring program on each site that includes both visual observation and instrumental air quality monitoring. The purpose of the air quality monitors is to measure the concentration of small dust particles in the air near the construction site. These particles, known as PM_{10} have the potential to impact human health. PM_{10} refers to particles with an aerodynamic diameter of 10 µm or less.

This report compares the measured concentrations to air quality objectives that are defined in the ERS which is a tool under the Environment Protection Act 2017. The ERS sets out the air quality objectives for PM_{10} which are measured over a 24-hour averaging period and are shown in Table 1 below. The objectives are risk-based concentrations that are not intended to be compliance levels, but they assist the PC to understand the risk to human health. When the instrumental monitor and/or visual observations identify a change in site conditions this prompts the PC to take actions on site to reduce dust impacts, and review mitigation measures applied.

Scope of Reporting

Site activities and operations undertaken on the ESF site during the month included:

- Piling platform construction
- Piling works, drill and pour piles
- Excavation works
- General works, unloading delivery materials and housekeeping works
- Temporary shed demobilisation
- Commissioning of permanent crib

Site activities and operations undertaken on the BUW site during the month included:

- STAS works
- TBM assembly & heavy lift beam foundation
- Crib demobilisation
- Installation of new Cribs
- Drainage removal and installation
- Hard and soft piling works

- Car park asphalting works

Results

The key findings are summarised in Table 1. An analysis of these findings is provided in Section 3.

Table 1: Summary of air quality monitoring results

Location	Parameter	Avg Period	Max Conc. (µg/m^3)	Median Conc. (µg/m^3)	Air Quality Objective (µg/m3)	Days TARP Triggered in the Month	Days TARP Actions Implemented in the Month
Representative Background Locations							
EPA - Alphington	PM_{10}	24-hour	30.2	16.9	NA	N/A	N/A
Mount Waverley - ESF							
ESF Northwest	PM_{10}	24-hour	44.8	20.4	50	0	0
ESF Southwest	PM_{10}	24-hour	29.6	10.9	50	0	0
Burwood- BUW							
BUW East	PM_{10}	24-hour	29.3	12.8	50	0	0
BUW South	PM_{10}	24-hour	39.7	18.0	50	1	1

Notes:

The ESF southwest monitor has been missing data since 14 November due to an issue with the SiteHive equipment in that area. The equipment was inspected and replaced, and it went back online on 27 November.

The Burwood East monitor was offline from 27 November after electricians accidentally disconnected a cable while installing a cable tray below the monitor. The BUW monitor was back online on 28 November.

1. Introduction

1.1 SRL East

Suburban Rail Loop (SRL) will deliver a 90km orbital rail line connecting Melbourne's middle suburbs, linking every major train service from the Frankston Line to the Werribee Line via Melbourne Airport and transforming our public transport network.

SRL East from Cheltenham to Box Hill is now in major construction. The new rail line will connect major employment, health, education and retail destinations in Melbourne's east and south east, slashing travel times, reducing congestion and connecting passengers travelling on the Gippsland corridor to destinations across Melbourne.

Tunnels North works for SRL East commenced at the ESF site (601 High Street Road, Mount Waverley) on 30 June 2025, and at the Burwood site compound (200 Burwood Highway) on 29 September 2025. TV is delivering the Tunnels North works as PC. The works will involve shaft excavation to enable ventilation and other support of tunnelling activity.

1.2 Environmental Management Framework

The EMF for SRL East provides a transparent and integrated framework to manage environmental effects of the Project and includes EPRs that define environmental outcomes that must be achieved during the design, construction, and operation phases of the Project. The EMF is available on the SRL East website at https://bigbuild.vic.gov.au/library/suburban-rail-loop/planning/srl-east-environmental-management-framework.

The development of the EMF has been informed by relevant legislation, policy and guidelines, and the specialist impact assessment studies completed for the SRL EES and the Minister's Assessment, dated 5 August 2022.

The EMF requires the PC to develop and implement an EAQDMP. As part of implementing this document plan, the PC is required to conduct monitoring of PM_{10} concentrations and measure wind speed and direction at each Early Works construction site and at a representative control site. The EAQDMP also includes a TARP which defines a set of proactive and reactive triggers that prompt actions on site to reduce dust impacts, and review mitigation measures applied.

The PC regularly reviews the monitoring data at each site, for the purpose of assessing the effectiveness of EAQDMP implementation. The verified results of the PM10 monitoring for the applicable monthly period are contained in this report, which will be available to the public, in accordance with the requirements of the EMF.

2. Air Quality Monitoring

2.1 Context

Maintaining air quality is important for public health, the liveability of our cities and our environment. Overall air quality conditions in Melbourne are good, however like all major cities, there are days where the background concentrations of air pollutants are very high on a regional basis. Sometimes these elevated concentrations are due to regional influences such as windblown continental dust, bushfires or hazard reduction burns. Emissions from traffic, home heating, and industrial emissions across Melbourne can also cause high background concentrations, especially when the weather is calm. EPA monitoring stations measure these background levels of pollution that already exist in the air within the surrounding area.

The EPA monitoring station at Alphington is used as the representative control site for the ESF and Burwood site.

Without effective management, construction of SRL East has the potential to contribute to these background concentrations which may impact public health. Comparison of SRL East monitoring results with publicly available EPA monitoring data is used by the PC to identify when construction-related activities are impacting local air quality, and conversely when the local air quality results may be influenced by background conditions outside of the influence of the construction site.

Meteorological conditions such as wind direction and speed can impact on the dispersion of particulates in the air and by monitoring these, the PC can respond when conditions on site change. Having records of wind conditions is also helpful for retrospectively identifying the activity that is causing any elevated dust concentrations.

2.2 Purpose

The purpose of the air quality monitors is to measure the concentration of small dust particles in the air near the construction site. These particles, known as PM_{10} have the potential to impact human health. PM_{10} refers to particles with an aerodynamic diameter of 10 µm or less.

The measured concentrations are compared to air quality objectives that are defined in the ERS which is a tool under the Environment Protection Act 2017. The air quality objectives defined in the ERS informed the objectives for air quality for SRL East, noting that the ambient air ERS is not a compliance standard that one can pollute up to. The ERS does not provide an indicator or objective for nuisance dust.

The objectives are risk-based concentrations that are not intended to be compliance levels, but they assist the PC to understand the risk to human health. The ERS sets out the air quality objectives for PM10 which are measured over a 24-hour averaging period, as reproduced below in Table 2.

Table 2: Ambient air quality objectives for PM_{10}

Indicator	Air Quality Objective (µg/m3)	Averaging Period
Indicator Particles as PM_{10} (maximum concentration)	50	24-hour

The measured concentrations (which include both existing background concentrations and SRL East's incremental contribution over a 24-hour period) are presented in Section 3 and compared against the air quality objective. Monitoring is continuous, even when there are no construction-related activities occurring on the site. Periods of time where there are no site activities are classified as 'out of hours'. The potential for dust generation from the work sites is much lower when there are no site activities occurring, however dust can still be generated at the work site during 'out of hours' periods due to wind erosion.

2.3 Monitoring Locations

Air quality monitors are located on or adjacent to the construction sites, to represent local air quality conditions, in positions that enable the PC to adequately measure potential impact of works on local sensitive receivers including residents.

The air quality monitors were installed on the following dates at each of the following locations. The location of these monitors is shown on maps in Section 3 of this Report.

Table 3: Air quality monitoring locations active during reporting period

Monitoring Location	Date Commissioned	Coordinates	Monitoring Parameters	Representative Control Site
Mount Waverley – ESF northwest	30 June 2025	Latitude: -37.87036˚ Longitude: 145.14550˚	PM_{10}	Alphington EPA monitoring station
Mount Waverley – ESF southwest	30 June 2025	Latitude: -37.87067 ˚ Longitude: 145.14543˚	PM_{10}	Alphington EPA monitoring station
Burwood Site Compound -BUW East	29 September 2025	Latitude: -37.85067˚ Longitude: 145.1122˚	PM_{10}	Alphington EPA monitoring station
Burwood Site Compound -BUW South	2 October 2025	Latitude: -37.85232 ˚ Longitude: 145.11106˚	PM_{10}	Alphington EPA monitoring station

2.4 Data Limitations and Verification

The following limitations apply to this data:

- Meteorological conditions on site can affect measurements made by monitoring devices. For instance, dust measurements can be impacted by rainfall, fog and/or humidity (with water droplets in the air being mistaken as dust particles). Displaying periods of inclement weather allows reviewers to identify measurements that may have been impacted.
- Data collection from the ESF southwest monitor was impacted by equipment faults, leading to unreliable readings that are not considered representative of works occurring at the site.

3. Results

Figure 1 shows the location of the ESF air quality monitoring stations. Data has been provided in tabular and graphical form (see Table 4 and Figure 2) to visually present 24-hour averages of PM10 over the monthly period. The data included in this report has been verified by Terra Verde and relevant subject matter experts.

3.1 ESF

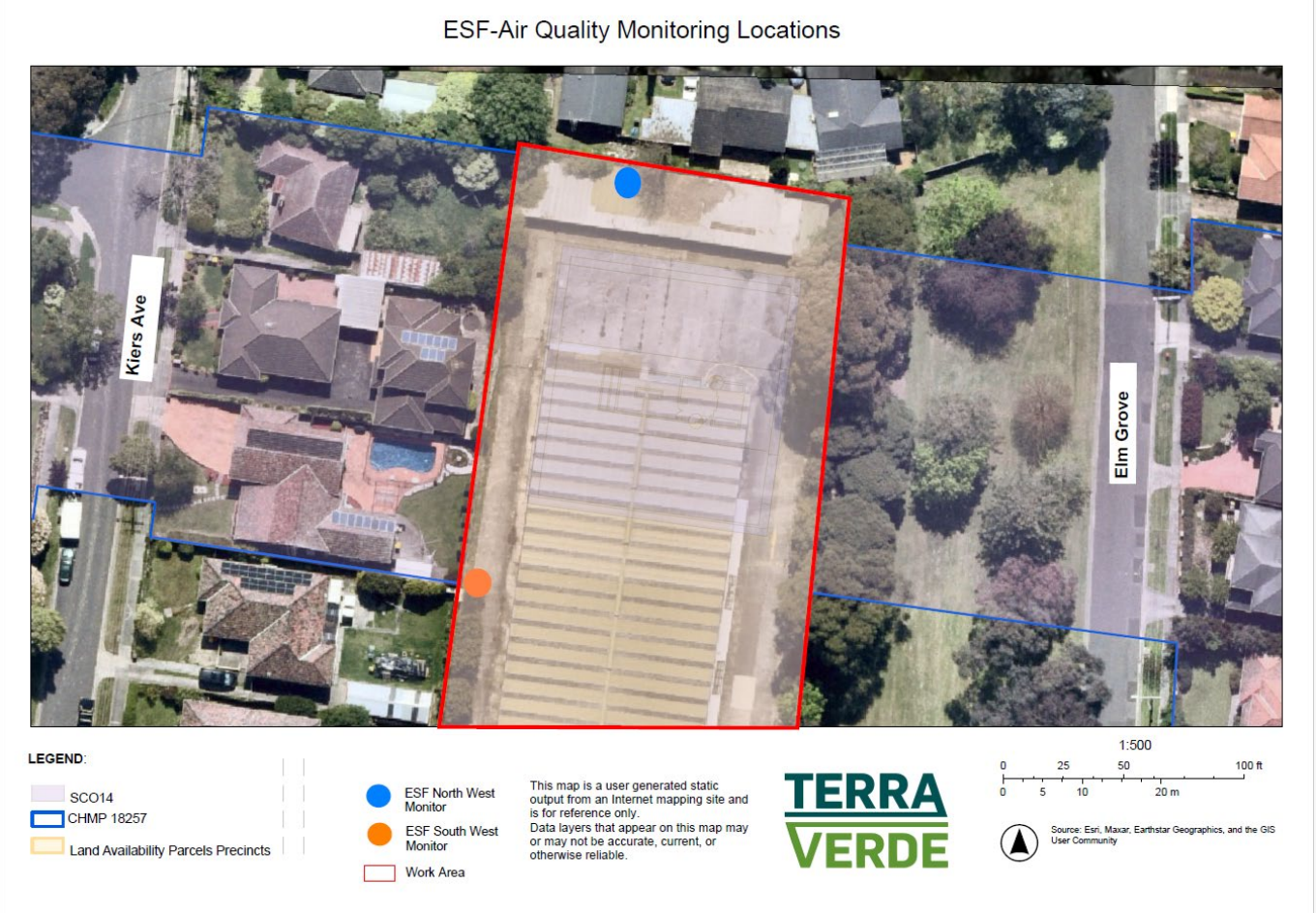

Figure 1: ESF air quality monitoring stations

Monitor Number	Monitoring Location	Max Daily PM_{10} Concentration ($\mu g/m^3$)	Median Daily PM_{10} Concentration ($\mu g/m^3$)	Air Quality Objective (µg/m3)	Days TARP Triggered in the Month	Days TARP Actions Implemented in the Month
-	Representative Background – Alphington EPA monitoring station	30.2	16.9	N/A	N/A	N/A
1	Mount Waverley ESF Northwest	44.8	20.4	50	0	0

Monitor Number	Monitoring Location	Max Daily PM_{10} Concentration ($\mu g/m^3$)	Median Daily PM_{10} Concentration ($\mu g/m^3$)	Air Quality Objective (µg/m3)	Days TARP Triggered in the Month	Days TARP Actions Implemented in the Month
2	Mount Waverley ESF Southwest	29.6	10.9	50	0	0

Table 4: ESF PM_{10} results

Notes:

The ESF southwest monitor has been missing data since 14 November due to an issue with the SiteHive equipment in that area. The equipment was inspected and replaced, and it went back online on 27 November.

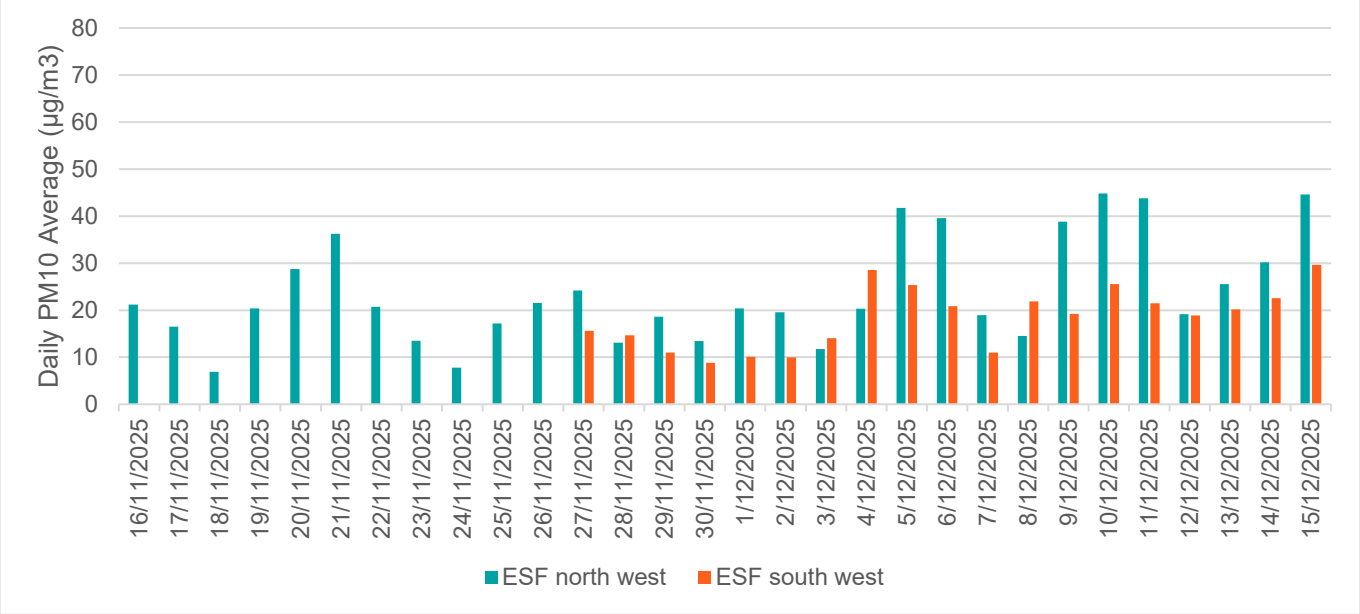

Figure 2: ESF PM_{10} daily averages from 16 November to 15 December

3.1.1 Daily Objective Analysis

No daily averages above the daily objective were recorded during the reporting period. The maximum daily average was 44.8 µg/m³ at ESF northwest monitor during piling works. A proactive visual inspection was carried out, and no dust was observed leaving the site.

Data from the southwest monitor was unavailable until 27 November due to inspection and replacement of the equipment. As a result, data for this period is incomplete.

3.1.2 ESF TARP Analysis

The TARP uses the continuous data from the on-site PM_{10} monitors to enable short-term, proactive and reactive air quality management. Alert values are set at three 'levels' in response to PM_{10} concentrations:

- Level 1 – Preventive Alert Level: investigate and prepare.
- Level 2 – Preventive Action Level: action required.
- Level 3 –Trigger Level: further action and changes to operations required.

The TARP was not triggered at the ESF site during the reporting period.

3.2 BURWOOD

Figure 3. BUW air quality monitoring stations

Monitor Number	Monitoring Location	Max Daily PM_{10} Concentration ($\mu g/m^3$)	Median Daily PM_{10} Concentration ($\mu g/m^3$)	Air Quality Objective (µg/m3)	Days TARP Triggered in the Month	Days TARP Actions Implemented in the Month
-	Representative Background – Alphington EPA monitoring station	30.2	16.9	N/A	N/A	N/A
1	Burwood- BUW East	29.3	12.8	50	0	0

Monitor Number	Monitoring Location	Max Daily PM_{10} Concentration ($\mu g/m^3$)	Median Daily PM_{10} Concentration ($\mu g/m^3$)	Air Quality Objective (µg/m3)	Days TARP Triggered in the Month	Days TARP Actions Implemented in the Month
2	Burwood-BUW South	39.7	18.0	50	1	1

Note:

The Burwood East monitor was offline from 27 November after electricians accidentally dislodged a cable while installing a cable tray below the monitor. The monitor went back online on 28 November.

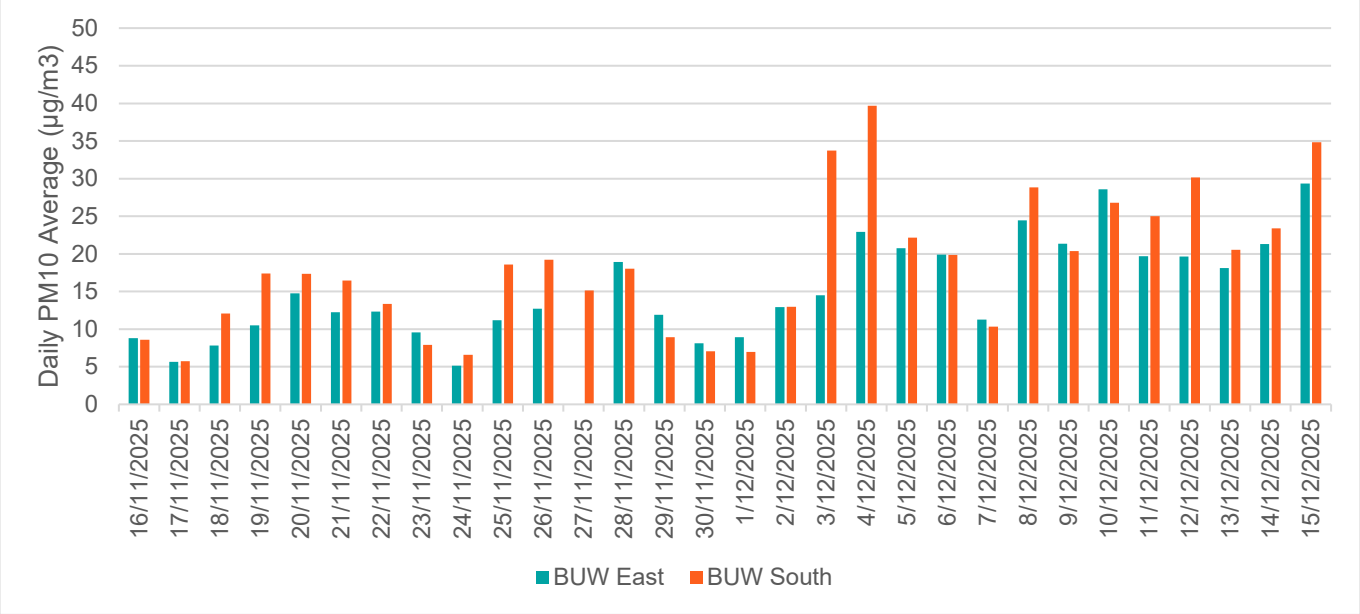

Figure 4. Burwood PM_{10} daily averages from 16 November to 15 December

3.2.1 Daily Objective Analysis

No daily averages above the daily objective were recorded during the reporting period. The maximum daily average PM_{10} concentration was 39.7 µg/m³ at the BUW South monitoring location during excavation works, TBM assembly and heavy lift beam foundation. A proactive visual inspection was carried out, and dust controls were in place. Water carts operated on site regularly.

Data from the BUW South monitor is missing from 27 November after electricians accidentally disconnected a cable while installing a cable tray below the monitor. The monitor was back online on 28 November.

3.2.2 – BUW TARP Analysis

The TARP uses the continuous data from the on-site PM_{10} monitors to enable short-term, proactive and reactive air quality management. Alert values are set at three 'levels' in response to PM_{10} concentrations:

- Level 1 – Preventive Alert Level: investigate and prepare.
- Level 2 – Preventive Action Level: action required.
- Level 3 –Trigger Level: further action and changes to operations required.

At BUW, TARP Level 1 was triggered on 11 December at the BUW South monitor. Water trucks were deployed to wet down the work area until dust levels returned to normal.

3.3 Meteorological Conditions

Table 5: Daily weather observations for Melbourne (Olympic Park), Victoria 16/11/2025 – 15/12/2025. Data Source BOM.

Statistic	Min Temperature (°C)	Max Temperature (°C)	Maximum Wind Gust Direction	Maximum Wind Gust Speed (km/h)	Relative Humidity @ 9:00 AM (%)
Mean	12.8	22.0	N/A	37	64.4
Lowest	8.7	16.1	ESE	26	29
Highest	20.2	34.5	SSW	59	100

Table 6: Daily rain data for Melbourne (Olympic Park), Victoria 16/11/2025 – 15/12/2025. Data Source BOM.

Statistic	Rain (mm)
Daily Low	0
Daily High	22.8
Total	62.8

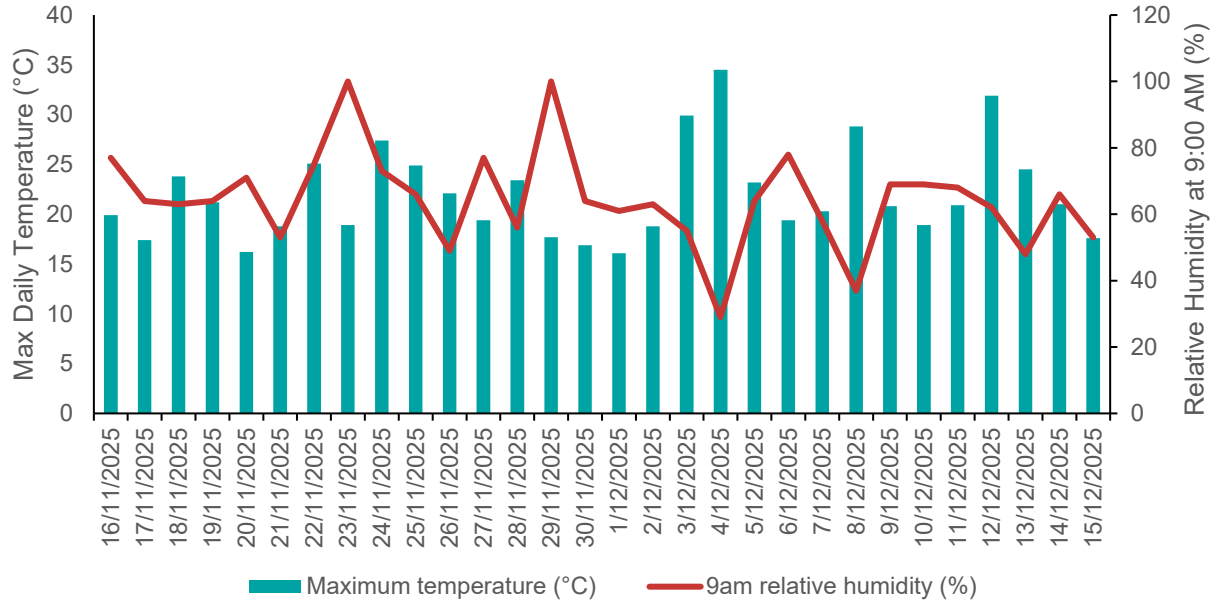

Figure 5: Daily relative humidity and temperature observations for Melbourne (Olympic Park), Victoria 16/11/2025 – 15/12/2025. Data Source BOM.

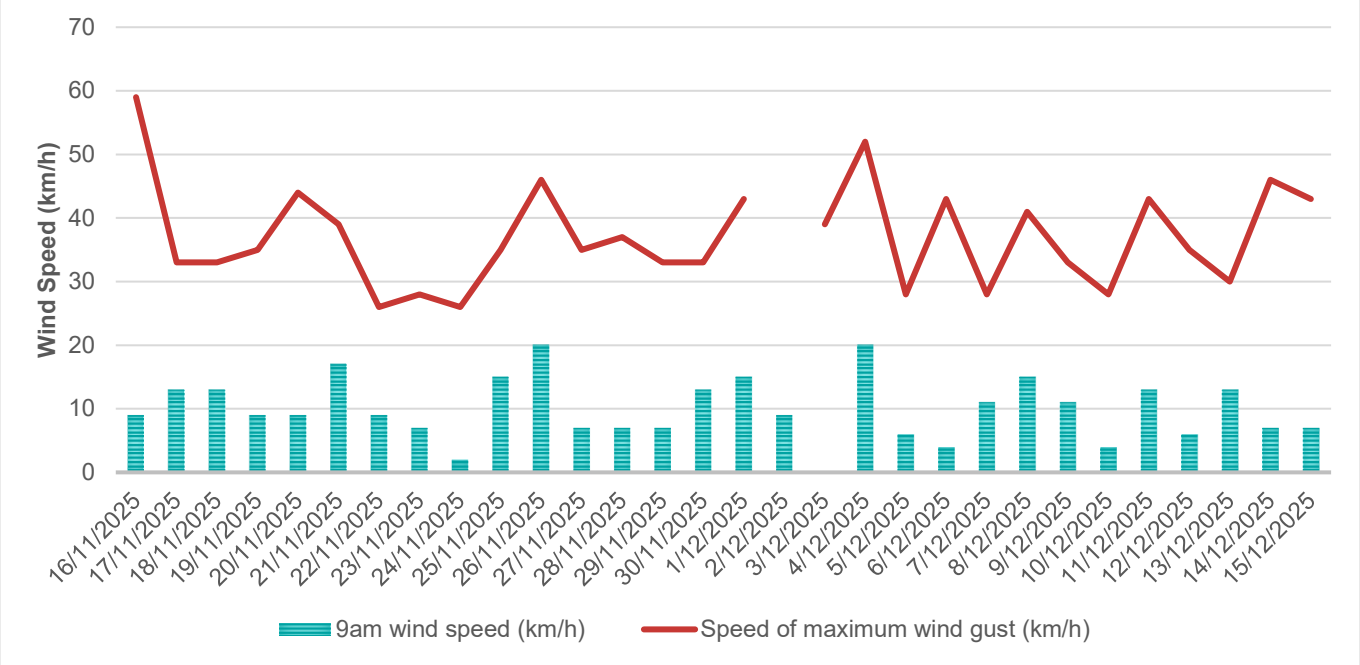

Figure 6. Daily wind speed observations for Melbourne (Olympic Park), Victoria *16/11/2025 – 15/12/2025*. Data Source BOM

4. Quality Assurance

4.1 Data Capture

Data capture is defined as the number of valid data periods collected divided by the number of available data periods. Valid data excludes period where the instrument is unavailable due to calibration and maintenance and excludes periods where the data has been rejected due to quality assurance/data validation procedures.

Data capture statistics for the reporting period 16 November 2025 – 15 December 2025 are shown in Table 7, below.

Data capture was 100% for all parameters at the ESF Northwest monitor and 63% at the Southwest monitor due to a technical firmware issue that caused no data to be recorded until 27 November during the reporting period. The Burwood East monitor recorded 97% data capture, as one day of data was not recorded, while Burwood South achieved 100%.

Table 7: Air quality monitoring, data capture summary

Location	Parameter	Averaging Period	Collected Periods	Available Periods	Data Capture
Mount Waverley – ESF northwest	PM_{10}	24-hours	30	30	100%
Mount Waverley – ESF southwest	PM_{10}	24-hours	30	19	63%
Burwood Site Compound - BUW East	PM_{10}	24-hours	30	29	97%
Burwood Site Compound - BUW South	PM_{10}	24-hours	30	30	100%

4.2 Data Validation

Data contained in this report has been validated against performance and calibration requirements for each instrument. Data during commissioning, maintenance and calibration periods has been removed from the validated data sets.

Table 8: Monitoring device calibration information

Location	Device Serial Number	Calibration Date	Calibration Due
Mount Waverley – ESF northwest	HEX-001065	11/06/2025	11/06/2027
Mount Waverley – ESF southwest	HEX-001185	11/06/2025	11/06/2027
Burwood Site Compound -BUW East	HEX-000635	11/06/2025	11/06/2027
Burwood Site Compound -BUW South	HEX-000707	11/06/2025	11/06/2027