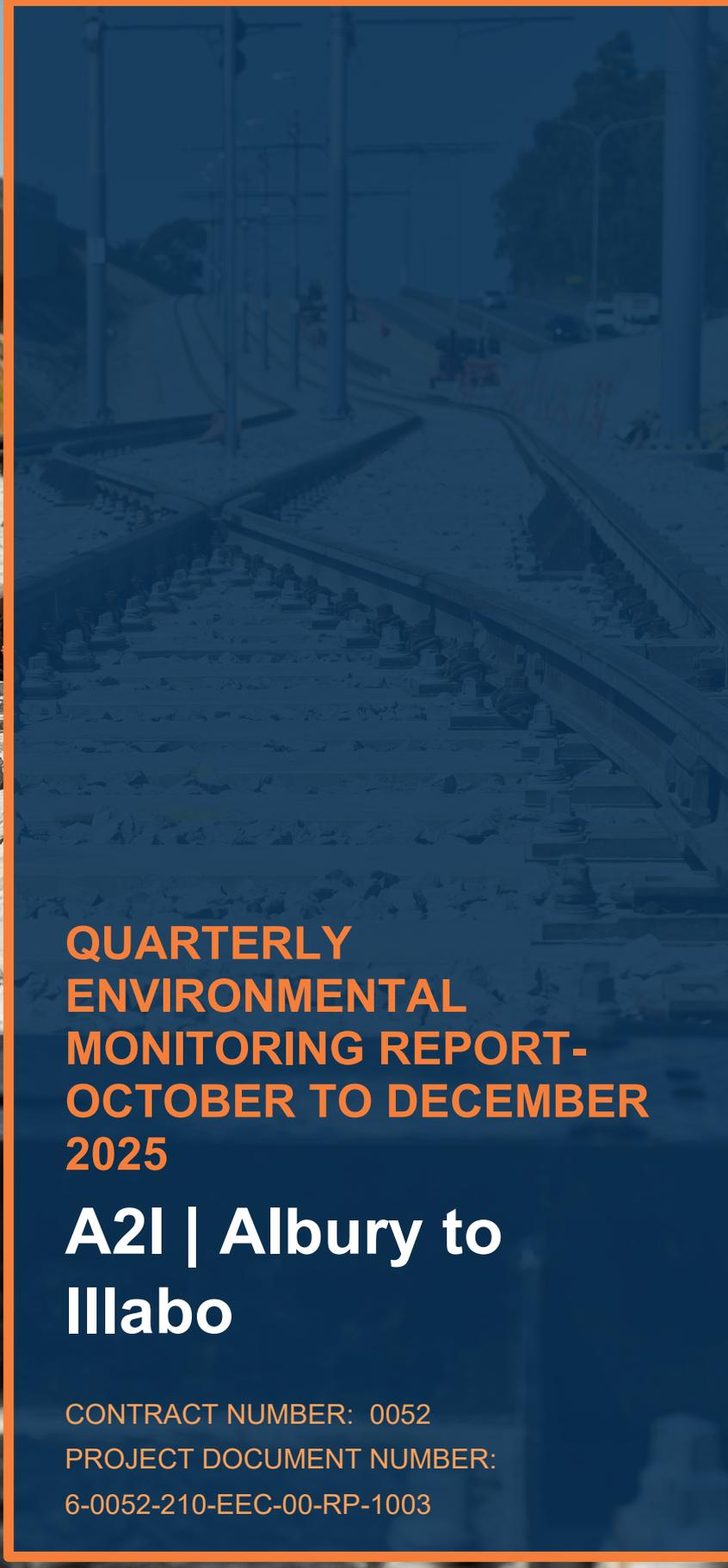




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**QUARTERLY
ENVIRONMENTAL
MONITORING REPORT-
OCTOBER TO DECEMBER
2025**

**A2I | Albury to
Illabo**

CONTRACT NUMBER: 0052

PROJECT DOCUMENT NUMBER:

6-0052-210-EEC-00-RP-1003

Document Control

DOCUMENT TITLE:	Quarterly Environmental Monitoring Report October to December 2025		
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Revision History

REVISION	REVISION DATE	AMENDMENT	DATE TO CLIENT
A	19/01/2026	Issued for review	19/01/2026
B	06/02/2026	Issued for review - IR comments addressed	06/02/2026
0	16/02/2026	Endorsed Revision	16/02/2026
1	18/02/2026	Issued for Use - response to comments	18/02/2026

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GLOSSARY

Specific terms and acronyms used throughout this plan are listed and described in Table 2 below.

TABLE 1: DEFINITIONS

TERM	DEFINITION
A2I	Albury to Illabo
AA	Acoustic Advisor
ARTC	Australian Rail Track Corporation
BCS	Biodiversity, Conservation and Science Group
BoM	Bureau of Meteorology
CBMP	Construction Biodiversity Management Plan
CEMP	Construction Environmental Management Plan
CEMF	Construction Environmental Management Framework
CNVMP	Construction Noise and Vibration Management Plan
CNVMP _r	Construction Noise and Vibration Monitoring Program
CNVIS	Construction Noise and Vibration Impact Statement
CoA	Condition of Approval
COD	Chemical Oxygen Demand
CMP	Construction Monitoring Program
CSWMP	Construction Surface Water Monitoring Program
DCCEEW	Department of Climate Change, Energy, the Environment and Water (NSW)
dB	Decibel
DO	Dissolved Oxygen
DPHI	Department of Planning, Housing and Infrastructure
DS	Downstream
EC	Electrical Conductivity
EIS	Environmental Impact Statement
EPL	Environment Protection Licence
EPA	Environment Protection Authority
ER	Environmental Representative

HBT	Hollow-Bearing Tree
ICNG	Interim Construction Noise Guideline
IRPL	Inland Rail Pty Ltd
ISO	International Organisation for Standardisation
J2I	Junee to Illabo enhancement site
LGA	Local Government Area
NML	Noise Management Level
NST	No Sample Taken
NOx	Oxidised Nitrogen
OOHW	Out-of-Hours Work
P2N	Parkes to Narromine

COMPLIANCE MATRIX

The below Table 2 outlines this reports compliance with Infrastructure Approval SSI-10055.

TABLE 2: COMPLIANCE MATRIX TO ARTC SPECIFICATION

CONDITION REFERENCE	CONDITION REQUIREMENT	REFERENCE										
C26	<p>Except as provided by Condition C16, the following Construction Monitoring Programs must be prepared and implemented in consultation with the relevant government agencies identified for each to compare actual performance of construction of the CSSI against the performance predicted in the documents listed in Condition A1 or in the CEMP:</p> <table border="1"> <thead> <tr> <th>Required Construction</th> <th>Relevant Government Agencies</th> </tr> </thead> <tbody> <tr> <td>Traffic, transport and access</td> <td>Relevant councils and Transport for NSW (TfNSW)</td> </tr> <tr> <td>Noise and vibration</td> <td>Relevant councils</td> </tr> <tr> <td>Biodiversity</td> <td>BCS (NSW DCCEEW)</td> </tr> <tr> <td>Surface water</td> <td>DCCEEW Water Group and relevant councils</td> </tr> </tbody> </table>	Required Construction	Relevant Government Agencies	Traffic, transport and access	Relevant councils and Transport for NSW (TfNSW)	Noise and vibration	Relevant councils	Biodiversity	BCS (NSW DCCEEW)	Surface water	DCCEEW Water Group and relevant councils	<p>This report and associated submission to relevant agencies</p>
Required Construction	Relevant Government Agencies											
Traffic, transport and access	Relevant councils and Transport for NSW (TfNSW)											
Noise and vibration	Relevant councils											
Biodiversity	BCS (NSW DCCEEW)											
Surface water	DCCEEW Water Group and relevant councils											
C27	<p>Each Construction Monitoring Program (CMP) must have consideration of SMART principles and provide:</p> <ol style="list-style-type: none"> details of baseline data available; details of baseline data to be obtained and when; details of all monitoring of the project to be undertaken; the parameters of the project to be monitored; the frequency of monitoring to be undertaken; the location and justification of monitoring locations; the reporting of monitoring results and analysis results against relevant criteria; details of the methods that will be used to analyse the monitoring data; procedures to identify and implement additional mitigation measures where the results of the monitoring indicate unacceptable project impacts; and any consultation to be undertaken in relation to the monitoring programs. 	<p>The CMP's were endorsed as an appendix to their respective CEMP sub-plan and satisfy SMART principles:</p> <p>Construction Biodiversity Management Plan - Stage B: Appendix G - Monitoring Program (Doc No: 6-0052-210-PES-00-PJ-0007)</p> <p>Construction Soil and Water Management Plan (CSWMP) - Stage B: Appendix B - Construction Surface Water Quality Monitoring Program - Stage B (Doc No: 6-0052-210-PES-00-PJ-0005)</p> <p>Construction Noise and Vibration Management Plan - Stage B: Appendix B - Construction Noise and Vibration Monitoring Program (Doc No: 6-0052-210-PMA-00-PL-0013)</p>										

C28	The Noise and Vibration Monitoring Program must be prepared in accordance with the requirements of Approved Methods for the Measurement and Analysis of Environmental Noise (EPA).	<p>Construction Noise and Vibration Management Plan - Stage A: Appendix A - Construction Noise and Vibration Monitoring Program 6_0052-210-PES-00-PJ-0002</p> <p>Construction Noise and Vibration Management Plan - Stage B: Appendix B - Construction Noise and Vibration Monitoring Program (Doc No: 6-0052-210-PMA-00-PL-0013)</p>
C29	CMP(s) must be submitted to the Planning Secretary for approval except those permitted to be endorsed by others pursuant to a CEMF approved by the Planning Secretary under Condition C16.	The CMP's were submitted to the Planning Secretary and approved as an appendix to their respective CEMP sub-plan prior to the commencement of construction.
C30	Where a CMP requires Planning Secretary's approval, the CMP must be endorsed by the ER and then submitted to the Planning Secretary for approval no later than one (1) month before the commencement of construction, or where construction is staged, no later than one (1) month before the commencement of each stage.	As above
C31	CMP(s) not requiring the Planning Secretary's approval, but requiring ER endorsement, must be submitted to the ER no later than one (1) month before the commencement of construction or where construction is staged no later than one (1) month before the commencement of that stage. The CMP(s) must be endorsed by the ER as being consistent with the conditions of this approval and all undertakings made in the documents listed in Condition A1.	As above
C33	The CMP(s), as approved or endorsed (as relevant), including any minor amendments approved by the ER, must be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the Planning Secretary, whichever is the greater.	As above
C34	The results of the CMP(s) must be submitted to the Planning Secretary, and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant CMP.	This report

1 INTRODUCTION

1.1 Project Overview

Inland Rail is an approximate 1,600 kilometres (km) freight rail network that will connect Melbourne and Brisbane via regional Victoria, New South Wales (NSW) and Queensland. The Inland Rail route would involve using approximately 1,000 km of existing track (with enhancements and upgrades where necessary) and 600 km of new track, passing through 30 local government areas (LGAs). Inland Rail will accommodate double-stacked freight trains up to 1,800 metres (m) long and 6.5 m high.

The Australian Government has confirmed that Inland Rail is an important project to meet Australia's growing freight task, improve road safety and help decarbonise the economy. Inland Rail will enhance our national freight and supply chain capabilities, connecting existing freight routes through rail, roads and ports, and supporting Australian's growth. Inland Rail is being delivered by Australian Rail Track Corporation (ARTC) and Inland Rail Pty Ltd (IRPL).

Comprising 12 sections, a staged approach is being undertaken to deliver Inland Rail. Each of these projects can be delivered and operated independently with tie-in points to the existing railway. Work south of Parkes has been prioritised, which will enable Inland Rail to initially connect to existing rail networks between Melbourne, Sydney, Perth and Adelaide via Parkes and Narromine. The Parkes to Narromine (P2N) and Narrabri to North Star Phase 1 (N2NS P1) sections are complete.

The project will enable enhancement works to structures and sections of track along 185 km of the existing operational standard-gauge railway in the Albury to Illabo (A21) section of the Inland Rail program (refer to Figure 1). Enhancement works are required to provide the increased vertical and horizontal clearances required for double-stacked freight trains. Works would include track realignment, lowering and/or modification within the existing rail corridor, modification, removal or replacement of bridge structures (rail, road and/or pedestrian bridges), raising or replacing signal gantries, level-crossing modifications and other associated works

1.2 Environmental Protection Licence and Reporting Requirements

Martinus Rail Pty Ltd obtained the Environment Protection Licence (EPL No. 21984) from the NSW Environment Protection Authority for the purpose of constructing the project. This licence authorises the carrying out of scheduled activities listed in the licence at premises located between Albury and Illabo. The following report details environmental monitoring undertaken during this reporting month conducted in accordance with the EPL.

The EPL can be found by following the link below to the EPA's website: [Environment & Heritage | POEO Licences, Application and Notice Detail](#).

1.3 Submission Requirements and Distribution

In accordance with Condition **C34**, this Construction Monitoring Report (i.e. Quarterly Environmental Monitoring Report) will be submitted to the Planning secretary and following agencies for information at the frequency identified in the Construction Monitoring Program, which is on a quarterly basis and within 60 days of the period's conclusion:

- NSW Environment Protection Authority (EPA)
- Relevant Councils: Albury City Council, Wagga Wagga City Council, Junee Shire Council, Lockhart Shire Council, and Greater Hume Shire Council
- NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) – including the Water Group and Conservation Programs, Heritage and Regulation (CPHR) (formerly known as Biodiversity, Conservation and Science Group (BCS)).

The Advisor (AA) will review and endorse the report as required by Condition **A27(e)** prior to submission to the Planning Secretary, Department of Planning, Housing and Infrastructure (DPHI).

1.4 Reporting Period

This Quarterly Environmental Monitoring Report has been prepared to address the Condition of Approval (CoA) C34 of the Planning Approval SSI-10055. The report presents monitoring data for the reporting period for all works undertaken on the Albury to Illabo (A21) portion of Inland Rail from **01st October 2025 to 31st December 2025**, representing the third Quarterly report submitted under C34.

In accordance with each Construction Monitoring Program, this Quarterly Environmental Monitoring Report will be submitted to the Planning Secretary and to relevant regulatory agencies (i.e. the EPA) for information 60 days after the reporting period ends.



FIGURE 1: SITE OVERVIEW

2 METHODOLOGY

2.1 Noise and Vibration

2.1.1 Noise

Noise monitoring throughout the reporting period has been conducted in accordance with the procedures outlined in Appendix B of the Construction Noise and Vibration Management Plan (CNVMP); the Construction Noise and Vibration Monitoring Program (CNVMPPr). Monitoring is conducted as required for out-of-hours work (OOHW), possessions, CNVIS validation, and complaint verification (if triggered), as well as ad hoc spot checks in response to potentially noise intensive plant or at the request of the Acoustic Advisor (AA). Monitoring activities were undertaken to generally satisfy the requirements of:

- Conditions of Approval (CoA): **C27, C28, and C34**
- Environment Protection Licence (EPL) No. 21984
- NSW EPA Approved Methods for the Measurement and Analysis of Environmental Noise (2022)
- Interim Construction Noise Guideline (ICNG, DECC 2009)

All monitoring was conducted by personnel deemed competent under Section 2.2 of the EPA Approved Methods, using equipment compliant with AS/NZS IEC 61672.1:2019 and AS 1055:2018. Monitoring locations were selected in accordance with the relevant site CNVIS, ICNG guidance, at the most noise-affected boundary within 30 metres of the residence, and at a height of 1.5 metres above ground level. Where access to private property was not granted, indicative monitoring was conducted at representative locations, with records of access requests maintained.

During this monitoring period, Martinus utilised the following noise monitoring devices:

TABLE 3: NOISE MONITORING EQUIPMENT

MANUFACTURER	MODEL	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE	LOCATION USED	DATE LOCATION MONITORING CEASED
RION	NL-42	00509260	03/09/2025	03/09/2026	South (Site 1 – Site 10)	-
RION	NL-43	00853458	10/09/2025	10/09/2026	South (Site 1 – Site 10)	-
RION	NL-43	00730063	07/05/2025	07/05/2026	North (Site 11 – Site 20)	-
RION	NL-43	00853459	01/11/2025	01/11/2026	North (Site 11 – Site 20)	-
SiteHive	-	HEX-000723	24/10/2024	24/10/2026	Edmondson Compound	29/04/2025 - Ongoing
SiteHive	-	HEX-000238	28/04/2025	28/04/2027	Illabo Compound	25/03/2025 - Ongoing
SiteHive	-	HEC-000264	23/04/2025	23/04/2027	Wrights Oval	05/12/2025-ongoing
SiteHive	-	HEX-000767	28/04/2025	28/04/2027	Kemp St Railway Parade	19/09/2025 - Ongoing

SiteHive	-	HEX-000600	15/08/2024	15/08/2026	Riverina Highway Albury Yard	12/09/2025 - 25/11/2025 25/11/2025 - 14/12/2025
SiteHive	-	HEX-000241	05/12/2023	05/12/2025	Albury Yard	14/12/2025 - Ongoing
Calibrator	NC-75	34556813	05/07/2025	05/07/2026	-	-

Calibration certificates are provided in **Appendix D**.

Table 4 details the specific noise monitoring activities undertaken during this quarter, aligning with the requirements set out in Table 13 of the CNVMP.

TABLE 4: CNVMP NOISE MONITORING PARAMETERS

MONITORING REQUIREMENT	FREQUENCY	EVIDENCE OF COMPLIANCE
Attended monitoring will be carried out at the commencement of activities for which a CNVIS has been prepared to confirm actual noise levels.	On the first occasion of activities for which a CNVIS has been prepared	Noise data register and attended monitoring field sheets
Attended monitoring where a complaint is received.	When a noise complaint is received and it is determined that the results of the process will assist in resolving the issue, or where this is identified as necessary to confirm mitigation measures are suitable	No noise complaints were received during this reporting period
Attended monitoring will be carried out at the request of AA or where predicted levels exceed the NML by: <ul style="list-style-type: none"> >15dB for OOHWP1 >5dB OOHWP2 	At the request of AA, or (at a minimum) on the first occasion of activities for which a CNVIS has identified exceedances of the NML as listed	Noise data register and attended monitoring field sheets
Attended Validation monitoring	At least the first night of out of hours work where work is being undertaken in accordance with a community agreement	Noise data register and attended monitoring field sheets
Spot checks of noise intensive plant	At the commencement of noise intensive plant activities	Noise data register and attended field sheets
Where required for the purposes of refining construction methods or techniques to reduce noise levels	When trialling/refining construction methodologies or mitigation measures targeted at the reduction in sound power level of a specific noise source	Not applicable to this reporting period

2.1.2 Vibration

Vibration monitoring conducted during this reporting period was done generally in accordance with the CNVMPr. Monitoring was undertaken to generally satisfy the requirements of:

- Conditions of Approval (CoA) C26, C27, and C34,
- EPA's 'Assessing Vibration: a technical guideline' (DEC, 2006).

Vibration monitoring is conducted in response to activities that have the potential to generate vibration within the minimum working distances specified in Section 6.3 of the CNVMPr, and in proximity to heritage items, as required by CoA E80. Vibration monitoring was undertaken during the period for works conducted within minimum working distances of sensitive receivers (cosmetic damage and human comfort) and to validate the project vibration modelling and assumptions related to specific activities. A full summary of vibration monitoring activities can be found in Table 5.

Across the A2I project, Martinus utilise "SiteHive" Hexanode Vibration Monitoring to assess vibration impacts. The Hexanode device is calibrated in accordance with ISO/IEC 16063-21:2003 standards. Calibration certificates are provided in **Appendix D**.

TABLE 5: VIBRATION MONITORING EQUIPMENT

MANUFACTURER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE	LOCATION USED	DATE USED
SiteHive	VIB-000279	05/09/2024	05/09/2026	97 Railway St, Turvey Park	06/12/2025-07/12/2025
SiteHive	VIB-000348	04/07/2025	04/07/2027	1 Edgar St, Junee	06/12/2025-07/12/2025
SiteHive	VIB-000387	04/07/2025	04/07/2027	Junee Signal Hut	06/12/2025-07/12/2025
SiteHive	VIB-000047	04/07/2025	04/07/2027	Culcairn Railway Station House	06/12/2025-07/12/2025
SiteHive	VIB-000165	26/06/2025	26/06/2027	Albury Yard - Signalling Hut 1	06/12/2025-07/12/2025

TABLE 6: CNVMPr VIBRATION MONITORING PARAMETERS

MONITORING PARAMETER	FREQUENCY	EVIDENCE OF COMPLIANCE
Vibratory works conducted within minimum working distances of sensitive receivers (cosmetic damage and human comfort)	At the commencement of vibratory works	Vibration monitoring data register
When a complaint is received in relation to human exposure to vibration levels and/or suspected property damage due to vibration impacts.	As required or when monitoring is considered an appropriate response	Vibration monitoring data register
For the purposes of refining construction methodology to reduce vibration levels	As required	Vibration monitoring data register
Vibration generating activities that have the potential to impact on heritage items in accordance with CoA E80	Any time vibration generating activities are occurring in proximity to heritage items.	Not yet triggered in this reporting period

2.2 Surface Water

Surface water monitoring conducted throughout the monitoring period was undertaken in accordance with the Surface Water Monitoring Program. As per Section 3 of the program, nine points along the A21 alignment were monitored both monthly, as well in response to rain events that exceeded 25mm in 24hrs within the quarterly reporting period.

Surface water quality monitoring was performed at upstream (US) and downstream (DS) sites using a Horiba multiparameter for physio-chemical parameters, as well as the collection of water sample suits which were sent to a NATA accredited laboratory for analysis. The parameters analysed have been summarised below in Table 7.

During the monitoring period several sites could not be sampled due to the absence of any/running water. Typically, in the case of sampling locations that maintained ponded or stagnant water, no sample was taken as it would not have been reflective of the water body nor aligned with the intent of the Surface Water Monitoring Program.

Table 7 details the analytes that were monitored during the construction phase of the Project.

TABLE 7: SURFACE WATER QUALITY MONITORING PARAMETERS

CATEGORY	PARAMETERS
Physio-chemical parameters (field)	<ul style="list-style-type: none"> - Turbidity (NTU); - pH; - Dissolved oxygen (DO%); - Salinity/ Electrical Conductivity (EC); - Temperature (°C).
Laboratory analysis	<ul style="list-style-type: none"> - Chlorophyll-a; - Nutrients (total phosphorus and total nitrogen); - Total Suspended Solids (TSS); - Total metals (Aluminium, arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel and zinc); - Total Kjeldahl Nitrogen (TKN); - Nitrogen NOx (oxidised nitrogen); - Organic compounds (BTEX, naphthalene, and TRH); - Total Recoverable Hydrocarbons (TRH C6-C9, TRH C10-C36); - Chemical Oxygen Demand (COD); - Biochemical Oxygen Demand (BOD).

2.3 Biodiversity

Biodiversity monitoring conducted throughout the monitoring period was carried out in line with the project Construction Biodiversity Management Plan (CBMP). The monitoring aims to assess actual biodiversity impacts against predicted outcomes and ensure compliance with relevant CoA.

Monitoring activities outlined in this report were designed to:

- Validate predicted impacts to biodiversity.
- Ensure compliance with vegetation clearing limits.
- Assess effectiveness of mitigation measures.
- Inform biodiversity offset requirements (if required).

Biodiversity monitoring on A21 is conducted utilising several metrics. For the purpose of this report, specific reference will be made to the performance of outcomes as described in CoA **E20**.

3 RESULTS

3.1 Noise and vibration

3.1.1 Noise

3.1.1.1 Attended Noise Monitoring

Attended noise monitoring was undertaken throughout the reporting period as required for out-of-hours work (OOHW) and possessions, which were the periods of highest noise impact. Tailored monitoring programs were developed for each OOHW permit, aligned with the specific scope of works. Monitoring was carried out at sensitive receiver locations as per the site-specific CNVIS and relevant work periods.

Attended noise monitoring was undertaken for the following scopes:

- **Albury Yard / Riverina:** Albury Pedestrian Bridge demolition and removal during December Possession 2025
- **Edmondson Street:** Traffic Mitigation installation works such as line marking and pole installation,
- **Wagga Wagga Yard:** Mothers bridge OOH demolition
- **Kemp Street:** Tree clearing and December 2025 Possession OOHW – piling and track works
- **Olympic Highway:** December 2025 Possession OOHW – track works
- **Junee to Illabo (J2I):** Sunday Day and Monday Nights OOHW – track works and December 2025 Possession OOHW – track works

All measured noise levels were found to be compliant with the relevant criteria. All monitoring results showed that the noise levels were generally compliant with the project requirements.

Detailed attended noise monitoring summary for attended noise monitoring event are provided in **Appendix A**.

3.1.1.2 Un-attended Noise Monitoring

Daily unattended noise monitoring was conducted using SiteHive Hexanodes, with monitors installed at Albury Yard and Riverina Hwy as well as Edmondson, Kemp Street, Wrights Oval and J2I site compounds when they were operational. These monitors continuously captured noise levels associated with daily site and construction activities. The primary purpose of the SiteHive Hexanodes is to enable the site team to make real-time decisions and proactively identify and manage noise risks. Outside of major possession periods, the acoustic environment was largely influenced by background sources such as local and highway traffic, as well as intermittent train horns and shunting activities.

3.1.2 Vibration

3.1.2.1 Vibration Monitoring

Vibration monitoring was undertaken across A21 throughout the monitoring period at sites including Albury Yard, Culcairn, Junee Yard and Kemp Street. SiteHive unattended vibration monitors provide live access to vibration data via the SiteHive Dashboard and sends text alerts for trigger level exceedances. This live feedback of data allows for prompt response to triggered events and the ability to amend construction methodology if required.

During the December Possession 2025, unattended vibration monitoring was undertaken at Albury Yard and Culcairn Yard. Two SiteHive Hexanode Vibration monitors were installed for the duration of the possession; one located within the North Signalling Hut at Albury Yard, and one located outside the Station Masters Residence at Culcairn. Both structures are considered to have heritage significance and were identified in the relevant Construction Noise and Vibration impact Statements (CNVIS) for required vibration monitoring when the hydraulic hammer was operational. Due to the proximity (>10m) of the North Signalling hut to the demolition area, attended noise monitoring was taken when works impeded minimum working distances.

Vibration monitoring was undertaken for the Junee Yard December 2025 Possession when piling activities (piling rig – bored) and track tampers were operational. 12t vibratory rollers were programmed for use during possession, however a 12t static roller was used instead. SiteHive Hexanode Vibration Monitors were installed at 1 Edgar Street and the Junee Yard Signalling Hut.

The Hexanode devices are calibrated in accordance with ISO/IEC 16063-21:2003 standards and set up as per the SiteHive guideline. All measured vibration levels are compliant with the relevant criteria. A few isolated events were recorded; however, upon review of the data these were determined to be short-term and deemed compliant. The vibration monitoring summary is provided in **Appendix B**.

3.2 Surface Water

3.2.1 Monthly Sample Events

Surface water monitoring conducted throughout the monitoring period identified elevated results in several water quality parameters. These results were observed across multiple sampling locations along the alignment, with downstream concentrations of some parameters exceeding upstream values by more than 20%, triggering the management response outlined in the Construction Surface Water Quality Monitoring Program (CSWMP). The management response for each month is as follows:

3.2.1.1 Monthly Management Response

October

October monitoring results indicate multiple exceedances of water quality parameters at both upstream and downstream locations across all sampled sites, highlighting potential environmental concerns. The parameters most frequently exceeding guideline values include electrical conductivity, temperature, turbidity, chlorophyll-a, dissolved oxygen (DO), and Total Phosphorus.

To assess whether these exceedances are linked to Martinus construction activities, a review of baseline data, recent rainfall records and recent activities including potential recorded erosion/sediment control incidents are required.

These exceedances are consistent with the expectations of the EIS, noted in the CSWMP due to the highly disturbed nature of the waterways, likely the result of varying sources identified in the project EAD's, tied to historical and ongoing agricultural practices, urban development, and industrial runoff within the broader catchment.

Rainfall data for the month preceding the sampling show approximately 26mm precipitation accumulatively recorded over 12 separate days, with the highest daily rainfall of 4.8mm recorded on the 17th. No construction activities have commenced in proximity to SW03. Construction commenced approximately 2km South-West of the SW01 sampling points; works include site establishment, utility relocation and geotechnical investigations. Construction has commenced approximately 2km east of the SW07 location with predominantly low risk activities including ancillary facility establishment, utility relocation and vegetation clearing occurring. There were no erosion/sediment incidents within this time.

Given these conditions and the persistent nature of exceedances at upstream sites, it is highly unlikely that the observed water quality issues are attributable to recent construction activities by Martinus. Instead, the results point to long-standing land use impacts and natural catchment characteristics as the primary contributors to water quality degradation.

November

November monitoring results indicate multiple exceedances of water quality parameters at both upstream and downstream locations across all sampled sites, highlighting potential environmental concerns. The parameters most frequently exceeding guideline values include temperature, chlorophyll-a, dissolved oxygen (DO), Aluminium, Chromium and Naphthalene.

To assess whether these exceedances are linked to Martinus construction activities, a review of baseline data, recent rainfall records and recent activities including potential recorded erosion/sediment control incidents are required.

These exceedances are consistent with the expectations of the EIS, noted in the CSWMP due to the highly disturbed nature of the waterways, likely the result of varying sources identified in the project EAD's, tied to historical and ongoing agricultural practices, urban development, and industrial runoff within the broader catchment.

Rainfall data for the month preceding the sampling show approximately 19mm precipitation accumulatively recorded over 6 separate days, with the highest daily rainfall of 9.4mm recorded on the 4th. No construction activities have commenced in proximity to SW02, SW03, SW05. Construction commenced approximately 2km South-West of the SW01 sampling points; works include site establishment, utility relocation and geotechnical investigations. Construction has commenced approximately 2km east of the SW07 location with predominantly low risk activities including ancillary facility establishment, utility relocation and vegetation clearing occurring. There were no erosion/sediment incidents within this time.

Given these conditions and the persistent nature of exceedances at upstream sites, it is highly unlikely that the observed water quality issues are attributable to recent construction activities by Martinus. Instead, the results point to long-standing land use impacts and natural catchment characteristics as the primary contributors to water quality degradation.

December

December monitoring results indicate multiple exceedances of water quality parameters at both upstream and downstream locations across all sampled sites, highlighting potential environmental concerns. The parameters most frequently exceeding guideline values include chlorophyll-a, dissolved oxygen (DO), Aluminium

To assess whether these exceedances are linked to Martinus construction activities, a review of baseline data, recent rainfall records and recent activities including potential recorded erosion/sediment control incidents are required.

These exceedances are consistent with the expectations of the EIS, noted in the CSWMP due to the highly disturbed nature of the waterways, likely the result of varying sources identified in the project EAD's, tied to historical and ongoing agricultural practices, urban development, and industrial runoff within the broader catchment.

Rainfall data for the month preceding the sampling show approximately 30mm precipitation accumulatively recorded over 12 separate days, with the highest daily rainfall of 11mm recorded on the 4th of November. No construction activities had commenced prior to the sampling in proximity to SW03. Construction commenced approximately 2km South-West of the SW01 sampling points; works include site establishment, utility relocation and geotechnical investigations. Construction has commenced approximately 2km east of the SW07 location with predominantly low risk activities including ancillary facility establishment, utility relocation and vegetation clearing occurring. There were no erosion/sediment incidents within this time.

Given these conditions and the persistent nature of exceedances at upstream sites, it is highly unlikely that the observed water quality issues are attributable to recent construction activities by Martinus. Instead, the results point to long-standing land use impacts and natural catchment characteristics as the primary contributors to water quality degradation.

3.2.2 Conclusion

As previously mentioned, several sites were consistently dry or stagnant, making them unable to be sampled or unrepresentative of the surface water quality in the waterway.

When compared against baseline data from the Environmental Impact Statement (EIS) for the A21 project—particularly Chapter 18: Hydrology, Flooding and Water Quality and Technical Paper 11—the observed exceedances aligned with historical trends and expectations for the region. The EIS identified many of the watercourses within the Murray and Murrumbidgee catchments as 'ephemeral systems', often subject to low flow conditions, poor ecological health, and naturally elevated concentrations of certain water quality indicators.

Given the absence of construction activities at the majority of sites, the previously obtained data from last quarter, and the consistency of results with pre-existing conditions documented in the EIS, it is reasonable to conclude that the observed deviations in water quality are not attributable to project-related impacts but rather reflect natural variability and legacy environmental conditions within the catchment.

A summary of this quarters surface water results can be found Table 8 and Table 9 below. A detailed monitoring reports and analyses are provided in **Appendix C**.

TABLE 8: SURFACE WATER SITES WHICH WERE NOT SAMPLED

MONITORING EVENT	SITES NOT SAMPLED	REASON
October	SW02, SW04, SW05, SW06, SW08, SW09	All dry or stagnant
November	SW04, SW06, SW08, SW09	All dry or stagnant
December	SW02, SW04, SW05, SW06, SW08, SW09	All dry or stagnant

TABLE 9: SURFACE WATER QUALITY EXCEEDANCE SUMMARY

MONITORING EVENT	SITE	PARAMETERS EXCEEDED	DOWNSTREAM > UPSTREAM (>20%)
October	SW01 – US	Turbidity, Electrical conductivity, dissolved oxygen, Temperature, Chlorophyll-a, Total Nitrogen, Total Phosphorus and Aluminium	-

MONITORING EVENT	SITE	PARAMETERS EXCEEDED	DOWNSTREAM > UPSTREAM (>20%)
	SW01 – DS	Turbidity, Electrical conductivity, dissolved oxygen, Temperature, Chlorophyll-a, Total Nitrogen and Total Phosphorus	pH, DO, EC, Temperature, Chlorophyll-a, Total N, TSS, Aluminium and NOx
	SW03 – US	pH, dissolved oxygen, Temperature, Total Phosphorus and Aluminium	-
	SW03 – DS	pH, Dissolved Oxygen, Temperature, Chlorophyll-a, Total Phosphorus and Total Nitrogen	Turbidity, DO, Temperature, Chlorophyll-a and Total Phosphorus
	SW07 – US	Dissolved oxygen, Temperature, Aluminium and Copper	-
	SW07 – DS	pH, Dissolved oxygen, Temperature, Chlorophyll-a, Total Nitrogen and Total Phosphorus and Zinc	Dissolved oxygen, Temperature and Total Phosphorus.
November	SW01 – US	Turbidity, Electrical conductivity, dissolved oxygen, Temperature, Chlorophyll-a, Total Nitrogen and Aluminium.	-
	SW01 – DS	Turbidity, pH, Electrical conductivity, dissolved oxygen, Temperature, Chlorophyll-a, Total Nitrogen and Total Phosphorus	Turbidity, Electrical conductivity, Total N, TKN and Biological Oxygen demand
	SW02 – US	Electrical conductivity, dissolved oxygen, Temperature, Aluminium and Zinc	-
	SW02 – DS	dissolved oxygen, Temperature, Chlorophyll-a, Total Nitrogen and Total Phosphorus	pH, Dissolved oxygen, EC, Total Nitrogen, Total Phosphorus, Aluminium, Iron, Manganese, Nickel, TKN and Chemical oxygen demand
	SW03 – US	Dissolved oxygen and Aluminium	-
	SW03 – DS	: Dissolved Oxygen, Temperature, Chlorophyll-a, Total Phosphorus and Total Nitrogen	Turbidity, pH, Dissolved Oxygen, Electrical conductivity, Temperature, Chlorophyll-a, Total Phosphorus, Total Nitrogen, Aluminium, Iron, Manganese, TKN and Chemical oxygen demand
	SW05 – US	Dissolved oxygen, Temperature, Chlorophyll-a, Total Nitrogen, Total Phosphorus, Aluminium, Chromium, Copper and Zinc.	-

MONITORING EVENT	SITE	PARAMETERS EXCEEDED	DOWNSTREAM > UPSTREAM (>20%)
	SW05 – DS	Turbidity, dissolved oxygen, Temperature, Chlorophyll-a, Total Nitrogen, Total Phosphorus and Zinc	Turbidity, pH, Chlorophyll-a, Total Nitrogen, Total Phosphorus, TSS, Arsenic, Manganese, TKN, Chemical oxygen demand and Biological oxygen demand
	SW07 – US	Dissolved oxygen, Temperature, Aluminium and Zinc.	-
	SW07 – DS	Dissolved oxygen, Temperature, Chlorophyll-a, Total Nitrogen, Total Phosphorus and Zinc	Electrical conductivity, TSS and Aluminium
December	SW01 – US	Turbidity, dissolved oxygen, Chlorophyll-a, Total Phosphorus, Total Nitrogen and Aluminium.	-
	SW01 – DS	Turbidity, dissolved oxygen, Chlorophyll-a, Total Nitrogen, Total Phosphorus and Zinc	Electrical conductivity, Total Phosphorus, Total Nitrogen, TSS, Lead, TKN and NOx
	SW03 – US	Dissolved oxygen, Aluminium and Copper	-
	SW03 – DS	Dissolved Oxygen, Chlorophyll-a, Total Phosphorus and Total Nitrogen	Turbidity, pH, Temperature, Chlorophyll-a, Iron, Manganese and Biological oxygen demand
	SW07 – US	Dissolved oxygen, Chlorophyll-a, Aluminium, Copper and Zinc.	-
	SW07 – DS	Chlorophyll-a, Total Nitrogen, Total Phosphorus and Zinc	: Electrical conductivity and Temperature

3.2.3 Wet Weather Monitoring

In accordance with the CSWMP, wet weather monitoring is required following rainfall exceeding 25 mm within a 24-hour period. When triggered, the parameters assessed include turbidity, pH, dissolved oxygen (DO), electrical conductivity (EC), and temperature. During the October–December quarter, the highest recorded 24-hour rainfall occurred on 27 October in the Albury region, with 16 mm. As this did not meet the trigger threshold, no wet weather monitoring was undertaken during this period.

3.3 Biodiversity

3.3.1 Pre-Clearing/Post-Clearing Assessments

Pre-clearing assessments were conducted at enhancement sites in accordance with the CBMP. These assessments focused on verifying mapped vegetation, identifying habitat features, and evaluating connectivity for key threatened species, particularly the Squirrel Glider.

For enhancement sites where clearing had occurred a post clearing assessment was conducted.

Clearing occurred at the following enhancement sites during the reporting period.

TABLE 10: CLEARING EVENTS

SITE	DESCRIPTION
Junee to Illabo	Ongoing minor vegetation impacts resulting from shoulder reconditioning
Edmondson Street Bridge	Tree clearing due to clashes with final design at Edmondson St bridge Tree trimming/clearing to enable the 66kV scope
Kemp Street Bridge	Tree clearing due to clashes with final bridge design access for bridge demolition
Olympic Highway	Ongoing minor vegetation impacts resulting from shoulder reconditioning
Wagga Wagga Yard	Tree trimming and clearing in relation to the Mothers Bridge Demolition Minor grubbing works to enable piling pad construction and car park extension
Billy Hughes Bridge	Clearing and grubbing works for site establishment in the VISY paddock
Albury Yard	Grubbing works for piling pad location Tree removal in Sydney Trains Car Park and minor trimming in Swift Street compound

3.3.2 Plant Community Type Impacts

Vegetation clearing activities were monitored across all enhancement sites. Pre-clearing inspections confirmed mapped vegetation types and verified that no threatened ecological communities would be impacted as a result of any works associated with A21.

All clearing was supervised by a suitably qualified ecologist.

TABLE 11: PLANT COMMUNITY TYPE

NAME OF PLANT COMMUNITY TYPE / ID	IDENTIFIED AREA AS PER THE COA (HA)	AREA CLEARED REPORTING PERIOD (HA)	TOTAL AREA CLEARED (HA)
277 – moderate – Blakely’s Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	0.5	Nil	0.0776
277 – poor – Blakely’s Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	1.44	Nil	0.1767
277 – derived – Blakely’s Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	2.3	Nil	0.787
277 – Native plantings – Blakely’s Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	0.26	Nil	Nil
277 – Non-native – Blakely’s Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	30.5	Nil	Nil
5 – River Red Gum herbaceous-grassy very tall open forest wetland on inner floodplains in the lower slopes sub-region of the NSW	0.04	Nil	Nil

NAME OF PLANT COMMUNITY TYPE / ID	IDENTIFIED AREA AS PER THE COA (HA)	AREA CLEARED REPORTING PERIOD (HA)	TOTAL AREA CLEARED (HA)
South Western Slopes Bioregion and the eastern Riverina Bioregion			
Miscellaneous Ecosystems – ‘Highly Disturbed areas with no or limited Native Vegetation’	N/A	3.69445	9.83027
Miscellaneous Ecosystems – ‘Ornamental Plantings’	N/A	0.475138	0.607338

3.3.3 Threatened Species Habitat Impacts

Ecological field surveys confirmed the presence of several threatened fauna species within the study area, A number of the finds were consistent with the predictions in CoA E20 however several species were not identified during the survey.

Environmental Incident – Sloanes Froglet

On the 20th of November, at approximately 10am when undertaking vegetation grubbing works at Billy Hughes enhancement site, 3 individuals were recovered that appeared to be Sloane's Froglet. The site team immediately implemented the Unexpected Threatened Species Finds Protocol. The froglets were subsequently released back into suitable habitat by the ecologist. The immediate area and associated suitable habitat were subsequently remediated to the full extent possible under the direction and supervision of the ecologist.

This remediation included:

- Grubbed vegetation was delicately spread back over the disturbed area, uncovering two further froglets that had become trapped within the material;
- Juncus seeds collected from within the identified habitat were sewed in the vicinity; and
- An exclusion zone which incorporates a 1-metre buffer zone was then installed utilising star pickets, orange flagging, “No-Go” signage, and coir logs were installed around the perimeter of the exclusion zone to manage sediment run off.

In line with SSI- 10055 Condition of Approval the Department of Planning Housing and Infrastructure (DPHI) was notified of the event within 24 hours of its identification. A formal correspondence accompanied by a report detailing the event developed by the Subject Matter Expert (SME) and project ecologist “Habitat” was submitted to the department.

DPHI's response and direction was received on the 19th of December 2025, the unexpected find was determined to qualify as an event which threatened non-trivial potential material harm to the environment. DPHI provided the following direction in response to the environmental event:

1. You must provide evidence of the methods used to identify the Sloane's Froglet individuals and confirmation that the hygiene protocols and fauna handling protocols in your approved Biodiversity Management Plan have been followed.
2. You must undertake a formal review and update of the following management plans including:
 - a. Biodiversity Management Plan:
 - i. Hygiene protocols
 - ii. Fauna handling procedures
 - iii. Clearing procedures
 - b. Sloanes Froglet Management Plan:
 - i. Identification procedures
 - ii. Relocation procedures

You must provide the updated management plans for the Planning Secretary's approval by 28 February 2026 following consultation with CPHR via the NSW Major Projects Planning Portal.

TABLE 12: THREATENED FAUNA SPECIES HABITAT IMPACTS

FAUNA SPECIES	AREA AS PER THE COA (HA)	AREA IMPACTED (HA)	IDENTIFIED DURING REPORTING PERIOD	IDENTIFIED TO DATE
<u>Lower Slopes IBRA Subregion</u>				
Sloane's Froglet (<i>Crinia sloanei</i>)	0.03	Nil	Yes	No
Squirrel Glider (<i>Petaurus norfolcensis</i>)	0.16	Nil	No	Yes
Superb Parrot (<i>Polytelis swainsonii</i>)	0.16	Nil	No	No
<u>Inland Slopes IBRA Subregion</u>				
Sloane's Froglet (<i>Crinia sloanei</i>)	0.23	0.055	No	No
Key's Matchstick Grasshopper (<i>Keyacris scurra</i>)	0.21	Nil	No	No
Squirrel Glider (<i>Petaurus norfolcensis</i>)	1.82	0.2543	No	Yes
Superb Parrot (<i>Polytelis swainsonii</i>)	1.82	0.2543	No	No

3.3.4 Other Species Habitat Impacts

No other species habitat impacts were identified during this reporting period.

3.4 Weather Monitoring

In accordance with the requirements of the EPL, Condition **M3.1**, weather conditions are monitored daily using data sourced from the Bureau of Meteorology (BoM) weather stations along the A21 alignment.

Monitoring includes temperature, wind direction, wind velocity, and rainfall.

The BoM weather stations utilised include the below sites:

TABLE 13: WEATHER STATION SUMMARY

WEATHER STATION	SITE CAPTURED
Albury	<ul style="list-style-type: none"> - Murray River bridge - Albury Yard - Riverina Highway - Billy Hughes Bridge - Tabletop Yard
Lockhart	<ul style="list-style-type: none"> - Culcairn Yard - Henty Yard - Yerong Creek Yard - The Rock Yard

Wagga Wagga	<ul style="list-style-type: none">- Uranquinty Yard- Pearson St bridge- Cassidy Footbridge- Edmondson St Bridge- Wagga Wagga Station- Bomen Yard- Harefield Yard- Kemp St Bridge- Junee Yard- Olympic Highway- Junee to Illabo
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3.5 Water Discharge

No water was discharged from A2I premised sites during the reporting period.



APPENDICES



APPENDIX A

Attended Noise Monitoring Summary

Table 15: Attended Noise Monitoring

Date	Time (Hrs)	Duration (Min)	Location	Construction Activities	Audible Construction Activities	Period	NML	Predicted construction Noise Level (LAeq,15min) dB	LAeq 15 minute dB	LAmaz dB	Determined Construction Noise Contribution (LAeq,15min) dB	Determined Construction Noise Contribution (LAmaz) dB	Compliant (Y/N)	Comments
1/10/2025	10:26	15 min	8 Kemp Street, Junee	Solar lighting tower	No construction noise audible	Day OOH	40	40	41.3	60.9	38.5	NA	Y	Measurement to verify low impact noise justification. Solar tower was inaudible over background environment including dogs barking, horses, birds, and local traffic movements. As per L4.3 c) the measured LAeq of 41.3 is not greater than 15dB above the night RBL (35). The measured LAmaz of 60.9 was a result of a vehicle passing on the highway and is not associated with the solar tower. Based on the dominant noise source being local traffic and the LA10 of 42.5dB, which is less than 15dB above the RBL is 35dB, this measurement is considered compliant with L4.3b). Determined construction level estimated to be <LA90 of 38.5dB.
4/10/2025	9:53	15 min	1 Erin St, Turvey Park	SAQP	NDD truck operating	Day	58	65	60.4	82.9	57.4	NA	Y	NDD truck was the most constant noise source and was operating about 10m from the monitoring location, frequent road traffic contributed to the measurement equally. Construction noise for measurement LAeq,15min estimated to be 57.4 dB. LAeq compliant with predicted noise level.
6/10/2025	21:28	15 min	2-4 Turland St, Illabo	J21 Monday Nights	Shoulder recon/track works	Night	38	65	54	68.6	53	68.6	Y	Monitoring in accordance with Track work (typical) scenario, LAeq compliant with predicted level. When moving, hi-rail equipment was the dominant noise source. However, when highway traffic was passing it was louder than construction activities and dominated the measurement. Other environmental noise such as birds, dogs, and a resident were heard throughout the measurement period. Site compound was approximately 150m away and the stockpile area was 400m away from the monitoring point / receiver. The shoulder recon work area was approximately 100m from the monitoring location. When passing the monitor, hi-rail equipment was approximately 40m away. Without highway traffic, hi-rail plant movement past monitor was reading about 53 dB for 2 minutes
13/10/2025	20:07	15 min	81 Wood St, Illabo	J21 Monday Nights	Shoulder recon/track works	Night	46	62	57.8	81.6	54.8	81.6	Y	Noise monitoring in accordance with compound operation scenario. Paused measurement and then continued when hydremas returned to stockpile as loading of the hydremas is the most noise-intensive activity. FEL was operating at stockpile throughout majority of measurement. Stockpile was approximately 80m from monitoring point and residence was 30m from monitoring point. Highway traffic was consistent throughout measurement. When trucks pass measurement spiked to 69dB. FEL operation and highway traffic were equal sources of noises. Estimated construction LAeq is 54.8dB (3dB down as half the contribution)
15/10/2025	19:22	15 min	96 Railway St, Turvey Park	Compound operations	EWP operating	Evening	52	72	68.1	93.7	52	NA	Y	Noise monitoring was undertaken with general traffic being the dominant background source for most of the measurement period. Motorbikes passed approximately 5 m from the monitoring device and 10 m from the receiver, causing a spike to 92.5 dB at 1:59. A later spike to 52.1 dB at 3:28 occurred when a light vehicle exited the carpark, located roughly 30 m from the device and 35 m from the receiver. Aside from these events, ambient noise levels were steady and primarily influenced by passing vehicles. Construction noise LAeq likely to be notably less due to extremities in LAmaz. Based on the spike to 52dB from a construction LV, construction noise is estimated to be <52dB.
15/10/2025	21:00	15 min	11 Erin Street, Turvey Park	66kv Mob 4	Utility Relocation	Night	52	72	66.7	88.1	63.7	88.1	Y	During the monitoring period, site activity contributed intermittently to elevated noise levels. At 3:25, a crane and EWP operating approximately 20 m from the monitor and 25 m from the residence resulted in a spike to 62.5 dB. A more significant increase to 79.8 dB occurred at 4:43 when a chainsaw was in use at a similar distance of 20 m from the monitor and 25 m from the residence. Local traffic was consistently audible throughout measurement, therefore, construction noise estimated to be 63.7dB.
15/10/2025	21:30	15 min	11 Erin Street, Turvey Park	66kv Mob 4	Pole top lift and install	Night	52	76	65.5	79.3	64	79.3	Y	Noise levels during the measurement period were influenced by nearby site activity and occasional local movements. At 1:45, a crane and EWP operating approximately 20 m from the monitoring device and 25 m from the receiver resulted in a spike to 63.8 dB. A higher reading of 78.9 dB occurred at 5:25 when local residents passed close to the monitoring point, approximately 10 m from the device and 15 m from the receiver. Outside these isolated events, overall noise levels remained consistent with typical background conditions. Based on the spike to 64dB from construction plant, construction noise is estimated to be <64dB.
15/10/2025	22:30	15 min	1 Kildare St (Kildare Catholic College), Wagga Wagga	66kv Mob 4	Running and installing cables to new top	Night	42	64	56	71.5	56	71.5	Y	Noise levels during the measurement were influenced by intermittent site activity. At 2:35, an EWP operating approximately 50 m from the monitoring device and 65 m from the receiver resulted in a spike to 50.5 dB. A higher reading of 62.5 dB was recorded at 14:15 when a light vehicle exited the site, passing roughly 20 m from the monitor and 35 m from the receiver. Outside of these brief events, ambient noise conditions remained steady and reflective of typical site operations. LAeq 56dB representative of works.
15/10/2025	23:15	15 min	156 Edward St, Wagga Wagga	66kv Mob 4	Cable Removal/Relocation, Traffic Control	Night	42	76	63.7	77.9	58	77.9	Y	Noise levels during the monitoring period were influenced by a combination of site activity and passing highway traffic. At 3:13, an EWP operating approximately 60 m from the monitoring point and 65 m from the residence resulted in a measured level of 58.2 dB. A more notable increase occurred at 10:20 when two highway trucks passed the area, approximately 50 m from the monitor and 55 m from the residence, causing noise levels to rise between 71.1 dB and 76.9 dB. Outside of these events, background levels remained stable and consistent with typical highway-influenced conditions. Construction noise LAeq estimated to be < 58dB based on spike in reading during EWP operation.
26/10/2025	17:37	15 min	2-4 Turland St, Illabo	J21 Sundays & Monday Night	Compound operation	Day OOH	46	60	59.1	80.4	47.5	NA	Y	Stockpile area not in use, traffic control at level crossing (no vehicles idling). Level crossing was 30m from monitor (TC 2xLVs) and monitor was 10m from residence. Shoulder recon work area was >1km from monitoring point and those activities were inaudible during measurement. LAeq (59.1) compliant with predicted (60) noting that highway traffic was the dominant noise source and construction activities had minimal input into measurement. Large truck passing spiked measurement to 82.0dB at 0:45. Construction noise is estimated to be <LA90 of 47.5dB.
26/10/2025	18:27	15 min	26 Morris St, Illabo	J21 Sundays & Monday Night	Compound operation	Evening	46	53	52.1	69.5	52	NA	Y	Measurement stopped at 11:11 due to monitor battery running out. Site activities included movement of hi-rail plant (1x excavator and 5x hydremas) and traffic control (2xLVs) operating at level crossing. Monitor was 100m from rail / activities, and resident was a further 150m away. LAeq (52.1) was compliant with predicted level (53). The following were noted, these peak construction measurements were short in duration. Excavator when moving past monitor (approx 60m from monitor) in compound resulted in a max of 65.5dB. Hi-Rail hydremas, when moving past monitor (approx 100m from monitor) on track resulted in a max of 53.2dB. Due to distance from receiver, the LAeq of construction noise is likely less than recorded measurement.
27/10/2025	19:03	15 min	2-4 Turland St, Illabo	J21 Sundays & Monday Night	Track work: material transport	Evening	46	65	53	73.4	50	NA	Y	Monitoring during material transport and demobilisation of hi-rail plant (4xhydremas 2xexcavators) from shoulder recon area. Level crossing approx. 30m away from monitor and resident a further 10m away. Shoulder recon work area was >1km from monitoring point and those activities were inaudible during measurement. Highway traffic was present throughout the measurement and resident at 2-4 Turland was noted to be talking on the phone from 06:00 - 15:00. LAeq compliant with predicted level (65) for track work - typical scenario. Excavator non-tonal movement peaked at 62.9dB when passing monitor at 11:20. due to intermittent movements, the LAeq of construction noise is estimated to be <50dB.
27/10/2025	20:36	15 min	81 Wood St, Illabo	J21 Sundays & Monday Night	Shoulder recon/material transport	Night	46	62	62.9	84.2	60	84.2	Y	FEL was operating at stockpile throughout majority of measurement. Stockpile and track work area were approximately 80m from monitoring point and residence was 30m from monitoring point. Measurement would peak at 80.4dB for a second when emptying ballast into hydremas. No horn use was observed during loading of material throughout measurement. Peaked at 79.7 for a second when large truck passed on highway 08:26. Highway traffic was consistent throughout measurement. FEL operation and highway traffic were equal sources of noises. Considering the contribution of highway traffic, the estimated construction LAeq is 60dB which is compliant with predicted level (62).
1/11/2025	11:17	15 min	14 Station Place, Wagga Wagga	Mothers Footbridge Demolition Stage 1	Bridge demolition	Day OOH	58	90	60.6	79.8	60.6	NA	Y	Construction related noise dominated measurement, particularly the reciprocator saw when in use, which was on and off throughout the measurement. Work area was approximately 20m from monitoring point, the residence was also 20m from the work area. Vegetation was shielding both the monitor and residence from the work area. LAeq is representative of construction noise level and compliant with predicted noise level.

Date	Time (Hrs)	Duration (Min)	Location	Construction Activities	Audible Construction Activities	Period	NML	Predicted construction Noise Level (LAeq,15min) dB	LAeq 15 minute dB	LAmx dB	Determined Construction Noise Contribution (LAeq,15min) dB	Determined Construction Noise Contribution (LAmx) dB	Compliant (Y/N)	Comments
2/11/2025	12:05	15 min	14 Station Place, Wagga Wagga	Mothers Footbridge Demolition Stage 1	Bridge demolition	Day OOH	53	90	52.2	74.3	52.2	NA	Y	Measurement in accordance with bridge demolition work scenario. Environmental and construction related noise sources were both present. Hand tools (manual, electric, rattle gun, blower) were operating periodically throughout measurement. Monitoring point was 30m from work area and residence was also 30m from work area. LAeq is representative of construction noise contribution and compliant with predicted level.
2/11/2025	18:33	15 min	1272 Olympic Highway, Illabo	J21 Sundays & Monday Night	Shouler recon/track works	Evening	46	40	50.1	71.5	47	NA	Y	Monitoring in accordance with Track Work scenario. Shoulder Recon approx. 100m up the track from monitoring point, the residence at 1272 Olympic Hwy is approx 1.3km from the monitoring location however this was the closest receiver to the work area. Non-tonal reverse alarms from plant (4xhi-rail hydrema and 2xhi-rail excavators), compactor, and dropping of ballast were also audible. Highway traffic dominated the measurement. Measurement spiked to 70.3dB when truck passed on highway. LAeq considered compliant with predicted noise level. Based on consistent highway traffic, construction LAeq estimated to be 47dB. Due to noted distance from works, LAeq would be considered substantially lower at receiver.
9/11/2025	8:10	15 min	96 Railway St, Turvey Park	Mothers Footbridge Demolition	Bridge demolition	Day OOH	43	76	60.4	84.8	57.4	NA	Y	Scope of works includes the demolition of Mothers Footbridge -W.009- and the moving/sorting of demolition material. Equipment includes 1x excavator and x2 traffic control LVs. The noise monitor was approx 200m from the work zone, and approx 10m from the receiver address. At 1:20, 1:45, 8:24 and 13:35 mins, local cars drove past the monitoring with readings of 63.5, 72.5, 73.1 and 84.7 respectively. These cars were the loudest noise source. Based on traffic contribution to the measurement, construction LAeq is estimated to be 57.4dB
9/11/2025	12:36	15 min	14 Station Place, Wagga Wagga	Mothers Footbridge Demolition	Material moving/sorting	Day OOH	53	90	63.2	82.9	60.2	NA	Y	Scope of works includes W.009 - the moving/sorting of demolition material and loading into truck. Equipment includes 1x excavator, 1x truck and 2x traffic control LVs. The noise monitor was approx 50m from the work zone, and approx 20m from the receiver address. Throughout the 15mins, multiple pedestrians walked past the monitor + cars drove past the monitor. The dominant noise source was the public road behind the work areas. At 13:18, a non MR car drove past the monitoring at 76.2 dBs. The monitor had to be moved slightly away from address 14 Station place due to the area being an active work zone and it was not safe to access, therefore monitoring was closer to 12 station place. Based on traffic contribution to the measurement, construction LAeq is estimated to be 60.2 dB
10/11/2025	21:40	15 min	1 Barrima Dr, Glenfield Park	Wagga Wagga Traffic Mitigations	Line marking and Kem-Flex	Night	50	75	56.2	74.2	47.7	74.2	Y	Wagga Wagga traffic mitigations - line marking and kem-flex install at Fernleigh Rd. Scenarios W.003 + W.004. Equipment list includes x2 LVs, x2 light towers, x2 line marking trucks and 1x NDD truck. Monitor was approx 10m from receiver, 50m from the LVs and light towers, and approx 100m from the NDD truck when operating. The loudest noise source during monitoring was public cars driving past the noise monitor as well as through Fernleigh rd. When cars drove past the monitor, the readings peak at 65.1, 66.4, 65.8 and 72 dBs throughout the 15mins. At 3:05, a local resident walked over to the monitor and engaged in a conversation (65.3 dB) the monitoring was paused until the conversation was over. Note estimated Construction noise LAeq likely <LA90 of 47.7dB
11/11/2025	22:58	15 min	100 Urana St, Turvey Park	Wagga Wagga Traffic Mitigations	Pole Installation	Night	42	67	52.5	68.6	46.9	68.6	Y	Wagga Wagga Traffic Mitigations - pole installation (W.001). Pole installation along Urana Street. Equipment list used on site includes 1x truck and 3x LVs. The highest dB noise source was the local traffic driving past the monitor, reaching peaks of 62.4, 61.5 and 63.9 through minutes 2:30, 6:10 and 7:15. At minute 4 the only noise source was the truck idling which was recorded at 48.4 dBs. The monitor was approx 60m then 30m then 20m from the work area/truck as the truck moved throughout the 15min session. The monitor was approx 10m from the receiver. Note estimated Construction noise LAeq likely <LA90 of 46.9dB
12/11/2025	12:38	15 min	17 Bourke St, Turvey Park	Wagga Wagga Traffic Mitigations	Sign Installation	Day OOH	50	75	57.8	73	52.5	NA	Y	Wagga Wagga Traffic Mitigations - Sign Installation W.001. Equipment includes 1x truck and x2 LVs. Sign installation on Bourke St, works were approx 20m from noise monitor, which was approx 10m from receiver. Multiple cars drove past the noise monitor during the 15mins, with the largest peak being 62.4. When there was no other noise source, the truck idling was at 53.8. Note estimated Construction noise LAeq likely <LA90 of 52.5dB.
13/11/2025	11:40	15 min	96 Railway St, Turvey Park	Wagga Wagga Traffic Mitigations	Compound Operation	Day OOH	47	72	59.3	80.1	47.1	NA	Y	Wagga Wagga Traffic Mitigations - Compound Operation. Equipment list includes x1 Generator, x3 LVs parked in carpark (not idling) and x1 LV that was inside the compound. Strong winds were felt the entire attended monitoring session. Gusts according to the BoM were 31 km/hr. Dominate noise source was local cars driving past the monitor. No MR related noise was audible. When no other background noise was audible the monitor was recorded around 48dB. The monitor was approx 30m from the compound and 10m from the receiver. Note estimated Construction noise LAeq likely <LA90 of 47.1dB.
14/11/2025	12:50	15 min	1 Pretoria Ave, Junee	Kemp St Tree Clearing	Tree clearing	Day	52	73	63	76	63	NA	Y	Kemp street tree clearing included cherry picker, chainsaw, 8T excavator, wood chipper, LVs. There was also a light truck, forklift and crane (franna) present in and around the compound. Chainsaw used on top of cherry picker at back of compound approximately 120m from monitoring point. Wood chipper approx 100m away from monitor in compound. Small crane lifting plate 15m from monitor. Highway/local traffic was consistently present throughout measurement. When no traffic was observed, noise level was 63.2 dB (woodchipper and chainsaw) which is compliant with the predicted level.
16/11/2025	18:08	15 min	2-4 Turland St, Illabo	J21 Sunday & Monday Night	Compound operation	Evening	46	65	56.1	76.3	56.1	NA	Y	Traffic control present at level crossing. Water cart idling and then filling up at standpipe (55.8dB) when no traffic was present on highway. Highway traffic dominated the measurement. Shoulder recon. work area was over 500m (toward Junee) from monitoring location and not audible.
17/11/2025	8:11	15 min	1 Pretoria Ave, Junee	Kemp St Tree Clearing	Tree clearing	Day OOH	52	73	71.9	88.1	71.9	NA	Y	Monitoring in accordance with Kemp St Tree Clearing (CNVIS ADD2). Equipment includes Chainsaw, cherry picker, wood chipper operating 25m from monitor and monitor 10m from residence. Large truck spiked measurement to 78.9dB. Without traffic, measurement would peak at 76 dB max with both chainsaw and wood chipper operating. Noting wood chipper would only operate for short bursts of about 15sec in duration. Local / highway traffic and tree clearing works contributed to measurement equally. Noise level compliant with predicted levels.
17/11/2025	18:15	15 min	81 Wood St, Illabo	J21 Sundays & Monday Night	Compound operation	Evening	38	62	60.5	86.2	57	NA	Y	Monitoring during compound operation at the Illabo stockpile area. 1xFEL, 2xHi-Rail trucks, 1x lighting tower, stockpile work area approximately 100m from monitor. Monitor set up was 20m from residence. Highway traffic and construction noise (when present) contributed to noise levels equally. Without highway traffic, measurement was noted as 56.9dB therefore, estimated construction contribution is 57dB. Measurement compliant with predicted level.
17/11/2025	20:43	15 min	29 Coleman St, Turvey Park	Wagga Wagga Traffic Mitigations	Roundabout Installation and Line Marking	Night	50	75	63.3	81	63.3	81	Y	Wagga Wagga Traffic Mitigations - Roundabout Installation (W.005) and Line Marking (w.003). Equipment list includes x2 trucks, x2 LVs (Traffic control idling), x1 hand tool (electric - drill), x1 lighting tower. Line markers and hand tools for round about installation were occurring simultaneously for most of the monitoring period. The dominant noise audible was MR related activities. For periods when construction paused, monitor was reading at 59 dBs (including the idling traffic control). Noise monitor was approx 25m from the works (including hand tool) and approx 35m from line markers. Monitor was approx 10m from the receiver. Measured level is representative of construction noise (LAeq 63dB).
19/11/2025	18:52	15 min	96 Railway St, Turvey Park	Wagga Wagga Traffic Mitigations	Compound operation	Evening	42	72	60.3	81.7	53	NA	Y	Monitoring in accordance with compound operation following prestart. 3xLVs moving, 1x light truck, 1x flatbed truck, 1x generator operating. Line marking crew were loading light truck throughout measurement. The monitor was approx 30m from the compound and 10m from the receiver. Noise level was noted as 52.2dB when crew was loading truck and no local traffic present. Local traffic was consistent throughout measurement and contributed to noise level equally. LAeq was compliant with predicted level. Construction noise LAeq estimated to be about 53dB based on notes.
5/12/2025	20:13	15 min	2 Donnelly Ave, Wagga Wagga	December 2025 Possession	Solider Piles (Bridge Work)	Night	52	89	60.2	77.4	60.2	77.4	Y	Monitoring in accordance with Wagga Wagga CNVIS. Equipment includes x2 excavators, x2 hydremas, x2 piling rig and x2 lighting towers all operational. Watercart also on site but turned off. Hydremas and excavators operating approx 25m from noise monitor, and monitor was approx 15m from receiver. When all pieces of equipment are operating at the same time, dB was approx 64. Monitor read 53.9 dB when only construction noise audible was the excavators and hydremas idling. Noise level compliant with predicted levels. 60.2LAeq representative of construction works.

Date	Time (Hrs)	Duration (Min)	Location	Construction Activities	Audible Construction Activities	Period	NML	Predicted construction Noise Level (LAeq,15min) dB	LAeq 15 minute dB	LAmaz dB	Determined Construction Noise Contribution (LAeq,15min) dB	Determined Construction Noise Contribution (LAmaz) dB	Compliant (Y/N)	Comments
6/12/2025	12:22	15 min	1 Pretoria Ave, Junee	December 2025 Possession	Piling Activities, Signalling Works, Track Works	Day OOH	47	80	57.4	69.5	52	NA	Y	3:39 - 61.4dB - NDD truck entering site dominant, Approx 20m from the receiver, 15m from the monitor. 8:16 - 51.9dB - MR Piling works dominant, Approx 60m from the receiver, 55m from the monitor. 10:54 - 62.1dB - Local Traffic on Olympic Hwy Dominant, Approx 15m from receiver, 10m from the monitor 14:27 - 50.8dB - Hydrema loading, Concrete truck and Excavator dominant, Approx 60m from receiver, 55m from the monitor. Construction noise LAeq estimated to be 52dB based on notes.
6/12/2025	13:29	15 min	30 Railway Place, Albury	December 2025 Possession	Oxycut of Span 1 in preparation for lift	Day OOH	49	65	55.3	75.7	49.3	NA	Y	CNVIS scenario: W.014 LAEQ well under predicted level. Construction noise was not the most predominant noise source (<10%). Faint sound of oxy cut from Span 1. Predominant noise source was passing bus station traffic, Magpie calls and highway traffic. 30 Railway Place is the former station masters house and is a heritage listed building, not residential. Construction noise LAeq estimated to be <LA90 of 49.3dB.
6/12/2025	13:32	15 min	2-4 Turland St, Illabo	December 2025 Possession	Ballast Tamping and Ballast Regulating	Day OOH	51	69	60.7	85.8	60.7	NA	Y	0:43 - 39.4 - Tamper and Regulator operating Dominant, Approx 500m from receiver, 490 from monitor. 3:50 - 85.8 - Residential truck on Boyton St, Approx 10m from receiver, 1m from monitor. 9:27 - 43.4 - Tamper and Regulator operating dominant, Approx 400m from receiver, 390 from monitor. 60.7LAeq representative of construction works.
6/12/2025	16:00	15 min	2 Donnelly Ave, Wagga Wagga	December 2025 Possession	Piling works	Day OOH	58	89	74.7	95	74.7	NA	Y	1:39 - 60.2 - Piling rigs, Hydrema, Excavators in operation dominant, Approx 35m from receiver, 30m from monitor. 5:27 - 92.1 - Clunk of piling rig jolting to remove spoil, Approx 35m from receiver, 30m from monitor. Measured LAeq of 74.7 is representative of construction noise contribution.
6/12/2025	17:03	15 min	380 Kenilworth Street, Albury	December 2025 Possession	Hammering of concrete slab from span 3 with excavator + hammer	Day OOH	49	55	55.4	78.1	50	NA	Y	CNVIS: W.014 Activity: Hammering of concrete slab with excavator + hammer from span 3 Hammering could be observed clearly from monitoring location (~30 of total noise), however highway traffic drowned out construction activities. 6 minutes into monitoring a thunderstorm hit and heavy rain started from 7 minutes onwards. Construction activities likely paused at this point as no further construction related noise could be observed. Sample unrepresentative and will take place again tomorrow once concrete hammering re continues. Construction noise LAeq estimated to be 50dB based on notes.
6/12/2025	21:06	15 min	38 Turland St, Illabo	December 2025 Possession	Compound operation	Night	46	65	61.5	82.5	61.5	82.5	Y	8xHi-rail hydremas on rail and moving one at a time to be loaded then moving up track. 2xFEL loading capping into hi-rail hydremas with 1xhi-rail excavator positioned to catch any capping that falls out of hydrema. Monitor approximately 25m from work area and residence is approximately 50m from monitor. No horn use observed. Construction noise dominated the measurement and therefore measured LAeq is representative of construction noise contribution. 8:01 - 71.9dB FEL bucket adjusting angle 12:#7 - 74.5dB Vehicle passing on highway
6/12/2025	23:08	15 min	30 Ducker St, Junee	December 2025 Possession	Compound Operation Wrights Oval	Night	40	76	55.4	69.7	53	69.7	Y	Diesel Generator with noise blankets operating throughout measurement. Local traffic off Byrnes road was also present throughout measurement and was the dominant noise source when present. Monitor was approximately 15m from generator and residence was approximately 5m from monitor. When only the generator was audible the noise level was around 53dB. 2:10 65.5dB local traffic engine rev on Byrnes road 2:55 63.8dB local vehicle passing monitor Noise level compliant with predicted value. Based on notes construction noise LAeq is estimated to be 53dB.
7/12/2025	0:09	15 min	5 Hill St (Locomotive Hotel), Junee	December 2025 Possession	Track work	Night	40	74	56.1	72.8	56.1	72.8	Y	Track work (typical): 1x excavator, 1x static roller, 2x lighting tower, 1x FEL operating at time of measurement. Background noise included crickets and the sound of water running from a tap at the loco hotel. Lighting tower generator was also audible when plant was not moving. Monitor was approximately 35m from track work area and 15m from Locomotive hotel. Construction noise dominated the measurement. Noise level (LAeq, 15min) was compliant with predicted level. Measured LAeq of 56.1dB considered representative of construction noise contribution.
7/12/2025	2:53	15 min	7 Tooheys Ln, Illabo	December 2025 Possession	Material Transport	Night	46	73	54.1	75.7	54.1	75.7	Y	Dec 2025 Possession at J2I. Noise monitoring captured material transport in compound. Equipment list included x5 hydremas on high rail moving past monitor, x2 FELs operating in compound. Noise monitor was approx 20m from receiver, and approx 50m away from track and 250m from compound. Strong wind gusts observed during entire monitoring session. Measured LAeq of 54.1dB considered representative of construction noise contribution.
7/12/2025	3:56	15 min	7 Railway Pde, Junee	December 2025 Possession	Track work and material movement	Night	40	72	54.6	69	54.6	69	Y	1x excavator, 1x FEL, 3x lighting tower, 2xLVs. FEL was moving sleepers from stockpile to work front, excavator was placing sleepers. Monitor was 50m from where sleepers were being placed and 20m to closest point where FEL passed while moving sleepers. Residence was 10m from monitor. Construction noise dominated the measurement. Noise level was compliant with predicted level. Measured LAeq of 54.6dB considered representative of construction noise contribution.
7/12/2025	4:36	15 min	11 Erin Street, Turvey Park	December 2025 Possession	Solider Piles	Night	42	76	60.3	70.1	60.3	70.1	Y	December 2025 Possession works at Edmondson St Bridge. Monitoring captured clean up works on the bridge. Equipment list includes x1 watercart, x1 excavator/drill rig, x2 lighting towers and x2 traffic control. Noise monitor was approx 50m from work area, and approx 10m from residential receiver. Watercart was idling the entire monitoring session, at a constant ~57.9dB, when other construction noise was audible the dB increased to ~65. Construction noise was the dominant noise source. Measured LAeq of 60.3dB considered representative of construction noise contribution.
7/12/2025	6:22	15 min	96 Railway St, Turvey Park	December 2025 Possession	Compound Operations	Night	42	72	60.9	83.5	50	58.1	Y	Noise levels throughout the monitoring period were influenced by a range of nearby site activities and occasional environmental sources. At 4:38, generator operation and worksite communications were the dominant contributors, with equipment located approximately 30 m from the monitor and 40 m from the receiver, resulting in a level of 47.8 dB. At 6:20, local traffic passing roughly 10 m from the monitor and 20 m from the receiver caused a spike to 67.5 dB. A further increase to 58.1 dB was recorded at 14:10 when a light vehicle exited the site at a similar distance of 10 m from the monitor and 20 m from the receiver. The highest event occurred at 14:51 when a crow calling approximately 40 m from the monitor and 50 m from the receiver generated a peak of 71.0 dB. Outside these isolated events, background noise remained steady and reflective of routine site and environmental conditions. Construction noise LAeq 50dB based on notes.
7/12/2025	7:31	15 min	2 Donnelly Ave, Wagga Wagga	December 2025 Possession	Standing Piles, Concrete setup, NDD truck operation, Light tower movements (non-operational)	Night	42	89	56.4	81	56.4	69.8	Y	Noise levels during the monitoring period were influenced by a combination of site activities and natural environmental sounds. At 4:34, the operation of an NDD truck, an 8-tonne excavator and hand tools generated a reading of 54.2 dB, with activities occurring approximately 30 m from the monitoring point and 35 m from the receiver. A spike to 61.5 dB was recorded at 7:57 due to bird calls located roughly 10 m from the monitor and 15 m from the receiver. At 11:43, hand tool use, NDD truck activity and distant non-tonal noise produced a level of 55.4 dB, with sources varying between 30-100 m from the monitor and 35-105 m from the receiver. The highest site-related event occurred at 14:37 when an NDD truck operating approximately 30 m from the monitor and 35 m from the receiver resulted in a spike to 69.8 dB. Outside these isolated events, background noise remained consistent with typical site and environmental conditions. Measured LAeq of 56.4dB considered representative of construction noise contribution.
7/12/2025	8:41	15 min	380 Kenilworth Street, Albury	December 2025 Possession	Concrete removal from Span 3 with excavator	Day OOH	44	55	52.6	76.4	51	NA	Y	CNVIS: W.014 Construction activity: removal of concrete slabs from Span 3 with excavator Construction activity was clearly audible from receiver, ranging from ~50-55dB. Activity was audible approx. every 10-20 seconds throughout the sample from minutes 1-5, and then 10-15. No construction noise could be heard from minutes 6-10. Sample was predominantly capturing the passing footfall of the trail path adjacent to the receiver and the highway traffic. Construction noise was comparable to these other non-construction related sources throughout the sample (~50%). Construction noise LAeq estimated to be 51dB based on notes.

Date	Time (Hrs)	Duration (Min)	Location	Construction Activities	Audible Construction Activities	Period	NML	Predicted construction Noise Level (LAeq,15min) dB	LAeq 15 minute dB	LAmaz dB	Determined Construction Noise Contribution (LAeq,15min) dB	Determined Construction Noise Contribution (LAmaz) dB	Compliant (Y/N)	Comments
7/12/2025	11:38	15 min	42 Waterworks Rd, Junee	December 2025 Possession	Shoulder Recon, Material loading and transport	Day OOH	47	64	60.3	77.1	57	NA	Y	Noise levels during the monitoring period were influenced by both site activities and nearby road traffic. At 3:11, local traffic travelling along Waterworks Road was the dominant noise source, passing approximately 10 m from the monitor and 20 m from the receiver, resulting in a measured level of 65.4 dB. A spike to 62.6 dB occurred at 7:29 when nine Hydremas were reversing at a distance of roughly 40 m from the monitoring point and 50 m from the receiver. At 12:23, two excavators operating in combination with worksite communications generated a level of 57.6 dB, with activities occurring approximately 40 m from the monitor and 50 m from the receiver. Outside of these events, background noise remained stable and consistent with typical construction and road-related conditions. Noted that Construction noise LAeq estimated to be 57dB based on notes.
7/12/2025	14:59	15 min	28 Ducker St, Junee	December 2025 Possession	Compound operations	Day OOH	47	75	58.2	80.5	51	NA	Y	Noise levels during the monitoring period were influenced by a combination of site activities and local road traffic. At 6:52, the site generator was the dominant noise source, positioned approximately 20 m from the monitor and 30 m from the receiver, resulting in a measured level of 50.9 dB. At 11:05, a local truck passing roughly 40 m from the monitoring point and 50 m from the receiver caused a spike to 62.6 dB. A further increase to 67.9 dB occurred at 13:01 when a local car passed approximately 10 m from the monitor and 20 m from the receiver. Outside these isolated events, background noise remained steady and representative of routine site and traffic conditions. Construction noise LAeq estimated to be 51dB based on notes.
7/12/2025	15:02	15 min	380 Kenilworth Street, Albury	December 2025 Possession	Pier removal from former staircase with excavator + sheers	Day OOH	44	55	51.8	79	48.8	NA	Y	CNVIS: W.014 Construction activity: removal of remaining piers which held the staircase to the footbridge using excavator with sheer attachment. Occasionally banging and dropping of material heard during sample (~20% of sample) but construction noise was the predominant noise source. Highway traffic and leaves in wind dominated the sample with the occasional dropping of material heard from site in the distance. Construction noise was not recorded without other extremities captured, but did not exceed 52dBL when audible. Construction noise LAeq estimated to be 48.8dB based on notes.
7/12/2025	20:33	15 min	1 Edgar St, Junee	December 2025 Possession	Track work	Night	47	77	53.8	75.1	68.8	75.1	Y	Track work activities including excavator transporting equipment and rail grinding of welded area. 1x Hi-rail excavator, 1x FEL, 1x watercart, 1x Lighting tower, 1x rail grinder, 1x fast clip machine, 1x hydrema. Construction noise dominated measurement, rail grinding was the noisiest activity although it was not continuous. Other noise such as local traffic and birds were also audible at times throughout measurement. Monitor was approximately 35m from work area and residence was 5m from monitor. Measurement was compliant with predicted level. 6:23 - 74.2dB flock of cockatoos flying and squawking overhead 7:45 - 52.3dB when excavator was tracking closest to (35m from) monitor 12:53 - 56.8 dB local traffic passing monitor on Edgar. 10:00 - 53dB when rail grinding and FEL operating. Measured LAeq of 63.8dB considered representative of construction contribution noting 5dB correction for rail grinding would make the LAeq 68.8dB.
8/12/2025	1:19	15 min	26 Morris St, Illabo	December 2025 Possession	Compound Operation	Night	40	52	48.6	63.8	48.6	63.8	Y	Monitoring during compound operation at Illabo. 1xFEL, 1xHirail truck, 1xLight truck, 5xLVs present during monitoring period. Construction noise dominated the measurement. Other audible noise included birds, dogs, and crickets as well as occasional highway traffic. Monitor was approximately 50m from compound entrance and 150m from residence. LAeq was compliant with predicted level. 7:35 - 56.8dB FEL parking 30m from monitor 12:02 - 61.3dB hi-rail truck leaving compound. Measured LAeq of 63.8dB considered representative of construction contribution noting noise level at receiver is likely much lower due to distance.



APPENDIX B

Vibration Monitoring Summary

Table 16: Vibration Monitoring - Human Comfort

Monitoring Location	Date	Works Being Carried Out	Attended or Continuous	Event Based Monitoring	SiteHive Day Data VDV Maximum (m/s ²)	VDV preferred values Criteria (m/s ²)	VDV Maximum values Criteria (m/s ²)	Compliant	Comments
Junee Yard - 1 Edgar St, Junee	Day - 6/12/2025	December 2025 Possession: track work involving the use of a tamper and 12t roller static only.	Continuous	Yes	0.0133	0.20 - z	0.40 - z	Y	Below criteria
	Night - 6/12/2025				0.0118	0.13 - z	0.26 - z	Y	Below criteria
Junee Yard - 1 Edgar St, Junee	Day - 7/12/2025	December 2025 Possession: track work involving the use of a tamper and 12t roller static only.	Continuous	Yes	0.0148	0.20 - z	0.40 - z	Y	Below criteria
	Night - 7/12/2025				0.0111	0.13 - z	0.26 - z	Y	Below criteria

Table 17: Vibration Monitoring - Cosmetic Damage

Monitoring Location	Date	Works Being Carried Out	Attended or Continuous	Event Based Monitoring	Daily Measured PPV vSum (mm/s)	Cosmetic Damage Criteria (mm/s)	Compliant	Comments
Albury Yard - Signalling Hut 1	6/12/2025	December 2025 Possession: Demolition of pedestrian footbridge, including adjacent staircases using Excavator (20T) + sheers & hammer attachments for bridge deck removal. .	Continuous	Yes	0.679	7.5	Y	Below criteria
Junee Yard - Signalling Hut	6/12/2025	December 2025 Possession: track work involving the use of a tamper and 12t roller static only.	Continuous	Yes	8.189	7.5	Y	Constant traffic movement, specifically the positrack, on either side of the signalling hut, within ~2.5m of the monitoring device. Following review of the data and works undertaken onsite, this spike was determined to be an isolated short-term event.
Junee Yard - 1 Edgar St, Junee	6/12/2025	December 2025 Possession: track work involving the use of a tamper and 12t roller static only.	Continuous	Yes	0.458	7.5	Y	Below criteria
Culcairn - Railway Station House	6/12/2025	December 2025 Possession: Footbridge disassembly requiring mobile crane oxy and excavators. Minor signalling works also conducted utilising a whacker packer and a 5T excavator.	Continuous	Yes	0.465	7.5	Y	Below criteria
Albury Yard - Signalling Hut 1	7/12/2025	December 2025 Possession: Demolition of pedestrian footbridge, including adjacent staircases using Excavator (20T) + sheers & hammer attachments for bridge deck removal. .	Continuous	Yes	0.983	7.5	Y	Below criteria
Junee Yard - Signalling Hut	7/12/2025	December 2025 Possession: track work involving the use of a tamper and 12t roller static only.	Continuous	Yes	12.3	7.5	Y	Following review of the data and works undertaken onsite, this spike was determined to be an isolated short-term event due to the tamper being approx 2.5m from the monitoring device. The next closest structure (Edgar St) was displaying values well below the threshold.
Junee Yard - 1 Edgar St, Junee	7/12/2025	December 2025 Possession: track work involving the use of a tamper and 12t roller static only.	Continuous	Yes	0.579	7.5	Y	Below criteria
Culcairn - Railway Station House	7/12/2025	December 2025 Possession: Footbridge disassembly requiring mobile crane oxy and excavators. Minor signalling works also conducted utilising a whacker packer and a 5T excavator.	Continuous	Yes	0.597	7.5	Y	Below criteria



APPENDIX C

Surface Water Quality Monitoring Summary

October Surface Water Results

Sample ID	NTU	pH	DO	EC	Temp	TSS	Al	As	Cd	Cr	Cu	Pb	Mn	Ni	Zn	Fe	Hg	NOx	TKN	Total N	Total P	Chlorophyll-a	Chemical Oxygen Demand	Biological Oxygen Demand	Naphthalene	TRH C6-C9	TRH C10-C36	TRH C6-C10 minus BTEX	TRH C16-C34 (F3)	TRH C34-C40 (F4)	TRH C10-C16 minus naphthalene	Benzene	Toluene	Ethylbenzene	Xylenes		
SW01 – US*	4.9	6.96	12.0 ₃	17	13.0 ₇	>0.01	>0.01	<0.001	<0.001	>0.01	>0.01	>0.01	0.016	<0.01	<0.005	0.37	>0.01	0.1	0.1	0.2	0.03	2	<10	2	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2	
SW01 – DS*	1	7.3	14.2 ₇	78	13.8 ₁	>0.01	>0.01	<0.001	<0.001	>0.01	>0.01	>0.01	0.014	<0.01	<0.005	0.2	>0.01	0.11	0.1	0.2	0.04	2	<10	2	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2	
SW02 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW02 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW03 – US*	6.6	10.2 ₄	16.5 ₆	380	14.4	17	>0.01	0.002	<0.001	>0.01	>0.01	>0.01	0.122	<0.01	<0.005	0.65	>0.01	0.17	0.3	0.5	0.04	>0.01	<10	3	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2	
SW03 – DS*	9.2	9.34	18.1	350	14.6	14	>0.01	0.001	<0.001	>0.01	>0.01	>0.01	0.121	<0.01	<0.005	0.63	>0.01	0.15	0.3	0.4	0.05	>0.01	<10	2	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2	
SW04 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW04 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW05 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW05 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW06 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW06 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW07 – US*	22.1	6.68	9.66	1080	13.3 ₂	24	>0.01	0.001	<0.001	>0.01	0.002	>0.01	0.166	0.002	0.008	0.82	>0.01	<0.01	0.6	0.6	0.05	<1	<10	4	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2	
SW07 – DS*	6.2	6.37	13.4 ₅	1020	14.2	7	>0.01	<0.001	<0.001	>0.01	>0.01	>0.01	0.064	0.001	0.005	0.27	>0.01	0.01	0.4	0.4	0.06	<1	<10	2	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2	
SW08 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW08 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW09 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW09 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST

✓ – parameter does not exceed criteria

✗ – parameter exceeds criteria

NST – No Sample Taken

*No construction activities had commenced within the catchment of this sample at the time of sampling.

November Surface Water Results

Sample ID	NTU	pH	DO	EC	Temp	TSS	Al	As	Cd	Cr	Cu	Pb	Mn	Ni	Zn	Fe	Hg	NOx	TKN	TotalN	TotalP	Chlorophyll-a	Chemical Oxygen Demand	Biological Oxygen Demand	Naphthalene	TRH C6-C9	TRH C10-C36	TRH C6-C10 minus BTEX	TRH C16-C34 (F3)	TRH C34-C40 (F4)	TRH C10-C16 minus naphthalene	Benzene	Toluene	Ethylbenzene	Xylenes	
SW01 – US*	3.9	6.64	8.61	41	14.93	<5	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	0.023	<0.001	<0.005	0.18	<0.001	0.11	0.2	0.3	<0.01	1	20	2	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2
SW01 – DS*	4.1	6.35	6.91	44	14.29	<5	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	0.021	<0.001	<0.005	0.17	<0.001	0.11	0.3	0.4	0.01	1	20	3	<5	<20	2300	<20	1940	660	<100	<1	<2	<2	<2	<2
SW02 – US*	20.3	6.76	4.4	94	13.08	12	0.64	0.002	<0.001	<0.001	<0.001	<0.001	0.081	0.002	0.013	1.55	<0.001	<0.01	0.6	0.6	0.08	<1	33	2	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2
SW02 – DS*	15.4	6.82	5.4	130	12.52	6	1.06	0.002	<0.001	0.001	0.002	0.001	0.335	0.003	0.006	3.09	<0.001	0.33	1	1.3	0.15	<1	40	2	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2
SW03 – US*	39.4	7.62	4.21	1010	15.62	28	0.17	0.002	<0.001	<0.001	<0.001	<0.001	0.234	<0.001	<0.005	0.57	<0.001	0.19	0.6	0.8	0.08	14	20	3	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2
SW03 – DS*	47.6	7.63	6.45	1090	14.65	21	0.36	0.002	<0.001	<0.001	<0.001	0.001	0.267	<0.001	<0.005	0.82	<0.001	0.18	0.7	0.9	0.1	18	29	3	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2
SW04 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW04 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW05 – US*	42.1	6.62	4.23	166	13.49	16	4.08	0.005	<0.001	0.004	0.008	0.003	0.191	0.007	0.022	5.85	<0.001	0.07	1.7	1.8	0.29	4	63	4	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2
SW05 – DS*	51.9	7.01	2.93	144	13.42	22	0.35	0.009	<0.001	<0.001	0.002	0.002	0.814	0.005	0.012	5.49	<0.001	<0.01	2.3	2.3	0.48	5	71	5	<5	<20	160	<20	180	<100	<100	<1	<2	<2	<2	<2
SW06 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW06 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW07 – US*	25.1	7.43	14.23	835	14.45	7	0.32	0.002	<0.001	<0.001	0.001	<0.001	0.187	0.002	0.016	0.77	<0.001	0.25	0.8	1	0.11	5	29	3	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2
SW07 – DS*	19.3	6.69	5.94	980	13.92	10	0.33	0.001	<0.001	<0.001	<0.001	<0.001	0.102	0.002	0.01	0.67	<0.001	0.08	0.6	0.7	0.11	4	27	3	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2
SW08 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW08 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW09 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW09 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST

✓ – parameter does not exceed criteria

✗ – parameter exceeds criteria

NST – No Sample Taken

*No construction activities had commenced within the catchment of this sample at the time of sampling.

December Surface Water Results

Sample ID	NTU	pH	DO	EC	Temp	TSS	Al	As	Cd	Cr	Cu	Pb	Mn	Ni	Zn	Fe	Hg	NOx	TKN	TotalN	TotalP	Chlorophyll-a	Chemical Oxygen Demand	Biological Oxygen Demand	Naphthalene	TRH C6-C9	TRH C10-C36	TRH C6-C10 minus BTEX	TRH C16-C34 (F3)	TRH C34-C40 (F4)	TRH C10-C16 minus naphthalene	Benzene	Toluene	Ethylbenzene	Xylenes		
SW01 – US	4.3	6.76	10.01	420	17.08	5	0.14	<0.001	<0.001	<0.001	<0.001	<0.001	0.027	<0.001	<0.005	0.33	<0.001	0.11	0.3	0.4	0.04	1	16	<2	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2	
SW01 – DS	3.9	6.76	10.01	430	17.03	11	0.07	<0.001	<0.001	<0.001	0.005	<0.001	0.028	0.001	0.01	0.17	<0.001	0.16	1	1.2	<0.05	1	<10	2	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2	
SW02 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW02 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW03 – US*	28.8	7.53	10.53	1390	17.49	29	0.2	0.002	<0.001	<0.001	0.003	<0.001	0.357	<0.001	<0.005	0.5	<0.001	0.06	0.9	1	0.08	19	<10	2	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2	
SW03 – DS*	39.6	7.71	7.45	1390	18.55	27	0.17	0.002	<0.001	<0.001	<0.001	<0.001	0.36	0.001	<0.005	0.54	<0.001	0.04	0.8	0.8	0.07	22	<10	4	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2	
SW04 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW04 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW05 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW05 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW06 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW06 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW07 – US	37.2	6.61	13.11	317	15.82	24	0.91	0.002	<0.001	0.001	0.004	0.002	0.099	0.004	0.024	1.85	<0.001	0.25	1.3	1.6	0.18	4	55	<2	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2	
SW07 – DS	20.3	5.97	12.12	328	16.17	16	0.55	0.002	<0.001	0.001	0.003	0.001	0.07	0.003	0.02	1.4	<0.001	0.24	1.1	1.3	0.17	3	15	4	<5	<20	<50	<20	<100	<100	<100	<1	<2	<2	<2	<2	
SW08 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW08 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW09 – US*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST
SW09 – DS*	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST	NST

✓ – parameter does not exceed criteria

✗ – parameter exceeds criteria

NST – No Sample Taken

*No construction activities had commenced within the catchment of this sample at the time of sampling



APPENDIX D

Calibration Certificates



HK Calibration Technologies Pty Ltd
ACN: 152 274 014 ABN: 84 152 274 014
Postal Address: PO Box 4489, North Rocks, 2151
NSW Australia

T: 1300 309 881 F: 1300 885 178
Email: info@hkcalibrations.com.au
Web: www.hkcalibrations.com.au



CALIBRATION CERTIFICATE REPORT NO.: 191429-1

DATE OF CALIBRATION : 03/09/2025 **LOCATION** : CALIBRATION LAB
RECOMMENDED DUE DATE: 03/09/2026 **ENVIRONMENT** : TEMPERATURE: 23.0 ± 2°C
HUMIDITY: 45% ± 10% RH

CUSTOMER : MARTINUS RAIL PTY LTD-SOUTH ALBURY
ADDRESS : INLAND RAIL: A2P LEVEL 1, 519 NURIGONG STR. SOUTH ALBURY NSW 2640

INSTRUMENT DETAIL : INSTRUMENT NAME : SOUND LEVEL METER
MANUFACTURER : RION
MODEL : NL-42
SERIAL NUMBER : 00509260
ASSET NUMBER : NOT FOUND
TYPE : DIGITAL
RANGE : -

CALIBRATION PROCEDURE : HKC SOP 11-21-V3 (AS/NZS IEC 61672.2:2019)

REFERENCE NATA TRACEABLE CERTIFIED... : SOUND LEVEL CALIBRATOR, SOUND LEVEL METER
MAKE : LUTRON, LUTRON
MODEL: SC-942, SL-4001
ASSET: HKC016, HKC057
SERIAL NO: Q598203, Q449236
NATA REPORT NO: C53722

RESULT

Reading of Master	Reading of U.U.T.	Correction	Acceptance Criteria (±)	PASS/FAIL
dB@1KHZ	dB@1KHZ	dB@1KHZ	dB@1KHZ	PASS
94.0	94.0	0.00	1.5	PASS
114.0	114.0	0.00	1.5	PASS

CONCLUSION

THIS INSTRUMENT WAS FOUND PASS AND TO BE FUNCTIONING AS INDICATED BY OUR FINDINGS WITHIN THIS REPORT. NO ADJUSTMENTS AND REPAIRS WERE REQUIRED.

SIGNATURE OF APPROVAL

TEST BY CHINMAY

03/09/2025

DATE OF ISSUE

Note: The tests, calibrations, and measurements detailed in this document align with Australian/national standards. The reference standard used in the calibration is traceable to the Australian national standard via a NATA certified lab.

The applicable measurement uncertainties are calculated in accordance with the method described in the ISO Guide to the Expression of Uncertainty in Measurement, with confidence level of 95% using a coverage factor k=2.

Our calibration warranty extends for a period of 90 days. However, any damage resulting from customer mishandling or courier handling will void the warranty, unless there is evidence showing that the fault originated from calibration process as shown within this report.

This report is void of any erasures or corrections and may be reproduced solely in its complete form.

■ SYDNEY
Unit 3
27 Daking Street
North Parramatta
NSW 2151

■ MELBOURNE
Suite 5
296 Bay Road
Cheltenham
VIC 3192

■ BRISBANE
Unit 8
87 Kelliher Road
Richlands
QLD 4077

■ ADELAIDE
Unit 8 Levels 1
186 Pulteney Street
Adelaide
SA 5000

■ PERTH
Unit 8
8 Aspiration Circuit
Bibra Lake
WA 6163

■ HOBART
17A Main Rd
Moonah
TAS 7009



JCSS
JCSS 0197

CALIBRATION CERTIFICATE

Product : SOUND CALIBRATOR
 Model : NC-75
 Serial number : 34556813
 Manufacturer : RION CO., LTD.
 Calibration item : Sound pressure level (with reference standard microphone)
 Calibration method : Measured by specified secondary standard microphone
 according to JCSS calibration procedure specified by RION.
 Ambient conditions : Temperature 23.8 °C, Relative humidity 36 %,
 Static pressure 99.7 kPa
 Calibration date : 7/5/2025 (D/M/YYYY)
 Calibration location : 3-20-41 Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan
 RION CO., LTD. Calibration Room

We hereby certify that the results of this calibration were as follows.

Issue date : 15/5/2025 (D/M/YYYY)

Yoshio Maruyama
 Manager
 Quality Assurance Section,
 Quality Assurance Department,
 Production Division
 RION CO., LTD.
 3-20-41 Higashimotomachi, Kokubunji,
 Tokyo 185-8533, Japan



This certificate is based on article 144 of the Measurement Law and indicates the result of calibration in accordance with measurement standards traceable to Primary Measurement Standards (National Standards) which realizes the physical units of measurement according to the International System of Units (SI).

The accreditation symbol is attestation of which the result of calibration is traceable to Primary Measurement Standards (National Standards).

The certificate shall not be reproduced except in full, without the written approval of the issuing laboratory.

The calibration laboratory who issued this calibration certificate conforms to ISO/IEC 17025:2017.

This calibration certificate was issued by the calibration laboratory accredited by IAJapan who is a signatory to the Mutual Recognition Arrangement (MRA) of International Laboratory Accreditation Cooperation (ILAC) and Asia Pacific Accreditation Cooperation (APAC). This (These) calibration result(s) may be accepted internationally through ILAC/APAC MRA.

CALIBRATION RESULT

Sound pressure level (with reference standard microphone)

Measured Value	Expanded Uncertainty *
93.98 dB	0.09 dB

Specified secondary standard microphone:

Model : 4160
Serial number : 1843696

Reference Sound pressure : 2×10^{-5} Pa

* Defines an interval estimated to have a level of confidence of approximately 95 %.
Coverage factor $k = 2$

Calibration result is the calibration value in ambient conditions during calibration.

BE OUT OF JCSS CALIBRATION

1. Frequency

Measured Value	Measurement uncertainty ($k = 2$)
1000.0 Hz	4.0×10^{-4} Hz

Working measurement standard universal counter:

Model : 53132A
Serial number : MY40005574
(JCSS Calibration Certificate No. 2408008578510)

2. Total distortion

Measured Value
0.4 %

Working measurement standard distortion meter:

Model : VA-2230A
Serial number : 11076061
(A2LA Calibration Certificate No. 1504-03541)

- closing -

Hexanode Calibration Certificate



13 May 2025

Thank you for choosing SiteHive for your realtime environmental management. This calibration certificate is valid for the device below.

Noise

The Hexanode sound level meter has been pressure calibrated by SiteHive using a NATA Certified (IEC 60942: Sound calibrators) Sound Level Calibrator, at 104 Commonwealth Street, Surry Hills, NSW, 2010.

Serial Number	Calibration Value	Calibration Date	Calibration Due
HEX-000238	2.96282	28 Apr 2025	28 Apr 2027

Accuracy:	Complies with precision requirements of IEC 61672 for Class 2
Acoustic overload point:	135 dBSPL
Frequency Range:	20 Hz ~ 12.5 kHz
Frequency Rating:	Z, A and C weighting
Parameters (dB):	Frequency & time weighted integrations, statistical levels, and more
Direction of Arrival:	Device angle & cartesian angle (0°-360°) of dominant noise source

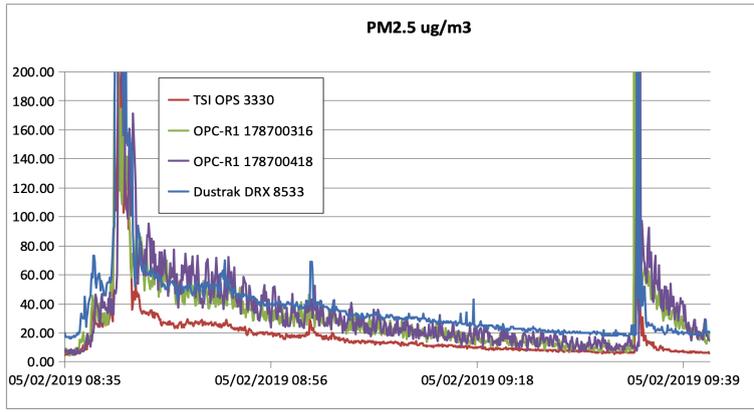
The SiteHive Hexanode uses innovative digital MEMS microphones, and as such cannot achieve full pattern approval in line with international standard IEC 61672, which is written for analogue condenser microphones. However, the SiteHive Hexanode sound level meter has been rigorously tested by the the National Measurement Institute (NMI), the division of the Australian Federal Government Department of Industry, Science, Energy & Resources responsible for providing world-class measurement services to support a fair, safe, healthy and competitive Australia. The National Measurement Institute's (NMI) acoustic, ultrasound and vibration measurement services are the most accurate in Australia, and include providing the certification for NATA (National Association of Testing Authorities) testing facilities, who provide class certification for noise meters. NMI undertook all of the possible tests outlined in IEC 61672-2, with the Hexanode passing all precision requirements within the criteria of a class 2 device.

Dust

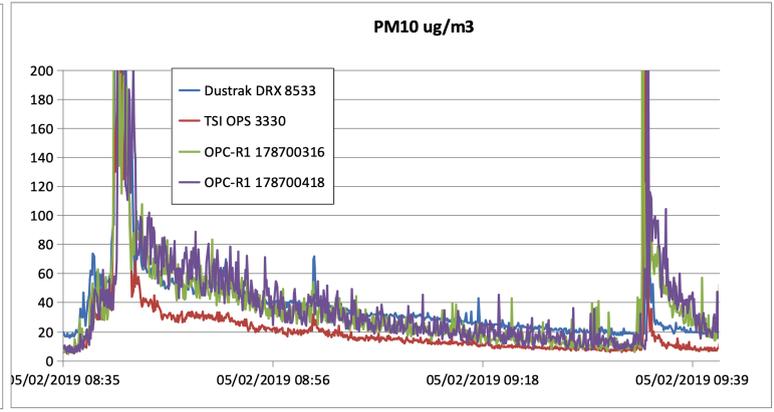
The Hexanode Multi device utilises the Alphasense OPC-R2 particle monitor to provide real-time dust measurements. These sensors are calibrated at manufacture by Alphasense. Whilst the R2 does not have any gravimetric sampling capabilities, measurements can be adjusted using a K-Factor if one is available. SiteHive software will also provide measurements from the nearest Government air quality station for reference. The full data sheet for the Alphasense R2 is available [here](#).

Particle range	µm spherical equivalent size (based on RI of 1.5)	0.30 to 12.4
Size categorisation	Number of software bins	16
Sampling interval	Histogram period (seconds)	2 to 30
Total flow rate	L/min (typical)	0.24
Max particle count rate	particles/second	10,000
Max coincidence probability	% concentration at 10 ⁶ particles/L	0.7

Prior to deployment, the R2 is tested against TSI Optical Particle Sizer 3330 and DustTrak instruments.



Comparison of PM2.5 monitoring by OPC-R2 sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a workshop, the raw 3330 data has been used to calculate a PM figure.



Comparison of PM10 monitoring by OPC-R2 sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a workshop, the raw 3330 data has been used to calculate a PM figure.

Hexanode Calibration Certificate



28 Feb 2024

Thank you for choosing SiteHive for your realtime environmental management. This calibration certificate is valid for the device below.

Noise

The Hexanode sound level meter has been pressure calibrated by SiteHive using a NATA Certified (IEC 60942: Sound calibrators) Sound Level Calibrator, at 2 Foveaux Street, Surry Hills, NSW, 2010.

Serial Number	Calibration Date	Calibration Value
HEX-000241	05 Dec 2023	2.989121

Accuracy:	Complies with precision requirements of IEC 61672 for Class 2
Acoustic overload point:	135 dB SPL
Frequency Range:	20 Hz ~ 12.5 kHz
Frequency Rating:	Z, A and C weighting
Parameters (dB):	Frequency & time weighted integrations, statistical levels, and more
Direction of Arrival:	Device angle & cartesian angle (0°-360°) of dominant noise source

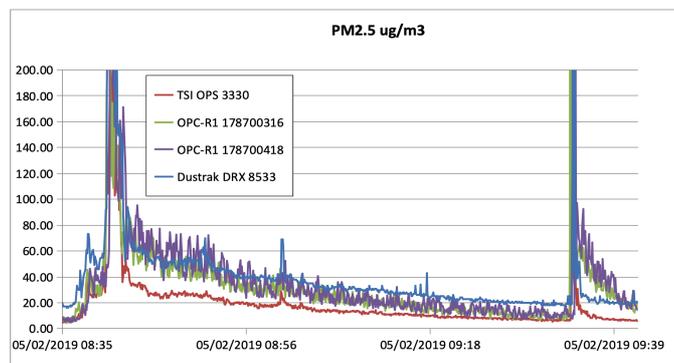
The SiteHive Hexanode uses innovative digital MEMS microphones, and as such cannot achieve full pattern approval in line with international standard IEC 61672, which is written for analogue condenser microphones. However, the SiteHive Hexanode sound level meter has been rigorously tested by the the [National Measurement Institute \(NMI\)](#), the division of the Australian Federal Government Department of Industry, Science, Energy & Resources responsible for providing world-class measurement services to support a fair, safe, healthy and competitive Australia. The National Measurement Institute's (NMI) [acoustic, ultrasound and vibration measurement services](#) are the most accurate in Australia, and include providing the certification for NATA (National Association of Testing Authorities) testing facilities, who provide class certification for noise meters. NMI undertook all of the possible tests outlined in IEC 61672-2, with the Hexanode passing all precision requirements within the criteria of a class 2 device.

Dust

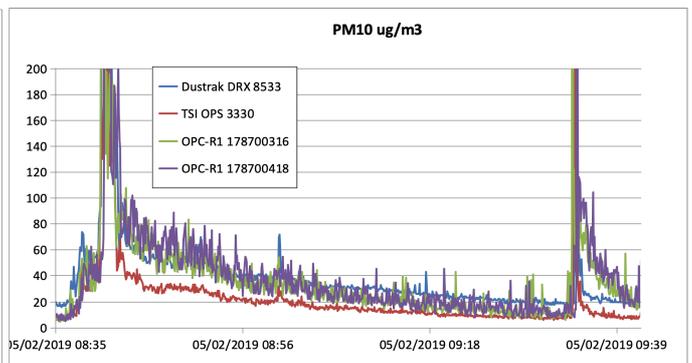
The Hexanode utilises the Alphasense R2 Optical Particle Sensor, to provide real-time dust measurements. Whilst the R2 does not have any gravimetric sampling capabilities, measurements can be adjusted using a K-Factor if one is available. SiteHive software will also provide measurements from the nearest Government air quality station for reference. The full data sheet for the Alphasense R2 is available [here](#).

Particle range	µm spherical equivalent size (based on RI of 1.5)	0.30 to 12.4
Size categorisation	Number of software bins	16
Sampling interval	Histogram period (seconds)	2 to 30
Total flow rate	L/min (typical)	0.24
Max particle count rate	particles/second	10,000
Max coincidence probability	% concentration at 10 ⁶ particles/L	0.7

Prior to deployment, the R2 is tested against [TSI Optical Particle Sizer 3330](#) and [DustTrak instruments](#).



Comparison of PM2.5 monitoring by OPC-R2 sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a workshop, the raw 3330 data has been used to calculate a PM figure.



Comparison of PM10 monitoring by OPC-R2 sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a workshop, the raw 3330 data has been used to calculate a PM figure.

Hexanode Calibration Certificate



13 May 2025

Thank you for choosing SiteHive for your realtime environmental management. This calibration certificate is valid for the device below.

Noise

The Hexanode sound level meter has been pressure calibrated by SiteHive using a NATA Certified (IEC 60942: Sound calibrators) Sound Level Calibrator, at 104 Commonwealth Street, Surry Hills, NSW, 2010.

Serial Number	Calibration Value	Calibration Date	Calibration Due
HEX-000264	3.009374	23 Apr 2025	23 Apr 2027

Accuracy:	Complies with precision requirements of IEC 61672 for Class 2
Acoustic overload point:	135 dBSPL
Frequency Range:	20 Hz ~ 12.5 kHz
Frequency Rating:	Z, A and C weighting
Parameters (dB):	Frequency & time weighted integrations, statistical levels, and more
Direction of Arrival:	Device angle & cartesian angle (0°-360°) of dominant noise source

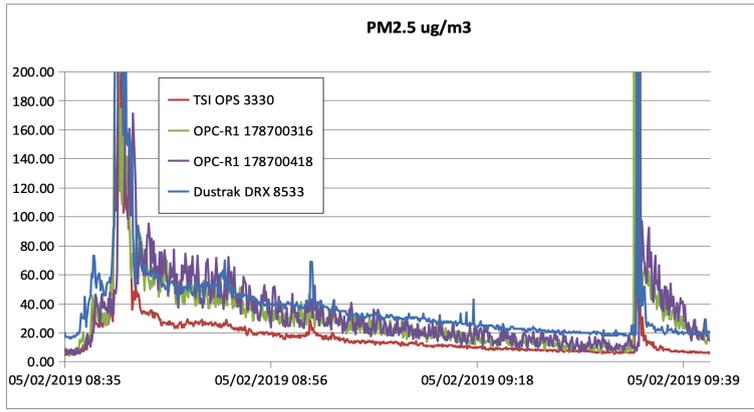
The SiteHive Hexanode uses innovative digital MEMS microphones, and as such cannot achieve full pattern approval in line with international standard IEC 61672, which is written for analogue condenser microphones. However, the SiteHive Hexanode sound level meter has been rigorously tested by the the National Measurement Institute (NMI), the division of the Australian Federal Government Department of Industry, Science, Energy & Resources responsible for providing world-class measurement services to support a fair, safe, healthy and competitive Australia. The National Measurement Institute's (NMI) acoustic, ultrasound and vibration measurement services are the most accurate in Australia, and include providing the certification for NATA (National Association of Testing Authorities) testing facilities, who provide class certification for noise meters. NMI undertook all of the possible tests outlined in IEC 61672-2, with the Hexanode passing all precision requirements within the criteria of a class 2 device.

Dust

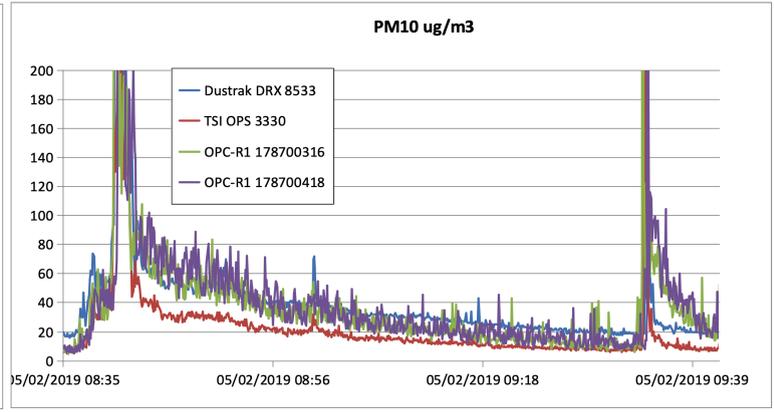
The Hexanode Multi device utilises the Alphasense OPC-R2 particle monitor to provide real-time dust measurements. These sensors are calibrated at manufacture by Alphasense. Whilst the R2 does not have any gravimetric sampling capabilities, measurements can be adjusted using a K-Factor if one is available. SiteHive software will also provide measurements from the nearest Government air quality station for reference. The full data sheet for the Alphasense R2 is available [here](#).

Particle range	µm spherical equivalent size (based on RI of 1.5)	0.30 to 12.4
Size categorisation	Number of software bins	16
Sampling interval	Histogram period (seconds)	2 to 30
Total flow rate	L/min (typical)	0.24
Max particle count rate	particles/second	10,000
Max coincidence probability	% concentration at 10 ⁶ particles/L	0.7

Prior to deployment, the R2 is tested against TSI Optical Particle Sizer 3330 and DustTrak instruments.



Comparison of PM2.5 monitoring by OPC-R2 sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a workshop, the raw 3330 data has been used to calculate a PM figure.



Comparison of PM10 monitoring by OPC-R2 sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a workshop, the raw 3330 data has been used to calculate a PM figure.

Hexanode Calibration Certificate



19 Nov 2024

Thank you for choosing SiteHive for your realtime environmental management. This calibration certificate is valid for the device below.

Noise

The Hexanode sound level meter has been pressure calibrated by SiteHive using a NATA Certified (IEC 60942: Sound calibrators) Sound Level Calibrator, at 104 Commonwealth Street, Surry Hills, NSW, 2010.

Serial Number	Calibration Date	Calibration Value
HEX-000600	15 Aug 2024	3.028699

Accuracy:	Complies with precision requirements of IEC 61672 for Class 2
Acoustic overload point:	135 dBSPL
Frequency Range:	20 Hz ~ 12.5 kHz
Frequency Rating:	Z, A and C weighting
Parameters (dB):	Frequency & time weighted integrations, statistical levels, and more
Direction of Arrival:	Device angle & cartesian angle (0°-360°) of dominant noise source

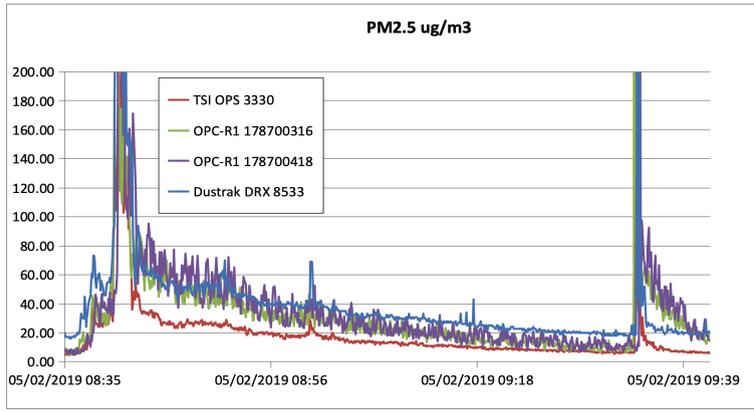
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Dust

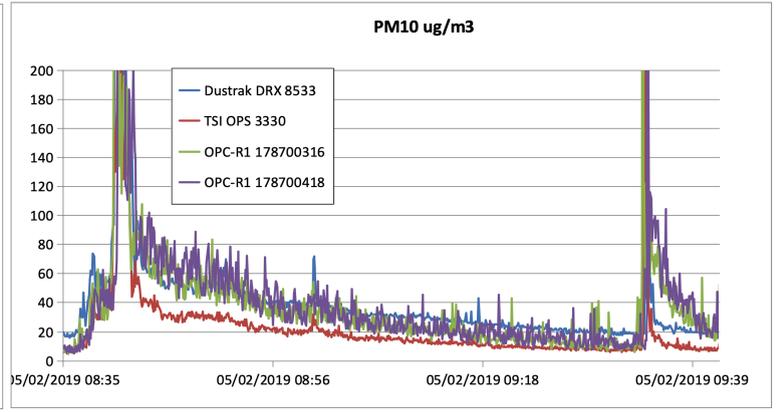
The Hexanode utilises the Alphasense R2 Optical Particle Sensor, to provide real-time dust measurements. Whilst the R2 does not have any gravimetric sampling capabilities, measurements can be adjusted using a K-Factor if one is available. SiteHive software will also provide measurements from the nearest Government air quality station for reference. The full data sheet for the Alphasense R2 is available [here](#).

Particle range	µm spherical equivalent size (based on RI of 1.5)	0.30 to 12.4
Size categorisation	Number of software bins	16
Sampling interval	Histogram period (seconds)	2 to 30
Total flow rate	L/min (typical)	0.24
Max particle count rate	particles/second	10,000
Max coincidence probability	% concentration at 10 ⁶ particles/L	0.7

Prior to deployment, the R2 is tested against TSI Optical Particle Sizer 3330 and DustTrak instruments.



Comparison of PM2.5 monitoring by OPC-R2 sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a workshop, the raw 3330 data has been used to calculate a PM figure.



Comparison of PM10 monitoring by OPC-R2 sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a workshop, the raw 3330 data has been used to calculate a PM figure.

Hexanode Calibration Certificate



19 Nov 2024

Thank you for choosing SiteHive for your realtime environmental management. This calibration certificate is valid for the device below.

Noise

The Hexanode sound level meter has been pressure calibrated by SiteHive using a NATA Certified (IEC 60942: Sound calibrators) Sound Level Calibrator, at 104 Commonwealth Street, Surry Hills, NSW, 2010.

Serial Number	Calibration Date	Calibration Value
HEX-000723	24 Oct 2024	2.940808

Accuracy:	Complies with precision requirements of IEC 61672 for Class 2
Acoustic overload point:	135 dBSPL
Frequency Range:	20 Hz ~ 12.5 kHz
Frequency Rating:	Z, A and C weighting
Parameters (dB):	Frequency & time weighted integrations, statistical levels, and more
Direction of Arrival:	Device angle & cartesian angle (0°-360°) of dominant noise source

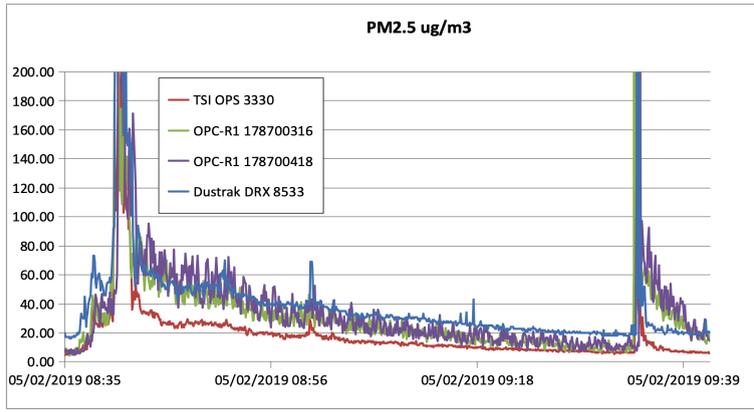
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Dust

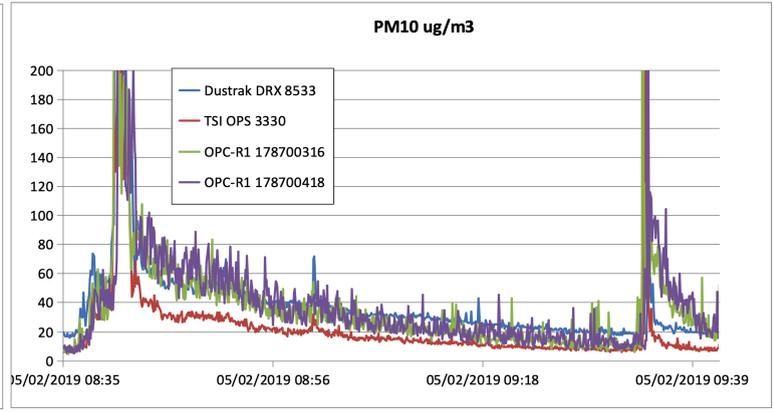
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Particle range	µm spherical equivalent size (based on RI of 1.5)	0.30 to 12.4
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Sampling interval	Histogram period (seconds)	2 to 30
Total flow rate	L/min (typical)	0.24
Max particle count rate	particles/second	10,000
Max coincidence probability	% concentration at 10 ⁶ particles/L	0.7

Prior to deployment, the R2 is tested against TSI Optical Particle Sizer 3330 and DustTrak instruments.



Comparison of PM2.5 monitoring by OPC-R2 sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a workshop, the raw 3330 data has been used to calculate a PM figure.



Comparison of PM10 monitoring by OPC-R2 sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a workshop, the raw 3330 data has been used to calculate a PM figure.

Hexanode Calibration Certificate



13 May 2025

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Noise

The Hexanode sound level meter has been pressure calibrated by SiteHive using a NATA Certified (IEC 60942: Sound calibrators) Sound Level Calibrator, at 104 Commonwealth Street, Surry Hills, NSW, 2010.

Serial Number	Calibration Value	Calibration Date	Calibration Due
HEX-000767	3.004615	28 Apr 2025	28 Apr 2027

Accuracy:	Complies with precision requirements of IEC 61672 for Class 2
Acoustic overload point:	135 dBSPL
Frequency Range:	20 Hz ~ 12.5 kHz
Frequency Rating:	Z, A and C weighting
Parameters (dB):	Frequency & time weighted integrations, statistical levels, and more
Direction of Arrival:	Device angle & cartesian angle (0°-360°) of dominant noise source

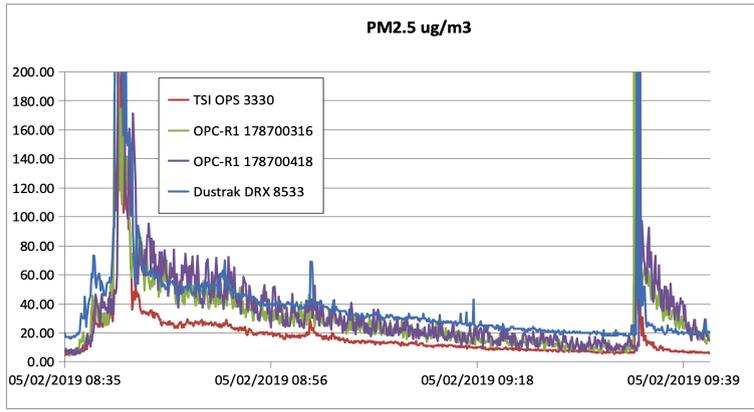
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Dust

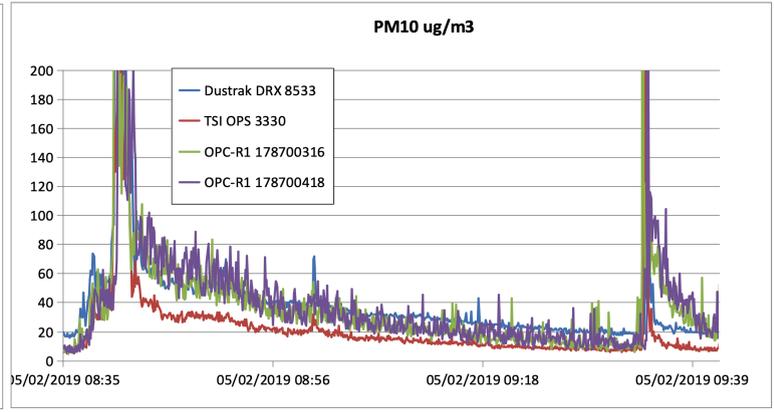
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Particle range	µm spherical equivalent size (based on RI of 1.5)	0.30 to 12.4
Size categorisation	Number of software bins	16
Sampling interval	Histogram period (seconds)	2 to 30
Total flow rate	L/min (typical)	0.24
Max particle count rate	particles/second	10,000
Max coincidence probability	% concentration at 10 ⁶ particles/L	0.7

Prior to deployment, the R2 is tested against TSI Optical Particle Sizer 3330 and DustTrak instruments.



Comparison of PM2.5 monitoring by OPC-R2 sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a workshop, the raw 3330 data has been used to calculate a PM figure.



Comparison of PM10 monitoring by OPC-R2 sensor and TSI OPS 3330 and DustTrak instruments. All are set at 5s averaging and are sampling the ambient air of a workshop, the raw 3330 data has been used to calculate a PM figure.

Hexanode Calibration Certificate



29 Jul 2025

Vibration

Thank you for choosing SiteHive for your realtime environmental management. This calibration certificate is valid for the device below.

The vibration device is calibrated by SiteHive through comparison to a reference transducer, in line with testing protocols outlined in ISO 16063-21:2003.

Serial Number	Calibration Date	Calibration Due
VIB-000047	04 Jul 2025	04 Jul 2027

Result

Axis	Frequency (Hz)	Measured value (mm/s)	Reference value (mm/s)	Result (% difference to reference)
x	31.5	25.1	25.14	Pass (0)
y	31.5	25.24	25.28	Pass (0)
z	31.5	25.66	25.7	Pass (0)

Calibration conditions

Temperature	23 °C
Humidity	52 % RH
Mounting surface	Aluminium

Calibration equipment

Equipment	Model	Serial number	Calibration certificate
Reference Sensor 1	M-A352AD10	00005379	23 Sep 2024
Reference Sensor 2	M-A352AD10	00005090	23 Sep 2024
Shaker	AVM90-HF-10-0.5	AVM-34858	
Driver	AGD200-ET-2D02	AGD200-00122310916	
Reference Check			
Device Mount	8428544-001		

Hexanode Calibration Certificate



29 Jul 2025

Vibration

Thank you for choosing SiteHive for your realtime environmental management. This calibration certificate is valid for the device below.

The vibration device is calibrated by SiteHive through comparison to a reference transducer, in line with testing protocols outlined in ISO 16063-21:2003.

Serial Number	Calibration Date	Calibration Due
VIB-000165	26 Jun 2025	26 Jun 2027

Result

Axis	Frequency (Hz)	Measured value (mm/s)	Reference value (mm/s)	Result (% difference to reference)
x	31.5	24.99	25.03	Pass (0)
y	31.5	25.14	25.19	Pass (0)
z	31.5	25.33	25.37	Pass (0)

Calibration conditions

Temperature	23 °C
Humidity	52 % RH
Mounting surface	Aluminium

Calibration equipment

Equipment	Model	Serial number	Calibration certificate
Reference Sensor 1	M-A352AD10	00005379	23 Sep 2024
Reference Sensor 2	M-A352AD10	00005090	23 Sep 2024
Shaker	AVM90-HF-10-0.5	AVM-34858	
Driver	AGD200-ET-2D02	AGD200-00122310916	
Reference Check			
Device Mount	8428544-001		

Hexanode Calibration Certificate



29 Jul 2025

Vibration

Thank you for choosing SiteHive for your realtime environmental management. This calibration certificate is valid for the device below.

The vibration device is calibrated by SiteHive through comparison to a reference transducer, in line with testing protocols outlined in ISO 16063-21:2003.

Serial Number	Calibration Date	Calibration Due
VIB-000279	05 Sep 2024	05 Sep 2026

Result

Axis	Frequency (Hz)	Measured value (mm/s)	Reference value (mm/s)	Result (% difference to reference)
x	31.5	25.28	25.33	Pass (0)
y	31.5	25.59	25.63	Pass (0)
z	31.5	25.64	25.68	Pass (0)

Calibration conditions

Temperature	23 °C
Humidity	52 % RH
Mounting surface	Aluminium

Calibration equipment

Equipment	Model	Serial number	Calibration certificate
Reference Sensor 1	M-A352AD10	00005379	14 Jan 2024
Reference Sensor 2	M-A352AD10	00005090	14 Jan 2024
Shaker	AVM90-HF-10-0.5	AVM-34858	
Driver	AGD200-ET-2D02	AGD200-00122310916	
Reference Check			
Device Mount	8428544-001		

Hexanode Calibration Certificate



29 Jul 2025

Vibration

Thank you for choosing SiteHive for your realtime environmental management. This calibration certificate is valid for the device below.

The vibration device is calibrated by SiteHive through comparison to a reference transducer, in line with testing protocols outlined in ISO 16063-21:2003.

Serial Number	Calibration Date	Calibration Due
VIB-000348	04 Jul 2025	04 Jul 2027

Result

Axis	Frequency (Hz)	Measured value (mm/s)	Reference value (mm/s)	Result (% difference to reference)
x	31.5	25.13	25.18	Pass (0)
y	31.5	25.26	25.31	Pass (0)
z	31.5	25.43	25.47	Pass (0)

Calibration conditions

Temperature	23 °C
Humidity	52 % RH
Mounting surface	Aluminium

Calibration equipment

Equipment	Model	Serial number	Calibration certificate
Reference Sensor 1	M-A352AD10	00005379	23 Sep 2024
Reference Sensor 2	M-A352AD10	00005090	23 Sep 2024
Shaker	AVM90-HF-10-0.5	AVM-34858	
Driver	AGD200-ET-2D02	AGD200-00122310916	
Reference Check			
Device Mount	8428544-001		

Hexanode Calibration Certificate



29 Jul 2025

Vibration

Thank you for choosing SiteHive for your realtime environmental management. This calibration certificate is valid for the device below.

The vibration device is calibrated by SiteHive through comparison to a reference transducer, in line with testing protocols outlined in ISO 16063-21:2003.

Serial Number	Calibration Date	Calibration Due
VIB-000387	04 Jul 2025	04 Jul 2027

Result

Axis	Frequency (Hz)	Measured value (mm/s)	Reference value (mm/s)	Result (% difference to reference)
x	31.5	25.06	25.1	Pass (0)
y	31.5	25.42	25.46	Pass (0)
z	31.5	25.44	25.48	Pass (0)

Calibration conditions

Temperature	23 °C
Humidity	52 % RH
Mounting surface	Aluminium

Calibration equipment

Equipment	Model	Serial number	Calibration certificate
Reference Sensor 1	M-A352AD10	00005379	23 Sep 2024
Reference Sensor 2	M-A352AD10	00005090	23 Sep 2024
Shaker	AVM90-HF-10-0.5	AVM-34858	
Driver	AGD200-ET-2D02	AGD200-00122310916	
Reference Check			
Device Mount	8428544-001		

SERVICE & CALIBRATION REPORT

Water Quality Meter

Customer Details:

Martinus Rail Pty Ltd
Attn Joseph Disting ph: 0410 119 009
Inland Rail A2P Project
75 Miller Street
North Sydney, NSW 2060
Australia

Job Number

240937

Date

27/09/2024

Instrument Model:

HORIBA U-52/2m
Multi-parameter water quality meter

Instrument Serial Number:

F6GXX4FW JULY 24

PRE-DELIVERY CALIBRATION

Calibration:(in accordance with manufacturer's specifications)

Parameter - unit	Calibration value	After calibration	Comment
pH (pH)	7.01	7.01	Pass
pH (pH)	4.00	4.00	Pass
ORP (mV)	225	225	Pass
Conductivity (mS/cm)	0.000	0.000	Pass
Conductivity (mS/cm)	0.718	0.718	Pass
Conductivity (mS/cm)	6.67	6.67	Pass
Conductivity (mS/cm)	58.6	58.6	Pass
Turbidity (NTU)	0.0	0.0	N/A
Turbidity (NTU)	8.0	8.0	N/A
Turbidity (NTU)	80.0	80.0	N/A
Turbidity (NTU)	400	400	N/A
D.O. zero (mg/L)	0.00	0.00	Pass
D.O. span (mg/L)	9.42 mg/L @ 19.2°C	9.42 mg/L @ 19.2°C	Pass
Temperature (°C)	18.4°C	18.4°C	Pass

Sensors:

pH Glass Electrode	pH Ref Electrode	ORP Electrode	DO Electrode
416020	UCUGXBU0	T00RG20V	A1S0SH8W

Comments:

MAKE SURE pH reference electrode is refilled with soln #330 regularly. If the #330 soln solidifies inside the pH reference electrode, remove the liquid junction cap (flat black rubber cap with wick in the middle) and rinse out the old soln with distilled water. Then refill with fresh HORIBA soln # 330 and refit the liquid junction cap. **Please read the notes on pH maintenance.**

Calibration carried out by:

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