

The background of the entire page is a detailed, light blue map of the Cross River area. The map shows a complex network of streets, including major thoroughfares and smaller residential roads. A prominent river, the Cross River, winds through the center of the map. Various landmarks and areas are delineated by the street grid and natural features.

Cross River Rail Project

Monthly Environmental Report

December 2021

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Executive Summary

This Monthly Environmental Report (MER) has been produced for Project Works undertaken on site for December 2021 for the Rail, Integration and Systems (RIS), and Tunnel, Stations and Development (TSD) packages. The report addresses the obligations outlined in the Coordinator-General's change report – *Coordinator-General's change report – no. 11 (July 2021)* and the individual contractor's Construction Environmental Management Plans (CEMPs) which have been developed generally in accordance with the Project's Outline Environmental Management Plan (OEMP). The Cross River Rail Delivery Authority (Delivery Authority), as the Proponent of the Cross River Rail Project, is required to submit a monthly report to the Coordinator-General to demonstrate compliance with the imposed conditions.

Section 1 of this report provides a background to the project and the Coordinator-General's conditions. Section 2 provides a review of the contractor's reports contained in **Appendix A** (RIS Monthly Report) and **Appendix B** (TSD Monthly Report).

The Environmental Monitor (EM) has reviewed and endorsed this MER. This endorsement follows ongoing and new document reviews, and surveillance across the relevant project worksites.

The CEMPs prepared by both Unity Alliance (RIS Contractor) and CBUG JV on behalf of Pulse (TSD Contractor) for their Relevant Project Works were endorsed by the EM and submitted to the Coordinator-General in accordance with Condition 4 (a) and 4 (b) respectively.

The table below presents a summary of compliance status against each condition with a short comment for each:

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
1.	General conditions – compliance with the Project Changes relevant to the contractor's scope	Yes	The CEMP and site management plans are in accordance with the Project Changes.
2.	Outline Environmental Management Plan – timely submission to the Coordinator-General including required sub-plans	Yes	OEMP dated June 2020 is effective for the reporting period.
3.	Design – achievement of the Environmental Design Requirements	NA	Ongoing progress with design packages.
4.	Construction Environmental Management Plan – all relating to Relevant Project Works.	Yes	RIS – CEMP Revision 10 covering full scope of RIS works is effective from 29 April 2021. TSD – CEMP Revision 8 covering full scope of TSD works is effective from 9 June 2021.
5.	Compliance and Incident management – Non-compliance events, notifications and reporting.	Yes	There were no non-compliance events (NCEs) in December 2021. Refer to Section 2.5 of this report.

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
6.	Reporting – Monthly and Annual reporting.	Yes	This MER, including RIS and TSD Monthly Reports, has been submitted in accordance with the conditioned requirements. Refer to Appendix A and Appendix B .
7.	Environmental Monitor (EM) – engaged and functions resumed.	Yes	Ongoing weekly site inspections and document reviews continue to take place.
8.	Community Relations Monitor (CRM) – engaged and functions resumed	Yes	Ongoing.
9.	Community Engagement Plan – developed and endorsed by Environmental Monitor.	Yes	CEMPs endorsed with Community Engagement Plan.
10.	Hours of work – Project Works undertaken during approved hours.	Yes	Project Works have been undertaken in accordance with project requirements. This has been achieved through Standard working hours, Extended work hours and Managed Work.
11.	Noise – Project Works must aim to achieve internal noise goals for human health and well-being.	Yes	Noise monitoring met project noise requirements at Sensitive Places. RIS – Noise monitoring was undertaken to validate predicted noise modelling and in response to complaints. Noise monitoring confirmed the contractor met project requirements. Refer to Appendix A (Table 4 and Sections 3.1.2 and 3.1.4.). TSD – Noise monitoring was undertaken to validate predicted noise modelling and for stakeholder enquiries. Noise monitoring confirmed the contractor met project requirements. Refer to Appendix B (Table 3 and Section 3.2).
	Vibration – Project Works must aim to achieve vibration goals for cosmetic damage, human comfort and sensitive building contents.	Yes	Vibration monitoring met project vibration requirements at Sensitive Places. RIS – Vibration monitoring was undertaken to validate predicted modelling and in response to complaints received. Vibration monitoring results met project requirements. Refer to Appendix A (Table 5 and Section 3.1.3). TSD – Vibration monitoring was undertaken to validate predicted vibration modelling. The TSD contractor confirmed the monitoring results met project goals. Refer to Appendix B (Table 2 and Section 3.1).

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
12.	Property damage – relating to ground movement.	Yes	<p>RIS – Vibration modelling has been undertaken for Relevant Project Works and Property Damage Sub-plans have been developed and implemented. Pre-condition surveys have been completed at heritage, commercial and residential buildings at RNA, Northern Corridor and Fairfield to Salisbury stations.</p> <p>TSD – Vibration modelling has been prepared and is ongoing. Where required, building condition survey reports are completed for heritage and residential buildings. No enquiries relating to property damage were received during December.</p>
13.	Air quality – Works must aim to achieve air quality goals for human health and nuisance.	Yes	<p>Air quality monitoring met Project air quality goals.</p> <p>RIS – Refer to Appendix A (Tables 7, 8 and Section 3.2.9, and Figures 1, 2 and 3)</p> <p>TSD – Refer to Appendix B (Tables 4 and 5 and Sections 3.3. 1 and 3.3.2)</p>
14.	Traffic and transport – Works must minimise adverse impacts on road safety and traffic flow.	Yes	<p>Traffic Management Plans are covered in the CEMPs. Sub-plans for all active worksites have been reviewed by the EM.</p>
15.	<p>Water quality – Works must not discharge groundwater from the construction site above the relevant environmental values and water quality objectives.</p> <p>Monitor and report on water quality in accordance with CEMP and Sub-plans.</p>	Yes	<p>Monitoring and reporting on groundwater and surface water quality was undertaken in accordance with RIS and TSD Water Quality Management Plans.</p> <p>RIS – No groundwater discharges occurred.</p> <p>In-situ post-rainfall monitoring was triggered at Clapham Yard. The results of monitoring and subsequent site investigation determined elevated total suspended solids in receiving waters not to be related to Project Works.</p> <p>Refer to Appendix A (Table 10 and Section 3.3.2 and 3.3.5) for results.</p> <p>TSD – In December, active discharge of groundwater occurred from Roma Street, Woolloongabba and Boggo Road worksites. Monitoring results of groundwater quality prior to discharge is consistent with the pre-construction water quality levels.</p> <p>Active discharge of surface water occurred at the Northern Portal worksite on 27</p>

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
			<p>occasions. Results met water quality discharge criteria.</p> <p>Post-rainfall monitoring was triggered for Brisbane River, York's Hollow and Norman Creek. The water quality results reflect the condition of the broader catchment. The monitoring indicates that there were no offsite impacts related to Project Works.</p> <p>Routine in stream monthly monitoring met project water quality requirements.</p> <p>Refer to Appendix B (Table 6) for ground water monitoring results. Refer to Appendix B (Tables 7 and 8) for surface water monitoring results.</p>
16.	Water resources – Evaluate potential impact, plan works, implement controls and monitor inflow of groundwater associated with drawdown.	Yes	<p>RIS – There is no sustained groundwater extraction involved in the RIS scope of works so predictive modelling of groundwater drawdown is not required. Collection of hydrological data to model potential inflow rates into excavations during construction has been undertaken.</p> <p>TSD – Inflow of groundwater into the worksites is being continuously monitored to validate the predictive modelling.</p>
17.	Surface water – Must be designed to avoid inundation from stormwater due to a 2-year (6hr) ARI rainfall event and flood waters due to a 5-year ARI rainfall event and constructed to avoid afflux or cause the redirection of uncontrolled surface water flows, including stormwater flows, outside of worksites.	Yes	Contractors continue to consider this condition in their site planning and design.
18.	Erosion and sediment control – Provisions for erosion and sediment control must be consistent with the Guidelines for Best Practice Erosion and Sediment Control (International Erosion Control Association, 2008) and the Department of Transport and Main Roads' Technical Standard MRTS52.	Yes	Site specific ESC plans for all active work sites have been reviewed by the EM and implemented on site.
19.	Acid sulfate soils – managed as per the Queensland Acid Sulfate Soil Technical Manual.	Yes	Acid Sulfate Soil Management Plans have been prepared and implemented for all active worksites.

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
20.	Landscape and open space – general requirement to minimise impacts on landscapes and open space values and specific requirements around Victoria Park.	Yes	The construction of a temporary access road through Victoria Park was undertaken under a Heritage Exemption Certificate approved by the Department of Environment and Science (DES) on 24 June 2021. Consideration has been taken to minimise loss of trees and the area of park impacted during these temporary works.
21.	Worksite rehabilitation – worksites rehabilitated as soon as practicable upon completion of works or commissioning, and in consultation with Brisbane City Council.	NA	N/A

Non-Compliance Events

There were no NCEs raised in December 2021.

Definitions

Acronym	Definition
ARI	Average Recurrence Interval - The average or expected value of the periods between exceedances of a given rainfall total accumulated over a given duration.
CEMP	Construction Environmental Management Plan
CGCR	Coordinator-General's Change Report
CRM	The Community Relations Monitor engaged in accordance with Imposed Condition 8
Contractor	The contractors appointed to design, construct, and commission the Project
Coordinator-General	The corporation sole preserved, continued, and constituted under section 8 of the SDPWO Act.
CRR	Cross River Rail
DES	Department of Environment and Science
EIS	Environmental Impact Statement
EM	The Environmental Monitor engaged in accordance with Imposed Condition 7
ESC	Erosion and sediment control
IECA	International Erosion Control Association
Imposed condition/s	A condition/s imposed by the Coordinator-General under section 54B of the SDPWO Act for the Project
MER	Monthly Environment Report
MRTS52	Transport and Main Roads Specifications MRTS52 Erosion and Sediment Control
NCE	Non-Compliance Event
OEMP	Outline Environmental Management Plan
Project	The Cross River Rail Project
Project Works	As defined in the Imposed Conditions
Proponent	The Cross River Rail Delivery Authority
RfPC	Request for Project Change
RIS	Rail, Integration and Systems
SDPWO Act	<i>State Development and Public Works Organisation Act 1971</i>
Sub-plan	Any sub-plan of the CEMP
The Delivery Authority	The Cross River Rail Delivery Authority
TSD	Tunnel, Stations and Development

1.Introduction

1.1. Background

The Cross River Rail Project (the Project) is a declared coordinated project under the *State Development and Public Works Organisation Act 1971* (SDPWO Act). The CRR Environmental Impact Statement (EIS) was evaluated by the Coordinator-General who recommended the Project proceed, subject to Imposed Conditions and recommendations. Since the evaluation of the EIS, several Requests for Project Change (RfPC) submissions have been evaluated by the Coordinator-General. RfPC 11 was endorsed in July 2021 by the Coordinator-General.

The Coordinator-General has imposed conditions on the Project that apply throughout the design, construction, and commissioning phases. These are referred to as the Imposed Conditions. In addition, the Coordinator-General has approved the Project's OEMP which outlines the environmental management framework for the Project. The OEMP includes environmental outcomes and performance criteria which must be achieved for the Project.

Imposed Conditions 5 and 6 nominate the compliance and reporting requirements for the Project. This monthly report addresses these requirements.

1.2. Project Delivery

The Delivery Authority is responsible for planning and delivering the Project. The Project established environmental management plans and secured some of the secondary environmental approvals in addition to enabling works.

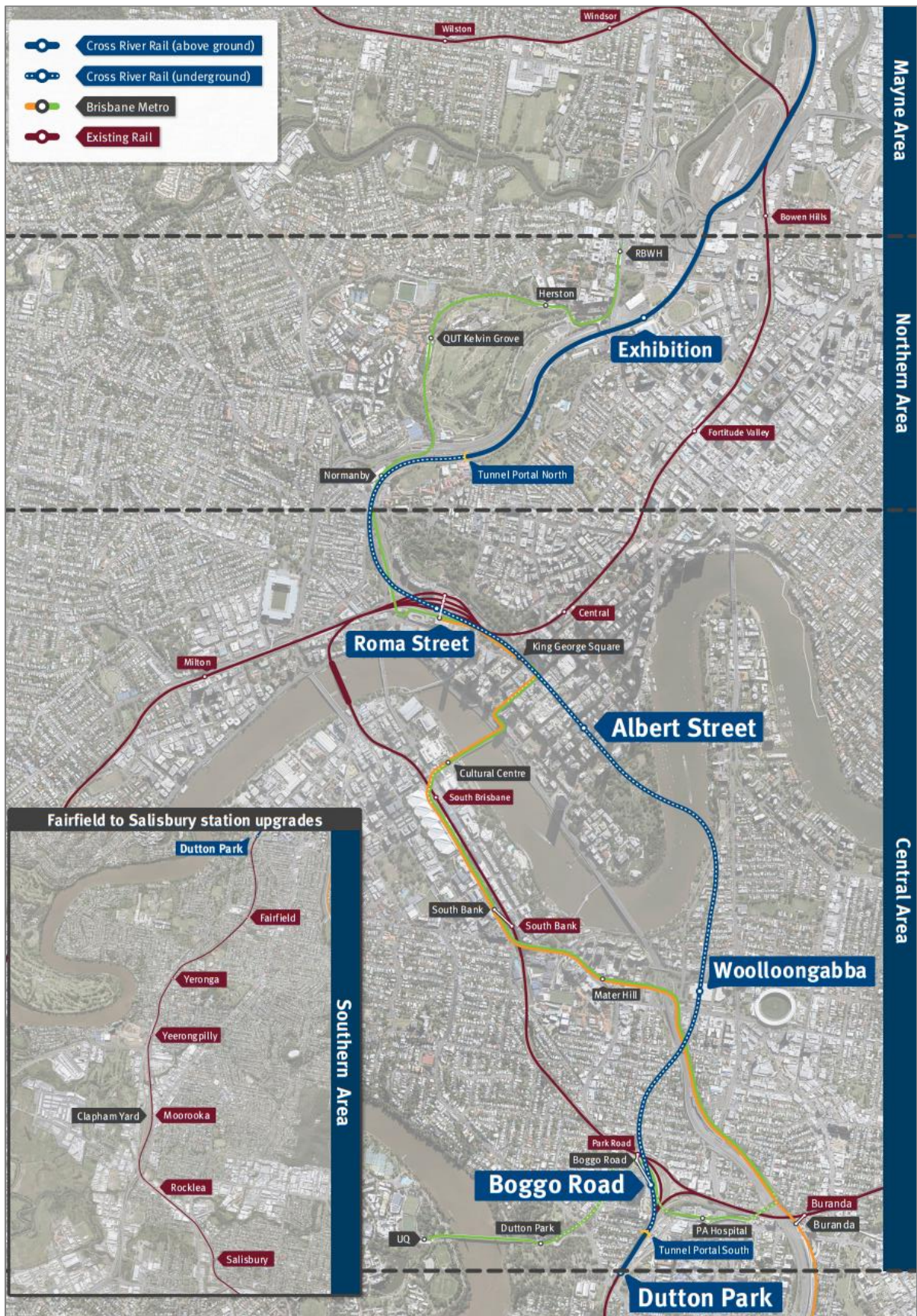
The two main delivery packages which require reporting under the Coordinator-General's imposed conditions are:

- Tunnel, Stations and Development (TSD) being delivered by CBGU JV; and
- Rail, Integration and Systems (RIS) being delivered by Unity Alliance.

The Project is geographically divided into four areas:

- Mayne Area;
- Northern Area;
- Central Area; and
- Southern Area.

These are shown in the figure over.



1.3. Reporting Framework

This MER has been prepared to comply with Imposed Conditions 6 and 7 of the Coordinator-General Change Report (CGCR) and includes:

- monitoring data and associated interpretation of the results required by the imposed conditions and Construction Environmental Management Plan (CEMP);
- details of any NCE's, including incidents, corrective actions, and preventative actions; and
- details of any complaints, including description, responses, and corrective actions.

Reporting on environmental elements captured in each monthly environmental report, including the annual environmental report, will be reviewed, and endorsed by the EM.

1.4. Monthly Environment Report Endorsement

This MER has been endorsed by the EM and the endorsement provided to the Coordinator-General.

2.Compliance Review

This MER has been reviewed and endorsed by the EM as per Imposed Condition 7 of the CGCR.

2.1. Relevant Project Works

The following Project Works were undertaken in December 2021:

Area	Project Works
Mayne Area	Mayne Yard North – <ul style="list-style-type: none">• Mayne North Yard Road 4–11 completed and 6-11 tamped, rail fit outs and driver footpaths commenced;• Wick drains for preload to Southern embankment of BR08 commenced;• Breakfast Creek Bridge temporary works rock platforms commenced;• Crew Change Building framing, roofing, and decking nearing completion, and internal fit out and cladding commenced;• Graffiti Removal Facility structural steel nearing completion;• Tripod Bridge (BR11/13) blade wall – Pier 2 form reo pour (FRP) nearing completion; and• Pier protection Ferny Grove Flyover – pile caps Pier 5 and 6 completed.
Northern Area	RNA/ Exhibition – <ul style="list-style-type: none">• Sneyd Street drainage chamber completed; and• BR43 western viaduct FRP works ongoing. FRP on post-tensioned superstructure (Pier 1–4) completed and falsework for Pier 4–7 commenced. Northern Corridor – <ul style="list-style-type: none">• Pier protection at O'Connell Terrace and Bowen Bridge completed; and• Retaining wall RW260 FRP completed; Northern Portal – <ul style="list-style-type: none">• TBM2 Merle breakthrough achieved on the 17 December 2021;• TBM1 Else decommissioning and extraction commenced;• Capping beam pours complete;• Deck unit installation complete except for the extraction box; and• Ongoing excavation of dive structure.

Area	Project Works
Central Area	Roma Street – <ul style="list-style-type: none"> Services building Level B6 walls poured and ongoing steel fixing on level B5 main slab; Station building excavation and retention works in progress on bench 15 of 15, blinding commenced; Cavern kickers and waterproofing ongoing, adit RA6 bench excavation ongoing; and Inner Northern Busway (INB) pile cap works in progress with 2 of 9 columns cut.
	Albert Street – <ul style="list-style-type: none"> Lot 1 – station box excavation and ground retention continues; installation of 3rd row of props and blast #1 complete; Lot 2 –permanent lining of adit AA1, AA3, AA5 and AA7 complete, commenced break-in of downline tunnel removing segments and stitch bolting for support; and Lot 3 – excavation continuing (~45% complete), and ongoing ground retention (~58% complete).
	Woolloongabba – <ul style="list-style-type: none"> Station jump form system lift 12 reinforcement fixing; Climbtrack system on external walls at ground level; Southern cavern internal structure works has commenced; Northern cavern invert formwork, reinforcement, and concrete Pouring (FRP) works ongoing, headwall works and waterproofing commenced; and Removal of TBM infrastructure from northern cavern.
	Boggo Road – <ul style="list-style-type: none"> Northern cavern waterproofing complete, steel fixing ongoing and 6 permanent lining arch pours complete; Wall 3 formed and poured; Station sump blinding completed; Ongoing base and track slab steel fixing and pours; and Level B7 (North) cavi drain completed.
	Southern Portal – <ul style="list-style-type: none"> Detailed excavation and shotcrete within cut and cover trough ongoing (73% complete); Sewer and stormwater micro tunnelling towards Shaft 1 on Railway Terrace and Shaft 8 on Kent Street achieved, 64% of overall micro tunnelling completed; Ongoing piling at Boggo Road South beneath the freight flyover; Bikeway modifications and reinstatement on Kent Street completed; Final testing and commissioning of (signaling Equipment Room) SER completed; OHLE scope completed during Christmas SCAS with new wiring for up suburban and new Dutton Park forklane completed with removal of old alignment; Freight Flyover Pier Protection completed; Green field track construction completed; and Removal of points and alignment of down suburban line into middle road completed.
Southern Area	Dutton Park – <ul style="list-style-type: none"> Platform modification and restoration complete as part of Christmas SCAS. Yeronga Station – <ul style="list-style-type: none"> Platform slabs FRP - 50% complete; In-ground platform conduits and pits - 90% complete; Platform 1 canopy installed; and Platform coping and tactiles commenced.

Area	Project Works
	<p>Fairfield Station –</p> <ul style="list-style-type: none"> • Fairfield Station dual gauge track lowering complete; and • Platform 3 precast retaining wall installation 60% complete. <p>Clapham Yard –</p> <ul style="list-style-type: none"> • Earthworks and drainage continue; • Piling on retaining wall RW265 commenced; • Demolition of Unwin St properties and billboards at Fairfield Road commenced; • Under-bore for Energex relocation commenced; and • Christmas shutdown environmental activities completed.

2.2. Key Environmental Elements

2.2.1. Noise

The Coordinator-General's conditions establish a framework for managing the impacts of noise. The Imposed Conditions do not establish noise limits. Compliance with the Imposed Conditions noise requirements involves demonstrating the implementation of the endorsed CEMP and associated Noise and Vibration Management Plan. This establishes the management measures to be applied which aims to achieve the identified noise goals as far as reasonably practicable. The CEMP also includes requirements for the provision of the required community notifications of upcoming work, potential impacts, and how the project team can be contacted in relation to any potential impacts.

For Project Works where potential noise impacts are modelled to be above the noise goal but below the noise goal plus 20dBA, this work is authorised where the endorsed CEMP and associated Noise and Vibration Management Plan is being implemented, including communicating construction activities to potential and actual Directly Affected Persons (DAPs). For Project Works where potential noise impacts are predicted to be more than 20dBA above the relevant noise goal, specific engagement is required with DAPs for these works.

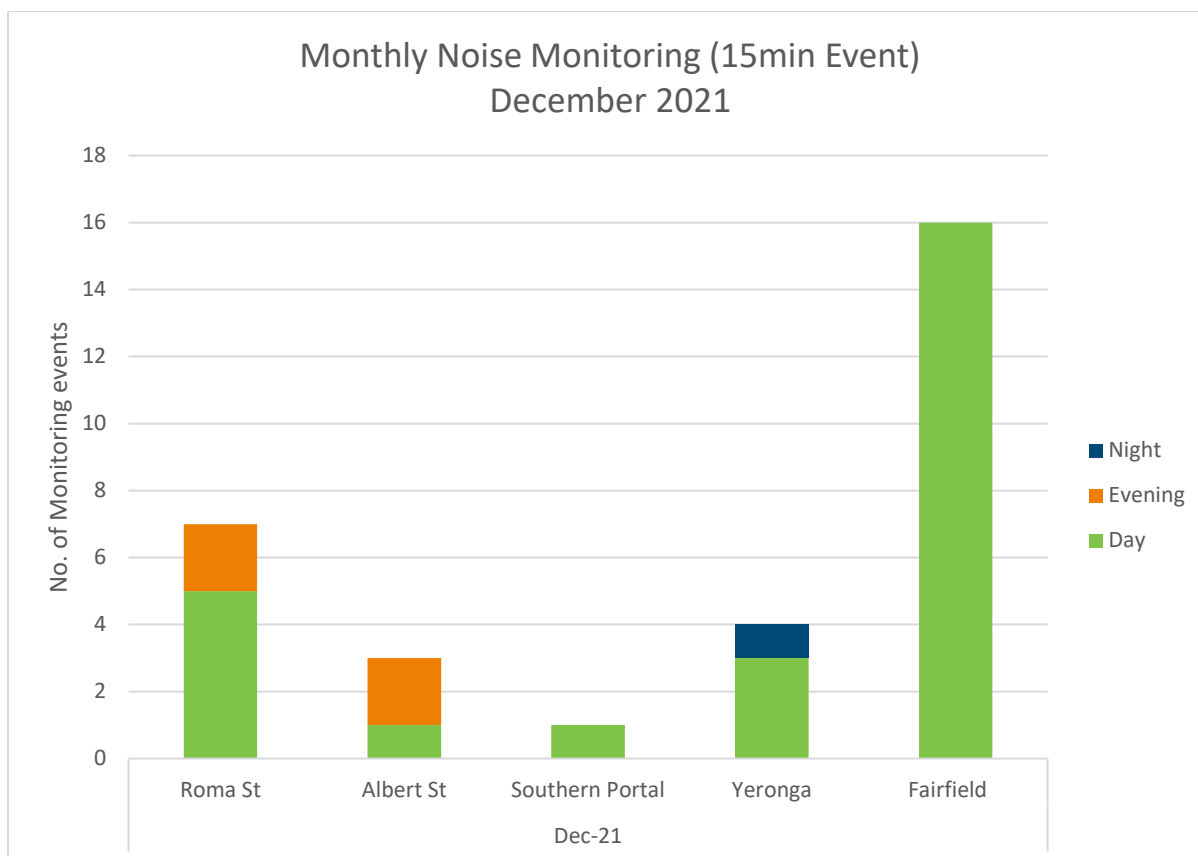
Where internal monitoring was not possible, contractors have undertaken external monitoring at nominated locations. To determine compliance with the project's noise requirements and to calibrate modelled predictions the project applies recommended façade attenuation corrections, which consider receiver property type.

Noise monitoring at Mayne and Northern Areas was not triggered.

In the Central Area, noise monitoring was undertaken to validate predictive modelling at Sensitive Places close to the project worksites and in response to noise enquiries and complaints. Monitoring results for the Central Area are detailed in **Appendix B** (Table 3). The TSD contractors reported that the project noise requirements have been met during this reporting month.

In the Southern Area, noise monitoring was undertaken to validate the predictive model for out of hours concreting works at Yeronga Station and dual gauge track lowering activities at Fairfield Station. Noise monitoring was also undertaken at Yeronga and Fairfield stations in response to complaints. Noise monitoring confirmed that the actual noise emissions were generally consistent with the predicted noise emissions. While some monitored noise levels exceeded the noise goals for work undertaken during Standard and Extended hours, proactive engagement with directly affected persons was undertaken in accordance with project requirements. Monitoring results for the Southern Area are detailed in **Appendix A** (Table 4).

A summary of noise monitoring events for the month is provided in the chart below.



2.2.2. Vibration

Vibration monitoring at Mayne and Northern Areas was not triggered.

In the Central Area, vibration monitoring took place to validate predictive modelling for controlled blasting at Roma Street and Albert Street. The reported results met the project goals. Vibration monitoring results for the Central Area are detailed in **Appendix B** (Table 2).

In the Southern Area vibration monitoring was undertaken to validate the model for human comfort levels during slab demolition at Unwin St, Moorooka. Monitoring results met the project goals. During Fairfield Station dual gauge track lowering activities, unfavourable weather conditions resulted in the loss of vibration monitoring data. This data was planned to be used to validate predictive modelling of vibration levels against human comfort criteria, during rock hammering and the use of a roller at site. The equipment used for these activities was however smaller than what was modelled and therefore should have emitted less vibrations during their use. There were no complaints related to nuisance vibration during the works. Vibration monitoring results for the Southern Area are detailed in **Appendix A** (Table 5).

2.2.3. Air Quality

2.2.3.1. Dust Deposition

Dust deposition monitoring was conducted at Mayne, Northern, Central and Southern Area worksites. In all cases dust deposition results met the project air quality goal¹.

A summary of dust deposition monitoring is provided in the table below.

Air Quality – Dust Deposition Monitoring			
Area	Worksite	Monitoring Location	Comments
Mayne Area	Mayne Yard	Mayne Yard	- Results met air quality goal.
Northern Area	RNA / Exhibition	RNA Showgrounds	- Results met air quality goal.
	Northern Portal	Northern Portal (near Brisbane Girls Grammar School)	- Results met air quality goal.
Central Area	Albert Street	Mary Street	- Results met air quality goal.
		Elizabeth Street	- Results met air quality goal.
	Boggo Road	Quarry Street (north of the site)	- Results met air quality goal.
		Peter Doherty Street/Leukemia Foundation	- Results met air quality goal.
	Southern Portal	Dutton Park Station	- Results met air quality goal.
		PA Hospital - Central Energy Unit along Kent Street	- Results met air quality goal.
	Roma Street	Roma Street Station	- Results met air quality goal.
	Woolloongabba	Russian Orthodox Cathedral	- Results met air quality goal.
		Woolloongabba Busway	- Results met air quality goal.
Southern Area	Clapham Yard	Clapham Yard (East)	- Results met air quality goal.
	Yeronga Station	Yeronga Station	- Results met air quality goal.

2.2.3.2. Particulate Matter and Total Suspended Particulates

Monitoring for particulate matter (PM₁₀) and total suspended particulates (TSP) was conducted at Mayne, Northern, Central and Southern Area worksites.

A summary of particulate monitoring is provided in the table below.

¹ CG air quality goal for dust deposition - 120µg/m² (over an averaging period of 30 days).

Air Quality – PM ₁₀ / TSP Monitoring			
Area	Worksite	Monitoring Location	Comments
Mayne Area	Mayne Yard	Mayne Yard North	- Results met air quality goals.
Northern Area	RNA / Exhibition	Lanham Yard	- Results met air quality goals.
	Northern Portal	Brisbane Girls Grammar School	- Results met air quality goals.
Central Area	Albert St	iStay River City and Capri (Corner of Mary Street and Albert Street)	- Results met air quality goals.
	Boggo Rd / Southern Portal	North-east of Boggo Road worksite	- Results met air quality goals.
	Roma St	Roma Street Station	- Results met air quality goals.
	Woolloongabba	Place Park, Woolloongabba	- Results met air quality goals.
Southern Area	Clapham Yard	Clapham Yard	- Results met air quality goals.

2.2.4. Water Quality

Water quality monitoring and reporting was undertaken in accordance with the Project's Water Quality Management Plans.

2.2.4.1. Surface Water

Post rainfall monitoring was triggered at Mayne, Northern, Central and Southern Area worksites, and active surface water discharges occurred from the Northern Portal site during dewatering.

At Mayne Yard post rainfall monitoring was triggered on 9 December 2021. Post rainfall site inspections confirmed that erosion and sediment controls were maintained with no evidence of stormwater run-off from construction activities leaving site. In stream water quality monitoring at Breakfast Creek was not triggered.

In the Northern Area water quality monitoring was triggered at RNA Showgrounds on 10 December 2021 to support active dewatering of treated stormwater run-off that was to be discharged to a live stormwater system. Water quality met project water quality discharge criteria. See **Appendix A** (Table 10) for further details. At the Northern Portal site water quality monitoring was triggered on 27 occasions as treated stormwater runoff was actively discharged to the stormwater network. Water quality met project water quality discharge criteria. See **Appendix B** (Table 7) for further details.

In the Central Area at Roma Street, Albert Street, Woolloongabba, Boggo Road and Southern Portal worksites, post rainfall monitoring in receiving waters at the Brisbane River and Norman Creek identified exceedances of the water quality investigation criteria on 2 December 2021. As monitoring results reflect the condition of a broader catchment upstream from the worksites, it was determined that the exceeded levels could not be reasonably related to Project Works.

In the Southern Area at Clapham Yard, post rainfall monitoring was triggered at Moolabin and Rocky Water Holes Creek on 8 December. Post rainfall site inspections identified water quality was visually more turbid at upstream and downstream monitoring locations in the system, triggering in-situ water quality monitoring. Monitoring results confirmed that turbidity at the downstream monitoring location in Moolabin Creek was 10% greater and TSS was more than 5mg/L than the upstream monitoring location. Inspections identified that water quality was visually more turbid than usual throughout the systems, with external sources of sedimentation present in the immediate vicinity of the Project Works

and associated nominated monitoring locations. The Clapham Yard Erosion and Sediment Control (ESC) Plan is designed by suitably qualified person consistent with the Guidelines for Best Practice Erosion and Sediment Control (IECA 2008) as per Imposed Condition 18. The plan is regularly reviewed and updated by a suitably qualified person in ESC management. See **Appendix A** (Table 10, and Section 3.3.2 and 3.3.5), for further details.

Routine monitoring was undertaken in the receiving waters of all TSD worksites in accordance with the Contractor's Water Quality Management Plan. The monitoring results reflect the condition of a broader catchment upstream from the worksites.

For RIS worksites, routine monitoring in receiving waters is undertaken biannually in accordance with the Water Quality Management Plan and was not undertaken during December 2021.

Surface water quality monitoring is summarised in the table below:

Surface Water Quality Monitoring					
Area	Worksite	Discharge	Post-Rain Monitoring	Routine Monitoring	Comments
Mayne Area	Mayne Yard North	No	Yes	No	- Post-rainfall monitoring undertaken in accordance with WQMP.
Northern Area	Northern Portal	Yes	Yes	Yes	- Active surface water discharge met water quality investigation criteria. - Post rainfall and routine in-stream monitoring undertaken in accordance with WQMP.
	RNA/Exhibition	Yes	No	No	- Active surface water discharge met water quality discharge criteria.
Central Area	Albert Street	No	Yes	Yes	- Post-rainfall and routine in-stream monitoring undertaken in accordance with WQMP.
	Boggo Road	No	Yes	Yes	- Post-rainfall and routine in-stream monitoring undertaken in accordance with WQMP.
	Roma Street	No	Yes	Yes	- Post-rainfall and routine in-stream monitoring undertaken in accordance with WQMP.
	Woolloongabba	No	Yes	Yes	- Post-rainfall and routine in-stream monitoring undertaken in accordance with WQMP.
	Southern Portal	No	Yes	Yes	- Post-rainfall and routine in-stream monitoring undertaken in accordance with WQMP.
Southern Area	Clapham Yard	No	Yes	No	- Post-rainfall in-stream monitoring undertaken in accordance with WQMP.

2.2.4.2. Groundwater

There were no groundwater discharges at Mayne, Northern or Southern Area worksites.

Groundwater discharge occurred in the Central Area at Roma Street, Woolloongabba and Boggo Road worksites. One groundwater discharge from November at Albert Street has been included in this report as the laboratory results were not available at the time of reporting. Groundwater discharge results exceeded relevant water quality objectives (WQO's)² for total nitrogen, ammonia nitrogen, oxidised nitrogen, organic nitrogen, dissolved oxygen and total phosphorus. These results, however, are consistent with the receiving environment baseline monitoring pre-construction data.

Groundwater Quality Monitoring			
Area	Worksite	Discharge	Comments
Mayne Area	Mayne Yard North	No	- No groundwater discharges.
Northern Area	RNA/Exhibition	No	- No groundwater discharges.
	Northern Portal	No	- No groundwater discharges.
Central Area	Albert Street	Yes	- Groundwater discharge occurred in November and was reported in December. - Discharge of groundwater did not meet Project WQO's but was generally consistent with pre-construction conditions.
	Boggo Road / Southern Portal	Yes	- Groundwater discharge (dewatering). - Discharge of groundwater did not meet Project WQO's but was generally consistent with pre-construction conditions.
	Roma Street	Yes	- Groundwater discharge (dewatering). - Discharge of groundwater did not meet Project WQO's but was generally consistent with pre-construction conditions.
	Woolloongabba	Yes	- Groundwater discharge (dewatering). - Discharge of groundwater did not meet Project WQO's but was generally consistent with pre-construction conditions.
Southern Area	Clapham Yard	No	- No groundwater discharges.

2.2.5. Erosion and Sediment Control

Site specific Erosion and Sediment Control (ESC) Plans have been prepared, updated, and implemented at Mayne Yard, Northern Portal, RNA Showgrounds, Roma Street, Albert Street, Woolloongabba, Boggo Road, Southern Portal, Yeronga, Fairfield, and Clapham Yard worksites.

2.3. Complaints Management

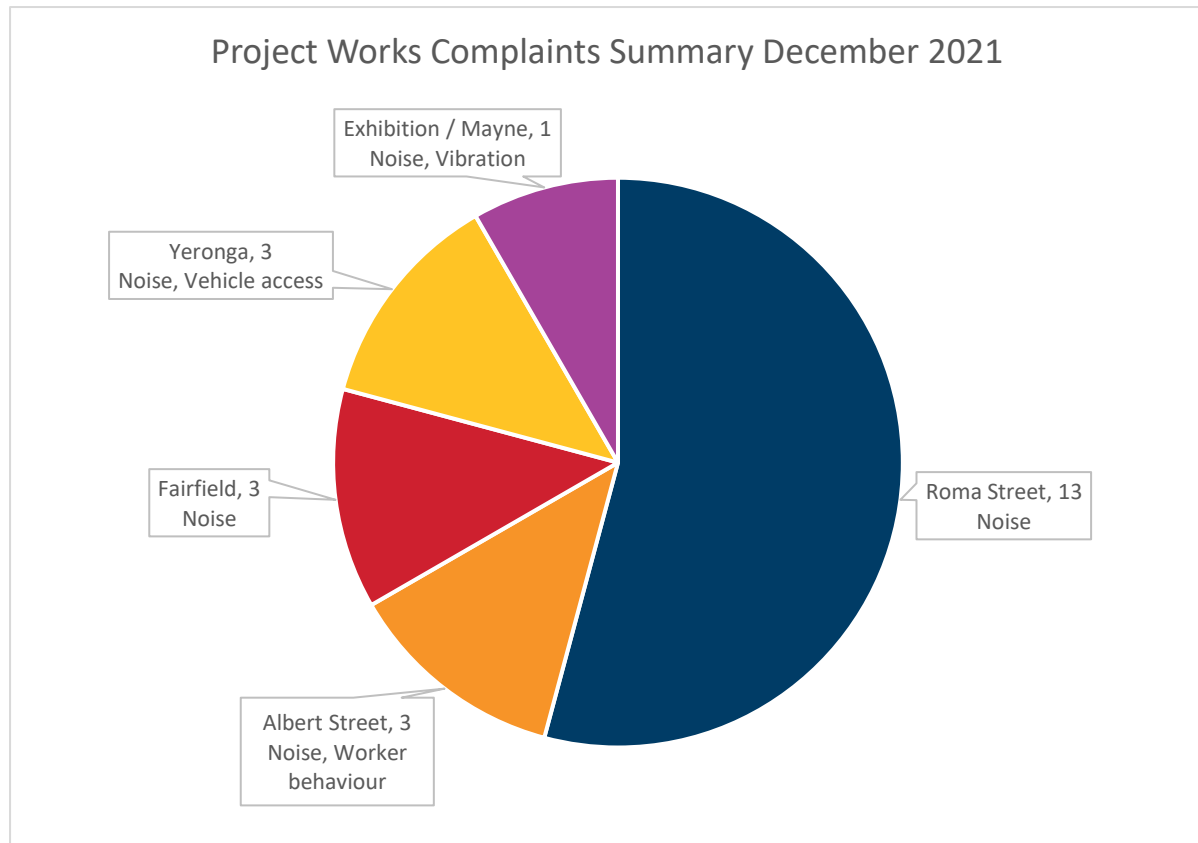
A total of 23 complaints were received during the month, of which all were related to Project Works.

RIS works received 7 complaints this month related to works at Yeronga, Fairfield and Exhibition worksites. For further details refer to **Appendix A** (Table 3).

² The Brisbane River Estuary environmental values and water quality objectives (Basin no 143 – mid-estuary) in the Environmental Protection (Water) Policy 2009.

TSD activities received 16 complaints related to Project Works at Albert Street and Roma Street worksites. Of these, 13 complaints were related to noise from works occurring in non-standard hours from the Roma Street site. The noise source that had caused a spike in complaints was due to the temporary relocation of a ventilation fan to the surface. The contractor has since implemented additional mitigation measures to reduce the impact and have undertaken noise monitoring to demonstrate compliance with the project requirements. For further details refer to **Appendix B** (Table 11).

The Project Works complaints summary for the month is provided in the following chart.

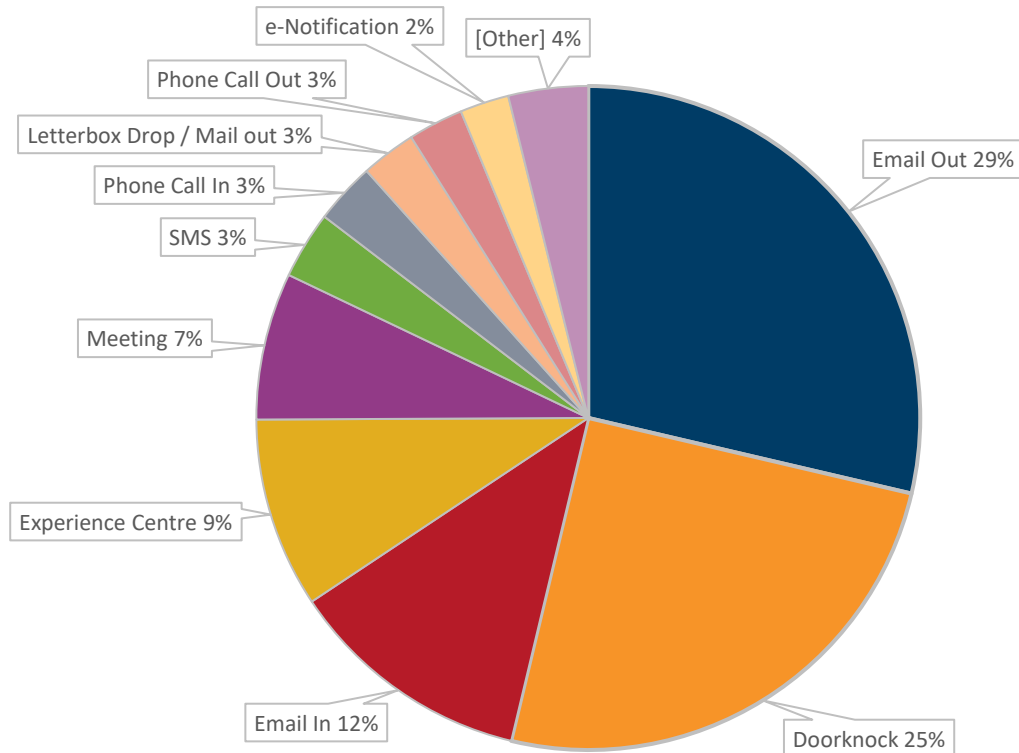


Where attended noise monitoring was undertaken in response to a complaint, the contractor confirmed on all occasions that works undertaken at the time of the complaint adhered to project requirements. In some instances, previous attended noise monitoring data, representative of the relevant construction activities was used to confirm the works adhered to the project noise requirements.

To close out a complaint, the monitoring data is reviewed (where applicable) against compliance with the CEMP, site environmental management plans and permits, and checks that required community notification has taken place. Contractors have also confirmed that planned mitigation to reduce the impact was implemented. This is reviewed together to verify if project requirements have been met.

For scheduled out of hours works, community notification was provided, as well as regular project updates. Stakeholder engagement undertaken on the project during the month is summarised in the chart below.

Stakeholder Engagement December 2021



2.4. New Upcoming Project Works

The key new planned Project Works for the coming months include:

Area	New planned works in the coming months
Mayne Area	Mayne Yard North – <ul style="list-style-type: none"> Breakfast Creek Bridge – temporary works rock platforms and temporary jetty construction; and, Civil and structural works ongoing.
Northern Area	RNA/Exhibition – <ul style="list-style-type: none"> Sneyd St drain commissioning; and Western viaduct structural works ongoing. Northern Corridor – <ul style="list-style-type: none"> Retaining wall RW260; Victoria Park Feeder Station bulk excavation; and OHLE foundations installation. Northern Portal – <ul style="list-style-type: none"> All TMB components planned to be removed by April 2022; Removal of bracing supports on timber bridge in January 2022; and Final inspection and acceptance of Victoria Park sewer relocation works including defects inspection in January 2022.
Central Area	Roma Street – <ul style="list-style-type: none"> Cavern eastern headwall, concrete pour; Station box sewer and lift pit FRP works; and

Area	New planned works in the coming months
	<ul style="list-style-type: none"> Services building level B5 and B4 precast panel erection. <p>Albert Street –</p> <ul style="list-style-type: none"> Lot 1 – Installation of final row of anchors and excavation of mantra side of station box to RL -30.8; Lot 2 – Bench blasting of southern and northern end of cavern; and Lot 3 – Completion of row 5 anchors and commencement of excavation to RL - 8.0. <p>Woolloongabba –</p> <ul style="list-style-type: none"> Back of house lift 12 pour in January 2022; Final deck pour for level B2 in January 2022 followed by installation of precast deck units to commence in February 2022; and FRP works for northern cavern headwall. <p>Boggo Road –</p> <ul style="list-style-type: none"> Northern Cavern permanent lining arch pour 7 to 9 in January 2022 with pour 10 of 10 planned for February 2022; and Wall 9 remaining concrete pours in January 2022. <p>Southern Portal –</p> <ul style="list-style-type: none"> Commencement of Zone E piling in January 2022; Demolition of old SER in February 2022; and Dual gauge retaining wall pour in January 2022
Southern Area	<p>Yeronga Station –</p> <ul style="list-style-type: none"> Platform slab concrete pours; and Platform coping, tactile and rubber finger installation. <p>Fairfield Station –</p> <ul style="list-style-type: none"> Completion of dual gauge track lowering. <p>Clapham Yard –</p> <ul style="list-style-type: none"> Continue earthworks scope; Drainage works; Piling for retaining walls RW260 and RW265; and Vegetation removal in Moolabin Creek under Riverine Protection Permit.

2.5 Non-Compliance Events

No new NCEs have been raised this month. The summary of NCEs to date is shown in the table below.

Status	Date of event	Category	Area as on the Report	Conditions affected	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Open									
Closed									
CRRDA-001-RIS-001	11/09/19	Noise	Yeronga Station	4, 10, 11	11/10/19	14/11/19	26/11/19	18/12/19	01/10/20
CRRDA-002-TSD-001	27/03/20	ESC	Woolloongabba	4, 15, 18	30/03/20	31/03/20	22/04/20	06/11/20	31/05/20
CRRDA-003-TSD-002	27/03/20	ESC	Boggo Rd	4, 15, 18	30/03/20	31/03/20	22/04/20	06/11/20	31/05/20
CRRDA-005-TSD-004	27/03/20	Reporting	Albert St, Boggo Rd, Roma St, Woolloongabba	4, 6, 11, 13	30/03/20	31/03/20	22/04/20	06/11/20	31/05/20
CRRDA-006-TSD-005	27/03/20	Air Quality	Albert St, Boggo Rd, Roma St, Woolloongabba	13	30/03/20	31/03/20	22/04/20	06/11/20	31/05/20
CRRDA-004-TSD-003	28/03/20	Traffic	Boggo Rd	4, 10, 14	30/03/20	31/03/20	22/04/20	06/11/20	31/05/20
Withdrawn									
CRRDA-007-RIS-002	04/01/20	Air Quality	Mayne Yard, Victoria Park, Yeronga, Fairfield	13	28/04/20	30/04/20	Withdrawn		
CRRDA-008-TSD-006	04/08/20	Working Hours	Roma Street	4, 10	28/04/20	30/04/20	Withdrawn		
Gate 1 - EM notification to contractor, NCE confirmed Gate 2 - 48 hour NCE notification submitted to CG Gate 3 - 14 day report submitted Gate 4 - 14 day report uploaded to CRR website Gate 5 - Records of mitigation / preventative measures submitted to the CG					Complete				

Throughout construction activities, events and incidents are routinely investigated to verify compliance with the Imposed Conditions and to verify that management and mitigation measures are implemented in accordance with CEMP and sub-plans.

Appendix A RIS Monthly Report

Monthly CGCR Report – December 2021

**Cross River Rail – Rail, Integration and Systems
Alliance**

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1 Progress Summary - Relevant Project Works

The following Project Works were undertaken during the reporting period:

Table 1: Summary of Project Works completed during the reporting period

Area	Project Works
Mayne Area	<ul style="list-style-type: none"> Mayne Yard North <p>Mayne North Yard Road 4–11 completed and 6-11 tamped, rail fit outs and driver footpaths commencing</p> <p>Crew Change Building framing, roofing and decking nearing completion, and internal fit out and cladding commenced</p> <p>Graffiti Removal Facility structural steel nearing completion and building is awaiting cladding and roofing to arrive from Europe early January 2022</p> <p>Tripod Bridge (BR11/13) – Blade wall P2 FRP nearing completion, RSS Wall RW125 to commence January 2022</p> <p>Pier Protection Ferny Grove Flyover (RC14) – pile caps Pier 5 and 6 completed with only P1 and P3 outstanding</p> <p>Breakfast Creek Bridge (BR08) – temporary works rock platforms commenced</p> <p>CRR Lines – wick drains for Preload to Southern embankment of BR08 has commenced.</p> <p>Project Christmas shutdown environmental activities</p>
Northern Area	<ul style="list-style-type: none"> RNA / Northern Corridor <p>Pier Protection at O'Connell Terrace RC21 and Bowen Bridge RC22 and RC23 completed (excluding Span 3, currently occupied by live Up and Down Exhibition Roads) and retaining Wall RW260 FRP completed</p> <p>Sneyd Street drainage chamber largely completed with commissioning in January 2022</p> <p>FRP on post-tensioned superstructure (Pier 1–4) completed and falsework for Pier 4–7 commenced</p> <p>RSS wall RW210 commenced.</p> <p>Project Christmas shutdown environmental activities</p>
Southern Area	<ul style="list-style-type: none"> Yeronga Station <p>Completion of 50% of Yeronga Station platform slabs FRP</p> <p>Completion of 90% of Yeronga Station in-ground platform conduits and pits</p> <p>Installation of Yeronga Station Platform 1 canopy</p> <p>Commencement of Yeronga Station platform coping and tactiles.</p> <ul style="list-style-type: none"> Fairfield Station <p>Completion of Fairfield Station Dual Gauge track lowering</p> <p>Installation of 60% of the Fairfield Station Platform 3 precast retaining wall</p> <ul style="list-style-type: none"> Clapham Yard <p>Earthworks and drainage continuing</p> <p>Office extensions have been completed</p> <p>Piling on retaining wall RW265 commenced</p> <p>Demolition of Unwin Properties and Billboards at Fairfield Road commenced</p> <p>Under-bore for Energex relocation commenced.</p> <p>Project Christmas shutdown environmental activities</p>

Acronyms:

CIP – Cast in Situ Piles

CSR – Combined Services Route

DL – Drainage Line

FRP – Form Reo Pour

HV – High Voltage

OHLE – Overhead Line Equipment

OTV – On Track Vehicle

PUP – Public Utility Plant

RNA - Royal National Agricultural and Industrial Association of Queensland

R&R – Remove and Replace

RSS - Reinforced Soil Slopes

RW – Retaining Wall

SCAS - Scheduled Corridor Access Schedule

UTX – Under Track Crossing

The following table summarises the upcoming Project Works:

Table 2: Summary of upcoming Project Works

Area	Project Works
Mayne Area	<ul style="list-style-type: none"> • Mayne Yard North Ongoing Yard, civil and structural works Breakfast Creek Bridge (BR08) – temporary works rock platforms continuation and temporary jetty construction CRR Lines – wick drains for Preload to Southern embankment of BR08 has commenced.
Northern Area	<ul style="list-style-type: none"> • RNA / Northern Corridor Ongoing structural works
Southern Area	<ul style="list-style-type: none"> • Yeronga Station Ongoing Station Works • Fairfield Station Completion of Fairfield Station Dual Gauge track lowering • Clapham Yard Earthworks and drainage continuing Piling on retaining wall RW265 Commencement of Moolabin Creek BR93 temporary works inclusive of associated riparian vegetation clearing

2 Complaints

The below section summarises the complaints relating to the Project Works to be reported in accordance with condition 6(b)(iii) of the CGCR.

Table 3: Summary of Complaints

Date Received	Location	Issue	Activity source of the concern	Period	Unity Response	Status
6/12/2021	Yeronga	Noise	Extended Hours Concrete Pours	December 21	<p>The stakeholder raised a noise complaint associated with concrete pours at Yeronga station that occurred at night-time.</p> <p>The Project Team explained the Yeronga program and why works had to be undertaken at night.</p> <p>The Project Team committed to keep the stakeholder up to date with a detailed schedule of future concrete pours in addition to the routine project updates already been provided.</p> <p>The Project Team asked the Delivery Team to use temporary noise barrier around the concrete pump when in use at Dublin Street and the northern end of Lake Street.</p> <p>Noise monitoring was also carried out. A detailed assessment of noise monitoring results is presented in section 3.1.4.1.</p> <p>The Project Team also met with the stakeholder to review any other options for noise mitigation measures to be installed at receiver.</p> <p>Additional temporary noise blankets were subsequently installed along the corridor fencing.</p>	Closed
6/12/2021	Yeronga	Noise	Extended Hours Concrete Pours	December 21	<p>The stakeholder raised a noise complaint associated with concrete pours at Yeronga station that occurred at night-time.</p> <p>The Project Team explained the Yeronga program and why works had to be undertaken at night.</p> <p>The project committed to keep stakeholder up to date with a detailed schedule of future concrete pours in addition to the routine project updates already provided.</p> <p>The Project Team asked the Delivery Team to use a temporary noise barrier around the concrete pump when in use at Dublin Street and the northern end of Lake Street.</p>	Closed
10/12/2021	Yeronga	Workforce Parking	Standard Hours Station Upgrade	December 21	<p>The stakeholder complained about workforce parking on a local street.</p> <p>The Project Team spoke to the site supervisor to have this addressed with the workers.</p>	Closed
10/12/2021	Exhibition / Mayne	Noise / Vibration	Rock breaking	December 21	<p>The stakeholder complained about the rock breaking activities behind their home intermittently throughout 2021.</p> <p>They alleged it had resulted in cracks in their ceiling.</p> <p>The Project Team contacted the stakeholder to provide them an update on upcoming rock breaking activities.</p> <p>The Project Team also confirmed that a condition survey and photographic inspection was undertaken on the unit prior to the works commencing and advised that the alleged changes to the unit conditions required elevation via the Property Owner.</p>	Closed

Date Received	Location	Issue	Activity source of the concern	Period	Unity Response	Status
25/12/2021	Fairfield	Noise	Standard and Extended Hours - Fairfield Track Lowering	December 21	<p>The stakeholder lodged a complaint about work happening on Christmas day that started early in the morning.</p> <p>The Project Team contacted the stakeholder to explain that the track lowering at Fairfield had to occur during an extended rail possession.</p> <p>The Project Team ran through the program of works and explained that they should expect high levels consistent with the information already provided to the stakeholder as part of the community engagement process.</p> <p>Noise monitoring was also carried out the following day. A detailed assessment of noise monitoring results is presented in section 3.1.4.1.</p>	Closed
25/12/2021	Fairfield	Noise	Standard and Extended Hours - Fairfield Track Lowering	December 21	<p>The Environment Manager was approached on site while undertaking noise monitoring.</p> <p>The stakeholder complained about the location of the temporary crib facilities on Lagonda Street. There was noise coming from the ice machine water tanks.</p> <p>The stakeholder acknowledged the Project Team had placed noise blankets around the caravan generators.</p> <p>The Environment Manager carried out attended noise monitoring. A detailed assessment of noise monitoring results is presented in section 3.1.4.1.</p> <p>The Environment Manager committed to speak to the supervisor to install additional noise blankets around the 2 stroke motors on the temporary water tanker. The noise blankets were subsequently installed the same day prior to the night shift commencing.</p>	Closed
26/12/2021	Fairfield	Noise	Standard and Extended Hours - Fairfield Track Lowering	December 21	<p>The stakeholder contacted the Project Team in the morning to lodge a noise complaint regarding an excavator hammering concrete overnight. Noise monitoring for the use of the excavator mounted hammer was carried out on 28 December 2021. A detailed assessment of noise monitoring results is presented in section 3.1.4.1.</p> <p>The Project Team attempted to contact the stakeholder to ascertain their location in relation to the Project Works but could not reach the stakeholder.</p>	Closed

3 Environmental Monitoring Results

The below section summarises the monitoring results to be reported in accordance with condition 6(b)(i) of the CGCR.

3.1 Acoustics

Condition 11(b) of the CGCR requires that during construction, monitoring and reporting on noise and vibration in accordance with the Noise and Vibration Management Plan, a sub-plan of the Construction Environmental Management Plan (C-EMP) occurs.

3.1.1 Noise Monitoring

Attended noise monitoring was triggered based on the predictive noise assessments for the Relevant Project Works during the reporting period for:

- Noise intensive equipment used in concrete pours related activities at Yeronga Station.
- Varied track lowering activities at Fairfield Station.

Complaint-based noise monitoring because of Project Works was triggered at Yeronga and Fairfield.

The noise monitoring results are presented in Table 4.

3.1.2 Noise monitoring Results

The below table summarises the noise monitoring results for the reporting period.

The results from noise monitoring are assessed against two performance goals.

The first performance goal (herein referred to as Performance Goal 1), is determined as per Condition 11(a), Table 2, LA₁₀ noise goals (for intermittent noise sources) or LA_{eq} noise goals (for continuous noise sources).

The second performance goal (herein referred to as Performance Goal 2), is determined as per (Condition 11(c), using Table 2 LA₁₀ noise goal and adding + 20dBA for intermittent noise sources only.

There is no second performance goal for continuous noise sources.

An exceedance (predicted or measured) of either of these performance goals does not necessarily represent a potential or actual Non-Compliance Event. A detailed assessment of noise monitoring results is presented in section 3.1.4.1.

Indeed, if the Project Works are authorised to proceed under Imposed Condition 10 and the Directly Affected Person (DAP) engagement process has occurred as per Imposed Condition 11 (c), then Project Works that are predicted to generate noise above the noise goal + 20dBA can proceed.

The purpose of these performance goals is to inform:

- The extent of management measures that can reasonably and practically be implemented during the execution of the Relevant Project Works to minimise impact to DAPs, and
- Extent and type of consultation with DAPs prior to and leading up to the Relevant Project Works commencing.

The community, stakeholders, and DAP consultation and engagement process which is based on the outcomes of the predictive modelling is presented in the Noise and Vibration Management sub-plan (C-EMP sub-plan) with a focus on Attachment 1 and 2 of the sub-plan.

Table 4: Summary of Noise Monitoring Data

Location	Receiver Type Details	Type of Monitoring	Work Hours	Noise Type	Purpose of Monitoring	Predictive model (dBA)	Performance Goal 1 (dBA) (Condition 11(a), Table 2, LA _{10/eq} noise goals)	Performance Goal 2 (dBA) – (Condition 11(c), Table 2 LA ₁₀ noise goal + 20dBA))	Measured LA ₁₀ (dBA)	Measured LA _{eq} (dBA)	DAP engagement prior to works	Is performance Goal exceeded?	Comments For interpretation, please refer to 3.1.4.1
Dublin Street, Yeronga	Residential	Attended - Outdoors	Extended & Standard Hours Tuesday 07/12/21 20:14	Intermittent	Complaint response	77	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	75	73	Yes Case by Case	Yes Extended (Goal 1 & 2) & Standard Hours (Goal 1 only)	Concrete Pour
4 Killarney Street, Yeronga	Commercial	Attended - Outdoors	Extended & Standard Hours Thursday 23/12/21 08:42	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	87	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	84	83	Yes Case by Case	Yes Extended (Goal 1 & 2) & Standard Hours (Goal 1 only)	Vacuum Truck removing concrete (high suction settings)
6-8 Killarney Street, Yeronga	Residential	Attended - Outdoors	Extended & Standard Hours Thursday 23/12/21 09:04	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	74	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	76	75	Yes Case by Case	Yes Extended (Goal 1 & 2) & Standard Hours (Goal 1 only)	Vacuum Truck removing concrete (high suction settings)
8 Lake street, Yeronga	Residential	Attended - Outdoors	Extended & Standard Hours Thursday 23/12/21 09:30	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	67	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	70	68	Yes Case by Case	Yes Extended (Goal 1 only) & Standard Hours (Goal 1 only)	Vacuum Truck removing concrete (high suction settings)
117A Mildmay Street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Friday 24/12/21 13:15	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	68	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	68	64	Yes Standard	Yes Extended (Goal 1 only) & Standard Hours (Goal 1 only)	Site set up on Mildmay Street Body truck idling was dominant noise source in second run unless bobcat was travelling past equipment a few meters closer to apartment than predicted.
121 Mildmay Street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Friday 24/12/21 12:30	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	71	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	78	74	Yes Case by Case	Yes Extended (Goal 1 & 2) & Standard Hours (Goal 1 only)	Site set up on Mildmay Street Grader idling was dominant noise source unless bobcat was travelling past equipment a few meters closer to house than predicted.
127 Mildmay Street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Friday 24/12/21 13:30	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	83	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	78	73	Yes Case by Case	Yes Extended (Goal 1 & 2) & Standard Hours (Goal 1 only)	Site set up on Mildmay Street Dominant Noise Source: Grader placing fill / travelling floor truck tipping gravel equipment at same distance to house than predicted.

Location	Receiver Type Details	Type of Monitoring	Work Hours	Noise Type	Purpose of Monitoring	Predictive model (dBA)	Performance Goal 1 (dBA) (Condition 11(a), Table 2, LA _{10/eq} noise goals)	Performance Goal 2 (dBA) – (Condition 11(c), Table 2 LA ₁₀ noise goal + 20dBA))	Measured LA ₁₀ (dBA)	Measured LA _{eq} (dBA)	DAP engagement prior to works	Is performance Goal exceeded?	Comments For interpretation, please refer to 3.1.4.1
10-14 Equity Street, Fairfield	Residential	Attended - Outdoors	Standard Hours Saturday 25/12/21 08:00	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	52	Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Standard Hours 85 (Outdoors) (65 + 20dBA) ²	58	56	Yes Case by Case	No	Noise Goal not exceeded however rail saw louder than predicted Rail saw only in use first 5 minutes Loader reverse squawker dominant for the reminder of the monitoring session Not all tracks were cut with saw, most cuts were made used oxy torch which is quieter (not audible during monitoring) Intrusive noise from works were rail clips being removed as crew unclipped track.
Dudley Street, Fairfield	Residential	Attended - Outdoors	Extended and Standard Hours Saturday 25/12/21 08:30	Continuous	Complaint response	60	Extended Hours Work 45 (Outdoors) (35dBA + 10dBA façade reduction) ² Standard Hours Work 55 (Outdoors) (45 dBA + 10dBA façade reduction) ²	Not applicable to continuous noise sources	Not applicable to continuous noise sources	60	Yes Case by Case	Yes Extended & Standard Hours	2 Stroke motor validated as continuous noise source therefore Goal is 35dBA Other intrusive noise sources were hand tools.
11 Lagonda street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Sunday 26/12/21 08:15	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	78	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	76	72	Yes Case by Case	Yes Extended (Goal 1 & 2) & Standard Hours (Goal 1 only)	Noise goal was exceeded. Dominant noise source was grader and excavator scrapping rock during formation lowering. Diesel fuel tank arrived on Lagonda St and commenced refuelling in the last three minutes of recording.
Cronin Street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Sunday 26/12/21 10:50	Intermittent	Complaint response	61	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	56	54	Yes Case by Case	Yes Extended Hours only (Goal 1 Only)	Complaint pertained to general working on Christmas day Dominant noise source was cars passing intermittently. RIS work area: excavator idling 117m away. Insect noise present for 14m30s of recording.
Cronin Street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Sunday 26/12/21 11:17	Intermittent	Complaint Response	72	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	62	58	Yes Case by Case	Yes Extended Hours only	Complaint pertained to general working on Christmas day Dominant noise source was ballast dumping and excavators and FELs moving spoil. Extraneous noise (insects, birds and cars) recorded for 14m of recording. Monitoring undertaken to measure noise levels that the complainant from 60 Cronin St may have experienced from their back veranda (as per their complaint).
8 Equity Street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Monday 27/12/21 12:11	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	66	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	66	62	Yes Case by Case	Yes Extended (Goal 1 only) & Standard Hours (Goal 1 only)	Dominant noise source was 15T excavator with 225kg hammer excavating formation. Extraneous noise sources were recorded for 4m40s.

Location	Receiver Type Details	Type of Monitoring	Work Hours	Noise Type	Purpose of Monitoring	Predictive model (dBA)	Performance Goal 1 (dBA) (Condition 11(a), Table 2, LA _{10/eq} noise goals)	Performance Goal 2 (dBA) – (Condition 11(c), Table 2 LA ₁₀ noise goal + 20dBA))	Measured LA ₁₀ (dBA)	Measured LA _{eq} (dBA)	DAP engagement prior to works	Is performance Goal exceeded?	Comments For interpretation, please refer to 3.1.4.1
127 Mildmay Street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Monday 27/12/21 08:50	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	84	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	70	70	Yes Case by Case	Yes Extended (Goal 1 only) & Standard Hours (Goal 1 only)	Dominant noise source was spoil trucks operating (dumping capping and leaving site). Minimal extraneous noise (plane and insects) was recorded for 2m20s.
11 Lagonda Street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Monday 27/12/21 10:07	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	73	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	70	67	Yes Case by Case	Yes Extended (Goal 1 only) & Standard Hours (Goal 1 only)	Dominant noise source was grader operating. Minimal extraneous noise (plane overhead) for 1m30s.
121 Mildmay Street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Tuesday 28/12/21 11:19	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	77	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	74	70	Yes Case by Case	Yes Extended (Goal 1 & 2) & Standard Hours (Goal 1 only)	Dominant noise source was 35T crane lifting precast panels into rail corridor. Extraneous noise (workers and traffic) was recorded for approx. 3 mins. Crane was slightly bigger than what was presented in the OOH permit (30T).
11 - 15 Lagonda street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Wednesday 29/12/21 10:00	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	76	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	66	65	Yes Case by Case	Yes Extended (Goal 1 only) & Standard Hours (Goal 1 only)	Dominant noise source was grader operating and live bottom trailer discharging ballast.
4 Ashby street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Wednesday 29/12/21 09:00	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	72	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	66	64	Yes Case by Case	Yes Extended (Goal 1 only) & Standard Hours (Goal 1 only)	Dominant noise source was grader operating and live bottom trailer discharging ballast.
11 - 15 Lagonda street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Friday 31/12/21 10:19	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	N/A	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	64	62	Yes Case by Case	Yes Extended Hours only(Goal 1 only)	Dominant noise source was hand tools.
63 Cronin Street, Fairfield	Residential	Attended - Outdoors	Extended & Standard Hours Friday 31/12/21 10:44	Intermittent	Construction Monitoring at Sensitive Places - Model Verification	N/A	Extended Hours Work 52 (Outdoors) (42dBA + 10dBA façade reduction) ² Standard Hours 65 (Outdoors) (45dBA (AS2107) + 10dBA + 10dBA façade reduction) ²	Extended Hours Work 72 (Outdoors) (52 + 20dBA) Standard Hours 85 (Outdoors) (65 + 20dBA) ²	57	55	Yes Case by Case	Yes Extended Hours only (Goal 1 only)	Dominant noise source was extraneous to UNITY works.

• Note (1) - Monitoring Method

- Note 2 of Imposed Condition 11 Table 2 states *Where internal noise levels are unable to be measured or monitored, the typical noise reductions presented in Guideline Planning for Noise Control, Ecoaccess, DEHP, January 2017 (PFNC) apply.*
- The monitoring was undertaken to validate the model therefore external noise measurements are appropriate to determine the impact of construction noise.
- Note (2) – Façade Attenuation
 - Note 2 of Imposed Condition 11 Table 2 states *Where internal noise levels are unable to be measured or monitored, the typical noise reductions presented in Guideline Planning for Noise Control, Ecoaccess, DEHP, January 2017 (PFNC) apply.*
 - The PFNC guideline can no longer be accessed. The Department of Environment and Science (DES) website still states this guideline is under review and is yet to release an alternative guideline
 - Former revisions of the PFNC table 7 stated the following regarding typical noise reductions through the building façade:
 - 5 dB – Window wide open
 - 10 dB – Partially closed
 - 20 dB – Single glazed, closed
 - 25 dB – Thermal double glazing, closed
 - The RfPC-4 Technical Report considered that all receptors had closed external single glazing for the assessment of construction noise impacts.
 - The Queensland Ombudsman assessed this assumption for the Airport Link Project and recommended that 10dB be adopted for major infrastructure projects in Queensland¹.
 - Additionally, several acoustic studies have shown that 10 dB is a suitable assumption for open windows. Most importantly this requirement only applies to temporary rail works within the project footprint and does not apply to long-term operational rail noise exposure.
 - Accordingly, it is considered appropriate to consider a 10 dB reduction on this basis. This assumption can be used for predictive modelling and for noise measurements, where indoor noise measurements are not practicable.

¹ https://www.ombudsman.qld.gov.au/ArticleDocuments/218/Airport_Link_Ombudsman_Statement.pdf.aspx, pages 208-210, Section 9.8.6

3.1.3 Vibration Monitoring

Vibration monitoring was required during the reporting period based on the predictive vibration assessments for:

- Concrete slab demolition at Unwin Street using an excavator mounted 2T rock hammer which was predicted to result in exceedances of the C-EMP vibration monitoring trigger for human comfort vibration goal of 5mm/s and the human comfort vibration goal of 10mm/s (Imposed Condition 11g); and
- The potential use of an excavator mounted 2T rock hammer and an 18T roller as part of the Fairfield dual gauge track lowering which were predicted to result in exceedances of the C-EMP vibration monitoring trigger for human comfort vibration goal of 5mm/s but not the human comfort vibration goal of 10mm/s (Imposed Condition 11g).

Although the vibration monitoring at Unwin Street was carried out with no data loss, the monitoring for dual gauge track lowering stopped in the afternoon of 25 December 2021.

The vibration monitors are solar powered and the unfavourable weather conditions (ongoing overcast conditions during the lowering scope) resulted in a loss of power that could not be rectified.

Vibration data was therefore not able to be recorded from 25 December 2021, 14:00 onwards and therefore there is no vibration data to report for the dual gauge track lowering. The use of vibration intensive equipment commenced after the vibration monitor stopped operating.

It is however noted that the rock hammer used as part of the track lowering works was a 225kg hammer and the largest rollers were 10T and 12T rollers. Therefore, the vibration intensive equipment used during the works was smaller (therefore less vibration intensive) and would have generated lower vibration levels when used.

There were no complaints associated with nuisance due to vibration for the duration of the Fairfield dual gauge track lowering.

Table 5 Summary of Vibration Data

Location	Date (Start and Finish)	Time of day	Closest DAP / Sensitive Place	Receiver Type (table 3 – Imposed Condition 11(e))	Purpose of Monitoring	Maximum predicted vibration Level (mm/s)	Maximum recorded vibration Level (mm/s)	Vibration goal for receiver (mm/s)	Exceedance of vibration limit?	Comments
37 Unwin Street	16/12/21 - 22/12/21	Daytime Only	37 Unwin Street	Commercial	Upper-Level Vibration Exceedance predicted	15	9.23	10mm/s Human Comfort 50 mm/s Commercial / Industrial (Property Damage)	No Exceedance	Rock breaking (2T hammer) for building demolition

Complaint-based vibration monitoring was not triggered. No complaints related to vibration occurred during the reporting period.

Vibration monitoring to address property damage was not triggered by the predictive assessment

3.1.4 Interpretation

3.1.4.1 Noise Monitoring²

3.1.4.1.1 Yeronga - Complaints Response Monitoring

One round of noise monitoring of concrete pour activities during an approved rail possession and road closure was undertaken externally. Monitoring was carried out in the immediate vicinity of the complainant's residence which is a timber house.

Monitoring was undertaken during extended work hours.

The measured LA10 readings exceeded the noise goal + 20dBA by 1dBA for works during extended working hours.

The works were authorised to proceed under Imposed Condition 10 as they were carried out during Extended Hours Work (under approved road possession and/or rail possession). DAP engagement had also occurred with the level of consultation as per the requirements of Imposed Condition 11 (c).

Therefore, the RIS scope of works achieved the outcomes set out by the CGCR and OEMP.

3.1.4.1.2 Varied station upgrade activities - Yeronga - Model Verification

Three rounds of noise monitoring of noise intensive activities associated with the Yeronga Project works were carried out externally during Standard Work Hours to validate the predictive noise modelling outputs.

These activities were also authorised to occur during Extended Hours Work (under approved road possession and/or rail possession).

The monitoring activities were undertaken at two residential and one commercial sensitive place closest to the works.

The measured LA10 readings did not exceed the noise goal + 20dBA for works during Standard Work Hours.

However, in two of the three monitoring instances, the measured LA10 readings exceeded the noise goal + 20dBA for works during Extended Hours Work.

The noise monitoring confirmed that the actual noise emissions are generally consistent with the predicted noise emissions, providing assurance to the Project Team that the predictive noise modelling can be used as a reliable tool to guide community engagement prior to and during the Project Works.

Since:

- the works were authorised to proceed under Imposed Condition 10 as they were carried out during Surface works Standard Hours and Extended Hours Work (approved road possession and/or rail possession), and
- DAP engagement had also occurred with the level of consultation as per the requirements of Imposed Condition 11 (c).

The RIS scope of works continues to achieve the outcomes set out by the CGCR and OEMP.

3.1.4.1.3 Fairfield Dual Gauge Track Lowering - Complaints Response Monitoring

Three rounds of noise monitoring were carried out as a response to complaints.

The first round of monitoring carried out for Dudley Street confirmed that the equipment the source of the complaint was a continuous noise source that was generating noise levels in the immediate vicinity of the resident above the noise goals for Standard and Extended Hours Work.

² All free field measurements are undertaken in accordance with the latest revision of the Noise Measurement Manual from the Department of Environment and Science (DES) reference ESR/2016/2195

The source of the noise was small two-stroke motors powering mobile water tanks connected to an ice machine for the temporary crib set up near 15 Lagonda Street.

As a response, the Project Team subsequently installed additional portable noise blankets around the mobile water tankers and no further complaints were received regarding this site set up.



Plate 1: Source of continuous noise before the installation of additional noise blankets



Plate 2: Source of continuous noise after the installation of additional noise blankets

An additional two rounds of noise monitoring were carried out on Cronin Street as a follow up to a general complaint raised by a resident located on Cronin Street regarding works undertaken on Christmas Day.

The noise monitoring results confirmed that the noise emission generated by the works did not exceed the relevant noise goals for Standard and Extended Hours of works in the immediate vicinity of the complainant's house.

The observations taken during the monitoring confirmed that although the Project Works were audible, there were extraneous noise sources that also were clearly audible and sometimes dominated the noise levels, such as the sounds of passing traffic, insects, and birds.

A third complaint was received on 26 December 2021 pertaining to the use of a rock hammer overnight. Unfortunately, the complainant did not provide details on their location in relation to the works. The Project Team attempted on two occasions to contact the complainant without success.

On 27 December 2021, the Project Team carried out noise monitoring at Equity Street, located 35m away from the rail corridor with a direct line of sight with the works. During this monitoring round, the 225kg excavator mounted rock hammer was in use. The noise level recorded (LA10) was 66dBA which whilst it exceeded the noise goal for Standard and Extended Hours Work, did not exceed the noise goal + 20dBA for Standard and Extended Hours Work. It is also worth noting that the predicted noise level at this location was 77dBA. This is because the predictive model assumed that a 2T excavator mounted rock hammer would be used. Therefore, the use of a smaller excavator mounted rock hammer resulted in a lesser impact on the noise emissions from this activity than what was forecast.

In summary, the noise monitoring carried out to verify complaints confirmed that the track lowering activities were typically audible by the residents. However, said activities and associated noise emissions were consistent with the predictive noise assessment. In the instance of the rock breaking, the excavator mounted rock hammer used on site was smaller (225kg) than the one modelled (2T).

The works were authorised to proceed under Imposed Condition 10 as they were carried out during Extended Hours Work (approved road possession and rail possession). DAP engagement had also occurred with the level of consultation as per the requirements of Imposed Condition 11 (c).

Therefore, the RIS scope of works achieved the outcomes set out by the CGCR and OEMP.

3.1.4.1.4 Fairfield Dual Gauge Track Lowering - Model Verification

A total of 13 noise monitoring sessions to validate the predictive modelling were carried out between 24 and 31 December 2021.

Noise monitoring sessions targeted noise intensive activities / equipment and focussed on front-line sensitive places which comprise of residential places. Most of the residential places were timber houses at the exception of the 117A Mildmay street and 11-15 Lagonda street which are brick and concrete apartment complexes.

Activities and equipment targeted were:

- Use of the rail saw
- Use of the grader on Mildmay Street 10 to maximum 15m away from the façade of the residences
- Use of the excavator mounted rock hammer
- Removal and placement of fill and ballast within the corridor using loader, graders, body trucks and excavators.

On 11 instances, the monitored noise levels were lower than the predicted noise levels by up to 14dBA.

On two instances, the monitored noise levels were higher than the predicted noise levels by up to 7dBA. This was typically because the equipment (grader and bobcat used for the site set up on Mildmay Street) was located closer to the residence. It did not result in a complaint. It is also noted that this specific activity was mainly carried out between lunchtime and 4pm on a Saturday afternoon (Standard Work Hours). During the monitoring on 24 December 2021, rail traffic was still active with a mixture of passenger and freight trains. The latter were audibly louder than the Project Works and dominated the noise emissions when travelling past.

Based on the observations during the noise monitoring sessions, the scale, location, duration, and intensity of the activities were consistent or lesser than the activities modelled. Of note:

- The rail saw was modelled to be used for all the required track cuts for up to an hour, however it was only used for five minutes, and the remainder of the cuts were carried out using an oxyacetylene torch.

The substitution of the equipment was required on the day due to adverse temperature conditions which prevented the use of the rail saw.

- The excavator mounted rock hammer was modelled to be required for up to four continuous shifts (48 hours) and was planned to be a 2T rock hammer. The actual rock hammer was a 225kg hammer and was used sporadically over two shifts.

Therefore, despite slight variations in plant / equipment sizing and siting, the predictive model, which is typically carried out assuming a “worst-case” scenario, continues to remain conservative in predicting noise emissions associated with the UNITY Project Works.

By adopting a “worst-case” scenario approach to the impact prediction from our works, this enables the UNITY Project team to carry out a comprehensive community and stakeholder consultation process leading up to the Project Works. It also caters for necessary adjustments to the execution of the Project Works that may not always be foreseeable at the time of the predictive modelling being carried out.

Overall, the Fairfield Dual Gauge track lowering and associated enabling works operated near continuously between 6.30am on 24 December 2021 and 6.30pm on 01 January 2022 (8 days) with only three complaints received during the period.

The works were authorised to proceed under Imposed Condition 10 as they were carried out during Extended Hours Work (under approved road possession and/or rail possession). DAP engagement had also occurred with the level of consultation as per the requirements of Imposed Condition 11 (c).

Therefore, the RIS scope of works achieved the outcomes set out by the CGCR and OEMP.

3.2 Air Quality

Imposed Condition 13(b) of the CGCR requires that during construction, monitoring, and reporting on air quality in accordance with the Air Quality Management Plan, a sub-plan of the C-EMP occurs.

Visual monitoring was undertaken during routine environmental inspections. A total of 13 inspections were undertaken by the environment team across Mayne Yard, RNA Showgrounds, Yeronga Station, Clapham Yard, and the Northern Corridor.

UNITY has installed the following air quality monitoring devices, therefore data collected from these devices, when active, is reported on in the monthly report regardless of the Project Works occurring.

Table 6: Summary of Air Quality monitoring devices

Monitoring Device Installed by UNITY	Area	Name	Date Installed	Status for the Reporting Period
Dust Deposition Gauge	RNA Showgrounds	AQ-01	13 December 2019	Active
Dust Deposition Gauge	Mayne Yard (Eastern Air Shed)	AQ-04	13 February 2020	Active
Dust Deposition Gauge	Clapham Yard (Eastern Air Shed)	AQ-06	1 February 2021	Active
Dust Deposition Gauge	Yeronga Station	AQ-07	12 August 2021	Active
TSP / PM ₁₀ Monitor	Mayne Yard (Eastern Air Shed)	Mayne Yard	23 April 2020	Active
TSP / PM ₁₀ Monitor	Clapham Yard (Eastern Air Shed)	Clapham Yard	9 August 2021	Active until 08/12/21 DMP removed from site on 09/12/21 for off-site factory calibration. Calibrated DMP was re-instated on 11/01/2022.
TSP / PM ₁₀ Monitor	RNA (Western Air Shed)	RNA	25 August 2020	Active

3.2.1 Dust results

As passive dust deposition gauges are analysed monthly, results span from 11 November 2021 to 10 December 2021.

The results are detailed below and complied with Imposed Condition 13(b) of the CGCR.

It is however noted that the results are either invalidated or indicative only as all DDG bottles overtopped due to rainfall. As per AS/NZS 3580.10.1, section 7.42, *where a gauge has overflowed soluble matter cannot be determined*, rendering the soluble matter results invalid.

Although the Australian Standard does not state that insoluble matter cannot be determined, as per the advice of the Project Certified Air Quality Professional (CAQP), when gauges overtop due to rainfall, there is a potential that some insoluble matter may have been lost.

On this basis and since the insoluble matter results are used to calculate the deposited dust results, when the DDGs overtop, the deposited dust results should be considered indicative only and cannot be relied upon to ascertain compliance.

Table 7 Dust deposition gauge results for the reporting period

CGCR Goal (mg/m ² /day)	AQ-01 - RNA Showgrounds (mg/m ² /day)	AQ-04 Abbotsford Rd (E Mayne) (mg/m ² /day)	AQ-06– Clapham Yard (mg/m ² /day)	AQ-07– Yeronga Station (mg/m ² /day)
120	7*	20*	13*	27*
Total Rainfall during Period	217	217	352	352

* Results are indicative only

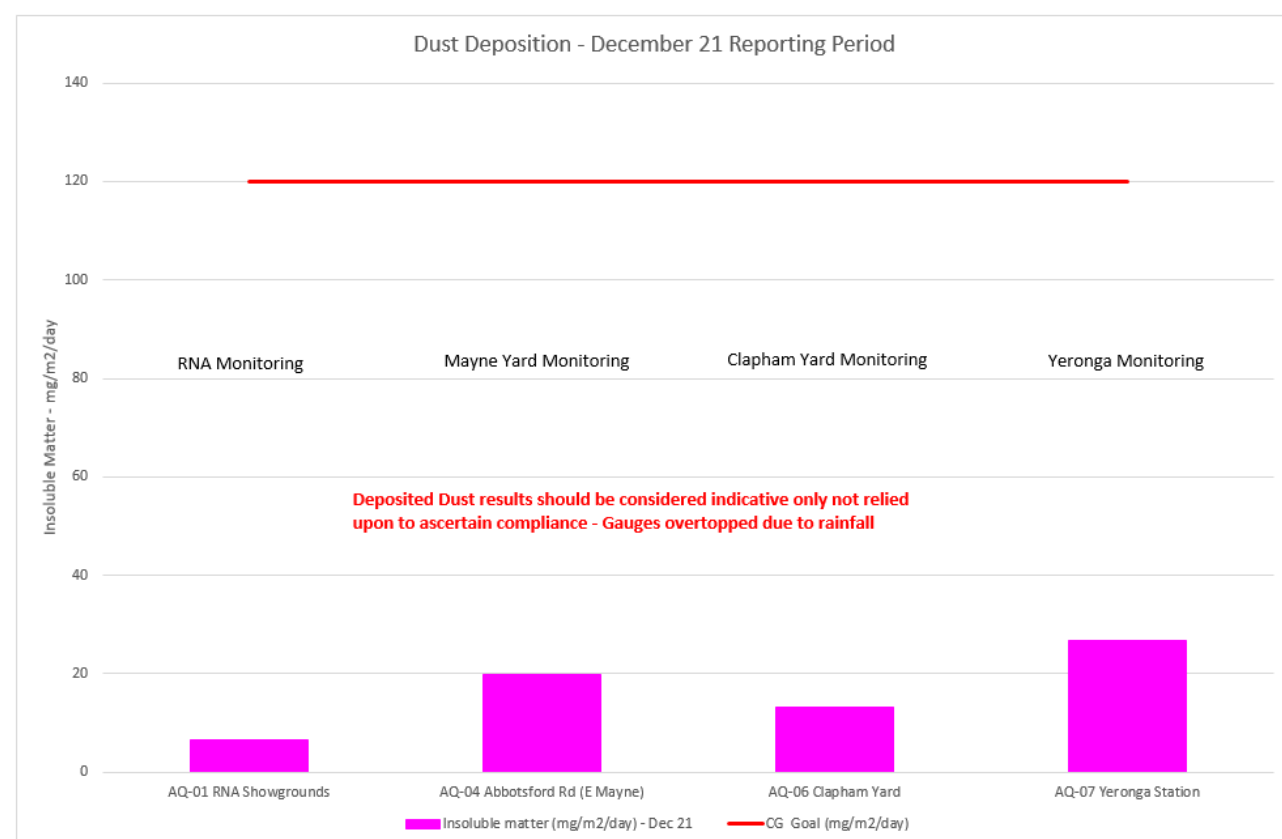


Figure 1 Air Quality Monitoring (Deposited Dust) Results

3.2.2 Particulates results

3.2.2.1 Air Quality Monitoring Stations

Unity had three (3) active air quality monitoring stations in place for the reporting period as detailed in Table 6.

3.2.2.2 Monitoring results – Reporting Period

External ambient air quality data was collected for total suspended particles (TSP), and particulate matter less than 10 μm (PM_{10}).

TSP is one of the indicators for which the Coordinator-General has imposed a goal of 80 $\mu\text{g}/\text{m}^3$ (over an averaging period of 24 hours) the project must aim to achieve under Imposed Condition 13(a).

PM_{10} is one of the indicators for which the Coordinator-General has imposed a goal of 50 $\mu\text{g}/\text{m}^3$ (over an averaging period of 24 hours) the project must aim to achieve under Imposed Condition 13(a).

These stations have been installed on-site as per AS/NZS 3850 1.1 following consultation with UNITY air quality professionals.

The results are represented in the below figures.

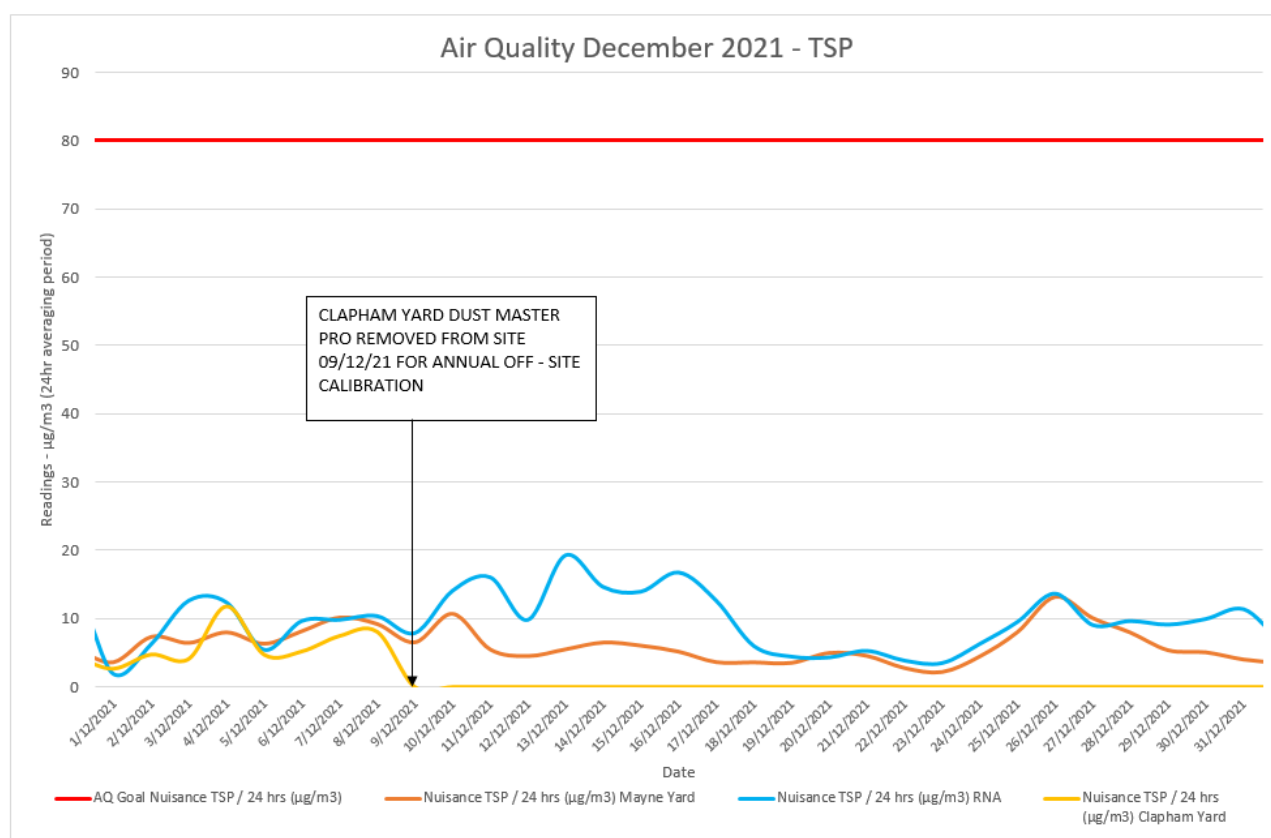


Figure 2 Air Quality Monitoring (TSP) Results

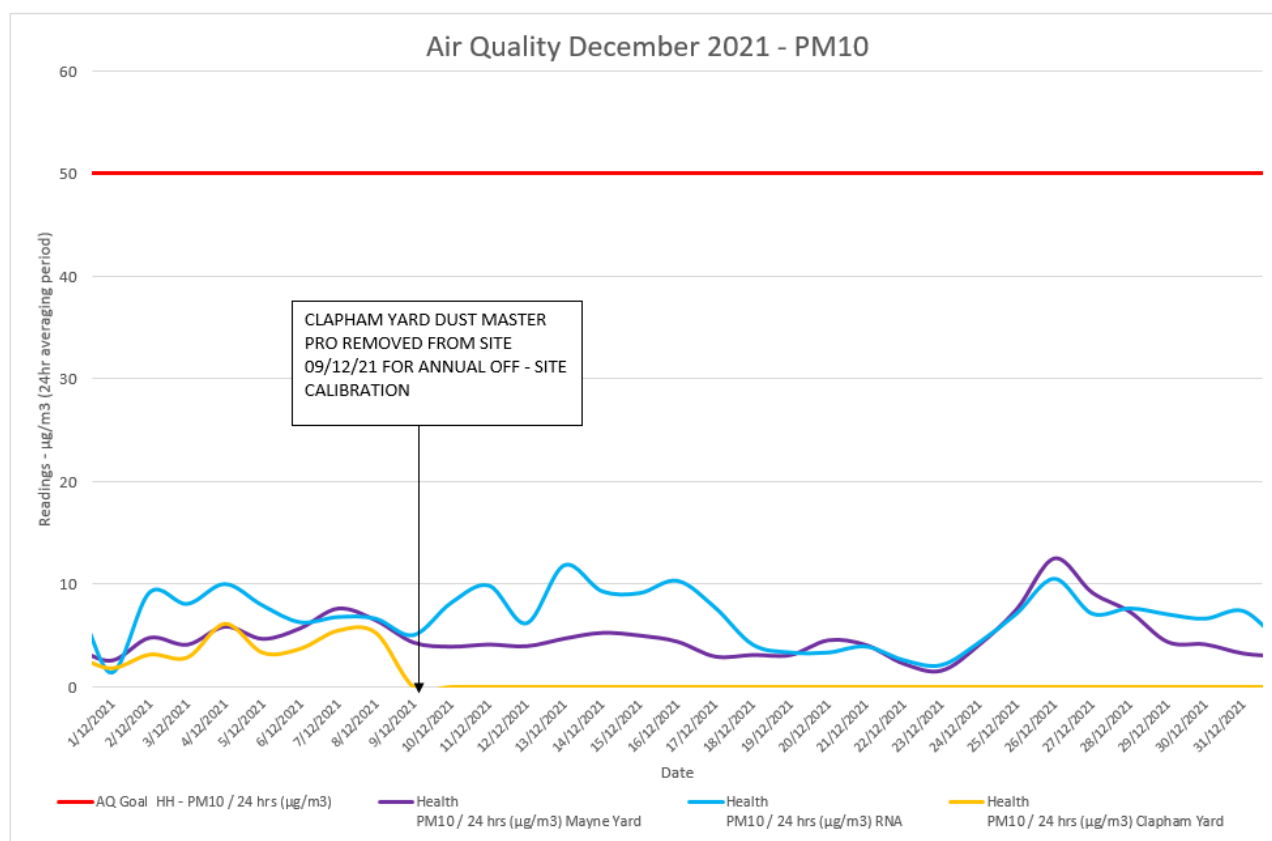


Figure 3 Air Quality Monitoring (PM₁₀) Results

3.2.2.3 Monitoring results – Annual averaging

Imposed Condition 13 (a) sets annual average air quality goals for TSP (Human health) and PM₁₀ (Human health).

The below table summarises where TSP and PM₁₀ monitoring have been carried out over the last 12 months.

The National Environment Protection (Ambient Air Quality) measure Technical paper No.5 provides guidance and procedures for uniform data recording and handling.

(<https://www.nepc.gov.au/system/files/resources/9947318f-af8c-0b24-d92804e4d3a4b25c/files/aaqprctp05datacollection200105final.pdf>).

For air quality data to be officially reported, as per section 4.5 of Technical Paper No. 5, the minimum data capture would be 75% of the year or 274 days.

"It is essential that data loss is kept to an absolute minimum. For representative monitoring data and for credible compliance assessment it is desirable to have data capture rates higher than 95%. 75% data availability is specified as an absolute minimum requirement for data completeness".

In some instances, Relevant Project Works, which triggered TSP and PM₁₀ monitoring to be carried out for less than 274 days (e.g., at the Northern Corridor). In such instances the annual averages are still reported but are indicative only as data capture did not meet the 75% data capture requirements of *National Environment Protection (Ambient Air Quality) Measure Technical Paper No. 5 – Data Collection and Handling*.

Table 8: Summary of Air Quality monitoring devices over 12 months

Monitoring Device Installed by UNITY	Area	Date Installed	Date Decommissioned	Number of days data was captured over 365 days period	Data capture over an annual period	Annual performance reporting
TSP / PM ₁₀ Monitor	Northern Corridor (Eastern Air Shed)	23 April 2020	13 January 2021	260 over 365 days	71% over 365 days	<i>Indicative only</i> Data capture did not meet the minimum data capture requirements
TSP / PM ₁₀ Monitor	Mayne Yard (Eastern Air Shed)	23 April 2020	Not yet decommissioned	Period 1 (to 23 April 2021) 358 over 365 days Period 2 (starting 24 April 2021) 252 over 252 days	Period 1 98% over 365 days Period 2 100% Over 252 days	Applicable for Period 1 Data capture met minimum data capture requirements Not Applicable for Period 2 Data capture has not yet met the minimum data capture requirements
TSP / PM ₁₀ Monitor	RNA (Western Air Shed)	11 June 2020	Not yet decommissioned	Period 1 (to 11 June 2021) 314 over 365 days Period 2 (starting 12 June 2021) 214 over 214 days	Period 1 86% over 365 days Period 2 100% Over 214 days	Applicable for Period 1 Data capture met minimum data capture requirements Not Applicable for Period 2 Data capture has not yet met the minimum data capture requirements
TSP / PM ₁₀ Monitor	Clapham Yard (Eastern Air Shed)	1 February 2021	Not yet decommissioned	274 (over 312 days)	88% over 312 days	Data capture met minimum data capture requirements

The below table summarises the applicable and indicative annual data results for TSP and PM₁₀ against the performance goals imposed under Condition 13(a). Results in italic are indicative only.

Table 9 Annual Performance Results

Air Quality Indicator	Goal	Period	Northern Corridor	Mayne Yard	RNA	Clapham Yard
TSP	90 µg/m ³	Period 1	8 µg/m ³	11 µg/m ³	18 µg/m ³	8 µg/m ³
		Period 2	-	Not applicable	Not applicable	-
PM ₁₀	25 µg/m ³	Period 1	5 µg/m ³	7 µg/m ³	11 µg/m ³	5 µg/m ³
		Period 2	-	Not applicable	Not applicable	-

3.2.3 Interpretation

During the reporting period:

- None of the particulate results exceeded their relevant goals for PM₁₀ and TSP
- There was no evidence of dust being generated and leaving the site boundaries
- There were no complaints received associated with air quality concerns.

The RIS scope of works has met the project outcomes set out by the CGCR and OEMP.

3.3 Water Quality

Condition 15(b) of the CGCR requires that during construction, monitoring and reporting on water quality in accordance with the Water Quality Management Plan, a sub-plan of the C-EMP, occurs.

Condition 15(a) requires that discharges of groundwater from Project Works within the Breakfast Creek catchment must comply with the Brisbane River Estuary environmental values and water quality objectives (Basin no.143 – mid-estuary) in the *Environment Protection (Water) Policy 2009*.

Condition 15(a) requires that discharges of groundwater from Project Works within Moolabin Creek, Yeerongpilly – Oxley Creek catchment must comply with the Oxley Creek - Lowland freshwater environmental values and water quality objectives (Basin no.143 (part) – including all tributaries of the Creek) in the *Environment Protection (Water) Policy 2009*.

Water quality monitoring to demonstrate compliance with Condition 15(a) was not triggered during the reporting period. There were no groundwater discharges.

Water quality monitoring to demonstrate compliance with Condition 15(b) and Condition 18 was triggered. The rain events recorded during the reporting period at Mayne Yard and Clapham Yard had the potential to result in run-off being generated from these two active worksites.

There were no active surface water discharges (e.g., dewatering through pumping, sediment basin release) to receiving waters.

3.3.1 Rainfall Records

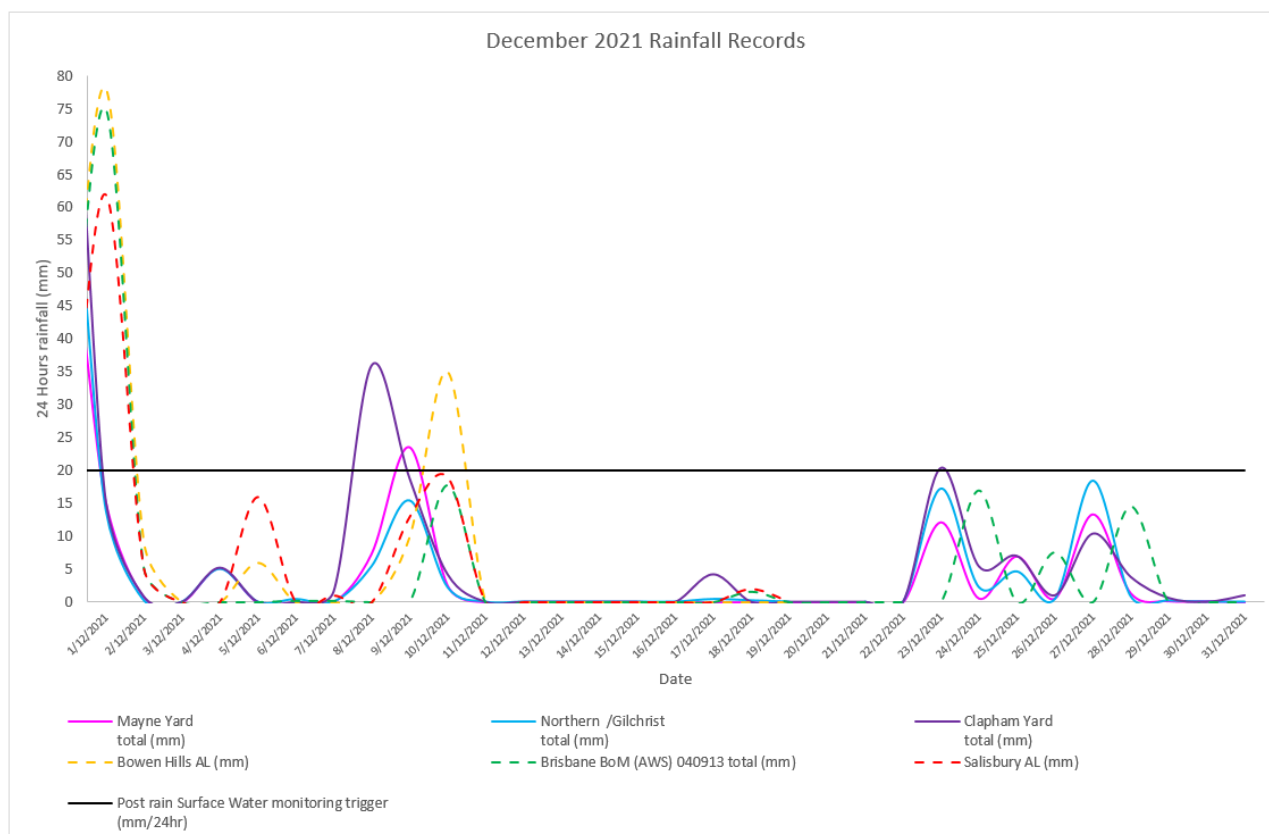


Figure 4 Rainfall Records

3.3.2 Surface Water Discharge Monitoring / Post Rainfall Monitoring Results

Post rainfall monitoring is triggered typically following any rainfall event exceeding 20 to 25 mm over 24 hours, however, storm events during the high-risk period of the year (November to March) of lesser amounts but of a higher intensity may cause run-off which would also trigger post-rain monitoring consistent with the C-EMP.

In-situ post rainfall monitoring was triggered during the reporting period as follows:

- Clapham Yard:
 - 08 December 2021 (36 mm of rain in 1 hour, with a peak rain depth of 23mm recorded over 15 minutes associated with a microburst of up to 167mm/hr)

In-situ post rainfall monitoring was not triggered during reporting at Mayne Yard despite one rain event exceeding 20mm of rain in a 24-hour period on 09 December 2021 (23.6 mm of rain in 24 hours).

Consistent with the C-EMP, post rainfall inspections were carried out at Mayne Yard and Clapham Yard.

At Mayne Yard, it was identified that a significant amount of water was pooling on site either around Type 2 Controls or in excavations across the site. There was no evidence that the perimeter ESC measures had experienced overtopping or damage.

Mayne Yard trunk drainage is yet to be commissioned and therefore there is no possibility of stormwater run-off impacted by construction activities leaving site at this location.

Stormwater pit inlets connected to live underground drainage at Mayne Yard were all raised at a height more than the depth of water pooling on site and therefore no construction impacted run off could enter these inlet pits.

There was no evidence of stormwater run-off passively entering the creek and causing visual discoloration to Breakfast Creek in the immediate vicinity of the Project Works.

Photographic evidence was collected, and no in-situ water quality monitoring was carried out.

Water quality monitoring was also triggered at RNA on 10 December 2021 to support active dewatering of treated stormwater run-off to live stormwater. Approximately 200,000L of stormwater run-off that had accumulated on site due to rainfall was treated using a mobile water treatment plant (pH and turbidity correction) prior to being authorised for discharge to the Sneyd Street drain under a Permit to Dewater.

Table 10: Surface Water Discharge Monitoring Results

Date	Location	Waterway	Tide	Discharge Criteria ³			
				Turbidity (NTU) Nil until Turbidity / TSS correlation achieved ⁴	TSS (mg/L) <50	DO (%) Nil	pH (pH Unit) Stable pH reading; and General sites: 6.5 – 8.5, or Wallum/Acidic Ecosystems: 5.0 – 7.0
09/12/21	Clapham Yard	Moolabin Creek (SW-05 - upstream)	N/A	Field: 39 Lab: 28	<5	91	6.8
09/12/21	Clapham Yard	Moolabin Creek (SW-06 - downstream)	N/A	Field: 67 Lab: 40	12	85	7.2
09/12/21	Clapham Yard	Rocky Water Holes Creek (SW-07 - upstream)	N/A	Field: 87 Lab: 48	6	82	6.6
09/12/21	Clapham Yard	Rocky Water Holes Creek (SW-08 - downstream)	N/A	Field: 106 Lab: 54	20	92	7.0
10/12/21	RNA	Sneyd Street Stormwater Drain	N/A	Multiple (6) in field readings collected - average was 60 NTU Lab: ranging between 10 and 43 NTU	Ranging between 37 and 49	Ranging between 90 and 102%	6.8-7.1

3.3.3 Groundwater Discharge Monitoring Results

Groundwater discharge monitoring was not triggered during the reporting period.

3.3.4 Routine Surface Water Monitoring Results

During the reporting period, UNITY did not undertake routine surface water monthly monitoring. A review of the data sample has identified that over 12 months of continuous data collection has occurred with a total of over 18 monitoring events. The frequency of background monitoring has therefore been reduced to bi-annually, with the next sampling round to be undertaken during the wet season (October to March). This reduction of monitoring frequency is acceptable to continue informing the Dis-1 Credit for the ISCA 'Excellent Rating' the Project is pursuing.

3.3.5 Interpretation - Moolabin and Rocky Water Holes Creeks

The post rainfall monitoring events identified that water quality was visually more turbid throughout the systems at all monitoring locations.

TSS results at the downstream monitoring locations were more than 10% greater than the upstream results.

³ Refer to the waterways and water quality management plan, a C-EMP sub-plan for details of derivation of the discharge criteria

⁴ Correlations are typically run on the source water (i.e., basins) not the receiving system where there is a dilution component of potentially diffuse sources of sediments from non-Project related areas. Due to the very limited amount of discharges the RIS Scope of Works has experienced, there is no correlation available. Typically, a minimum of 20 data points is used to determine TSS / in field turbidity correlation for site waters.

The TSS results difference between the upstream and downstream results were also greater than 5mg/L.

Consistent with Table 2 of the Waterways and Water Quality Management subplan when TSS results downstream of the Project Works exhibit of change of 5mg/L or 10% increase (whichever is the greatest) further investigation is required to ascertain whether this change in water quality is related to released water from the Project Works.

Weather records confirmed the rainfall event on 08 December was between a 0.5 (or 2-year ARI) and 1 EY for the 1-hour duration with the microburst ranging from a 0.2 (or 5-year ARI) to 0.5 EY.

This exceeded the design criteria (4-EY for Type 2 ESC measure and 2-year ARI for temporary drainage structures) for the site erosion and sediment control measures.

It was also confirmed that:

- Clapham Yard's ESC-P was designed by suitably qualified person consistent with the Guidelines for Best Practice Erosion and Sediment Control (IECA 2008) as per Imposed Condition 18.
- The ESC-P was regularly reviewed and updated by a suitably qualified person in ESC management. Actions pertaining to the maintenance of the ESC measures prior to predicted rain events and following rainfall had been promptly addressed to a suitable degree of execution.
- External sources of sedimentation are also present in the immediate vicinity of the Project Works and associated nominated monitoring locations.

Therefore, the source of the increased turbidity cannot not be reasonably accredited solely to the Project Works.

Compliance with Imposed Conditions 15 and 18 was met.

4 Compliance Review

4.1 Non-Compliance Events

The below section summarises the events to be reported in accordance with Condition 5 and Condition 6(b)(ii) of the CGCR.

A non-compliance event (NCE) is defined as Project Works that do not comply with the Imposed Conditions.

4.1.1 Non - Compliance Events Summary

Table 11 Summary of Non-Compliance Events

Event Title	Location, Date, and time of event	Date the Event was Formally Notified to CG/IEM	Conditions Affected	Date the Event Report Formally Sent to CG/IEM	Status of Event
None for this reporting period					

4.2 C-EMP Compliance

The below table summarises compliance status with the C-EMP and monitoring requirements of relevant sub-plans for the reporting period.

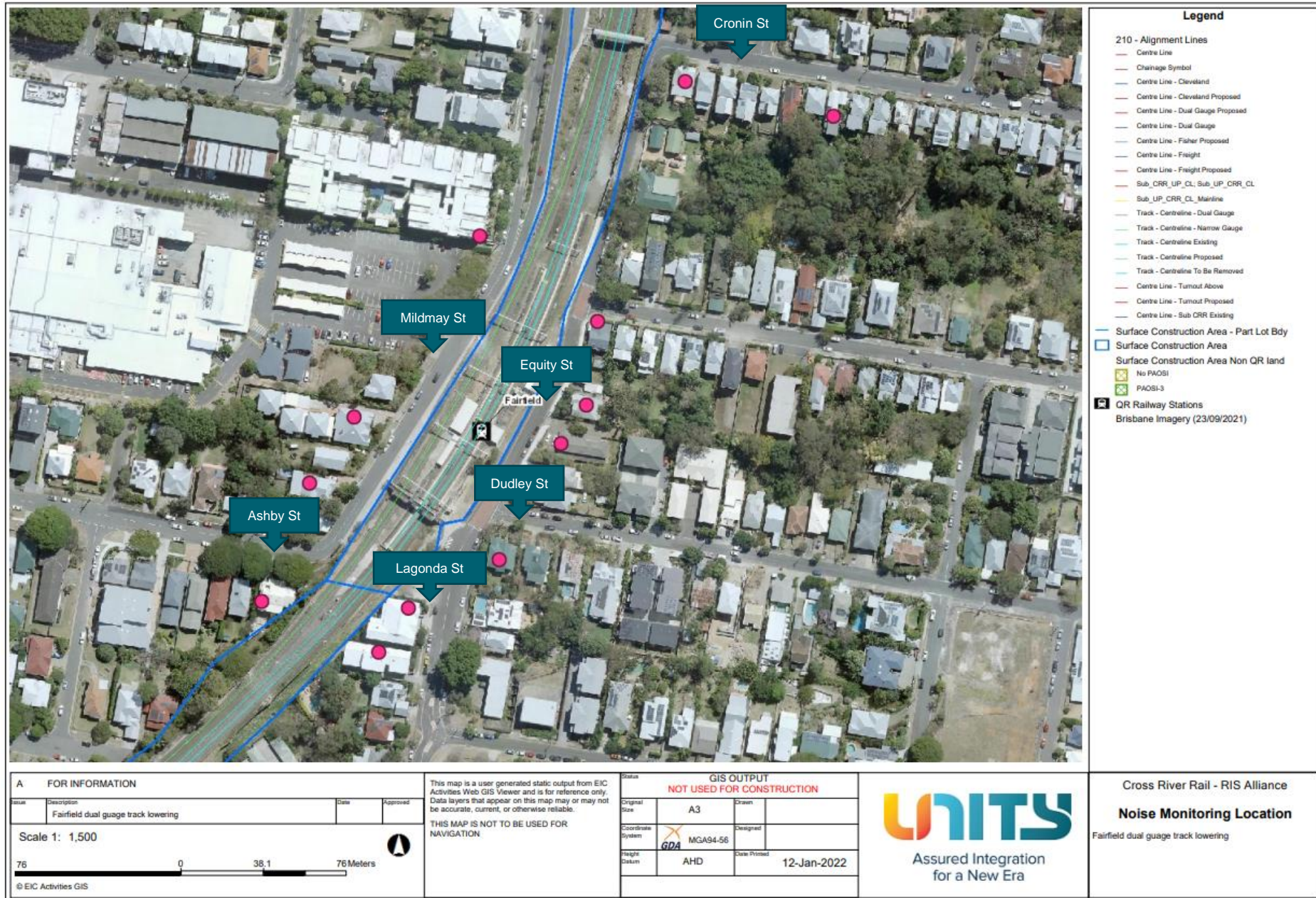
Table 12 C-EMP and relevant Subplans monitoring requirements – Compliance Status for the reporting period

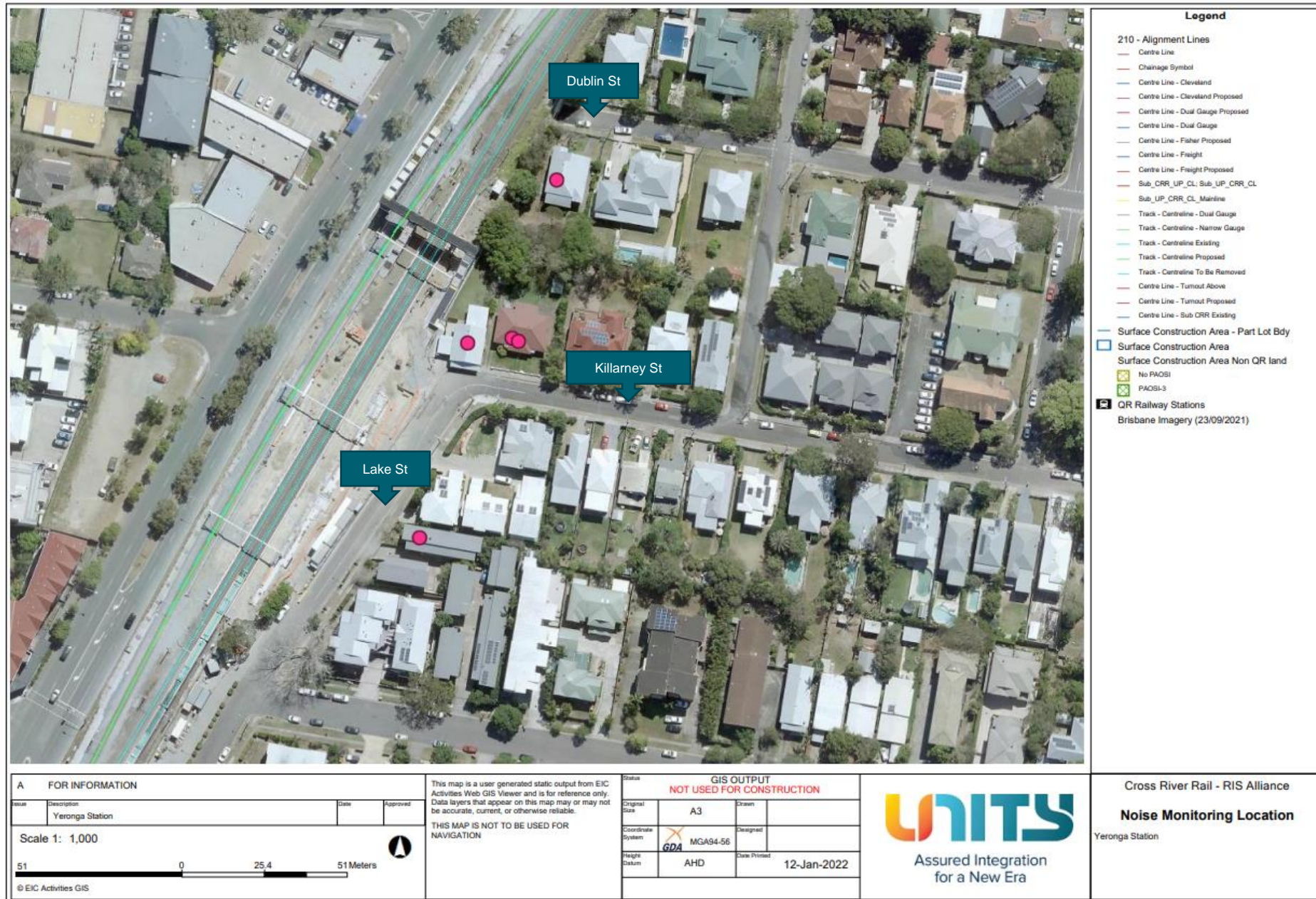
Aspect	Monitoring requirement	Activities risk profile	Monitoring undertaken	Compliance status with C-EMP / Subplan	Effect of the non-compliance
Air Quality	Visual monitoring program + Additional particulate monitoring as required based on the outcomes of the predictive assessment/risk profile	Moderate to High	Yes – visual monitoring is undertaken as part of routine inspections. Monitoring for TSP, PM10, and deposited dust was also undertaken	Compliant	Not Applicable
Air Quality	Complaint's response	Moderate to High	Not triggered – no complaints	Compliant	Not Applicable
Noise	Buffer distance tests based on the outcomes of the predictive assessment based / risk profile of activities	Moderate to High	Yes	Compliant	Not Applicable
Noise	Plant noise audits for noisy plant to validate models input as required	Moderate to High	No	N/A	Not Applicable
Noise	Complaint's response	Moderate to High	Yes – Fairfield and Yeronga	Compliant	Not Applicable
Vibration	Construction Monitoring at Sensitive Places / DAPs - Model verification based on the outcomes of the predictive assessment based / risk profile of activities	Moderate to High	Yes – Unwin Street and Ashby Street	Compliant	Not Applicable
Vibration	Complaint's response	Moderate to High	Not triggered – no complaints	Compliant	Not Applicable
Water Quality	Bi-Annual monitoring	N/A	Not triggered	Compliant	Not Applicable
Water Quality	Post Rainfall	Moderate to High	Triggered	Compliant	Not Applicable
Water Quality	Dewatering	Moderate to High	Triggered - RNA	N/A	Not Applicable

Attachment 1 CGCR Non-Compliance Event Report (if required)

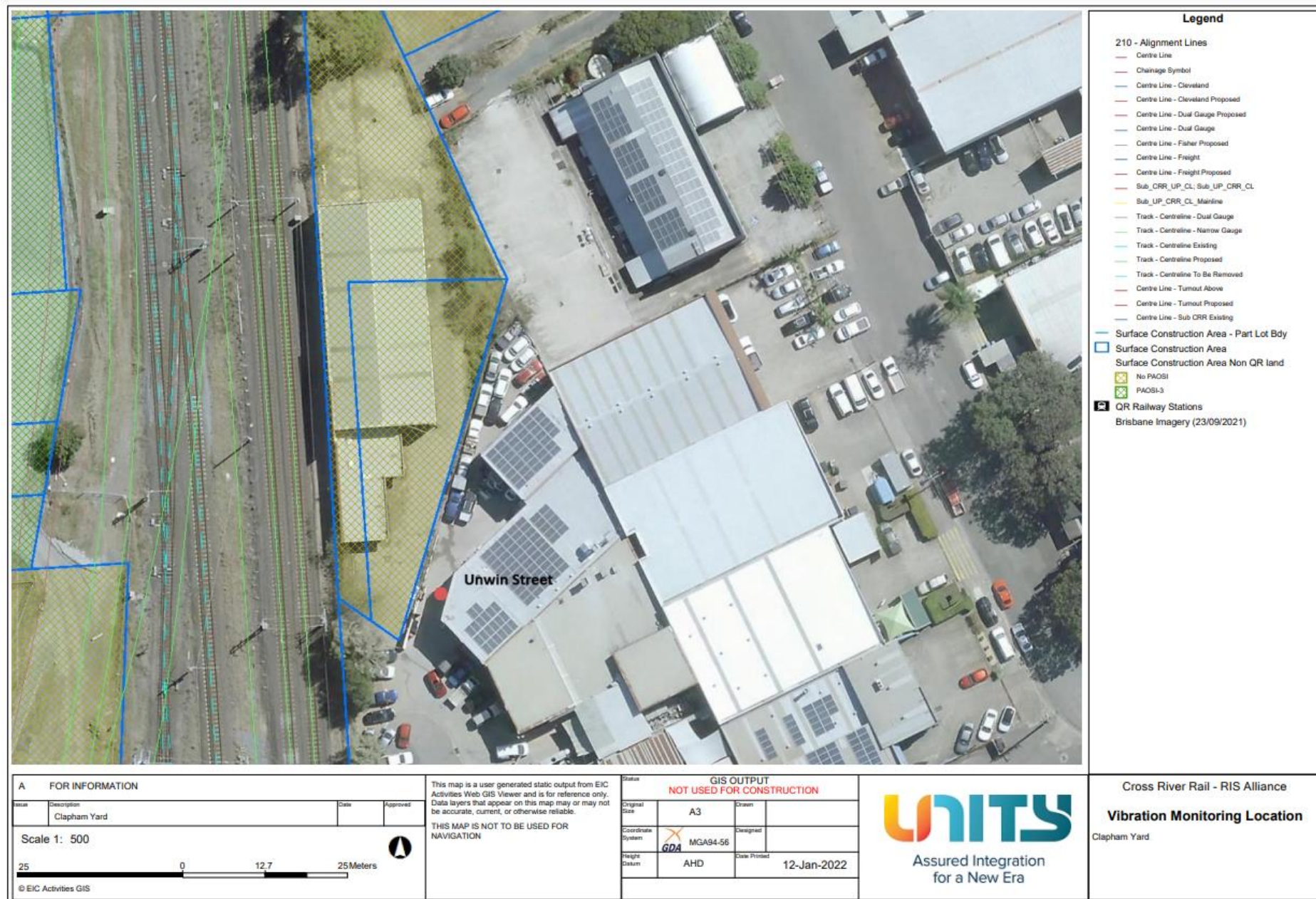
None for this reporting period.

Attachment 2 Monitoring Locations – Noise

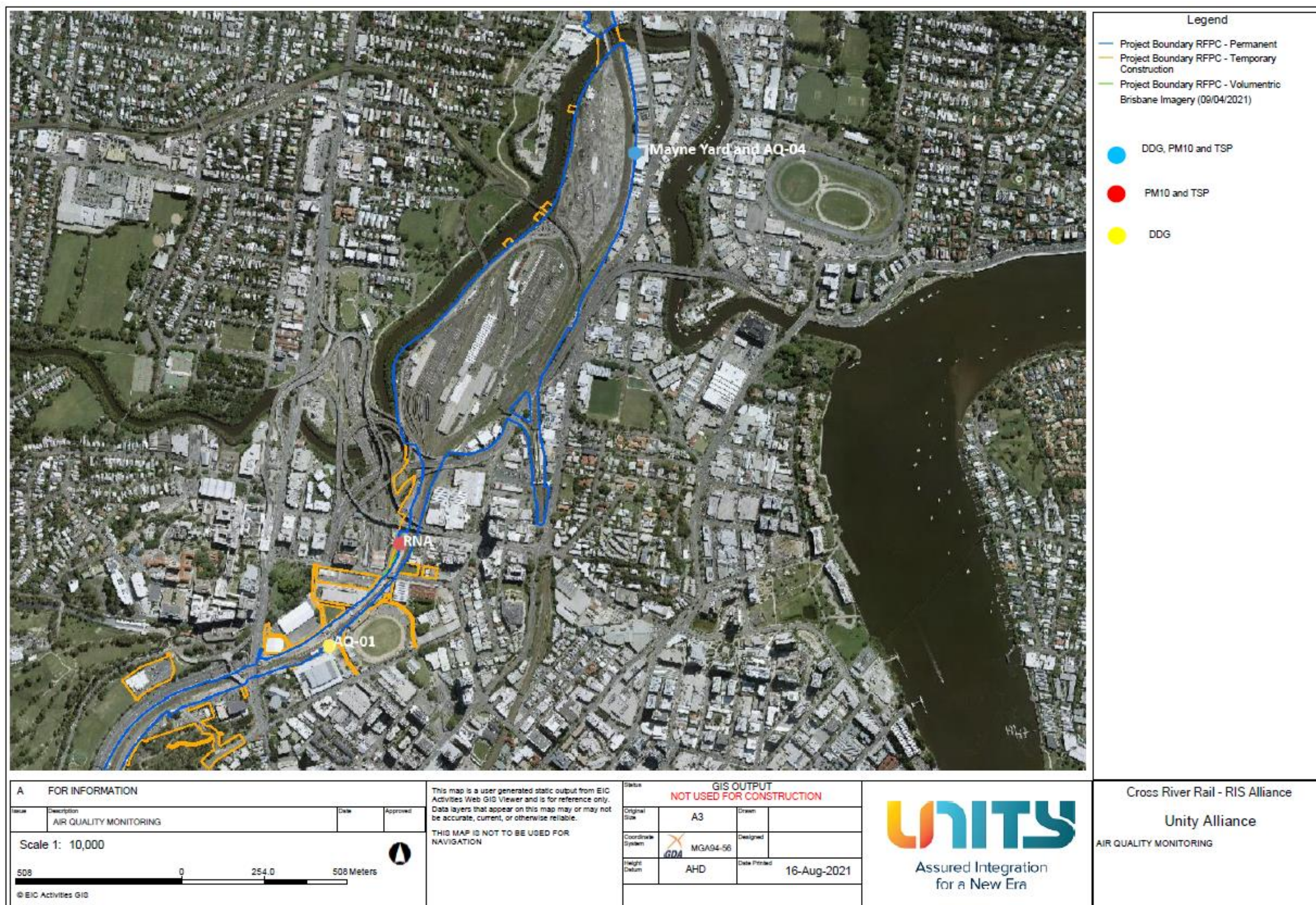


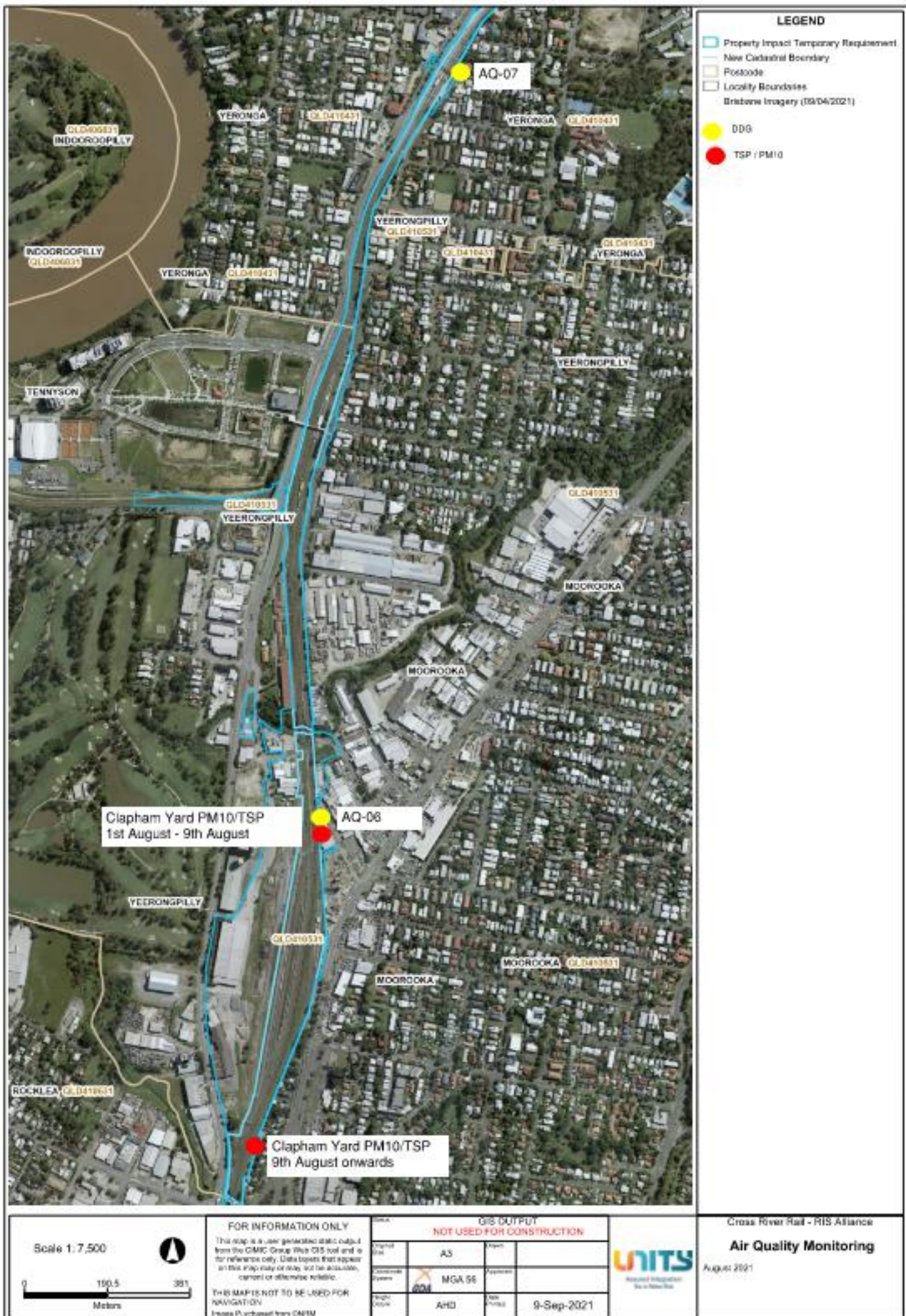


Attachment 3 Monitoring Locations – Vibration

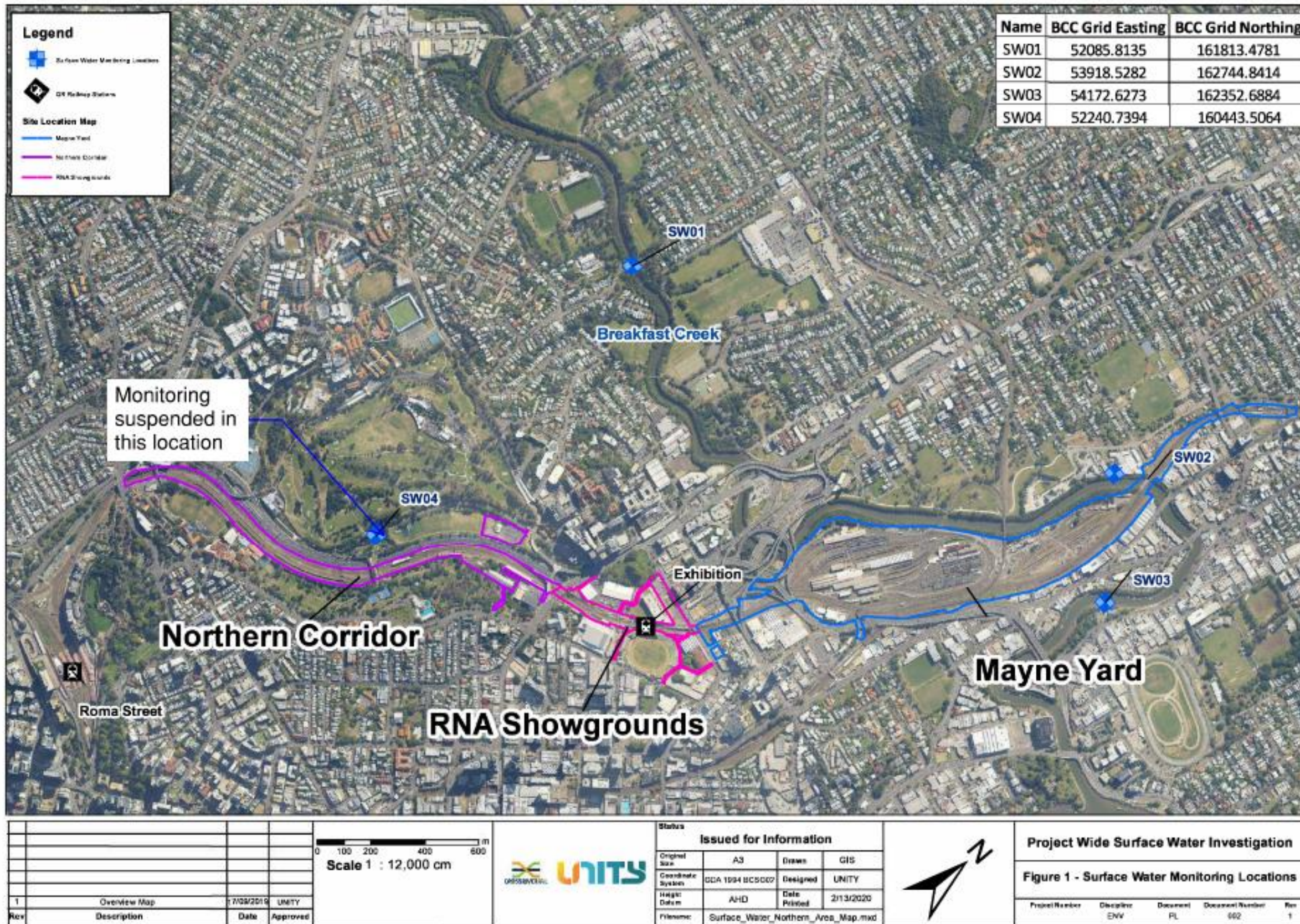


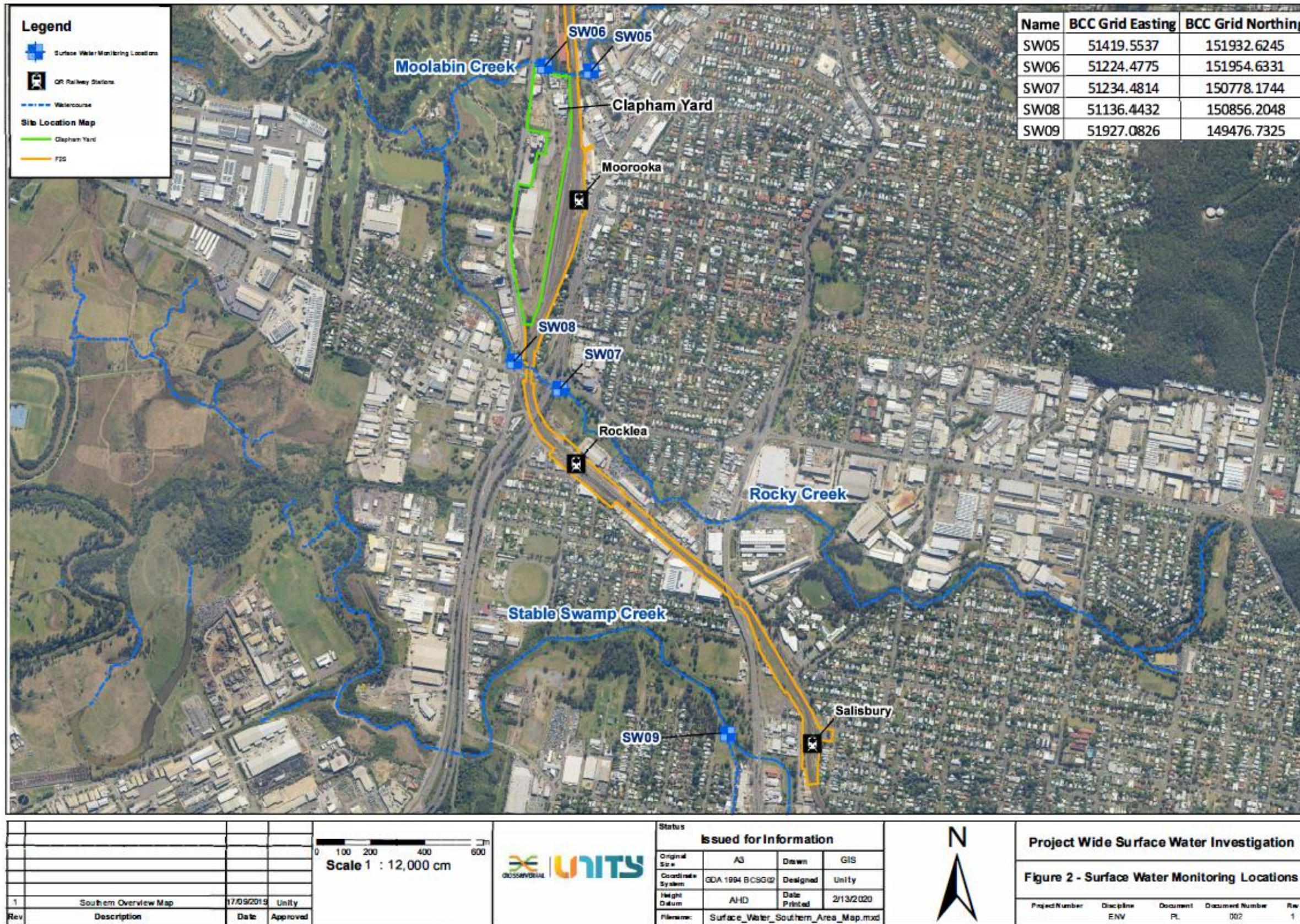
Attachment 4 Monitoring Locations – Air Quality





Attachment 5 Monitoring Locations – Surface Water





Appendix B TSD Monthly Report

COORDINATOR-GENERAL'S MONTHLY REPORT: DECEMBER 2021

Prepared in accordance with Coordinator-General Imposed Condition 6 - Reporting.

1. Monthly Monitoring Summary

It is CBGU Joint Venture's intent to aim for the Goals and Objectives relevant to vibration, noise, air quality and water monitoring within the practical extent of delivering the Project.

Vibration monitoring was conducted on two (2) occasion, and noise monitoring was conducted on eleven (11) occasions during December 2021. Each vibration and noise monitoring event confirmed works adhered to project requirements.

Ambient air quality monitoring was conducted at Roma Street, Albert Street, Woolloongabba, Boggo Road, Southern Portal and Northern Portal precinct sites during December 2021. Air quality monitoring confirmed works adhered to project requirements.

Water quality monitoring was conducted before the release of water from the site on twenty-seven (27) occasions. Each monitoring event confirmed project requirements were adhered to. Two (2) rounds of surface water quality monitoring were conducted; the monitoring events confirmed no impacts were generated by the Project.

2. CG Monthly Report – Compliance Assessment Against Imposed Conditions

Whilst not a requirement of Imposed Condition 6, CBGU offers the below Compliance Status Table as a good-will gesture to demonstrate the Project's ongoing environmental performance.

Table 1: Compliance Status – CG Imposed Conditions

CG Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
1.	General conditions – compliance with the Project Changes relevant to the Contractor's scope.	Yes	CBGU project works have been conducted in compliance with the Imposed Conditions.
2.	Outline Environmental Management Plan – timely submission to the Coordinator-General, including required sub plans.	N/A	The OEMP is not an obligation of the CBGU Joint Venture.
3.	Design – the achievement of the Environmental Design Requirements.	Yes	Design and implementation proceeded in accordance with the Environmental Design Requirements.
4.	Construction Environmental Management Plan – all relating to Relevant Project Works.	Yes	All CBGU works were conducted in accordance with the Construction Environmental Management Plan (CEMP) (Rev 8).
5.	Compliance and Incident management – Non-compliance events, notifications, and reporting.	Yes	Nil non-compliances occurred during the monitoring period (refer to Section 4).
6.	Reporting – Monthly and Annual reporting.	Yes	All reporting requirements are completed in accordance with Imposed Condition 6.
7.	Environmental Monitor – engaged and functions resumed.	Yes	An Environmental Monitor (EM) is appointed to the Project, and CBGU is committed to working collaboratively to aid the EM's functions under Imposed Condition 7.
8.	Community Relations Monitor – engaged and functions resumed.	Yes	A Community Relations Monitor (CRM) is appointed to the Project, and CBGU is committed to working collaboratively to aid the CRM's functions under Imposed Condition 8.
9.	Community engagement plan – developed and endorsed by Environmental Monitor.	Yes	A Community Engagement Plan (CEP) has been developed and implemented in accordance with Imposed Condition 9. The CEMP has been endorsed with the CEP.
10.	Hours of work – works undertaken during approved hours.	Yes	CBGU project works have been conducted in accordance with the approved hours of work.

CG Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
11.	Noise – Work must aim to achieve internal noise goals for human health and well-being.	Yes	CBGU project work has aimed to achieve internal noise goals for human health and well-being. Where internal noise levels have been unable to be measured, suitable noise reductions have been applied in accordance with Imposed Condition 11. Noise monitoring data is provided within Section 3.2.
	Vibration – Works must aim to achieve vibration goals for cosmetic damage, human comfort and sensitive building contents.	Yes	CBGU project work has aimed to achieve vibration goals for cosmetic damage, human comfort and sensitive buildings. Vibration monitoring data is provided within Section 3.1.
12.	Property damage relating to ground movement	Yes	The management of potential impacts relating to property damage has been completed in accordance with Imposed Condition 12.
13.	Air quality – Works must aim to achieve air quality goals for human health and nuisance.	Yes	CBGU project works have aimed to achieve air quality goals. Air quality monitoring data is provided within Section 3.3.
14.	Traffic and transport – Works must minimise adverse impacts on road safety and traffic flow.	Yes	CBGU project works have been conducted in a manner that has minimised adverse impacts on road safety and traffic flow.
15.	Water quality – Works must not discharge surface water and groundwater from the construction site above the relevant environmental values and water quality objectives.	Yes	CBGU has prepared and manages processes to ensure water quality is managed in accordance with Imposed Condition 15.
16.	Water resources – evaluate potential impact, plan works, implement controls and monitor the inflow of groundwater associated with drawdown.	Yes	CBGU project works are managed in accordance with Imposed Condition 16.
17.	Surface water – Must be designed to avoid inundation from stormwater due to a 2-year (6hr) ARI rainfall event and flood waters due to a 5-year ARI rainfall event and constructed to avoid afflux or cause the redirection of uncontrolled surface water flows, including stormwater flows, outside of worksites.	Yes	Design of the CBGU project works considers the requirements of Imposed Condition 17.
18.	Erosion and sediment control – Provisions for erosion and sediment control must be consistent with the Guidelines for Best Practice Erosion and Sediment Control (International Erosion Control Association, 2008) and the Department of Transport and Main Roads' Technical Standard MRTS52.	Yes	CBGU has prepared and manages processes to ensure erosion & sediment control is managed in accordance with Imposed Condition 18.
19.	Acid Sulfate Soils managed as per the <i>Queensland Acid Sulfate Soil Technical Manual</i> .	Yes	CBGU has prepared and manages processes to ensure acid sulphate soils are managed in accordance with Imposed Condition 19.

CG Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
20.	Landscape and open space – general requirement to minimise impacts on landscapes and open space values and specific requirements around Victoria park	Yes	CBGU project works are designed and implemented in accordance with Condition 20.
21.	Worksite rehabilitation – worksites rehabilitated as soon as practicable upon completion of works or commissioning, and in consultation with Brisbane City Council.	Yes	CBGU project works are designed and implemented in accordance with Condition 21.

3. Environmental Monitoring Results

Monitoring data is provided below in accordance with Imposed Condition 6(b)(i).

3.1 Vibration

Vibration requirements (levels) are defined as goals within Imposed Condition 11. The goals are to be aimed for.

The Coordinator-General Change Report acknowledges instances exist that these goals may not be achieved.

Two (2) vibration monitoring session was conducted during December 2021.

All vibration monitoring adhered to project requirements and is detailed in the table below.

Table 2: Vibration Monitoring Data

No.	Start Date	Time (AM/PM)	Finish Date	Location	Average Vibration level (mm/s)	Max Vibration Level (mm/s)	Vibration Goal (mm/s)	Receiver / Goal Type	Adhered to Project Requirements (Yes / No)
1.	03/12/2021	3:53:00 PM	03/12/2021	Roma Street (Roma Street Precinct)	-	1.00	10	Heritage Structure (Controlled Blast)	Yes
2.	21/12/2021	10:46:00 AM	21/12/2021	Albert Street (Albert Street Precinct)	-	21.1	50	Residential (Controlled Blast)	Yes

3.2 Noise

Noise requirements (levels) are defined as goals within Imposed Condition 11. The goals are to be aimed for.

The Coordinator-General Change Reports acknowledge instances exist that these goals may not be achieved.

Noise monitoring was conducted on eleven (11) occasions during December 2021. All noise monitoring data adhered to project requirements and is provided in the table below.

Table 3: Noise Monitoring Data

No.	Date	Time (AM / PM)	Location (Street Name) (Construction Precinct)	Purpose of Monitoring	Internal or External ^[3] Monitoring	Activity	Dominant Noise Source	Noise Goal LA10 ^[1]	Noise level LA10	Noise Goal LAeq ^[2]	Noise level LAeq	Adhered to Project Requirements (Yes / No)
1.	03/12/2021	3:53:00 PM	Roma Street (Roma Street Precinct)	Construction Monitoring at Sensitive Places	External	Controlled Blast	Construction	-	-	130 ^[3]	120 ^[3]	Yes
2.	13/12/2021	11:05:00 AM	Herschel Street (Roma Street Precinct)	Stakeholder Enquiry	Internal	Excavation	Construction	55	56.1	45	54.6	Yes
3.	13/12/2021	11:25:00 AM	Herschel Street (Roma Street Precinct)	Stakeholder Enquiry	Internal	Excavation	Air Conditioner & Ventilation System	55	45	45	44.4	Yes
4.	13/12/2021	12:08:00 PM	Herschel Street (Roma Street Precinct)	Stakeholder Enquiry	Internal	Excavation	Construction	55	60.4	45	58.8	Yes
5.	13/12/2021	12:28:00 PM	Herschel Street (Roma Street Precinct)	Stakeholder Enquiry	Internal	Excavation	Construction	55	41.5	45	40.2	Yes

No.	Date	Time (AM / PM)	Location (Street Name) (Construction Precinct)	Purpose of Monitoring	Internal or External ^[3] Monitoring	Activity	Dominant Noise Source	Noise Goal LA10 ^[1]	Noise level LA10	Noise Goal LAeq ^[2]	Noise level LAeq	Adhered to Project Requirements (Yes / No)
6.	16/12/2021	8:04:00 PM	Herschel Street (Roma Street Precinct)	Construction Monitoring at Sensitive Places	Internal	Spoil Haulage & Tunnelling	Ventilation System and Railway	50	36.9	40	35.5	Yes
7.	16/12/2021	8:54:00 PM	Herschel Street (Roma Street Precinct)	Construction Monitoring at Sensitive Places	Internal	Excavation	Construction	50	37.7	40	36.1	Yes
8.	17/12/2021	10:56:00 AM	Peter Doherty Street (Southern Portal Precinct)	Model Verification	External	Piling	Construction	72	71.7	62	68.7	Yes
9.	20/12/2021	8:03:00 PM	Mary Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Excavation	Construction and Road Traffic	67	62.7	57	61.8	Yes
10.	20/12/2021	8:22:00 PM	Mary Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Piling	Construction and Road Traffic	67	63.3	57	62.5	Yes
11.	21/12/2021	10:46:00 AM	Mary Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Controlled Blast	Construction	-	-	130 ^[3]	122.2 ^[3]	Yes

- [1] Intermittent noise goal (LA10)

- [2] Continuous noise goal (LAeq)

- [3] Blasting is measured in dB Linear Peak.

- Note: In accordance with Imposed Condition 11, where internal noise levels were unable to be measured, external noise goals were developed by an acoustic specialist using the following standards: ISO 140-5:1998 Acoustics – Measurement of Sound Insulation in Buildings and of Building Elements, Part 5: Field measurements of airborne sound insulation of façade elements and facades and ISO 354:1985 Acoustics – Measurement of sound absorption in a reverberation room.

3.3 Air Quality

3.3.1 Deposited Dust Results

Air quality requirements (levels) are defined as goals within Imposed Condition 13. The goals are to be aimed for. The Coordinator-General Change Report acknowledges instances exist that these goals may not be achieved. Dust deposition monitoring was performed during December 2021. The dust deposition gauges result for the reporting period are detailed below, and all monitoring data adhered to project requirements.

Table 4.1: November Air Quality Monitoring – Deposited Dust Data

Location	Project Wide Air Quality Goals ^[1]			Monitoring results (mg/m ² /day)	Comments
	Criterion	Air Quality Indicator	Goal (mg/m ² /day)		
Northern Portal	Nuisance	Deposited dust	120	35.48	Air quality monitoring was performed during the reporting period. All results adhered to project requirements.
Roma Street Precinct				6.45	
Albert Street Precinct (North)				6.90	
Albert Street Precinct (South)				6.90	
Woolloongabba Precinct (North)				9.68	
Woolloongabba Precinct (South)				12.90	
Boggo Road Precinct (North)				9.68	
Boggo Road Precinct (South)				29.03	
Southern Portal (South)				9.68	
Southern Portal (East)				16.13	

- [1] Project works must aim to achieve construction air quality goals. The Coordinator-General Change Report – Whole of Project Refinements 2019 acknowledges instances exist that these goals may not be achieved.
- [2] At the completion of this report the Deposited Dust results had not be received from the Laboratory. Due to the Christmas Holiday period and the high volume of samples received during December 2021 the laboratory has been delayed in providing results. The results will be reported in next month's report.

3.3.2 Particulates and Ambient Air Quality Results

Total Suspended Particules (TSP) and particulate matter less than 10µm (PM10) monitoring was conducted during December 2021.

TSP and PM10 are monitored using portable air quality units and nearby Government air quality stations. Targeted monitoring of potential dust-generating activities is conducted by the mobile air quality units and was completed at Albert Street, Woolloongabba, Boggo Road and Northern Portal Precincts during December 2021. Three (3) Government air quality stations near the Construction Precincts are also utilised.

Table 5: Targeted Air Quality Monitoring – Total Suspended Particles and PM10 Data

Date	TSP Project Goal ^[1]	PM10 Project Goal	Woolloongabba		Albert		Boggo Road ^[2]		Northern Portal	
			TSP	PM 10	TSP	PM 10	TSP	PM 10	TSP	PM 10
			(µg/m ³ /24 hr)							
01-December-21	80	50	4.10	4.08	13.55	13.08	4.23	4.23	6.79	6.78
02-December-21	80	50	5.01	4.94	13.14	12.18	3.75	3.73	4.62	4.60
03-December-21	80	50	5.05	4.97	11.12	10.54	3.24	3.20	4.97	4.95
04-December-21	80	50	7.82	7.76	11.78	11.17	5.15	5.08	8.37	8.31
05-December-21	80	50	6.39	6.35	14.01	13.56	4.28	4.26	7.85	7.82
06-December-21	80	50	5.99	5.96	15.71	14.66	4.12	4.12	5.61	5.58
07-December-21	80	50	9.68	9.61	14.03	13.27	6.47	6.47	7.87	7.86
08-December-21	80	50	11.74	11.62	17.18	16.02	7.33	7.31	8.34	8.33
09-December-21	80	50	10.79	10.70	18.01	16.50	7.83	7.82	10.15	10.12
10-December-21	80	50	8.11	7.92	17.37	16.04	4.02	3.96	4.88	4.83
11-December-21	80	50	7.67	7.48	14.09	13.80	4.72	4.67	6.39	6.35
12-December-21	80	50	6.38	6.35	20.22	18.80	4.62	4.57	6.25	6.24
13-December-21	80	50	7.99	7.95	19.20	17.86	6.91	6.86	7.66	7.65
14-December-21	80	50	8.74	8.66	13.98	12.98	6.88	6.85	7.72	7.69
15-December-21	80	50	7.66	7.59	15.08	14.26	5.47	5.45	7.91	7.89
16-December-21	80	50	10.40	10.28	16.56	15.68	7.73	7.70	9.76	9.74
17-December-21	80	50	8.39	8.32	10.43	10.18	7.16	7.15	7.49	7.48
18-December-21	80	50	7.82	7.78	8.98	8.80	7.31	7.29	7.32	7.31

Date	TSP Project Goal ^[1]	PM10 Project Goal	Woolloongabba		Albert		Boggo Road ^[2]		Northern Portal	
			TSP	PM 10	TSP	PM 10	TSP	PM 10	TSP	PM 10
			(µg/m3/24 hr)							
19-December-21	80	50	7.75	7.64	8.08	7.83	5.76	5.75	6.56	6.55
20-December-21	80	50	7.54	7.48	16.22	14.76	5.75	5.70	8.05	8.04
21-December-21	80	50	8.72	8.67	13.86	12.75	6.31	6.28	7.85	7.82
22-December-21	80	50	6.80	6.76	9.07	8.69	4.22	4.18	6.32	6.29
23-December-21	80	50	8.74	8.66	10.01	9.62	6.05	6.01	7.81	7.79
24-December-21	80	50	7.63	7.55	10.93	10.55	5.43	5.40	7.94	7.91
25-December-21	80	50	5.05	5.02	4.85	4.64	3.93	3.87	5.44	5.42
26-December-21	80	50	3.75	3.72	11.44	11.22	2.62	2.60	4.12	4.10
27-December-21	80	50	5.76	5.69	9.38	8.90	2.87	2.85	4.88	4.84
28-December-21	80	50	5.59	5.54	8.84	8.49	3.65	3.63	6.21	6.18
29-December-21	80	50	5.25	5.22	9.27	9.02	3.72	3.70	5.47	5.45
30-December-21	80	50	5.32	5.28	12.28	12.00	3.50	3.49	6.06	6.03
31-December-21	80	50	8.09	8.07	14.18	13.97	5.20	5.19	10.02	10.00

- [1] Project works must aim to achieve construction air quality goals. The Coordinator-General Change Report – Whole of Project Refinements 2019 acknowledges instances exist that these goals may not be achieved.

CBGU also utilises three (3) Government air quality monitoring stations to monitor PM10 near to the project sites. The results during this reporting period were as follows:

- Brisbane CBD: PM10 daily Maximum average: **20.9 µg/m3/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=cbd¶meter=18&date=1/12/2021&timeframe=month>)
- South Brisbane: PM10 daily Maximum average: **22.9 µg/m3/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=sbr¶meter=18&date=1/12/2021&timeframe=month>)
- Woolloongabba: PM10 daily Maximum average: **34.2 µg/m3/24 hr** (<https://apps.des.qld.gov.au/air-quality/chart/?station=woo¶meter=18&date=1/12/2021&timeframe=month>)

The graphical representation of the Government air quality data is presented in the below charts (refer to Figure 1-3).

Particle PM₁₀ at Brisbane CBD, 1–31 December 2021 [about Particle PM₁₀](#)

[Brisbane CBD station overview](#)

The guideline for Particle PM₁₀ is 100µg/m³ (1hr avg) and 50µg/m³ (24hr avg).

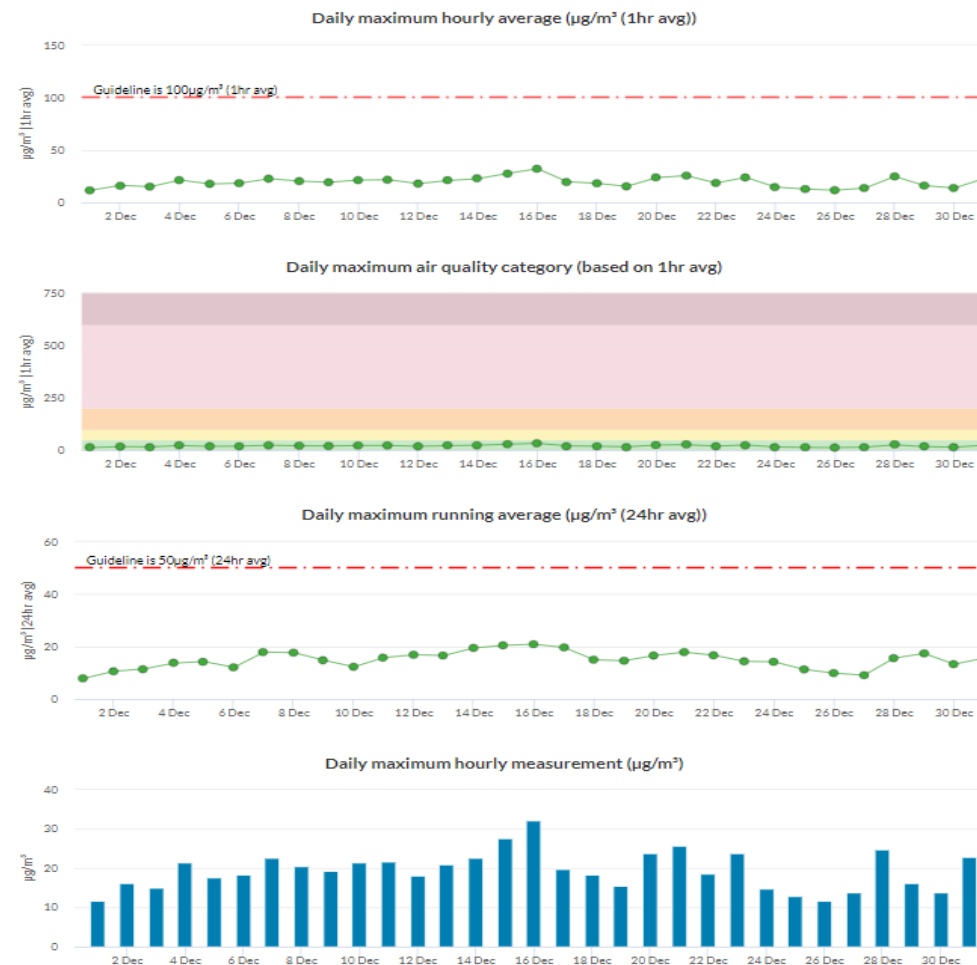


Figure 1: Brisbane CBD – DES Station - PM10 graph for December 2021 (reproduction from the DES website).

Particle PM₁₀ at South Brisbane, 1–31 December 2021 [about Particle PM₁₀](#)

[South Brisbane station overview](#)

The guideline for Particle PM₁₀ is 100µg/m³ (1hr avg) and 50µg/m³ (24hr avg).

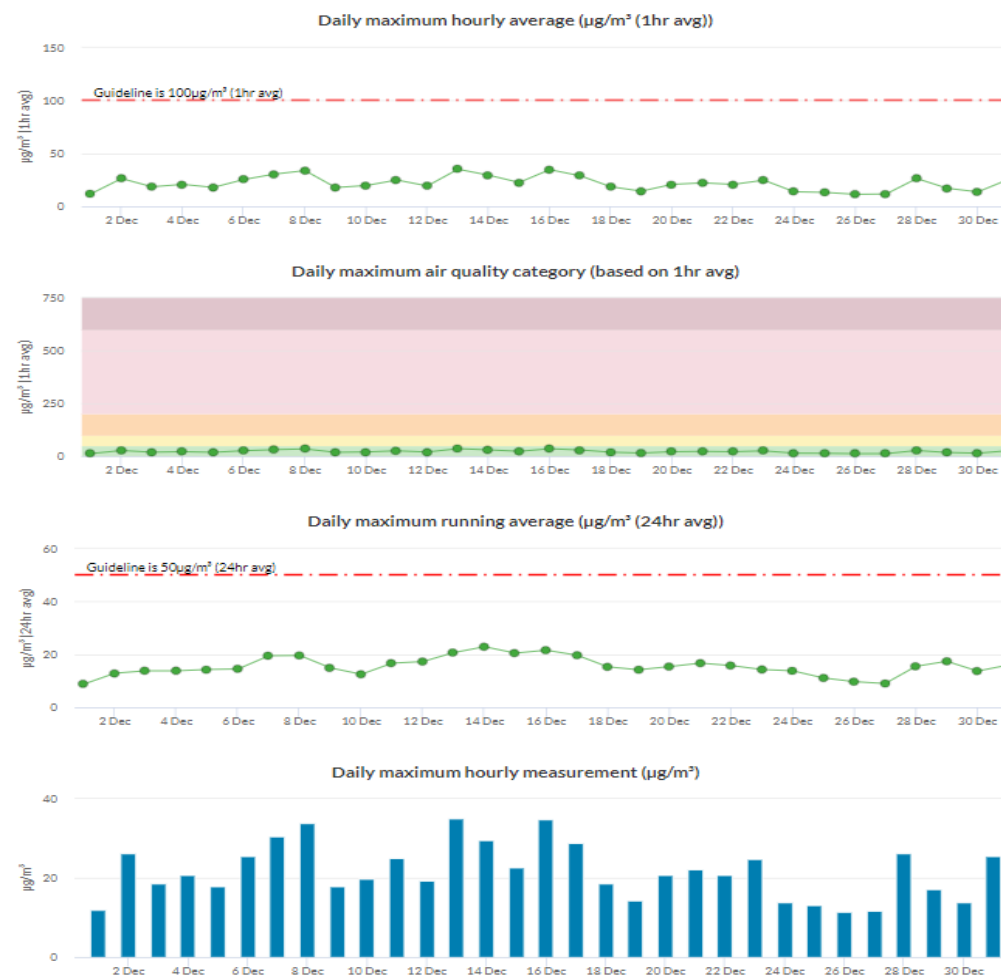


Figure 2: South Brisbane – DES Station - PM10 graph for December 2021 (reproduction from the DES website accessed).

Particle PM₁₀ at Woolloongabba, 1–31 December 2021 [about Particle PM₁₀](#)

[Woolloongabba station overview](#)

The guideline for Particle PM₁₀ is 100µg/m³ (1hr avg) and 50µg/m³ (24hr avg).

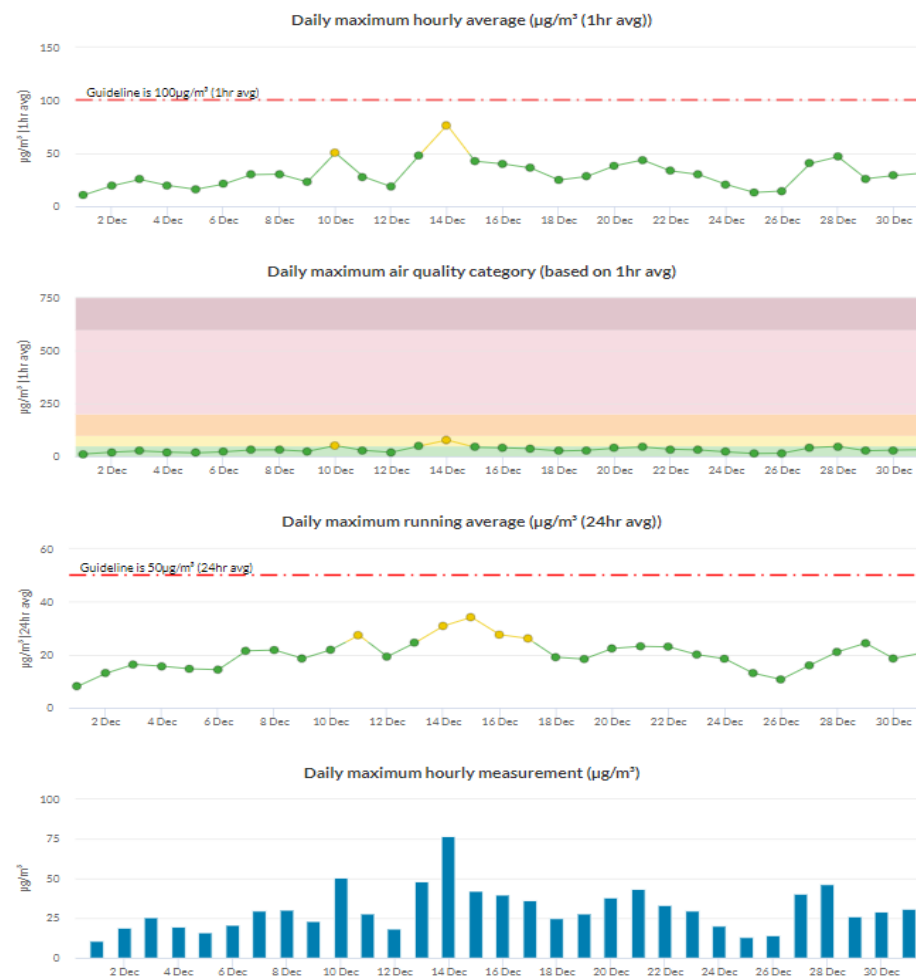


Figure 1: Woolloongabba – DES Station - PM10 graph for December 2021 (reproduction from the DES website).

3.4 Water Quality – Discharge

CBGU undertook four (4) water quality monitoring events prior to the release (groundwater and surface water) from the site. One (1) sample was taken at the end of November and is therefore included within this December reporting period.

3.4.1 Groundwater Discharge

Water quality monitoring data is provided in the table below.

Table 6: Groundwater Discharge – Water Quality Monitoring Data

Location	Date	Testing of Water Quality Objectives ^[1]											Adhered to Project Requirements (Yes / No)
		pH	Suspended solids (mg/L)	Turbidity (NTU)	Ammonia N (µg/L) ^[3]	Oxidised N (µg/L) ^[3]	Organic N (µg/L) ^[3]	Total nitrogen (µg/L) ^[3]	Total phosphorus (µg/L)	Filterable Reactive phosphorus (FRP) (µg/L)	Chlorophyll a (µg/L)	Dissolved oxygen (%) ^[2]	
Albert Street	30/11/2021	7.78	<5	1.40	150.00	1770.00	600.00	2600.00	50.00	<10	<1	81.97	Yes
Roma Street	1/12/2021	7.70	<5	0.80	140.00	140.00	1500.00	1600.00	1000.00	<10	<1	67.71	Yes
Boggo Road	5/12/2021	7.27	13	2.74	30.00	760.00	500.00	1300.00	120.00	<10	<1	95.61	Yes
Woolloongabba	15/12/2021	8.20	<5	1.40	410.00	540.00	1100.00	2000.00	<50	<10	<1	83.93	Yes

- [1] The Project's discharge procedure is designed to minimise environmental impact and aim to achieve the water quality objectives. Water quality objectives are defined as goals within the Brisbane River estuary environmental values and water quality objectives document.
- [2] Adhered to project requirements regarding aiming to achieve the water quality objective. The dissolved oxygen samples were acquired prior to discharge from the site. Pumping of the water will have inadvertently aerated the water, thus influencing the dissolved oxygen level.
- [3] Adhered to project requirements regarding aiming to achieve the water quality objective. These samples identified results generally consistent with pre-construction conditions, and no external influences were introduced by construction activity.
- Note: testing of EPP (Water) Quality Objectives are analysed at a NATA accredited laboratory each month (results provided above). Field testing (turbidity, pH) is done regularly during ongoing discharge.

3.4.2 Ponded/Surface Water Discharge

Discharged ponded/Surface water quality monitoring data is provided in the table below.

Table 7: Surface Water Discharge - Water Quality Monitoring Data

No.	Location	Date	Testing of Water Quality Objectives ^[1]		Adhered to Project Requirements (Yes / No)
			pH	Turbidity (NTU)	
1.	Northern Portal	1/12/2021	8.15	37.10	Yes
2.	Northern Portal	2/12/2021	7.96	30.30	Yes
3.	Northern Portal	3/12/2021	8.22	29.10	Yes
4.	Northern Portal	4/12/2021	8.14	21.00	Yes
5.	Northern Portal	6/12/2021	8.18	3.09	Yes
6.	Northern Portal	7/12/2021	8.16	19.27	Yes
7.	Northern Portal	8/12/2021	7.82	9.07	Yes
8.	Northern Portal	9/12/2021	8.23	10.98	Yes
9.	Northern Portal	10/12/2021	7.70	15.19	Yes
10.	Northern Portal	11/12/2021	8.00	26.60	Yes
11.	Northern Portal	14/12/2021	8.14	29.40	Yes
12.	Northern Portal	15/12/2021	8.18	37.80	Yes
13.	Northern Portal	16/12/2021	8.16	23.70	Yes
14.	Northern Portal	17/12/2021	8.16	29.70	Yes
15.	Northern Portal	18/12/2021	8.22	26.90	Yes

16.	Northern Portal	20/12/2021	8.40	17.53	Yes
17.	Northern Portal	21/12/2021	8.21	12.22	Yes
18.	Northern Portal	22/12/2021	8.21	21.10	Yes
19.	Northern Portal	23/12/2021	8.22	8.41	Yes
20.	Northern Portal	24/12/2021	8.24	8.84	Yes
21.	Northern Portal	25/12/2021	8.15	0.10	Yes
22.	Northern Portal	26/12/2021	8.16	0.21	Yes
23.	Northern Portal	27/12/2021	8.36	0.33	Yes
24.	Northern Portal	28/12/2021	8.21	31.60	Yes
25.	Northern Portal	29/12/2021	8.10	0.34	Yes
26.	Northern Portal	30/12/2021	8.30	0.41	Yes
27.	Northern Portal	31/12/2021	8.26	0.23	Yes

[1] The Project's discharge procedure is designed to minimise environmental impact and aim to achieve the water quality objectives. All discharges were compliant with *Guidelines for Best Practice Erosion and Sediment Control (IECA, 2008)* and the *Department of Transport and Main Roads' Technical Standard MRTS 52 – Erosion and Sediment Control*.

3.5 Water Quality – Surface Water

During November 2021, CBGU JV undertook two (2) rounds of surface water sampling at five (5) site locations (upstream and downstream).

Results from the below monitoring locations reflect the condition of the broader catchment (not just the influence of the Project). Water quality generally appears good, and water discharge from the Project would not have had an impact on the catchment considering the results also provided within section 3.4 above.

Table 8: Offsite Upstream & Downstream Water Quality Data

Location	Upstream / Downstream	Date	Purpose of Monitoring	Turbidity (NTU)	EC (µS/cm)	Dissolved oxygen (%)	pH
Boggo Road ^[1]	Downstream	2/12/2021	Post Rainfall	50.80	832	89.1	7.37
Woolloongabba	Upstream	2/12/2021	Post Rainfall	302.00	292	68.9	6.74
Woolloongabba	Downstream	2/12/2021	Post Rainfall	285.00	299	70.09	6.65
Roma Street	Upstream	2/12/2021	Post Rainfall	224.00	426	65.34	7.62
Roma Street	Downstream	2/12/2021	Post Rainfall	221.00	330	64.15	7.65
Northern Portal	Upstream	2/12/2021	Post Rainfall	12.22	563	83.16	8.00
Northern Portal	Downstream	2/12/2021	Post Rainfall	11.39	566	87.91	8.04
Albert Street	Upstream	2/12/2021	Post Rainfall	237.00	308	65.34	7.15
Albert Street	Downstream	2/12/2021	Post Rainfall	265.00	303	65.34	6.96
Boggo Road ^[1]	Downstream	10/12/2021	Monthly	64.00	534	.. ^[2]	7.48
Woolloongabba	Upstream	10/12/2021	Monthly	73.20	5,470	.. ^[2]	7.19
Woolloongabba	Downstream	10/12/2021	Monthly	62.60	6,440	.. ^[2]	7.35
Albert Street	Upstream	10/12/2021	Monthly	33.30	13,800	54.65	7.18

Location	Upstream / Downstream	Date	Purpose of Monitoring	Turbidity (NTU)	EC (µS/cm)	Dissolved oxygen (%)	pH
Albert Street	Downstream	10/12/2021	Monthly	29.80	16,600	55.83	7.28
Roma Street	Upstream	15/12/2021	Monthly	10.99	21,600	75.04	7.46
Roma Street	Downstream	15/12/2021	Monthly	12.43	20,100	70.2	7.45
Northern Portal	Upstream	15/12/2021	Monthly	4.84	928	118.61	8.21
Northern Portal	Downstream	15/12/2021	Monthly	2.31	942	107.72	8.18

- [1] Monitoring at the Boggo Rd site occurs at a pipe outlet at the beginning of the surface catchment. There is no upstream/downstream monitoring point as such. The pipe outlet receives water released from the site, as well as a broader stormwater catchment.
- [2] Surface water samples were issued to ALS; however, the samples were damaged during transportation.

4 Non-Compliances

Details of non-compliances are provided in accordance with Imposed Condition 6(b)(ii).

A Non-Compliance Event is defined as project works that do not comply with the Imposed Conditions. Nil non-compliances occurred during the monitoring period.

Table 9: Non-Compliance Events this Month

Event Title	Location, Date, and time of the event	Date the Event was Formally Notified to CG/IEM	Conditions Affected	Date the Event Report Formally Sent to CG/IEM	Status of Event
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Nil

5 Complaints

Reporting of complaints is provided below in accordance with Imposed Condition 6(b)(iii).

During December 2021, sixteen (16) complaints relating to the Project were received, as detailed in Table 10 below.

Table 10: Summary of Complaints

No.	Date	Location	Description of Issue	Responses	Status of Event
1.	2 Dec 21	Roma Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Roma Street precinct.</p> <p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Roma Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
2.	3 Dec 21	Mary Street (Albert Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Albert Street precinct.</p> <p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Albert Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
3.	11 Dec 21	Herschel Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Roma Street precinct.</p> <p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Roma Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
4.	11 Dec 21	Herschel Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Roma Street precinct.</p> <p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Roma Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed

No.	Date	Location	Description of Issue	Responses	Status of Event
5.	12 Dec 21	Herschel Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Roma Street precinct.</p> <p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Roma Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
6.	12 Dec 21	Herschel Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Roma Street precinct.</p> <p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Roma Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
7.	13 Dec 21	Herschel Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Roma Street precinct.</p> <p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Roma Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
8.	14 Dec 21	Herschel Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Roma Street precinct.</p> <p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Roma Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed

No.	Date	Location	Description of Issue	Responses	Status of Event
9.	14 Dec 21	Roma Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Roma Street precinct.</p> <p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Roma Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
10.	14 Dec 21	Herschel Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Roma Street precinct.</p> <p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Roma Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
11.	15 Dec 21	Albert Street (Albert Street Precinct)	Noise and Alleged Property Damage	<p>A stakeholder contacted the Project regarding noise and alleged property damage from the Albert Street precinct.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise and vibration requirements, and the works undertaken were consistent with the community notification.</p>	Closed
12.	14 Dec 21	Herschel Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Roma Street precinct.</p> <p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Roma Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
13.	14 Dec 21	Roma Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Roma Street precinct.</p>	Closed

No.	Date	Location	Description of Issue	Responses	Status of Event
				<p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Roma Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	
14.	16 Dec 21	Herschel Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Roma Street precinct.</p> <p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Roma Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
15.	16 Dec 21	Roma Street (Roma Street Precinct)	Noise	<p>A stakeholder contacted the Project regarding noise from the Roma Street precinct.</p> <p>CBGU provided the stakeholder with an overview of the works occurring and their duration at the Roma Street precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance.</p> <p>CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.</p>	Closed
16.	21 Dec 21	Albert Street (Albert Street Precinct)	Worker Behaviour	<p>A stakeholder contacted the Project regarding a CBGU employee not wearing appropriate PPE.</p> <p>CBGU investigated the event and reminded the employee about appropriate PPE requirements.</p>	Closed