Cross River Rail Project

Monthly Environmental Report

September 2021

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Executive Summary

This Monthly Environmental Report (MER) has been produced for Project Works undertaken on site for September 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 CBGU 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 against 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) raised in September 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 have 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 – Refer to **Appendix A (Sections 3.1.2 and 3.1.4,** and **Table 4)**. TSD – Refer to **Appendix B (Section 3.2** and **Table 3)**.
	Vibration – Project Works must aim to achieve vibration goals for cosmetic damage, human comfort and sensitive building contents.	Yes	RIS – Vibration monitoring was not required during the reporting period. TSD – Vibration monitoring was undertaken to validate predicted vibration assessments and in response to a vibration related complaint. The TSD contractor confirmed the monitoring results met project requirements. Refer to **Appendix B (Section 3.1** and **Table 2)**.
12.	**Property damage** – relating to ground movement.	Yes	RIS – Predictive 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.

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
			TSD – Vibration modelling has been prepared and is ongoing. Where required, building condition survey reports are completed for heritage and residential buildings. A property damage enquiry was received from Brisbane City Council (BCC). Upon investigation, CBGU-JV confirmed the vibration levels experienced from project works were well below the goals for cosmetic damage and the cracks were not caused by Project works.
13.	**Air quality** – Works must aim to achieve air quality goals for human health and nuisance.	Yes	RIS – Project Works met air quality goals. Refer to **Appendix A (Sections 3.2**, **Tables 7, 8 and 9**, and **Figures 1, 2 and 3)**. TSD – Air quality results reported met air quality goals. Refer to **Appendix B (Sections 3.3. 1 and 3.3.2**, and **Tables 4 and 5)**.
14.	**Traffic and transport** – Works must minimise adverse impacts on road safety and traffic flow.	Yes	Traffic Management Plans covered in the CEMPs and Sub-plans for all active worksites have been reviewed by the EM and implemented on site.
15.	**Water quality** – Works must not discharge groundwater from the construction site above the relevant environmental values and water quality objectives. Monitor and report on water quality in accordance with CEMP and Sub-plans.	Yes	Monitoring and reporting on groundwater and surface water quality was undertaken in accordance with RIS and TSD Water Quality Management Plans. RIS – No groundwater discharges occurred for the month. Post-rainfall monitoring was not triggered. TSD – Four groundwater discharges reported from Roma Street, Albert Street, Woolloongabba and Boggo Road worksites were inconsistent with water quality objectives however consistent with pre-construction water quality levels. No external influences were introduced by the construction activities. Refer to **Appendix B (Table 6)** for ground water monitoring results. Refer to **Appendix B (Tables 7 and 8)** for surface water monitoring results.
16.	**Water resources** – Evaluate potential impact, plan works, implement controls and monitor inflow of groundwater associated with drawdown.	Yes	RIS – There will be 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

Imposed Condition	Requirement Summary	Compliance Met (Yes/No/NA)	Comment
			potential inflow rates into excavations during construction has been undertaken. TSD – Inflow of groundwater into the worksites is being continously monitored to validate the predictive modelling.
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.
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 September 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	*State Development and Public Works Organisation Act 1971*
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.

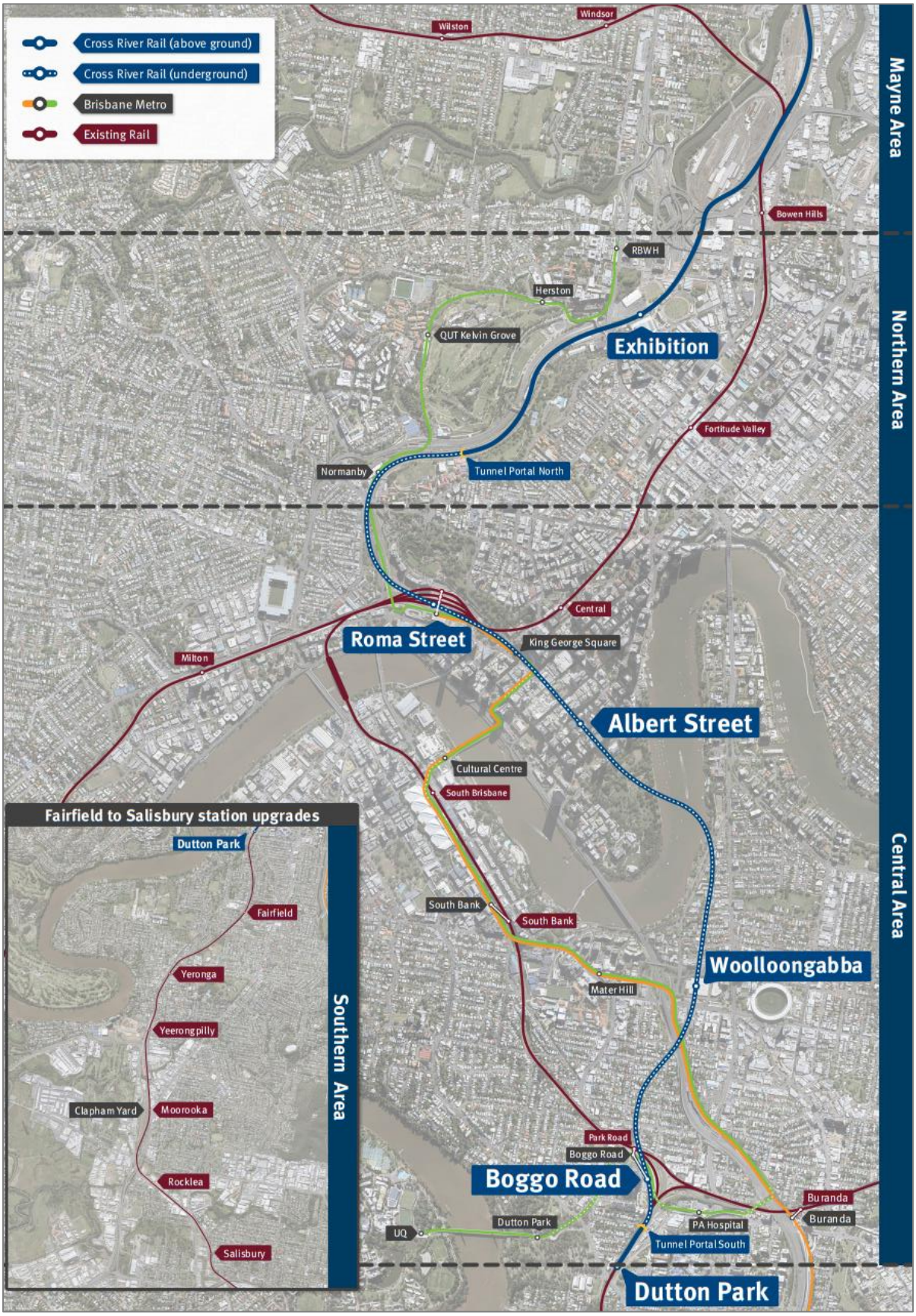
The two main delivery packages which require reporting under the Coordinator-General's imposed conditions are:

- 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.


Cross River Rail (above ground)
Cross River Rail (underground)
Brisbane Metro
Existing Rail
Mayne Area
Northern Area
Central Area
Southern Area
Windsor
Wilston
Bowen Hills
RBWH
Herston
QUT Kelvin Grove
Exhibition
Fortitude Valley
Normanby
Tunnel Portal North
Central
Roma Street
King George Square
Milton
Albert Street
Cultural Centre
South Brisbane
South Bank
South Bank
Woolloongabba
Mater Hill
Park Road
Boggo Road
Boggo Road
Buranda
Buranda
PA Hospital
Dutton Park
UQ
Tunnel Portal South
Dutton Park
Fairfield to Salisbury station upgrades
Dutton Park
Fairfield
Yeronga
Yeerongpilly
Clapham Yard
Moorooka
Rocklea
Salisbury

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 September 2021:

Area	Project Works
Mayne Area	**Mayne Yard North** – • Tripod Bridge (BR11/13) form-reo-pour (FRP) on pile caps and load transfer platforms for RSS walls complete • Crew Change Building structural steel complete • Ferny Grove Flyover pier protection works and CIP piling • Civil scope including stabling yard fence installation, drainage works, combined services routes (CSR) and capping continue. • BR08 temporary works rock platform continues • Pre wet season audit on Erosion and Sediment Control management by external Certified Professional in Erosion and Sediment Control (CPESC) completed.
Northern Area	**Northern Corridor** – • Piling on Bowen Bridge pier protection; • Victoria Park TBM access track construction. • Pier protection at O'Connell Terrace Bridge; and • Construction of retaining wall RW260 **RNA** – • BR43 western viaduct FRP works on pile caps and blade walls complete; and • Rock excavation for drainage scope. **Northern Portal** – • TBM extraction box excavation and retention works ongoing; • Ongoing capping beam pours and deck units installation; and • Gantry crane delivered and assembled onsite for TBM extraction.
Central Area	**Roma Street** – • Services building excavation and ground retention continues at bench 13/14 of 15 in progress;

Area	Project Works
	• Station building excavation and retention works in progress with bench 5 and 6 in progress; • TBM #2 relaunch commenced; • Cavi drain installation and invert slab pours ongoing; and • Inner Northern Busway (INB) pile cap construction and excavation in progress.
	Albert Street – • Lot 1 – station box excavation and ground retention continues, southern half of station box blast complete, • Lot 2 – station adits, cavi drain and water proofing works ongoing and northern heading excavation nearing completion (88%); and • Lot 3 – excavation continuing (26% complete), ongoing ground retention with row 2 anchors nearing completion on wall TSW3.
	Woolloongabba – • Station jump form system complete to lift 8, next lift 9 underway; • Climbtrack system on SW2 and SW8 undertook lift 7 and lift 6 pours respectively; • Southern cavern headwall permanent lining complete and 5 of 11 permanent lining arch sections complete; • TBM #1 (Else) progressing from Roma Street Station cavern towards the Northern Portal completing 1642 rings by the end of September; • TBM #2 (Merle) has traversed through Roma Street cavern and commenced its relaunch; • Road header downline achieved breakthrough at Boggo Road station on the 24 Sep 21 after excavating approx. 870m; • Road header upline achieved breakthrough at Boggo Road station on the 20 Sep 21 after excavating approx. 865m.
	Boggo Road – • Station box excavation complete; • Ongoing wall formwork installation and steel fixing; • Ongoing slab, cavi drain and invert works; • Cavern waterproofing works ongoing; and • Steel fixing of kickers and the headwall commenced
	Southern Portal – • Capping beam construction ongoing (58% complete); • Detailed excavation and shotcrete within cut and cover trough; • Sewer and stormwater micro tunnelling from Shaft 3B to Shaft 4 complete; • Pier protection works for the Freight Flyover ongoing. • SCAS 72 (Dual Gauge Closure) and SCAS 73 (Middle Road Closure) ongoing including: track slab water proofing, piling, base slab pouring etc.
Southern Area	**Dutton Park** – • Retaining wall capping beam pours ongoing. **Yeronga Station** – • Platform 3 precast retaining wall installation; • Relocation of temporary overpass support towers; and • Hydraulics and conduit installation and combined service routes **Clapham Yard** – • Earthworks continues with ongoing material import for core embankment construction.

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.

In the Northern Area, noise monitoring was undertaken to validate predictive modelling at sensitive places during excavation, concrete works, and spoil haulage at the Northern Portal during standard hours. Noise monitoring was also undertaken in response to a complaint during rock-breaking at RNA Showgrounds. Noise levels met project requirements. Monitoring results for the Northern Area are detailed in Table 3, **Appendix B.**

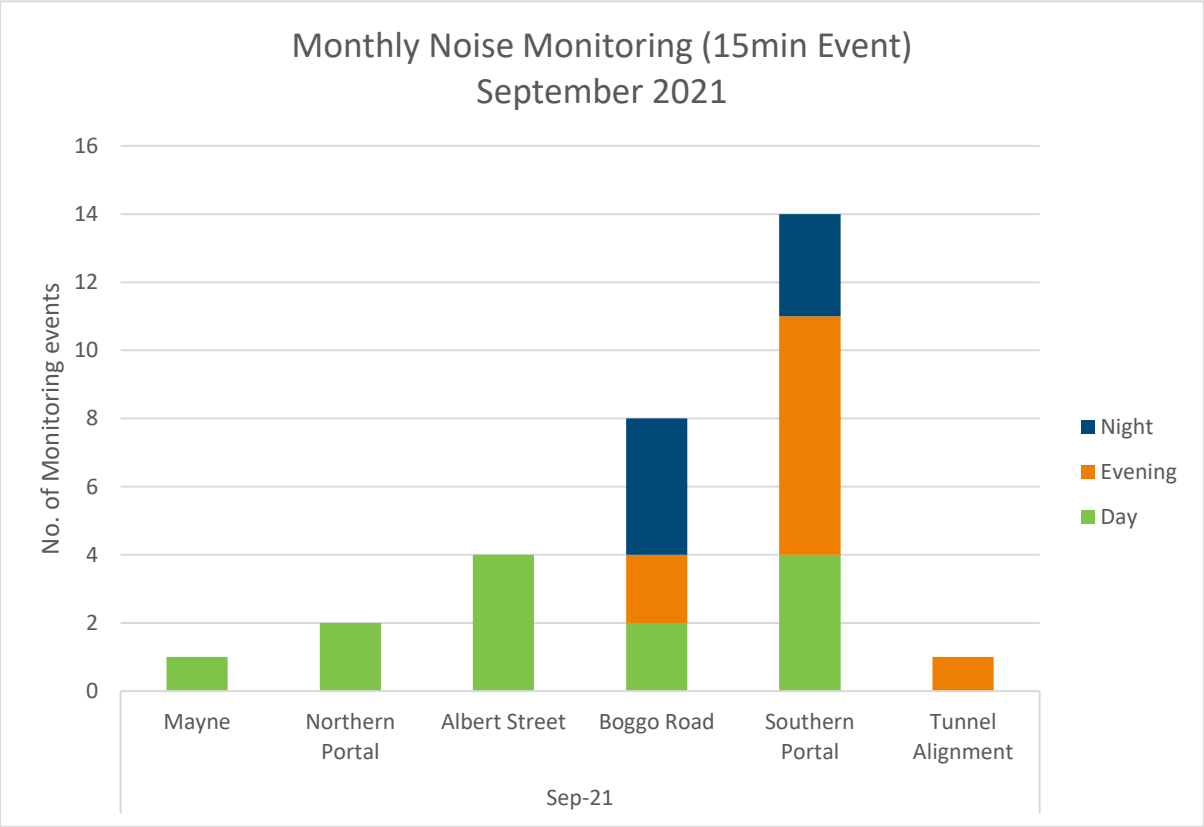
In the Central Area, noise monitoring was undertaken to validate predictive modelling at sensitive places close to the project worksites and in response to noise complaints. Monitoring results for the Central Area are detailed in Table 3, **Appendix B**. The TSD contractors reported that the project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

In the Southern Area, noise monitoring was undertaken to validate the predictive model using buffer distance validation testing during rock breaking of foundation slabs at Clapham Yard during standard hours and during track works at Sensitive Places during standard and non-standard hours in Annerley. Monitored noise levels and community engagement prior to works met project requirements. Noise monitoring in response to complaints was not triggered. Monitoring results for the Southern Area are detailed in Table 4, **Appendix A**.

Examples of noise management measures on the Project worksites include:

- using plant and equipment separately adjacent to sensitive receptors;
- purpose built noise barriers on the sites or site boundary;
- change in plant type, such as at Boggo Road/Southern area where an almost silent sheet-piling machine had been sourced in place of one with a much higher sound power level;
- acoustic spoil sheds;
- positioning of equipment on site to maximise the effects of the site layout and barriers such as the spoil shed itself or other workshops; and
- noise blankets, such as those applied on the Woolloongabba site to further mitigate noise from tonal plant and equipment.

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



2.2.2. Vibration

Vibration monitoring in Mayne, Northern and Southern Areas was not triggered.

In the Central Area, vibration monitoring took place to validate predictive modelling for tunnelling and controlled blasting activities at Albert Street and along the tunnel alignment including Quarry Street and King George Square. One complaint relating to noise and vibration was received during the reporting period in relation to Non-Standard works in the Northern Portal. The reported results met the project's nominated goals. Vibration monitoring results for the Central Area are detailed in **Appendix B** (Table 2).

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 goal[1]. A summary of dust deposition monitoring is provided in the table below.

[1] CG air quality goal for dust deposition - 50µg/m^3 (over an averaging period of 24 hours).

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 (PM_{10}) and total suspended particulates (TSP) was conducted at Mayne, Northern, Central and Southern Area worksites.

The Clapham Yard air quality unit experienced anomalous data with abnormally low readings from 2 to 12 September. The source of the failure could not confirmed but appears to be, likely due to an instrumentation error with not enough air volume being drawn through the device. This issue has now self-rectified. There were no high-risk air quality activities occurring during the period of the power outage with PM_{10} and TSP levels significantly lower than project air quality goals throughout the remaining portions of September.

The Woolloongabba air quality unit experienced technical difficulties and stopped functioning between 11-30 September. Multiple troubleshooting attempts failed to fix the issue, so the equipment was returned to the manufacturer and a hire unit was procured. The selected supplier is located in Victoria and the delivery of the equipment has been delayed due to Covid 19 lockdowns. The review of nearby DES air quality monitoring stations (South Brisbane) demonstrated PM_{10} levels between 11-30 September were compliant with project air quality goals.

The Albert Street air quality unit experienced a technical fault and stopped functioning on 5, 6 and 30 September. A review of the nearby DES air quality monitoring stations (Brisbane CBD) demonstrated PM10 levels on 5, 6 and 30 September were compliant with project air quality goals.

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

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. - Monitoring unit experienced a technical fault with no results on the 5,6 and 30 September.
	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. - Monitoring unit experienced a technical fault with no valid results on 11-30 September.
Southern Area	Clapham Yard	Clapham Yard	- Results met air quality goals. Anomalous data was recorded for 11 days from 2-12 September due to an instrumentation error.

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

In the Mayne and Northern, Central and Southern Areas, post rainfall monitoring was not triggered, and no active surface water discharges occurred.

Routine monitoring was undertaken at the receiving waters of all TSD worksites in accordance with Water Quality Management Plan. Results are detailed in **Appendix B** (Table 8).

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

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	No	No	- Post-rainfall monitoring was not triggered.
Northern Area	Northern Portal	No	No	Yes	- Routine monitoring undertaken in accordance with the WQMP.
Central Area	Albert Street	No	No	Yes	- Routine monitoring undertaken in accordance with the WQMP.

Surface Water Quality Monitoring					
Area	**Worksite**	**Discharge**	**Post-Rain Monitoring**	**Routine Monitoring**	**Comments**
	Boggo Road	No	No	Yes	- Routine monitoring undertaken in accordance with the WQMP.
	Roma Street	No	No	Yes	- Routine monitoring undertaken in accordance with the WQMP.
	Woolloongabba	No	No	Yes	- Routine monitoring undertaken in accordance with the WQMP.
	Southern Portal	No	No	Yes	- Routine monitoring undertaken in accordance with the WQMP.
Southern Area	Clapham Yard	No	No	Yes	- Post-rainfall monitoring was not triggered.

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 and Boggo Road worksites. Two groundwater discharges from late last month at Albert St and Woolloongabba have been included in this month's report as the laboratory results were not available for last month's report. The groundwater discharge results reported for the month exceeded the Project's water quality objectives (WQO's)[2] for total nitrogen, ammonia nitrogen, oxidised nitrogen, organic nitrogen, and dissolved oxygen. These result 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 (dewatering) occurred late last month and reported this month. - Discharge of groundwater did not meet Project WQO's but was generally consistent with pre-construction conditions and no external influences were introduced by construction activity.
	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 and no external influences were introduced by construction activity.
	Roma Street	Yes	- Groundwater discharge (dewatering).

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

Groundwater Quality Monitoring			
Area	**Worksite**	**Discharge**	**Comments**
			- Discharge of groundwater did not meet Project WQO's but was generally consistent with pre-construction conditions and no external influences were introduced by construction activity.
	Woolloongabba	Yes	- Groundwater discharge (dewatering) occurred late last month and reported this month. - Discharge of groundwater did not meet Project WQO's but was generally consistent with pre-construction conditions and no external influences were introduced by construction activity.
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.

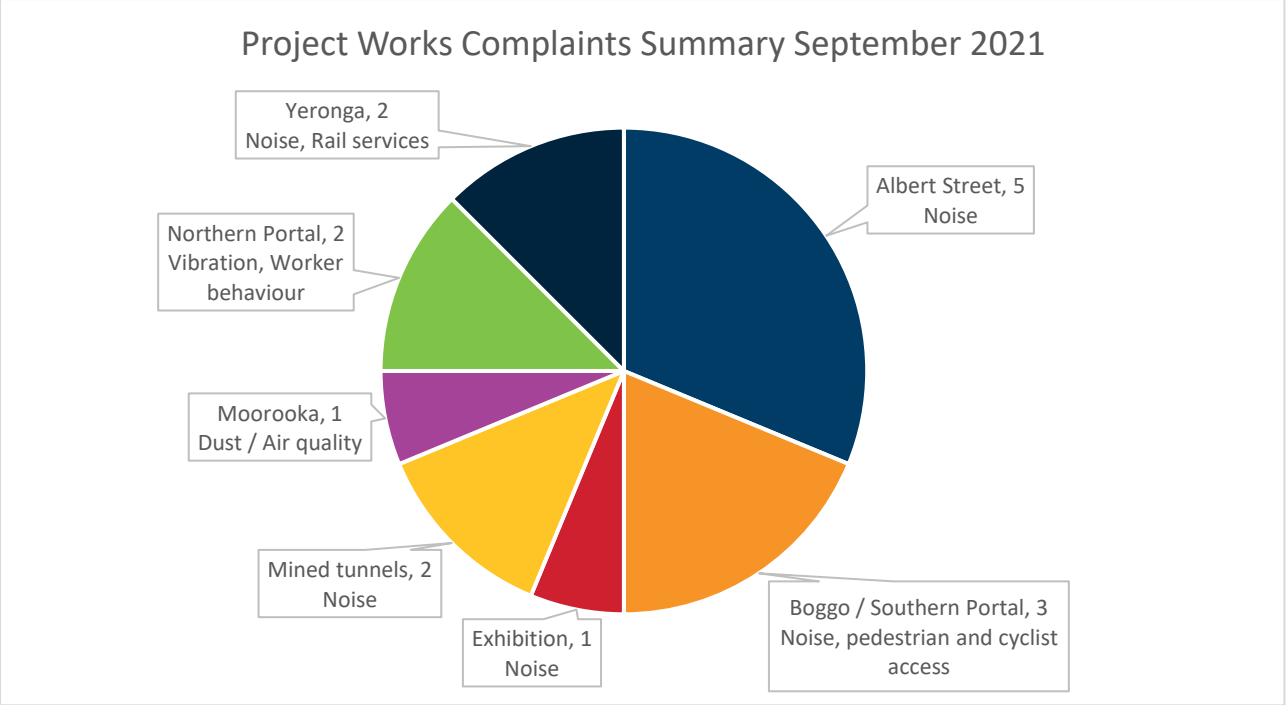
2.3. Complaints Management

A total of 19 complaints were received during the month, of which three were not related to Project Works.

RIS works received 5 complaints this month related to works at RNA, Clapham, Yeronga, and Fairfield worksites. The Fairfield complaint was in relation to Public Utility Plant (PUP) works which is not included as Project Works under the Coordinators Generals conditions. The RIS contractors determined that project requirements were met on all occasions. For further details on close-out of complaints refer to **Appendix A,** Table 3.

TSD activities received 12 complaints related to project works at Albert Street and Boggo Road worksites and along the mined tunnel alignment. The TSD contractors reported that project requirements have been met during this reporting month. The Project Works complaints summary for the month is provided in the following chart.

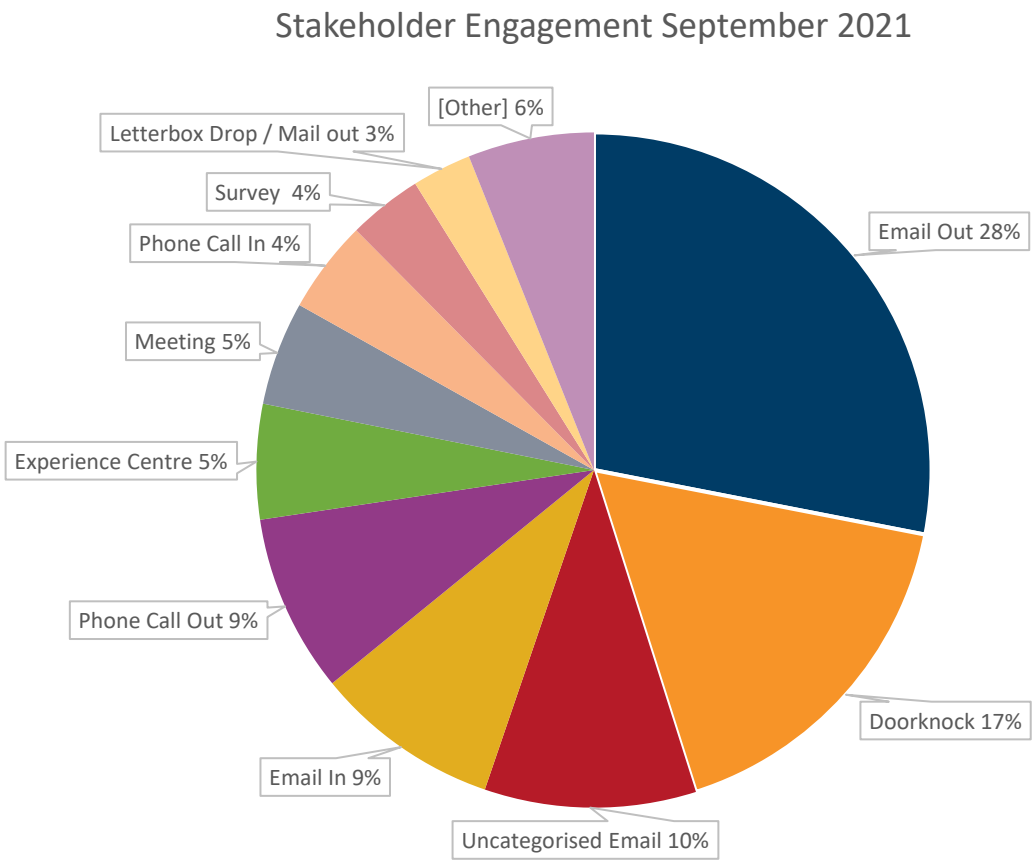
In addition to the complaint summary provided within Section 5 of Appendix B (TSD Monthly Report), two government agencies contacted the Project on 30 September 2021 in relation to fine spoil material on the road from the Woolloongabba site. Electronic correspondence was also received by a governmental department, and a single social media comment was posted.



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 further details on close-out of complaints refer to **Appendix B,** Table 10.

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.



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** – • Commence establishment of crib facilities for building scope under Ferny Grove Flyover; • Track construction; and • Piling for temporary jetty for Breakfast Creek Bridge.
Northern Area	**Northern Corridor** – • Preparation works for extended SCAS #8 (end of October); • OHLE foundations installation; • Normanby sewer relocation; and • TBM removal. **RNA/Exhibition** – • Complete rock excavation for western corridor widening. **Northern Portal** – • Handover of TBM extraction box to the tunnelling team in October; • Blinding of TBM extraction box in late October; • Breakthrough of TBM #1 and TBM #2 in mid-November, early December respectively.
Central Area	**Roma Street –** • recommence adit blasting in October

Area	New planned works in the coming months
	• INB underpinning pile cutting to commence in October **Albert Street –** • Lot 1 – controlled blast in October followed by excavation and ground retention works to recommence; • Lot 2 – completion of cavern heading excavation. **Woolloongabba –** • TBM backups and conveyor systems to be completely removed by mid-December; • Stations team to be given access to southern cavern from October to commence internal cavern fit out; and • Back of house 11th lift to reach ground level in late October. **Boggo Road –** • Cavern lining formwork commencing late October / early November; and • Wall 9 second jump pour in October. **Southern Portal –** • Continue utility relocation and Middle Road possession works in the rail corridor in September and October; • Installation of deck units and concrete pour on top of the units in October; • SCAS possession works in October including middle road track re-installment, XO-B1 crossover and freight flyover pier protection backfill; • Micro tunnelling from Shaft 4 to Shaft 8 and from Shaft 3B to Shaft 1A to commence in October; and • Geotechnical and contaminated land investigations upcoming.
Southern Area	**Yeronga Station –** • Platform 1, 2 and 3 FRP and slab works; and • Relocation of temporary overpass support columns; **Clapham Yard –** • Commence site establishment of offices; • Preparation works and investigations for piling scope and drainage works; 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 – September 2021

Cross River Rail – Rail, Integration and Systems Alliance

Assured Integration for a New Era

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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	• **Mayne Yard North** Mayne Yard Site Office reconfiguration completed to accommodate ongoing work Crew Change Building structural steel completed Graffiti Removal Facility – in-ground services and FRP scope continuing Yard – Capping placement commenced at Road 9-11 Yard – Hydraulic scope in Yard is continuing Yard – Stabling Yard Fencing, Drainage and CSR are continuing Yard – Shunt Road earthworks commenced Tripod Bridge (BR11/13) – Blade wall FRP commenced Tripod Bridge (BR11/13) – Load Transfer Platforms (LTPs) for RSS Walls RW110, RW120, RW125 completed Breakfast Creek Bridge (BR08) – temporary works rock platforms commenced
• Northern Area	• **RNA** BR43 FRP on pile caps and blade walls continues Pier 5-8 and falsework for deck Pier 1-4 commenced Drainage scope through RNA (Stage 1) continuing Remove and replace and rock excavation for RW210-1 completed and FRP for RW210-2 commenced. • **Northern Corridor** Piling on Bowen Bridge Pier Protection (RC22/23) completed FRP scope on Bowen Bridge Pier Protection (RC22/23) nearing completion with only two pile caps and four walls remaining Drainage works south of Bowen Bridge is nearing completion with only DL241 pit remaining Pier Protection at O'Connell Terrace RC21 nearing completion with one wall remaining in extended SCAS #8 Rock excavation for western corridor widening completed with detailed rock excavation commencing for drainage scope Retaining Wall RW260 FRP continuing
Southern Area	• **Yeronga Station** Completion of Platform 2/3 piling Relocation of Platform 1 and 2/3 temporary overpass support towers Completion of Platform 3 precast retaining wall installation including backfill • **Clapham Yard** Earthworks continued

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

The following table summarises the upcoming Project Works:

Table 2: Summary of upcoming Project Works

Area	Project Works
Mayne Area	• **Mayne Yard North** Pre wet season audit on Erosion and Sediment Control management by external Certified Professional in Erosion and Sediment Control (CPESC) Continue with civil scope in Yard including fencing, drainage, CSR, hydraulics, subsoils, capping Continue with Graffiti Removal Facility FRP and hydraulics scope Commence with Crew Change Building roofing and cladding Traction Feed Route works from Abbotsford Road Feeder Station to BCTSC Finish OHLE Foundations and structure install in Mayne Yard North Commence track construction.
Northern Area	• **RNA** Continue FRP BR43 scope, blade walls and viaduct deck Commence RW210-1 RSS wall installation Continue steel bridge off-site manufacturing for installation in Feb 2022 extended SCAS Continue drainage at Southern section (Stage 1). • **Northern Corridor** Complete Retaining Wall RW260 Continue FRP for Bowen Bridge pier protection Complete western corridor detailed rock excavation Preparation works for Extended SCAS #8 (end October), which is the last freight-free SCAS before the switch of EXH Stage 2 in September 2022 Commence OHLE foundations through corridor.
Southern Area	• **Yeronga Station** Yeronga Station Platform 1, 2 and 3 FRP slab works Yeronga Station installation in inground pits, conduits and hydraulic services Yeronga Station Platform 1 and 2/3 lifts pits and overpass pile cap FRP Yeronga Station installation of Platform 1 and 2/3 canopy structures Continuation of CSR works through corridor. • **Clapham Yard** Pre wet season audit on Erosion and Sediment Control management by external Certified Professional in Erosion and Sediment Control (CPESC) Continue earthworks scope Commence office extensions Commence drainage Commence piling for retaining walls RW260 and RW265.

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	Location	Issue	Activity source of the concern	Period	Unity Response	Status
31/08/21	Yeronga	Noise	Night Works at Yeronga Station associated with jackhammering / rock-breaking for the removal of the redundant station (timber) stair footings close to Fairfield Road.	Out of Hours Approved Rail and Road Possession	The Unity team received the complaint on 03 September 2021, once the night works were completed and therefore could not carry out noise monitoring as a response to the complaint. The stakeholder is located approximately 125m away from the Project Works. The Unity Team reviewed the outputs of the predictive noise model and identified that the stakeholder would have been likely to experience internal noise levels of 60dBA which are less than the noise goal +20dBA. Similar activities and plant and equipment at Yeronga Station had previously been monitored and confirmed that the predictive noise model is reliable in predicting noise levels at Sensitive Places. The works were also authorised to proceed under Imposed Condition 10 as they were associated with an approved Rail Possession and Road Occupation permit. An Out of Hours Work Permit had been approved and the Stakeholder was also notified of the works prior to them occurring. The Project Works were therefore compliant with the Imposed Conditions. The Project Team also contacted the Stakeholder to advise on how they could get directly in contact with the Team for any future enquiries.	Closed

Date	Location	Issue	Activity source of the concern	Period	Unity Response	Status
03/09/21	Clapham Yard	Dust	No specific activities noted by the stakeholder	Not applicable	The Stakeholder advised that they had recently identified the deposition of back dust at their property that they believed may have originated from the Clapham Railway Yard. The stakeholder resides 170m east from the Clapham Yard Project Boundaries. The Unity team reviewed; • the air quality results for PM10 and TSP and • the associated weather patterns, • and the Project Works and air quality mitigation measures implemented over a period ranging from mid-August to 03 September. The review identified that it was unlikely the dust deposition was because of the Project Works. The project team contacted the stakeholder to advise them of their findings and provide the stakeholder with further information about the Clapham Yard Works.	Closed
08/09/21	Yeronga	Transport	Yeronga station closure	Standard Working Hours	The stakeholder advised they had sustained an injury due to having to seek alternative transport modes because of the Yeronga Station Closure. The Stakeholder had been advised of the closure and the alternative public transport solutions that would be made to the community. The Stakeholder had elected an alternative transport solution.	Closed
08/09/21	Fairfield	PUP	Energex Works	Standard Working Hours	The stakeholder contacted the project team t advise them they had lost internet access due to Energex works being performed to support the Project Works. The Project Team advised the stakeholder that her complaint had been passed onto Energex for them to support a resolution.	Closed

Date	Location	Issue	Activity source of the concern	Period	Unity Response	Status
13/09/21	RNA	Noise	Rock breaking O'Connell Terrace	Standard Working Hours	The Unity team undertook external noise monitoring The monitoring confirmed compliance with the Project's noise goals (Imposed Condition 11a).	Closed
13/09/21	RNA	Noise	Rock breaking O'Connell Terrace	Standard Working Hours	The Unity team undertook external noise monitoring The monitoring confirmed compliance with the Project's noise goals (Imposed Condition 11a).	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 (CEMP) occurs.

3.1.1 Noise Monitoring

Attended noise monitoring was not triggered based on the predictive noise assessments for the Relevant Project Works during the reporting period.

Complaint-based noise monitoring because of Project Works was triggered at the RNA showgrounds. Noise monitoring was carried out in the afternoon of 13 September 2021, the results of which are presented in Table 4.

Whilst complaint-based noise monitoring because of Project Works was triggered at Yeronga, the complaint was received after the Relevant Project Works were completed and therefore was not carried out.

3.1.2 Noise monitoring Results

The below table summarises the noise monitoring results for 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, LA_{10} noise goals.

The second performance goal (herein referred to as Performance Goal 2), is determined as per (Condition 11(c), using Table 2 LA_{10} noise goal and adding + 20dBA.

An exceedance (predicted or measured) of either of these performance goals does not necessarily represent a potential or actual Non-Compliance Event.

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 two 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 Attachment 6.

Attachment 6 must be read in conjunction with 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 and Receiver Type Details	Type of Monitoring	Working Hours	Noise Type	Purpose of Monitoring	Predictive model LA_{10} (dBA)	Performance Goal 1 (dBA) (Condition 11(a), Table 2, LA_{10} 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
Residential 6 Tufton Street Bowen Hills	Attended Outdoors[1]	Standard Hours Monitoring undertaken Monday 13 September 2021 13:18	Intermittent	Construction Monitoring at Sensitive Places Model Verification	80-85 (outdoors)	**Standard Hours** 65 (Outdoors) (AS2107 maximum design level [45dBA] + 10dBA + 10dBA façade reduction)[2]	**Standard Hours** 85 (Outdoors) (65 + 20dBA)	83 (Outdoors)	81 (Outdoors)	Yes Standard	**Standard** Exceedance of Performance Goal 1 No Exceedance of Performance Goal 2	Rock breaking at O'Connell terrace – Northern side For interpretation, please refer to 3.1.4.1

- 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, in particular, 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 Queensland[1].
  - Additionally, a number of 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 not required during the reporting period based on the predictive vibration assessments for specific activities and previous validation monitoring having been undertaken.

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 vibration Level (mm/s)	Vibration goal for receiver (mm/s)	Exceedance of vibration limit?	Comments
None required for the reporting period									

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

3.1.4 Interpretation

3.1.4.1 Noise Monitoring[2]

3.1.4.1.1 Rock Breaking – Northern Side of O'Connell Terrace

Noise monitoring of rock breaking works on the northern side of O'Connell Terrace during standard working hours during was undertaken externally. Monitoring was carried out at as a response to noise complaints received the same day.

Noise mounting was carried out at the façade of the affected sensitive place. The sensitive place was identified as a residential DAP.

Monitoring was undertaken during standard construction hours to inform whether the works were exceeding the noise goals + 20dBA.

The measured LA_{10} readings were compliant with the Imposed Conditions for works during standard hours.

Prior to this monitoring event a total of 22 instances of attended noise monitoring had already been carried out at the same sensitive place since September 2020. Most of these monitoring events were to validate the noise emissions of rock breaking activities in the corridor.

Previous monitoring events included attended outdoors monitoring and attended indoors monitoring with windows closed and opened.

The latter were undertaken to validate the standard façade attenuation factor of 10dBA that is applied to outdoors monitoring event.

The attended indoor monitoring event identified that the following typical noise reductions through the building façade

- 10 dB – Window wide open
- 20 dB – Windows closed

Therefore, the monitored noise levels were unlikely to exceed the Noise Goal + 20dBA indoors.

The works were authorised to proceed under Imposed Condition 10 as they were carried out during standard surface works hours. 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.

3.1.4.2 Vibration Monitoring

No vibration monitoring was required for the reporting period.

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 CEMP occurs.

Visual monitoring was undertaken during routine environmental inspections. A total of 19 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.

[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

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	Inactive DDG was removed on 23 July and reinstated on 12 August 2021.
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 – New Location	Active Abnormal data sets (low readings) were recorded from 02 to 12 September 2021 which are likely representative of an equipment error. This data set is therefore deemed non reliant for the purpose of compliance assessment
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 13 August 2021 to 12 September 2021.

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

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	63	33	17	37
Total Rainfall during Period	12.4	16.6	13.6	13.6

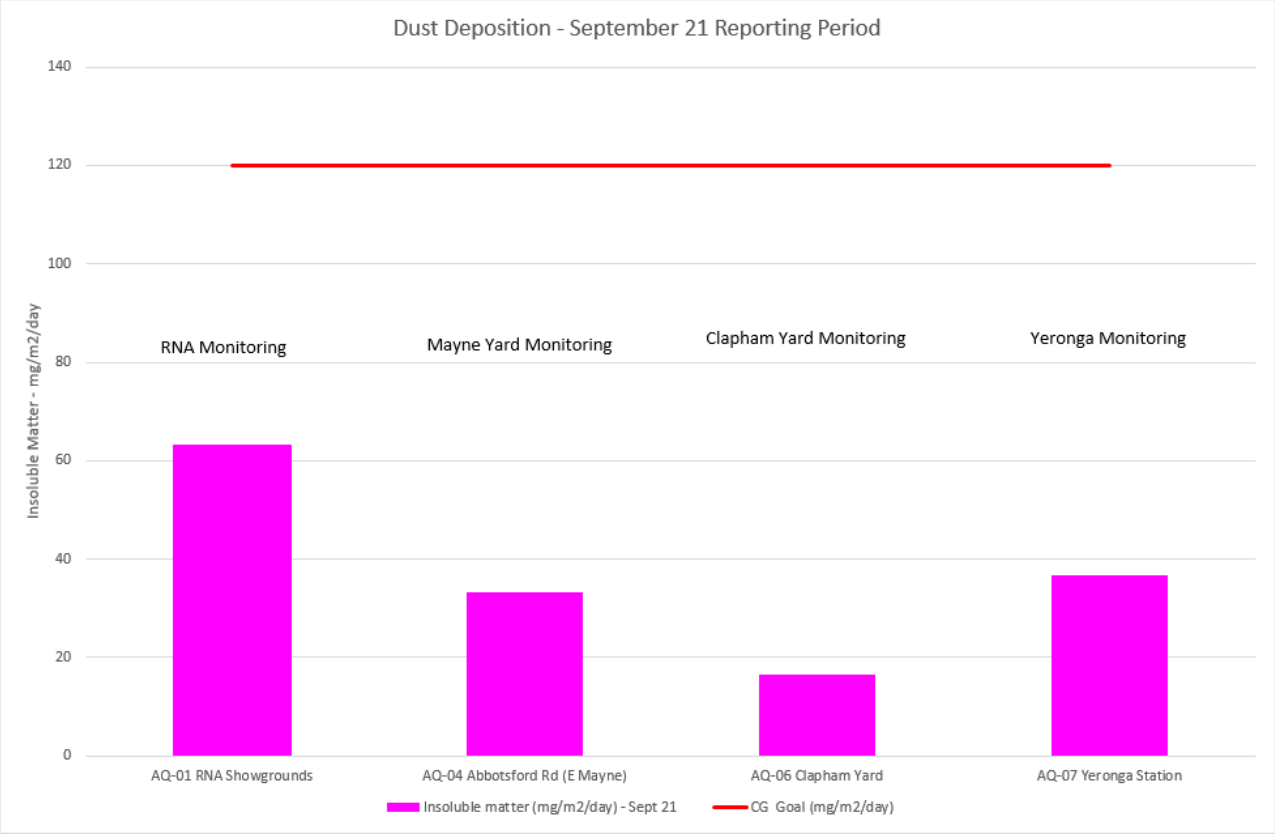


Figure 1 Air Quality Monitoring (Deposited Dust) Results

3.2.2 Particulates results

3.2.2.1 Air Quality Monitoring Stations

Unity had three (3) active air quality monitoring stations set up for the reporting period as detailed in Table 6. The Clapham Yard station experience an equipment malfunction which resulted in abnormally low TSP and PM_{10} reading for a period of 11 days. The exact source of the failure could not be found, however is likely due to instrumentation error. It has also self-rectified.

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 µg/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 µg/m^3 (over an averaging period of 24 hours) the project must aim to achieve under Imposed Condition 13(a).

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

The results are represented in the below figures.

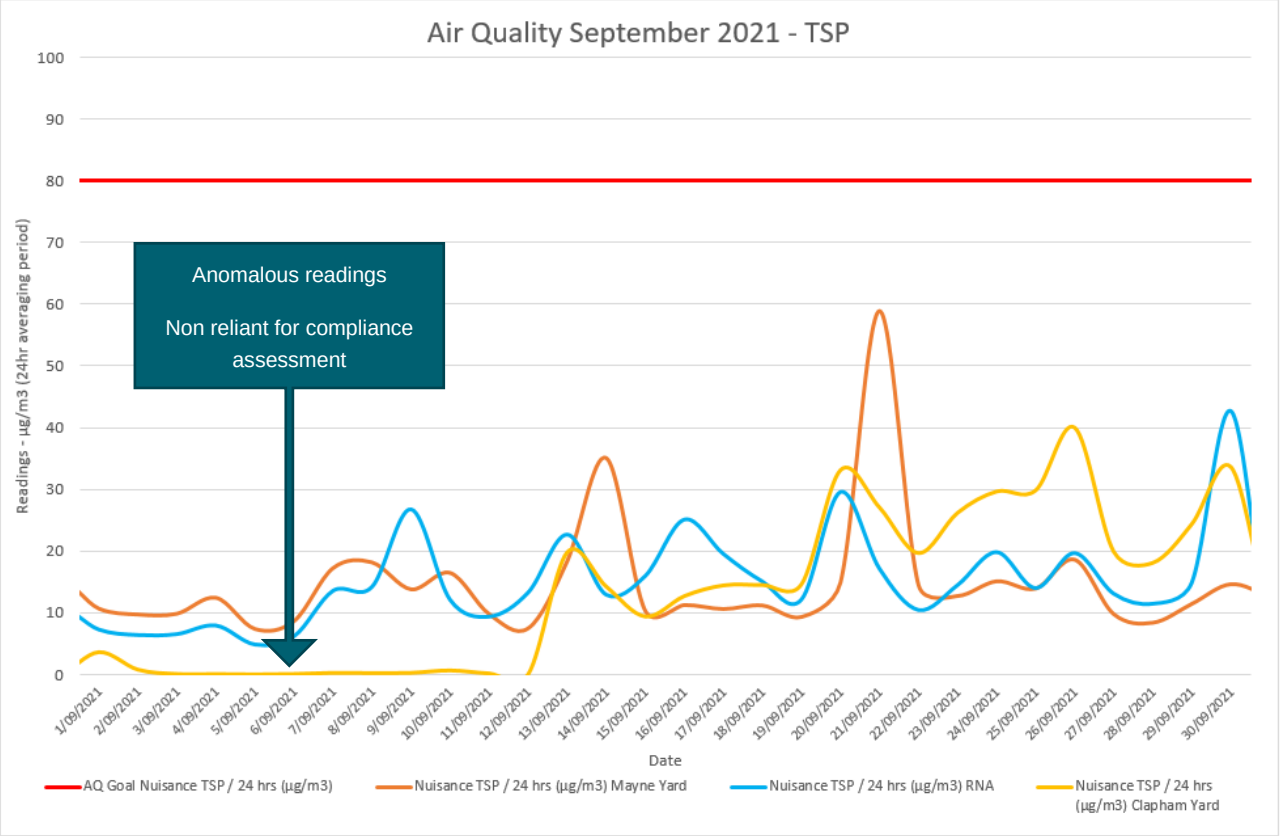


Figure 2 Air Quality Monitoring (TSP) Results

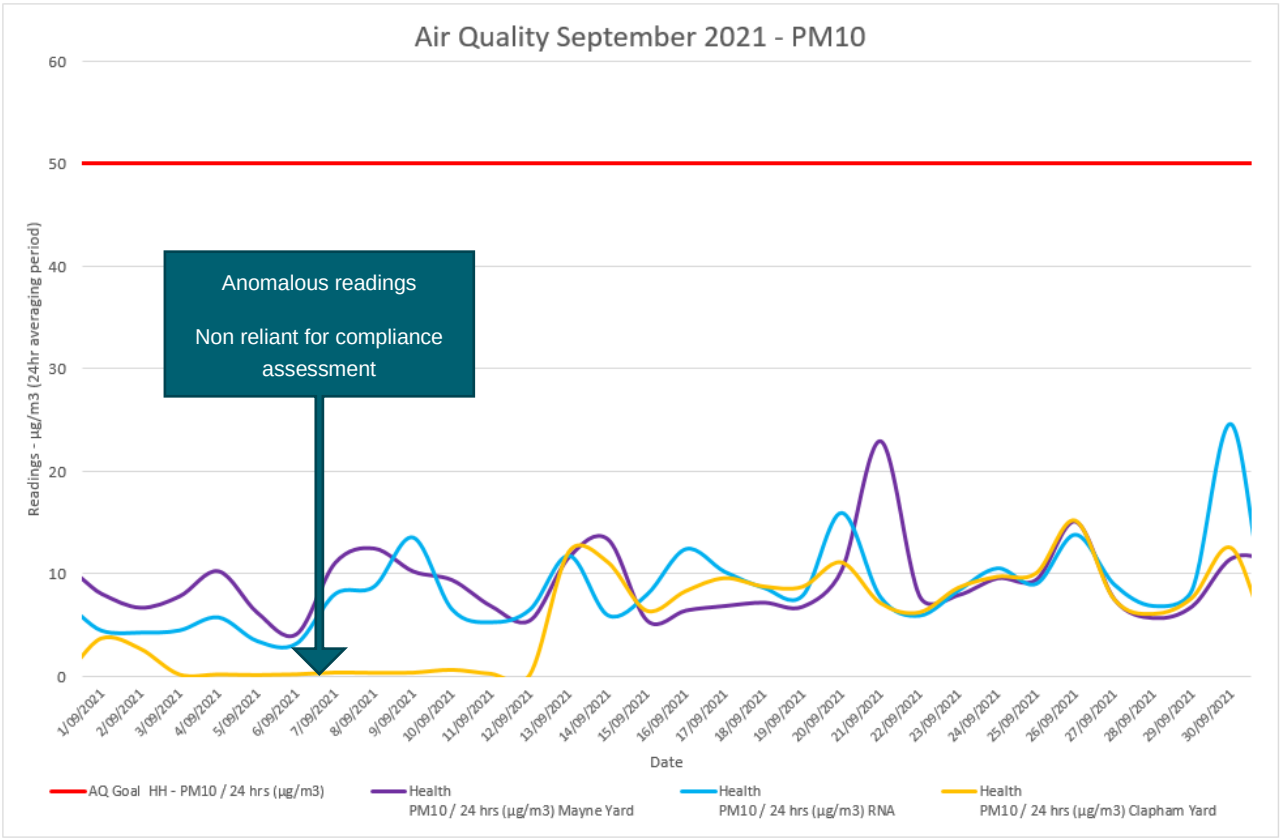


Figure 3 Air Quality Monitoring (PM_{10}) Results

3.2.2.3 Monitoring results – Annual averaging

Imposed Condition 13 (a) sets annual average air quality goals for TSP (Human health) and PM_{10} (Human health).

The below table summarises where TSP and PM_{10} monitoring has 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 PM_{10} monitoring were 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	*Indicative only* 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) 162 over 162 days	**Period 1** 98% over 365 days **Period 2** 100% Over 162 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

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	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) 111 over 111 days	**Period 1** 86% over 365 days **Period 2** 100% Over 111 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	193 (over 242 days)	79% over 242 days	**Not Applicable** Data capture has not yet met the minimum data capture requirements

The below table summarises the applicable and indicative annual data results for TSP and PM_{10} 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	Not applicable
		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	Not applicable
		Period 2	-	Not applicable	Not applicable	-

3.2.3 Interpretation

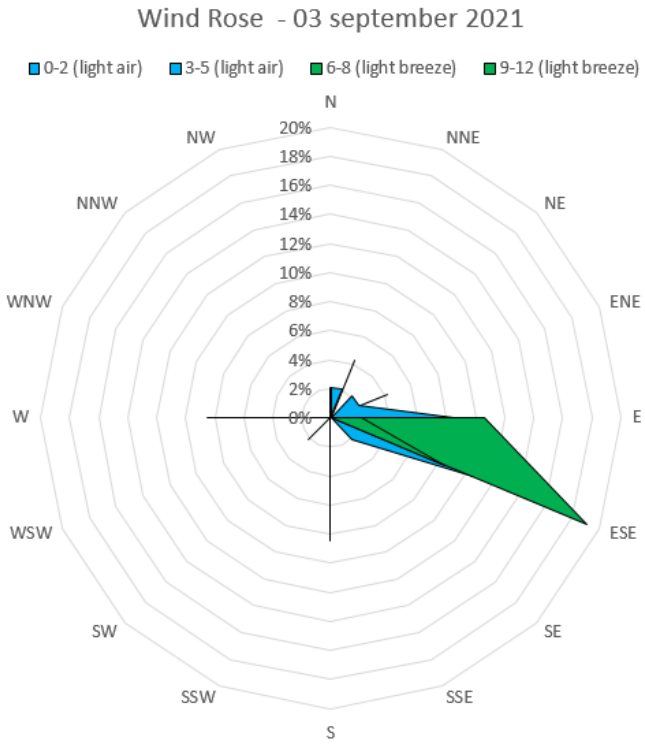
During the reporting period:

- None of the particulate results exceeded their relevant goals
- There was no evidence of dust being generated and leaving the site boundaries
- There was one complaint received associated with air quality concerns nearby Clapham Yard.

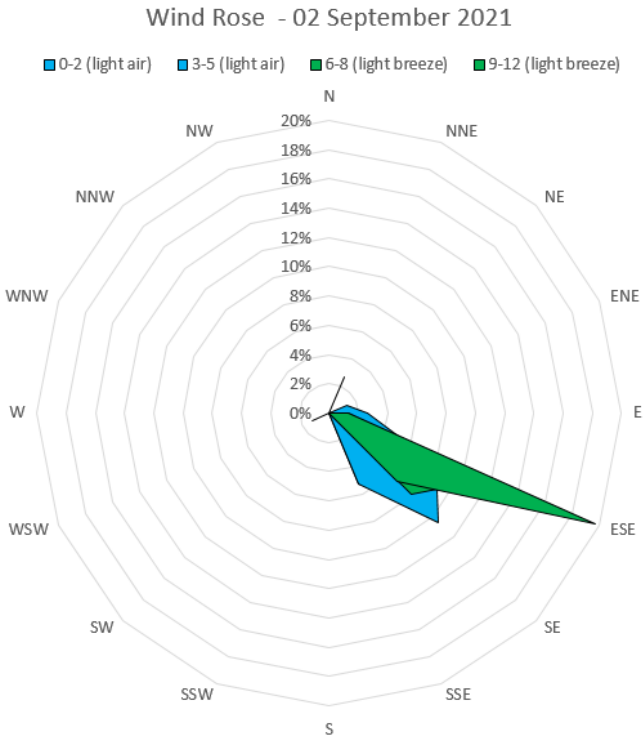
For the latter, the Project Team investigated whether the complaint was likely related to Project Works by undertaking a review of the validated air quality data and weather conditions on the day of the complaint (03 September) and leading up to the complaint.

The Stakeholder is located due east from the Project Works at Clapham Yard.

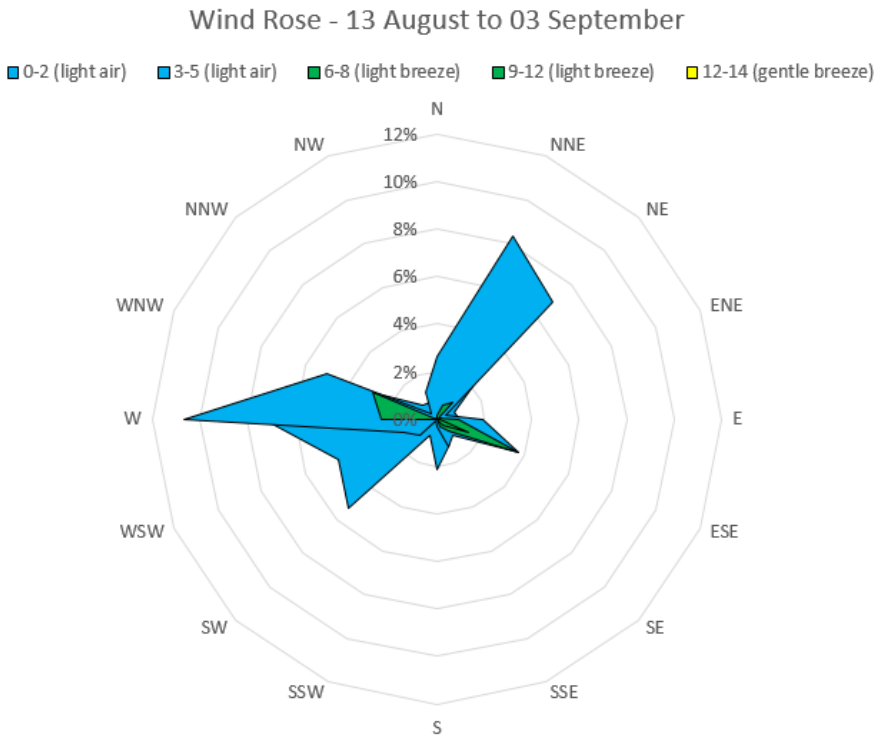
On 03 September 2021, the predominant winds ranged from light air (55%) to light breeze (45%) under the Beaufort Scale with the stakeholder being located upwind of the Project Works at Clapham Yard for 77% of the day.



On 02 September 2021 (the day prior to the complaint) the predominant winds also ranged from light air (53%) to light breeze (47%) under the Beaufort Scale with the stakeholder being located upwind of the Project Works at Clapham Yard for 99% of the day.



For the Period ranging from 13 August to 03 September the predominant winds also ranged from light air (85%) to light breeze (15%) under the Beaufort Scale with the stakeholder being located upwind of the Project Works at Clapham Yard for 45% of the period and downwind of the Project Works at Clapham Yard for 48% of the period.



During the same period a dust deposition gauge was in place which was located between the Project Works and the stakeholder. The deposited dust results for the period spanning 13 August 2021 to 12 September 2021 did not exceed the relevant Air Quality Goals.

Furthermore, the validated TSP and PM_{10} data for the two weeks leading up to the complaint confirmed there were no exceedances of the Project Goals for the 24 hours averaging period.

It is therefore concluded that the dust deposition observed by the stakeholder is unlikely to be a result from the Project Works. Annual averages for TSP and PM_{10} did not exceed the relevant goals.

It is also noted that whilst equipment failure at Clapham Yard resulted in a loss of data capture for the period ranging from 02 to 12 September 2021, the deposited dust results for the period ranging from 13 August to 12 September 2021 did not exceed the relevant air quality goal.

For the period ranging from 13 to 30 September 2021 the PM_{10} and TSP results did not exceed their relevant air quality goal.

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 CEMP, 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 not triggered. The rain event recorded during the reporting period at Clapham Yard did not result in run-off being generated from the active worksite.

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

3.3.1 Rainfall Records

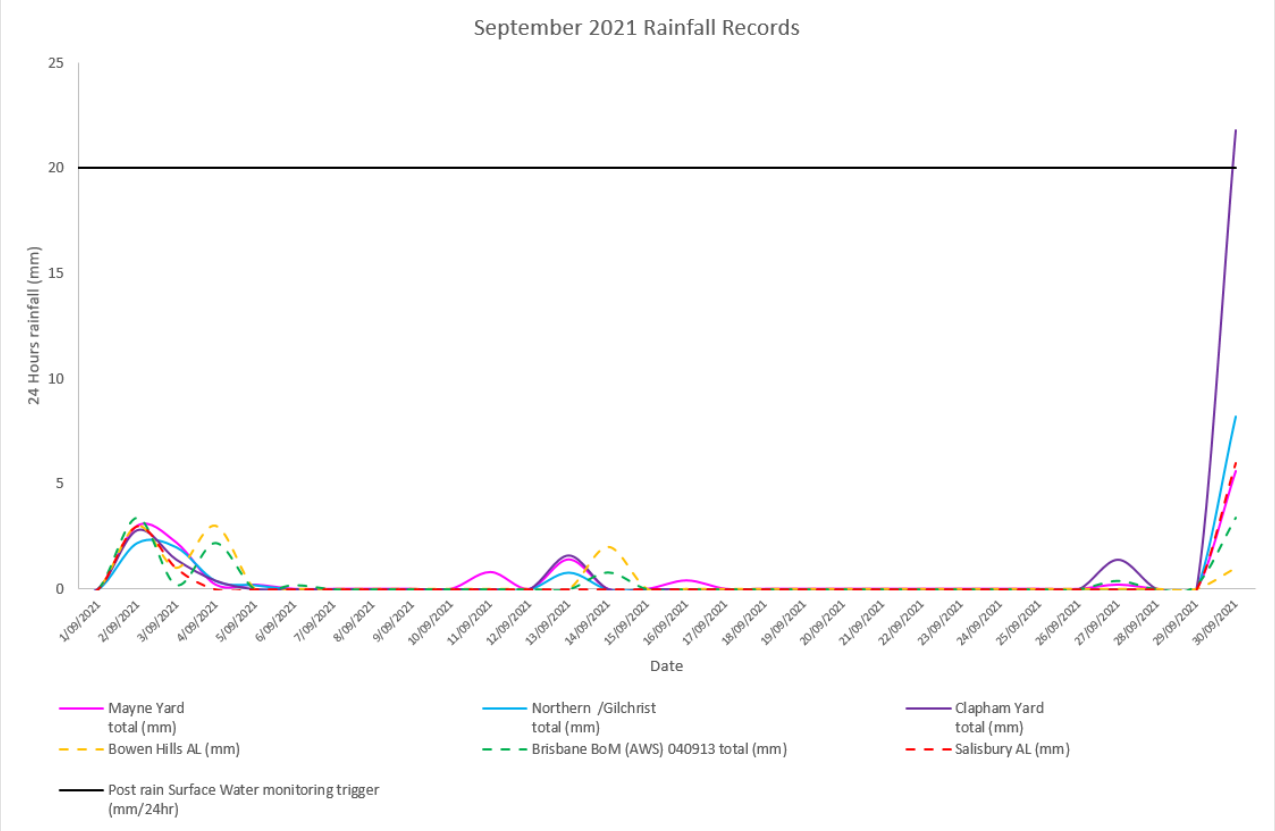


Figure 4 Rainfall Records

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 the higher intensity may cause run-off which would also trigger post-rain monitoring consistent with the C-EMP.

The rainfall experience at the Clapham Yard site on 30 September 2021 did not result in off-site run-off being generated.

This was confirmed by an inspection caried out on 30 September 2021 of all the perimeter controls at Clapham Yard and Moolabin Creek (downstream location) following 21.8mm of rain.

In-situ post rainfall monitoring was therefore not triggered during the reporting period.

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

No in-situ post rainfall monitoring was undertaken during the reporting period.

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 10 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 CEMP Compliance

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

Table 11 CEMP and relevant Subplans monitoring requirements – Compliance Status for the reporting period

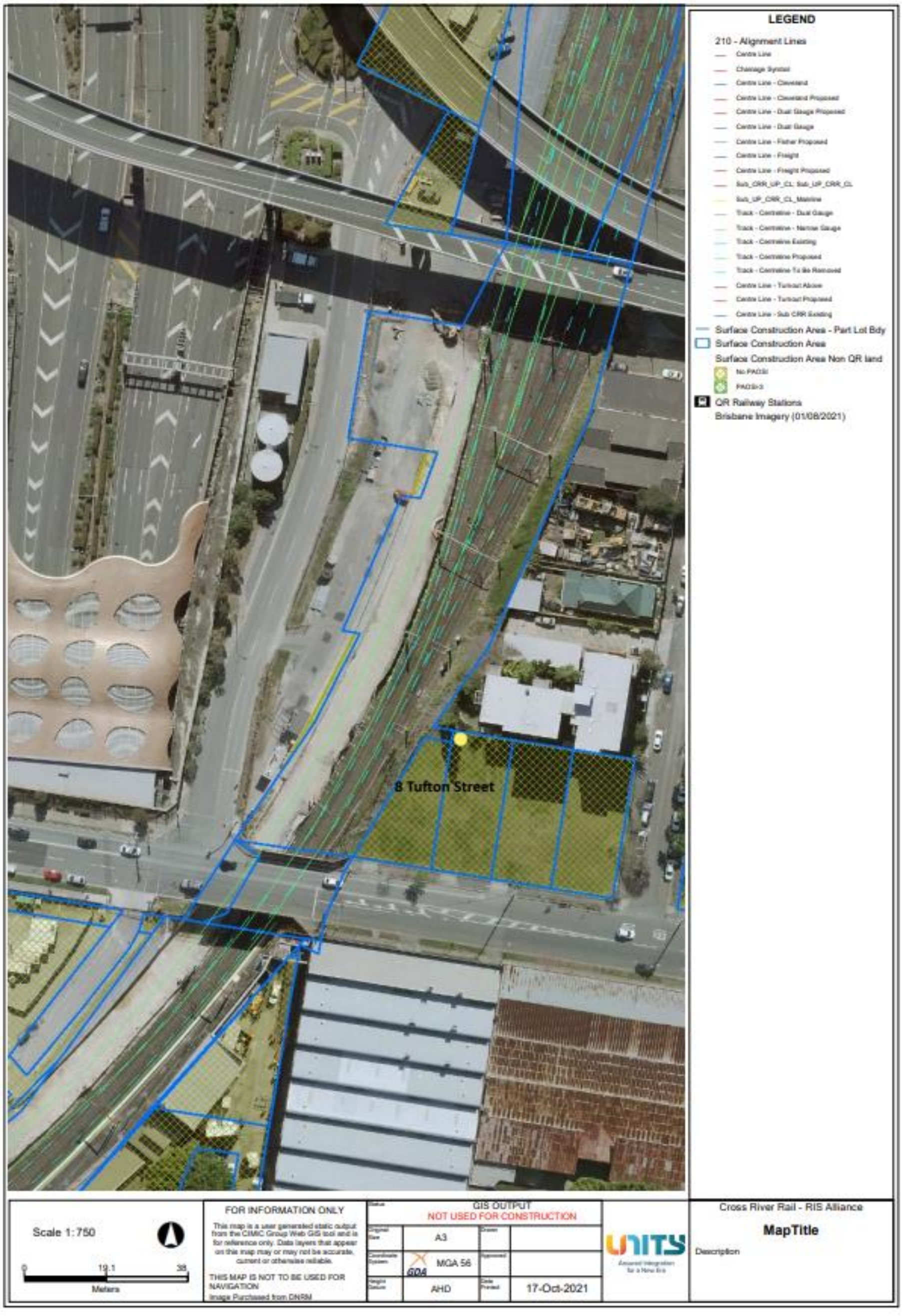
Aspect	Monitoring requirement	Activities risk profile	Monitoring undertaken	Compliance status with CEMP / Subplan	Effect of the non-compliance
Air Quality	Visual monitoring program + Additional particulate monitoring as required based on the outcomes of the predictive assessment/risk profile	Moderate 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	Review of the validated air quality data at Clapham Yard following one complaint	Compliant	Not Applicable
Noise	Buffer distance tests based on the outcomes of the predictive assessment based / risk profile of activities	Moderate to High	Not triggered	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, for the rock breaking works at the RNA Showground Site	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	Not triggered	Compliant	Not Applicable
Vibration	Complaint's response	Moderate to High	Not triggered – no complaints	Compliant	Not Applicable
Water Quality	Monthly monitoring	N/A	Not triggered	Compliant	Not Applicable
Water Quality	Post Rainfall	Moderate to High	Not triggered	Compliant	Not Applicable

Aspect	Monitoring requirement	Activities risk profile	Monitoring undertaken	Compliance status with CEMP / Subplan	Effect of the non-compliance
Water Quality	Dewatering	Moderate to High	Not triggered – no dewatering to receiving water systems	N/A	Not Applicable

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

None for this reporting period.

Attachment 2 Monitoring Locations – Noise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210 - Alignment Lines
Centre Line
Chainage Symbol
Centre Line - Cleveland
Centre Line - Cleveland Proposed
Centre Line - Dual Gauge Proposed
Centre Line - Dual Gauge
Centre Line - Fisher Proposed
Centre Line - Freight
Centre Line - Freight Proposed
Sub_CRR_UP_CL; Sub_UP_CRR_CL
Sub_UP_CRR_CL_Mainline
Track - Centreline - Dual Gauge
Track - Centreline - Narrow Gauge
Track - Centreline Existing
Track - Centreline Proposed
Track - Centreline To Be Removed
Centre Line - Turnout Above
Centre Line - Turnout Proposed
Centre Line - Sub CRR Existing
Surface Construction Area - Part Lot Bdy
Surface Construction Area
Surface Construction Area Non QR land
No PADSI
PADSI-3
QR Railway Stations
Brisbane Imagery (01/08/2021)
8 Tufton Street
Scale 1:750
0
19.1
38
Meters
FOR INFORMATION ONLY
This map is a user generated static output from the CIMIC Group Web GIS tool and is for reference only. Data layers that appear on this map may or may not be accurate, current or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION
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GIS OUTPUT
NOT USED FOR CONSTRUCTION
A3
GDA
MGA 56
AHD
17-Oct-2021
Cross River Rail - RIS Alliance
MapTitle
Description

Attachment 3 Monitoring Locations – Vibration

Not applicable for the reporting period

Attachment 4 Monitoring Locations – Air Quality

Legend

- Project Boundary RFPC - Permanent
- Project Boundary RFPC - Temporary Construction
- Project Boundary RFPC - Volumentric
- Brisbane Imagery (09/04/2021)
- DDG, PM10 and TSP
- PM10 and TSP
- DDG

Issue	Description	Date	Approved
A	FOR INFORMATION		

Scale 1: 10,000

508 0 254.0 508 Meters

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Status: GIS OUTPUT NOT USED FOR CONSTRUCTION

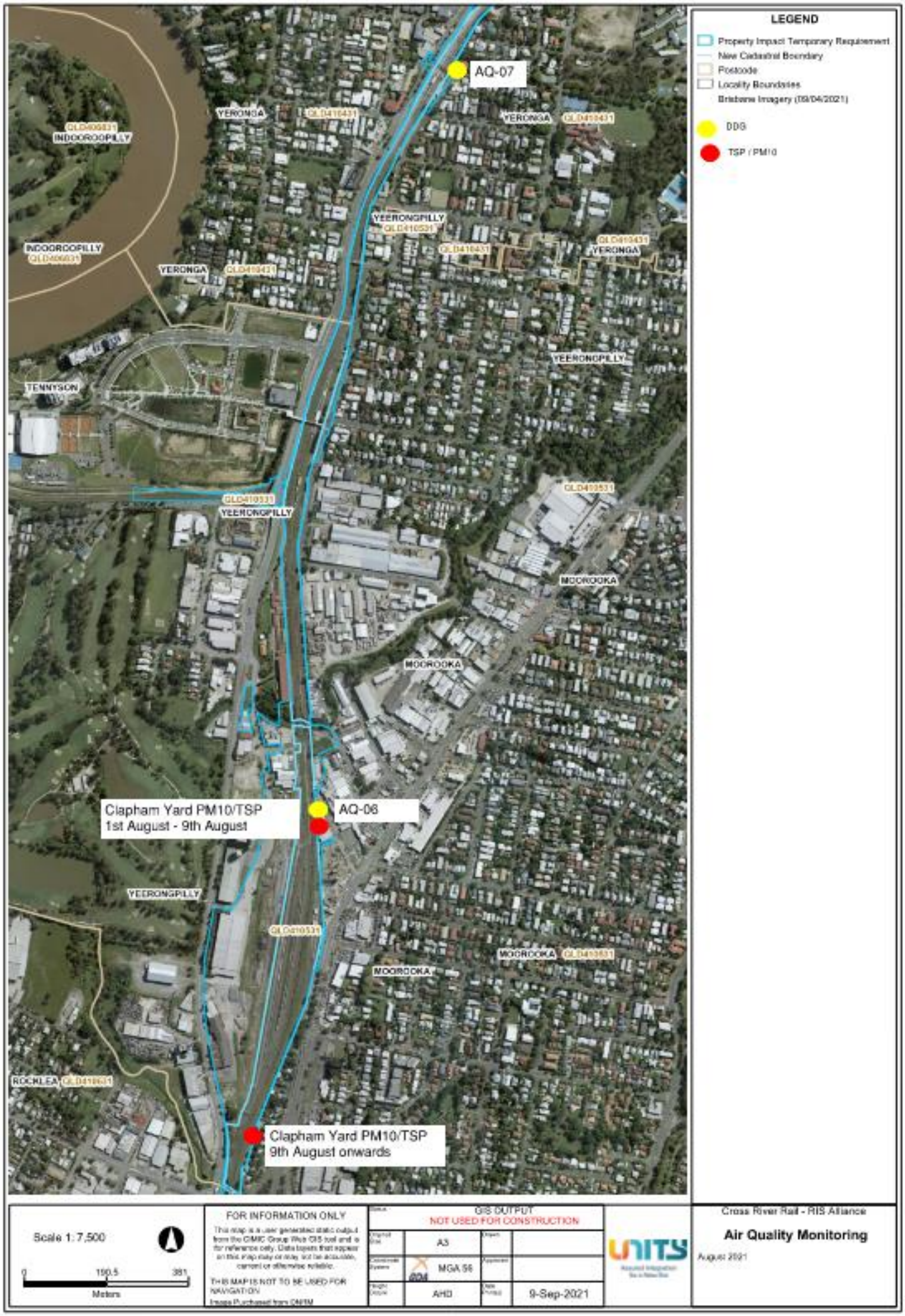
Original Size	A3	Drawn	
Coordinate System	GDA MGA94-56	Designed	
Height Datum	AHD	Date Printed	16-Aug-2021

Assured Integration for a New Era

Cross River Rail - RIS Alliance

Unity Alliance

AIR QUALITY MONITORING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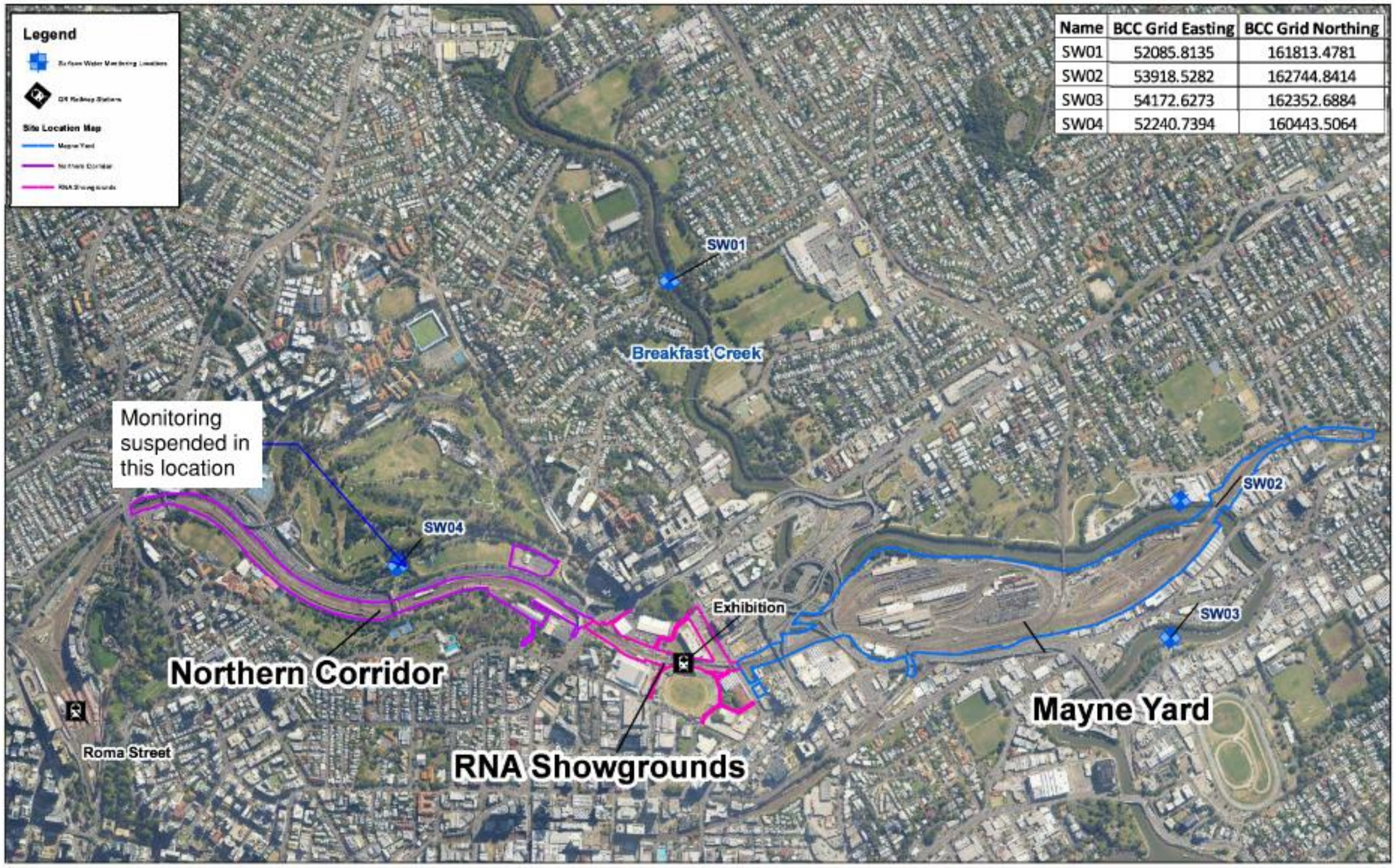
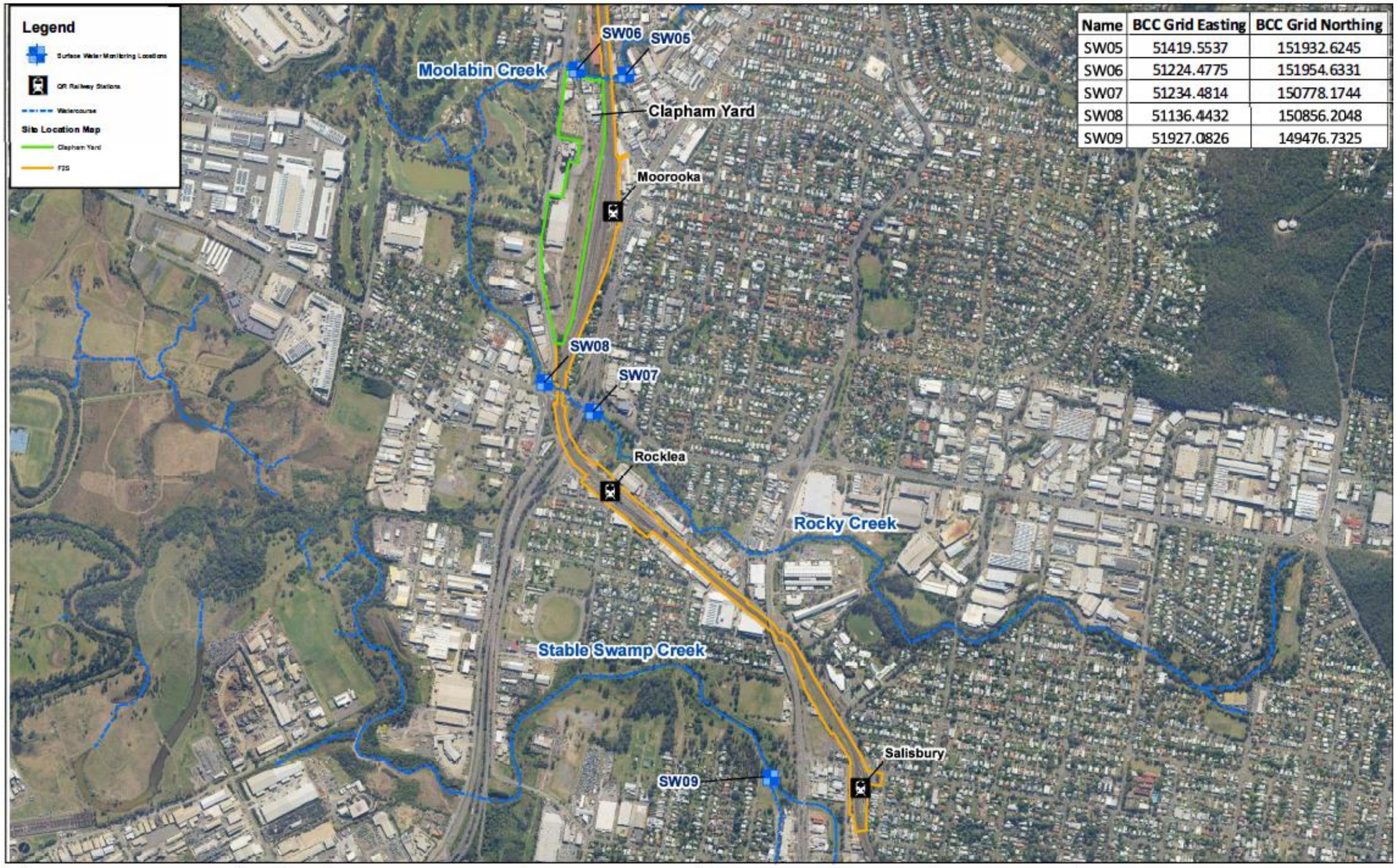
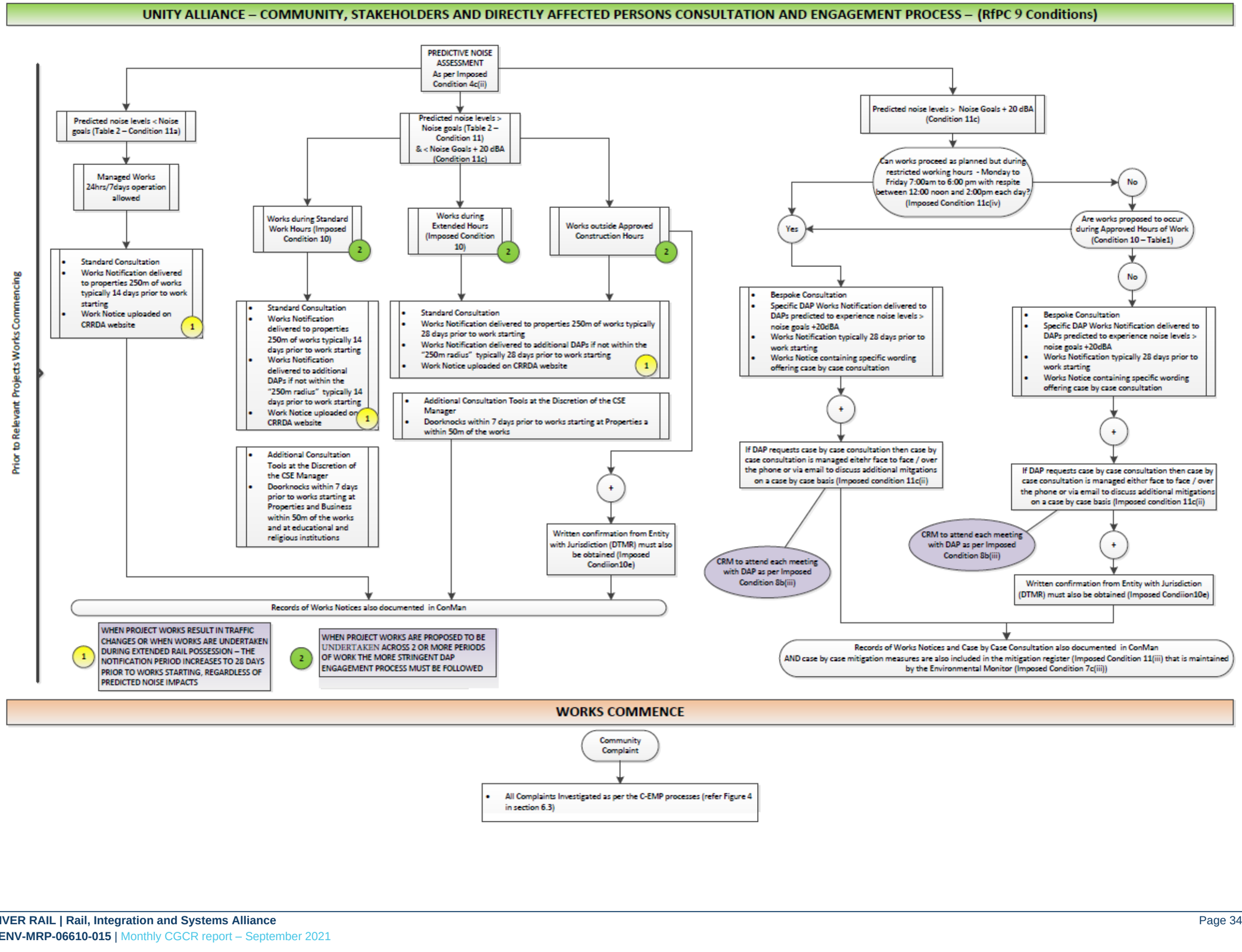
Property Impact Temporary Requirement
New Cadastral Boundary
Postcode
Locality Boundaries
Brisbane Imagery (09/04/2021)
DDG
TSP / PM10
AQ-07
AQ-06
Clapham Yard PM10/TSP
1st August - 9th August
Clapham Yard PM10/TSP
9th August onwards
INDOOROOPILLY
YERONGA
YEERONGPILLY
TENNYSON
MOOROOKA
ROCKLEA
Scale 1: 7,500
0
150.5
301
Meters
FOR INFORMATION ONLY
THIS MAP IS NOT TO BE USED FOR NAVIGATION
GIS OUTPUT
NOT USED FOR CONSTRUCTION
A3
MGA 56
AHD
9-Sep-2021
Cross River Rail - RIS Alliance
Air Quality Monitoring
August 2021

Attachment 5 Monitoring Locations – Surface Water


Legend
Site Location Map
Mayne Yard
Northern Corridor
RNA Showgrounds
Name | BCC Grid Easting | BCC Grid Northing
SW01 | 52085.8135 | 161813.4781
SW02 | 53918.5282 | 162744.8414
SW03 | 54172.6273 | 162352.6884
SW04 | 52240.7394 | 160443.5064
SW01
SW02
SW03
SW04
Breakfast Creek
Monitoring suspended in this location
Exhibition
Roma Street
Scale 1 : 12,000 cm
Issued for Information
Original Size A3
Drawn GIS
Coordinate System GDA 1994 BCSC07
Designed UNITY
Height Datum AHD
Date Printed 2/13/2020
Filename: Surface_Water_Northern_Area_Map.mxd
Project Wide Surface Water Investigation
Figure 1 - Surface Water Monitoring Locations
Project Number
Discipline ENV
Document PL
Document Number 002
Rev 1
1 Overview Map 17/03/2019 UNITY
Rev Description Date Approved


Legend
Surface Water Monitoring Locations
QR Railway Stations
Watercourse
Site Location Map
Clapham Yard
FDS
Moolabin Creek
SW06
SW05
Clapham Yard
Moorooka
SW08
SW07
Rocklea
Rocky Creek
Stable Swamp Creek
SW09
Salisbury
Name | BCC Grid Easting | BCC Grid Northing
SW05 | 51419.5537 | 151932.6245
SW06 | 51224.4775 | 151954.6331
SW07 | 51234.4814 | 150778.1744
SW08 | 51136.4432 | 150856.2048
SW09 | 51927.0826 | 149476.7325
0 100 200 400 600 m
Scale 1 : 12,000 cm
1 | Southern Overview Map | 17/09/2019 | Unity
Rev | Description | Date | Approved
Status
Issued for Information
Original Size | A3 | Drawn | GIS
Coordinate System | GDA 1994 BCSG02 | Designed | Unity
Height Datum | AHD | Date Printed | 2/13/2020
Filename: | Surface_Water_Southern_Area_Map.mxd
N
Project Wide Surface Water Investigation
Figure 2 - Surface Water Monitoring Locations
Project Number | Discipline | Document | Document Number | Rev
ENV | PL | 002 | 1

Attachment 6 DAP Engagement Process



Appendix B TSD Monthly Report

CBGU D&C JV

COORDINATOR-GENERAL'S MONTHLY REPORT: SEPTEMBER 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 seven (7) occasions, and noise monitoring was conducted on twenty-nine (29) occasions during September 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 September 2021. Air quality monitoring confirmed works adhered to project requirements.

Water quality monitoring was conducted before the release of water from the site on four (4) occasions. Each monitoring event confirmed project requirements were adhered to. One (1) round of surface water quality monitoring was 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 *Queensland Acid Sulfate Soil Technical Manual.*	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.

Seven (7) vibration monitoring sessions were conducted during September 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.	06/09/2021	10:04:00 AM	13/09/2021	Albert Street (Tunnel Alignment)	0.08	0.13	2	Heritage Structure	Yes
2.	07/09/2021	3:00:00 PM	15/09/2021	Quarry Street (Tunnel Alignment)	0.17	0.3	25	Commercial	Yes
3.	13/09/2021	8:45:00 AM	21/09/2021	Adelaide Street (Tunnel Alignment)	0.20	0.48	2	Heritage Structure	Yes
4.	13/09/2021	8:53:00 AM	21/09/2021	Adelaide Street (Tunnel Alignment)	0.08	0.26	2	Heritage Structure	Yes
5.	13/09/2021	10:28:00 AM	22/09/2021	King George Square (Tunnel Alignment)	0.09	0.14	50	Structure	Yes

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)
6.	13/09/2021	10:13:00 AM	17/09/2021	Albert Street (Tunnel Alignment)	0.07	0.14	2	Heritage Structure	Yes
7.	23/09/2021	10:30:00 AM	23/09/2021	Albert Street (Albert Street Precinct)	-	20	50	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 twenty-nine (29) occasions during September 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.	1/09/2021	9:13:00 PM	Quarry Street (Tunnel Alignment)	Construction Monitoring at Sensitive Places	Internal	Ground Support	Road Traffic and Construction	42	42	35	42.5	Yes
2.	1/09/2021	10:19:00 PM	Peter Doherty Street (Boggo Road Precinct)	Model Verification	External	Geotechnical works	Construction	59	60.6	52	60.3	Yes
3.	1/09/2021	10:55:00 PM	Railway Terrace (Southern Areas)	Model Verification	External	Geotechnical works	Construction	49	55.5	42	56.1	Yes
4.	1/09/2021	11:25:00 PM	Peter Doherty Street (Boggo Road Precinct)	Model Verification	External	Geotechnical works	Construction	59	59.5	52	64.1	Yes
5.	2/09/2021	2:10:00 AM	Peter Doherty Street (Boggo Road Precinct)	Construction Monitoring at Sensitive Places	External	Piling	Construction	59	61.5	57	59.2	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.	2/09/2021	3:33:00 AM	Peter Doherty Street (Boggo Road Precinct)	Construction Monitoring at Sensitive Places	External	Piling	Construction	59	68.6	57	66.7	Yes
7.	2/09/2021	8:08:00 PM	Peter Doherty Street (Boggo Road Precinct)	Construction Monitoring at Sensitive Places	External	Piling and Concreting	Construction	59	68.9	57	68.3	Yes
8.	2/09/2021	8:33:00 PM	Railway Terrace (Southern Areas)	Construction Monitoring at Sensitive Places	External	Piling	Construction	49	57.9	42	56.6	Yes
9.	2/09/2021	8:50:00 PM	Railway Terrace (Southern Areas)	Construction Monitoring at Sensitive Places	External	Piling	Construction and Pedestrian	49	55.3	42	54	Yes
10.	2/09/2021	9:35:00 PM	Peter Doherty Street (Boggo Road Precinct)	Construction Monitoring at Sensitive Places	External	Piling	Construction	59	68.9	57	63.9	Yes
11.	2/09/2021	10:31:00 PM	Railway Terrace (Southern Areas)	Construction Monitoring at Sensitive Places	External	Piling	Road Traffic	49	46.8	42	45.5	Yes
12.	2/09/2021	10:55:00 PM	Ipswich Road (Southern Area)	Construction Monitoring at Sensitive Places	External	Piling and Spoil Haulage	Construction	64	58.4	59	57.4	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)
13.	3/09/2021	12:38:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Excavation, Controlled Blast preparation and Spoil Haulage	Construction	72	73.3	62	73.7	Yes
14.	7/09/2021	3:54:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Excavation, Controlled Blast preparation and Spoil Haulage.	Construction	72	73.9	62	73.2	Yes
15.	11/09/2021	9:58:00 AM	Railway Terrace (Southern Areas)	Model Verification	External	Cranage Operations and Spoil Haulage	Construction, Railway and Aircraft Traffic	57	62.1	47	64	Yes
16.	11/09/2021	10:18:00 AM	Railway Terrace (Southern Areas)	Model Verification	External	Cranage Operations and Spoil Haulage	Construction	57	65.3	47	71.5	Yes
17.	13/09/2021	5:15:00 PM	Peter Doherty Street (Boggo Road Precinct)	Model Verification	External	Concrete Works	Construction and Railway	72	63	62	60.7	Yes
18.	13/09/2021	5:37:00 PM	Peter Doherty Street (Boggo Road Precinct)	Model Verification	External	Concrete Works	Construction, Road Traffic and Railway	72	67.1	62	64.5	Yes
19.	14/09/2021	9:18:00 AM	Gregory Terrace (Northern Portal)	Construction Monitoring at Sensitive Places	External	Concrete and Excavations Works	Construction and Road Traffic	62	67.2	52	65	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)
20.	14/09/2021	9:47:00 AM	Gregory Terrace (Northern Portal)	Construction Monitoring at Sensitive Places	External	Concrete, Scaffold Installation and Spoil Haulage	Construction and Road Traffic	62	66.7	52	65.8	Yes
21.	14/09/2021	4:57:00 PM	Railway Terrace (Southern Areas)	Model Verification	External	Micro-Tunnelling	Construction	57	62.3	47	61.5	Yes
22.	14/09/2021	5:15:00 PM	Railway Terrace (Southern Areas)	Model Verification	External	Micro-Tunnelling	Construction	57	61.6	47	59.3	Yes
23.	14/09/2021	7:59:00 PM	Railway Terrace (Southern Areas)	Model Verification	External	Concrete Saw Cutting	Construction, Road Traffic and Railway	49	62.4	42	58.4	Yes
24.	16/09/2021	7:20:00 PM	Railway Terrace (Southern Areas)	Model Verification	External	Micro-Tunnelling	Construction and Railway	49	60.4	42	62.5	Yes
25.	16/09/2021	8:19:00 PM	Railway Terrace (Southern Areas)	Model Verification	External	Micro-Tunnelling	Construction	49	61.9	42	61	Yes
26.	16/09/2021	8:40:00 PM	Railway Terrace (Southern Areas)	Model Verification	External	Micro-Tunnelling	Construction	49	59.4	42	58.6	Yes
27.	17/09/2021	9:48:00 PM	Elliott Street (Southern Area)	Model Verification	External	Crane Operations	Construction and Railway	49	66	42	62.1	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)
28.	23/09/2021	10:30:00 AM	Albert Street (Albert Street Precinct)	Controlled blasting	External	Controlled Blast at Lot 1	Construction	-	-	130[3]	113.9[3]	Yes
29.	24/09/2021	3:03:00 PM	Albert Street (Albert Street Precinct)	Construction Monitoring at Sensitive Places	External	Spoil load out, steel preparation for concrete beam, site general activities	Construction and General Public	72	74.3	62	71.3	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 September 2021. The dust deposition gauges result for the reporting period are detailed below, and all monitoring data adhered to project requirements.

Table 4: Air Quality Monitoring – Deposited Dust Data

Location	Project Wide Air Quality Goals[1]			Monitoring results (mg/m2/day)	Comments
	Criterion	Air Quality Indicator	Goal (mg/m2/day)		
Northern Portal	Nuisance	Deposited dust	120	46.88	*Air quality monitoring was performed during the reporting period. All results adhered to project requirements.*
Roma Street Precinct				15.63	
Albert Street Precinct (North)				44.83	
Albert Street Precinct (South)				34.48	
Woolloongabba Precinct (North)				29.03	
Woolloongabba Precinct (South)				61.29	
Boggo Road Precinct (North)				12.90	
Boggo Road Precinct (South)				48.39	
Southern Portal (South)				22.58	
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.

3.3.2 Particulates and Ambient Air Quality Results

Total Suspended Particules (TSP) and particulate matter less than 10µm (PM10) monitoring was conducted during September 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 September 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[2]		Albert[2]		Boggo Road		Northern Portal	
			TSP	PM 10	TSP	PM 10	TSP	PM 10	TSP	PM 10
	(µg/m3/24 hr)									
01-September-21	80	50	26.61	26.52	35.04	34.91	23.64	23.60	7.68	7.65
02-September-21	80	50	7.75	7.67	16.34	16.30	6.43	6.42	10.64	10.62
03-September-21	80	50	10.18	10.13	24.50	24.48	7.70	7.70	13.93	13.92
04-September-21	80	50	12.88	12.73	29.00	29.00	8.14	8.13	8.83	8.79
05-September-21	80	50	8.71	8.62	-	-	6.03	6.01	3.88	3.82
06-September-21	80	50	3.66	3.57	-	-	2.37	2.38	11.60	11.54
07-September-21	80	50	9.20	9.05	22.97	22.66	6.64	6.62	19.11	19.03
08-September-21	80	50	14.39	14.23	12.00	12.00	11.83	11.80	19.04	18.98
09-September-21	80	50	15.56	15.41	12.00	12.00	12.58	12.57	18.23	18.14
10-September-21	80	50	20.14	19.97	12.00	12.00	16.83	16.79	19.20	19.14
11-September-21	80	50	-	-	12.00	12.00	15.46	15.45	9.10	9.01
12-September-21	80	50	-	-	12.00	12.00	6.39	6.37	10.83	10.74
13-September-21	80	50	-	-	14.91	14.88	8.73	8.71	6.58	6.39
14-September-21	80	50	-	-	18.990	18.990	4.14	4.09	5.76	5.68
15-September-21	80	50	-	-	19.000	18.990	3.99	3.97	7.66	7.59
16-September-21	80	50	-	-	19.000	18.990	4.29	4.28	9.56	9.52
17-September-21	80	50	-	-	14.996	14.993	5.61	5.57	11.44	11.39
18-September-21	80	50	-	-	12.000	12.000	9.28	9.27	12.08	12.03

Date	TSP Project Goal[1]	PM10 Project Goal	Woolloongabba[2]		Albert[2]		Boggo Road		Northern Portal	
			TSP	PM 10	TSP	PM 10	TSP	PM 10	TSP	PM 10
	(µg/m3/24 hr)									
19-September-21	80	50	-	-	12.000	12.000	10.11	10.09	15.01	14.92
20-September-21	80	50	-	-	18.186	18.140	10.89	10.87	8.52	8.29
21-September-21	80	50	-	-	25.000	25.000	6.23	6.13	5.05	4.99
22-September-21	80	50	-	-	24.59	24.59	3.17	3.15	10.11	10.05
23-September-21	80	50	-	-	14.07	14.00	6.10	6.06	11.76	11.70
24-September-21	80	50	-	-	16.99	16.99	8.43	8.41	15.95	15.87
25-September-21	80	50	-	-	16.99	16.99	12.14	12.11	15.86	15.82
26-September-21	80	50	-	-	16.99	16.99	10.37	10.33	6.35	6.33
27-September-21	80	50	-	-	22.69	22.61	3.55	3.54	4.17	4.14
28-September-21	80	50	-	-	9.1	9.02	3.13	3.12	4.91	4.89
29-September-21	80	50	-	-	9.93	9.89	3.57	3.57	10.07	10.4
30-September-21	80	50	-	-	-	-	5.8	5.79	7.68	7.65

- [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] A technical fault occurred in relation to the Woolloongabba and Albert air quality units whereby they ceased functioning for a number of days in September 2021. The fault is being addressed. A nearby (Southern Brisbane) DES Air Quality Stations demonstrated compliant air quality during September 2021, these results are provided below. Low levels were also consistently monitored throughout the month when the unit was operating.

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: PM_{10} daily Maximum average: **103.8 µg/m3/24 hr** (https://apps.des.qld.gov.au/air-quality/chart/?station=cbd&parameter=18&date=1/09/2021&timeframe=month)
- South Brisbane: PM_{10} daily Maximum average: **40.8 µg/m3/24 hr** (https://apps.des.qld.gov.au/air-quality/chart/?station=sbr&parameter=18&date=1/09/2021&timeframe=month)
- Woolloongabba: PM_{10} daily Maximum average: **99.0 µg/m3/24 hr** (https://apps.des.qld.gov.au/air-quality/chart/?station=woo&parameter=18&date=1/09/2021&timeframe=month)

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

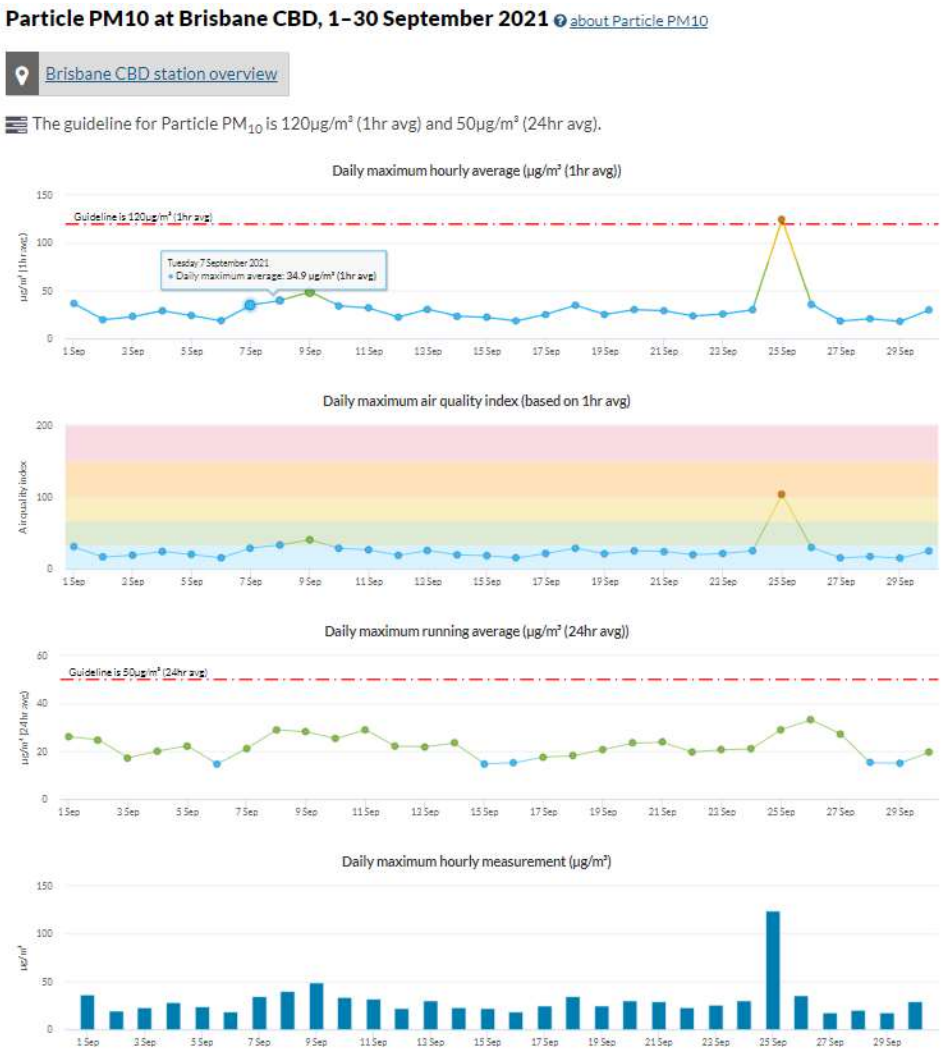


Figure 1: Brisbane CBD – DES Station - PM10 graph for September 2021 (reproduction from the DES website).

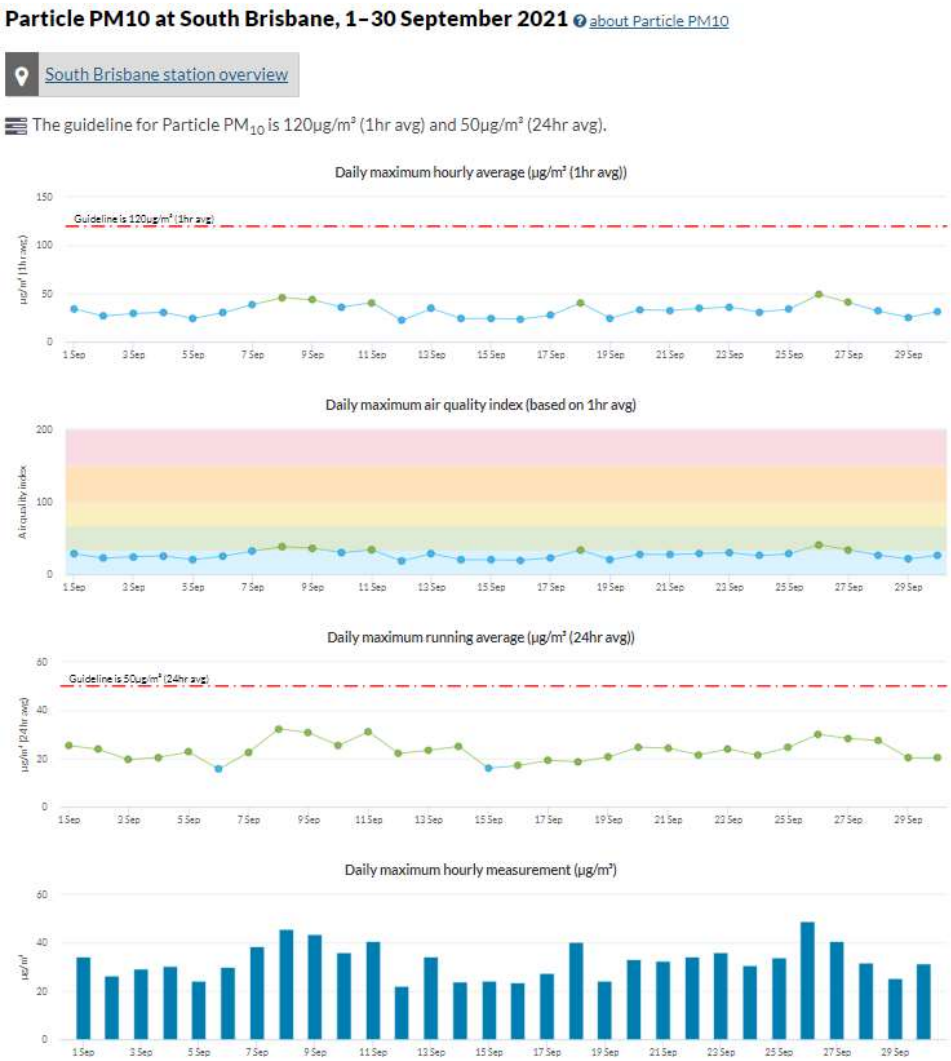


Figure 2: South Brisbane – DES Station - PM10 graph for September 2021 (reproduction from the DES website accessed).

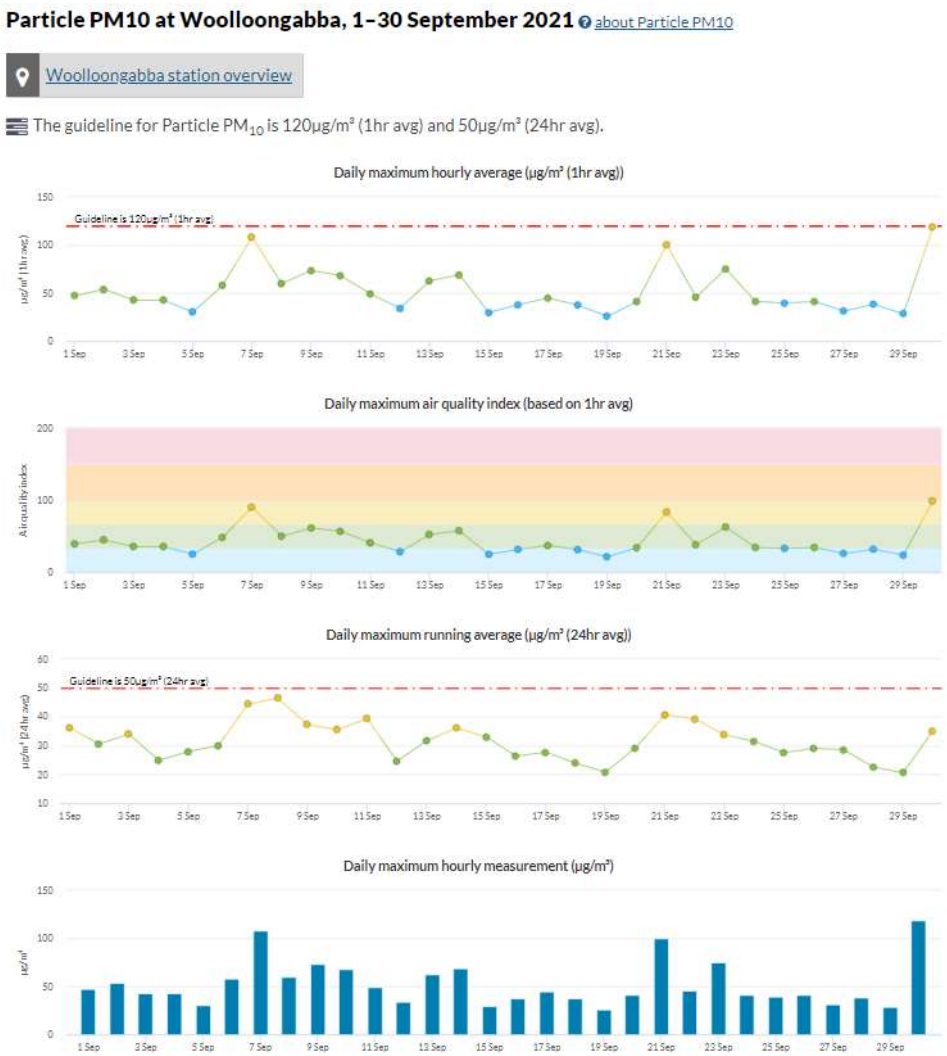


Figure 3: Woolloongabba – DES Station - PM10 graph for September 2021 (reproduction from the DES website).

3.4 Water Quality – Discharge

CBGU undertook four (4) water quality monitoring events prior to the release (groundwater and surface water) from the site. Two (2) samples were taken at the end of August but are therefore covered within this September 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	31/08/2021	7.79	6.00	1.58	1170.00	1070.00	1100.00	3400.00	20.00	<10	<1	77.46	Yes
Woolloongabba	31/08/2021	7.23	<5	0.38	830.00	320.00	1300.00	2400.00	<50	<10	<1	91.98	Yes
Roma Street	1/09/2021	7.90	<5	0.70	40.00	530.00	500.00	1000.00	<10	<10	<1	91.98	Yes
Boggo Road	5/09/2021	7.02	<5	2.12	860.00	1080.00	1800.00	3800.00	<10	<10	<1	104.09	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

No ponded/surface water was discharged during this reporting period

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)	
Nil					

- [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 September 2021, CBGU JV undertook one (1) round 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	14/09/2021	Monthly	4.62	30600	53.25	6.95
Gabba	Upstream	14/09/2021	Monthly	23.5	41900	99.25	7.83
Gabba	Downstream	14/09/2021	Monthly	24.4	41900	101.67	7.9
Albert Street	Upstream	17/09/2021	Monthly	6.78	37100	96.82	7.84
Albert Street	Downstream	17/09/2021	Monthly	8.88	36700	99.25	7.85
Roma Street	Upstream	20/09/2021	Monthly	29	38300	96.82	7.83
Roma Street	Downstream	20/09/2021	Monthly	26	38700	98.04	7.91
Northern Portal	Upstream	20/09/2021	Monthly	2.83	686	71.41	7.51
Northern Portal	Downstream	20/09/2021	Monthly	1.13	690	33.89	7.27

- [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.

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
Nil					

5 Complaints

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

During September 2021, twelve (12) 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 Sep 21	Quarry St (Tunnel Alignment)	Noise	A stakeholder contacted the Project regarding noise associated with the tunnel alignment. CBGU provided the stakeholder with an overview of the works occurring and their duration. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance. CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.	Closed
2.	6 Sep 21	Mary Street (Albert Street Precinct)	Noise	A stakeholder contacted the Project regarding noise from the Albert Street precinct. 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.	Closed

No.	Date	Location	Description of Issue	Responses	Status of Event
				CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.	
3.	7 Sep 21	Peter Doherty Street (Boggo Rd Precinct)	Noise	A stakeholder contacted the Project regarding noise from the Boggo Road precinct. CBGU provided the stakeholder with an overview of the works occurring and their duration at the Boggo Road precinct. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance. CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.	Closed
4.	7 Sep 21	Peter Doherty Street (Boggo Rd Precinct)	Traffic Management	A stakeholder contacted the Project regarding vehicle parking. CBGU reviewed the circumstances and reminded the workforce about site expectations.	Closed
5.	10 Sep 21	Alice Street (Albert Street Precinct)	Traffic Management	A stakeholder contacted the Project regarding vehicle parking. CBGU reviewed the circumstances and reminded the workforce about site expectations.	Closed
6.	13 Sep 21	Kent Street (Southern Area Works)	Active Transport	A stakeholder contacted the Project regarding clean water that had been applied to the road surface as dust suppression. The stakeholder also provided positive feedback relating to the Project. CBGU reviewed the amount of water being applied and frequency.	Closed
7.	18 Sep 21	Albert Street (Albert Street Precinct)	Noise	A stakeholder contacted the Project regarding noise from the Albert Street precinct. 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. CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.	Closed
8.	20 Sep 21	Gilchrist Avenue (Northern Portal)	Pedestrian Access	A stakeholder contacted the Project regarding a pedestrian access. CBGU advised short pedestrian holds were required during construction, and a review of the communication of such controls was undertaken.	Closed

No.	Date	Location	Description of Issue	Responses	Status of Event
9.	29 Sep 21	Albert Street (Albert Street Precinct)	Noise	A stakeholder contacted the Project regarding noise from the Albert Street precinct. 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. CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.	Closed
10.	29 Sep 21	Lockhart Street (Tunnel Alignment)	Noise	A stakeholder contacted the Project regarding noise associated with the tunnel alignment. CBGU provided the stakeholder with an overview of the works occurring and their duration. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance. CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.	Closed
11.	29 Sep 21	Albert Street (Albert Street Precinct)	Noise	A stakeholder contacted the Project regarding noise from the Albert Street precinct. 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. CBGU also reviewed the circumstances and monitoring confirmed works adhered to project noise requirements, and the works undertaken were consistent with the community notification.	Closed
12.	30 Sep 21	Bradley Street (Northern Portal)	Vibration	A stakeholder contacted the Project regarding vibration from the Northern Portal. CBGU provided the stakeholder with an overview of the works occurring and their duration at the Northern Portal. CBGU also outlined the mitigation measures used to alleviate potential impacts and ensure compliance. CBGU also reviewed the circumstances and monitoring confirmed works adhered to project vibration requirements and the works undertaken were consistent with the community notification.	Closed