

**CROSS RIVER RAIL**

**Temporary Roma Street Coach Terminal Relocation Project**

# **ENVIRONMENTAL MONTHLY REPORT**

**February 2019**



**Queensland  
Government**

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## DEFINITIONS AND STANDARDS

**Table 1 – Definitions**

Term	Definition
ACHA	Aboriginal Cultural Heritage Act 2003
ARI	Average Recurrence Interval
AS	Australian Standards
BCC	Brisbane City Council
CEMP	Construction Environmental Management Plan
CG	Coordinator-General
CLMP	Contaminated Land Management Plan
CPS	City Parklands
CRRDA	Cross River Rail Delivery Authority, the Proponent for the Project
DAP	Directly Affected Persons
dBA	A-weighted decibel
HPW	Department of Housing and Public Works
LAeq adj,1hr	Equivalent continuous noise level (adjusted for tonal character and impulsiveness of the sound) of any 1 hour measurement period.
LA10 adj,15min	A-weighted sound pressure level (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 15 minute measurement period, using fast response.
mg/m <sup>2</sup> /day	1 (milligram / square meter) / day
MRTS51	MRTS51 Environmental Management – DTMR Specification
MUTCD	Manual of Uniform Traffic Control Devices
µg/m <sup>3</sup>	1 microgram / cubic meter
PM <sub>10</sub>	Particulate matter
PPE	Personal Protective Equipment
SDPWO	The State Development and Public Works Organisation Act 1971
SMP	Site Management Plan
TSP	Total Suspended Particles
QR	Queensland Rail
WSP	Independent Environmental Auditor

**Table 2 – Standards**

Reference	Year	Standard
AS2107	2016	Acoustics—Recommended design sound levels and reverberation times for building interiors
AS2670	1983	Vibration and shock - Guide to the evaluation of human exposure to whole body vibration
BS7385.2	1993	Measurement of Vibration in Buildings – Evaluation and measurement for vibration in buildings. Guide to damage levels from ground borne vibration

## EXECUTIVE SUMMARY

This report has been prepared by Pensar Civil Pty Ltd, engaged by the Department of Housing and Public Works, for the Cross River Rail Delivery Authority to fulfil **Condition 4** of the Coordinator-General's Change Report for the Temporary Roma Street Coach Terminal project.

## Report Overview

Table 3 – Report Overview

<b>Project Name</b>	Temporary Roma Street Coach Terminal Relocation
<b>Works Package</b>	Civil Works
<b>Report No.</b>	03
<b>Reporting Period</b>	01 February 2019 to 28 February 2019

## Compliance Statement

Table 4 – Compliance Statement

<b>Compliance Statement against the Construction Environmental Management Plan</b>
For the reporting period of February 2019, the works were undertaken in accordance with the approved Construction Environmental Management Plan and the Imposed Conditions, set by the Coordinator-General. All incidents and complaints have been resolved.

## Imposed Conditions Status

Table 5 – Imposed Conditions Status

<b>Condition</b>	<b>Clause</b>	<b>Requirement Summary</b>	<b>Status</b>	<b>Comment</b>
4	Reporting	Incidents management.	●	Zero incidents occurred in this reporting period. The incident log is supplied in <i>section 6</i> .
5	Stakeholder engagement	Complaint management.	●	Nil complaints were received in this reporting period. The complaint log is supplied in <i>section 7</i> .
6	Hours of work	Hours of work to be undertaken during: <ul style="list-style-type: none"> <li>● <b>Standard hours</b> - Monday to Saturday, 6.30am - 6.30pm</li> <li>● <b>Extended work hours</b> - Monday to Friday, 6:30pm - 10:00pm</li> </ul>	●	All works were performed within standard working hours.
7	Noise	Work must aim to achieve noise goals for human health and well-being.	●	The Coordinator-General's Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to control noise.
	Vibration	Works must aim to achieve vibration goals for cosmetic damage, human comfort and sensitive building contents.	●	The Coordinator-General's Imposed Conditions were not breached during the month of February and all reasonable and practicable measures

Condition	Clause	Requirement Summary	Status	Comment
				were employed on site to control vibration.
8	Air quality	Works must aim to achieve air quality goals for human health and nuisance.	●	The Coordinator-General's Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to control air quality.
9	Traffic and transport	Works must minimise adverse impacts on road safety and traffic flow and ensure that where practically possible: <ul style="list-style-type: none"> <li>• Workforce carparking on streets is to be avoided;</li> <li>• Access for emergency services is maintained;</li> <li>• Access to adjacent properties is practically maintained;</li> <li>• Heavy vehicles utilise designate routes and follow major or arterial roads.</li> </ul>	●	The Coordinator-General's Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to control traffic and transport. Workforce parking was managed within the profile of the site and in conjunction with private carparks secured through agreement. Access was maintained at all times for emergency services and access into adjacent properties. Heavy vehicles were brought in and out of site through Roma Street with minimal time spent on Parkland Crescent and Parkland Boulevard.
10	Water quality	Works must not discharge surface water and groundwater from the construction site above the relevant environmental values and water quality objectives.	●	The Coordinator-General's Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to manage water quality. WSP, through HPW has been commissioned to independently inspect site after rain events that exceed 25mm in a 24-hour period. No surface water or groundwater was discharged from the construction site in this reporting period.
11	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.	●	The Coordinator-General's Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to manage surface water. WSP, through HPW has been commissioned to independently inspect site after rain events that exceed 25mm in a 24-hour period.
12	Erosion and sediment control	Provisions for erosion and sediment control must be consistent with the Guidelines	●	The Coordinator-General's Imposed Conditions were not breached during the month of February and all

Condition	Clause	Requirement Summary	Status	Comment
		for Best Practice Erosion and Sediment Control (International Erosion Control Association, 2008) and the Department of Transport and Main Roads' Technical Standard MRTS52 – Environmental Management.		reasonable and practicable measures were employed on site to manage erosion and sediment control. Erosion and sediment control plans were approved under the CEMP by the Coordinator-General on 5 November 2018.
13	Cultural heritage	Works to be carried out under an approved Cultural Heritage Management Plan or in accordance with the cultural heritage duty of care prescribed by section 23(1) of the <i>Aboriginal Cultural Heritage Act 2003</i> (Qld).	●	Cultural heritage is being managed in accordance with duty of care obligations under the <i>Aboriginal Cultural Heritage Act 2003</i> (ACHA) and a cultural heritage Early Works Agreement. Refer to Section 5.5 for further details on compliance, monitoring and reporting. Minimal excavation was undertaken in the reporting period apart from isolated test pits to establish soil suitability and service location. A cultural heritage monitor for excavation works at Roma Street where excavation came close to natural material. No finds have been recorded in the reporting period.
	Contaminated Land	Works to be carried out under an approved Contaminated Land Management Plan.	●	A Contaminated Land Management Plan has been commissioned by CRRDA, endorsed by the Contaminated Land Auditor and approved by a Suitably Qualified Person. A Soil Disposal Permit was obtained by Pensar for the works.
	Waste	Works must be set to avoid, reduce, reuse and recycle waste where possible and ensure sustainable disposal strategies are implemented.	●	A significant amount of steel, concrete and asphalt was recycled in this reporting period, with further targets to be set for the next reporting period.
	Flora & Fauna	Works are carried out to use best endeavours to preserve the habitats of flora and fauna.	●	An arborist impact assessment report was commissioned by CRRDA to be in place prior to clearing of any vegetation. The report is being prepared by an independent arborist. Clearing works have not commenced.

**LEGEND**

- **Imposed conditions were not breached** in reporting period; no or minimal corrective action was required.
- **Imposed conditions were breached or exceeded** in the reporting period; corrective action was required.

# 1 INTRODUCTION

## 1.1 Site Plan

The Roma Street site has been established with environmental monitors that measure noise, vibration and air quality. These have been set up and commissioned in accordance with the layout in **Figure 1**.

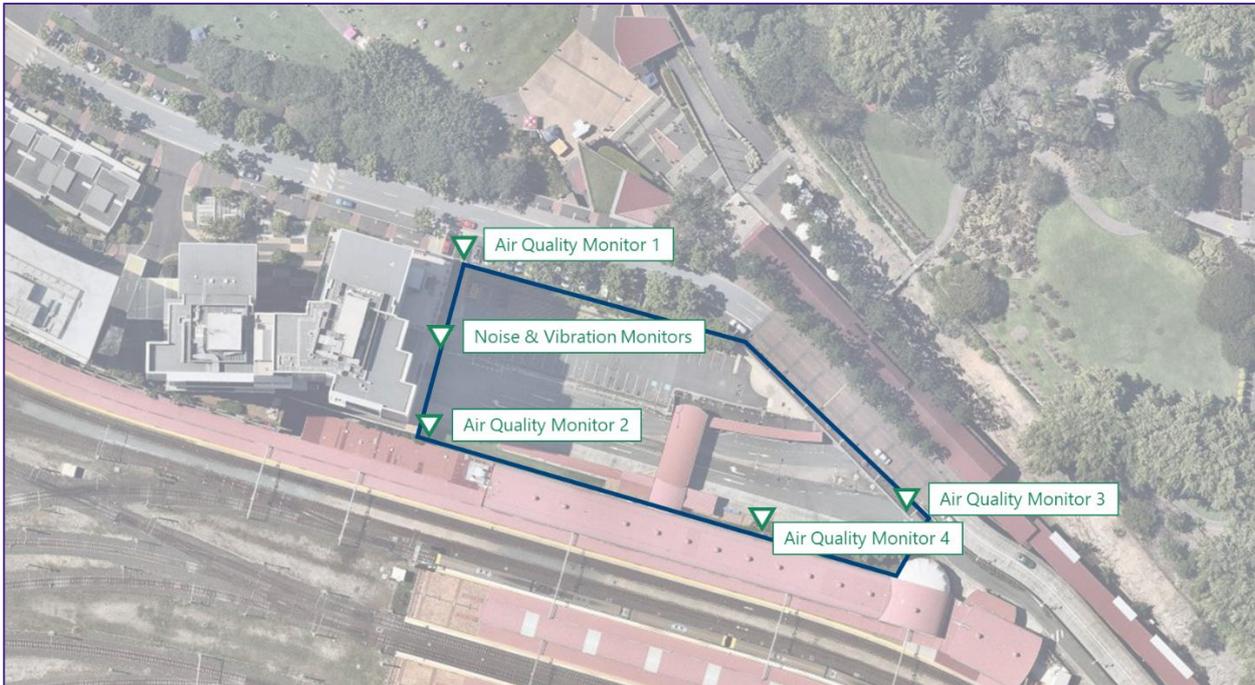


Figure 1 – Environmental Monitoring Site Plan

## 2 COORDINATOR-GENERAL'S CHANGE REPORT

### 2.1 Overview

Cross River Rail Delivery Authority (CRRDA) submitted a Request for Project Change covering the temporary coach terminal works. This was evaluated by the Coordinator-General and approved, with conditions, through a Coordinator-Generals Change Report dated 30 August 2018.

The Construction Environmental Management Plan (CEMP) pertaining to these works was conditionally approved by the Coordinator-General on 5 November 2018.

### 2.2 Imposed Conditions

All of the conditions imposed below take effect from the date of the Coordinator-General's change report – 30 August 2018.

These conditions do not relieve Pensar of the obligation to obtain all approvals and licenses from all relevant authorities required under any other Act.

Pursuant to section 54D of the *State Development and Public Works Organisation Act 1971* (SDPWO Act), these conditions also apply to anyone who undertakes the project, such as the proponent and an agent, contractor, subcontractor or licensee of the Proponent.

The imposed conditions are contained with **Table 6** with updates provided on the project compliance as of the date of this report.

**Table 6 – Coordinator-General's Imposed Conditions**

Condition	Description	Compliance	Status
<b>1.</b>	<b>General conditions</b>		
(a)	The temporary coach terminal works must be carried out generally in accordance with the Cross River Rail Request for Project Change dated June 2018.	Ongoing requirement that is managed under a Civil Works contract, let on 3 October 2018 by HPW to Pensar Civil Pty Ltd.	Ongoing
(b)	The proponent must notify the Coordinator-General in writing of the commencement of construction of the temporary coach terminal and the commencement of the operational phase at least 20 business days prior to the relevant commencement date.	Completed requirement where CRRDA notified the Coordinator-General on 9 October 2018 and subsequently were approved to commence on 6 November 2018.	Completed
(c)	The temporary coach terminal works must be carried out in accordance with the Imposed Conditions (temporary coach terminal works).	Ongoing requirement that is managed under a Civil Works contract, let on 3 October 2018 by HPW to Pensar Civil Pty Ltd.	Ongoing
<b>2.</b>	<b>Construction Environmental Management Plan</b>		
(a)	A Construction Environmental Management Plan must be submitted to the Coordinator-General for approval at least 20 business days prior to the commencement of construction of the temporary coach terminal.	The Construction Environmental Management Plan (CEMP) was conditionally approved by the Coordinator-General's office on 5 November 2018.	Completed

Condition	Description	Compliance	Status
(b)	<p>The Construction Environmental Management Plan (temporary coach terminal works) must:</p> <ul style="list-style-type: none"> <li>i. describe the temporary coach terminal works;</li> <li>ii. be based on predictive studies and assessments of construction impacts which have regard to the scale, intensity, location and duration of construction works, and impact to Directly Affected Persons;</li> <li>iii. incorporate and respond to the Imposed Conditions (temporary coach terminal works);</li> <li>iv. demonstrate how the Imposed Conditions (temporary coach terminal works) will be complied with during the construction of the temporary coach terminal;</li> <li>v. incorporate the stakeholder engagement plan, including the complaints management process, in accordance with Condition 5 in this Part B;</li> <li>vi. where predictive studies indicate impacts beyond those provided for in the performance criteria, incorporate mitigation measures to achieve the environmental outcomes;</li> <li>vii. establish specific mitigation measures and processes for consultation with Directly Affected Persons for temporary coach terminal works under Conditions 5(c), 7(c), and 7(f) in this Part B;</li> <li>viii. contain a program and procedures for ongoing monitoring to identify the effectiveness of mitigation measures in achieving the Imposed Conditions (temporary coach terminal works);</li> <li>ix. include a process for regular review and if required updating of the Construction Environmental Management Plan, including a process to</li> </ul>	<p>The Construction Environmental Management Plan (CEMP) was conditionally approved by the Coordinator-General's office on 5 November 2018.</p>	<p><b>Completed</b></p>

Condition	Description	Compliance	Status
	review and implement additional or different mitigation measures in response to monitoring results;		
(c)	The Construction Environmental Management Plan (temporary coach terminal works) must be implemented for the duration of construction of the temporary coach terminal.	Ongoing requirement where compliance with the CEMP in conjunction with the CG's Imposed Conditions will be enforced contractually in accordance with Condition 1.	Ongoing
(d)	Temporary coach terminal work is authorised if it is undertaken in accordance with the approved Construction Environmental Management Plan (temporary coach terminal works).	Ongoing requirement where compliance with the CEMP in conjunction with the CG's Imposed Conditions will be enforced contractually in accordance with Condition 1.	Ongoing
(e)	The Construction Environmental Management Plan (temporary coach terminal works) must be available on the Cross River Rail website for the duration of construction of the temporary coach terminal.	Completed by CRRDA and is published under <a href="#">Roma Street Site Early Works and Construction</a> .	Completed
(f)	The Construction Environmental Management Plan (coach terminal works) may be developed in stages and/or updated. Any major update or additional stage will be submitted to the Coordinator-General 10 business days prior to issuing for use.	Ongoing requirement where any major updates or additional stages will be submitted to the CG accordingly. No major updates envisaged at this stage.	Ongoing
<b>3.</b>	<b>Compliance</b>		
(a)	The proponent must notify the Coordinator-General in writing, within 48 hours after becoming aware of a non-compliance incident (incident) with the Imposed Conditions (temporary coach terminal works).	Ongoing requirement where the notification to the CG in writing must be conformed with. To enable this, Pensar is to inform the CRRDA's Environment and Approvals Team within two hours of becoming aware of a non-compliance.	Ongoing
(b)	The notification must include: <ul style="list-style-type: none"> <li>i. a description of the incident, including details of the location, date and time of the Incident;</li> <li>ii. the name and contact details of a designated contact person;</li> <li>iii. an outline of actions that have been or will be taken to respond to the incident.</li> </ul>	Ongoing requirement where the notification to the CG in writing must be conformed with in accordance with the details required in this sub-clause. To enable this, Pensar is to provide the listed information to the CRRDA's Environment and Approvals Team within twelve hours of becoming aware of a non-compliance.	Ongoing
(c)	Within 14 days following the notification of an Incident, written advice detailing the following information must be provided to the Coordinator-General:	Ongoing requirement where written notification requirements to the CG must be conformed with in accordance with the details required in this sub-clause. To enable this, Pensar is to provide the listed information to the CRRDA's	Ongoing

Condition	Description	Compliance	Status
	<ul style="list-style-type: none"> <li>i. a description of the incident, including details of the location, date and time of the Incident;</li> <li>ii. the name and contact details of a designated contact person;</li> <li>iii. the circumstances in which the Incident occurred;</li> <li>iv. details of any complaint in relation to the incident;</li> <li>v. the cause of the incident;</li> <li>vi. a description of the environmental effects of the incident;</li> <li>vii. the results of any sampling or monitoring performed in relation to the Incident;</li> <li>viii. actions taken to mitigate the environmental effects of the incident;</li> <li>ix. proposed actions to prevent a recurrence of the Incident, including timing and responsibility for implementation.</li> </ul>	Environment and Approvals Team within seven days of becoming aware of a non-compliance.	
(d)	The incident report must be made available on the project website and remain available for the duration of the construction phase of the temporary coach terminal.	Ongoing requirement where the report will be published on the Cross River Rail website and remain available for the duration of the construction phase.	<b>Ongoing</b>
<b>4.</b>	<b>Reporting</b>		
(a)	The proponent must prepare a monthly report that summarises compliance and monitoring results for the duration of the temporary coach terminal works.	Ongoing requirement where the report is to be prepared monthly capturing the requirements of sub-clause 4(b).	<b>Ongoing</b>
(b)	The Monthly Report must include: <ul style="list-style-type: none"> <li>i. monitoring data required by the Imposed Conditions (temporary coach terminal works) or Construction Environmental Management Plan (temporary coach terminal works) undertaken for the period and, where required, an interpretation of the results;</li> <li>ii. details of any incident, including a description of the incident, resulting effects, corrective actions, revised construction practices to prevent a</li> </ul>	Ongoing requirement where the report is to be prepared monthly capturing the requirements of sub-clause 4(b).	<b>Ongoing</b>

Condition	Description	Compliance	Status
	<p>recurrence, responsibility and timing;</p> <p>iii. reporting of complaints, including the number of complaints, description of issues, responses and corrective actions.</p> <p>iv. an evaluation of compliance in relation to the Construction Environmental Management Plan (temporary coach terminal works);</p> <p>v. a summary of any Incidents during the reporting period;</p> <p>vi. a summary of any Incidents during the previous reporting period, with details of site remediation activities, corrective actions taken or to be taken and revised practices implemented or to be implemented (as relevant).</p>		
<b>5. Stakeholder Engagement Plan</b>			
(a)	The proponent must develop a stakeholder engagement plan as part of the Construction Environmental Management Plan (temporary coach terminal works).	Completed requirement by CRRDA.	<b>Completed</b>
(b)	<p>The stakeholder engagement plan must provide for:</p> <p>i. Directly Affected Persons to be consulted prior to commencement of temporary coach terminal works and for the duration of the temporary coach terminal works;</p> <p>ii. Directly Affected Persons to be consulted about predicted impacts and possible mitigation measures;</p> <p>iii. local communities near temporary coach terminal works to be informed about the nature of construction, including the timing, duration and predicted impacts of the temporary coach terminal works in advance of their commencement;</p>	Completed requirement by CRRDA.	<b>Completed</b>

Condition	Description	Compliance	Status
	<ul style="list-style-type: none"> <li>iv. information to be provided to public transport, road users, pedestrians and cyclists about the predicted effects of temporary coach terminal works on road, rail and pedestrian and cycle network operations, in advance of their commencement;</li> <li>v. specific community consultation plans for identified key stakeholders;</li> <li>vi. a process for advance notification to local communities of temporary coach terminal works, including the timing, duration, predicted impacts and mitigation measures, which is available on the project website and through other media.</li> </ul>		
(c)	The stakeholder engagement plan must incorporate a complaints management system developed specifically for the temporary coach terminal works, which is established prior to the commencement of temporary coach terminal works.	Completed requirement by CRRDA.	<b>Completed</b>
(d)	The complaints management system must deliver a prompt response to community concerns with relevant information, action where required, and reporting of incidents.	Completed requirement by CRRDA. Refer to Section 7 for Complaints Management details.	<b>Completed</b>
(e)	<p>As a minimum, the complaints management system must include the following elements:</p> <ul style="list-style-type: none"> <li>i. a procedure for receiving complaints on a 24 hour, seven days a week basis, during temporary coach terminal works;</li> <li>ii. a mechanism for notifying the community of the complaints procedure and how it may be accessed;</li> <li>iii. a process for registering and handling complaints received, including a database for tracking of complaints and actions taken in response;</li> </ul>	Completed requirement by CRRDA. Refer to section 7 for details on the management of complaints.	<b>Ongoing</b>

Condition	Description	Compliance	Status
	<ul style="list-style-type: none"> <li>iv. a procedure for verifying complaints through monitoring and detailed investigation, and escalating and resolving verified complaints;</li> <li>v. regular reporting via the monthly environmental report, to the community of complaints and corrective actions, maintaining appropriate confidentiality.</li> </ul>		
(f)	All information regarding complaints must be made available to the Coordinator-General on request.	Pensar will notify the CRRDA of any complaints received through their channels and will assist CRRDA with the close out of any complaints received through the community engagement channels.	Ongoing
<b>6.</b>	<b>Hours of Work</b>		
(a)	<p>Construction works for the temporary coach terminal are authorised to be undertaken within the hours of work set out in Table 1.</p> <ul style="list-style-type: none"> <li>• <b>Standard hours</b> – Monday to Saturday, 6.30am – 6.30pm.</li> <li>• <b>Extended work hours</b> – Monday to Friday, 6.30pm – 10.00pm.</li> </ul>	Ongoing requirement where all work will be conducted within the standard or extended work hour times – noting that Clause 6(c) must be read in conjunction with Clause 6(a) for extended work hours.	Ongoing
(b)	<p>Works carried out because of an emergency that:</p> <ul style="list-style-type: none"> <li>i. is endangering the life or health of a person; or</li> <li>ii. is endangering the structural safety of a building; or</li> <li>iii. is endangering the operation or safety of community infrastructure that is not a building; or</li> <li>iv. is required to prevent environmental harm, may be undertaken outside the hours set out in Table 1.</li> </ul>	Ongoing requirement where activities that may be carried out in an emergency (i.e. rectification of burst water main) will be organised in accordance with Workplace Health and Safety Act 2011, relevant Australian Standards and Queensland Manual of Uniform Traffic Control Devices (MUTCD) Part 3 – Traffic control for works on roads.	Ongoing
(c)	<p>The following work may be undertaken during Extended Work Hours as set out in Table 1, subject to compliance with specific measures for Extended Work Hours in the Construction Environmental Management Plan (temporary coach terminal works):</p> <ul style="list-style-type: none"> <li>i. Paving, line marking, structural installation;</li> </ul>	Ongoing requirement where works performed in extended hours are of consistent nature to subclause (c) of Condition 6.	Ongoing

Condition	Description	Compliance	Status
	<ul style="list-style-type: none"> <li>ii. Temporary coach terminal works within a road reserve or busway that cannot be undertaken reasonably nor practicably during standard hours due to potential disruptions to peak traffic flows or bus operations;</li> <li>iii. Temporary coach terminal works involving the transport, assembly or decommissioning of oversized plant, equipment, components or structures; delivery of "in time" materials such as concrete, hazardous materials, large components and machinery;</li> <li>iv. Temporary coach terminal works that require continuous construction support, such as continuous concrete pours, or other forms of ground support necessary to avoid a failure or construction incident.</li> </ul>		
<b>7.</b>	<b>Noise and Vibration</b>		
(a)	<p>Temporary coach terminal works must aim to achieve the project noise goals for human health and well-being presented in Table 2.</p> <ul style="list-style-type: none"> <li>• Goal for <b>continuous</b> noise during <b>standard hours</b> of AS2107;</li> <li>• Goal for <b>intermittent</b> noise during <b>standard hours</b> of AS2107 + 10dBA;</li> <li>• Goal for <b>continuous</b> noise during <b>extended hours</b> of 40 dBA LAeq adj (1hr); and</li> <li>• Goal for <b>intermittent</b> noise during <b>extended hours</b> of Goal for continuous noise during extended hours of 40 dBA LAeq adj (1hr).</li> </ul> <p><b>Notes</b></p> <ol style="list-style-type: none"> <li>1. All goals are internal noise levels for human health and well-being outcomes.</li> <li>2. Where internal noise levels are unable to be measured or monitored, the typical noise reductions presented in the</li> </ol>	Ongoing requirement where all reasonable and practical steps will be taken to control noise.	<b>Ongoing</b>

Condition	Description	Compliance	Status
	relevant State guideline, such as the Guideline Planning for Noise Control, Ecoaccess, DEHP, January 2017 (currently under review).		
(b)	During construction of temporary coach terminal works monitor and report on noise and vibration in accordance with the Construction Environmental Management Plan (temporary coach terminal works).	Ongoing requirement where noise monitoring equipment will be installed, and results monitored by Noise Measurement Services Pty Ltd and reported monthly to the Coordinator-General.	Ongoing
(c)	Temporary coach terminal works predicted to or monitored as generating noise levels more than 20dBA (LA eq 10min, adj) above the relevant goal in the <i>section 4.2.3</i> may occur only in accordance with the mitigation measures developed in consultation with and agreed by Directly Affected Persons (DAP) that are incorporated in the Mitigation Register.	Ongoing requirement where if noise levels are generated more than 20dBA (LA eq 10min, adj) above the relevant goal in <i>section 4.2.3</i> that the relevant DAP are consulted with and mitigation measures agreed.	Ongoing
(d)	Temporary coach terminal works must aim to achieve the construction vibration goals.	Ongoing requirement where all reasonable and practical steps will be taken to control vibration.	Ongoing
(e)	Where vibration protection criteria are available for sensitive building contents, predictive modelling must take into account the manufacturer's specifications for tolerance to vibration. To the extent reasonable and practicable, those specifications apply in lieu of the construction vibration goals in <i>section 4.2.3</i> . Where predictive modelling indicates the specified criteria would not be achieved by the temporary coach terminal works, such works may proceed only in accordance with specific mitigation measures agreed with the DAP.	Ongoing requirement where if vibration protection criteria is used that predictive modelling does not exceed the specified criteria without consulting and agreeing mitigation measures agreed with DAP.	Ongoing
(f)	Temporary coach terminal works predicted to or monitored as generating vibration levels more than 2mm/s for continuous vibration and 10mm/s for transient vibration may occur only in accordance with the mitigation measures developed in consultation with and agreed by DAP that are incorporated in the Mitigation Register.	Ongoing requirement where if vibration exceeds the continuous and transient levels that works are not undertaken without consulting and agreeing mitigation measures agreed with DAP.	Ongoing
(g)	The temporary coach terminal must incorporate dynamic signage and ensure	Ongoing requirement where the Project team has been proactive in working with	Ongoing

Condition	Description	Compliance	Status
	equitable access is provided for visually impaired persons in accordance with relevant Australian Standards and design principles.	the Queensland Rail Accessibility Reference Groups and Vision Australia.	
<b>8.</b>	<b>Air Quality</b>		
(a)	Construction of the temporary coach terminal works must aim to achieve the goals in <i>section 4.3.3</i> .	Ongoing requirement where all reasonable and practical steps will be taken to control air quality.	Ongoing
(b)	During construction monitor and report on air quality in accordance with the Construction Environmental Management Plan (temporary coach terminal works).	Ongoing requirement where air quality monitoring equipment will be installed, and results monitored by SERS and reported monthly to the Coordinator-General.	Ongoing
<b>9.</b>	<b>Traffic and Transport</b>		
(a)	Construction traffic associated with the temporary coach terminal works must be managed to avoid or minimise adverse impacts on road safety and traffic flow, public transport, freight rail movements, pedestrian and cyclist safety, and property access.	Ongoing requirement where construction traffic will be managed in accordance with the approved Traffic Management Plan and CEMP. Compliance will also be achieved with materials and plant / equipment supply to site to ensure that vehicle arrival is staged to prevent build-up of traffic. Additional traffic control provisions have been employed by Pensar to effectively manage all traffic entering the site via Parkland Crescent.	Ongoing
(b)	During temporary coach terminal works, workforce car parking will be provided within the worksite where possible, and parking on local streets is to be avoided.	Ongoing requirement to ensure that workforce parking is contained within the worksite. Pensar has secured several vehicle bays in Corner Stone Parking in addition to available onsite parking.	Ongoing
(c)	Access for emergency services to temporary coach terminal worksites and adjoining properties must be maintained throughout the construction phase.	Ongoing requirement to ensure that emergency services have the ability to attend site or pass through to attend an adjacent property. Emergency services have been consulted with through CRRDA on the works and likely impact to road, footpath and access conditions to Roma Street Train Station Platform 10 and the Roma Street Parklands and will be consulted on any significant stage or condition changes.	Ongoing
(d)	Practicable access is maintained to adjacent properties throughout temporary coach terminal works.	Ongoing requirement where the Project will accommodate either two-way vehicle flow or during select periods, run contra-flow vehicle access along Parkland Crescent and / or along Parkland Boulevard. It is noted that there will be select periods (i.e. the erection of steel structures) where temporary diversions	Ongoing

Condition	Description	Compliance	Status
		will be in place to ensure that traffic is managed appropriately and without significant interruption to vehicles approaching the site from either direction.	
(e)	Heavy construction vehicles use only designated routes for spoil haulage and deliveries of major plant, equipment and materials, in accordance with the Construction Environmental Management Plan. The designated haulage routes for each worksite must follow major or arterial roads to the extent practicable.	Ongoing requirement where heavy construction vehicles will be proactively managed to avoid (where possible) the residential section of Parkland Boulevard. Due to the size of the site, there is very little room practically for heavy vehicles to turn around. Heavy vehicle journeys have been planned to enter and leave the construction site in one line of direction.	Ongoing
(f)	Construction traffic must operate within the requirements of the Construction Environmental Management Plan (temporary coach terminal works).	Ongoing requirement where construction traffic is to comply with the approved CEMP.	Ongoing
(g)	<p>Prepare a Construction Traffic Management Plan (temporary coach terminal works) that includes:</p> <ul style="list-style-type: none"> <li>i. the proposed access to worksites, with local or minor roads only used where unavoidable to access a temporary coach terminal worksite;</li> <li>ii. a process for advance notice to Directly Affected Persons and local communities within the vicinity of the haulage routes and worksite accesses;</li> <li>iii. local traffic management measures developed in consultation with Brisbane City Council for key intersections including the reconfiguration of the intersection between Parkland Boulevard and Parkland Crescent to provide better sight distances and improved safety for road users;</li> <li>iv. specific traffic management measures developed in consultation with other key stakeholders, including: <ul style="list-style-type: none"> <li>A. Queensland Rail about maintaining access to railway stations; and</li> </ul> </li> </ul>	Completed requirement where Pensar prepared a Traffic Management Plan (TMP) (Rev 2) covering the items in Condition 9(g), which has subsequently been approved by HPW and CRRDA. The TMP has been successfully employed since November 2018 and copies have been provided to QR, CPS and BCC.	Completed

Condition	Description	Compliance	Status
	B. the department administering the Transport Infrastructure Act 1994 and the Brisbane City Council about maintaining operations for bus services along streets affected by the temporary coach terminal works.		
(h)	Temporary coach terminal works must be designed, planned and implemented to maintain acceptable footpath and cycle paths in areas adjacent to temporary coach terminal worksites in terms of capacity, legibility and pavement condition. The proponent must consult with the Brisbane City Council and Queensland Rail about changes in pedestrian and cycle paths required to facilitate temporary coach terminal works.	Ongoing requirement where interface between the Roma Street Train Station, Roma Street Parklands, and connecting roads is managed through weekly interface meetings where any proposed changes to footpaths in adjacent areas is consulted with Queensland Rail (QR), Brisbane City Council (BCC), DSDMIP, City Parklands (CPS) and other relevant parties. Changes to pedestrian paths is communicated at least 14 days prior to the change to the Queensland Rail Accessibility Reference Group.	Ongoing
<b>10.</b>	<b>Water Quality</b>		
(a)	Discharge of surface water and groundwater from the construction of the temporary coach terminal works must comply with the Brisbane River Estuary environmental values and water quality objectives (Basin no. 143 - mid-estuary) in the Environmental Protection (Water) Policy 2009.	Ongoing requirement where WSP, through HPW has been commissioned to independently inspect site after rain events that exceed 25mm in a 24-hour period. No surface water or groundwater will be discharged from the construction site without ensuring the environmental values and water quality objectives are met and documentation is supplied to justify the objectives are achieved.	Ongoing
(b)	During construction monitor and report on water quality in accordance with the Construction Environmental Management Plan (temporary coach terminal works).		Ongoing
<b>11.</b>	<b>Surface Water</b>		
(a)	Temporary coach terminal works, and worksites, must be designed and implemented 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.	WSP, through HPW has been commissioned to independently inspect site after rain events that exceed 25mm in a 24-hour period. Any corrective action identified will be communicated through HPW to Pensar to execute.	Ongoing
(b)	During construction monitor and report on water quality in accordance with the Construction Environmental Management Plan (temporary coach terminal works).		Ongoing
<b>12.</b>	<b>Erosion and Sediment Control</b>		

Condition	Description	Compliance	Status
(a)	An erosion and sediment control sub-plan that is 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 – Erosion and Sediment Control must be submitted as part of the Construction Environmental Management Plan (temporary coach terminal works).	Ongoing requirement where erosion and sediment control has been established in accordance with the approved CEMP (refer to drawings RCT-0004-ES-LD-100, RCT-0004-ES-LD-101 and RCT-0004-ES-LD-102). Weekly independent environmental audits have been procured by HPW to occur with weekly reports generated and provided to Pensar for corrective action as required. Refer to <i>section 4.6</i> for details on erosion and sediment control management.	Ongoing
<b>13.</b>	<b>Cultural Heritage</b>		
(a)	Temporary coach terminal works that involve excavation, construction or other activities that may cause harm to Aboriginal cultural heritage must not take place without the development and approval of a cultural heritage management plan for the Project in accordance with the <i>Aboriginal Cultural Heritage Act 2003</i> .	The Cultural Heritage Management Plan has been prepared by CRRDA in consultation with the Aboriginal party for the area and is in the final stages of approval. However, all works are being carried out in accordance with the cultural heritage duty of care prescribed by section 23(1) of the <i>Aboriginal Cultural Heritage Act 2003</i> . Refer to <i>section 4.7</i> for details on Cultural Heritage management for the Civil Works. The works are also being done under an Early Works Agreement that has been endorsed by the Aboriginal party for the area.	Ongoing
(b)	Temporary coach terminal works that do not have the potential to harm Aboriginal cultural heritage may be carried out without the development and approval of a cultural heritage management plan for the Project, however, must be carried out in accordance with the cultural heritage duty of care prescribed under section 23(1) of the <i>Aboriginal Cultural Heritage Act 2003</i> .		Ongoing
(c)	Temporary coach terminal works that do not constitute Project Works may be carried out for the Project without the development and approval of a cultural heritage management plan for the Project, however must be carried out in accordance with the cultural heritage duty of care prescribed by section 23(1) of the <i>Aboriginal Cultural Heritage Act 2003</i> .		Ongoing

## 3 CONSTRUCTION ACTIVITIES

### 3.1 Progress Summary

#### 3.1.1 Summary of Works

During this reporting period, the works involved:

- Earthworks excavation;
- Stormwater drainage installation;
- Reticulation of sewer and water services;
- Electrical and communications pit installation;
- Excavation, preparation and concrete pour of pad footings in the central platform;
- Clearing and tree removal adjacent to Platform 10; and
- Backfill and subgrade treatment in the central platform.

#### 3.1.2 Progress Photos

The following progress photos capture key activities undertaken in this reporting period.

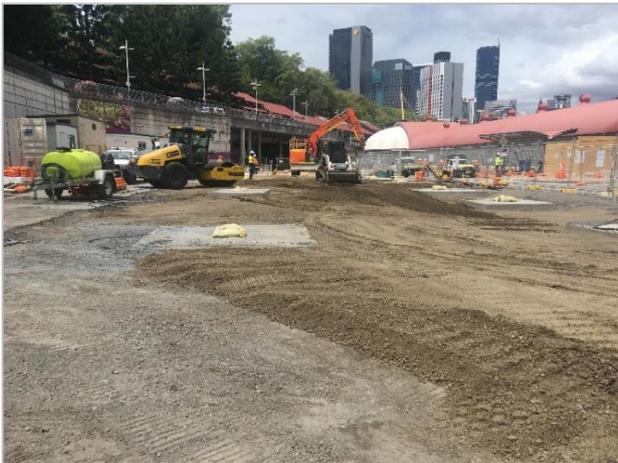


Figure 2 – Embankment fill in central platform



Figure 3 – Pad footing concrete pour

### 3.2 Progress Planned

#### 3.2.1 Summary of Works

Upcoming activities include the completion of the structural foundations in the central platform area and against platform 10, installation of the fire and water reticulation network, installation of the communications and electrical conduits and pits and subgrade works for the asphalt pavement area.

#### 3.2.2 Notable Works Planned

For the next reporting period, **Table 7** identifies several planned activities that will likely affect noise, vibration or air quality.

Table 7 – Notable Works Planned

Activity	Sensitivity Affected			Mitigation Measures
	Noise	Vibration	Air Quality	
Installation of inground services.	✓			Trenching through the central platform, along the retaining wall and adjacent to Platform 10. Any shale encountered will be broken-up by an excavator with hammer – performed intermittently during standard work hours of the day.
Excavation of concrete and asphalt pavement	✓	✓	✓	Excavation will occur intermittently during standard work hours and continue through February 2019.
Pumping of concrete	✓			Concrete pours for the structure foundations will occur intermittently during February 2019.
Saw cutting and jack hammering	✓	✓	✓	Minor works will be undertaken at the QR loading dock to extend an existing ramp to achieve accessibility compliance. The top and bottom ends of the ramp will be removed over a period of three days to enable the ramp to be reformed and poured to achieve a lower gradient. Reasonable and practical steps will be taken to ensure that the correct equipment is used to undertake the task and that respite is offered intermittently to control noise, vibration and air quality.

### 3.2.3 Changes to pedestrian access

Pedestrian access to Roma Street Train station will be accommodated through an alternative entry and exit point. The current use of this space is the Queensland Rail loading dock, however, will be repurposed to allow accessible access and egress.

Notifications will be issued by CRRDA through community communication channels prior to a significant change.

### 3.2.4 Changes to vehicle access

Vehicle access along Parkland Crescent and Parkland Boulevard will be maintained with contraflow implemented during standard hours. The accessible set down zone will be temporarily relocated to a new area near the repurposed loading dock.

Notifications will be issued by CRRDA through community communication channels prior to a significant change.

## 4 ENVIRONMENTAL MONITORING RESULTS

### 4.1 Hours of Work

#### 4.1.1 Overview

Hours of work are governed under the Coordinator-General’s Change Report Imposed Conditions as **Condition 6. – Hours of Work**.

#### 4.1.2 Extended Hours of Work

No work undertaken in the extended hours period.

#### 4.1.3 Emergency Work Hours

No work was undertaken in the emergency hours period.

### 4.2 Noise and Vibration

The Coordinator-General’s Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to control noise and vibration.

#### 4.2.1 Overview

Noise and vibration are governed under the Coordinator-General’s Change Report Imposed Conditions as **Condition 7. Construction Noise and Vibration** with specific noise and vibration criteria prescribed for various activities and locations. Ongoing monitoring is undertaken to measure noise and vibration are ensure the Project remains within the goals nominated.

#### 4.2.2 Environmental Outcomes

The following environmental outcomes in relation to noise and vibration are to be achieved for the temporary coach terminal works:

- Construction activities are designed, planned and implemented to maintain human health and wellbeing, to the extent reasonable and practicable;
- Construction activities generally are designed, planned and implemented to maintain daily patterns of activity, and to minimise sleep disturbance at night; and
- Construction activities are managed to avoid vibration-related human discomfort and structural damage on all properties and sensitive plant and equipment.

#### 4.2.3 Performance Criteria

##### 4.2.3.1 Noise

Table 8 – Noise Monitoring Goals

Noise Goals	Monday – Saturday 6.30am – 6.30pm	Monday – Friday 6.30pm – 10.00pm
Continuous (LAeq adj) (1hr)	AS 2107 Maximum design level	40 dBA LAeq adj (1hr)

Noise Goals	Monday – Saturday 6.30am – 6.30pm	Monday – Friday 6.30pm – 10.00pm
Intermittent (LA10 adj) (15min)	AS 2107 Maximum design level + 10 dBA	50 dBA LA10, adj
<b>Notes</b> 1. All goals are internal noise levels for human health and well-being outcomes. 2. Where internal noise levels are unable to be measured or monitored, the typical noise reductions presented in the relevant State guideline, such as the Guideline Planning for Noise Control, Ecoaccess, DEHP, January 2017 (currently under review). 3. Temporary coach terminal works predicted to or monitored as generating noise levels more than 20dBA (LA eq 10min, adj) above the relevant goal in Table 7 may occur only in accordance with the mitigation measures developed in consultation with and agreed by Directly Affected Persons that are incorporated in the Mitigation Register (Table 9).		

Applicable noise goals are for internal sensitive receptors. As the noise monitoring equipment is taking external readings, an attenuation of -5dB(A) has been allowed for in accordance with AS2107.

### 4.2.3.2 Vibration

Table 9 – Vibration Monitoring Goals

Receiver Type	Cosmetic Damage		Human Comfort (mm/s PPV)		Sensitive building contents (mms/PPV)
	Continuous vibration (mm/s PPV)	Transient vibration (mm/s PPV)	Day	Night	
Residential	According to BS7385 reduced by 50% <sup>1</sup>	According to BS7385	According to AS2670	0.5 <sup>2</sup>	
Commercial	According to BS7385 reduced by 50% <sup>1</sup>	According to BS7385	According to AS2670		0.5 <sup>3</sup>
Heritage Structures	2				
<b>Notes:</b> 1. If resonance is present, or if investigation to detect resonance was not able to be undertaken due to a lack of access 2. Residential sleep disturbance 3. Equipment specific vibration criteria are required for highly sensitive equipment (i.e. electron microscopes, MRI systems or similar), as part of future site-specific detailed investigations 4. Vibration dosage will be converted to measurement in mm/s for the human comfort assessment in accordance with BS7385. <i>The conditions for building damage refer to the British Standard BS7385 and address both transient and continuous vibration. The limits are acceptable with respect to the buildings and can be monitored with equipment reporting in terms of mm/s. The human comfort criteria are referenced to an Australian Standard AS2670 which has been withdrawn. The standard references permissible values which are taken from the British Standard BS6472 which could be applied if required. These conditions are however expressed in dosage units which are challenging to record and model against. The associated British Standard BS5228 recognises this short-coming of the dosage criteria and suggests that the monitoring limits should be recalculated in terms of mm/s. This remains consistent with the BS7385 measuring metric.</i>					

The trigger limit in accordance with Note 4 is set at 10mm/s for human comfort.

## 4.2.4 Equipment and Monitoring

### 4.2.4.1 Noise

Pensar have installed a noise monitoring system, located on Parkland Boulevard, adjacent to Parklands Apartments Building 3. The microphone height is 1.35 metres above ground level and two metres from the commercial building behind existing balustrades. The measured sound levels from construction are façade affected.

#### 4.2.4.2 Vibration

Pensar have installed several monitoring systems around the perimeter of the site – refer to **Figure 1** for an overview of the deployment locations.

### 4.2.5 Measured Levels

#### 4.2.5.1 Noise

**Table 10 – Measured daytime ambient dB(A) levels**

Date	Time Period	LA 10 (average)	LAeq (12 hour)
Monday, 4 February 2019	6.30am - 6.30pm	67.4	69.1
Tuesday, 5 February 2019	6.30am - 6.30pm	66.9	68.3
Wednesday, 6 February 2019	6.30am - 6.30pm	60.8	61.5
Thursday, 7 February 2019	6.30am - 6.30pm	67.0	69.1
Friday, 8 February 2019	6.30am - 6.30pm	66.4	68.5
Saturday, 9 February 2019	6.30am - 6.30pm	57.1	58.3
Sunday, 10 February 2019	6.30am - 6.30pm	56.3	57.4
Monday, 11 February 2019	6.30am - 6.30pm	64.4	64.8
Tuesday, 12 February 2019	6.30am - 6.30pm	63.9	64.7
Wednesday, 13 February 2019	6.30am - 6.30pm	65.2	65.9
Thursday, 14 February 2019	6.30am - 6.30pm	64.9	65.4
Friday, 15 February 2019	6.30am - 6.30pm	63.2	63.3
Saturday, 16 February 2019	6.30am - 6.30pm	58.5	58.4
Sunday, 17 February 2019	6.30am - 6.30pm	57.1	57.1
Monday, 18 February 2019	6.30am - 6.30pm	64.2	65.0
Tuesday, 19 February 2019	6.30am - 6.30pm	65.2	66.0
Wednesday, 20 February 2019	6.30am - 6.30pm	64.8	65.8
Thursday, 21 February 2019	6.30am - 6.30pm	66.6	67.4
Friday, 22 February 2019	6.30am - 6.30pm	68.9	70.0
Saturday, 23 February 2019	6.30am - 6.30pm	59.0	59.3
Sunday, 24 February 2019	6.30am - 6.30pm	59.0	59.1
Monday, 25 February 2019	6.30am - 6.30pm	69.4	70.4
Tuesday, 26 February 2019	6.30am - 6.30pm	70.2	72.6
Wednesday, 27 February 2019	6.30am - 6.30pm	70.4	72.4
Thursday, 28 February 2019	6.30am - 6.30pm	67.2	67.7
Friday, 1 March 2019	6.30am - 6.30pm	68.0	68.8
Saturday, 2 March 2019	6.30am - 6.30pm	58.7	58.9
Sunday, 3 March 2019	6.30am - 6.30pm	58.0	58.3

Weekend shaded blue  
 Rain affected day shaded yellow

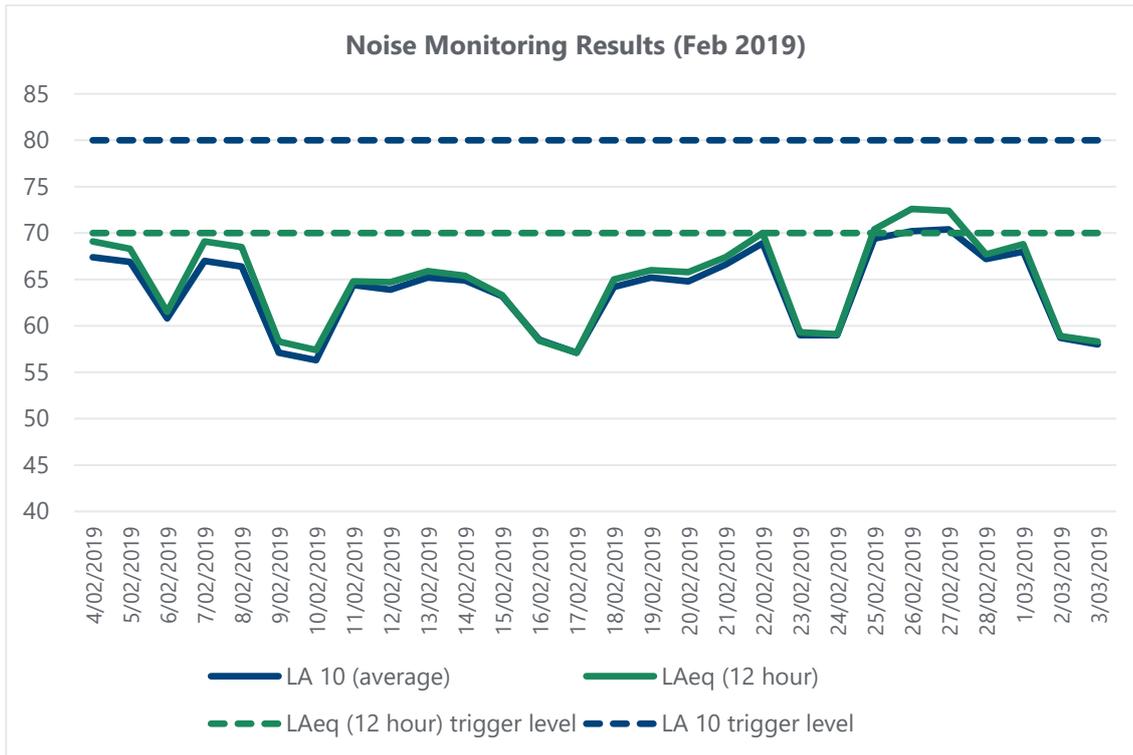


Figure 4 – Measured daytime ambient dB(A) levels

### 4.2.5.2 Vibration

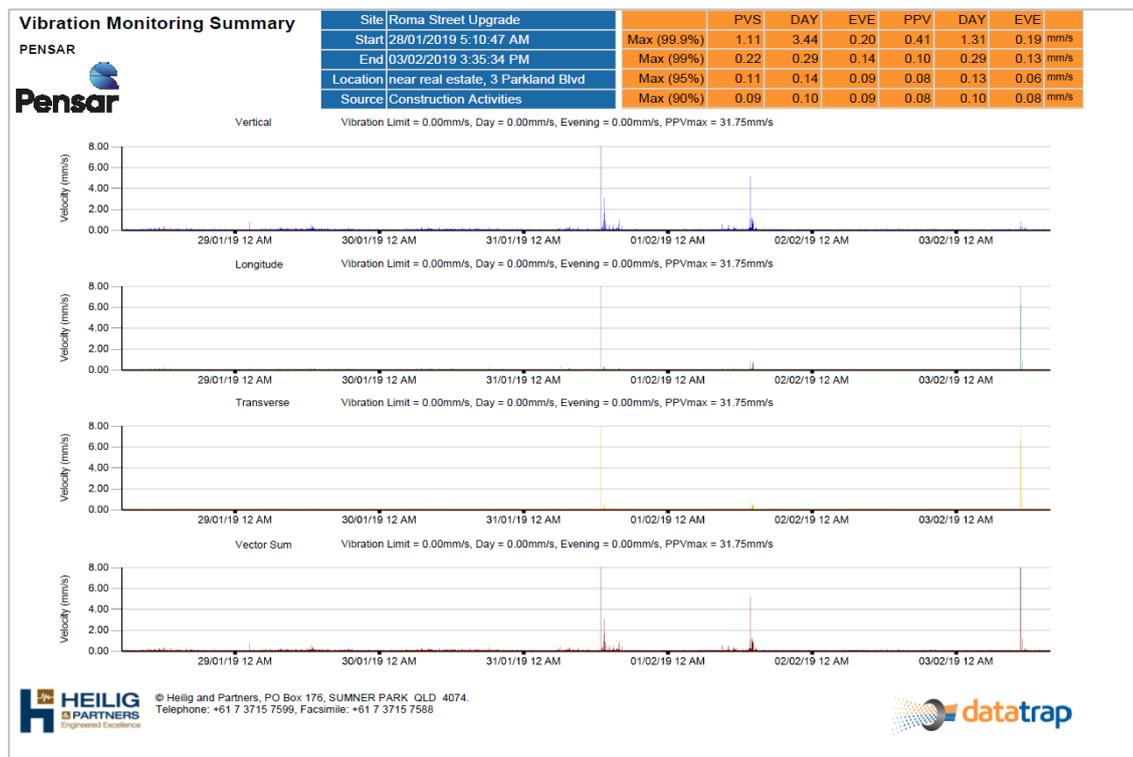


Figure 5.1 – Vibration levels (28/01/19-03/02/19)



Figure 5.2 – Vibration levels (04/02/19-10/02/19)

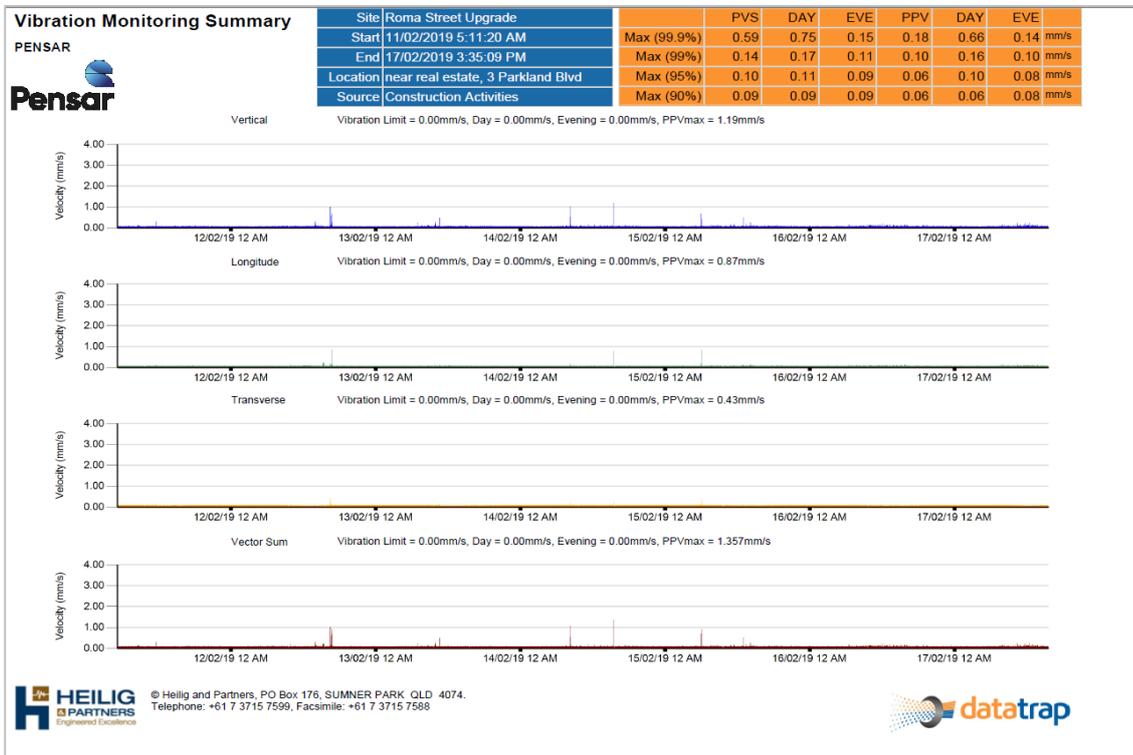


Figure 5.3 – Vibration levels (11/02/19-17/02/19)

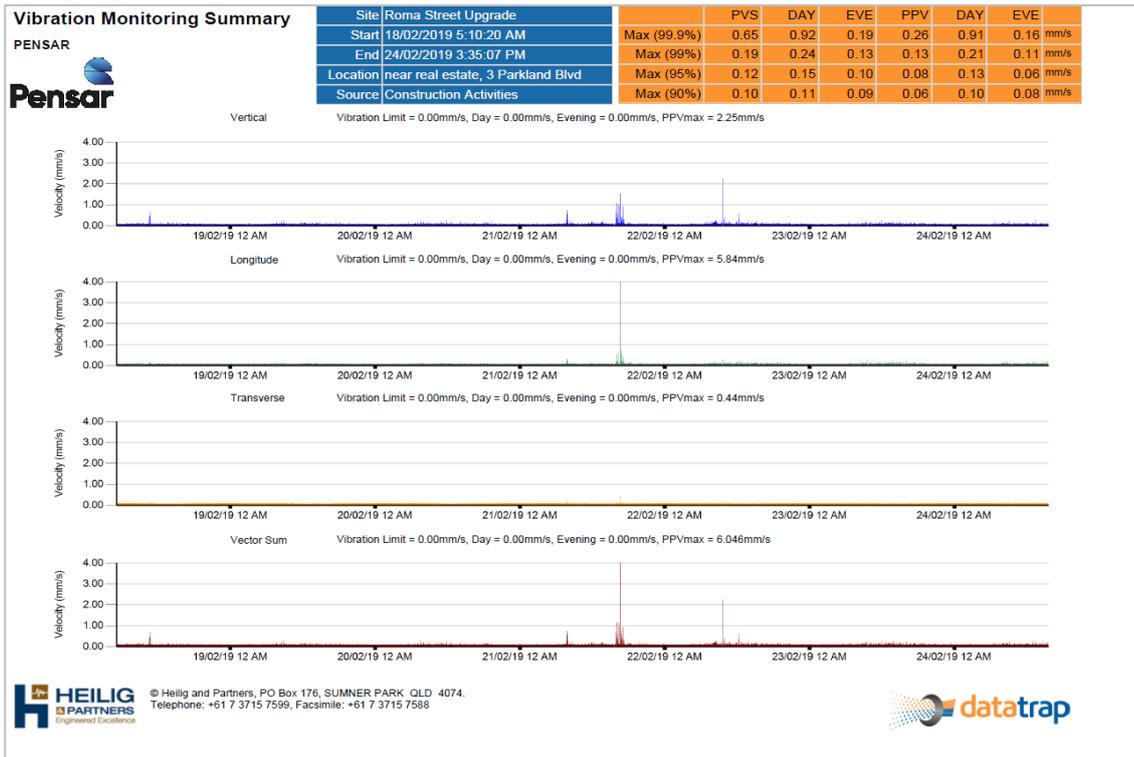


Figure 5.4 – Vibration levels (18/02/19-24/02/19)

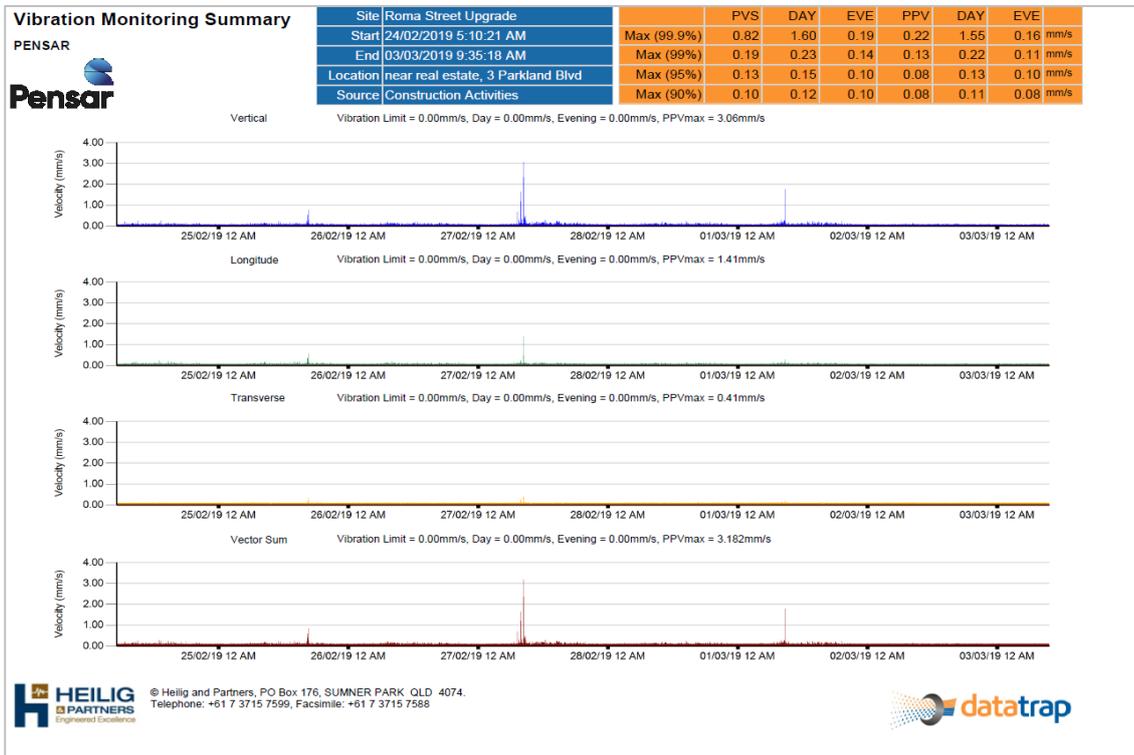


Figure 5.5 – Vibration levels (24/02/19-03/03/19)

## 4.2.6 Compliance

### 4.2.6.1 Noise

A period from 25 February 2019 to 27 February 2019 saw a higher level of noise activity than previous weeks.

The increased noise can be attributed to construction activity that involved using an excavator with hammer intermittently to assist with trenching of the fire hydrant line that runs from the retaining wall to Platform 10. Shale and other harder materials were encountered in this period that the smaller excavator was unable to remove. The excavator and hammer were also undertaking works in the central area to demolish the existing concrete median and footings of the previous steel structure.

There was formwork and reinforcement works being undertaken adjacent to Platform 10 to prepare and pour the precast footings. Works involved saw cutting and drilling. Respite was allowed for with works occurring intermittently during the day.

The Coordinator-General’s Imposed Conditions were not breached during the month of February. The construction team took all reasonable and practical measures to control noise. Equipment was fitted with noise dampeners; engines were not left idling when not in use and the smaller excavator was used for general excavation when the hammer was not required.

### 4.2.6.2 Vibration

The Coordinator-General’s Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to control vibration.

## 4.2.7 Works Directly Affecting Persons

Construction works predicted to, or monitored as generating noise levels, more than 20dBA (LAeq 10min, adj) above the relevant goal in **Table 8**, or vibration levels, more than the specified value in **Table 9**, may occur only in accordance with the mitigation measures developed in consultation with and agreed by Directly Affected Persons (DAP) that are recorded in the Mitigation Register.

**Table 11 Mitigation Register**

Date	Activity Description	Criteria / Goal	Expected Exceedance	DAP	Agreed Mitigation Measure
Nil					

## 4.3 Air Quality

The Coordinator-General’s Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to control air quality.

### 4.3.1 Overview

Air quality is referenced in the Coordinator-General’s Change Report as Imposed **Condition 8. Construction noise and vibration**.

### 4.3.2 Environmental Outcomes

The following environmental outcomes in relation to air quality are to be achieved for the temporary coach terminal works:

- Nuisance from dust, odour and emissions arising from construction activities is minimised at nearby sensitive receivers;

- Nominate the monitoring and reporting requirements in relation to air quality;
- Manage the impact on the local community and sensitive receptors in terms of air quality from construction works; and
- Monitor the effects of management and mitigation measures.

### 4.3.3 Performance Criteria

Table 12 Air Quality Goals

Criterion	Air quality indicator	Goal	Averaging Period
Human health	Total Suspended Particulates (TSP)	90 µg/m <sup>3</sup>	1 year
	Particulate matter (PM10)	50 µg/m <sup>3</sup>	24 hours
		25 µg/m <sup>3</sup>	1 year
Nuisance	TSP	80 µg/m <sup>3</sup>	24 hours
	Deposited dust	120 mg/m <sup>2</sup> /day	30 days

### 4.3.4 Equipment and Monitoring

Pensar have installed an air quality monitoring system, located on Parkland Boulevard, adjacent to Parkland Boulevard ramp and directly above the current site sheds.

Dust monitoring locations were chosen so that a true representation of dust generation from site construction activity could be established. Prevailing wind and site conditions at the time were factored into the monitoring program design.

### 4.3.5 Measured Levels

Pensar – Roma Street Station Dust Monitoring Results  
1<sup>st</sup> February – 7<sup>th</sup> February 2019

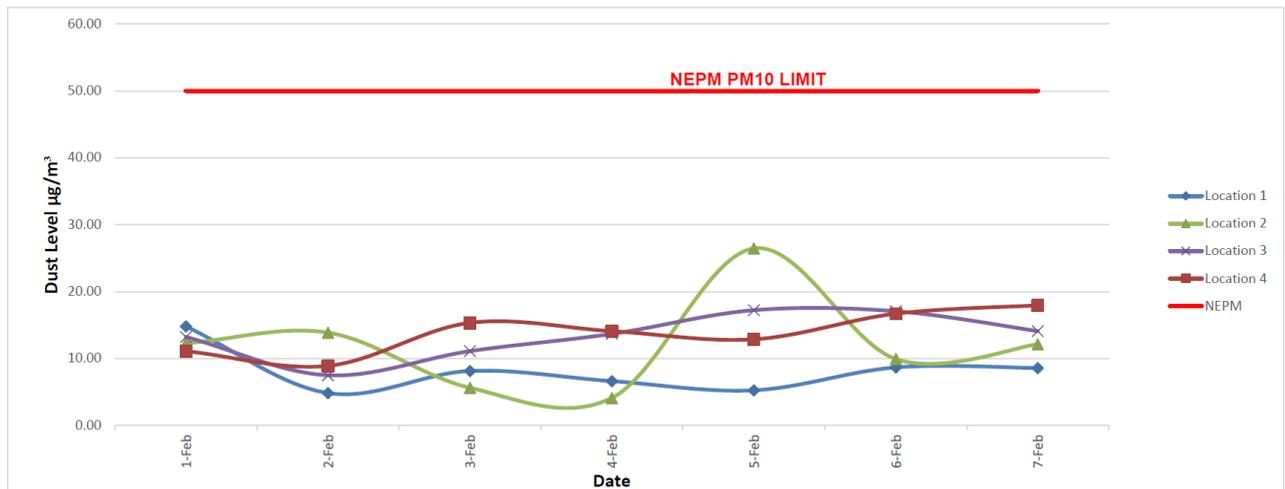


Figure 6.1 – Air Quality levels (01/02/19-07/02/19)

Pensar – Roma Street Station Dust Monitoring Results  
8<sup>th</sup> February – 14<sup>th</sup> February 2019

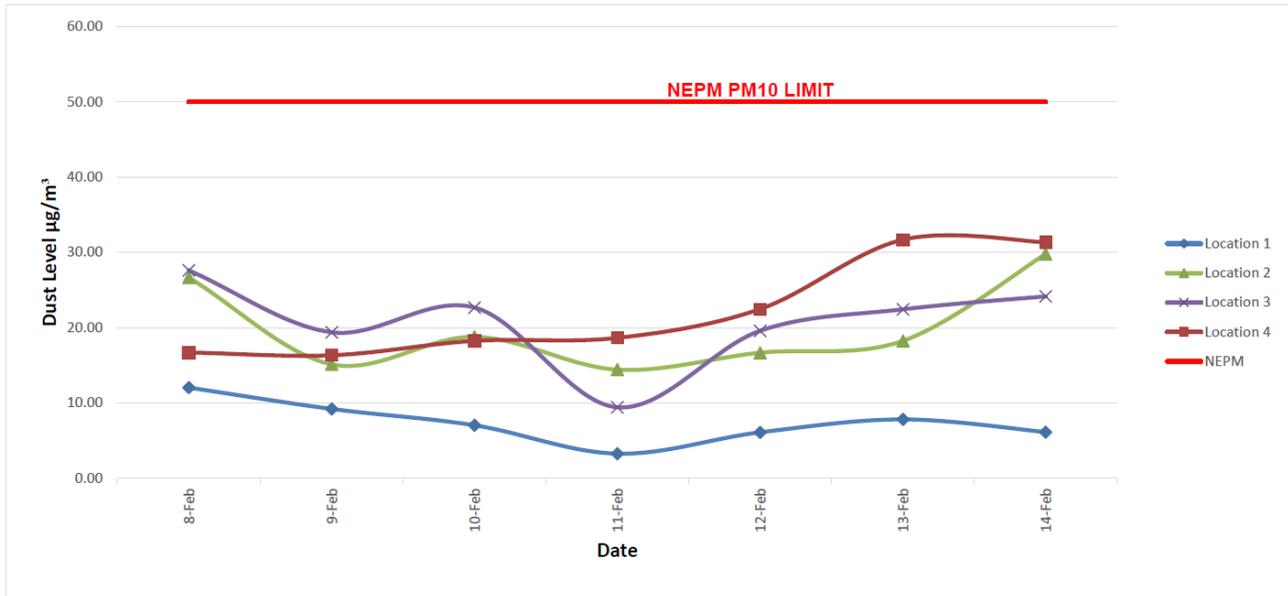


Figure 6.2 – Air Quality levels (08/02/19-14/02/19)

Pensar – Roma Street Station Dust Monitoring Results  
15<sup>th</sup> February – 21<sup>st</sup> February 2019

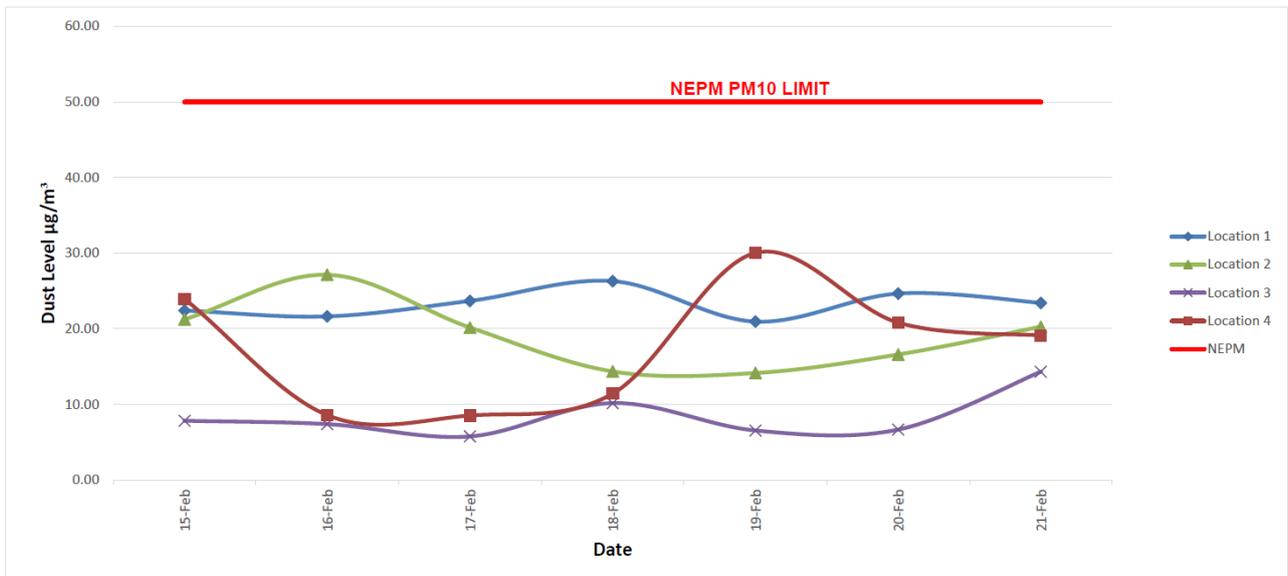


Figure 6.3 – Air Quality levels (15/02/19-21/02/19)

Pensar – Roma Street Station Dust Monitoring Results  
22<sup>nd</sup> February – 28<sup>th</sup> February 2019

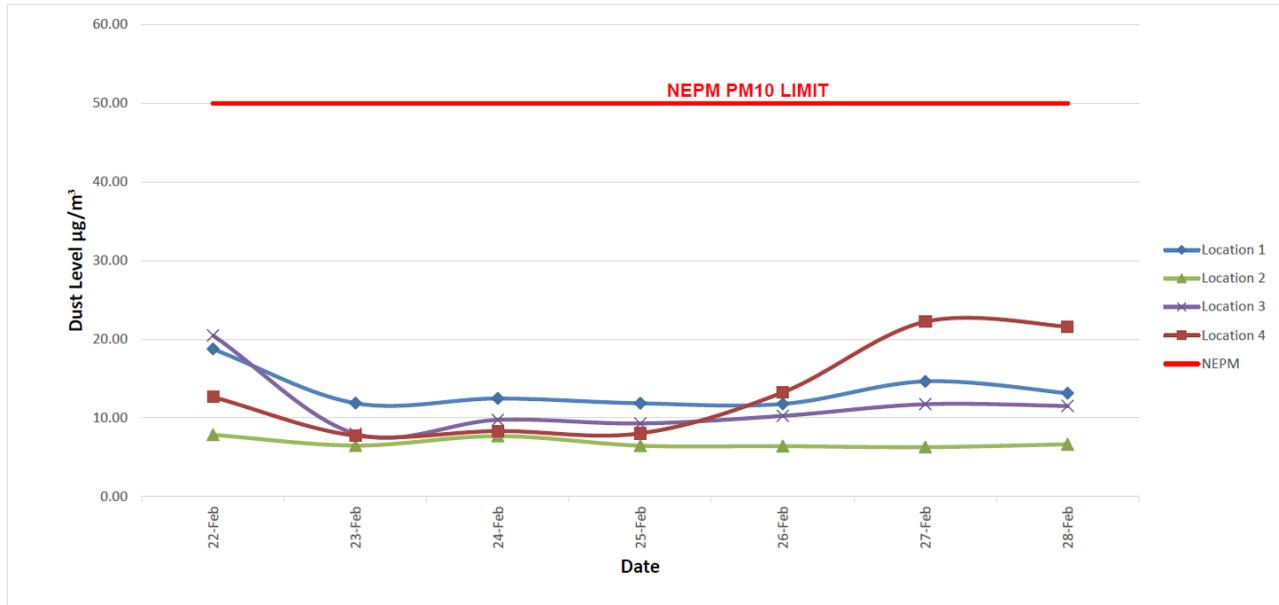


Figure 6.4 – Air Quality levels (22/02/19-28/02/19)

### 4.3.6 Compliance

The Coordinator-General’s Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to control air quality.

### 4.3.7 Works Directly Affecting Persons

Construction works predicted to, or monitored as generating vibration levels, more than the relevant goal in **Table 12** may occur only in accordance with the mitigation measures developed in consultation with and agreed by Directly Affected Persons (DAP) that are recorded in the Mitigation Register.

Table 13 Mitigation Register

Date	Activity Description	Criteria / Goal	Expected Exceedance	DAP	Agreed Mitigation Measure
Nil					

## 4.4 Traffic and Transport

The Coordinator-General’s Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to control traffic and transport.

### 4.4.1 Overview

Traffic and transport are governed by the Coordinator-General’s Change Report Imposed **Condition 9. Traffic and transport**.

### 4.4.2 Environmental Outcomes

The following environmental outcomes in relation to construction traffic management are to be achieved for the Project:

- Project construction traffic is managed to avoid or minimise and mitigate adverse impacts on road safety and traffic flow, public transport, pedestrian and cyclist safety, property access, freight rail movements and parking, existing road pavements and railway tracks;
- Workforce parking is provided and managed to avoid or minimise and mitigate adverse impacts on the local community and businesses;
- Traffic access for emergency services to construction worksites and adjoining properties is maintained throughout the construction phase; and
- Access is maintained to properties throughout the construction phase or an acceptable alternative solution is agreed with the property owner prior to closure of any access.

### 4.4.3 Performance Criteria

The following goals have been identified in the CEMP to be achieved by the Project:

- No accidents caused by construction vehicles;
- Minimise increased congestion or reduced level of service caused by construction vehicle movements;
- Sufficient notification to community on road, cycle and pedestrian access changes; and
- No damage caused to road infrastructure from constrained construction vehicle access.

### 4.4.4 Compliance

The Coordinator-General's Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to control traffic and transport.

Workforce parking was managed within the profile of the site and in conjunction with private car parks secured through agreement with relevant owners. Access was maintained at all times for emergency services and access into adjacent properties. Heavy vehicles were brought in and out of site through Roma Street with minimal time spent on Parkland Crescent and Parkland Boulevard.

## 4.5 Water Quality and Surface Water

The Coordinator-General's Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to manage water quality and surface water.

### 4.5.1 Overview

Water Quality and Surface Water are governed by the Coordinator-General's Change Report Imposed **Condition 10. Water Quality** and **Condition 11. Surface water**.

### 4.5.2 Environmental Outcomes

#### 4.5.2.1 Water Quality

The following environmental outcomes in relation to water quality are to be achieved for the temporary coach terminal works:

- Groundwater inflow to the construction worksite is minimised;
- Groundwater quality surrounding the temporary coach terminal is generally comparable with preconstruction levels; and
- Discharge of groundwater from the temporary coach terminal works does not adversely impact the environmental values of receiving waters.

### 4.5.2.2 Surface Water

The following environmental outcomes in relation to surface water are to be achieved for the temporary coach terminal works:

- Construction activities are managed to avoid the transportation of contaminants that might be released to waters;
- Environmental values of surface waters immediately downstream of the construction worksite are not adversely affected by the temporary coach terminal works during and post construction; and
- The construction worksite is designed to provide for safe evacuation of worksites and to avoid disruption of evacuation routes for adjacent properties in the event of flooding.

### 4.5.3 Performance Criteria

#### 4.5.3.1 Water Quality

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

#### 4.5.3.2 Surface Water

Performance of surface water is approached through a design and construction lense. The coach terminal has been designed by engineering firm Arup and architecture firm Architectus and procured under a Traditional Lump Sum methodology.

WSP, through HPW has been commissioned to independently inspect site after rain events during construction that exceed 25mm in a 24-hour period. Any corrective action identified will be communicated through HPW to Pensar to execute and outlined within this report.

### 4.5.4 Compliance

The Coordinator-General's Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to control water quality and surface water.

## 4.6 Erosion and Sediment Control

The Coordinator-General's Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to control erosion and sediment control.

### 4.6.1 Overview

Erosion and sediment control is governed by the Coordinator-General's Change Report Imposed **Condition 12. Erosion and Sediment Control**.

### 4.6.2 Environmental Outcomes

The following environmental outcomes in relation to erosion and sediment control are to be achieved for the temporary coach terminal works:

- Construction activities minimise soil erosion and sedimentation and avoid adverse impacts on the environmental values of receiving waters;
- Construction activities minimise the impacts of ground settlement from construction works;
- Construction activities avoid or minimise environmental and public health risks associated with disturbance of potential acid sulfate soils (ASS) encountered during construction works; and
- Construction activities do not impact on the environmental values of the Brisbane River and other waterways.

### 4.6.3 Performance Criteria

- The Project does not result in the mobilisation of soil or water contaminants, including sediment movement beyond the boundaries of the worksite. Soil erosion within the worksite is to be rectified as soon as practicable after a rainfall event to prevent the release of sediment offsite;
- Runoff from the worksite complies with the environmental objectives established in the *Environmental Protection (Water) Policy 2009* (EPP (Water)); and
- ASS is avoided, or if intercepted, is managed to avoid adverse impact to environmental values, infrastructure, construction equipment, construction personnel or the public.

### 4.6.4 Compliance

The Coordinator-General's Imposed Conditions were not breached during the month of February and all reasonable and practicable measures were employed on site to control erosion and sediment control.

## 4.7 Cultural Heritage

The temporary coach terminal works are being undertaken in accordance with an Early Work agreement between the CRRDA and the relevant Aboriginal Party for the area. Personnel on site have undergone a cultural heritage induction. A cultural heritage monitor has been engaged to oversee any works that involve excavation.

### 4.7.1 Overview

Cultural Heritage is governed by the Coordinator-General's Change Report Imposed **Condition 13. Cultural Heritage**.

The temporary coach terminal works do not trigger a fully approved Indigenous Cultural Heritage Management Plan (CHMP). Items and areas of actual or potential cultural heritage significance are being managed in accordance with the duty of care obligations under the *Aboriginal Cultural Heritage Act 2003* (ACHA) and the Early Works agreement executed by the CRRDA and Aboriginal Party for the area.

### 4.7.2 Mitigation Measures

The following measures have been implemented to mitigate risks pertaining to Cultural Heritage:

- The requirements of the approved Early Works Agreement to be implemented by the contractor(s);
- All obligations relating to monitoring, finds processes and anything else described within the Terms of Reference must be followed during the full construction of the works;
- Pre-clearance, post clearance forms and artefact find form records to be retained to provide a traceable management approach to demonstrate the Project's Duty of Care as defined by the ACH Act has been met;
- Monitoring and reporting on compliance with these requirements will be the responsibility of the contractor(s); and
- Appropriate induction and awareness training have been implemented to ensure obligations and processes are well understood by all Project personnel.

## 4.8 Contaminated Land

### 4.8.1 Overview

The overall Roma Street Parklands site is included on the Environmental Management Register (EMR) due to its proximity to and previous use as rail yards. The site must comply with an overall Site Management Plan (SMP) as well as with a Contaminated Land Management Plan (CLMP).

## 4.8.2 Permits

On the 11 December 2018, Pensar was issued a soil disposal permit by the Department of Environment and Science (DES) under the *Environmental Protection Act 1994*. The permit contains a number of conditions that must be followed to ensure that on-site contaminants are controlled and managed in accordance with the SMP and CLMP, and that disposal off-site is in a compliant manner to an appropriate facility.

## 4.8.3 Disposal Log

**Table 14 – Contaminated Fill Disposal Log**

Date	Material Type	Destination	Total Weight
13/02/2019	Contaminated Soil	TiTree Bioenergy	12.86t
13/02/2019	Contaminated Soil	TiTree Bioenergy	13.86t
13/02/2019	Contaminated Soil	TiTree Bioenergy	13.22t
13/02/2019	Contaminated Soil	TiTree Bioenergy	9.14t
13/02/2019	Contaminated Soil	TiTree Bioenergy	11.66t
13/02/2019	Contaminated Soil	TiTree Bioenergy	9.92t
13/02/2019	Contaminated Soil	TiTree Bioenergy	10.96t
13/02/2019	Contaminated Soil	TiTree Bioenergy	8.46t
14/02/2019	Contaminated Soil	TiTree Bioenergy	12.02t
14/02/2019	Contaminated Soil	TiTree Bioenergy	12.00t
14/02/2019	Contaminated Soil	TiTree Bioenergy	14.41t
14/02/2019	Contaminated Soil	TiTree Bioenergy	12.54t
14/02/2019	Contaminated Soil	TiTree Bioenergy	11.14t
14/02/2019	Contaminated Soil	TiTree Bioenergy	11.86t
14/02/2019	Contaminated Soil	TiTree Bioenergy	12.24t
15/02/2019	Contaminated Soil	TiTree Bioenergy	11.74t
15/02/2019	Contaminated Soil	TiTree Bioenergy	9.42t
15/02/2019	Contaminated Soil	TiTree Bioenergy	10.28t
15/02/2019	Contaminated Soil	TiTree Bioenergy	0.76t

## 4.9 Waste

### 4.9.1 Overview

The site at Roma Street is within a metropolitan area, where access to multiple waste collection and recycling facilities is available.

### 4.9.2 Environmental Outcomes

The following environmental outcomes in relation to waste are to be achieved for the temporary coach terminal works:

- Construction activities, including demolition, are designed planned and implemented to minimise the generation of waste materials;

- Storage, handling, transportation and disposal of waste materials generated during construction are carried out to avoid breach of environmental legislation, and avoid causing potential environmental harm and or adverse impacts on communities; and
- Reuse and recycling of construction waste materials generated by construction activities is optimised.

### 4.9.3 Performance Criteria

- Construction activities are conducted in accordance with the following:
  - Waste management principles (avoid, reduce, reuse and recycle) and sustainable disposal strategies are implemented;
  - Targets to recover and re-use construction waste, including demolition waste for all classes or categories of waste; and
  - Taking all reasonable and practicable steps to minimise the impacts of handling and disposal of construction waste at the worksites, and at the disposal sites.
- Hazardous waste is handled and disposed of in accordance with the approved disposal methods by Workplace Health and Safety Queensland; and
- Waste generated is managed in accordance with the requirements and recovery targets set out in the Queensland Government’s Waste - Everyone’s Responsibility Queensland Waste Avoidance and Resource Productivity Strategy (2014- 2024). Regulated and contaminated waste is disposed of in accordance with the *Environmental Protection Act 1994*.

### 4.9.4 Recycling Logs

Table 15 – Recycling Logs

Date	Material Type	Destination	Total Weight	Total Volume	Total Recycled
28/02/2019	Clean Concrete	Archerfield Depot	19.20t	8.00m <sup>3</sup>	100%
28/02/2019	Clean Concrete	Archerfield Depot	19.20t	8.00m <sup>3</sup>	100%
28/02/2019	Clean Concrete	Archerfield Depot	9.60t	4.00m <sup>3</sup>	100%
28/02/2019	Clean Concrete	Archerfield Depot	14.40t	6.00m <sup>3</sup>	100%
28/02/2019	Clean Concrete	Archerfield Depot	19.20t	8.00m <sup>3</sup>	100%
25/02/2019	Clean Concrete	Archerfield Depot	9.60t	4.00m <sup>3</sup>	100%
21/02/2019	Asphalt Clean	Archerfield Depot	20.00t	8.00m <sup>3</sup>	100%
21/02/2019	Asphalt Clean	Archerfield Depot	20.00t	8.00m <sup>3</sup>	100%
21/02/2019	Asphalt Clean	Archerfield Depot	20.00t	8.00m <sup>3</sup>	100%
20/02/2019	Clean Concrete	Archerfield Depot	21.60t	9.00m <sup>3</sup>	100%
20/02/2019	Clean Concrete	Archerfield Depot	14.40t	6.00m <sup>3</sup>	100%
20/02/2019	Clean Concrete	Archerfield Depot	19.20t	8.00m <sup>3</sup>	100%
20/02/2019	Clean Concrete	Archerfield Depot	19.20t	8.00m <sup>3</sup>	100%

Date	Material Type	Destination	Total Weight	Total Volume	Total Recycled
20/02/2019	Clean Concrete	Archerfield Depot	19.20t	8.00m <sup>3</sup>	100%
19/02/2019	Asphalt Dirty	Archerfield Depot	15.00t	6.00m <sup>3</sup>	100%
19/02/2019	Asphalt Clean	Archerfield Depot	20.00t	8.00m <sup>3</sup>	100%

## 4.10 Flora and Fauna

### 4.10.1 Overview

The temporary coach terminal site is located in a highly developed and urbanised part of the precinct. Prior to works starting on site, the following assessment reports were commissioned:

- Fauna and Habitat Assessment Report
- Vegetation and Flora Assessment Report
- Weed Audit Report
- Preliminary Tree Report

The findings of these reports were considered in the design and development of the delivery strategy.

### 4.10.2 Investigations

An independent arborist has been engaged to prepare a report assessing the impacts of the construction and operation of the temporary coach terminal on the existing trees. Investigations will be undertaken as work progresses to ensure that work is carried out carefully as to not disrupt the health of adjacent trees.

### 4.10.3 Works Methodology

Construction works will be undertaken to preserve the integrity of the existing flora and fauna. Pensar will use spotters for the extent of vegetation clearing required to complete the scope of works.

An independent arborist will supervise the clearing of trees.

## 5 INDEPENDENT ENVIRONMENTAL MONITORING

### 5.1 General

Weekly site audits were undertaken throughout the reporting period by independent environmental monitor WSP (commissioned by the HPW) to review the following items:

- Erosion and sediment control
- Water quality
- Waste and visual amenity
- Hazardous substances
- Fauna and flora
- Unexpected finds
- Noise and vibration
- Air quality
- Documentation
- Previous inspection close-out items

### 5.2 Reports

The below table captures all independent inspections and subsequent reports in this reporting period.

**Table 16 – Independent Environmental Site Audit Reports**

Report No.	Report Date	Inspection Date	Overall Outcome
6	06/02/2019	06/02/2019	No items were identified for rectification at the time of the audit. The site was presented in a clean and tidy manner and all environmental controls were installed correctly.
7	13/02/2019	13/02/2019	No items were identified for rectification at the time of the audit. The site was presented in a clean and tidy manner and all environmental controls were installed correctly.
8	20/02/2019	20/02/2019	Damaged silt fence material in stormwater drain, adjacent to the site entrance is to be replaced.
9	27/02/2019	27/02/2019	No actions were identified for rectification, at the time of the audit. The site was well maintained, and all environmental controls were adequately installed and maintained. The one item that was identified for rectification in the previous audit had been rectified. The damaged silt fence material in the stormwater drain, adjacent to the site entrance was replaced.

## 6 INCIDENTS

### 6.1 Overview

This section provides a log of incidents that have occurred in this reporting period relating to the Coach Terminal project. The log highlights the incidents that occurred and the corrective action by the Project team. Incidents that are listed as 'Unresolved' will be retained for the next report with a further update on what corrective action was taken and if this has resolved the incident.

### 6.2 Log

**Table 17 – Coach Terminal Incident Log**

Date Occurred	Description of Incident	Corrective Action Taken	Status
Nil			

## 7 COMPLAINTS

### 7.1 Overview

This section provides a log of complaints received in this reporting period relating to the Coach Terminal project. The log highlights the complaints received and the corrective action of the Project team. Complaints that are listed as 'Unresolved' will be retained for the next report with a further update on what further corrective action was taken and if this has resolved the complaint.

### 7.2 Log

**Table 18 – Coach Terminal Complaint Log**

Method	Summary	Response	Corrective Actions	Status
Email	Complainant raised concerns about signage around the Coach Terminal construction site. Requested changes be made to make it easier to access Platform 10.	The project apologised for any inconvenience caused, the contractor will assess signage in place and implement any corrective actions identified.	Nil required.	Closed
Email	Complainant raised concerns about heavy vehicle movements around the construction site.	Contractor has been inducting all drivers to site, this induction includes a section on approved haulage routes. All drivers are issued with a map showing approved haulage routes prior to their first delivery to site. Construction vehicle movements are being managed to minimise any impact on the local area, including reducing the number of vehicle movements at peak times. The contractor has also been reminded of this requirement and compliance will be monitored.	All drivers are provided with maps showing approved haulage routes prior to the first visit to site. All drivers inducted by the Contractor.	Closed
Email	Complainant raised concerns about the QPS officer and/or Traffic Controller preventing Apartment residents from access their car park from Parkland Crescent.	Based on the current construction activities taking place there is no reason for residents not to be allowed access along Parkland Crescent. The contractor, including Police Officer, will be re-briefed this morning.	QPS Officer and Traffic control will be re-briefed to allow apartment residents to use Parkland Crescent when safe to do so.	Closed
Email	Complainant raised concerns about heavy vehicle movements around the construction site.	The company and vehicle have been identified, and the appropriate corrective actions taken. A reminder will be included in pre-start briefings about haulage routes.	A reminder will be included in pre-start briefings about haulage routes.	Closed

