Cross River Rail Environmental Impact Statement

Request for Project Change 10

Change to the imposed conditions

Volume 1

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Executive Summary

The Cross River Rail (CRR) Project is a coordinated Project for which an Environmental Impact Statement (EIS) is required under the *State Development and Public Works Organisation Act 1971*. The CRR EIS was evaluated by the Coordinator-General, who recommended the Project proceed, subject to Imposed Conditions and recommendations. Since the evaluation of the EIS, eight Requests for Project Change (RfPCs) have been evaluated by the Coordinator-General, and a ninth RfPC has been lodged with the Coordinator-General.

The Cross River Rail Delivery Authority (Delivery Authority) is applying to the Coordinator-General to evaluate a change to the Imposed Conditions of the CRR Project to permit spoil haulage on Sundays from the Albert Street Railway station and Roma Street Railway station worksites (Proposed Change).

Proposed Change to the Imposed Conditions

It is proposed to add a new Condition 10A so that, in addition to the hours of work set out in Imposed Condition 10 (Hours of Work) spoil haulage and materials/equipment delivery (excluding concrete deliveries) is permitted on Sundays from 9:00am - 6:30pm for the Albert Street Railway station and Roma Street Railway station worksites.

The proposed Condition 10A is intended to have effect until the later of:

- the TBMs reaching the Northern Portal; or
- a date stated by the Coordinator-General in writing to the proponent.

The proposed text for Condition 10A in set out in Appendix 1.

Reason for the Proposed Change

The Proposed Change is to permit spoil haulage on Sundays from the Albert Street Railway station worksite and the Roma Street Railway station worksite, to support excavation works at the underground caverns at these worksites. The cavern excavation is required to be completed prior to the tunnel boring machines (TBMs) reaching the caverns to allow the TBMs to pass through, and the overall tunnel excavation to progress continuously. The proposed extended haulage hours are intended to operate until the TBMs reach the Northern Portal, where they will be extracted.

The proposed change is to permit the haulage of spoil from the Albert Street Station worksite and Roma Street Station worksite only. Project works within acoustic sheds, including the loading of the spoil haul trucks, is already part of the Project Works.

The proposed change is required as:

- spoil haulage cycle times were planned prior to COVID19 and the implementation of substantial changes to Brisbane CBD road capacity, including the closure of Victoria Bridge and the introduction of CBD bicycle lanes which all contribute to the increased traffic congestion currently being experienced during weekdays in the Brisbane CBD;
- there is limited spoil storage at each of the Roma Street Railway Station worksite and Albert Street Railway Station worksite;
- spoil haulage cycle times are being impacted by extensive CBD and wider Brisbane road congestion impacts that have been experienced since December 2020;
- Sunday spoil haulage from the Albert Street and Roma Street will mitigate cavern excavation productivity risks;
- Sunday spoil haulage will assist to mitigate congestion in the Brisbane CBD and wider traffic networks on Mondays that would otherwise be experienced as a result of increased haulage to empty stored spoil from the Albert and Roma Street acoustic sheds.

Effect of the Proposed Change

The effect of the Proposed Change is set out in detail in Chapter 3 of this RfPC and the technical reports at Volume 2. The Proposed Change will result in up to 10 heavy vehicles per hour hauling spoil from each of the Albert Street Railway station and the Roma Street Railway station worksites between 9:00am and 6:30pm on Sundays.

Noise and traffic assessments that have been prepared in support of this RfPC, and that are included at Volume 2, have determined:

- predicted increases in road traffic noise levels associated with the Albert Street Railway station worksite from 1dBA to 2 dBA for the overall LA10(12 hour) compared to the December 2020 traffic volumes;
- predicted increases in road traffic noise associated with the Roma Street Railway station worksite are below 2 dBA for the overall LA10(12 hour) compared to the December 2020 traffic volumes;
- the impact of the Proposed Change on all intersections is negligible, and the potentially impacted intersections remain well within acceptable limits for DOS, delay and queuing;
- that with the change to the Imposed Condition, the Project will continue to operate within the parameters of the Coordinator-General's imposed conditions, particularly in relation to noise and traffic.

The CRR Project is being delivered in accordance with the Environmental Management Framework that has been established by the Coordinator-General in the Imposed Conditions. That Environmental Management Framework (EMF) continues to be appropriate to manage the environmental effects of the CRR Project, providing for traffic management, spoil haulage management and community engagement.

It is recognised that the Albert Street Railway station worksite and the Roma Street Railway station worksite have nearby sensitive receptors, and the EMF will be updated to specifically address Sunday haulage activities for the Albert Street Railway station worksite and Roma Street Railway station worksite to manage and mitigate the potential impacts on those sensitive receptors.

It is requested that the Coordinator-General evaluate the Proposed Change to the Imposed Conditions in accordance with the requested amendments detailed in Section 3.1.

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1. Introduction

The Delivery Authority established by the *Cross River Rail Delivery Authority Act 2016* (Qld) is the proponent for the CRR Project. The CRR Project is a declared coordinated project for which an Environmental Impact Statement (EIS) was required under the *State Development and Public Works Organisation Act 1971* (SDPWO Act). The EIS for the CRR Project (2011 EIS) was evaluated by the Coordinator-General, who recommended that the Project proceed, subject to the Imposed Conditions in the evaluation report dated 20 December 2012. Since the 2012 evaluation report, eight RfPCs have been evaluated by the Coordinator-General, and a ninth RfPC has been lodged with the Coordinator-General. RfPC-9 deals with proposed changes to the Southern Portal Area and is not affected by this RfPC.

1.1 Purpose

The purpose of this RfPC is to request that the Coordinator-General assess the Proposed Changes to the Imposed Conditions, in accordance with Part 4, Division 3A of the SDPWO Act. This RfPC:

- describes the Proposed Change and its effect on the Project;
- states reasons for the Proposed Change;
- includes enough information about the proposed change and its effects on the Project to allow the Coordinator-General to make the evaluation.

1.2 Consultation requirements

The Coordinator-General will determine whether the Delivery Authority will be required to publicly notify the Proposed Change and its effect on the Evaluated Project. If public notification is required, public notices inviting submissions on the request will be published in accordance with the SDPWO Act.

The consultation period is determined by the Coordinator-General and stated on the public notification. If the request is publicly notified, any person, company or organisation may make a submission on the request. A 'properly made' submission:

- is made in writing to the Coordinator-General;
- is received on or before the deadline for submission;
- states the name and address of each submitter;
- is signed by each submitter; and
- states the grounds of the submissions and the facts and circumstances relied on in support of the grounds.

1.3 Structure of this Request for Project Change

This RfPC consists of the following volumes:

- **Volume 1 – Request for Project Change (this report) -** Volume 1 describes the Proposed Change, the reasons for the Proposed Change and the effects of the Proposed Change on the Project.
- **Volume 2 – Technical Reports -** Volume 2 provides technical information supporting the Request for Project Change.

1.4 Context of Proposed Changes included in this Request for Project Change

1.4.1 Cavern excavation

The construction methodology for the underground stations and tunnels requires that excavation of the Albert Street and Roma Street station caverns be completed prior to the TBMs passing through at the stations.

Both the Albert Street Railway station worksite and the Roma Street Railway station worksite are constrained in terms of the capacity to store spoil as well as accommodate equipment that supports cavern excavation.

Since December 2020, Brisbane CBD and wider city traffic networks have experienced a significant increase in road congestion. It is understood that a substantial reduction in Brisbane CBD public transport use as a result of COVID19 may be a major factor contributing factor. This impact, coupled with changes to road carrying capacity within the Brisbane CBD associated with the installation of dedicated on-road bike facilities and the closure of the Victoria Bridge, is compromising the efficiency of spoil haulage cycle times, especially for the constrained Roma Street and Albert Street station cavern excavation sites. The combined effects of these impacts have the potential to reduce spoil removal to a significantly lower rate than that which was planned to support the efficient delivery of tunnelling activities for the Project.

The change to the Imposed Conditions is being requested in order to allow the spoil haulage task to be undertaken on Sundays, to allow the excavation task to continue as planned to support preparations for the breakthrough of the TBMs at the Albert Street Railway station worksite and the Roma Street Railway station worksite.

The need to conduct spoil removal on a Sunday from the Albert Street and Roma Street station cavern excavation sites does not increase the volume of spoil that is to be removed from the worksites, or the overall number of heavy vehicle movements that will be required for the Project.

One result of allowing haulage on Sundays is that the heavy vehicle movements from the Albert Street Railway station worksite and the Roma Street Railway station worksite will be able to be more evenly spread over full seven days, reducing the Monday haulage peak when stored spoil is currently required to be cleared from each worksite.

1.4.2 Program of works

Subject to changes in the construction program, the Sunday haulage task would continue until the tunnel excavation is complete. Based on the current construction program, this is anticipated to be approximately Q4 2021 for the TBM breakthroughs at the Northern Portal.

2. Overview of Evaluated Project

The CRR Project is a 10.2 km north-south rail line connecting Dutton Park to Bowen Hills with 5.9 km of tunnel under the Brisbane River and Central Business District (CBD). The CRR Project also includes new stations at Boggo Road, Woolloongabba, Albert Street, and Roma Street, with upgrades to the existing Exhibition Railway Station and stations from Fairfield to Salisbury.

Further information on the CRR Project and changes that have occurred since the CRR Project was originally evaluated in 2012 are detailed in:

- The Coordinator-General's evaluation report on the EIS dated 20 December 2012;
- The Coordinator-General's change report dated 9 June 2017;
- The Coordinator-General's change report dated 31 August 2018;

- The Coordinator-General's change report dated 13 March 2019;
- The Coordinator-General's change report dated 26 June 2019;
- The Coordinator General's change report dated 4 October 2019;
- The Coordinator-General's change report dated 8 May 2020;
- The Coordinator-General's change report dated 16 July 2020; and
- The Coordinator-General's change report dated 18 November 2020.

Although not directly relevant to this RfPC, further project changes at the Southern Area Portal have been requested in RfPC-9 dated November 2020, which is currently undergoing evaluation by the Coordinator-General.

2.1 Environmental Management Framework

The Evaluated Project is managed by the Environmental Management Framework (EMF), which is required by the Coordinator-General's Imposed Conditions for the Project.

The EMF for the Project comprises a number of elements:

- The **Coordinator-General's Imposed Conditions** as set out in Appendix 1 - Project-wide Imposed Conditions - Cross River Rail Project (Imposed Conditions);
- The **Outline Environmental Management Plan (OEMP)** which is required by Imposed Condition 2 and approved by the Coordinator-General;
- The **Construction Environmental Management Plan (CEMP)** (including **sub-plans**) is required by Imposed Condition 4 for all Project Works, and must be endorsed by the Environmental Monitor; and
- **Specific CEMPs** for Project Works in Extended Work Hours.

The EMF is supported by:

- a compliance and reporting regime, as set out in Imposed Conditions 5 and 6;
- two specific entities required by the Imposed Conditions providing oversight for the implementation of the Imposed Conditions. Both these entities are required to be independent, appropriately skilled and experienced and approved by the Coordinator-General. These entities are:
    - (i) the Environmental Monitor (Imposed Condition 7); and
    - (ii) the Community Relations Monitor (Imposed Condition 8).

Imposed Condition 2(a) requires an OEMP to be submitted to the Coordinator-General two months prior to the commencement of Project work and the OEMP to be approved by the Coordinator-General.

Imposed Condition 2(b) requires that the OEMP sets the environmental outcomes and performance criteria for the Project, together with possible mitigation measures, monitoring and reporting for each environmental element to achieve the environmental outcomes. The condition also requires specified sub-plans be included as part of the OEMP. These include for example:

- Construction Traffic Management Plan;
- Noise and Vibration Management Plan; and
- Air Quality Management Plan.

The Coordinator-General has approved the OEMP, consistent with Imposed Condition 2. The approved OEMP includes sub-plans that incorporate the environmental outcomes to be met by the

Project. The Approved OEMP is available on the CRR website: https://crossriverrail.qld.gov.au/planning-environment/environment-approvals/environmental-management/

The Environmental Monitor must endorse the CEMP as consistent with the OEMP and complying with the Imposed Conditions (construction) (Condition 7(c)(viii). That endorsement cannot be given where the requirements are not met.

The endorsed CEMP contains the detailed mitigation measures that are implemented for relevant Project Works. There are already detailed CEMPs for the Project Works that are underway, including detailed sub-plans and site management plans. The CEMPs include detail of the construction works to be undertaken and program, mitigation measures, monitoring, auditing and reporting.

The existing CEMPs are available on the Delivery Authority's website at https://crossriverrail.qld.gov.au/planning-environment/environment-approvals/environmental-management/.

An overview of the Coordinator-General Imposed Conditions EMF is provided below in Figure 1.

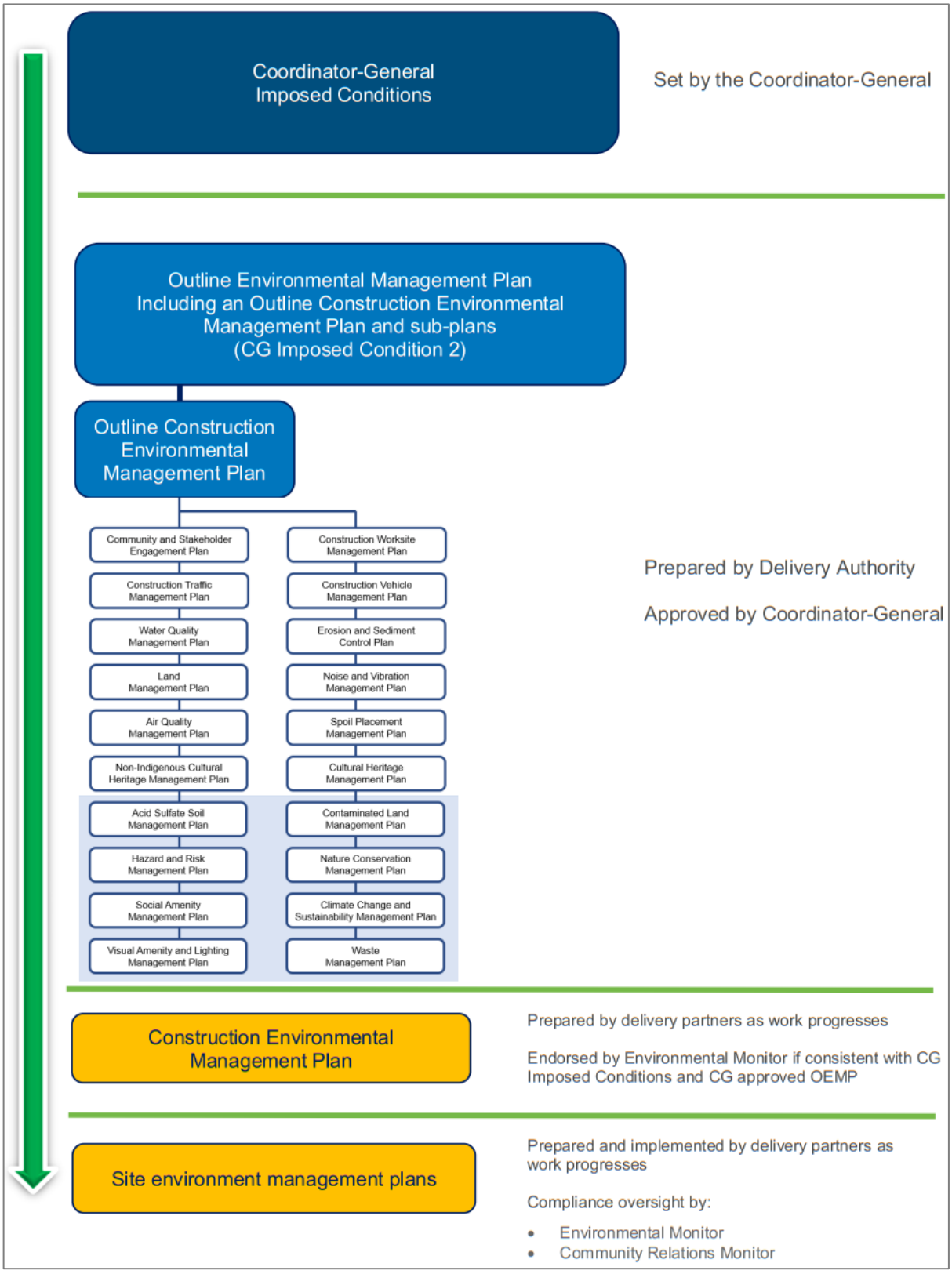

Figure 1: Coordinator-General Imposed Conditions Environmental Management Framework

3. Proposed Change to Imposed Condition 10: Hours of Work

3.1 Overview of Proposed Change to Imposed Condition 10 (Hours of Work)

SDPWO Act requirement	Overview	
Proposed change	It is proposed to add a new Condition 10A so that, in addition to the hours of work set out in Imposed Condition 10 (Hours of Work) spoil haulage and materials/equipment delivery (excluding concrete deliveries) is permitted on Sundays from 9:00am - 6:30pm for the Albert Street Railway station and Roma Street Railway station worksites. The proposed Condition 10A is intended to have effect until the later of: • the TBMs reaching the Northern Portal; or • a date stated by the Coordinator-General in writing to the proponent. The proposed text for Condition 10A in set out in Appendix 1.	
Reason	To permit spoil haulage to occur on Sundays for the Albert Street Railway station worksite and the Roma Street Railway station worksite, to support the efficient progress of the cavern excavation at these worksites, so works are completed to support TBM arrival and pass through.	
Effect	Traffic Noise	The increase in road traffic noise levels due to the Roma Street Precinct worksite is predicted to be slightly greater than 1 dBA for the overall LA10(12hour) (6:30am -6:30pm) noise parameter along Roma Street, when compared with existing December 2020 traffic volumes. The increase in road traffic noise levels due to the Albert Street Precinct worksite is predicted to be 2 dBA for the overall LA10(12hour) (6:30am - 6:30pm) noise parameter along Mary Street, when compared with existing December 2020 traffic volumes. The EIS states in section 2.2.6 Construction Road Traffic Noise, *a change of up to 3 dBA in the level of a dynamic noise, such as passing vehicles is difficult for most people to detect.* Table 2.4 in the Transport Management Code of Practice states that an increase over an existing noise level of <3dB(A) is insignificant. A change in noise level of 1 to 2 dB(A) is difficult for most people to detect.[1]
	Traffic	Additional haulage hours are required through the Roma Street and Albert Street precincts, due to the quantity of material required to be hauled over a longer period (more shifts) limited spoil shed capacity and increasing spoil haulage cycle time constraints resulting from Brisbane CBD traffic congestion. The increase in road traffic as a result of the proposed change on a Sunday has been assessed as negligible, and well within the capacity of the existing intersections.
Mitigation	Traffic Noise	Potential traffic noise impacts will be managed through: • the site specific CTMP Sub-plan which includes the permitted haulage routes between the adjacent arterial road networks and the Roma Street Railway station worksite and the Albert Street Railway station worksite. The update to the Construction Traffic Management Sub-Plan (Sub-CTMP) for Sunday haulage for each of

[1] Transport Noise Management Code of Practice, Department of Transport and Main Roads, November 2013 at p9

		the Roma Street and Albert Street precincts will address all road users inclusive of safety requirements, these requirements are implemented to protect all road users. The CTMP will be developed in consultation with Brisbane City Council (BCC) as the relevant Road Authority. • on-going and early consultation with potentially Directly Affected Persons to notify them of the proposed works and to determine suitable mitigation measures, where required.
	Traffic	Potential traffic impacts will be managed through: • the site specific CTMP Sub-plan will be updated to include Sunday haulage for each of the Roma Street and Albert Street precincts, in consultation with BCC, and reviewed monthly with BCC to respond to planned Sunday CBD events over a 3 month forward timeframe, which may change haulage routes and/or haulage commencement times.
EMF	Mitigation and management strategies as per the existing OEMP, OCEMP and CEMP, and sub-plans, including that: • safe and efficient access is maintained for pedestrians, bicycles and passengers to and from public transport facilities, including rail and busway stations and bus stops; • haulage vehicles only travel on designated haulage routes identified in the CTMP • spoil haulage vehicles are managed in real time to and from worksites and spoil site to avoid speeding, queuing in local streets, congested areas and traffic incidents, and to manage and avoid over-loading, spills and safety incidents; • haulage management requirements included in the CTMP developed in consultation with BCC; • avoiding major haulage tasks during major scheduled major events, including at Lang Park (crowds greater than 25,000) • undertake consultation with managers of social infrastructure and BCC to ensure haulage activities considers the timing of and effects on major CBD events that may be planned for a Sunday. In accordance with Recommendation 11 of the Coordinator-General's Evaluation Report, the Proponent will continue to participate in the Traffic Management Liaison Group, together with Brisbane City Council, Translink and DTMR.	

Does the current EMF need to be revised to manage the Proposed Change?	No – see section 3.4.1.4 (Traffic Noise) No – see section 3.4.2.4 (Traffic)

3.2 Effect of the Proposed Change to Imposed Condition 10 (Hours of Work)

The effects of the Proposed Change to Imposed Condition 10 and required mitigation measures are addressed in Section 3.4.

3.3 Relationship to Environmental Management Framework

In accordance with the requirements of Imposed Condition 10, spoil haulage will be undertaken subject to compliance with a specific CEMP that will be endorsed by the Environmental Monitor. In accordance with Imposed Condition 4, the CEMP must be consistent with the OEMP and the Imposed Conditions, which includes the environmental outcomes and performance criteria of the OEMP. These requirements would apply to the proposed Sunday haulage task.

3.4 Technical areas

3.4.1 Traffic Noise

3.4.1.1 Evaluated Project – Traffic noise

The Coordinator-General's Imposed Conditions do not specify noise goals or controls relating to construction traffic on public roads, as in most instances the impact would be insignificant against the high volumes of traffic that pass through Brisbane's central business district.

Technical assessments have been undertaken to predict traffic noise impacts on roads in close proximity to CRR site entrances and exits.

Section 16.1.2 of the EIS states:
A change of up to 3 dBA in the level of a dynamic noise, such as passing vehicles is difficult for most people to detect, whilst a 3 dBA to 5 dBA change corresponds to a small but noticeable change in loudness.

The construction traffic noise goal for impact assessment of construction traffic is a change of 2dBA or less, consistent with Table 16-7 of the EIS.

Table 2.4 in the Transport Management Code of Practice states that an increase over an existing noise level of <3dB(A) is insignificant. A change in noise level of 1 to 2 dB(A) is difficult for most people to detect.

Outline Environmental Management Plan – Noise and Vibration

Appendix Q of the OEMP outlines the requirements for the NVMP and includes the objectives and the required outcomes. This includes the following environmental outcomes in relation to noise and vibration to be achieved for the Project:

- 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.
- Construction activities are managed to avoid vibration-related structural damage on all properties, to minimise vibration-related impacts on properties and sensitive plant and equipment.

CEMP sub-plan - Noise and Vibration

The Construction Noise and Vibration Management Plan (NVMP) forms part of the Construction Environment Management Plan (CEMP) developed for the construction of the Project. The NVMP describes how the potential noise and vibration impacts during construction of the Project will be managed and minimised.

The objectives of the NVMP are to achieve the environmental outcomes stated in the OEMP and the CEMP through the implementation of site-specific mitigation measures. It also:

- nominates the Project's monitoring and reporting requirements in relation to noise and vibration;
- manages the impact on the local community in terms of noise and vibration from construction works; and
- monitors the effects of management and mitigation measures.

The existing NVMP addresses impacts and associated mitigation measures for noise and vibration impacts arising from the remaining phases of construction which broadly include but are not limited to:

- Tunnel boring;
- Surface construction; and
- Spoil haulage.

3.4.1.2 Effect of the Proposed Change - Traffic Noise

A Construction Traffic Noise Assessment (Volume 2 to this RfPC) has been prepared in accordance with the requirements in the OEMP, CEMP, NVMP and Imposed Condition 4(c)(ii), which require that predictive studies and assessment of impacts have regard to the scale, intensity, location and duration of construction works, and location of Directly Affected Persons.

The Construction Traffic Noise Assessment contains the following:

- existing traffic volumes (Section 3);
- predicted construction traffic volumes (Section 4); and
- assessment of traffic noise (Section 5).

Predicted changes in traffic noise are based on a method developed by the United Kingdom Department of Transport entitled 'Calculation of Road Traffic Noise (1988)' known as the CoRTN (1988) method. This method has been adapted to Australian conditions and extensively tested by the Australian Road Research Board (ARRB) and as a result it is recognised and accepted by the Department of Transport and Main Roads (DTMR).

This is the same calculation methodology used by the EIS, which states:

[T]he effect of construction related heavy vehicle traffic on noise emissions from roadways has been assessed by calculating how the additional truck traffic would alter the LA10(12hour) level of noise emission from roadways using the CoRTN prediction algorithms. For the purpose of this analysis, the LA10(12hour) is the average LA10 traffic noise level between the hours of 6:30am and 6:30 pm.

The predicted increase in traffic noise on all assessed roads is detailed in Table 1.

Table 1: Predicted increase in traffic noise due to Albert Street and Roma Street worksites

Worksite	Road Segment	Predicted overall increase in noise levels, dBA
		LA10(12hour) (6:30am to 6:30pm) Sunday
Albert Street	George Street	+ 1.0
	Mary Street	+ 2.0
	Edward Street	+ 0.9
Roma Street	Roma Street	+ 1.0

Table 1 shows that the increase in road traffic noise levels due to Sunday haulage from the Albert Street Railway station worksite is predicted to be 2dBA for the LA10(12hour) noise parameter along Mary Street, when compared with existing December 2020 traffic volumes. The increase in road traffic noise levels due to Sunday haulage from the Roma Street Railway station worksite is predicted to be 1dBA for the LA10(12hour) noise parameter along Roma Street, when compared with existing December 2020 traffic volumes.

The EIS states in section 2.2.6 Construction Road Traffic Noise, a change of up to 3 dBA in the level of a dynamic noise, such as passing vehicles is difficult for most people to detect. Table 2.4 in the Transport Management Code of Practice states that an increase over an existing noise level of <3dB(A) is insignificant. A change in noise level of 1 to 2 dB(A) is difficult for most people to detect.

The predicted change in traffic noise is insignificant and will have minimal to no impact on Directly Affected Persons.

3.4.1.3 Mitigation Measures - Traffic Noise

The traffic noise effects will be managed in accordance with the current EMP.

This will include an update of the site-specific CTMP sub-plan for the Albert Street Railway station worksite and the Roma Street Railway station worksite. This CTMP Haulage Management sub-plan will be updated in consultation with the relevant road authority prior to works commencing.

The CTMP Haulage Management sub-plan already includes the permitted haulage routes between the adjacent arterial road networks and the sub-plan precinct.

This aligns with requirements already imposed under the OEMP which are to:

- ensure the Project's impacts on the community and stakeholders with respect to traffic and transport are minimised; and
- monitor the effects of management and mitigation measures. Under current conditions the CTMP (and sub-plans) must be periodically reviewed to address changes in the Project's construction programme and methodology, including modification to delivery schedules, delivery routes and spoil haulage route changes. Relevantly, this includes:
    - proposed access to worksites, with local or minor roads only used where unavoidable to access a Project worksite;
    - processes for advance notice to Directly Affected Persons and local communities within the vicinity of the spoil haulage routes and worksite accesses;
    - relevant specific traffic management measures developed in consultation with other key stakeholders, including QR, DTMR and BCC.

There is also a requirement for Project Works to be designed, planned and implemented to maintain acceptable footpath and cycle paths in areas adjacent to Project worksites in terms of capacity, legibility and pavement condition. The proponent must consult with BCC, QR, DTMR (Metro/Translink) about changes in pedestrian and cycle paths required to facilitate Project Works.

Increases in construction traffic noise on Mary Street is predicted to be 2dBA, and therefore the mitigation measures discussed in Section 3.2 of the NVMP will be applied, where appropriate, to manage those impacts, including:

- initiating on-going and early consultations with potentially Directly Affected Persons to notify them of the proposed works and to determine suitable mitigation measures;
- maintaining plant and machinery in good working order, in accordance with the management system; and
- other best practice measures, such as limiting compression braking, which will also contribute to ensuring the noise impacts of Heavy Vehicle traffic on surrounding streets are minimised.

3.4.1.4 Evaluation against current Environmental Management Framework

EMF Element	Change required (Y/N)	Description of Change
Imposed Condition 11	N	N/A
OEMP sub-plan – Noise and Vibration Management Plan	N	N/A
CEMP	N	N/A
CEMP sub-plan – Noise and Vibration Management Plan	N	N/A

Table 2: Traffic noise - evaluation against current EMF

3.4.2 Traffic

3.4.2.1 Evaluated Project – Traffic and Transport

Imposed Condition 14 – Traffic and Transport

Imposed Condition 14 sets out the conditions that must be satisfied to avoid or minimise adverse impacts on road safety, traffic flow, public transport, freight rail movements, pedestrian and cyclist safety and property access, among other things.

Relevantly Imposed Condition 14 provides that:

(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 and be developed in consultation with the Department of Transport and Main Roads and the Brisbane City Council in preparation of the Construction Environmental Management Plan.*

(f) *The Construction Traffic Management Plan must be supported by a road safety assessment for the spoil haulage route.*

(g) *Construction traffic must operate within the requirements of a construction traffic management sub-plan (Construction Traffic Management Plan) incorporated within the Construction Environmental Management Plan.*

Condition 14 further provides at (h) that Construction Traffic Management Plans must include:

iii. local traffic management measures developed in consultation with Brisbane City Council for key intersections:

…

(B) in the CBD including Albert Street, Charlotte Street, Elizabeth Street and Roma Street;

…

iv. specific traffic management measures developed in consultation with other key stakeholders, including:

(A) the department administering the Economic Development Act 2012 with regards traffic management in the Queens Wharf Brisbane priority development area;

(B) Queensland Rail about maintaining access to railway stations; and

(C) *the department administering the Transport Infrastructure Act 1994 and the Brisbane City Council about maintaining operations for bus services along streets affected by the Project Works.*

Outline Environmental Management Plan – Traffic and Transport

Appendix H of the OEMP sets out the requirements for the CTMP, with Section 3.2 detailing the Environmental Outcomes that must be achieved. This includes:

- *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.*

Section 3.3 sets out Performance Criteria which includes (among other things) the following criteria which must be achieved throughout construction of the Project:

- safe and efficient access is maintained for pedestrians, bicycles and for passengers to and from public transport facilities, including rail and busway stations and bus stops;
- practicable access is maintained to adjacent properties throughout the construction phase;
- haulage vehicles (i.e. spoil, construction equipment and materials haulage) only travel on designated haulage routes identified in the CTMP, unless agreed beforehand with the relevant road authority and the Environmental Monitor;
- all haulage routes are subject to a Road Safety Assessment – Spoil Haulage Routes;
- spoil haulage vehicles are managed in real time to and from worksites and spoil sites to avoid speeding, queuing in local streets, congested areas and traffic incidents, and to manage and avoid over-loading, spills and safety incidents. This includes the use of GPS tracking for major deliveries to minimise conflicts and prevent queuing on public roads;
- information about the timing and scale of changes to traffic and transport conditions on passenger rail operations, the busway and road networks in the vicinity of Project Works is provided in advance to the local community, commuters and on request to other people interested in the Project Work; and
- pedestrian and cycle access to community facilities is not disrupted by Project Works, unless approved by the relevant road authority in consultation with the manager of the community facilities.

Construction Traffic Management Plan

The CTMP responds to the requirements set out in the OEMP. The CTMP sets out a range of strategies for minimising disruptions, ensuring safe traffic management and maintaining equivalent functionality and capacity to existing public/private access egress at all times (unless otherwise approved in writing by the relevant owner/occupier). These strategies include:

Road network

- maintaining the traffic-carrying capacity and connectivity of affected roads and current levels of service, safety and travel time, as far as is practicable;
- minimising, where possible, the impact of construction traffic on local roads (e.g. Mary Street, George Street, Edward Street and Roma Street);
- early consultation with DTMR, BCC and Emergency Services about and incorporating feedback into the CTMP sub-plans as applicable;
- avoiding disruptions to the operation of the road network due to Project Works during peak periods, where possible, and managing such disruptions during off-peak periods;

- working collaboratively with BCC to assess where the implementation of local traffic management measures will reduce traffic impacts associated with construction vehicles at key intersections in the CBD including Mary Street, George Street, Edward Street and Roma Street; and
- avoiding major haulage tasks during scheduled major events at the Gabba Stadium, Lang Park, and for Riverfire and New Year's Eve.

Maintaining access for businesses, residents and community facilities

- using real time monitoring and direct communication with Spoil Haulage vehicles to manage headways/arrivals at construction site access gates to ensure vehicles do not queue on adjacent roads; and
- where a reduction in the level of access to any of the above is predicted in the CTMP sub-plan CBGUJV, the Stakeholder and Community Relations team will undertake consultation.

The CTMP also describes strategies to be implemented in CTMP sub-plans to maintain the safe and efficient traffic flow on the transport network.

Road, pedestrian and cyclist Infrastructure

- locating construction site accesses on higher order roads where practicable, to minimise the potential impact on local roads;
- designing construction site access points and site layouts to provide unimpeded turn movements from the public road network (and where not possible, identify appropriate operational controls) and with adequate storage capacity to ensure construction vehicles do not queue or stand on adjacent roads;
- staging of the Project Works to maintain acceptable footpath and cycle paths in areas adjacent to Project worksites and where changes are required to facilitate Project Works consult with BCC, QR, DTMR and Translink as applicable;
- designated haulage routes will utilise the arterial and major road network to the greatest extent possible with local or minor roads only used where it is unavoidable to access a Project worksite;
- real time management of spoil haulage vehicles to monitor vehicle speed and position to and between worksites and spoil disposal sites; and
- spoil haulage and materials and equipment delivery will be undertaken within the hours of work set out in the Conditions of Approval to avoid disruption to traffic flows during peak period.

Construction Vehicle Management Plan

The Construction Vehicle Management Plan (CVMP) also contemplates a range of traffic and other impacts from the use of heavy vehicles, including increased congestion and delays for existing road users due to increased construction traffic on local roads, impact to traffic and access requirements for other Brisbane Projects, and social amenity impacts (especially noise for nearby residents).

The mitigations discussed in the CVMP refer back to the CTMP sub-plans relating to Haulage Management, Precinct sub-plans detailing access and egress routes to avoid local roads, and real time monitoring of spoil haulage vehicles ensures compliance with routes, construction hours, load limits and speed limits.

The project plant inspection procedures are also designed to ensure all vehicles are in good working order while travelling on public roads, and the precinct CTMP Sub-plans detail access procedures to

ensure queueing near site accesses, sensitive community facilities and residential neighbourhoods is avoided.

Haulage Management Plan

Haulage of spoil will be in accordance with the Haulage Management Plan, which includes:

- Describing the consultation undertaken with BCC and DTMR
- Describing the mitigation measures to avoid or minimise and mitigate the impacts of Project construction vehicles on the transport network and surrounding communities
- Documenting the nominated haulage routes to and from spoil haulage disposal sites
- Demonstrating how the nominated haulage routes utilise the arterial road network and minimise the impact of construction vehicles on intersection operations, as far as is practicable
- Defining major haulage tasks and address how, as far as practicable, they will be avoided during scheduled major events

3.4.2.2 Effect of the Proposed Change – Traffic and transport

A Traffic Impact Assessment (TIA) has been prepared in accordance with DTMR's Guide to Traffic Impact Assessment to assess the potential traffic and transport impacts arising from the Proposed Changes, as compared to the Evaluated Project. An assessment of the proposed spoil haulage on Sundays from the Albert Street Railway station worksite and the Roma Street Railway station worksite is outlined below.

Traffic Volumes

To facilitate the proposed change to the construction methodology an estimated additional 10 vehicles per hour is required on Sundays.

The expected construction 12-hour traffic volumes have been calculated as part of the Construction Traffic Noise Assessment and are detailed in Table 3.

Table 3: 12-hour traffic volumes

Road Segment	12-hour day period (Sunday 6:30am - 6:30pm)					
	Existing Total Vehicles	Existing Total Heavy Vehicles	Additional Vehicles		Proposed Total Vehicles	Proposed Total Heavy Vehicles
			All Vehicles	Heavy vehicles		
George Street	4,208	18 (0.4%)	120	120	4,328	138 (3.2%)
Mary Street	2,277	16 (0.7%)	120	120	2,397	136 (5.7%)
Edward Street	5,685	33 (0.6%)	120	120	5,805	153 (2.6%)
Roma Street	4,133	162 (3.9%)	120	120	4,253	282 (6.6%)

Intersection Analysis

Analysis has been carried out of the following relevant intersections:

Roma Street Railway station worksite:

- Roma Street / Herschel Street
- Roma Street / Parkland Boulevard

Albert Street Railway station worksite:

- George Street / Mary Street
- Albert Street / Mary Street
- Edward Street / Mary Street

The performance of the study intersections has been analysed using SIDRA Intersection 8.0 (SIDRA). Table 4 details the outcome of the analysis of the outcomes from the changes from baseline conditions. The associated adopted thresholds are detailed in Table 5.

The TIA determined that with the proposed intersection upgrade, negligible impacts on delays and queues are expected to result. It is also noted that no queue spillback is expected.

Table 4: Summary of SIDRA results

Intersection	Sunday AM Peak	Sunday PM Peak
Roma Street / Herschel Street	Negligible impact	
Roma Street / Parkland Boulevard	Negligible impact	
George Street / Mary Street	Negligible impact	
Albert Street / Mary Street	Negligible impact	
Edward Street / Mary Street	Negligible impact	

Table 5: Adopted assessment thresholds

Parameter	Negligible Impact	Moderate Impact	Significant Impact
DOS	<0.05 increase in DOS	<0.1 increase in DOS	>0.1 increase in DOS
Delay	<5 sec increase in delays	<10 sec increase in delays	>10 sec increase in delays
Queues	<19m increase in queues *(equivalent to one design vehicle)*	<38m increase in queues *(equivalent to two design vehicles)*	>38m increase or causes queue blockage *(equivalent to two design vehicles)*

3.4.2.3 Mitigation Measures - Traffic and Transport

The proposed spoil haulage on Sundays would be managed in accordance with the current Environmental Management Framework and overarching management measures in the CTMP.

This will include a rolling monthly update of the site-specific CTMP sub-plan for the Albert Street Railway station worksite and the Roma Street Railway station worksite to apply the spoil haulage routes and mitigation measures to the Sunday haulage, to respond to any planned CBD events over a three month lookahead horizon that may change spoil haulage routes or require changes to spoil haulage commencement times.

The CTMP sub-plans document the provisions to be made for pedestrians and cyclists to mitigate potential risks between construction vehicles and other road users.

The site specific CTMP Sub-plans includes the permitted haulage routes between the adjacent arterial road networks and the Sub-plan precinct. Spoil haulage routes, to and from the sub-plan precinct have been documented within the CTMP Sub-plan Haulage Management Plan.

The CTMP Sub-plans document the provisions to be made for pedestrians and cyclists to mitigate potential risks between construction vehicles and other road users in the CBD, as well as management of the haulage task during events, and will be updated as required in consultation with the relevant Road Authority.

3.4.2.4 Evaluation against current Environmental Management Framework

EMF Element	Change required (Y/N)	Description of Change
Imposed Condition 14	N	N/A
OEMP sub-plan – Construction Traffic Management Plan	N	N/A
CEMP	N	N/A
CEMP sub-plan – Construction Traffic Management Plan	Y	Update to reflect proposed Sunday haulage hours for the Albert Street Railway station worksite and the Roma Street Railway station worksite Rolling monthly updates may be required following consultation with the road authority regarding Sunday CBD planned events over a three month lookahead horizon.

Table 6: Traffic and Transport - evaluation against current EMF

4. Conclusion

The Proposed Change to include a new Condition 10A (as set out in Appendix 1) is to allow spoil haulage from the Albert Street Railway station worksite and the Roma Street Railway station worksite on Sundays. The haulage task is required for the duration of tunnel and cavern excavation, to support TBMs breaking through at the Albert Street Railway station worksite and the Roma Street Railway station worksite, and continuing until breakthrough of the TBMs at the Northern Portal.

The Environmental Management Framework established by the Coordinator-General's Imposed Conditions continues to be appropriate to manage the environmental effects of the CRR Project and includes a detailed consultation and community engagement process. The Environmental Management Framework will be updated to specifically manage and mitigate the potential impacts of the Sunday haulage task on sensitive receptors.

The Cross River Rail Delivery Authority, as the proponent for the CRR Project, requests that the Coordinator-General evaluate the proposed changes to the Imposed Conditions, and make the changes to the Imposed Conditions set out in this RfPC.

Appendix 1: Proposed condition 10A

Condition 10A Sunday haulage for Roma Street and Albert Street Railway station worksites

(a) In addition to the hours of work set out in Condition 10 (Hours of work), spoil haulage and materials/equipment delivery (excluding concrete deliveries) may be undertaken within the hours set out in Table 1A below (the **authorised works**), provided that:

(i) an updated Construction Environmental Management Plan (CEMP) for the authorised works has been prepared in accordance with Condition 4 and endorsed by the Environmental Monitor prior to the commencement of the works;

(ii) the endorsed CEMP includes an updated Construction Traffic Management Sub-Plan for the authorised works and specifically provides for construction traffic management arrangements developed in consultation with Brisbane City Council, in particular for major events;

(iii) local communities near the authorised works must be notified about the works at least two (2) business days prior to those works commencing including notification of timeframes, potential impacts, mitigation measures, project contact information through letterbox drops, project website updates and social media updates;

(b) Condition 10A ceases to have effect on the latest of the following:

(i) the TBMs breaking through at the Northern Portal; or

(ii) a date stated by the Coordinator-General in writing to the proponent

Table 1A Construction hours

Worksite	Spoil haulage and materials/equipment delivery (excluding concrete deliveries)
Albert Street Railway station	Sunday: 9:00am - 6:30pm
Roma Street Railway station	Sunday: 9:00am - 6:30pm