

# Cross River Rail Environmental Impact Statement

Request for Project Change 7  
Design refinements and condition changes

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, six Requests for Project Change (RfPCs) have been evaluated by the Coordinator-General.

The CRR Project, as currently evaluated by the Coordinator-General, is referred to in this Request for Project Change as the "Evaluated Project".

With detailed design and further investigations, a number of Proposed Changes to the Evaluated Project have been identified to facilitate project delivery and clarify the application of some of the Imposed Conditions.

The Delivery Authority, as Proponent, now applies to the Coordinator-General to evaluate the environmental effects of the Proposed Changes, the effects of the changes on the CRR Project, and other related matters.

### **Summary of the requested changes**

This Request for Project Change requests the following changes to the Evaluated Project:

- Update of the project boundaries in response to detailed design and the associated interface and integration needs with the balance of the Queensland Rail network at:
  - Tennyson junction, Cleveland line, Bowen Hills and Albion Stations.
  - the northern corridor (College Road to Bowen Bridge Rd) for the inclusion of an additional holding road within the rail corridor
  - northern corridor at the RNA showground and leading to Mayne Yard to reflect recent consultations with the relevant land owners
  - Mayne Yard for the installation of permanent drainage outlets
  - Fairfield to Salisbury for updated temporary work site requirements
- Confirm the requirement for the land as part of the northern station entrance works. This is not a change to the land requirement for 109 Elizabeth Street, but the plan in Volume 2, sheet 16 more accurately reflects the State's need to resume the land for construction purposes (cut and cover) and for protection of the permanent CRR infrastructure.

This Request for Project Change requests the following changes to the Project-Wide Imposed Conditions:

- Amendment to Imposed Condition 1 to reflect the changes described above to the Evaluated Project
- Amendment to Condition 10: Hours of Work to:
  - accommodate the duration of rail possessions, in accordance with the rail possessions approved by Queensland Rail, by removing the existing limitation of 80 hours of continuous work for certain worksites;
  - allow heavy vehicle movements through school zones during school holiday periods and some extensions for heavy vehicle hours at constrained worksites;
  - allow extended hours for heavy vehicle movements during rail and road possessions;
  - allow heavy vehicle movements during continuous works (e.g. concrete pours).
- Amendment to Condition 11: Construction Noise and Vibration to:
  - allow noisier works during rail possessions, and other specified works, where those works will be managed in accordance with a specific Construction Environmental Management Plan in accordance with Condition 10(d);

- make minor technical amendments to Table 2;
- clarify that more stringent noise and vibration conditions designed for human comfort do not apply to sensitive receiver locations that are not occupied.
- Amendment to Condition 13. Air Quality to correct an error associated with footnotes 1, 2 and 3 that were previously removed and include reference to the relevant Australian Standard for monitoring, sampling and analysis.
- Amendment to Condition 15. Water quality
  - Include reference to lowland freshwater environmental values and water quality objectives for northern and southern sections of the project;
  - Remove potential inconsistency with Condition 18 by confirming that water discharge from surface works will be managed in accordance with the Erosion and Sediment Control Sub-Plan required by Condition 18.
- Amendment to Condition 17. Surface water so that:
  - Conditions applying to inundation during construction applies only to Project Works for the tunnels and underground stations, with surface works managed in accordance with the Erosion and Sediment Control Sub-Plan in accordance with Imposed Condition 18, and
  - Require appropriate flood management processes through a specific management plan for in stream works.

This Request for Project Change also requests amendment to the Environmental Design Requirements in Appendix 1, Schedule 1 so that water discharge requirements distinguish new works from existing works, where there is less ability to manage surface water influences from existing and external factors.

### ***Reasons for the Changes***

The Proposed Changes to the Evaluated Project are the result of the detailed design process and additional investigations that have been undertaken. The Proposed Changes do not result in significant changes to the current design for the Evaluated Project.

The Proposed Changes to the Project Wide Imposed Conditions for the Evaluated Project will:

- Ensure boundary refinements are appropriately reflected in the design drawings;
- Allow for the effective and efficient delivery of the delivery program whilst maintaining a high standard of impact management; and
- Provide for different water quality outcomes where project works interact with different water types (estuarine/fresh) and are constrained by existing infrastructure.

### ***Effects of the requested changes - Project changes***

The effects of the Proposed Changes to the Evaluated Project are as detailed below:

#### ***Land tenure***

The key changed effects to property impacts as a result of the Proposed Changes are:

- Minor temporary land requirements becoming permanent acquisition requirements within lots already impacted by the Evaluated Project;
- Minor volumetric acquisitions within lots already impacted by the Evaluated Project; and
- Minor increase and / or relocation of temporary land requirements within lots already impacted by the Evaluated Project.

***Landscape and visual amenity***

Minor improvements in visual amenity at Fairfield Station may be experienced as a result of design refinements at Fairfield Station, including repositioning the proposed footbridge to a location that is more appropriately accommodated within local landscape relief.

***Traffic and transport***

The key change in effects to traffic and transport impacts as a result of the Proposed Changes are:

- Removal of heavy vehicle lockout periods for the Fairfield to Salisbury station upgrade works to service space constrained work sites; and
- Removal of heavy vehicle lockout periods for specific worksites during gazetted school holidays.

***Effects of the requested changes - Imposed Condition changes******Working hours***

The proposed changes will accommodate some rail possessions that exceed the 80 hour limit currently imposed in Condition 10. The effect of this change is that works will have the potential to continue for a duration of greater than 80 hours as approved under a Queensland Rail Possession Permit process.

The proposed changes will also allow for extended heavy vehicle movements to support rail and road possessions and remove lock out periods during school holidays and for specific or continuous works where continuity of deliveries are essential for those works.

***Noise and vibration***

An amendment is requested to Imposed Condition 11 so that works for Extended Work Hours is managed through the specific Construction Environmental Management Plan as provided for in Imposed Condition 10(d), rather than restrictions in Imposed Condition 11. This change is required so that works for rail and road possessions in particular can be undertaken during the limited period of the possession, recognising that appropriate management measures will be in place. As the works will be managed through a specific Construction Environmental Management Sub-Plan, the effects of the change are not expected to be significant.

***Air quality***

A minor amendment is required to Imposed Condition 13 to remove footnote references in Table 4 where the footnotes have previously been deleted.

It is also requested that notes be added to Table 4 to confirm that monitoring, sampling and analysis will be undertaken in accordance with applicable Australian standards.

***Water quality***

Changes are required to the water quality conditions in Imposed Condition 15(a) so that Condition 15(a) applies only to discharge from underground works. Surface works will be managed in accordance with Imposed Condition 18 to achieve no increase in pollutants, and therefore is not predicted to have an adverse effect. Recognition will also be given to the different water types (estuarine/freshwater) that the project now intersects both in the northern and southern sections of the project.

***Hydrology***

Condition 17 is requested to be amended to confirm that it applies only to works for underground tunnels and stations. In recognition of surface works being undertaken within a floodplain it is proposed these works will be completed in accordance with an approved Flood Management Plan to minimise the potential of impacting on the surrounding surface water quality. Temporary construction impacts associated with surface works, in particular dewatering activities of smaller volumes of water,

will be managed in accordance with Imposed Condition 18. As the works will continue to be managed in accordance with Imposed Condition 18, no significant effects are expected as a result of the change in condition.

***Environmental design requirement 5: Hydrology***

It is requested to amend environmental design requirement 5(i) to recognise different water quality release levels where the project is intersecting existing surface works, compared to the new underground works.

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## 1. Introduction

The Cross River Rail Delivery Authority (the Delivery Authority) established by the *Cross River Rail Delivery Authority Act 2016* (Qld) is the proponent for the Cross River Rail (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 the project proceed, subject to the Imposed Conditions in the evaluation report dated 20 December 2012. Since the 2012 evaluation report, six Requests for Project Change (RfPC) have been submitted and changes evaluated by the Coordinator-General.

The Evaluated Project is the authorised CRR Project as described in Imposed Condition 1 of the Coordinator-General's Project-wide Imposed Conditions.

In parallel with the commencement of construction of the Project, refinements to detailed design and construction delivery methods have been undertaken for the Project. This request for project change is a result of refinements identified through the detailed design process.

The key Proposed Changes are summarised as:

- Refinements to the Evaluated Project boundary to incorporate design and delivery refinements that have been identified through detailed design.
- Amendments Appendix 1, Schedule 1 (Environmental Design Requirements) in respect of water quality outcomes to recognise that the surface works for the project are primarily upgrades of existing infrastructure, and constrained by existing infrastructure:
- Amendment to Appendix 1, Project-wide Imposed Conditions, to facilitate rail possessions and continuous project works; to recognise the different water types (estuarine/freshwater) across the project and to make minor technical amendments to conditions.

The Proposed Changes are further described in Section 3 of this report, and reasons for the changes and the effects of the change are set out within Section 4 of this report.

The CRR Project is presently under construction and being delivered in accordance with the Imposed Conditions including the Construction EMP which has been endorsed as being consistent with the Outline Environmental Management Plan (OEMP). The OEMP has been approved by the Coordinator-General and provides the overarching framework for the Project's environmental management requirements. The currently approved OEMP will also be updated to reflect any changes resulting from this submission and will be submitted to the Coordinator-General 20 business days prior to the commencement of Relevant Works.

### 1.1 Purpose

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

- Describes the Proposed Change and its effects on the Project;
- States reasons for the Proposed Change;
- Includes relevant information about the Proposed Change and the changed environmental effects, to allow the Coordinator-General to make the evaluation, including:
  - the assessment of the environmental effects of the changes to the Project;
  - proposed mitigation measures in response to the environmental effects of the changes; and
- Provides replaced design drawings, to ensure the Proposed Changes are accurately captured.

## 1.2 Consultation Requirements

The Coordinator-General will determine whether or not the Delivery Authority will be required to publicly notify the Proposed Changes and its effects on the Evaluated Project. If required, public notices inviting submissions on the request will be published in local, regional and state newspapers. 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 submissions;
- 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 the Request for Project Change

The Request for Project Change for the CRR Project comprises the following:

- Volume 1 – Request for Project Change (this report)

Volume 1 describes the Proposed Changes, the reasons for the Proposed Changes and the effects of the changes on the Project.

- Volume 2 – Cross River Rail Design Drawings

Volume 2 presents the Changed Project design drawings including general arrangement drawings, longitudinal and cross sections, property impact plans and station design drawings.

- Volume 3 – Technical Reports

Volume 3 provides technical information supporting the Request for Project Change.



## 2. 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 between Fairfield to Salisbury.

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

- the Coordinator-General's evaluation report on the EIS dated 20 December 2012 (2012 CGER)
- the Coordinator-General's change report dated 9 June 2017 (June 2017 CGCR)
- the Coordinator-General's change report dated 31 August 2018 (August 2018 CGCR)
- the Coordinator-General's change report dated 13 March 2019 (March 2019 CGCR)
- the Coordinator-General's change report dated 26 June 2019 (June 2019 CGCR)
- the Coordinator-General's change report dated 8 May 2020 (May 2020 CGCR)

### 3. Changes to Evaluated Project

Table 1 provides a summary of the identified proposed changes to the Evaluated Project and the Imposed Conditions, including the Environmental Design Requirements. Further detail on those changes are provided in the following sections of this report.

**Table 1 Proposed Changes**

Aspect	Description of requested change
<b>Proposed changes to the Evaluated Project</b>	
<b>Changes to the Project - design</b>	The project boundary established for the Evaluated Project was based on the reference design presented as part of RfPC-4. As the design has developed, it has been identified that the current boundary requires local adjustments to accommodate the necessary project elements. Changes to the project boundaries as provided in Volume 2 are required to adequately encapsulate all design elements.
<b>Proposed changes to the Imposed Conditions</b>	
<b>Imposed Condition 1: General conditions</b>	Amend Condition 1 to refer to the updated project drawings in Volume 2 of this Request for Project Change
<b>Imposed Condition 10: Hours of Work Amendment to Table 1</b>	<p>Provide separate rows for Moorooka Station and Clapham Yard.</p> <p>Remove the limitation of 80 hours of continuous work for approved rail possessions by replacing the words "80 hours continuous work" with "for the duration of the possession" at the following worksites:</p> <ul style="list-style-type: none"> <li>• Fairfield, Yeronga, Yeerongpilly, Rocklea and Salisbury Stations;</li> <li>• Moorooka Station;</li> <li>• Northern Portal;</li> <li>• Exhibition Railway Station;</li> <li>• Mayne Railway Yard.</li> </ul> <p>Change the spoil haulage and materials/equipment delivery hours for Moorooka and for Fairfield, Yeronga, Yeerongpilly, Rocklea and Salisbury Stations to Monday to Saturday 6:30am to 6:30pm in response to the limited storage and laydown areas at these confined worksites.</p> <p>Amend the spoil haulage and materials/equipment delivery lock out periods to exclude gazetted school holiday periods for the following worksites:</p> <ul style="list-style-type: none"> <li>• Moorooka Station</li> <li>• Boggo Road Railway Station</li> </ul>
<b>Imposed Condition 10: Hours of Works Amendment to 10(d)</b>	Delete the words "during Extended Work Hours as set out in Table 1" so that spoil haulage and materials/equipment delivery hours do not restrict the ability to carry out the works in Condition 10(d).
<b>Imposed Condition 11: Construction Noise and Vibration Amendment to 11(a)</b>	Amend Imposed Condition 11(a) to clarify that the noise goals apply to a Sensitive Place, as defined in the Coordinator-General's Imposed Conditions.

Aspect	Description of requested change
<b>Imposed Condition 11: Construction Noise and Vibration</b> <b>Amendment to Table 2</b>	Amend Table 2 to <ul style="list-style-type: none"> <li>• move the 130dB Linear Peak for blasting to apply to intermittent rather than continuous impacts.</li> <li>• add a table note that reads "Adjustments (adj) will be applied as outlined in the Department of Environment and Science Noise Measurement Manual version 4, August 2013."</li> </ul>
<b>Imposed Condition 11: Construction Noise and Vibration</b> <b>Amendment to 11(c)</b>	Add the words "unless authorised by Condition 10(d)" to recognise that extended hours work (including work that generates levels of noise more than 20dBA above the relevant goal) is permitted provided it is managed by a specific construction environmental management sub-plan that is endorsed by the Environmental Monitor and for the works in Condition 10(d).
<b>Imposed Condition 11: Construction Noise and Vibration</b> <b>Amendment to 11(c)(iv) and 11(f)(i)</b>	Amend Imposed Condition 11(c)(iv) and 11(f)(i) to confirm that the respite period requirements in the condition only apply to a Sensitive Place that is occupied, as the respite period is for human comfort. Update the descriptor for noise to be consistent with amendments to Table 2.
<b>Imposed Condition 13: Air Quality</b> <b>Amendment to Table 4</b>	The table contains footnote references that do not appear under the table. Delete the footnote references in the text of the table.  Insert new notes for the table to clarify that AS 3580 is the appropriate standard for sampling.
<b>Imposed Condition 15: Water Quality</b>	Amend Imposed Condition 15(a) to confirm that the requirements of Condition 15(a) apply only to groundwater ingress.  Add reference to Basin 143 – lowland freshwater environmental values and objectives.  Surface water runoff and dewatering activities from sediment basins and surface excavations associated with construction works is managed in accordance with Imposed Condition 18.
<b>Imposed Condition 17: Surface Water</b>	Amend Condition 17 to provide greater clarity around the flood management requirements for the CRR Project. The proposed changes expand on the current Condition 17 requirements to provide greater flexibility for flood management for Project Work at specific worksites that are impacted by flooding events.

Aspect	Description of requested change
<p><b>Environmental Design Requirements 5: Hydrology</b>  <b>Include a new Environmental Design Requirement</b></p>	<p>Provide for an additional Environmental Design Requirement that distinguishes the requirement where the Project is intersecting existing surface works, compared to the new underground works.</p> <p>Replace Environmental Design Requirement 5(i) with the following:</p> <p>(i) The Project design achieves the water quality objectives stated for the Brisbane River Estuary environmental values and water quality objectives (Basin No. 143 mid-estuary) referred to in the Environmental Protection (Water) Policy 2009 for water, including groundwater, released from the tunnels and underground stations to surface waters.</p> <p>(j) The Project design achieves no increase in pollutant loads for water, including groundwater, released from the surface works to surface waters.</p> <p>Renumber the balance of Environment Design Requirement 5.</p>

## 4. Reasons for the change and effect of the change

### 4.1 Changes to the Project

The following section details the proposed changes relating to the Evaluated Project's design.

#### 4.1.1 Proposed Project Changes – project boundary

The detailed design has identified a number of elements essential to the delivery of the project that are required outside the existing project boundary for the Evaluated Project. The proposed Project boundary changes are detailed in Table 2 and are shown in Volume 2.

**Table 2 Proposed Project Changes**

Element	Location	Summary of Change to project boundary
Stormwater Outlets	Mayne Yard	Stormwater outlets providing discharge of stormwater runoff from Mayne Yard are required to be situated within the bed and banks of Breakfast Creek. As the project boundary in Mayne Yard is currently aligned to the existing cadastral boundary, it is proposed to extend the boundary at the nominated stormwater outlet locations to account for temporary and permanent disturbance footprints.
Overhead Lines and Signal Upgrades	Tennyson Junction/Cleveland line/Mayne Yard/Albion	Extension of project boundaries to encompass required overhead line and signal upgrades at Tennyson junction, Cleveland line, Bowen Hills and Albion required as part of the CRR Project.
Railway Corridor Widening	Lanham Street	Partial requirement for additional volumetric land adjacent to the rail corridor to accommodate corridor widening and structural rock embankments works as agreed with Brisbane City Council.
Construction access and worksites	RNA Showgrounds	Realignment of the Evaluated Project boundary and Temporary Construction Area to align with boundaries agreed with RNA.
Surface requirements	Albert Street station	Although the current project plans indicate a requirement for 109 Elizabeth Street, the project plans have been updated to confirm the requirement for the land as part of the northern station entrance works. This is not a change to the land requirement for 109 Elizabeth Street, but the plan in Volume 2, sheet 16 more accurately reflects the State's need to resume the land for construction purposes (cut and cover) and for protection of the permanent CRR infrastructure.
Access, retaining walls, and stormwater management	Victoria Park	An additional rail holding road within the Normanby Rail Yard is required. In order to accommodate the holding road additional temporary surface and permanent volumetric land is required for works within Victoria Park, including an upgrade of rail corridor access, a section of a rail maintenance access road, subsurface soil nails associated within corridor retaining walls and a stormwater retention bund.

Element	Location	Summary of Change to project boundary
Construction Access Road and associated ancillary safety requirements (SUP, Road Signalisation)	Victoria Park and Gregory Terrace	Amendment of the Temporary Construction Area for the construction access road within Victoria Park to reflect the area as agreed with Brisbane City Council. Temporary realignment of a section of the shared user path (SUP) infrastructure within Victoria Park as requested by Brisbane City Council as part of the Access Road Design Approval Temporary access to roadway to accommodate a signalisation of Gregory Terrace (presented in RfPC4) to enable safe access in and out of the access road within Victoria Park.
Construction Worksites	Fairfield to Salisbury	Amendments, re-alignment and additions to the Temporary Construction Area at the Fairfield to Salisbury worksites, particularly at Fairfield and Yeronga Stations, associated with design refinements and flow on effects to constructability options.

#### 4.1.2 Reasons for the Proposed Project Changes

The reasons for the proposed changes are detailed in Table 3 below.

**Table 3 Reasons for Proposed Project Changes**

Element	Location	Reasons for Proposed Project Changes
Stormwater Outlets	Mayne Yard	The stormwater outlets are required to discharge from the lowest point of their catchment. Due to the low-lying nature of the topography within Mayne Yard, it is not possible to accommodate the stormwater outlets within existing Evaluated Project boundary. This results in the outlets being located within the intertidal zone of Breakfast Creek, outside of the RfPC-4 boundaries.
Overhead Lines and Signal Upgrades	Tennyson Junction/ Cleveland line/ Mayne Yard/ Albion	To enable CRR Project infrastructure to effectively integrate with the existing network, it has been identified that signal and overhead line upgrades are required within the rail corridor at these locations outside the Evaluated Project boundary.
Railway Corridor Widening	Lanham Street	In order to safely accommodate the additional track, there is a requirement to increase the width of the rail corridor. As the rail corridor is in cutting at this location, additional rock cutting is required to accommodate the width increase, with the resultant rock cutting supports (rock anchors) to occupy a permanent volumetric area of existing BCC land.
Construction access and worksites	RNA Showgrounds	The Delivery Authority and RNA have negotiated access arrangements within the RNA Showgrounds to enable the construction of the Exhibition Station. A change is sought to the Evaluated Project boundary to align with the agreed site access arrangements.
Surface requirements	Albert Street station	This is not a change to the land requirement for 109 Elizabeth Street, but the plan in sheet 16 more accurately reflects the State's need to resume the land for construction purposes (cut and cover) and for protection of the permanent CRR infrastructure.

Element	Location	Reasons for Proposed Project Changes
Access, retaining walls, and stormwater management	Victoria Park	<p>The provision of a rail holding road within the northern corridor that will improve the operational capacity of the rail network is required. Accommodating the additional holding road within the rail corridor has required elements of the CRR Project infrastructure to be located outside of the corridor, including upgrade to the existing rail corridor access, construction of a section of a rail maintenance access road, subsurface soil nails associated with in corridor retaining walls and a stormwater retention bund. Due to space constraints, it is not possible to deliver all required CRR Project elements within the existing rail corridor.</p> <p>Within Victoria Park, the upgraded access road and the rail maintenance access road will be located within an area that is presently occupied by an existing Queensland Rail carpark and therefore there will be no change to rail infrastructure use at this location.</p>
Construction Access Road and associated ancillary safety requirements (SUP, Road Signalisation)	Victoria Park and Gregory Terrace	<p>Through further refinement of the design for the construction vehicle access it was identified that the Temporary Construction Area for the Evaluated Project was insufficient to accommodate the full scope of the access road. The proposed changed boundary aligns with the agreement established between the Delivery Authority and Brisbane City Council.</p> <p>To enable the ongoing use of Victoria Park during the CRR Project's construction, the Delivery Authority has agreed with Brisbane City Council to realign the shared user path impacted by the Evaluated CRR Project's access road. The realigned path provides for the ongoing safe movement of cyclists and pedestrians through Victoria Park during the construction the CRR Project.</p> <p>Through consultation with Brisbane City Council, it has been determined that the signalisation of the access road intersection with Gregory Terrace is required to provide a safe road environment. While this was evaluated in RfPC4, additional temporary access to the roadway is required to complete this work.</p>
Construction Worksites	Fairfield to Salisbury	<p>Further development of the design solutions have had a flow on effect on constructability space requirements. For example, the relocation of the Fairfield overpass further north to the concept design alignment means the current temporary land requirements associated with the set up for the crane pad have to be relocated.</p> <p>The current Temporary Construction Areas at all stations do not provide for the safe execution of critical construction activities such as lifting operations.</p>

### 4.1.3 Effects of Proposed Project Changes

The effects of the proposed Project changes as detailed in section 4.1.1 is provided in

Table 4.

**Table 4 Effects of Proposed Project Changes**

Element	Location	Effects of Proposed Project Changes
Stormwater Outlets	Mayne Yard	<p>The stormwater outlets will be located within lots previously assessed for the Evaluated Project and therefore do not result in any additional property impacts.</p> <p>The stormwater outlets do not result in significant changes to potential impacts to environmental elements that were described for the Evaluated Project. Consistent with the Evaluated Project, an Operational Works approval for clearing marine plants is required for impacts to marine plants for works associated with drainage outlets and bridge works. Impacts to marine plants will be managed through this process.</p> <p>Consistent with the Evaluated Project, an Operational Works approval for tidal works is required for in stream and inter-tidal works associated with drainage outlets and bridge works. Impacts to water quality and hydrology will be managed through this process.</p> <p>The effect of the stormwater outlets remain consistent with the Evaluated Project, with minor changes to the location of the outlets.</p>
Overhead Lines and Signal Upgrades	Tennyson Junction/ Cleveland line/ Mayne Railway Yard/ Albion	<p>The overhead lines and signal upgrades will be delivered in new lots not previously assessed for the Evaluated Project. These new lots are located within the existing Queensland Rail corridor and therefore do not impact on any new landholders or non-rail corridor land.</p> <p>As the works consist of upgrades to the overhead lines and signalling infrastructure within an area already occupied by rail infrastructure, including overhead lines and signalling infrastructure, the effects of the proposed change are anticipated to be consistent with works within a rail corridor, negligible and confined to an update of the existing project boundary.</p>
Railway Corridor Widening	Lanham Street	<p>The additional land requirement is presently occupied by Brisbane City Council maintenance facilities. The additional land requirement is within an area previously identified for as a temporary construction area and therefore the change effectively changes a small area of temporary requirement to permanent. The effects of the railway corridor widening works have been previously assessed as part of the Evaluated Project.</p> <p>Consequently, the effect of the proposed change is confined to an update to the existing project boundary.</p>
Construction access and worksites	RNA Showgrounds	<p>Changes within the RNA Showgrounds are associated with seeking consistency between the existing CRR Project boundaries and the land access agreement between the Delivery Authority and RNA. The nominated changes have also been presented to the Department of Environment and Science (DES) – Heritage Unit and Queensland Heritage Council (QHC) as part of a project heritage approval.</p> <p>Consequently, the effect of the proposed change is confined to an update to the existing project boundary.</p>
Surface requirements	Albert Street station	There is no effect to the project resulting from this update to the plans.



Element	Location	Effects of Proposed Project Changes
Access, retaining walls, and stormwater management	Victoria Park	Elements outside the rail corridor will be situated within areas of Victoria Park that are already occupied by Queensland Rail infrastructure or are immediately adjacent to the existing rail corridor boundary and Victoria Park. Any land impacts within Victoria Park will be in areas that presently provide for limited public use. A Heritage Exemption Certificate (HEC) under the <i>Queensland Heritage Act 1992</i> has been obtained for these works within Victoria Park. Impacts of works within the rail corridor are considered to be consistent with the Evaluated Project.
Construction Access Road, SUP and intersection signalisation	Victoria Park and Gregory Terrace	<p>The Delivery Authority has undertaken extensive consultation with Brisbane City Council on the development of the design for the access road through Victoria Park. As an outcome of this consultation, the shared user path has been incorporated into the CRR Project's scope to provide safe access for cyclists through Victoria Park.</p> <p>The alignment of the cycle path has sought to avoid impacts to existing trees within the park.</p> <p>A Heritage Exemption Certificate (HEC) under the <i>Queensland Heritage Act 1992</i> has been obtained for works within Victoria Park, including the construction access road and shared user path realignment. An additional HEC will be obtained to capture the proposed boundary works and any temporary construction impacts.</p> <p>The signalisation of Gregory Terrace is required to provide for the safe movement of CRR Project construction vehicles and general traffic throughout the duration of construction. The signalisation requirements has been developed in consultation with Brisbane City Council in accordance with Brisbane City Council standards and the effects have been considered as part of the Evaluated Project.</p> <p>As the proposed change seeks to achieve alignment between the existing CRR Project boundary and the boundary agreed between the Delivery Authority and Brisbane City Council, no adverse changes to impacts are anticipated.</p> <p>Consequently, the effect of the proposed change is confined to an update to the existing project boundary.</p>
Construction Worksites	Fairfield to Salisbury	The proposed changes to the Temporary Construction Area are generally consistent with the Evaluated Project, and will be managed in accordance with the existing Imposed Conditions. Works within local road corridors, will comply with Imposed Condition 14, and the requirements of the CEMP, including the Construction Traffic Management Plan. The process will also include consultation with local residents and other key stakeholders such as Queensland Rail and Brisbane City Council.

## 4.2 Changes to Imposed Conditions

The following section details proposed changes to the Coordinator-General's imposed conditions to facilitate delivery of the CRR Project.

### 4.2.1 Imposed Condition 1: General

It is proposed to amend Imposed Condition 1: General to reflect the proposed Project changes set out in section 4.1 above. The reasons for those changes, and the effects of those changes are detailed in section 4.1.

### 4.2.2 Imposed Condition 10: Hours of work (rail possessions)

#### 4.2.2.1 Proposed Change

It is proposed to amend Imposed Condition 10, Table 1 to separate the rows for Moorooka Station and Clapham Yard.

It is further proposed to remove the limitation of 80 hours continuous work for extended work hours for approved rail possessions for the following worksites:

- Fairfield, Yeronga, Yeerongpilly, Rocklea and Salisbury Stations;
- Moorooka Station;
- Northern Portal;
- Exhibition Railway Station;
- Mayne Railway Yard.

#### 4.2.2.2 Reason for Proposed Change

Track possessions of greater than 80 hours have been identified as being required to meet the program, and have been approved by the railway manager. Certain works for the Project also require extensive and complex works to be delivered within the existing rail corridor, necessitating the requirement for increased duration of possessions to enable completion of works packages.

#### 4.2.2.3 Effect of Proposed Change

The amendment of the '80 hours continuous work' limit for approved rail possessions will enable the Project to be delivered consistently with the possession program negotiated and agreed with Queensland Rail. In accordance with Imposed Condition 10(d), those works are required to be undertaken in compliance with a specific Construction Environmental Management Plan Sub-Plan (CEMP), to management the impacts of the works. The specific CEMP must be endorsed by the Environmental Monitor.

The number of possessions actually required to exceed 80 hours will be limited, mostly confined to existing extended possessions such as Easter and Christmas. These rail corridor shutdowns are typically already required by Queensland Rail to undertake broader network maintenance and upgrade activities.

Regardless of whether rail possessions exceed 80 hours or are part of the existing Queensland Rail possession regime, rail corridor possessions require extensive negotiation with Queensland Rail. This is to ensure the proposed works can only be undertaken during a possession and that all efforts to minimise any impacts to stakeholders are implemented. Key stakeholders, above and beyond Directly Affected Persons, include rail commuters, freight user and the AirTrain.

Rail possessions are managed in accordance with a Rail Access Management Plan (RAMP), to identify the stakeholder requirements, and associated procedures and protocols that must be implemented to ensure all requirements are met to receive access to rail infrastructure, and utilisation of the agreed possessions.

Initial notification to Queensland Rail for extended possessions commences a minimum 12 months out from the date of requirement. This also is where the initial consultation with stakeholders commences. If the possession is agreed, further detail planning is undertaken in the lead up to the possession to detail any requirements for train paths to assist in the passage of services, whether these be passenger or freight services.

During possessions, specific communication protocols are established to ensure any unforeseen event or impact is effectively and promptly communicated to key stakeholders. This protocol requires regular updates that covers off on a number of elements including:

- safety;
- environment;
- community;
- construction;
- program; and

- contingencies.

There is potential that extended possessions result in increased duration of local disruptions around the possession locations. These disruptions will be managed in accordance with the endorsed specific CEMP in accordance with Imposed Condition 10(d).

Extended possessions at times providing the least disruption to customers, such as Easter and Christmas, have been agreed in consultation with Queensland Rail. These extended windows are essential to enabling the delivery of significant portions of work that require extended periods with no trains.

Works during these extended periods are maximised to ensure the utmost efficiency and magnitude of works can be undertaken, reducing the number of overall rail possessions that are required for the Project.

Typically, these possession events are planned to coincide with the delivery of major changes to infrastructure or commissioning that cannot be feasibly be completed within the standard 48 hour weekends. Wherever possible, any works that form part of the major commissioning that can be undertaken prior to the extended possession have been planned in order to minimise the duration of the extended closure so far as is reasonably practicable. Essentially, without the ability to deliver works within extended possessions it is not possible to deliver critical elements of the project.

As an example, the communication protocols for keeping stakeholders informed of potential disruptions, as extracted from the CEMP, are detailed in Table 5. This engagement process will continue to be implemented regardless of the duration of the rail possession.

**Table 5 Community Engagement for Work During Rail Possessions**

Action	Description	Trigger/Need	Timing
<b>Work During Rail Possessions</b>	Queensland Rail notifications Regular advertisements in local papers where required for extended possessions	<ul style="list-style-type: none"> <li>• Directly-affected property owners and tenants, including adjoining owners (within 250m)</li> <li>• Directly-affected businesses/tenants in adjoining properties (within 250m)</li> <li>• Public transport users</li> <li>• Key strategic partners</li> <li>• Industry influencers and advocates</li> <li>• Supportive and potential opinion shapers</li> <li>• People with a disability</li> </ul>	Delivered prior to Queensland Rail planned track closure on weekends when trains are not in service

During Project Works, including during rail possessions, the CEMP also sets out the process for receiving and addressing complaints received. As per the Enquiries and Complaints Management Process under the CEMP, in the event that a complaint is received during the extended possessions, a member of the Community and Stakeholder Engagement Team will work with the complainant and site manager/supervisor to respond and resolve in a timely manner.

Further opportunities for extended periods would further reduce the number of 48 hour Scheduled Corridor Access System (SCAS) requirements and significantly reduce the number of night shifts required.

The geographical areas for the relevant works are broken into Normanby, Mayne and F2S. There may be occasions where Normanby and Mayne are closed at the same time, however there are no planned occurrences where F2S is closed at the same time as Mayne and or Northern.

Extended possessions generally only apply to a discrete section of the Queensland Rail Network. It is not feasible for multiple extended possessions to operate simultaneously as it would compromise the entire Queensland Rail Network's ability to maintain operability.

The Mayne Area and Normanby Area are predominantly surrounded by non-residential areas. The extended possessions coinciding with Easter and Christmas Holidays are therefore unlikely to adversely impact the local community. Further, as these possessions coincide with gazetted school holidays, key sensitive receivers including students and staff at nearby education facility, such as Brisbane Girls Grammar School, will not be on campus and therefore will not be impacted by the works.

For the F2S area and Moorooka, neighbouring properties along the corridor are made up of a mix of residential and light industrial dwellings. Easter and Christmas Holidays intimate that residents are more likely to be occupying their premises and therefore are more likely to be affected by extended works during these periods.

This extended impact is still limited by the relevant Imposed Conditions for noise and vibration, as these conditions impose criteria that are 'peak' events.

This is especially important for the transient construction noise criteria which is assessed over a 15minute period. For possessions greater than 80 hours, instead of construction activity occurring continuously, the longer period of construction will allow for more works to be scheduled than what is possible with just 80 hours possessions. Whilst the magnitude and duration of noise impacts for a construction period may be greater than for an 80 hour limit, this change will reduce the overall construction noise and vibration impact as fewer possessions will be required in order to deliver the project.

Due to the relative infrequency of proposed rail possessions exceeding 80 hours, and the measures in place to manage potential impacts associated with rail possessions, it is anticipated that the proposed changes will have a negligible change in impact to the surrounding local community as was described for the Evaluated Project. Further, extended rail possessions will enable works to be completed more efficiently, thereby potentially reducing the overall longer-term impacts associated with requiring regular and numerous short rail possessions to deliver the Project Works.

### 4.2.3 Imposed Condition 10 (heavy vehicle movements)

#### 4.2.3.1 Proposed Change

It is proposed to amend Imposed Condition 10: Table 1 to change the hours for spoil haulage and materials/equipment delivery as follows:

- amend the 5th column so that the lock out periods for school zones do not apply during school holiday periods;
- amend the 5th column for the first row so that the hours for spoil haulage and materials/equipment delivery are changed to 6:30am - 6:30pm, Monday to Saturday:
  - Fairfield, Yeronga, Yeerongpilly, Rocklea and Salisbury; and
  - Moorooka Station.

Amendment is also proposed to Imposed Condition 10(d) to delete the words "during Extended Work Hours as set out in Table 1" to make it clear that spoil haulage and materials/equipment delivery that support the Project Works in Imposed Condition 10(d) can occur during those works, subject to compliance with a specific Construction Environmental Management Plan sub-plan. This will apply to:

- road, rail and busway corridor works;
- Project Works involving the transport or oversized plant, equipment, components or structures;
- delivery of "in time" materials; and
- Project Works that require continuous construction support.

The proposed amendments are presented in section 5.

#### 4.2.3.2 Reason for Proposed Change

The proposed change is requested in order to:

- increase efficiency of deliveries where the reasons for the lock out period (school hours) are not applicable during school holidays (given a reduced traffic volume);
- ensure that there is the ability to maximise the efficiency of road and rail possessions, and that required heavy vehicle movements can occur during these limited periods, noting that these possessions occur outside of peak periods and school pick up and drop off times;
- allow for extended haulage hours for particular continuous works, where a longer delivery window is required for those works;
- provide flexibility for delivery and continuity of works where the worksites are restricted in terms of laydown and storage area (for the Fairfield to Salisbury sites and Moorooka Station site);
- provide for less intense heavy vehicle movements during the limited delivery windows available to some sites.

#### 4.2.3.3 Effect of Proposed Change

The proposed change does not change the overall number of heavy vehicle movements for the Project, but allows for improved management of heavy vehicle movements resulting in:

- less intense heavy vehicle numbers during permitted hours;
- less potential for queuing of heavy vehicles accessing worksites that are constrained;
- improved efficiency for road and rail possessions, which will occur outside of peak and school periods in any event.

Additional detail regarding the effects of the proposed change is included in Volume 3.

### 4.2.4 Imposed condition 11: Construction noise and vibration (noise goals) Table 2

#### 4.2.4.1 Proposed Change

It is proposed to change Imposed Condition 11 to confirm in Imposed Condition 11(a) that the project noise goals apply at a Sensitive Place, as defined in the Coordinator-General's Imposed Conditions.

It is proposed to make the following amendments to Table 2:

- move the reference to 130dB Linear Peak to "intermittent"
- add a note to Table 2 to confirm that adjustments will be applied as outlined in the Noise Measurement Manual, Version 4.

#### 4.2.4.2 Reason for Proposed Change

The internal noise goals set out Table 2 are noise goals that are applicable at a Sensitive Place, as defined in the Coordinator-General's Imposed Conditions, however Condition 11 does not limit the application of the noise goals to a Sensitive Place. This appears to be unintentional and it is requested that it be clarified that the noise goals are only applicable at a Sensitive Place.

The amendments to Table 2 are clarifications and technical corrections.

#### 4.2.4.3 Effect of Proposed Change

The proposed change to clarify that the condition only applies to a Sensitive Place is not predicted to have any effect, given that it is limited to clarifying the application of the condition. There is not predicted to be any effect owing to the technical corrections to Table 2.

### 4.2.5 Imposed Condition 11: Construction noise and vibration (11(c))

#### 4.2.5.1 Proposed Change

It is proposed to amend Imposed Condition 11(c), so that the restrictions that apply to Project Works predicted to or monitored as generating noise levels more than 20dBA LA<sub>10 adj (15 min)</sub> do not apply to

Project Works that are managed through a specific CEMP in accordance with Imposed Condition 10(d).

It is proposed to add the words "Except for works undertaken in accordance with Condition 10(d)" at the start of Imposed Condition 11(c).

#### 4.2.5.2 Reason for the Proposed Change

Condition 11 (c) of the Coordinator-General's Report applies to Project Works that are predicted or monitored as generating noise levels more than 20dBA above the relevant goal in Table 2 under Condition 11(a).

Condition 11(a) Table 2 of the Coordinator-General's Conditions provides a 42 dB(A)  $L_{A10\text{ adj}}$  internal criterion for night works that are transient in nature. The subsequent conditions of the clause outline that *Project Works predicted to or monitored as generating noise levels more than 20dBA  $L_{Aeq\ 10min, adj}$  above the relevant goal in Table 2 are authorised to occur in a locality only:*

- (iv) between the hours 7:00am to 6:00pm Monday to Friday, with a respite period between 12:00noon and 2:00pm each day.*

This condition therefore applies a limit for night works of 62 dBA  $L_{A10\text{ adj}}$  (internal), as Condition (iv) limits when these works can occur. As the design has progressed it has been identified that this limit is difficult to achieve for most night work activities, regardless of the duration. RfPC-4 has forecast external construction impacts of up to 85 dB(A) at night. A large quantum of the works, especially along Fairfield to Salisbury worksites is proposed to be undertaken outside of standard working hours for surface works as part of rail possession works.

Detailed project planning has identified high noise impact project works that can only occur within an approved road corridor or rail corridor possession outside of the hours of Monday to Friday, 7:00am to 6:00pm. Examples include, but are not limited to, Fairfield Station demolition, refurbishment and track realignment activities, and the construction of a signalised intersection on Gregory Terrace to accommodate the project's site entry to the northern rail corridor.

The works will, however, be managed in accordance with a specific CEMP that must be endorsed by the Environmental Monitor, in accordance with Imposed Condition 10(d). This process ensures that there is an appropriate environmental management regime in place for the works.

To demonstrate the impact of Condition 11(c) multiple noise modelling scenarios have been analysed, based on the proposed project works to date. The scenarios and mitigation limitations are detailed in the Volume 3 – Technical Report.

The proposed changes have the effect of aligning Condition 10 and Condition 11, thereby enabling that the works proposed to be delivered on nights and weekends during rail possessions (and other works set out at Condition 10(d)) can be delivered.

#### 4.2.5.3 Effect of the Proposed Change

As the works will be undertaken under an Environmental Monitor endorsed CEMP, and all efforts will be made to minimise the high impact noise works being undertaken during the night time, the predicted impacts will be slightly elevated at nearby residences (Directly Affected Persons – DAPs). Consultation will be undertaken with each DAP prior to these works being undertaken to further reduce these impacts.

The change to the measure will not have any effect on the Project.

## 4.2.6 Imposed Condition 11: Construction noise and vibration (respite periods)

### 4.2.6.1 Proposed Change

It is proposed to amend Imposed Conditions 11(c)(iv) and 11(f)(i) to clarify that the requirement for a respite period applies only to a Sensitive Place that is occupied as the respite periods apply in respect of human comfort only.

Noise goals generally are addressed in Table 2 and the Construction Environmental Management Plan. Property damage is dealt with in Imposed Condition 12 and the Construction Environmental Management Plan.

### 4.2.6.2 Reason for Proposed Change

The proposed change is required to confirm the intent of Imposed Conditions 11(c)(iv) and 11(f)(i).

### 4.2.6.3 Effect of the Proposed Change

The proposed change is not predicted to have any effect, given that it is limited to clarifying the intent of Imposed Conditions 11(c)(iv) and 11(f)(i).

## 4.2.7 Imposed Condition 13: Air Quality (Table 4)

### 4.2.7.1 Proposed Change

Through previous RfPCs, the footnotes associated with Table 4 within this condition have been removed. However, the reference numbers to the footnotes are still present in Table 4. It is proposed that these references are removed to avoid any confusion in the condition.

It is also requested that notes be added to Table 4 to confirm that monitoring, sampling and analysis will be undertaken in accordance with applicable Australian standards.

### 4.2.7.2 Reason for Proposed Change

In the Cross River Rail project Coordinator-General's change report – whole of project (CGCR) (June 2017) the footnotes were removed from the construction air quality criteria table (Condition 13). The footnotes are not in any of the successive Coordinator-General's reports on project change. The only remaining identifiers are the residual reference marks for the removed footnotes.

### 4.2.7.3 Effect of Proposed Change

The proposed change does not have any effect on the project.

## 4.2.8 Imposed Condition 15(a) Water Quality

### 4.2.8.1 Proposed Change

It is requested to amend Imposed Condition 15(a) to clarify that more appropriate (freshwater) environmental values for groundwater ingress in the vicinity of Moolabin Creek, Yeerongpilly should apply.

Surface water runoff and dewatering activities from sediment basins and surface excavations associated with surface construction works is managed in accordance with Imposed Condition 18.

### 4.2.8.2 Reason for Proposed Change

Additional detail supporting the justification is presented in Volume 3.

## Existing Environmental Settings

The Evaluated Project intersects and neighbours a series of surface water systems. Not all these systems are mid-estuarine environments.

For surface works for the Project, the following surface water systems have been identified as potential or actual receiving environment for the works:

- Northern Area
  - Breakfast Creek - classified as a mid-estuary under the EPP document Brisbane River Estuary environmental values and water quality objectives Basin No. 143 (part), including all creeks of the Brisbane River estuary, other than Oxley Creek. Breakfast Creek intersected by the existing rail corridor and a direct receiver of the Mayne Stabling Yard.
  - York's Hollow - classified as a lowland stream (freshwater) under the EPP document Brisbane River Estuary environmental values and water quality objectives Basin No. 143 (part), including all creeks of the Brisbane River estuary, other than Oxley Creek. York's Hollow is a potential receiver of part of the existing Northern Rail Corridor between College Road and Bowen Bridge Road.
- Southern Area
  - Moolabin Creek (Lowland freshwater) (adjacent to Clapham Yard to the north), intersected by the existing rail corridor, and
  - Rocky Water Holes Creek (Lowland freshwater) (between Clapham Yard and Rocklea Station), intersected by the existing rail corridor, and
  - Stable Swamp Creek (Lowland freshwater) (near Salisbury Station) and a potential downstream receiver of the existing rail corridor.

### Surface water monitoring program summaries

Key findings from the surface water monitoring programs undertaken between 2018 and 2020 are

- For Breakfast Creek:
  - typical pH values ranged between 6.7 and 7.5 with higher pH readings typically associated with saline waters and more acidic readings when waters were fresh to slightly brackish waters;
  - Dissolved oxygen values typically ranged between 40% and 85% saturation which is below the EPP WQO;
  - Turbidity consistently exceeded its WQO;
  - TSS was generally meeting its WQO 60 to 70 % of the time;
  - Nutrients are consistently exceeding their WQOs.
- For all waterways:
  - Respective WQOs were typically consistently exceeded for nutrient and consistently not met for pH and Dissolved Oxygen
  - Copper, lead and zinc were the key heavy metals exceeding their respective criterion in their total forms. Dissolved results were typically lower than their respective criterion.
  - Copper, lead and zinc are traditional toxicants or urbanised environments
  - Aluminium was also consistently detected in all waters.
  - The occurrence of aluminium in urban waters could be both of natural and anthropogenic origin. Naturally all systems samples are low lying and potentially influenced by acidic or coastal acid sulphate soils.
- Review of the Pourbaix diagram for Aluminium against the measured pH values of the waters confirmed the Aluminium in the water would be in its hydrated hydrargillite form ( $\text{Al}_2\text{O}_3 \cdot 3\text{H}_2\text{O}$ ) rather than its more toxic dissolved species  $\text{Al}^{3+}$ .
- Hydrocarbons were seldomly detected in concentrations marginally above LORs however the individual toxicants such as BTEXN, PAHS and Phenolic compounds were not detected in exceedance<sup>3</sup> of their respective criterion, when available.



- OCs and OPs cannot be meaningfully analysed with the majority of the laboratory LORs higher than their respective water quality criterion.

### Legislative review summary

The current legislative framework does not support the use of the relevant EPP Water WQOs as discharge performance criteria for the surface works.

Compliance Assessment Frameworks during the Construction Phase of major development projects either nominated by the QWQG, EP Act and subordinate legislation and guidance or Imposed Condition 18 (IECA, MRTS 51 & 52) all consistently refer a set a key parameters and associated performance objective or criteria that ensure the Project is at all times undertaking reasonable and practicable Management Measures to avoid Environmental Harm or Environmental Nuisance within the Site and to waterways into which the Site Discharges.

These are inconsistent with the EPP Water WQOs referenced in Imposed Condition 15(a).

#### 4.2.8.3 Effect of Proposed Change

The Proposed Changes ensure consistency between Imposed Condition 15 and Imposed Condition 18. Surface water quality will continue to be managed in accordance with Imposed Condition 18, to ensure appropriate management measures are in place to avoid adverse impacts to surface water quality as a result of the Project.

### 4.2.9 Imposed Condition 17: Surface water

#### 4.2.9.1 Proposed Change

It is proposed to amend Condition 17 to provide greater clarity around the flood management requirements for the Project. Specifically, the changes expand on the current Condition 17 requirements to provide greater flexibility for site specific solutions to be developed that are tailored to specific Project Works.

#### 4.2.9.2 Reason for Proposed Change

It is proposed to amend Condition 17 to require that Project Works and worksites are managed to minimise inundation and flooding impacts as a result of the works, recognising that:

- some Project Works occur within Moolabin Creek and Breakfast Creek; and
- the current condition would require bunding of worksites in the floodplain to prevent inundation, resulting in an increased flooding impact upstream of these worksites;
- the current condition limits the ability to effectively undertake project works at these locations, as the installation and management of inundation prevention infrastructure and the requirement to provide effective access to these sites is unworkable.
- For the management of Project Works and worksites with respect to stormwater inundation, it is not appropriate to set a condition to avoid inundation from stormwater due to a 2 year (6hr) ARI rainfall event as this means that surface worksites would need to be designed to cater for up to 76.2mm of rain over a 6-hour period, without becoming inundated.

It is therefore understood this condition relates to stormwater drainage design rather than design criteria for temporary drainage control.

Durations over one hour for surface works are traditionally not considered for temporary works design. The *DEHP Procedural Guide – standard work method for the assessment of the lawfulness of releases to waters from construction sites – SEQ* provides a guide for undertaking inspections of stormwater management and erosion and sediment control during the construction phase of land and infrastructure development in SEQ.

The design criteria outlined in the Procedural Guide relates to identifying a suitable lining treatment of concentrated flow paths, including drainage lines, diversion drains, channels and batter chutes to which concentrated flows (both clean and dirty stormwater) report. The selected lining of the channel

must be as such that concentrated flows for the 2 year ARI for the catchment (time of concentration which is not always 6 hours) do not cause water contamination, sheet, rill or gully erosion, sedimentation and damage to structure or property. It does not relate to preventing inundation of a worksite.

For the management of Project Works and worksites with respect to avoiding inundation from flood waters due to a 5 year ARI rainfall event, it is not appropriate for this requirement to be applied to works within Moolabin Creek and Breakfast Creek, where temporary impacts will be expected. In order to manage potential flood impacts within Moolabin Creek and Breakfast Creek, it is proposed to develop and implement a Flood Management Plan.

#### 4.2.9.3 Effect of Proposed Change

Under the current conditions:

- works to construct the Breakfast Creek and Moolabin Creek bridges cannot proceed with any elements located within the creek channel;
- design criteria for temporary drainage control would require flood immunity and afflux assessment. This is typically only determined using modelling, and given the associated timeframes and cost this is impractical for temporary ESC structures such as diversion bunds.

The revised conditions will allow construction of these bridges using standard construction techniques by providing a plan for effective management of potential flooding events that may occur during the works. The flood management plan will provide the Coordinator-General with confidence that the works can be effectively managed in the event of a flood without causing adverse impacts to third parties.

The revised conditions will also enable for a consistent approach with Imposed Condition 18 for erosion and sediment control.

### 4.2.10 Environmental design requirement 5(i) - Water Quality Objectives

#### 4.2.10.1 Reason for the proposed change

It is proposed to amend Environmental Design Requirement Condition 5(i) to provide separate water quality objectives for discharges to surface water between water from the new infrastructure (tunnels and underground stations) and surface works which is constrained by existing infrastructure.

The change is required to recognise that existing infrastructure constrains the ability of the Project to treat existing infrastructure to achieve higher water quality objectives. As a result, it is proposed that an appropriate standard for the surface works is a "no worsening" outcome, with the environmental design requirement being for no increase in pollutant loads for discharges (including stormwater runoff) from surface infrastructure.

Existing surface infrastructure (internal roads, car parks and crew facilities areas) within Mayne Yard will be treated in accordance with the DTMR Road Drainage Manual (2019) in order to achieve the proposed Environmental Design Requirement.

#### 4.2.10.1 Effect of the proposed change

The area proposed for development is currently highly impervious, with land uses comprising rail ballast, bitumen roads and car parking, buildings and hardstand. There are some small areas of landscaping where grass growth is visible adjacent to buildings and alongside existing tracks. The areas alongside the tracks support only poor grass growth and are likely to be highly compacted, given the industrial nature of the site. Estimated imperviousness for the existing land use is about 90%.

The proposed car parks would be nearly completely impervious with very little landscaping. Overall, the project would result in a small increase in imperviousness.

## Surface Rail Infrastructure

Re-development of highly developed areas is not likely to result in change to the total imperviousness. On this basis, if total imperviousness of the project area does not change substantially between the existing and proposed development, then pollutant loads discharged to the environment are also unlikely to change.

## Crew facility, Roads and Car parks

The increase in imperviousness is likely to create a commensurate increase in runoff volume and pollutants washed off these surfaces. Hence, provision of stormwater treatment is recommended to mitigate the increase in pollutant loads. However, given the physical limitations of space available to the project, the provision of treatment will be highly space-constrained.

More details are presented in Volume 3.

Since the rail corridor is currently nearly fully developed (the railway formation would be considered largely impervious due to the compaction of the soil), re-developing these areas of the project is unlikely to cause increases in stormwater discharges or pollutant loads. Hence no impact to the current receiving environment would be expected.

## 5. Proposed Condition Changes

The Coordinator-General's Imposed Conditions for the Evaluated Project are in Appendix 1 of the Coordinator-General's Change Report dated October 2019. This section sets out the Proposed Changes to the Imposed Conditions.

### 5.1 Draft for proposed changes

Aspect	Description of requested change
<b>Imposed Condition 1: General conditions</b>	Amend Condition 1(a) as follows: Insert a new (i) as follows: "the Cross River Rail Request for Project Change dated May 2020" Replace existing 1(a)(ii) with: (ii) the drawings provided at Volume 2, Cross River Rail Request for Project Change dated May 2020
<b>Imposed Condition 10: Hours of Work Amendment to Table 1</b>	Replace the words "For approved rail possession - 80 hours continuous work (Other extended work) in Table 1 with "For approved rail possession - for the duration of the possession" for the following worksites: <ul style="list-style-type: none"> <li>• Fairfield, Yeronga, Yeerongpilly, Rocklea and Salisbury Stations;</li> <li>• Moorooka;</li> <li>• Northern Portal;</li> <li>• Exhibition Railway Station;</li> <li>• Mayne Railway Yard.</li> </ul> Separate Moorooka and Clapham Yard worksites with no changes to the Clapham Yard hours.  Insert the words "During gazetted school holidays: 7:30am - 9:00am 2:30pm - 4:30pm" For the following worksites: <ul style="list-style-type: none"> <li>• Boggo Road Railway Station</li> </ul> Replace the hours for Spoil haulage and materials/equipment delivery for Fairfield, Yeronga, Yeerongpilly, Rocklea and Salisbury Stations and Moorooka with "Monday to Saturday: 6:30am - 6:30pm"
<b>Imposed Condition 10: Hours of Work Amendment to 10(d)</b>	Delete the words "during Extended Work Hours as set out in Table 1"
<b>Imposed Condition 11: Construction Noise and Vibration Amendment to 11(a)</b>	Add the words "at a Sensitive Place" at the end of Imposed Condition 11(a).

Aspect	Description of requested change
<b>Imposed Condition 11: Construction Noise and Vibration Amendment to Table 2</b>	Amend Table 2 to: <ul style="list-style-type: none"> <li>• move the 130dB Linear Peak for blasting to the row for intermittent impacts.</li> </ul> Add the following table notes: <p>3. Adjustments (adj) will be applied as outlined in the Department of Environment and Science Noise Measurement Manual Version 4 August 2013.</p>
<b>Imposed Condition 11: Construction Noise and Vibration Amendment to 11(c)</b>	Add the words "unless authorised by Condition 10(d)" at the start of Imposed Condition 11(c).
<b>Imposed Condition 11: Construction Noise and Vibration Amendment to 11(c)(iv) Amendment to 11(f)(i)</b>	For 11(c)(iv) add the words "with the respite only applying where generating noise levels more than 20dBA LA <sub>10 adj (15 min)</sub> at a Sensitive Place that is occupied" For 11(f)(i) add the words "with the respite only applying where generating vibration levels more than those levels nominated in Table 3 (Human Comfort) at a Sensitive Place that is occupied".
<b>Imposed Condition 13: Air Quality Amendment to Table 4</b>	Delete the footnote references within Table 4. Add the following notes under Table 4: Note 1 - When monitored in accordance with the most recent version of AS3580.9.6 Determination of suspended particulate matter – PM10 <b>high</b> volume sampler with size-selective inlet – Gravimetric method. <b>OR</b> AS/NZS 3580.9.9: 2017 Methods for sampling and analysis of ambient air Determination of suspended particulate matter - PM10 <b>low</b> volume sampler - Gravimetric method. Note 2 - When monitored in accordance with the most recent version of AS/NZS 3580.9.3:2003 Determination of suspended particulate matter - Total suspended particulate matter (TSP) - High volume sampler gravimetric method or (TSP) low volume sampler – Gravimetric method. Note 3 - When monitored in accordance with the most recent version of AS3580.10.1 Methods for sampling and analysis of ambient air – Determination of particulate matter – Deposited matter – Gravimetric method
<b>Imposed Condition 15: Water Quality</b>	Replace 15(a) with: <p>(a) Discharge of groundwater from Project Works must comply with:</p> <p>(i) the Brisbane River Estuary environmental values and water quality objectives (Basin no. 143 - mid-estuary) in the Environmental Protection (Water) Policy 2009;</p> <p>(ii) in the vicinity of Moolabin Creek, Yeerongpilly - Oxley Creek - Lowland freshwater environmental values and water quality objectives (Basin no. 143 (part) - including all tributaries of the creek) in the Environmental Protection (Water ) Policy 2009.</p> Add a note under Imposed Condition 15(a) as follows: "Note that surface water runoff and dewatering activities from sediment basins and surface excavations associated with surface construction works is managed in accordance with Imposed Condition 18."

Aspect	Description of requested change
<p><b>Imposed Condition 17: Surface Water</b></p>	<p>Add the words "For underground tunnels and stations - " at the start of Imposed Condition 17(a).</p> <p>Insert a new Imposed Condition 17(b) as follows:</p> <p>(b) A Flood Management Plan that applies to all worksites affected by tributary or creek flooding (in a 5 year ARI flood event and stormwater during a 2 year ARI rainfall event) must be submitted prior to the commencement of Relevant Project Work. A Flood Management Plan is not relevant to flooding of the Brisbane River (main channel).</p> <p>Insert a new Imposed Condition 17(c) as follows:</p> <p>(c) The Flood Management Plan must include, as a minimum:</p> <ul style="list-style-type: none"> <li>(a) General description of the Relevant Project Works</li> <li>(b) Flood assessment</li> <li>(c) Specific flood management measures, including: <ul style="list-style-type: none"> <li>i. Appropriate storage of materials and equipment</li> <li>ii. Early warning indicators</li> <li>iii. Risk management for predicted rainfall events</li> <li>iv. Risk management for predicted tidal flooding events for works in the tidal zone</li> <li>v. Risk management for unpredicted flood events</li> </ul> </li> <li>(d) Tidal works management for works in the tidal zone, including <ul style="list-style-type: none"> <li>i. Barge and marine equipment details</li> <li>ii. Barge mooring plan</li> <li>iii. Vessel traffic management plan</li> <li>iv. Marking of navigational hazards.</li> </ul> </li> </ul> <p>Re-label Imposed Condition 17(b) to (d).</p>
<p><b>Environmental Design Requirements 5: Hydrology</b>  <b>Amendment to 5(i) and include a new Environmental Design Requirement</b></p>	<p>Replace Environmental Design Requirement 5(i) with the following:</p> <p>(i) The Project design achieves the water quality objectives stated for the Brisbane River Estuary environmental values and water quality objectives (Basin No. 143 mid-estuary) referred to in the Environmental Protection (Water) Policy 2009 for water, including groundwater, released from the tunnels and underground stations to surface waters.</p> <p>(j) The Project design achieves no increase in pollutant loads for water, including groundwater, released from the surface works to surface waters.</p> <p>Renumber the balance of Environment Design Requirement 5.</p>

## 6. Conclusion

This RfPC requests that the Coordinator-General evaluate:

- changes to the boundary of the Evaluated Project as a result of detailed design and consultation with asset owners in the project area; and
- changes to the Imposed Conditions to reflect the project changes and facilitate more efficient project delivery.

In accordance with the Imposed Conditions, the Coordinator-General has approved an Outline Environmental Management Plan that establishes the environmental outcomes and performance criteria that must be achieved by the proponent throughout construction.

The existing Imposed Conditions, including the Environmental Design Requirements and the approved Outline Environmental Management Plan, generally remain appropriate. The OEMP however will be required to be reviewed and amended to reflect the approved changes to the Imposed Conditions.

The Cross River Rail Delivery Authority, as the proponent for the CRR Project, requests that the Changed Project proceed, subject to the Imposed Conditions, including the amendments outlined above.