# Cross River Rail Environmental Impact Statement

Request for Project Change 8

Changes to the Project and changes to the imposed conditions

Response to Submissions Report

Date:

November 2020

**Author:** 

Cross River Rail Delivery Authority





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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 outlined in the evaluation report dated 20 December 2012. Since the 2012 evaluation report, seven Requests for Project Change (RfPC) have been submitted and 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.

The Proposed Changes to the evaluated Project have been identified as part of the detailed design phase and due to further development of the construction methodology. These changes are outlined in this Request for Project Change, which will be assessed by the Coordinator-General include:

- changes to the Evaluated Project; and
- changes to the Imposed Conditions.

### 1.1 Process for Evaluation of Project Changes

The process by which the changes to the CRR Project are to be addressed and assessed is established in Part 4, Division 3A of the SDPWO Act.

In August 2020, the Delivery Authority made an application to the Coordinator-General to formally request the evaluation of Proposed Changes to the CRR Project amendments to the existing Imposed Conditions.

The Coordinator-General determined that public notification of the Proposed Changes was required. As such, the Proposed Changes to the CRR Project were publicly notified on 5 September 2020 for a period of four weeks, closing at 5pm on 2 October 2020.

### 1.2 Purpose

The purpose of this document is to provide responses to submissions received by the Coordinator-General about the Proposed Changes. This Response to Submissions Report forms part of the RfPC-8 submission to the Coordinator-General. This report covers:

- Summary of submissions received;
- Issues raised in the submissions; and
- The Proponent's response to issues raised.

# 2. Consultation on the Request for Project Change

The consultation period commenced on 5 September 2020 and closed at 5pm on 2 October 2020.

A range of consultation activities were undertaken throughout the consultation period, which aimed to:

- Inform the community and key stakeholders of RfPC-8; and
- Communicate the RfPC-8 process, including how to provide a submission to the Coordinator-General.

The Coordinator-General's requirement for public display during the consultation period (5 September 2020 - 2 October 2020) was met through the following tools. More information is provided in **Attachment A**.





- Public Display electronically via publication of RfPC-8 documents on the Coordinator-General's and Cross River Rail websites. Hard copies of the document were also made available at the Cross River Rail Experience Centre.
- Media and advertising details on the proposed changes and how to make a submission to the Coordinator-General was published in the Courier Mail.
- Social Media The CRRDA promoted consultation on RfPC-8 via the Cross River Rail Facebook page.
- Website the CRR website had a page providing RfPC-8 information and instructions on how to make a submission to the Coordinator-General
- Letterbox Drop and Electronic Direct Mail (EDM) an information sheet providing a high-level summary of RfPC-8, the consultation process, details on how to view RfPC-8 documents and make a submission to the Coordinator-General was letterbox dropped to approximately 3,500 properties within 250m of the Boggo Road / Dutton Park work sites. The notification was also emailed to 2,200stakeholders.
- Community information sessions two (2), two hour sessions were hosted by the Proponent at the Cross River Rail Experience Centre.
- Station Handouts the Proponent distributed 105 newsletters at Dutton Park station, Park Road station and Fairfield station.

### 3. Submissions on the Request for Project Change

A total of 30 submissions were received by the Coordinator-General during the consultation period. Copies of all submissions, including a breakdown of issues raised, were provided to the Delivery Authority by the Coordinator-General for consideration and response. Of the 30 submissions, 23 were received from private individuals, two (2) from advocacy groups, two (2) from public organisations, two (2) from state agencies and one (1) from a local government.

# 3.1 Summary of Key Issues Raised

Each submission has been analysed and a summary of issues raised is presented in Figure 1 below.

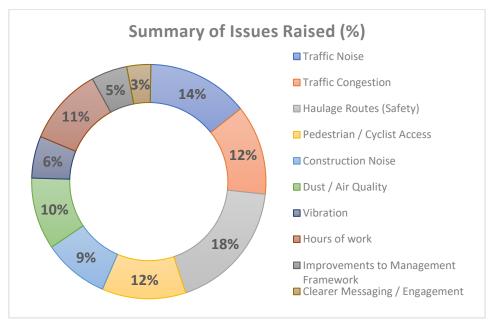


Figure 1: Summary of issues raised in submissions

Further details on issues raised in RfPC-8 submissions is provided in Table 1.





Table 1 Summary of issues raised in submissions

Issues raised	Summary
Haulage routes (safety)	<ul> <li>Disagreement with the proposed heavy vehicle haulage route and requests for the Project to seek an alternative route</li> <li>Support for the retention of the current approved haulage route</li> <li>Inappropriate haulage route identified as it uses residential streets</li> <li>Risk of infrastructure damage to private roads.</li> </ul>
Traffic congestion	<ul> <li>Additional truck movements causing a significant impact on existing traffic during peaks times</li> <li>Cumulative impacts on traffic during peak hours due to multiple projects in the area and the new school opening in 2021</li> <li>Lack of safe queuing facilities for vehicles on Annerley Road waiting to</li> </ul>
	turn right into Cornwall Street  Changes to the intersection at Annerley Road/Cornwall Street/Kent Street  Inadequate traffic impact assessment undertaken.
Pedestrian / cyclist access	<ul> <li>Safety risk to all road users (pedestrians, cyclists and motorists) from heavy vehicle interaction</li> <li>Traffic management on Kent Street to ensure the interface between light vehicles, heavy vehicles, pedestrians, and cyclists is safely managed.</li> </ul>
Traffic noise	Noise impact from an increased number of heavy vehicle movements on Annerley Road and Cornwall Street.
Noise and vibration	<ul> <li>Additional noise and vibration impact on adjacent sensitive receptors including PAH from construction activities.</li> </ul>
Hours of work	<ul> <li>Sleep disturbance from 24 hours, 7-day operations</li> <li>Management of construction impacts, including noise, vibration, and dust from increased hours of work.</li> </ul>
Air quality	<ul> <li>Increase in dust, particulate matters and asbestos fibres from increased heavy vehicle movements</li> <li>Unsafe environment for those using Hefferan Park for recreational purpose due to increased heavy vehicle movements.</li> </ul>
Better consultation information required	<ul> <li>Lack of clearer messaging and engagement</li> <li>The time and place of drop-in sessions were not accessible to locals.</li> </ul>

# 4. Response to Issues Raised

This section outlines the Delivery Authority's responses to issues raised within submissions to the Coordinator-General.

# 4.1 Traffic and Transport

An issue identified in multiple submissions was in relation to traffic, including:

- the impact assessment methodology used; and
- concerns relating to an increase in the construction traffic due to the Proposed Changes.





### 4.1.1 Assessment Methodology

Submitters raised two concerns relating to the traffic surveys undertaken, including the timing of the survey and the assessment methodology used.

The traffic survey was undertaken during the COVID-19 pandemic period, however the counts recorded were compared to pre COVID-19 traffic volumes recorded in November 2019. This comparison showed a 6% reduction in traffic volumes.

Based on advice from Brisbane City Council (BCC), a 10% growth factor was applied to counts used for the traffic analysis and the impact study (see Section 2.2.2 of the Traffic Impact Assessment, Attachment B, Volume 3).

Traffic growth was considered in the traffic assessment, as outlined in Section 2.2.3. of the Traffic Impact Assessment (Attachment B, Volume 3 Technical Reports). Annual average growth rates from BCC's Community Profiles for the Annerley and Fairfield area indicates a growth rate of approximately 1.8% per annum between the years 2009 and 2019 and 1.4% between 2014 and 2019. This generally aligns with the 1.7% growth rate for the entire Brisbane Local Government Area (LGA) between 2009 and 2019 and the 1.7% growth rate between 2014 and 2019. Considering this, a conservative growth rate of 2% per annum was adopted for this assessment and applied to the peak hour traffic survey volumes to forecast background traffic during peak construction activities.

The Proposed Change requested within this RfPC is for the maximum traffic forecast of up to 10 heavy vehicles per hour at any time of the day (additional vehicles proposed via Kent Street). This is not expected to result in broader network impacts or coordination issues (i.e. localised impacts only) on the adjacent arterial road network for which microsimulation (e.g. VISSIM) would typically be used. Therefore, single intersection model (SIDRA) suitable for this type of assessment has been used during impact assessment rather than microsimulation model (VISSIM).

It is noted that pedestrian and cyclist volumes were impacted by COVID, however these counts have been used for the purpose of traffic analysis only. Pedestrian and cyclist counts do not influence the design and selection of temporary infrastructure to support safe cycling and pedestrian movements which is being developed in consultation with the BCC.

### 4.1.2 Haulage Route

Concerns relating to the proposed haulage route were made by submitters who also requested alternate routes be investigated.

The Proposed Changes have been identified as part of the detailed design phase and due to further developments to the construction methodology. Planning considered the level of congestion within the work area including:

- multiple commuter rail lines servicing the Gold Coast, Beenleigh and Cleveland regions;
- the Boggo Road Busway that passes underneath the rail corridor;
- a grade separated rail freight flyover crossing above the rail corridor; and
- Multiple utilities including power, stormwater and sewer main.

Given the complexity of this area, the Project faces a number of technical challenges. Developments in the construction methodology have identified the need to modify the site layout and therefore adjustments to the haulage routes to and from site and within the construction area.

This led to the Proposed Change requesting a one-way entry point off Kent Street south, a south to north travel movement through the construction site and the final egress at the already approved exit at Kent Street north onto O'Keefe Street.

The Delivery Authority assessed using the rail corridor for transiting materials into and from site. The Southern Area is extremely congested with insufficient space for rail infrastructure and lay down areas





which would be required with this solution. Trucks provide the only feasible solution to deliver the Southern Area section.

### 4.1.3 Road Safety

In addition to concerns relating to the proposed haulage route change, submitters commented on road safety concern relating to the proposed route.

The road network surrounding the Southern Area worksite is already being used by heavy vehicles. The Proposed Change will increase the overall traffic flows in the area by approximately 0.7% of the daily traffic movements (see Section 3.1.1 of the Traffic Impact Assessment, Attachment B, Volume 3 Technical Reports). An average of four (4) heavy vehicle movements (one way) per hour are expected over the life of the project. Based on current construction methodology and program, it is estimated that 10 heavy vehicles movements per hours (one-way) may occur at the peak of construction which is expected to occur in May 2022.

To represent a 'worst-case' scenario, the traffic impact assessment considered 10 construction heavy vehicle movements per hour. Traffic assessments have been completed to ensure heavy vehicles can safely operate along the proposed route. The weekday SIDRA results indicate that the Cornwall Street / Kent Street intersection remains within acceptable operating parameters for a priority-controlled intersection (i.e. Degree of Saturation (DOS %) < 0.8, delay less than 42 seconds) during both the background and design scenarios (see Section 3.3.4 of the Traffic Impact Assessment, Attachment B, Volume 3). Furthermore, the above results indicate that there is negligible change in the DOS and queue lengths resulting from the addition of construction traffic.

The safety of all road users has been considered in the development of the Proposed Change and assessed as part of the Road Safety risk assessment conducted (see Section 5.1 of the Traffic Impact Assessment, Attachment B, Volume 3 Technical Reports).

To safely manage the interface between heavy vehicles, light vehicles, pedestrian and cyclists, it is proposed that Kent Street becomes a one-way street from Cornwall Street to O'Keefe Street. The Project will extend the Shared User Path on Kent Street up to Cornwall Street to enhance pedestrian and cyclist safety. These changes will provide sufficient safe for a separate Shared User path and roadway.

Pedestrian sight distances have been assessed and discussed in Section 3.5.2 of the Traffic Impact Assessment. The assessment demonstrates that the proposed change meets the required section of the Austroads Guide to Road Design (Part 4A).

### 4.1.4 Traffic Noise

The Proposed Change to the haulage route for the Southern Area has raised concerns relating to increases in road traffic noise.

As detailed in the Construction Traffic Noise Assessment, the predicted increase in the road traffic noise will be less than 2dBA for the overall  $L_{A10(12hour)}$ ,  $L_{A10(18hour)}$  and  $L_{A10(1hour)}$  noise parameters (see Section 5.1 of the Attachment C, Volume 3). The predicted increase in traffic noise levels are expected to comply with the traffic noise goals and are generally consistent with the Evaluated Project.

### 4.1.5 Traffic Management

The Environmental Management Framework that has been established in accordance with the existing Imposed Conditions requires the development and approval of a Construction Environmental Management Plan (CEMP) including a Construction Traffic Management Plan (CTMP), and a construction Haulage Management Plan (HMP).

The Proposed Changes allow for heavy vehicle movements along Annerley Road, Cornwall Street and Kent Street will be managed in accordance with the current Environmental Management





Framework. The Project Construction Traffic Management Plan (CTMP) describes the processes that will be followed to ensure all road users will be accommodated throughout the duration of Project Works. This Plan has been endorsed by the Independent Environmental Monitor and submitted to the Coordinator-General. It can also be found on the Cross River Rail website.

A site-specific sub-plan CTMP for the Southern Area worksite will be developed in consultation with the relevant Road Authority prior to works commencing. This sub-plan will address safety requirements of all road users and include detail management strategies and mitigation measures associated with road traffic, pedestrians, cyclists, and public transport operations. Mitigation measures identified in the CTMP sub-plan will be implemented to protect all road users.

The CEMP is supported by the Community Engagement Plan (CEP), which outlined the approach to managing communications activities associated with traffic changes. The Project is committed to proactive communication that informs stakeholders of changes to the network, including traffic, pedestrians and cyclists and any changes to public transport.

As per the CEP, consultation with all relevant stakeholders including schools, PAH, BCC and the Department of Transport and Main Roads (DTMR) regarding haulages for the Southern Area worksite and associated traffic arrangements will occur prior to the commencement of works.

The HMP will be submitted to BCC and DTMR for approval prior to commencement of works. This HMP will be subject to periodic review to address changes in the project's delivery routes and spoil haulage routes.

### 4.2 Noise and Vibration

RfPC-8 includes a change to Condition 10, remove the existing limitation of 80 hours of continuous work within the rail corridor for the Dutton Park, Southern Portal and Boggo Road worksites so that work hours for track possessions align with the period of the track possessions approved by Queensland Rail (QR) up to seven (7) days.

Noise from works undertaken during longer rail possession, particularly during night-time has been raised in submissions.

The Proposed Change for longer rail possessions removes the need for numerous rail network closures which impact commuters and freight rail operations.

The noise levels from construction activities in the Southern Area are discussed in Table 6.4 and Section 8 of the Construction Noise and Vibration Mitigation Design Report (Attachment D, Volume 3 Technical Reports). Construction activities at this worksite are classed as linear works and will not be located in the one spot for the full duration of the rail possession.

The Community Engagement Plan outlines how the Project will undertake communications and engagement with the community and stakeholders. This includes specific communications relating to works at night and engagement with identified Directly Affected Persons.

### 4.3 Hours of Work

RfPC-8 does not request to allow works to proceed 24 hours, 7 days a week, which multiple submitters expressed concerns around. As detailed in the change application (Section 5.1 of Volume 1), the proposed changes to Condition 10 are:

- to incorporate the requirements for 'extended work hours' wholly within Condition 10(d);
- remove the existing limitation of 80 hours of continuous work within the rail corridor for the Dutton Park, Southern Portal and Boggo Road worksites so that work hours for track possessions align with the period of the track possessions approved by QR up to seven (7) days;





- remove the existing limitation of a 10:00pm conclusion of works on a road or busway to align with timeframes set by BCC, DTMR or other permitting agencies; and
- retain the existing limitation of a 10:00pm conclusion of works for works involving the transport, assembly or decommissioning of oversized plant, equipment, components, structures or transport of hazardous materials, unless different hours are stated in the road access permit.

This change is to aligning work hours with QR, BCC and DTMR approvals. As discussed in Section 4.2 this change will allow works to occur more efficiently and effectively. The change has been requested as QR has approved longer rail possessions (up to 7 days), allowing the CRR Project to be delivered more efficiently.

### 4.4 Air Quality

Air quality impact from increased truck movements is another area of concern raised in the RfPC-8 submissions.

The Proposed Changes requested are not relating to scope of works, and are specific to haulage routes in relation to the Southern Area site. No additional air quality impact is anticipated compared to the Evaluated Project, therefore air quality will be managed through the endorsed CEMP and Air Quality Management Plan.

### 4.5 Inadequate Consultation

Consultation has been completed as per the requirements of the *State Development and Public Works Organisation Act 1971*. A full description of the consultation undertaken is provided in the RfPC-8 Consultation Report (**Attachment A**).

### 4.6 Imposed Condition 10(e)

The following wording change for Imposed Condition 10(e) was recommended by Entity with jurisdiction for this Imposed Condition:

(e) The works detailed in 10(d) may also be undertaken outside the hours set out in Table 1A and Table 1B, only where written confirmation has been obtained from the entity with jurisdiction for Condition 10 prior to commencement of the specific works and subject to compliance with an updated and endorsed site-specific Construction Environmental Management Plan sub-plan in accordance with Condition 4.

The Delivery Authority supports the intent of the suggested change and will continue to engage with the Coordinator-General regarding any proposed changes to Imposed Conditions.

### 4.7 Lighting

Any potential lighting impacts arising from the requested changes will be managed in accordance with the approved Outline Environmental Management Plan (OEMP) sub plans – Construction Worksite Management Plan; Nature Conservation Management Plan; Social Amenity Plan and Visual Amenity and Lighting Management Plan.

### 4.7.1 Assumptions and Limitations

Assumptions applicable to this assessment include:

- The lighting assessment is qualitative;
- The assessment locations have not been visited at night to measure existing light levels;
- Lighting will be generally in accordance with the requirements of Australian Standard; and





 Detailed design and construction planning will further develop the details of Project delivery, and visual impacts will be managed through the relevant OEMP sub-plans to minimise visual impact to surrounding receptors.

### 4.8 Updates to Management Framework

As detailed in Section 2.1.1 of Volume 1, the Project's Environmental Management Framework has been developed in accordance with Imposed Condition 4(a) and (c). In accordance with this framework, a CEMP (including sub-plans) has been developed for relevant Project Works and endorsed by the Independent Environmental Monitor.

The currently endorsed CEMP (including sub-plans) will be reviewed and updated to incorporate any changes to relevant project works at the Southern Area worksite. Sub-plans will cover, amongst other elements, construction traffic, noise and vibration, air quality, community and stakeholder engagement, and lighting.

All existing CEMPs (including sub-plans) are available on the Delivery Authority's website at <a href="https://crossriverrail.qld.gov.au/planning-environment/environment-approvals/environmentalmanagement/">https://crossriverrail.qld.gov.au/planning-environment/environment-approvals/environmentalmanagement/</a>.

### 5. Updated Submission Information

There are some minor errors identified in Volume 1 Application and Volume 3 Technical Reports of the RfPC-8 submission, which has been corrected and revised sections are provided below supported by **Attachment B**.

### 5.1 Volume 1 Application - Updates

Background noise during night time for sites that were not captured during Environmental impact statement (EIS) process is provided in Table 2. These noise data were collected during noise monitoring conducted as part of the baseline monitoring program in 2019.

Table 2: Background noise levels (night time)

Site ID	Project area	Monitoring location	Background noise RBL (dBA)
5	Southern Portal	Dutton Street	40
8	Boggo Road Station	Dutton Park School	36
9	Roma Street Station	Transcontinental Hotel	51
14	Exhibition Station	RNA	49

(Table 9) Table 3 summarises the outcomes of the noise screening assessment completed along the alignment which is presented in full in Volume 3. The screening assessment determined (eleven)twelve of the receivers would experience an increase in noise levels, ranging from a moderate to very significant increase compared to the previously evaluated project. This impact was predominantly the result of works being completed for Scenario 3 - Project works within a road reserve. Of these sites, (nine)eleven would be considered high impact which would trigger the implementation of Imposed Condition 11(c) to manage the Directly Affected Persons (DAP). (Five)Three of the sites would be considered as medium impact and would not trigger Imposed Condition 11(c). However, to ensure these impacts were further mitigated, additional detailed noise assessment and planning would need to be completed prior to these works commencing.





Table 3 (Revised Table 9, Volume 1): Noise impact associated with extended work hours

		Noise Impa	act			Potential		
Location	Low	Low Medium High w		Scenario with the worst	Time	Impact Comparison Against	Significance of Change <sup>1</sup>	
	< Goal	Goal + <20 dBA	Goal + >20 dBA	impact		Evaluated Project	J	
Salisbury	No	No	Yes	1+3	Night	Consistent	Nil	
Rocklea	No	No	Yes	3	Night	Increase	Significant	
Moorooka	No	<del>(Yes)</del> No	<del>(No)</del> Yes	3	Night	Increase	Very Significant	
Yeerongpilly	No	No	Yes	3	Night	Increase	Marginal	
Yeronga	No	No	Yes	3	Night	Increase	Marginal	
Fairfield	No	No	Yes	3	Night	Increase	Marginal	
Dutton Park	No	No	Yes	3	Night	Increase	Marginal	
Southern Portal	No	No	Yes	3	Night	Consistent	Nil	
Boggo Road	No	No	Yes	3	Night	Increase	Very Significant	
Woolloongabba	No	Yes	No	3	Night	Increase	Very Significant	
Albert Street	No	No	Yes	3	Night	Increase	Marginal	
Roma Street	No	Yes	No	3	Night	Increase	Significant	
Exhibition	No	<del>(Yes)</del> No	<del>(No)</del> Yes	3	Night	Increase	Very Significant	
Mayne / Breakfast Creek	No	Yes	No	3	Night	(Consistent) Increase	<del>(Nil)</del> Marginal	

### 5.2 Volume 3 Technical Reports - Updates

### 5.2.1 Yeronga

Upgrade works at Yeronga Station, as identified in the five scenarios in **Table (7)4 (Attachment (A) B)**, were nominated in the Request for Project Change four (RfPC-4) as 'Extended Works'. Screening assessments were completed for each scenario to identify the potential noise impacts at the closest sensitive receptor. These impacts were then compared against the calculated external noise criteria of the previously evaluated project to determine the potential change in impact.

From the five scenarios assessed at the Yeronga Station, the greatest noise impacts were predicted to occur during Scenario 3. This activity was predicted to cause an additional 6 dBA above the previously evaluated project resulting in a marginal change to the surrounding environment.

As a worst-case, if these works were to be undertaken during the night-time and compared to a night-time goal of (52)49 dBA (ext) there would be a predicted exceedance of up to (24.5)27.5 dBA. The prediction also accommodates reflection off the building of 2.5 dBA.

<sup>&</sup>lt;sup>1</sup> Table 2-4 of the Transport Noise Management Code of Practice, Department of Transport Main Roads





This increase would also exceed the nominated goal + 20 dBA which triggers the management requirements as outlined in Imposed Condition 11(c) relating to Directly Affected Persons (DAPs). Additional detailed noise assessment and planning would also have to be completed prior to these works commencing. Refer to section 6 (below) of Volume 3 for additional environmental management requirements.

### 5.2.2 Boggo Road Station

Upgrade works on Annerley Road as part of the Boggo Road Station works, as identified in the three scenarios in **Table (11)5 (Attachment (A) B)**, were nominated in the Request for Project Change four (RfPC-4) as 'Extended Works'. Screening assessments were completed for scenarios 3, 4 and 5 to identify the potential noise impacts at the closest sensitive receptor. These impacts were then compared against the calculated external noise criteria of the previously evaluated project to determine the potential change in impact. Scenarios 1 and 2 were not completed as of these screening assessment as they formed part of the detailed assessment presented in Attachment C of this report.

From the three scenarios assessed for the Boggo Road Station works, the greatest noise impacts generated from Scenario 3. Predicted noise levels increased an additional 17 dBA above the noise levels assessed as part of the previous evaluated project. This increase could lead to very significant change to the surrounding environment.

As a worst-case, if these works were to be undertaken during the night-time and compared to a night-time goal of 52 dBA (ext) there would be a predicted exceedance of up to 35.5 dBA. The prediction also accommodates reflection off the building of 2.5 dBA.

This increase would also exceed the nominated goal + 20 dBA which triggers the management requirements as outlined in Imposed Condition 11(c) relating to Directly Affected Persons (DAPs). Additional detailed noise assessment and planning would also have to be completed prior to these works commencing. Refer to section 6 (below) of Volume 3 for additional environmental management requirements.

### 5.2.3 Exhibition Station

Upgrade works at Exhibition Station, as identified in the five scenarios in **Table (15)6 (Attachment (A) B)**, were nominated in the Request for Project Change four (RfPC-4) as 'Extended Works'. Screening assessments were completed for each scenario to identify the potential noise impacts at the closest sensitive receptor. These impacts were then compared against the calculated external noise criteria of the previously evaluated project to determine the potential change in impact.

From the five scenarios assessed for the Albert Street works, the greatest noise impacts were associated with Scenario 3 with a predicted increase of 16 dBA above the previously evaluated project. This would equate to a very significant increase to the surrounding environment. As a worst-case, if these works were to be undertaken during the night-time and compared to a night-time goal of (57)52 dBA (ext) there would be a predicted exceedance of up to (18.5)23.5 dBA. The prediction also accommodates reflection off the building of 2.5 dBA.

This noise impact would (still remain within the)also exceed the nominated noise goal + 20 dBA which triggers the management requirements as outlined in Imposed Condition 11(c) relating to (whereby not triggering Imposed Condition 11 (c) and the additional management with the)Directly Affected Persons (DAPs). (However, to further mitigate this impact, a) Additional detailed noise assessment and planning would (need)also have to be completed prior to these works commencing. Refer to section 6 (below) of Volume 3 for additional environmental management requirements.

### 5.2.4 Mayne Yard / Breakfast Creek

Upgrade works at Mayne Yard/Breakfast Creek, as identified in the five scenarios in **Table (16)**7 (Attachment (A) B), were nominated in the Request for Project Change four (RfPC-4) as 'Extended





Works'. Screening assessments were completed for each scenario to identify the potential noise impacts at the closest sensitive receptor. These impacts were then compared against the calculated external noise criteria of the previously evaluated project to determine the potential change in impact.

From the five scenarios assessed for the Albert Street works, the greatest noise impacts were associated with Scenario 3 with a predicted increase of 1 dBA above the previously evaluated project. This would equate to a marginal increase to the surrounding environment. (However, all scenarios were consistent with the noise levels from the previously evaluated project.)

As a worst-case, if these works were to be undertaken during the night-time and compared to a night-time goal of 49 dBA (ext) there would be a predicted exceedance of up to 16.5 dBA. The prediction also accommodates reflection off the building of 2.5 dBA.

This noise impact would still remain within the noise goal + 20 dBA whereby not triggering Imposed Condition 11(c) and the additional management with the Directly Affected Persons (DAPs). However, to further mitigate this impact, additional detailed noise assessment and planning would need to be completed prior to these works commencing. Refer to section 6 (below) of Volume 3 for additional environmental management requirements.

### 6. Conclusion

After review of all submissions received during the RfPC-8 consultation process, the following can be confirmed:

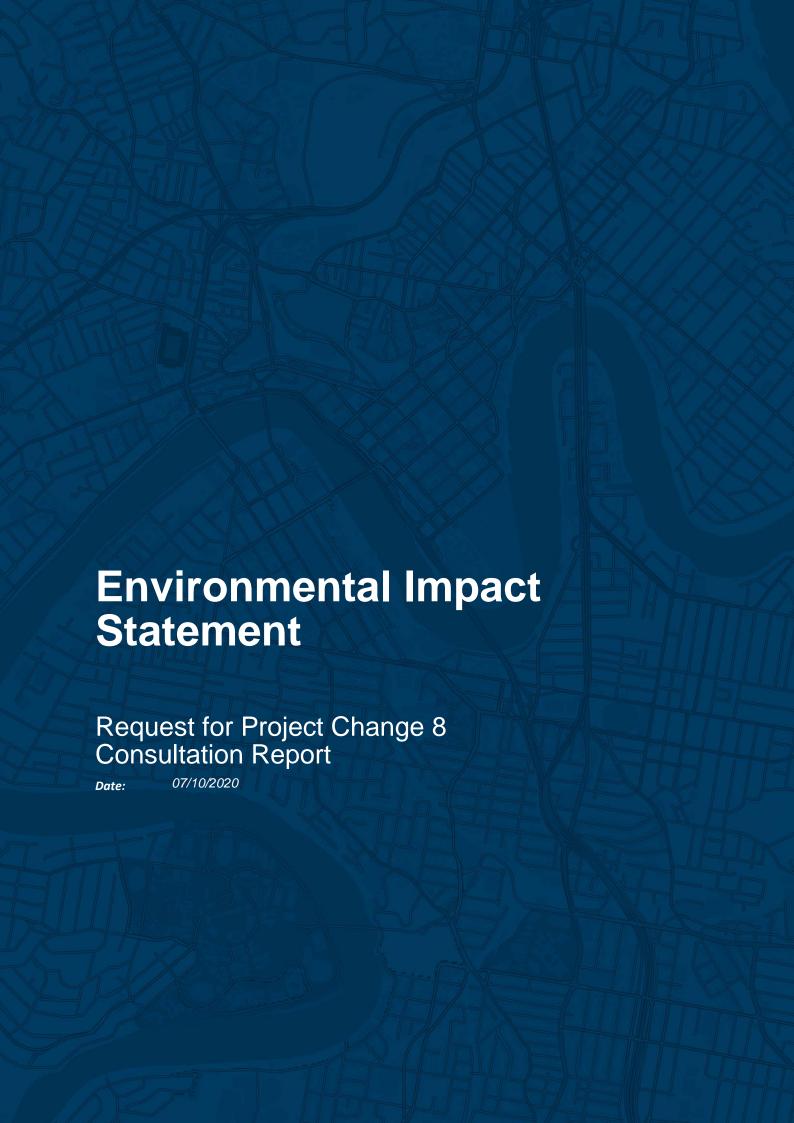
- A response has been provided to each submission and it is considered each has been adequately addressed;
- Any minor error and/or emission has been corrected with no material change to potential environmental impacts;
- Any lighting impacts will be managed in accordance with the approved OEMP and relevant sub-plans. No change to submission;
- Additional baseline noise monitoring information has been included in the report. No change to submission;
- Proposed Condition 10 amendment agree with suggested amendment made by the Entity with jurisdiction for this Imposed Condition; and
- Any identified traffic issues and associate haulage routes have been addressed by the inclusion of the updated CTMP which is currently with BCC for consideration.





# **Attachment A: RfPC8 Consultation Report**





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# **Consultation Report**

This report outlines consultation undertaken by the Cross River Rail Delivery Authority (the Delivery Authority) during the Request for Project Change 8 (RfPC8) notification period and summarises feedback the project team received.

This report demonstrates consultation activities undertaken during the RfPC8 public notification period, and summarises feedback received by the Delivery Authority project team. Formal feedback and submissions made to the Coordinator-General are not included in this report.

Consultation activities undertaken during this period met the requirements of the Coordinator-General.

### Introduction and background

The Cross River Rail Delivery Authority (the Delivery Authority) was established under the Cross River Rail Delivery Authority Act 2017 (Qld) is the proponent for the Cross River Rail Project (CRR Project). The 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 could proceed, subject to the Imposed Conditions in the evaluation report dated 20 December 2012. Since the 2012 evaluation report, seven Requests for Project Change (RfPC) have been submitted and the changes evaluated, these are:

- RfPC-1 made on 5 December 2016 and evaluated on 9 June 2017 resulting in a modified project of a smaller scale with reduced potential impacts and enhanced affordability;
- RfPC-2 made on 28 June 2018 and evaluated on 31 August 2018 which addressed the temporary solution for the relocation of the Roma Street Coach Terminal;
- RfPC-3 made on 19 November 2018 and evaluated on 14 March 2019 for the extended demolition works of the Brisbane Transit Centre;
- RfPC-4 made on 20 May 2019 and evaluated on 14 June 2019 for whole of project refinements; with additional information submitted on 21 June 2019 and evaluated on 26 June 2019:
- RfPC-5 made on 23 September 2019 and evaluated on 4 October 2019 for condition change (hours of work);
- RfPC-6 made on 29 April 2020 and evaluated on 7 May 2020 for the temporary change of certain work hours; and
- RfPC-7 made on 4 June 2020 and evaluated on 16 July for changes specific to the Rail, Integration and Systems.

The Evaluated Project is the authorised CRR Project as described in Condition 1 of the Coordinator-General's Project Wide Imposed Conditions, being the EIS, RfPC-1, 2, 3, 4, 5, 6 and 7. The Evaluated Project is a 10.2km rail line between Dutton Park and Bowen Hills, including 5.9km of twin tunnels under the Brisbane River and Brisbane central business district (CBD) and four new high-capacity underground stations at Boggo Road, Woolloongabba, Albert Street, and Roma Street. The Evaluated Project also includes an upgrade to Exhibition and Dutton Park stations, and the stations between Fairfield to Salisbury.

As a result of ongoing detailed design and construction planning processes, changes are proposed between Dutton Park and Boggo Road stations, and minor changes to the Imposed Conditions. These changes are explained in RfPC8 documents and referred to as Proposed Changes.

RfPC8 was submitted to the Coordinator-General on 18 August 2020. The Coordinator-General publicly notified RfPC8 between 5 September 2020 and 5pm on 2 October 2020.

### Consultation objectives

A range of consultation activities were undertaken throughout the consultation period, which aimed to:

- Inform the community and key stakeholders of RfPC8
- Communicate the RfPC8 process, including how to provide a submission to the Coordinator-General

### RfPC notification

The Coordinator-General required the RfPC8 documents be available for public review and comment between 5 September 2020 and 2 October 2020. This requirement was met through the following tools.

### Public Display

All three volumes of the RfPC report were published on the Coordinator-General's website. The Cross River Rail website also featured a "Request for Project Change" page. Hard copies of the report were made available at the Cross River Rail Experience Centre.

### Media and advertising

Details on how to make a submission to the Coordinator-General on changes to the CRR Project was published in the Courier Mail by the Coordinator-General's office on Saturday 5 September 2020. A copy of the advertisement is included in Appendix 1.

### Social Media

The Delivery Authority promoted consultation on RfPC8 the Cross River Rail Facebook on 9 September 2020. A copy of the Facebook post shown in Appendix 2.

### Website

During the consultation period, the CRR website had a page providing RfPC8 information and instructions on how to make a submission to the Coordinator-General (Appendix 3). Through the RfPC8 notification period, this page had a total of:

- 225 unique pageviews
- 289 total pageviews
- Average time on page 2:47 minutes

### Letterbox Drop and Electronic Direct mail (eDM)

An information sheet providing a high-level summary of RfPC8, the consultation process, details on how to view RfPC8 documents and make a submission to the Coordinator-General (Appendix 4) was letterbox dropped to approximately 3,500 properties within 250m

of the Boggo Road / Dutton Park work sites. The notification was also emailed to the stakeholder database to approximately 2,200 people.

### Community information sessions

Community information sessions were undertaken to allow the broader community to engage with the Project team to discuss the Project and RfP8. Each of these sessions had a range of materials on display, including multiple copies of all volumes of the RfPC8, Project maps, newsletters, Project fact sheets and posters.

The community information sessions were hosted by members of the Project team including representatives from the technical, stakeholder and environmental and approvals teams.

Each session was a two-hour public event held at the Cross River Rail Experience Centre. The sessions were promoted across social media and the Project website. A summary of feedback received during these sessions can be found in Appendix 5.

Date: 16 September 2020, 4-6pm

Number of attendees: 2

• Date: 19 September 2020, 9-11am

Number of attendees: 2

### Station Handouts

The Project team distributed 105 newsletters (Appendix 4) at three key transport interchanges near the Boggo Road and Dutton Park precinct including:

 Date: 14 September 2020, 7-8am Location: Dutton Park station Number of handouts: 25

 Date: 17 September 2020, 7-8am Location: Park Road station Number of handouts: 30

• Date: 18 September 2020, 7-8am

Location: Fairfield station Number of handouts: 50

## **Consultation summary**

### Enquiries and feedback

A dedicated Project hotline (1800 010 875) and Project email (info@crossriverrail.qld.gov.au) was available for the community and stakeholders to contact the Project team with any enquiries from 24 hours a day 7 days a week.

Phone calls: 2Email: 2

### Government and elected representatives

Meetings were held with elected members of parliament and representatives of government departments and agencies with an interest in the Project. These meetings provided an update on the Project and the RfPC8. They also provided an opportunity to ask questions, seek clarification of issues, and provide feedback.

During the consultation period CRRDA held multiple meetings listed below:

- Coordinator-Generals Office
- Queensland Health (Metro South Health)
- Department of Transport and Main Roads
- Queensland Rail
- Brisbane City Council
- Department of Environment and Science

### Other key stakeholders

Meetings were also held with other key stakeholders with a particular interest in the Project. These included:

- Princess Alexandra Hospital
- Ecosciences
- Leukemia Foundation
- Dutton Park State School and P&C
- The Pharmacy Australia Centre of Excellence (PACE)
- Linen Services (Metro South Health)
- Translational Research Institute (TRI)
- Bicycle Queensland and Bicycle User Groups

The Delivery Authority also engaged with other key stakeholders via phone and email during the consultation phase, including but not limited to:

- Boggo Road Goal
- Dutton Park Police station
- Residents at number 10 and 6 Cope Street
- Cross River Rail Northern Community Advisory Group
- Cross River Rail Southern Community Advisory Group
- South Brisbane State Secondary College
- Residents in Quarry Street, Dutton Park
- Taxi Council
- Body Corporates for number 21 and 31 Peter Doherty Street apartments.

# **Outcomes and feedback received during Consultation**

Feedback received during consultation is summarised below:

- Management of additional heavy vehicles on Annerley Road and Cornwall Street when both roads are already busy.
- Management of noise impacts from 24 / 7 heavy vehicle movements on Annerley Road and Cornwall Street.
- Traffic management on Kent Street to ensure the interface between light vehicles, heavy vehicles, pedestrians, and cyclists is safely managed.
- Traffic management on Boggo Road during school drop off and pick up times.
- Management of traffic exiting O'Keefe Street onto Ipswich Road.
- Management of construction impacts, including noise, vibration, and dust from increased hours of work.

# **Appendix 1: Advertisement**

### Invitation for submissions

### Cross River Rail project, Brisbane Application for project changes

On 26 March 2010, the Coordinator-General declared the Cross River Rail project (the project) a 'significant project' (now known as a 'coordinated project') for which an environmental impact statement (EIS) is required in accordance with section 26(1)(a) of the State Development and Public Works Organisation Act 1971 (SDPWOAct). On 20 December 2012, the Coordinator-General released the evaluation report on the EIS for the project, recommending the project proceed, subject to conditions.

The Cross River Rail Delivery Authority (the proponent) has made an application for evaluation of the environmental effects of proposed changes to the project under Part 4 of the SDPWO Act.

The changes proposed by the proponent include:

- provision of heavy vehicle access arrangements to the project's Southern Portal worksite via Kent Street, Dutton Park, and a private road on land within the Princess Alexandra Hospital site to provide for improved safety and efficiency for heavy vehicle movements to and from the Southern Portal worksite
- non-exclusive temporary use and control (until 2024) of Kent Street and Kent Street-Anneriey Road intersection, Dutton Park, to allow for heavy vehicle access to the Southern Portal worksite, and the private road on land within the Princess Alexandra Hospital site
- condition amendments to remove the existing limitation of no more than 80 hours of continuous work within the rail corridor for the Dutton Park, Southern Portal and Boggo Road worksites to align with timeframes set by approvals granted by Queensland Rail
- condition amendments to remove the existing limitation of a 10:00pm conclusion of extended work hours on a roadway or busway at all project sites to align with timeframes set by permits granted by relevant authorities.

You are invited to make a submission to the Coordinator-General on the proposed changes to the project. The Coordinator-General will consider all properly made submissions as part of the evaluation of the proposed changes to the project.

### How to make a submission

For information about making a 'properly made' submission to the Coordinator-General, refer to the fact sheet Have your say on environmental impact assessment documents and accompanying submission form, available online.

In recognition of the current COVID-19 situation, the project change application will not be made available at local libraries as done previously.

The project change application is available atwww.statedevelopment.qld.gov.au/crr.

A USB copy is also available from the proponent free of charge by contacting telephone 1800 010 875 or email info@crossriverrail.qld.gov.au.

A copy of the project change application will also be available for viewing at the Cross River Rail Experience Centre, Level 1, 151A Elizabeth Street, Brisbane. Please check the Cross River Rail website for opening hours.

Submissions are invited from 5 September 2020 until 5 pm 2 October 2020.

Sendyour submission to the Coordinator-General using one of the following methods:

Online: https://haveyoursay.dsd.qld.gov.au/coordinatorgeneral/crr-project-change-8

Email: cm@coordinatorgeneral.qld.gov.au

### Post: Attention: Coordinator-General

c/ - EIS project manager - Cross River Rail Project Coordinated Project Delivery Office of the Coordinator-General PO Box 15537 City East Qld 4002 Australia

### SUBMISSIONS CLOSE AT 5 PM ON 2 OCTOBER 2020

Notes: While you are encouraged to use the submission form, it is not mandatory. We will provide the project proponent with a copy of your submission. Your personal information will not be disclosed to the project proponent unless disclosure is required by law, or is permitted under the Information PrivacyAct 2009. If you have special communication needs, telephone the EIS project manager on +61734527936 to make alternative submission arrangements.



# **Appendix 2: Social media post**



### Cross River Rail

9 September at 21:01 · 🕢

We've commenced four weeks of community consultation, as part of our current Request for Project Change.

You can find out more information at our website, or discuss the proposed changes with our team at one of two drop in sessions that will be held at the Cross River Rail Experience Centre:

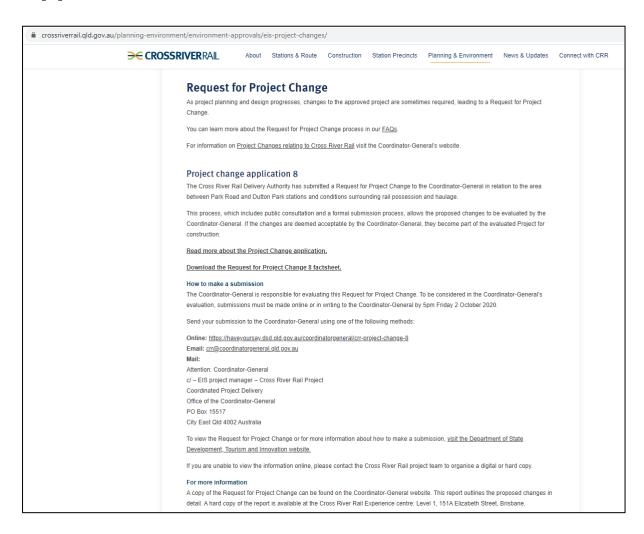
Wednesday 16 September, 4pm to 6pm

Tale Saturday 19 September, 9am to 11am

More information here: https://bit.ly/339ixR4



# **Appendix 3: Website screenshot**



# **Appendix 4: Information flyer**



# **Request for Project Change**

SEPTEMBER 2020

The Cross River Rail Delivery Authority (CRRDA) has submitted Request for Project Change 8 (RfPC8) to the Coordinator-General in relation to the area between Boggo Road and Dutton Park stations.

### What is a Request for Project Change?

A Request for Project Change is made when a project's approved scope and design is proposed to be amended. This process, which includes public consultation and a formal submission process, allows the proposed changes to be evaluated by the Coordinator-General. If the changes are deemed acceptable by the Coordinator-General, they become part of the evaluated Project for construction.

### Proposed project changes

Proposed changes to the evaluated Project have been identified as part of the detailed design phase and due to further development of the construction methodology.

This information sheet provides details of the proposed changes outlined in RFPC8.

### Southern area access

As part of the current approved Project, Kent Street is used by light vehicles to access the construction site on the eastern side of the rail corridor. The proposed change will allow construction heavy vehicles to use Kent Street for the purposes of haulage and delivery of materials. See map over page for more details.

The purpose of this change is to support construction activities including site establishment on the eastern side of the rail corridor. These construction activities include site establishment activities and the removal of existing Queensland Rail facilities.

It is proposed Kent Street will become part of the approved haulage route with vehicle movements permitted to occur 24 hours a day, 7 days a week. It is expected that approximately ten heavy vehicles per hour will use this route during the peak of construction, with an average of four heavy vehicles per hour over the life of the project.

There are also minor changes proposed to the intersection of Annerley Road, Cornwall Street and Kent Street to accommodate heavy vehicles turning into Kent Street

### Coordinator-General Conditions

CRRDA propose to change Coordinator-General imposed Condition 10 - construction hours. These changes include:

- Allowing work being undertaken as part of a Queensland Rail approved rail possession to be continuous for the duration of the rail possession, with a maximum of 7 days of consecutive work, and not be restricted to only 80 hours.
- Allow works within a road corridor to occur for the duration of time approved by the relevant authority (Brisbane City Council or Department of Transport and Main Roads). This will allow certain activities such as the delivery of large items and extended concrete pours to occur safely.

These changes will consider any community impacts while managing any associated environmental impacts.

### Community drop-in sessions

We will be holding community drop-in sessions to enable you to meet the team, ask questions and provide feedback. Drop in anytime at the following

### Cross River Rail Experience Centre Level 1, 151A Elizabeth Street, Brisbane

- Wednesday 16 September 2020, 4pm until 6pm.
- · Saturday 19 September 2020, 9am until 11am.

\$ 1800 010 875

info@crossriverrail.qld.gov.au
 crossriverrail.qld.gov.au



If you need an interpreter to assist you in understanding this document, please call the Translating and interpreting Service (TIS National) on 131 450 and request to be transferred to Multicultural Affairs Queensland on 13 QGOV (13 74 68)



### How to make a submission

The Coordinator-General is responsible for evaluating this Request for Project Change. To be considered in the Coordinator-General's evaluation, submissions must be made online or in writing to the Coordinator-General by 5pm Friday 2 October 2020.

To view the Request for Project Change or for more information about how to make a submission, visit the Department of State Development, Tourism, and Innovation website at

www.statedevelopment.qld.gov.au/crr.

If you are unable to view the information online, please contact the Cross River Rail project team to organise a digital or hard copy.

### For more information

The Request for Project Change report outlines the proposed changes in more detail. A copy of the Request for Project Change can be found on the Coordinator-General website at www.statedevelopment.qld.gov.au/crr. A copy is also available for viewing at the following location:

Cross River Rail Experience Centre Level 1, 151A Elizabeth Street, Brisbane (check Cross River Rail website for opening hours)

Alternatively, you can contact the project team if you have any questions or would like to speak to a member of the team (see contact details below).

The Request for Project Change is available for community feedback until 5pm Friday 2 October 2020.

### Proposed changes to haulage routes and intersection works



# **Appendix 5: Community drop in sessions**

Date: 16 September 2020 Time: 4 – 6pm Attendees: 2	Date: 16 September 2020	<b>Time:</b> 4 – 6pm	Attendees: 2
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### **Summary:**

- Attendees at this session included general interested community members.
- Concerns raised:
  - o Traffic and pedestrian management during construction.
  - o Construction vehicle movements include haulage routes.
  - Hours of work, specifically haulage hours.

Date: 19 September 2020	<b>Time:</b> 9 – 11am	Attendees: 2

### **Summary:**

- Attendees at this session included general interested community members.
- Concerns raised:
  - o Traffic and pedestrian management during construction.
  - o Construction vehicle movements include haulage routes.
  - o Hours of work, specifically haulage hours into the Southern Portal site.

# **Attachment B: Noise Assessment and Predicted Impacts** (Tables)





Table 4 (Revised Table 7, Volume 3): Yeronga Station Noise Assessment and Predicted Impacts

Sensitive receptor	Distance from nearest	Activity	Project noise goal (LA <sub>10</sub> dBA) (internal & external)			Predicted noise level (dBA) - worst case		Evaluated project assessment	Comparison to Evaluated Project	Significance of Change
type <sup>2</sup>	construction source (m)	scenario	Residential day	Residential evening	Residential night	External	Internal	(dBA) (External)	(+/- dBA)	
Residential - House (single storey)	58m - Cowper Street	Scenario 1	50 (int) 60 (ext)	50 (int) 60 (ext)	42 (int) ( <del>52)</del> 49 (ext)	76	66.5	Station construction: 55 – 65 Piling works: 70 - 73	+3	Insignificant
Residential - House (single storey)	58m - Cowper Street	Scenario 2	50 (int) 60 (ext)	50 (int) 60 (ext)	42 (int) ( <del>52)</del> 49 (ext)	76	66.5	Station construction: 55 – 65 Piling works: 70 - 73	+3	Insignificant
Residential - House (single storey)	58m - Cowper Street	Scenario 3	50 (int) 60 (ext)	50 (int) 60 (ext)	42 (int) ( <del>52)</del> 49 (ext)	79	69.5	Station construction: 55 – 65 Piling works: 70 - 73	+6	Marginal
Residential - House (single storey)	58m - Cowper Street	Scenario 4	50 (int) 60 (ext)	50 (int) 60 (ext)	42 (int) ( <del>52)</del> 49 (ext)	71	61.5	Station construction: 55 – 65 Piling works: 70 - 73	Within predicted range	Nil





 $<sup>^{2}</sup>$  Assumed façade reduction 10 dBA, plus 2.5 dBA facade reflection

# Request for Project Change 8 Response to Submissions Report

Residential - House (single storey)	58m - Cowper Street	Scenario 5	50 (int) 60 (ext)	50 (int) 60 (ext)	42 (int) ( <del>52)</del> 49 (ext)	73	63.5	Station construction: 55 – 65 Piling works: 70 - 73	Within predicted range	Nil	
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Table 5 (Revised Table 11, Volume 3): Boggo Road Station Noise Assessment and Predicted Impacts

Sensitive receptor	Distance from nearest construction source (m)	Activity scenario	Project noise goal (LA <sub>10</sub> dBA) (internal & external)			Predicted noise level (dBA) - worst case		Evaluated project assessment	Comparison to Evaluated Project	Significance of Change
type <sup>3</sup>			Residential day	Residential evening	Residential night	External	Internal	(dBA) (External)	(+/- dBA)	
Residential - Hi Rise	20m - Peter Doherty Street residents	Scenario 3	50 (int) 60 (ext)	50 (int) 60 (ext)	42 (int) 52 (ext)	90	77.5	Annerley Rd Works: <del>(69)</del> 59 - 73	+17	Very Significant
Residential - Hi Rise	20m - Peter Doherty Street residents	Scenario 4	50 (int) 60 (ext)	50 (int) 60 (ext)	42 (int) 52 (ext)	82	69.5	Annerley Rd Works: <del>(69)</del> 59 - 73	+9	Significant
Residential  – Hi Rise	20m - Peter Doherty Street residents	Scenario 5	50 (int) 60 (ext)	50 (int) 60 (ext)	42 (int) 52 (ext)	84	71.5	Annerley Rd Works: <del>(69)</del> 59 - 73	+11	Significant





<sup>&</sup>lt;sup>3</sup> Assumed façade reduction 10 dBA, plus 2.5 dBA facade reflection

Table 6 (Revised Table 15, Volume 3): Exhibition Station Noise Assessment and Predicted Impacts

Sensitive receptor	ecentor from nearest		Project noise goal (LA <sub>10</sub> dBA) (internal & external)			Predicted noise level (dBA) - worst case		Evaluated project assessment	Comparis on to Evaluated Project	Significance of Change
type <sup>4</sup>	construction source (m)	scenario	Residential day	Residential evening	Residential night	External	Internal	(dBA) (External)	(+/- dBA)	
Residential Apartments	60m - Tufton Street	Scenario 1	50 (int) 60 (ext)	50 (int) 60 (ext)	42 (int) 52 (ext)	75	62.5	<del>(55)</del> 43 - 62	+13	Significant
Residential Apartments	60m - Tufton Street	Scenario 2	50 (int) 60 (ext)	50 (int) 60 (ext)	42 (int) 52 (ext)	76	63.5	<del>(55)</del> 43 - 62	+14	Significant
Residential Apartments	60m - Tufton Street	Scenario 3	50 (int) 60 (ext)	50 (int) 60 (ext)	42 (int) 52 (ext)	78	65.5	<del>(55)</del> 43 - 62	+16	Very Significant
Residential Apartments	60m - Tufton Street	Scenario 4	50 (int) 60 (ext)	50 (int) 60 (ext)	42 (int) 52 (ext)	71	58.5	<del>(55)</del> 43 - 62	+9	Marginal
Residential Apartments	60m - Tufton Street	Scenario 5	50 (int) 60 (ext)	50 (int) 60 (ext)	42 (int) 52 (ext)	72	59.5	<del>(55)</del> 43 - 62	+10	Significant





 $<sup>^{4}</sup>$  Assumed façade reduction 10 dBA, plus 2.5 dBA facade reflection

Table 7 (Revised Table 16, Volume 3): Mayne Yard / Breakfast Creek Noise Assessment and Predicted Impacts

Sensitive receptor	Distance from nearest construction source (m)	Activity scenario	Project noise goal (LA <sub>10</sub> dBA) (internal & external)			Predicted noise level (dBA) - worst case		Evaluated project assessment	Comparison to Evaluated Project	Significance of Change
type <sup>5</sup>			Residential day	Residential evening	Residential night	External	Internal	(dBA) (External)	(+/- dBA)	or onange
Residential (2 storey)	160m - Grafton Road	Scenario 1	50 (int) 57 (ext)	50 (int) 57 (ext)	42 (int) 49 (ext)	65	55.5	56 – <del>(76)</del> 67	Within predicted range	Nil
Residential (2 storey)	160m - Grafton Road	Scenario 2	50 (int) 57 (ext)	50 (int) 57 (ext)	42 (int) 49 (ext)	66	56.5	56 - <del>(76)</del> 67	Within predicted range	Nil
Residential (2 storey)	160m - Grafton Road	Scenario 3	50 (int) 57 (ext)	50 (int) 57 (ext)	42 (int) 49 (ext)	68	58.5	56 - <del>(76)</del> 67	(Within predicted range) +1	(Nil)Marginal
Residential (2 storey)	160m - Grafton Road	Scenario 4	50 (int) 57 (ext)	50 (int) 57 (ext)	42 (int) 49 (ext)	61	51.5	56 - <del>(76)</del> 67	Within predicted range	Nil
Residential (2 storey)	160m - Grafton Road	Scenario 5	50 (int) 57 (ext)	50 (int) 57 (ext)	42 (int) 49 (ext)	62	52.5	56 - <del>(76)</del> 67	Within predicted range	Nil





 $<sup>^{5}</sup>$  Assumed façade reduction 7 dBA, plus 2.5 dBA facade reflection