APPENDIX P

Operational Railway Noise and Vibration

GOWRIE TO HELIDON ENVIRONMENTAL IMPACT STATEMENT

IR_1536

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC), in partnership with the private sector.

INLAND RAIL - GOWRIE TO HELIDON

Operational Railway Noise and Vibration Technical Report
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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Australian Rail Track Corporation (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

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EXECUTIVE SUMMARY

The Project

The Australian Government has committed to delivering a significant piece of national transport infrastructure by constructing a high performance and direct interstate freight rail corridor between Melbourne and Brisbane, via central-west New South Wales (NSW) and Toowoomba in Queensland. Inland Rail is a major national program that would enhance Australia's existing national rail network and serve the interstate freight market.

The Gowrie to Helidon project on Inland Rail is a new single track railway, approximately 28 kilometre (km) in length, connecting the Border to Gowrie and Helidon to Calvert sections of Inland Rail in Queensland.

Australian Rail Track Corporation Ltd (ARTC) ('the proponent') is seeking approval to construct and operate the Project. The Project has been declared as a coordinated project for which an Environmental Impact Statement (EIS) is required under the Queensland Government's *State Development Public Works Organisation Act 1971*. The Project is also a controlled action under the Australian Government *Environment Protection and Biodiversity Conservation Act* (1999) and requires approval from the Commonwealth Minister for the Department of Agriculture Water and the Environment.

This Report

The movement of rail freight on the Project is a source of noise and vibration that could impact sensitive receptors and the surrounding environment. This report provides an assessment of potential noise and vibration levels from the railway operations for the Project and responds to the Terms of Reference for the EIS.

The assessment presented in this report has included a review of relevant legislation and guidelines, consideration of the existing conditions and a detailed impact assessment. Recommended mitigation and management measures were identified in response to the impact assessment findings.

Railway noise

A detailed noise prediction model for the Project and the surrounding environment was developed to assess airborne noise from railway operations on the main line tracks, on crossing loops and at the Toowoomba Range Tunnel portals. The noise model covered an area 2 km either side of the alignment, which comprised a total area approximately 112 km^2 in size and 3,910 identified sensitive receptors.

The model adopted a database of noise emission levels for the locomotives and wagons proposed on the Project. Noise modelling approaches were applied to account for the varying rail noise emissions along the alignment, including the track gradients, train speeds and features such as bridges and viaducts.

Noise levels were assessed for daytime and night-time railway operations at project opening (2027) and the design year (2040). At the majority of the sensitive receptors, the predicted noise levels met the railway noise assessment criteria from Department of Transport and Main Roads (DTMR) guidelines and ARTC's approach for managing noise on Inland Rail.

The predicted noise levels were above the noise assessment criteria at 31 sensitive residential receptors for railway operations at the project opening (2027) and at 32 sensitive residential receptors an additional residential receptor at the design year (2040).

The predicted noise levels trigger the assessment criteria by less than 5 dBA (decibels) at most of these sensitive receptors with the highest predicted railway noise level up to 6 dBA above the relevant ARTC noise assessment criteria.

A review of noise mitigation for the Gowrie State School should also be investigated during the future phases of the Project.

Considering the predicted noise levels and the location of the sensitive receptors outside of the main townships, the reasonable and practicable measures adopted by ARTC to reduce railway noise impacts, beyond controlling railway noise at its source, are expected to be at-property controls such as architectural property treatments and upgrades to property fencing.

Options for receptor-specific measures to mitigate or manage potential noise levels, at identified sensitive receptor properties and land-uses, will be considered further during detailed design. This will include further railway noise modelling, analysis of engineering constraints present, constructability issues and other potential and environmental matters (flooding implications and visual impacts as examples).

Consultation with directly affected landowners will continue and the verification of railway noise levels will be undertaken once Inland Rail operations commence on the Project.

Vibration from train movements

The operation of the trains on the Project, including within the Toowoomba Range Tunnel, can be a potential source of vibration and associated ground-borne (regenerated) noise.

The levels of ground-borne vibration, and potential associated regenerated noise, from train movements on the track and within the tunnel were determined to meet the adopted assessment criteria at the identified sensitive receptors. The predicted ground-borne noise levels are relatively low and the noise environment adjacent to the Project is expected to be dominated by the airborne railway noise which can mask the ground-borne noise within most rooms of sensitive receptor buildings.

Meeting the assessment criteria does not preclude the potential for ground-borne noise and vibration during train passbys to be occasionally perceptible in the context of the quiet rural areas. The ground-borne noise and vibration levels will be further assessed during the detailed design of the Project to verify the potential emission levels and define, as-required, the reasonable and practicable measures to mitigate identified impacts.

The Project designs include high vibration attenuation trackform for track slab sections within the tunnel and bridges and viaducts will consider the use of resilient matting for ballast retention. The railway vibration predictions at this stage indicate, with regard to the conservatism in the assessment approach, that both of these treatments can provide adequate control of vibration from train movements.

Summary

Assuming the detailed design remains consistent with this assessment, the Project is expected to meet the assessment criteria applied by ARTC and the objectives of DTMR policy and guidelines for the management of noise and vibration from railway operations at the majority of sensitive receptors. The best practice mitigation measures available to the Project are also expected to assist in reducing noise and vibration levels at receptors and provide the reasonable and practical control of potential impacts.

Considerate of the rural location of the Project, meeting the adopted criteria does not preclude the potential for noise and vibration emissions during railway operations to be audible and perceptible at sensitive receptors along the Project alignment.

Recommendations

Based on the assessment, key recommendations for the management of railway noise and vibration are:

- Review the reasonable and practicable noise and vibration mitigation options discussed in this report during the detailed design and construction stages of the Project. Noise mitigation options at this stage include source controls in addition to at-property treatments for identified sensitive receptors.
- Allow for the vibration mitigation measures modelled in this report as follows:
  - For track slab sections, including within the Toowoomba Range Tunnel, Rheda2000/ Vossloh 300 NG series high attenuation track form or a similar trackform system with equivalent vibration attenuation performance.
  - Ballasted track over bridge and viaducts to use suitable resilient matting for ballast retention and vibration isolation.
- Further validate the noise and vibration prediction models and update predictions during the detailed design of the Project.

The railway noise and vibration levels will be verified through noise and vibration monitoring once the Project is operational. ARTC will further investigate reasonable and practicable mitigation measures where monitored noise and/or vibration levels at sensitive receptors are confirmed to not meet the adopted noise and vibration criteria.

ACRONYMS

Term	Definition
ARTC	Australian Rail Track Corporation
AS	Australian Standard
B2G	Border to Gowrie project
BS	British Standard
dB	Decibels
dBA	A-weighted decibel (referenced 20 µPa)
dBm	Decibel per metre
dBV	Vibration expressed as decibels (referenced level 1 nanometers/second)
DIN	Deutches Institut für Normung (German Institute for Standardisation)
DTMR	Department of Transport and Main Roads
EIS	Environmental Impact Statement
G2H	Gowrie to Helidon project
H2C	Helidon to Calvert project
HDPE	High Density Polyethylene
Hz	Hertz
ISO	International Standards Organisation
Km	Kilometres
Km/h	Kilometres per hour
Km^2	Square kilometres
LAeq	Equivalent continuous noise level, providing a representation of the cumulative level of noise exposure over a defined period.
$L_{Aeq(15hour)}$	The equivalent continuous noise level for the 15-hour daytime period of 7.00 am to 10.00 pm
$L_{Aeq(9hour)}$	The equivalent continuous noise level for the 9-hour daytime period of 10.00 pm to 7.00 am
$L_{Aeq(24hour)}$	The equivalent continuous noise level for the 24-hour period.
$L_{Aeq(12hour)}$	The equivalent continuous noise level for the 12-hour daytime period of 6.00 am to 6.00 pm
$L_{Aeq(1hour)}$	The equivalent continuous noise level for the busiest 1-hour period.
$L_{Aeq(T)}$	The equivalent continuous noise level for a defined time period 'T'.
L_{Amax}	The maximum noise level during the measurement or assessment period. The L_{AFmax} or Fast is averaged over 0.125 of a second and the L_{ASmax} or Slow is averaged over 1-second.
m	Metres
mm	Millimetres
mm/s	Millimetres per second
MN/m	Mega newtons per metre
m/s	Metres per second
NSW	New South Wales
QLD	Queensland

Term	Definition
QR	Queensland Rail
RBL	Rating Background Level
SDPWO	*State Development and Public Works Organisation Act 1971*
SEL	The level of noise for an individual event normalised to a 1-second event (Sound Exposure Level), allowing noise events of different duration to be compared.
SEM	Single Event Maximum is the arithmetic average of L_{ASmax} from the highest 15 single events during a 24-hour period, or the average of all events where there are fewer than 15 events in 24-hour period.
TfNSW	Transport for New South Wales
ToR	Terms of Reference
VDV	Vibration Dose Value is a cumulative measure of the vibration level from all events.
Vppv	Vector peak particle velocity, which is the peak particle velocity calculated from the sum of the vibration in three directions; longitudinal, transverse and diagonal.

GLOSSARY OF PROJECT TERMINOLOGY

Term	Definition
Airborne noise	Sound (noise) which travels through the air and commonly describes noise experienced within the outdoor environment.
Ballast	Crushed rock and stone used to provide a foundation for railway track. It usually forms the bed on which railway sleepers are laid, transmits the load from the train movements to the formation and restrains the track from movement.
Bunching and stretching	Wagons can touch from coming together or make a noise when they stretch and pull apart.
Consist	The set of wagons or carriages that form the train.
Continuously welded rail	Continuously welded rail shall be constructed on Inland Rail, and due to there being fewer joints, trains can travel faster on continuously welded steel rails than on jointed rails. The continuously welded rail can reduce noise and vibration emissions from passing trains.
Crossing loop	A place on a single line railway where trains travelling in the opposite direction can pass each other.
Culvert	A structure that allows water to flow under a road, railway, track or similar obstruction.
Existing rail corridor	The corridor within existing rail infrastructure are located. The existing rail corridor is defined by ARTC to mean everywhere within 15 metres (m) of the outermost rails; or within the boundary fence (where fences are provided) and are closer than 15 m. If the property boundary is less than 15 m, the corridor is defined as the property boundary or a permanent structure such as a fence, wall or level crossing separating the operating rail corridor from other land.
Formation	The earthworks/ material on which the ballast, sleepers and tracks are laid.
Ground-borne noise	Railway vibration in buildings at frequencies typically from about 30 Hz to about 200 Hz, can excite the floors and walls which then radiate a rumbling noise directly into the rooms. This ground-borne (or structure-borne) noise is associated with track in tunnels, where it occurs without the masking from the airborne rail noise.
Level crossing	A place where rail lines and a road cross at the same elevation.
Practicable	Relates to engineering considerations, what can practically be built (e.g. safety, access, site constraints).
Rail corridor	The corridor within which the rail tracks and associated infrastructure are located.
Rail dampers	Elements that are attached to the sides of the rails to improve the rail's ability to absorb and dissipate vibration energy that results from the rolling contact between the wheel and rail.
Rail pads	Rail pads are plastic or rubber mats that are inserted between the rails and the sleepers. Their purpose is to evenly distribute the load from passing trains onto the sleepers. They can also act to reduce noise and vibration emissions from passing trains.
Rating background level	The underlying level of noise present in an area once transient and short-term noise events are filtered out.
Reasonable	Selecting reasonable measures from those that are feasible involves judging whether the overall noise benefits outweigh adverse social, economic and environmental effects, including the cost of the measure.
Rollingstock	All rail vehicles operating on the rail lines.
Rolling noise	Noise emissions from the rolling of the wheels on the rail.
Sensitive receptors	Land uses detailed in railway noise and vibration guidelines which are sensitive to potential noise and vibration impacts, such as residential dwellings, schools and hospitals.

Term	Definition
Study area	The assessment of noise and vibration from railway operations adopted a study area comprising approximately 112 km^2 (square kilometres) based on a 2 km (kilometre) distance surrounding either side of the proposed rail alignment.
Track	The structure consisting of rails, fasteners, sleepers and ballast, which sits on the formation.
Turnout	A junction point where a rail vehicle can leave a given track for a branching or parallel track.
Vibration	The movement of particles in a medium, such as the ground soil or a building, which can result from the energy associated with train passbys on the tracks, including within the tunnel.

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1 Introduction

1.1 Overview

1.1.1 Inland Rail and the Project

The Australian Government has committed to delivering a significant piece of national transport infrastructure by constructing a high performance and direct interstate freight rail corridor between Melbourne and Brisbane, via central-west New South Wales (NSW) and Toowoomba in Queensland (QLD). Inland Rail is a major national program that will enhance Australia's existing national rail network and serve the interstate freight market.

The Inland Rail route, which is approximately 1,700 kilometres (km) long, involves:

- using the existing interstate rail line through Victoria and southern NSW;
- upgrading approximately 400 km of existing track, mainly in western NSW; and,
- providing approximately 600 km of new track in NSW and south-east Queensland.

Inland Rail has been divided into 13 sections, five of which are located in Queensland. Australian Rail Track Corporation Ltd (ARTC) (the proponent) is seeking approval to construct and operate the Gowrie to Helidon section of Inland Rail (the Project).

1.1.2 Approval and assessment requirements

The Project has been declared as a coordinated project for which an Environmental Impact Statement (EIS) is required under section 26 (1) (a) of the Queensland Government's *State Development Public Works Organisation Act 1971*. The Project is also a controlled action under the Australian Government *Environment Protection and Biodiversity Conservation Act* (1999) and requires approval from the Commonwealth Minister for the Department of Agriculture Water and the Environment.

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) as part of the EIS to be provided to the Coordinator-General. The report addresses the environmental assessment requirements, as they relate to noise and vibration from railway operations, of the Terms of Reference[1] (ToR) for an environmental impact statement: Inland Rail – Gowrie to Helidon project August 2017.

1.2 The Project

The Project is a new railway infrastructure project on Inland Rail consisting of approximately 28 km of dual gauge track to deliver new and upgraded sections of rail corridor between Gowrie and Helidon which generally follows the protected Gowrie to Grandchester future State transport corridor. The Project would be constructed to accommodate double-stacked freight trains up to 1,800 metres (m) long and 6.5 m high. The project also includes changes to some roads to facilitate construction and operation of the railway and ancillary infrastructure to support the Project.

The Project designs include infrastructure to accommodate possible future augmentation and upgrades of the track, including a possible future requirement for 3,600 long trains. The impacts of the increased train length have not been included in this study as they as associated with future upgrades and will require separate assessment at a later stage (subject to business needs).

[1] The Department of State Development, Tourism and Innovation, *Terms of reference for an environmental impacts statement: Inland Rail – Gowrie to Helidon project, dated August 2017*.

1.2.1 Location

The Project starts at the interface with the Border to Gowrie project section of Inland Rail, adjacent to the Queensland Rail (QR) West Moreton System rail corridor south of Gowrie. The Project alignment becomes collocated within the QR West Moreton System until Gowrie, where upon it diverges from the QR West Moreton System and traverses rural and grazing lands for approximately 1.5 km before passing into a new 6.24 km long tunnel under the Toowoomba plateau in the vicinity of Gowrie Junction.

The tunnel alignment passes under the areas of Cranley and Mount Kynoch and emerges on the eastern side of the Toowoomba Range at the eastern portal in a rural area of undisturbed natural vegetation. The Project crosses through the northern edge of Commonwealth land, previously utilised by the Department of Defence. Continuing east, the alignment passes the northern side of Withcott and travers areas of native vegetation and grazing properties, with proposed crossings over the valleys of Rocky Creek, Six Mile Creek and the Toowoomba Second Range Crossing motorway.

The route continues from Postmans Ridge to Helidon, crossing the Upper Lockyer Creek, before collocating within the QR West Moreton System west of Helidon where the alignment joins the Helidon to Calvert project section of Inland Rail.

The Project will be upgrading existing rail infrastructure within the rail corridor of the QR West Moreton System for approximately 5.6 km and providing new railway infrastructure within approximately 22.4 km of new (greenfield) rail corridor.

1.2.2 Key features

The key design features of the Project include:

Rail infrastructure

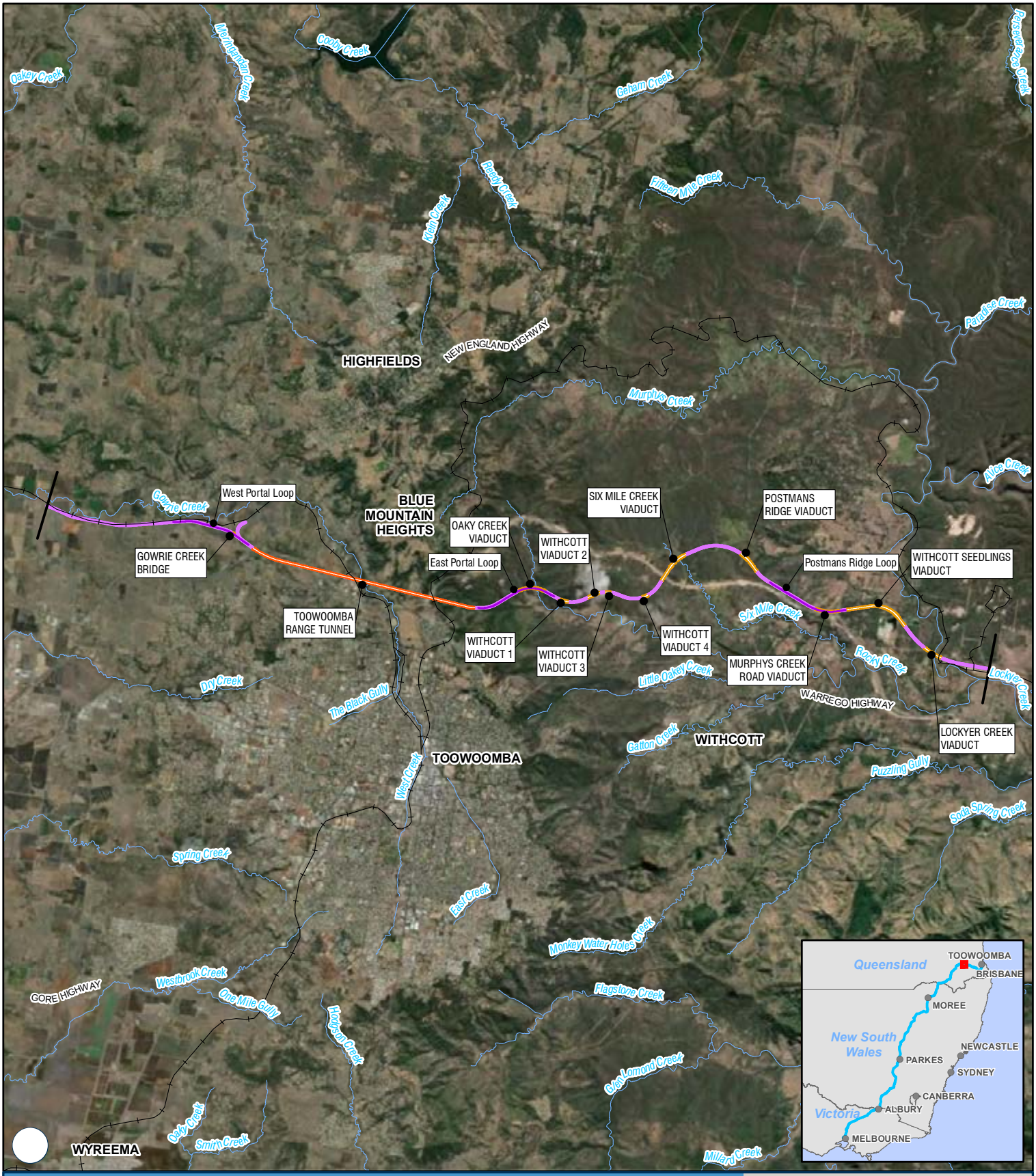
- A 28 km long new and upgraded rail corridor between Gowrie and Helidon;
- A single-track standard gauge railway and track formation within the new rail corridor;
- Three crossing loops, at the western end of the Toowoomba Range Tunnel, the eastern end of the Toowoomba Range Tunnel and at Postmans Ridge in the vicinity of Murphys Creek Road.
- Bridges and viaducts over rivers and other watercourses, floodplains and roads;
- A new 6.24 km rail tunnel through the Toowoomba Range;
- New rail connections to the QR West Moreton System.

Road infrastructure

- Road realignments at various locations; and,
- Limited road closures.

Ancillary infrastructure to support the Project would include signalling and communications, drainage, signage and fencing, and services and utilities. Further information on the Project is provided in the EIS.

The key features of the rail infrastructure are shown in **Figure 1**.



GOWRIE TO HELIDON

Overview of the Project

FIGURE 1

5 km

Coordinate System: GDA 1994 MGA Zone 56

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- Project Extent
- Watercourses
- Existing Railway
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
- Toowoomba Range Tunnel

ARTC InlandRail

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation, in partnership with the private sector.

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1.2.3 Railway operations

The project would form part of the future rail network that will include train services provided by a variety of operators. It is estimated that Inland Rail would be trafficked by an average of 12 of the Express freight and Superfreighter trains per day (both directions) in 2027, increasing to about 15 of the Express freight and Superfreighter trains per day (both directions) in 2040.

This rail traffic would be in addition to the other future rail services and the existing rail traffic on the QR West Moreton System that will be collocated within the future rail corridor provided by the Project. In total, it is forecast that train movements would be an average of 40 trains per day (both directions) in 2027 and an average 49 trains per day (both directions) in 2040.

The overall train operations would be a mix of grain, bulk freight, coal and the Westlander passenger service. Train speeds would vary according to axle loads and range from 80 kilometres per hour (km/h) to 115 km/h. The railway operations are discussed further in **Section 2**.

1.3 Purpose and scope of this report

The purpose of this report is to assess the potential noise and vibration impacts from the railway operations of the Project and:

- address the relevant Terms of Reference (ToR) listed in **Table 1**;
- describe the existing environment with respect to railway noise and vibration sensitive receptors and the existing ambient and background noise levels;
- assess the potential noise and vibration impacts from the railway operations of the Project at sensitive receptors, including the daily train movements and the operation of crossing loops; and,
- recommend reasonable and practicable measures to mitigate and manage the impacts identified.

This report is specific to railway operations and the impact assessment for the construction works, road transport and stationary (fixed) infrastructure is detailed in Appendix O of the EIS; *Noise and Vibration (Construction, Fixed Infrastructure and Operational Road Noise) Technical Report*.

Table 1 Terms of Reference relevant to this assessment

ToR reference	Specific assessment requirements	Addressed in this report
Existing environment		
11.114	Describe the existing noise and vibration environment that may be affected by the project in the context of the environmental values.	An assessment of operational rail noise within the existing environment is provided in **Section 5** and **Section 7**.
11.115	Describe and illustrate on maps at a suitable scale, the locations of all sensitive noise and vibration sensitive receptors adjacent to all project components and estimate typical background noise and vibration levels based on surveys at representative sites.	Receptors identified as potentially sensitive to noise and vibration are mapped in **Appendix A**.
11.116	If the proposed project could adversely impact on the noise and vibration environment, undertake baseline monitoring at a selection of sensitive receptors potentially affected by the project. Describe the results of any baseline monitoring.	Baseline noise and vibration monitoring was carried out for the project and is detailed in *Appendix O –Construction Noise and Vibration Technical Report*, prepared for the EIS. The monitoring information is summarised in **Section 5.4**.

ToR reference	Specific assessment requirements	Addressed in this report
Impact assessment		
11.117	Describe the characteristics of the noise and vibration sources that would be emitted when carrying out the activity (point source general emissions). Describe noise and vibration emissions (including fugitive sources) that may occur during construction, commissioning and operation.	Sources of noise and vibration emissions from railway operations are discussed in **Section 6.3**. Refer to *Appendix O –Construction Noise and Vibration Technical Report*, prepared for the EIS.
11.118	Predict and map the impacts of the noise and vibration emissions from the construction and operation of the project on the environmental values of the receiving environment, including sensitive receptors.	Details of the rail noise predictions are provided in **Sections 8, 9, 10** and **11 for** airborne noise. The assessment of ground-borne vibration and ground-borne noise are detailed in **Section 12** and **Section 13**. Maps of predicted noise levels are provided in **Appendix D** and **Appendix E**.
	The assessment of impacts on noise and vibration would consider, applicable the following:	
	(a) Environmental Protection (Noise) Policy 2008, using recognised quality assured methods.	Not applicable to the infrastructure considered in this assessment as transport noise is excluded from the Environmental Protection (Noise) Policy 2008 (now the 2019 version). Refer also to *Appendix O: Noise and Vibration (Construction, Fixed Infrastructure and Operational Road Noise) Technical Report*.
	(b) Environmentally Relevant Activities – DES Application Requirements for ERAs with noise impacts (Guideline ESR/2015/1838).	Each chapter of this report provides information to address the relevant requirements of the guideline.
	(c) Construction – The Department of Transport and Main Roads Transport Noise Management Code of Practice: Volume 2 – Construction Noise and Vibration dated March 2016 and gazetted on 29 July 2016.	The referenced Code of Practice is not applicable to the assessment of noise and vibration from railway operations. Refer to *Appendix O: Noise and Vibration (Construction, Fixed Infrastructure and Operational Road Noise) Technical Report*.
	(d) Operational noise – The Department of Transport and Main Roads Policy for Development on Land Affected by Environmental Emissions from Transport and Transport Infrastructure Version 2, 10 May 2013 (Rail noise external criteria contained in Table 3 of the document).	Discussed in **Section 3.2** with operational rail noise levels assessed in **Sections 7, 8, 9** and **10**.
	(e) Operational vibration – British Standard BS 6472-1:2008 Guide to evaluation of human exposure to vibration in buildings – Vibration sources other than blasting. British Standards Institution, London.	The assessment of ground-borne vibration is detailed in **Section 12**.
	(f) The Department of Transport and Main Roads Policy for Development on Land Affected by Environmental Emissions from Transport and Transport Infrastructure Version 2, 10 May 2013 (refer to criteria contained in Table 6 of the document).	The assessment of ground-borne vibration is detailed in **Section 12**.

ToR reference	Specific assessment requirements	Addressed in this report
11.119	Discuss separately the key project components likely to present an impact on noise and vibration for the construction and operation phases of the project.	The key project infrastructure and operations which could impact operational noise and vibration are discussed in **Section 2**. Refer to *Appendix O: Noise and Vibration (Construction, Fixed Infrastructure and Operational Road Noise) Technical Report*.
11.120	Taking into account the practices and procedures that would be used to avoid or minimise impacts, the impact prediction must address the:	
	(a) activity's consistency with the objectives of documentation referenced in 11.118.	Details of the rail noise predictions are provided in **Sections 7**,**8**, **9** and **10** for airborne noise. The assessment of ground-borne vibration and ground-borne noise are detailed in **Section 12** and **Section 13**. Maps of predicted noise levels are provided in **Appendix D** and **Appendix E**.
	(b) cumulative impact of the noise and vibration with other known emissions of noise associated with existing major projects and/or developments and those which are progressing through planning and approval process that are publicly available.	A cumulative assessment is provided in **Section 14**.
	(c) potential impacts of any low frequency (<200 Hz) noise emissions.	Discussion on low frequency noise is provided in **Section 11.6**.
Mitigation measures		
11.121	Describe how the proposed project would be managed to be consistent with the best practice environmental management for the activity. Where a government plan is relevant to the activity, or the site where the activity is proposed, describe the activity's consistency with the plan.	Measures to manage and mitigate potential noise and/ or vibration impacts from the operation of the project are provided in **Section 15**.
11.122	Describe any expected exceedances of noise and vibration goals or criteria following the provision or application of mitigation measures and how any residual impacts would be addressed.	Details of the rail noise and vibration predictions are provided in **Sections 7, 8** and **9** and **10** (airborne noise), **Section 12** (ground-borne vibration) and **Section 13** (ground-borne noise). Residual impacts are assessed in **Section 16**.
11.123	Describe how the achievement of the objectives would be monitored and audited and how corrective actions would be managed.	Recommendations for monitoring noise and vibration levels once the project is operational have been discussed in **Section 15.6**.
Climate		
11.162	Describe the climate patterns with particular regard to discharges to water and air and the propagation of noise related to the project.	Discussion on the effects of the climate on the propagation of noise are detailed in **Section 11.4**.

Source The Department of State Development, Tourism and Innovation, Terms of reference for an environmental impacts statement: Inland Rail – Gowrie to Helidon project, dated August 2017.

1.4 Report limitations

The findings of this report are based on the current design and may change as the Project design progresses. Should the final design or conditions vary from the basis of this assessment, the noise and vibration levels and associated impacts may differ from the reported findings.

Concept mitigation measures for railway noise and vibration have been presented in this assessment based on the adopted assessment criteria, identified sensitive receptors and the predicted noise and vibration emissions associated with the proposed future railway operations of the Project. As the Project progresses through its detailed design and construction phases a final set of mitigation measures will be developed by ARTC. This is expected to require further assessment of railway noise and vibration and the monitoring of railway noise and vibration at the opening of the Project.

2 Description of the railway infrastructure

2.1 Overview

The Project design has been developed in response to environmental, engineering and social constraints. The design objective is to minimise environmental and social impacts, minimise disturbance to existing infrastructure and utilities, meet the engineering design criteria and realise Project benefits. The key components of the Project are summarised in **Table 2**.

Table 2 Key infrastructure for the Project

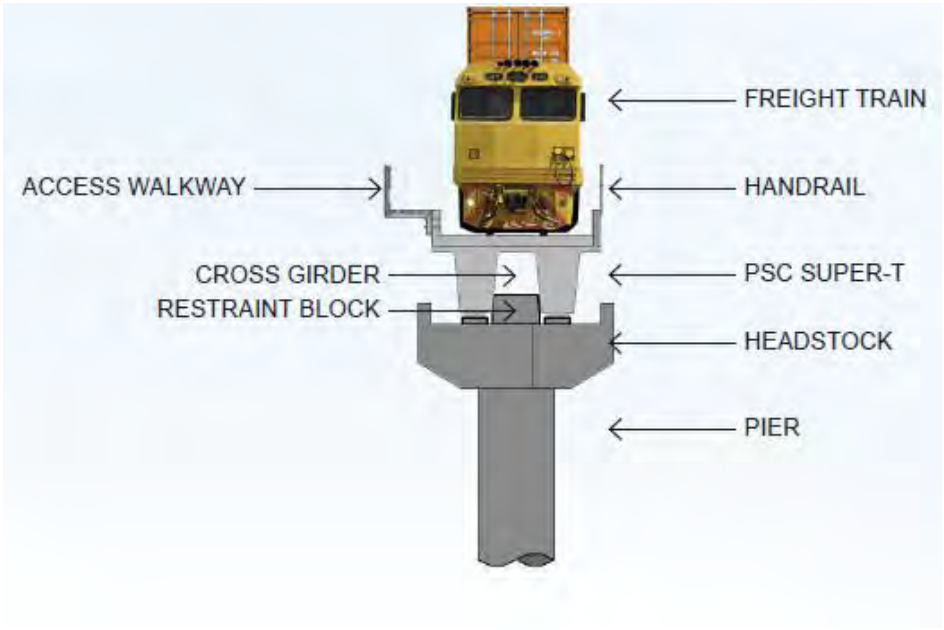
Key component	
Start and finish point	Gowrie to Helidon in Queensland
Local government areas	Toowoomba Regional Council and Lockyer Valley Regional Council
Length of alignment	28 km
Track dimensions	Rail corridor with a typical width ranging from approximately 40 m to 62.5 m wide, consisting of a single-track dual gauge railway line to facilitate rail traffic in both directions. The corridor extends wider where earthworks, structures and other associated infrastructure are required.
New level crossings	No new level crossings proposed
New rail bridges and viaducts	13 bridges and viaducts of which 11 are for the rail line to cross roads and waterways
Connection with existing rail lines	Tie-ins to the QR West Moreton System rail corridor are provided.
Crossing loops	3 loops initially up to 2,200 m in length at the eastern and western tunnel portals and Postmans Ridge
Tunnels	Approximately 6.24 km long tunnel traversing the Toowoomba Range

2.2 Bridges and viaducts

The Project requires 13 new bridge and viaduct structures of which 11 are for rail to cross over roads and waterways and two are to enable roads to cross over the rail corridor. The bridge and viaduct superstructures include the track system, walkways, guard rails and barriers as appropriate, and are typically founded on piles supporting in-situ reinforced concrete substructures.

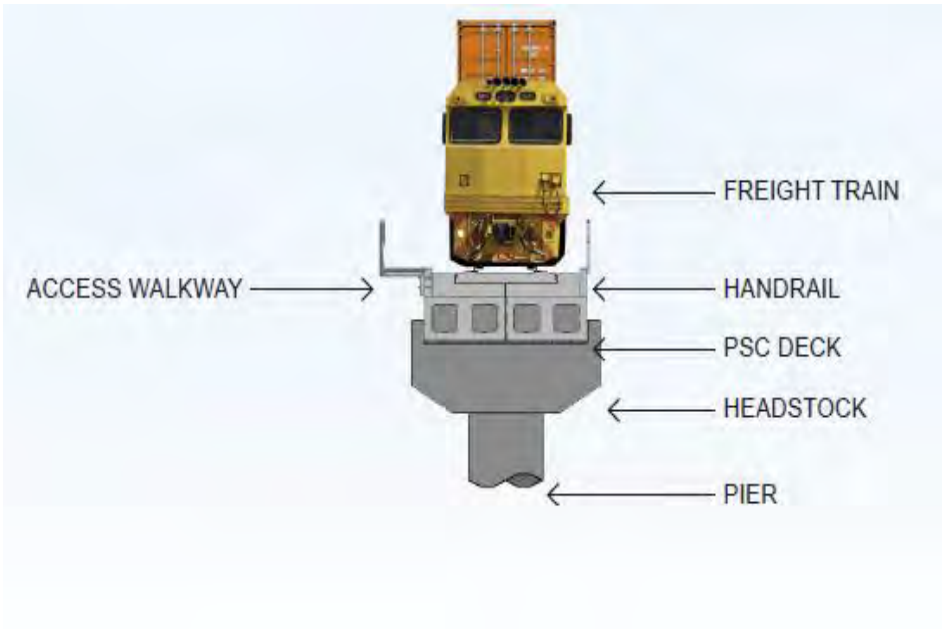
The sub-formation and ballast height will be approximately the same as the deck edge. The bridges can be Super-T girders or pre-stressed concrete slab spans as illustrated in **Figure 2** and **Figure 3**.

Figure 2 Typical pier with pre-stressed concrete Super-T girder



Note Not shown to scale.

Figure 3 Typical pier with pre-stressed concrete slab span



Note Not shown to scale.

The details of each of the 11 rail bridges and viaducts is provided in **Table 3**. The location of the rail bridges and viaducts is presented in **Figure 1**.

Table 3 Rail bridges and viaducts on the Project

Bridge/ viaduct	Crossing type	Bridge/ viaduct length, m
UT1 Gowrie Creek Rail Bridge	Waterway	56
Oakey Creek Viaduct	Terrain, road and waterway	706
Withcott Viaduct 1	Waterway	261
Withcott Viaduct 2	Terrain & waterway	322
Withcott Viaduct 3	Terrain & waterway	174
Withcott Viaduct 4	Waterway	145
TSRC & Six Mile Creek Viaduct	Terrain, road and waterway	966
Postmans Ridge Viaduct	Terrain, road and waterway	645
Murphys Creek Road Viaduct	Terrain, road and waterway	690
Withcott Seedlings Viaduct	Terrain and waterway	1,794
Lockyer Creek Viaduct	Road, rail and waterway	506

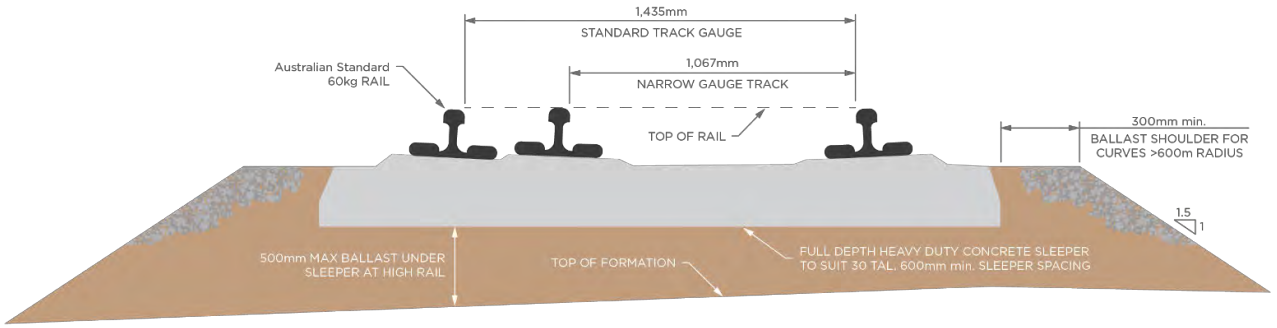
Note TSRC is an abbreviation for the Toowoomba Second Range Crossing.

2.3 Rail design

A single-track, dual gauge railway line (standard (1,435 mm) and narrow (1,067 mm) gauge) is proposed to facilitate the travel of trains in both directions within this section. The main line track structure is typically a ballasted track system consisting of continuously welded rail, resilient track fasteners, rail pads and concrete dual gauge full-depth sleepers at 600 mm centres and ballast between 250 mm and 500 mm in depth with 300 mm shoulder width for lateral restraint.

A typical section for a dual gauge ballasted track is shown in **Figure 4**.

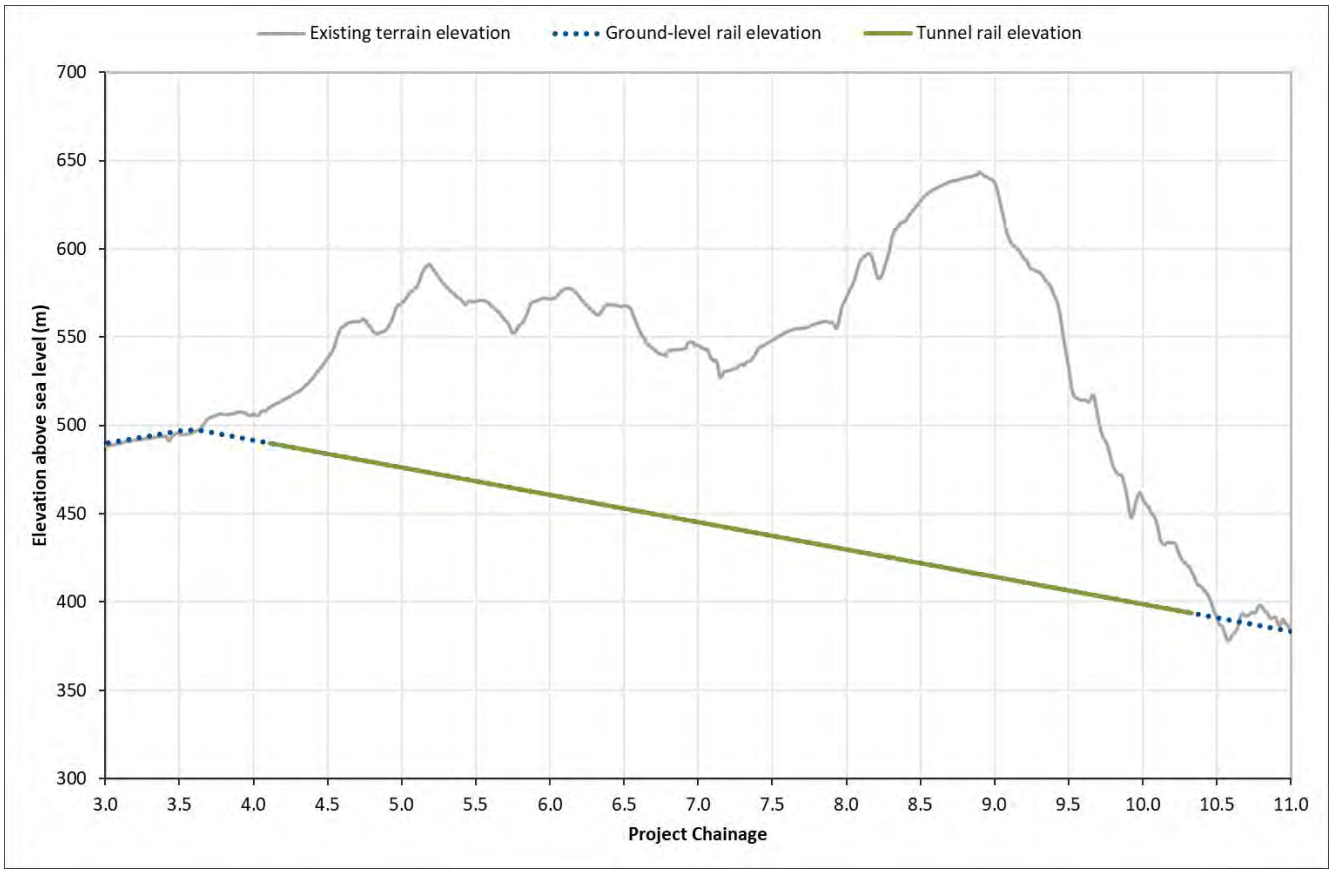
Figure 4 Indicative design for new track



2.4 Toowoomba Range Tunnel

The Toowoomba Range Tunnel is on a generally straight alignment and is approximately 6.24 km in length. The varying depth of the rail track within the tunnel alignment is shown in **Figure 5**, along with the existing ground surface (terrain) level.

Figure 5 Rail levels within the Toowoomba Range Tunnel



The tunnel will be a concrete lined structure with the rail track constructed on a reinforced concrete slab (slab track). The track in the tunnel is proposed to use the Rheda2000 system with a Vossloh 300NG series highly resilient rail fastener.

The single-track is proposed to be located close to the centre of the tunnel to deliver the internal space necessary to facilitate natural ventilation requirements. At the extents of the tunnel, tunnel portals shall be excavated to facilitate the transition between the ballasted surface track and the slab track within the tunnel structure.

This report has assessed the noise and vibration emissions associated with the trains operating within the tunnel. The noise and vibration associated with the supporting ventilation and substation infrastructure has been assessed in *Appendix O: Noise and Vibration (Construction, Fixed Infrastructure and Operational Road Noise)*.

2.5 Crossing loops

Crossing loops enable a train to move from the main line track and allow another train to pass through on the main line. The crossing loops are used to manage train movements on the network, such as trains travelling in the opposite direction or trains travelling at different speeds.

The Project incorporates four new crossing loops, designed to accommodate a maximum train length of up to 1,800 m. Each crossing loop will be connected to the main line track at both ends so the crossing loops can be accessed by trains travelling in either direction.

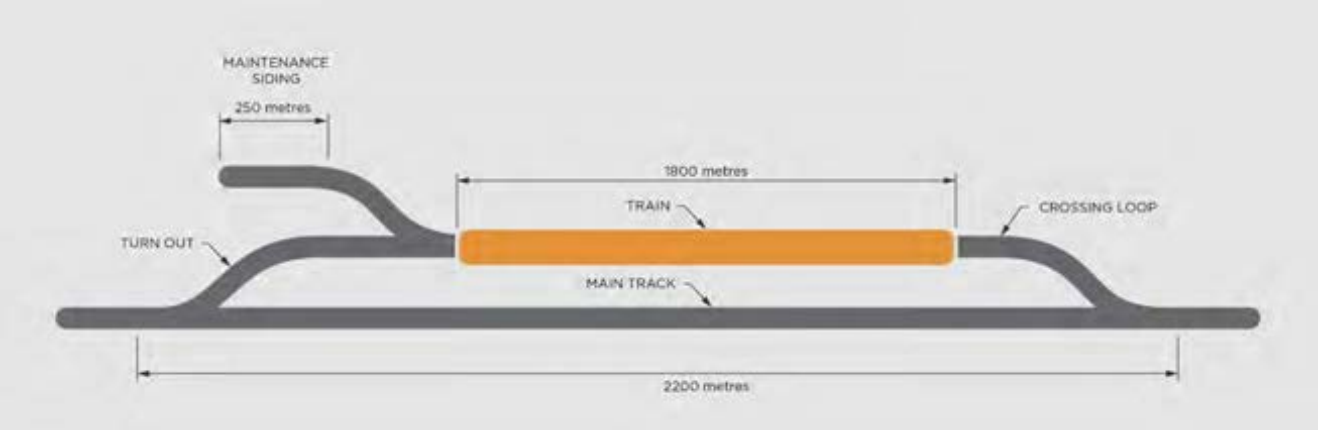
The loops would be new sections of track parallel to the existing track at a distance of approximately 4.5 m spacing from the main line track and incorporate a maintenance siding to enable maintenance of rollingstock without obstructing the track.

The proposed location of the crossing loops are summarised in **Table 4** and the indicative design of the crossing loop and maintenance siding is show in **Figure 6**.

Table 4 Crossing loop locations

Crossing loop	Location
West portal loop	Western end of Toowoomba Range Tunnel, in a similar location to the existing crossing loop
East portal loop	Eastern end of Toowoomba Range Tunnel
Postmans Ridge Loop	Postmans Ridge, approximately 9.4 km east of the eastern tunnel portal

Figure 6 Indicative design of a crossing loop and maintenance siding



2.6 Turnouts

A turnout is a point where a train can leave a given track for a branching or parallel track. The turnouts on the Project are expected at the locations detailed in **Table 5**.

Table 5 Location of turnouts on the Project

Turnout details	Locations
QR West Moreton System connection	Narrow gauge turnouts are used in the design to provide connectivity between the Project and the QR West Moreton System.
Crossing loops	Connections to main line track for passing loops will be achieved with dual gauge turnouts (dual to dual) on concrete sleepers.
Maintenance sidings	Maintenance sidings have been incorporated at each passing loop location. A tangential turnout has been incorporated within the length of the passing loop for access to a maintenance siding.

2.7 Level crossings

Level crossings are typically applied to facilitate vehicle and pedestrian access where public and private roads interface with rail corridors. The proposed Project designs do not include a requirement for new level crossings to be constructed.

Whilst not subject to assessment in this report, there is potential to reduce the use of existing level crossings, and associated noise, where rail traffic moves from the existing rail systems to the sections of new rail corridor.

3 Environmental impact assessment requirements

3.1 Referenced documentation

Based on the requirements of ToR, the assessment of noise and vibration from railway operations was undertaken with consideration to the guidelines listed in **Table 6**.

Table 6 Referenced noise and vibration guidelines

Document	Publisher	Application in the assessment
Policy for Development on Land Affected by Environmental Emissions from Transport and Transport Infrastructure (2013)	Department of Transport and Main Roads	- Noise assessment criteria for land developed adjacent to transport corridors. - Ground vibration assessment criteria for land developed adjacent to transport corridors.
Interim Guideline, Operational Railway Noise and Vibration, Government Support Transport Infrastructure (2019).	Department of Transport and Main Roads	- Noise assessment criteria for railway infrastructure projects. - Ground vibration assessment criteria for railway infrastructure projects. - Guidelines for the measurement, prediction and mitigation of railway noise.
British Standard BS 6472-1:2008 Guide to evaluation of human exposure to vibration in buildings – Vibration sources other than blasting (2008)	British Standards	- Establishment of assessment criteria for ground vibration. - Assessment methodologies for ground vibration.

3.2 Airborne noise

The most common form of noise experienced by people is termed ‘airborne noise’, indicating the noise travels through the air between the source, such as a railway, and the receptor. This is the primary form of noise that occurs adjacent to above ground level railway tracks.

Guidelines for the identification and assessment of airborne noise from railway operations are discussed in the following sections, including the airborne noise criteria applied by ARTC for the assessment and management of railway noise from the Project.

3.2.1 DTMR assessment criteria

The ToR requires the assessment of railway noise from the Project to consider the objectives and assessment criteria from the Department of Transport and Main Roads (DTMR) *Policy for Development on Land Affected by Environmental Emissions from Transport and Transport Infrastructure Version 2* (DTMR Policy); specifically, the external rail noise criteria contained in Table 3 of the DTMR Policy.

The external rail noise criteria from the DTMR Policy are reproduced below in **Table 7**.

Table 7 DTMR Policy railway noise criteria

Development type	Location with development	Environmental criteria
Accommodation activities	All facades	≤65 dBA $L_{Aeq(24hour)}$ façade corrected
		≤87 dBA (SEM[2] sound pressure level) façade corrected
	Outdoor spaces for passive recreation	≤62 dBA $L_{Aeq(24hour)}$ free field
		≤84 dBA (SEM sound pressure level) free field
Educational establishments, childcare centres	All facades	≤65 dBA $L_{Aeq(1hour)}$) façade corrected[1]
		≤87 dBA (SEM sound pressure level) façade corrected
	Outdoor education areas, outdoor play areas	≤62 dBA $L_{Aeq(12hour)}$ free field between 6.00 am and 6.00 pm
		≤84 dBA (SEM sound pressure level) free field
Health care services, hospitals, community uses, places of worship	All facades	≤65 dBA $L_{Aeq(1hour)}$ façade corrected[1]
		≤87 dBA (SEM sound pressure level) façade corrected
	Outdoor spaces for passive recreation	≤62 dBA $L_{Aeq(12hour)}$ free field between 6.00 am and 6.00 pm
		≤84 dBA (SEM sound pressure level) free field

Note 1 Maximum hour during normal opening hours Note 2 SEM is the Single Event Maximum

In 2019, the DTMR issued the *Interim Guideline Operational Rail Noise and Vibration – Government Supported Transport Infrastructure*[2] (Interim Guideline). The Interim Guideline is a published standard under the Transport Infrastructure Act 1994.

The guideline is specific to the assessment and management of railway noise and vibration from new rail infrastructure and upgrades to existing rail infrastructure. The Interim Guideline is considered more appropriate for the assessment of noise from rail infrastructure than the noise criteria in Table 3 of the DTMR Policy.

The Interim Guideline is not directly referenced in the ToR, because the ToR predated the release of the guidelines. Notwithstanding, ARTC has considered the relevant aspects of the Interim Guideline in the development of approaches to assess and manage railway noise on the Project.

The railway noise assessment criteria within the Interim Guideline are reproduced in **Table 8** and are generally more stringent than the railway noise assessment criteria in the DTMR Policy.

[2] Department of Transport and Main Roads, 2019. *Interim Guideline, Operational Railway Noise and Vibration, Government Support Transport Infrastructure*.

Table 8 DTMR Interim Guideline railway noise criteria

Type	Location at sensitive land use	External operational railway noise criteria[1]		
		Single Event Maximum[3]	$L_{Aeq(24hour)}$	$L_{Aeq(12hour)}$
New railway	All facades	≤ 82 dBA façade corrected	≤ 60 dBA façade corrected	-
	Outdoor spaces for passive recreation, outdoor education area and outdoor play area[2]	≤ 79 dBA free field	-	≤ 57 dBA free field
Upgrading existing railway or existing railway	All facades	Development increases existing $L_{Aeq(24hour)}$ or $L_{Aeq(12hour)}$ rail noise levels by 2 dB or more, or existing SEM rail noise levels by 3 dB or more and predicted rail noise levels exceed:		
		≤ 87 dBA façade corrected	≤ 65 dBA façade corrected	-
Upgrading existing railway or existing railway	Outdoor spaces for passive recreation, outdoor education area and outdoor play area[2]	≤ 84 dBA free field	-	≤ 62 dBA free field

Note 1 The façade corrected prediction height is adopted at 1.8 m and 4.6 m above the building platform level for the ground floor and first floors respectively. For free-field land uses the criteria applies at 1.5 m above the ground level.

Note 2 For outdoor educational, outdoor play and passive recreational areas greater than 2,000 m^2, the criterion level is to be achieved for a minimum 2,000 m^2. For areas less than 2,000 m^2, the criterion shall be achieved for the whole area.

Note 3 Single Event Maximum (SEM) is the arithmetic average of the LAFmax from the highest 15 single events (i.e. rolling stock passby) during a Use Period within a 24-hour period.

3.2.2 Management of railway noise on Inland Rail

ARTC is implementing a uniform approach for the assessment and management of operational railway noise across Inland Rail to ensure the potential noise related impacts to public health, amenity and disturbance are managed consistently.

The rail noise criteria from the DTMR Policy, Interim Guideline and other Australian railway noise guidelines were considered in the development of the airborne railway noise criteria for Inland Rail and the Project. As discussed further below, the railway noise criteria adopted by ARTC are more stringent than the criteria from the DTMR Policy and the Interim Guideline.

Where the predicted rail noise levels are above the assessment criteria, ARTC will investigate reasonable and practicable mitigation measures with the aim of reducing noise levels to meet the criteria and minimise potential noise impacts at sensitive receptors.

The airborne noise criteria adopted by ARTC for residential receptors are detailed in **Table 9**. Residential land use, as defined by the DTMR Policy, has been adopted for the assessment.

The railway noise criteria are specific to the daytime period of 7.00 am to 10.00 pm and the night-time period of 10.00 pm to 7.00 am. The noise assessment criteria are lower for the night-time period due to the greater sensitivity of communities to noise during the night-time.

There are different assessment criteria for new railways and for upgrading existing railway infrastructure. The criteria for new railways are 5 dBA lower (more stringent) based on the assumption that noise mitigation can be more readily implemented on newly constructed sections of railway infrastructure.

Table 9 Airborne railway noise criteria for residential receptors

Type of development	Noise assessment criteria at residential receptors (External)	
	Day (7.00 am to 10.00 pm)	Night-time (10.00 pm to 7.00 am)
New rail line development[1]	Predicted rail noise levels exceed:	
	$L_{Aeq(15hour)}$ 60 dBA	$L_{Aeq(9\ hour)}$ 55 dBA
	L_{AFmax} 80 dBA	L_{AFmax} 80 dBA
Upgrade of existing rail line[2]	Development increases existing L_{Aeq}(period) rail noise levels by 2 dB or more, or existing L_{Amax} rail noise levels by 3 dB or more and predicted rail noise levels exceed:	
	$L_{Aeq(15hour)}$ 65 dBA	$L_{Aeq(9\ hour)}$ 60 dBA
	L_{AFmax} 85 dBA	L_{AFmax} 85 dBA

Note 1 A new rail line development is a rail infrastructure project on land that is not currently an operational rail corridor.

Note 2 An upgraded line is a development on land that is within an existing operational rail corridor, where a line is or has been operational or is immediately adjacent to an existing operational rail line which may result in the widening of an existing rail corridor.

The ARTC approach includes rail noise criteria for sensitive receptors other than residential land uses. The noise criteria for these receptors types is detailed in **Table 10**.

Table 10 Airborne noise assessment criteria for other sensitive receptors

Other sensitive receptors	Noise assessment criteria (when receptor premises are in use)	
	New rail line development[1]	Upgrade of existing rail line[2]
	Resulting rail noise levels exceed:	Development increases existing rail noise levels by 2 dBA or more in L_{Aeq} for that period, and resulting rail noise levels exceed:
Schools, educational institutions and childcare centres	$L_{Aeq(1\ hour)}$ 40 dBA (internal)	$L_{Aeq(1\ hour)}$ 45 dBA (internal)
Places of worship	$L_{Aeq(1\ hour)}$ 40 dBA (internal)	$L_{Aeq(1\ hour)}$ 45 dBA (internal)
Hospital wards	$L_{Aeq(1\ hour)}$ 35 dBA (internal)	$L_{Aeq(1\ hour)}$ 40 dBA (internal)
Hospital other uses	$L_{Aeq(1\ hour)}$ 60 dBA (external)	$L_{Aeq(1\ hour)}$ 65 dBA (external)
Open space – passive use (e.g. parkland, bush reserves)	$L_{Aeq(15hour)}$ 60 dBA (external)	$L_{Aeq(15hour)}$ 65 dBA (external)
Open space – active use (e.g. sports field, golf course)	$L_{Aeq(15hour)}$ 65 dBA (external)	$L_{Aeq(15hour)}$ 65 dBA (external)

Note 1 A new rail line development is a rail infrastructure project on land that is not currently an operational rail corridor.

Note 2 An upgraded line is a development on land that is within an existing operational rail corridor, where a line is or has been operational or is immediately adjacent to an existing operational rail line which may result in the widening of an existing rail corridor.

3.2.3 Summary of airborne noise management criteria

The assessment of noise must consider the DTMR Policy, as required by the ToR, and also the Interim Guideline. As discussed above, further to these guidelines ARTC is implementing railway noise criteria specifically for the management of railway noise on Inland Rail.

For the purpose of this study, it is preferential to have one set of noise criteria for railway operations to provide consistency in the assessment of railway noise and the management of any railway noise impacts.

A review of the criteria from the Interim Guideline and the approach to be implemented by ARTC on Inland Rail was undertaken to establish a conservative approach for the assessment and management of noise on the Project. Detailed below in **Table 11**, the railway noise criteria adopted by ARTC are generally more stringent than the Interim Guideline. Where the Project achieves the ARTC railway noise criteria at sensitive receptors the railway noise criteria from the DTMR Policy and Interim Guideline would also be met.

Table 11 Review of assessment criteria for airborne noise

Aspect	Interim Guideline criteria	ARTC noise criteria	Commentary
Assessment periods	Noise levels assessed for the total rail operations in each 24-hour period.	Noise levels assessed separately for the daytime and night-time rail operations in each 24-hour period.	The ARTC criteria account for the variation in rail operations during the 24-hour period. Assessing the potential night-time noise levels acknowledges the need to protect the community during this more sensitive period (including sleep disturbance). On this basis, ARTC is applying the more stringent criteria.
Noise criteria (all facades)	The L_{Aeq} and SEM[1] noise criteria are 5 dBA more stringent for new railways than for upgrading existing railway infrastructure.	The L_{Aeq} and L_{Amax} noise criteria are 5 dBA more stringent for new railways than for upgrading existing railway infrastructure. The daytime L_{Aeq} noise criteria are 5 dBA more stringent than the night-time L_{Aeq} noise criteria.	The L_{Aeq} noise criteria are the same for the 24-hour period in the Interim Guideline and the 15-hour daytime period with the ARTC criteria. The night-time L_{Aeq} noise criteria applied by ARTC are 5 dBA more stringent than the 24-hour noise criteria in the Interim Guideline. The ARTC maximum noise criteria are 2 dBA more stringent than the Interim Guideline[2].
Application to sensitive receptors	The guideline adopts external rail noise criteria at sensitive receptors. The guideline applies both L_{Aeq} and SEM noise criteria.	ARTC adopts external noise criteria for residential receptors. Internal L_{Aeq} criteria are provided to maintain the use of some building types.	The Interim Guideline defines sensitive receptors for a wider range of building uses. The ARTC approach for non-residential receptors is more rigorous by assessing internal noise levels. For non-residential sensitive receptors, the Interim Guideline provides assessment criteria for both L_{Aeq} and L_{Amax} noise metrics, whereas the ARTC approach only considers L_{Aeq} criteria.

Note 1 Single Event Maximum (SEM)

Note 2 The Interim Guideline and ARTC management levels have different approaches to deriving the maximum rail noise level. This may influence the significance of the 2 dBA variations in the criteria levels.

3.3 Noise criteria for new and upgraded railway infrastructure

The study area for the railway noise assessment was an area 2 km surrounding either side of the Project alignment. The study area is constrained to the eastern and western extents of the Project and the assessment of noise and vibration outside of the Project extents is being considered as part of the environmental assessments prepared for the Border to Gowrie and Helidon to Calvert projects on Inland Rail.

This study has adopted ARTC's proposed criteria for the management of railway noise on Inland Rail as primary railway noise assessment criteria for the Project, refer **Table 9** and **Table 10**. Within the study area, the noise assessment criteria for the sensitive receptors were based on the sections of new rail corridor and the sections of upgraded existing railway infrastructure.

There are locations where the Project transitions between new rail corridors and the existing rail corridors and sensitive receptors are located either side of the rail alignment in these locations. The railway noise will propagate (travel) outside the defined extents of the new and existing rail corridor sections.

There may be some sensitive receptors that, whilst adjacent to sections of new rail corridor, already experience noise from the nearby existing railway operations. Accordingly, assigning the noise criteria at the sections of new and upgraded rail corridors considered the locations where the introduction of the railway infrastructure with the Project could change the existing railway noise levels at potentially affected sensitive receptors.

There is limited guidance on defining the extents where the railway noise criteria are to apply, so the noise criteria for the upgrade of existing railway infrastructure was applied to sensitive receptors located within an approximate 750 m off-set either side of the sections of existing rail corridor within the study area.

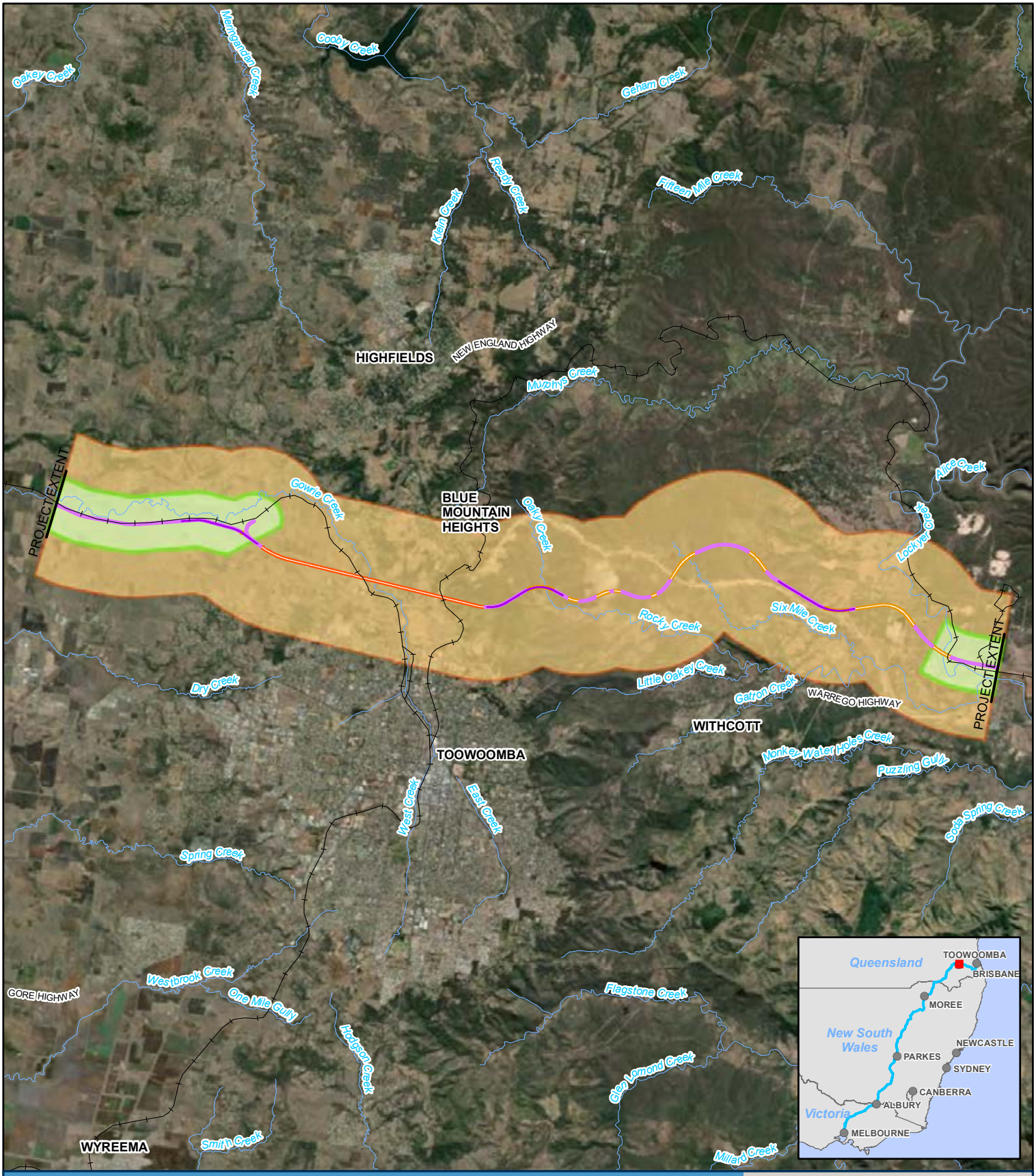
The 750 m off-set distance from the sections where the Project will upgrade the existing rail corridor considered the following key factors:

- Potential distances from the existing rail corridor where the noise criteria would be met from current railway operations.
- The environment surrounding the Project alignment where railway noise levels could be reasonably anticipated to increase by at least L_{Aeq} 2 dBA or at least L_{Amax} 3 dBA in the daytime or night-time periods with the future Inland Rail operations.
- Locations where railway noise from current railway operations could potentially influence the existing daytime and night-time noise environments.
- The off-set distance achieved a 1.5 km diameter noise assessment footprint around the existing rail corridors, which is representative of a typical length of coal and freight trains and enabled the assessment to consider the complete passby of existing rail traffic.
- Implementation of the noise criteria to provide an assessment of railway noise to support the evaluation of reasonable and practicable noise mitigation.
- The approach aimed for neighbouring and nearby sensitive receptors to be assessed against the same noise criteria to enable equitable outcomes during the consideration of noise mitigation measures.

The areas where the assessment applied the noise criteria for new rail infrastructure and the noise criteria for the upgrade of existing infrastructure are detailed in **Table 12** and **Figure 7**.

Table 12 Application of railway noise criteria for the Project

Project Alignment Locations	Designation for the assessment	Key factors
The start of the Project to the west of Gowrie where the Project ties into the West Moreton System north of Draper Road.	Upgrade of existing railway infrastructure.	The Project alignment is initially adjacent to, then collocated within the West Moreton System from west of Gowrie to Gowrie Junction Road.
Approximately 200 m west of the Toowoomba Tunnel portal to Snellings Road north of Helidon Spa.	New railway corridor (including the Toowoomba Tunnel).	The Project is an approximate 23 km new rail corridor east of the West Moreton System at Gowrie Junction to where it re-joins the West Moreton System at Helidon Spa.
Snellings Road north of Helidon Spa to the Project's eastern extent where the Project route joins the Helidon to Calvert project section.	Upgrade of existing railway infrastructure.	The Project is collocated with the West Moreton System east of Lockyer Creek through to the eastern extent of the Project.



GOWRIE TO HELIDON

Application of Railway Noise Criteria for the Project

FIGURE 7

5 km

Coordinate System: GDA 1994 MGA Zone 56

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Paper: A4 Scale: 1:140,000
Date: 04-Dec-2020
Author: JG

- Proposal Extent
- Existing Railway
- Watercourse
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
- Toowoomba Range Tunnel
- Upgraded Railway Infrastructure
- 2km Study Area/ Noise Assessment Area New Rail Corridor

ARTC InlandRail

The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation, in partnership with the private sector.

H:\Projects-SLR\620-BNE\620-BNE\620.12209 Inland Rail\06 SLR Data\06 CADGIS\ArcGIS\G2H\SLR62012209_G2H_Noise Assessment Areas.mxd
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

3.4 Ground-borne vibration guidelines

Railway vibration is generated by dynamic forces at the interface of the rail and train wheels. The railway generated vibration can be transmitted to nearby building via the track structures and the intervening surrounding ground. For railway operations within the Toowoomba Range Tunnel and on elevated bridges and viaducts, the railway generated vibration can be transmitted to buildings near to the alignment via these structures and the intervening ground.

If the levels of vibration are sufficiently high, then this vibration can be felt as tactile vibration by the occupants of nearby buildings. People can perceive floor vibration at levels well below those likely to cause damage to buildings or their contents. The vibration criteria applied to manage potential impacts to human comfort at residences are usually the most stringent and it is generally not necessary to set separate criteria for vibration effects on typical building contents and structures.

3.4.1 Ground-borne vibration criteria for sensitive receptors

For intermittent events such as train passbys, the vibration dose value (VDV) is applied to assess potential impacts to human comfort. The VDV provides a cumulative measure of the vibration levels associated with all railway operations in a daytime or night-time assessment period. The VDV considers the combined effects of the level of the ground-borne vibration and the duration of vibration generating events and, as such, is suited for the assessment of transient sources such as train passbys.

The ToR requires potential ground-borne vibration impacts to be assessed with reference to British Standard BS 6472 Part 1[3] and the DTMR Policy. The Interim Guideline also includes ground-borne vibration criteria for the management of vibration from railway operations. The criteria to manage vibration disturbance impacts are generally consistent between the documents.

The vibration assessment criteria in **Table 13** were referenced from the Interim Guideline as they are specific for the assessment of ground vibration associated with railways. The British Standard advises the vibration levels in **Table 13** are expected to be just perceptible in typical residential environments, and likely to result in a low probability of adverse comment.

Table 13 Ground-borne vibration criteria for sensitive receptors

Type of development	Sensitive receptors	Internal ground-borne vibration criteria	
		Use period[1]	Vibration dose value
New railway or upgrading existing railway	Accommodation activities	Daytime and evening	≤ 0.20 m/s$^{1.75}$
		Night-time	≤ 0.13 m/s$^{1.75}$
	Educational establishments, childcare centres, health care services, hospitals, community uses, places of worship and offices	While in use	≤ 0.40 m/s$^{1.75}$ (all areas)
			≤ 0.10 m/s$^{1.75}$ (critical areas)

Note 1 Daytime 6.00 am to 6.00 pm, evening 6.00 pm to 10.00 pm and night-time 10.00 pm to 6.00 am.

The vibration criteria in **Table 13** are for sensitive receptors buildings, some scientific equipment (for example, electron microscopes and microelectronics manufacturing equipment) can require more stringent design goals than those applicable to human comfort

[3] British Standards, 2008. BS 6472-1:2008 *Guide to evaluation of human exposure to vibration in buildings. Vibration sources other than blasting*.

The referenced guidelines do not include ground-borne vibration criteria for scientific equipment at medical facilities. SLR conducted a review of other guidelines on vibration to determine the ground-borne vibration criteria in **Table 14** for sensitive scientific equipment and highly sensitive areas such as operating theatres.

Table 14 Ground-borne vibration criteria for scientific equipment

Type of development	Typical sensitive rooms	Internal ground-borne vibration criteria	
		Use period	RMS vibration velocity[1]
New railway or upgrading existing railway	Microsurgery, eye surgery and neurosurgery rooms[2]	At all times	0.025 mm/s
	Operating theatres, precision laboratories and audiometric testing booths[3]	At all times	0.1 mm/s
	General laboratories[2]	At all times	0.4 mm/s

Note 1 Root Mean Square vibration velocity level.

Note 2 Source ASHRAE 2007 'Sound and Vibration Control'. These values are maximum one-third octave levels, frequency range 8 Hz to 80 Hz.

Note 3 Source UK Department of Health document 'Acoustics: Technical design manual 4032:0.6: England'. Maximum allowable vibration levels for low probability of adverse comment for continuous vibration are stipulated in terms of W_g-weighted accelerations and equivalent vibration velocities (8-80 Hz) have been presented. These values are overall levels.

The criteria in **Table 14** are based on continuous sources of vibration and guidelines for the purpose of a screening assessment of potential vibration impacts at highly sensitive building uses. Specific vibration assessment criteria may be applicable based on manufacturers requirements for a range of different types of equipment, this can only be determined once the equipment within each room is known.

3.4.2 Ground-borne vibration criteria for heritage sites

Buildings which possess architectural, aesthetic, historic or cultural values may have certain sensitivities to vibration with respect to their long-term preservation. In lieu of specific ground-borne vibration criteria for heritage sites in the DTMR Policy and Interim Guideline, a discussion of various standards relevant to vibration and its effects on buildings is provided in **Table 15**.

Table 15 Referenced standards associated with cosmetic building damage risk

Reference	Notes
British Standard BS 5228.2[4] British Standard BS 7385.2[5]	This standard notes that BS 7385-2 and BS ISO 4866:2010 provide guidance on vibration measurement, data analysis and reporting as well as building classification and guide values for building damage. BS 7385.2:1993 provides frequency dependent threshold levels which are judged to give a minimal risk of vibration-induced damage.
German Standard DIN 4150.3[6]	DIN 4150.3 prescribes levels as 'safe limits', up to which no damage due to vibration effects has been observed for the class of building. 'Damage' is defined by DIN 4150.3 to include even minor non-structural effects such as superficial cracking in cement render, the enlargement of cracks already present, and the separation of partitions or intermediate walls from load bearing walls. DIN 4150.3 also states that when vibration levels higher than the 'safe limits' are present; it does not necessarily follow that damage will occur. Site specific criteria may be determined in conjunction with professional civil and/or structural engineering input based on the existing level of building condition and serviceability.

[4] British Standard, BS 5228.2-2009/2014-*Code of practice for noise and vibration control on construction and open sites–Part 2: Vibration*.

[5] British Standard, BS7385-2:1993 *Evaluation and measurement for vibration in buildings*.

[6] DIN 4150-3 2016 Structural Vibration Part 3 – *Effects of vibration on structures*.

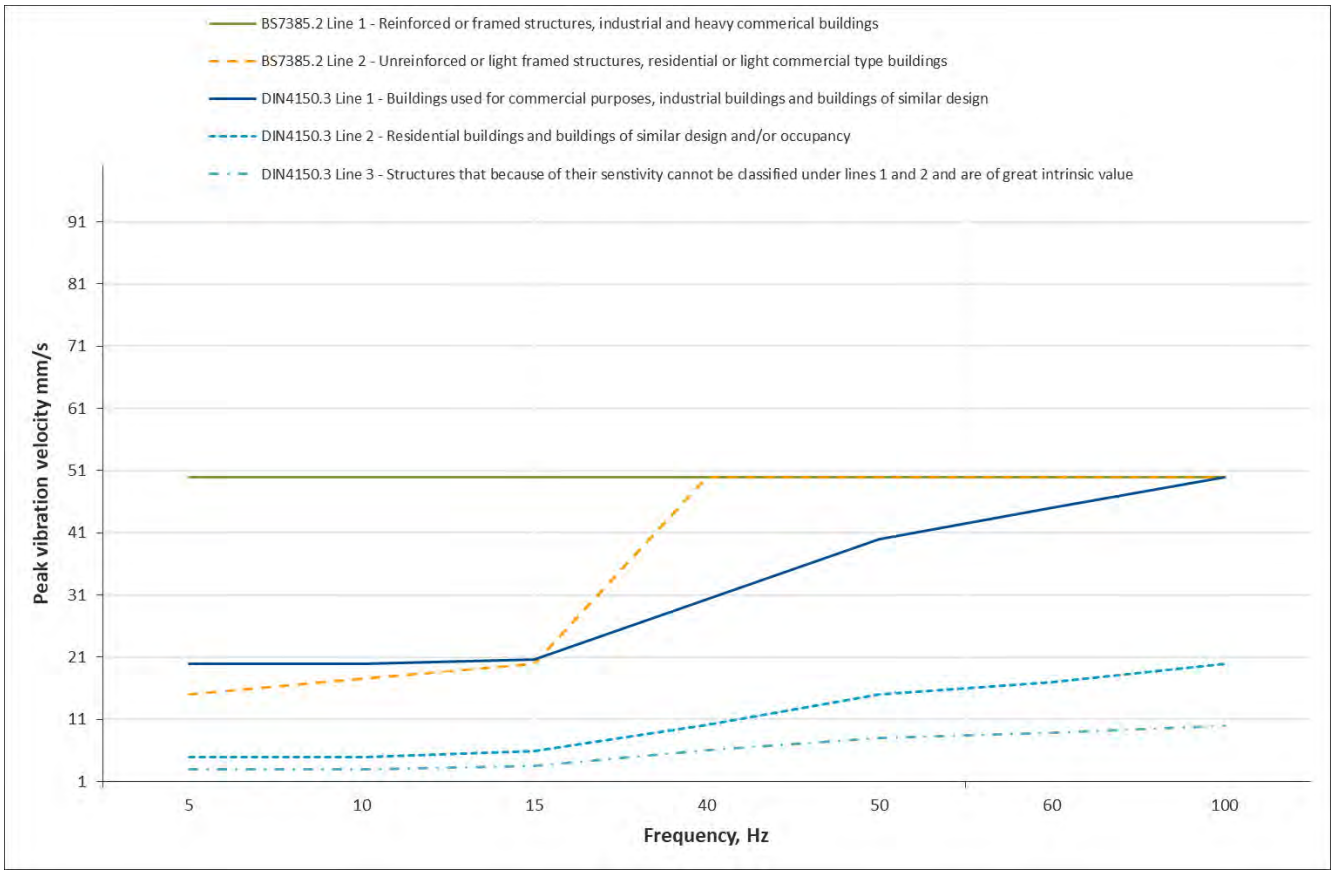
The Peak Particle Velocity (PPV) metric is applied as a measure of the maximum movement of the particles in the ground as a result of vibrations created from sources such as train passbys. It is commonly applied to evaluate the potential response of buildings and structures when exposed to vibration energy.

At the EIS stage, it is not possible to forecast with reasonable certainty the dominant (or resonant) frequencies of vibration at each building during train passby events. The vibration criteria, irrespective of frequency, that is essentially the lowest applicable value, is a conservative assessment approach.

Based on **Table 15**, the relevant PPV guidance values for assessment of ground-borne vibration at heritage sites are presented in **Figure 8**. From the figure it can be seen that Line 3 of DIN 4150.3 is the lowest, most conservative vibration level, including where the vibration levels for Line 2 of BS 7385.2 are reduced by 50% where there is concern over continuous vibration generating 'dynamic magnification' resonance effects.

The German Standard DIN 4150.3 recommends a V_{PPV} objective of 3 mm/s at low frequencies increasing to around V_{PPV} 8 mm to 10 mm/s at frequencies above 50 Hz for sensitive structure with great intrinsic value (refer Line 3 DIN 4150.3). The 3 mm/s vibration level has been adopted as the vibration objective to provide conservative assessment of potential impacts to heritage sites.

Figure 8 Guidance values for short term vibration



3.5 Ground-borne noise guidelines

The ground-borne vibration from train passbys can be sufficient to cause floors or walls of the structure to vibrate and this can result in an audible low frequency rumble inside buildings. This is termed as ground-borne noise or regenerated noise.

ARTC is applying the criteria in **Table 16** to assess potential for ground borne noise impacts on the Project. The assessment criteria were developed with reference to ground-borne noise criteria from the Interim Guideline and other railway noise and vibration guidelines.

Table 16 Ground-borne noise trigger levels

Type of development	Sensitive receptors		Internal ground-borne noise trigger levels	
			Use period[1]	LASmax[2]
New railway or upgrading existing railway	Accommodation activities		Daytime	≤ 40 dBA
			Evening and night-time	≤ 35 dBA
	Educational establishments, Childcare centres, Health care services and Hospitals		While in use	≤ 35 dBA
	Community uses, places of worship & Offices			≤ 40 dBA
	Court of law	court rooms		≤ 30 dBA
		reporting, transcript areas, Judges' chambers		≤ 35 dBA

Note 1 Daytime 7.00 am to 6.00 pm, evening 6.00 pm to 10.00 pm and night-time 10.00 pm to 7.00 am.

Note 2 Maximum noise level not exceeded for 95% percent of rail passby events.

The criteria generally trigger the investigation of reasonable and practicable measures for the management and control of ground-borne noise (and vibration) where the rail induced ground-borne noise levels are higher than the airborne noise from the railway operations. In such circumstances there is potential for the ground-borne noise from train passbys to be audible within habitable rooms.

4 Assessment methodology

The assessment of noise and vibration from the railway operations applied the following methodology:

- A desktop survey was undertaken to identify sensitive receptors within a 2 km radius of the Project alignment. An area greater than 112 km^2 (>11,200 hectares) was applied as the study area for railway noise and vibration.
- The study area was constrained to the limits of the Project extents. Railway noise and vibration levels at sensitive receptors near to the Project extents are being assessed on the corresponding Border to Gowrie and Helidon to Calvert projects on Inland Rail.
- The applicable assessment criteria for airborne noise, ground-borne noise and ground-borne vibration were determined with reference to the relevant regulatory guidelines defined in the ToR and ARTC's proposed approach for managing noise and vibration on Inland Rail.
- Noise and vibration assessment scenarios were determined for the proposed rail operations based on the project description and the requirements of the ToR. The year 2027 was applied for assessment of noise and vibration at the commencement of operations and the year 2040 was adopted as the year where rail operations would be at the designed freight capacity.

- The principle sources of airborne noise, ground-borne noise and ground-borne vibration from the operation of rollingstock were identified and each source was assigned an appropriate emission level.
- A detailed noise prediction model was developed for the calculation of airborne railway noise levels from rollingstock operations and associated sources of noise, including idling trains at crossing loops.
- The potential ground-borne vibration and ground-borne noise levels from rollingstock operations on the ground-level track and within the Toowoomba Range Tunnel were calculated based on ground-borne vibration levels from comparable rail freight movements.
- The predicted airborne noise, ground-borne vibration and ground-borne noise levels were evaluated against the assessment criteria and the requirements of the ToR.
- The investigation of reasonable and practicable mitigation measures was triggered where the predicted levels were above the assessment criteria.
- The consideration of mitigation measures was not constrained by compliance to the assessment criteria, options for mitigation have been recommended as part of the overall strategy to minimise the potential noise and vibration impacts of the Project through the implementation of best practice environmental management.
- The potential for residual impacts at sensitive receptors, after mitigation is implemented, was evaluated and recommendations were prepared for future noise and vibration assessment and monitoring works through the detailed design.

5 Existing environment

5.1 Sensitive receptors

The DTMR Policy and Interim Guideline identify the typical receptors that can be potentially sensitive to noise and vibration from railway operations. The description of the various sensitive receptors is detailed in **Table 17**.

Table 17 Sensitive receptors

Sensitive receptors	Inclusions
Accommodation activities	Caretaker's accommodation, community residence, dual occupancy, dwelling house, dwelling unit, home-based business, multiple dwelling, nature-based tourism, non-resident workforce accommodation, relocatable home park, residential care facility, resort complex, retirement facility, rooming accommodation, rural workers' accommodation, short term accommodation and tourist park.
Education establishments	Primary and secondary schools, colleges, technical institutes, universities or other educational institutions.
Childcare centres	Crèches, early childhood centres, kindergartens and preschools.
Health care services	Medical centres, health clinics, surgeries and other medical institutions.
Hospitals	-
Community uses	Courts of law, art galleries, community halls, libraries and museums.
Places of worship	-
Offices	-
Mixed use	A mix of the uses listed above.

Source Section 2.1 DTMR *Interim Guideline*, operational Railway Noise and Vibration, Government Supported Transport Infrastructure, March 2019.

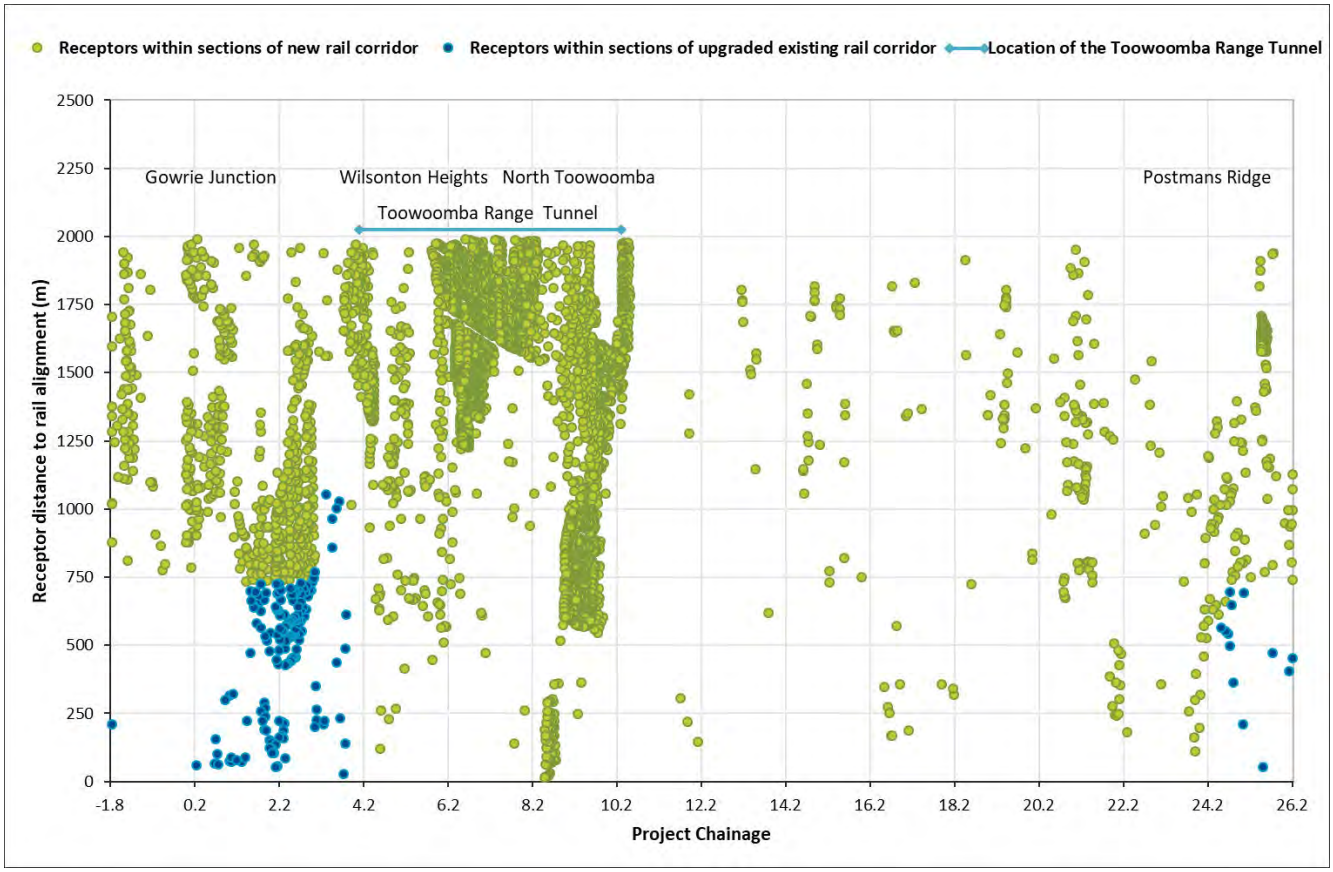
To determine the sensitive receptors included in the assessment of railway noise and vibration, all buildings over 9 m^2 within the study area of the Project alignment were identified from a national geospatial dataset of buildings from 2018. A total of 6,263 buildings were identified within the study area and each building was assigned a unique identification number for the purpose of the assessment.

The buildings that were clearly identified from aerial imagery as non-sensitive, such as hoppers, sheds and warehouses were retained in the assessment as they could provide screening of rail noise levels at nearby sensitive receptors. Railway noise and vibration levels were not assessed at non-sensitive buildings.

At least four buildings were identified within the future railway alignment and disturbance footprint of the Project and were excluded as it is likely they will be acquired by the Constructing Authority.

Of the buildings identified, approximately 3,910 receptors were identified as being potential noise and vibration sensitive receptors within the study area. The location of these sensitive receptors along the Project alignment is presented in **Figure 9**. The individual sensitive receptors are detailed in the maps provided in **Appendix A**.

Figure 9 Distribution of sensitive receptors along the Project alignment



Note Some receptors are in the same location and the markers in the above figure may represent more than one receptor.

5.2 Sensitive receptors other than residences

A review of geospatial and land-use databases was referenced to identify buildings that could include sensitive receptors other than individual residential properties. The buildings and property in **Table 18** were included in the assessment of noise and vibration and sensitive receptors.

Table 18 Non-residential sensitive receptors

Receptor name	Town	Classification
Gowrie State School	Gowrie Junction	Education institution
Toowoomba Christian Fellowship	Birnam	Place of worship
Teen Challenge Toowoomba	Cranley	Medical/ social services
Baillie Henderson Hospital and Health Services	Cranley	Hospital and medical centres
New Hope Church	Harlaxton	Place of worship
Toowoomba North Church of Christ	Harlaxton	Place of worship
Gateway Church Toowoomba	Harlaxton	Place of worship
Harlaxton Neighbourhood Centre	Harlaxton	Recreation
Taoist Tai Chi Society of Australia	Harlaxton	Recreation
Harlaxton Community Hall	Harlaxton	Recreation
Reg Veacock Park	Harlaxton	Recreation
Blue Mountains Reserve	Harlaxton	Recreation
North Ruthven Reserve	Harlaxton	Recreation
Perry Street Park	Harlaxton	Recreation
Harlaxton Park	Harlaxton	Recreation
Harlaxton Blocks Park	Harlaxton	Recreation
Wilsonton Congregation of Jehovah's Witnesses	Wilsonton Heights	Place of worship
Kate's Place Early Education & Child Care	North Toowoomba	Childcare centre
Youth & Community Learning Centre	North Toowoomba	Recreation
Kate Street Park	North Toowoomba	Recreation
Riding for the Disabled	Mount Kynoch	Recreation/ community use
Downlands Sacred Heart College	Toowoomba	Education institution
Rockville Primary School	Rockville	Education institution
Parkland Hilltop Crescent	Blue Mountains Heights	Recreation
Norris Playground	Blue Mountains Heights	Recreation
Toowoomba Kart Club	Postmans Ridge	Recreation

5.3 Heritage sites

Referencing the cultural heritage surveys for the Project, the 42 non-Indigenous sites (areas of interest) in Table 18**Table 19** were identified as sites of potential heritage significance. Details of each site are provided in *Appendix S: Non-Indigenous Heritage Technical Report*[7].

Of the sites which are described as homesteads, all were identified as being sites of existing residences and were included as noise sensitive residential receptors in the assessment of operational railway noise. A total of 15 sites were identified as having no evidence of historical structure or other heritage items and were not considered further in the assessment.

[7] Future Freight Joint Venture, 2020. *Helidon to Calvert, Appendix S – Non-Indigenous Cultural Heritage Technical Report.*

Table 19 Non-Indigenous heritage sites

Site ID[1]	Site name	Site description	Proximity to the Project
G2H-19-H01	Draper Road Bridge[1]	Submerged timber post structures Outside Project disturbance footprint.	Greater than 275 m
G2H-19-H02	Draper Road Structure[1]	Property has been cleared Outside Project disturbance footprint.	Greater than 275 m
G2H-19-H03	Draper Road Railway Station[1]	Small collection of sandstone boulders Outside Project disturbance footprint.	Greater than 275 m
G2H-19-H04	Draper Road Hall[1]	No visible structures on the site Outside Project disturbance footprint.	Greater than 275 m
G2H-19-H05	Draper Road Single Structure[1]	No evidence of heritage structures, some artefacts discovered.	30 m
G2H-19-H06	Homestead on Paulsens Road	A timber clad weatherboard house on stumps and large shed (SLR ID 315157)	50 m
G2H-19-H07	Homestead on Paulsens Road	A timber clad weatherboard house (SLR ID 315224)	50 m
G2H-19-H08	Homestead on Paulsens Road	A timber clad house on stumps (SLR ID 315171)	50 m
G2H-19-H09	Old Homebush Road Bridge[1]	No evidence of bridge structures	150 m
G2H-19-H10	Old Homebush Road Mill/ Factory[1]	No evidence of former structures	220 m
G2H-19-H11	Intersection Old Homebush Road – Paulsens Road[1]	No evidence of former structures	95 m
G2H-19-H12	Gowrie Mill/ Factory[1]	No evidence of former structures	25 m
G2H-19-H13	Gowrie Junction Railway Station	Redundant concrete retaining structure	13 m
G2H-19-H14	Gowrie Junction Road Structure	Two timber clad houses on stumps (SLR ID 315031)	170 m
G2H-19-H15	Junction Street Hotel[1]	No evidence of hotel structures	150 m
G2H-19-H16	Junction Street Structures	Sandstone and concrete posthole, some artefacts discovered.	45 m
G2H-19-H17	Morris Road Structure[1]	No evidence of heritage structures	20 m
G2H-19-H18	Boundary Road Strucutures[1]	No evidence of heritage structures	500 m
G2H-19-H19	Hermitage Road Single Structure	Large broken windmill, metal water tank on timber stumps. Other smaller timber structures.	270 m
G2H-19-H20	Goombungee Road Single Structure[1]	No evidence of heritage structures	200 m
G2H-19-H21	New England Highway Structure[1]	No evidence of heritage structures	80 m
G2H-19-H22	Railway Corridor Gatton[1]	No evidence of heritage structures	150 m
G2H-19-H23	Jones Road Multiple Structures	Residence and sheds over 100 m from Project alignment. (SLR ID 313904). Outcrop with potential Indigenous artefacts 50 m from Project alignment	50 m to >140 m

Site ID[1]	Site name	Site description	Proximity to the Project
G2H-19-H24	Bells Road Multiple Structures	Dairy comprising timber clad building and small timber frame corrugated iron sheds. Fallen windmill in disrepair.	590 m
G2H-19-H25	Bicentennial National Trail Marker[1]	No evidence of heritage structures	165 m
G2H-19-H26	Howmans Road Multiple Structures	Timber framed dairy and sheds, in use. Two timber framed and weatherboard clad residences (SLR IDs 314727 and 314769)	330 m
G2H-19-H27	Cattos Road Structure	Timber shed and stables	160 m
G2H-19-H28	Airforce Road Single Structure[1]	No evidence of heritage structures	130 m
G2H-19-H29	Airforce Road Siding North[1]	No evidence of heritage structures	55 m
G2H-19-H30	Airforce Road Culvert	Box sandstone culvert under the existing main line.	Within existing rail corridor

Source Appendix S: Non-Indigenous Cultural Heritage Technical Report.

Note 1 Evidence of historical structures or other heritage items was not identified in Appendix S: Non-Indigenous Cultural Heritage Technical Report.

5.4 Existing noise environment

A baseline environmental noise survey was undertaken in 2018 to quantify and characterise the noise environment surrounding the Project alignment. The noise survey was conducted by the Future Freight Joint Venture to support the assessment of noise from the construction of the Project. A summary of the survey is provided below with the noise monitoring survey detailed in *Appendix O: Noise and Vibration (Construction, Fixed Infrastructure and Operational Road Noise).*

Existing noise levels were monitored at 10 locations selected to be representative of the nearest communities to the Project. The monitoring surveys were principally to define the daily environmental noise levels rather than specifically quantify existing railway noise levels.

The Rating Background Levels (RBL) determined from the monitoring survey are summarised in **Table 20** and confirm that the existing noise levels are generally low, typically below 40 dBA during the daytime and evening and below 35 dBA during the night-time.

The RBLs are characteristic of the steady-state suburban and rural noise environments where the main sources of noise are local road traffic, residential activities and natural sources, such as windblown vegetation and bird song. The noise levels highlight the potential sensitivity of the environment to the introduction of additional sources of noise and this was considered by ARTC when proposing the noise management criteria for the Project.

Table 20 Existing environmental noise levels

Monitoring location	Rating background levels, dBA		
	Daytime	Evening	Night-time
G2H_01 Paulsens Road, Gowrie Junction	36	37	31
G2H_02 Junction Street, Gowrie Junction	40	41	32
G2H_03 Morris Road, Gowrie Junction	38	39	36
G2H_04 McShane Drive, Mount Kynoch	46	45	37
G2H_05 O'Brien Street, Harlaxton	41	42	32

Monitoring location	Rating background levels, dBA		
	Daytime	Evening	Night-time
G2H_06 Hillsadale Crescent, Blue Mountain Heights	35	34	30
G2H_07 Coonan Street, Harlaxton	45	41	31
G2H_08 Gittins Road, Withcott	31	33	36
G2H_09 Rossiters Road, Lockyer	32	29	27
G2H_10 Ashlands Drive, Helidon Spa	34	31	29

Note Daytime is 7.00 am to 6.00 pm, evening is 6.00 pm to 10.00 pm and night-time is 10.00 pm to 7.00 am.

Source Appendix O: Construction Noise and Vibration Assessment Technical Report.

5.5 Existing railway noise levels

The Project is collocating within sections of the existing QR West Moreton System rail corridor. The assessment of railway noise where the Project is within the QR West Moreton System rail corridor was required to consider the railway noise from both the existing rail movements, which shall still operate with the Project, and the additional railway operations facilitated by the Project.

For large-scale transport infrastructure such as the Project, the existing railway noise levels at sensitive receptors are often determined through detailed calculation. A noise prediction model was applied to determine the potential daytime and night-time existing railway noise levels within the study area.

The noise prediction modelling methodology is detailed in **Section 6** and the calculated railway noise levels for the existing rail corridor are detailed in **Section 7**.

6 Railway noise modelling

6.1 Prediction of railway noise

Noise emissions from the railway operations on the Project were calculated through detailed noise predictions using the SoundPLAN (version 7.4) noise modelling software. The noise prediction model included a detailed terrain model to develop a 3-dimensional (3D) representation of the Project and the study area.

The terrain datasets comprised elevation contours of the existing ground and the Project designs at 0.5 m to 2 m intervals to recreate in detail the rail and road civil earthworks and infrastructure and the surrounding environment. The resultant terrain model represented the future environment with the Project.

The vertical and horizontal designs for the Project were digitised in the model, including cuttings, embankments, tunnel portals and the track formation (earthworks and track ballast). The elevated structures for the bridges and viaducts were modelled at the height above ground level consistent with the Project designs. The base of the elevated structures was digitised to represent the concrete spans that form the main bridges and viaducts with the rail track (inclusive of ballast) modelled on top of the spans.

The buildings for the sensitive receptors and non-sensitive structures were set to the mean ground height. Building heights were determined from the referenced geospatial database, where the building height was not reported a 5 m building height was adopted as being representative of the single storey residences that are common in rural areas.

The adopted building height would be conservative for non-sensitive buildings and structures, such as grain hoppers, sheds and warehouses which could shield railway noise.

The Interim Guideline recommends noise levels are calculated at a height of 1.5 m or 1.8 m above the finished floor level of the ground floor. In lieu of the known building construction for the sensitive receptors a conservative approach was adopted to assess noise levels at 2.4 m above ground level at the centre of each façade on the sensitive receptor buildings.

The adopted receptor calculation height considered that many properties in the rural environment are elevated on stumps or a traditional Queenslander property construction. As such, the ground floor of the properties is likely to be above the conventional 1.5 m or 1.8 m receptor heights.

Furthermore, the majority of the rail tracks on the Project are elevated above the surrounding ground level, either on constructed earthworks or the bridges and viaducts. The 2.4 m receptor calculation height allowed calculation of railway noise with a more direct line of sight between the rails and the receptor facades and represents a conservative approach to modelled noise levels.

All external railway noise predictions were adjusted by +2.5 dBA to determine the façade corrected noise level, as required by the Interim Guideline.

The immediate area 600 m either side of the rail corridor was modelled with a ground absorption coefficient of zero (0) to be representative of a hard, reflective ground surface. Further than 600 m from the rail corridor a ground absorption coefficient of 0.6 was adopted to be representative of the mixed soft and hard ground areas within the environments further from the rail corridor.

To calculate noise emissions from the operation of rollingstock, the model applied the Nordic Rail Traffic Noise Prediction Method (Kilde 130) methodology[8]. The SoundPLAN modelling software and the Nordic prediction methodology are widely applied in Australia for the prediction of railway noise levels and are endorsed as acceptable methodologies under the DTMR guidelines.

To confirm the suitability of the noise modelling on the Queensland sections of Inland Rail, a survey of existing railway noise levels was undertaken in 2019 at discrete locations on the QR West Moreton System rail corridor. Details of the monitored railway noise levels and the noise model verification are provided in **Appendix B**.

6.2 Daily railway operations

6.2.1 Existing railway operations

To calculate the existing railway noise levels, the typical daily train movements on the QR West Moreton System were determined from monthly rail operations supplied by DTMR and ARTC.

The adopted existing daily general freight and coal train services are detailed in **Table 21**.

[8] M. Ringheim, 1984, *Kilde Report 130 – Background Material for the Nordic Rail Traffic Noise Prediction Method*.

Table 21 Daily train movements on the existing rail corridors

Train service	Train movements[2,3]		
	Daytime	Night-time	Total 24-hour period
QR West Moreton System – east of Toowoomba			
General freight services[1]	1	1	2
Coal services	14	10	24
QR West Moreton System – west of Toowoomba			
General freight services[1]	0	0	0
Coal services	14	10	24

Note 1 General freight services includes services such as grain and livestock and exclude maintenance, shunting and tuition services.

Note 2 Two infrequent weekly passenger (heritage) services were excluded.

Note 3 The train movements are the total northbound and southbound rail traffic in each 24-hour period. A 50:50 distribution of traffic in the northbound and southbound directions was assumed in the noise modelling.

The calculation of railway noise from existing operations on the QR West Moreton System applied a line speed of 60 km/h for all train services between Cranley and Postmans Ridge and 80 km/h for all train classes outside this area. The locomotive class and train length for the purpose of calculating the noise from existing rail services is summarised in **Table 22**.

Current services on the QR West Moreton System are understood to typically have two locomotives and a consist of up to 50 wagons. This information was applied to assess a typical train length.

Table 22 Train lengths and locomotive class

Train service	No. locomotives	Total locomotive length	Length of wagons	Total train length
West Moreton System				
General freight services[1] (NR class)	2	44 m	850 m	894 m
Coal services[1] (82 class)	2	36 m	850 m	886 m

Note 1 The NR class locomotives have been adopted to represent the range of locomotives operating on the existing QR network.

6.2.2 Future daily train movements with Inland Rail

The daytime and night-time train movements on the Project were provided by ARTC for the assessment of operational railway noise for the year the Project commences (2027) and the design year (2040). The daily train movements associated with the Project included the following principles:

- Daily train numbers include the existing freight and coal services that will be accommodated on the Project.
- The future number of coal services changes from existing railway operations as the future coal trains are anticipated to be longer, which would reduce the number of existing daily services.
- Train movements in each time period are the combined northbound and southbound movements. For the purpose of the assessment the northbound and southbound rail movements were evenly distributed in the northbound and southbound directions.
- Noise assessment only considers whole trains so the train movements in each daytime and night-time period were rounded up to integers. The approach resulted in the daily train numbers being marginally higher than the actual daily train movements forecast for the Project.

The daily train movements are detailed in **Table 23** for project opening in year 2027.

Table 23 Daily train movements on the Project (year 2027)

Train service	Train movements		
	Daytime	Night-time	Total 24-hour period
Year 2027 project commencement			
Inland Rail Express	2	2	4
Inland Rail Superfreighter	5	3	8
Toowoomba Export Container freight	1	0	1
Narrabri Export Container freight	1	1	2
Queensland grain, Narrabri to Fisherman Island	1	1	2
Queensland cotton	0	1	1
Queensland grain services	4	1	5
SEQ Livestock	1	1	2
Coal services	7	8	15
Daily totals year 2027 project commencement	**22**	**18**	**40**

Note 1 Daytime is 7.00 am to 10.00 pm and night-time is 10.00 pm to 7.00 am.

The daily train movements are detailed in **Table 24** for the design year (year 2040).

Table 24 Daily train movements on the Project (year 2040)

Train service	Train movements		
	Daytime	Night-time	Total 24-hour period
Year 2040 design year			
Inland Rail Express	2	2	4
Inland Rail Superfreighter	8	3	11
Toowoomba Export Container freight	1	0	1
Narrabri Export Container freight	1	1	2
Queensland grain, Narrabri to Fisherman Island	1	1	2
Queensland cotton	0	1	1
Queensland grain services	5	1	6
SEQ Livestock	1	1	2
Coal services	9	11	20
Daily totals year 2040 design year	**28**	**21**	**49**

Note 1 Daytime is 7.00 am to 10.00 pm and night-time is 10.00 pm to 7.00 am.

6.3 Operational railway noise model inputs

6.3.1 Train speeds

The trains on the Project are required to operate at their designated line speed of up to 105 km/h for the Inland Rail Express and Inland Rail Superfreighter services. The other rail services will operate at up to 80 km/h.

The train speeds supplied by ARTC included a modelled 8 per cent reduction in the designated line speed to account for driver behaviour. The train speed will not be constant throughout the alignment, and the noise modelling applied speed profiles for each train type with the train speed detailed at 10 m intervals along the Project alignment.

To manage the railway operations, some trains will be required to slow down to access the crossing loops and then, on departure from the crossing loop, accelerate back up to the line speed.

Examples of the train speed profiles adopted in the noise modelling are presented in **Figure 10** (eastbound) and **Figure 11** (westbound). The acute changes in train speed are associated with entry to and exit from each crossing loop.

Figure 10 Example track speed profiles, Gowrie to Helidon direction

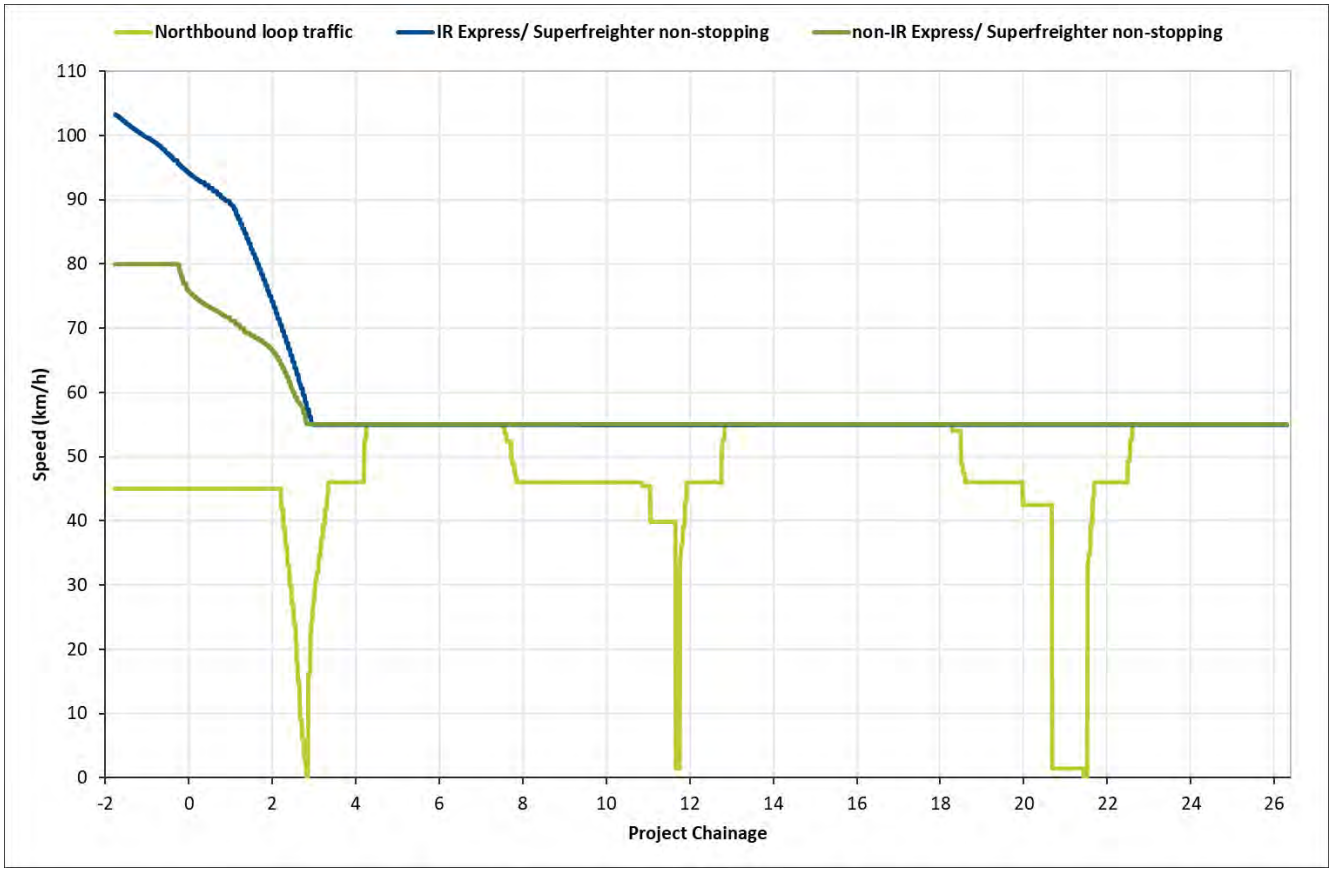
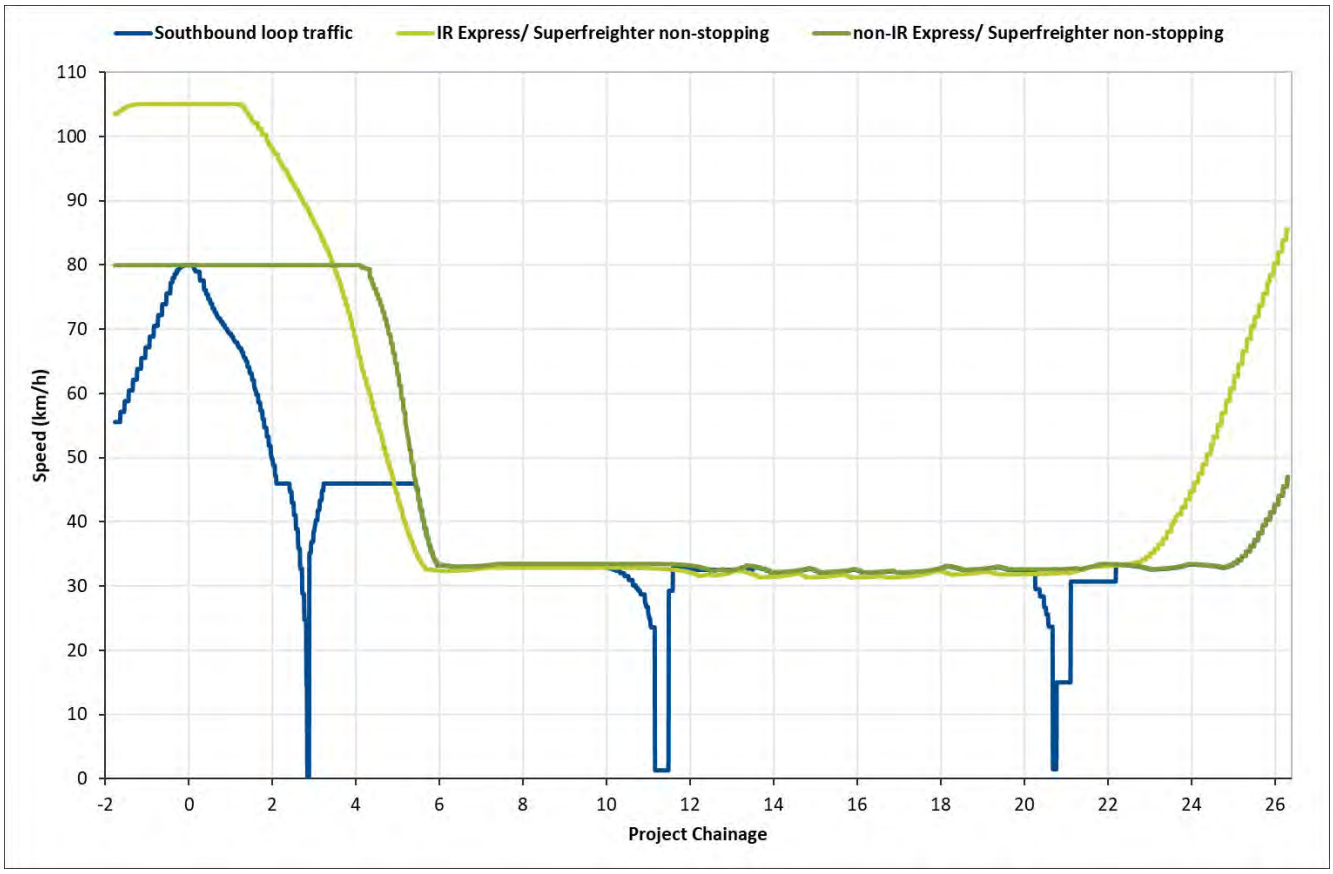


Figure 11 Example track speed profiles, Helidon to Gowrie direction



6.3.2 Track gradient and locomotive notch setting

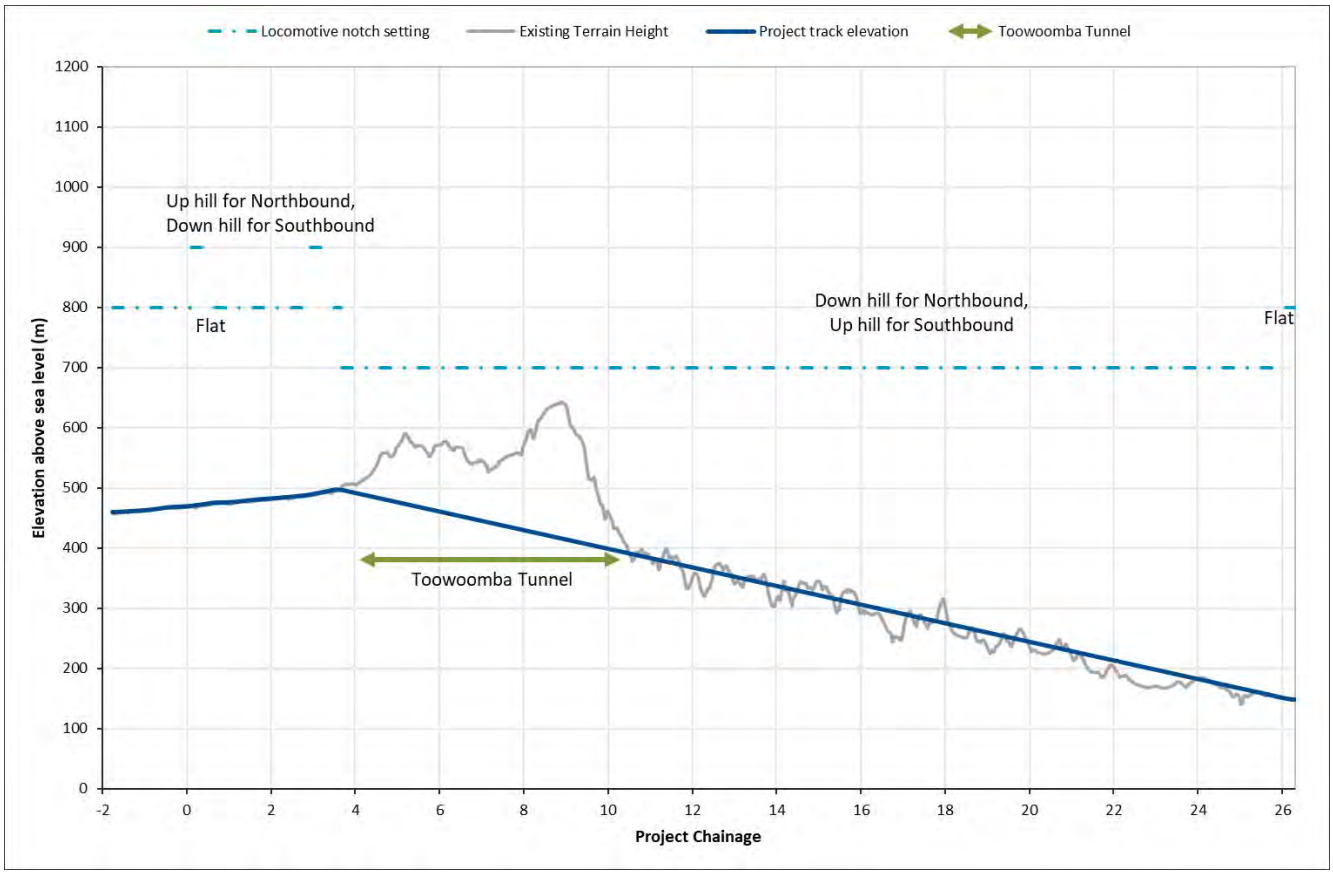
To control the speed of the trains, the locomotives have a series of throttle controls, known as notches. Most locomotives have up to eight notches and follow the operational principles below. The notch setting is related to the noise emission, with higher notch settings generally causing higher noise levels. The noise prediction modelling applied the following principles for the assessment of locomotive notch settings:

- When operating on relatively flat or moderate gradients the locomotive would generally be operated at a medium notch setting (notch settings 3, 4 or 5).
- On downhill gradient track trains are often in low notch setting or can use dynamic braking where the traction motors that drive each locomotive axle are used to slow the train. Dynamic braking can be a source of additional noise as the radiator cooling fans are used to dissipate heat energy.
- For uphill gradients the load is increased which requires high notch settings (notch setting 6, 7 or 8). Often on uphill sections the train can be operating at lower speeds but at a higher notch setting.

At this stage of the design, the specific notch operations of the locomotives as they traverse the alignment was not confirmed. For the purpose of assessment, a gradient of 1 in 100 or less was applied to identify areas where uphill and downhill sections may require a high notch setting or dynamic braking. In practice, the selection of notch settings and dynamic braking will be determined by the driver. The 1 in 100 gradient was adopted to provide a conservative allowance for such events.

The track elevation for the Project and the notch settings and dynamic braking applied in the assessment of airborne noise are shown in **Figure 12**.

Figure 12 Track elevation and locomotive notch setting



6.3.1 Train lengths and locomotives classes

The length of each train type and the number of locomotives, for the future railway operations with the Project, is shown in **Table 25**. The train data was derived from ARTC's forecast daily train movements for Inland Rail.

Table 25 Train lengths and locomotive class

Train service	No. locomotives	Total locomotive length	Length of wagons	Total train length
Inland Rail Express (NR class)	3	66 m	1,680 m	1,746 m
Inland Rail Superfreighter (SCT class)	2	44 m	1,700 m	1,744 m
Toowoomba Export Container freight (82 class)	2	44 m	600 m	644 m
Narrabri Export Containers (82 class)	2	44 m	580 m	624 m
Queensland grain, Narrabri to Fisherman Island (PR22L class)	3	54 m	800 m	854 m
Queensland cotton (PR22L class)	3	54 m	800 m	854 m
Queensland grain services (PR22L class)	3	54 m	560 m	614 m
SEQ Livestock (PR22L class)	3	54 m	800 m	854 m
Coal services[1] (PR22L class)	3	54 m	920 m	974 m

Note 1 Train operations for all coal services were supplied to SLR with the same train length and locomotive class.

6.3.2 Source noise levels

Modelling of noise from railway operations requires defined source noise emission levels for the various classes of locomotives and rail wagons proposed to operate on the Project. For railway infrastructure projects in Queensland, the rollingstock noise emissions are often referenced from a noise emission database maintained by QR. The database is specific to rollingstock operating on existing rail networks in Queensland and does not provide the noise emission data for all the rollingstock proposed for the Project and Inland Rail.

The Transport for NSW (TfNSW) Asset Standards Authority (ASA) Stage III Rail Noise Database was referenced by this assessment to provide a source noise emission inventory for the locomotive classes proposed for Inland Rail. The TfNSW database defines reference noise levels for Australian rollingstock for use in commercial noise modelling software packages to conduct airborne noise predictions under a range of operating scenarios.

The database contains over 840 measurements of freight and passenger rail sources, including rail freight proposed on the Project. The noise levels were measured and analysed in line with procedures outlined in specific railway noise standards; International Standards Organisation ISO 3095[9] and Australian Standard AS 2377[10].

As part of the assessment, the rail source noise emission levels derived from the TfNSW ASA database were validated against the ARTC Pollution Reduction Programme Rail Noise Study, which was prepared by ARTC to evaluate locomotive noise as part of ARTC's pollution reduction program.

Inland Rail may utilise the PR22L class locomotives on to the rail network. The referenced sound exposure levels (SEL) and L_{Amax} noise emission levels for the PR22L class locomotive were determined from measurement of train passbys where the locomotive class currently operates in Australia.

The following principles were applied when determining the source noise emission levels for rollingstock:

- The SEL and maximum (L_{Amax}) noise emission levels are derived for each locomotive and set of wagons i.e. per unit.
- Noise emission levels are presented for a standardised train speed of 80 km/h at a distance of 15 m from the track centreline.
- The noise levels for freight wagons account for a variety of wagon classes. The freight wagon reference noise levels are representative of typical wagon operations, and do not include a correction for increased noise levels that can result from unique operational influences (such as heavy braking) or significant defects (such as major wheel flats or bearing failures).
- Locomotive noise is determined from the required power output (notch setting) and only the rolling (wheel-rail) noise emissions for the wagons have been normalised to a speed of 80 km/h.
- The SEL noise level for an individual locomotive or consist of wagons is the logarithmic average of the referenced noise emissions levels and the L_{Amax} emission level is the overall 95th percentile L_{Amax} value derived from the database of noise measurements for each locomotive class or wagons.
- The source noise levels assume the track is in good condition and that the running surface of the rail head is free of defects. Wheel tread condition is also assumed to be in good to fair condition.

[9] International Standards, 2013. ISO 3095 *Railway applications – Acoustics – Measurement of noise emitted by railbound vehicles*.
[10] Standards Australia, 2002. AS 2377 *Acoustics – Methods for the measurement of railbound vehicle noise*.

The referenced noise emission levels assume each train emits the same noise level and is therefore a typical worst-case noise generating event. Similarly, the method does not allow for deriving an arithmetic average of a range of maximum (L_{Amax}) noise levels for each train type as this could potentially result in lower daytime and night-time maximum noise level predictions.

The source noise emission levels for each rollingstock category are detailed in **Table 26**. Inspection of the source noise emission levels indicates that the adopted noise emission levels for the noise modelling are generally higher (more conservative) than the QR database.

Table 26 Source rail noise emission levels

Rollingstock category	Rail source elevation	Train class	Reference length	Gradient	Reference noise level, dBA[1]	
					SEL	L_{Amax}
Diesel electric locomotives	4.0 m above the top of rail	NR	22 m	Flat	85	90
				Downhill	84	90
				Uphill	90	94
		GT46C[2]	21 m	Flat	84	88
				Downhill	84	91
				Uphill	89	92
		82	22 m	Flat	83	89
				Downhill	84	94
				Uphill	88	94
		PR22L	18 m	Flat	84	91
				Downhill	84	94
				Uphill	89	94
Wagons (all consist)	Top of rail	All	1,000 m	n/a	100	90

Note 1: Reference noise levels at 80 km/h, 15 m distance from track centreline, 1.5 m above top of rail, and ISO 3095 compliant track roughness.

Note 2: GT46C ACe model locomotive encompasses SCT, LDP, TT, WH, GWA, and SSR class designations.

Conservatively, locomotive noise emissions are considered to be dominated by engine, cooling fans and exhaust systems, and for this reason the locomotive noise source is set to 4.0 m above the top of rail height to broadly represent the actual emissions of those items.

Noise emissions from wagons are considered to be dominated by 'rolling noise' generated equally by wheels and rail, so wagon noise emissions are set to the top of the rail height. On the basis that trains with defective wagons would not regularly be traversing the Project, the noise emission database does not account for local track defects, wheel flats or similar anomalies.

6.3.3 Consideration of double-stack container freight

The Project will potentially operate some trains with containers on wagons in a double-stacked configuration. Concerns were raised by stakeholders and the community that double stacking the containers could lead to significantly different wagon noise emissions. The potential noise emission levels from double-stacked containers were investigated as part of this assessment and the key outcomes are outlined below.

ISO 3095 provided general guidance on the difference in noise level resulting from changes in axle loads and notes that an approximate doubling of axle loads (increased weight) may reduce noise levels around 1 dB in L_{Aeq} terms. A variance in noise emission of 1 dB is negligible in the context of other factors which can affect rolling noise and vibration emission levels, such as wheel and track condition, speed and unsprung mass.

To support the assessment of noise on the Project, a noise and vibration monitoring survey was undertaken to investigate the potential influence of single and double stacked containers on noise and vibration emissions from freight trains. The details of the survey are provided in **Appendix C** and the survey determined the following:

- Consistent with ISO 3095, individual wagons with double-stacked containers have L_{Aeq} noise levels approximately 1 dB to 2 dB less than the individual wagons with single-stacked containers.
- Overall train passby noise levels are not significantly reduced by wagons with double-stacked containers given the minimal change in rolling noise emissions from the wagons.
- The loading of individual trains can substantially vary both in terms of the number of wagons with single-stacked and double-stacked containers but also the weight of each container on the train will vary from empty to fully loaded (a typical range of 3 to 30 tonnes).
- The overall passby noise levels, particularly L_{Amax} noise levels, are more influenced by factors other than the configurations of the containers on individual wagons.

On the basis of the above, correction factors to account for the potential configuration of containers on the wagons were not applied to the source noise emission levels in **Table 26**.

6.3.4 Track feature corrections

Impact noise from rail discontinuities such as turnouts, expansion joints or rail defects can increase noise levels from trains and are heard as impulsive noise as each train wheel passes over the discontinuity. Noise modelling correction factors were applied at each turnout to account for potential impact noise during the train passbys.

The elevated structures on the Project are proposed to be ballasted concrete bridges and viaducts. Consistent with guidelines for noise prediction modelling, the rail noise emissions for the ballast track on the concrete bridges and viaducts were assumed to have noise emission levels and characteristics as the ballasted track at ground level.

Track with tight-radius curves can experience curving noise as the train wheels negotiate the turn, typically this can occur where the curve radius is under 500 m. Recent studies have shown that elevated noise emissions from curved track vary and are dependent on a number of site specific features such as; the age and conditions of the track, track fastening type and the type and speed of the trains using the line. In cases where the curve radius is closer to 300 m or less, the curving noise levels during a train passby have been observed to be up to 21 dBA or more when compared to straight track conditions.

The Project designs includes a potentially tight radius curved track for the rail spurs where the Project alignment connects with the QR West Moreton System to the south of Gowrie Junction near to the western tunnel portal. The radius of the rail spurs are approximately 250 m and a curving noise correction of +8 dBA was applied to both the SEL and L_{Amax} noise emissions based on the Project installing a lubrication system to the newly constructed rail spurs.

The lubrication system would likely be installed as part of a strategy to control potential curving noise from the new infrastructure should the final design of the rail spurs have a track radius of less than 500 m.

The railway noise level corrections in **Table 27** were included in the railway noise prediction modelling to account for the potential influence of the rail infrastructure on the wheel-rail noise emissions.

Table 27 Noise model rail infrastructure corrections

Track feature and infrastructure	Modelling correction for wheel-rail contribution, dBA	
	SEL	LAmax[1]
Ballasted concrete rail bridges and viaducts	0	0
Each turnout	+6	+6
QR West Moreton System tie-ins (radius 250 m)	+8	+8

Note The correction factors for tight-radius curved track are based on measurements and research from rail freight networks in Australia.

6.3.5 Toowoomba Range Tunnel

To navigate the undulating topography, the Toowoomba Range Tunnel is to be located from east of Gowrie Junction to the west of Mount Kynoch. The surface rail line enters and departs the tunnel through tunnel portals at the east and west extents of the tunnel alignment. To enable the surface track to access the tunnel at formation level, each tunnel portal includes a constructed cutting within the existing terrain and forms part of the civil earthworks design for the Project.

The train movements within the tunnel are not a source of airborne noise as the noise emissions are contained within the tunnel structure. The tunnel portals are a potential source of airborne railway noise from the direct noise from the train passby and the contribution of the build-up of reverberant (reflected) sound from within the tunnel. As such, the airborne noise from the tunnel portals can be a combination of both the direct and reverberant sound during the train passbys.

For the purpose of noise prediction modelling, the noise emission for the train passbys at the tunnel portals applied the total sound radiating equally over the cross-sectional area of each tunnel portal. The sound power level of each tunnel portal is determined from the total train movements accessing the tunnel in each daytime and night-time period, the dimensions of the tunnel portal and the acoustic (absorptive) properties of the tunnel material.

The tunnel portal object within the SoundPLAN noise prediction model was utilised to calculate the railway noise from the trains at the tunnel portals during the daytime and night-time rail operations for the year 2027 and year 2040.

The adopted sound power levels for a semi-circular tunnel portal opening are summarised in **Table 28**.

Table 28 Estimated tunnel portal sound power level emissions

Railway operations	Estimated source sound power level, dBA	
	LAeq,T	LAmax
Year 2027 daytime	101	110
Year 2027 night-time	103	110
Year 2040 daytime	102	110
Year 2040 night-time	103	110

Analysis of the SoundPLAN noise model determined an additional 10 dBA contribution to the in-tunnel railway noise, to account for the potential reverberant build-up of sound, increased the overall railway noise outside the tunnel by approximately 1 dBA at 200 m from the tunnel portal where there was a direct, unobscured line of sight to the tunnel portal.

Because the nearest sensitive receptors are located more than 350 m from the tunnel portals, and each tunnel portal will be in a constructed cutting, correction factors for the in-tunnel reverberant sound were not included in the presented results. The railway noise levels at the nearest sensitive receptors to the tunnel are expected to be dominated by the railway noise from the train passbys on the track outside of the tunnels.

For the same reasons, a localised noise emission adjustment was not included where the ballast track outside the tunnel transitions with the slab track within the tunnel.

6.3.6 Train movements within the crossing loops

For the purpose of assessment, it has been assumed that approximately one in four trains per daytime or night-time period would access each crossing loop and each train could be held at the crossing loop for up to 1-hour. The details of the loop operations used in the noise prediction modelling are shown in **Table 29**.

Table 29 Proposed crossing loop occupancy

Assessment scenario	Number of trains accessing the loop per period		Total hours occupancy time per period	
	Daytime	Night-time	Daytime	Night-time
Year 2025	6	5	6	5
Year 2040	7	5	7	5

At a crossing loop the train will come to a complete stop from the main line track and idle until the train is signalled to return to the main line track. The assessment of airborne noise considered the noise emissions from the train locomotive engines idling whilst the train has stopped as well as short-lived noise events such as wagon bunching and stretching, which can result in contact noise as the wagons come together.

For the purpose of assessing typical worst-case noise levels, the noise modelling included the faster and longer Inland Rail Express and Inland Rail Superfreighter on the main line track with the other general freight types held on the crossing loops.

The noise emission for an individual locomotive at idle was modelled as 70 dBA at a distance of 15 m with a source noise emission height of 4 m above the residual ground level. Because the idling of locomotive engines is a steady-state continuous noise emission, the emission level was referenced for the L_{Aeq} and L_{Amax} noise metrics. Acknowledging that trains can access each crossing loop from either direction, the noise modelling considered idling locomotives at both extents of each crossing loop.

The source noise emission levels for rolling noise, including potential wagon bunching, were referenced from noise measurements of the existing coal and freight train movements in Queensland. The noise emission level was applied as a contribution to the L_{Amax} level as the short-lived nature of bunching noise (1 to 2 seconds per event) would not be sufficient to influence the overall daily L_{Aeq} noise levels. A source noise emission height of 1 m above residual ground level was adopted for the bunching noise sources.

The ISO 9613-2[11] method for calculating the outdoor noise propagation was applied to calculate noise levels from the trains idling on the crossing loops. The method calculates noise levels with default meteorological conditions favourable for downwind propagation of noise (wind speeds between approximately 1 m/s and 5 m/s) or under a moderate ground-based temperature inversion. Each idling locomotive and bunching noise event were modelled as individual point noise source.

The bunching sources were modelled at approximately 300 m intervals to anticipate the potential for such events along the length of the train. The noise sources for the idling trains and wagons bunching referenced the source noise emission levels detailed in **Table 30**.

Table 30 Crossing loop source emission levels

Source	Noise emission level (L_{Aeq}/L_{Amax}) at 15 m, dBA										
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	16 kHz	Overall
Idling train	47	52	47	47	57	58	69	46	39	21	70
Source	**Noise emission level (L_{Amax}) at 15 m, dBA**										
	31.5 Hz	**63 Hz**	**125 Hz**	**250 Hz**	**500 Hz**	**1 kHz**	**2 kHz**	**4 kHz**	**8 kHz**	**16 kHz**	**Overall**
Bunching	51	63	71	62	53	56	53	52	48	40	72

7 Airborne railway noise levels – Existing railway operations

The railway noise levels were predicted for the existing railway operations on the QR West Moreton System. The predictions were undertaken for the sections of the existing rail corridor within the study area. For the purpose of assessment, the railway operations on the main line track was assumed the primary source of noise.

The ToR does not require an assessment of the noise levels from existing rail operations. The existing railway noise levels were predicted to assess the potential changes in railway noise where the Project is upgrading the existing railway infrastructure.

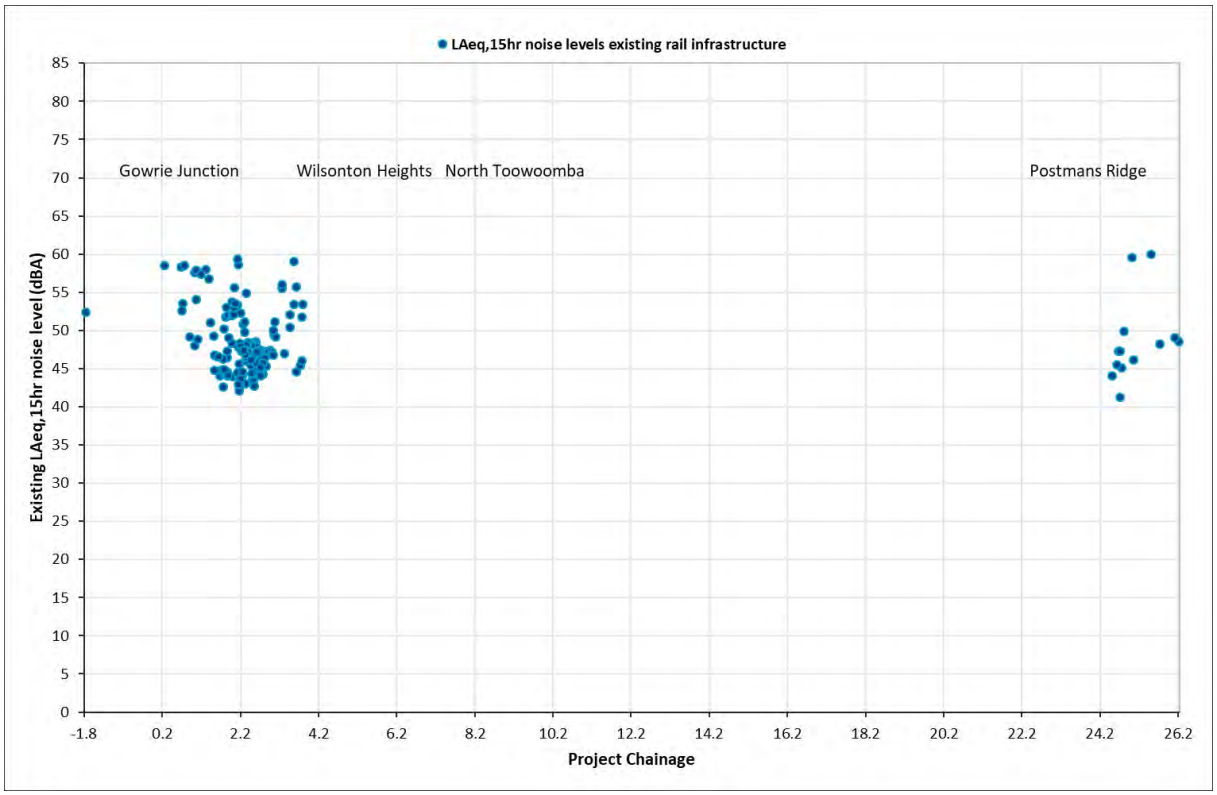
At time of the assessment, there were no known approved plans to enhance or upgrade the daily rail operations on the QR West Moreton System. The predicted noise levels were applied as the railway noise levels from existing railway infrastructure and compared to the year 2027 and year 2040 assessment scenarios.

The predicted existing railway noise at the identified sensitive receptors is presented in **Figure 13** for the daytime $L_{Aeq(15hour)}$ noise levels and in **Figure 14** for the night-time $L_{Aeq(9hour)}$ noise levels. The predicted maximum (L_{Amax}) railway noise levels for existing rail operations are presented in **Figure 15**.

The noise levels are presented at the sensitive receptors within 750 m of the QR West Moreton System, as per the adopted approach to assess railway noise at the sections where the Project is upgrading existing railway infrastructure.

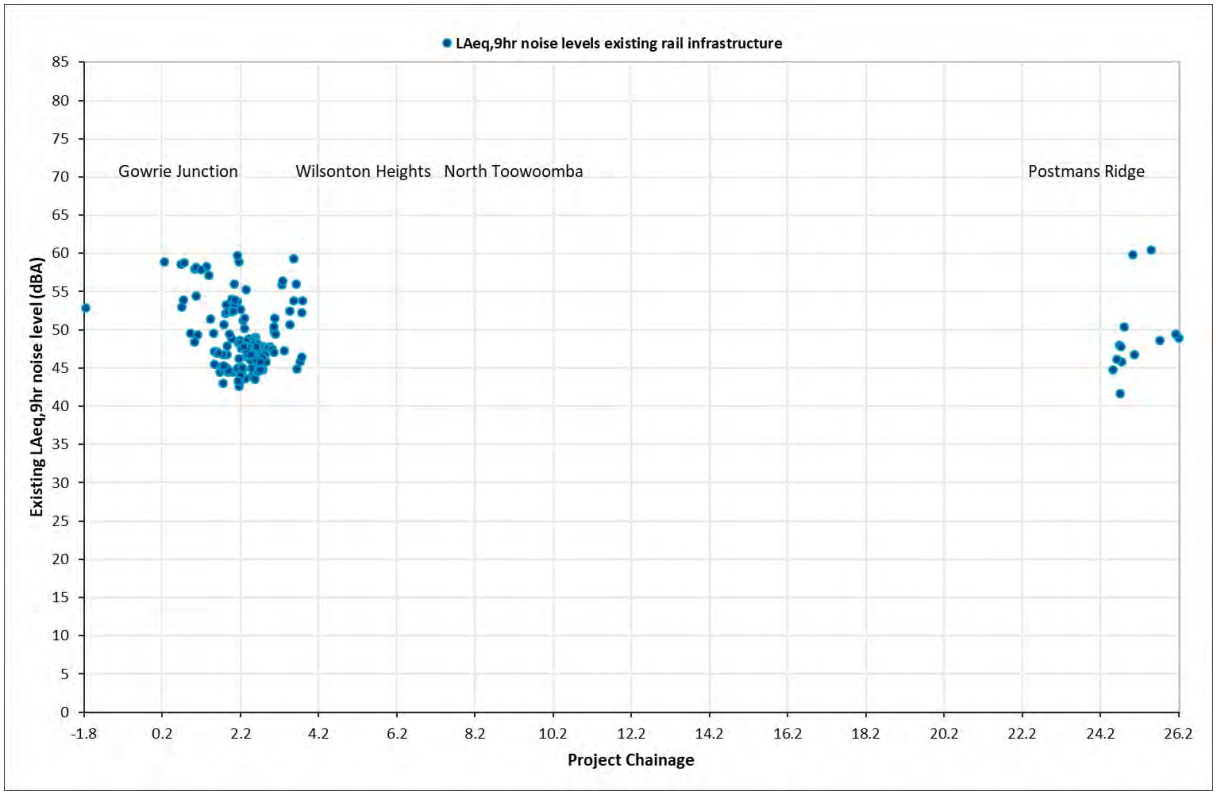
[11] International Standards, 1996. ISO 9613-2:1996, Acoustics – attenuation of sound during propagation outdoors – Part 2: General method of calculation.

Figure 13 Predicted existing daytime $L_{Aeq(15hour)}$ railway noise levels



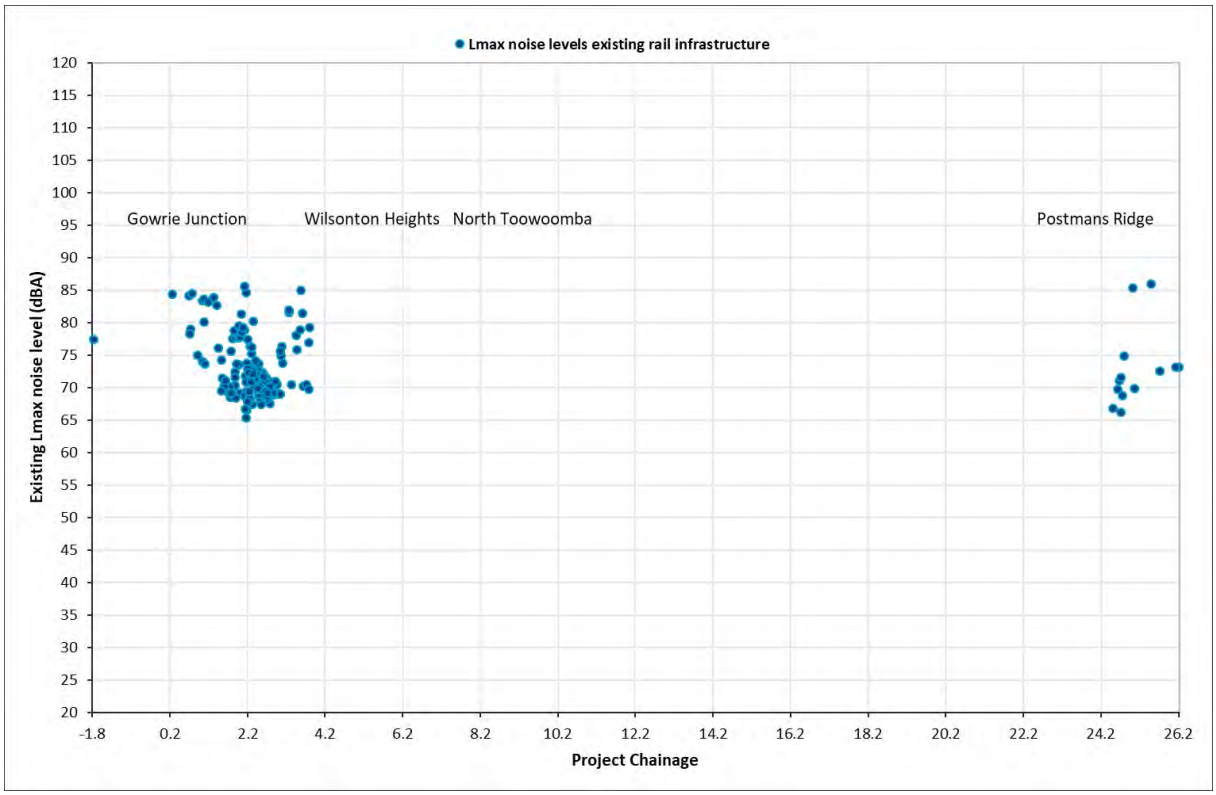
Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

Figure 14 Predicted existing night-time $L_{Aeq(9hour)}$ railway noise levels



Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

Figure 15 Predicted existing maximum L_{Amax} railway noise levels



Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

8 Airborne railway noise levels – Project opening 2027

8.1 Overview

The predicted daytime and night-time railway noise levels for the commencement of railway operations in Year 2027 are detailed in **Appendix D**. The railway noise levels are provided as tabulated noise level predictions at individual sensitive receptors and maps of railway noise contours for the Project alignment. The assessment of daytime, night-time and maximum railway noise levels is discussed in the following sections.

The railway noise levels are the combined noise levels from train passbys on the main tracks and train operations on the crossing loops. The predicted noise levels have been assessed against the adopted railway noise criteria to evaluate the potential noise impact of the Project and identify where noise mitigation options are likely to be investigated.

The noise criteria implemented by ARTC on the Project are more stringent than the noise criteria from the DTMR Policy and the Interim Guideline. On this basis, where the predicted railway noise levels at the sensitive receptors meet the ARTC noise criteria, the noise levels would also be expected to meet the noise criteria from the guidelines referenced in the ToR.

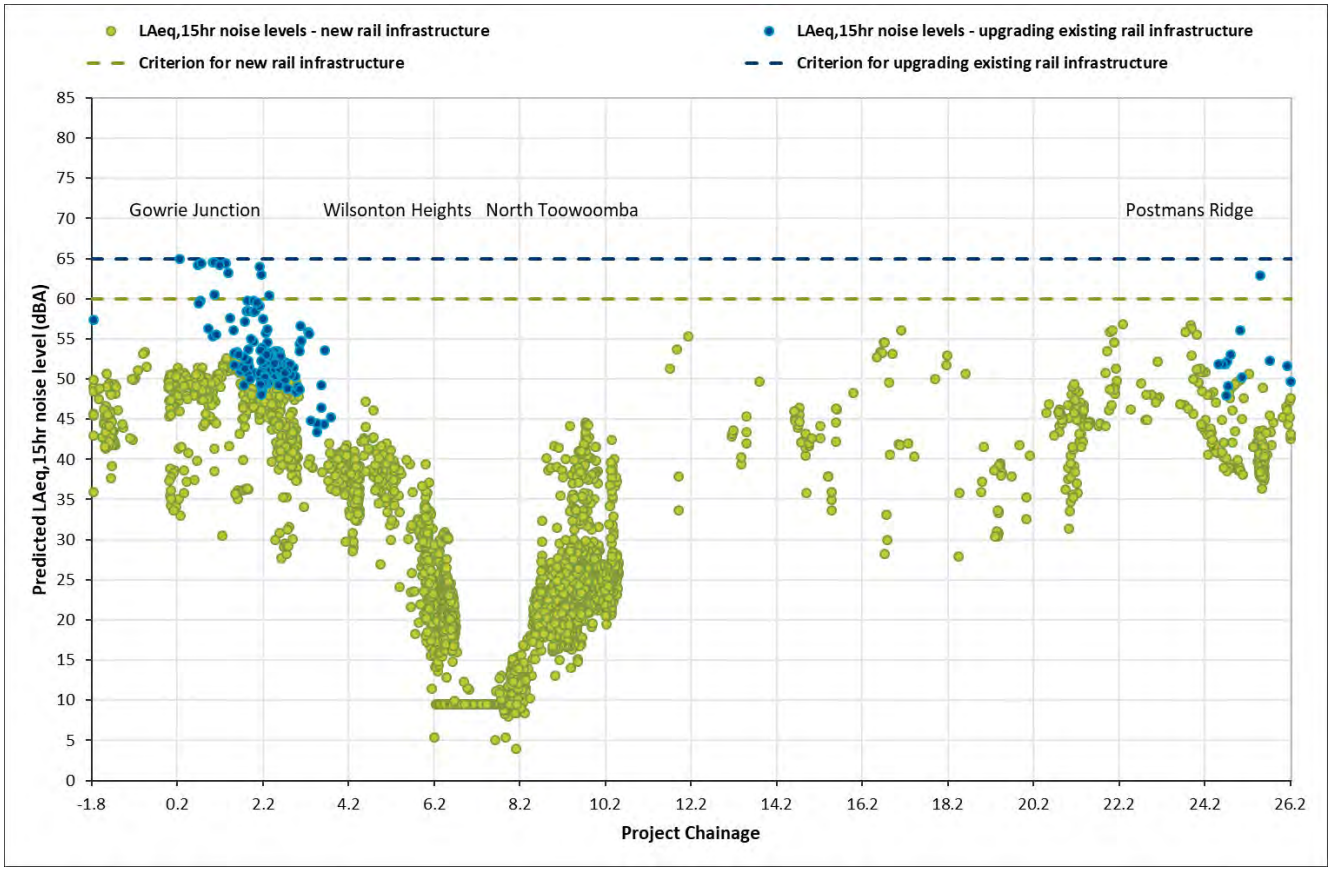
8.2 Railway noise levels at residential receptors

8.2.1 Daytime railway noise levels

The predicted daytime $L_{Aeq(15hour)}$ railway noise levels at the identified noise sensitive residential receptors are presented in **Figure 16**. The predicted railway noise levels are presented where the Project is a new rail corridor and the sections where the Project is upgrading the existing railway infrastructure.

At all identified sensitive receptors, the daytime railway noise predictions meet the $L_{Aeq(15hour)}$ 60 dBA noise criterion within the areas of new rail infrastructure and $L_{Aeq(15hour)}$ 65 dBA noise criterion within the areas of railway upgrades.

Figure 16 Predicted daytime $L_{Aeq(15hour)}$ railway noise levels (2027)



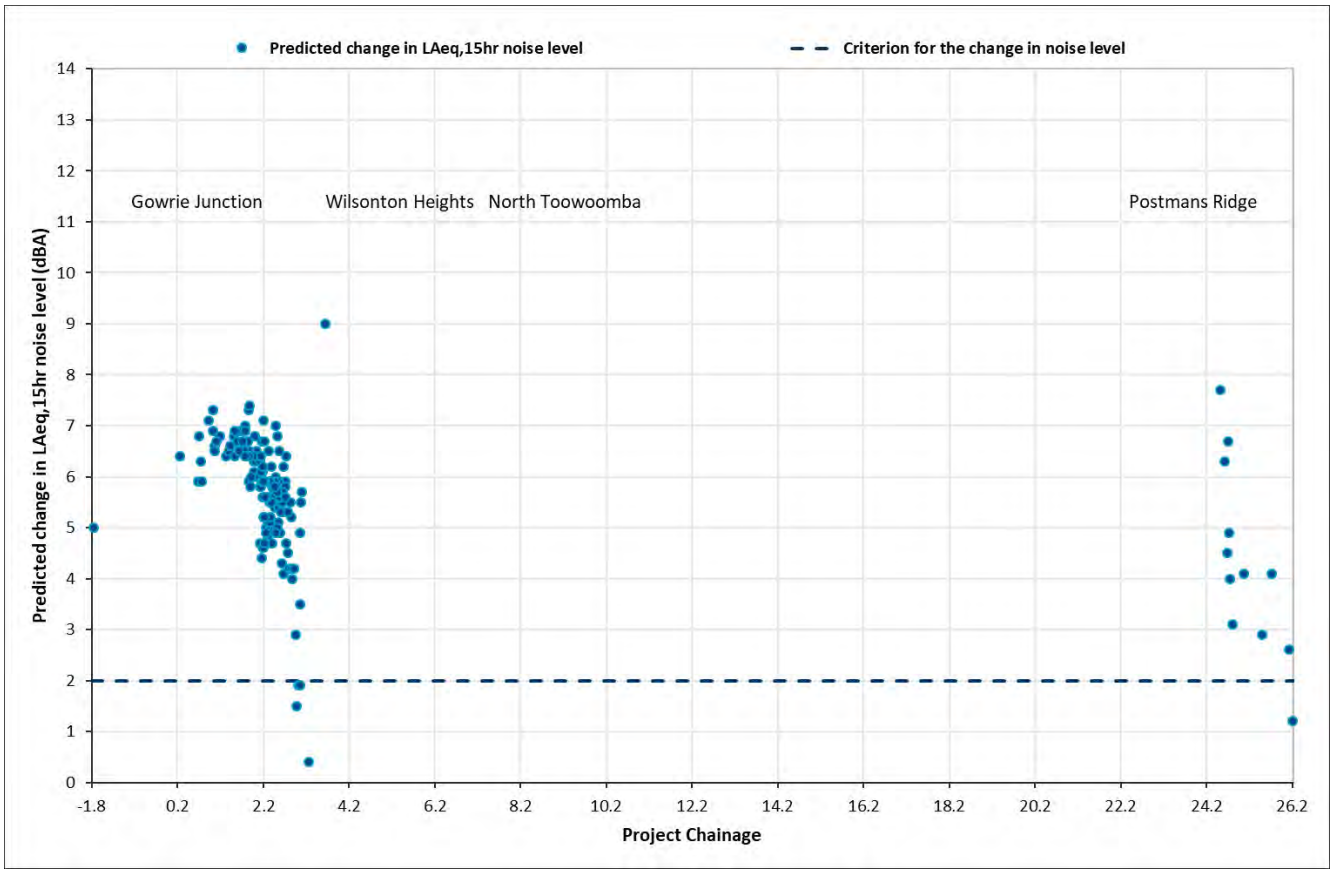
Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

The noise criteria require the assessment to consider both the overall railway noise levels (refer **Figure 16**) and the potential change in railway noise with the railway operations introduced by the Project. The daytime noise levels meet the overall railway noise criterion at all identified receptors and do not trigger the criteria.

For reference the change in daytime railway noise levels, within the areas where the Project is upgraded existing rail infrastructure, is provided in **Figure 17**.

Where railway noise levels are predicted to change by 5 dBA or more, these residential receptors are located where the Project ties into the QR West Moreton System, to the west of the Toowoomba Range Tunnel, and at Postmans Ridge. At these locations the transition to the new rail corridor brings railway infrastructure closer to existing properties.

Figure 17 Predicted change from existing daytime $L_{Aeq(15hour)}$ railway noise levels (2027)



Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

8.2.2 Night-time railway noise levels

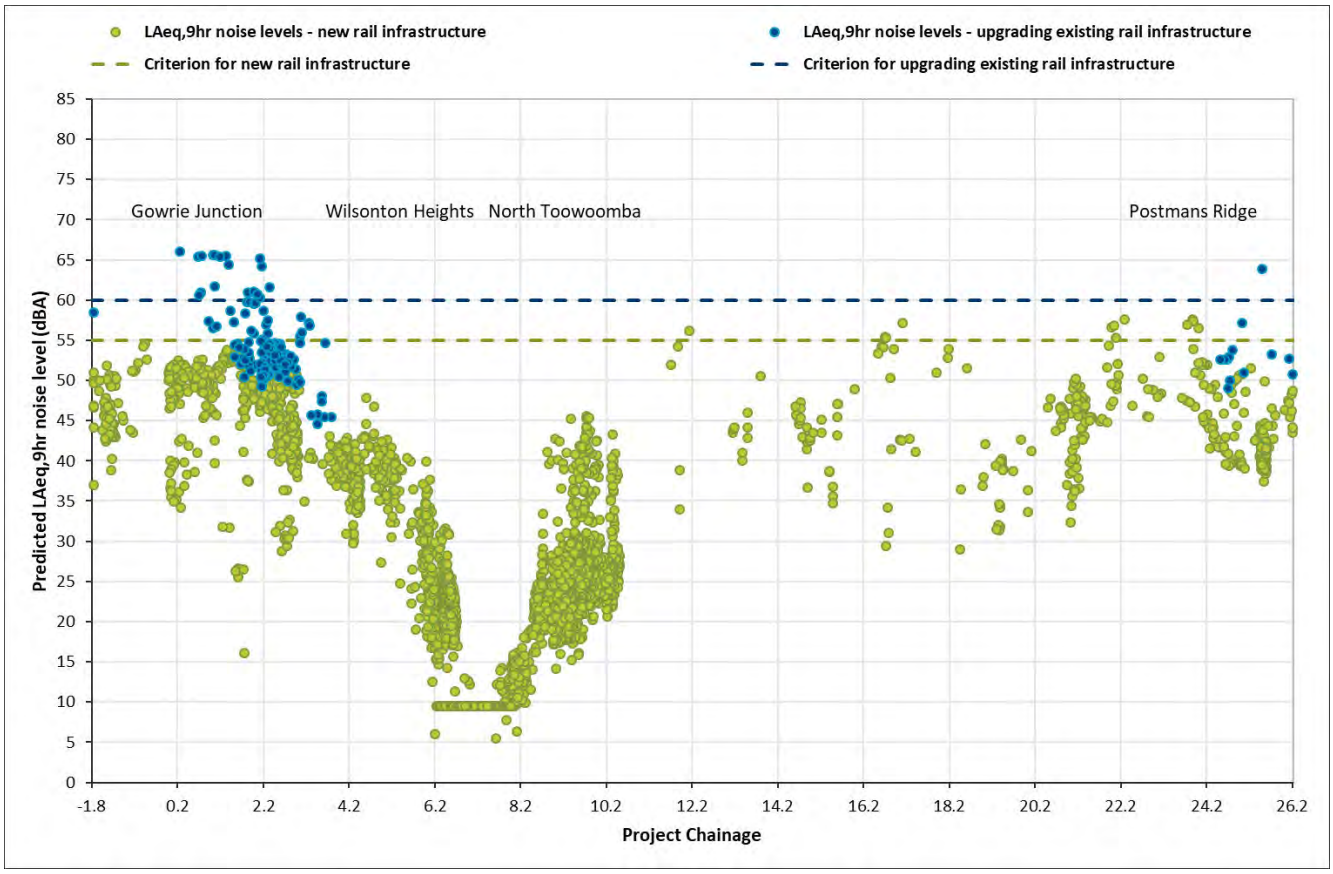
The predicted night-time $L_{Aeq(9hour)}$ railway noise levels at the identified sensitive residential receptors are presented in **Figure 18**. The predicted railway noise levels are detailed where the Project is a new rail corridor and the sections where the Project is upgrading the existing railway infrastructure.

The predicted night-time railway noise levels met the $L_{Aeq(9hour)}$ 55 dBA noise criterion at the majority of the residential receptors at the sections of new rail corridor. At up to nine residential receptors the predicted noise levels are up to 3 dBA above the night-time L_{Aeq} noise criterion.

In the areas where the Project will be upgrading existing railway infrastructure, the predicted night-time noise levels achieve the $L_{Aeq(9hour)}$ 60 dBA noise criterion at the majority of sensitive residential receptors.

There are up to 19 residential receptors within the areas where the Project shall upgrade existing railway infrastructure where noise levels are predicted to be above the night-time L_{Aeq} noise criterion by up to 6 dBA.

Figure 18 Predicted night-time $L_{Aeq(9hour)}$ railway noise levels (2027)



Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

The predicted change in night-time $L_{Aeq(9hour)}$ railway noise levels with the Project are presented in **Figure 19**. Consistent with the predicted daytime noise levels, there is an increase in railway noise levels where the Project increases the rail traffic and, in some cases, brings the rail corridors in closer proximity to the receptors.

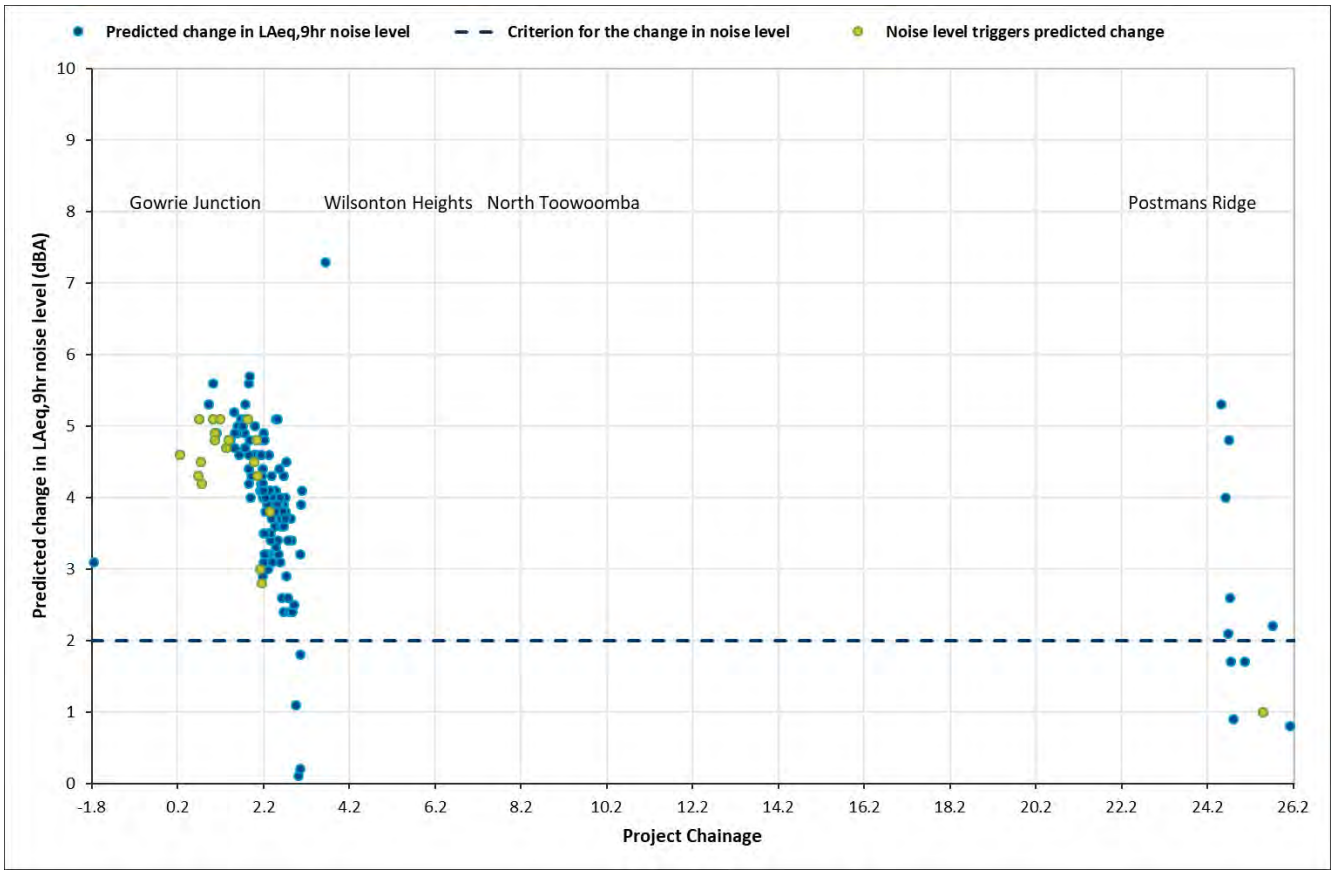
Whilst the increase in night-time railway noise levels is more than the $L_{Aeq(9hour)}$ 2 dBA change in noise level criterion at some receptors, this does not trigger the investigation of noise mitigation if the overall railway noise criterion is met at these receptors.

The change in noise level at the 19 residential receptors where noise levels are above the $L_{Aeq(9hour)}$ 60 dBA noise criterion are shown in green in **Figure 19.** The $L_{Aeq(9hour)}$ noise level is predicted to change by 2 dBA or more at 18 of the 19 residential receptors and triggers the investigation of railway noise mitigation for these sensitive residential receptors.

The noise levels at the remaining one receptor achieve the railway noise criteria on the basis the change in railway noise is less than 2 dBA.

Overall, the night-time $L_{Aeq(9hour)}$ railway noise levels with the Project are predicted to trigger the investigation of noise mitigation measures at up to 27 residential receptors within the areas of new rail infrastructure and the upgrades to existing rail infrastructure.

Figure 19 Predicted change from existing night-time $L_{Aeq(9hour)}$ railway noise levels (2027)



Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

8.2.3 Daytime and night-time maximum railway noise levels

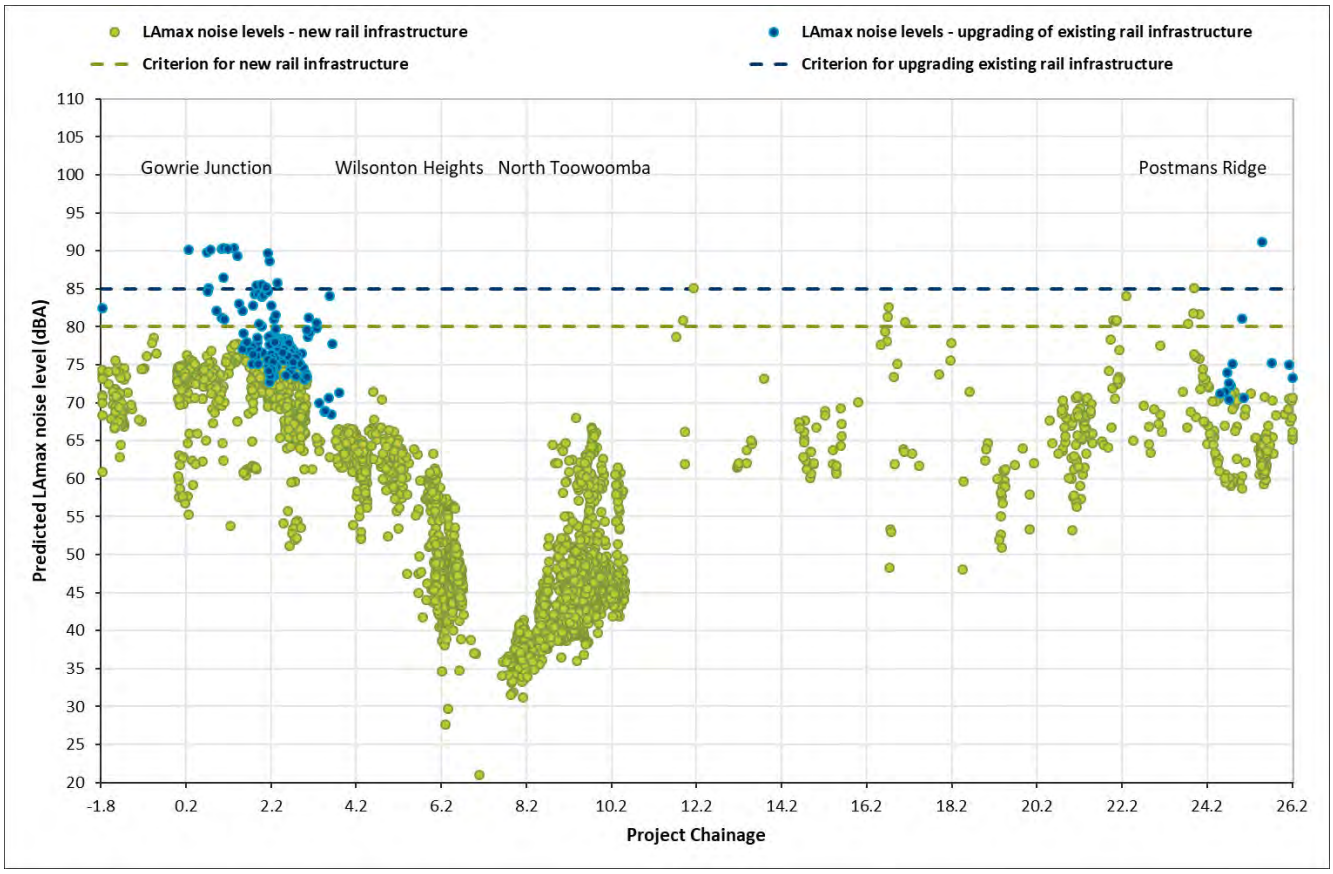
The maximum noise levels result from the highest discrete noise events from individual train passbys or the train operations on the crossing loops. The predicted daytime and night-time L_{Amax} noise levels were generally consistent at the sensitive receptors, with a variation of less than 1 dBA. The higher predicted L_{Amax} noise level was adopted to assess the maximum noise levels in both the daytime and night-time periods.

The predicted daytime and night-time maximum (L_{Amax}) railway noise levels at the residential receptors are presented in **Figure 20**.

The predicted railway noise levels met the L_{Amax} 80 dBA noise criterion at most of the residential receptors adjacent to the sections of new rail corridor. At 12 residential receptors the predicted noise levels are up to 5 dBA above the L_{Amax} noise criterion.

Where the Project will be upgrading the existing railway infrastructure, the predicted noise levels met the L_{Amax} 85 dBA noise criterion at the majority of the sensitive residential receptors. There are up to 14 residential receptors where predicted noise levels are above the daytime L_{Amax} noise criterion by up to 6 dBA.

Figure 20 Predicted daytime and night-time maximum railway noise levels (2027)



Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

The predicted change from the existing maximum (L_{Amax}) railway noise levels with the Project are presented in **Figure 21**.

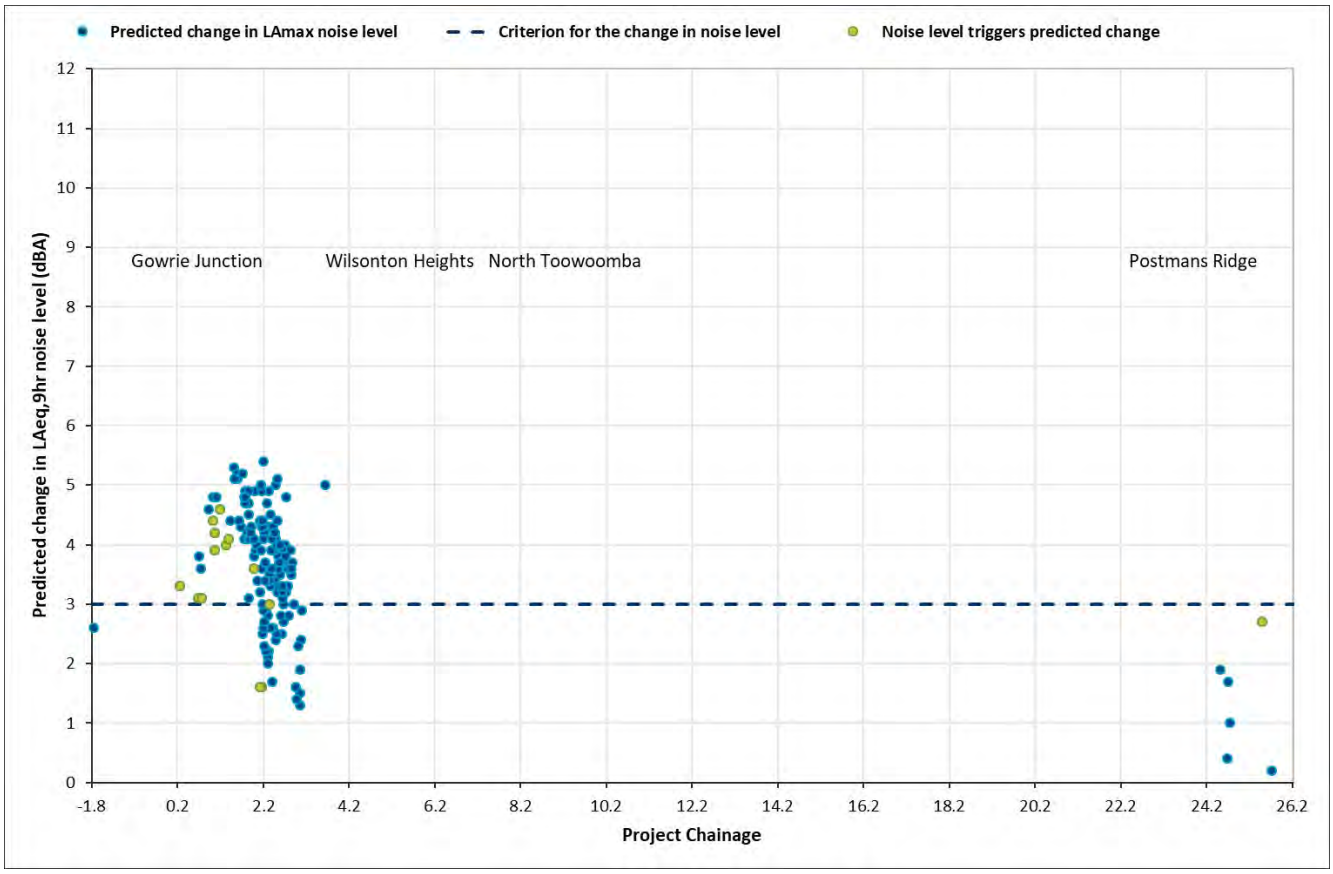
Consistent with the predicted daytime and night-time L_{Aeq} noise levels, there is an increase in railway noise levels where the Project increases the rail traffic and, in some cases, brings the rail corridors in closer proximity to the receptors.

The change in noise level at the 14 residential receptors where noise levels are above the L_{Amax} 80 dBA noise criterion are shown in green in **Figure 21**. At 11 of the 14 sensitive receptors, the L_{Amax} noise level is predicted to change by 3 dBA or more and triggers the investigation of railway noise mitigation for these sensitive residential receptors.

The noise levels at the remaining three receptors achieve the railway noise criteria on the basis the change in L_{Amax} railway noise is less than 3 dBA.

Overall, the night-time $L_{Aeq(9hour)}$ railway noise levels for the new and upgraded rail infrastructure are predicted to trigger the investigation of noise mitigation measures at up to 23 sensitive residential receptors.

Figure 21 Predicted change from existing maximum railway noise levels (2027)



Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

9 Airborne railway noise levels – Design year 2040

9.1 Overview

The predicted daytime and night-time railway noise levels for the railway operations in year 2040 are detailed in **Appendix E**. The railway noise levels are provided as tabulated noise level predictions at individual sensitive receptors and maps of railway noise contours for the Project alignment. The assessment of daytime, night-time and maximum railway noise levels is discussed in the following sections.

9.2 Railway noise levels at sensitive receptors

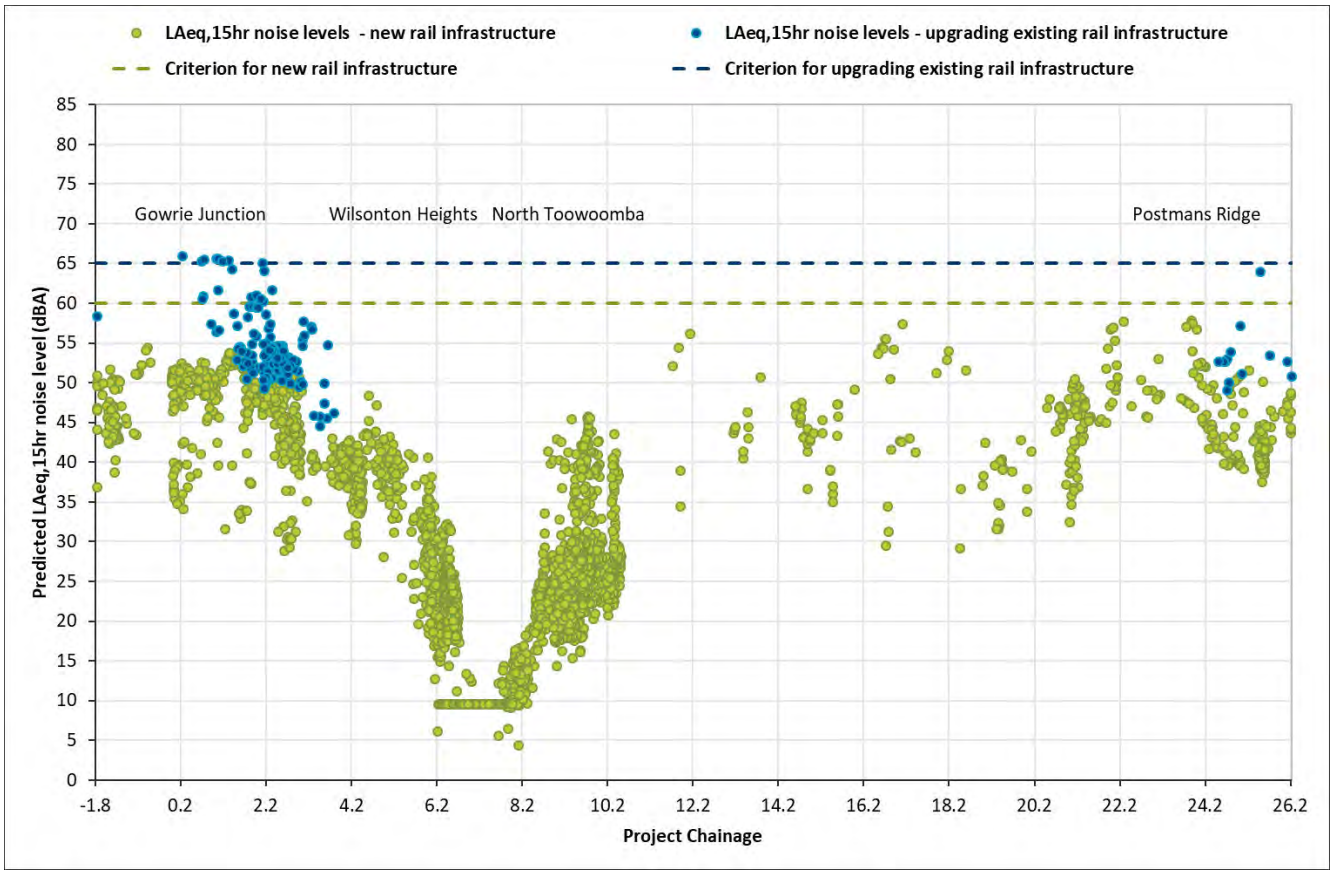
9.2.1 Daytime railway noise levels

The predicted daytime $L_{Aeq(15hour)}$ railway noise levels at the identified noise sensitive residential receptors are presented in **Figure 22**. The predicted railway noise levels are presented where the Project is a new rail corridor and the sections where the Project is upgrading the existing railway infrastructure.

The predicted daytime railway noise levels meet the $L_{Aeq(15hour)}$ 60 dBA noise criterion at all the identified sensitive residential receptors adjacent to the sections of new rail corridor.

Where the Project is upgrading the existing railway infrastructure, the predicted noise levels achieve the $L_{Aeq(15hour)}$ 65 dBA noise criterion at the majority of the identified residential receptors. At up to four residential receptors, the predicted noise levels trigger the noise criterion by a relatively small margin of up to 1 dBA.

Figure 22 Predicted daytime $L_{Aeq(15hour)}$ railway noise levels (2040)



Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

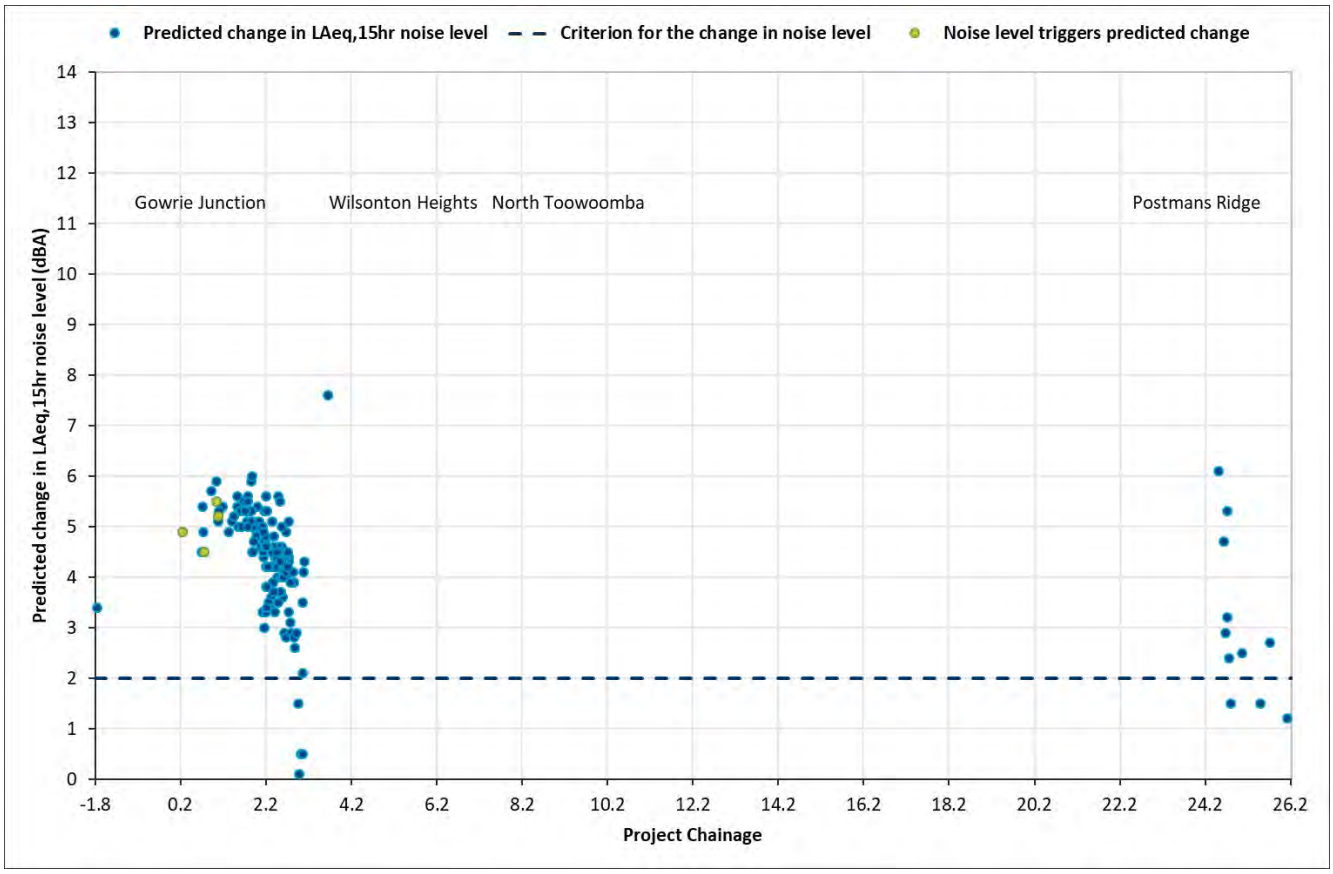
Where the Project is upgrading the existing railway infrastructure the noise criteria require the assessment to consider both the overall railway noise levels and the potential change in railway noise with the railway operations introduced by the Project.

The predicted change in daytime $L_{Aeq(15hour)}$ railway noise levels with the Project are presented in **Figure 23**. The change in noise level at the four residential receptors where noise levels are above the $L_{Aeq(15hour)}$ 65 dBA noise criterion are shown in green in **Figure 23**.

At the four sensitive receptors where noise levels are above the $L_{Aeq(15hour)}$ 65 dBA noise criterion, the $L_{Aeq(15hour)}$ noise level is predicted to change by 2 dBA or more and the investigation of noise mitigation is triggered at each these residential receptors.

Overall, the daytime $L_{Aeq(15hour)}$ railway noise levels are predicted to trigger the investigation of noise mitigation measures at up to four sensitive residential receptors, all of which are within the areas where the Project is upgrading existing rail infrastructure.

Figure 23 Predicted change from existing $L_{Aeq(15hour)}$ daytime railway noise levels (2040)



Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

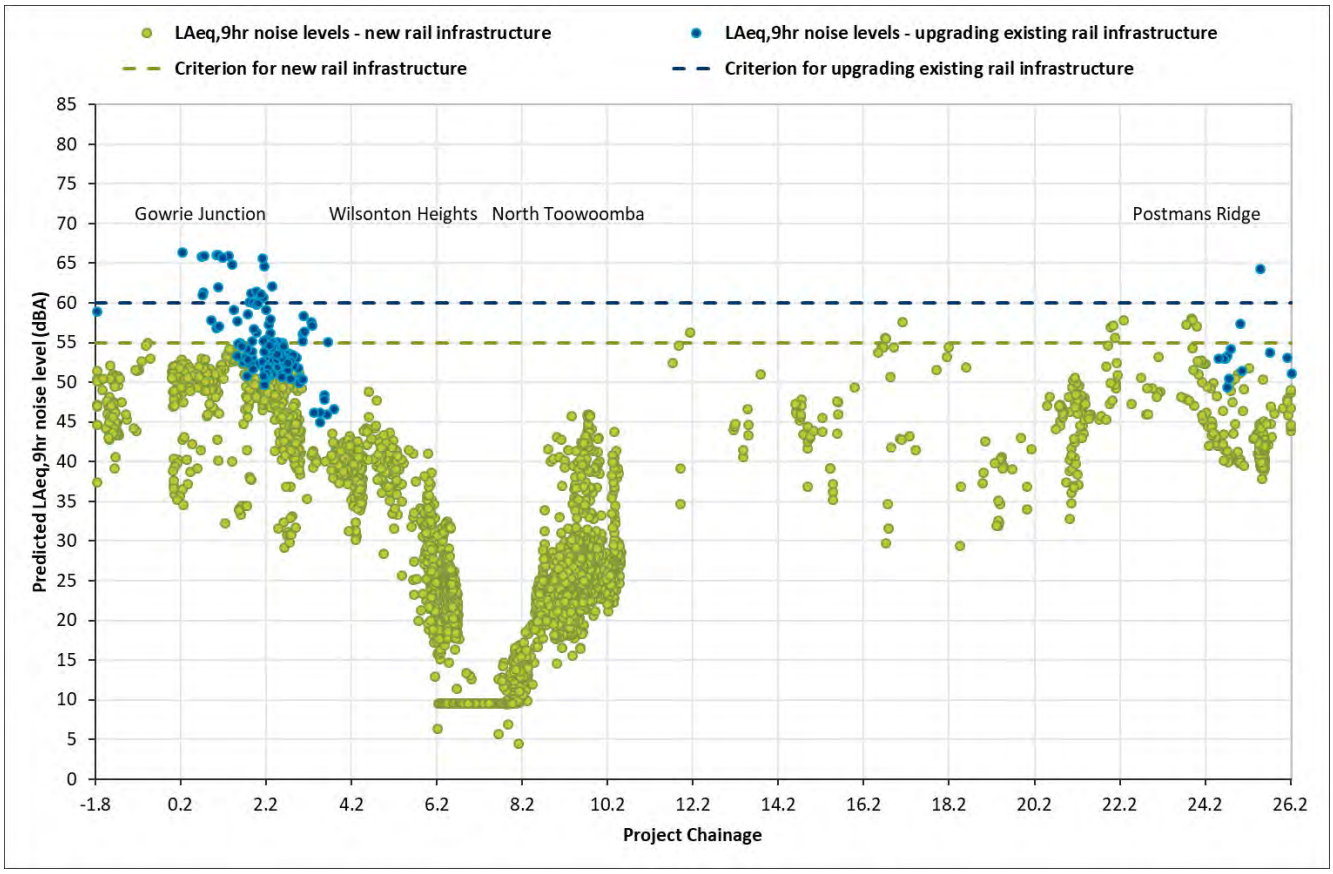
9.2.2 Night-time railway noise levels

The predicted night-time $L_{Aeq(9hour)}$ railway noise levels at the identified noise sensitive residential receptors are presented in **Figure 24**. The predicted railway noise levels are presented where the Project is a new rail corridor and the sections where the Project is upgrading the existing railway infrastructure.

The predicted night-time railway noise levels achieve the $L_{Aeq(9hour)}$ 55 dBA noise criterion at the majority of the residential receptors at the sections of new rail corridor. The predicted night-time $L_{Aeq(9hour)}$ railway noise levels are up to 3 dBA above the noise criterion at up to 12 residential receptors.

In the areas where the Project will be upgrading the existing railway infrastructure, the predicted night-time noise levels achieve the $L_{Aeq(9hour)}$ 60 dBA noise criterion at the majority of sensitive residential receptors. There are up to 20 residential receptors where noise levels are predicted to be above the night-time L_{Aeq} noise criterion by up to 6 dBA.

Figure 24 Predicted night-time $L_{Aeq(9h)}$ railway noise levels (2040)



Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

Where the Project is upgrading the existing railway infrastructure the noise criteria require the assessment to consider both the overall railway noise levels and the potential change in railway noise with the railway operations introduced by the Project.

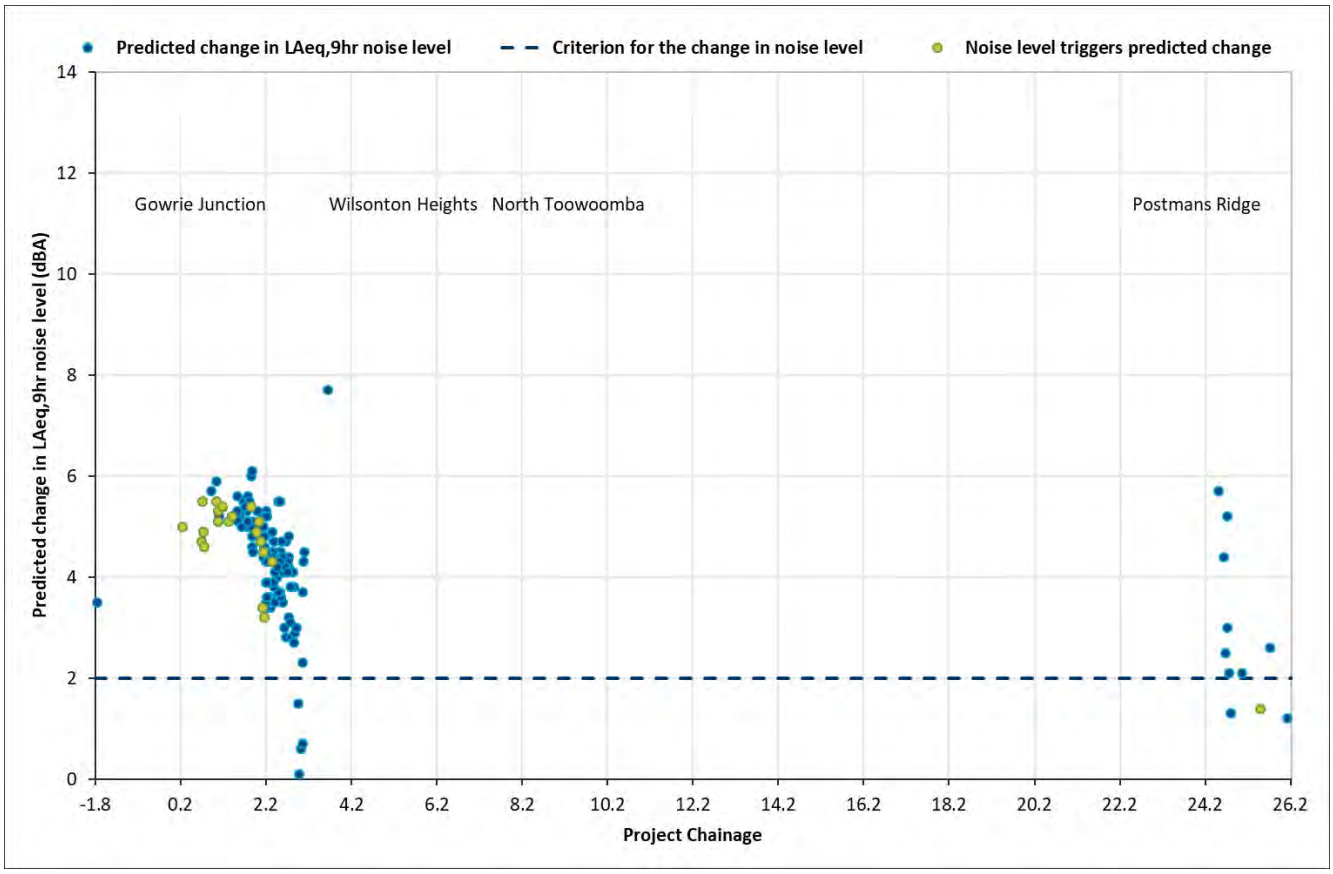
The predicted change in night-time $L_{Aeq(9hour)}$ railway noise levels with the Project are presented in **Figure 25**. The change in noise level at the 20 residential receptors where noise levels are above the $L_{Aeq(9hour)}$ 60 dBA noise criterion are shown in green in **Figure 25.**

The $L_{Aeq(9hour)}$ noise level is predicted to change by 2 dBA or more at 19 of the 20 residential receptors and triggers the investigation of railway noise mitigation for these sensitive residential receptors.

The noise levels at the remaining one receptor achieve the railway noise criteria on the basis the change in railway noise is less than 2 dBA.

Overall, the night-time $L_{Aeq(9hour)}$ railway noise levels for the new and upgraded rail infrastructure are predicted to trigger the investigation of noise mitigation measures at up to 31 sensitive residential receptors.

Figure 25 Predicted change from existing $L_{Aeq(9hour)}$ railway noise levels (2040)



Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

9.2.3 Daytime and night-time maximum railway noise levels

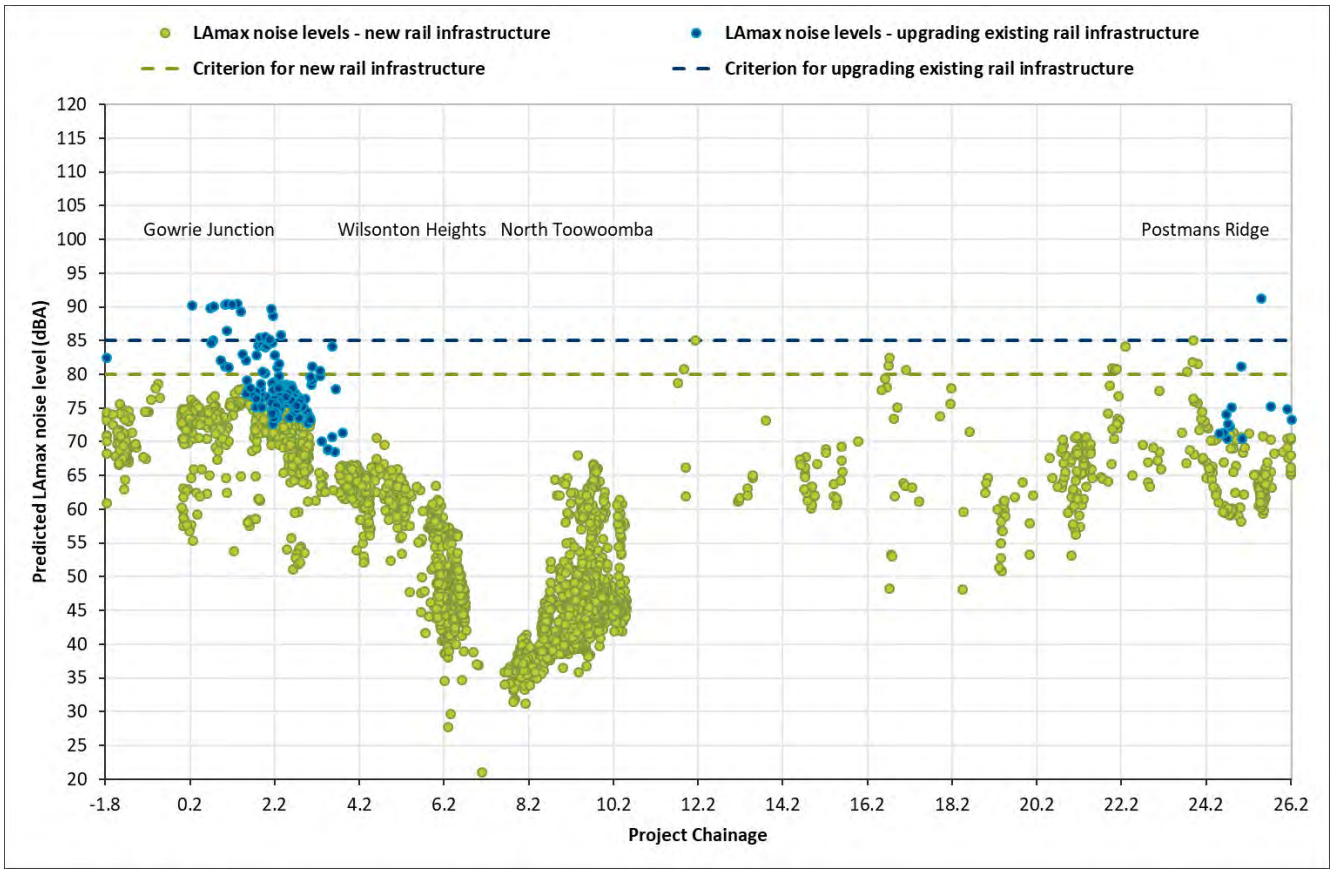
The maximum noise levels result from the highest discrete noise events from individual train passbys or the train operations on the crossing loops. The predicted daytime and night-time L_{Amax} noise levels were generally consistent at the sensitive receptors, with a variation of less than 1 dBA. The higher predicted L_{Amax} noise level was adopted to assess the maximum noise levels in both the daytime and night-time periods.

The predicted daytime and night-time maximum (L_{Amax}) railway noise levels at the residential receptors are presented in **Figure 26**.

The predicted railway noise levels met the L_{Amax} 80 dBA noise criterion at the majority of the residential receptors adjacent to the sections of new rail corridor. At 12 residential receptors the predicted noise levels are up to 5 dBA above the L_{Amax} noise criterion.

Where the Project will be upgrading the existing railway infrastructure, the predicted noise levels met the L_{Amax} 85 dBA noise criterion at the majority of the sensitive residential receptors. There are up to 14 residential receptors where predicted noise levels are above the daytime L_{Amax} noise criterion by up to 5 dBA.

Figure 26 Predicted daytime and night-time maximum railway noise levels (2040)



Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

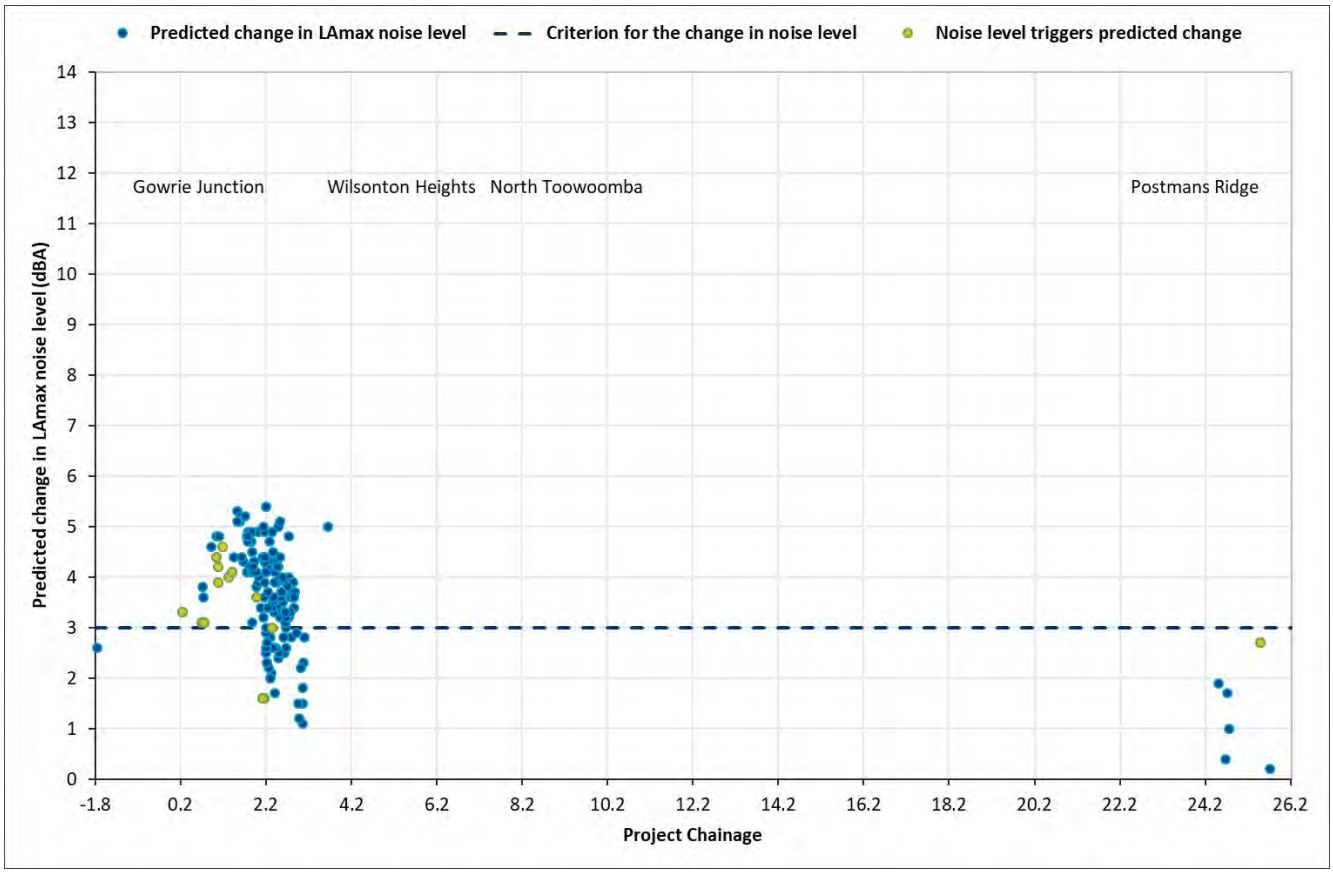
The predicted change in L_{Amax} railway noise levels with the Project are presented in **Figure 27**.

The change in noise level at the 14 residential receptors where noise levels are above the L_{Amax} 80 dBA noise criterion are shown in green in **Figure 27**. At 11 of the 14 sensitive receptors, the L_{Amax} noise level is predicted to change by 3 dBA or more and triggers the investigation of railway noise mitigation for these sensitive residential receptors.

The noise levels at the remaining three receptors achieve the railway noise criteria on the basis the change in L_{Amax} railway noise is less than 3 dBA.

Overall, the night-time $L_{Aeq(9hour)}$ railway noise levels for the new and upgraded rail infrastructure are predicted to trigger the investigation of noise mitigation measures at up to 23 sensitive residential receptors.

Figure 27 Predicted change from existing maximum railway noise levels (2040)



Note Some receptors are in the same location and the markers in the above scatter plot represent more than one receptor.

10 Airborne railway noise levels at non-residential receptors

The railway noise levels were predicted at the buildings and property identified as being non-residential noise sensitive receptors, for example, places of worship, schools and recreation facilities. Other than hospitals and outdoor recreation areas, which have external railway noise criteria, the noise assessment criteria for these sensitive receptors is an internal (indoor) noise level.

To assess potential internal railway noise levels, a conservative 7 dBA reduction was applied to the predicted external railway noise levels at the building façade to estimate the internal noise levels where windows are open for ventilation.

The predicted external and internal railway noise levels at the non-residential sensitive receptors is detailed in **Table 31**. The noise levels are reported for the receptors located adjacent to the surface rail alignment and the tunnel portals as the train passbys within the Toowoomba Range Tunnel would not be a source of airborne noise.

The predicted railway noise levels are provided for the commencement of railway operations on the Project in 2027 and the future railway operations in 2040.

Predicted free-field outdoor noise levels for the local parks and recreational areas are provided in the noise contour maps in **Appendix D** and **Appendix E**.

For the purpose of assessment, it has been assumed these parks are not in common use during the night-time hours of 10.00 pm to 7.00 am. Noise levels at the identified recreation areas achieve the noise assessment criteria.

Highlighted in bold in **Table 31**, the predicted noise levels of up to $L_{Aeq(1hour)}$ 54 dBA at the Gowrie State School may trigger the internal assessment criterion allowing for the 7 dBA difference between external and internal railway noise.

Table 31 Predicted railway noise levels at non-residential sensitive receptors

Sensitive receptor	LAeq(1hr) noise levels Year 2025, dBA				LAeq(1hr) noise levels Year 2040, dBA			
	Daytime		Night-time		Daytime		Night-time	
	Outside	Inside	Outside	Inside	Outside	Inside	Outside	Inside
Sensitive receptor buildings (other than individual residences)								
Gowrie State School	51	**44**	53	**46**	52	**45**	54	**47**
Toowoomba Christian Fellowship	19	12	20	13	20	13	21	14
Teen Challenge Toowoomba	27	20	28	21	28	21	29	22
Baillie Henderson Hospital & Health Services	<10	<10	<10	<10	<10	<10	<10	<10
New Hope Church	18	11	19	12	19	12	20	13
Toowoomba North Church of Christ	20	13	21	14	21	14	21	14
Gateway Church Toowoomba	25	18	26	19	26	18	27	19
Harlaxton Neighbourhood Centre	21	14	22	15	22	15	22	15
Taoist Tai Chi Society of Australia	28	21	29	22	29	22	29	22
Harlaxton Community Hall	23	16	24	17	24	17	24	17
Wilsonton Congregation of Jehovah's Witnesses	<10	<10	<10	<10	<10	<10	<10	<10
Kate's Place Early Education	<10	<10	<10	-	<10	<10	<10	-
Youth & Community Learning Centre	19	11	20	-	20	12	21	-
Downlands Sacred Heart College	20	13	21	14	21	14	22	15
Rockville Primary School	<10	<10	<10	<10	<10	<10	<10	<10
Local parks and recreation areas								
Reg Veacock Park	17	-	-	-	18	-	-	-
Blue Mountains Reserve	17	-	-	-	18	-	-	-
North Ruthven Reserve	24	-	-	-	25	-	-	-
Perry Street Park	35	-	-	-	36	-	-	-
Harlaxton Park	21	-	-	-	22	-	-	-
Harlaxton Blocks Park	26	-	-	-	27	-	-	-
Kate Street Park	22	-	-	-	23	-	-	-
Parkland Hilltop Crescent	24	-	-	-	26	-	-	-
Norris Playground	27	-	-	-	28	-	-	-
Toowoomba Kart Club[1]	54	-	-	-	55	-	-	-

Note 1 When occupied the receptor is likely to be a source of noise which may diminish the potential for impacts from railway noise.

The predicted internal noise levels, and potential trigger of the noise criteria, is sensitive to the 7 dBA correction applied to external noise levels. The 7 dBA correction is commonly applied in Queensland a conservative assumption with consideration to the age and style of property and buildings in suburban and rural regions.

In practice, many of the sensitive receptor properties will be a modern building construction and likely to have air-conditioning so the windows would not need to be opened. Buildings of the Gowrie State School are expected to be air-conditioned and the windows would not need to always be open for ventilation. The internal noise criterion is expected to be achieved at Gowrie State School with windows closed or where the façade with open windows controls the intrusion of railway noise by at least 12 dBA.

During the detailed design of the Project, the construction of property and buildings identified as non-residential noise sensitive receptors should be reviewed. Further assessment of internal noise levels would need to be undertaken where the adopted 7 dBA correction is deemed an overly conservative assessment assumption.

11 Summary of the railway noise

11.1 Receptors triggering the investigation of noise mitigation

Where predicted railway noise levels at sensitive receptors are above the noise criteria ARTC will investigate reasonable and practicable mitigation measures to reduce noise levels and mitigate potential impacts.

The review of noise mitigation is triggered at up to 31 individual residential receptors for the commencement of railway operations in 2027 and up to 32 individual sensitive residential receptors (1 additional receptors) for the design year operations in year 2040. Additionally, there is one non-residential receptor, the Gowrie State School, where predicted internal noise levels are above the adopted assessment criteria.

The investigation of mitigation was most frequently triggered by the night-time $L_{Aeq(9hour)}$ rail noise levels, as the number of trains per hour is greater during the night-time and the noise criteria are 5 dBA more stringent than the daytime.

The sensitive residential receptors where noise levels were predicted above the night-time noise criteria are detailed in **Table 32** for rail operations in 2040, with the individual criteria triggers highlighted in bold in the table.

The location of the sensitive receptors, including the non-residential sensitive receptors, where noise levels trigger the assessment criteria are presented in **Figure 28**.

Table 32 Residential receptors triggering noise mitigation (night-time 2040)

SLR ID	Rail noise levels - main line, dBA		Rail noise - crossing loops, dBA		Overall night-time noise levels, dBA	
	LAeq(9hour)	LAmax	LAeq(9hour)	LAmax	LAeq(9hour)	LAmax
311688	57	82	15	27	**57**	**82**
312086	58	82	16	30	**58**	**82**
312114	58	85	16	30	**58**	**85**
312187	57	80	18	29	**57**	80
313668	58	84	37	42	**58**	**84**
313684	57	81	42	47	**57**	**81**
313687	57	81	39	44	**57**	**81**

SLR ID	Rail noise levels - main line, dBA		Rail noise - crossing loops, dBA		Overall night-time noise levels, dBA	
	LAeq(9hour)	LAmax	LAeq(9hour)	LAmax	LAeq(9hour)	LAmax
313704	56	81	38	43	**56**	**81**
313904	56	85	22	54	**56**	**85**
314173	55	81	29	49	55	**81**
314370	58	81	<10	19	**58**	**81**
314490	56	81	<10	16	**56**	**81**
314496	56	83	<10	16	**56**	**83**
315028	61	85	46	51	**61**	85
315081	61	85	34	52	**61**	85
315088	61	85	44	54	**61**	85
315090	61	86	43	55	**61**	**86**
315108	61	85	40	55	**61**	85
315110	62	86	33	56	**62**	**86**
315157	66	90	25	36	**66**	**90**
315171	66	90	28	36	**66**	**90**
315181	66	90	32	39	**66**	**90**
315183	66	90	34	39	**66**	**90**
315185	61	85	25	36	**61**	85
315191	66	90	40	45	**66**	**90**
315192	62	87	32	38	**62**	**87**
315193	66	90	37	42	**66**	**90**
315202	65	89	42	47	**65**	**89**
315212	65	89	38	54	**65**	89
315214	66	90	39	57	**66**	90
315215	66	90	17	31	**66**	**90**
315224	61	85	26	36	**61**	85
Gowrie State School	**53**	76	26	42	**53**	76



GOWRIE TO HELIDON

Sensitive Receptors Triggering the Investigation of Noise Mitigation

FIGURE 28 - Map 1 of 9

100 Metres

Coordinate System: GDA 1994 MGA Zone 56

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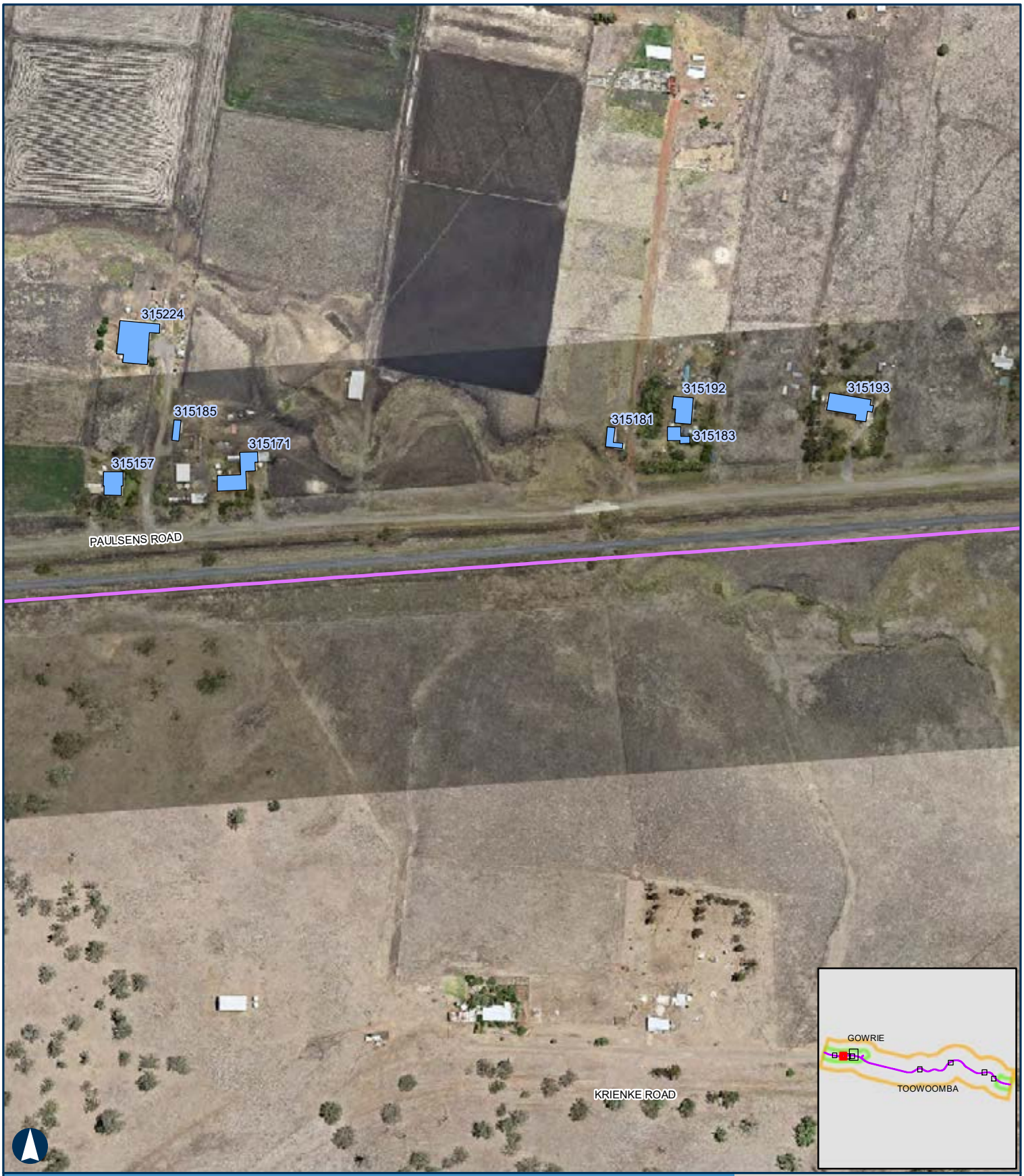
- Project Extent
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
- Toowoomba Range Tunnel
- Sensitive Receptors in 2040
- Other Sensitive Receptors in 2040 (Education Institution)
- Properties to be acquired by the Project

Paper: A4 Scale: 1:3,500
Date: 15-Jun-2021
Author: JG

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GOWRIE TO HELIDON

Sensitive Receptors Triggering the Investigation of Noise Mitigation

FIGURE 28 - Map 2 of 9

100 Metres

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- Project Extent
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
- Toowoomba Range Tunnel
- Sensitive Receptors in 2040
- Other Sensitive Receptors in 2040 (Education Institution)
- Properties to be acquired by the Project

Paper: A4 Scale: 1:3,500
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GOWRIE TO HELIDON

Sensitive Receptors Triggering the Investigation of Noise Mitigation

FIGURE 28 - Map 3 of 9

100 Metres

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- Project Extent
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
- Toowoomba Range Tunnel
- Sensitive Receptors in 2040
- Other Sensitive Receptors in 2040 (Education Institution)
- Properties to be acquired by the Project

Paper: A4 Scale: 1:3,500
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Author: JG

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GOWRIE TO HELIDON

Sensitive Receptors Triggering the Investigation of Noise Mitigation

FIGURE 28 - Map 4 of 9

100 Metres

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- Project Extent
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
- Toowoomba Range Tunnel
- Sensitive Receptors in 2040
- Other Sensitive Receptors in 2040 (Education Institution)
- Properties to be acquired by the Project

Paper: A4 Scale: 1:3,500
Date: 15-Jun-2021
Author: JG

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GOWRIE TO HELIDON

Sensitive Receptors Triggering the Investigation of Noise Mitigation

FIGURE 28 - Map 5 of 9

100 Metres

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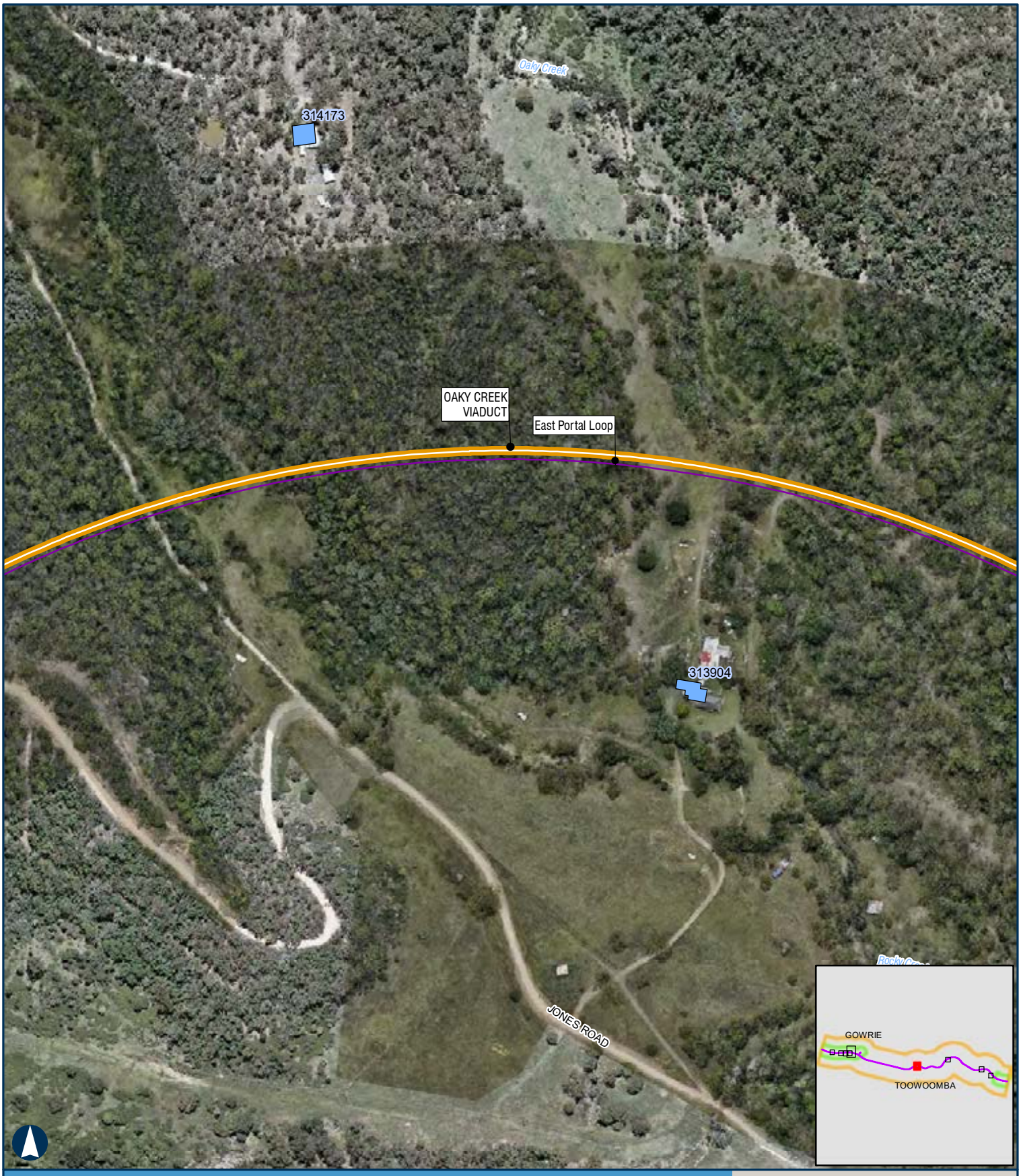
- Project Extent
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
- Toowoomba Range Tunnel
- Sensitive Receptors in 2040
- Other Sensitive Receptors in 2040 (Education Institution)
- Properties to be acquired by the Project

Paper: A4 Scale: 1:7,500
Date: 15-Jun-2021
Author: JG

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GOWRIE TO HELIDON

Sensitive Receptors Triggering the Investigation of Noise Mitigation

FIGURE 28 - Map 6 of 9

100 Metres

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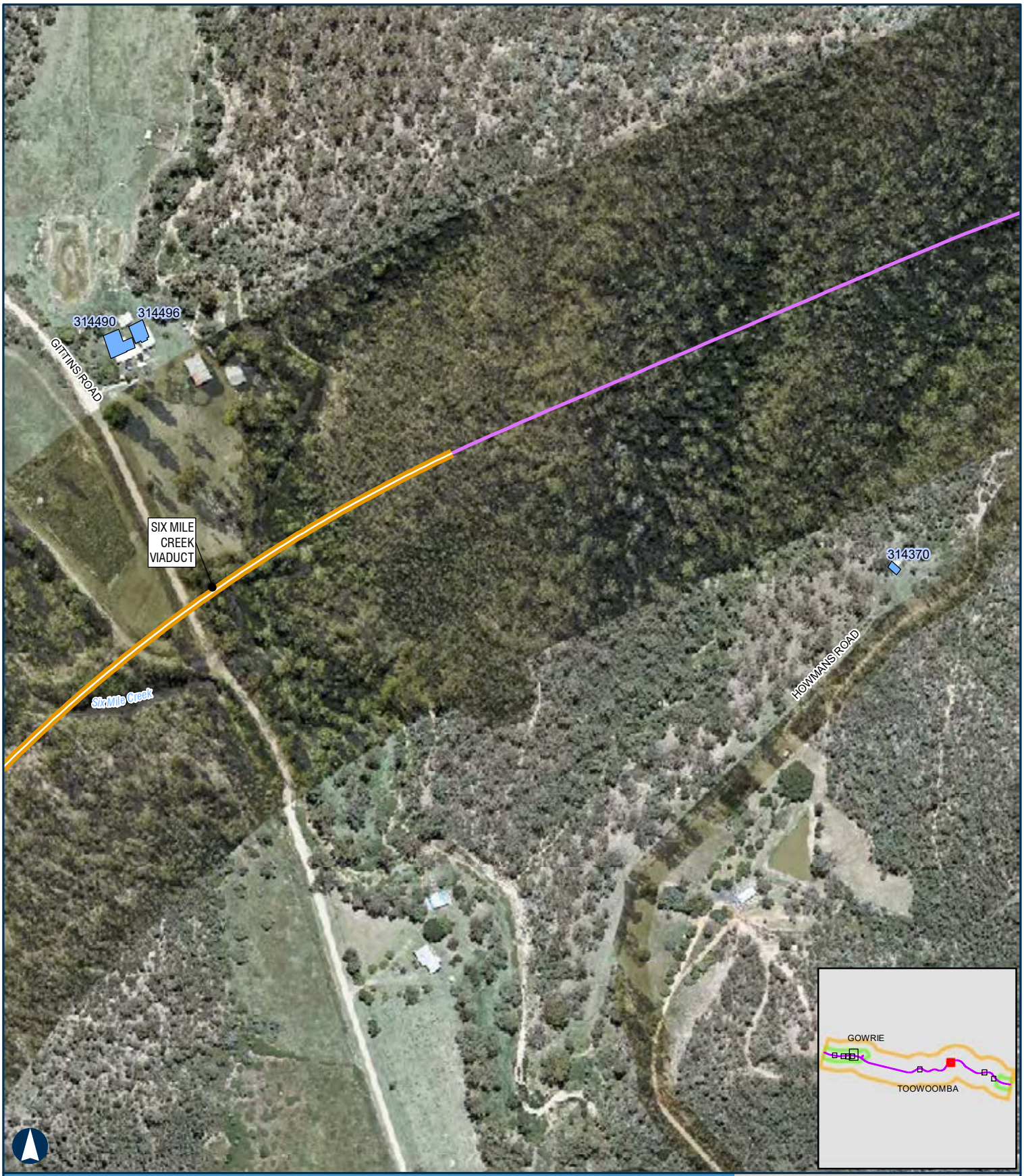
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GOWRIE TO HELIDON

Sensitive Receptors Triggering the Investigation of Noise Mitigation

FIGURE 28 - Map 7 of 9

100 Metres

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GOWRIE TO HELIDON

Sensitive Receptors Triggering the Investigation of Noise Mitigation

FIGURE 28 - Map 8 of 9

100 Metres

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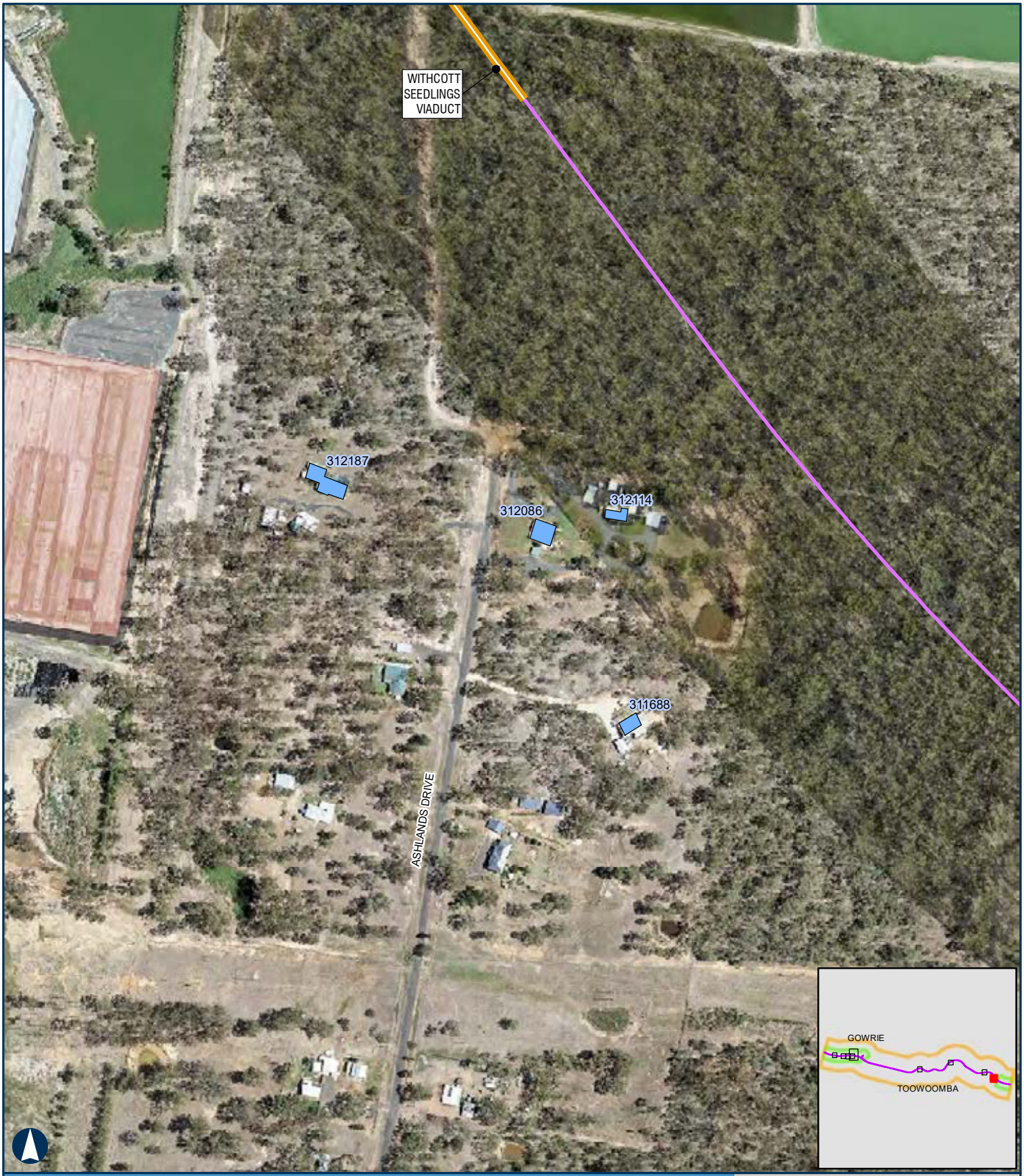
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GOWRIE TO HELIDON

Sensitive Receptors Triggering the Investigation of Noise Mitigation

FIGURE 28 - Map 9 of 9

100 Metres

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11.2 Trains accessing the crossing loops

The assessment of L_{Aeq} and L_{Amax} railway noise levels in the previous sections included the contribution of railway operations at the crossing loops. A review of the predicted noise levels at the sensitive receptors determined the noise level contribution from the crossing loops were up to $L_{Aeq(15hour)}$ 46 dBA daytime, $L_{Aeq(9hour)}$ 46 dBA night-time and L_{Amax} 58 dBA for both the daytime and night-time periods.

The predicted noise levels from the crossing loops were within the ARTC noise management criteria and are lower than the railway noise levels from the daily train passby events on the main line. Because the crossing loops are within 4.5 m of the main line tracks, they are not expected to be the primary influence on the overall daytime and night-time predicted noise levels at the sensitive receptors.

11.3 Potential for sleep disturbance

The airborne noise from railway operations during the night-time on the Project Concerns has potential to cause sleep disturbance and potential awakening reactions. ARTC has primarily adopted the night-time L_{Amax} rail noise trigger across Inland Rail to assess and manage potential sleep disturbance impacts, such as awakening, disrupted sleep or a general reduction to the quality of sleep over time.

The adopted L_{Amax} noise trigger accounts for the highest level of noise during train passbys and the number of passby events in the night-time. The assessment of railway noise determined that the L_{Amax} noise assessment criteria were met at the majority of sensitive receptors on the Project. There were up to 23 sensitive receptors where the predicted noise levels, at the external worst-case building façade, were above the adopted L_{Amax} noise trigger by up to 6 dBA within the night-time period.

The noise predictions identified the L_{Amax} noise management criteria was generally met where receptors were further than 500 m from the rail corridor. . Nonetheless, railway noise has the potential to be audible at sensitive receptors, both externally and internally, even where the adopted railway noise management levels are achieved.

To further inform future approaches for the management of noise and mitigation of noise related impacts on Inland Rail, the assessment has considered guidance on sleep disturbance from the World Health Organisation (WHO). The WHO guideline Night Noise Guidelines for Europe[12] recommends that internal (indoor) noise levels are not above L_{Amax} 42 dBA to preserve sleep quality.

The WHO guideline advises the L_{Amax} 42 dBA noise level is considered a 'best estimate' of the minimum threshold for potential awakening reactions by transport noise. It was informed from transport noise studies in Europe including non-railway sources such as aircraft and road traffic. Further advice from the WHO also acknowledges the establishment of relationships between single event noise indicators, such as L_{Amax}, and long-term health outcomes remains tentative.

Accordingly, the WHO guideline noise level is not applied as a noise limit or criterion for the prevention of sleep disturbance and awakening reactions. In practice, the response to noise and aspects such as sleep disturbance is personal and responses vary between individuals. A range of factors influence tolerance to noise, not just an absolute level of noise.

[12] World Health Organisation, 2009. Night Noise Guidelines for Europe.

The internal L_{Amax} 42 dBA guideline level corresponds to a conservative external (outdoor) level of L_{Amax} 49 dBA, allowing for a conservative 7 dBA difference between indoor and outdoor noise levels where windows at rural residential properties are open for ventilation. Noise level reductions of at least 10 dB to 15 dB can be achieved with windows open, depending upon the building construction and the source of noise.

Noise modelling indicates that predicted noise levels from rolling stock could be above L_{Amax} 49 dBA within approximately 1 km from the rail corridor. The 1 km distance is a guide to where night-time noise levels may have the potential to result in sleep reactions within habitable rooms of residential properties. Just because railway noise can be audible does not mean it will cause disturbance or annoyance impacts.

It would be expected that residential property, complying to Australian building codes and standards, would achieve façade noise reductions greater than the conservative 7 dBA assumption applied in this assessment. In such circumstances the building construction would assist in managing noise intrusion and the guideline values for internal noise amenity would be more readily achieved.

Noise levels, and the potential for noise related impacts, will continue to be evaluated during the future phases of the Project. ARTC will consider on a case by case basis where reasonable and practicable mitigation measures can be implemented to reduce potential noise impacts, such as sleep disturbance during the night-time.

11.4 Consideration of local weather on railway noise

The regional weather conditions have the potential to influence the propagation of noise within the local environment. Downwind from a noise source the wind conditions can enhance the propagation of noise and equally being upwind of a noise source, the wind conditions act to suppress noise propagation.

Temperature inversion conditions occur where the temperature of a layer of air in the atmosphere increases with height, rather than the typical conditions where air temperature decreases with height. This effect causes a layer of cool, still air being trapped below the warmer air.

Temperature inversion conditions are most likely to occur during the early morning and night-time periods during the winter months. The stable conditions, with little or no vertical air movement of the cool air layer, can result in a refraction of sound waves and potentially enhance the propagation of noise over large distances.

The potential for railway noise at individual sensitive receptors to be influenced by the local weather conditions will be based on the complex interaction between the moving noise source (train passby), the varying frequency content of the received noise, the weather conditions in the region and the local environment.

Whilst there may be periods when the weather conditions influence the propagation of noise from train passby events, the railway operation are forecast to be 1 to 2 train movements per hour with audible passby events likely to be 2 to 5 minutes in duration.

The combination of the duration and intermittency of the train passbys would diminish the influence of weather conditions on the railway noise levels assessed over the 15-hour daytime and 9-hour night-time periods.

The daily noise levels from the steady state noise emissions from idling trains at the crossing loops can be more readily influenced by local weather conditions than noise from the transient train passbys. The ISO methodology applied for the calculation of noise levels from the crossing loops included an allowance for downwind noise enhancing weather conditions and/or moderate temperature inversions.

11.5 Characteristics of railway noise

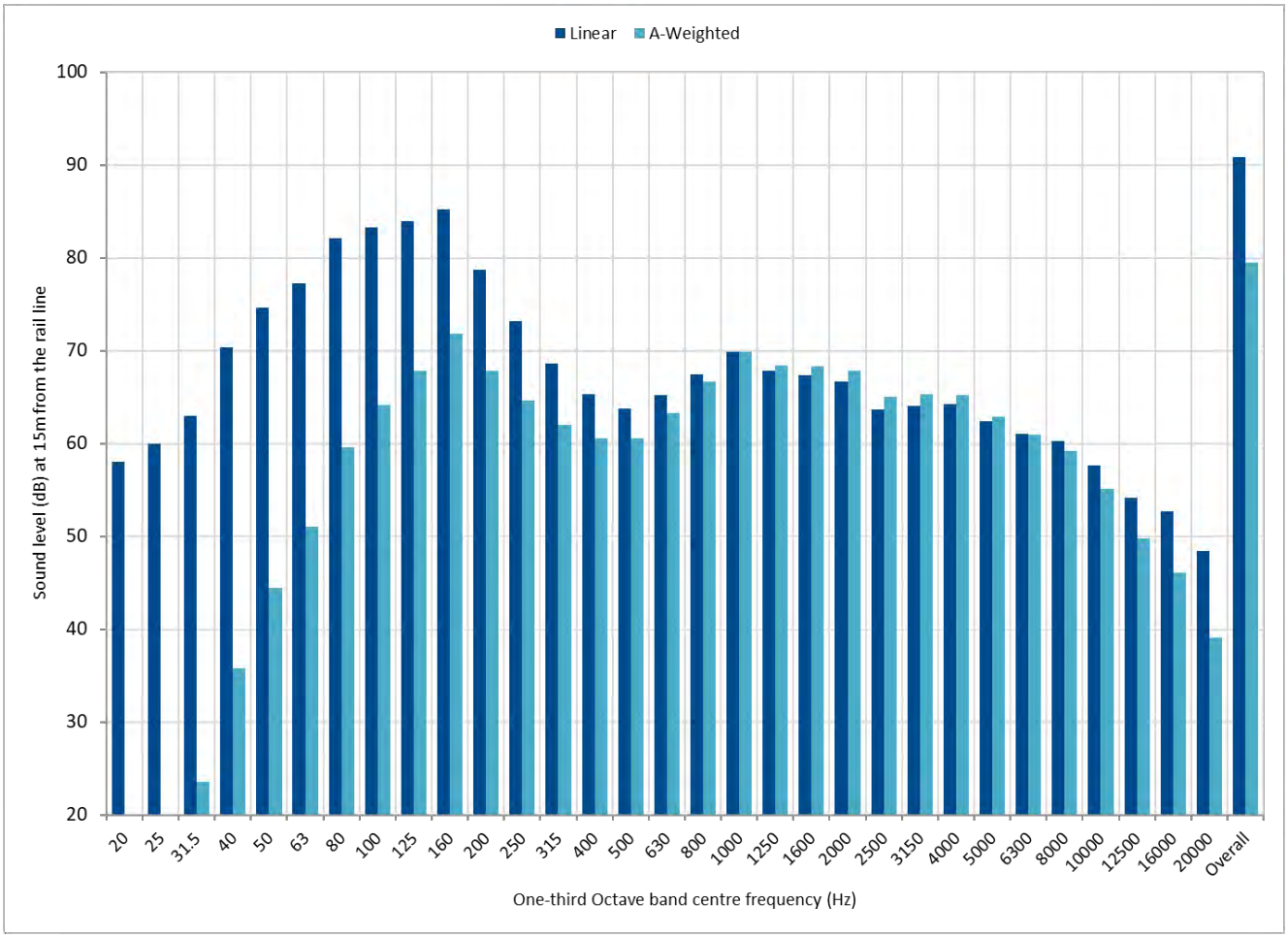
The potential impacts of noise from railway operations can be influenced by the characteristics of source noise emitted from the train passbys and rail operation at the crossing loops. A noise spectrum for a typical freight train passby events is detailed in **Figure 29**.

The noise spectrum was derived from noise measurements of 149 rail freight movements on the QR West Moreton System in March 2019. The noise levels were measured at 15 m from the single rail line where trains were operating at approximately 60 km/h.

The typical train passby spectra identifies there is a prominent contribution of noise in the low frequency range between 80 Hz and 250 Hz at 15 m from the rail line. The diesel-electric locomotive engines and exhaust systems were the primary source of the low frequency noise content during the measured train passby events.

Where locomotives noise emissions have a low frequency noise content in proximity to the rail line (200 m for example) it does not mean that low frequency noise characteristics will necessarily be experienced at sensitive receptors. The ability to detect features, such as low frequency noise, will also depend on the contribution of the other sources of noise in the local environment, which may influence an individual's perception of the loudness and character of the rollingstock noise.

Figure 29 Example noise emission spectra for rail freight



Note Noise spectra determined as the logarithmic average of daily coal and freight train passbys as measured at 15 m from the rail centreline.

The Nordic noise modelling methodology (Kilde 130) provides the overall A-weighted level of railway noise, it does not provide the frequency spectra for rollingstock noise at individual sensitive receptors. Notwithstanding, based on the typical frequency content of diesel electric locomotives, it is reasonable to assume that where railway noise would be clearly audible above the ambient noise environment there may be low frequency noise content in the passby noise emission.

Analysis of the noise spectrum did not identify prominent tones at specific frequencies, and the noise emission from the rollingstock operations is not expected to include tonal noise characteristics. Other general characteristics of railway noise are summarised as follows:

- Bunching or stretching can occur when the couplings on a train are subject to sudden changes in force during acceleration and deceleration, this can cause short-lived 'squeaks' and 'bangs'. Events of this nature may have subjective impulsive noise emission characteristics, although not necessarily quantified as impulsive noise at nearest sensitive receptors. Noise events from bunching or stretching have been assessed at the crossing loops proposed on the Project.
- Short-lived 'booming' noise with potential low frequency characteristics can be caused by empty containers and wagons resonating. The occurrence of noise events of this nature is not readily forecast and have not been specifically accounted for in the noise modelling at this EIS stage.
- When trains depart from the crossing loops the locomotives may be required to initially operate under a high notch setting to accelerate from a standing position. This can cause increased noise emissions from the locomotives which may result in a perceptible increase in railway noise for a short time interval nearby to the crossing loops. Given the short duration and the rail operations on the adjacent main line track, the event would not be expected to influence the noise levels over the 15-hour daytime and 9-hour night-time assessment periods.
- Curving noise, such as wheel-squeal, can result in prominent tonal noise emissions. The Project includes a relatively short section of a tight-radius curve where the Project ties into the existing rail corridor to the south of Gowrie near to the western tunnel portal. Corrections for potential curving noise were included in the noise prediction modelling at these locations.
- The condition of the track can be a primary influence on the rolling noise from the locomotives and the wagons. Features such as corrugation (deformation of the track) increase the roughness of the rails which can cause increased noise levels on both straight track and curves. The Project will be newly constructed rail that shall be designed for freight rail and subject to periodic maintenance.
- Features such as jointed track can increase rolling noise. The track for Inland Rail will be continuously welded rail which reduces the likelihood of 'clickety-clack' sounds from the wheel-rail interface.

12 Assessment of ground-borne vibration

12.1 Approach

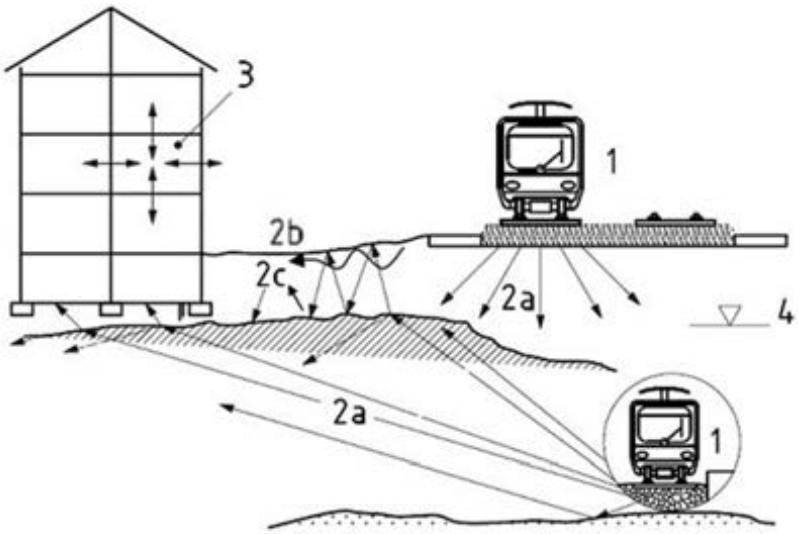
To assess ground-borne vibration from railway operations, guidance was referenced from ISO 14837[13]. It defines three levels of modelling according to the level of project detail available, as

- A Scoping Model at the very earliest stages.
- An Environmental Assessment Model during planning process and preliminary design.
- A Detailed Design Model to finalise the extent and form of any mitigation for construction.

This assessment adopted a Scoping Model with elements of an Environmental Assessment Model to predict the likely range of ground-borne vibration levels and the benefits (or otherwise) of different design and mitigation options. The approach used in this assessment considers source vibration levels, losses between the source and nearby building foundations, and the propagation of vibration into and within the building elements.

A diagram of how vibration propagates from track to a structure is illustrated in **Figure 30**.

Figure 30 Example of rail vibration source, propagation and receptor system



Key
1 source
2 propagation:
2 a body waves (compression, shear)
2 b surface waves (e.g. Rayleigh, Love)
2 c interface waves (e.g. Stoneley)
3 receiver (vibration, re-radiated noise)
4 water table

NOTE The components of the system comprising source, propagation and receiver are interdependent.

[13] International Standards Organisation, 2005. ISO 14837-1 2005 "*Mechanical vibration - Ground-borne noise and vibration arising from rail systems - Part 1: General guidance*

The effects of vibration in buildings can be divided into two broad categories, where the:

- occupants or users of the building are inconvenienced or possibly disturbed either from tactile vibration or audible noise generated from the building vibration ('comfort risk'); and,
- building contents or internal linings may be noticeably affected or where the integrity of the building or the structure itself may be prejudiced ('cosmetic damage risk').

These effects of vibration were estimated using a combination of published theoretical and empirical relationships, which includes some conservatism to cover the likely variation expected in practice. Conservatively, the modelling also assumes:

- Attenuation rates vs distance are estimated in terms of overall values only;
- No adjustment for buildings of substantially greater mass or size than those used to inform published data (conservative);
- No coupling losses between the building and adjacent soil; and,
- a crest factor[14] of 4.

More complex factors shown in **Figure 30**, such as how rail vibration might interact with different ground soils and media, are not directly modelled at the EIS stage given the level of detail that would be required in order to effectively do so, and the field data applied in this assessment includes these effects.

12.2 Source vibration levels

The Project does not have existing comparable rail freight operations or speeds as that proposed. Consequently, it was not possible to measure local vibration levels directly and a vibration prediction model was used to estimate potential impacts.

To determine a reference ground vibration level, detailed measurement surveys were completed on existing rail corridors between Wagga Wagga and Albury in NSW and Euroa and Wallan in Victoria. The locations are associated with Inland Rail in NSW and Victoria where there are comparable existing rail freight operations, with single-stacked freight wagons, on ballasted track form.

The rail corridor in these regions is mainly used for rail freight and had an average of 20 or more freight train movements per day operating at 60 km/h to 80 km/h. Ground-borne vibration levels were measured at three locations in each region, with measurements made at-grade (ground level) at distances of 15 m to 45 m from the outer rail line.

The train vibration measurements were referenced to calculate the W_b-weighted VDVs at 15 m from the outer rail. The calculated VDV (W_b weighted) varied at all sites from 0.01 m/s$^{1.75}$ to 0.04 m/s$^{1.75}$ for a single train passby event. The variation is representative of typical differences in rollingstock, wheel conditions and train consist (set of wagons).

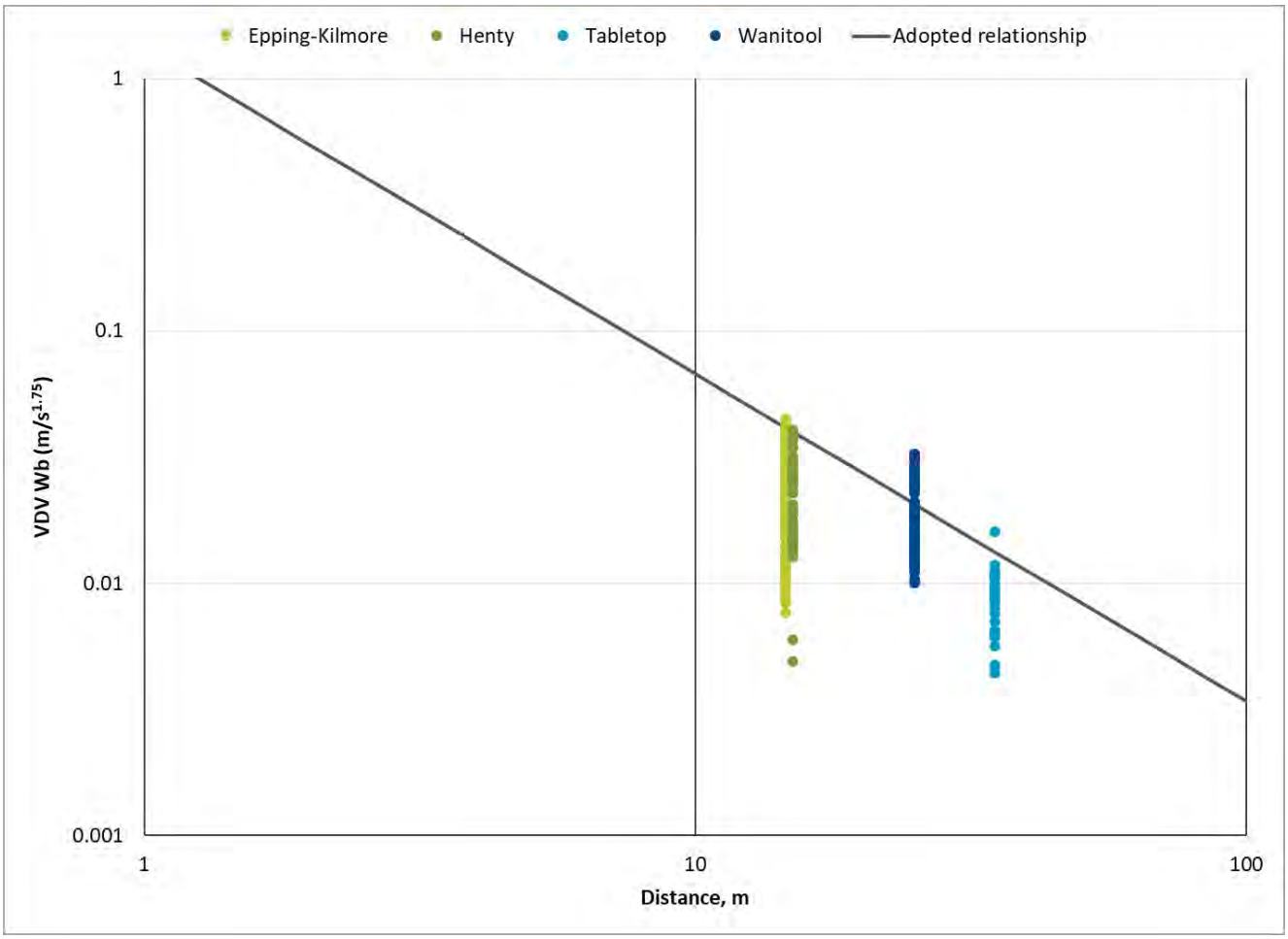
The adopted VDV (W_b weighted) of 0.04 m/s$^{1.75}$ at a setback of 15 m for a single train passby was based on the maximum derived VDVs. Accordingly, the assessment inherently assumes that each train is a worst-case vibration generating event and is therefore conservative.

The change in VDV for a single train passby event with distance from the track is shown in **Figure 31**.

[14] Ratio of peak to root mean square (RMS) velocity level.

The figure presents the monitored vibration levels at the four sites and the adopted relationship between rail vibration and distance from the outer rail. The figure shows the reduction of VDV with increasing distance from the track based on geometric spreading of the vibration energy only (ignoring site specific dampening).

Figure 31 Logarithmic relationship between VDV and distance

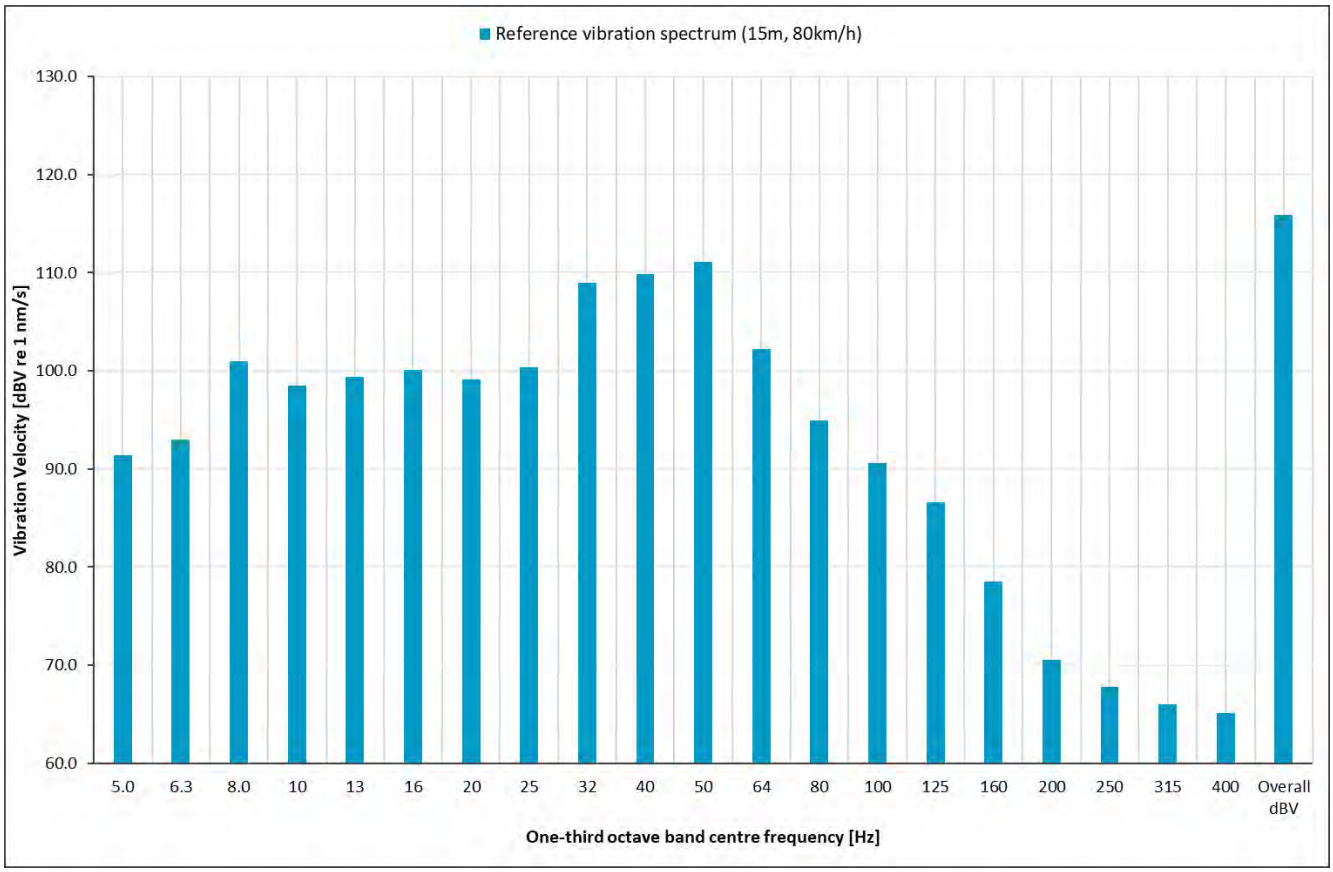


Note Reference VDV for a single freight train passby.

The results obtained using this process had similar vibration spectra and relationships between overall levels and distance from the rail track. The modelled vibration spectrum in **Figure 32** is provided as one-third octave bands based on the logarithmic averages of the measurement in order to bias sites with the highest ground-borne vibration levels during train passby events.

The variation in actual vibration spectra is affected by various local factors such as wheel and rail roughness conditions and track speed.

Figure 32 Vibration velocity spectrum at 15 m from the outer rail



Note Reference vibration velocity spectrum for a single freight train passby.

12.3 Ground-borne vibration from ground-level train passbys

12.3.1 Assessment approach

Previous measurement and assessment of ground-borne vibration from existing rail freight corridors with similar geotechnical considerations indicates that tactile vibration impacts would be limited to sensitive receptors located within 100 m of the proposed rail alignment.

Vibration levels at properties beyond this distance are routinely expected to be within recommended assessment criteria for comfort and where the comfort goals are met, criteria relating to the integrity of building structures are also considered to be achieved given they are typically an order of magnitude higher.

Bridge and viaduct structures are expected to be constructed from reinforced concrete and a ballasted track system. These structures are considered to have resilient matting for ballast retention (at least in the vicinity of residents), and this also provides benefits in terms of vibration isolation.

Based on the location of the nearest sensitive receptors, expected source vibration spectra and typical losses through the structure, the ground-borne vibration criteria are expected to be met at ground level assessment positions near bridges and viaducts. On this basis, the following sections consider properties within 100 m of the alignment excluding bridges and viaducts.

12.3.2 Residential and other occupied buildings

The VDV results were estimated based on daily train movements at the project opening in 2027 and the 2040 design year and the forecast train speeds. Estimated VDV levels for trains at 105 km/h were applied to determine the minimum off-set distance from the outer rail of the Project where the ground-borne vibration criteria would be expected to be achieved. Recommended off-set distances to achieve the rail vibration criteria are shown in **Table 33**.

Table 33 Screening assessment of ground-borne vibration levels

Year of operation	Estimated off-set to meet vibration criteria, subject to detailed review		Receptors within the off-set distance
	Daytime (0.2 m/s$^{1.75}$)	Night-time (0.13 m/s$^{1.75}$)	
2027 opening year	11 m (22 trains)	15 m (18 trains)	None
2040 design year	12 m (28 trains)	16 m (21 trains)	None

Note The estimated off-set distances are based on the VDV reference, actual vibration levels at individual receptors can vary from the calculated levels due to the rail infrastructure and geological conditions.

VDV levels calculated applying the W_b-weighted vibration levels as per BS 6472 (2008 version).

Based on the highest estimated off-set distance for the night-time railway operations for the design year 2040, an estimated minimum off-set distance of 16 m from the outer rail would be required to meet ground-borne vibration criteria. This is based on the conservative assessment approach and the number of train movements in each time period.

A review of the Project alignment determined all the identified the sensitive receptors not resumed by the Project would be outside of the 16 m off-set distance from the outer rail of the Inland Rail track. The railway operations on the Project rail tracks would meet the ground-borne vibration assessment criterion at all sensitive receptors during the daytime and night-time periods. The less stringent vibration criteria for managing risk of cosmetic damage to buildings would also be met.

Where ground-borne vibration from railway operations are within the assessment criteria, there may still be potential for rail operations to generate perceptible levels of ground-borne vibration at sensitive receptors in the form of regenerated noise (refer **Section 13**).

12.3.3 Heritage sites

The assessment has considered the potential for ground-borne vibration from railway operations to impact sites along the Project alignment that were identified as possessing historical or cultural value. As this study is not informed as to the structural condition of each heritage site, SLR has considered that heritage structures are not structurally unsound, on the understanding that:

- The Project will require condition surveys of buildings and structures in the vicinity of the alignment and that any excavations would be carried out prior to final design.
- Where ground-borne vibration levels are predicted to exceed the screening criteria, a more detailed assessment of the structure and vibration monitoring would be carried out to confirm vibration levels remain below appropriate limits for that structure.
- For heritage items, any detailed assessment would determine any specific sensitivities in consultation with relevant specialists to ensure risks are adequately managed.
- If a heritage building or structure is found to be structurally unsound (following inspection), a more conservative cosmetic damage objective (for example 2.5 mm/s peak component particle velocity for long term vibration from DIN 4150.3) would be considered.

Based on the reference ground-borne vibration velocity for a freight train passby (**Figure 32**), the PPV levels would be within the vibration targets for minimising potential impacts at 15 m or more from the nearest rail, allowing for local factors such as turnouts.

Within this distance it is to be acknowledged that:

- depending on location, some assets may already be exposed to similar vibration levels, as the Project shall be co-locating within an existing corridor that is primarily used by coal and freight trains; and,
- ground-borne vibration levels may still be within guideline values at closer distances, depending on local factors and the spectral nature of criteria used to estimate cosmetic damage risk.

The screening assessment of vibration impacts at the sites of potential non-indigenous heritage significance (areas of interest) is provided in **Table 34**.

Based on the heritage surveys, 15 sites were determined to have no heritage structures. The assessment determined the remaining heritage sites with identified structures are considered at risk from railway induced ground-borne vibration due to the distance from the rail lines or the specific structures are not expected to be sensitive to the level of vibration from train passbys.

The heritage sites at Gowrie Junction Railway Station and the Airforce Road Culvert are within the existing railway corridor and are recommended to be reviewed in further detail where they are found to be structurally unsound following survey, and/ or within 15 metres of the nearest rail as a result of the Project.

Table 34 Screening assessment of ground-borne vibration at heritage sites

Site ID[1]	Site name	Site description	Proximity to the Project	Assessment outcome
G2H-19-H01	Draper Road Bridge	Submerged timber post structures Outside Project disturbance footprint.	Greater than 275 m	No impacts
G2H-19-H02	Draper Road Structure	Property has been cleared. Outside Project disturbance footprint.	Greater than 275 m	No impacts
G2H-19-H03	Draper Road Railway Station	Small collection of sandstone boulders Outside Project disturbance footprint.	Greater than 275 m	No impacts
G2H-19-H06	Homestead on Paulsens Road	A timber clad weatherboard house on stumps and large shed (SLR ID 315157)	50 m	No impacts
G2H-19-H07	Homestead on Paulsens Road	A timber clad weatherboard house (SLR ID 315224)	50 m	No impacts
G2H-19-H08	Homestead on Paulsens Road	A timber clad house on stumps (SLR ID 315171)	50 m	No impacts
G2H-19-H13	Gowrie Junction Railway Station	Redundant concrete retaining structure	13 m	No impacts, note[1]
G2H-19-H14	Gowrie Junction Road Structure	Two timber clad houses on stumps (SLR ID 315031)	170 m	No impacts
G2H-19-H16	Junction Street Structures	Sandstone and concrete posthole, some artefacts discovered.	45 m	No impacts
G2H-19-H19	Hermitage Road Single Structure	Large broken windmill, metal water tank on timber stumps.	270 m	No impacts

Site ID[1]	Site name	Site description	Proximity to the Project	Assessment outcome
G2H-19-H23	Jones Road Multiple Structures	Residence and sheds over 140 m from Project alignment. (SLR ID 313904). Outcrop with potential Indigenous artefacts 50 m from Project alignment	50 m to >140 m	No impacts
G2H-19-H24	Bells Road Multiple Structures	Dairy with timber clad building, small timber frame corrugated iron sheds and windmill in disrepair.	590 m	No impacts
G2H-19-H26	Howmans Road Multiple Structures	Timber framed dairy and sheds, in use.	330 m	No impacts
G2H-19-H27	Cattos Road Structure	Timber shed and stables	160 m	No impacts
G2H-19-H30	Airforce Road Culvert	Box sandstone culvert	Within existing rail corridor	No impacts, note[1]

Note 1 Review in detail if less than 15 metres distance from nearest track, and if the structure is retained 'as is' i.e. not modified.

12.4 Ground-borne vibration Toowoomba Range Tunnel

The movement of the trains through the Toowoomba Range Tunnel will induce vibration of the track system and the tunnel structure. This vibration will then propagate into the surrounding ground soil towards sensitive receptors. The passby emissions may be sufficient to impact the amenity of the receptors through perceptible vibration within properties.

A Scoping Model approach recommended by the ISO 14837 was adopted to identify whether ground-borne vibration could be a potential source of impact and should be considered in more detail. This model was adopted because the majority of the nearest sensitive receptors are greater than 200 m from the rail track within the Toowoomba Range Tunnel.

A ground vibration model was developed to account for the:

- concrete slab track form (including rail supports) within the tunnel;
- vertical profile of the tunnel alignment (depth);
- speed profiles of the trains operating within the tunnel;
- daily train numbers and train types; and,
- principal geology surrounding the tunnel alignment.

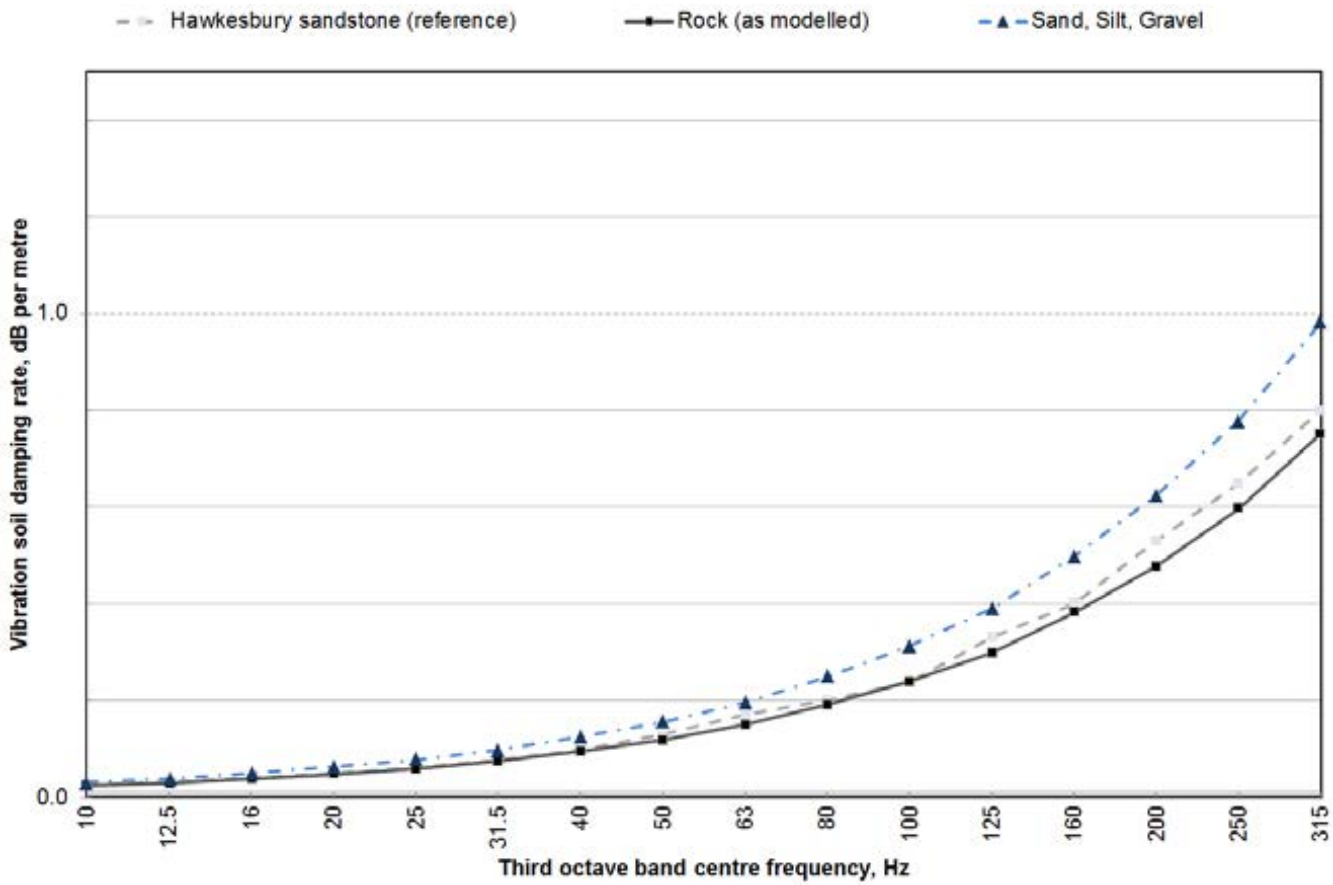
A theoretical approach is used for the tunnel compared to surface track, as field measurements of a similar arrangement have not yet been undertaken. Adopting the above information, the model accounted for geometric spreading of the vibration wave front and propagation losses which include a ground attenuation or 'damping' rate.

Specifically, the modelling considered the following parameters which are provided in detail in **Appendix F**:

- The tunnel track sections use the Rheda2000 system with a Vossloh 300NG series highly resilient rail fastener (cellentic intermediate plate with 17 MN/m (mega Newton per metre) static stiffness, 1.1 dynamic to static stiffness ratio).
- The trains were modelled as a line source with the vibration levels in **Section 12.2**, adjusted for distance to represent the designed tunnel internal surfaces.

- No coupling loss (or amplification) between the designed tunnel structure and surrounding media, which is a conservative assessment approach.
- The ground attenuation rates described in **Figure 33** which references historical measurements by SLR of various soil classifications. Lower dampening rates mean less loss per metre and local strata competencies (i.e. presence of different material pockets or voids) or stratification (layering of different soil types) were not modelled to provide a conservative assessment.

Figure 33 Ground attenuation rate modelled for tunnel vibration



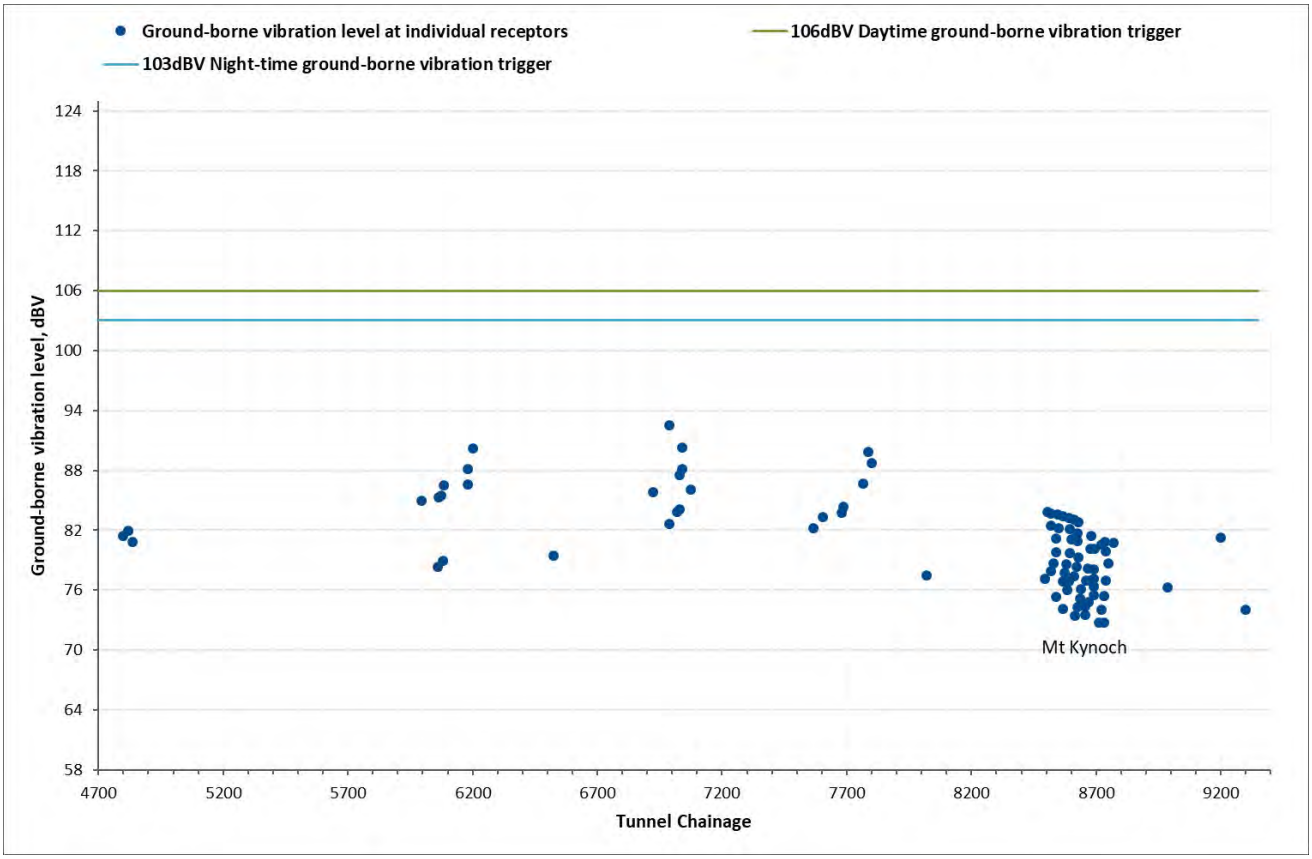
The predicted ground-borne vibration levels have been expressed as decibels (dBV) whereby the 0.2 mm/s daytime vibration trigger level corresponds to 106 dBV and the night-time 0.13 mm/s night-time vibration trigger level corresponds to 103 dBV.

The predicted ground-borne vibration levels are detailed in **Figure 34**.

The ground-borne vibration criteria are predicted to be met at approximately 50 m from the tunnel track alignment. These results are forecast to be controlled by vibration energy in the third octave bands with centre frequencies 31.5 Hz to 63 Hz.

The vibration levels, expressed as decibels, are up to 93 dBV and meet the 106 dBV the daytime and 103 dBV night-time ground-borne vibration assessment criteria at all identified sensitive residential and sensitive non-residential receptors.

Figure 34 Predicted rail induced ground-borne vibration levels – Toowoomba tunnel



Note 1 Ground-borne vibration (Lv,RMS,1 second) in decibels (dB) referenced to 1 nm/s.

The Baillie Henderson Hospital and Health Services complex is located over 950 m from the Toowoomba Range Tunnel. At this distance, the potential ground-borne vibration levels from train passbys within the tunnel would readily achieve criteria for managing ground-borne vibration impacts with the hospital and medical buildings.

The ground-borne vibration criteria for sensitive scientific and medical equipment are much lower than the criteria for human comfort. Whilst unlikely that ground-borne vibration levels may be above the recommended criteria, there remains potential for very low levels of vibration to interfere with sensitive equipment.

On this basis, it is recommended that consultation is undertaken to determine the potential types and location of sensitive equipment in use within the hospital and medical buildings to verify the outcomes of this assessment.

An effective high vibration attenuation class trackform, such as Vossloh 300NG with the 17 MN/m static stiffness (1.1 dynamic to static ratio) 'Cellentic' pad (or performance equivalent), is proposed for the slab track within the tunnel. Based on the above, no additional measures to mitigate source ground-borne vibration from the rail passbys in the tunnel are considered to be required.

Whilst the assessment is conservative, and actual ground-borne vibration may be lower than predicted, achieving the vibration criteria does not preclude the potential for perceptible ground-borne vibration at sensitive receptors. Ground-borne vibration from railway operations within the Little Liverpool Range tunnel will be assessed further during the future phases of the Project.

12.5 Services and utilities

The Project reference designs have identified the railway alignment shall cross or be in proximity to an existing gas pipeline owned by APA Group. A risk assessment of potential vibration from the operation of the Project has been undertaken to identify where the detailed design of the Project would need to consider the potential effects of rail induced vibration upon the pipeline structure.

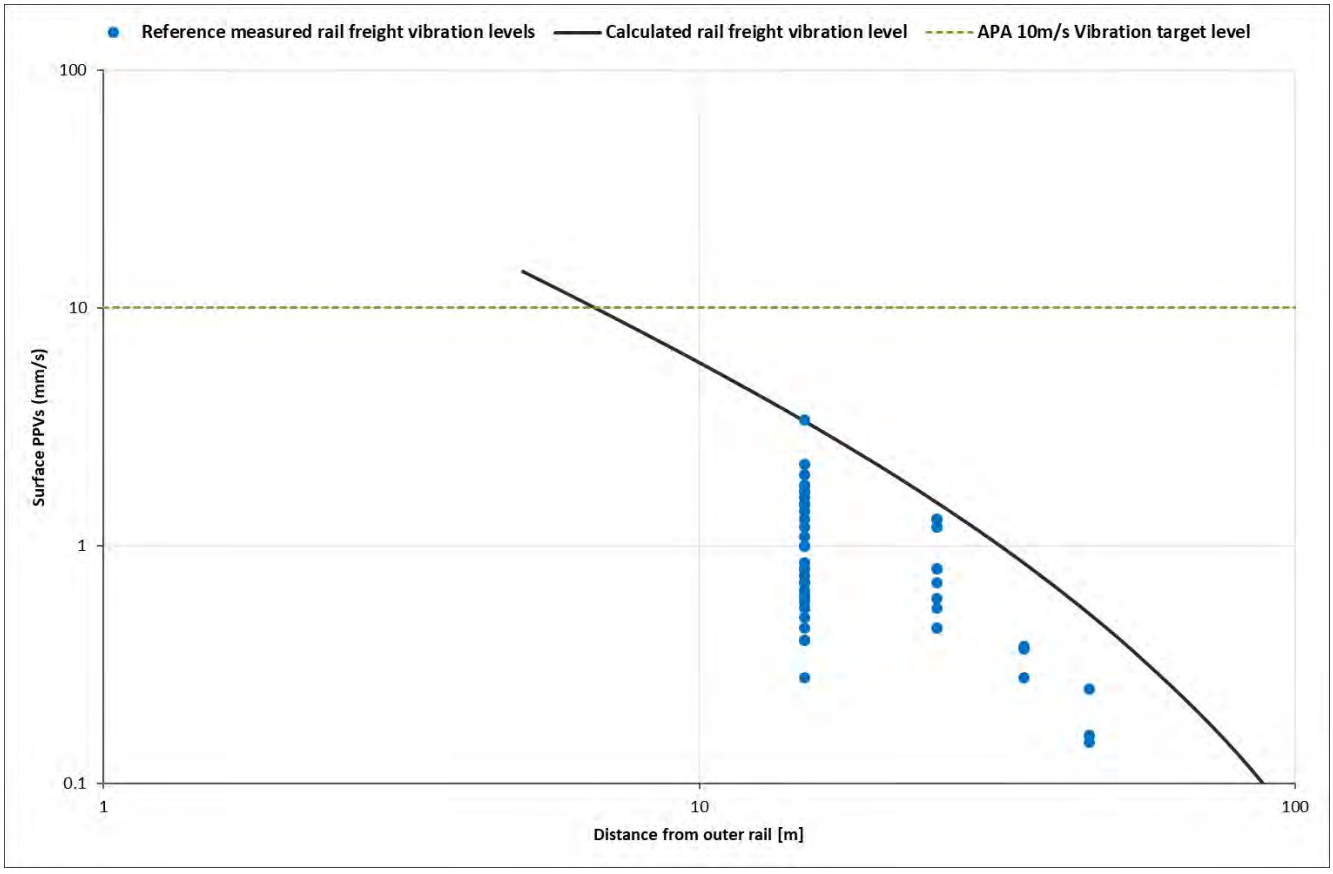
The assessment of vibration is exclusive to the railway induced vibration that may be experienced during train passbys on the Project. The assessment does not consider vibration and its effects as a result of the construction of the Project, ground settlement or unique impact events such as train derailment.

A pipeline interaction report, prepared by APA, was supplied by ARTC to assist the assessment of vibration. The interaction report nominates an allowable 10 mm/s maximum PPV vibration level for the pipeline interaction at Mount Kynoch. A vibration management level was not nominated for the interaction areas at Toowoomba Range, Lockyer Creek Viaduct Cattos Road.

Detailed in **Figure 35** are PPV vibration levels from train passbys as measured at different setbacks from the outer rail. The adopted relationship indicates that at offset distances of 7 m or greater from the outer rail, the rail vibration levels would be approximately 10 mm/s or less.

In practice, the train vibration can be expected to exhibit slightly difference characteristics at different sites and the application of **Figure 35** is deemed conservative and it shows surface vibration levels which would be greater than the vibration levels at the depth of the buried pipeline.

Figure 35 Calculated surface PPV railway vibration levels



For the purpose of this assessment, the plastic coating around the steel pipeline has been identified as the most vibration sensitive component as possible damage to the coating may result in impacts such as reduced corrosion resistance. Where vibration is controlled to limit the potential for damage to the plastic coating the potential for damage to the steel pipeline would also be managed.

The nominated 10 mm/s vibration level is considered conservative (stringent) when compared against standards for the effects of vibration upon pipelines and coatings. For example, German Standard DIN 4150-3 recommends a 50 mm/s vibration level for plastic pipelines. Nonetheless, the 10 mm/s vibration level has been adopted to provide a conservative appraisal of the potential vibration management requirements, including aspects such as the long-term endurance of the pipeline.

Based on the vibration levels in **Figure 35**, the assessment of vibration effects upon the APA pipeline are discussed in **Table 35**.

Table 35 Assessment of rail induced vibration upon the APA pipeline

Pipeline interaction	Distance between pipeline and the rail alignment	Assessment outcomes
Mount Kynoch	The rail line is in tunnel, approximately 125 m below the APA pipeline.	Vibration from train passby events shall be well below the 10 mm/s vibration level. The risk of rail inducted vibration triggering the vibration level is deemed negligible.
Toowoomba Range	The interaction report acknowledges that exact setbacks cannot be identified yet due to the pipeline's steep gradients.	The drawings in the interaction report suggest that setbacks greater than 7 m may not be achievable. The potential use of bridging slabs is flagged in the interaction report and this may either allow for relaxing the vibration threshold or designing vibration breaks. The determination of a vibration management level for the pipeline should be supported with measurement of bridging slabs used elsewhere on the pipeline in order to assist making an informed decision.
Lockyer Creek Viaduct	The rail line is on a viaduct with piers spaced at 46 m.	The piers are recommended to be located to provide a minimum 15 m offset to the APA pipeline.
Cattos Road	The existing rail line interacts with the pipeline alignment where the pipeline depth shall be 1.2 m to 1.4 m relative to the surface level of the Project's upgraded railway infrastructure.	The pipeline depth is well below the nominated minimum offset of 7 m and it is unlikely the 10 mm/s can be achieved. However, the pipeline is already exposed to existing heavy rail movements and may therefore tolerate exposure to rail vibration. In the event ARTC identifies the pipeline is at risk of impact from rail vibration, it is recommended that an appropriate and reasonable vibration threshold is agreed with APA in line with relevant standards for managing the effects of vibration on structures. The determination of a vibration management level for the pipeline should be supported with measurement of existing rail vibration levels at Cattos Road where the current rail alignment interacts with the pipeline.

13 Assessment of ground-borne noise

13.1 Overview

The ground-borne vibration from train passbys can be sufficient to cause floors or walls of the structure to vibrate and this can result in an audible low frequency rumble inside buildings, referred to here as ground borne noise or regenerated noise.

The potential for ground-borne noise is highly dependent on the arrangement, construction and condition of a property. The specific building types and construction details of the sensitive receptors are not known and could have substantial variations in rural areas.

To conservatively estimate the ground-borne noise levels at sensitive receptors, the assessment applied the following key assumptions:

- No coupling loss between the ground and the receptor building structures to account for loss of energy as vibration enters the building footings.
- No floor amplification effects or floor-to-floor losses within the receptor structures.
- Use of a vibration to sound pressure (noise) conversion factor of -32 dB[15].
- Application of a 0.05 per metre damping loss estimated from the rail vibration measurements described in **Section 12**.

13.2 Ground-borne noise from ground level train passbys

13.2.1 Assessment approach

The calculated ground-borne noise levels in decibels, at increasing distance from the outer rail, are detailed in **Figure 36**.

The ground-borne noise levels are presented for a train speed of up to 105 km/h. Calculated ground-borne noise levels at greater than 50 m from the outer rail are less than or equal to the L_{ASmax} 40 dBA daytime and L_{ASmax} 35 dBA night-time ground-borne noise assessment criteria.

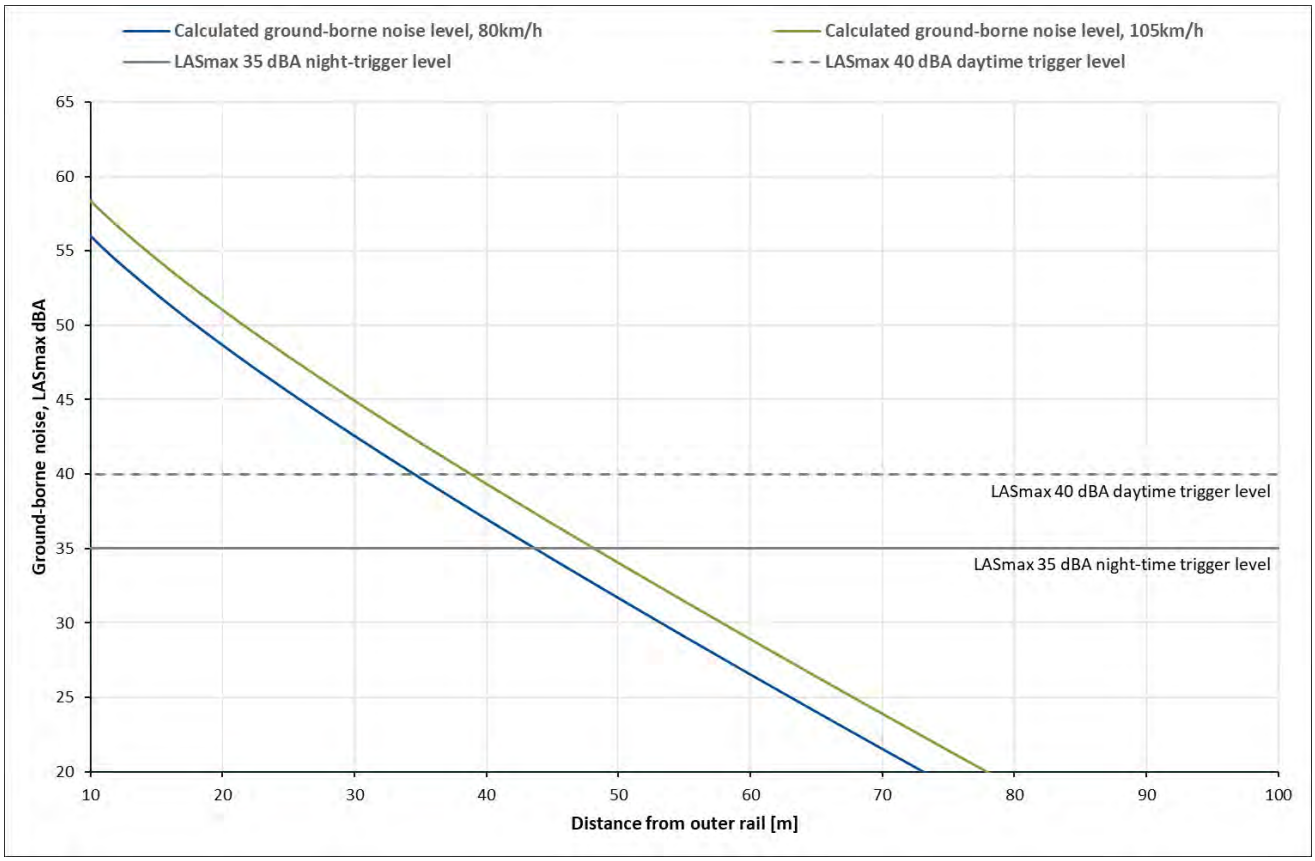
Based on the 50 m off-set distance and a review of aerial imagery, there was one sensitive receptor identified to be within 50 m of the outer rail of the Project (excluding the Toowoomba Range Tunnel). The receptor building is within the disturbance footprint of the Project and will likely be resumed or acquired by the Project.

On the understanding the identified building will not be at sensitive receptor at the commencement of railway operations, the surface railway operations are expected to achieve the ground-borne noise assessment criteria at all sensitive receptors.

Whilst ground-borne noise levels calculated at most sensitive receptors were principally within the assessment criteria, and do not trigger investigation of mitigation, there can still be a risk of minor perceptible ground-borne noise at sensitive receptors. Furthermore, ground-borne noise can be perceptible even where the ground-borne vibration assessment criteria are comfortably achieved.

[15] Acoustics and Noise Consultants, Guideline "Measurement & Assessment of Groundborne Noise & Vibration", 2nd Edition 2012.

Figure 36 Calculated ground-borne noise levels from train passbys



Note Estimated distance to achieve the ground-borne noise criteria is conservatively rounded to 50 m.

At the 50 m off-set distance, the outdoor noise environment would be dominated by the airborne noise which would likely mask the potential ground-borne noise content at the nearest habitable rooms facing the rail corridor. Within other habitable rooms, where the airborne noise component can be lower, there is potential for the airborne noise to not fully mask potential ground-borne noise and perceptible ground-borne noise impacts may be experienced.

At this stage of the design, because the building construction of the sensitive receptors is not known, it is not possible to predict with greater certainty the indoor ground-borne noise levels that could eventuate during railway operations. It is recommended that ground-borne noise levels are reviewed through further assessment during the detailed design of the Project to confirm the assessment outcomes.

13.3 Toowoomba Range Tunnel

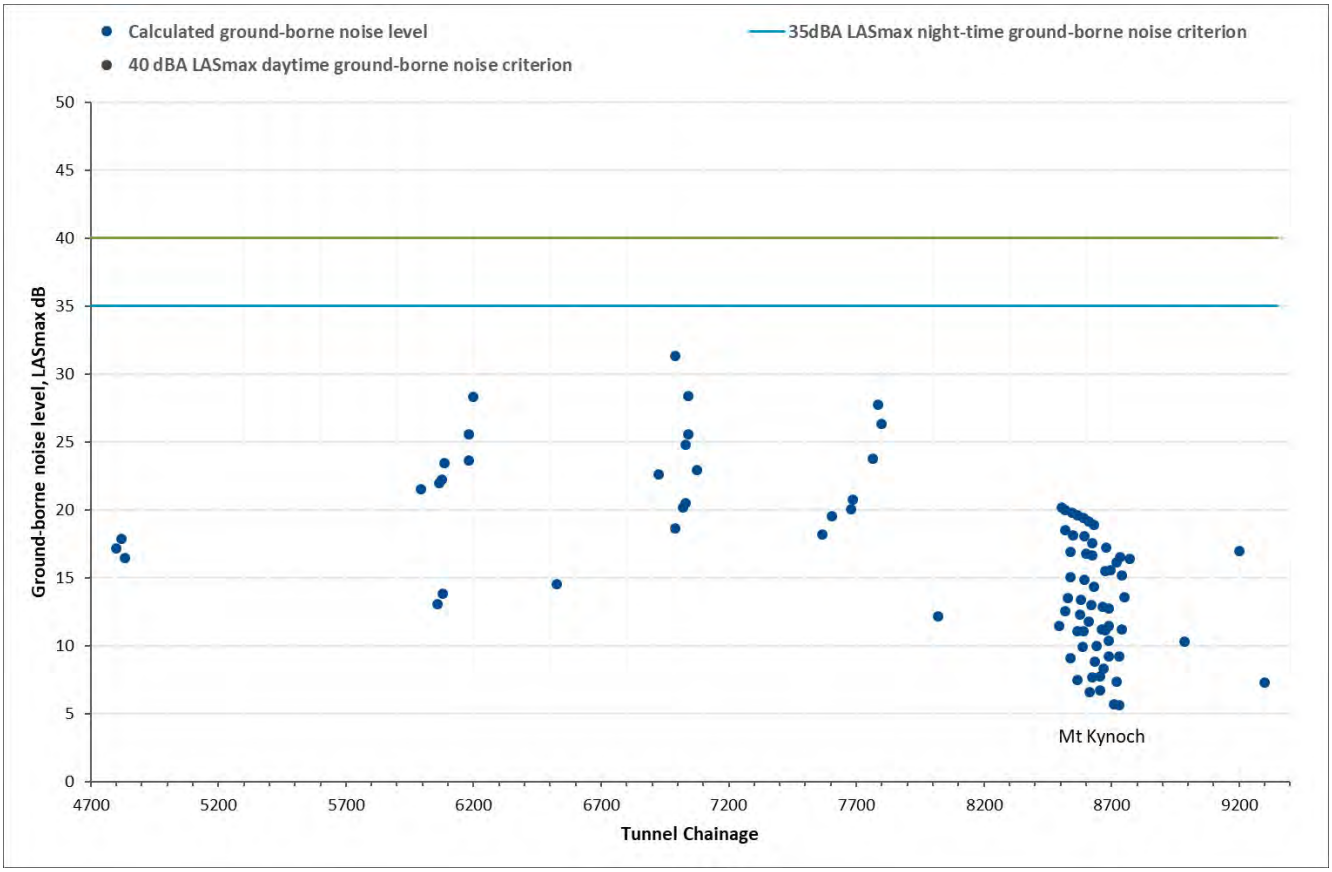
The ground-borne vibration Scoping Model and the referenced source rail vibration levels were applied to assess the potential ground-borne noise from railway operations at the ground-level track and from train passbys within the Toowoomba tunnel.

Following the same procedures and basis stated in **Section 12** and **Appendix F**, the ground-borne noise levels were forecast at the identified sensitive receptors, as detailed in **Figure 37**.

The calculated ground-borne noise levels were assessed against the daytime L_{ASmax} 40 dBA and night-time L_{ASmax} 35 dBA night-time ground-borne noise assessment levels. The predicted levels meet the daytime and night-time ground-borne noise management levels at all identified receptors.

During the future phases of the Project, further consideration of ground-borne noise levels from train passbys within the tunnel will be undertaken to verify potential ground-borne noise levels at sensitive receptors. If determined to be necessary, reasonable and practicable mitigation measures would be designed and constructed to manage ground-borne noise levels at sensitive receptors.

Figure 37 Ground-borne noise levels for train passbys within the Toowoomba Range Tunnel



Note 2 The ground-borne noise levels are the LASmax level re 20 µPa.

14 Cumulative impacts

On Inland Rail, the Project directly links to the west with the adjoining Border to Gowrie project section and links directly to the Helidon to Calvert project section to the east. At the sensitive receptors within the Project area, the primary source of rail noise will be the trains as they travel on the Project alignment.

Rail noise from the arrival and departure of the trains from the adjacent Border to Gowrie and Helidon to Calvert project sections will occur further from the Project infrastructure. The adjacent rail operations are not expected to result in a cumulative increase in daily railway noise levels at the sensitive receptors within the Project study area.

Whilst Inland Rail is being delivered as separate project sections, once in operation the source of railway noise and vibration would be unlikely to be defined by sensitive receptors as being within the extent of a specific project section. In this regard, subjective cumulative noise or vibration impacts from trains operating within individual project sections on Inland Rail is not anticipated to occur.

On the Project, the Inland Rail trains and existing rail operations at each project extent will be collocated within the same rail corridor. The overall railway noise levels from all train operations within the new and upgraded rail corridors have been assessed in this report.

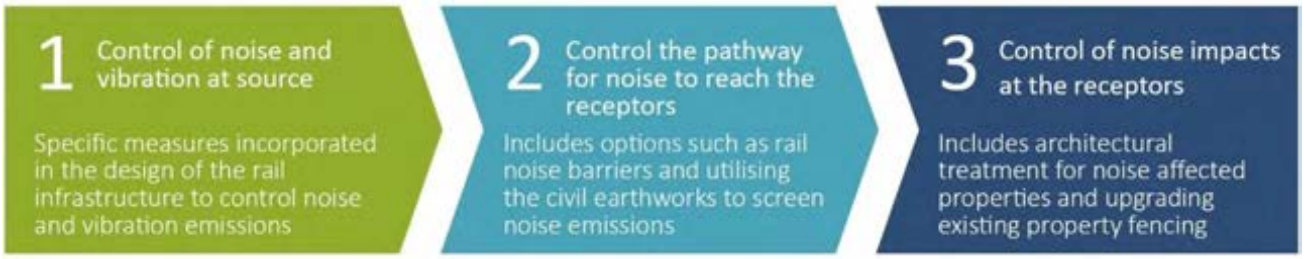
Where required by the noise criteria and assessment methodologies, the potential cumulative noise from the existing rail traffic and the future additional rail traffic introduced with the Project was included in the noise and vibration modelling predictions and the assessment of noise and vibration levels and associated related impacts.

15 Recommendations

15.1 Reasonable and practicable mitigation measures

Mitigation measures shall be investigated where the predicted or monitored railway noise, ground-borne noise or ground-borne vibration levels are determined to be above the criteria. The investigation of noise and vibration mitigation for the Project follows a hierarchy of control options, as summarised in **Figure 38**.

Figure 38 Hierarchy of noise and vibration mitigation measures



On Inland Rail, ARTC is applying the following strategy as the basis for selecting reasonable and practicable noise mitigation:

- Noise barriers are generally only considered where groups of triggered sensitive receptors are apparent. For isolated sensitive receptors, such as single dwellings in rural areas, noise barriers would generally not be considered.
- The noise mitigation for isolated sensitive receptors is expected to include:
  - At-property architectural treatments to the building (such as increased glazing or facade constructions) to control rail noise inside building; and/or,
  - Upgrades to the receptor property boundary fencing to improve screening of rail noise.
- For two sensitive receptors on the same side of the track, the potential for a noise barrier or architectural treatment of the building will be considered on a case by case basis.
- For three or more sensitive receptors in close proximity on the same side of the track noise barriers will be considered as a primary noise mitigation option.

Further to the above strategy, the selection and specification of as-required noise mitigation also requires the consideration of a of range of safety (operations, maintenance), community (preferences, amenity), engineering (constructability, feasibility), environmental (noise levels, hydrology, visual) and social factors (land-use, connectivity). Whole of life cost and total benefits achieved are also key factors adopted in the final selection, design and implementation of any proposed mitigation option.

The terms 'reasonable' and 'practicable', with respect to noise mitigation, are outlined below in **Table 36**.

Table 36 Evaluation of reasonable and practicable for noise and vibration mitigation

Term	Description	
Practicable	The noise mitigation should be a conventional and available noise mitigation approach. Ideally the option is consistent with industry best practice and does not introduce novel or untried technology. The mitigation should be practical to build with consideration to the constructability, engineering, maintenance and reliability of the option.	
Reasonable	When determining if mitigation is reasonable, the following factors should be considered:	
	Safety	The mitigation should not adversely impact the safety of the public or the safety of implications of rail operations within the rail corridor. For example, pedestrians should be able to audibly and visually detect trains at pedestrian crossings.
	Noise impacts	The effect of the noise mitigation to change aspects such as the overall noise levels, the amenity of the ambient noise environment and how frequently the rail noise levels could trigger mitigation are all considered.
	Noise mitigation benefits	The noise reduction performance achieved by the mitigation is reviewed, along with the perceptible change in noise level that could be experienced.
	Community views	The views of landowners and the community should be consulted and options that have support from the affected community should be considered.
	State government requirements	Consider any State specific requirements for what constitutes reasonable or practicable.
	Cost	The costs should be reasonable in context of the overall project cost and spending on other similarly affected residents. The cost should consider the overall project costs including on-going maintenance. Any residual costs to the community, such as running air-conditioning, should also be reviewed.

15.2 Noise and vibration mitigation options

A review of potential reasonable and practicable mitigation options to reduce and control noise and/ or vibration levels, and related impacts at sensitive receptors is provided in **Table 37**.

The options demonstrate the range of mitigation measures that can be implemented on the Project. The final decision on mitigation measures will be determined during the detailed design and construction of the Project. This is expected to include further noise and vibration studies to verify the outcomes of this assessment.

The mitigation measures are specific to the sources of noise and vibration, for example wheel-rail (rolling) noise or potential ground-borne noise from train passbys within the Toowoomba Range Tunnel. The detailed design may determine a combination of options would be implemented to provide the reasonable and practicable control of the noise and vibration, targeted to achieving the assessment criteria and minimising potential impacts.

Table 37 Review of potential noise mitigation measures

Noise source	Aspect	Commentary
Rolling noise	Noise walls or barriers at the rail corridor boundary	Rail noise barriers can be an effective noise mitigation option to control the noise emissions from both the wheel-rail interface and from the locomotives. Appropriately designed noise walls and barriers can typically reduce the overall noise levels between 5 dBA to 15 dBA, where the line of sight between the sensitive receptor and the source(s) is fully impeded by the barrier structure. The Project would only consider noise walls or barriers where the mitigation can effectively control noise at groups of sensitive receptor buildings and where noise level reductions of generally 5 dBA or more are required at sensitive receptors.
		The key considerations with rail noise walls or barriers, include: • The proximity of key infrastructure such as local roads, crossings, utilities, waterways and drainage culverts. Adjacent infrastructure can constrain the location, extent and performance of noise walls or barriers. These factors can prevent noise walls and barriers from being a reasonable or practicable noise mitigation option. • There would be little or no reduction in the noise emissions from the locomotive exhaust and train horns unless the wall or barrier structures are constructed to a height of at least 4 m and located within the rail corridor. • Availability of suitable land between the rail line and sensitive receptors may constrain the construction of the base/ foundations of the noise wall or barrier (this includes existing/ proposed embankments or sub-surface conditions present). • The design of the noise walls or barriers would need to achieve; a minimum noise reduction performance, control reflected sound and edge diffraction effects and meet specifications for earthworks, cross drainage, flooding, surface water run-off, stabilisation, wind loading, erosion and durability. • Social and environmental factors include loss of open aspect and breezes, connectivity, cohesion, severance, potential for vandalism, safety in design, collapse consequence, reduction in visual amenity of the landscape, loss of views and vistas and lighting/ shadow effects.
	Low height noise barriers	In situations where the primary noise source is from the wheel-rail interface, low height barriers (for example ≤ 2 m in height) can be constructed close to the outer rail track. Such barriers can achieve similar noise reductions to noise walls or barriers at the rail corridor boundary. Typically, this mitigation option only suits single tracks and where only the rolling noise needs to be controlled. Given the overall noise levels from rail freight are a combination of rolling noise and locomotive noise emissions the low height noise barriers could have a negligible influence on the compliance to the noise criteria. In some cases, the use of low height barriers may achieve a perceptible change in railway noise. Reductions in noise levels by at least 3 dBA could result in a perceptible improvement to the loudness of train passby events.

Noise source	Aspect	Commentary
Rolling noise	Earth mounds at the rail corridor boundary	Earth mounds at the rail corridor boundary can be an alternative to or complement noise walls and barriers. The earth mounds can mitigate noise by impeding the direct line of sight between the noise source and receptor. To reduce noise levels between 5 dBA to 10 dBA, earth mounds would need to be a comparable height and length to potential rail noise walls or barriers.
		The required height of noise walls or barriers can be achieved where the structure is constructed on an earth mound base. This approach provides the required screening of noise and can reduce the associated costs of the noise wall or barrier. When reviewing the practical application of earth mounds, the following should be considered: • The construction of earth mounds can be constrained by the available space between the rail corridor and neighbouring infrastructure. • Earth mounds require considerably more space than the footprint of a rail noise barrier. A 2 m height earth mound could require an 8 m wide base. • Earth mounds could provide a benefit to control perceptible rail noise impacts. Reductions in noise levels by at least 3 dBA could result in a perceptible improvement to the loudness of train passby events. • Whilst earth mounds may not achieve specific noise reduction performance that can be achieved with noise walls or barriers, they can assist in reducing the overall noise levels to be closer to the assessment criteria. • In addition to the potential constraints associated with noise walls and barriers, the earth mound would also need to meet environmental and design requirements. • The implications to water through flow and flooding will need careful consideration to ensure the earth mounding does not adversely impede the movement of surface water.
	Rail dampers	Rail dampers may provide localised benefit for the control of rolling noise where the contribution from the rail is a primary factor. International experience suggests a reduction in rolling noise of 3 dBA could be achieved and there is limited evidence that suggests rail dampers provide modest capability for controlling curving noise. The effectiveness of rail dampers may be limited by the stiffness of the ballasted track and concrete sleepers, the forces exerted by the heavy rail freight and the long-term durability and maintenance of such measures. Sections of generally straight track, that are highly susceptible to prominent or regular wear, would be most suited for the consideration of rail dampers.
Locomotives and engine shrouds	Exhaust mufflers	The exhaust outlets of the locomotives can be a primary source of low frequency and overall noise emissions from the train passbys. The exhaust systems of new and existing locomotives can be modified with exhaust mufflers to improve attenuation of noise emissions, including low frequency noise. Because such measures require specifications for the rollingstock they will not be readily implementable by ARTC without appropriate commitments from rail operators.

Noise source	Aspect	Commentary
Maintenance	Maintaining defective rollingstock	Defects with the wagons, such as wheel flats or misaligned axles/ bogies, can cause discrete and potentially annoying high noise events. ARTC currently implements Wayside Monitoring Systems across the rail network to identify individual rollingstock and the specific sources of noise for the targeted mitigation. The Wayside Monitoring Systems include: • Wheel impact and load detector, bearing acoustic monitoring (RailBAM) and Squeal acoustic detector (RailSQAD), • Angle of attack, hunting detector and wheel profile monitoring. A similar monitoring program could be implemented to identify sources of high noise events. Once identified, defects can be repaired to address factors contributing to higher noise levels or discrete annoying noise characteristics. This measure is not readily implementable by ARTC without appropriate commitments from rail operators. It is likely the overall reduction to L_{Aeq} and average L_{Amax} noise levels would be minor but would assist in managing noise events that could cause disturbance.
Safety warning devices (if required)	Safety requirements	The operation of devices such as train horns and level crossing alarms are exempt from compliance to airborne noise criteria due to public safety obligations. The following mitigation options are proposed as part of ARTC's commitment to managing noise impacts.
	Wayside horns	A wayside horn is an automated audible warning located at the level crossing. Instead of the train sounding its horn on approach to a level crossing the wayside horn automatically sounds to provide a targeted audible noise event for vehicles and pedestrians at the level crossing. The objectives are to remove the need for the train to sound its horn adjacent to sensitive receptors and to implement a horn event that has a noise emission level and sound directivity focused to the users of the level crossing. It is expected that respite from train horns could reduce L_{Amax} noise levels by more than 10 dBA at sensitive receptors and provide a notable improvement in loudness and potential risk for annoyance, particularly where there can be more two train horn events every hour with the Project.
	Soft tone alarm bells	The design of level crossing alarm (warning) bells will be required to confirm to specific design standards. Typically, loud tone alarm bells are to operate at L_{Amax} noise levels between 85 dBA to 105 dBA at 3 m. A soft tone bell design, which has a lower L_{Amax} noise emission level between 75 dBA to 85 dBA at 3 m can be applied, where practicable, to reduce maximum noise levels from the alarm bells by approximately 10 dBA. The L_{Aeq} noise level would have a more marginal improvement as the noise environment surrounding level crossings is primarily influenced by the train passby events.
	Turning off audible alarms at night	Subject to appropriate review of safety and operational requirements, the audible alarms on level crossings could potentially be turned off during the night-time period, for example between 10.00 pm to 7.00 am.
Ground-borne noise & vibration from the tunnel	Highly resilient trackform	The trackform in the Little Liverpool Range Tunnel is to be an effective high vibration attenuation class trackform, such as Vossloh 300 NG with the 17 MN/m static stiffness 'Cellentic' pad.

Noise source	Aspect	Commentary
Property controls	Architectural treatment of property	Where external rail noise levels are validated, through measurement, to exceed the assessment criteria a potential option is to mitigate the intrusion of rail noise within the affected property. The provision of architectural treatment would depend on a number of factors and is expected to only apply to habitable rooms or acoustically significant rooms/uses of sensitive buildings. Typically, measures such as upgraded acoustic glazing, acoustic window and door seals and acoustic insulation for the roof are considered to mitigate noise intrusion. The provision of upgrades to ventilation, such as fresh air ventilation (acoustic ducting) or air-conditioning will allow windows to be kept closed as a mitigation option whilst maintaining air flow.
		Appropriately designed measures, where windows are closed, can mitigate the intrusion of noise by more than 10 dBA. However, these measures can be more effective to control the intrusion of rolling noise as it is more broadband in nature and often does not have prominent tonal or low frequency components. All consideration of architectural property treatment would be subject to the individual property. Suitability will be confirmed prior to the implementation of at-property noise control treatments.
	Property construction	The age and construction of residential properties can influence the practical implementation of modern architectural treatments. The review of architectural treatments will require further review of eligible properties and advice from suitably qualified professionals.
	Property relocation	In rural locations, individual residential property can be located on large land holdings. It may be possible to relocate the residential property within the same land so that it is further from the rail corridor and noise levels would be lower. The relocation of property would be assessed on a case by case basis and ensure there would be a notable improvement to the noise environment at the relocation site. As a general rule, where the distance between the dwelling and the rail line is doubled the rail noise levels can be reduced by approximately 3 dB to 6 dB.
	Consideration of low frequency noise content	Noise which is considered to have low frequency and/or tonal content can be increasingly annoying. Where the control of low frequency noise is required at properties, the architectural acoustic treatments would need to consider the control of low frequency noise intrusion. The approach applied would need to achieve an overall improvement to the internal rail noise levels and potential characteristics that could cause annoyance. The control of low frequency noise within a property is challenging and care needs to be taken to manage residual impacts such as the architectural treatments controlling the mid and high frequencies which may cause the low frequency noise to become more perceptible. The United Kingdom Department of Environment, Food and Rural Affairs has published a reference curve for assessing low frequency noise indoors[16]. This curve should be considered as a design target for architectural treatments where measured external rail noise levels at sensitive receptors are above the assessment criteria and prominent low frequency noise identified.

[16] UK Department of Environment, Food and Rural Affairs, 2005. Proposed Criteria for the Assessment of Low Frequency Noise Disturbance, University of Salford, February 2005.

Noise source	Aspect	Commentary
Property controls	Upgrades to existing property fencing	Existing fencing at the boundary of individual receptors can be upgraded by replacing part or all of the existing fencing with an 'acoustic' fence design. Compared to standard residential property fencing, an acoustic fence, such as aerated concrete (solid masonry), has an improved acoustic transmission loss performance. Whilst the noise reduction performance will be specific to individual properties, upgrades to existing property fencing are likely to be suitable only where noise reductions of less than 10 dBA are required. The potential for upgrading existing property fencing can be limited by the line of sight between the railway and the receptor, the available land and the requirements of local Councils and regulatory authorities with respect to the height and materials permitted for property boundary fencing. Agreement between the landowner and ARTC would be required for ARTC to undertake works on private property.
	Negotiated agreements	The implementation of architectural treatments and other measures to private property would likely be subject to the agreement of commercial and legal terms between ARTC and the property owner.

15.3 Summary of noise mitigation

The noise assessment identified railway noise levels triggered the review of noise mitigation at up to 31 residential receptors at project opening (2027), with an additional residential receptor triggering the criteria at the design year for a total of 32 residential receptors triggering investigation of noise mitigation at 2040.

A review of the noise mitigation triggers, based on the margin the predicted noise levels are above the criteria, is provided in **Table 38**. The noise levels at most of the sensitive receptors are within 5 dBA of the criteria and noise reductions in the order of 5 dB are achievable with conventional approaches to railway noise mitigation.

Table 38 Summary of residential noise mitigation triggers

Assessment criteria margin	Sensitive receptors triggering the assessment criteria
Year 2027 – project opening	
1 dBA to 3 dBA	18
>3 dBA to 5 dBA	8
>5 dBA to 10 dBA	5
>10 dBA	0
Total receptors triggering noise mitigation - project opening	**31**
Year 2040 – design year	
1 dBA to 3 dBA	19
>3 dBA to 5 dBA	5
>5 dBA to 10 dBA	8
>10 dBA	0
Total receptors triggering noise mitigation - design year	**32 (including the 31 receptors triggering in 2027)**

A review of the location of these sensitive receptors determined the majority of properties were isolated properties dispersed along both sides of the Project alignment. In addition, there is one non-residential receptor, the Gowrie State School, where predicted internal noise levels were above the noise assessment.

For these receptors, the reasonable and practicable noise mitigation options, in addition to at-source controls, are expected to be:

- Architectural acoustic treatments to the buildings triggering the assessment criteria to control rail noise within the internal environment of the building; and/or,
- Upgrades to any existing property boundary fencing to improve screening of rail noise levels.

During the detailed design phase, the sensitive receptors shall be surveyed to exclude rooms and buildings that are not noise sensitive from the consideration of at-property treatments, such as storage areas, bathrooms, hallways and corridors. The surveys would need to investigate the noise attenuation performance of the existing property facades and, as required, revise the assessment of potential internal rail noise levels.

15.4 Mitigation for ground-borne vibration and ground-borne noise

The assessment identified the potential ground-borne noise and vibration levels would achieve the assessment criteria at the sensitive receptors. There may still be potential for perceptible ground-borne noise and vibration even where the respective criteria are met. Accordingly, the following recommendations are provided to inform the detailed design of the Toowoomba Range Tunnel.

- The prediction of ground-borne noise and vibration levels from the train movements in the Toowoomba Range Tunnel will need to be assessed during detailed design phase once additional information on the tunnel structure, track form, pad stiffness and geotechnical conditions is available.
- Within tunnel slab track areas, the trackform should utilise an effective high vibration attenuation class trackform such as Vossloh 300NG with the 17 MN/m static stiffness (1.1 dynamic to static ratio) ‘Cellentic’ pad (or performance equivalent). The systems will need to be installed and maintained in accordance with manufacturer specifications.
- Where ground-borne noise is required to be managed, it is common to apply softer rail pad systems to those proposed. There are a range of engineering and maintenance implications with the application of softer rail pad systems for rail freight. The implementation of such measures to control ground-borne noise from train movements in the Toowoomba Range Tunnel will need to be investigated.
- The effectiveness of alternative or supplementary measures, such as rail pads and rail dampers, may be significantly limited by the stiffness of the track and concrete sleepers, the forces exerted by the heavy rail freight and the long-term durability and maintenance of such measures.

It is recommended that further assessment is undertaken during detailed design to verify the screening assessment outcomes. Where feasible this should include the measurement of existing ground-borne noise and vibration levels from railway operations on the QR West Moreton System and measurement of local ground borne vibration attenuation characteristics.

15.5 Further noise prediction modelling

The noise prediction modelling for this assessment adopted the Nordic method (Kilde 130) for calculating rail noise emissions and the propagation of rail noise within the environment. Whilst the Nordic methodology is accepted to provide reliable predictions and can be inherently conservative and does not allow for more advanced prediction and analysis of railway noise.

It is recommended that during the detailed design of the Project, when aspects such as noise mitigation will be confirmed, the rail noise prediction modelling is updated for the detailed designs.

The modelling should include the potential for assessing the frequency content of the railway noise emissions and the influence of regional meteorological conditions. The consideration of the frequency content from the rollingstock is important where predicted external rail noise levels are applied to determine the appropriate architectural property treatments or the design of mitigation such as rail noise barriers.

15.6 Validation of noise and vibration levels during operation

A program of noise and vibration monitoring is recommended to be undertaken within six months of the commencement of railway operations on the Project. The purpose of the monitoring surveys shall be to:

- Quantify the rail noise and vibration levels from the daytime and night-time rail operations and determine the $L_{Aeq(15hour)}$ daytime, $L_{Aeq(9hour)}$ night-time and L_{Amax} rail noise levels at the most affected sensitive receptors.
- Assess the Project's compliance with any relevant conditions of approval relating to noise and vibration emissions from the operation of the Project.
- Provide an assessment of the effectiveness of any noise and vibration management and mitigation measures implemented on the Project.
- Identify, if required, further noise and vibration mitigation measures to meet the ARTC's noise and vibration assessment criteria and relevant conditions of approval.

The recommendations below are provided to assist the development of a noise and vibration monitoring plan:

- Provide a monitoring strategy consistent with the requirements of relevant acoustic standards and guidelines for monitoring environmental and transport noise and vibration.
- Plan and schedule the monitoring surveys with consideration to:
  - The rail movements during each daytime and night-time period. The survey period shall include the days during which the highest number of train movements would be expected and cover a period of consecutive days to be representative of typical operations.
  - Monitoring locations being free from localised buildings and structures (other than noise barriers) that may screen or reflect noise.
  - The condition of the rails and other rail infrastructure.
  - Weather and climate conditions during the monitoring periods.
- Monitoring should be conducted at the sensitive receptors with the potential for the highest received noise and vibration levels from rail operations.

- Where feasible, noise levels should be assessed 1 m in front of the most affected building façade. Where noise levels are monitored in the free-field a +2.5 dBA correction should be considered to adjust the free-field level for a noise level at the building façade.
- Should monitoring be required within a property, the noise monitoring would be conducted at the centre of the habitable room that is most exposed to noise from rail operations.
- Vibration shall be monitored in the three axes representing horizontal, vertical and axial direction of displacement (movement). Vibration shall be monitored as the Peak Particle Velocity (mm/s) and vibration acceleration (m/s^2).
- If required, reference the monitored noise levels to update and reassess noise levels at the sensitive receptors aligning the Project.
- If the noise and/or vibration levels are above the applicable criteria at any sensitive receptors, allowing for any monitoring and compliance tolerances, the key sources of rail noise and contributing factors (e.g. rail defects, excessive rail roughness levels, turnouts, locomotive engine exhausts) shall be identified to inform the investigation of reasonable and practicable mitigation measures.

The results of the monitoring surveys are to be applied, as required, to revise and update the rail noise and vibration predictions for the rail operations on the surface track and in the tunnel. In this regard, the validated noise and vibration levels can be applied to continually refine the conservatism and uncertainty in the predictions and support the selection of reasonable and practicable mitigation measures.

16 Residual impacts

The rail noise and vibration assessment criteria implemented by both DTMR and ARTC are designed to manage aspects such as environmental harm and nuisance. The intent of the criteria is to identify where reasonable and practicable noise mitigations should be implemented to manage the potential for impacts.

The rail noise criteria do not require noise from railway operations, including where noise mitigation is implemented, to be inaudible at sensitive receptors. The potential for annoyance or disturbance from rail noise is subjective and can remain a potential impact even where noise mitigation is implemented, and noise levels are well within the noise criteria.

The reasonable and practicable noise mitigation for the Project is expected to be at-property treatments, such as upgrading property fencing, existing glazing or the provision of air-conditioning, to manage the intrusion of rail noise and maintain internal (indoor) noise amenity within habitable rooms. Rail noise barriers, or similar mitigation, are not currently proposed but may be considered as part of the future phases of the Project where considered a reasonable and practicable approach to manage railway noise.

The at-property treatments do not address the source emission of rollingstock noise or the external (outdoor) rail noise levels within the environment surrounding the rail corridor. On this basis, the rail noise levels can remain above the external rail noise assessment criteria, and be perceptible, at the sensitive receptors with the implementation of at-property noise mitigation measures. Nonetheless, the at-property treatments would be implemented to reduce the internal railway noise levels to achieve targeted improvements to the indoor acoustic environment of habitable rooms.

In lieu of the known building construction of the sensitive receptors and the acoustic performance specifications of individual at-property treatments, the noise reduction performance is not able to be quantified at this stage.

Referencing conventional building construction treatments and acoustic glazing specifications, it is reasonable to assume the internal railway noise could be reduced by at least 5 dBA. Reducing noise levels by this margin would be a perceptible improvement to building occupants, where noise characteristics such as low frequency are also suitably controlled.

The assessment has identified the ground-borne noise and vibration assessment criteria would be met at the sensitive receptors. There is potential for ground-borne noise and vibration to be perceptible even where the assessment criteria are achieved within sensitive receptors. However, disturbance or annoyance impacts would not necessarily be experienced based on the relatively low levels of ground-borne noise and vibration predicted at the sensitive receptors.

17 Conclusion

The operation of the Gowrie to Helidon project section of Inland Rail has the potential to be a source of airborne noise, ground-borne noise and ground-borne vibration within the environment surrounding the Project. This assessment has identified where the predicted levels of noise and vibration from the railway operations would meet the adopted criteria and where the noise levels trigger an investigation of reasonable and practicable mitigation options.

Based on the assessment of potential noise levels from the daily train movements on the Project, the noise criteria for the daytime and night-time periods are met at the majority of the identified sensitive receptors. There are up to 33 sensitive receptors; 32 residential receptors and one non-residential receptor, where predicted noise levels trigger a review of mitigation.

The location of the sensitive receptors, the predicted noise levels at each receptor and the principles of ARTC's assessment of noise on Inland Rail were reviewed and recommended noise mitigation options were evaluated. In addition to source noise controls implemented in the design and construction of the Project, the reasonable and practicable noise mitigation is expected to include at-property treatment for the sensitive receptors.

At-property mitigations may include architectural treatments to control railway noise within the building and upgrades to property fencing. Whether at-property controls or other alternative mitigation options are required will ultimately be determined through the detailed design of the Project.

This will include consultation with the property owners, further railway noise and vibration assessments, analysis of engineering and environmental constraints and the verification of noise levels once railway operations commence on the Project.

The assessment of vibration from railway operations, including within the Toowoomba Range Tunnel, determined that predicted levels would meet the criteria for ground-borne noise and ground-borne vibration at the identified sensitive receptors. For the train movements outside of the tunnel, the airborne railway noise levels are likely to be sufficient to mask the ground-borne noise levels on most cases. Based on the outcomes, the assessment did not identify a need for specific vibration treatments beyond the highly resilient trackform proposed for slab track in the tunnel. Resilient matting for retention of ballast on bridge and viaduct structures would also be considered.

Where the Project meets the noise and vibration criteria there may still be potential for noise and vibration from railway operations to be audible within the environment. It is not uncommon for outdoor noise from railway operations to be audible and perceptible at least 1 km from the Project alignment.

The airborne noise, ground-borne noise and ground-borne vibration levels will continue to be assessed during the detailed design and construction of the Project. It is recommended that the predicted noise and vibration levels and assessment outcomes presented in this report are validated as part of the on-going assessments.

Where the detailed design remains consistent with this assessment and allowing for the implementation of recommended noise and vibration mitigation measures, the Project is expected to achieve the objectives of the ToR for the management of noise and vibration from railway operations.

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APPENDIX

P

Operational Railway Noise and Vibration

Appendix A Sensitive receptors

GOWRIE TO HELIDON ENVIRONMENTAL IMPACT STATEMENT



GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 1 of 20

200 m

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Date: 04-Dec-2020
Author: JG

- Proposal Extent
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
- Toowoomba Range Tunnel
- Upgrade of Existing Railway Infrastructure
- Sensitive Receptors (Residential)
- Properties to be Aquired by the Project

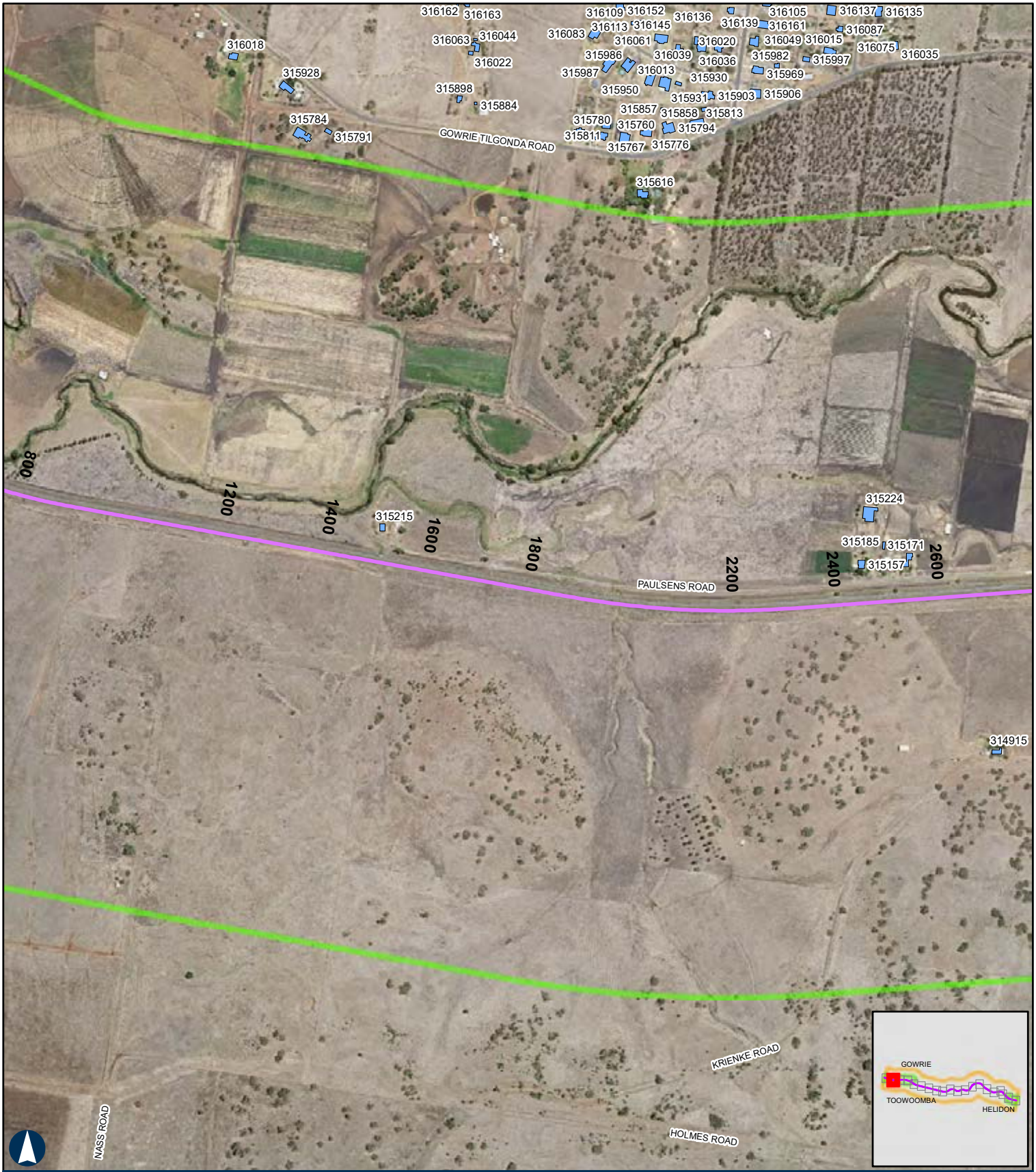
Non-sensitive Receptors

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- Hospital and medical centres
- Medical/ social services
- Place of worship
- Recreation

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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 2 of 20

200 m

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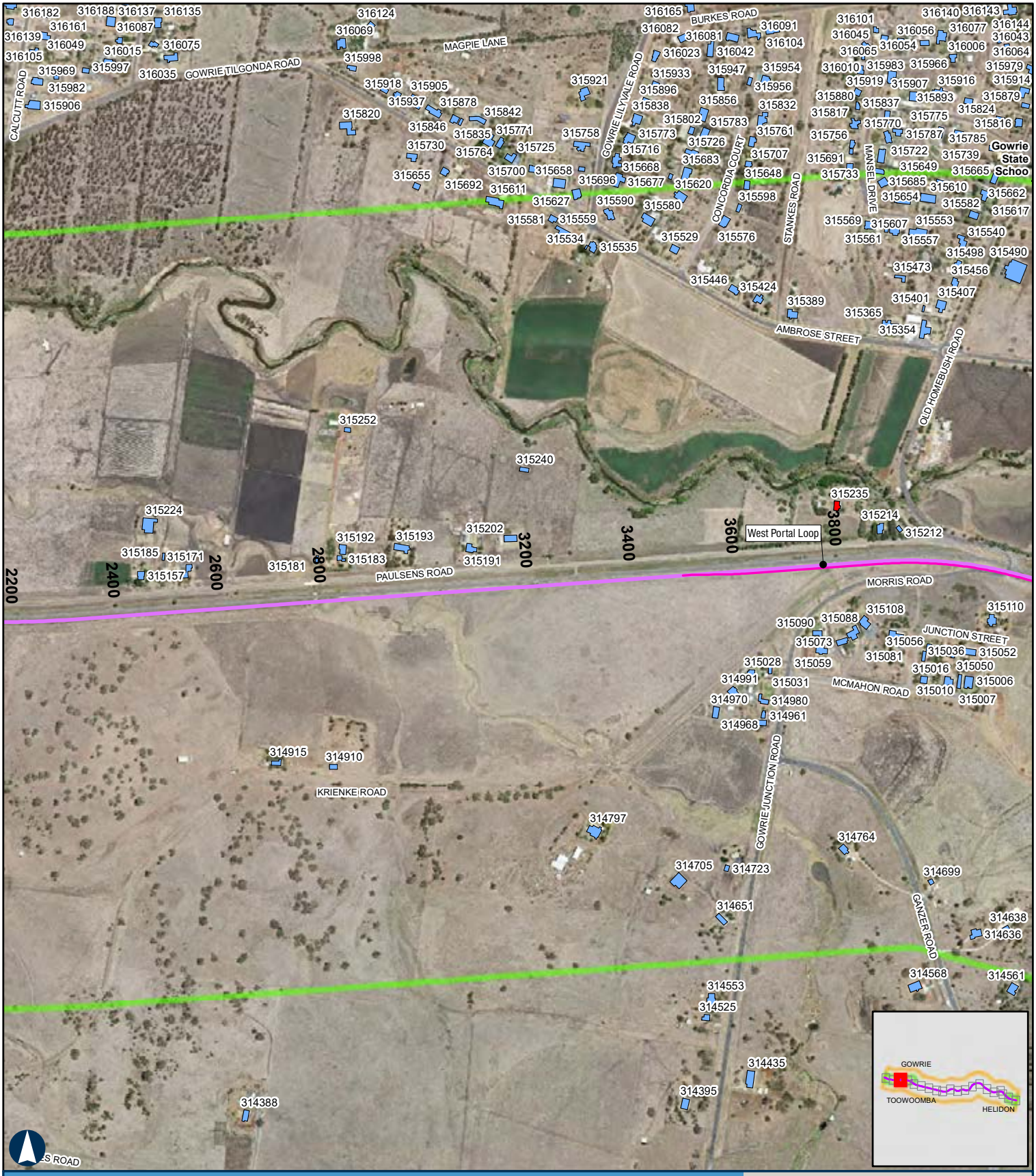
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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 3 of 20

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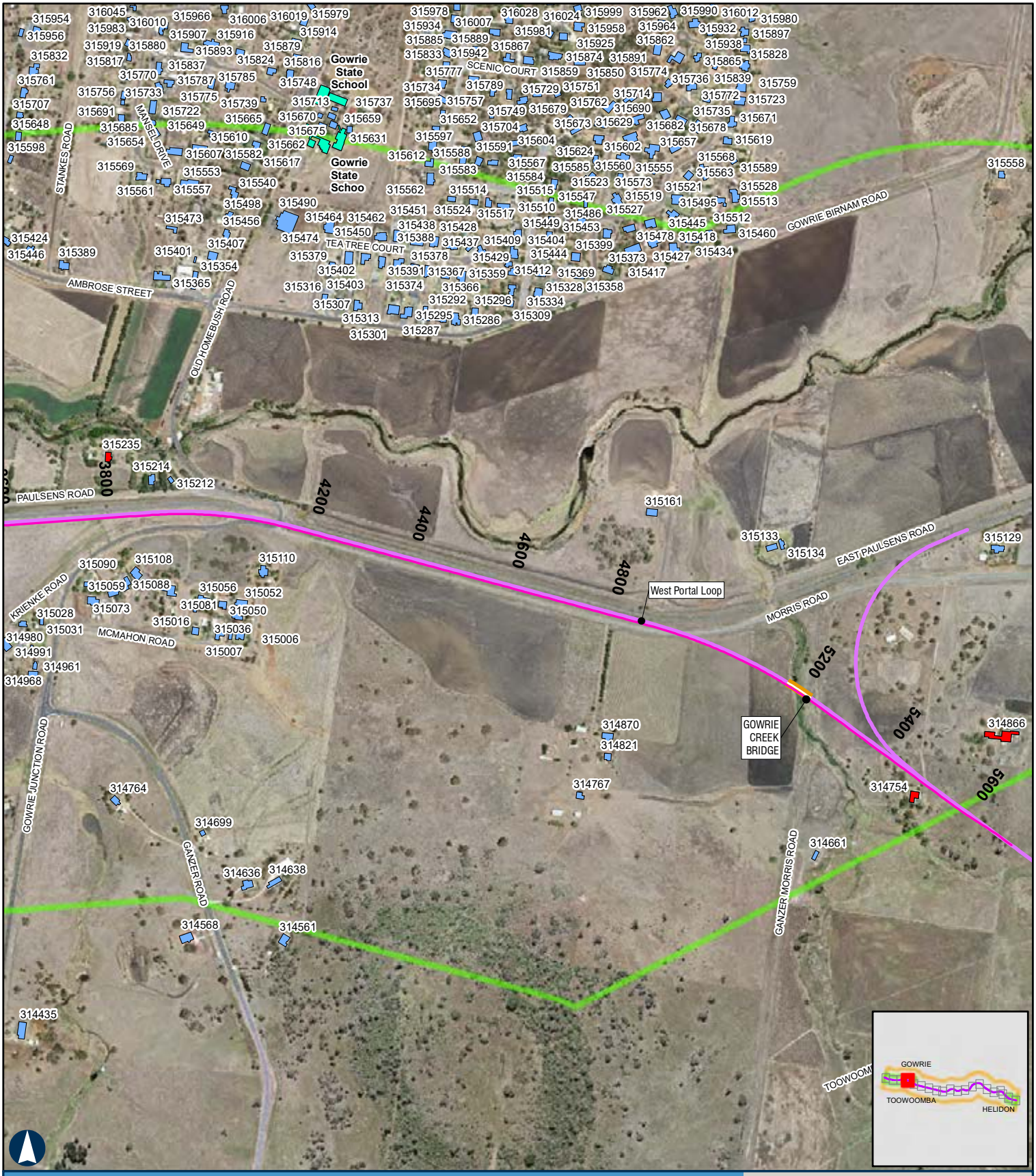
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GOWRIE TO HELIDON

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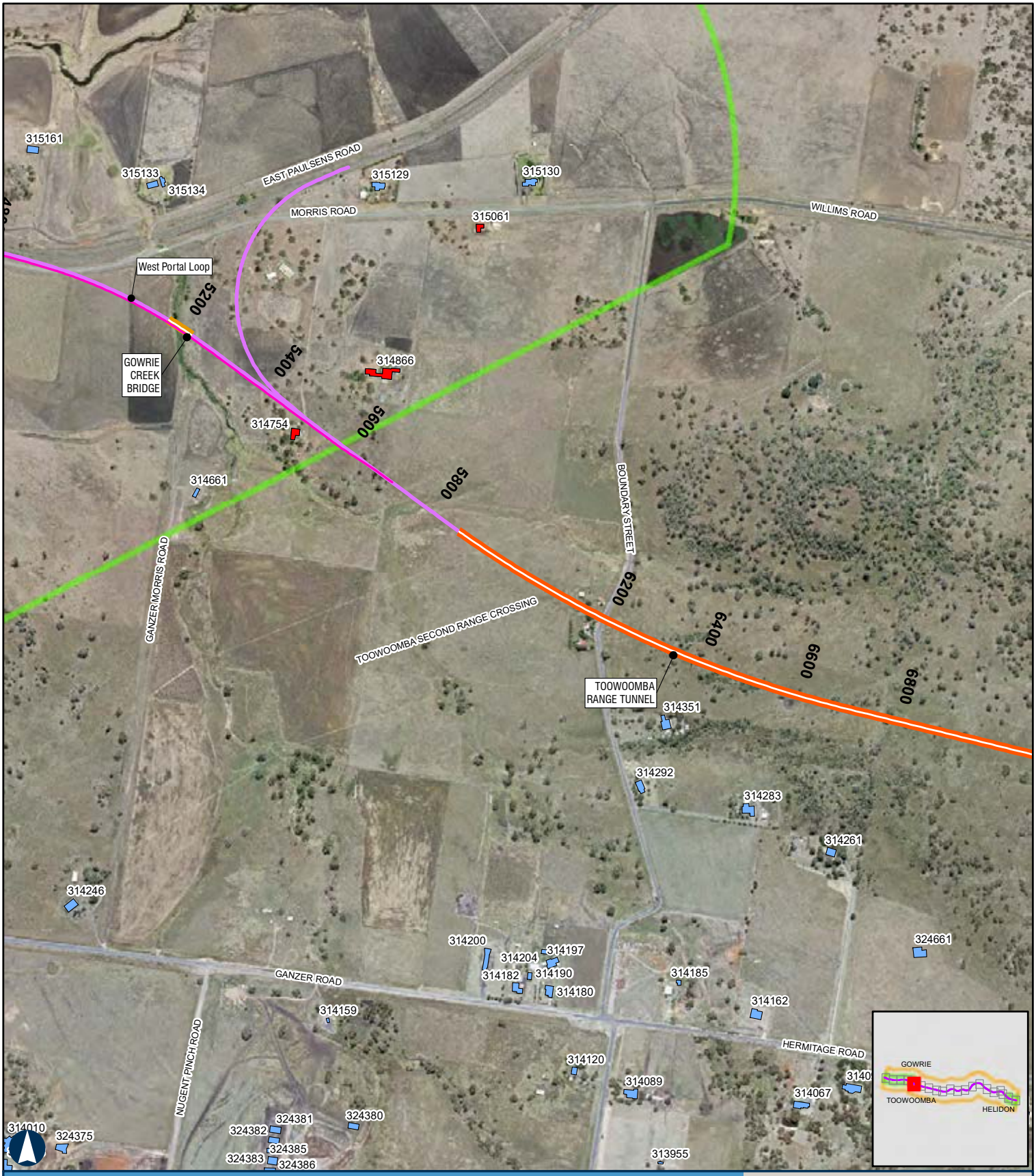
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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 5 of 20

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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 6 of 20

200 m

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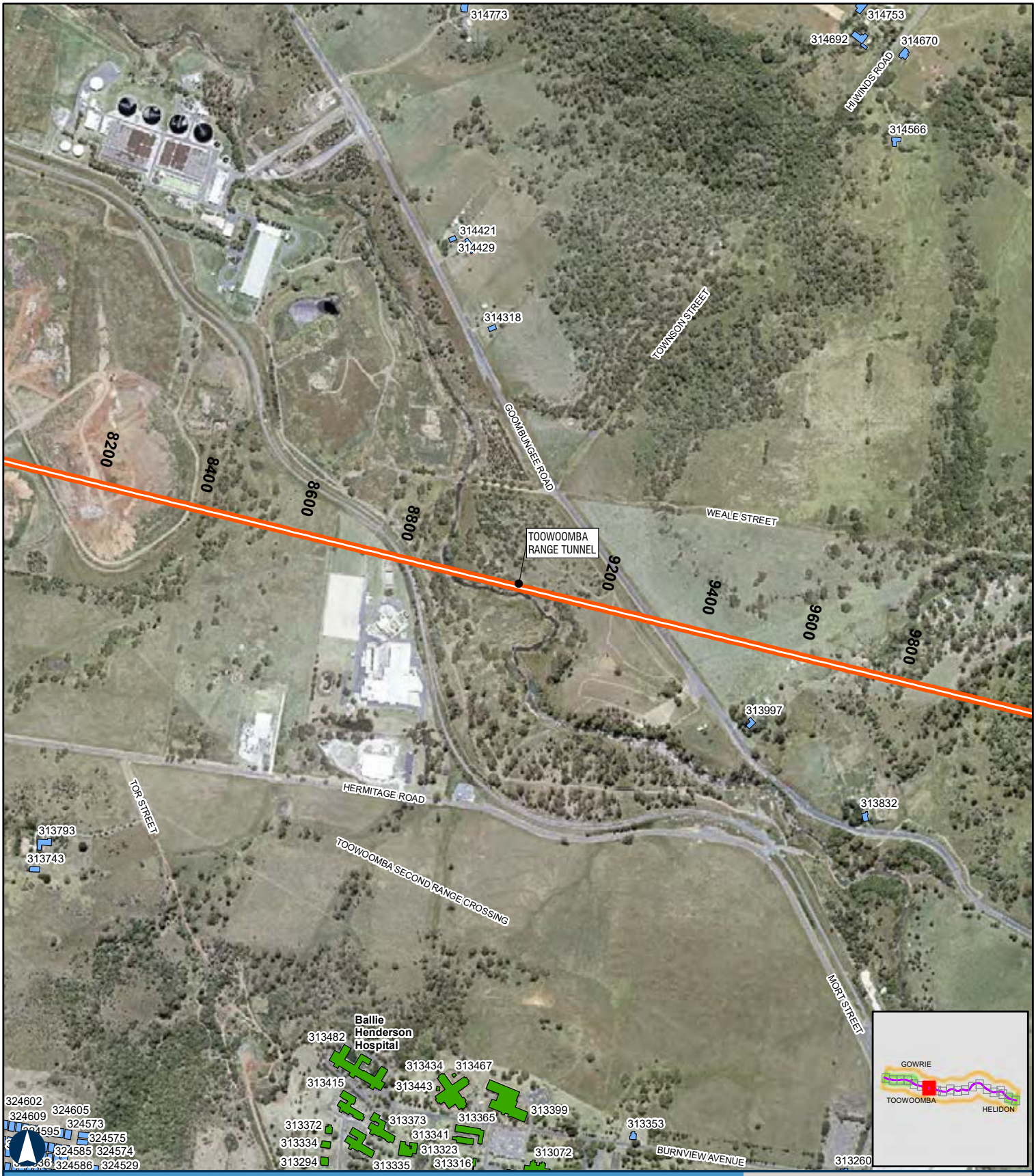
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APPENDIX A - Map 7 of 20

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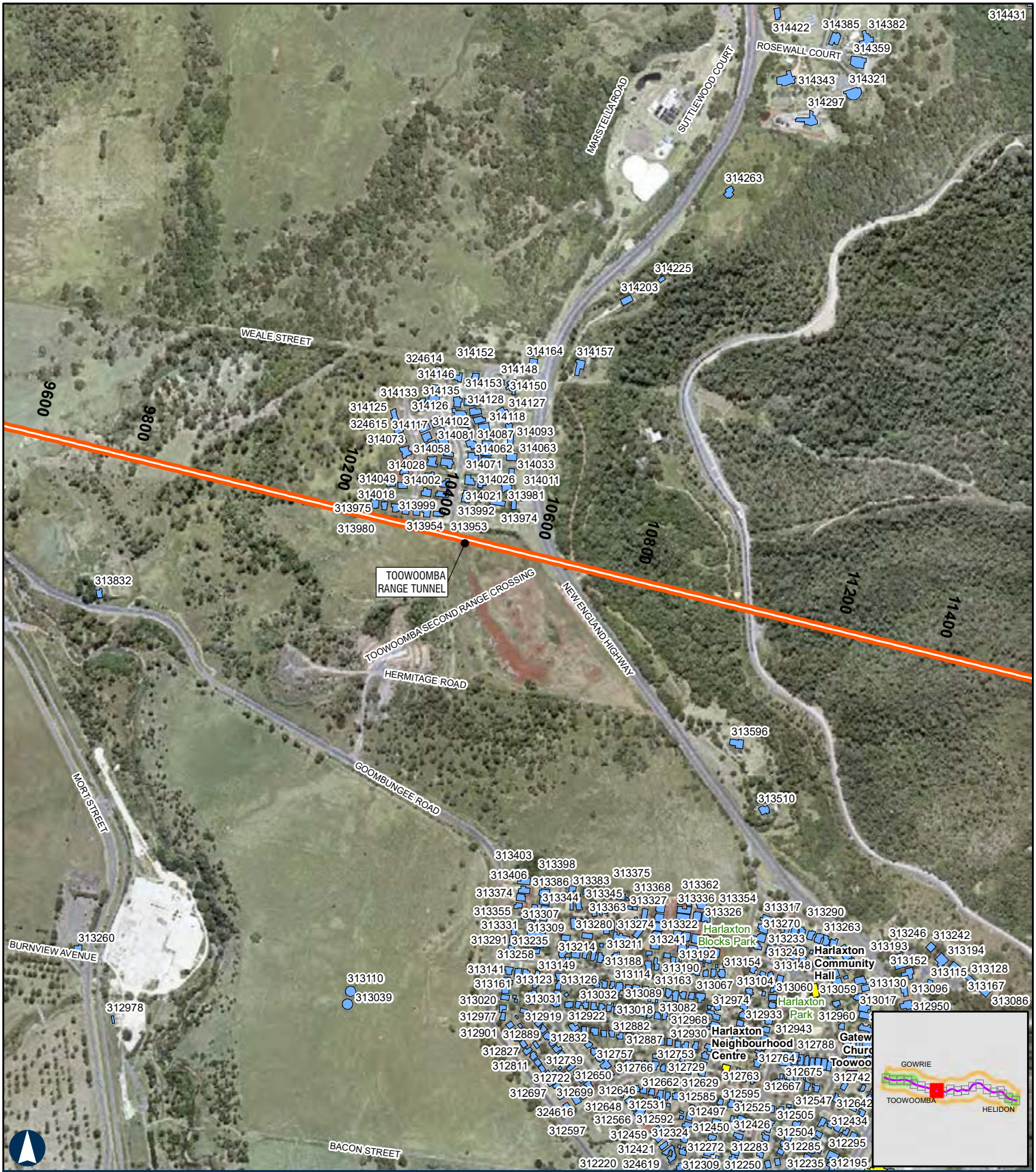
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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 8 of 20

200 m

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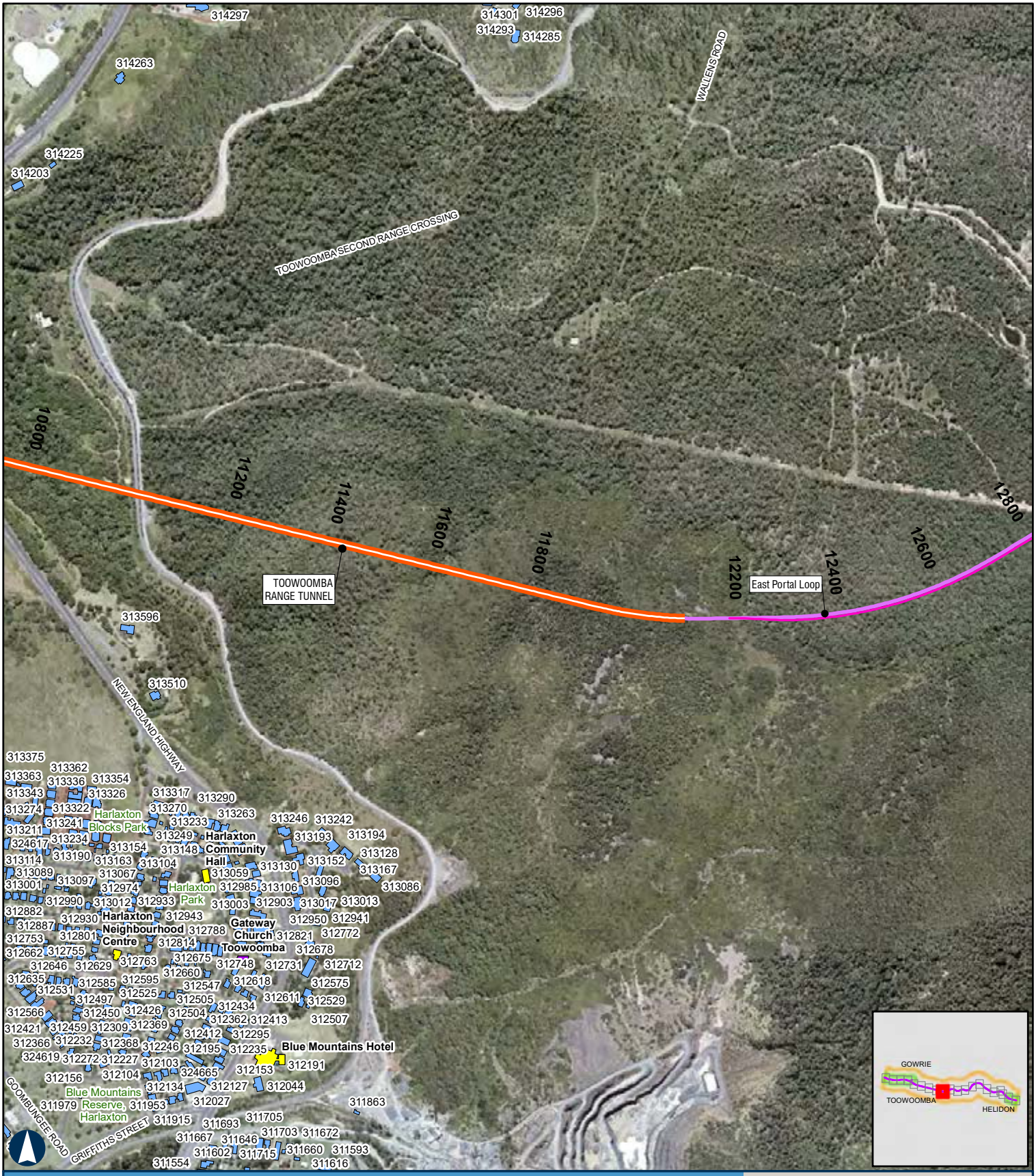
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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 9 of 20

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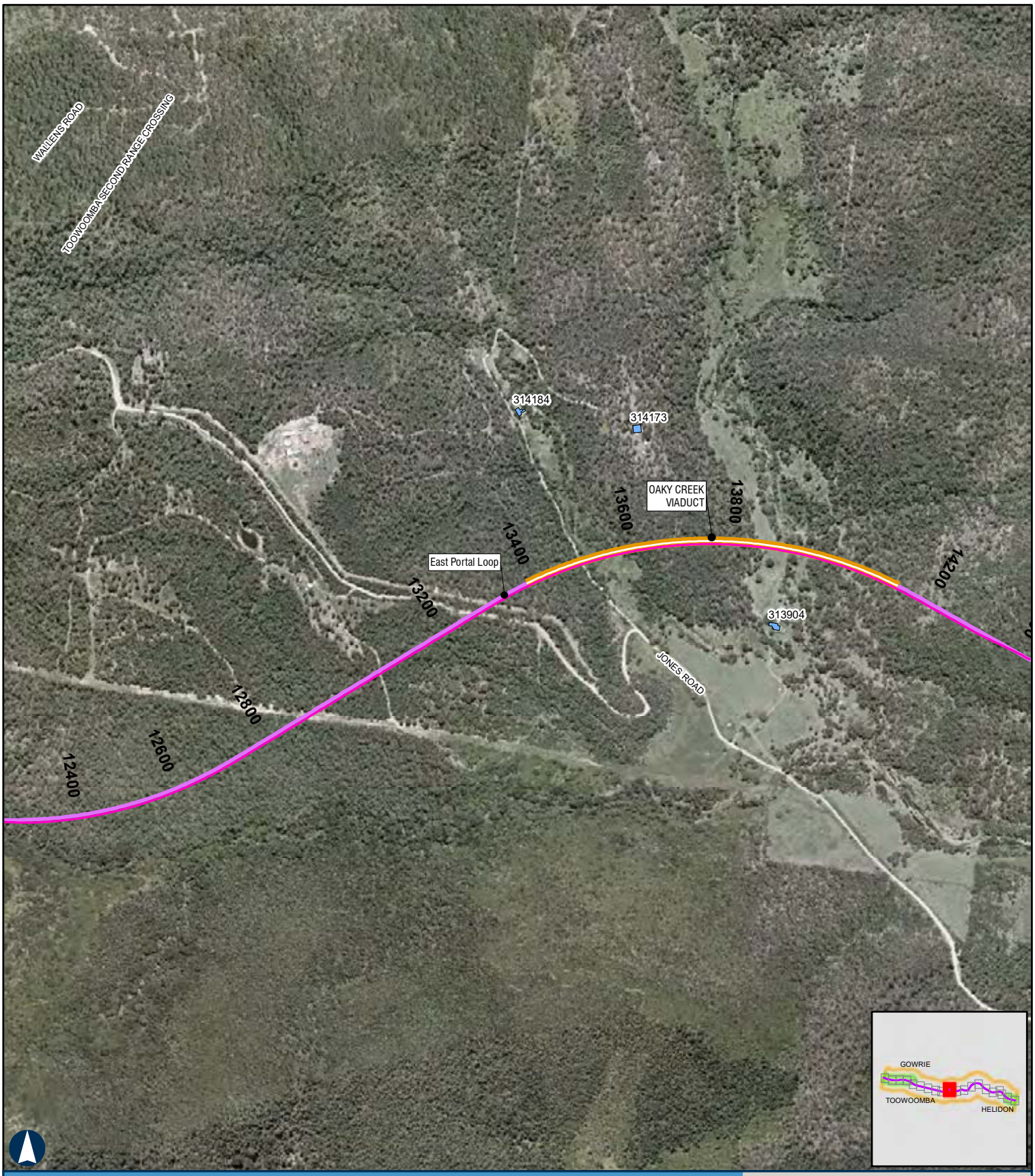
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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 10 of 20

200 m

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Date: 04-Dec-2020
Author: JG

- Proposal Extent
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
- Toowoomba Range Tunnel
- Upgrade of Existing Railway Infrastructure
- Sensitive Receptors (Residential)
- Properties to be Aquired by the Project

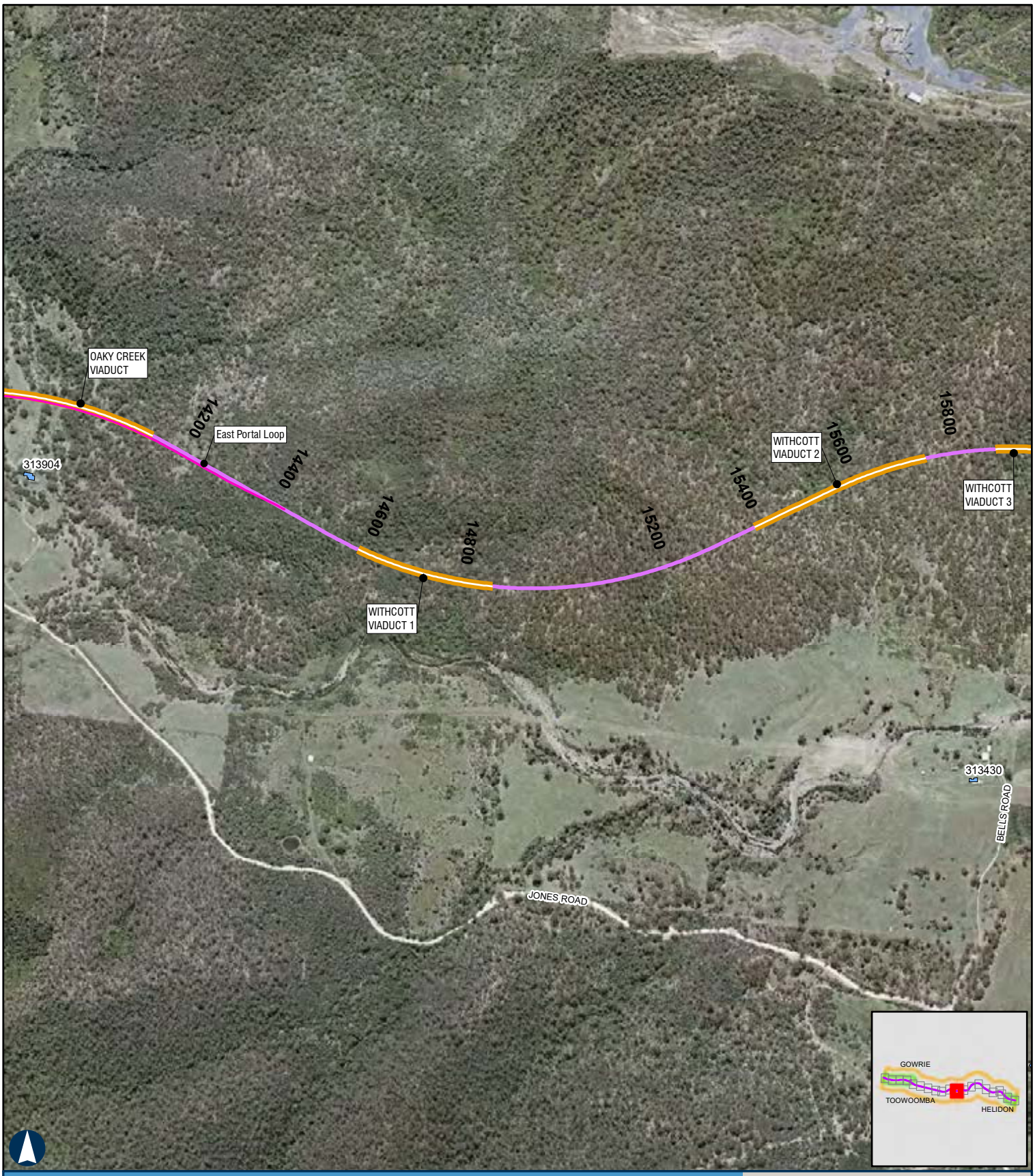
Non-sensitive Receptors

- Education institution
- Hospital and medical centres
- Medical/ social services
- Place of worship
- Recreation

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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 11 of 20

200 m

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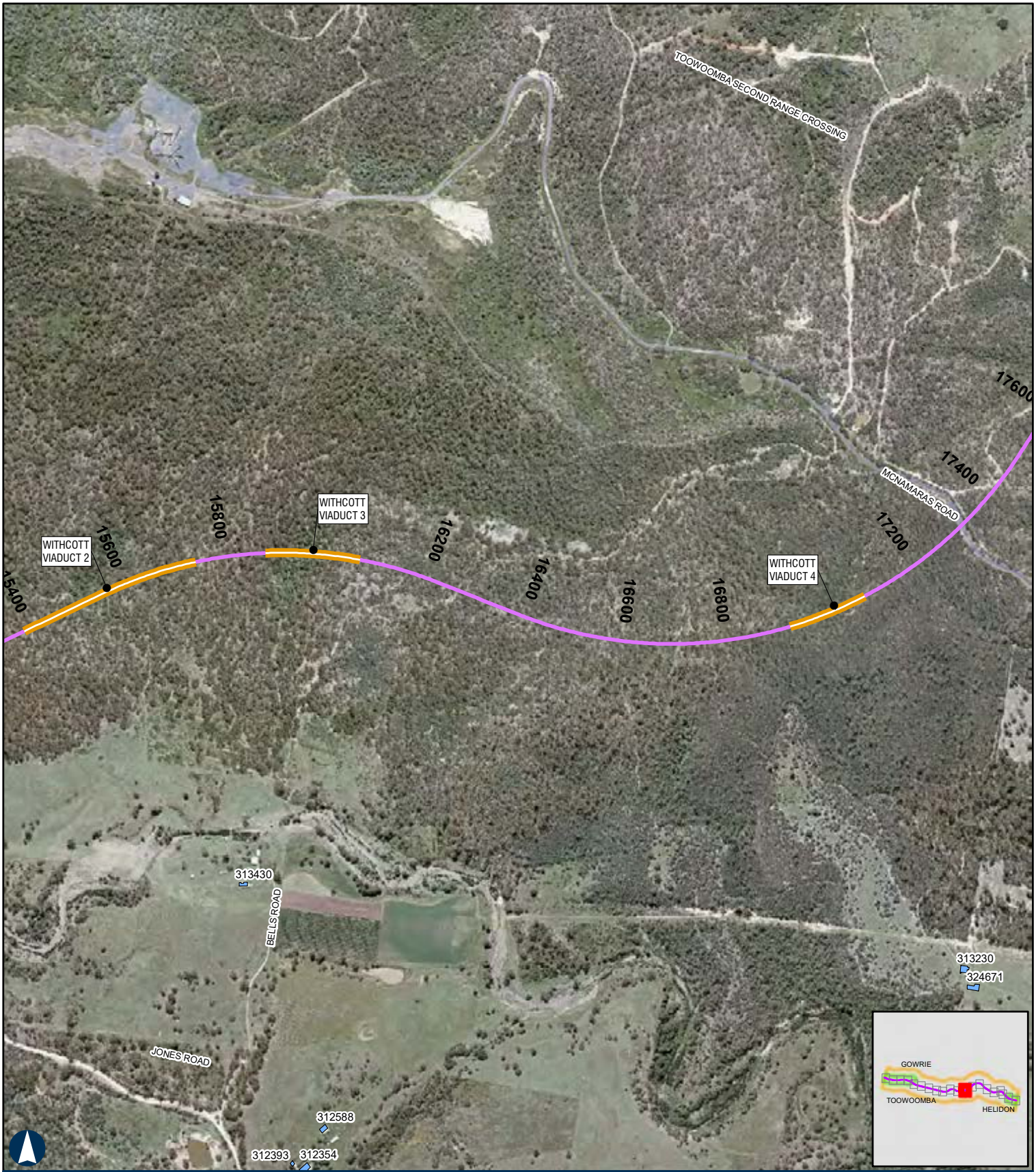
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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 12 of 20

200 m

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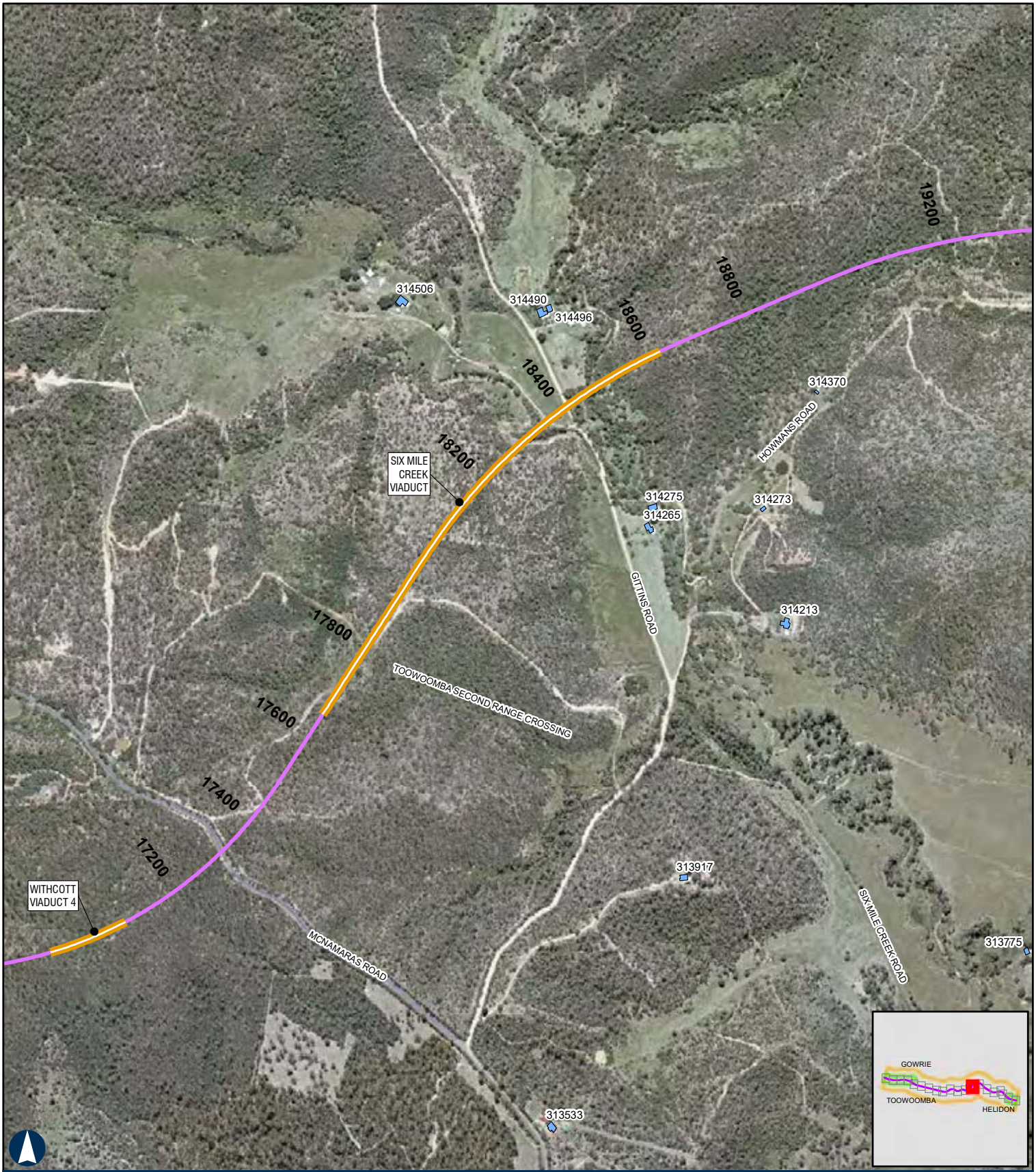
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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 13 of 20

200 m

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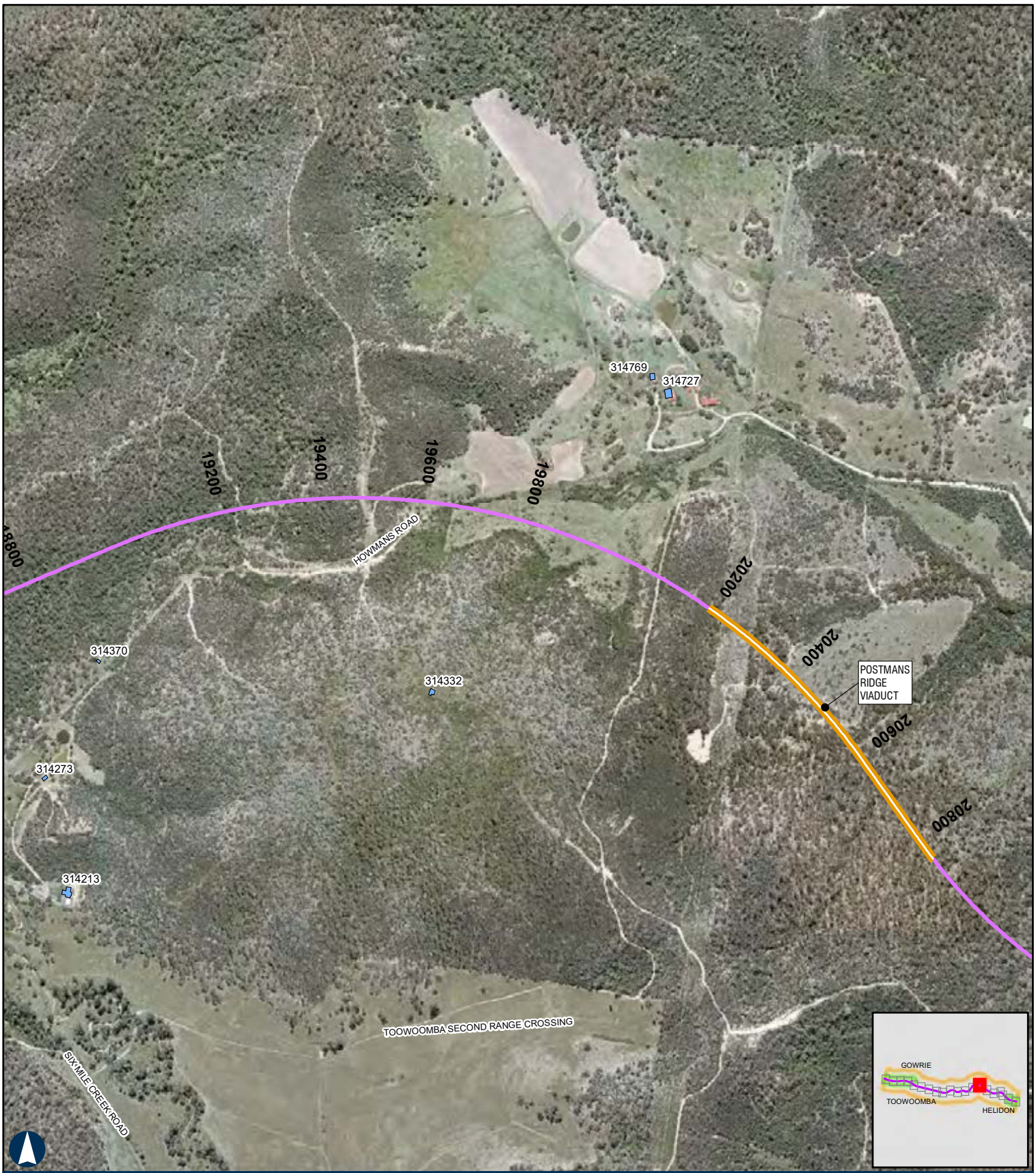
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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 14 of 20

200 m

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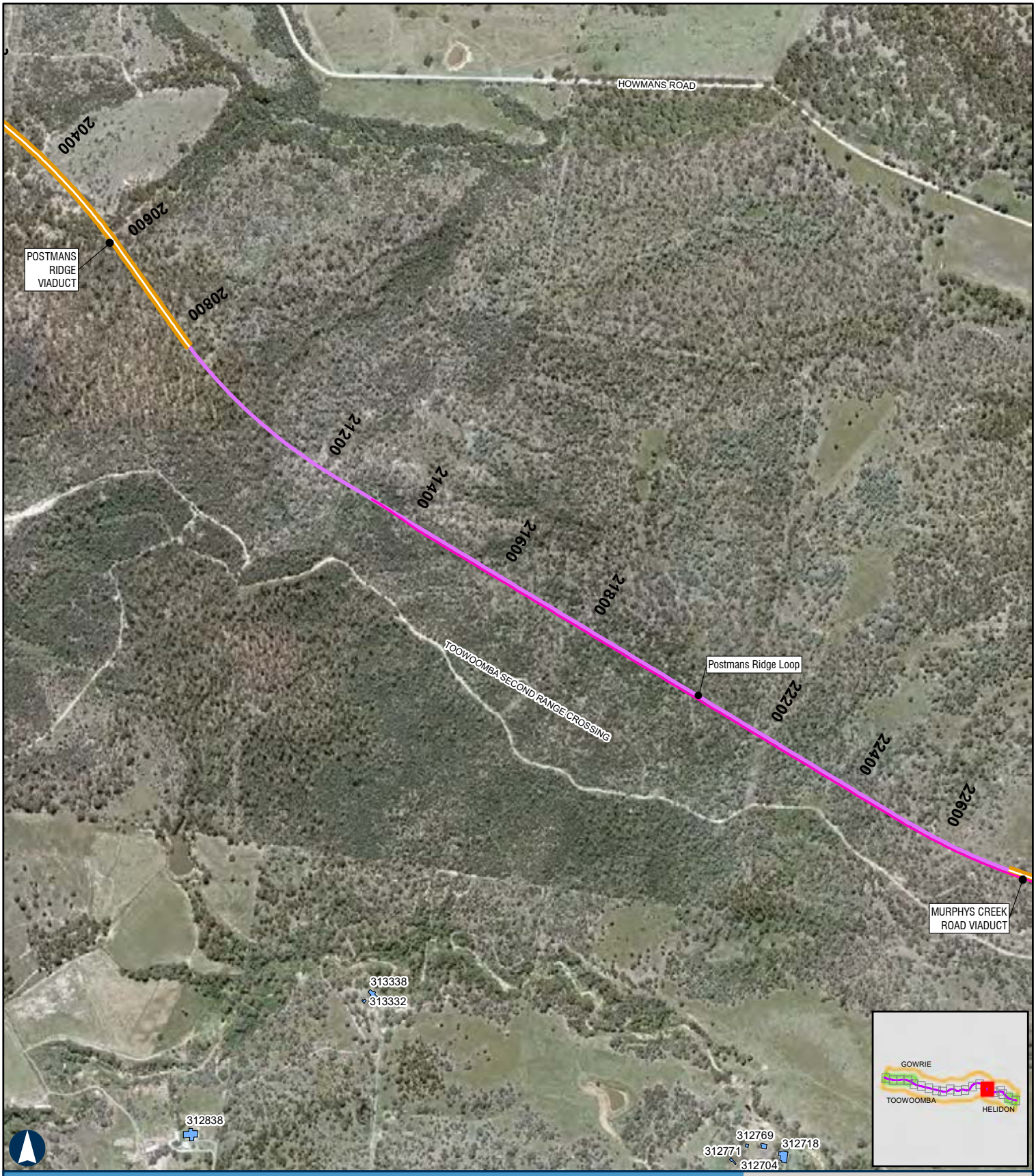
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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 15 of 20

200 m

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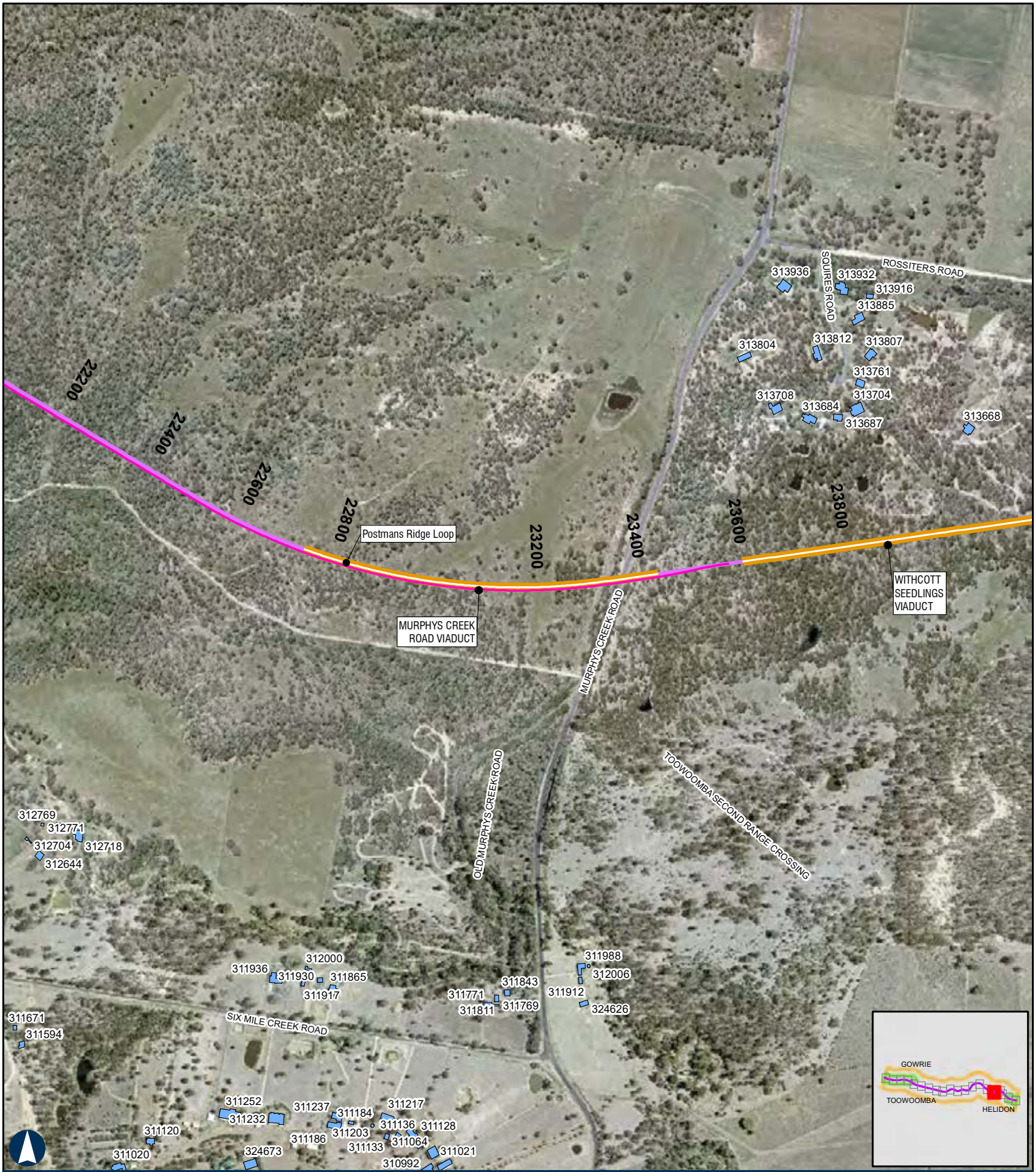
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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 16 of 20

200 m

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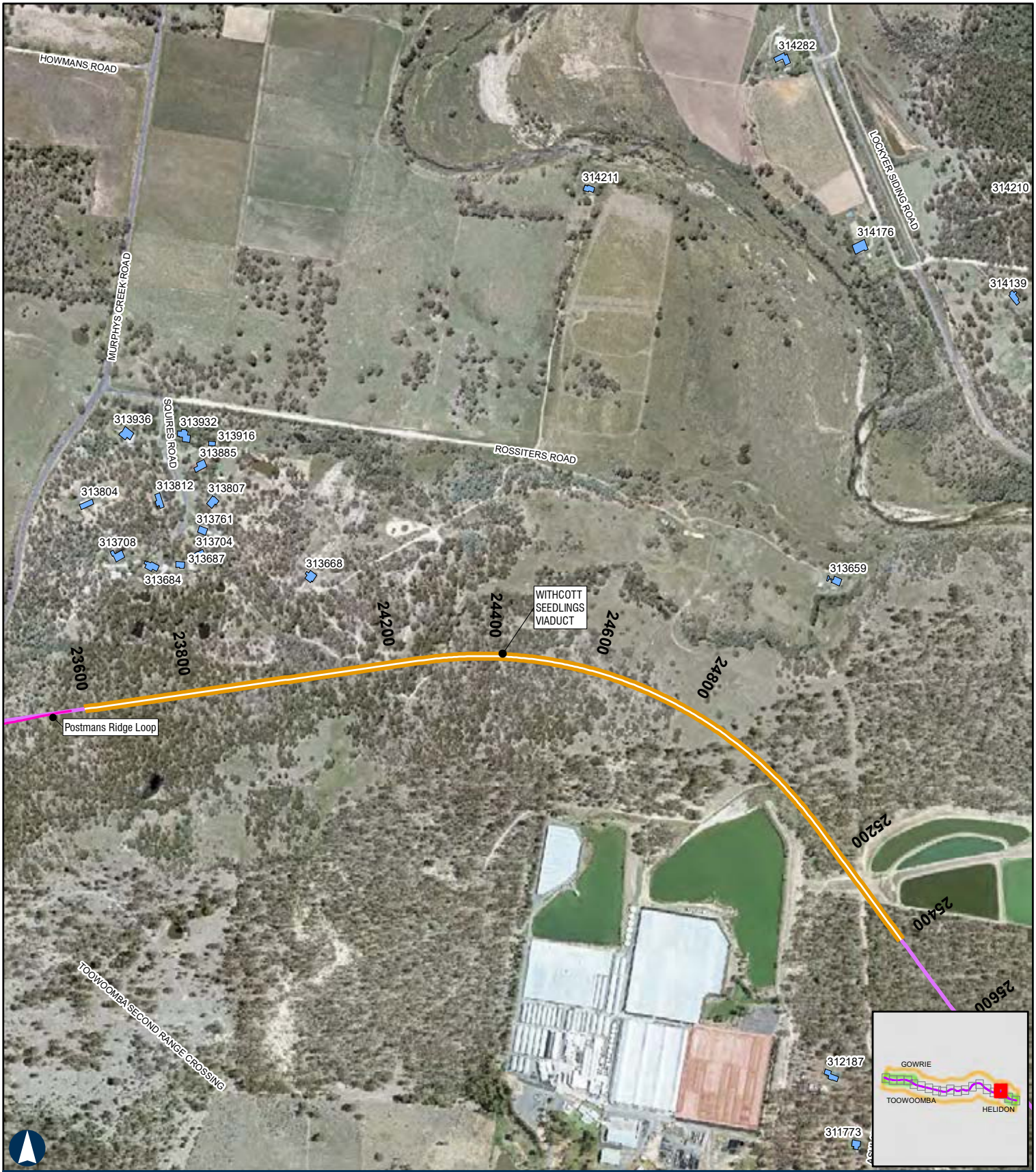
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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 17 of 20

200 m

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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 18 of 20

200 m

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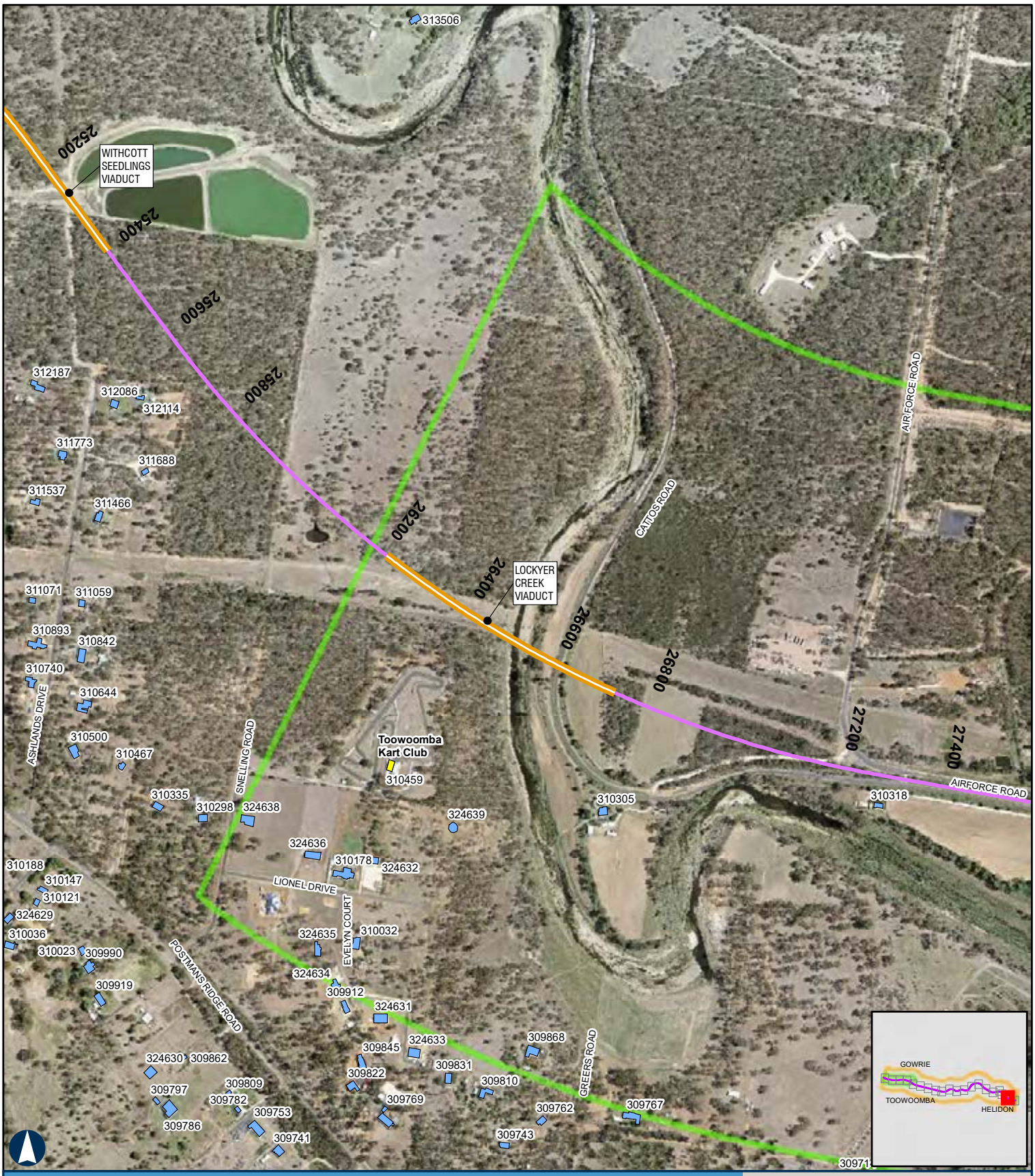
Non-sensitive Receptors

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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 19 of 20

200 m

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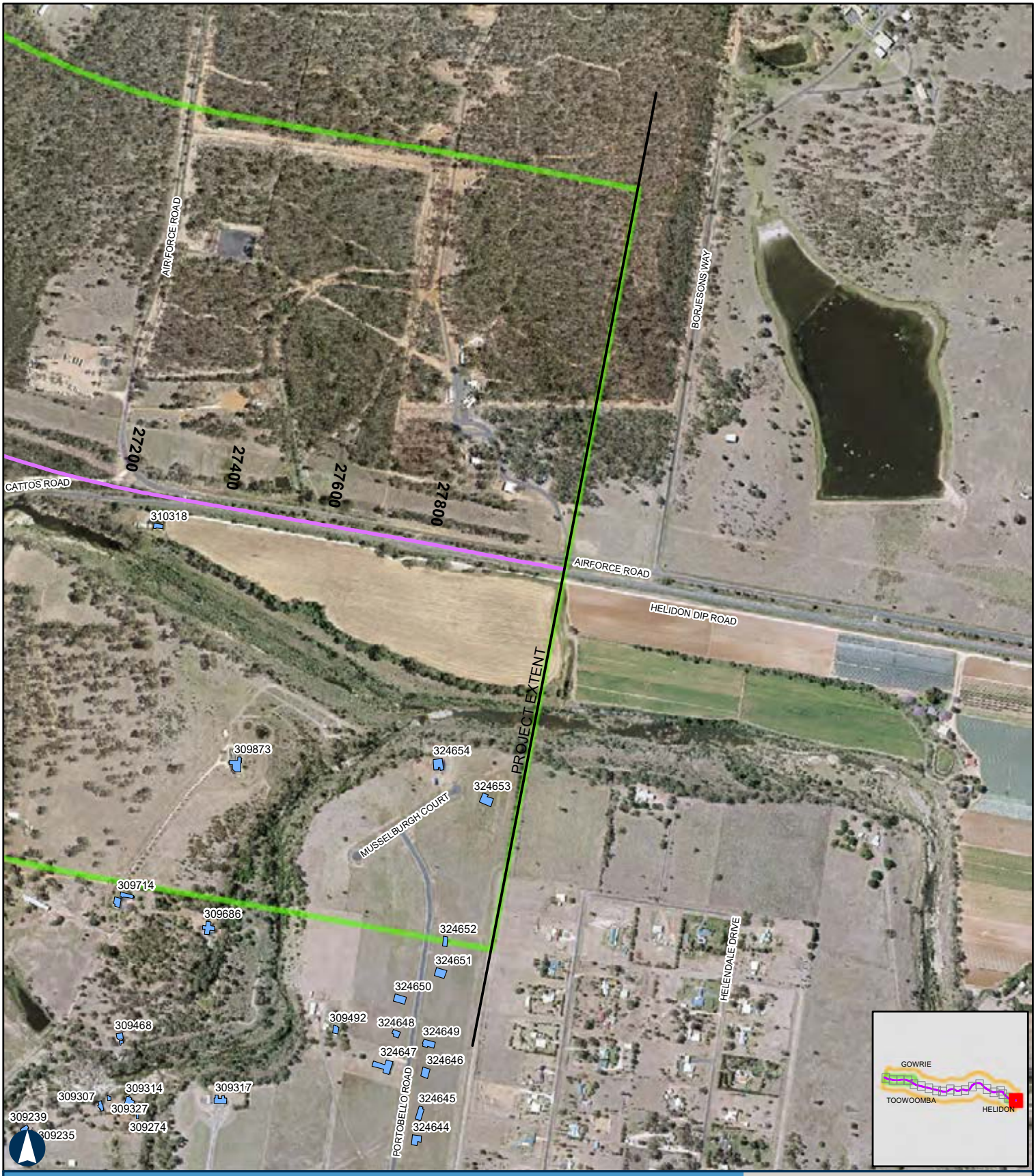
Non-sensitive Receptors

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GOWRIE TO HELIDON

Sensitive Receptors

APPENDIX A - Map 20 of 20

200 m

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APPENDIX

P

Operational Railway Noise and Vibration

Appendix B Noise prediction model verification (Queensland)

GOWRIE TO HELIDON ENVIRONMENTAL IMPACT STATEMENT

Overview

The level and character of railway noise within the local environment is specific to the rollingstock operations, condition of the rails and the daily rail traffic. Because of the wide range in variability of these factors, noise prediction models for railway infrastructure are commonly developed from a database of verified source noise emission levels for the rollingstock.

Organisations such as TfNSW and QR provide train noise emission databases for the use in noise modelling and railway noise impact assessments. A similar verified noise emission database has been adopted for the Inland Rail project (refer **Table 26** of this report).

The methodology to predict railway noise within the environment adjacent to the Inland Rail project has also been verified with reference to existing railway noise levels monitored by SLR at sections of existing QR West Moreton System rail corridor.

The details of the railway noise monitoring and noise model verification in three townships in Queensland are provided in the following sections. Whilst the specific verification sites are outside the Project study area, the outcomes of the verification are reliable for the verification of the noise model and modelling methodology.

Noise monitoring locations and methodology

The noise monitoring locations were selected based on the following criteria, designed to provide a consistent approach across the noise monitoring locations:

- At monitoring sites adjacent to the rail line(s) that could be safely and regularly accessed without requiring entry to the rail corridor.
- Generally, locations were within 50 m of the rail corridor to be representative of the nearest sensitive receptors that align the rail corridor and to be close enough to limit the potential influence of local weather conditions.
- Where the track was generally straight and observed to be in relatively good condition. This requirement limited the potential influence of unique factors such as curving noise or prominent track wear which can substantially increase localised rail noise levels.
- Where daily rail traffic was comparable to the proposed rail movements on Inland Rail
- Railway operations were predominately heavy rail traffic (coal and freight trains) and the locomotives were expected to generally be at a constant speed to minimise potential for discrete events such as braking or acceleration (high notch).

Railway noise levels for the daily existing trains movements were monitored at five individual locations at the townships of Gatton, Forest Hill and Calvert, as summarised in **Table B1** and presented in **Figure B1**.

Table B1 Noise monitoring locations in QLD

SLR ID	Location	Monitoring dates	Equipment[1,2]
1	Smithfield Road, Gatton 40 m from the outer rail	20 to 27 March 2019	SVAN 957 noise logger (27580)
2	Chadwick Road, Gatton 17 m from the outer rail	20 to 27 March 2019	SVAN 957 noise logger (23241)
3	Railway Street, Forest Hill 15 m from the outer rail	20 to 27 March 2019	NGARA noise logger (8781A5)
4	Gordon Street, Forest Hill 18 m from the outer rail	20 to 27 March 2019	NGARA noise logger (8780FF)
5	Newcastle Street, Calvert 78 m from the outer rail	21 to 27 March 2019	NGARA noise logger (8780AF)

Note 1 All monitoring equipment complies with the requirements of Australian Standard AS1259-1990 (part 1 and 2) and IEC 61672.

Note 2 All equipment was calibrated before and after the monitoring period with any drift in signal less than 1 dB.



QLD NOISE MODEL VERIFICATION

FIGURE B1 - Map 1 of 3

200 metres

Coordinate System: GDA 1994 MGA Zone 56

- Noise Monitoring Locations
- Rail Alignment/Centreline
- Bridges and Viaducts
- Watercourses

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QLD NOISE MODEL VERIFICATION

FIGURE B1 - Map 2 of 3

200 metres

Coordinate System: GDA 1994 MGA Zone 56

Noise Monitoring Locations
Rail Alignment/Centreline
Bridges and Viaducts
Watercourses

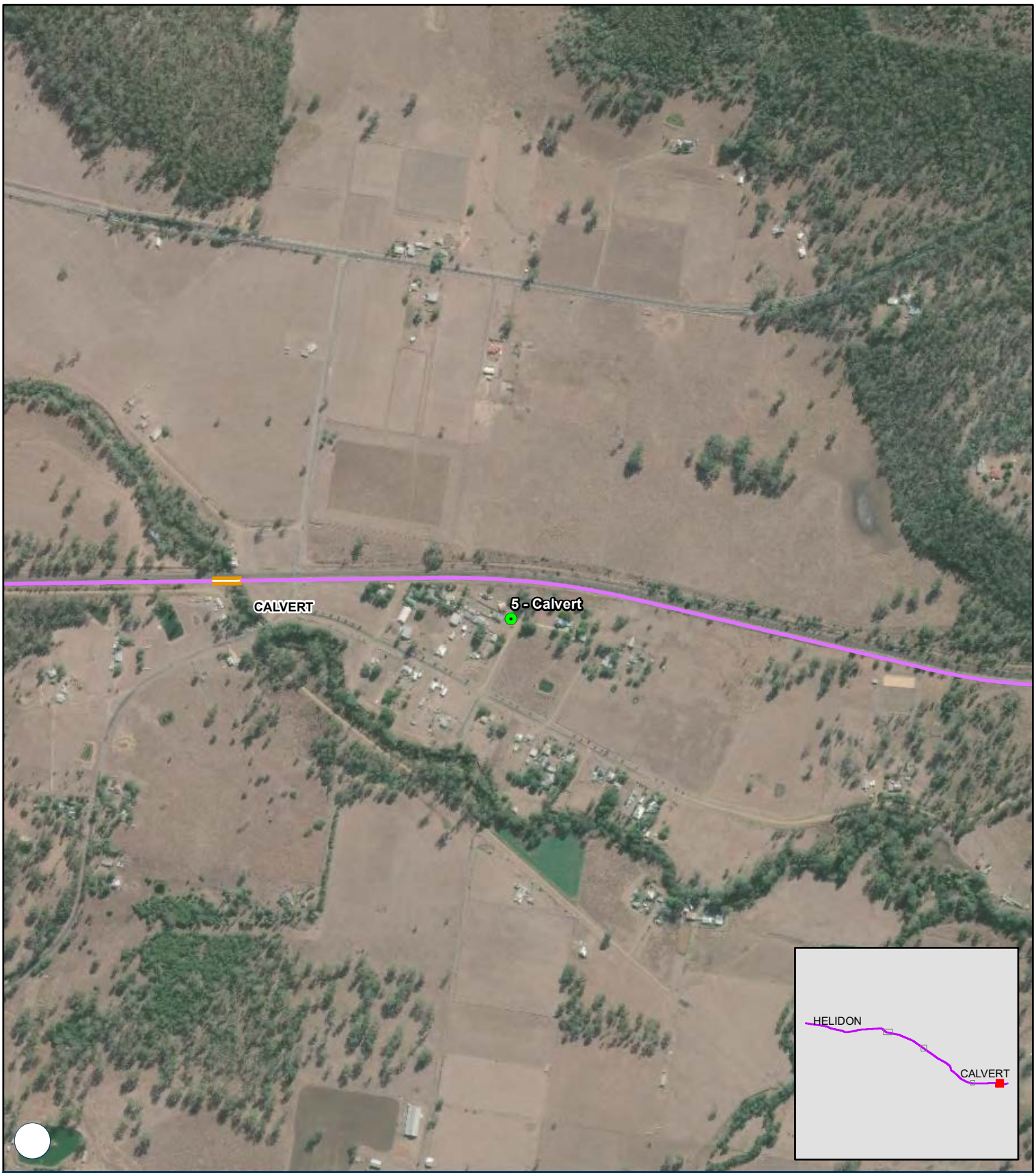
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QLD NOISE MODEL VERIFICATION

FIGURE B1 - Map 3 of 3

200 metres

Coordinate System: GDA 1994 MGA Zone 56

- Noise Monitoring Locations
- Rail Alignment/Centreline
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The analysis of the monitored noise levels and audio recordings for the train passbys, along with on-site observations, identified the following:

- At ID 1 in Gatton, the nearby steel framed railway bridge did not substantially influence the rolling noise, when compared to the adjacent surface track sections. The trains speed of approximately 50 km/h in Gatton may not have been sufficient for the bridge structure to be a source of elevated rolling noise.
- The L_{Amax} noise levels in Gatton were, at times, influenced by trains accelerating using short-lived higher notch settings as the train departed the centre of Gatton. The specific notch settings and acceleration was dependent on the driver and varied for each train.
- The monitored noise levels vary by 1 dBA to 2 dBA between the two monitoring locations at Forest Hill and demonstrate rail noise levels are generally consistent either side of the immediate rail corridor.
- At Calvert, whilst the train passbys were clearly audible, the ambient noise levels and local environment (buildings and vegetation) had an influence on the ability to isolate the complete duration, and L_{Aeq} noise level, of some train passbys events. The L_{Amax} noise levels were clearly defined.
- At all monitoring locations the SEM was in the order of 1 dBA to 6 dBA lower than the daytime or night-time 95th percentile L_{Amax} noise levels.

Noise modelling

To enable verification of the monitored noise levels, the SoundPLAN noise modelling developed for the Inland Rail project, as discussed in **Section 6** of this report, was applied to calculate railway noise levels at each noise monitoring location.

A summary of the key noise modelling data and methodologies for the existing railway noise levels is provided in **Table B3**.

Table B3 Noise modelling inputs

Noise model attribute	Source data/ modelling approach
Daily train movements	Refer to Table C1 for the QR West Moreton System
Rail line speeds	Referencing the monitored data, the train speeds were estimated as 50 km/h in Gatton, 60 km/h in Forest Hill and Calvert.
Railway acoustic corrections	Nil, all track was straight with no tight-radius curves, turnouts etc. within 100 m of each monitoring location.
Track strings	The alignment of the existing rail tracks was referenced from publicly available datasets and rail corridor designs supplied by ARTC.
Consist information	All trains modelled with consist 850 m in length
Passenger rail traffic	There were no passenger rail movements on the QR West Moreton System
Local environment	3-dimensonal digital terrain models were developed for the existing environment at each monitoring location. Ground conditions were modelled as hard ground (ground absorption co-efficient of 0.0).

<table>
<tr><th>Noise model attribute</th><th>Source data/ modelling approach</th></tr>
<tr><td>Locomotive source noise emission levels</td><td>The rollingstock classes were determined from on-site observations and datasets of the rollingstock in use on each rail line. The following noise emission levels were assigned based on the Inland Rail noise emission database, with reference to comparable datasets developed by TfNSW and QR.
<table>
<tr><th rowspan="2">Rollingstock category</th><th rowspan="2">Reference length</th><th colspan="2">Reference noise level, dBA</th></tr>
<tr><th>SEL</th><th>LAmax</th></tr>
<tr><td colspan="4">QR West Moreton System, Queensland</td></tr>
<tr><td>82 Class locomotive (two per train)
(representative of typical coal train locomotives)</td><td>22 m</td><td>83</td><td>89</td></tr>
<tr><td>NR Class locomotive (two per train)
(representative of typical freight locomotives)</td><td>22 m</td><td>85</td><td>90</td></tr>
</table>
Note All noise levels are referenced at a distance of 15 m for a speed of 80 km/h.</td></tr>
</table>

Noise model verification

The predicted and monitored L_{Aeq} and L_{Amax} railway noise levels at each location were compared as part of the noise model verification, as detailed in **Table B4**. The model is determined to be verified to a suitable accuracy where the predicted noise levels were within ±2 dBA of the measured railway noise levels.

The modelled locomotive noise emissions at location ID 1 in Gatton included a +4 dBA adjustment to the modelled source levels to account for the intermittent localised increases in notch setting which were observed and monitored as trains had passed through the centre of Gatton.

Table B4 Modelled railway noise levels

Monitoring location	Railway noise levels, dBA			
	Daytime	Night-time	Daytime	Night-time
	$L_{Aeq,15hr}$	$L_{Aeq,9hr}$	L_{Amax}[1]	L_{Amax}[1]
West Moreton System, QLD				
ID 1 Gatton	57.4	57.5	88.5	88.6
ID 2 Gatton	59.5	59.8	91.6	91.6
ID 3 Forest Hill	60.9	61.2	91.2	91.2
ID 4 Forest Hill	60.8	61.1	91.1	91.1
ID 5 Calvert	52.8	53.2	79.3	79.3

Note 1 Daytime and Night-time LAmax is the 95th percentile LAmax rail noise level

The monitored and modelled L_{Aeq} and L_{Amax} noise levels at each location were compared, as detailed in **Table B5**. The noise model validation was determined for all five noise monitoring locations. Because the monitored L_{Aeq} noise levels at Calvert were at times influenced by the local environment the validation was also undertaken for the locations at Gatton and Forest Hill (total four monitoring locations).

Overall, the L_{Aeq} noise levels verify within 2 dBA of the monitored L_{Aeq} noise levels during the daytime and night-time periods and meets DTMR guidelines on transport noise model validation. The L_{Amax} noise levels are a relatively minor 0.5 dBA to 1 dBA more than the desired 2 dBA verification and this is discussed further after **Table B5**. At the EIS stage it is satisfactory to over-predict the railway noise levels to provide conservatism in both the assessment of potential noise impacts and the recommendations for potential noise mitigations.

Table B5 Noise model verification

Monitoring location	Noise model verification, dBA				
	Daytime	Night-time	Daytime	Night-time	24-hour
	$L_{Aeq,15hr}$	$L_{Aeq,9hr}$	L_{Amax}[1]	L_{Amax}[1]	SEM[2]
West Moreton System, QLD					
ID 1 Gatton	1.4	0.8	-0.1	2.9	5.0
ID 2 Gatton	4.1	3.8	5.7	4.0	7.9
ID 3 Forest Hill	-0.3	2.0	3.1	3.1	4.8
ID 4 Forest Hill	1.1	0.0	2.2	1.4	4.8
ID 5 Calvert	5.8	5.4	1.9	1.0	7.7
Model validation all locations	2.4	2.4	2.6	2.5	6.0
Model validation locations ID 1,2,3 & 4	1.6	1.7	2.7	2.9	5.6

Note 1 Daytime and Night-time LAmax is the 95th percentile LAmax rail noise level

Note 2 Single Event Maximum level for the LAmax railway noise levels.

The following features of the existing railway operations and the noise modelling methodology are considered to have influenced the noise model validation.

- In Gatton the noise monitoring data and on-site observations identify potential for the speed of individual trains to vary depending on the time of day and driver behaviour. The monitored L_{Aeq} noise levels are sensitive to variations to factors such as train speed. The noise model assumes a consistent train speed of 50 km/h in Gatton and does not account for individual trains travelling at varying speeds.
- In Forest Hill the train speed was observed to be generally consistent and is suitably replicated by the consistent train speed applied in the noise model.
- The modelling of L_{Aeq} noise levels at Calvert does not account for the localised ambient noise which at times influenced the monitored L_{Aeq} railway noise levels.

The monitored 95th percentile L_{Amax} noise levels are less sensitive to outliers than the arithmetically averaged SEM noise levels. Consequently, the noise model, which adopted a consistent L_{Amax} noise emission, provided closer validation to the 95th percentile L_{Amax} than the SEM.

APPENDIX

P

Operational Railway Noise and Vibration

Appendix C Noise and vibration from double-stacked freight wagons

GOWRIE TO HELIDON ENVIRONMENTAL IMPACT STATEMENT

The load on the axles from freight wagons has the potential to influence the noise and vibration emission levels during the train passby event. The load will vary depending on the configuration of single stacked and double stacked containers and the contents of the containers which can vary from empty to the capacity weight.

To investigate the noise and vibration emission levels, SLR conducted a noise and vibration monitoring survey in January 2019 at a section of straight track near to Merriton, approximately 170 km north of Adelaide. The freight trains in the area were known to have both single stacked and double stacked containers on the wagons.

Based on site observations from outside the rail corridor area, the following features of the track were identified:

- The track was single line, on a ballasted track with concrete sleepers with train movements in both directions.
- The depth of the ballast was estimated at 700 mm on clay and sandy top soil.
- Based on site observations the train speeds ranged from 80 km/h to 100 km/h.

During train passby events, noise and vibration levels were monitored simultaneously at six locations (three noise and three vibration) along the track section. A comparison of the noise and vibration level across the whole train passby was made for the trains that had only single stacked containers on the wagons and those trains with a combination of double stacked and single stacked containers. It was noted that no trains had all wagons loaded with double stacked containers and the analysis did not isolate those wagons that were empty or stacked with empty containers.

The noise level over the duration of the train passby events are presented for the three noise monitoring locations (Channel 4, Channel 5 and Channel 6) in **Figure C1**. Spot 2D acoustic intensity measurements confirmed the rail and wheel are key noise sources (and not radiated vibration of containers).

The locomotives at the front of the train are the initial elevated noise levels with the sections of known single stacked and double stacked containers identified thereafter. It can be seen that the noise levels at the three monitoring locations were approximately 2 dBA or less during the passby of the double stacked wagons.

As shown in **Figure C2**, consistent with the measured noise levels, albeit a more marginal difference, the vibration velocity levels (in dBV) are higher with the single stacked container wagons.

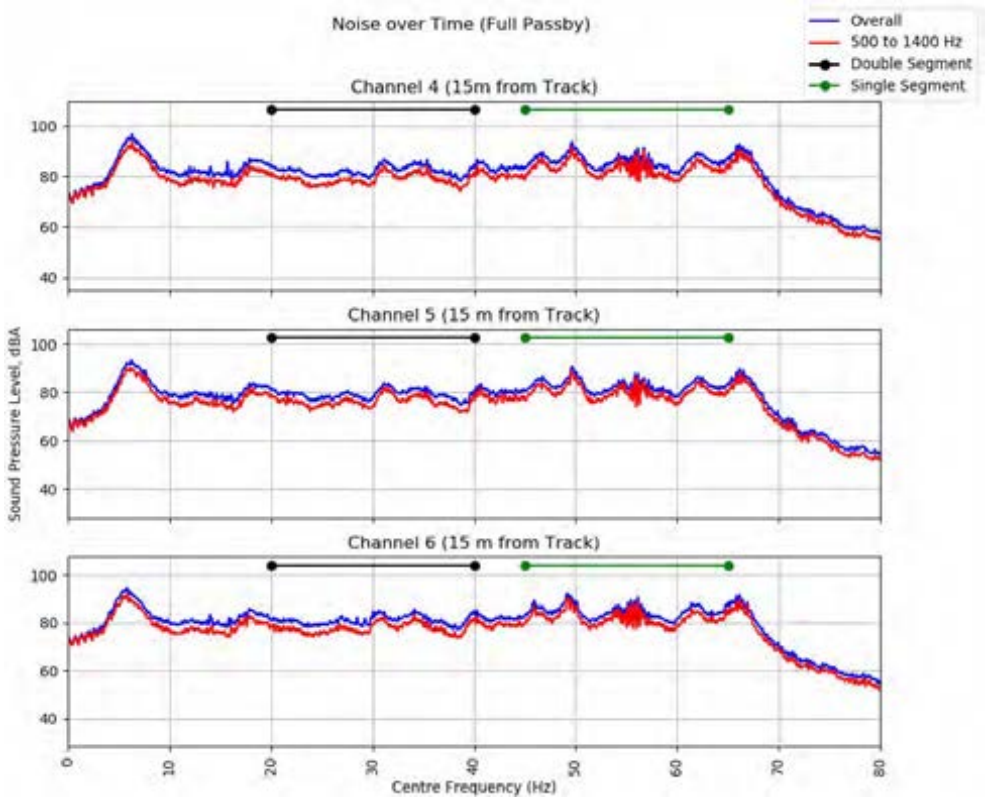
It is considered that if a noise emission correction factor were to be applied to the stacking configuration, this would be complicated by many factors in practice, particularly the:

- Proportion of wagons with single and double stacked containers and where they are located.
- Number and position of empty wagons (no containers).
- Load of the individual wagons, which can vary from empty to the maximum load capacity.

Consequently, whilst the loading of the freight consist can vary considerably depending on the mix of empty or fully loaded containers, the measurements find it insignificant with respect to rolling noise and vibration emissions compared to other factors such as individual wheel and track condition.

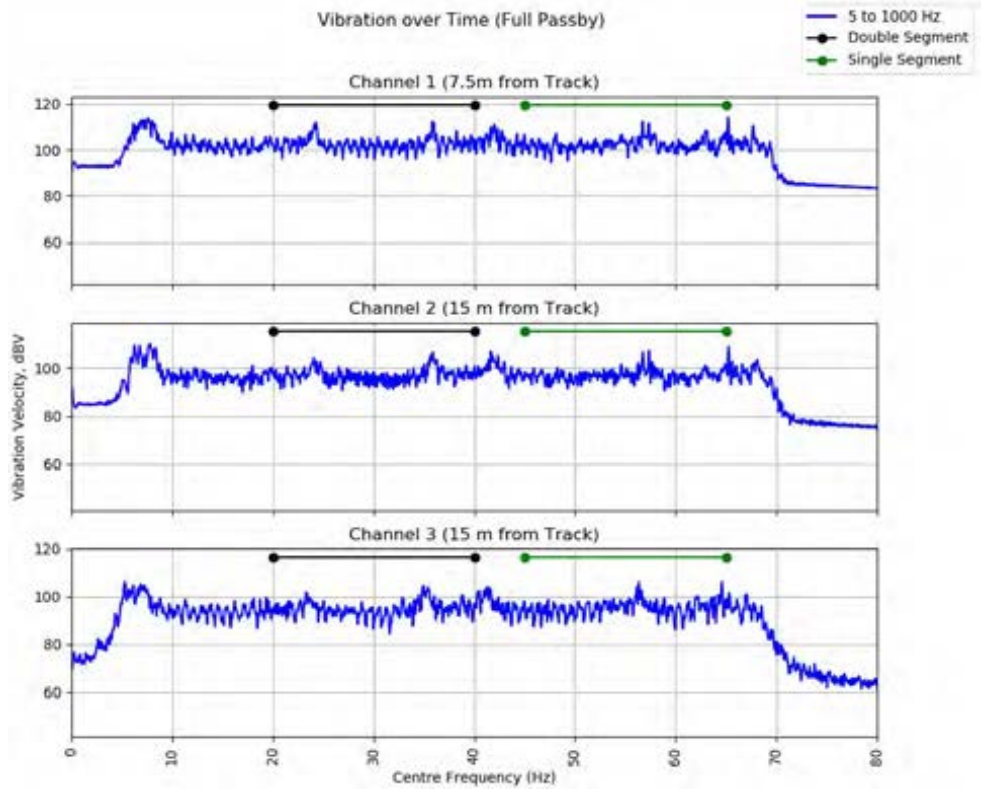
On the basis of the above analysis, correction factors to the noise and/or vibration emissions from double stacked wagons have not be considered in the Inland Rail operational rail noise and vibration assessments (at the EIS stage).

Figure C1 A-weighted noise levels for the entire train passby



The ground vibration levels at three locations (Channel 1, Channel 2 and Channel 3) for the same train passby event is presented in **Figure C2**.

Figure C2 Vibration velocity levels for the entire train passby



APPENDIX

P

Operational Railway Noise and Vibration

Appendix D Predicted airborne railway noise levels—Year 2027 Project opening

GOWRIE TO HELIDON ENVIRONMENTAL IMPACT STATEMENT

The predicted railway noise levels at the commencement of railway operations in year 2027 are detailed in the following table and noise contour maps.

The predicted noise levels are provided for the identified sensitive receptors within the study area. Included in the map sheet series are localised figures to assist the identification of individual sensitive receptor buildings. In some cases the contours of the noise criteria are not presented on the map sheets as the sensitive receptors are far enough from the Project to be well within the noise criteria.

The maps include all sensitive receptors where the predicted noise levels triggered an investigation of noise mitigation. The sensitive receptors above the tunnel alignment are not included as there were no airborne noise emissions from train passbys within the tunnel.

Following the tabulated results are the predicted noise contour maps for the railway operations at the project opening in year 2027. The noise contours have been presented as the daytime and night-time assessment criteria applied by ARTC on the Project. All noise contours are predicted at 2.4 m above ground level and there are no airborne noise predictions where the trains are within the Toowoomba Range Tunnel.

The noise contours are calculated from the interpolation of thousands of calculation points and provide an overview of the railway noise levels to assist the interpretation of the assessment and its outcomes. The tabulated noise levels at the individual sensitive receptors should be referenced when assessing railway noise levels against the criteria.

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
307977	New	60	55	80	-	-	-	42	43	63	-	-	-
307989	New	60	55	80	-	-	-	43	44	66	-	-	-
308204	New	60	55	80	-	-	-	40	41	61	-	-	-
308261	New	60	55	80	-	-	-	42	43	63	-	-	-
308409	New	60	55	80	-	-	-	42	43	64	-	-	-
308597	New	60	55	80	-	-	-	43	44	65	-	-	-
308599	New	60	55	80	-	-	-	33	34	59	-	-	-
308615	New	60	55	80	-	-	-	44	44	65	-	-	-
308621	New	60	55	80	-	-	-	40	41	62	-	-	-
308631	New	60	55	80	-	-	-	38	39	62	-	-	-
308637	New	60	55	80	-	-	-	40	41	63	-	-	-
308641	New	60	55	80	-	-	-	36	37	59	-	-	-
308646	New	60	55	80	-	-	-	38	39	62	-	-	-
308648	New	60	55	80	-	-	-	38	39	61	-	-	-
308651	New	60	55	80	-	-	-	38	39	61	-	-	-
308653	New	60	55	80	-	-	-	38	39	60	-	-	-
308656	New	60	55	80	-	-	-	37	38	60	-	-	-
308657	New	60	55	80	-	-	-	40	41	64	-	-	-
308661	New	60	55	80	-	-	-	38	39	62	-	-	-
308662	New	60	55	80	-	-	-	38	39	62	-	-	-
308666	New	60	55	80	-	-	-	38	39	62	-	-	-
308673	New	60	55	80	-	-	-	41	42	64	-	-	-
308675	New	60	55	80	-	-	-	38	40	61	-	-	-
308681	New	60	55	80	-	-	-	41	42	64	-	-	-
308683	New	60	55	80	-	-	-	38	39	61	-	-	-
308686	New	60	55	80	-	-	-	39	40	64	-	-	-
308687	New	60	55	80	-	-	-	38	39	61	-	-	-
308692	New	60	55	80	-	-	-	39	40	64	-	-	-
308693	New	60	55	80	-	-	-	39	40	62	-	-	-
308695	New	60	55	80	-	-	-	39	40	62	-	-	-
308698	New	60	55	80	-	-	-	40	41	62	-	-	-
308707	New	60	55	80	-	-	-	40	40	63	-	-	-
308709	New	60	55	80	-	-	-	39	40	63	-	-	-
308710	New	60	55	80	-	-	-	39	40	63	-	-	-
308713	New	60	55	80	-	-	-	39	40	61	-	-	-
308716	New	60	55	80	-	-	-	38	39	61	-	-	-
308718	New	60	55	80	-	-	-	39	40	63	-	-	-
308719	New	60	55	80	-	-	-	39	40	64	-	-	-
308722	New	60	55	80	-	-	-	41	42	66	-	-	-
308726	New	60	55	80	-	-	-	40	41	64	-	-	-
308727	New	60	55	80	-	-	-	39	40	61	-	-	-
308734	New	60	55	80	-	-	-	39	40	64	-	-	-
308735	New	60	55	80	-	-	-	39	40	63	-	-	-
308737	New	60	55	80	-	-	-	41	42	64	-	-	-
308738	New	60	55	80	-	-	-	38	39	63	-	-	-
308749	New	60	55	80	-	-	-	39	40	63	-	-	-
308751	New	60	55	80	-	-	-	39	40	62	-	-	-
308758	New	60	55	80	-	-	-	40	41	64	-	-	-
308759	New	60	55	80	-	-	-	38	39	62	-	-	-
308760	New	60	55	80	-	-	-	40	41	64	-	-	-
308761	New	60	55	80	-	-	-	39	40	63	-	-	-
308766	New	60	55	80	-	-	-	40	41	63	-	-	-
308767	New	60	55	80	-	-	-	41	42	65	-	-	-
308770	New	60	55	80	-	-	-	39	40	63	-	-	-
308772	New	60	55	80	-	-	-	39	40	63	-	-	-
308777	New	60	55	80	-	-	-	40	41	64	-	-	-
308780	New	60	55	80	-	-	-	40	41	63	-	-	-
308783	New	60	55	80	-	-	-	38	40	64	-	-	-
308787	New	60	55	80	-	-	-	41	42	64	-	-	-
308793	New	60	55	80	-	-	-	40	41	63	-	-	-
308794	New	60	55	80	-	-	-	40	41	63	-	-	-
308796	New	60	55	80	-	-	-	41	42	63	-	-	-
308797	New	60	55	80	-	-	-	40	41	63	-	-	-
308800	New	60	55	80	-	-	-	40	41	64	-	-	-
308801	New	60	55	80	-	-	-	41	42	64	-	-	-
308804	New	60	55	80	-	-	-	40	41	64	-	-	-
308806	New	60	55	80	-	-	-	41	42	64	-	-	-
308807	New	60	55	80	-	-	-	41	42	64	-	-	-
308812	New	60	55	80	-	-	-	40	41	62	-	-	-
308816	New	60	55	80	-	-	-	41	42	64	-	-	-
308818	New	60	55	80	-	-	-	40	41	64	-	-	-
308819	New	60	55	80	-	-	-	40	41	63	-	-	-
308820	New	60	55	80	-	-	-	42	42	65	-	-	-
308822	New	60	55	80	-	-	-	41	42	64	-	-	-
308823	New	60	55	80	-	-	-	40	41	61	-	-	-
308824	New	60	55	80	-	-	-	41	42	63	-	-	-
308826	New	60	55	80	-	-	-	41	42	65	-	-	-
308829	New	60	55	80	-	-	-	41	42	63	-	-	-
308836	New	60	55	80	-	-	-	41	42	63	-	-	-
308840	New	60	55	80	-	-	-	41	42	64	-	-	-
308847	New	60	55	80	-	-	-	41	42	64	-	-	-
308848	New	60	55	80	-	-	-	41	42	65	-	-	-
308851	New	60	55	80	-	-	-	42	42	64	-	-	-
308855	New	60	55	80	-	-	-	42	43	63	-	-	-
308869	New	60	55	80	-	-	-	43	44	64	-	-	-
308882	New	60	55	80	-	-	-	41	42	65	-	-	-
308886	New	60	55	80	-	-	-	41	42	64	-	-	-
308960	New	60	55	80	-	-	-	42	43	64	-	-	-
308971	New	60	55	80	-	-	-	41	42	64	-	-	-
308975	New	60	55	80	-	-	-	44	45	65	-	-	-
309013	New	60	55	80	-	-	-	43	44	65	-	-	-
309162	New	60	55	80	-	-	-	42	43	65	-	-	-
309168	New	60	55	80	-	-	-	42	43	65	-	-	-
309235	New	60	55	80	-	-	-	41	42	62	-	-	-
309239	New	60	55	80	-	-	-	41	42	62	-	-	-
309274	New	60	55	80	-	-	-	41	42	65	-	-	-
309307	New	60	55	80	-	-	-	40	41	63	-	-	-
309314	New	60	55	80	-	-	-	43	44	67	-	-	-
309317	New	60	55	80	-	-	-	45	46	68	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
309327	New	60	55	80	-	-	-	41	42	64	-	-	-
309419	New	60	55	80	-	-	-	39	39	60	-	-	-
309439	New	60	55	80	-	-	-	39	40	63	-	-	-
309468	New	60	55	80	-	-	-	40	42	65	-	-	-
309492	New	60	55	80	-	-	-	45	46	69	-	-	-
309532	New	60	55	80	-	-	-	39	40	60	-	-	-
309558	New	60	55	80	-	-	-	40	41	60	-	-	-
309564	New	60	55	80	-	-	-	39	40	59	-	-	-
309594	New	60	55	80	-	-	-	38	39	62	-	-	-
309602	New	60	55	80	-	-	-	39	40	60	-	-	-
309649	New	60	55	80	-	-	-	39	40	60	-	-	-
309686	New	60	55	80	-	-	-	45	47	70	-	-	-
309714	New	60	55	80	-	-	-	49	50	71	-	-	-
309741	New	60	55	80	-	-	-	39	40	60	-	-	-
309743	New	60	55	80	-	-	-	45	46	68	-	-	-
309753	New	60	55	80	-	-	-	39	40	59	-	-	-
309762	New	60	55	80	-	-	-	48	49	69	-	-	-
309767	New	60	55	80	-	-	-	51	52	71	-	-	-
309769	New	60	55	80	-	-	-	44	44	67	-	-	-
309782	New	60	55	80	-	-	-	39	39	59	-	-	-
309786	New	60	55	80	-	-	-	40	41	60	-	-	-
309797	New	60	55	80	-	-	-	42	43	61	-	-	-
309809	New	60	55	80	-	-	-	40	41	60	-	-	-
309810	New	60	55	80	-	-	-	50	51	71	-	-	-
309822	New	60	55	80	-	-	-	42	43	66	-	-	-
309828	New	60	55	80	-	-	-	42	43	63	-	-	-
309831	New	60	55	80	-	-	-	50	51	71	-	-	-
309833	New	60	55	80	-	-	-	41	42	63	-	-	-
309845	New	60	55	80	-	-	-	46	47	70	-	-	-
309862	New	60	55	80	-	-	-	39	40	60	-	-	-
309868	Redevelopment	65	60	85	49	49	72	50	51	71	1.6	1.7	-1.7
309873	Redevelopment	65	60	85	51	51	75	52	53	75	1.6	2.2	0.2
309891	New	60	55	80	-	-	-	42	43	61	-	-	-
309912	New	60	55	80	-	-	-	48	49	69	-	-	-
309919	New	60	55	80	-	-	-	41	42	61	-	-	-
309944	New	60	55	80	-	-	-	41	41	63	-	-	-
309979	New	60	55	80	-	-	-	23	24	43	-	-	-
309980	New	60	55	80	-	-	-	21	22	43	-	-	-
309983	New	60	55	80	-	-	-	24	25	44	-	-	-
309987	New	60	55	80	-	-	-	24	25	44	-	-	-
309989	New	60	55	80	-	-	-	21	22	43	-	-	-
309990	New	60	55	80	-	-	-	41	42	63	-	-	-
309995	New	60	55	80	-	-	-	21	22	43	-	-	-
309996	New	60	55	80	-	-	-	25	26	45	-	-	-
309997	New	60	55	80	-	-	-	23	24	44	-	-	-
310001	New	60	55	80	-	-	-	41	42	63	-	-	-
310002	New	60	55	80	-	-	-	42	43	63	-	-	-
310004	New	60	55	80	-	-	-	26	27	45	-	-	-
310007	New	60	55	80	-	-	-	22	23	43	-	-	-
310008	New	60	55	80	-	-	-	26	27	45	-	-	-
310011	New	60	55	80	-	-	-	23	24	44	-	-	-
310016	New	60	55	80	-	-	-	26	27	44	-	-	-
310021	New	60	55	80	-	-	-	23	24	44	-	-	-
310023	New	60	55	80	-	-	-	42	43	62	-	-	-
310024	New	60	55	80	-	-	-	25	26	44	-	-	-
310025	New	60	55	80	-	-	-	23	24	44	-	-	-
310027	New	60	55	80	-	-	-	23	24	43	-	-	-
310028	New	60	55	80	-	-	-	22	23	42	-	-	-
310032	Redevelopment	65	60	85	48	48	71	49	50	72	1.5	1.7	1.0
310034	New	60	55	80	-	-	-	26	27	45	-	-	-
310036	New	60	55	80	-	-	-	43	44	66	-	-	-
310037	New	60	55	80	-	-	-	24	25	44	-	-	-
310039	New	60	55	80	-	-	-	23	24	43	-	-	-
310040	New	60	55	80	-	-	-	24	25	44	-	-	-
310041	New	60	55	80	-	-	-	23	24	44	-	-	-
310042	New	60	55	80	-	-	-	26	27	44	-	-	-
310043	New	60	55	80	-	-	-	22	23	43	-	-	-
310044	New	60	55	80	-	-	-	24	25	44	-	-	-
310045	New	60	55	80	-	-	-	26	27	46	-	-	-
310047	New	60	55	80	-	-	-	24	25	43	-	-	-
310048	New	60	55	80	-	-	-	24	25	43	-	-	-
310050	New	60	55	80	-	-	-	22	23	42	-	-	-
310053	New	60	55	80	-	-	-	24	25	44	-	-	-
310055	New	60	55	80	-	-	-	25	26	45	-	-	-
310058	New	60	55	80	-	-	-	25	27	45	-	-	-
310063	New	60	55	80	-	-	-	45	46	67	-	-	-
310064	New	60	55	80	-	-	-	25	26	45	-	-	-
310066	New	60	55	80	-	-	-	24	26	44	-	-	-
310070	New	60	55	80	-	-	-	24	25	44	-	-	-
310073	New	60	55	80	-	-	-	44	45	65	-	-	-
310076	New	60	55	80	-	-	-	23	24	45	-	-	-
310079	New	60	55	80	-	-	-	25	26	45	-	-	-
310082	New	60	55	80	-	-	-	26	27	46	-	-	-
310084	New	60	55	80	-	-	-	24	25	45	-	-	-
310086	New	60	55	80	-	-	-	42	43	62	-	-	-
310089	New	60	55	80	-	-	-	38	38	60	-	-	-
310092	New	60	55	80	-	-	-	25	26	45	-	-	-
310097	New	60	55	80	-	-	-	25	26	46	-	-	-
310101	New	60	55	80	-	-	-	24	25	44	-	-	-
310102	New	60	55	80	-	-	-	26	27	46	-	-	-
310107	New	60	55	80	-	-	-	25	26	45	-	-	-
310108	New	60	55	80	-	-	-	26	28	46	-	-	-
310117	New	60	55	80	-	-	-	26	27	45	-	-	-
310121	New	60	55	80	-	-	-	42	43	66	-	-	-
310122	New	60	55	80	-	-	-	25	26	44	-	-	-
310125	New	60	55	80	-	-	-	26	27	47	-	-	-
310126	New	60	55	80	-	-	-	36	37	60	-	-	-
310128	New	60	55	80	-	-	-	25	26	46	-	-	-
310135	New	60	55	80	-	-	-	26	27	46	-	-	-

Receptor ID	New rail corridor/ upgrade of existing	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
	infrastructure	LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
310138	New	60	55	80	-	-	-	27	28	47	-	-	-
310142	New	60	55	80	-	-	-	24	26	46	-	-	-
310143	New	60	55	80	-	-	-	25	26	45	-	-	-
310146	New	60	55	80	-	-	-	26	27	47	-	-	-
310147	New	60	55	80	-	-	-	44	45	65	-	-	-
310149	New	60	55	80	-	-	-	26	28	46	-	-	-
310156	New	60	55	80	-	-	-	26	27	45	-	-	-
310157	New	60	55	80	-	-	-	26	27	47	-	-	-
310163	New	60	55	80	-	-	-	27	28	47	-	-	-
310165	New	60	55	80	-	-	-	26	27	46	-	-	-
310170	New	60	55	80	-	-	-	26	27	46	-	-	-
310174	New	60	55	80	-	-	-	26	28	47	-	-	-
310175	New	60	55	80	-	-	-	26	27	46	-	-	-
310176	New	60	55	80	-	-	-	27	28	47	-	-	-
310177	New	60	55	80	-	-	-	27	28	47	-	-	-
310178	Redevelopment	65	60	85	50	51	74	52	53	74	2.0	2.1	0.4
310180	New	60	55	80	-	-	-	27	28	48	-	-	-
310186	New	60	55	80	-	-	-	27	28	46	-	-	-
310188	New	60	55	80	-	-	-	41	42	66	-	-	-
310190	New	60	55	80	-	-	-	27	28	47	-	-	-
310193	New	60	55	80	-	-	-	26	27	46	-	-	-
310194	New	60	55	80	-	-	-	27	28	48	-	-	-
310196	New	60	55	80	-	-	-	27	28	47	-	-	-
310198	New	60	55	80	-	-	-	26	27	45	-	-	-
310199	New	60	55	80	-	-	-	45	46	65	-	-	-
310201	New	60	55	80	-	-	-	27	28	47	-	-	-
310202	New	60	55	80	-	-	-	38	39	61	-	-	-
310203	New	60	55	80	-	-	-	26	27	47	-	-	-
310207	New	60	55	80	-	-	-	27	28	47	-	-	-
310209	New	60	55	80	-	-	-	27	28	47	-	-	-
310210	New	60	55	80	-	-	-	26	27	46	-	-	-
310213	New	60	55	80	-	-	-	26	27	46	-	-	-
310215	New	60	55	80	-	-	-	43	44	66	-	-	-
310216	New	60	55	80	-	-	-	26	27	45	-	-	-
310220	New	60	55	80	-	-	-	25	27	47	-	-	-
310223	New	60	55	80	-	-	-	26	27	46	-	-	-
310228	New	60	55	80	-	-	-	26	27	46	-	-	-
310229	New	60	55	80	-	-	-	26	27	46	-	-	-
310230	New	60	55	80	-	-	-	25	26	46	-	-	-
310231	New	60	55	80	-	-	-	27	28	45	-	-	-
310233	New	60	55	80	-	-	-	26	28	47	-	-	-
310234	New	60	55	80	-	-	-	17	18	39	-	-	-
310240	New	60	55	80	-	-	-	26	27	45	-	-	-
310242	New	60	55	80	-	-	-	25	26	45	-	-	-
310252	New	60	55	80	-	-	-	26	27	47	-	-	-
310253	New	60	55	80	-	-	-	25	26	45	-	-	-
310254	New	60	55	80	-	-	-	27	28	46	-	-	-
310255	New	60	55	80	-	-	-	17	18	39	-	-	-
310256	New	60	55	80	-	-	-	27	28	46	-	-	-
310257	New	60	55	80	-	-	-	26	27	46	-	-	-
310258	New	60	55	80	-	-	-	39	40	63	-	-	-
310260	New	60	55	80	-	-	-	26	27	46	-	-	-
310261	New	60	55	80	-	-	-	25	26	45	-	-	-
310262	New	60	55	80	-	-	-	42	43	65	-	-	-
310271	New	60	55	80	-	-	-	26	27	46	-	-	-
310272	New	60	55	80	-	-	-	26	28	46	-	-	-
310274	New	60	55	80	-	-	-	26	27	47	-	-	-
310275	New	60	55	80	-	-	-	27	28	47	-	-	-
310281	New	60	55	80	-	-	-	15	16	39	-	-	-
310282	New	60	55	80	-	-	-	25	26	45	-	-	-
310283	New	60	55	80	-	-	-	25	26	46	-	-	-
310288	New	60	55	80	-	-	-	27	28	47	-	-	-
310290	New	60	55	80	-	-	-	14	15	36	-	-	-
310297	New	60	55	80	-	-	-	26	27	46	-	-	-
310298	New	60	55	80	-	-	-	47	48	71	-	-	-
310300	New	60	55	80	-	-	-	18	19	39	-	-	-
310302	New	60	55	80	-	-	-	39	40	62	-	-	-
310304	New	60	55	80	-	-	-	25	26	45	-	-	-
310305	Redevelopment	65	60	85	62	62	88	56	57	81	-5.9	-5.2	-6.8
310313	New	60	55	80	-	-	-	28	29	46	-	-	-
310316	New	60	55	80	-	-	-	26	27	46	-	-	-
310318	Redevelopment	65	60	85	63	63	89	63	64	91	0.4	1.0	2.7
310320	New	60	55	80	-	-	-	27	28	46	-	-	-
310325	New	60	55	80	-	-	-	43	44	62	-	-	-
310330	New	60	55	80	-	-	-	17	18	40	-	-	-
310335	New	60	55	80	-	-	-	48	50	70	-	-	-
310340	New	60	55	80	-	-	-	15	16	37	-	-	-
310342	New	60	55	80	-	-	-	20	22	44	-	-	-
310343	New	60	55	80	-	-	-	27	28	46	-	-	-
310347	New	60	55	80	-	-	-	20	21	42	-	-	-
310348	New	60	55	80	-	-	-	29	30	49	-	-	-
310350	New	60	55	80	-	-	-	28	29	48	-	-	-
310360	New	60	55	80	-	-	-	27	28	46	-	-	-
310363	New	60	55	80	-	-	-	25	26	45	-	-	-
310364	New	60	55	80	-	-	-	24	26	46	-	-	-
310368	New	60	55	80	-	-	-	18	19	39	-	-	-
310370	New	60	55	80	-	-	-	31	32	53	-	-	-
310371	New	60	55	80	-	-	-	28	29	48	-	-	-
310379	New	60	55	80	-	-	-	28	29	49	-	-	-
310380	New	60	55	80	-	-	-	27	28	46	-	-	-
310381	New	60	55	80	-	-	-	43	44	62	-	-	-
310388	New	60	55	80	-	-	-	18	19	39	-	-	-
310391	New	60	55	80	-	-	-	29	30	49	-	-	-
310393	New	60	55	80	-	-	-	43	44	62	-	-	-
310396	New	60	55	80	-	-	-	26	27	47	-	-	-
310400	New	60	55	80	-	-	-	18	19	41	-	-	-
310403	New	60	55	80	-	-	-	33	34	56	-	-	-
310407	New	60	55	80	-	-	-	26	27	45	-	-	-
310412	New	60	55	80	-	-	-	37	38	58	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
310418	New	60	55	80	-	-	-	22	23	44	-	-	-
310423	New	60	55	80	-	-	-	37	38	58	-	-	-
310424	New	60	55	80	-	-	-	44	45	67	-	-	-
310428	New	60	55	80	-	-	-	38	39	58	-	-	-
310432	New	60	55	80	-	-	-	31	32	54	-	-	-
310433	New	60	55	80	-	-	-	24	26	45	-	-	-
310438	New	60	55	80	-	-	-	18	19	41	-	-	-
310441	New	60	55	80	-	-	-	24	25	44	-	-	-
310442	New	60	55	80	-	-	-	41	41	60	-	-	-
310444	New	60	55	80	-	-	-	35	36	56	-	-	-
310445	New	60	55	80	-	-	-	28	29	47	-	-	-
310447	New	60	55	80	-	-	-	35	36	56	-	-	-
310448	New	60	55	80	-	-	-	19	20	41	-	-	-
310450	New	60	55	80	-	-	-	23	24	46	-	-	-
310451	New	60	55	80	-	-	-	24	25	44	-	-	-
310452	New	60	55	80	-	-	-	32	33	55	-	-	-
310456	New	60	55	80	-	-	-	22	23	45	-	-	-
310457	New	60	55	80	-	-	-	18	20	41	-	-	-
310458	New	60	55	80	-	-	-	30	31	51	-	-	-
310460	New	60	55	80	-	-	-	24	25	45	-	-	-
310462	New	60	55	80	-	-	-	38	39	62	-	-	-
310467	New	60	55	80	-	-	-	48	49	70	-	-	-
310468	New	60	55	80	-	-	-	24	25	43	-	-	-
310471	New	60	55	80	-	-	-	23	24	44	-	-	-
310472	New	60	55	80	-	-	-	18	19	41	-	-	-
310473	New	60	55	80	-	-	-	18	19	40	-	-	-
310477	New	60	55	80	-	-	-	21	22	44	-	-	-
310480	New	60	55	80	-	-	-	36	37	61	-	-	-
310482	New	60	55	80	-	-	-	23	24	45	-	-	-
310483	New	60	55	80	-	-	-	23	25	44	-	-	-
310487	New	60	55	80	-	-	-	45	45	66	-	-	-
310492	New	60	55	80	-	-	-	19	20	41	-	-	-
310493	New	60	55	80	-	-	-	26	27	46	-	-	-
310500	New	60	55	80	-	-	-	48	49	72	-	-	-
310502	New	60	55	80	-	-	-	40	41	61	-	-	-
310506	New	60	55	80	-	-	-	30	31	50	-	-	-
310507	New	60	55	80	-	-	-	24	25	44	-	-	-
310508	New	60	55	80	-	-	-	18	19	40	-	-	-
310509	New	60	55	80	-	-	-	25	26	45	-	-	-
310510	New	60	55	80	-	-	-	44	44	62	-	-	-
310512	New	60	55	80	-	-	-	24	25	45	-	-	-
310519	New	60	55	80	-	-	-	43	44	64	-	-	-
310524	New	60	55	80	-	-	-	24	25	44	-	-	-
310527	New	60	55	80	-	-	-	41	42	64	-	-	-
310528	New	60	55	80	-	-	-	25	26	45	-	-	-
310532	New	60	55	80	-	-	-	39	40	59	-	-	-
310535	New	60	55	80	-	-	-	18	20	40	-	-	-
310536	New	60	55	80	-	-	-	39	39	58	-	-	-
310537	New	60	55	80	-	-	-	25	26	47	-	-	-
310540	New	60	55	80	-	-	-	38	39	58	-	-	-
310541	New	60	55	80	-	-	-	36	37	57	-	-	-
310543	New	60	55	80	-	-	-	24	25	44	-	-	-
310545	New	60	55	80	-	-	-	25	26	46	-	-	-
310547	New	60	55	80	-	-	-	20	21	42	-	-	-
310551	New	60	55	80	-	-	-	24	25	45	-	-	-
310552	New	60	55	80	-	-	-	44	45	65	-	-	-
310556	New	60	55	80	-	-	-	44	45	68	-	-	-
310559	New	60	55	80	-	-	-	26	27	47	-	-	-
310563	New	60	55	80	-	-	-	25	26	45	-	-	-
310564	New	60	55	80	-	-	-	18	20	40	-	-	-
310571	New	60	55	80	-	-	-	24	25	45	-	-	-
310572	New	60	55	80	-	-	-	23	24	44	-	-	-
310573	New	60	55	80	-	-	-	34	35	54	-	-	-
310577	New	60	55	80	-	-	-	25	26	45	-	-	-
310578	New	60	55	80	-	-	-	20	21	42	-	-	-
310579	New	60	55	80	-	-	-	23	24	44	-	-	-
310580	New	60	55	80	-	-	-	24	25	46	-	-	-
310586	New	60	55	80	-	-	-	23	24	45	-	-	-
310589	New	60	55	80	-	-	-	23	24	45	-	-	-
310590	New	60	55	80	-	-	-	22	23	46	-	-	-
310593	New	60	55	80	-	-	-	26	27	46	-	-	-
310597	New	60	55	80	-	-	-	19	20	40	-	-	-
310601	New	60	55	80	-	-	-	46	47	66	-	-	-
310603	New	60	55	80	-	-	-	23	25	45	-	-	-
310604	New	60	55	80	-	-	-	23	24	46	-	-	-
310605	New	60	55	80	-	-	-	45	46	66	-	-	-
310609	New	60	55	80	-	-	-	26	27	46	-	-	-
310612	New	60	55	80	-	-	-	17	18	41	-	-	-
310613	New	60	55	80	-	-	-	37	38	59	-	-	-
310616	New	60	55	80	-	-	-	24	25	45	-	-	-
310617	New	60	55	80	-	-	-	27	28	46	-	-	-
310619	New	60	55	80	-	-	-	46	47	68	-	-	-
310620	New	60	55	80	-	-	-	23	24	44	-	-	-
310621	New	60	55	80	-	-	-	26	27	46	-	-	-
310622	New	60	55	80	-	-	-	24	25	46	-	-	-
310624	New	60	55	80	-	-	-	21	22	43	-	-	-
310625	New	60	55	80	-	-	-	23	24	43	-	-	-
310626	New	60	55	80	-	-	-	36	37	57	-	-	-
310628	New	60	55	80	-	-	-	19	20	40	-	-	-
310629	New	60	55	80	-	-	-	27	28	46	-	-	-
310632	New	60	55	80	-	-	-	22	23	44	-	-	-
310636	New	60	55	80	-	-	-	23	25	44	-	-	-
310638	New	60	55	80	-	-	-	22	23	42	-	-	-
310639	New	60	55	80	-	-	-	25	26	46	-	-	-
310641	New	60	55	80	-	-	-	25	26	46	-	-	-
310643	New	60	55	80	-	-	-	21	22	43	-	-	-
310644	New	60	55	80	-	-	-	51	52	72	-	-	-
310645	New	60	55	80	-	-	-	42	43	62	-	-	-
310646	New	60	55	80	-	-	-	22	23	43	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
310647	New	60	55	80	-	-	-	26	27	46	-	-	-
310649	New	60	55	80	-	-	-	24	25	46	-	-	-
310653	New	60	55	80	-	-	-	24	25	44	-	-	-
310654	New	60	55	80	-	-	-	47	48	67	-	-	-
310658	New	60	55	80	-	-	-	24	25	44	-	-	-
310661	New	60	55	80	-	-	-	19	20	40	-	-	-
310664	New	60	55	80	-	-	-	22	23	43	-	-	-
310666	New	60	55	80	-	-	-	19	20	40	-	-	-
310667	New	60	55	80	-	-	-	20	21	41	-	-	-
310669	New	60	55	80	-	-	-	40	40	60	-	-	-
310670	New	60	55	80	-	-	-	20	21	41	-	-	-
310671	New	60	55	80	-	-	-	24	25	45	-	-	-
310675	New	60	55	80	-	-	-	42	43	61	-	-	-
310678	New	60	55	80	-	-	-	25	26	45	-	-	-
310680	New	60	55	80	-	-	-	42	43	62	-	-	-
310681	New	60	55	80	-	-	-	25	26	48	-	-	-
310682	New	60	55	80	-	-	-	34	34	58	-	-	-
310683	New	60	55	80	-	-	-	36	37	57	-	-	-
310684	New	60	55	80	-	-	-	26	27	47	-	-	-
310685	New	60	55	80	-	-	-	23	24	44	-	-	-
310686	New	60	55	80	-	-	-	21	22	42	-	-	-
310687	New	60	55	80	-	-	-	23	24	44	-	-	-
310691	New	60	55	80	-	-	-	22	23	43	-	-	-
310693	New	60	55	80	-	-	-	22	24	44	-	-	-
310694	New	60	55	80	-	-	-	34	35	58	-	-	-
310697	New	60	55	80	-	-	-	24	25	48	-	-	-
310699	New	60	55	80	-	-	-	35	36	58	-	-	-
310701	New	60	55	80	-	-	-	22	23	45	-	-	-
310702	New	60	55	80	-	-	-	24	25	46	-	-	-
310703	New	60	55	80	-	-	-	9	10	36	-	-	-
310709	New	60	55	80	-	-	-	21	22	43	-	-	-
310712	New	60	55	80	-	-	-	23	24	46	-	-	-
310713	New	60	55	80	-	-	-	31	32	53	-	-	-
310717	New	60	55	80	-	-	-	24	25	45	-	-	-
310719	New	60	55	80	-	-	-	22	23	43	-	-	-
310720	New	60	55	80	-	-	-	19	20	41	-	-	-
310721	New	60	55	80	-	-	-	20	21	41	-	-	-
310722	New	60	55	80	-	-	-	25	26	49	-	-	-
310723	New	60	55	80	-	-	-	23	24	44	-	-	-
310724	New	60	55	80	-	-	-	22	23	43	-	-	-
310726	New	60	55	80	-	-	-	12	13	37	-	-	-
310727	New	60	55	80	-	-	-	18	19	39	-	-	-
310728	New	60	55	80	-	-	-	25	26	48	-	-	-
310729	New	60	55	80	-	-	-	25	26	47	-	-	-
310732	New	60	55	80	-	-	-	17	18	38	-	-	-
310736	New	60	55	80	-	-	-	17	18	38	-	-	-
310738	New	60	55	80	-	-	-	22	23	44	-	-	-
310739	New	60	55	80	-	-	-	9	10	36	-	-	-
310740	New	60	55	80	-	-	-	49	50	73	-	-	-
310741	New	60	55	80	-	-	-	24	25	44	-	-	-
310743	New	60	55	80	-	-	-	11	12	37	-	-	-
310745	New	60	55	80	-	-	-	23	25	46	-	-	-
310746	New	60	55	80	-	-	-	45	45	65	-	-	-
310749	New	60	55	80	-	-	-	25	26	45	-	-	-
310751	New	60	55	80	-	-	-	25	26	47	-	-	-
310752	New	60	55	80	-	-	-	25	26	46	-	-	-
310754	New	60	55	80	-	-	-	24	25	45	-	-	-
310756	New	60	55	80	-	-	-	39	39	59	-	-	-
310762	New	60	55	80	-	-	-	21	22	42	-	-	-
310765	New	60	55	80	-	-	-	12	13	38	-	-	-
310769	New	60	55	80	-	-	-	24	26	45	-	-	-
310771	New	60	55	80	-	-	-	20	21	42	-	-	-
310772	New	60	55	80	-	-	-	24	26	45	-	-	-
310773	New	60	55	80	-	-	-	40	40	63	-	-	-
310774	New	60	55	80	-	-	-	23	24	45	-	-	-
310775	New	60	55	80	-	-	-	22	23	44	-	-	-
310777	New	60	55	80	-	-	-	21	22	41	-	-	-
310779	New	60	55	80	-	-	-	12	13	38	-	-	-
310780	New	60	55	80	-	-	-	22	23	43	-	-	-
310781	New	60	55	80	-	-	-	8	10	34	-	-	-
310783	New	60	55	80	-	-	-	24	25	46	-	-	-
310785	New	60	55	80	-	-	-	10	11	35	-	-	-
310786	New	60	55	80	-	-	-	24	25	44	-	-	-
310787	New	60	55	80	-	-	-	25	26	45	-	-	-
310788	New	60	55	80	-	-	-	26	27	47	-	-	-
310789	New	60	55	80	-	-	-	23	24	45	-	-	-
310790	New	60	55	80	-	-	-	20	21	41	-	-	-
310792	New	60	55	80	-	-	-	11	12	36	-	-	-
310796	New	60	55	80	-	-	-	23	24	44	-	-	-
310798	New	60	55	80	-	-	-	9	10	36	-	-	-
310801	New	60	55	80	-	-	-	10	10	33	-	-	-
310802	New	60	55	80	-	-	-	27	28	49	-	-	-
310803	New	60	55	80	-	-	-	44	45	64	-	-	-
310805	New	60	55	80	-	-	-	22	24	44	-	-	-
310806	New	60	55	80	-	-	-	42	43	62	-	-	-
310807	New	60	55	80	-	-	-	24	25	44	-	-	-
310809	New	60	55	80	-	-	-	21	22	42	-	-	-
310810	New	60	55	80	-	-	-	10	11	36	-	-	-
310811	New	60	55	80	-	-	-	10	11	36	-	-	-
310814	New	60	55	80	-	-	-	10	10	3	-	-	-
310815	New	60	55	80	-	-	-	23	24	46	-	-	-
310816	New	60	55	80	-	-	-	9	11	36	-	-	-
310820	New	60	55	80	-	-	-	13	14	39	-	-	-
310824	New	60	55	80	-	-	-	23	24	44	-	-	-
310825	New	60	55	80	-	-	-	22	23	43	-	-	-
310827	New	60	55	80	-	-	-	17	18	40	-	-	-
310828	New	60	55	80	-	-	-	21	22	44	-	-	-
310831	New	60	55	80	-	-	-	18	19	40	-	-	-
310832	New	60	55	80	-	-	-	23	24	44	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
310834	New	60	55	80	-	-	-	22	23	44	-	-	-
310835	New	60	55	80	-	-	-	23	24	45	-	-	-
310837	New	60	55	80	-	-	-	26	27	48	-	-	-
310839	New	60	55	80	-	-	-	42	43	62	-	-	-
310840	New	60	55	80	-	-	-	9	11	35	-	-	-
310841	New	60	55	80	-	-	-	21	23	44	-	-	-
310842	New	60	55	80	-	-	-	51	52	73	-	-	-
310843	New	60	55	80	-	-	-	27	28	48	-	-	-
310844	New	60	55	80	-	-	-	26	27	47	-	-	-
310845	New	60	55	80	-	-	-	26	27	47	-	-	-
310846	New	60	55	80	-	-	-	25	26	48	-	-	-
310847	New	60	55	80	-	-	-	37	38	59	-	-	-
310849	New	60	55	80	-	-	-	12	13	38	-	-	-
310851	New	60	55	80	-	-	-	11	12	36	-	-	-
310852	New	60	55	80	-	-	-	4	6	31	-	-	-
310854	New	60	55	80	-	-	-	46	47	67	-	-	-
310855	New	60	55	80	-	-	-	10	10	3	-	-	-
310857	New	60	55	80	-	-	-	26	27	47	-	-	-
310858	New	60	55	80	-	-	-	22	23	44	-	-	-
310861	New	60	55	80	-	-	-	22	23	42	-	-	-
310862	New	60	55	80	-	-	-	26	27	48	-	-	-
310866	New	60	55	80	-	-	-	26	27	48	-	-	-
310867	New	60	55	80	-	-	-	24	25	45	-	-	-
310871	New	60	55	80	-	-	-	10	10	3	-	-	-
310872	New	60	55	80	-	-	-	22	24	43	-	-	-
310874	New	60	55	80	-	-	-	10	10	3	-	-	-
310875	New	60	55	80	-	-	-	13	14	38	-	-	-
310876	New	60	55	80	-	-	-	10	10	3	-	-	-
310877	New	60	55	80	-	-	-	11	12	36	-	-	-
310878	New	60	55	80	-	-	-	22	23	43	-	-	-
310880	New	60	55	80	-	-	-	25	26	46	-	-	-
310885	New	60	55	80	-	-	-	27	28	50	-	-	-
310886	New	60	55	80	-	-	-	11	12	36	-	-	-
310890	New	60	55	80	-	-	-	11	12	36	-	-	-
310891	New	60	55	80	-	-	-	10	10	3	-	-	-
310893	New	60	55	80	-	-	-	51	52	73	-	-	-
310894	New	60	55	80	-	-	-	24	25	46	-	-	-
310895	New	60	55	80	-	-	-	23	24	46	-	-	-
310896	New	60	55	80	-	-	-	9	10	35	-	-	-
310897	New	60	55	80	-	-	-	10	10	3	-	-	-
310898	New	60	55	80	-	-	-	11	11	35	-	-	-
310902	New	60	55	80	-	-	-	13	14	38	-	-	-
310904	New	60	55	80	-	-	-	11	12	37	-	-	-
310906	New	60	55	80	-	-	-	25	26	47	-	-	-
310907	New	60	55	80	-	-	-	10	10	3	-	-	-
310908	New	60	55	80	-	-	-	13	14	39	-	-	-
310909	New	60	55	80	-	-	-	10	10	3	-	-	-
310910	New	60	55	80	-	-	-	10	10	3	-	-	-
310911	New	60	55	80	-	-	-	10	10	3	-	-	-
310914	New	60	55	80	-	-	-	24	25	45	-	-	-
310916	New	60	55	80	-	-	-	11	12	37	-	-	-
310917	New	60	55	80	-	-	-	10	11	36	-	-	-
310919	New	60	55	80	-	-	-	25	26	47	-	-	-
310920	New	60	55	80	-	-	-	46	46	66	-	-	-
310921	New	60	55	80	-	-	-	29	30	51	-	-	-
310922	New	60	55	80	-	-	-	24	25	45	-	-	-
310923	New	60	55	80	-	-	-	11	12	37	-	-	-
310927	New	60	55	80	-	-	-	15	16	39	-	-	-
310928	New	60	55	80	-	-	-	10	10	3	-	-	-
310929	New	60	55	80	-	-	-	10	12	38	-	-	-
310930	New	60	55	80	-	-	-	12	13	38	-	-	-
310931	New	60	55	80	-	-	-	12	13	38	-	-	-
310934	New	60	55	80	-	-	-	10	10	3	-	-	-
310935	New	60	55	80	-	-	-	10	10	3	-	-	-
310936	New	60	55	80	-	-	-	23	24	45	-	-	-
310938	New	60	55	80	-	-	-	12	13	39	-	-	-
310939	New	60	55	80	-	-	-	23	24	44	-	-	-
310941	New	60	55	80	-	-	-	10	10	3	-	-	-
310942	New	60	55	80	-	-	-	8	10	36	-	-	-
310943	New	60	55	80	-	-	-	39	40	64	-	-	-
310945	New	60	55	80	-	-	-	46	47	65	-	-	-
310946	New	60	55	80	-	-	-	22	23	45	-	-	-
310947	New	60	55	80	-	-	-	10	10	3	-	-	-
310948	New	60	55	80	-	-	-	23	24	45	-	-	-
310952	New	60	55	80	-	-	-	10	10	3	-	-	-
310953	New	60	55	80	-	-	-	10	12	36	-	-	-
310955	New	60	55	80	-	-	-	12	13	38	-	-	-
310956	New	60	55	80	-	-	-	43	44	66	-	-	-
310958	New	60	55	80	-	-	-	10	10	3	-	-	-
310959	New	60	55	80	-	-	-	22	23	43	-	-	-
310962	New	60	55	80	-	-	-	23	24	45	-	-	-
310965	New	60	55	80	-	-	-	24	25	45	-	-	-
310966	New	60	55	80	-	-	-	12	13	38	-	-	-
310968	New	60	55	80	-	-	-	11	12	37	-	-	-
310970	New	60	55	80	-	-	-	29	30	52	-	-	-
310971	New	60	55	80	-	-	-	22	24	44	-	-	-
310972	New	60	55	80	-	-	-	22	24	45	-	-	-
310973	New	60	55	80	-	-	-	10	10	3	-	-	-
310974	New	60	55	80	-	-	-	32	33	61	-	-	-
310975	New	60	55	80	-	-	-	25	26	45	-	-	-
310976	New	60	55	80	-	-	-	8	10	34	-	-	-
310977	New	60	55	80	-	-	-	11	12	36	-	-	-
310978	New	60	55	80	-	-	-	24	25	46	-	-	-
310980	New	60	55	80	-	-	-	10	10	3	-	-	-
310982	New	60	55	80	-	-	-	12	13	38	-	-	-
310983	New	60	55	80	-	-	-	10	12	36	-	-	-
310984	New	60	55	80	-	-	-	11	12	37	-	-	-
310988	New	60	55	80	-	-	-	28	29	49	-	-	-
310991	New	60	55	80	-	-	-	28	30	49	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
310992	New	60	55	80	-	-	-	45	46	67	-	-	-
310994	New	60	55	80	-	-	-	10	10	3	-	-	-
310997	New	60	55	80	-	-	-	23	24	45	-	-	-
310999	New	60	55	80	-	-	-	27	28	48	-	-	-
311000	New	60	55	80	-	-	-	26	27	48	-	-	-
311004	New	60	55	80	-	-	-	28	29	49	-	-	-
311005	New	60	55	80	-	-	-	24	25	45	-	-	-
311006	New	60	55	80	-	-	-	11	12	39	-	-	-
311007	New	60	55	80	-	-	-	10	10	3	-	-	-
311008	New	60	55	80	-	-	-	10	10	3	-	-	-
311010	New	60	55	80	-	-	-	23	24	45	-	-	-
311013	New	60	55	80	-	-	-	22	23	45	-	-	-
311014	New	60	55	80	-	-	-	40	41	62	-	-	-
311015	New	60	55	80	-	-	-	47	48	67	-	-	-
311016	New	60	55	80	-	-	-	24	25	45	-	-	-
311018	New	60	55	80	-	-	-	26	27	46	-	-	-
311019	New	60	55	80	-	-	-	25	26	47	-	-	-
311020	New	60	55	80	-	-	-	47	48	67	-	-	-
311021	New	60	55	80	-	-	-	47	47	67	-	-	-
311026	New	60	55	80	-	-	-	11	12	37	-	-	-
311031	New	60	55	80	-	-	-	10	10	3	-	-	-
311036	New	60	55	80	-	-	-	13	14	38	-	-	-
311039	New	60	55	80	-	-	-	10	10	3	-	-	-
311040	New	60	55	80	-	-	-	26	27	47	-	-	-
311044	New	60	55	80	-	-	-	10	10	3	-	-	-
311046	New	60	55	80	-	-	-	24	25	46	-	-	-
311047	New	60	55	80	-	-	-	10	10	3	-	-	-
311048	New	60	55	80	-	-	-	24	26	46	-	-	-
311049	New	60	55	80	-	-	-	24	25	46	-	-	-
311052	New	60	55	80	-	-	-	23	24	45	-	-	-
311053	New	60	55	80	-	-	-	23	24	45	-	-	-
311054	New	60	55	80	-	-	-	26	27	48	-	-	-
311055	New	60	55	80	-	-	-	12	13	37	-	-	-
311058	New	60	55	80	-	-	-	25	26	46	-	-	-
311059	New	60	55	80	-	-	-	51	52	74	-	-	-
311060	New	60	55	80	-	-	-	12	13	38	-	-	-
311061	New	60	55	80	-	-	-	12	13	37	-	-	-
311062	New	60	55	80	-	-	-	10	10	3	-	-	-
311063	New	60	55	80	-	-	-	24	25	45	-	-	-
311064	New	60	55	80	-	-	-	47	48	68	-	-	-
311065	New	60	55	80	-	-	-	24	25	47	-	-	-
311067	New	60	55	80	-	-	-	12	13	37	-	-	-
311069	New	60	55	80	-	-	-	10	10	3	-	-	-
311070	New	60	55	80	-	-	-	44	45	64	-	-	-
311071	New	60	55	80	-	-	-	50	51	72	-	-	-
311072	New	60	55	80	-	-	-	10	10	3	-	-	-
311073	New	60	55	80	-	-	-	32	33	54	-	-	-
311075	New	60	55	80	-	-	-	23	24	44	-	-	-
311077	New	60	55	80	-	-	-	24	25	44	-	-	-
311079	New	60	55	80	-	-	-	12	13	37	-	-	-
311080	New	60	55	80	-	-	-	11	12	37	-	-	-
311082	New	60	55	80	-	-	-	42	43	65	-	-	-
311083	New	60	55	80	-	-	-	12	13	39	-	-	-
311084	New	60	55	80	-	-	-	13	14	38	-	-	-
311086	New	60	55	80	-	-	-	10	10	3	-	-	-
311087	New	60	55	80	-	-	-	10	10	3	-	-	-
311088	New	60	55	80	-	-	-	10	10	3	-	-	-
311089	New	60	55	80	-	-	-	24	25	45	-	-	-
311090	New	60	55	80	-	-	-	14	15	41	-	-	-
311091	New	60	55	80	-	-	-	10	10	3	-	-	-
311092	New	60	55	80	-	-	-	24	25	45	-	-	-
311093	New	60	55	80	-	-	-	11	12	37	-	-	-
311095	New	60	55	80	-	-	-	13	14	38	-	-	-
311096	New	60	55	80	-	-	-	11	12	36	-	-	-
311098	New	60	55	80	-	-	-	25	26	47	-	-	-
311108	New	60	55	80	-	-	-	27	28	48	-	-	-
311110	New	60	55	80	-	-	-	27	28	49	-	-	-
311113	New	60	55	80	-	-	-	11	12	36	-	-	-
311115	New	60	55	80	-	-	-	13	14	40	-	-	-
311116	New	60	55	80	-	-	-	23	24	45	-	-	-
311118	New	60	55	80	-	-	-	12	13	38	-	-	-
311120	New	60	55	80	-	-	-	45	46	67	-	-	-
311122	New	60	55	80	-	-	-	26	27	48	-	-	-
311123	New	60	55	80	-	-	-	10	10	3	-	-	-
311124	New	60	55	80	-	-	-	24	25	45	-	-	-
311125	New	60	55	80	-	-	-	11	12	37	-	-	-
311126	New	60	55	80	-	-	-	10	10	3	-	-	-
311128	New	60	55	80	-	-	-	47	48	68	-	-	-
311129	New	60	55	80	-	-	-	12	13	39	-	-	-
311132	New	60	55	80	-	-	-	26	27	47	-	-	-
311133	New	60	55	80	-	-	-	43	44	65	-	-	-
311136	New	60	55	80	-	-	-	47	47	68	-	-	-
311137	New	60	55	80	-	-	-	27	28	48	-	-	-
311138	New	60	55	80	-	-	-	10	11	37	-	-	-
311139	New	60	55	80	-	-	-	27	28	48	-	-	-
311140	New	60	55	80	-	-	-	10	10	3	-	-	-
311141	New	60	55	80	-	-	-	27	28	49	-	-	-
311142	New	60	55	80	-	-	-	26	27	48	-	-	-
311145	New	60	55	80	-	-	-	43	44	65	-	-	-
311146	New	60	55	80	-	-	-	10	10	3	-	-	-
311150	New	60	55	80	-	-	-	14	15	39	-	-	-
311151	New	60	55	80	-	-	-	11	12	38	-	-	-
311152	New	60	55	80	-	-	-	10	10	3	-	-	-
311153	New	60	55	80	-	-	-	26	27	47	-	-	-
311154	New	60	55	80	-	-	-	10	10	3	-	-	-
311159	New	60	55	80	-	-	-	26	27	46	-	-	-
311162	New	60	55	80	-	-	-	14	15	40	-	-	-
311163	New	60	55	80	-	-	-	26	28	47	-	-	-
311164	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
311165	New	60	55	80	-	-	-	13	14	39	-	-	-
311167	New	60	55	80	-	-	-	26	27	47	-	-	-
311168	New	60	55	80	-	-	-	10	10	3	-	-	-
311169	New	60	55	80	-	-	-	25	26	47	-	-	-
311170	New	60	55	80	-	-	-	12	13	39	-	-	-
311172	New	60	55	80	-	-	-	10	10	3	-	-	-
311173	New	60	55	80	-	-	-	10	10	3	-	-	-
311174	New	60	55	80	-	-	-	10	10	3	-	-	-
311175	New	60	55	80	-	-	-	25	26	46	-	-	-
311176	New	60	55	80	-	-	-	10	10	3	-	-	-
311177	New	60	55	80	-	-	-	13	14	39	-	-	-
311178	New	60	55	80	-	-	-	13	14	39	-	-	-
311180	New	60	55	80	-	-	-	43	44	64	-	-	-
311182	New	60	55	80	-	-	-	10	11	36	-	-	-
311183	New	60	55	80	-	-	-	10	10	3	-	-	-
311185	New	60	55	80	-	-	-	25	26	46	-	-	-
311186	New	60	55	80	-	-	-	45	46	69	-	-	-
311187	New	60	55	80	-	-	-	10	10	3	-	-	-
311188	New	60	55	80	-	-	-	10	10	3	-	-	-
311189	New	60	55	80	-	-	-	15	16	41	-	-	-
311190	New	60	55	80	-	-	-	10	10	3	-	-	-
311191	New	60	55	80	-	-	-	10	10	3	-	-	-
311193	New	60	55	80	-	-	-	26	27	47	-	-	-
311195	New	60	55	80	-	-	-	28	29	50	-	-	-
311196	New	60	55	80	-	-	-	37	38	60	-	-	-
311197	New	60	55	80	-	-	-	24	26	46	-	-	-
311203	New	60	55	80	-	-	-	46	47	68	-	-	-
311205	New	60	55	80	-	-	-	10	10	3	-	-	-
311207	New	60	55	80	-	-	-	24	25	46	-	-	-
311208	New	60	55	80	-	-	-	14	15	40	-	-	-
311210	New	60	55	80	-	-	-	10	10	3	-	-	-
311211	New	60	55	80	-	-	-	24	25	46	-	-	-
311212	New	60	55	80	-	-	-	24	25	45	-	-	-
311213	New	60	55	80	-	-	-	27	28	47	-	-	-
311214	New	60	55	80	-	-	-	10	10	3	-	-	-
311215	New	60	55	80	-	-	-	14	15	41	-	-	-
311216	New	60	55	80	-	-	-	24	25	47	-	-	-
311217	New	60	55	80	-	-	-	48	49	69	-	-	-
311221	New	60	55	80	-	-	-	14	15	39	-	-	-
311222	New	60	55	80	-	-	-	10	10	3	-	-	-
311225	New	60	55	80	-	-	-	14	15	40	-	-	-
311227	New	60	55	80	-	-	-	24	26	47	-	-	-
311228	New	60	55	80	-	-	-	10	10	3	-	-	-
311230	New	60	55	80	-	-	-	10	10	3	-	-	-
311232	New	60	55	80	-	-	-	46	47	66	-	-	-
311233	New	60	55	80	-	-	-	13	14	38	-	-	-
311236	New	60	55	80	-	-	-	10	10	3	-	-	-
311237	New	60	55	80	-	-	-	46	47	69	-	-	-
311240	New	60	55	80	-	-	-	10	10	3	-	-	-
311241	New	60	55	80	-	-	-	25	26	46	-	-	-
311242	New	60	55	80	-	-	-	12	12	39	-	-	-
311247	New	60	55	80	-	-	-	26	28	48	-	-	-
311249	New	60	55	80	-	-	-	39	40	61	-	-	-
311252	New	60	55	80	-	-	-	48	49	68	-	-	-
311255	New	60	55	80	-	-	-	10	10	3	-	-	-
311256	New	60	55	80	-	-	-	10	10	3	-	-	-
311257	New	60	55	80	-	-	-	13	14	39	-	-	-
311259	New	60	55	80	-	-	-	12	13	36	-	-	-
311260	New	60	55	80	-	-	-	15	16	40	-	-	-
311261	New	60	55	80	-	-	-	10	10	3	-	-	-
311263	New	60	55	80	-	-	-	14	15	40	-	-	-
311265	New	60	55	80	-	-	-	10	10	3	-	-	-
311267	New	60	55	80	-	-	-	24	25	45	-	-	-
311268	New	60	55	80	-	-	-	13	14	38	-	-	-
311269	New	60	55	80	-	-	-	10	10	3	-	-	-
311270	New	60	55	80	-	-	-	13	13	39	-	-	-
311273	New	60	55	80	-	-	-	10	10	3	-	-	-
311275	New	60	55	80	-	-	-	24	25	46	-	-	-
311278	New	60	55	80	-	-	-	11	12	39	-	-	-
311279	New	60	55	80	-	-	-	13	14	38	-	-	-
311280	New	60	55	80	-	-	-	10	10	3	-	-	-
311281	New	60	55	80	-	-	-	10	10	3	-	-	-
311282	New	60	55	80	-	-	-	13	14	38	-	-	-
311285	New	60	55	80	-	-	-	26	27	47	-	-	-
311286	New	60	55	80	-	-	-	10	10	3	-	-	-
311288	New	60	55	80	-	-	-	14	15	41	-	-	-
311290	New	60	55	80	-	-	-	15	16	41	-	-	-
311291	New	60	55	80	-	-	-	38	39	59	-	-	-
311292	New	60	55	80	-	-	-	14	15	40	-	-	-
311295	New	60	55	80	-	-	-	35	36	56	-	-	-
311296	New	60	55	80	-	-	-	42	43	63	-	-	-
311301	New	60	55	80	-	-	-	9	10	36	-	-	-
311302	New	60	55	80	-	-	-	30	31	53	-	-	-
311303	New	60	55	80	-	-	-	10	10	3	-	-	-
311304	New	60	55	80	-	-	-	25	26	47	-	-	-
311305	New	60	55	80	-	-	-	12	13	38	-	-	-
311306	New	60	55	80	-	-	-	15	15	40	-	-	-
311307	New	60	55	80	-	-	-	14	15	40	-	-	-
311311	New	60	55	80	-	-	-	10	10	3	-	-	-
311313	New	60	55	80	-	-	-	13	14	38	-	-	-
311318	New	60	55	80	-	-	-	43	44	63	-	-	-
311319	New	60	55	80	-	-	-	10	10	3	-	-	-
311320	New	60	55	80	-	-	-	14	14	39	-	-	-
311321	New	60	55	80	-	-	-	12	13	38	-	-	-
311324	New	60	55	80	-	-	-	10	10	3	-	-	-
311325	New	60	55	80	-	-	-	14	15	40	-	-	-
311326	New	60	55	80	-	-	-	46	46	67	-	-	-
311329	New	60	55	80	-	-	-	28	29	50	-	-	-
311330	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
311331	New	60	55	80	-	-	-	10	10	3	-	-	-
311332	New	60	55	80	-	-	-	27	28	47	-	-	-
311333	New	60	55	80	-	-	-	13	14	37	-	-	-
311335	New	60	55	80	-	-	-	15	16	41	-	-	-
311336	New	60	55	80	-	-	-	10	10	3	-	-	-
311338	New	60	55	80	-	-	-	10	10	3	-	-	-
311339	New	60	55	80	-	-	-	15	16	41	-	-	-
311340	New	60	55	80	-	-	-	15	15	40	-	-	-
311341	New	60	55	80	-	-	-	10	10	3	-	-	-
311342	New	60	55	80	-	-	-	25	26	47	-	-	-
311345	New	60	55	80	-	-	-	13	14	39	-	-	-
311347	New	60	55	80	-	-	-	10	10	3	-	-	-
311348	New	60	55	80	-	-	-	44	45	63	-	-	-
311349	New	60	55	80	-	-	-	27	28	48	-	-	-
311351	New	60	55	80	-	-	-	14	15	40	-	-	-
311352	New	60	55	80	-	-	-	10	10	3	-	-	-
311353	New	60	55	80	-	-	-	10	10	3	-	-	-
311355	New	60	55	80	-	-	-	27	28	47	-	-	-
311358	New	60	55	80	-	-	-	11	12	36	-	-	-
311359	New	60	55	80	-	-	-	26	27	48	-	-	-
311360	New	60	55	80	-	-	-	13	14	39	-	-	-
311361	New	60	55	80	-	-	-	10	10	3	-	-	-
311367	New	60	55	80	-	-	-	13	14	38	-	-	-
311368	New	60	55	80	-	-	-	10	10	3	-	-	-
311369	New	60	55	80	-	-	-	11	11	35	-	-	-
311373	New	60	55	80	-	-	-	10	10	3	-	-	-
311374	New	60	55	80	-	-	-	27	28	48	-	-	-
311375	New	60	55	80	-	-	-	10	10	3	-	-	-
311376	New	60	55	80	-	-	-	26	27	46	-	-	-
311377	New	60	55	80	-	-	-	10	10	3	-	-	-
311378	New	60	55	80	-	-	-	10	10	3	-	-	-
311379	New	60	55	80	-	-	-	10	10	3	-	-	-
311381	New	60	55	80	-	-	-	10	10	3	-	-	-
311383	New	60	55	80	-	-	-	25	26	47	-	-	-
311386	New	60	55	80	-	-	-	10	10	3	-	-	-
311387	New	60	55	80	-	-	-	12	13	38	-	-	-
311388	New	60	55	80	-	-	-	10	10	3	-	-	-
311389	New	60	55	80	-	-	-	24	25	46	-	-	-
311391	New	60	55	80	-	-	-	10	10	3	-	-	-
311394	New	60	55	80	-	-	-	10	12	38	-	-	-
311396	New	60	55	80	-	-	-	10	10	3	-	-	-
311397	New	60	55	80	-	-	-	10	10	3	-	-	-
311398	New	60	55	80	-	-	-	10	10	3	-	-	-
311399	New	60	55	80	-	-	-	25	26	46	-	-	-
311400	New	60	55	80	-	-	-	15	16	41	-	-	-
311402	New	60	55	80	-	-	-	12	13	36	-	-	-
311404	New	60	55	80	-	-	-	24	25	46	-	-	-
311406	New	60	55	80	-	-	-	11	12	36	-	-	-
311407	New	60	55	80	-	-	-	10	10	3	-	-	-
311408	New	60	55	80	-	-	-	38	39	60	-	-	-
311409	New	60	55	80	-	-	-	42	42	62	-	-	-
311411	New	60	55	80	-	-	-	14	14	38	-	-	-
311412	New	60	55	80	-	-	-	10	10	3	-	-	-
311415	New	60	55	80	-	-	-	10	10	3	-	-	-
311417	New	60	55	80	-	-	-	10	10	3	-	-	-
311418	New	60	55	80	-	-	-	10	10	3	-	-	-
311419	New	60	55	80	-	-	-	10	10	3	-	-	-
311420	New	60	55	80	-	-	-	10	10	3	-	-	-
311422	New	60	55	80	-	-	-	25	26	47	-	-	-
311424	New	60	55	80	-	-	-	38	39	59	-	-	-
311425	New	60	55	80	-	-	-	13	14	38	-	-	-
311426	New	60	55	80	-	-	-	11	12	37	-	-	-
311427	New	60	55	80	-	-	-	10	10	3	-	-	-
311428	New	60	55	80	-	-	-	10	10	3	-	-	-
311429	New	60	55	80	-	-	-	40	41	61	-	-	-
311430	New	60	55	80	-	-	-	13	14	39	-	-	-
311431	New	60	55	80	-	-	-	10	10	3	-	-	-
311435	New	60	55	80	-	-	-	38	38	59	-	-	-
311436	New	60	55	80	-	-	-	31	32	53	-	-	-
311438	New	60	55	80	-	-	-	14	15	40	-	-	-
311440	New	60	55	80	-	-	-	45	45	65	-	-	-
311441	New	60	55	80	-	-	-	10	10	3	-	-	-
311443	New	60	55	80	-	-	-	10	10	3	-	-	-
311444	New	60	55	80	-	-	-	10	10	3	-	-	-
311445	New	60	55	80	-	-	-	10	10	3	-	-	-
311446	New	60	55	80	-	-	-	10	10	3	-	-	-
311447	New	60	55	80	-	-	-	12	13	39	-	-	-
311448	New	60	55	80	-	-	-	10	10	3	-	-	-
311449	New	60	55	80	-	-	-	10	10	3	-	-	-
311453	New	60	55	80	-	-	-	29	30	52	-	-	-
311455	New	60	55	80	-	-	-	14	15	40	-	-	-
311458	New	60	55	80	-	-	-	10	10	3	-	-	-
311459	New	60	55	80	-	-	-	38	39	64	-	-	-
311460	New	60	55	80	-	-	-	11	12	36	-	-	-
311461	New	60	55	80	-	-	-	10	10	3	-	-	-
311462	New	60	55	80	-	-	-	9	10	34	-	-	-
311463	New	60	55	80	-	-	-	10	10	3	-	-	-
311464	New	60	55	80	-	-	-	10	10	3	-	-	-
311465	New	60	55	80	-	-	-	26	27	48	-	-	-
311466	New	60	55	80	-	-	-	51	52	76	-	-	-
311467	New	60	55	80	-	-	-	10	10	3	-	-	-
311468	New	60	55	80	-	-	-	10	10	3	-	-	-
311470	New	60	55	80	-	-	-	38	39	62	-	-	-
311471	New	60	55	80	-	-	-	10	10	3	-	-	-
311473	New	60	55	80	-	-	-	26	27	48	-	-	-
311474	New	60	55	80	-	-	-	13	14	38	-	-	-
311475	New	60	55	80	-	-	-	10	10	3	-	-	-
311476	New	60	55	80	-	-	-	9	10	36	-	-	-
311477	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
311479	New	60	55	80	-	-	-	11	11	35	-	-	-
311481	New	60	55	80	-	-	-	10	10	3	-	-	-
311483	New	60	55	80	-	-	-	10	10	3	-	-	-
311484	New	60	55	80	-	-	-	10	10	3	-	-	-
311486	New	60	55	80	-	-	-	10	10	3	-	-	-
311487	New	60	55	80	-	-	-	10	10	3	-	-	-
311488	New	60	55	80	-	-	-	26	27	47	-	-	-
311489	New	60	55	80	-	-	-	10	10	3	-	-	-
311490	New	60	55	80	-	-	-	10	10	3	-	-	-
311494	New	60	55	80	-	-	-	27	28	48	-	-	-
311497	New	60	55	80	-	-	-	10	10	3	-	-	-
311499	New	60	55	80	-	-	-	10	10	3	-	-	-
311501	New	60	55	80	-	-	-	10	10	3	-	-	-
311503	New	60	55	80	-	-	-	11	12	37	-	-	-
311504	New	60	55	80	-	-	-	26	27	47	-	-	-
311506	New	60	55	80	-	-	-	25	26	47	-	-	-
311507	New	60	55	80	-	-	-	17	18	40	-	-	-
311508	New	60	55	80	-	-	-	10	10	3	-	-	-
311509	New	60	55	80	-	-	-	11	12	36	-	-	-
311510	New	60	55	80	-	-	-	23	24	45	-	-	-
311514	New	60	55	80	-	-	-	13	14	39	-	-	-
311517	New	60	55	80	-	-	-	10	10	3	-	-	-
311518	New	60	55	80	-	-	-	10	10	3	-	-	-
311520	New	60	55	80	-	-	-	10	10	3	-	-	-
311522	New	60	55	80	-	-	-	10	10	3	-	-	-
311524	New	60	55	80	-	-	-	10	10	3	-	-	-
311525	New	60	55	80	-	-	-	11	13	37	-	-	-
311526	New	60	55	80	-	-	-	10	10	3	-	-	-
311527	New	60	55	80	-	-	-	26	27	47	-	-	-
311528	New	60	55	80	-	-	-	10	10	3	-	-	-
311529	New	60	55	80	-	-	-	10	10	3	-	-	-
311530	New	60	55	80	-	-	-	10	10	3	-	-	-
311531	New	60	55	80	-	-	-	11	12	37	-	-	-
311533	New	60	55	80	-	-	-	10	10	3	-	-	-
311535	New	60	55	80	-	-	-	10	10	3	-	-	-
311537	New	60	55	80	-	-	-	50	51	76	-	-	-
311538	New	60	55	80	-	-	-	10	10	3	-	-	-
311543	New	60	55	80	-	-	-	10	10	3	-	-	-
311544	New	60	55	80	-	-	-	10	10	3	-	-	-
311545	New	60	55	80	-	-	-	10	10	32	-	-	-
311548	New	60	55	80	-	-	-	10	10	3	-	-	-
311550	New	60	55	80	-	-	-	10	10	3	-	-	-
311551	New	60	55	80	-	-	-	10	10	3	-	-	-
311553	New	60	55	80	-	-	-	10	10	3	-	-	-
311554	New	60	55	80	-	-	-	25	26	46	-	-	-
311556	New	60	55	80	-	-	-	10	10	3	-	-	-
311557	New	60	55	80	-	-	-	44	45	65	-	-	-
311558	New	60	55	80	-	-	-	10	10	3	-	-	-
311562	New	60	55	80	-	-	-	10	10	3	-	-	-
311565	New	60	55	80	-	-	-	10	10	3	-	-	-
311566	New	60	55	80	-	-	-	8	10	36	-	-	-
311567	New	60	55	80	-	-	-	10	10	3	-	-	-
311568	New	60	55	80	-	-	-	10	10	3	-	-	-
311570	New	60	55	80	-	-	-	10	10	3	-	-	-
311571	New	60	55	80	-	-	-	10	10	3	-	-	-
311572	New	60	55	80	-	-	-	10	10	3	-	-	-
311573	New	60	55	80	-	-	-	10	10	3	-	-	-
311574	New	60	55	80	-	-	-	11	12	37	-	-	-
311575	New	60	55	80	-	-	-	10	10	3	-	-	-
311576	New	60	55	80	-	-	-	10	10	3	-	-	-
311577	New	60	55	80	-	-	-	13	14	37	-	-	-
311579	New	60	55	80	-	-	-	13	14	38	-	-	-
311580	New	60	55	80	-	-	-	10	10	3	-	-	-
311582	New	60	55	80	-	-	-	10	10	3	-	-	-
311584	New	60	55	80	-	-	-	10	10	3	-	-	-
311586	New	60	55	80	-	-	-	10	10	3	-	-	-
311587	New	60	55	80	-	-	-	10	10	3	-	-	-
311589	New	60	55	80	-	-	-	10	10	3	-	-	-
311590	New	60	55	80	-	-	-	10	10	3	-	-	-
311591	New	60	55	80	-	-	-	10	10	3	-	-	-
311592	New	60	55	80	-	-	-	10	10	3	-	-	-
311593	New	60	55	80	-	-	-	38	39	59	-	-	-
311594	New	60	55	80	-	-	-	45	46	68	-	-	-
311598	New	60	55	80	-	-	-	10	10	3	-	-	-
311602	New	60	55	80	-	-	-	25	26	46	-	-	-
311603	New	60	55	80	-	-	-	10	10	3	-	-	-
311605	New	60	55	80	-	-	-	10	10	3	-	-	-
311607	New	60	55	80	-	-	-	10	10	3	-	-	-
311609	New	60	55	80	-	-	-	10	10	3	-	-	-
311614	New	60	55	80	-	-	-	10	10	3	-	-	-
311615	New	60	55	80	-	-	-	10	11	37	-	-	-
311616	New	60	55	80	-	-	-	35	36	58	-	-	-
311617	New	60	55	80	-	-	-	10	10	3	-	-	-
311618	New	60	55	80	-	-	-	10	10	3	-	-	-
311619	New	60	55	80	-	-	-	10	12	37	-	-	-
311620	New	60	55	80	-	-	-	10	10	3	-	-	-
311621	New	60	55	80	-	-	-	10	10	3	-	-	-
311623	New	60	55	80	-	-	-	10	10	3	-	-	-
311626	New	60	55	80	-	-	-	10	11	36	-	-	-
311629	New	60	55	80	-	-	-	10	10	3	-	-	-
311630	New	60	55	80	-	-	-	10	10	3	-	-	-
311633	New	60	55	80	-	-	-	10	10	3	-	-	-
311634	New	60	55	80	-	-	-	10	10	3	-	-	-
311635	New	60	55	80	-	-	-	10	10	3	-	-	-
311636	New	60	55	80	-	-	-	10	10	3	-	-	-
311639	New	60	55	80	-	-	-	13	14	38	-	-	-
311644	New	60	55	80	-	-	-	10	10	3	-	-	-
311645	New	60	55	80	-	-	-	10	10	32	-	-	-
311646	New	60	55	80	-	-	-	26	27	47	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
311652	New	60	55	80	-	-	-	10	10	3	-	-	-
311653	New	60	55	80	-	-	-	10	10	3	-	-	-
311655	New	60	55	80	-	-	-	10	10	3	-	-	-
311656	New	60	55	80	-	-	-	10	10	3	-	-	-
311657	New	60	55	80	-	-	-	10	10	3	-	-	-
311660	New	60	55	80	-	-	-	29	30	51	-	-	-
311661	New	60	55	80	-	-	-	10	10	3	-	-	-
311663	New	60	55	80	-	-	-	10	10	3	-	-	-
311664	New	60	55	80	-	-	-	11	12	37	-	-	-
311665	New	60	55	80	-	-	-	10	10	3	-	-	-
311666	New	60	55	80	-	-	-	10	10	3	-	-	-
311667	New	60	55	80	-	-	-	26	27	47	-	-	-
311668	New	60	55	80	-	-	-	10	10	3	-	-	-
311669	New	60	55	80	-	-	-	10	10	3	-	-	-
311670	New	60	55	80	-	-	-	10	10	3	-	-	-
311671	New	60	55	80	-	-	-	45	46	66	-	-	-
311672	New	60	55	80	-	-	-	32	33	54	-	-	-
311673	New	60	55	80	-	-	-	10	10	3	-	-	-
311674	New	60	55	80	-	-	-	10	10	3	-	-	-
311675	New	60	55	80	-	-	-	10	10	3	-	-	-
311676	New	60	55	80	-	-	-	10	10	3	-	-	-
311677	New	60	55	80	-	-	-	10	10	3	-	-	-
311678	New	60	55	80	-	-	-	10	10	3	-	-	-
311679	New	60	55	80	-	-	-	10	11	36	-	-	-
311681	New	60	55	80	-	-	-	10	10	3	-	-	-
311682	New	60	55	80	-	-	-	10	10	3	-	-	-
311683	New	60	55	80	-	-	-	13	14	38	-	-	-
311684	New	60	55	80	-	-	-	12	13	38	-	-	-
311688	New	60	55	80	-	-	-	56	**57**	**82**	-	-	-
311692	New	60	55	80	-	-	-	43	44	67	-	-	-
311693	New	60	55	80	-	-	-	25	26	47	-	-	-
311694	New	60	55	80	-	-	-	10	10	3	-	-	-
311697	New	60	55	80	-	-	-	25	26	47	-	-	-
311698	New	60	55	80	-	-	-	10	10	3	-	-	-
311701	New	60	55	80	-	-	-	10	10	3	-	-	-
311703	New	60	55	80	-	-	-	28	29	49	-	-	-
311704	New	60	55	80	-	-	-	10	10	3	-	-	-
311705	New	60	55	80	-	-	-	28	29	48	-	-	-
311706	New	60	55	80	-	-	-	10	10	3	-	-	-
311707	New	60	55	80	-	-	-	10	10	3	-	-	-
311708	New	60	55	80	-	-	-	10	10	3	-	-	-
311709	New	60	55	80	-	-	-	10	10	3	-	-	-
311710	New	60	55	80	-	-	-	10	10	3	-	-	-
311711	New	60	55	80	-	-	-	10	10	3	-	-	-
311712	New	60	55	80	-	-	-	10	10	3	-	-	-
311715	New	60	55	80	-	-	-	26	27	47	-	-	-
311717	New	60	55	80	-	-	-	10	10	3	-	-	-
311722	New	60	55	80	-	-	-	10	10	3	-	-	-
311724	New	60	55	80	-	-	-	10	10	3	-	-	-
311725	New	60	55	80	-	-	-	13	14	37	-	-	-
311726	New	60	55	80	-	-	-	8	10	36	-	-	-
311728	New	60	55	80	-	-	-	10	10	3	-	-	-
311729	New	60	55	80	-	-	-	15	15	39	-	-	-
311730	New	60	55	80	-	-	-	10	10	3	-	-	-
311731	New	60	55	80	-	-	-	10	10	3	-	-	-
311733	New	60	55	80	-	-	-	10	10	3	-	-	-
311734	New	60	55	80	-	-	-	14	15	38	-	-	-
311735	New	60	55	80	-	-	-	10	10	3	-	-	-
311737	New	60	55	80	-	-	-	10	10	3	-	-	-
311739	New	60	55	80	-	-	-	10	10	3	-	-	-
311741	New	60	55	80	-	-	-	10	10	3	-	-	-
311742	New	60	55	80	-	-	-	12	13	36	-	-	-
311743	New	60	55	80	-	-	-	10	10	3	-	-	-
311745	New	60	55	80	-	-	-	10	10	3	-	-	-
311746	New	60	55	80	-	-	-	10	12	36	-	-	-
311749	New	60	55	80	-	-	-	10	10	3	-	-	-
311750	New	60	55	80	-	-	-	10	10	3	-	-	-
311751	New	60	55	80	-	-	-	8	10	34	-	-	-
311753	New	60	55	80	-	-	-	10	10	3	-	-	-
311756	New	60	55	80	-	-	-	10	10	3	-	-	-
311758	New	60	55	80	-	-	-	10	10	3	-	-	-
311759	New	60	55	80	-	-	-	10	10	3	-	-	-
311760	New	60	55	80	-	-	-	12	13	38	-	-	-
311763	New	60	55	80	-	-	-	10	10	3	-	-	-
311764	New	60	55	80	-	-	-	10	10	3	-	-	-
311766	New	60	55	80	-	-	-	12	13	37	-	-	-
311767	New	60	55	80	-	-	-	10	10	3	-	-	-
311769	New	60	55	80	-	-	-	44	45	70	-	-	-
311770	New	60	55	80	-	-	-	10	10	3	-	-	-
311771	New	60	55	80	-	-	-	46	47	68	-	-	-
311773	New	60	55	80	-	-	-	53	54	76	-	-	-
311774	New	60	55	80	-	-	-	11	12	37	-	-	-
311775	New	60	55	80	-	-	-	10	10	3	-	-	-
311777	New	60	55	80	-	-	-	10	10	3	-	-	-
311778	New	60	55	80	-	-	-	10	10	3	-	-	-
311779	New	60	55	80	-	-	-	10	10	3	-	-	-
311780	New	60	55	80	-	-	-	18	19	41	-	-	-
311781	New	60	55	80	-	-	-	10	10	3	-	-	-
311784	New	60	55	80	-	-	-	10	10	3	-	-	-
311785	New	60	55	80	-	-	-	10	10	3	-	-	-
311786	New	60	55	80	-	-	-	10	10	3	-	-	-
311787	New	60	55	80	-	-	-	10	10	32	-	-	-
311788	New	60	55	80	-	-	-	8	10	33	-	-	-
311789	New	60	55	80	-	-	-	10	10	3	-	-	-
311790	New	60	55	80	-	-	-	10	10	3	-	-	-
311791	New	60	55	80	-	-	-	10	10	3	-	-	-
311792	New	60	55	80	-	-	-	10	10	3	-	-	-
311793	New	60	55	80	-	-	-	10	10	3	-	-	-
311794	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
311795	New	60	55	80	-	-	-	10	10	3	-	-	-
311796	New	60	55	80	-	-	-	10	10	3	-	-	-
311797	New	60	55	80	-	-	-	10	10	3	-	-	-
311798	New	60	55	80	-	-	-	10	10	3	-	-	-
311799	New	60	55	80	-	-	-	35	36	61	-	-	-
311800	New	60	55	80	-	-	-	10	10	3	-	-	-
311801	New	60	55	80	-	-	-	10	10	3	-	-	-
311802	New	60	55	80	-	-	-	10	10	3	-	-	-
311803	New	60	55	80	-	-	-	10	10	3	-	-	-
311805	New	60	55	80	-	-	-	10	10	3	-	-	-
311806	New	60	55	80	-	-	-	10	10	3	-	-	-
311807	New	60	55	80	-	-	-	10	10	3	-	-	-
311808	New	60	55	80	-	-	-	10	10	3	-	-	-
311809	New	60	55	80	-	-	-	46	47	66	-	-	-
311811	New	60	55	80	-	-	-	46	47	71	-	-	-
311812	New	60	55	80	-	-	-	10	10	3	-	-	-
311813	New	60	55	80	-	-	-	10	10	3	-	-	-
311814	New	60	55	80	-	-	-	12	13	38	-	-	-
311816	New	60	55	80	-	-	-	10	10	3	-	-	-
311817	New	60	55	80	-	-	-	10	10	3	-	-	-
311818	New	60	55	80	-	-	-	10	10	3	-	-	-
311819	New	60	55	80	-	-	-	10	10	3	-	-	-
311821	New	60	55	80	-	-	-	10	10	3	-	-	-
311822	New	60	55	80	-	-	-	10	10	3	-	-	-
311823	New	60	55	80	-	-	-	10	10	3	-	-	-
311825	New	60	55	80	-	-	-	10	10	3	-	-	-
311826	New	60	55	80	-	-	-	12	13	38	-	-	-
311827	New	60	55	80	-	-	-	10	10	3	-	-	-
311832	New	60	55	80	-	-	-	10	10	3	-	-	-
311835	New	60	55	80	-	-	-	10	10	3	-	-	-
311836	New	60	55	80	-	-	-	10	10	3	-	-	-
311837	New	60	55	80	-	-	-	34	35	61	-	-	-
311839	New	60	55	80	-	-	-	10	10	3	-	-	-
311840	New	60	55	80	-	-	-	11	12	36	-	-	-
311841	New	60	55	80	-	-	-	10	10	3	-	-	-
311842	New	60	55	80	-	-	-	10	10	3	-	-	-
311843	New	60	55	80	-	-	-	46	47	68	-	-	-
311844	New	60	55	80	-	-	-	10	10	3	-	-	-
311845	New	60	55	80	-	-	-	9	10	35	-	-	-
311846	New	60	55	80	-	-	-	10	10	3	-	-	-
311847	New	60	55	80	-	-	-	10	10	3	-	-	-
311848	New	60	55	80	-	-	-	10	10	3	-	-	-
311849	New	60	55	80	-	-	-	10	10	3	-	-	-
311850	New	60	55	80	-	-	-	10	10	3	-	-	-
311851	New	60	55	80	-	-	-	10	10	3	-	-	-
311853	New	60	55	80	-	-	-	10	10	3	-	-	-
311854	New	60	55	80	-	-	-	10	10	3	-	-	-
311855	New	60	55	80	-	-	-	10	10	3	-	-	-
311856	New	60	55	80	-	-	-	10	10	3	-	-	-
311857	New	60	55	80	-	-	-	10	10	3	-	-	-
311860	New	60	55	80	-	-	-	10	10	3	-	-	-
311861	New	60	55	80	-	-	-	10	10	3	-	-	-
311862	New	60	55	80	-	-	-	10	10	3	-	-	-
311863	New	60	55	80	-	-	-	28	29	47	-	-	-
311864	New	60	55	80	-	-	-	36	37	62	-	-	-
311865	New	60	55	80	-	-	-	49	50	71	-	-	-
311866	New	60	55	80	-	-	-	10	10	3	-	-	-
311867	New	60	55	80	-	-	-	10	10	3	-	-	-
311868	New	60	55	80	-	-	-	10	10	3	-	-	-
311871	New	60	55	80	-	-	-	10	11	35	-	-	-
311872	New	60	55	80	-	-	-	10	10	3	-	-	-
311873	New	60	55	80	-	-	-	9	10	36	-	-	-
311874	New	60	55	80	-	-	-	10	10	3	-	-	-
311875	New	60	55	80	-	-	-	10	10	3	-	-	-
311877	New	60	55	80	-	-	-	10	10	3	-	-	-
311878	New	60	55	80	-	-	-	10	10	3	-	-	-
311879	New	60	55	80	-	-	-	11	12	36	-	-	-
311880	New	60	55	80	-	-	-	10	10	3	-	-	-
311881	New	60	55	80	-	-	-	10	10	3	-	-	-
311883	New	60	55	80	-	-	-	10	10	3	-	-	-
311884	New	60	55	80	-	-	-	10	10	3	-	-	-
311886	New	60	55	80	-	-	-	10	10	3	-	-	-
311887	New	60	55	80	-	-	-	10	10	3	-	-	-
311888	New	60	55	80	-	-	-	10	10	3	-	-	-
311891	New	60	55	80	-	-	-	10	10	3	-	-	-
311892	New	60	55	80	-	-	-	10	10	3	-	-	-
311893	New	60	55	80	-	-	-	10	10	3	-	-	-
311894	New	60	55	80	-	-	-	10	10	3	-	-	-
311896	New	60	55	80	-	-	-	10	10	3	-	-	-
311897	New	60	55	80	-	-	-	10	10	3	-	-	-
311899	New	60	55	80	-	-	-	10	10	3	-	-	-
311900	New	60	55	80	-	-	-	10	10	3	-	-	-
311901	New	60	55	80	-	-	-	10	10	3	-	-	-
311903	New	60	55	80	-	-	-	10	10	3	-	-	-
311905	New	60	55	80	-	-	-	10	10	3	-	-	-
311907	New	60	55	80	-	-	-	10	10	3	-	-	-
311908	New	60	55	80	-	-	-	10	10	3	-	-	-
311909	New	60	55	80	-	-	-	10	10	3	-	-	-
311910	New	60	55	80	-	-	-	10	10	3	-	-	-
311912	New	60	55	80	-	-	-	44	45	70	-	-	-
311913	New	60	55	80	-	-	-	10	10	3	-	-	-
311914	New	60	55	80	-	-	-	10	10	3	-	-	-
311915	New	60	55	80	-	-	-	20	21	42	-	-	-
311916	New	60	55	80	-	-	-	23	24	44	-	-	-
311917	New	60	55	80	-	-	-	46	46	69	-	-	-
311919	New	60	55	80	-	-	-	10	10	3	-	-	-
311920	New	60	55	80	-	-	-	10	10	3	-	-	-
311922	New	60	55	80	-	-	-	10	10	3	-	-	-
311923	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
311925	New	60	55	80	-	-	-	10	10	3	-	-	-
311926	New	60	55	80	-	-	-	10	10	3	-	-	-
311928	New	60	55	80	-	-	-	10	10	3	-	-	-
311929	New	60	55	80	-	-	-	10	10	3	-	-	-
311930	New	60	55	80	-	-	-	47	48	68	-	-	-
311933	New	60	55	80	-	-	-	22	23	45	-	-	-
311935	New	60	55	80	-	-	-	10	10	3	-	-	-
311936	New	60	55	80	-	-	-	49	50	71	-	-	-
311937	New	60	55	80	-	-	-	10	10	3	-	-	-
311938	New	60	55	80	-	-	-	10	10	3	-	-	-
311939	New	60	55	80	-	-	-	10	10	3	-	-	-
311940	New	60	55	80	-	-	-	10	10	3	-	-	-
311942	New	60	55	80	-	-	-	10	10	3	-	-	-
311945	New	60	55	80	-	-	-	10	10	3	-	-	-
311946	New	60	55	80	-	-	-	10	10	3	-	-	-
311947	New	60	55	80	-	-	-	10	10	3	-	-	-
311948	New	60	55	80	-	-	-	10	10	3	-	-	-
311950	New	60	55	80	-	-	-	10	10	3	-	-	-
311951	New	60	55	80	-	-	-	10	10	3	-	-	-
311952	New	60	55	80	-	-	-	10	10	3	-	-	-
311953	New	60	55	80	-	-	-	24	25	46	-	-	-
311954	New	60	55	80	-	-	-	10	10	3	-	-	-
311956	New	60	55	80	-	-	-	10	10	3	-	-	-
311957	New	60	55	80	-	-	-	10	10	3	-	-	-
311959	New	60	55	80	-	-	-	10	10	3	-	-	-
311960	New	60	55	80	-	-	-	10	10	3	-	-	-
311961	New	60	55	80	-	-	-	10	10	3	-	-	-
311965	New	60	55	80	-	-	-	10	10	3	-	-	-
311966	New	60	55	80	-	-	-	10	10	3	-	-	-
311967	New	60	55	80	-	-	-	10	10	3	-	-	-
311968	New	60	55	80	-	-	-	10	10	3	-	-	-
311969	New	60	55	80	-	-	-	10	10	3	-	-	-
311970	New	60	55	80	-	-	-	24	25	45	-	-	-
311971	New	60	55	80	-	-	-	10	10	3	-	-	-
311972	New	60	55	80	-	-	-	10	10	3	-	-	-
311973	New	60	55	80	-	-	-	21	22	42	-	-	-
311975	New	60	55	80	-	-	-	10	10	3	-	-	-
311976	New	60	55	80	-	-	-	10	10	3	-	-	-
311978	New	60	55	80	-	-	-	10	10	3	-	-	-
311979	New	60	55	80	-	-	-	16	17	40	-	-	-
311980	New	60	55	80	-	-	-	10	10	3	-	-	-
311982	New	60	55	80	-	-	-	10	10	3	-	-	-
311983	New	60	55	80	-	-	-	10	10	3	-	-	-
311984	New	60	55	80	-	-	-	10	10	3	-	-	-
311985	New	60	55	80	-	-	-	10	10	3	-	-	-
311986	New	60	55	80	-	-	-	10	10	3	-	-	-
311987	New	60	55	80	-	-	-	10	10	3	-	-	-
311988	New	60	55	80	-	-	-	45	45	69	-	-	-
311990	New	60	55	80	-	-	-	10	10	3	-	-	-
311991	New	60	55	80	-	-	-	10	10	3	-	-	-
311992	New	60	55	80	-	-	-	10	10	3	-	-	-
311994	New	60	55	80	-	-	-	10	10	3	-	-	-
311997	New	60	55	80	-	-	-	21	22	44	-	-	-
311998	New	60	55	80	-	-	-	10	10	3	-	-	-
311999	New	60	55	80	-	-	-	10	10	3	-	-	-
312000	New	60	55	80	-	-	-	49	50	71	-	-	-
312001	New	60	55	80	-	-	-	10	10	3	-	-	-
312002	New	60	55	80	-	-	-	10	10	3	-	-	-
312003	New	60	55	80	-	-	-	10	10	3	-	-	-
312004	New	60	55	80	-	-	-	10	10	3	-	-	-
312005	New	60	55	80	-	-	-	10	10	3	-	-	-
312007	New	60	55	80	-	-	-	46	47	68	-	-	-
312008	New	60	55	80	-	-	-	10	10	3	-	-	-
312010	New	60	55	80	-	-	-	10	10	3	-	-	-
312011	New	60	55	80	-	-	-	10	10	3	-	-	-
312012	New	60	55	80	-	-	-	10	10	3	-	-	-
312014	New	60	55	80	-	-	-	10	10	3	-	-	-
312015	New	60	55	80	-	-	-	14	15	39	-	-	-
312019	New	60	55	80	-	-	-	10	10	3	-	-	-
312020	New	60	55	80	-	-	-	10	10	3	-	-	-
312021	New	60	55	80	-	-	-	10	10	3	-	-	-
312023	New	60	55	80	-	-	-	10	10	3	-	-	-
312024	New	60	55	80	-	-	-	10	10	3	-	-	-
312025	New	60	55	80	-	-	-	10	10	3	-	-	-
312026	New	60	55	80	-	-	-	10	10	3	-	-	-
312027	New	60	55	80	-	-	-	23	24	46	-	-	-
312028	New	60	55	80	-	-	-	10	10	3	-	-	-
312029	New	60	55	80	-	-	-	10	10	3	-	-	-
312030	New	60	55	80	-	-	-	10	10	3	-	-	-
312032	New	60	55	80	-	-	-	10	10	3	-	-	-
312033	New	60	55	80	-	-	-	10	10	3	-	-	-
312034	New	60	55	80	-	-	-	10	10	3	-	-	-
312036	New	60	55	80	-	-	-	10	10	3	-	-	-
312037	New	60	55	80	-	-	-	20	22	43	-	-	-
312039	New	60	55	80	-	-	-	10	10	3	-	-	-
312040	New	60	55	80	-	-	-	10	10	3	-	-	-
312043	New	60	55	80	-	-	-	10	10	3	-	-	-
312044	New	60	55	80	-	-	-	27	28	49	-	-	-
312045	New	60	55	80	-	-	-	10	10	3	-	-	-
312046	New	60	55	80	-	-	-	10	10	3	-	-	-
312050	New	60	55	80	-	-	-	16	18	42	-	-	-
312052	New	60	55	80	-	-	-	10	10	3	-	-	-
312054	New	60	55	80	-	-	-	10	10	3	-	-	-
312058	New	60	55	80	-	-	-	11	13	41	-	-	-
312060	New	60	55	80	-	-	-	10	10	3	-	-	-
312062	New	60	55	80	-	-	-	10	10	3	-	-	-
312064	New	60	55	80	-	-	-	10	10	3	-	-	-
312065	New	60	55	80	-	-	-	10	10	3	-	-	-
312067	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312068	New	60	55	80	-	-	-	18	19	41	-	-	-
312069	New	60	55	80	-	-	-	14	16	39	-	-	-
312070	New	60	55	80	-	-	-	10	10	3	-	-	-
312071	New	60	55	80	-	-	-	10	10	3	-	-	-
312072	New	60	55	80	-	-	-	10	10	3	-	-	-
312073	New	60	55	80	-	-	-	10	10	3	-	-	-
312074	New	60	55	80	-	-	-	23	24	45	-	-	-
312075	New	60	55	80	-	-	-	10	10	3	-	-	-
312076	New	60	55	80	-	-	-	16	17	42	-	-	-
312077	New	60	55	80	-	-	-	10	10	3	-	-	-
312078	New	60	55	80	-	-	-	10	10	3	-	-	-
312079	New	60	55	80	-	-	-	10	10	3	-	-	-
312082	New	60	55	80	-	-	-	10	10	3	-	-	-
312083	New	60	55	80	-	-	-	17	18	43	-	-	-
312084	New	60	55	80	-	-	-	10	10	3	-	-	-
312086	New	60	55	80	-	-	-	57	**58**	**82**	-	-	-
312087	New	60	55	80	-	-	-	5	8	33	-	-	-
312089	New	60	55	80	-	-	-	18	20	46	-	-	-
312090	New	60	55	80	-	-	-	10	10	3	-	-	-
312091	New	60	55	80	-	-	-	10	10	3	-	-	-
312092	New	60	55	80	-	-	-	10	10	3	-	-	-
312093	New	60	55	80	-	-	-	20	22	48	-	-	-
312094	New	60	55	80	-	-	-	10	10	3	-	-	-
312095	New	60	55	80	-	-	-	5	6	35	-	-	-
312096	New	60	55	80	-	-	-	10	10	3	-	-	-
312097	New	60	55	80	-	-	-	10	10	3	-	-	-
312098	New	60	55	80	-	-	-	10	10	3	-	-	-
312101	New	60	55	80	-	-	-	21	22	47	-	-	-
312102	New	60	55	80	-	-	-	10	10	3	-	-	-
312103	New	60	55	80	-	-	-	22	23	45	-	-	-
312104	New	60	55	80	-	-	-	20	21	43	-	-	-
312105	New	60	55	80	-	-	-	10	10	3	-	-	-
312108	New	60	55	80	-	-	-	10	10	3	-	-	-
312109	New	60	55	80	-	-	-	23	24	47	-	-	-
312112	New	60	55	80	-	-	-	10	10	3	-	-	-
312113	New	60	55	80	-	-	-	10	10	3	-	-	-
312114	New	60	55	80	-	-	-	56	**57**	**85**	-	-	-
312117	New	60	55	80	-	-	-	10	10	28	-	-	-
312118	New	60	55	80	-	-	-	23	24	49	-	-	-
312119	New	60	55	80	-	-	-	45	46	65	-	-	-
312120	New	60	55	80	-	-	-	22	23	44	-	-	-
312121	New	60	55	80	-	-	-	10	10	3	-	-	-
312122	New	60	55	80	-	-	-	10	10	3	-	-	-
312126	New	60	55	80	-	-	-	25	26	55	-	-	-
312127	New	60	55	80	-	-	-	24	25	45	-	-	-
312128	New	60	55	80	-	-	-	10	10	3	-	-	-
312130	New	60	55	80	-	-	-	10	10	3	-	-	-
312131	New	60	55	80	-	-	-	10	10	3	-	-	-
312133	New	60	55	80	-	-	-	10	10	3	-	-	-
312134	New	60	55	80	-	-	-	23	24	45	-	-	-
312135	New	60	55	80	-	-	-	22	23	44	-	-	-
312137	New	60	55	80	-	-	-	25	26	52	-	-	-
312138	New	60	55	80	-	-	-	10	10	3	-	-	-
312139	New	60	55	80	-	-	-	10	10	3	-	-	-
312140	New	60	55	80	-	-	-	14	15	39	-	-	-
312141	New	60	55	80	-	-	-	27	28	57	-	-	-
312142	New	60	55	80	-	-	-	10	10	3	-	-	-
312143	New	60	55	80	-	-	-	10	10	3	-	-	-
312144	New	60	55	80	-	-	-	30	31	57	-	-	-
312145	New	60	55	80	-	-	-	10	10	3	-	-	-
312146	New	60	55	80	-	-	-	10	10	3	-	-	-
312147	New	60	55	80	-	-	-	10	10	3	-	-	-
312149	New	60	55	80	-	-	-	10	10	3	-	-	-
312150	New	60	55	80	-	-	-	10	10	3	-	-	-
312151	New	60	55	80	-	-	-	10	10	3	-	-	-
312152	New	60	55	80	-	-	-	16	17	41	-	-	-
312153	New	60	55	80	-	-	-	24	25	46	-	-	-
312155	New	60	55	80	-	-	-	10	10	3	-	-	-
312156	New	60	55	80	-	-	-	19	20	42	-	-	-
312157	New	60	55	80	-	-	-	10	10	3	-	-	-
312161	New	60	55	80	-	-	-	10	10	3	-	-	-
312162	New	60	55	80	-	-	-	10	10	3	-	-	-
312163	New	60	55	80	-	-	-	10	10	3	-	-	-
312164	New	60	55	80	-	-	-	10	10	3	-	-	-
312165	New	60	55	80	-	-	-	10	10	3	-	-	-
312167	New	60	55	80	-	-	-	10	10	3	-	-	-
312168	New	60	55	80	-	-	-	29	30	57	-	-	-
312169	New	60	55	80	-	-	-	14	15	38	-	-	-
312170	New	60	55	80	-	-	-	10	10	3	-	-	-
312171	New	60	55	80	-	-	-	10	10	3	-	-	-
312172	New	60	55	80	-	-	-	10	10	3	-	-	-
312174	New	60	55	80	-	-	-	10	10	3	-	-	-
312175	New	60	55	80	-	-	-	19	20	42	-	-	-
312179	New	60	55	80	-	-	-	10	10	3	-	-	-
312182	New	60	55	80	-	-	-	10	10	3	-	-	-
312183	New	60	55	80	-	-	-	10	10	3	-	-	-
312185	New	60	55	80	-	-	-	21	22	45	-	-	-
312186	New	60	55	80	-	-	-	10	10	3	-	-	-
312187	New	60	55	80	-	-	-	56	**57**	80	-	-	-
312190	New	60	55	80	-	-	-	10	10	3	-	-	-
312191	New	60	55	80	-	-	-	35	36	57	-	-	-
312192	New	60	55	80	-	-	-	17	18	42	-	-	-
312194	New	60	55	80	-	-	-	14	15	40	-	-	-
312195	New	60	55	80	-	-	-	24	25	46	-	-	-
312196	New	60	55	80	-	-	-	41	41	62	-	-	-
312197	New	60	55	80	-	-	-	22	23	44	-	-	-
312198	New	60	55	80	-	-	-	10	10	3	-	-	-
312199	New	60	55	80	-	-	-	10	10	3	-	-	-
312200	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312201	New	60	55	80	-	-	-	10	10	3	-	-	-
312202	New	60	55	80	-	-	-	10	10	3	-	-	-
312203	New	60	55	80	-	-	-	10	10	3	-	-	-
312205	New	60	55	80	-	-	-	10	10	3	-	-	-
312206	New	60	55	80	-	-	-	16	17	41	-	-	-
312207	New	60	55	80	-	-	-	10	10	3	-	-	-
312208	New	60	55	80	-	-	-	21	22	43	-	-	-
312210	New	60	55	80	-	-	-	10	10	3	-	-	-
312211	New	60	55	80	-	-	-	10	10	3	-	-	-
312213	New	60	55	80	-	-	-	10	10	3	-	-	-
312214	New	60	55	80	-	-	-	20	21	47	-	-	-
312215	New	60	55	80	-	-	-	10	10	3	-	-	-
312216	New	60	55	80	-	-	-	10	10	3	-	-	-
312217	New	60	55	80	-	-	-	10	10	3	-	-	-
312219	New	60	55	80	-	-	-	10	10	3	-	-	-
312220	New	60	55	80	-	-	-	17	18	41	-	-	-
312222	New	60	55	80	-	-	-	10	10	3	-	-	-
312223	New	60	55	80	-	-	-	10	10	3	-	-	-
312224	New	60	55	80	-	-	-	20	21	44	-	-	-
312225	New	60	55	80	-	-	-	10	10	3	-	-	-
312226	New	60	55	80	-	-	-	10	10	3	-	-	-
312227	New	60	55	80	-	-	-	20	21	43	-	-	-
312231	New	60	55	80	-	-	-	10	10	3	-	-	-
312232	New	60	55	80	-	-	-	17	18	39	-	-	-
312233	New	60	55	80	-	-	-	10	10	3	-	-	-
312234	New	60	55	80	-	-	-	10	10	3	-	-	-
312235	New	60	55	80	-	-	-	24	25	46	-	-	-
312236	New	60	55	80	-	-	-	10	10	3	-	-	-
312237	New	60	55	80	-	-	-	21	22	45	-	-	-
312238	New	60	55	80	-	-	-	20	21	44	-	-	-
312242	New	60	55	80	-	-	-	15	16	40	-	-	-
312244	New	60	55	80	-	-	-	10	10	3	-	-	-
312245	New	60	55	80	-	-	-	10	10	3	-	-	-
312246	New	60	55	80	-	-	-	22	23	44	-	-	-
312250	New	60	55	80	-	-	-	21	22	43	-	-	-
312251	New	60	55	80	-	-	-	22	23	46	-	-	-
312252	New	60	55	80	-	-	-	10	10	3	-	-	-
312253	New	60	55	80	-	-	-	10	10	3	-	-	-
312254	New	60	55	80	-	-	-	23	24	49	-	-	-
312256	New	60	55	80	-	-	-	10	10	3	-	-	-
312257	New	60	55	80	-	-	-	10	10	3	-	-	-
312258	New	60	55	80	-	-	-	14	16	39	-	-	-
312260	New	60	55	80	-	-	-	10	10	3	-	-	-
312261	New	60	55	80	-	-	-	16	17	44	-	-	-
312262	New	60	55	80	-	-	-	10	10	3	-	-	-
312263	New	60	55	80	-	-	-	10	10	3	-	-	-
312264	New	60	55	80	-	-	-	21	22	44	-	-	-
312265	New	60	55	80	-	-	-	20	21	47	-	-	-
312266	New	60	55	80	-	-	-	20	22	46	-	-	-
312267	New	60	55	80	-	-	-	10	10	3	-	-	-
312268	New	60	55	80	-	-	-	17	19	45	-	-	-
312271	New	60	55	80	-	-	-	24	25	49	-	-	-
312272	New	60	55	80	-	-	-	19	20	43	-	-	-
312273	New	60	55	80	-	-	-	10	10	3	-	-	-
312275	New	60	55	80	-	-	-	10	10	3	-	-	-
312276	New	60	55	80	-	-	-	21	22	45	-	-	-
312277	New	60	55	80	-	-	-	10	10	3	-	-	-
312278	New	60	55	80	-	-	-	28	29	57	-	-	-
312279	New	60	55	80	-	-	-	10	10	3	-	-	-
312281	New	60	55	80	-	-	-	10	10	3	-	-	-
312282	New	60	55	80	-	-	-	10	10	3	-	-	-
312283	New	60	55	80	-	-	-	21	22	44	-	-	-
312285	New	60	55	80	-	-	-	22	23	44	-	-	-
312287	New	60	55	80	-	-	-	10	10	3	-	-	-
312288	New	60	55	80	-	-	-	10	10	3	-	-	-
312289	New	60	55	80	-	-	-	29	31	58	-	-	-
312292	New	60	55	80	-	-	-	22	23	44	-	-	-
312293	New	60	55	80	-	-	-	10	10	3	-	-	-
312294	New	60	55	80	-	-	-	10	10	3	-	-	-
312295	New	60	55	80	-	-	-	23	24	45	-	-	-
312297	New	60	55	80	-	-	-	27	28	57	-	-	-
312298	New	60	55	80	-	-	-	20	21	43	-	-	-
312299	New	60	55	80	-	-	-	10	10	3	-	-	-
312300	New	60	55	80	-	-	-	10	10	3	-	-	-
312301	New	60	55	80	-	-	-	10	10	3	-	-	-
312302	New	60	55	80	-	-	-	10	10	3	-	-	-
312303	New	60	55	80	-	-	-	18	19	45	-	-	-
312304	New	60	55	80	-	-	-	10	10	3	-	-	-
312305	New	60	55	80	-	-	-	10	10	3	-	-	-
312307	New	60	55	80	-	-	-	21	22	48	-	-	-
312308	New	60	55	80	-	-	-	10	10	3	-	-	-
312309	New	60	55	80	-	-	-	21	22	43	-	-	-
312311	New	60	55	80	-	-	-	20	21	42	-	-	-
312312	New	60	55	80	-	-	-	10	10	3	-	-	-
312313	New	60	55	80	-	-	-	26	27	51	-	-	-
312314	New	60	55	80	-	-	-	10	10	3	-	-	-
312315	New	60	55	80	-	-	-	10	10	3	-	-	-
312316	New	60	55	80	-	-	-	33	34	60	-	-	-
312317	New	60	55	80	-	-	-	20	21	42	-	-	-
312319	New	60	55	80	-	-	-	15	16	41	-	-	-
312320	New	60	55	80	-	-	-	16	17	41	-	-	-
312321	New	60	55	80	-	-	-	39	39	60	-	-	-
312322	New	60	55	80	-	-	-	10	10	3	-	-	-
312323	New	60	55	80	-	-	-	23	24	50	-	-	-
312324	New	60	55	80	-	-	-	20	21	42	-	-	-
312325	New	60	55	80	-	-	-	10	10	3	-	-	-
312326	New	60	55	80	-	-	-	10	10	3	-	-	-
312327	New	60	55	80	-	-	-	22	24	44	-	-	-
312328	New	60	55	80	-	-	-	21	22	47	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312330	New	60	55	80	-	-	-	27	28	57	-	-	-
312332	New	60	55	80	-	-	-	10	10	30	-	-	-
312334	New	60	55	80	-	-	-	10	10	3	-	-	-
312335	New	60	55	80	-	-	-	10	10	3	-	-	-
312337	New	60	55	80	-	-	-	27	28	54	-	-	-
312339	New	60	55	80	-	-	-	30	31	57	-	-	-
312340	New	60	55	80	-	-	-	31	32	58	-	-	-
312341	New	60	55	80	-	-	-	39	40	59	-	-	-
312343	New	60	55	80	-	-	-	31	32	57	-	-	-
312346	New	60	55	80	-	-	-	10	10	3	-	-	-
312347	New	60	55	80	-	-	-	28	29	56	-	-	-
312348	New	60	55	80	-	-	-	10	10	3	-	-	-
312350	New	60	55	80	-	-	-	10	10	3	-	-	-
312351	New	60	55	80	-	-	-	29	30	57	-	-	-
312352	New	60	55	80	-	-	-	10	10	3	-	-	-
312353	New	60	55	80	-	-	-	28	29	57	-	-	-
312354	New	60	55	80	-	-	-	45	46	67	-	-	-
312355	New	60	55	80	-	-	-	32	33	60	-	-	-
312357	New	60	55	80	-	-	-	38	39	62	-	-	-
312358	New	60	55	80	-	-	-	17	18	39	-	-	-
312359	New	60	55	80	-	-	-	23	24	49	-	-	-
312360	New	60	55	80	-	-	-	10	10	3	-	-	-
312362	New	60	55	80	-	-	-	25	26	45	-	-	-
312363	New	60	55	80	-	-	-	10	10	3	-	-	-
312364	New	60	55	80	-	-	-	10	10	3	-	-	-
312365	New	60	55	80	-	-	-	10	10	3	-	-	-
312366	New	60	55	80	-	-	-	17	18	41	-	-	-
312368	New	60	55	80	-	-	-	21	22	44	-	-	-
312369	New	60	55	80	-	-	-	21	22	43	-	-	-
312370	New	60	55	80	-	-	-	20	21	43	-	-	-
312371	New	60	55	80	-	-	-	30	32	57	-	-	-
312372	New	60	55	80	-	-	-	10	10	3	-	-	-
312375	New	60	55	80	-	-	-	10	10	3	-	-	-
312378	New	60	55	80	-	-	-	27	28	56	-	-	-
312379	New	60	55	80	-	-	-	21	22	43	-	-	-
312381	New	60	55	80	-	-	-	21	23	47	-	-	-
312382	New	60	55	80	-	-	-	24	25	49	-	-	-
312383	New	60	55	80	-	-	-	22	23	46	-	-	-
312384	New	60	55	80	-	-	-	10	10	3	-	-	-
312385	New	60	55	80	-	-	-	10	10	3	-	-	-
312386	New	60	55	80	-	-	-	28	28	56	-	-	-
312388	New	60	55	80	-	-	-	10	10	3	-	-	-
312391	New	60	55	80	-	-	-	10	10	3	-	-	-
312392	New	60	55	80	-	-	-	10	10	3	-	-	-
312393	New	60	55	80	-	-	-	46	47	67	-	-	-
312395	New	60	55	80	-	-	-	19	21	45	-	-	-
312399	New	60	55	80	-	-	-	10	10	3	-	-	-
312400	New	60	55	80	-	-	-	10	10	3	-	-	-
312402	New	60	55	80	-	-	-	10	10	3	-	-	-
312403	New	60	55	80	-	-	-	17	18	40	-	-	-
312404	New	60	55	80	-	-	-	28	29	57	-	-	-
312406	New	60	55	80	-	-	-	10	10	3	-	-	-
312407	New	60	55	80	-	-	-	10	10	3	-	-	-
312409	New	60	55	80	-	-	-	10	10	3	-	-	-
312412	New	60	55	80	-	-	-	21	22	43	-	-	-
312413	New	60	55	80	-	-	-	25	26	47	-	-	-
312415	New	60	55	80	-	-	-	10	10	3	-	-	-
312416	New	60	55	80	-	-	-	20	21	42	-	-	-
312418	New	60	55	80	-	-	-	20	21	43	-	-	-
312419	New	60	55	80	-	-	-	20	21	42	-	-	-
312421	New	60	55	80	-	-	-	19	20	41	-	-	-
312422	New	60	55	80	-	-	-	39	39	61	-	-	-
312423	New	60	55	80	-	-	-	30	32	58	-	-	-
312426	New	60	55	80	-	-	-	21	22	43	-	-	-
312427	New	60	55	80	-	-	-	27	28	57	-	-	-
312428	New	60	55	80	-	-	-	22	23	44	-	-	-
312431	New	60	55	80	-	-	-	10	10	3	-	-	-
312432	New	60	55	80	-	-	-	10	10	3	-	-	-
312433	New	60	55	80	-	-	-	40	40	61	-	-	-
312434	New	60	55	80	-	-	-	25	26	47	-	-	-
312435	New	60	55	80	-	-	-	10	10	3	-	-	-
312436	New	60	55	80	-	-	-	10	10	3	-	-	-
312437	New	60	55	80	-	-	-	22	24	50	-	-	-
312440	New	60	55	80	-	-	-	21	22	46	-	-	-
312442	New	60	55	80	-	-	-	10	10	3	-	-	-
312444	New	60	55	80	-	-	-	10	10	3	-	-	-
312445	New	60	55	80	-	-	-	39	40	59	-	-	-
312446	New	60	55	80	-	-	-	10	10	3	-	-	-
312449	New	60	55	80	-	-	-	10	10	3	-	-	-
312450	New	60	55	80	-	-	-	20	21	42	-	-	-
312452	New	60	55	80	-	-	-	19	20	45	-	-	-
312453	New	60	55	80	-	-	-	10	10	3	-	-	-
312454	New	60	55	80	-	-	-	21	22	43	-	-	-
312455	New	60	55	80	-	-	-	10	10	3	-	-	-
312456	New	60	55	80	-	-	-	10	10	3	-	-	-
312458	New	60	55	80	-	-	-	10	10	3	-	-	-
312459	New	60	55	80	-	-	-	17	18	39	-	-	-
312460	New	60	55	80	-	-	-	21	22	44	-	-	-
312462	New	60	55	80	-	-	-	20	21	42	-	-	-
312465	New	60	55	80	-	-	-	24	25	46	-	-	-
312466	New	60	55	80	-	-	-	21	22	44	-	-	-
312467	New	60	55	80	-	-	-	26	27	56	-	-	-
312468	New	60	55	80	-	-	-	15	17	41	-	-	-
312469	New	60	55	80	-	-	-	10	10	3	-	-	-
312470	New	60	55	80	-	-	-	10	10	3	-	-	-
312471	New	60	55	80	-	-	-	10	10	3	-	-	-
312472	New	60	55	80	-	-	-	10	10	3	-	-	-
312474	New	60	55	80	-	-	-	17	18	42	-	-	-
312475	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312477	New	60	55	80	-	-	-	28	28	57	-	-	-
312479	New	60	55	80	-	-	-	24	26	49	-	-	-
312480	New	60	55	80	-	-	-	10	10	3	-	-	-
312481	New	60	55	80	-	-	-	10	10	3	-	-	-
312482	New	60	55	80	-	-	-	17	18	42	-	-	-
312483	New	60	55	80	-	-	-	10	10	3	-	-	-
312484	New	60	55	80	-	-	-	20	21	45	-	-	-
312485	New	60	55	80	-	-	-	24	25	49	-	-	-
312486	New	60	55	80	-	-	-	23	24	44	-	-	-
312487	New	60	55	80	-	-	-	21	23	52	-	-	-
312490	New	60	55	80	-	-	-	22	23	44	-	-	-
312491	New	60	55	80	-	-	-	25	26	56	-	-	-
312492	New	60	55	80	-	-	-	10	10	3	-	-	-
312493	New	60	55	80	-	-	-	20	21	44	-	-	-
312494	New	60	55	80	-	-	-	10	10	3	-	-	-
312495	New	60	55	80	-	-	-	16	17	41	-	-	-
312497	New	60	55	80	-	-	-	20	21	42	-	-	-
312498	New	60	55	80	-	-	-	22	23	47	-	-	-
312502	New	60	55	80	-	-	-	10	10	3	-	-	-
312504	New	60	55	80	-	-	-	23	24	45	-	-	-
312505	New	60	55	80	-	-	-	21	22	43	-	-	-
312506	New	60	55	80	-	-	-	30	31	57	-	-	-
312507	New	60	55	80	-	-	-	36	36	58	-	-	-
312508	New	60	55	80	-	-	-	10	10	3	-	-	-
312510	New	60	55	80	-	-	-	24	25	51	-	-	-
312511	New	60	55	80	-	-	-	20	21	42	-	-	-
312512	New	60	55	80	-	-	-	24	26	50	-	-	-
312514	New	60	55	80	-	-	-	22	23	49	-	-	-
312515	New	60	55	80	-	-	-	10	10	3	-	-	-
312517	New	60	55	80	-	-	-	10	10	3	-	-	-
312518	New	60	55	80	-	-	-	10	10	3	-	-	-
312519	New	60	55	80	-	-	-	10	10	3	-	-	-
312520	New	60	55	80	-	-	-	10	10	3	-	-	-
312522	New	60	55	80	-	-	-	32	33	60	-	-	-
312524	New	60	55	80	-	-	-	21	22	43	-	-	-
312525	New	60	55	80	-	-	-	19	20	43	-	-	-
312526	New	60	55	80	-	-	-	10	10	3	-	-	-
312529	New	60	55	80	-	-	-	35	36	59	-	-	-
312531	New	60	55	80	-	-	-	20	21	42	-	-	-
312532	New	60	55	80	-	-	-	10	10	3	-	-	-
312533	New	60	55	80	-	-	-	20	21	42	-	-	-
312535	New	60	55	80	-	-	-	22	23	49	-	-	-
312536	New	60	55	80	-	-	-	20	21	42	-	-	-
312537	New	60	55	80	-	-	-	16	17	43	-	-	-
312538	New	60	55	80	-	-	-	10	10	3	-	-	-
312542	New	60	55	80	-	-	-	25	26	57	-	-	-
312543	New	60	55	80	-	-	-	10	10	3	-	-	-
312546	New	60	55	80	-	-	-	19	20	44	-	-	-
312547	New	60	55	80	-	-	-	22	24	45	-	-	-
312548	New	60	55	80	-	-	-	10	10	3	-	-	-
312550	New	60	55	80	-	-	-	25	26	57	-	-	-
312551	New	60	55	80	-	-	-	30	31	57	-	-	-
312552	New	60	55	80	-	-	-	25	26	47	-	-	-
312553	New	60	55	80	-	-	-	24	25	46	-	-	-
312555	New	60	55	80	-	-	-	10	10	3	-	-	-
312557	New	60	55	80	-	-	-	19	20	46	-	-	-
312558	New	60	55	80	-	-	-	30	31	58	-	-	-
312559	New	60	55	80	-	-	-	20	21	43	-	-	-
312560	New	60	55	80	-	-	-	29	30	55	-	-	-
312562	New	60	55	80	-	-	-	10	10	3	-	-	-
312563	New	60	55	80	-	-	-	20	21	42	-	-	-
312566	New	60	55	80	-	-	-	21	22	43	-	-	-
312567	New	60	55	80	-	-	-	10	10	3	-	-	-
312568	New	60	55	80	-	-	-	30	31	58	-	-	-
312569	New	60	55	80	-	-	-	32	33	59	-	-	-
312571	New	60	55	80	-	-	-	21	22	44	-	-	-
312573	New	60	55	80	-	-	-	10	10	3	-	-	-
312574	New	60	55	80	-	-	-	19	20	42	-	-	-
312575	New	60	55	80	-	-	-	37	38	60	-	-	-
312576	New	60	55	80	-	-	-	10	10	3	-	-	-
312577	New	60	55	80	-	-	-	27	27	57	-	-	-
312578	New	60	55	80	-	-	-	24	25	46	-	-	-
312579	New	60	55	80	-	-	-	18	18	45	-	-	-
312580	New	60	55	80	-	-	-	29	29	55	-	-	-
312581	New	60	55	80	-	-	-	10	10	3	-	-	-
312583	New	60	55	80	-	-	-	10	10	3	-	-	-
312584	New	60	55	80	-	-	-	46	47	68	-	-	-
312585	New	60	55	80	-	-	-	20	21	42	-	-	-
312586	New	60	55	80	-	-	-	24	25	56	-	-	-
312587	New	60	55	80	-	-	-	28	29	56	-	-	-
312588	New	60	55	80	-	-	-	45	46	67	-	-	-
312589	New	60	55	80	-	-	-	10	10	3	-	-	-
312590	New	60	55	80	-	-	-	20	21	44	-	-	-
312591	New	60	55	80	-	-	-	28	28	53	-	-	-
312592	New	60	55	80	-	-	-	17	18	39	-	-	-
312593	New	60	55	80	-	-	-	31	31	60	-	-	-
312594	New	60	55	80	-	-	-	23	24	53	-	-	-
312595	New	60	55	80	-	-	-	21	22	43	-	-	-
312597	New	60	55	80	-	-	-	18	19	40	-	-	-
312599	New	60	55	80	-	-	-	21	22	43	-	-	-
312600	New	60	55	80	-	-	-	18	19	40	-	-	-
312601	New	60	55	80	-	-	-	25	26	45	-	-	-
312602	New	60	55	80	-	-	-	21	22	44	-	-	-
312603	New	60	55	80	-	-	-	10	10	3	-	-	-
312604	New	60	55	80	-	-	-	10	10	3	-	-	-
312605	New	60	55	80	-	-	-	27	28	57	-	-	-
312606	New	60	55	80	-	-	-	10	10	3	-	-	-
312607	New	60	55	80	-	-	-	18	20	43	-	-	-
312608	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312610	New	60	55	80	-	-	-	39	40	59	-	-	-
312611	New	60	55	80	-	-	-	25	27	47	-	-	-
312613	New	60	55	80	-	-	-	20	21	42	-	-	-
312614	New	60	55	80	-	-	-	33	33	60	-	-	-
312615	New	60	55	80	-	-	-	17	18	39	-	-	-
312618	New	60	55	80	-	-	-	24	25	45	-	-	-
312619	New	60	55	80	-	-	-	20	21	42	-	-	-
312620	New	60	55	80	-	-	-	10	10	3	-	-	-
312622	New	60	55	80	-	-	-	10	10	3	-	-	-
312623	New	60	55	80	-	-	-	10	10	3	-	-	-
312624	New	60	55	80	-	-	-	10	10	3	-	-	-
312626	New	60	55	80	-	-	-	18	19	40	-	-	-
312628	New	60	55	80	-	-	-	10	10	3	-	-	-
312629	New	60	55	80	-	-	-	20	21	42	-	-	-
312630	New	60	55	80	-	-	-	20	21	42	-	-	-
312631	New	60	55	80	-	-	-	20	21	42	-	-	-
312632	New	60	55	80	-	-	-	10	10	3	-	-	-
312633	New	60	55	80	-	-	-	31	32	59	-	-	-
312634	New	60	55	80	-	-	-	19	20	41	-	-	-
312635	New	60	55	80	-	-	-	20	21	42	-	-	-
312636	New	60	55	80	-	-	-	10	10	3	-	-	-
312637	New	60	55	80	-	-	-	10	10	3	-	-	-
312638	New	60	55	80	-	-	-	10	10	3	-	-	-
312640	New	60	55	80	-	-	-	10	10	3	-	-	-
312642	New	60	55	80	-	-	-	25	26	46	-	-	-
312644	New	60	55	80	-	-	-	46	47	69	-	-	-
312645	New	60	55	80	-	-	-	10	10	3	-	-	-
312646	New	60	55	80	-	-	-	20	21	42	-	-	-
312648	New	60	55	80	-	-	-	20	21	42	-	-	-
312649	New	60	55	80	-	-	-	10	10	3	-	-	-
312650	New	60	55	80	-	-	-	21	22	43	-	-	-
312652	New	60	55	80	-	-	-	25	26	55	-	-	-
312653	New	60	55	80	-	-	-	19	20	41	-	-	-
312655	New	60	55	80	-	-	-	10	10	3	-	-	-
312656	New	60	55	80	-	-	-	20	21	42	-	-	-
312657	New	60	55	80	-	-	-	10	10	3	-	-	-
312659	New	60	55	80	-	-	-	26	27	48	-	-	-
312660	New	60	55	80	-	-	-	22	24	44	-	-	-
312661	New	60	55	80	-	-	-	10	10	3	-	-	-
312662	New	60	55	80	-	-	-	17	18	39	-	-	-
312663	New	60	55	80	-	-	-	10	10	3	-	-	-
312664	New	60	55	80	-	-	-	24	25	46	-	-	-
312667	New	60	55	80	-	-	-	23	24	44	-	-	-
312668	New	60	55	80	-	-	-	22	23	45	-	-	-
312669	New	60	55	80	-	-	-	33	33	59	-	-	-
312670	New	60	55	80	-	-	-	10	10	3	-	-	-
312671	New	60	55	80	-	-	-	10	10	3	-	-	-
312672	New	60	55	80	-	-	-	17	18	40	-	-	-
312673	New	60	55	80	-	-	-	19	20	41	-	-	-
312675	New	60	55	80	-	-	-	22	23	44	-	-	-
312678	New	60	55	80	-	-	-	34	35	57	-	-	-
312679	New	60	55	80	-	-	-	23	24	45	-	-	-
312680	New	60	55	80	-	-	-	29	30	56	-	-	-
312682	New	60	55	80	-	-	-	28	29	57	-	-	-
312683	New	60	55	80	-	-	-	10	10	3	-	-	-
312685	New	60	55	80	-	-	-	21	22	43	-	-	-
312687	New	60	55	80	-	-	-	10	10	3	-	-	-
312688	New	60	55	80	-	-	-	32	32	58	-	-	-
312689	New	60	55	80	-	-	-	10	10	3	-	-	-
312690	New	60	55	80	-	-	-	10	10	3	-	-	-
312692	New	60	55	80	-	-	-	30	31	57	-	-	-
312693	New	60	55	80	-	-	-	19	20	41	-	-	-
312694	New	60	55	80	-	-	-	22	23	46	-	-	-
312695	New	60	55	80	-	-	-	22	23	45	-	-	-
312696	New	60	55	80	-	-	-	22	23	44	-	-	-
312697	New	60	55	80	-	-	-	19	20	41	-	-	-
312698	New	60	55	80	-	-	-	10	10	3	-	-	-
312699	New	60	55	80	-	-	-	19	20	42	-	-	-
312700	New	60	55	80	-	-	-	10	10	3	-	-	-
312701	New	60	55	80	-	-	-	28	29	57	-	-	-
312702	New	60	55	80	-	-	-	22	23	44	-	-	-
312703	New	60	55	80	-	-	-	10	10	3	-	-	-
312704	New	60	55	80	-	-	-	46	47	69	-	-	-
312705	New	60	55	80	-	-	-	21	22	43	-	-	-
312706	New	60	55	80	-	-	-	21	22	43	-	-	-
312707	New	60	55	80	-	-	-	10	10	3	-	-	-
312709	New	60	55	80	-	-	-	10	10	3	-	-	-
312711	New	60	55	80	-	-	-	10	10	3	-	-	-
312712	New	60	55	80	-	-	-	32	33	57	-	-	-
312713	New	60	55	80	-	-	-	20	21	42	-	-	-
312714	New	60	55	80	-	-	-	20	21	42	-	-	-
312715	New	60	55	80	-	-	-	10	10	3	-	-	-
312716	New	60	55	80	-	-	-	21	22	43	-	-	-
312717	New	60	55	80	-	-	-	21	22	43	-	-	-
312718	New	60	55	80	-	-	-	46	47	69	-	-	-
312719	New	60	55	80	-	-	-	21	22	43	-	-	-
312722	New	60	55	80	-	-	-	18	19	41	-	-	-
312723	New	60	55	80	-	-	-	10	10	3	-	-	-
312724	New	60	55	80	-	-	-	20	22	43	-	-	-
312725	New	60	55	80	-	-	-	19	20	41	-	-	-
312726	New	60	55	80	-	-	-	18	19	41	-	-	-
312727	New	60	55	80	-	-	-	10	10	3	-	-	-
312728	New	60	55	80	-	-	-	10	10	3	-	-	-
312730	New	60	55	80	-	-	-	20	21	43	-	-	-
312731	New	60	55	80	-	-	-	26	27	48	-	-	-
312732	New	60	55	80	-	-	-	20	21	42	-	-	-
312734	New	60	55	80	-	-	-	10	10	3	-	-	-
312735	New	60	55	80	-	-	-	10	10	3	-	-	-
312736	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312738	New	60	55	80	-	-	-	20	21	42	-	-	-
312739	New	60	55	80	-	-	-	17	18	41	-	-	-
312740	New	60	55	80	-	-	-	10	10	3	-	-	-
312741	New	60	55	80	-	-	-	19	20	41	-	-	-
312742	New	60	55	80	-	-	-	22	23	45	-	-	-
312745	New	60	55	80	-	-	-	17	18	42	-	-	-
312746	New	60	55	80	-	-	-	19	20	41	-	-	-
312748	New	60	55	80	-	-	-	20	21	43	-	-	-
312750	New	60	55	80	-	-	-	10	10	3	-	-	-
312752	New	60	55	80	-	-	-	10	10	3	-	-	-
312753	New	60	55	80	-	-	-	20	21	42	-	-	-
312755	New	60	55	80	-	-	-	20	21	42	-	-	-
312756	New	60	55	80	-	-	-	20	22	43	-	-	-
312757	New	60	55	80	-	-	-	20	21	42	-	-	-
312761	New	60	55	80	-	-	-	23	24	52	-	-	-
312762	New	60	55	80	-	-	-	21	22	43	-	-	-
312763	New	60	55	80	-	-	-	21	22	43	-	-	-
312764	New	60	55	80	-	-	-	22	23	44	-	-	-
312765	New	60	55	80	-	-	-	10	10	3	-	-	-
312766	New	60	55	80	-	-	-	20	21	42	-	-	-
312767	New	60	55	80	-	-	-	10	10	3	-	-	-
312768	New	60	55	80	-	-	-	18	19	40	-	-	-
312769	New	60	55	80	-	-	-	46	46	70	-	-	-
312771	New	60	55	80	-	-	-	46	47	69	-	-	-
312772	New	60	55	80	-	-	-	32	33	58	-	-	-
312773	New	60	55	80	-	-	-	22	23	44	-	-	-
312774	New	60	55	80	-	-	-	27	28	49	-	-	-
312776	New	60	55	80	-	-	-	19	20	41	-	-	-
312777	New	60	55	80	-	-	-	10	10	3	-	-	-
312778	New	60	55	80	-	-	-	33	34	61	-	-	-
312779	New	60	55	80	-	-	-	10	10	3	-	-	-
312780	New	60	55	80	-	-	-	10	10	3	-	-	-
312781	New	60	55	80	-	-	-	23	24	45	-	-	-
312782	New	60	55	80	-	-	-	20	22	43	-	-	-
312783	New	60	55	80	-	-	-	22	23	44	-	-	-
312784	New	60	55	80	-	-	-	19	20	41	-	-	-
312788	New	60	55	80	-	-	-	22	23	45	-	-	-
312790	New	60	55	80	-	-	-	18	19	40	-	-	-
312792	New	60	55	80	-	-	-	10	10	3	-	-	-
312793	New	60	55	80	-	-	-	10	10	3	-	-	-
312794	New	60	55	80	-	-	-	29	30	55	-	-	-
312795	New	60	55	80	-	-	-	10	10	3	-	-	-
312796	New	60	55	80	-	-	-	17	18	39	-	-	-
312797	New	60	55	80	-	-	-	31	31	58	-	-	-
312798	New	60	55	80	-	-	-	18	19	41	-	-	-
312799	New	60	55	80	-	-	-	21	22	44	-	-	-
312800	New	60	55	80	-	-	-	10	10	3	-	-	-
312801	New	60	55	80	-	-	-	20	21	42	-	-	-
312802	New	60	55	80	-	-	-	21	22	43	-	-	-
312806	New	60	55	80	-	-	-	36	36	61	-	-	-
312807	New	60	55	80	-	-	-	10	10	3	-	-	-
312808	New	60	55	80	-	-	-	10	10	3	-	-	-
312809	New	60	55	80	-	-	-	22	23	45	-	-	-
312811	New	60	55	80	-	-	-	19	20	43	-	-	-
312814	New	60	55	80	-	-	-	21	23	44	-	-	-
312815	New	60	55	80	-	-	-	10	10	3	-	-	-
312816	New	60	55	80	-	-	-	16	17	40	-	-	-
312817	New	60	55	80	-	-	-	10	10	3	-	-	-
312818	New	60	55	80	-	-	-	10	10	3	-	-	-
312820	New	60	55	80	-	-	-	23	24	45	-	-	-
312821	New	60	55	80	-	-	-	28	30	55	-	-	-
312823	New	60	55	80	-	-	-	20	21	42	-	-	-
312824	New	60	55	80	-	-	-	10	10	3	-	-	-
312825	New	60	55	80	-	-	-	10	10	3	-	-	-
312826	New	60	55	80	-	-	-	34	35	58	-	-	-
312827	New	60	55	80	-	-	-	19	20	42	-	-	-
312828	New	60	55	80	-	-	-	38	39	59	-	-	-
312829	New	60	55	80	-	-	-	10	10	3	-	-	-
312830	New	60	55	80	-	-	-	23	24	45	-	-	-
312831	New	60	55	80	-	-	-	10	10	3	-	-	-
312832	New	60	55	80	-	-	-	19	20	41	-	-	-
312833	New	60	55	80	-	-	-	21	22	43	-	-	-
312834	New	60	55	80	-	-	-	10	10	3	-	-	-
312835	New	60	55	80	-	-	-	10	10	3	-	-	-
312836	New	60	55	80	-	-	-	10	10	3	-	-	-
312837	New	60	55	80	-	-	-	23	24	44	-	-	-
312838	New	60	55	80	-	-	-	42	43	64	-	-	-
312839	New	60	55	80	-	-	-	21	22	43	-	-	-
312841	New	60	55	80	-	-	-	25	26	47	-	-	-
312842	New	60	55	80	-	-	-	21	22	43	-	-	-
312843	New	60	55	80	-	-	-	10	10	3	-	-	-
312844	New	60	55	80	-	-	-	21	22	43	-	-	-
312845	New	60	55	80	-	-	-	29	30	58	-	-	-
312846	New	60	55	80	-	-	-	17	18	39	-	-	-
312847	New	60	55	80	-	-	-	29	30	55	-	-	-
312848	New	60	55	80	-	-	-	10	10	3	-	-	-
312849	New	60	55	80	-	-	-	24	25	45	-	-	-
312850	New	60	55	80	-	-	-	20	21	43	-	-	-
312851	New	60	55	80	-	-	-	10	10	3	-	-	-
312853	New	60	55	80	-	-	-	18	19	42	-	-	-
312854	New	60	55	80	-	-	-	10	10	3	-	-	-
312856	New	60	55	80	-	-	-	10	10	3	-	-	-
312858	New	60	55	80	-	-	-	21	22	43	-	-	-
312859	New	60	55	80	-	-	-	20	22	42	-	-	-
312860	New	60	55	80	-	-	-	10	10	3	-	-	-
312861	New	60	55	80	-	-	-	16	17	39	-	-	-
312862	New	60	55	80	-	-	-	10	10	3	-	-	-
312864	New	60	55	80	-	-	-	20	21	42	-	-	-
312865	New	60	55	80	-	-	-	21	23	43	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312866	New	60	55	80	-	-	-	10	10	3	-	-	-
312867	New	60	55	80	-	-	-	10	10	3	-	-	-
312869	New	60	55	80	-	-	-	10	10	3	-	-	-
312870	New	60	55	80	-	-	-	22	23	44	-	-	-
312871	New	60	55	80	-	-	-	20	21	42	-	-	-
312874	New	60	55	80	-	-	-	10	10	3	-	-	-
312875	New	60	55	80	-	-	-	10	10	3	-	-	-
312877	New	60	55	80	-	-	-	27	27	48	-	-	-
312878	New	60	55	80	-	-	-	20	21	42	-	-	-
312879	New	60	55	80	-	-	-	10	10	3	-	-	-
312880	New	60	55	80	-	-	-	10	10	3	-	-	-
312881	New	60	55	80	-	-	-	19	20	42	-	-	-
312882	New	60	55	80	-	-	-	21	22	44	-	-	-
312883	New	60	55	80	-	-	-	24	25	46	-	-	-
312884	New	60	55	80	-	-	-	21	22	44	-	-	-
312885	New	60	55	80	-	-	-	10	10	3	-	-	-
312887	New	60	55	80	-	-	-	20	21	42	-	-	-
312888	New	60	55	80	-	-	-	10	10	3	-	-	-
312889	New	60	55	80	-	-	-	19	20	41	-	-	-
312890	New	60	55	80	-	-	-	10	10	3	-	-	-
312892	New	60	55	80	-	-	-	10	10	3	-	-	-
312893	New	60	55	80	-	-	-	10	10	3	-	-	-
312894	New	60	55	80	-	-	-	20	21	42	-	-	-
312895	New	60	55	80	-	-	-	20	21	42	-	-	-
312898	New	60	55	80	-	-	-	22	23	44	-	-	-
312901	New	60	55	80	-	-	-	19	20	41	-	-	-
312902	New	60	55	80	-	-	-	20	21	42	-	-	-
312903	New	60	55	80	-	-	-	26	27	55	-	-	-
312905	New	60	55	80	-	-	-	10	10	3	-	-	-
312906	New	60	55	80	-	-	-	22	23	45	-	-	-
312907	New	60	55	80	-	-	-	30	30	58	-	-	-
312908	New	60	55	80	-	-	-	10	10	3	-	-	-
312909	New	60	55	80	-	-	-	10	10	3	-	-	-
312912	New	60	55	80	-	-	-	10	10	3	-	-	-
312913	New	60	55	80	-	-	-	20	21	42	-	-	-
312914	New	60	55	80	-	-	-	10	10	3	-	-	-
312917	New	60	55	80	-	-	-	10	10	3	-	-	-
312918	New	60	55	80	-	-	-	21	22	43	-	-	-
312919	New	60	55	80	-	-	-	20	21	43	-	-	-
312920	New	60	55	80	-	-	-	10	10	3	-	-	-
312922	New	60	55	80	-	-	-	20	21	42	-	-	-
312923	New	60	55	80	-	-	-	24	25	46	-	-	-
312924	New	60	55	80	-	-	-	10	10	3	-	-	-
312927	New	60	55	80	-	-	-	10	10	3	-	-	-
312928	New	60	55	80	-	-	-	38	39	61	-	-	-
312929	New	60	55	80	-	-	-	10	10	3	-	-	-
312930	New	60	55	80	-	-	-	21	22	43	-	-	-
312931	New	60	55	80	-	-	-	10	10	3	-	-	-
312932	New	60	55	80	-	-	-	19	20	41	-	-	-
312933	New	60	55	80	-	-	-	19	20	41	-	-	-
312935	New	60	55	80	-	-	-	10	10	3	-	-	-
312936	New	60	55	80	-	-	-	31	31	58	-	-	-
312937	New	60	55	80	-	-	-	16	17	39	-	-	-
312939	New	60	55	80	-	-	-	10	10	3	-	-	-
312940	New	60	55	80	-	-	-	10	10	3	-	-	-
312941	New	60	55	80	-	-	-	29	30	50	-	-	-
312943	New	60	55	80	-	-	-	22	23	44	-	-	-
312945	New	60	55	80	-	-	-	10	10	3	-	-	-
312946	New	60	55	80	-	-	-	17	18	40	-	-	-
312947	New	60	55	80	-	-	-	23	24	45	-	-	-
312948	New	60	55	80	-	-	-	10	10	3	-	-	-
312949	New	60	55	80	-	-	-	22	23	45	-	-	-
312950	New	60	55	80	-	-	-	30	31	55	-	-	-
312951	New	60	55	80	-	-	-	18	20	41	-	-	-
312952	New	60	55	80	-	-	-	21	22	43	-	-	-
312953	New	60	55	80	-	-	-	10	10	3	-	-	-
312954	New	60	55	80	-	-	-	21	22	43	-	-	-
312955	New	60	55	80	-	-	-	34	35	60	-	-	-
312956	New	60	55	80	-	-	-	34	34	60	-	-	-
312959	New	60	55	80	-	-	-	10	10	3	-	-	-
312960	New	60	55	80	-	-	-	27	28	52	-	-	-
312962	New	60	55	80	-	-	-	21	22	43	-	-	-
312963	New	60	55	80	-	-	-	25	26	46	-	-	-
312964	New	60	55	80	-	-	-	10	10	3	-	-	-
312965	New	60	55	80	-	-	-	21	22	43	-	-	-
312968	New	60	55	80	-	-	-	21	22	43	-	-	-
312969	New	60	55	80	-	-	-	10	10	3	-	-	-
312970	New	60	55	80	-	-	-	10	10	3	-	-	-
312971	New	60	55	80	-	-	-	21	22	43	-	-	-
312972	New	60	55	80	-	-	-	22	23	44	-	-	-
312973	New	60	55	80	-	-	-	21	22	43	-	-	-
312974	New	60	55	80	-	-	-	22	23	43	-	-	-
312975	New	60	55	80	-	-	-	10	10	3	-	-	-
312977	New	60	55	80	-	-	-	19	20	41	-	-	-
312978	New	60	55	80	-	-	-	11	12	35	-	-	-
312979	New	60	55	80	-	-	-	10	10	3	-	-	-
312980	New	60	55	80	-	-	-	10	10	3	-	-	-
312981	New	60	55	80	-	-	-	21	22	43	-	-	-
312983	New	60	55	80	-	-	-	10	10	3	-	-	-
312984	New	60	55	80	-	-	-	23	24	45	-	-	-
312985	New	60	55	80	-	-	-	25	26	46	-	-	-
312989	New	60	55	80	-	-	-	10	10	3	-	-	-
312990	New	60	55	80	-	-	-	20	21	43	-	-	-
312991	New	60	55	80	-	-	-	10	10	3	-	-	-
312992	New	60	55	80	-	-	-	10	10	3	-	-	-
312993	New	60	55	80	-	-	-	10	10	3	-	-	-
312994	New	60	55	80	-	-	-	19	20	41	-	-	-
312996	New	60	55	80	-	-	-	10	10	3	-	-	-
312998	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312999	New	60	55	80	-	-	-	21	22	43	-	-	-
313001	New	60	55	80	-	-	-	20	21	42	-	-	-
313002	New	60	55	80	-	-	-	21	22	45	-	-	-
313003	New	60	55	80	-	-	-	26	27	48	-	-	-
313004	New	60	55	80	-	-	-	19	20	41	-	-	-
313005	New	60	55	80	-	-	-	20	21	42	-	-	-
313007	New	60	55	80	-	-	-	10	10	3	-	-	-
313009	New	60	55	80	-	-	-	10	10	3	-	-	-
313010	New	60	55	80	-	-	-	10	10	3	-	-	-
313011	New	60	55	80	-	-	-	10	10	3	-	-	-
313012	New	60	55	80	-	-	-	22	23	44	-	-	-
313013	New	60	55	80	-	-	-	26	28	49	-	-	-
313014	New	60	55	80	-	-	-	22	23	43	-	-	-
313015	New	60	55	80	-	-	-	21	22	43	-	-	-
313016	New	60	55	80	-	-	-	10	10	3	-	-	-
313017	New	60	55	80	-	-	-	24	25	45	-	-	-
313018	New	60	55	80	-	-	-	20	21	42	-	-	-
313019	New	60	55	80	-	-	-	10	10	3	-	-	-
313020	New	60	55	80	-	-	-	16	17	39	-	-	-
313021	New	60	55	80	-	-	-	20	21	42	-	-	-
313022	New	60	55	80	-	-	-	23	24	45	-	-	-
313023	New	60	55	80	-	-	-	20	21	42	-	-	-
313026	New	60	55	80	-	-	-	22	23	44	-	-	-
313027	New	60	55	80	-	-	-	26	27	48	-	-	-
313028	New	60	55	80	-	-	-	19	20	44	-	-	-
313029	New	60	55	80	-	-	-	21	22	43	-	-	-
313030	New	60	55	80	-	-	-	20	21	42	-	-	-
313031	New	60	55	80	-	-	-	20	21	42	-	-	-
313032	New	60	55	80	-	-	-	20	21	42	-	-	-
313033	New	60	55	80	-	-	-	20	22	43	-	-	-
313034	New	60	55	80	-	-	-	10	10	3	-	-	-
313035	New	60	55	80	-	-	-	21	22	43	-	-	-
313036	New	60	55	80	-	-	-	10	10	3	-	-	-
313040	New	60	55	80	-	-	-	30	30	57	-	-	-
313042	New	60	55	80	-	-	-	10	10	3	-	-	-
313043	New	60	55	80	-	-	-	10	10	3	-	-	-
313044	New	60	55	80	-	-	-	21	22	43	-	-	-
313046	New	60	55	80	-	-	-	26	27	49	-	-	-
313047	New	60	55	80	-	-	-	17	18	39	-	-	-
313048	New	60	55	80	-	-	-	10	10	3	-	-	-
313049	New	60	55	80	-	-	-	10	10	3	-	-	-
313050	New	60	55	80	-	-	-	30	30	58	-	-	-
313051	New	60	55	80	-	-	-	21	22	43	-	-	-
313052	New	60	55	80	-	-	-	10	10	3	-	-	-
313053	New	60	55	80	-	-	-	19	20	41	-	-	-
313054	New	60	55	80	-	-	-	22	23	44	-	-	-
313055	New	60	55	80	-	-	-	35	36	59	-	-	-
313056	New	60	55	80	-	-	-	10	10	3	-	-	-
313057	New	60	55	80	-	-	-	10	10	3	-	-	-
313058	New	60	55	80	-	-	-	18	19	44	-	-	-
313059	New	60	55	80	-	-	-	26	28	49	-	-	-
313060	New	60	55	80	-	-	-	23	24	46	-	-	-
313061	New	60	55	80	-	-	-	19	20	41	-	-	-
313063	New	60	55	80	-	-	-	10	10	3	-	-	-
313066	New	60	55	80	-	-	-	10	10	3	-	-	-
313067	New	60	55	80	-	-	-	23	24	44	-	-	-
313068	New	60	55	80	-	-	-	10	10	3	-	-	-
313073	New	60	55	80	-	-	-	21	22	43	-	-	-
313074	New	60	55	80	-	-	-	20	22	42	-	-	-
313075	New	60	55	80	-	-	-	18	20	41	-	-	-
313076	New	60	55	80	-	-	-	16	17	39	-	-	-
313078	New	60	55	80	-	-	-	10	10	3	-	-	-
313079	New	60	55	80	-	-	-	19	20	41	-	-	-
313082	New	60	55	80	-	-	-	21	22	43	-	-	-
313084	New	60	55	80	-	-	-	22	23	44	-	-	-
313085	New	60	55	80	-	-	-	10	10	3	-	-	-
313086	New	60	55	80	-	-	-	40	41	64	-	-	-
313087	New	60	55	80	-	-	-	20	21	43	-	-	-
313089	New	60	55	80	-	-	-	21	22	43	-	-	-
313091	New	60	55	80	-	-	-	18	19	41	-	-	-
313092	New	60	55	80	-	-	-	10	10	3	-	-	-
313094	New	60	55	80	-	-	-	23	24	44	-	-	-
313095	New	60	55	80	-	-	-	19	20	42	-	-	-
313096	New	60	55	80	-	-	-	26	27	48	-	-	-
313097	New	60	55	80	-	-	-	21	22	43	-	-	-
313098	New	60	55	80	-	-	-	26	27	48	-	-	-
313099	New	60	55	80	-	-	-	10	10	3	-	-	-
313100	New	60	55	80	-	-	-	22	23	44	-	-	-
313102	New	60	55	80	-	-	-	23	24	48	-	-	-
313104	New	60	55	80	-	-	-	23	24	45	-	-	-
313105	New	60	55	80	-	-	-	10	10	3	-	-	-
313106	New	60	55	80	-	-	-	25	26	48	-	-	-
313107	New	60	55	80	-	-	-	21	22	43	-	-	-
313108	New	60	55	80	-	-	-	19	20	41	-	-	-
313111	New	60	55	80	-	-	-	21	22	43	-	-	-
313112	New	60	55	80	-	-	-	10	10	3	-	-	-
313113	New	60	55	80	-	-	-	20	21	43	-	-	-
313114	New	60	55	80	-	-	-	21	22	43	-	-	-
313115	New	60	55	80	-	-	-	28	29	50	-	-	-
313116	New	60	55	80	-	-	-	10	10	3	-	-	-
313119	New	60	55	80	-	-	-	10	10	3	-	-	-
313121	New	60	55	80	-	-	-	10	10	3	-	-	-
313122	New	60	55	80	-	-	-	21	22	43	-	-	-
313123	New	60	55	80	-	-	-	20	21	42	-	-	-
313124	New	60	55	80	-	-	-	19	20	42	-	-	-
313125	New	60	55	80	-	-	-	10	10	3	-	-	-
313126	New	60	55	80	-	-	-	20	22	42	-	-	-
313127	New	60	55	80	-	-	-	20	21	42	-	-	-
313128	New	60	55	80	-	-	-	43	44	66	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
313129	New	60	55	80	-	-	-	25	26	48	-	-	-
313130	New	60	55	80	-	-	-	25	27	48	-	-	-
313131	New	60	55	80	-	-	-	10	10	3	-	-	-
313133	New	60	55	80	-	-	-	23	24	46	-	-	-
313135	New	60	55	80	-	-	-	20	21	42	-	-	-
313138	New	60	55	80	-	-	-	20	21	42	-	-	-
313139	New	60	55	80	-	-	-	21	22	47	-	-	-
313141	New	60	55	80	-	-	-	19	20	41	-	-	-
313143	New	60	55	80	-	-	-	23	24	45	-	-	-
313144	New	60	55	80	-	-	-	20	21	42	-	-	-
313145	New	60	55	80	-	-	-	22	23	47	-	-	-
313147	New	60	55	80	-	-	-	26	27	49	-	-	-
313148	New	60	55	80	-	-	-	23	24	45	-	-	-
313149	New	60	55	80	-	-	-	20	21	42	-	-	-
313151	New	60	55	80	-	-	-	23	24	45	-	-	-
313152	New	60	55	80	-	-	-	29	30	52	-	-	-
313153	New	60	55	80	-	-	-	26	27	49	-	-	-
313154	New	60	55	80	-	-	-	23	24	44	-	-	-
313155	New	60	55	80	-	-	-	22	23	44	-	-	-
313158	New	60	55	80	-	-	-	20	21	42	-	-	-
313159	New	60	55	80	-	-	-	22	23	44	-	-	-
313160	New	60	55	80	-	-	-	20	21	42	-	-	-
313161	New	60	55	80	-	-	-	19	20	41	-	-	-
313162	New	60	55	80	-	-	-	29	30	57	-	-	-
313163	New	60	55	80	-	-	-	22	23	45	-	-	-
313166	New	60	55	80	-	-	-	39	39	60	-	-	-
313167	New	60	55	80	-	-	-	40	41	64	-	-	-
313168	New	60	55	80	-	-	-	21	22	42	-	-	-
313169	New	60	55	80	-	-	-	24	25	46	-	-	-
313171	New	60	55	80	-	-	-	17	18	39	-	-	-
313172	New	60	55	80	-	-	-	22	23	44	-	-	-
313173	New	60	55	80	-	-	-	26	27	50	-	-	-
313175	New	60	55	80	-	-	-	46	47	66	-	-	-
313177	New	60	55	80	-	-	-	23	24	45	-	-	-
313178	New	60	55	80	-	-	-	27	28	48	-	-	-
313179	New	60	55	80	-	-	-	23	24	45	-	-	-
313182	New	60	55	80	-	-	-	27	28	49	-	-	-
313184	New	60	55	80	-	-	-	22	23	44	-	-	-
313185	New	60	55	80	-	-	-	26	27	47	-	-	-
313186	New	60	55	80	-	-	-	23	24	45	-	-	-
313188	New	60	55	80	-	-	-	21	22	43	-	-	-
313189	New	60	55	80	-	-	-	45	46	67	-	-	-
313190	New	60	55	80	-	-	-	22	23	44	-	-	-
313191	New	60	55	80	-	-	-	26	27	48	-	-	-
313192	New	60	55	80	-	-	-	22	23	44	-	-	-
313193	New	60	55	80	-	-	-	33	34	56	-	-	-
313194	New	60	55	80	-	-	-	41	41	63	-	-	-
313195	New	60	55	80	-	-	-	23	24	45	-	-	-
313197	New	60	55	80	-	-	-	26	27	47	-	-	-
313198	New	60	55	80	-	-	-	23	24	44	-	-	-
313199	New	60	55	80	-	-	-	21	22	43	-	-	-
313201	New	60	55	80	-	-	-	21	22	43	-	-	-
313202	New	60	55	80	-	-	-	22	23	44	-	-	-
313203	New	60	55	80	-	-	-	27	28	49	-	-	-
313204	New	60	55	80	-	-	-	22	23	45	-	-	-
313205	New	60	55	80	-	-	-	21	22	43	-	-	-
313206	New	60	55	80	-	-	-	20	21	43	-	-	-
313208	New	60	55	80	-	-	-	35	36	59	-	-	-
313210	New	60	55	80	-	-	-	27	28	49	-	-	-
313211	New	60	55	80	-	-	-	21	22	43	-	-	-
313212	New	60	55	80	-	-	-	20	21	42	-	-	-
313214	New	60	55	80	-	-	-	21	22	43	-	-	-
313215	New	60	55	80	-	-	-	26	27	48	-	-	-
313216	New	60	55	80	-	-	-	27	28	50	-	-	-
313217	New	60	55	80	-	-	-	22	23	44	-	-	-
313219	New	60	55	80	-	-	-	21	22	42	-	-	-
313220	New	60	55	80	-	-	-	25	26	47	-	-	-
313221	New	60	55	80	-	-	-	21	22	43	-	-	-
313222	New	60	55	80	-	-	-	35	36	60	-	-	-
313223	New	60	55	80	-	-	-	21	22	42	-	-	-
313225	New	60	55	80	-	-	-	23	24	45	-	-	-
313226	New	60	55	80	-	-	-	20	21	42	-	-	-
313227	New	60	55	80	-	-	-	20	21	43	-	-	-
313228	New	60	55	80	-	-	-	26	27	49	-	-	-
313230	New	60	55	80	-	-	-	44	45	69	-	-	-
313233	New	60	55	80	-	-	-	24	25	46	-	-	-
313234	New	60	55	80	-	-	-	23	24	44	-	-	-
313235	New	60	55	80	-	-	-	20	21	42	-	-	-
313236	New	60	55	80	-	-	-	25	26	46	-	-	-
313237	New	60	55	80	-	-	-	19	21	42	-	-	-
313239	New	60	55	80	-	-	-	28	29	49	-	-	-
313240	New	60	55	80	-	-	-	27	28	48	-	-	-
313241	New	60	55	80	-	-	-	22	24	44	-	-	-
313242	New	60	55	80	-	-	-	41	42	64	-	-	-
313243	New	60	55	80	-	-	-	27	28	49	-	-	-
313244	New	60	55	80	-	-	-	22	23	44	-	-	-
313246	New	60	55	80	-	-	-	33	34	53	-	-	-
313249	New	60	55	80	-	-	-	25	26	46	-	-	-
313251	New	60	55	80	-	-	-	17	18	39	-	-	-
313253	New	60	55	80	-	-	-	21	22	43	-	-	-
313254	New	60	55	80	-	-	-	26	27	47	-	-	-
313255	New	60	55	80	-	-	-	20	21	42	-	-	-
313256	New	60	55	80	-	-	-	27	28	48	-	-	-
313258	New	60	55	80	-	-	-	20	21	42	-	-	-
313259	New	60	55	80	-	-	-	20	21	42	-	-	-
313260	New	60	55	80	-	-	-	11	13	35	-	-	-
313261	New	60	55	80	-	-	-	39	39	62	-	-	-
313262	New	60	55	80	-	-	-	26	27	48	-	-	-
313263	New	60	55	80	-	-	-	29	30	50	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
313264	New	60	55	80	-	-	-	34	34	58	-	-	-
313266	New	60	55	80	-	-	-	23	24	45	-	-	-
313267	New	60	55	80	-	-	-	29	30	50	-	-	-
313268	New	60	55	80	-	-	-	19	20	42	-	-	-
313269	New	60	55	80	-	-	-	23	24	44	-	-	-
313270	New	60	55	80	-	-	-	24	25	46	-	-	-
313271	New	60	55	80	-	-	-	27	28	48	-	-	-
313272	New	60	55	80	-	-	-	18	19	41	-	-	-
313273	New	60	55	80	-	-	-	19	20	41	-	-	-
313274	New	60	55	80	-	-	-	22	23	45	-	-	-
313275	New	60	55	80	-	-	-	23	24	44	-	-	-
313277	New	60	55	80	-	-	-	30	31	50	-	-	-
313279	New	60	55	80	-	-	-	20	21	41	-	-	-
313280	New	60	55	80	-	-	-	19	20	40	-	-	-
313281	New	60	55	80	-	-	-	23	24	44	-	-	-
313283	New	60	55	80	-	-	-	32	33	52	-	-	-
313284	New	60	55	80	-	-	-	33	34	57	-	-	-
313285	New	60	55	80	-	-	-	19	20	42	-	-	-
313287	New	60	55	80	-	-	-	21	22	43	-	-	-
313288	New	60	55	80	-	-	-	30	31	49	-	-	-
313290	New	60	55	80	-	-	-	31	32	51	-	-	-
313291	New	60	55	80	-	-	-	20	21	43	-	-	-
313292	New	60	55	80	-	-	-	27	28	48	-	-	-
313293	New	60	55	80	-	-	-	36	37	60	-	-	-
313295	New	60	55	80	-	-	-	19	20	41	-	-	-
313296	New	60	55	80	-	-	-	31	32	51	-	-	-
313297	New	60	55	80	-	-	-	22	23	43	-	-	-
313299	New	60	55	80	-	-	-	22	23	43	-	-	-
313300	New	60	55	80	-	-	-	21	22	43	-	-	-
313301	New	60	55	80	-	-	-	22	23	44	-	-	-
313302	New	60	55	80	-	-	-	22	23	43	-	-	-
313303	New	60	55	80	-	-	-	21	22	43	-	-	-
313304	New	60	55	80	-	-	-	19	20	41	-	-	-
313305	New	60	55	80	-	-	-	23	24	45	-	-	-
313306	New	60	55	80	-	-	-	29	30	49	-	-	-
313307	New	60	55	80	-	-	-	22	23	44	-	-	-
313308	New	60	55	80	-	-	-	33	34	57	-	-	-
313309	New	60	55	80	-	-	-	19	20	42	-	-	-
313312	New	60	55	80	-	-	-	22	23	44	-	-	-
313313	New	60	55	80	-	-	-	42	43	64	-	-	-
313314	New	60	55	80	-	-	-	21	22	43	-	-	-
313317	New	60	55	80	-	-	-	28	29	48	-	-	-
313319	New	60	55	80	-	-	-	19	20	41	-	-	-
313321	New	60	55	80	-	-	-	23	24	45	-	-	-
313322	New	60	55	80	-	-	-	23	24	44	-	-	-
313324	New	60	55	80	-	-	-	20	21	44	-	-	-
313325	New	60	55	80	-	-	-	33	34	58	-	-	-
313326	New	60	55	80	-	-	-	23	24	44	-	-	-
313327	New	60	55	80	-	-	-	23	24	44	-	-	-
313328	New	60	55	80	-	-	-	23	24	45	-	-	-
313330	New	60	55	80	-	-	-	20	21	42	-	-	-
313331	New	60	55	80	-	-	-	20	21	42	-	-	-
313332	New	60	55	80	-	-	-	33	34	53	-	-	-
313336	New	60	55	80	-	-	-	25	26	46	-	-	-
313338	New	60	55	80	-	-	-	35	36	58	-	-	-
313339	New	60	55	80	-	-	-	34	35	58	-	-	-
313340	New	60	55	80	-	-	-	22	24	43	-	-	-
313342	New	60	55	80	-	-	-	22	23	43	-	-	-
313343	New	60	55	80	-	-	-	24	25	46	-	-	-
313344	New	60	55	80	-	-	-	20	21	42	-	-	-
313345	New	60	55	80	-	-	-	19	20	40	-	-	-
313346	New	60	55	80	-	-	-	20	21	41	-	-	-
313347	New	60	55	80	-	-	-	22	23	44	-	-	-
313348	New	60	55	80	-	-	-	19	21	41	-	-	-
313349	New	60	55	80	-	-	-	20	21	43	-	-	-
313352	New	60	55	80	-	-	-	32	33	58	-	-	-
313353	New	60	55	80	-	-	-	11	13	36	-	-	-
313354	New	60	55	80	-	-	-	26	27	47	-	-	-
313355	New	60	55	80	-	-	-	20	21	43	-	-	-
313356	New	60	55	80	-	-	-	18	19	40	-	-	-
313358	New	60	55	80	-	-	-	21	22	43	-	-	-
313359	New	60	55	80	-	-	-	31	32	55	-	-	-
313362	New	60	55	80	-	-	-	23	24	44	-	-	-
313363	New	60	55	80	-	-	-	21	22	43	-	-	-
313366	New	60	55	80	-	-	-	35	36	59	-	-	-
313367	New	60	55	80	-	-	-	20	21	42	-	-	-
313368	New	60	55	80	-	-	-	23	25	44	-	-	-
313370	New	60	55	80	-	-	-	23	24	44	-	-	-
313374	New	60	55	80	-	-	-	20	21	42	-	-	-
313375	New	60	55	80	-	-	-	24	25	45	-	-	-
313376	New	60	55	80	-	-	-	20	21	42	-	-	-
313377	New	60	55	80	-	-	-	30	31	53	-	-	-
313378	New	60	55	80	-	-	-	21	23	43	-	-	-
313380	New	60	55	80	-	-	-	36	36	60	-	-	-
313382	New	60	55	80	-	-	-	21	22	44	-	-	-
313383	New	60	55	80	-	-	-	21	22	43	-	-	-
313386	New	60	55	80	-	-	-	19	20	42	-	-	-
313388	New	60	55	80	-	-	-	22	23	44	-	-	-
313390	New	60	55	80	-	-	-	39	39	63	-	-	-
313397	New	60	55	80	-	-	-	36	37	61	-	-	-
313398	New	60	55	80	-	-	-	20	22	42	-	-	-
313400	New	60	55	80	-	-	-	37	37	61	-	-	-
313401	New	60	55	80	-	-	-	36	36	60	-	-	-
313403	New	60	55	80	-	-	-	18	19	42	-	-	-
313406	New	60	55	80	-	-	-	20	21	42	-	-	-
313416	New	60	55	80	-	-	-	32	32	58	-	-	-
313425	New	60	55	80	-	-	-	36	37	60	-	-	-
313430	New	60	55	80	-	-	-	50	51	73	-	-	-
313439	New	60	55	80	-	-	-	39	40	62	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
313440	New	60	55	80	-	-	-	37	38	61	-	-	-
313442	New	60	55	80	-	-	-	39	40	63	-	-	-
313447	New	60	55	80	-	-	-	35	35	59	-	-	-
313451	New	60	55	80	-	-	-	37	38	61	-	-	-
313459	New	60	55	80	-	-	-	21	22	45	-	-	-
313462	New	60	55	80	-	-	-	37	37	61	-	-	-
313473	New	60	55	80	-	-	-	32	33	58	-	-	-
313475	New	60	55	80	-	-	-	30	32	52	-	-	-
313494	New	60	55	80	-	-	-	30	31	53	-	-	-
313497	New	60	55	80	-	-	-	37	38	61	-	-	-
313499	New	60	55	80	-	-	-	35	36	59	-	-	-
313503	New	60	55	80	-	-	-	32	32	56	-	-	-
313506	New	60	55	80	-	-	-	47	48	71	-	-	-
313507	New	60	55	80	-	-	-	39	40	63	-	-	-
313510	New	60	55	80	-	-	-	44	45	68	-	-	-
313513	New	60	55	80	-	-	-	34	35	58	-	-	-
313515	New	60	55	80	-	-	-	38	39	62	-	-	-
313523	New	60	55	80	-	-	-	40	40	64	-	-	-
313524	New	60	55	80	-	-	-	33	34	58	-	-	-
313527	New	60	55	80	-	-	-	37	38	61	-	-	-
313533	New	60	55	80	-	-	-	46	47	69	-	-	-
313535	New	60	55	80	-	-	-	29	30	52	-	-	-
313536	New	60	55	80	-	-	-	37	37	61	-	-	-
313539	New	60	55	80	-	-	-	27	27	56	-	-	-
313540	New	60	55	80	-	-	-	39	39	63	-	-	-
313543	New	60	55	80	-	-	-	27	27	55	-	-	-
313545	New	60	55	80	-	-	-	37	38	61	-	-	-
313551	New	60	55	80	-	-	-	38	39	63	-	-	-
313552	New	60	55	80	-	-	-	40	41	64	-	-	-
313555	New	60	55	80	-	-	-	30	31	55	-	-	-
313556	New	60	55	80	-	-	-	34	34	59	-	-	-
313561	New	60	55	80	-	-	-	37	37	61	-	-	-
313566	New	60	55	80	-	-	-	36	37	62	-	-	-
313572	New	60	55	80	-	-	-	38	39	62	-	-	-
313574	New	60	55	80	-	-	-	37	38	61	-	-	-
313575	New	60	55	80	-	-	-	40	40	64	-	-	-
313576	New	60	55	80	-	-	-	30	31	53	-	-	-
313578	New	60	55	80	-	-	-	36	37	61	-	-	-
313594	New	60	55	80	-	-	-	40	40	64	-	-	-
313596	New	60	55	80	-	-	-	40	41	63	-	-	-
313598	New	60	55	80	-	-	-	40	41	65	-	-	-
313603	New	60	55	80	-	-	-	26	27	50	-	-	-
313604	New	60	55	80	-	-	-	19	20	44	-	-	-
313606	New	60	55	80	-	-	-	27	28	52	-	-	-
313607	New	60	55	80	-	-	-	29	30	52	-	-	-
313611	New	60	55	80	-	-	-	35	37	61	-	-	-
313613	New	60	55	80	-	-	-	34	35	59	-	-	-
313614	New	60	55	80	-	-	-	40	40	64	-	-	-
313615	New	60	55	80	-	-	-	39	40	63	-	-	-
313620	New	60	55	80	-	-	-	26	27	50	-	-	-
313622	New	60	55	80	-	-	-	41	42	66	-	-	-
313623	New	60	55	80	-	-	-	40	41	66	-	-	-
313625	New	60	55	80	-	-	-	39	40	65	-	-	-
313626	New	60	55	80	-	-	-	39	40	63	-	-	-
313627	New	60	55	80	-	-	-	41	42	67	-	-	-
313629	New	60	55	80	-	-	-	24	24	48	-	-	-
313631	New	60	55	80	-	-	-	36	37	60	-	-	-
313633	New	60	55	80	-	-	-	31	32	56	-	-	-
313634	New	60	55	80	-	-	-	39	40	63	-	-	-
313636	New	60	55	80	-	-	-	39	39	63	-	-	-
313638	New	60	55	80	-	-	-	41	41	65	-	-	-
313639	New	60	55	80	-	-	-	37	38	61	-	-	-
313640	New	60	55	80	-	-	-	37	39	62	-	-	-
313642	New	60	55	80	-	-	-	40	41	66	-	-	-
313644	New	60	55	80	-	-	-	39	40	63	-	-	-
313647	New	60	55	80	-	-	-	35	36	61	-	-	-
313649	New	60	55	80	-	-	-	38	39	64	-	-	-
313650	New	60	55	80	-	-	-	38	39	63	-	-	-
313651	New	60	55	80	-	-	-	35	36	61	-	-	-
313652	New	60	55	80	-	-	-	35	36	61	-	-	-
313654	New	60	55	80	-	-	-	40	41	66	-	-	-
313659	New	60	55	80	-	-	-	52	53	78	-	-	-
313660	New	60	55	80	-	-	-	40	41	66	-	-	-
313661	New	60	55	80	-	-	-	26	26	50	-	-	-
313662	New	60	55	80	-	-	-	34	35	61	-	-	-
313663	New	60	55	80	-	-	-	37	38	62	-	-	-
313665	New	60	55	80	-	-	-	38	39	63	-	-	-
313668	New	60	55	80	-	-	-	57	**58**	**84**	-	-	-
313669	New	60	55	80	-	-	-	41	42	67	-	-	-
313670	New	60	55	80	-	-	-	42	42	65	-	-	-
313673	New	60	55	80	-	-	-	27	27	52	-	-	-
313674	New	60	55	80	-	-	-	28	29	52	-	-	-
313675	New	60	55	80	-	-	-	37	38	62	-	-	-
313679	New	60	55	80	-	-	-	36	37	60	-	-	-
313680	New	60	55	80	-	-	-	36	37	62	-	-	-
313682	New	60	55	80	-	-	-	38	38	62	-	-	-
313683	New	60	55	80	-	-	-	37	38	61	-	-	-
313684	New	60	55	80	-	-	-	56	**57**	**81**	-	-	-
313687	New	60	55	80	-	-	-	56	**57**	**81**	-	-	-
313688	New	60	55	80	-	-	-	34	35	60	-	-	-
313689	New	60	55	80	-	-	-	38	39	62	-	-	-
313690	New	60	55	80	-	-	-	32	34	57	-	-	-
313691	New	60	55	80	-	-	-	33	34	59	-	-	-
313693	New	60	55	80	-	-	-	33	34	57	-	-	-
313696	New	60	55	80	-	-	-	34	35	58	-	-	-
313697	New	60	55	80	-	-	-	35	35	63	-	-	-
313698	New	60	55	80	-	-	-	40	41	65	-	-	-
313700	New	60	55	80	-	-	-	38	39	63	-	-	-
313701	New	60	55	80	-	-	-	36	37	60	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
313702	New	60	55	80	-	-	-	36	37	61	-	-	-
313704	New	60	55	80	-	-	-	55	55	**81**	-	-	-
313707	New	60	55	80	-	-	-	30	31	54	-	-	-
313708	New	60	55	80	-	-	-	54	54	78	-	-	-
313709	New	60	55	80	-	-	-	34	35	57	-	-	-
313710	New	60	55	80	-	-	-	38	39	64	-	-	-
313711	New	60	55	80	-	-	-	36	37	61	-	-	-
313712	New	60	55	80	-	-	-	34	35	58	-	-	-
313713	New	60	55	80	-	-	-	39	40	64	-	-	-
313714	New	60	55	80	-	-	-	37	38	62	-	-	-
313715	New	60	55	80	-	-	-	35	35	59	-	-	-
313716	New	60	55	80	-	-	-	37	38	61	-	-	-
313717	New	60	55	80	-	-	-	34	35	60	-	-	-
313720	New	60	55	80	-	-	-	39	40	64	-	-	-
313721	New	60	55	80	-	-	-	35	36	61	-	-	-
313723	New	60	55	80	-	-	-	37	38	63	-	-	-
313724	New	60	55	80	-	-	-	38	39	62	-	-	-
313727	New	60	55	80	-	-	-	34	35	57	-	-	-
313728	New	60	55	80	-	-	-	36	37	59	-	-	-
313729	New	60	55	80	-	-	-	39	39	63	-	-	-
313730	New	60	55	80	-	-	-	40	41	65	-	-	-
313731	New	60	55	80	-	-	-	35	36	59	-	-	-
313732	New	60	55	80	-	-	-	39	39	63	-	-	-
313733	New	60	55	80	-	-	-	35	36	62	-	-	-
313735	New	60	55	80	-	-	-	22	22	47	-	-	-
313737	New	60	55	80	-	-	-	33	34	58	-	-	-
313739	New	60	55	80	-	-	-	37	38	61	-	-	-
313740	New	60	55	80	-	-	-	39	40	65	-	-	-
313742	New	60	55	80	-	-	-	40	42	66	-	-	-
313743	New	60	55	80	-	-	-	13	14	40	-	-	-
313746	New	60	55	80	-	-	-	39	40	63	-	-	-
313747	New	60	55	80	-	-	-	38	38	62	-	-	-
313748	New	60	55	80	-	-	-	28	28	51	-	-	-
313749	New	60	55	80	-	-	-	41	42	66	-	-	-
313751	New	60	55	80	-	-	-	38	39	64	-	-	-
313752	New	60	55	80	-	-	-	39	40	63	-	-	-
313753	New	60	55	80	-	-	-	33	34	57	-	-	-
313754	New	60	55	80	-	-	-	38	38	62	-	-	-
313755	New	60	55	80	-	-	-	41	42	66	-	-	-
313758	New	60	55	80	-	-	-	37	37	61	-	-	-
313761	New	60	55	80	-	-	-	48	49	73	-	-	-
313763	New	60	55	80	-	-	-	40	40	64	-	-	-
313765	New	60	55	80	-	-	-	39	40	64	-	-	-
313768	New	60	55	80	-	-	-	37	38	64	-	-	-
313771	New	60	55	80	-	-	-	33	34	56	-	-	-
313774	New	60	55	80	-	-	-	36	37	62	-	-	-
313775	New	60	55	80	-	-	-	42	43	64	-	-	-
313776	New	60	55	80	-	-	-	35	36	60	-	-	-
313779	New	60	55	80	-	-	-	34	35	58	-	-	-
313780	New	60	55	80	-	-	-	34	35	60	-	-	-
313781	New	60	55	80	-	-	-	42	43	64	-	-	-
313788	New	60	55	80	-	-	-	38	39	63	-	-	-
313790	New	60	55	80	-	-	-	38	39	62	-	-	-
313792	New	60	55	80	-	-	-	37	38	62	-	-	-
313793	New	60	55	80	-	-	-	19	20	44	-	-	-
313794	New	60	55	80	-	-	-	36	37	61	-	-	-
313795	New	60	55	80	-	-	-	41	42	65	-	-	-
313798	New	60	55	80	-	-	-	37	38	61	-	-	-
313799	New	60	55	80	-	-	-	38	39	63	-	-	-
313801	New	60	55	80	-	-	-	38	39	62	-	-	-
313803	New	60	55	80	-	-	-	38	38	62	-	-	-
313804	New	60	55	80	-	-	-	51	52	74	-	-	-
313806	New	60	55	80	-	-	-	40	41	66	-	-	-
313807	New	60	55	80	-	-	-	51	52	77	-	-	-
313808	New	60	55	80	-	-	-	39	40	64	-	-	-
313809	New	60	55	80	-	-	-	39	40	63	-	-	-
313810	New	60	55	80	-	-	-	36	37	60	-	-	-
313811	New	60	55	80	-	-	-	41	42	65	-	-	-
313812	New	60	55	80	-	-	-	47	47	71	-	-	-
313814	New	60	55	80	-	-	-	40	42	65	-	-	-
313815	New	60	55	80	-	-	-	37	38	63	-	-	-
313816	New	60	55	80	-	-	-	17	18	44	-	-	-
313817	New	60	55	80	-	-	-	37	38	61	-	-	-
313818	New	60	55	80	-	-	-	33	34	60	-	-	-
313820	New	60	55	80	-	-	-	42	43	66	-	-	-
313821	New	60	55	80	-	-	-	39	39	63	-	-	-
313825	New	60	55	80	-	-	-	41	41	65	-	-	-
313826	New	60	55	80	-	-	-	38	39	63	-	-	-
313827	New	60	55	80	-	-	-	37	38	61	-	-	-
313828	New	60	55	80	-	-	-	34	35	62	-	-	-
313829	New	60	55	80	-	-	-	38	39	63	-	-	-
313832	New	60	55	80	-	-	-	12	13	35	-	-	-
313836	New	60	55	80	-	-	-	39	40	65	-	-	-
313837	New	60	55	80	-	-	-	35	36	62	-	-	-
313838	New	60	55	80	-	-	-	40	41	66	-	-	-
313840	New	60	55	80	-	-	-	38	40	63	-	-	-
313841	New	60	55	80	-	-	-	39	39	62	-	-	-
313847	New	60	55	80	-	-	-	37	38	64	-	-	-
313850	New	60	55	80	-	-	-	25	25	49	-	-	-
313851	New	60	55	80	-	-	-	36	37	62	-	-	-
313853	New	60	55	80	-	-	-	35	36	60	-	-	-
313856	New	60	55	80	-	-	-	38	39	61	-	-	-
313857	New	60	55	80	-	-	-	36	37	63	-	-	-
313860	New	60	55	80	-	-	-	37	38	62	-	-	-
313863	New	60	55	80	-	-	-	37	38	63	-	-	-
313865	New	60	55	80	-	-	-	36	37	61	-	-	-
313868	New	60	55	80	-	-	-	38	39	62	-	-	-
313870	New	60	55	80	-	-	-	35	36	59	-	-	-
313871	New	60	55	80	-	-	-	40	40	64	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
313877	New	60	55	80	-	-	-	38	38	61	-	-	-
313879	New	60	55	80	-	-	-	39	40	62	-	-	-
313884	New	60	55	80	-	-	-	41	42	67	-	-	-
313885	New	60	55	80	-	-	-	49	50	73	-	-	-
313886	New	60	55	80	-	-	-	40	41	65	-	-	-
313888	New	60	55	80	-	-	-	39	39	62	-	-	-
313889	New	60	55	80	-	-	-	40	41	65	-	-	-
313890	New	60	55	80	-	-	-	39	40	63	-	-	-
313891	New	60	55	80	-	-	-	39	40	64	-	-	-
313892	New	60	55	80	-	-	-	39	41	65	-	-	-
313897	New	60	55	80	-	-	-	41	42	65	-	-	-
313898	New	60	55	80	-	-	-	40	41	65	-	-	-
313900	New	60	55	80	-	-	-	39	40	63	-	-	-
313904	New	60	55	80	-	-	-	55	**56**	**85**	-	-	-
313905	New	60	55	80	-	-	-	38	40	63	-	-	-
313909	New	60	55	80	-	-	-	36	38	62	-	-	-
313911	New	60	55	80	-	-	-	36	37	62	-	-	-
313912	New	60	55	80	-	-	-	38	39	64	-	-	-
313916	New	60	55	80	-	-	-	50	51	73	-	-	-
313917	New	60	55	80	-	-	-	48	49	70	-	-	-
313919	New	60	55	80	-	-	-	41	42	66	-	-	-
313922	New	60	55	80	-	-	-	41	42	67	-	-	-
313923	New	60	55	80	-	-	-	39	40	65	-	-	-
313929	New	60	55	80	-	-	-	41	42	64	-	-	-
313930	New	60	55	80	-	-	-	21	22	45	-	-	-
313932	New	60	55	80	-	-	-	49	49	73	-	-	-
313933	New	60	55	80	-	-	-	39	41	65	-	-	-
313936	New	60	55	80	-	-	-	49	50	72	-	-	-
313937	New	60	55	80	-	-	-	17	18	44	-	-	-
313941	New	60	55	80	-	-	-	39	40	64	-	-	-
313942	New	60	55	80	-	-	-	18	19	44	-	-	-
313944	New	60	55	80	-	-	-	38	40	64	-	-	-
313950	New	60	55	80	-	-	-	37	38	63	-	-	-
313952	New	60	55	80	-	-	-	39	40	64	-	-	-
313953	New	60	55	80	-	-	-	22	24	45	-	-	-
313954	New	60	55	80	-	-	-	22	23	45	-	-	-
313955	New	60	55	80	-	-	-	39	40	63	-	-	-
313956	New	60	55	80	-	-	-	38	39	64	-	-	-
313958	New	60	55	80	-	-	-	22	23	45	-	-	-
313962	New	60	55	80	-	-	-	31	32	56	-	-	-
313963	New	60	55	80	-	-	-	22	23	44	-	-	-
313965	New	60	55	80	-	-	-	20	21	45	-	-	-
313967	New	60	55	80	-	-	-	20	20	45	-	-	-
313968	New	60	55	80	-	-	-	22	23	44	-	-	-
313972	New	60	55	80	-	-	-	39	40	64	-	-	-
313973	New	60	55	80	-	-	-	37	38	63	-	-	-
313974	New	60	55	80	-	-	-	27	28	47	-	-	-
313975	New	60	55	80	-	-	-	21	22	42	-	-	-
313977	New	60	55	80	-	-	-	32	32	56	-	-	-
313978	New	60	55	80	-	-	-	37	38	63	-	-	-
313979	New	60	55	80	-	-	-	38	39	64	-	-	-
313980	New	60	55	80	-	-	-	19	20	42	-	-	-
313981	New	60	55	80	-	-	-	23	24	45	-	-	-
313982	New	60	55	80	-	-	-	17	18	43	-	-	-
313992	New	60	55	80	-	-	-	22	23	45	-	-	-
313997	New	60	55	80	-	-	-	10	11	34	-	-	-
313999	New	60	55	80	-	-	-	21	22	44	-	-	-
314000	New	60	55	80	-	-	-	24	25	48	-	-	-
314002	New	60	55	80	-	-	-	22	23	45	-	-	-
314003	New	60	55	80	-	-	-	21	22	45	-	-	-
314004	New	60	55	80	-	-	-	39	40	64	-	-	-
314005	New	60	55	80	-	-	-	36	36	60	-	-	-
314006	New	60	55	80	-	-	-	33	34	58	-	-	-
314010	New	60	55	80	-	-	-	41	42	67	-	-	-
314011	New	60	55	80	-	-	-	28	29	49	-	-	-
314012	New	60	55	80	-	-	-	37	38	62	-	-	-
314016	New	60	55	80	-	-	-	39	41	65	-	-	-
314018	New	60	55	80	-	-	-	21	22	43	-	-	-
314019	New	60	55	80	-	-	-	22	24	44	-	-	-
314021	New	60	55	80	-	-	-	25	26	46	-	-	-
314024	New	60	55	80	-	-	-	21	22	43	-	-	-
314026	New	60	55	80	-	-	-	24	25	45	-	-	-
314027	New	60	55	80	-	-	-	39	40	66	-	-	-
314028	New	60	55	80	-	-	-	21	22	45	-	-	-
314033	New	60	55	80	-	-	-	25	26	46	-	-	-
314035	New	60	55	80	-	-	-	42	32	68	-	-	-
314038	New	60	55	80	-	-	-	30	31	55	-	-	-
314039	New	60	55	80	-	-	-	24	24	48	-	-	-
314042	New	60	55	80	-	-	-	36	37	62	-	-	-
314043	New	60	55	80	-	-	-	40	41	65	-	-	-
314044	New	60	55	80	-	-	-	22	22	46	-	-	-
314045	New	60	55	80	-	-	-	41	42	65	-	-	-
314046	New	60	55	80	-	-	-	36	38	62	-	-	-
314049	New	60	55	80	-	-	-	23	24	45	-	-	-
314051	New	60	55	80	-	-	-	38	39	62	-	-	-
314055	New	60	55	80	-	-	-	24	25	46	-	-	-
314058	New	60	55	80	-	-	-	23	24	46	-	-	-
314060	New	60	55	80	-	-	-	25	26	47	-	-	-
314061	New	60	55	80	-	-	-	39	39	63	-	-	-
314062	New	60	55	80	-	-	-	24	25	45	-	-	-
314063	New	60	55	80	-	-	-	26	27	47	-	-	-
314064	New	60	55	80	-	-	-	37	38	63	-	-	-
314067	New	60	55	80	-	-	-	41	41	65	-	-	-
314071	New	60	55	80	-	-	-	24	25	46	-	-	-
314072	New	60	55	80	-	-	-	24	25	46	-	-	-
314073	New	60	55	80	-	-	-	22	23	43	-	-	-
314081	New	60	55	80	-	-	-	22	24	45	-	-	-
314082	New	60	55	80	-	-	-	39	40	64	-	-	-
314086	New	60	55	80	-	-	-	24	25	45	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
314087	New	60	55	80	-	-	-	23	24	45	-	-	-
314088	New	60	55	80	-	-	-	39	40	63	-	-	-
314089	New	60	55	80	-	-	-	43	43	67	-	-	-
314091	New	60	55	80	-	-	-	22	24	44	-	-	-
314093	New	60	55	80	-	-	-	26	27	47	-	-	-
314094	New	60	55	80	-	-	-	42	43	66	-	-	-
314095	New	60	55	80	-	-	-	20	21	41	-	-	-
314097	New	60	55	80	-	-	-	21	22	42	-	-	-
314099	New	60	55	80	-	-	-	23	25	44	-	-	-
314102	New	60	55	80	-	-	-	22	23	44	-	-	-
314103	New	60	55	80	-	-	-	20	21	43	-	-	-
314110	New	60	55	80	-	-	-	26	27	47	-	-	-
314111	New	60	55	80	-	-	-	18	19	40	-	-	-
314112	New	60	55	80	-	-	-	23	24	46	-	-	-
314116	New	60	55	80	-	-	-	21	22	43	-	-	-
314117	New	60	55	80	-	-	-	19	20	40	-	-	-
314118	New	60	55	80	-	-	-	23	24	44	-	-	-
314120	New	60	55	80	-	-	-	41	42	65	-	-	-
314121	New	60	55	80	-	-	-	30	31	51	-	-	-
314124	New	60	55	80	-	-	-	48	48	66	-	-	-
314125	New	60	55	80	-	-	-	18	19	40	-	-	-
314126	New	60	55	80	-	-	-	22	23	44	-	-	-
314127	New	60	55	80	-	-	-	24	25	45	-	-	-
314128	New	60	55	80	-	-	-	21	22	42	-	-	-
314132	New	60	55	80	-	-	-	20	20	44	-	-	-
314133	New	60	55	80	-	-	-	20	21	42	-	-	-
314135	New	60	55	80	-	-	-	20	21	42	-	-	-
314136	New	60	55	80	-	-	-	22	23	43	-	-	-
314139	New	60	55	80	-	-	-	48	48	69	-	-	-
314143	New	60	55	80	-	-	-	21	22	43	-	-	-
314146	New	60	55	80	-	-	-	18	20	41	-	-	-
314148	New	60	55	80	-	-	-	27	28	48	-	-	-
314150	New	60	55	80	-	-	-	21	22	43	-	-	-
314152	New	60	55	80	-	-	-	20	22	43	-	-	-
314153	New	60	55	80	-	-	-	19	20	42	-	-	-
314157	New	60	55	80	-	-	-	40	41	64	-	-	-
314159	New	60	55	80	-	-	-	40	41	65	-	-	-
314162	New	60	55	80	-	-	-	40	41	64	-	-	-
314164	New	60	55	80	-	-	-	32	33	52	-	-	-
314168	New	60	55	80	-	-	-	42	44	68	-	-	-
314173	New	60	55	80	-	-	-	54	54	**81**	-	-	-
314176	New	60	55	80	-	-	-	48	49	69	-	-	-
314180	New	60	55	80	-	-	-	39	39	63	-	-	-
314182	New	60	55	80	-	-	-	43	43	67	-	-	-
314184	New	60	55	80	-	-	-	51	52	79	-	-	-
314185	New	60	55	80	-	-	-	43	43	67	-	-	-
314190	New	60	55	80	-	-	-	41	41	64	-	-	-
314197	New	60	55	80	-	-	-	42	43	66	-	-	-
314199	New	60	55	80	-	-	-	44	45	69	-	-	-
314200	New	60	55	80	-	-	-	42	43	66	-	-	-
314203	New	60	55	80	-	-	-	39	40	62	-	-	-
314204	New	60	55	80	-	-	-	42	43	66	-	-	-
314210	New	60	55	80	-	-	-	47	48	67	-	-	-
314211	New	60	55	80	-	-	-	50	50	70	-	-	-
314213	New	60	55	80	-	-	-	50	50	73	-	-	-
314225	New	60	55	80	-	-	-	39	40	62	-	-	-
314239	New	60	55	80	-	-	-	43	44	68	-	-	-
314246	New	60	55	80	-	-	-	36	37	63	-	-	-
314258	New	60	55	80	-	-	-	41	42	67	-	-	-
314261	New	60	55	80	-	-	-	42	42	66	-	-	-
314263	New	60	55	80	-	-	-	42	43	64	-	-	-
314265	New	60	55	80	-	-	-	53	54	79	-	-	-
314273	New	60	55	80	-	-	-	53	54	75	-	-	-
314275	New	60	55	80	-	-	-	53	54	78	-	-	-
314282	New	60	55	80	-	-	-	48	49	67	-	-	-
314283	New	60	55	80	-	-	-	46	47	70	-	-	-
314285	New	60	55	80	-	-	-	43	44	65	-	-	-
314292	New	60	55	80	-	-	-	44	45	68	-	-	-
314293	New	60	55	80	-	-	-	34	35	57	-	-	-
314296	New	60	55	80	-	-	-	43	43	64	-	-	-
314297	New	60	55	80	-	-	-	41	42	65	-	-	-
314301	New	60	55	80	-	-	-	28	29	49	-	-	-
314303	New	60	55	80	-	-	-	44	45	67	-	-	-
314312	New	60	55	80	-	-	-	45	46	67	-	-	-
314314	New	60	55	80	-	-	-	29	30	52	-	-	-
314318	New	60	55	80	-	-	-	10	10	21	-	-	-
314321	New	60	55	80	-	-	-	28	30	55	-	-	-
314326	New	60	55	80	-	-	-	27	28	50	-	-	-
314327	New	60	55	80	-	-	-	43	44	64	-	-	-
314332	New	60	55	80	-	-	-	50	51	74	-	-	-
314339	New	60	55	80	-	-	-	46	47	71	-	-	-
314341	New	60	55	80	-	-	-	36	37	57	-	-	-
314342	New	60	55	80	-	-	-	44	46	70	-	-	-
314343	New	60	55	80	-	-	-	39	40	64	-	-	-
314346	New	60	55	80	-	-	-	45	46	65	-	-	-
314349	New	60	55	80	-	-	-	43	44	66	-	-	-
314351	New	60	55	80	-	-	-	47	48	71	-	-	-
314354	New	60	55	80	-	-	-	27	28	47	-	-	-
314359	New	60	55	80	-	-	-	39	40	61	-	-	-
314360	New	60	55	80	-	-	-	44	45	64	-	-	-
314365	New	60	55	80	-	-	-	32	34	56	-	-	-
314370	New	60	55	80	-	-	-	56	**57**	**81**	-	-	-
314376	New	60	55	80	-	-	-	29	30	49	-	-	-
314377	New	60	55	80	-	-	-	44	45	65	-	-	-
314379	New	60	55	80	-	-	-	27	28	47	-	-	-
314381	New	60	55	80	-	-	-	35	36	59	-	-	-
314382	New	60	55	80	-	-	-	38	39	62	-	-	-
314383	New	60	55	80	-	-	-	42	43	64	-	-	-
314384	New	60	55	80	-	-	-	27	29	47	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
314385	New	60	55	80	-	-	-	36	37	60	-	-	-
314388	New	60	55	80	-	-	-	44	45	69	-	-	-
314390	New	60	55	80	-	-	-	44	45	66	-	-	-
314395	New	60	55	80	-	-	-	43	44	69	-	-	-
314402	New	60	55	80	-	-	-	35	36	58	-	-	-
314403	New	60	55	80	-	-	-	46	47	71	-	-	-
314411	New	60	55	80	-	-	-	45	46	63	-	-	-
314412	New	60	55	80	-	-	-	44	45	66	-	-	-
314413	New	60	55	80	-	-	-	28	29	47	-	-	-
314420	New	60	55	80	-	-	-	38	39	64	-	-	-
314421	New	60	55	80	-	-	-	11	12	37	-	-	-
314422	New	60	55	80	-	-	-	25	27	45	-	-	-
314424	New	60	55	80	-	-	-	42	43	64	-	-	-
314425	New	60	55	80	-	-	-	33	34	54	-	-	-
314427	New	60	55	80	-	-	-	45	46	70	-	-	-
314429	New	60	55	80	-	-	-	12	13	37	-	-	-
314431	New	60	55	80	-	-	-	26	27	46	-	-	-
314435	New	60	55	80	-	-	-	46	47	71	-	-	-
314439	New	60	55	80	-	-	-	47	48	65	-	-	-
314442	New	60	55	80	-	-	-	34	35	60	-	-	-
314446	New	60	55	80	-	-	-	27	28	53	-	-	-
314448	New	60	55	80	-	-	-	46	47	65	-	-	-
314453	New	60	55	80	-	-	-	38	39	60	-	-	-
314455	New	60	55	80	-	-	-	32	33	54	-	-	-
314456	New	60	55	80	-	-	-	28	29	48	-	-	-
314459	New	60	55	80	-	-	-	24	25	48	-	-	-
314460	New	60	55	80	-	-	-	47	48	72	-	-	-
314466	New	60	55	80	-	-	-	27	28	50	-	-	-
314467	New	60	55	80	-	-	-	24	25	45	-	-	-
314470	New	60	55	80	-	-	-	32	34	52	-	-	-
314471	New	60	55	80	-	-	-	38	39	61	-	-	-
314472	New	60	55	80	-	-	-	20	21	40	-	-	-
314480	New	60	55	80	-	-	-	27	28	48	-	-	-
314485	New	60	55	80	-	-	-	26	27	50	-	-	-
314486	New	60	55	80	-	-	-	23	24	47	-	-	-
314487	New	60	55	80	-	-	-	29	30	49	-	-	-
314489	New	60	55	80	-	-	-	40	41	62	-	-	-
314490	New	60	55	80	-	-	-	55	55	**81**	-	-	-
314495	New	60	55	80	-	-	-	26	27	47	-	-	-
314496	New	60	55	80	-	-	-	55	55	**83**	-	-	-
314498	New	60	55	80	-	-	-	27	28	48	-	-	-
314501	New	60	55	80	-	-	-	25	26	47	-	-	-
314503	New	60	55	80	-	-	-	41	41	63	-	-	-
314506	New	60	55	80	-	-	-	53	53	78	-	-	-
314509	New	60	55	80	-	-	-	29	30	49	-	-	-
314511	New	60	55	80	-	-	-	27	28	49	-	-	-
314516	New	60	55	80	-	-	-	38	39	61	-	-	-
314519	New	60	55	80	-	-	-	26	27	47	-	-	-
314523	New	60	55	80	-	-	-	28	29	50	-	-	-
314525	New	60	55	80	-	-	-	45	46	71	-	-	-
314526	New	60	55	80	-	-	-	27	28	49	-	-	-
314529	New	60	55	80	-	-	-	18	19	38	-	-	-
314536	New	60	55	80	-	-	-	26	27	51	-	-	-
314540	New	60	55	80	-	-	-	41	42	63	-	-	-
314542	New	60	55	80	-	-	-	27	29	52	-	-	-
314544	New	60	55	80	-	-	-	24	25	48	-	-	-
314546	New	60	55	80	-	-	-	29	30	50	-	-	-
314547	New	60	55	80	-	-	-	27	28	48	-	-	-
314553	New	60	55	80	-	-	-	49	50	75	-	-	-
314556	New	60	55	80	-	-	-	27	28	48	-	-	-
314557	New	60	55	80	-	-	-	26	27	51	-	-	-
314561	New	60	55	80	-	-	-	48	49	73	-	-	-
314564	New	60	55	80	-	-	-	26	27	48	-	-	-
314566	New	60	55	80	-	-	-	13	14	37	-	-	-
314568	New	60	55	80	-	-	-	48	50	74	-	-	-
314569	New	60	55	80	-	-	-	48	50	74	-	-	-
314570	New	60	55	80	-	-	-	27	28	51	-	-	-
314572	New	60	55	80	-	-	-	32	33	58	-	-	-
314574	New	60	55	80	-	-	-	26	27	46	-	-	-
314576	New	60	55	80	-	-	-	41	42	63	-	-	-
314577	New	60	55	80	-	-	-	24	25	49	-	-	-
314579	New	60	55	80	-	-	-	32	33	59	-	-	-
314582	New	60	55	80	-	-	-	25	26	48	-	-	-
314587	New	60	55	80	-	-	-	29	30	49	-	-	-
314588	New	60	55	80	-	-	-	26	27	45	-	-	-
314589	New	60	55	80	-	-	-	26	27	51	-	-	-
314591	New	60	55	80	-	-	-	41	41	63	-	-	-
314594	New	60	55	80	-	-	-	43	44	68	-	-	-
314595	New	60	55	80	-	-	-	29	30	49	-	-	-
314599	New	60	55	80	-	-	-	25	26	49	-	-	-
314600	New	60	55	80	-	-	-	36	37	61	-	-	-
314603	New	60	55	80	-	-	-	19	20	40	-	-	-
314605	New	60	55	80	-	-	-	39	39	62	-	-	-
314613	New	60	55	80	-	-	-	30	31	51	-	-	-
314614	New	60	55	80	-	-	-	25	26	49	-	-	-
314616	New	60	55	80	-	-	-	28	29	48	-	-	-
314618	New	60	55	80	-	-	-	26	27	46	-	-	-
314619	New	60	55	80	-	-	-	49	50	74	-	-	-
314621	New	60	55	80	-	-	-	27	29	49	-	-	-
314623	New	60	55	80	-	-	-	26	27	51	-	-	-
314626	New	60	55	80	-	-	-	39	40	61	-	-	-
314627	New	60	55	80	-	-	-	26	27	52	-	-	-
314629	New	60	55	80	-	-	-	45	47	71	-	-	-
314632	New	60	55	80	-	-	-	36	37	60	-	-	-
314633	New	60	55	80	-	-	-	24	26	47	-	-	-
314635	New	60	55	80	-	-	-	24	25	48	-	-	-
314636	Redevelopment	65	60	85	46	46	71	50	52	76	4.5	5.1	5.0
314637	New	60	55	80	-	-	-	26	27	50	-	-	-
314638	Redevelopment	65	60	85	46	46	71	50	51	76	4.3	5.1	5.1

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
314639	New	60	55	80	-	-	-	26	27	48	-	-	-
314640	New	60	55	80	-	-	-	29	30	49	-	-	-
314642	New	60	55	80	-	-	-	25	26	47	-	-	-
314643	New	60	55	80	-	-	-	36	37	59	-	-	-
314646	New	60	55	80	-	-	-	27	28	48	-	-	-
314647	New	60	55	80	-	-	-	24	25	50	-	-	-
314648	New	60	55	80	-	-	-	25	26	47	-	-	-
314650	New	60	55	80	-	-	-	30	31	60	-	-	-
314651	Redevelopment	65	60	85	45	46	71	49	50	75	4.1	4.9	4.1
314653	New	60	55	80	-	-	-	27	29	48	-	-	-
314654	New	60	55	80	-	-	-	23	24	42	-	-	-
314656	New	60	55	80	-	-	-	40	41	62	-	-	-
314658	New	60	55	80	-	-	-	34	35	59	-	-	-
314661	Redevelopment	65	60	85	47	47	73	54	55	78	6.5	7.3	5.0
314662	New	60	55	80	-	-	-	38	39	62	-	-	-
314664	New	60	55	80	-	-	-	27	28	49	-	-	-
314665	New	60	55	80	-	-	-	18	19	38	-	-	-
314668	New	60	55	80	-	-	-	26	27	51	-	-	-
314670	New	60	55	80	-	-	-	13	14	36	-	-	-
314671	New	60	55	80	-	-	-	35	36	59	-	-	-
314672	New	60	55	80	-	-	-	28	29	51	-	-	-
314673	New	60	55	80	-	-	-	26	27	53	-	-	-
314674	New	60	55	80	-	-	-	24	25	51	-	-	-
314675	New	60	55	80	-	-	-	21	22	43	-	-	-
314676	New	60	55	80	-	-	-	28	29	51	-	-	-
314677	New	60	55	80	-	-	-	26	28	48	-	-	-
314678	New	60	55	80	-	-	-	39	40	61	-	-	-
314680	New	60	55	80	-	-	-	24	25	47	-	-	-
314681	New	60	55	80	-	-	-	27	28	49	-	-	-
314682	New	60	55	80	-	-	-	28	29	50	-	-	-
314684	New	60	55	80	-	-	-	42	42	63	-	-	-
314686	New	60	55	80	-	-	-	38	39	61	-	-	-
314691	New	60	55	80	-	-	-	16	17	36	-	-	-
314692	New	60	55	80	-	-	-	11	12	36	-	-	-
314693	New	60	55	80	-	-	-	40	41	61	-	-	-
314694	New	60	55	80	-	-	-	26	27	52	-	-	-
314699	Redevelopment	65	60	85	46	46	70	50	51	75	4.0	4.6	4.9
314701	New	60	55	80	-	-	-	40	41	62	-	-	-
314702	New	60	55	80	-	-	-	28	29	50	-	-	-
314703	New	60	55	80	-	-	-	37	38	60	-	-	-
314704	New	60	55	80	-	-	-	41	42	63	-	-	-
314705	Redevelopment	65	60	85	47	47	73	51	52	77	4.4	5.1	4.3
314706	New	60	55	80	-	-	-	39	40	60	-	-	-
314707	New	60	55	80	-	-	-	38	39	60	-	-	-
314708	New	60	55	80	-	-	-	39	40	61	-	-	-
314709	New	60	55	80	-	-	-	38	39	66	-	-	-
314711	New	60	55	80	-	-	-	38	39	60	-	-	-
314712	New	60	55	80	-	-	-	39	39	61	-	-	-
314713	New	60	55	80	-	-	-	20	22	42	-	-	-
314716	New	60	55	80	-	-	-	37	38	60	-	-	-
314718	New	60	55	80	-	-	-	23	24	46	-	-	-
314720	New	60	55	80	-	-	-	51	52	72	-	-	-
314721	New	60	55	80	-	-	-	34	34	59	-	-	-
314723	Redevelopment	65	60	85	47	47	72	51	53	77	4.5	5.3	4.9
314727	New	60	55	80	-	-	-	53	54	78	-	-	-
314729	New	60	55	80	-	-	-	24	25	44	-	-	-
314731	New	60	55	80	-	-	-	25	26	46	-	-	-
314732	New	60	55	80	-	-	-	25	26	46	-	-	-
314733	New	60	55	80	-	-	-	19	20	39	-	-	-
314734	New	60	55	80	-	-	-	25	26	46	-	-	-
314735	New	60	55	80	-	-	-	27	28	48	-	-	-
314738	New	60	55	80	-	-	-	42	43	63	-	-	-
314739	New	60	55	80	-	-	-	25	26	49	-	-	-
314744	New	60	55	80	-	-	-	29	30	54	-	-	-
314746	New	60	55	80	-	-	-	29	30	51	-	-	-
314748	New	60	55	80	-	-	-	25	26	48	-	-	-
314752	New	60	55	80	-	-	-	32	33	57	-	-	-
314753	New	60	55	80	-	-	-	5	6	34	-	-	-
314757	New	60	55	80	-	-	-	35	36	60	-	-	-
314759	New	60	55	80	-	-	-	34	35	60	-	-	-
314760	New	60	55	80	-	-	-	34	35	61	-	-	-
314761	New	60	55	80	-	-	-	33	34	56	-	-	-
314762	New	60	55	80	-	-	-	41	42	62	-	-	-
314763	New	60	55	80	-	-	-	24	25	45	-	-	-
314764	Redevelopment	65	60	85	47	47	72	51	52	77	4.3	5.0	4.9
314766	New	60	55	80	-	-	-	25	26	46	-	-	-
314767	Redevelopment	65	60	85	52	52	77	54	56	79	2.4	3.2	1.3
314769	New	60	55	80	-	-	-	52	53	76	-	-	-
314770	New	60	55	80	-	-	-	39	40	62	-	-	-
314771	New	60	55	80	-	-	-	38	39	60	-	-	-
314773	New	60	55	80	-	-	-	12	13	39	-	-	-
314778	New	60	55	80	-	-	-	26	27	46	-	-	-
314779	New	60	55	80	-	-	-	22	23	42	-	-	-
314780	New	60	55	80	-	-	-	26	27	46	-	-	-
314781	New	60	55	80	-	-	-	24	25	44	-	-	-
314784	New	60	55	80	-	-	-	25	26	46	-	-	-
314788	New	60	55	80	-	-	-	18	19	38	-	-	-
314790	New	60	55	80	-	-	-	24	25	46	-	-	-
314791	New	60	55	80	-	-	-	24	25	46	-	-	-
314792	New	60	55	80	-	-	-	24	25	45	-	-	-
314795	New	60	55	80	-	-	-	28	29	51	-	-	-
314796	New	60	55	80	-	-	-	24	25	45	-	-	-
314797	Redevelopment	65	60	85	52	52	77	56	57	82	4.3	5.2	5.3
314799	New	60	55	80	-	-	-	22	23	41	-	-	-
314801	New	60	55	80	-	-	-	25	26	46	-	-	-
314802	New	60	55	80	-	-	-	24	25	45	-	-	-
314805	New	60	55	80	-	-	-	25	26	46	-	-	-
314806	New	60	55	80	-	-	-	30	31	52	-	-	-
314811	New	60	55	80	-	-	-	21	22	41	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
314812	New	60	55	80	-	-	-	24	25	46	-	-	-
314817	New	60	55	80	-	-	-	25	26	45	-	-	-
314819	New	60	55	80	-	-	-	24	26	45	-	-	-
314821	Redevelopment	65	60	85	52	52	76	55	56	79	3.2	4.1	2.9
314822	New	60	55	80	-	-	-	26	27	47	-	-	-
314827	New	60	55	80	-	-	-	34	34	62	-	-	-
314830	New	60	55	80	-	-	-	15	16	36	-	-	-
314833	New	60	55	80	-	-	-	21	22	41	-	-	-
314834	New	60	55	80	-	-	-	18	19	40	-	-	-
314842	New	60	55	80	-	-	-	11	12	36	-	-	-
314844	New	60	55	80	-	-	-	24	25	44	-	-	-
314846	New	60	55	80	-	-	-	25	26	45	-	-	-
314847	New	60	55	80	-	-	-	22	23	42	-	-	-
314848	New	60	55	80	-	-	-	23	24	45	-	-	-
314851	New	60	55	80	-	-	-	27	28	47	-	-	-
314855	New	60	55	80	-	-	-	18	19	38	-	-	-
314859	New	60	55	80	-	-	-	18	20	39	-	-	-
314862	New	60	55	80	-	-	-	22	24	43	-	-	-
314868	New	60	55	80	-	-	-	23	24	43	-	-	-
314870	Redevelopment	65	60	85	54	54	79	57	58	81	3.0	3.9	2.4
314871	New	60	55	80	-	-	-	20	21	39	-	-	-
314875	New	60	55	80	-	-	-	50	51	75	-	-	-
314879	New	60	55	80	-	-	-	22	23	42	-	-	-
314885	New	60	55	80	-	-	-	21	22	41	-	-	-
314896	New	60	55	80	-	-	-	21	22	41	-	-	-
314899	New	60	55	80	-	-	-	20	21	41	-	-	-
314903	New	60	55	80	-	-	-	23	24	44	-	-	-
314906	New	60	55	80	-	-	-	21	22	43	-	-	-
314910	Redevelopment	65	60	85	51	51	77	55	57	81	4.8	5.6	4.8
314913	New	60	55	80	-	-	-	17	19	38	-	-	-
314915	Redevelopment	65	60	85	52	52	78	56	57	82	4.6	5.3	4.6
314918	New	60	55	80	-	-	-	20	21	41	-	-	-
314923	New	60	55	80	-	-	-	22	23	43	-	-	-
314928	New	60	55	80	-	-	-	19	20	40	-	-	-
314929	New	60	55	80	-	-	-	17	18	37	-	-	-
314930	New	60	55	80	-	-	-	21	22	42	-	-	-
314935	New	60	55	80	-	-	-	22	23	43	-	-	-
314936	New	60	55	80	-	-	-	18	19	39	-	-	-
314937	New	60	55	80	-	-	-	24	25	44	-	-	-
314938	New	60	55	80	-	-	-	13	14	37	-	-	-
314939	New	60	55	80	-	-	-	21	22	40	-	-	-
314946	New	60	55	80	-	-	-	21	22	43	-	-	-
314955	New	60	55	80	-	-	-	22	23	42	-	-	-
314958	New	60	55	80	-	-	-	18	19	43	-	-	-
314959	New	60	55	80	-	-	-	14	15	35	-	-	-
314961	Redevelopment	65	60	85	47	48	73	52	53	78	4.8	5.6	4.7
314963	New	60	55	80	-	-	-	21	22	42	-	-	-
314966	New	60	55	80	-	-	-	11	13	37	-	-	-
314968	Redevelopment	65	60	85	47	47	73	52	53	77	4.9	5.7	4.2
314969	New	60	55	80	-	-	-	26	27	49	-	-	-
314970	Redevelopment	65	60	85	53	53	78	57	58	83	4.4	5.1	4.7
314971	New	60	55	80	-	-	-	20	21	39	-	-	-
314978	New	60	55	80	-	-	-	16	17	38	-	-	-
314980	Redevelopment	65	60	85	49	49	75	52	54	78	3.4	4.2	3.1
314981	New	60	55	80	-	-	-	30	31	54	-	-	-
314985	New	60	55	80	-	-	-	13	14	37	-	-	-
314991	Redevelopment	65	60	85	54	55	80	59	60	84	4.2	5.1	4.2
314992	New	60	55	80	-	-	-	18	19	44	-	-	-
314998	New	60	55	80	-	-	-	12	13	36	-	-	-
315003	New	60	55	80	-	-	-	20	21	39	-	-	-
315005	New	60	55	80	-	-	-	14	15	36	-	-	-
315006	Redevelopment	65	60	85	50	51	75	53	54	78	2.5	3.2	2.2
315007	Redevelopment	65	60	85	47	47	71	49	50	74	2.5	3.1	2.9
315009	New	60	55	80	-	-	-	16	17	40	-	-	-
315010	Redevelopment	65	60	85	50	50	74	52	53	77	2.3	3.0	2.1
315011	New	60	55	80	-	-	-	19	20	39	-	-	-
315013	New	60	55	80	-	-	-	18	19	42	-	-	-
315014	New	60	55	80	-	-	-	19	20	39	-	-	-
315016	Redevelopment	65	60	85	47	48	71	51	52	76	4.6	4.9	5.4
315017	New	60	55	80	-	-	-	22	22	45	-	-	-
315019	New	60	55	80	-	-	-	20	21	40	-	-	-
315023	New	60	55	80	-	-	-	10	10	3	-	-	-
315028	Redevelopment	65	60	85	56	56	81	60	**61**	85	4.2	5.1	4.1
315031	Redevelopment	65	60	85	55	55	80	59	60	84	4.0	4.8	4.1
315036	Redevelopment	65	60	85	52	53	78	55	56	80	2.2	3.1	2.0
315040	New	60	55	80	-	-	-	15	16	37	-	-	-
315046	New	60	55	80	-	-	-	18	19	38	-	-	-
315050	Redevelopment	65	60	85	53	54	79	56	57	81	2.4	3.2	2.2
315051	New	60	55	80	-	-	-	13	14	36	-	-	-
315052	Redevelopment	65	60	85	54	54	79	56	58	82	2.6	3.5	2.8
315053	New	60	55	80	-	-	-	18	19	39	-	-	-
315056	Redevelopment	65	60	85	55	55	80	58	59	83	2.7	3.5	2.9
315059	Redevelopment	65	60	85	55	55	80	58	60	84	3.8	4.6	3.8
315068	New	60	55	80	-	-	-	18	19	39	-	-	-
315073	Redevelopment	65	60	85	55	55	80	58	60	84	3.8	4.6	3.9
315076	New	60	55	80	-	-	-	18	19	39	-	-	-
315081	Redevelopment	65	60	85	56	56	81	59	60	85	3.3	4.1	3.2
315088	Redevelopment	65	60	85	56	56	81	60	**61**	85	4.0	4.8	4.0
315090	Redevelopment	65	60	85	56	57	82	60	**61**	**86**	3.6	4.5	3.6
315093	New	60	55	80	-	-	-	17	18	38	-	-	-
315108	Redevelopment	65	60	85	56	56	82	60	**61**	85	3.5	4.3	3.4
315110	Redevelopment	65	60	85	57	58	83	60	**62**	**86**	3.0	3.8	3.0
315111	New	60	55	80	-	-	-	18	19	39	-	-	-
315117	New	60	55	80	-	-	-	17	18	38	-	-	-
315118	New	60	55	80	-	-	-	14	15	37	-	-	-
315126	New	60	55	80	-	-	-	10	11	36	-	-	-
315128	New	60	55	80	-	-	-	14	15	37	-	-	-
315129	Redevelopment	65	60	85	62	62	88	49	48	84	-12.3	-13.8	-3.4
315130	Redevelopment	65	60	85	56	56	82	45	46	71	-10.7	-10.8	-10.5

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
315133	Redevelopment	65	60	85	58	58	84	56	57	80	-2.1	-1.2	-4.3
315134	Redevelopment	65	60	85	59	59	84	56	57	81	-2.9	-2.1	-3.9
315136	New	60	55	80	-	-	-	14	15	36	-	-	-
315141	New	60	55	80	-	-	-	9	10	34	-	-	-
315143	New	60	55	80	-	-	-	15	16	37	-	-	-
315151	New	60	55	80	-	-	-	10	10	3	-	-	-
315154	New	60	55	80	-	-	-	14	15	38	-	-	-
315157	Redevelopment	65	60	85	61	61	87	64	**65**	**90**	3.4	4.3	3.1
315161	Redevelopment	65	60	85	53	53	78	54	55	80	1.0	1.8	1.5
315166	New	60	55	80	-	-	-	10	11	38	-	-	-
315171	Redevelopment	65	60	85	61	61	87	64	**66**	**90**	3.4	4.2	3.1
315179	New	60	55	80	-	-	-	20	21	45	-	-	-
315181	Redevelopment	65	60	85	60	61	86	65	**66**	**90**	4.4	5.1	4.4
315183	Redevelopment	65	60	85	60	61	86	65	**66**	**90**	4.1	4.9	4.2
315185	Redevelopment	65	60	85	56	56	82	60	**61**	85	3.8	4.5	3.6
315191	Redevelopment	65	60	85	61	61	86	64	**66**	**90**	3.9	4.7	4.0
315192	Redevelopment	65	60	85	57	57	83	61	**62**	**87**	4.0	4.8	3.9
315193	Redevelopment	65	60	85	60	60	86	64	**65**	**90**	4.3	5.1	4.6
315202	Redevelopment	65	60	85	59	60	85	63	**64**	**89**	4.0	4.8	4.1
315212	Redevelopment	65	60	85	61	61	87	63	**64**	89	1.9	2.8	1.6
315214	Redevelopment	65	60	85	62	62	88	64	**65**	90	2.2	3.0	1.6
315215	Redevelopment	65	60	85	61	61	87	65	**66**	**90**	3.9	4.6	3.3
315224	Redevelopment	65	60	85	55	56	81	59	**61**	85	4.3	5.1	3.8
315227	New	60	55	80	-	-	-	21	22	47	-	-	-
315238	New	60	55	80	-	-	-	10	10	3	-	-	-
315240	Redevelopment	65	60	85	54	54	79	58	59	83	4.1	4.8	4.4
315241	New	60	55	80	-	-	-	22	23	46	-	-	-
315244	New	60	55	80	-	-	-	36	37	60	-	-	-
315252	Redevelopment	65	60	85	51	52	76	56	57	81	4.2	4.9	4.8
315261	Redevelopment	65	60	85	55	55	81	43	45	69	-11.2	-10.4	-11.8
315262	Redevelopment	65	60	85	55	55	80	57	59	83	2.5	3.1	2.6
315279	Redevelopment	65	60	85	58	59	84	44	45	69	-13.8	-13.1	-15.5
315286	Redevelopment	65	60	85	51	52	75	53	55	78	2.4	3.1	3.5
315287	Redevelopment	65	60	85	51	51	75	54	55	78	2.6	3.2	3.2
315288	Redevelopment	65	60	85	56	56	81	46	47	71	-9.5	-8.9	-10.7
315292	Redevelopment	65	60	85	51	51	75	53	55	78	2.5	3.4	3.2
315295	Redevelopment	65	60	85	51	51	76	53	54	79	2.4	3.3	2.4
315296	Redevelopment	65	60	85	50	51	74	52	53	77	1.8	2.6	2.5
315299	New	60	55	80	-	-	-	33	34	53	-	-	-
315301	Redevelopment	65	60	85	51	51	75	54	55	78	2.9	3.6	3.4
315307	Redevelopment	65	60	85	51	51	77	53	54	78	2.2	3.1	1.7
315309	Redevelopment	65	60	85	50	50	74	52	53	77	1.6	2.4	2.7
315313	Redevelopment	65	60	85	51	51	75	53	54	78	2.6	3.4	3.3
315315	New	60	55	80	-	-	-	30	31	53	-	-	-
315316	Redevelopment	65	60	85	51	51	75	53	55	79	2.7	3.5	3.5
315328	Redevelopment	65	60	85	50	50	74	52	53	77	2.2	2.9	3.2
315329	Redevelopment	65	60	85	53	53	78	45	46	69	-8.4	-7.4	-9.4
315334	Redevelopment	65	60	85	48	49	73	52	53	77	3.7	4.3	3.9
315354	Redevelopment	65	60	85	51	51	76	54	55	79	3.1	4.0	2.5
315358	Redevelopment	65	60	85	50	50	73	52	53	76	1.7	2.4	2.8
315359	Redevelopment	65	60	85	49	49	73	52	53	77	3.4	4.0	3.7
315365	Redevelopment	65	60	85	50	51	74	54	55	79	3.3	4.1	4.4
315366	Redevelopment	65	60	85	48	48	72	51	52	76	2.9	3.7	3.8
315367	Redevelopment	65	60	85	50	50	75	53	54	77	3.0	3.6	2.8
315369	Redevelopment	65	60	85	48	49	72	52	53	76	3.4	4.0	4.0
315372	Redevelopment	65	60	85	49	49	74	52	53	77	2.8	3.6	3.0
315373	Redevelopment	65	60	85	50	50	72	51	53	76	1.7	2.4	3.5
315374	Redevelopment	65	60	85	48	49	73	52	53	76	3.1	3.9	2.5
315378	Redevelopment	65	60	85	47	48	72	50	52	76	3.5	4.1	4.1
315379	Redevelopment	65	60	85	50	50	74	53	55	78	3.4	4.1	4.3
315384	Redevelopment	65	60	85	49	49	74	52	53	77	3.0	3.7	3.1
315386	New	60	55	80	-	-	-	20	17	55	-	-	-
315388	Redevelopment	65	60	85	48	49	73	52	53	77	3.2	3.8	3.9
315389	Redevelopment	65	60	85	51	51	76	55	56	80	3.9	4.6	4.1
315391	Redevelopment	65	60	85	49	50	75	52	54	77	3.1	3.9	2.6
315396	New	60	55	80	-	-	-	28	29	48	-	-	-
315398	New	60	55	80	-	-	-	41	41	62	-	-	-
315399	Redevelopment	65	60	85	47	47	70	49	50	74	2.0	2.6	3.6
315401	Redevelopment	65	60	85	47	47	70	49	50	73	2.1	2.9	3.0
315402	Redevelopment	65	60	85	50	50	74	53	54	78	3.0	3.7	3.9
315403	Redevelopment	65	60	85	48	49	74	51	52	76	2.7	3.5	2.6
315404	Redevelopment	65	60	85	47	48	72	50	52	76	3.1	3.8	3.9
315407	Redevelopment	65	60	85	50	51	75	53	54	78	2.1	3.1	2.6
315409	Redevelopment	65	60	85	48	48	72	51	52	76	2.8	3.7	3.7
315412	Redevelopment	65	60	85	47	48	72	50	52	76	3.3	3.9	3.7
315417	Redevelopment	65	60	85	50	50	71	51	52	75	1.5	2.4	3.7
315418	Redevelopment	65	60	85	50	50	73	50	51	75	0.4	1.1	1.6
315424	Redevelopment	65	60	85	52	52	76	55	56	80	3.5	4.3	4.3
315427	Redevelopment	65	60	85	50	50	74	51	53	77	1.7	2.5	3.0
315428	Redevelopment	65	60	85	49	49	73	52	53	77	3.4	4.0	3.6
315429	Redevelopment	65	60	85	48	49	73	52	53	76	3.2	3.9	3.3
315434	Redevelopment	65	60	85	49	50	72	48	50	73	-1.0	-0.3	1.4
315437	Redevelopment	65	60	85	49	49	73	52	53	77	3.3	4.0	4.0
315438	Redevelopment	65	60	85	48	49	72	51	53	76	3.4	4.0	4.2
315440	New	60	55	80	-	-	-	40	41	62	-	-	-
315441	New	60	55	80	-	-	-	28	29	48	-	-	-
315444	Redevelopment	65	60	85	47	48	71	51	52	76	3.9	4.5	4.8
315445	Redevelopment	65	60	85	50	50	72	49	50	74	-0.6	0.1	2.3
315446	Redevelopment	65	60	85	50	50	74	54	55	79	3.9	4.4	4.5
315449	Redevelopment	65	60	85	47	47	71	50	51	74	3.0	3.8	3.2
315450	Redevelopment	65	60	85	49	50	73	52	54	77	3.3	4.0	4.1
315451	Redevelopment	65	60	85	49	50	73	52	53	77	3.3	3.9	4.3
315453	Redevelopment	65	60	85	49	49	72	52	53	76	3.0	3.7	3.9
315456	Redevelopment	65	60	85	50	50	75	52	53	78	2.2	3.2	2.7
315460	Redevelopment	65	60	85	49	50	72	49	50	73	-0.6	0.2	1.9
315462	Redevelopment	65	60	85	49	49	74	52	53	77	3.7	4.3	3.6
315464	Redevelopment	65	60	85	49	49	73	52	54	77	3.4	4.1	4.5
315465	Redevelopment	65	60	85	48	48	72	51	52	75	2.7	3.4	3.6
315473	Redevelopment	65	60	85	48	49	73	52	54	78	4.2	4.8	4.3

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
315474	Redevelopment	65	60	85	49	50	75	53	54	78	3.4	4.1	3.4
315478	New	60	55	80	-	-	-	46	47	71	-	-	-
315485	Redevelopment	65	60	85	48	49	73	51	52	76	2.8	3.4	3.3
315486	Redevelopment	65	60	85	47	47	71	50	51	75	3.3	3.8	3.8
315490	Redevelopment	65	60	85	50	50	73	53	54	78	3.1	3.9	4.7
315495	New	60	55	80	-	-	-	49	50	73	-	-	-
315498	Redevelopment	65	60	85	47	47	72	49	50	74	2.7	3.5	2.3
315510	Redevelopment	65	60	85	50	50	74	53	54	78	3.1	3.8	3.7
315511	Redevelopment	65	60	85	48	48	72	51	52	75	3.2	3.8	3.3
315512	New	60	55	80	-	-	-	50	51	74	-	-	-
315513	New	60	55	80	-	-	-	48	49	72	-	-	-
315514	Redevelopment	65	60	85	48	49	72	51	53	76	3.1	4.0	4.0
315515	Redevelopment	65	60	85	48	48	72	51	52	75	3.1	3.7	3.8
315517	Redevelopment	65	60	85	45	46	70	49	50	74	4.0	4.4	3.7
315519	New	60	55	80	-	-	-	50	51	74	-	-	-
315521	New	60	55	80	-	-	-	47	48	73	-	-	-
315523	New	60	55	80	-	-	-	51	53	76	-	-	-
315524	Redevelopment	65	60	85	49	49	73	52	53	77	3.2	3.9	4.4
315527	New	60	55	80	-	-	-	48	49	72	-	-	-
315528	New	60	55	80	-	-	-	48	49	73	-	-	-
315529	Redevelopment	65	60	85	49	49	73	53	54	77	4.0	4.7	4.8
315534	Redevelopment	65	60	85	49	50	73	53	55	78	4.2	4.9	5.1
315535	Redevelopment	65	60	85	49	50	73	53	55	78	4.2	5.0	5.2
315540	Redevelopment	65	60	85	46	47	72	51	52	76	4.2	4.8	4.2
315547	New	60	55	80	-	-	-	51	52	75	-	-	-
315553	Redevelopment	65	60	85	45	46	69	49	50	73	3.6	4.4	4.3
315555	New	60	55	80	-	-	-	49	50	74	-	-	-
315557	Redevelopment	65	60	85	47	47	72	50	52	76	3.6	4.3	3.6
315558	Redevelopment	65	60	85	50	50	73	45	46	70	-4.7	-4.1	-3.0
315559	Redevelopment	65	60	85	49	50	74	53	54	79	3.9	4.7	5.1
315560	New	60	55	80	-	-	-	50	51	74	-	-	-
315561	Redevelopment	65	60	85	47	47	71	50	51	75	3.6	4.2	3.9
315562	Redevelopment	65	60	85	49	49	72	52	53	77	3.3	3.8	4.2
315563	New	60	55	80	-	-	-	44	45	68	-	-	-
315567	New	60	55	80	-	-	-	52	53	76	-	-	-
315568	New	60	55	80	-	-	-	44	45	70	-	-	-
315569	Redevelopment	65	60	85	47	48	71	51	52	76	3.8	4.6	4.4
315573	New	60	55	80	-	-	-	46	47	70	-	-	-
315576	Redevelopment	65	60	85	47	47	71	51	52	76	3.9	4.6	4.9
315577	New	60	55	80	-	-	-	50	51	74	-	-	-
315580	Redevelopment	65	60	85	47	48	72	52	53	77	4.2	5.0	5.2
315581	Redevelopment	65	60	85	47	48	72	52	53	77	4.4	4.9	5.1
315582	Redevelopment	65	60	85	47	48	71	50	52	75	3.4	4.0	3.7
315583	New	60	55	80	-	-	-	50	51	74	-	-	-
315584	New	60	55	80	-	-	-	52	53	76	-	-	-
315585	New	60	55	80	-	-	-	50	51	75	-	-	-
315588	New	60	55	80	-	-	-	51	53	76	-	-	-
315589	New	60	55	80	-	-	-	40	41	70	-	-	-
315590	Redevelopment	65	60	85	49	50	74	53	54	78	4.0	4.6	4.4
315591	New	60	55	80	-	-	-	50	51	75	-	-	-
315592	New	60	55	80	-	-	-	50	51	74	-	-	-
315597	New	60	55	80	-	-	-	51	52	76	-	-	-
315598	Redevelopment	65	60	85	47	47	71	50	51	75	3.3	4.0	4.2
315602	New	60	55	80	-	-	-	50	51	75	-	-	-
315604	New	60	55	80	-	-	-	51	52	75	-	-	-
315606	New	60	55	80	-	-	-	45	46	69	-	-	-
315607	Redevelopment	65	60	85	45	45	68	48	49	73	3.4	4.1	4.9
315610	Redevelopment	65	60	85	46	46	69	49	50	74	3.7	4.2	4.4
315611	New	60	55	80	-	-	-	53	54	78	-	-	-
315612	New	60	55	80	-	-	-	52	53	77	-	-	-
315616	New	60	55	80	-	-	-	49	50	74	-	-	-
315617	Redevelopment	65	60	85	47	48	72	50	51	75	3.1	3.8	3.4
315618	New	60	55	80	-	-	-	52	53	76	-	-	-
315619	New	60	55	80	-	-	-	37	38	66	-	-	-
315620	Redevelopment	65	60	85	47	48	72	51	53	76	3.9	4.7	4.8
315624	New	60	55	80	-	-	-	51	53	76	-	-	-
315627	New	60	55	80	-	-	-	52	53	76	-	-	-
315629	New	60	55	80	-	-	-	50	51	74	-	-	-
315636	New	60	55	80	-	-	-	51	52	75	-	-	-
315648	New	60	55	80	-	-	-	50	51	76	-	-	-
315649	Redevelopment	65	60	85	46	47	70	50	51	74	3.4	4.1	4.1
315650	New	60	55	80	-	-	-	50	51	74	-	-	-
315652	New	60	55	80	-	-	-	51	53	76	-	-	-
315654	Redevelopment	65	60	85	45	46	69	49	50	74	3.9	4.6	5.0
315655	New	60	55	80	-	-	-	52	53	76	-	-	-
315657	New	60	55	80	-	-	-	39	40	66	-	-	-
315658	New	60	55	80	-	-	-	52	53	77	-	-	-
315660	New	60	55	80	-	-	-	52	53	76	-	-	-
315665	New	60	55	80	-	-	-	49	50	74	-	-	-
315668	New	60	55	80	-	-	-	51	53	77	-	-	-
315671	New	60	55	80	-	-	-	39	40	68	-	-	-
315673	New	60	55	80	-	-	-	48	49	72	-	-	-
315675	New	60	55	80	-	-	-	48	49	72	-	-	-
315677	New	60	55	80	-	-	-	50	51	74	-	-	-
315678	New	60	55	80	-	-	-	41	43	66	-	-	-
315679	New	60	55	80	-	-	-	50	51	74	-	-	-
315682	New	60	55	80	-	-	-	50	51	74	-	-	-
315683	New	60	55	80	-	-	-	51	52	75	-	-	-
315685	New	60	55	80	-	-	-	47	48	73	-	-	-
315690	New	60	55	80	-	-	-	41	42	66	-	-	-
315691	New	60	55	80	-	-	-	49	50	74	-	-	-
315692	New	60	55	80	-	-	-	52	54	78	-	-	-
315695	New	60	55	80	-	-	-	51	52	75	-	-	-
315696	New	60	55	80	-	-	-	51	52	76	-	-	-
315700	New	60	55	80	-	-	-	52	53	76	-	-	-
315704	New	60	55	80	-	-	-	50	52	75	-	-	-
315707	New	60	55	80	-	-	-	47	48	73	-	-	-
315714	New	60	55	80	-	-	-	48	49	72	-	-	-
315716	New	60	55	80	-	-	-	51	52	75	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
315722	New	60	55	80	-	-	-	47	48	72	-	-	-
315723	New	60	55	80	-	-	-	43	44	69	-	-	-
315725	New	60	55	80	-	-	-	51	52	76	-	-	-
315726	New	60	55	80	-	-	-	50	51	75	-	-	-
315729	New	60	55	80	-	-	-	48	50	73	-	-	-
315730	New	60	55	80	-	-	-	52	53	77	-	-	-
315732	New	60	55	80	-	-	-	49	50	74	-	-	-
315733	New	60	55	80	-	-	-	47	48	71	-	-	-
315734	New	60	55	80	-	-	-	49	51	74	-	-	-
315735	New	60	55	80	-	-	-	40	41	67	-	-	-
315736	New	60	55	80	-	-	-	43	44	67	-	-	-
315739	New	60	55	80	-	-	-	50	52	75	-	-	-
315749	New	60	55	80	-	-	-	50	52	75	-	-	-
315750	New	60	55	80	-	-	-	49	50	74	-	-	-
315751	New	60	55	80	-	-	-	50	51	74	-	-	-
315756	New	60	55	80	-	-	-	47	49	72	-	-	-
315757	New	60	55	80	-	-	-	49	50	74	-	-	-
315758	New	60	55	80	-	-	-	52	54	77	-	-	-
315759	New	60	55	80	-	-	-	42	43	68	-	-	-
315760	New	60	55	80	-	-	-	50	51	75	-	-	-
315761	New	60	55	80	-	-	-	48	49	73	-	-	-
315762	New	60	55	80	-	-	-	49	51	73	-	-	-
315764	New	60	55	80	-	-	-	52	53	76	-	-	-
315767	New	60	55	80	-	-	-	49	50	74	-	-	-
315770	New	60	55	80	-	-	-	47	48	72	-	-	-
315771	New	60	55	80	-	-	-	51	53	76	-	-	-
315772	New	60	55	80	-	-	-	44	45	71	-	-	-
315773	New	60	55	80	-	-	-	50	51	75	-	-	-
315774	New	60	55	80	-	-	-	43	44	70	-	-	-
315775	New	60	55	80	-	-	-	50	52	76	-	-	-
315776	New	60	55	80	-	-	-	50	51	74	-	-	-
315777	New	60	55	80	-	-	-	50	51	74	-	-	-
315780	New	60	55	80	-	-	-	49	50	74	-	-	-
315783	New	60	55	80	-	-	-	50	51	76	-	-	-
315784	New	60	55	80	-	-	-	53	55	79	-	-	-
315785	New	60	55	80	-	-	-	48	49	73	-	-	-
315787	New	60	55	80	-	-	-	48	49	73	-	-	-
315789	New	60	55	80	-	-	-	52	53	77	-	-	-
315791	New	60	55	80	-	-	-	52	53	77	-	-	-
315793	New	60	55	80	-	-	-	42	43	66	-	-	-
315794	New	60	55	80	-	-	-	51	52	74	-	-	-
315802	New	60	55	80	-	-	-	50	51	74	-	-	-
315811	New	60	55	80	-	-	-	45	47	71	-	-	-
315813	New	60	55	80	-	-	-	50	52	76	-	-	-
315816	New	60	55	80	-	-	-	50	52	76	-	-	-
315817	New	60	55	80	-	-	-	48	49	73	-	-	-
315820	New	60	55	80	-	-	-	51	52	75	-	-	-
315824	New	60	55	80	-	-	-	49	51	74	-	-	-
315828	New	60	55	80	-	-	-	42	42	71	-	-	-
315832	New	60	55	80	-	-	-	49	50	74	-	-	-
315833	New	60	55	80	-	-	-	49	50	74	-	-	-
315835	New	60	55	80	-	-	-	51	52	75	-	-	-
315837	New	60	55	80	-	-	-	47	49	73	-	-	-
315838	New	60	55	80	-	-	-	51	52	76	-	-	-
315839	New	60	55	80	-	-	-	42	42	70	-	-	-
315842	New	60	55	80	-	-	-	51	53	76	-	-	-
315846	New	60	55	80	-	-	-	53	54	78	-	-	-
315850	New	60	55	80	-	-	-	49	50	73	-	-	-
315851	New	60	55	80	-	-	-	42	43	63	-	-	-
315856	New	60	55	80	-	-	-	47	49	73	-	-	-
315857	New	60	55	80	-	-	-	47	48	72	-	-	-
315858	New	60	55	80	-	-	-	49	51	74	-	-	-
315859	New	60	55	80	-	-	-	49	51	74	-	-	-
315862	New	60	55	80	-	-	-	44	45	71	-	-	-
315865	New	60	55	80	-	-	-	41	42	67	-	-	-
315867	New	60	55	80	-	-	-	48	50	73	-	-	-
315874	New	60	55	80	-	-	-	51	52	75	-	-	-
315878	New	60	55	80	-	-	-	51	53	75	-	-	-
315879	New	60	55	80	-	-	-	48	49	73	-	-	-
315880	New	60	55	80	-	-	-	45	47	70	-	-	-
315884	New	60	55	80	-	-	-	51	53	76	-	-	-
315885	New	60	55	80	-	-	-	50	52	76	-	-	-
315889	New	60	55	80	-	-	-	49	50	74	-	-	-
315891	New	60	55	80	-	-	-	45	47	69	-	-	-
315893	New	60	55	80	-	-	-	49	50	74	-	-	-
315896	New	60	55	80	-	-	-	52	53	77	-	-	-
315897	New	60	55	80	-	-	-	40	41	66	-	-	-
315898	New	60	55	80	-	-	-	50	51	75	-	-	-
315903	New	60	55	80	-	-	-	51	52	76	-	-	-
315905	New	60	55	80	-	-	-	51	53	75	-	-	-
315906	New	60	55	80	-	-	-	50	51	74	-	-	-
315907	New	60	55	80	-	-	-	46	48	70	-	-	-
315914	New	60	55	80	-	-	-	47	48	72	-	-	-
315916	New	60	55	80	-	-	-	49	50	74	-	-	-
315918	New	60	55	80	-	-	-	51	52	75	-	-	-
315919	New	60	55	80	-	-	-	46	47	71	-	-	-
315921	New	60	55	80	-	-	-	51	52	76	-	-	-
315925	New	60	55	80	-	-	-	49	50	73	-	-	-
315928	New	60	55	80	-	-	-	53	54	78	-	-	-
315930	New	60	55	80	-	-	-	50	51	74	-	-	-
315931	New	60	55	80	-	-	-	50	51	74	-	-	-
315932	New	60	55	80	-	-	-	40	41	68	-	-	-
315933	New	60	55	80	-	-	-	48	49	73	-	-	-
315934	New	60	55	80	-	-	-	50	51	75	-	-	-
315937	New	60	55	80	-	-	-	50	51	75	-	-	-
315938	New	60	55	80	-	-	-	38	39	67	-	-	-
315940	New	60	55	80	-	-	-	49	50	73	-	-	-
315942	New	60	55	80	-	-	-	49	50	74	-	-	-
315947	New	60	55	80	-	-	-	48	50	74	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
315950	New	60	55	80	-	-	-	50	52	75	-	-	-
315954	New	60	55	80	-	-	-	46	48	71	-	-	-
315956	New	60	55	80	-	-	-	47	48	72	-	-	-
315958	New	60	55	80	-	-	-	47	48	72	-	-	-
315962	New	60	55	80	-	-	-	44	45	69	-	-	-
315964	New	60	55	80	-	-	-	43	44	70	-	-	-
315966	New	60	55	80	-	-	-	49	50	74	-	-	-
315969	New	60	55	80	-	-	-	49	50	74	-	-	-
315978	New	60	55	80	-	-	-	49	50	73	-	-	-
315979	New	60	55	80	-	-	-	47	48	72	-	-	-
315980	New	60	55	80	-	-	-	42	42	69	-	-	-
315981	New	60	55	80	-	-	-	49	50	73	-	-	-
315982	New	60	55	80	-	-	-	50	51	74	-	-	-
315983	New	60	55	80	-	-	-	46	47	71	-	-	-
315986	New	60	55	80	-	-	-	50	51	74	-	-	-
315987	New	60	55	80	-	-	-	49	50	74	-	-	-
315990	New	60	55	80	-	-	-	42	43	70	-	-	-
315997	New	60	55	80	-	-	-	49	50	73	-	-	-
315998	New	60	55	80	-	-	-	51	52	76	-	-	-
315999	New	60	55	80	-	-	-	42	43	70	-	-	-
316006	New	60	55	80	-	-	-	48	49	73	-	-	-
316007	New	60	55	80	-	-	-	47	49	73	-	-	-
316010	New	60	55	80	-	-	-	45	46	70	-	-	-
316012	New	60	55	80	-	-	-	40	41	67	-	-	-
316013	New	60	55	80	-	-	-	50	51	73	-	-	-
316015	New	60	55	80	-	-	-	51	53	76	-	-	-
316018	New	60	55	80	-	-	-	51	52	76	-	-	-
316019	New	60	55	80	-	-	-	46	48	71	-	-	-
316020	New	60	55	80	-	-	-	50	51	74	-	-	-
316022	New	60	55	80	-	-	-	50	51	75	-	-	-
316023	New	60	55	80	-	-	-	47	48	71	-	-	-
316024	New	60	55	80	-	-	-	46	47	71	-	-	-
316028	New	60	55	80	-	-	-	48	49	73	-	-	-
316035	New	60	55	80	-	-	-	50	51	75	-	-	-
316036	New	60	55	80	-	-	-	51	52	76	-	-	-
316039	New	60	55	80	-	-	-	51	52	74	-	-	-
316042	New	60	55	80	-	-	-	47	48	72	-	-	-
316043	New	60	55	80	-	-	-	49	50	74	-	-	-
316044	New	60	55	80	-	-	-	49	50	74	-	-	-
316045	New	60	55	80	-	-	-	46	48	72	-	-	-
316046	New	60	55	80	-	-	-	47	48	72	-	-	-
316049	New	60	55	80	-	-	-	49	51	74	-	-	-
316054	New	60	55	80	-	-	-	48	49	73	-	-	-
316056	New	60	55	80	-	-	-	47	48	72	-	-	-
316057	New	60	55	80	-	-	-	41	41	68	-	-	-
316059	New	60	55	80	-	-	-	41	42	65	-	-	-
316061	New	60	55	80	-	-	-	51	52	75	-	-	-
316063	New	60	55	80	-	-	-	47	48	73	-	-	-
316064	New	60	55	80	-	-	-	50	51	75	-	-	-
316065	New	60	55	80	-	-	-	48	49	72	-	-	-
316068	New	60	55	80	-	-	-	46	47	71	-	-	-
316069	New	60	55	80	-	-	-	50	51	75	-	-	-
316075	New	60	55	80	-	-	-	51	53	77	-	-	-
316077	New	60	55	80	-	-	-	48	49	73	-	-	-
316079	New	60	55	80	-	-	-	47	48	72	-	-	-
316080	New	60	55	80	-	-	-	47	48	72	-	-	-
316081	New	60	55	80	-	-	-	47	48	72	-	-	-
316082	New	60	55	80	-	-	-	47	49	72	-	-	-
316083	New	60	55	80	-	-	-	50	51	74	-	-	-
316087	New	60	55	80	-	-	-	49	50	73	-	-	-
316090	New	60	55	80	-	-	-	40	41	67	-	-	-
316091	New	60	55	80	-	-	-	48	49	73	-	-	-
316095	New	60	55	80	-	-	-	39	40	67	-	-	-
316101	New	60	55	80	-	-	-	46	47	71	-	-	-
316104	New	60	55	80	-	-	-	47	48	72	-	-	-
316105	New	60	55	80	-	-	-	49	50	73	-	-	-
316108	New	60	55	80	-	-	-	48	49	73	-	-	-
316109	New	60	55	80	-	-	-	50	51	74	-	-	-
316113	New	60	55	80	-	-	-	50	51	74	-	-	-
316114	New	60	55	80	-	-	-	38	39	64	-	-	-
316116	New	60	55	80	-	-	-	45	46	70	-	-	-
316120	New	60	55	80	-	-	-	48	49	73	-	-	-
316121	New	60	55	80	-	-	-	41	42	67	-	-	-
316122	New	60	55	80	-	-	-	39	40	65	-	-	-
316123	New	60	55	80	-	-	-	45	46	70	-	-	-
316124	New	60	55	80	-	-	-	49	50	74	-	-	-
316135	New	60	55	80	-	-	-	48	50	73	-	-	-
316136	New	60	55	80	-	-	-	49	50	72	-	-	-
316137	New	60	55	80	-	-	-	50	51	74	-	-	-
316139	New	60	55	80	-	-	-	49	51	74	-	-	-
316140	New	60	55	80	-	-	-	46	48	71	-	-	-
316143	New	60	55	80	-	-	-	46	47	71	-	-	-
316144	New	60	55	80	-	-	-	47	48	72	-	-	-
316145	New	60	55	80	-	-	-	49	51	73	-	-	-
316146	New	60	55	80	-	-	-	38	40	63	-	-	-
316150	New	60	55	80	-	-	-	40	41	67	-	-	-
316151	New	60	55	80	-	-	-	46	47	71	-	-	-
316152	New	60	55	80	-	-	-	49	50	74	-	-	-
316154	New	60	55	80	-	-	-	40	41	68	-	-	-
316156	New	60	55	80	-	-	-	41	42	66	-	-	-
316159	New	60	55	80	-	-	-	40	40	67	-	-	-
316160	New	60	55	80	-	-	-	46	47	71	-	-	-
316161	New	60	55	80	-	-	-	50	51	74	-	-	-
316162	New	60	55	80	-	-	-	50	51	74	-	-	-
316163	New	60	55	80	-	-	-	50	51	75	-	-	-
316164	New	60	55	80	-	-	-	47	48	72	-	-	-
316165	New	60	55	80	-	-	-	46	47	71	-	-	-
316166	New	60	55	80	-	-	-	45	46	70	-	-	-
316182	New	60	55	80	-	-	-	50	52	75	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
316185	New	60	55	80	-	-	-	45	46	70	-	-	-
316188	New	60	55	80	-	-	-	50	51	74	-	-	-
316189	New	60	55	80	-	-	-	45	47	71	-	-	-
316190	New	60	55	80	-	-	-	46	47	71	-	-	-
316191	New	60	55	80	-	-	-	50	51	74	-	-	-
316192	New	60	55	80	-	-	-	50	51	75	-	-	-
316193	New	60	55	80	-	-	-	41	42	68	-	-	-
316194	New	60	55	80	-	-	-	50	51	73	-	-	-
316202	New	60	55	80	-	-	-	38	39	65	-	-	-
316207	New	60	55	80	-	-	-	41	42	66	-	-	-
316211	New	60	55	80	-	-	-	49	50	73	-	-	-
316218	New	60	55	80	-	-	-	45	46	70	-	-	-
316220	New	60	55	80	-	-	-	49	50	74	-	-	-
316222	New	60	55	80	-	-	-	40	41	65	-	-	-
316225	New	60	55	80	-	-	-	50	51	75	-	-	-
316228	New	60	55	80	-	-	-	47	48	72	-	-	-
316230	New	60	55	80	-	-	-	39	40	64	-	-	-
316231	New	60	55	80	-	-	-	43	44	69	-	-	-
316236	New	60	55	80	-	-	-	50	51	74	-	-	-
316237	New	60	55	80	-	-	-	49	50	74	-	-	-
316238	New	60	55	80	-	-	-	50	51	75	-	-	-
316240	New	60	55	80	-	-	-	43	44	69	-	-	-
316241	New	60	55	80	-	-	-	49	51	74	-	-	-
316244	New	60	55	80	-	-	-	50	51	74	-	-	-
316246	New	60	55	80	-	-	-	46	47	71	-	-	-
316247	New	60	55	80	-	-	-	43	44	69	-	-	-
316250	New	60	55	80	-	-	-	40	41	66	-	-	-
316254	New	60	55	80	-	-	-	43	44	68	-	-	-
316256	New	60	55	80	-	-	-	49	51	73	-	-	-
316260	New	60	55	80	-	-	-	50	51	75	-	-	-
316267	New	60	55	80	-	-	-	43	44	69	-	-	-
316268	New	60	55	80	-	-	-	47	48	72	-	-	-
316272	New	60	55	80	-	-	-	44	45	69	-	-	-
316274	New	60	55	80	-	-	-	50	51	73	-	-	-
316282	New	60	55	80	-	-	-	48	49	73	-	-	-
316283	New	60	55	80	-	-	-	49	50	73	-	-	-
316285	New	60	55	80	-	-	-	42	43	67	-	-	-
316286	New	60	55	80	-	-	-	50	51	73	-	-	-
316287	New	60	55	80	-	-	-	50	51	73	-	-	-
316288	New	60	55	80	-	-	-	50	51	74	-	-	-
316290	New	60	55	80	-	-	-	45	46	70	-	-	-
316294	New	60	55	80	-	-	-	49	50	73	-	-	-
316295	New	60	55	80	-	-	-	50	51	74	-	-	-
316303	New	60	55	80	-	-	-	51	52	75	-	-	-
316304	New	60	55	80	-	-	-	46	48	72	-	-	-
316306	New	60	55	80	-	-	-	50	51	75	-	-	-
316308	New	60	55	80	-	-	-	48	49	73	-	-	-
316314	New	60	55	80	-	-	-	41	42	66	-	-	-
316315	New	60	55	80	-	-	-	48	49	73	-	-	-
316318	New	60	55	80	-	-	-	46	47	71	-	-	-
316319	New	60	55	80	-	-	-	51	52	75	-	-	-
316321	New	60	55	80	-	-	-	49	50	73	-	-	-
316325	New	60	55	80	-	-	-	47	48	72	-	-	-
316327	New	60	55	80	-	-	-	48	49	72	-	-	-
316329	New	60	55	80	-	-	-	49	50	73	-	-	-
316330	New	60	55	80	-	-	-	49	50	72	-	-	-
316332	New	60	55	80	-	-	-	51	52	75	-	-	-
316335	New	60	55	80	-	-	-	49	51	73	-	-	-
316336	New	60	55	80	-	-	-	48	49	72	-	-	-
316338	New	60	55	80	-	-	-	39	40	64	-	-	-
316339	New	60	55	80	-	-	-	51	52	75	-	-	-
316351	New	60	55	80	-	-	-	50	51	74	-	-	-
316353	New	60	55	80	-	-	-	49	51	73	-	-	-
316354	New	60	55	80	-	-	-	42	43	68	-	-	-
316355	New	60	55	80	-	-	-	47	49	72	-	-	-
316356	New	60	55	80	-	-	-	49	50	73	-	-	-
316357	New	60	55	80	-	-	-	34	35	61	-	-	-
316360	New	60	55	80	-	-	-	44	45	69	-	-	-
316362	New	60	55	80	-	-	-	40	41	66	-	-	-
316363	New	60	55	80	-	-	-	39	40	64	-	-	-
316366	New	60	55	80	-	-	-	50	51	73	-	-	-
316368	New	60	55	80	-	-	-	49	51	75	-	-	-
316371	New	60	55	80	-	-	-	36	37	58	-	-	-
316376	New	60	55	80	-	-	-	50	51	75	-	-	-
316378	New	60	55	80	-	-	-	44	45	66	-	-	-
316380	New	60	55	80	-	-	-	40	41	65	-	-	-
316382	New	60	55	80	-	-	-	39	40	64	-	-	-
316383	New	60	55	80	-	-	-	50	52	74	-	-	-
316386	New	60	55	80	-	-	-	49	50	74	-	-	-
316390	New	60	55	80	-	-	-	49	51	73	-	-	-
316392	New	60	55	80	-	-	-	41	43	67	-	-	-
316395	New	60	55	80	-	-	-	49	50	73	-	-	-
316397	New	60	55	80	-	-	-	49	50	74	-	-	-
316398	New	60	55	80	-	-	-	50	52	75	-	-	-
316407	New	60	55	80	-	-	-	48	49	73	-	-	-
316408	New	60	55	80	-	-	-	43	44	68	-	-	-
316409	New	60	55	80	-	-	-	43	44	68	-	-	-
316411	New	60	55	80	-	-	-	50	51	72	-	-	-
316412	New	60	55	80	-	-	-	40	41	65	-	-	-
316417	New	60	55	80	-	-	-	49	50	74	-	-	-
316418	New	60	55	80	-	-	-	43	44	68	-	-	-
316420	New	60	55	80	-	-	-	49	50	72	-	-	-
316422	New	60	55	80	-	-	-	51	52	76	-	-	-
316424	New	60	55	80	-	-	-	42	44	67	-	-	-
316425	New	60	55	80	-	-	-	43	44	68	-	-	-
316426	New	60	55	80	-	-	-	45	46	70	-	-	-
316427	New	60	55	80	-	-	-	42	43	68	-	-	-
316430	New	60	55	80	-	-	-	44	45	69	-	-	-
316431	New	60	55	80	-	-	-	49	51	73	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
316432	New	60	55	80	-	-	-	48	49	73	-	-	-
316436	New	60	55	80	-	-	-	43	44	68	-	-	-
316439	New	60	55	80	-	-	-	45	46	70	-	-	-
316442	New	60	55	80	-	-	-	41	43	67	-	-	-
316443	New	60	55	80	-	-	-	42	43	67	-	-	-
316445	New	60	55	80	-	-	-	47	48	72	-	-	-
316448	New	60	55	80	-	-	-	35	36	60	-	-	-
316450	New	60	55	80	-	-	-	46	47	71	-	-	-
316451	New	60	55	80	-	-	-	41	42	66	-	-	-
316452	New	60	55	80	-	-	-	42	43	67	-	-	-
316453	New	60	55	80	-	-	-	37	39	61	-	-	-
316458	New	60	55	80	-	-	-	45	46	70	-	-	-
316462	New	60	55	80	-	-	-	32	33	55	-	-	-
316463	New	60	55	80	-	-	-	44	46	70	-	-	-
316464	New	60	55	80	-	-	-	35	36	60	-	-	-
316468	New	60	55	80	-	-	-	31	32	54	-	-	-
316470	New	60	55	80	-	-	-	49	50	73	-	-	-
316478	New	60	55	80	-	-	-	50	51	74	-	-	-
316480	New	60	55	80	-	-	-	49	50	74	-	-	-
316481	New	60	55	80	-	-	-	42	43	67	-	-	-
316484	New	60	55	80	-	-	-	49	50	74	-	-	-
316485	New	60	55	80	-	-	-	30	31	54	-	-	-
316490	New	60	55	80	-	-	-	46	47	71	-	-	-
316492	New	60	55	80	-	-	-	41	42	67	-	-	-
316495	New	60	55	80	-	-	-	43	45	69	-	-	-
316496	New	60	55	80	-	-	-	42	43	67	-	-	-
316497	New	60	55	80	-	-	-	44	45	70	-	-	-
316501	New	60	55	80	-	-	-	49	50	74	-	-	-
316504	New	60	55	80	-	-	-	50	51	74	-	-	-
316505	New	60	55	80	-	-	-	49	50	72	-	-	-
316508	New	60	55	80	-	-	-	47	48	72	-	-	-
316513	New	60	55	80	-	-	-	50	51	74	-	-	-
316515	New	60	55	80	-	-	-	45	47	70	-	-	-
316518	New	60	55	80	-	-	-	39	40	65	-	-	-
316519	New	60	55	80	-	-	-	48	49	72	-	-	-
316522	New	60	55	80	-	-	-	50	51	74	-	-	-
316524	New	60	55	80	-	-	-	49	50	73	-	-	-
316527	New	60	55	80	-	-	-	45	47	71	-	-	-
316528	New	60	55	80	-	-	-	42	43	68	-	-	-
316529	New	60	55	80	-	-	-	49	50	73	-	-	-
316530	New	60	55	80	-	-	-	50	51	74	-	-	-
316533	New	60	55	80	-	-	-	49	50	72	-	-	-
316534	New	60	55	80	-	-	-	49	50	73	-	-	-
316536	New	60	55	80	-	-	-	44	46	70	-	-	-
316539	New	60	55	80	-	-	-	50	52	73	-	-	-
316540	New	60	55	80	-	-	-	49	50	72	-	-	-
316545	New	60	55	80	-	-	-	47	48	72	-	-	-
316546	New	60	55	80	-	-	-	44	46	70	-	-	-
316550	New	60	55	80	-	-	-	44	45	69	-	-	-
316552	New	60	55	80	-	-	-	48	49	72	-	-	-
316554	New	60	55	80	-	-	-	45	46	70	-	-	-
316559	New	60	55	80	-	-	-	48	49	72	-	-	-
316561	New	60	55	80	-	-	-	45	46	70	-	-	-
316562	New	60	55	80	-	-	-	47	48	72	-	-	-
316563	New	60	55	80	-	-	-	48	49	72	-	-	-
316568	New	60	55	80	-	-	-	28	29	51	-	-	-
316570	New	60	55	80	-	-	-	49	50	72	-	-	-
316576	New	60	55	80	-	-	-	50	51	73	-	-	-
316577	New	60	55	80	-	-	-	44	46	70	-	-	-
316579	New	60	55	80	-	-	-	45	46	70	-	-	-
316583	New	60	55	80	-	-	-	41	43	65	-	-	-
316584	New	60	55	80	-	-	-	50	51	74	-	-	-
316585	New	60	55	80	-	-	-	49	50	72	-	-	-
316589	New	60	55	80	-	-	-	44	46	70	-	-	-
316590	New	60	55	80	-	-	-	43	45	69	-	-	-
316593	New	60	55	80	-	-	-	43	44	68	-	-	-
316594	New	60	55	80	-	-	-	48	49	73	-	-	-
316595	New	60	55	80	-	-	-	47	48	71	-	-	-
316599	New	60	55	80	-	-	-	45	47	70	-	-	-
316604	New	60	55	80	-	-	-	46	47	69	-	-	-
316606	New	60	55	80	-	-	-	42	43	67	-	-	-
316607	New	60	55	80	-	-	-	48	49	72	-	-	-
316611	New	60	55	80	-	-	-	45	46	67	-	-	-
316614	New	60	55	80	-	-	-	46	47	72	-	-	-
316615	New	60	55	80	-	-	-	42	43	67	-	-	-
316616	New	60	55	80	-	-	-	43	44	68	-	-	-
316626	New	60	55	80	-	-	-	39	40	62	-	-	-
316631	New	60	55	80	-	-	-	40	41	65	-	-	-
316638	New	60	55	80	-	-	-	31	32	56	-	-	-
316639	New	60	55	80	-	-	-	42	44	68	-	-	-
316647	New	60	55	80	-	-	-	42	43	68	-	-	-
316650	New	60	55	80	-	-	-	42	43	67	-	-	-
316661	New	60	55	80	-	-	-	49	50	73	-	-	-
316662	New	60	55	80	-	-	-	45	46	70	-	-	-
316665	New	60	55	80	-	-	-	48	49	71	-	-	-
316670	New	60	55	80	-	-	-	48	49	71	-	-	-
316671	New	60	55	80	-	-	-	42	43	67	-	-	-
316674	New	60	55	80	-	-	-	48	49	71	-	-	-
316676	New	60	55	80	-	-	-	48	49	72	-	-	-
316679	New	60	55	80	-	-	-	43	44	68	-	-	-
316680	New	60	55	80	-	-	-	48	49	71	-	-	-
316681	New	60	55	80	-	-	-	48	49	72	-	-	-
316686	New	60	55	80	-	-	-	49	50	73	-	-	-
316691	New	60	55	80	-	-	-	47	48	70	-	-	-
316692	New	60	55	80	-	-	-	49	50	73	-	-	-
316697	New	60	55	80	-	-	-	47	48	72	-	-	-
316698	New	60	55	80	-	-	-	46	48	70	-	-	-
316703	New	60	55	80	-	-	-	47	48	71	-	-	-
316704	New	60	55	80	-	-	-	46	47	70	-	-	-

Receptor ID	New rail corridor/ upgrade of existing	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
	infrastructure	LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
316705	New	60	55	80	-	-	-	49	50	73	-	-	-
316706	New	60	55	80	-	-	-	47	49	71	-	-	-
316708	New	60	55	80	-	-	-	30	31	53	-	-	-
316711	New	60	55	80	-	-	-	49	50	73	-	-	-
316715	New	60	55	80	-	-	-	44	45	69	-	-	-
316718	New	60	55	80	-	-	-	43	44	68	-	-	-
316727	New	60	55	80	-	-	-	48	49	73	-	-	-
316728	New	60	55	80	-	-	-	40	41	65	-	-	-
316733	New	60	55	80	-	-	-	37	39	62	-	-	-
316735	New	60	55	80	-	-	-	43	44	68	-	-	-
316736	New	60	55	80	-	-	-	41	42	65	-	-	-
316737	New	60	55	80	-	-	-	30	31	54	-	-	-
316742	New	60	55	80	-	-	-	39	40	63	-	-	-
316748	New	60	55	80	-	-	-	42	43	66	-	-	-
316750	New	60	55	80	-	-	-	39	40	64	-	-	-
316752	New	60	55	80	-	-	-	46	47	71	-	-	-
316755	New	60	55	80	-	-	-	43	44	68	-	-	-
316759	New	60	55	80	-	-	-	39	40	63	-	-	-
316773	New	60	55	80	-	-	-	34	36	59	-	-	-
316777	New	60	55	80	-	-	-	43	44	68	-	-	-
316779	New	60	55	80	-	-	-	41	42	66	-	-	-
316785	New	60	55	80	-	-	-	44	45	70	-	-	-
316788	New	60	55	80	-	-	-	38	40	63	-	-	-
316790	New	60	55	80	-	-	-	39	40	62	-	-	-
316791	New	60	55	80	-	-	-	36	37	60	-	-	-
316796	New	60	55	80	-	-	-	35	36	58	-	-	-
316804	New	60	55	80	-	-	-	34	35	57	-	-	-
316807	New	60	55	80	-	-	-	35	36	59	-	-	-
316817	New	60	55	80	-	-	-	31	32	54	-	-	-
316822	New	60	55	80	-	-	-	34	35	58	-	-	-
316824	New	60	55	80	-	-	-	38	39	63	-	-	-
316836	New	60	55	80	-	-	-	42	43	67	-	-	-
316840	New	60	55	80	-	-	-	37	38	62	-	-	-
316842	New	60	55	80	-	-	-	36	37	59	-	-	-
316863	New	60	55	80	-	-	-	33	34	55	-	-	-
316894	New	60	55	80	-	-	-	42	43	68	-	-	-
316921	New	60	55	80	-	-	-	43	45	69	-	-	-
316935	New	60	55	80	-	-	-	44	45	69	-	-	-
316959	New	60	55	80	-	-	-	41	42	67	-	-	-
316962	New	60	55	80	-	-	-	46	47	70	-	-	-
317012	New	60	55	80	-	-	-	42	43	67	-	-	-
324354	New	60	55	80	-	-	-	35	26	60	-	-	-
324355	New	60	55	80	-	-	-	36	27	61	-	-	-
324356	New	60	55	80	-	-	-	36	27	61	-	-	-
324357	New	60	55	80	-	-	-	36	26	61	-	-	-
324358	New	60	55	80	-	-	-	36	26	61	-	-	-
324359	New	60	55	80	-	-	-	36	27	62	-	-	-
324361	New	60	55	80	-	-	-	36	16	62	-	-	-
324365	New	60	55	80	-	-	-	36	38	62	-	-	-
324366	New	60	55	80	-	-	-	36	37	61	-	-	-
324367	New	60	55	80	-	-	-	36	38	62	-	-	-
324368	New	60	55	80	-	-	-	28	29	52	-	-	-
324369	New	60	55	80	-	-	-	29	30	53	-	-	-
324370	New	60	55	80	-	-	-	29	30	52	-	-	-
324371	New	60	55	80	-	-	-	29	30	52	-	-	-
324374	New	60	55	80	-	-	-	47	48	72	-	-	-
324375	New	60	55	80	-	-	-	39	40	64	-	-	-
324376	New	60	55	80	-	-	-	41	42	64	-	-	-
324377	New	60	55	80	-	-	-	38	39	63	-	-	-
324378	New	60	55	80	-	-	-	38	39	63	-	-	-
324379	New	60	55	80	-	-	-	33	34	58	-	-	-
324380	New	60	55	80	-	-	-	39	40	63	-	-	-
324381	New	60	55	80	-	-	-	38	39	62	-	-	-
324382	New	60	55	80	-	-	-	39	40	64	-	-	-
324383	New	60	55	80	-	-	-	38	39	63	-	-	-
324384	New	60	55	80	-	-	-	39	40	63	-	-	-
324385	New	60	55	80	-	-	-	40	41	65	-	-	-
324386	New	60	55	80	-	-	-	39	40	63	-	-	-
324387	New	60	55	80	-	-	-	39	40	64	-	-	-
324388	New	60	55	80	-	-	-	38	39	64	-	-	-
324391	New	60	55	80	-	-	-	33	33	56	-	-	-
324392	New	60	55	80	-	-	-	35	36	59	-	-	-
324393	New	60	55	80	-	-	-	36	36	60	-	-	-
324394	New	60	55	80	-	-	-	31	31	58	-	-	-
324395	New	60	55	80	-	-	-	31	32	56	-	-	-
324396	New	60	55	80	-	-	-	37	37	61	-	-	-
324397	New	60	55	80	-	-	-	33	33	58	-	-	-
324402	New	60	55	80	-	-	-	21	22	46	-	-	-
324403	New	60	55	80	-	-	-	19	20	46	-	-	-
324404	New	60	55	80	-	-	-	27	28	54	-	-	-
324405	New	60	55	80	-	-	-	23	24	49	-	-	-
324406	New	60	55	80	-	-	-	23	24	49	-	-	-
324407	New	60	55	80	-	-	-	21	21	47	-	-	-
324408	New	60	55	80	-	-	-	23	23	49	-	-	-
324409	New	60	55	80	-	-	-	21	22	49	-	-	-
324410	New	60	55	80	-	-	-	25	26	50	-	-	-
324411	New	60	55	80	-	-	-	24	25	51	-	-	-
324412	New	60	55	80	-	-	-	24	24	53	-	-	-
324413	New	60	55	80	-	-	-	23	23	50	-	-	-
324414	New	60	55	80	-	-	-	21	22	55	-	-	-
324415	New	60	55	80	-	-	-	21	22	54	-	-	-
324416	New	60	55	80	-	-	-	30	30	56	-	-	-
324417	New	60	55	80	-	-	-	31	32	56	-	-	-
324418	New	60	55	80	-	-	-	31	32	57	-	-	-
324419	New	60	55	80	-	-	-	25	26	50	-	-	-
324420	New	60	55	80	-	-	-	25	26	50	-	-	-
324421	New	60	55	80	-	-	-	30	31	56	-	-	-
324422	New	60	55	80	-	-	-	31	31	57	-	-	-
324423	New	60	55	80	-	-	-	24	25	50	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
324424	New	60	55	80	-	-	-	27	27	53	-	-	-
324425	New	60	55	80	-	-	-	26	27	51	-	-	-
324426	New	60	55	80	-	-	-	23	24	50	-	-	-
324427	New	60	55	80	-	-	-	26	26	51	-	-	-
324428	New	60	55	80	-	-	-	25	26	50	-	-	-
324429	New	60	55	80	-	-	-	24	24	49	-	-	-
324430	New	60	55	80	-	-	-	21	22	47	-	-	-
324431	New	60	55	80	-	-	-	25	26	50	-	-	-
324432	New	60	55	80	-	-	-	24	25	50	-	-	-
324433	New	60	55	80	-	-	-	22	23	47	-	-	-
324434	New	60	55	80	-	-	-	21	22	48	-	-	-
324435	New	60	55	80	-	-	-	22	23	47	-	-	-
324436	New	60	55	80	-	-	-	22	23	47	-	-	-
324437	New	60	55	80	-	-	-	22	23	47	-	-	-
324438	New	60	55	80	-	-	-	25	25	50	-	-	-
324439	New	60	55	80	-	-	-	24	25	50	-	-	-
324440	New	60	55	80	-	-	-	23	24	48	-	-	-
324441	New	60	55	80	-	-	-	21	22	46	-	-	-
324442	New	60	55	80	-	-	-	22	23	48	-	-	-
324443	New	60	55	80	-	-	-	20	21	45	-	-	-
324444	New	60	55	80	-	-	-	20	21	45	-	-	-
324445	New	60	55	80	-	-	-	20	21	45	-	-	-
324446	New	60	55	80	-	-	-	20	21	45	-	-	-
324447	New	60	55	80	-	-	-	18	19	44	-	-	-
324448	New	60	55	80	-	-	-	18	19	44	-	-	-
324449	New	60	55	80	-	-	-	19	20	44	-	-	-
324450	New	60	55	80	-	-	-	16	17	42	-	-	-
324451	New	60	55	80	-	-	-	18	18	43	-	-	-
324452	New	60	55	80	-	-	-	17	18	42	-	-	-
324453	New	60	55	80	-	-	-	20	21	48	-	-	-
324454	New	60	55	80	-	-	-	19	20	44	-	-	-
324455	New	60	55	80	-	-	-	20	21	46	-	-	-
324456	New	60	55	80	-	-	-	21	22	46	-	-	-
324457	New	60	55	80	-	-	-	22	23	48	-	-	-
324458	New	60	55	80	-	-	-	22	23	47	-	-	-
324459	New	60	55	80	-	-	-	27	27	52	-	-	-
324460	New	60	55	80	-	-	-	26	27	51	-	-	-
324461	New	60	55	80	-	-	-	22	23	48	-	-	-
324462	New	60	55	80	-	-	-	25	26	50	-	-	-
324463	New	60	55	80	-	-	-	22	23	48	-	-	-
324464	New	60	55	80	-	-	-	25	25	51	-	-	-
324465	New	60	55	80	-	-	-	24	25	49	-	-	-
324466	New	60	55	80	-	-	-	24	25	49	-	-	-
324467	New	60	55	80	-	-	-	24	24	49	-	-	-
324468	New	60	55	80	-	-	-	22	23	48	-	-	-
324469	New	60	55	80	-	-	-	22	23	47	-	-	-
324470	New	60	55	80	-	-	-	24	25	49	-	-	-
324471	New	60	55	80	-	-	-	25	25	50	-	-	-
324472	New	60	55	80	-	-	-	24	24	49	-	-	-
324473	New	60	55	80	-	-	-	24	25	50	-	-	-
324474	New	60	55	80	-	-	-	21	22	46	-	-	-
324475	New	60	55	80	-	-	-	20	21	46	-	-	-
324476	New	60	55	80	-	-	-	21	21	46	-	-	-
324477	New	60	55	80	-	-	-	20	21	46	-	-	-
324478	New	60	55	80	-	-	-	19	20	45	-	-	-
324479	New	60	55	80	-	-	-	19	20	45	-	-	-
324480	New	60	55	80	-	-	-	19	20	45	-	-	-
324481	New	60	55	80	-	-	-	24	24	49	-	-	-
324482	New	60	55	80	-	-	-	22	23	47	-	-	-
324483	New	60	55	80	-	-	-	21	21	46	-	-	-
324484	New	60	55	80	-	-	-	22	23	47	-	-	-
324485	New	60	55	80	-	-	-	21	21	46	-	-	-
324486	New	60	55	80	-	-	-	16	17	41	-	-	-
324487	New	60	55	80	-	-	-	19	19	44	-	-	-
324488	New	60	55	80	-	-	-	10	10	35	-	-	-
324489	New	60	55	80	-	-	-	30	31	56	-	-	-
324490	New	60	55	80	-	-	-	30	31	56	-	-	-
324491	New	60	55	80	-	-	-	10	10	3	-	-	-
324492	New	60	55	80	-	-	-	23	24	48	-	-	-
324493	New	60	55	80	-	-	-	22	23	47	-	-	-
324494	New	60	55	80	-	-	-	22	23	47	-	-	-
324495	New	60	55	80	-	-	-	21	22	47	-	-	-
324496	New	60	55	80	-	-	-	22	22	47	-	-	-
324497	New	60	55	80	-	-	-	24	25	50	-	-	-
324498	New	60	55	80	-	-	-	21	21	46	-	-	-
324499	New	60	55	80	-	-	-	23	24	48	-	-	-
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324501	New	60	55	80	-	-	-	22	23	47	-	-	-
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324504	New	60	55	80	-	-	-	23	24	48	-	-	-
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324506	New	60	55	80	-	-	-	24	25	50	-	-	-
324507	New	60	55	80	-	-	-	23	24	50	-	-	-
324508	New	60	55	80	-	-	-	25	26	50	-	-	-
324509	New	60	55	80	-	-	-	23	24	48	-	-	-
324510	New	60	55	80	-	-	-	24	25	50	-	-	-
324511	New	60	55	80	-	-	-	24	24	49	-	-	-
324512	New	60	55	80	-	-	-	24	25	50	-	-	-
324513	New	60	55	80	-	-	-	23	24	49	-	-	-
324514	New	60	55	80	-	-	-	24	25	49	-	-	-
324515	New	60	55	80	-	-	-	25	26	50	-	-	-
324516	New	60	55	80	-	-	-	23	24	48	-	-	-
324517	New	60	55	80	-	-	-	21	22	47	-	-	-
324518	New	60	55	80	-	-	-	20	20	46	-	-	-
324519	New	60	55	80	-	-	-	30	31	56	-	-	-
324520	New	60	55	80	-	-	-	27	27	51	-	-	-
324521	New	60	55	80	-	-	-	28	28	53	-	-	-
324522	New	60	55	80	-	-	-	22	23	52	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
324523	New	60	55	80	-	-	-	25	26	51	-	-	-
324524	New	60	55	80	-	-	-	24	25	50	-	-	-
324525	New	60	55	80	-	-	-	25	26	50	-	-	-
324526	New	60	55	80	-	-	-	22	23	48	-	-	-
324527	New	60	55	80	-	-	-	24	25	51	-	-	-
324528	New	60	55	80	-	-	-	23	24	48	-	-	-
324529	New	60	55	80	-	-	-	16	17	42	-	-	-
324530	New	60	55	80	-	-	-	19	20	45	-	-	-
324531	New	60	55	80	-	-	-	10	10	3	-	-	-
324532	New	60	55	80	-	-	-	22	22	47	-	-	-
324533	New	60	55	80	-	-	-	24	25	51	-	-	-
324534	New	60	55	80	-	-	-	22	23	49	-	-	-
324535	New	60	55	80	-	-	-	24	24	48	-	-	-
324536	New	60	55	80	-	-	-	22	23	49	-	-	-
324537	New	60	55	80	-	-	-	22	23	48	-	-	-
324538	New	60	55	80	-	-	-	22	23	47	-	-	-
324539	New	60	55	80	-	-	-	21	22	46	-	-	-
324540	New	60	55	80	-	-	-	20	21	45	-	-	-
324541	New	60	55	80	-	-	-	21	22	46	-	-	-
324542	New	60	55	80	-	-	-	21	22	46	-	-	-
324543	New	60	55	80	-	-	-	20	20	45	-	-	-
324544	New	60	55	80	-	-	-	20	21	46	-	-	-
324545	New	60	55	80	-	-	-	23	24	49	-	-	-
324546	New	60	55	80	-	-	-	21	22	47	-	-	-
324547	New	60	55	80	-	-	-	21	22	47	-	-	-
324548	New	60	55	80	-	-	-	21	22	48	-	-	-
324549	New	60	55	80	-	-	-	22	23	48	-	-	-
324550	New	60	55	80	-	-	-	21	22	48	-	-	-
324551	New	60	55	80	-	-	-	22	23	48	-	-	-
324552	New	60	55	80	-	-	-	21	21	47	-	-	-
324553	New	60	55	80	-	-	-	19	20	44	-	-	-
324554	New	60	55	80	-	-	-	10	10	3	-	-	-
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324557	New	60	55	80	-	-	-	10	10	3	-	-	-
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324559	New	60	55	80	-	-	-	10	10	3	-	-	-
324560	New	60	55	80	-	-	-	10	10	3	-	-	-
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324562	New	60	55	80	-	-	-	10	10	3	-	-	-
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324564	New	60	55	80	-	-	-	10	10	3	-	-	-
324565	New	60	55	80	-	-	-	10	10	3	-	-	-
324566	New	60	55	80	-	-	-	10	10	3	-	-	-
324567	New	60	55	80	-	-	-	10	10	3	-	-	-
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324592	New	60	55	80	-	-	-	19	20	44	-	-	-
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324608	New	60	55	80	-	-	-	18	19	47	-	-	-
324609	New	60	55	80	-	-	-	19	20	47	-	-	-
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324611	New	60	55	80	-	-	-	20	21	48	-	-	-
324612	New	60	55	80	-	-	-	12	13	37	-	-	-
324613	New	60	55	80	-	-	-	13	14	36	-	-	-
324614	New	60	55	80	-	-	-	18	19	41	-	-	-
324615	New	60	55	80	-	-	-	17	18	39	-	-	-
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324617	New	60	55	80	-	-	-	19	20	41	-	-	-
324618	New	60	55	80	-	-	-	26	27	49	-	-	-
324619	New	60	55	80	-	-	-	19	21	42	-	-	-
324620	New	60	55	80	-	-	-	21	22	42	-	-	-
324622	New	60	55	80	-	-	-	25	27	51	-	-	-

Receptor ID	New rail corridor/ upgrade of existing	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
	infrastructure	LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
324623	New	60	55	80	-	-	-	25	26	51	-	-	-
324624	New	60	55	80	-	-	-	28	29	55	-	-	-
324626	New	60	55	80	-	-	-	44	45	69	-	-	-
324627	New	60	55	80	-	-	-	46	47	69	-	-	-
324629	New	60	55	80	-	-	-	43	44	64	-	-	-
324630	New	60	55	80	-	-	-	41	42	60	-	-	-
324631	New	60	55	80	-	-	-	49	50	71	-	-	-
324632	Redevelopment	65	60	85	50	50	74	52	53	73	2.4	2.6	-1.5
324633	New	60	55	80	-	-	-	49	50	70	-	-	-
324634	New	60	55	80	-	-	-	48	49	71	-	-	-
324635	Redevelopment	65	60	85	44	44	69	48	49	70	4.2	4.8	1.7
324636	Redevelopment	65	60	85	48	49	72	52	53	71	3.8	4.0	-0.8
324637	New	60	55	80	-	-	-	45	46	67	-	-	-
324638	Redevelopment	65	60	85	47	47	69	52	53	71	5.2	5.3	1.9
324639	Redevelopment	65	60	85	52	53	77	53	54	75	0.6	0.9	-2.3
324644	New	60	55	80	-	-	-	43	44	65	-	-	-
324645	New	60	55	80	-	-	-	43	44	66	-	-	-
324646	New	60	55	80	-	-	-	43	44	66	-	-	-
324647	New	60	55	80	-	-	-	47	48	69	-	-	-
324648	New	60	55	80	-	-	-	44	45	68	-	-	-
324649	New	60	55	80	-	-	-	45	46	68	-	-	-
324650	New	60	55	80	-	-	-	46	47	71	-	-	-
324651	New	60	55	80	-	-	-	47	48	70	-	-	-
324652	New	60	55	80	-	-	-	48	49	71	-	-	-
324653	Redevelopment	65	60	85	51	51	76	50	51	73	-1.3	-0.6	-2.4
324654	Redevelopment	65	60	85	52	52	76	52	53	75	0.1	0.8	-0.7
324657	New	60	55	80	-	-	-	38	39	62	-	-	-
324658	New	60	55	80	-	-	-	37	39	60	-	-	-
324659	New	60	55	80	-	-	-	47	49	71	-	-	-
324660	New	60	55	80	-	-	-	51	52	74	-	-	-
324661	New	60	55	80	-	-	-	40	41	65	-	-	-
324662	New	60	55	80	-	-	-	41	42	66	-	-	-
324663	New	60	55	80	-	-	-	19	19	44	-	-	-
324664	New	60	55	80	-	-	-	24	25	45	-	-	-
324665	New	60	55	80	-	-	-	23	24	45	-	-	-
324666	New	60	55	80	-	-	-	23	25	46	-	-	-
324667	New	60	55	80	-	-	-	27	28	49	-	-	-
324670	New	60	55	80	-	-	-	45	45	65	-	-	-
324671	New	60	55	80	-	-	-	43	44	68	-	-	-
324673	New	60	55	80	-	-	-	35	36	56	-	-	-
324675	New	60	55	80	-	-	-	42	43	63	-	-	-
324677	New	60	55	80	-	-	-	38	39	63	-	-	-
324678	New	60	55	80	-	-	-	40	41	64	-	-	-
324679	New	60	55	80	-	-	-	39	40	63	-	-	-
324680	New	60	55	80	-	-	-	38	40	63	-	-	-
324684	New	60	55	80	-	-	-	37	38	62	-	-	-

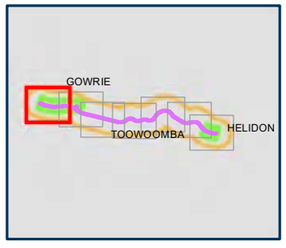
GOWRIE TO HELIDON

Year 2027 Daytime
Rail Noise Levels
Overview Mapsheets

APPENDIX D - Map 1 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
- Toowoomba Range Tunnel
- Noise Assessment Area – Upgrading Existing Railway
- Study Area
- Daytime noise criteria LAeq15hr 60dBA New rail corridor
- Daytime noise criteria LAeq15hr 65dBA upgrading existing rail corridor
- Daytime noise criteria LA max 80dBA New rail corridor
- Daytime noise criteria LA max 85dBA upgrading existing rail corridor
- Residential Sensitive Receptors
- Non-residential Sensitive Receptors
- Properties to be acquired by the Project

500 m



Noise contours are based on a set distance above the local terrain level of 2.4m.

Coordinate System: GDA 1994 MGA Zone 56

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GOWRIE TO HELIDON

Year 2027 Daytime
Rail Noise Levels
Detailed Mapsheets

APPENDIX D - Map 2 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
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- Non-residential Sensitive Receptors
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100 m



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Service Layer Credits: ESRI Basemap

GOWRIE TO HELIDON

Year 2027 Daytime
Rail Noise Levels
Detailed Mapsheets

APPENDIX D - Map 3 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
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- Non-residential Sensitive Receptors
- Properties to be acquired by the Project

100 m



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Service Layer Credits: ESRI Basemap

GOWRIE TO HELIDON

Year 2027 Daytime
Rail Noise Levels
Detailed Mapsheets

APPENDIX D - Map 4 of 28

- Proposal Extent
- Existing Railway
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- Non-residential Sensitive Receptors
- Properties to be acquired by the Project

100 m



Noise contours are based on a set distance above the local terrain level of 2.4m.

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100 m



Noise contours are based on a set distance above the local terrain level of 2.4m.

Coordinate System: GDA 1994 MGA Zone 56

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Date: 04-Jun-2021
Author: JG

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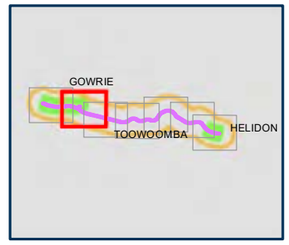
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500 m



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320-BR02-UT1 GOWRIE CREEK RAIL BRIDGE

Gowrie West Portal Loop

TOOWOOMBA TUNNEL

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100 m



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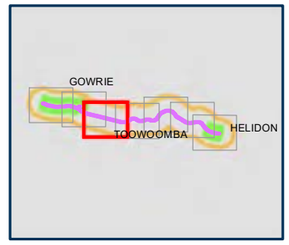
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500 m



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100 m



Noise contours are based on a set distance above the local terrain level of 2.4m.

Coordinate System: GDA 1994 MGA Zone 56

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Date: 04-Jun-2021
Author: JG

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GOWRIE TO HELIDON

Year 2027 Daytime
Rail Noise Levels
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APPENDIX D - Map 21 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
- Toowoomba Range Tunnel
- Noise Assessment Area – Upgrading Existing Railway
- Study Area
- Daytime noise criteria LAeq15hr 60dBA New rail corridor
- Daytime noise criteria LAeq15hr 65dBA upgrading existing rail corridor
- Daytime noise criteria LA max 80dBA New rail corridor
- Daytime noise criteria LA max 85dBA upgrading existing rail corridor
- Residential Sensitive Receptors
- Non-residential Sensitive Receptors
- Properties to be acquired by the Project

100 m



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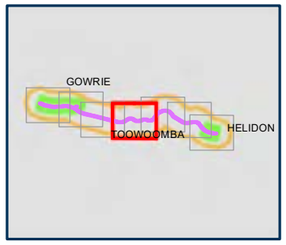
GOWRIE TO HELIDON

Year 2027 Daytime
Rail Noise Levels
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APPENDIX D - Map 22 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
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- Noise Assessment Area – Upgrading Existing Railway
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500 m



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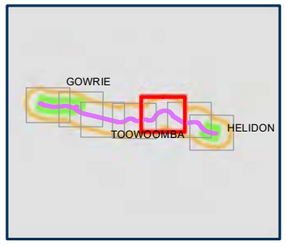
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Year 2027 Daytime
Rail Noise Levels
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APPENDIX D - Map 23 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
- Rail Alignment/Centreline
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500 m



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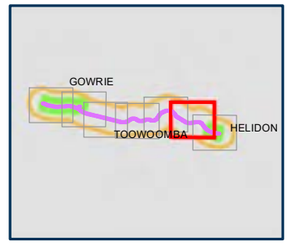
GOWRIE TO HELIDON

Year 2027 Daytime
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APPENDIX D - Map 24 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
- Toowoomba Range Tunnel
- Noise Assessment Area – Upgrading Existing Railway
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500 m



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GOWRIE TO HELIDON

Year 2027 Daytime
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APPENDIX D - Map 25 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
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100 m



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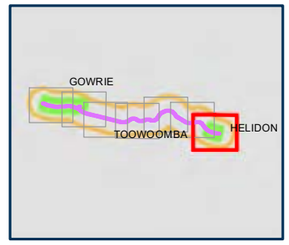
GOWRIE TO HELIDON

Year 2027 Daytime
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APPENDIX D - Map 26 of 28

- Proposal Extent
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500 m



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320-BR13 WITHCOTT SEEDLINGS VIADUCT

320-BR14 LOCKYER CREEK VIADUCT

27

28

ROSSITERS ROAD
LOCKYER SIDING ROAD
TOOWOOMBA SECOND RANGE CROSSING
CATTOS ROAD
AIR FORCE ROAD
BORUESONS WAY
WARRIGAL ROAD
ANDERSONS ROAD
MCERLEAN ROAD
SHELLING ROAD
LIONEL DRIVE
PAYNTER ROAD
POSTMANS RIDGE ROAD
WARREGO HIGHWAY
CONNOLES ROAD
TWIDALE ROAD
JOSEPH THOMAS DRIVE
MENZIES ROAD
NANS ROAD
KELLYS ROAD
LAVENDER ROAD
AIRFORCE ROAD
HELIDON DIP ROAD
GUNN STREET
WRIGHTS ROAD
CONNORS ROAD
STATION STREET
SEVENTEEN MILE ROAD
BOWEN STREET
GEORGE STREET
ARTHUR STREET
TURNER STREET
CEMETERY ROAD
SYMES ROAD
LAWLERS ROAD
WARREGO HIGHWAY ON RAMP
RAILWAY STREET
SCHOOL STREET
PROJECT EXTENT
Main Line
Sheep Station Creek
Wrights Creek
Lockyer Creek
Rocky Creek
Monkey Water Holes Creek

GOWRIE TO HELIDON

Year 2027 Daytime
Rail Noise Levels
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APPENDIX D - Map 27 of 28

- Proposal Extent
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100m



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GOWRIE TO HELIDON

Year 2027 Daytime
Rail Noise Levels
Detailed Mapsheets

APPENDIX D - Map 28 of 28

- Proposal Extent
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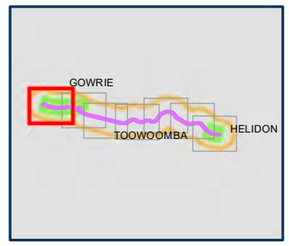
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Year 2027 Night-time
Rail Noise Levels
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APPENDIX D - Map 1 of 28

- Proposal Extent
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500 m



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GOWRIE TO HELIDON

Year 2027 Night-time
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APPENDIX D - Map 2 of 28

- Proposal Extent
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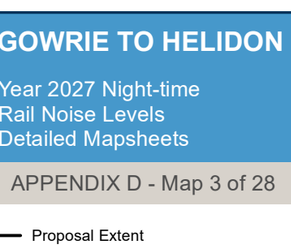
GOWRIE TO HELIDON

Year 2027 Night-time
Rail Noise Levels
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APPENDIX D - Map 3 of 28

- Proposal Extent
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GOWRIE TO HELIDON

Year 2027 Night-time
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APPENDIX D - Map 4 of 28

- Proposal Extent
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GOWRIE TO HELIDON

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APPENDIX D - Map 5 of 28

- Proposal Extent
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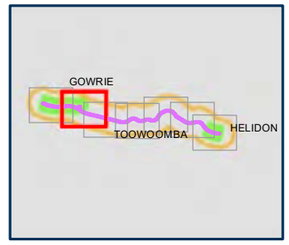
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Year 2027 Night-time
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APPENDIX D - Map 6 of 28

- Proposal Extent
- Existing Railway
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- Non-residential Sensitive Receptors
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500 m



Noise contours are based on a set distance above the local terrain level of 2.4m.

Coordinate System: GDA 1994 MGA Zone 56

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Paper: A3 Scale: 1:18,000
Date: 04-Jun-2021
Author: JG

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320-BR02-UT1
GOWRIE CREEK
RAIL BRIDGE

Gowrie West Portal Loop

TOOWOOMBA
TUNNEL

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GOWRIE TO HELIDON

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100 m



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GOWRIE TO HELIDON

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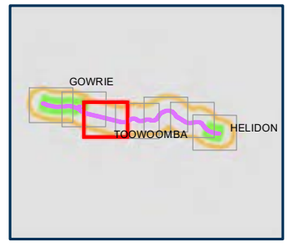
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Year 2027 Night-time
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APPENDIX D - Map 12 of 28

- Proposal Extent
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GOWRIE TO HELIDON

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GOWRIE TO HELIDON

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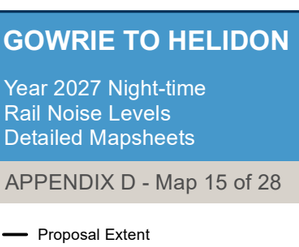
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Year 2027 Night-time
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APPENDIX D - Map 15 of 28

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APPENDIX D - Map 16 of 28

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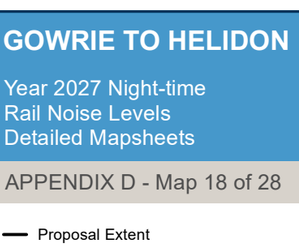
GOWRIE TO HELIDON

Year 2027 Night-time
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APPENDIX D - Map 18 of 28

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- Non-residential Sensitive Receptors
- Properties to be acquired by the Project

100 m



Noise contours are based on a set distance above the local terrain level of 2.4m.

Coordinate System: GDA 1994 MGA Zone 56

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Paper: A3 Scale: 1:3,000
Date: 04-Jun-2021
Author: JG

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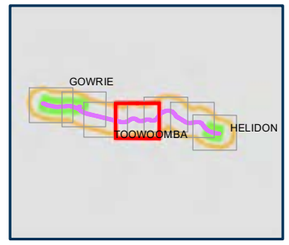
GOWRIE TO HELIDON

Year 2027 Night-time
Rail Noise Levels
Overview Mapsheets

APPENDIX D - Map 22 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
- Rail Alignment/Centreline
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500 m



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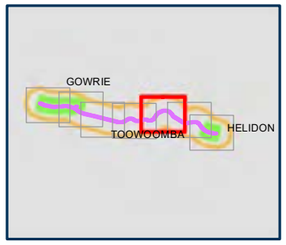
GOWRIE TO HELIDON

Year 2027 Night-time
Rail Noise Levels
Overview Mapsheets

APPENDIX D - Map 23 of 28

- Proposal Extent
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500 m



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320-BR11 POSTMANS RIDGE VIADUCT
320-BR10 SIX MILE CREEK VIADUCT
320-BR07 WITHCOTT VIADUCT 3
320-BR06 WITHCOTT VIADUCT 2
320-BR08 WITHCOTT VIADUCT 4
320-BR12 MURPHYS CREEK ROAD VIADUCT
Postman Ridge Loop

STEVENS ROAD
KOREELAH STREET
COSTELLOS ROAD
TOOWOOMBA SECOND RANGE CROSSING
MCNAMARAS ROAD
BELLS ROAD
CITTINS ROAD
SIX MILE CREEK ROAD
HOWMANS ROAD
JONES ROAD
AMOS ROAD
Six Mile Creek
Rocky Creek

315851 315396 315398 315315 315299 315440 315441 315244
314769 314727 314720 314506 314496 314490 314370 314332 314275 314265 314273 314213
313917 313775 313781 313774 313768 313670 313533 313475 313377 313359 313296 313339 313284 313264 313338 313332 313430 313313 313189 313175 313230 324671 313166 312928 312828 312838 312769 312704 312771 312718 312644 312584 312610 312445 312422 312341 312321 312433 312357 312196 312588 312393 312354 312119 312007 324670 311809 311557 311692 311837 311864 311799 311470 311459 311671 311594 311440 311318 311326 311180 311070 311020 311348 311145 311082 311014 310943 310839 310806 310680 310675 310713

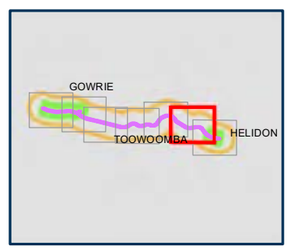
GOWRIE TO HELIDON

Year 2027 Night-time
Rail Noise Levels
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APPENDIX D - Map 24 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
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- Non-residential Sensitive Receptors
- Properties to be acquired by the Project

500 m



Noise contours are based on a set distance above the local terrain level of 2.4m.

Coordinate System: GDA 1994 MGA Zone 56

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COSTELLOS ROAD
MONTGOMERYS ROAD
Lockyer Creek
MCDONALDS ROAD
HOWMANS ROAD
LOCKYER SIDING ROAD
320-BR11 POSTMANS RIDGE VIADUCT
320-BR12 MURPHYS CREEK ROAD VIADUCT
Postman Ridge Loop
320-BR13 WITHCOTT SEEDLINGS VIADUCT
320-BR14 LOCKYER CREEK VIADUCT
ROSSITERS ROAD
Main Line
Six Mile Creek
SIX MILE CREEK ROAD
MURPHYS CREEK ROAD
TOOWOOMBA SECOND RANGE CROSSING
CATTOS ROAD
AIR FORCE ROAD
SNELLING ROAD
POSTMANS RIDGE ROAD
LIONEL DRIVE
PAYNTER ROAD
DIANA CRESCENT
Little Oakey Creek
Rocky Creek
Gatton Creek
25

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GOWRIE TO HELIDON

Year 2027 Night-time
Rail Noise Levels
Detailed Mapsheets

APPENDIX D - Map 25 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
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100 m



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GOWRIE TO HELIDON

Year 2027 Night-time
Rail Noise Levels
Overview Mapsheets

APPENDIX D - Map 26 of 28

320-BR13 WITHCOTT SEEDLINGS VIADUCT

320-BR14 LOCKYER CREEK VIADUCT

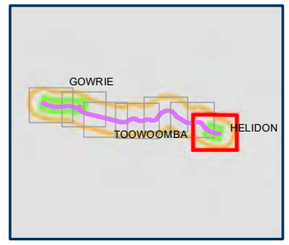
ROSSITERS ROAD
LOCKYER SIDING ROAD
TOOWOOMBA SECOND RANGE CROSSING
CATTOS ROAD
AIR FORCE ROAD
BORUESONS WAY
PROJECT EXTENT
WARRIGAL ROAD
ANDERSONS ROAD
MCERLEAN ROAD
Sheep Station Creek
SNELLING ROAD
LIONEL DRIVE
AIRFORCE ROAD Main Line
HELIDON DIP ROAD
GUNN STREET
Wrights Creek
Lockyer Creek
PAYNTER ROAD
POSTMANS RIDGE ROAD
WARREGO HIGHWAY
CONNOLES ROAD
Rocky Creek
TWIDALES ROAD
MENZIES ROAD
NANS ROAD
KELLYS ROAD
LAVENDER ROAD
Monkey Water Holes Creek
WRIGHTS ROAD
CONNORS ROAD
SYMES ROAD
STATION STREET
SEVENTEEN MILE ROAD
CEMETERY ROAD
BOWEN STREET
GEORGE STREET
ARTHUR STREET
TURNER STREET
DEVINE STREET
TURNER STREET OFF RAMP
LAWLERS ROAD
PLANT STREET
SCHOOL STREET
RAILWAY STREET

27

28

Proposal Extent
Existing Railway
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Rail Alignment/Centreline
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Non-residential Sensitive Receptors
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500 m



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GOWRIE TO HELIDON

Year 2027 Night-time
Rail Noise Levels
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APPENDIX D - Map 27 of 28

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GOWRIE TO HELIDON

Year 2027 Night-time
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APPENDIX D - Map 28 of 28

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APPENDIX

P

Operational Railway Noise and Vibration

Appendix E Predicted airborne railway noise levels—Year 2040 Design year

GOWRIE TO HELIDON ENVIRONMENTAL IMPACT STATEMENT



The predicted railway noise levels for the future railway operations in 2040 are detailed in the following table and noise contour maps.

The predicted noise levels are provided for the identified sensitive receptors within the study area. Included in the map sheet series are localised figures to assist the identification of individual sensitive receptor buildings. In some cases the contours of the noise criteria are not presented on the map sheets as the sensitive receptors are far enough from the Project to be well within the noise criteria.

The maps include all sensitive receptors where the predicted noise levels triggered an investigation of noise mitigation. The sensitive receptors above the tunnel alignment are not included as there were no airborne noise emissions from train passbys within the tunnel.

Following the tabulated results are the predicted noise contour maps for the railway operations at the project design year 2040. The noise contours have been presented as the daytime and night-time assessment criteria applied by ARTC on the Project. All noise contours are predicted at 2.4 m above ground level and there are no airborne noise predictions where the trains are within the Toowoomba tunnel.

The noise contours are calculated from the interpolation of thousands of calculation points and provide an overview of the railway noise levels to assist the interpretation of the assessment and its outcomes. The tabulated noise levels at the individual sensitive receptors should be referenced when assessing railway noise levels against the criteria.

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
307977	New	60	55	80	-	-	-	43	43	63	-	-	-
307989	New	60	55	80	-	-	-	44	45	66	-	-	-
308204	New	60	55	80	-	-	-	41	41	61	-	-	-
308261	New	60	55	80	-	-	-	43	43	63	-	-	-
308409	New	60	55	80	-	-	-	43	44	64	-	-	-
308597	New	60	55	80	-	-	-	44	45	65	-	-	-
308599	New	60	55	80	-	-	-	34	34	59	-	-	-
308615	New	60	55	80	-	-	-	45	45	64	-	-	-
308621	New	60	55	80	-	-	-	41	41	62	-	-	-
308631	New	60	55	80	-	-	-	39	40	62	-	-	-
308637	New	60	55	80	-	-	-	41	41	63	-	-	-
308641	New	60	55	80	-	-	-	38	38	59	-	-	-
308646	New	60	55	80	-	-	-	39	39	62	-	-	-
308648	New	60	55	80	-	-	-	39	39	61	-	-	-
308651	New	60	55	80	-	-	-	39	39	61	-	-	-
308653	New	60	55	80	-	-	-	39	40	60	-	-	-
308656	New	60	55	80	-	-	-	39	39	60	-	-	-
308657	New	60	55	80	-	-	-	41	42	64	-	-	-
308661	New	60	55	80	-	-	-	39	40	62	-	-	-
308662	New	60	55	80	-	-	-	39	39	62	-	-	-
308666	New	60	55	80	-	-	-	39	40	62	-	-	-
308673	New	60	55	80	-	-	-	42	42	64	-	-	-
308675	New	60	55	80	-	-	-	40	40	61	-	-	-
308681	New	60	55	80	-	-	-	42	42	64	-	-	-
308683	New	60	55	80	-	-	-	39	40	61	-	-	-
308686	New	60	55	80	-	-	-	40	40	63	-	-	-
308687	New	60	55	80	-	-	-	39	39	60	-	-	-
308692	New	60	55	80	-	-	-	40	40	64	-	-	-
308693	New	60	55	80	-	-	-	40	41	62	-	-	-
308695	New	60	55	80	-	-	-	40	40	62	-	-	-
308698	New	60	55	80	-	-	-	41	41	62	-	-	-
308707	New	60	55	80	-	-	-	41	41	63	-	-	-
308709	New	60	55	80	-	-	-	40	40	63	-	-	-
308710	New	60	55	80	-	-	-	40	41	63	-	-	-
308713	New	60	55	80	-	-	-	40	40	61	-	-	-
308716	New	60	55	80	-	-	-	39	39	61	-	-	-
308718	New	60	55	80	-	-	-	40	40	63	-	-	-
308719	New	60	55	80	-	-	-	40	40	63	-	-	-
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308726	New	60	55	80	-	-	-	41	41	64	-	-	-
308727	New	60	55	80	-	-	-	40	41	61	-	-	-
308734	New	60	55	80	-	-	-	40	40	63	-	-	-
308735	New	60	55	80	-	-	-	40	40	63	-	-	-
308737	New	60	55	80	-	-	-	42	43	64	-	-	-
308738	New	60	55	80	-	-	-	39	40	63	-	-	-
308749	New	60	55	80	-	-	-	40	41	63	-	-	-
308751	New	60	55	80	-	-	-	40	40	62	-	-	-
308758	New	60	55	80	-	-	-	41	41	64	-	-	-
308759	New	60	55	80	-	-	-	39	39	62	-	-	-
308760	New	60	55	80	-	-	-	41	42	64	-	-	-
308761	New	60	55	80	-	-	-	40	41	63	-	-	-
308766	New	60	55	80	-	-	-	41	41	63	-	-	-
308767	New	60	55	80	-	-	-	42	42	65	-	-	-
308770	New	60	55	80	-	-	-	41	41	63	-	-	-
308772	New	60	55	80	-	-	-	40	40	63	-	-	-
308777	New	60	55	80	-	-	-	42	42	64	-	-	-
308780	New	60	55	80	-	-	-	41	41	63	-	-	-
308783	New	60	55	80	-	-	-	40	40	63	-	-	-
308787	New	60	55	80	-	-	-	42	42	63	-	-	-
308793	New	60	55	80	-	-	-	42	42	62	-	-	-
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308806	New	60	55	80	-	-	-	42	43	64	-	-	-
308807	New	60	55	80	-	-	-	42	42	64	-	-	-
308812	New	60	55	80	-	-	-	41	42	62	-	-	-
308816	New	60	55	80	-	-	-	42	42	64	-	-	-
308818	New	60	55	80	-	-	-	41	42	63	-	-	-
308819	New	60	55	80	-	-	-	41	41	63	-	-	-
308820	New	60	55	80	-	-	-	43	43	65	-	-	-
308822	New	60	55	80	-	-	-	42	42	64	-	-	-
308823	New	60	55	80	-	-	-	41	42	61	-	-	-
308824	New	60	55	80	-	-	-	42	42	63	-	-	-
308826	New	60	55	80	-	-	-	42	43	64	-	-	-
308829	New	60	55	80	-	-	-	42	42	63	-	-	-
308836	New	60	55	80	-	-	-	42	42	63	-	-	-
308840	New	60	55	80	-	-	-	42	43	64	-	-	-
308847	New	60	55	80	-	-	-	42	43	64	-	-	-
308848	New	60	55	80	-	-	-	42	42	64	-	-	-
308851	New	60	55	80	-	-	-	43	43	64	-	-	-
308855	New	60	55	80	-	-	-	43	44	63	-	-	-
308869	New	60	55	80	-	-	-	44	44	64	-	-	-
308882	New	60	55	80	-	-	-	43	43	65	-	-	-
308886	New	60	55	80	-	-	-	43	43	64	-	-	-
308960	New	60	55	80	-	-	-	43	44	64	-	-	-
308971	New	60	55	80	-	-	-	43	43	64	-	-	-
308975	New	60	55	80	-	-	-	45	45	65	-	-	-
309013	New	60	55	80	-	-	-	44	44	65	-	-	-
309162	New	60	55	80	-	-	-	43	43	65	-	-	-
309168	New	60	55	80	-	-	-	43	43	65	-	-	-
309235	New	60	55	80	-	-	-	42	42	62	-	-	-
309239	New	60	55	80	-	-	-	42	42	61	-	-	-
309274	New	60	55	80	-	-	-	42	42	65	-	-	-
309307	New	60	55	80	-	-	-	41	42	64	-	-	-
309314	New	60	55	80	-	-	-	45	45	67	-	-	-
309317	New	60	55	80	-	-	-	46	46	68	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
309327	New	60	55	80	-	-	-	42	42	64	-	-	-
309419	New	60	55	80	-	-	-	40	40	60	-	-	-
309439	New	60	55	80	-	-	-	40	40	63	-	-	-
309468	New	60	55	80	-	-	-	42	42	65	-	-	-
309492	New	60	55	80	-	-	-	46	47	69	-	-	-
309532	New	60	55	80	-	-	-	40	40	60	-	-	-
309558	New	60	55	80	-	-	-	41	41	59	-	-	-
309564	New	60	55	80	-	-	-	40	40	58	-	-	-
309594	New	60	55	80	-	-	-	39	40	62	-	-	-
309602	New	60	55	80	-	-	-	40	41	60	-	-	-
309649	New	60	55	80	-	-	-	40	41	60	-	-	-
309686	New	60	55	80	-	-	-	47	47	70	-	-	-
309714	New	60	55	80	-	-	-	50	50	71	-	-	-
309741	New	60	55	80	-	-	-	40	40	60	-	-	-
309743	New	60	55	80	-	-	-	46	46	68	-	-	-
309753	New	60	55	80	-	-	-	40	40	59	-	-	-
309762	New	60	55	80	-	-	-	49	49	69	-	-	-
309767	New	60	55	80	-	-	-	52	52	71	-	-	-
309769	New	60	55	80	-	-	-	44	45	67	-	-	-
309782	New	60	55	80	-	-	-	40	40	59	-	-	-
309786	New	60	55	80	-	-	-	41	42	60	-	-	-
309797	New	60	55	80	-	-	-	43	43	61	-	-	-
309809	New	60	55	80	-	-	-	41	41	60	-	-	-
309810	New	60	55	80	-	-	-	51	51	71	-	-	-
309822	New	60	55	80	-	-	-	43	44	66	-	-	-
309828	New	60	55	80	-	-	-	43	44	63	-	-	-
309831	New	60	55	80	-	-	-	51	51	70	-	-	-
309833	New	60	55	80	-	-	-	42	43	63	-	-	-
309845	New	60	55	80	-	-	-	47	48	69	-	-	-
309862	New	60	55	80	-	-	-	40	40	60	-	-	-
309868	Redevelopment	65	60	85	49	49	72	51	51	71	2.5	2.1	-1.9
309873	Redevelopment	65	60	85	51	51	75	53	54	75	2.7	2.6	0.2
309891	New	60	55	80	-	-	-	43	43	61	-	-	-
309912	New	60	55	80	-	-	-	49	49	69	-	-	-
309919	New	60	55	80	-	-	-	42	42	61	-	-	-
309944	New	60	55	80	-	-	-	42	42	63	-	-	-
309979	New	60	55	80	-	-	-	25	25	43	-	-	-
309980	New	60	55	80	-	-	-	22	22	43	-	-	-
309983	New	60	55	80	-	-	-	25	26	44	-	-	-
309987	New	60	55	80	-	-	-	25	25	44	-	-	-
309989	New	60	55	80	-	-	-	23	23	43	-	-	-
309990	New	60	55	80	-	-	-	42	42	63	-	-	-
309995	New	60	55	80	-	-	-	22	22	43	-	-	-
309996	New	60	55	80	-	-	-	26	26	45	-	-	-
309997	New	60	55	80	-	-	-	24	24	44	-	-	-
310001	New	60	55	80	-	-	-	42	42	63	-	-	-
310002	New	60	55	80	-	-	-	43	44	63	-	-	-
310004	New	60	55	80	-	-	-	27	27	45	-	-	-
310007	New	60	55	80	-	-	-	23	23	43	-	-	-
310008	New	60	55	80	-	-	-	27	27	45	-	-	-
310011	New	60	55	80	-	-	-	24	24	44	-	-	-
310016	New	60	55	80	-	-	-	27	27	44	-	-	-
310021	New	60	55	80	-	-	-	24	24	44	-	-	-
310023	New	60	55	80	-	-	-	43	43	62	-	-	-
310024	New	60	55	80	-	-	-	27	27	44	-	-	-
310025	New	60	55	80	-	-	-	24	25	44	-	-	-
310027	New	60	55	80	-	-	-	25	25	43	-	-	-
310028	New	60	55	80	-	-	-	24	24	42	-	-	-
310032	Redevelopment	65	60	85	48	48	71	50	50	72	2.4	2.1	1.0
310034	New	60	55	80	-	-	-	27	27	45	-	-	-
310036	New	60	55	80	-	-	-	44	45	66	-	-	-
310037	New	60	55	80	-	-	-	26	26	44	-	-	-
310039	New	60	55	80	-	-	-	24	24	43	-	-	-
310040	New	60	55	80	-	-	-	25	25	44	-	-	-
310041	New	60	55	80	-	-	-	25	25	44	-	-	-
310042	New	60	55	80	-	-	-	27	28	44	-	-	-
310043	New	60	55	80	-	-	-	24	24	43	-	-	-
310044	New	60	55	80	-	-	-	26	26	44	-	-	-
310045	New	60	55	80	-	-	-	27	27	46	-	-	-
310047	New	60	55	80	-	-	-	25	26	43	-	-	-
310048	New	60	55	80	-	-	-	26	26	43	-	-	-
310050	New	60	55	80	-	-	-	24	24	42	-	-	-
310053	New	60	55	80	-	-	-	25	26	44	-	-	-
310055	New	60	55	80	-	-	-	26	26	45	-	-	-
310058	New	60	55	80	-	-	-	27	27	45	-	-	-
310063	New	60	55	80	-	-	-	46	46	67	-	-	-
310064	New	60	55	80	-	-	-	26	26	45	-	-	-
310066	New	60	55	80	-	-	-	26	26	44	-	-	-
310070	New	60	55	80	-	-	-	25	26	44	-	-	-
310073	New	60	55	80	-	-	-	45	45	65	-	-	-
310076	New	60	55	80	-	-	-	24	25	45	-	-	-
310079	New	60	55	80	-	-	-	26	26	45	-	-	-
310082	New	60	55	80	-	-	-	27	27	46	-	-	-
310084	New	60	55	80	-	-	-	25	25	45	-	-	-
310086	New	60	55	80	-	-	-	43	43	62	-	-	-
310089	New	60	55	80	-	-	-	39	39	60	-	-	-
310092	New	60	55	80	-	-	-	26	26	45	-	-	-
310097	New	60	55	80	-	-	-	26	27	46	-	-	-
310101	New	60	55	80	-	-	-	25	25	44	-	-	-
310102	New	60	55	80	-	-	-	27	27	46	-	-	-
310107	New	60	55	80	-	-	-	26	27	45	-	-	-
310108	New	60	55	80	-	-	-	28	28	46	-	-	-
310117	New	60	55	80	-	-	-	27	27	45	-	-	-
310121	New	60	55	80	-	-	-	43	43	66	-	-	-
310122	New	60	55	80	-	-	-	26	26	44	-	-	-
310125	New	60	55	80	-	-	-	27	28	47	-	-	-
310126	New	60	55	80	-	-	-	37	37	60	-	-	-
310128	New	60	55	80	-	-	-	26	26	46	-	-	-
310135	New	60	55	80	-	-	-	27	28	46	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
310138	New	60	55	80	-	-	-	28	28	47	-	-	-
310142	New	60	55	80	-	-	-	26	26	46	-	-	-
310143	New	60	55	80	-	-	-	26	27	45	-	-	-
310146	New	60	55	80	-	-	-	27	28	47	-	-	-
310147	New	60	55	80	-	-	-	45	45	65	-	-	-
310149	New	60	55	80	-	-	-	28	28	46	-	-	-
310156	New	60	55	80	-	-	-	27	27	45	-	-	-
310157	New	60	55	80	-	-	-	28	28	47	-	-	-
310163	New	60	55	80	-	-	-	28	29	47	-	-	-
310165	New	60	55	80	-	-	-	27	28	46	-	-	-
310170	New	60	55	80	-	-	-	27	27	46	-	-	-
310174	New	60	55	80	-	-	-	28	28	47	-	-	-
310175	New	60	55	80	-	-	-	27	27	46	-	-	-
310176	New	60	55	80	-	-	-	28	29	47	-	-	-
310177	New	60	55	80	-	-	-	28	28	47	-	-	-
310178	Redevelopment	65	60	85	50	51	74	53	53	74	2.9	2.5	0.4
310180	New	60	55	80	-	-	-	28	29	48	-	-	-
310186	New	60	55	80	-	-	-	28	28	46	-	-	-
310188	New	60	55	80	-	-	-	42	42	66	-	-	-
310190	New	60	55	80	-	-	-	28	28	47	-	-	-
310193	New	60	55	80	-	-	-	28	28	46	-	-	-
310194	New	60	55	80	-	-	-	28	28	48	-	-	-
310196	New	60	55	80	-	-	-	28	29	47	-	-	-
310198	New	60	55	80	-	-	-	27	27	45	-	-	-
310199	New	60	55	80	-	-	-	46	46	65	-	-	-
310201	New	60	55	80	-	-	-	28	28	47	-	-	-
310202	New	60	55	80	-	-	-	39	39	61	-	-	-
310203	New	60	55	80	-	-	-	27	28	47	-	-	-
310207	New	60	55	80	-	-	-	29	29	47	-	-	-
310209	New	60	55	80	-	-	-	29	29	47	-	-	-
310210	New	60	55	80	-	-	-	27	28	46	-	-	-
310213	New	60	55	80	-	-	-	27	27	46	-	-	-
310215	New	60	55	80	-	-	-	44	44	66	-	-	-
310216	New	60	55	80	-	-	-	27	28	45	-	-	-
310220	New	60	55	80	-	-	-	27	27	47	-	-	-
310223	New	60	55	80	-	-	-	27	27	46	-	-	-
310228	New	60	55	80	-	-	-	27	28	46	-	-	-
310229	New	60	55	80	-	-	-	27	27	46	-	-	-
310230	New	60	55	80	-	-	-	27	27	46	-	-	-
310231	New	60	55	80	-	-	-	28	28	45	-	-	-
310233	New	60	55	80	-	-	-	28	28	47	-	-	-
310234	New	60	55	80	-	-	-	18	18	39	-	-	-
310240	New	60	55	80	-	-	-	28	28	45	-	-	-
310242	New	60	55	80	-	-	-	26	26	45	-	-	-
310252	New	60	55	80	-	-	-	28	28	47	-	-	-
310253	New	60	55	80	-	-	-	26	26	45	-	-	-
310254	New	60	55	80	-	-	-	28	28	46	-	-	-
310255	New	60	55	80	-	-	-	19	19	39	-	-	-
310256	New	60	55	80	-	-	-	28	28	46	-	-	-
310257	New	60	55	80	-	-	-	27	28	46	-	-	-
310258	New	60	55	80	-	-	-	40	40	62	-	-	-
310260	New	60	55	80	-	-	-	27	28	46	-	-	-
310261	New	60	55	80	-	-	-	27	27	45	-	-	-
310262	New	60	55	80	-	-	-	43	43	64	-	-	-
310271	New	60	55	80	-	-	-	27	27	46	-	-	-
310272	New	60	55	80	-	-	-	28	28	46	-	-	-
310274	New	60	55	80	-	-	-	27	28	47	-	-	-
310275	New	60	55	80	-	-	-	28	28	47	-	-	-
310281	New	60	55	80	-	-	-	16	17	39	-	-	-
310282	New	60	55	80	-	-	-	26	27	45	-	-	-
310283	New	60	55	80	-	-	-	26	26	46	-	-	-
310288	New	60	55	80	-	-	-	28	28	47	-	-	-
310290	New	60	55	80	-	-	-	15	16	36	-	-	-
310297	New	60	55	80	-	-	-	27	27	46	-	-	-
310298	New	60	55	80	-	-	-	48	48	71	-	-	-
310300	New	60	55	80	-	-	-	19	19	39	-	-	-
310302	New	60	55	80	-	-	-	40	41	62	-	-	-
310304	New	60	55	80	-	-	-	27	27	45	-	-	-
310305	Redevelopment	65	60	85	62	62	88	57	57	81	-4.9	-4.9	-6.8
310313	New	60	55	80	-	-	-	29	29	46	-	-	-
310316	New	60	55	80	-	-	-	28	28	46	-	-	-
310318	Redevelopment	65	60	85	63	63	89	64	64	91	1.5	1.4	2.7
310320	New	60	55	80	-	-	-	28	28	46	-	-	-
310325	New	60	55	80	-	-	-	44	44	61	-	-	-
310330	New	60	55	80	-	-	-	18	19	40	-	-	-
310335	New	60	55	80	-	-	-	50	50	70	-	-	-
310340	New	60	55	80	-	-	-	16	16	37	-	-	-
310342	New	60	55	80	-	-	-	22	22	44	-	-	-
310343	New	60	55	80	-	-	-	28	28	46	-	-	-
310347	New	60	55	80	-	-	-	21	21	42	-	-	-
310348	New	60	55	80	-	-	-	30	30	49	-	-	-
310350	New	60	55	80	-	-	-	29	30	48	-	-	-
310360	New	60	55	80	-	-	-	28	28	46	-	-	-
310363	New	60	55	80	-	-	-	27	27	45	-	-	-
310364	New	60	55	80	-	-	-	26	26	46	-	-	-
310368	New	60	55	80	-	-	-	19	19	39	-	-	-
310370	New	60	55	80	-	-	-	32	33	53	-	-	-
310371	New	60	55	80	-	-	-	29	30	48	-	-	-
310379	New	60	55	80	-	-	-	29	29	49	-	-	-
310380	New	60	55	80	-	-	-	28	29	46	-	-	-
310381	New	60	55	80	-	-	-	44	44	61	-	-	-
310388	New	60	55	80	-	-	-	19	19	39	-	-	-
310391	New	60	55	80	-	-	-	30	30	49	-	-	-
310393	New	60	55	80	-	-	-	44	44	61	-	-	-
310396	New	60	55	80	-	-	-	27	28	47	-	-	-
310400	New	60	55	80	-	-	-	19	20	41	-	-	-
310403	New	60	55	80	-	-	-	34	34	56	-	-	-
310407	New	60	55	80	-	-	-	27	27	45	-	-	-
310412	New	60	55	80	-	-	-	38	38	57	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
310418	New	60	55	80	-	-	-	23	23	44	-	-	-
310423	New	60	55	80	-	-	-	38	39	58	-	-	-
310424	New	60	55	80	-	-	-	45	45	67	-	-	-
310428	New	60	55	80	-	-	-	39	39	58	-	-	-
310432	New	60	55	80	-	-	-	32	32	54	-	-	-
310433	New	60	55	80	-	-	-	26	26	45	-	-	-
310438	New	60	55	80	-	-	-	19	19	41	-	-	-
310441	New	60	55	80	-	-	-	25	26	44	-	-	-
310442	New	60	55	80	-	-	-	41	42	60	-	-	-
310444	New	60	55	80	-	-	-	36	37	56	-	-	-
310445	New	60	55	80	-	-	-	29	30	47	-	-	-
310447	New	60	55	80	-	-	-	37	37	56	-	-	-
310448	New	60	55	80	-	-	-	20	20	41	-	-	-
310450	New	60	55	80	-	-	-	25	25	46	-	-	-
310451	New	60	55	80	-	-	-	25	25	44	-	-	-
310452	New	60	55	80	-	-	-	33	33	55	-	-	-
310456	New	60	55	80	-	-	-	23	24	45	-	-	-
310457	New	60	55	80	-	-	-	20	20	41	-	-	-
310458	New	60	55	80	-	-	-	31	31	51	-	-	-
310460	New	60	55	80	-	-	-	25	26	45	-	-	-
310462	New	60	55	80	-	-	-	40	40	62	-	-	-
310467	New	60	55	80	-	-	-	49	49	70	-	-	-
310468	New	60	55	80	-	-	-	25	25	43	-	-	-
310471	New	60	55	80	-	-	-	24	25	44	-	-	-
310472	New	60	55	80	-	-	-	19	20	41	-	-	-
310473	New	60	55	80	-	-	-	19	20	40	-	-	-
310477	New	60	55	80	-	-	-	22	22	44	-	-	-
310480	New	60	55	80	-	-	-	37	37	61	-	-	-
310482	New	60	55	80	-	-	-	25	25	45	-	-	-
310483	New	60	55	80	-	-	-	25	25	44	-	-	-
310487	New	60	55	80	-	-	-	45	46	66	-	-	-
310492	New	60	55	80	-	-	-	20	21	41	-	-	-
310493	New	60	55	80	-	-	-	27	28	46	-	-	-
310500	New	60	55	80	-	-	-	49	50	72	-	-	-
310502	New	60	55	80	-	-	-	41	41	61	-	-	-
310506	New	60	55	80	-	-	-	31	32	50	-	-	-
310507	New	60	55	80	-	-	-	25	26	44	-	-	-
310508	New	60	55	80	-	-	-	19	20	40	-	-	-
310509	New	60	55	80	-	-	-	26	26	45	-	-	-
310510	New	60	55	80	-	-	-	44	45	62	-	-	-
310512	New	60	55	80	-	-	-	26	26	45	-	-	-
310519	New	60	55	80	-	-	-	44	44	63	-	-	-
310524	New	60	55	80	-	-	-	25	25	44	-	-	-
310527	New	60	55	80	-	-	-	42	43	63	-	-	-
310528	New	60	55	80	-	-	-	26	27	45	-	-	-
310532	New	60	55	80	-	-	-	40	41	59	-	-	-
310535	New	60	55	80	-	-	-	20	20	40	-	-	-
310536	New	60	55	80	-	-	-	40	40	58	-	-	-
310537	New	60	55	80	-	-	-	26	26	47	-	-	-
310540	New	60	55	80	-	-	-	39	39	58	-	-	-
310541	New	60	55	80	-	-	-	37	37	57	-	-	-
310543	New	60	55	80	-	-	-	25	25	44	-	-	-
310545	New	60	55	80	-	-	-	27	27	46	-	-	-
310547	New	60	55	80	-	-	-	21	22	42	-	-	-
310551	New	60	55	80	-	-	-	25	25	45	-	-	-
310552	New	60	55	80	-	-	-	45	45	65	-	-	-
310556	New	60	55	80	-	-	-	46	46	68	-	-	-
310559	New	60	55	80	-	-	-	27	27	47	-	-	-
310563	New	60	55	80	-	-	-	26	26	45	-	-	-
310564	New	60	55	80	-	-	-	20	20	40	-	-	-
310571	New	60	55	80	-	-	-	26	26	45	-	-	-
310572	New	60	55	80	-	-	-	24	24	44	-	-	-
310573	New	60	55	80	-	-	-	35	36	54	-	-	-
310577	New	60	55	80	-	-	-	27	27	45	-	-	-
310578	New	60	55	80	-	-	-	21	21	42	-	-	-
310579	New	60	55	80	-	-	-	25	25	44	-	-	-
310580	New	60	55	80	-	-	-	26	26	46	-	-	-
310586	New	60	55	80	-	-	-	24	25	45	-	-	-
310589	New	60	55	80	-	-	-	24	25	45	-	-	-
310590	New	60	55	80	-	-	-	23	24	46	-	-	-
310593	New	60	55	80	-	-	-	27	27	46	-	-	-
310597	New	60	55	80	-	-	-	20	20	40	-	-	-
310601	New	60	55	80	-	-	-	47	47	66	-	-	-
310603	New	60	55	80	-	-	-	25	25	45	-	-	-
310604	New	60	55	80	-	-	-	24	25	46	-	-	-
310605	New	60	55	80	-	-	-	46	46	66	-	-	-
310609	New	60	55	80	-	-	-	27	27	46	-	-	-
310612	New	60	55	80	-	-	-	18	19	41	-	-	-
310613	New	60	55	80	-	-	-	38	38	59	-	-	-
310616	New	60	55	80	-	-	-	25	26	45	-	-	-
310617	New	60	55	80	-	-	-	28	28	46	-	-	-
310619	New	60	55	80	-	-	-	47	47	68	-	-	-
310620	New	60	55	80	-	-	-	24	25	44	-	-	-
310621	New	60	55	80	-	-	-	27	28	46	-	-	-
310622	New	60	55	80	-	-	-	25	25	46	-	-	-
310624	New	60	55	80	-	-	-	22	23	43	-	-	-
310625	New	60	55	80	-	-	-	24	24	43	-	-	-
310626	New	60	55	80	-	-	-	37	37	57	-	-	-
310628	New	60	55	80	-	-	-	20	20	40	-	-	-
310629	New	60	55	80	-	-	-	28	28	46	-	-	-
310632	New	60	55	80	-	-	-	23	23	44	-	-	-
310636	New	60	55	80	-	-	-	25	25	44	-	-	-
310638	New	60	55	80	-	-	-	23	24	42	-	-	-
310639	New	60	55	80	-	-	-	26	26	46	-	-	-
310641	New	60	55	80	-	-	-	26	26	46	-	-	-
310643	New	60	55	80	-	-	-	23	23	43	-	-	-
310644	New	60	55	80	-	-	-	52	52	72	-	-	-
310645	New	60	55	80	-	-	-	44	44	61	-	-	-
310646	New	60	55	80	-	-	-	23	23	43	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
310647	New	60	55	80	-	-	-	27	27	46	-	-	-
310649	New	60	55	80	-	-	-	25	25	46	-	-	-
310653	New	60	55	80	-	-	-	25	25	44	-	-	-
310654	New	60	55	80	-	-	-	48	48	67	-	-	-
310658	New	60	55	80	-	-	-	25	25	44	-	-	-
310661	New	60	55	80	-	-	-	20	20	40	-	-	-
310664	New	60	55	80	-	-	-	23	23	43	-	-	-
310666	New	60	55	80	-	-	-	20	21	40	-	-	-
310667	New	60	55	80	-	-	-	21	21	41	-	-	-
310669	New	60	55	80	-	-	-	41	41	60	-	-	-
310670	New	60	55	80	-	-	-	21	22	41	-	-	-
310671	New	60	55	80	-	-	-	25	26	45	-	-	-
310675	New	60	55	80	-	-	-	43	43	61	-	-	-
310678	New	60	55	80	-	-	-	26	27	45	-	-	-
310680	New	60	55	80	-	-	-	43	43	62	-	-	-
310681	New	60	55	80	-	-	-	26	26	48	-	-	-
310682	New	60	55	80	-	-	-	35	35	58	-	-	-
310683	New	60	55	80	-	-	-	37	37	57	-	-	-
310684	New	60	55	80	-	-	-	28	28	47	-	-	-
310685	New	60	55	80	-	-	-	24	24	44	-	-	-
310686	New	60	55	80	-	-	-	22	22	42	-	-	-
310687	New	60	55	80	-	-	-	24	24	44	-	-	-
310691	New	60	55	80	-	-	-	23	23	43	-	-	-
310693	New	60	55	80	-	-	-	24	24	44	-	-	-
310694	New	60	55	80	-	-	-	35	35	58	-	-	-
310697	New	60	55	80	-	-	-	25	26	48	-	-	-
310699	New	60	55	80	-	-	-	36	36	58	-	-	-
310701	New	60	55	80	-	-	-	24	24	45	-	-	-
310702	New	60	55	80	-	-	-	25	26	46	-	-	-
310703	New	60	55	80	-	-	-	10	10	36	-	-	-
310709	New	60	55	80	-	-	-	23	23	43	-	-	-
310712	New	60	55	80	-	-	-	24	25	46	-	-	-
310713	New	60	55	80	-	-	-	33	33	53	-	-	-
310717	New	60	55	80	-	-	-	25	25	45	-	-	-
310719	New	60	55	80	-	-	-	23	23	43	-	-	-
310720	New	60	55	80	-	-	-	20	21	41	-	-	-
310721	New	60	55	80	-	-	-	21	21	41	-	-	-
310722	New	60	55	80	-	-	-	27	27	49	-	-	-
310723	New	60	55	80	-	-	-	24	25	44	-	-	-
310724	New	60	55	80	-	-	-	23	24	43	-	-	-
310726	New	60	55	80	-	-	-	13	13	37	-	-	-
310727	New	60	55	80	-	-	-	19	19	38	-	-	-
310728	New	60	55	80	-	-	-	26	26	48	-	-	-
310729	New	60	55	80	-	-	-	26	26	47	-	-	-
310732	New	60	55	80	-	-	-	18	19	38	-	-	-
310736	New	60	55	80	-	-	-	18	18	38	-	-	-
310738	New	60	55	80	-	-	-	23	24	44	-	-	-
310739	New	60	55	80	-	-	-	10	10	36	-	-	-
310740	New	60	55	80	-	-	-	50	50	73	-	-	-
310741	New	60	55	80	-	-	-	26	26	44	-	-	-
310743	New	60	55	80	-	-	-	12	13	37	-	-	-
310745	New	60	55	80	-	-	-	25	25	46	-	-	-
310746	New	60	55	80	-	-	-	45	46	65	-	-	-
310749	New	60	55	80	-	-	-	26	26	45	-	-	-
310751	New	60	55	80	-	-	-	26	27	47	-	-	-
310752	New	60	55	80	-	-	-	26	27	45	-	-	-
310754	New	60	55	80	-	-	-	25	26	45	-	-	-
310756	New	60	55	80	-	-	-	40	40	59	-	-	-
310762	New	60	55	80	-	-	-	22	23	42	-	-	-
310765	New	60	55	80	-	-	-	14	14	38	-	-	-
310769	New	60	55	80	-	-	-	26	26	45	-	-	-
310771	New	60	55	80	-	-	-	21	22	42	-	-	-
310772	New	60	55	80	-	-	-	26	26	45	-	-	-
310773	New	60	55	80	-	-	-	41	41	63	-	-	-
310774	New	60	55	80	-	-	-	24	24	45	-	-	-
310775	New	60	55	80	-	-	-	23	23	44	-	-	-
310777	New	60	55	80	-	-	-	22	23	41	-	-	-
310779	New	60	55	80	-	-	-	13	13	38	-	-	-
310780	New	60	55	80	-	-	-	23	23	43	-	-	-
310781	New	60	55	80	-	-	-	9	10	34	-	-	-
310783	New	60	55	80	-	-	-	26	26	46	-	-	-
310785	New	60	55	80	-	-	-	11	11	35	-	-	-
310786	New	60	55	80	-	-	-	25	25	44	-	-	-
310787	New	60	55	80	-	-	-	26	27	45	-	-	-
310788	New	60	55	80	-	-	-	27	27	47	-	-	-
310789	New	60	55	80	-	-	-	24	25	45	-	-	-
310790	New	60	55	80	-	-	-	21	22	41	-	-	-
310792	New	60	55	80	-	-	-	12	12	36	-	-	-
310796	New	60	55	80	-	-	-	25	25	44	-	-	-
310798	New	60	55	80	-	-	-	10	10	36	-	-	-
310801	New	60	55	80	-	-	-	10	10	33	-	-	-
310802	New	60	55	80	-	-	-	28	29	49	-	-	-
310803	New	60	55	80	-	-	-	45	45	64	-	-	-
310805	New	60	55	80	-	-	-	24	24	44	-	-	-
310806	New	60	55	80	-	-	-	43	43	62	-	-	-
310807	New	60	55	80	-	-	-	25	25	44	-	-	-
310809	New	60	55	80	-	-	-	22	23	42	-	-	-
310810	New	60	55	80	-	-	-	11	11	36	-	-	-
310811	New	60	55	80	-	-	-	11	11	36	-	-	-
310814	New	60	55	80	-	-	-	10	10	3	-	-	-
310815	New	60	55	80	-	-	-	25	25	46	-	-	-
310816	New	60	55	80	-	-	-	11	11	36	-	-	-
310820	New	60	55	80	-	-	-	14	15	39	-	-	-
310824	New	60	55	80	-	-	-	24	24	44	-	-	-
310825	New	60	55	80	-	-	-	24	24	43	-	-	-
310827	New	60	55	80	-	-	-	18	19	40	-	-	-
310828	New	60	55	80	-	-	-	22	23	44	-	-	-
310831	New	60	55	80	-	-	-	19	19	40	-	-	-
310832	New	60	55	80	-	-	-	24	24	44	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
310834	New	60	55	80	-	-	-	23	23	44	-	-	-
310835	New	60	55	80	-	-	-	25	25	45	-	-	-
310837	New	60	55	80	-	-	-	27	27	48	-	-	-
310839	New	60	55	80	-	-	-	43	43	62	-	-	-
310840	New	60	55	80	-	-	-	10	11	35	-	-	-
310841	New	60	55	80	-	-	-	23	23	44	-	-	-
310842	New	60	55	80	-	-	-	52	52	73	-	-	-
310843	New	60	55	80	-	-	-	28	28	48	-	-	-
310844	New	60	55	80	-	-	-	27	27	47	-	-	-
310845	New	60	55	80	-	-	-	27	27	47	-	-	-
310846	New	60	55	80	-	-	-	26	27	48	-	-	-
310847	New	60	55	80	-	-	-	38	38	59	-	-	-
310849	New	60	55	80	-	-	-	13	13	38	-	-	-
310851	New	60	55	80	-	-	-	12	12	36	-	-	-
310852	New	60	55	80	-	-	-	4	5	31	-	-	-
310854	New	60	55	80	-	-	-	47	47	67	-	-	-
310855	New	60	55	80	-	-	-	10	10	3	-	-	-
310857	New	60	55	80	-	-	-	27	27	47	-	-	-
310858	New	60	55	80	-	-	-	24	24	44	-	-	-
310861	New	60	55	80	-	-	-	23	23	42	-	-	-
310862	New	60	55	80	-	-	-	27	28	48	-	-	-
310866	New	60	55	80	-	-	-	27	28	48	-	-	-
310867	New	60	55	80	-	-	-	25	26	45	-	-	-
310871	New	60	55	80	-	-	-	10	10	3	-	-	-
310872	New	60	55	80	-	-	-	24	24	43	-	-	-
310874	New	60	55	80	-	-	-	10	10	3	-	-	-
310875	New	60	55	80	-	-	-	14	15	38	-	-	-
310876	New	60	55	80	-	-	-	10	10	3	-	-	-
310877	New	60	55	80	-	-	-	12	12	36	-	-	-
310878	New	60	55	80	-	-	-	23	23	43	-	-	-
310880	New	60	55	80	-	-	-	26	27	46	-	-	-
310885	New	60	55	80	-	-	-	28	28	50	-	-	-
310886	New	60	55	80	-	-	-	12	13	36	-	-	-
310890	New	60	55	80	-	-	-	12	12	36	-	-	-
310891	New	60	55	80	-	-	-	10	10	3	-	-	-
310893	New	60	55	80	-	-	-	52	52	73	-	-	-
310894	New	60	55	80	-	-	-	26	26	46	-	-	-
310895	New	60	55	80	-	-	-	25	25	46	-	-	-
310896	New	60	55	80	-	-	-	10	10	35	-	-	-
310897	New	60	55	80	-	-	-	10	10	3	-	-	-
310898	New	60	55	80	-	-	-	12	12	35	-	-	-
310902	New	60	55	80	-	-	-	14	15	38	-	-	-
310904	New	60	55	80	-	-	-	12	12	37	-	-	-
310906	New	60	55	80	-	-	-	26	27	47	-	-	-
310907	New	60	55	80	-	-	-	10	10	3	-	-	-
310908	New	60	55	80	-	-	-	14	15	39	-	-	-
310909	New	60	55	80	-	-	-	10	10	3	-	-	-
310910	New	60	55	80	-	-	-	10	10	3	-	-	-
310911	New	60	55	80	-	-	-	10	10	3	-	-	-
310914	New	60	55	80	-	-	-	25	26	45	-	-	-
310916	New	60	55	80	-	-	-	12	13	37	-	-	-
310917	New	60	55	80	-	-	-	11	12	36	-	-	-
310919	New	60	55	80	-	-	-	26	26	47	-	-	-
310920	New	60	55	80	-	-	-	47	47	66	-	-	-
310921	New	60	55	80	-	-	-	30	30	51	-	-	-
310922	New	60	55	80	-	-	-	25	25	45	-	-	-
310923	New	60	55	80	-	-	-	12	13	37	-	-	-
310927	New	60	55	80	-	-	-	16	17	39	-	-	-
310928	New	60	55	80	-	-	-	10	10	3	-	-	-
310929	New	60	55	80	-	-	-	12	12	38	-	-	-
310930	New	60	55	80	-	-	-	13	13	38	-	-	-
310931	New	60	55	80	-	-	-	13	14	38	-	-	-
310934	New	60	55	80	-	-	-	10	10	3	-	-	-
310935	New	60	55	80	-	-	-	10	10	3	-	-	-
310936	New	60	55	80	-	-	-	24	24	45	-	-	-
310938	New	60	55	80	-	-	-	13	13	39	-	-	-
310939	New	60	55	80	-	-	-	24	24	44	-	-	-
310941	New	60	55	80	-	-	-	10	10	3	-	-	-
310942	New	60	55	80	-	-	-	10	10	35	-	-	-
310943	New	60	55	80	-	-	-	41	41	63	-	-	-
310945	New	60	55	80	-	-	-	47	47	65	-	-	-
310946	New	60	55	80	-	-	-	23	24	45	-	-	-
310947	New	60	55	80	-	-	-	10	10	3	-	-	-
310948	New	60	55	80	-	-	-	24	25	45	-	-	-
310952	New	60	55	80	-	-	-	10	10	3	-	-	-
310953	New	60	55	80	-	-	-	12	12	36	-	-	-
310955	New	60	55	80	-	-	-	13	14	38	-	-	-
310956	New	60	55	80	-	-	-	44	45	66	-	-	-
310958	New	60	55	80	-	-	-	10	10	3	-	-	-
310959	New	60	55	80	-	-	-	23	24	43	-	-	-
310962	New	60	55	80	-	-	-	25	25	45	-	-	-
310965	New	60	55	80	-	-	-	25	25	45	-	-	-
310966	New	60	55	80	-	-	-	14	14	38	-	-	-
310968	New	60	55	80	-	-	-	13	13	37	-	-	-
310970	New	60	55	80	-	-	-	31	31	52	-	-	-
310971	New	60	55	80	-	-	-	24	24	44	-	-	-
310972	New	60	55	80	-	-	-	24	24	45	-	-	-
310973	New	60	55	80	-	-	-	10	10	3	-	-	-
310974	New	60	55	80	-	-	-	33	33	61	-	-	-
310975	New	60	55	80	-	-	-	26	26	45	-	-	-
310976	New	60	55	80	-	-	-	9	10	34	-	-	-
310977	New	60	55	80	-	-	-	12	13	36	-	-	-
310978	New	60	55	80	-	-	-	25	26	46	-	-	-
310980	New	60	55	80	-	-	-	10	10	3	-	-	-
310982	New	60	55	80	-	-	-	13	13	38	-	-	-
310983	New	60	55	80	-	-	-	12	12	36	-	-	-
310984	New	60	55	80	-	-	-	12	12	37	-	-	-
310988	New	60	55	80	-	-	-	29	30	49	-	-	-
310991	New	60	55	80	-	-	-	30	30	49	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
310992	New	60	55	80	-	-	-	46	46	67	-	-	-
310994	New	60	55	80	-	-	-	10	10	3	-	-	-
310997	New	60	55	80	-	-	-	24	25	45	-	-	-
310999	New	60	55	80	-	-	-	28	28	48	-	-	-
311000	New	60	55	80	-	-	-	27	27	48	-	-	-
311004	New	60	55	80	-	-	-	30	30	49	-	-	-
311005	New	60	55	80	-	-	-	25	25	45	-	-	-
311006	New	60	55	80	-	-	-	12	12	39	-	-	-
311007	New	60	55	80	-	-	-	10	10	3	-	-	-
311008	New	60	55	80	-	-	-	10	10	3	-	-	-
311010	New	60	55	80	-	-	-	25	25	45	-	-	-
311013	New	60	55	80	-	-	-	23	24	45	-	-	-
311014	New	60	55	80	-	-	-	41	42	62	-	-	-
311015	New	60	55	80	-	-	-	48	48	67	-	-	-
311016	New	60	55	80	-	-	-	25	25	45	-	-	-
311018	New	60	55	80	-	-	-	27	27	46	-	-	-
311019	New	60	55	80	-	-	-	26	26	47	-	-	-
311020	New	60	55	80	-	-	-	48	48	67	-	-	-
311021	New	60	55	80	-	-	-	48	48	67	-	-	-
311026	New	60	55	80	-	-	-	12	13	37	-	-	-
311031	New	60	55	80	-	-	-	10	10	3	-	-	-
311036	New	60	55	80	-	-	-	14	14	38	-	-	-
311039	New	60	55	80	-	-	-	10	10	3	-	-	-
311040	New	60	55	80	-	-	-	27	27	47	-	-	-
311044	New	60	55	80	-	-	-	10	10	3	-	-	-
311046	New	60	55	80	-	-	-	25	25	46	-	-	-
311047	New	60	55	80	-	-	-	10	10	3	-	-	-
311048	New	60	55	80	-	-	-	26	26	46	-	-	-
311049	New	60	55	80	-	-	-	25	26	46	-	-	-
311052	New	60	55	80	-	-	-	25	25	45	-	-	-
311053	New	60	55	80	-	-	-	25	25	45	-	-	-
311054	New	60	55	80	-	-	-	27	27	48	-	-	-
311055	New	60	55	80	-	-	-	14	14	37	-	-	-
311058	New	60	55	80	-	-	-	26	26	46	-	-	-
311059	New	60	55	80	-	-	-	53	53	74	-	-	-
311060	New	60	55	80	-	-	-	14	14	38	-	-	-
311061	New	60	55	80	-	-	-	13	13	37	-	-	-
311062	New	60	55	80	-	-	-	10	10	3	-	-	-
311063	New	60	55	80	-	-	-	25	25	45	-	-	-
311064	New	60	55	80	-	-	-	48	48	68	-	-	-
311065	New	60	55	80	-	-	-	26	26	47	-	-	-
311067	New	60	55	80	-	-	-	13	13	37	-	-	-
311069	New	60	55	80	-	-	-	10	10	3	-	-	-
311070	New	60	55	80	-	-	-	45	45	63	-	-	-
311071	New	60	55	80	-	-	-	51	51	72	-	-	-
311072	New	60	55	80	-	-	-	10	10	3	-	-	-
311073	New	60	55	80	-	-	-	33	33	54	-	-	-
311075	New	60	55	80	-	-	-	25	25	44	-	-	-
311077	New	60	55	80	-	-	-	25	25	44	-	-	-
311079	New	60	55	80	-	-	-	13	13	37	-	-	-
311080	New	60	55	80	-	-	-	12	13	37	-	-	-
311082	New	60	55	80	-	-	-	43	43	65	-	-	-
311083	New	60	55	80	-	-	-	14	14	39	-	-	-
311084	New	60	55	80	-	-	-	14	14	38	-	-	-
311086	New	60	55	80	-	-	-	10	10	3	-	-	-
311087	New	60	55	80	-	-	-	10	10	3	-	-	-
311088	New	60	55	80	-	-	-	10	10	3	-	-	-
311089	New	60	55	80	-	-	-	25	26	45	-	-	-
311090	New	60	55	80	-	-	-	15	15	41	-	-	-
311091	New	60	55	80	-	-	-	10	10	3	-	-	-
311092	New	60	55	80	-	-	-	25	25	45	-	-	-
311093	New	60	55	80	-	-	-	12	12	37	-	-	-
311095	New	60	55	80	-	-	-	14	15	38	-	-	-
311096	New	60	55	80	-	-	-	12	12	36	-	-	-
311098	New	60	55	80	-	-	-	26	27	47	-	-	-
311108	New	60	55	80	-	-	-	28	28	48	-	-	-
311110	New	60	55	80	-	-	-	28	29	49	-	-	-
311113	New	60	55	80	-	-	-	12	12	36	-	-	-
311115	New	60	55	80	-	-	-	14	14	40	-	-	-
311116	New	60	55	80	-	-	-	24	25	45	-	-	-
311118	New	60	55	80	-	-	-	13	14	38	-	-	-
311120	New	60	55	80	-	-	-	46	46	67	-	-	-
311122	New	60	55	80	-	-	-	28	28	48	-	-	-
311123	New	60	55	80	-	-	-	10	10	3	-	-	-
311124	New	60	55	80	-	-	-	25	25	45	-	-	-
311125	New	60	55	80	-	-	-	12	13	37	-	-	-
311126	New	60	55	80	-	-	-	10	10	3	-	-	-
311128	New	60	55	80	-	-	-	48	48	68	-	-	-
311129	New	60	55	80	-	-	-	13	13	39	-	-	-
311132	New	60	55	80	-	-	-	28	28	47	-	-	-
311133	New	60	55	80	-	-	-	44	45	65	-	-	-
311136	New	60	55	80	-	-	-	48	48	68	-	-	-
311137	New	60	55	80	-	-	-	28	28	48	-	-	-
311138	New	60	55	80	-	-	-	12	12	37	-	-	-
311139	New	60	55	80	-	-	-	28	29	48	-	-	-
311140	New	60	55	80	-	-	-	10	10	3	-	-	-
311141	New	60	55	80	-	-	-	28	28	49	-	-	-
311142	New	60	55	80	-	-	-	28	28	48	-	-	-
311145	New	60	55	80	-	-	-	44	45	65	-	-	-
311146	New	60	55	80	-	-	-	10	10	3	-	-	-
311150	New	60	55	80	-	-	-	15	15	39	-	-	-
311151	New	60	55	80	-	-	-	12	13	38	-	-	-
311152	New	60	55	80	-	-	-	10	10	3	-	-	-
311153	New	60	55	80	-	-	-	27	28	47	-	-	-
311154	New	60	55	80	-	-	-	10	10	3	-	-	-
311159	New	60	55	80	-	-	-	27	27	46	-	-	-
311162	New	60	55	80	-	-	-	15	15	40	-	-	-
311163	New	60	55	80	-	-	-	28	28	47	-	-	-
311164	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
311165	New	60	55	80	-	-	-	14	14	39	-	-	-
311167	New	60	55	80	-	-	-	27	27	47	-	-	-
311168	New	60	55	80	-	-	-	10	10	3	-	-	-
311169	New	60	55	80	-	-	-	26	27	47	-	-	-
311170	New	60	55	80	-	-	-	14	14	39	-	-	-
311172	New	60	55	80	-	-	-	10	10	3	-	-	-
311173	New	60	55	80	-	-	-	10	10	3	-	-	-
311174	New	60	55	80	-	-	-	10	10	3	-	-	-
311175	New	60	55	80	-	-	-	26	26	46	-	-	-
311176	New	60	55	80	-	-	-	10	10	3	-	-	-
311177	New	60	55	80	-	-	-	14	14	39	-	-	-
311178	New	60	55	80	-	-	-	14	14	39	-	-	-
311180	New	60	55	80	-	-	-	44	45	64	-	-	-
311182	New	60	55	80	-	-	-	11	11	36	-	-	-
311183	New	60	55	80	-	-	-	10	10	3	-	-	-
311185	New	60	55	80	-	-	-	26	26	46	-	-	-
311186	New	60	55	80	-	-	-	46	46	69	-	-	-
311187	New	60	55	80	-	-	-	10	10	3	-	-	-
311188	New	60	55	80	-	-	-	10	10	3	-	-	-
311189	New	60	55	80	-	-	-	17	17	41	-	-	-
311190	New	60	55	80	-	-	-	10	10	3	-	-	-
311191	New	60	55	80	-	-	-	10	10	3	-	-	-
311193	New	60	55	80	-	-	-	27	27	47	-	-	-
311195	New	60	55	80	-	-	-	29	29	50	-	-	-
311196	New	60	55	80	-	-	-	38	39	60	-	-	-
311197	New	60	55	80	-	-	-	26	26	46	-	-	-
311203	New	60	55	80	-	-	-	47	47	68	-	-	-
311205	New	60	55	80	-	-	-	10	10	3	-	-	-
311207	New	60	55	80	-	-	-	25	26	46	-	-	-
311208	New	60	55	80	-	-	-	15	15	40	-	-	-
311210	New	60	55	80	-	-	-	10	10	3	-	-	-
311211	New	60	55	80	-	-	-	26	26	46	-	-	-
311212	New	60	55	80	-	-	-	25	26	45	-	-	-
311213	New	60	55	80	-	-	-	28	28	47	-	-	-
311214	New	60	55	80	-	-	-	10	10	3	-	-	-
311215	New	60	55	80	-	-	-	15	16	41	-	-	-
311216	New	60	55	80	-	-	-	26	26	47	-	-	-
311217	New	60	55	80	-	-	-	49	50	69	-	-	-
311221	New	60	55	80	-	-	-	15	15	39	-	-	-
311222	New	60	55	80	-	-	-	10	10	3	-	-	-
311225	New	60	55	80	-	-	-	15	15	40	-	-	-
311227	New	60	55	80	-	-	-	26	26	47	-	-	-
311228	New	60	55	80	-	-	-	10	10	3	-	-	-
311230	New	60	55	80	-	-	-	10	10	3	-	-	-
311232	New	60	55	80	-	-	-	47	48	66	-	-	-
311233	New	60	55	80	-	-	-	14	14	38	-	-	-
311236	New	60	55	80	-	-	-	10	10	3	-	-	-
311237	New	60	55	80	-	-	-	47	48	69	-	-	-
311240	New	60	55	80	-	-	-	10	10	3	-	-	-
311241	New	60	55	80	-	-	-	26	27	46	-	-	-
311242	New	60	55	80	-	-	-	13	13	39	-	-	-
311247	New	60	55	80	-	-	-	28	28	48	-	-	-
311249	New	60	55	80	-	-	-	40	40	61	-	-	-
311252	New	60	55	80	-	-	-	49	49	68	-	-	-
311255	New	60	55	80	-	-	-	10	10	3	-	-	-
311256	New	60	55	80	-	-	-	10	10	3	-	-	-
311257	New	60	55	80	-	-	-	14	14	39	-	-	-
311259	New	60	55	80	-	-	-	13	13	36	-	-	-
311260	New	60	55	80	-	-	-	16	16	40	-	-	-
311261	New	60	55	80	-	-	-	10	10	3	-	-	-
311263	New	60	55	80	-	-	-	15	16	40	-	-	-
311265	New	60	55	80	-	-	-	10	10	3	-	-	-
311267	New	60	55	80	-	-	-	26	26	45	-	-	-
311268	New	60	55	80	-	-	-	14	14	38	-	-	-
311269	New	60	55	80	-	-	-	10	10	3	-	-	-
311270	New	60	55	80	-	-	-	14	14	39	-	-	-
311273	New	60	55	80	-	-	-	10	10	3	-	-	-
311275	New	60	55	80	-	-	-	25	26	46	-	-	-
311278	New	60	55	80	-	-	-	12	12	39	-	-	-
311279	New	60	55	80	-	-	-	14	14	38	-	-	-
311280	New	60	55	80	-	-	-	10	10	3	-	-	-
311281	New	60	55	80	-	-	-	10	10	3	-	-	-
311282	New	60	55	80	-	-	-	14	14	38	-	-	-
311285	New	60	55	80	-	-	-	28	28	47	-	-	-
311286	New	60	55	80	-	-	-	10	10	3	-	-	-
311288	New	60	55	80	-	-	-	15	15	41	-	-	-
311290	New	60	55	80	-	-	-	17	17	41	-	-	-
311291	New	60	55	80	-	-	-	39	40	59	-	-	-
311292	New	60	55	80	-	-	-	15	16	40	-	-	-
311295	New	60	55	80	-	-	-	36	37	56	-	-	-
311296	New	60	55	80	-	-	-	43	43	63	-	-	-
311301	New	60	55	80	-	-	-	10	10	36	-	-	-
311302	New	60	55	80	-	-	-	31	31	53	-	-	-
311303	New	60	55	80	-	-	-	10	10	3	-	-	-
311304	New	60	55	80	-	-	-	26	27	47	-	-	-
311305	New	60	55	80	-	-	-	13	13	38	-	-	-
311306	New	60	55	80	-	-	-	16	16	40	-	-	-
311307	New	60	55	80	-	-	-	16	16	40	-	-	-
311311	New	60	55	80	-	-	-	10	10	3	-	-	-
311313	New	60	55	80	-	-	-	14	15	38	-	-	-
311318	New	60	55	80	-	-	-	44	44	63	-	-	-
311319	New	60	55	80	-	-	-	10	10	3	-	-	-
311320	New	60	55	80	-	-	-	15	15	39	-	-	-
311321	New	60	55	80	-	-	-	13	13	38	-	-	-
311324	New	60	55	80	-	-	-	10	10	3	-	-	-
311325	New	60	55	80	-	-	-	15	16	40	-	-	-
311326	New	60	55	80	-	-	-	47	47	67	-	-	-
311329	New	60	55	80	-	-	-	29	29	50	-	-	-
311330	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
311331	New	60	55	80	-	-	-	10	10	3	-	-	-
311332	New	60	55	80	-	-	-	28	28	47	-	-	-
311333	New	60	55	80	-	-	-	14	15	37	-	-	-
311335	New	60	55	80	-	-	-	17	17	41	-	-	-
311336	New	60	55	80	-	-	-	10	10	3	-	-	-
311338	New	60	55	80	-	-	-	10	10	3	-	-	-
311339	New	60	55	80	-	-	-	17	17	41	-	-	-
311340	New	60	55	80	-	-	-	16	16	40	-	-	-
311341	New	60	55	80	-	-	-	10	10	3	-	-	-
311342	New	60	55	80	-	-	-	26	26	47	-	-	-
311345	New	60	55	80	-	-	-	15	15	39	-	-	-
311347	New	60	55	80	-	-	-	10	10	3	-	-	-
311348	New	60	55	80	-	-	-	45	45	63	-	-	-
311349	New	60	55	80	-	-	-	28	29	48	-	-	-
311351	New	60	55	80	-	-	-	15	15	40	-	-	-
311352	New	60	55	80	-	-	-	10	10	3	-	-	-
311353	New	60	55	80	-	-	-	10	10	3	-	-	-
311355	New	60	55	80	-	-	-	28	28	47	-	-	-
311358	New	60	55	80	-	-	-	12	12	36	-	-	-
311359	New	60	55	80	-	-	-	27	28	48	-	-	-
311360	New	60	55	80	-	-	-	14	15	39	-	-	-
311361	New	60	55	80	-	-	-	10	10	3	-	-	-
311367	New	60	55	80	-	-	-	15	15	38	-	-	-
311368	New	60	55	80	-	-	-	10	10	3	-	-	-
311369	New	60	55	80	-	-	-	12	12	35	-	-	-
311373	New	60	55	80	-	-	-	10	10	3	-	-	-
311374	New	60	55	80	-	-	-	28	28	48	-	-	-
311375	New	60	55	80	-	-	-	10	10	3	-	-	-
311376	New	60	55	80	-	-	-	27	27	46	-	-	-
311377	New	60	55	80	-	-	-	10	10	3	-	-	-
311378	New	60	55	80	-	-	-	10	10	3	-	-	-
311379	New	60	55	80	-	-	-	10	10	3	-	-	-
311381	New	60	55	80	-	-	-	10	10	3	-	-	-
311383	New	60	55	80	-	-	-	26	26	47	-	-	-
311386	New	60	55	80	-	-	-	10	10	3	-	-	-
311387	New	60	55	80	-	-	-	13	14	38	-	-	-
311388	New	60	55	80	-	-	-	10	10	3	-	-	-
311389	New	60	55	80	-	-	-	25	25	46	-	-	-
311391	New	60	55	80	-	-	-	10	10	3	-	-	-
311394	New	60	55	80	-	-	-	12	12	38	-	-	-
311396	New	60	55	80	-	-	-	10	10	3	-	-	-
311397	New	60	55	80	-	-	-	10	10	3	-	-	-
311398	New	60	55	80	-	-	-	10	10	3	-	-	-
311399	New	60	55	80	-	-	-	26	27	46	-	-	-
311400	New	60	55	80	-	-	-	16	17	41	-	-	-
311402	New	60	55	80	-	-	-	14	14	36	-	-	-
311404	New	60	55	80	-	-	-	26	26	46	-	-	-
311406	New	60	55	80	-	-	-	12	13	36	-	-	-
311407	New	60	55	80	-	-	-	10	10	3	-	-	-
311408	New	60	55	80	-	-	-	39	40	60	-	-	-
311409	New	60	55	80	-	-	-	43	43	62	-	-	-
311411	New	60	55	80	-	-	-	15	15	38	-	-	-
311412	New	60	55	80	-	-	-	10	10	3	-	-	-
311415	New	60	55	80	-	-	-	10	10	3	-	-	-
311417	New	60	55	80	-	-	-	10	10	3	-	-	-
311418	New	60	55	80	-	-	-	10	10	3	-	-	-
311419	New	60	55	80	-	-	-	10	10	3	-	-	-
311420	New	60	55	80	-	-	-	10	10	3	-	-	-
311422	New	60	55	80	-	-	-	27	27	47	-	-	-
311424	New	60	55	80	-	-	-	39	39	59	-	-	-
311425	New	60	55	80	-	-	-	15	15	38	-	-	-
311426	New	60	55	80	-	-	-	12	12	37	-	-	-
311427	New	60	55	80	-	-	-	10	10	3	-	-	-
311428	New	60	55	80	-	-	-	10	10	3	-	-	-
311429	New	60	55	80	-	-	-	41	41	61	-	-	-
311430	New	60	55	80	-	-	-	15	15	39	-	-	-
311431	New	60	55	80	-	-	-	10	10	3	-	-	-
311435	New	60	55	80	-	-	-	39	39	59	-	-	-
311436	New	60	55	80	-	-	-	33	33	52	-	-	-
311438	New	60	55	80	-	-	-	15	16	40	-	-	-
311440	New	60	55	80	-	-	-	45	46	65	-	-	-
311441	New	60	55	80	-	-	-	10	10	3	-	-	-
311443	New	60	55	80	-	-	-	10	10	3	-	-	-
311444	New	60	55	80	-	-	-	10	10	3	-	-	-
311445	New	60	55	80	-	-	-	10	10	3	-	-	-
311446	New	60	55	80	-	-	-	10	10	3	-	-	-
311447	New	60	55	80	-	-	-	13	14	39	-	-	-
311448	New	60	55	80	-	-	-	10	10	3	-	-	-
311449	New	60	55	80	-	-	-	10	10	3	-	-	-
311453	New	60	55	80	-	-	-	30	30	52	-	-	-
311455	New	60	55	80	-	-	-	15	16	40	-	-	-
311458	New	60	55	80	-	-	-	10	10	3	-	-	-
311459	New	60	55	80	-	-	-	39	39	64	-	-	-
311460	New	60	55	80	-	-	-	12	12	36	-	-	-
311461	New	60	55	80	-	-	-	10	10	3	-	-	-
311462	New	60	55	80	-	-	-	10	10	34	-	-	-
311463	New	60	55	80	-	-	-	10	10	3	-	-	-
311464	New	60	55	80	-	-	-	10	10	3	-	-	-
311465	New	60	55	80	-	-	-	27	27	48	-	-	-
311466	New	60	55	80	-	-	-	52	53	76	-	-	-
311467	New	60	55	80	-	-	-	10	10	3	-	-	-
311468	New	60	55	80	-	-	-	10	10	3	-	-	-
311470	New	60	55	80	-	-	-	39	39	62	-	-	-
311471	New	60	55	80	-	-	-	10	10	3	-	-	-
311473	New	60	55	80	-	-	-	28	28	48	-	-	-
311474	New	60	55	80	-	-	-	15	15	38	-	-	-
311475	New	60	55	80	-	-	-	10	10	3	-	-	-
311476	New	60	55	80	-	-	-	10	10	36	-	-	-
311477	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
311479	New	60	55	80	-	-	-	11	12	35	-	-	-
311481	New	60	55	80	-	-	-	10	10	3	-	-	-
311483	New	60	55	80	-	-	-	10	10	3	-	-	-
311484	New	60	55	80	-	-	-	10	10	3	-	-	-
311486	New	60	55	80	-	-	-	10	10	3	-	-	-
311487	New	60	55	80	-	-	-	10	10	3	-	-	-
311488	New	60	55	80	-	-	-	27	27	47	-	-	-
311489	New	60	55	80	-	-	-	10	10	3	-	-	-
311490	New	60	55	80	-	-	-	10	10	3	-	-	-
311494	New	60	55	80	-	-	-	28	29	48	-	-	-
311497	New	60	55	80	-	-	-	10	10	3	-	-	-
311499	New	60	55	80	-	-	-	10	10	3	-	-	-
311501	New	60	55	80	-	-	-	10	10	3	-	-	-
311503	New	60	55	80	-	-	-	12	12	37	-	-	-
311504	New	60	55	80	-	-	-	27	27	47	-	-	-
311506	New	60	55	80	-	-	-	26	27	47	-	-	-
311507	New	60	55	80	-	-	-	18	19	40	-	-	-
311508	New	60	55	80	-	-	-	10	10	3	-	-	-
311509	New	60	55	80	-	-	-	12	12	36	-	-	-
311510	New	60	55	80	-	-	-	24	25	45	-	-	-
311514	New	60	55	80	-	-	-	14	15	39	-	-	-
311517	New	60	55	80	-	-	-	10	10	3	-	-	-
311518	New	60	55	80	-	-	-	10	10	3	-	-	-
311520	New	60	55	80	-	-	-	10	10	3	-	-	-
311522	New	60	55	80	-	-	-	10	10	3	-	-	-
311524	New	60	55	80	-	-	-	10	10	3	-	-	-
311525	New	60	55	80	-	-	-	13	13	37	-	-	-
311526	New	60	55	80	-	-	-	10	10	3	-	-	-
311527	New	60	55	80	-	-	-	27	27	47	-	-	-
311528	New	60	55	80	-	-	-	10	10	3	-	-	-
311529	New	60	55	80	-	-	-	10	10	3	-	-	-
311530	New	60	55	80	-	-	-	10	10	3	-	-	-
311531	New	60	55	80	-	-	-	12	13	37	-	-	-
311533	New	60	55	80	-	-	-	10	10	3	-	-	-
311535	New	60	55	80	-	-	-	10	10	3	-	-	-
311537	New	60	55	80	-	-	-	51	52	76	-	-	-
311538	New	60	55	80	-	-	-	10	10	3	-	-	-
311543	New	60	55	80	-	-	-	10	10	3	-	-	-
311544	New	60	55	80	-	-	-	10	10	3	-	-	-
311545	New	60	55	80	-	-	-	10	10	32	-	-	-
311548	New	60	55	80	-	-	-	10	10	3	-	-	-
311550	New	60	55	80	-	-	-	10	10	3	-	-	-
311551	New	60	55	80	-	-	-	10	10	3	-	-	-
311553	New	60	55	80	-	-	-	10	10	3	-	-	-
311554	New	60	55	80	-	-	-	26	27	46	-	-	-
311556	New	60	55	80	-	-	-	10	10	3	-	-	-
311557	New	60	55	80	-	-	-	45	46	65	-	-	-
311558	New	60	55	80	-	-	-	10	10	3	-	-	-
311562	New	60	55	80	-	-	-	10	10	3	-	-	-
311565	New	60	55	80	-	-	-	10	10	3	-	-	-
311566	New	60	55	80	-	-	-	9	10	36	-	-	-
311567	New	60	55	80	-	-	-	10	10	3	-	-	-
311568	New	60	55	80	-	-	-	10	10	3	-	-	-
311570	New	60	55	80	-	-	-	10	10	3	-	-	-
311571	New	60	55	80	-	-	-	10	10	3	-	-	-
311572	New	60	55	80	-	-	-	10	10	3	-	-	-
311573	New	60	55	80	-	-	-	10	10	3	-	-	-
311574	New	60	55	80	-	-	-	12	12	37	-	-	-
311575	New	60	55	80	-	-	-	10	10	3	-	-	-
311576	New	60	55	80	-	-	-	10	10	3	-	-	-
311577	New	60	55	80	-	-	-	14	14	37	-	-	-
311579	New	60	55	80	-	-	-	14	14	38	-	-	-
311580	New	60	55	80	-	-	-	10	10	3	-	-	-
311582	New	60	55	80	-	-	-	10	10	3	-	-	-
311584	New	60	55	80	-	-	-	10	10	3	-	-	-
311586	New	60	55	80	-	-	-	10	10	3	-	-	-
311587	New	60	55	80	-	-	-	10	10	3	-	-	-
311589	New	60	55	80	-	-	-	10	10	3	-	-	-
311590	New	60	55	80	-	-	-	10	10	3	-	-	-
311591	New	60	55	80	-	-	-	10	10	3	-	-	-
311592	New	60	55	80	-	-	-	10	10	3	-	-	-
311593	New	60	55	80	-	-	-	39	39	59	-	-	-
311594	New	60	55	80	-	-	-	46	46	68	-	-	-
311598	New	60	55	80	-	-	-	10	10	3	-	-	-
311602	New	60	55	80	-	-	-	26	27	46	-	-	-
311603	New	60	55	80	-	-	-	10	10	3	-	-	-
311605	New	60	55	80	-	-	-	10	10	3	-	-	-
311607	New	60	55	80	-	-	-	10	10	3	-	-	-
311609	New	60	55	80	-	-	-	10	10	3	-	-	-
311614	New	60	55	80	-	-	-	10	10	3	-	-	-
311615	New	60	55	80	-	-	-	11	11	37	-	-	-
311616	New	60	55	80	-	-	-	36	36	58	-	-	-
311617	New	60	55	80	-	-	-	10	10	3	-	-	-
311618	New	60	55	80	-	-	-	10	10	3	-	-	-
311619	New	60	55	80	-	-	-	11	12	37	-	-	-
311620	New	60	55	80	-	-	-	10	10	3	-	-	-
311621	New	60	55	80	-	-	-	10	10	3	-	-	-
311623	New	60	55	80	-	-	-	10	10	3	-	-	-
311626	New	60	55	80	-	-	-	11	11	36	-	-	-
311629	New	60	55	80	-	-	-	10	10	3	-	-	-
311630	New	60	55	80	-	-	-	10	10	3	-	-	-
311633	New	60	55	80	-	-	-	10	10	3	-	-	-
311634	New	60	55	80	-	-	-	10	10	3	-	-	-
311635	New	60	55	80	-	-	-	10	10	3	-	-	-
311636	New	60	55	80	-	-	-	10	10	3	-	-	-
311639	New	60	55	80	-	-	-	14	14	38	-	-	-
311644	New	60	55	80	-	-	-	10	10	3	-	-	-
311645	New	60	55	80	-	-	-	10	10	32	-	-	-
311646	New	60	55	80	-	-	-	27	27	47	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
311652	New	60	55	80	-	-	-	10	10	3	-	-	-
311653	New	60	55	80	-	-	-	10	10	3	-	-	-
311655	New	60	55	80	-	-	-	10	10	3	-	-	-
311656	New	60	55	80	-	-	-	10	10	3	-	-	-
311657	New	60	55	80	-	-	-	10	10	3	-	-	-
311660	New	60	55	80	-	-	-	31	31	51	-	-	-
311661	New	60	55	80	-	-	-	10	10	3	-	-	-
311663	New	60	55	80	-	-	-	10	10	3	-	-	-
311664	New	60	55	80	-	-	-	12	12	37	-	-	-
311665	New	60	55	80	-	-	-	10	10	3	-	-	-
311666	New	60	55	80	-	-	-	10	10	3	-	-	-
311667	New	60	55	80	-	-	-	27	27	47	-	-	-
311668	New	60	55	80	-	-	-	10	10	3	-	-	-
311669	New	60	55	80	-	-	-	10	10	3	-	-	-
311670	New	60	55	80	-	-	-	10	10	3	-	-	-
311671	New	60	55	80	-	-	-	46	46	66	-	-	-
311672	New	60	55	80	-	-	-	33	33	54	-	-	-
311673	New	60	55	80	-	-	-	10	10	3	-	-	-
311674	New	60	55	80	-	-	-	10	10	3	-	-	-
311675	New	60	55	80	-	-	-	10	10	3	-	-	-
311676	New	60	55	80	-	-	-	10	10	3	-	-	-
311677	New	60	55	80	-	-	-	10	10	3	-	-	-
311678	New	60	55	80	-	-	-	10	10	3	-	-	-
311679	New	60	55	80	-	-	-	11	12	36	-	-	-
311681	New	60	55	80	-	-	-	10	10	3	-	-	-
311682	New	60	55	80	-	-	-	10	10	3	-	-	-
311683	New	60	55	80	-	-	-	14	15	38	-	-	-
311684	New	60	55	80	-	-	-	13	13	38	-	-	-
311688	New	60	55	80	-	-	-	57	57	82	-	-	-
311692	New	60	55	80	-	-	-	44	44	67	-	-	-
311693	New	60	55	80	-	-	-	26	27	47	-	-	-
311694	New	60	55	80	-	-	-	10	10	3	-	-	-
311697	New	60	55	80	-	-	-	26	26	47	-	-	-
311698	New	60	55	80	-	-	-	10	10	3	-	-	-
311701	New	60	55	80	-	-	-	10	10	3	-	-	-
311703	New	60	55	80	-	-	-	29	29	49	-	-	-
311704	New	60	55	80	-	-	-	10	10	3	-	-	-
311705	New	60	55	80	-	-	-	29	29	48	-	-	-
311706	New	60	55	80	-	-	-	10	10	3	-	-	-
311707	New	60	55	80	-	-	-	10	10	3	-	-	-
311708	New	60	55	80	-	-	-	10	10	3	-	-	-
311709	New	60	55	80	-	-	-	10	10	3	-	-	-
311710	New	60	55	80	-	-	-	10	10	3	-	-	-
311711	New	60	55	80	-	-	-	10	10	3	-	-	-
311712	New	60	55	80	-	-	-	10	10	3	-	-	-
311715	New	60	55	80	-	-	-	27	28	47	-	-	-
311717	New	60	55	80	-	-	-	10	10	3	-	-	-
311722	New	60	55	80	-	-	-	10	10	3	-	-	-
311724	New	60	55	80	-	-	-	10	10	3	-	-	-
311725	New	60	55	80	-	-	-	14	14	37	-	-	-
311726	New	60	55	80	-	-	-	9	10	36	-	-	-
311728	New	60	55	80	-	-	-	10	10	3	-	-	-
311729	New	60	55	80	-	-	-	16	16	39	-	-	-
311730	New	60	55	80	-	-	-	10	10	3	-	-	-
311731	New	60	55	80	-	-	-	10	10	3	-	-	-
311733	New	60	55	80	-	-	-	10	10	3	-	-	-
311734	New	60	55	80	-	-	-	15	15	38	-	-	-
311735	New	60	55	80	-	-	-	10	10	3	-	-	-
311737	New	60	55	80	-	-	-	10	10	3	-	-	-
311739	New	60	55	80	-	-	-	10	10	3	-	-	-
311741	New	60	55	80	-	-	-	10	10	3	-	-	-
311742	New	60	55	80	-	-	-	13	13	36	-	-	-
311743	New	60	55	80	-	-	-	10	10	3	-	-	-
311745	New	60	55	80	-	-	-	10	10	3	-	-	-
311746	New	60	55	80	-	-	-	12	12	36	-	-	-
311749	New	60	55	80	-	-	-	10	10	3	-	-	-
311750	New	60	55	80	-	-	-	10	10	3	-	-	-
311751	New	60	55	80	-	-	-	10	10	34	-	-	-
311753	New	60	55	80	-	-	-	10	10	3	-	-	-
311756	New	60	55	80	-	-	-	10	10	3	-	-	-
311758	New	60	55	80	-	-	-	10	10	3	-	-	-
311759	New	60	55	80	-	-	-	10	10	3	-	-	-
311760	New	60	55	80	-	-	-	13	13	38	-	-	-
311763	New	60	55	80	-	-	-	10	10	3	-	-	-
311764	New	60	55	80	-	-	-	10	10	3	-	-	-
311766	New	60	55	80	-	-	-	13	13	37	-	-	-
311767	New	60	55	80	-	-	-	10	10	3	-	-	-
311769	New	60	55	80	-	-	-	45	45	70	-	-	-
311770	New	60	55	80	-	-	-	10	10	3	-	-	-
311771	New	60	55	80	-	-	-	47	47	68	-	-	-
311773	New	60	55	80	-	-	-	54	54	76	-	-	-
311774	New	60	55	80	-	-	-	12	12	37	-	-	-
311775	New	60	55	80	-	-	-	10	10	3	-	-	-
311777	New	60	55	80	-	-	-	10	10	3	-	-	-
311778	New	60	55	80	-	-	-	10	10	3	-	-	-
311779	New	60	55	80	-	-	-	10	10	3	-	-	-
311780	New	60	55	80	-	-	-	19	19	41	-	-	-
311781	New	60	55	80	-	-	-	10	10	3	-	-	-
311784	New	60	55	80	-	-	-	10	10	3	-	-	-
311785	New	60	55	80	-	-	-	10	10	3	-	-	-
311786	New	60	55	80	-	-	-	10	10	3	-	-	-
311787	New	60	55	80	-	-	-	10	10	32	-	-	-
311788	New	60	55	80	-	-	-	9	9	33	-	-	-
311789	New	60	55	80	-	-	-	10	10	3	-	-	-
311790	New	60	55	80	-	-	-	10	10	3	-	-	-
311791	New	60	55	80	-	-	-	10	10	3	-	-	-
311792	New	60	55	80	-	-	-	10	10	3	-	-	-
311793	New	60	55	80	-	-	-	10	10	3	-	-	-
311794	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
311795	New	60	55	80	-	-	-	10	10	3	-	-	-
311796	New	60	55	80	-	-	-	10	10	3	-	-	-
311797	New	60	55	80	-	-	-	10	10	3	-	-	-
311798	New	60	55	80	-	-	-	10	10	3	-	-	-
311799	New	60	55	80	-	-	-	36	36	61	-	-	-
311800	New	60	55	80	-	-	-	10	10	3	-	-	-
311801	New	60	55	80	-	-	-	10	10	3	-	-	-
311802	New	60	55	80	-	-	-	10	10	3	-	-	-
311803	New	60	55	80	-	-	-	10	10	3	-	-	-
311805	New	60	55	80	-	-	-	10	10	3	-	-	-
311806	New	60	55	80	-	-	-	10	10	3	-	-	-
311807	New	60	55	80	-	-	-	10	10	3	-	-	-
311808	New	60	55	80	-	-	-	10	10	3	-	-	-
311809	New	60	55	80	-	-	-	48	48	66	-	-	-
311811	New	60	55	80	-	-	-	47	47	71	-	-	-
311812	New	60	55	80	-	-	-	10	10	3	-	-	-
311813	New	60	55	80	-	-	-	10	10	3	-	-	-
311814	New	60	55	80	-	-	-	13	13	37	-	-	-
311816	New	60	55	80	-	-	-	10	10	3	-	-	-
311817	New	60	55	80	-	-	-	10	10	3	-	-	-
311818	New	60	55	80	-	-	-	10	10	3	-	-	-
311819	New	60	55	80	-	-	-	10	10	3	-	-	-
311821	New	60	55	80	-	-	-	10	10	3	-	-	-
311822	New	60	55	80	-	-	-	10	10	3	-	-	-
311823	New	60	55	80	-	-	-	10	10	3	-	-	-
311825	New	60	55	80	-	-	-	10	10	3	-	-	-
311826	New	60	55	80	-	-	-	13	13	37	-	-	-
311827	New	60	55	80	-	-	-	10	10	3	-	-	-
311832	New	60	55	80	-	-	-	10	10	3	-	-	-
311835	New	60	55	80	-	-	-	10	10	3	-	-	-
311836	New	60	55	80	-	-	-	10	10	3	-	-	-
311837	New	60	55	80	-	-	-	35	35	61	-	-	-
311839	New	60	55	80	-	-	-	10	10	3	-	-	-
311840	New	60	55	80	-	-	-	12	12	36	-	-	-
311841	New	60	55	80	-	-	-	10	10	3	-	-	-
311842	New	60	55	80	-	-	-	10	10	3	-	-	-
311843	New	60	55	80	-	-	-	47	47	68	-	-	-
311844	New	60	55	80	-	-	-	10	10	3	-	-	-
311845	New	60	55	80	-	-	-	10	10	35	-	-	-
311846	New	60	55	80	-	-	-	10	10	3	-	-	-
311847	New	60	55	80	-	-	-	10	10	3	-	-	-
311848	New	60	55	80	-	-	-	10	10	3	-	-	-
311849	New	60	55	80	-	-	-	10	10	3	-	-	-
311850	New	60	55	80	-	-	-	10	10	3	-	-	-
311851	New	60	55	80	-	-	-	10	10	3	-	-	-
311853	New	60	55	80	-	-	-	10	10	3	-	-	-
311854	New	60	55	80	-	-	-	10	10	3	-	-	-
311855	New	60	55	80	-	-	-	10	10	3	-	-	-
311856	New	60	55	80	-	-	-	10	10	3	-	-	-
311857	New	60	55	80	-	-	-	10	10	3	-	-	-
311860	New	60	55	80	-	-	-	10	10	3	-	-	-
311861	New	60	55	80	-	-	-	10	10	3	-	-	-
311862	New	60	55	80	-	-	-	10	10	3	-	-	-
311863	New	60	55	80	-	-	-	29	29	47	-	-	-
311864	New	60	55	80	-	-	-	37	37	62	-	-	-
311865	New	60	55	80	-	-	-	50	50	71	-	-	-
311866	New	60	55	80	-	-	-	10	10	3	-	-	-
311867	New	60	55	80	-	-	-	10	10	3	-	-	-
311868	New	60	55	80	-	-	-	10	10	3	-	-	-
311871	New	60	55	80	-	-	-	11	11	35	-	-	-
311872	New	60	55	80	-	-	-	10	10	3	-	-	-
311873	New	60	55	80	-	-	-	10	10	36	-	-	-
311874	New	60	55	80	-	-	-	10	10	3	-	-	-
311875	New	60	55	80	-	-	-	10	10	3	-	-	-
311877	New	60	55	80	-	-	-	10	10	3	-	-	-
311878	New	60	55	80	-	-	-	10	10	3	-	-	-
311879	New	60	55	80	-	-	-	12	12	36	-	-	-
311880	New	60	55	80	-	-	-	10	10	3	-	-	-
311881	New	60	55	80	-	-	-	10	10	3	-	-	-
311883	New	60	55	80	-	-	-	10	10	3	-	-	-
311884	New	60	55	80	-	-	-	10	10	3	-	-	-
311886	New	60	55	80	-	-	-	10	10	3	-	-	-
311887	New	60	55	80	-	-	-	10	10	3	-	-	-
311888	New	60	55	80	-	-	-	10	10	3	-	-	-
311891	New	60	55	80	-	-	-	10	10	3	-	-	-
311892	New	60	55	80	-	-	-	10	10	3	-	-	-
311893	New	60	55	80	-	-	-	10	10	3	-	-	-
311894	New	60	55	80	-	-	-	10	10	3	-	-	-
311896	New	60	55	80	-	-	-	10	10	3	-	-	-
311897	New	60	55	80	-	-	-	10	10	3	-	-	-
311899	New	60	55	80	-	-	-	10	10	3	-	-	-
311900	New	60	55	80	-	-	-	10	10	3	-	-	-
311901	New	60	55	80	-	-	-	10	10	3	-	-	-
311903	New	60	55	80	-	-	-	10	10	3	-	-	-
311905	New	60	55	80	-	-	-	10	10	3	-	-	-
311907	New	60	55	80	-	-	-	10	10	3	-	-	-
311908	New	60	55	80	-	-	-	10	10	3	-	-	-
311909	New	60	55	80	-	-	-	10	10	3	-	-	-
311910	New	60	55	80	-	-	-	10	10	3	-	-	-
311912	New	60	55	80	-	-	-	45	46	70	-	-	-
311913	New	60	55	80	-	-	-	10	10	3	-	-	-
311914	New	60	55	80	-	-	-	10	10	3	-	-	-
311915	New	60	55	80	-	-	-	21	21	42	-	-	-
311916	New	60	55	80	-	-	-	24	24	44	-	-	-
311917	New	60	55	80	-	-	-	47	47	69	-	-	-
311919	New	60	55	80	-	-	-	10	10	3	-	-	-
311920	New	60	55	80	-	-	-	10	10	3	-	-	-
311922	New	60	55	80	-	-	-	10	10	3	-	-	-
311923	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
311925	New	60	55	80	-	-	-	10	10	3	-	-	-
311926	New	60	55	80	-	-	-	10	10	3	-	-	-
311928	New	60	55	80	-	-	-	10	10	3	-	-	-
311929	New	60	55	80	-	-	-	10	10	3	-	-	-
311930	New	60	55	80	-	-	-	48	49	68	-	-	-
311933	New	60	55	80	-	-	-	24	24	45	-	-	-
311935	New	60	55	80	-	-	-	10	10	3	-	-	-
311936	New	60	55	80	-	-	-	50	50	71	-	-	-
311937	New	60	55	80	-	-	-	10	10	3	-	-	-
311938	New	60	55	80	-	-	-	10	10	3	-	-	-
311939	New	60	55	80	-	-	-	10	10	3	-	-	-
311940	New	60	55	80	-	-	-	10	10	3	-	-	-
311942	New	60	55	80	-	-	-	10	10	3	-	-	-
311945	New	60	55	80	-	-	-	10	10	3	-	-	-
311946	New	60	55	80	-	-	-	10	10	3	-	-	-
311947	New	60	55	80	-	-	-	10	10	3	-	-	-
311948	New	60	55	80	-	-	-	10	10	3	-	-	-
311950	New	60	55	80	-	-	-	10	10	3	-	-	-
311951	New	60	55	80	-	-	-	10	10	3	-	-	-
311952	New	60	55	80	-	-	-	10	10	3	-	-	-
311953	New	60	55	80	-	-	-	25	26	46	-	-	-
311954	New	60	55	80	-	-	-	10	10	3	-	-	-
311956	New	60	55	80	-	-	-	10	10	3	-	-	-
311957	New	60	55	80	-	-	-	10	10	3	-	-	-
311959	New	60	55	80	-	-	-	10	10	3	-	-	-
311960	New	60	55	80	-	-	-	10	10	3	-	-	-
311961	New	60	55	80	-	-	-	10	10	3	-	-	-
311965	New	60	55	80	-	-	-	10	10	3	-	-	-
311966	New	60	55	80	-	-	-	10	10	3	-	-	-
311967	New	60	55	80	-	-	-	10	10	3	-	-	-
311968	New	60	55	80	-	-	-	10	10	3	-	-	-
311969	New	60	55	80	-	-	-	10	10	3	-	-	-
311970	New	60	55	80	-	-	-	25	25	45	-	-	-
311971	New	60	55	80	-	-	-	10	10	3	-	-	-
311972	New	60	55	80	-	-	-	10	10	3	-	-	-
311973	New	60	55	80	-	-	-	22	22	42	-	-	-
311975	New	60	55	80	-	-	-	10	10	3	-	-	-
311976	New	60	55	80	-	-	-	10	10	3	-	-	-
311978	New	60	55	80	-	-	-	10	10	3	-	-	-
311979	New	60	55	80	-	-	-	18	18	40	-	-	-
311980	New	60	55	80	-	-	-	10	10	3	-	-	-
311982	New	60	55	80	-	-	-	10	10	3	-	-	-
311983	New	60	55	80	-	-	-	10	10	3	-	-	-
311984	New	60	55	80	-	-	-	10	10	3	-	-	-
311985	New	60	55	80	-	-	-	10	10	3	-	-	-
311986	New	60	55	80	-	-	-	10	10	3	-	-	-
311987	New	60	55	80	-	-	-	10	10	3	-	-	-
311988	New	60	55	80	-	-	-	46	46	69	-	-	-
311990	New	60	55	80	-	-	-	10	10	3	-	-	-
311991	New	60	55	80	-	-	-	10	10	3	-	-	-
311992	New	60	55	80	-	-	-	10	10	3	-	-	-
311994	New	60	55	80	-	-	-	10	10	3	-	-	-
311997	New	60	55	80	-	-	-	22	22	44	-	-	-
311998	New	60	55	80	-	-	-	10	10	3	-	-	-
311999	New	60	55	80	-	-	-	10	10	3	-	-	-
312000	New	60	55	80	-	-	-	50	51	71	-	-	-
312001	New	60	55	80	-	-	-	10	10	3	-	-	-
312002	New	60	55	80	-	-	-	10	10	3	-	-	-
312003	New	60	55	80	-	-	-	10	10	3	-	-	-
312004	New	60	55	80	-	-	-	10	10	3	-	-	-
312005	New	60	55	80	-	-	-	10	10	3	-	-	-
312007	New	60	55	80	-	-	-	47	47	68	-	-	-
312008	New	60	55	80	-	-	-	10	10	3	-	-	-
312010	New	60	55	80	-	-	-	10	10	3	-	-	-
312011	New	60	55	80	-	-	-	10	10	3	-	-	-
312012	New	60	55	80	-	-	-	10	10	3	-	-	-
312014	New	60	55	80	-	-	-	10	10	3	-	-	-
312015	New	60	55	80	-	-	-	16	16	39	-	-	-
312019	New	60	55	80	-	-	-	10	10	3	-	-	-
312020	New	60	55	80	-	-	-	10	10	3	-	-	-
312021	New	60	55	80	-	-	-	10	10	3	-	-	-
312023	New	60	55	80	-	-	-	10	10	3	-	-	-
312024	New	60	55	80	-	-	-	10	10	3	-	-	-
312025	New	60	55	80	-	-	-	10	10	3	-	-	-
312026	New	60	55	80	-	-	-	10	10	3	-	-	-
312027	New	60	55	80	-	-	-	25	25	46	-	-	-
312028	New	60	55	80	-	-	-	10	10	3	-	-	-
312029	New	60	55	80	-	-	-	10	10	3	-	-	-
312030	New	60	55	80	-	-	-	10	10	3	-	-	-
312032	New	60	55	80	-	-	-	10	10	3	-	-	-
312033	New	60	55	80	-	-	-	10	10	3	-	-	-
312034	New	60	55	80	-	-	-	10	10	3	-	-	-
312036	New	60	55	80	-	-	-	10	10	3	-	-	-
312037	New	60	55	80	-	-	-	22	22	43	-	-	-
312039	New	60	55	80	-	-	-	10	10	3	-	-	-
312040	New	60	55	80	-	-	-	10	10	3	-	-	-
312043	New	60	55	80	-	-	-	10	10	3	-	-	-
312044	New	60	55	80	-	-	-	28	28	49	-	-	-
312045	New	60	55	80	-	-	-	10	10	3	-	-	-
312046	New	60	55	80	-	-	-	10	10	3	-	-	-
312050	New	60	55	80	-	-	-	18	18	42	-	-	-
312052	New	60	55	80	-	-	-	10	10	3	-	-	-
312054	New	60	55	80	-	-	-	10	10	3	-	-	-
312058	New	60	55	80	-	-	-	13	13	41	-	-	-
312060	New	60	55	80	-	-	-	10	10	3	-	-	-
312062	New	60	55	80	-	-	-	10	10	3	-	-	-
312064	New	60	55	80	-	-	-	10	10	3	-	-	-
312065	New	60	55	80	-	-	-	10	10	3	-	-	-
312067	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312068	New	60	55	80	-	-	-	20	20	41	-	-	-
312069	New	60	55	80	-	-	-	16	16	39	-	-	-
312070	New	60	55	80	-	-	-	10	10	3	-	-	-
312071	New	60	55	80	-	-	-	10	10	3	-	-	-
312072	New	60	55	80	-	-	-	10	10	3	-	-	-
312073	New	60	55	80	-	-	-	10	10	3	-	-	-
312074	New	60	55	80	-	-	-	24	24	45	-	-	-
312075	New	60	55	80	-	-	-	10	10	3	-	-	-
312076	New	60	55	80	-	-	-	17	17	42	-	-	-
312077	New	60	55	80	-	-	-	10	10	3	-	-	-
312078	New	60	55	80	-	-	-	10	10	3	-	-	-
312079	New	60	55	80	-	-	-	10	10	3	-	-	-
312082	New	60	55	80	-	-	-	10	10	3	-	-	-
312083	New	60	55	80	-	-	-	18	18	43	-	-	-
312084	New	60	55	80	-	-	-	10	10	3	-	-	-
312086	New	60	55	80	-	-	-	58	58	82	-	-	-
312087	New	60	55	80	-	-	-	6	7	33	-	-	-
312089	New	60	55	80	-	-	-	20	20	46	-	-	-
312090	New	60	55	80	-	-	-	10	10	3	-	-	-
312091	New	60	55	80	-	-	-	10	10	3	-	-	-
312092	New	60	55	80	-	-	-	10	10	3	-	-	-
312093	New	60	55	80	-	-	-	22	22	48	-	-	-
312094	New	60	55	80	-	-	-	10	10	3	-	-	-
312095	New	60	55	80	-	-	-	6	6	35	-	-	-
312096	New	60	55	80	-	-	-	10	10	3	-	-	-
312097	New	60	55	80	-	-	-	10	10	3	-	-	-
312098	New	60	55	80	-	-	-	10	10	3	-	-	-
312101	New	60	55	80	-	-	-	23	23	47	-	-	-
312102	New	60	55	80	-	-	-	10	10	3	-	-	-
312103	New	60	55	80	-	-	-	23	24	45	-	-	-
312104	New	60	55	80	-	-	-	21	21	43	-	-	-
312105	New	60	55	80	-	-	-	10	10	3	-	-	-
312108	New	60	55	80	-	-	-	10	10	3	-	-	-
312109	New	60	55	80	-	-	-	24	24	47	-	-	-
312112	New	60	55	80	-	-	-	10	10	3	-	-	-
312113	New	60	55	80	-	-	-	10	10	3	-	-	-
312114	New	60	55	80	-	-	-	58	58	85	-	-	-
312117	New	60	55	80	-	-	-	10	10	28	-	-	-
312118	New	60	55	80	-	-	-	25	25	49	-	-	-
312119	New	60	55	80	-	-	-	46	47	65	-	-	-
312120	New	60	55	80	-	-	-	23	23	44	-	-	-
312121	New	60	55	80	-	-	-	10	10	3	-	-	-
312122	New	60	55	80	-	-	-	10	10	3	-	-	-
312126	New	60	55	80	-	-	-	26	26	55	-	-	-
312127	New	60	55	80	-	-	-	25	25	45	-	-	-
312128	New	60	55	80	-	-	-	10	10	3	-	-	-
312130	New	60	55	80	-	-	-	10	10	3	-	-	-
312131	New	60	55	80	-	-	-	10	10	3	-	-	-
312133	New	60	55	80	-	-	-	10	10	3	-	-	-
312134	New	60	55	80	-	-	-	24	25	45	-	-	-
312135	New	60	55	80	-	-	-	24	24	44	-	-	-
312137	New	60	55	80	-	-	-	26	27	52	-	-	-
312138	New	60	55	80	-	-	-	10	10	3	-	-	-
312139	New	60	55	80	-	-	-	10	10	3	-	-	-
312140	New	60	55	80	-	-	-	15	16	39	-	-	-
312141	New	60	55	80	-	-	-	28	28	57	-	-	-
312142	New	60	55	80	-	-	-	10	10	3	-	-	-
312143	New	60	55	80	-	-	-	10	10	3	-	-	-
312144	New	60	55	80	-	-	-	31	31	57	-	-	-
312145	New	60	55	80	-	-	-	10	10	3	-	-	-
312146	New	60	55	80	-	-	-	10	10	3	-	-	-
312147	New	60	55	80	-	-	-	10	10	3	-	-	-
312149	New	60	55	80	-	-	-	10	10	3	-	-	-
312150	New	60	55	80	-	-	-	10	10	3	-	-	-
312151	New	60	55	80	-	-	-	10	10	3	-	-	-
312152	New	60	55	80	-	-	-	17	18	41	-	-	-
312153	New	60	55	80	-	-	-	26	26	46	-	-	-
312155	New	60	55	80	-	-	-	10	10	3	-	-	-
312156	New	60	55	80	-	-	-	20	21	42	-	-	-
312157	New	60	55	80	-	-	-	10	10	3	-	-	-
312161	New	60	55	80	-	-	-	10	10	3	-	-	-
312162	New	60	55	80	-	-	-	10	10	3	-	-	-
312163	New	60	55	80	-	-	-	10	10	3	-	-	-
312164	New	60	55	80	-	-	-	10	10	3	-	-	-
312165	New	60	55	80	-	-	-	10	10	3	-	-	-
312167	New	60	55	80	-	-	-	10	10	3	-	-	-
312168	New	60	55	80	-	-	-	30	30	57	-	-	-
312169	New	60	55	80	-	-	-	15	15	38	-	-	-
312170	New	60	55	80	-	-	-	10	10	3	-	-	-
312171	New	60	55	80	-	-	-	10	10	3	-	-	-
312172	New	60	55	80	-	-	-	10	10	3	-	-	-
312174	New	60	55	80	-	-	-	10	10	3	-	-	-
312175	New	60	55	80	-	-	-	20	21	42	-	-	-
312179	New	60	55	80	-	-	-	10	10	3	-	-	-
312182	New	60	55	80	-	-	-	10	10	3	-	-	-
312183	New	60	55	80	-	-	-	10	10	3	-	-	-
312185	New	60	55	80	-	-	-	22	23	45	-	-	-
312186	New	60	55	80	-	-	-	10	10	3	-	-	-
312187	New	60	55	80	-	-	-	57	57	80	-	-	-
312190	New	60	55	80	-	-	-	10	10	3	-	-	-
312191	New	60	55	80	-	-	-	36	36	56	-	-	-
312192	New	60	55	80	-	-	-	18	19	42	-	-	-
312194	New	60	55	80	-	-	-	16	16	40	-	-	-
312195	New	60	55	80	-	-	-	25	26	46	-	-	-
312196	New	60	55	80	-	-	-	41	42	62	-	-	-
312197	New	60	55	80	-	-	-	23	23	44	-	-	-
312198	New	60	55	80	-	-	-	10	10	3	-	-	-
312199	New	60	55	80	-	-	-	10	10	3	-	-	-
312200	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312201	New	60	55	80	-	-	-	10	10	3	-	-	-
312202	New	60	55	80	-	-	-	10	10	3	-	-	-
312203	New	60	55	80	-	-	-	10	10	3	-	-	-
312205	New	60	55	80	-	-	-	10	10	3	-	-	-
312206	New	60	55	80	-	-	-	17	17	41	-	-	-
312207	New	60	55	80	-	-	-	10	10	3	-	-	-
312208	New	60	55	80	-	-	-	22	22	43	-	-	-
312210	New	60	55	80	-	-	-	10	10	3	-	-	-
312211	New	60	55	80	-	-	-	10	10	3	-	-	-
312213	New	60	55	80	-	-	-	10	10	3	-	-	-
312214	New	60	55	80	-	-	-	21	21	47	-	-	-
312215	New	60	55	80	-	-	-	10	10	3	-	-	-
312216	New	60	55	80	-	-	-	10	10	3	-	-	-
312217	New	60	55	80	-	-	-	10	10	3	-	-	-
312219	New	60	55	80	-	-	-	10	10	3	-	-	-
312220	New	60	55	80	-	-	-	18	18	41	-	-	-
312222	New	60	55	80	-	-	-	10	10	3	-	-	-
312223	New	60	55	80	-	-	-	10	10	3	-	-	-
312224	New	60	55	80	-	-	-	21	21	44	-	-	-
312225	New	60	55	80	-	-	-	10	10	3	-	-	-
312226	New	60	55	80	-	-	-	10	10	3	-	-	-
312227	New	60	55	80	-	-	-	22	22	43	-	-	-
312231	New	60	55	80	-	-	-	10	10	3	-	-	-
312232	New	60	55	80	-	-	-	18	18	39	-	-	-
312233	New	60	55	80	-	-	-	10	10	3	-	-	-
312234	New	60	55	80	-	-	-	10	10	3	-	-	-
312235	New	60	55	80	-	-	-	25	25	46	-	-	-
312236	New	60	55	80	-	-	-	10	10	3	-	-	-
312237	New	60	55	80	-	-	-	22	22	45	-	-	-
312238	New	60	55	80	-	-	-	22	22	44	-	-	-
312242	New	60	55	80	-	-	-	16	17	40	-	-	-
312244	New	60	55	80	-	-	-	10	10	3	-	-	-
312245	New	60	55	80	-	-	-	10	10	3	-	-	-
312246	New	60	55	80	-	-	-	24	24	44	-	-	-
312250	New	60	55	80	-	-	-	22	22	43	-	-	-
312251	New	60	55	80	-	-	-	23	23	46	-	-	-
312252	New	60	55	80	-	-	-	10	10	3	-	-	-
312253	New	60	55	80	-	-	-	10	10	3	-	-	-
312254	New	60	55	80	-	-	-	25	25	49	-	-	-
312256	New	60	55	80	-	-	-	10	10	3	-	-	-
312257	New	60	55	80	-	-	-	10	10	3	-	-	-
312258	New	60	55	80	-	-	-	16	16	39	-	-	-
312260	New	60	55	80	-	-	-	10	10	3	-	-	-
312261	New	60	55	80	-	-	-	18	18	44	-	-	-
312262	New	60	55	80	-	-	-	10	10	3	-	-	-
312263	New	60	55	80	-	-	-	10	10	3	-	-	-
312264	New	60	55	80	-	-	-	22	23	44	-	-	-
312265	New	60	55	80	-	-	-	21	22	47	-	-	-
312266	New	60	55	80	-	-	-	22	22	46	-	-	-
312267	New	60	55	80	-	-	-	10	10	3	-	-	-
312268	New	60	55	80	-	-	-	19	19	45	-	-	-
312271	New	60	55	80	-	-	-	26	26	49	-	-	-
312272	New	60	55	80	-	-	-	20	21	43	-	-	-
312273	New	60	55	80	-	-	-	10	10	3	-	-	-
312275	New	60	55	80	-	-	-	10	10	3	-	-	-
312276	New	60	55	80	-	-	-	22	23	45	-	-	-
312277	New	60	55	80	-	-	-	10	10	3	-	-	-
312278	New	60	55	80	-	-	-	29	30	57	-	-	-
312279	New	60	55	80	-	-	-	10	10	3	-	-	-
312281	New	60	55	80	-	-	-	10	10	3	-	-	-
312282	New	60	55	80	-	-	-	10	10	3	-	-	-
312283	New	60	55	80	-	-	-	22	22	44	-	-	-
312285	New	60	55	80	-	-	-	23	23	44	-	-	-
312287	New	60	55	80	-	-	-	10	10	3	-	-	-
312288	New	60	55	80	-	-	-	10	10	3	-	-	-
312289	New	60	55	80	-	-	-	31	31	58	-	-	-
312292	New	60	55	80	-	-	-	23	24	44	-	-	-
312293	New	60	55	80	-	-	-	10	10	3	-	-	-
312294	New	60	55	80	-	-	-	10	10	3	-	-	-
312295	New	60	55	80	-	-	-	24	25	45	-	-	-
312297	New	60	55	80	-	-	-	29	29	57	-	-	-
312298	New	60	55	80	-	-	-	21	22	43	-	-	-
312299	New	60	55	80	-	-	-	10	10	3	-	-	-
312300	New	60	55	80	-	-	-	10	10	3	-	-	-
312301	New	60	55	80	-	-	-	10	10	3	-	-	-
312302	New	60	55	80	-	-	-	10	10	3	-	-	-
312303	New	60	55	80	-	-	-	20	20	45	-	-	-
312304	New	60	55	80	-	-	-	10	10	3	-	-	-
312305	New	60	55	80	-	-	-	10	10	3	-	-	-
312307	New	60	55	80	-	-	-	22	22	48	-	-	-
312308	New	60	55	80	-	-	-	10	10	3	-	-	-
312309	New	60	55	80	-	-	-	22	23	43	-	-	-
312311	New	60	55	80	-	-	-	22	22	42	-	-	-
312312	New	60	55	80	-	-	-	10	10	3	-	-	-
312313	New	60	55	80	-	-	-	27	27	51	-	-	-
312314	New	60	55	80	-	-	-	10	10	3	-	-	-
312315	New	60	55	80	-	-	-	10	10	3	-	-	-
312316	New	60	55	80	-	-	-	34	34	60	-	-	-
312317	New	60	55	80	-	-	-	21	21	42	-	-	-
312319	New	60	55	80	-	-	-	16	16	41	-	-	-
312320	New	60	55	80	-	-	-	17	18	41	-	-	-
312321	New	60	55	80	-	-	-	40	40	60	-	-	-
312322	New	60	55	80	-	-	-	10	10	3	-	-	-
312323	New	60	55	80	-	-	-	25	25	50	-	-	-
312324	New	60	55	80	-	-	-	21	21	42	-	-	-
312325	New	60	55	80	-	-	-	10	10	3	-	-	-
312326	New	60	55	80	-	-	-	10	10	3	-	-	-
312327	New	60	55	80	-	-	-	24	24	44	-	-	-
312328	New	60	55	80	-	-	-	22	22	47	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312330	New	60	55	80	-	-	-	28	28	57	-	-	-
312332	New	60	55	80	-	-	-	10	10	30	-	-	-
312334	New	60	55	80	-	-	-	10	10	3	-	-	-
312335	New	60	55	80	-	-	-	10	10	3	-	-	-
312337	New	60	55	80	-	-	-	28	28	54	-	-	-
312339	New	60	55	80	-	-	-	32	32	57	-	-	-
312340	New	60	55	80	-	-	-	32	32	58	-	-	-
312341	New	60	55	80	-	-	-	40	40	59	-	-	-
312343	New	60	55	80	-	-	-	32	33	57	-	-	-
312346	New	60	55	80	-	-	-	10	10	3	-	-	-
312347	New	60	55	80	-	-	-	29	29	56	-	-	-
312348	New	60	55	80	-	-	-	10	10	3	-	-	-
312350	New	60	55	80	-	-	-	10	10	3	-	-	-
312351	New	60	55	80	-	-	-	30	31	57	-	-	-
312352	New	60	55	80	-	-	-	10	10	3	-	-	-
312353	New	60	55	80	-	-	-	29	29	57	-	-	-
312354	New	60	55	80	-	-	-	46	46	67	-	-	-
312355	New	60	55	80	-	-	-	34	34	60	-	-	-
312357	New	60	55	80	-	-	-	39	39	62	-	-	-
312358	New	60	55	80	-	-	-	18	18	39	-	-	-
312359	New	60	55	80	-	-	-	25	25	49	-	-	-
312360	New	60	55	80	-	-	-	10	10	3	-	-	-
312362	New	60	55	80	-	-	-	26	26	45	-	-	-
312363	New	60	55	80	-	-	-	10	10	3	-	-	-
312364	New	60	55	80	-	-	-	10	10	3	-	-	-
312365	New	60	55	80	-	-	-	10	10	3	-	-	-
312366	New	60	55	80	-	-	-	18	19	41	-	-	-
312368	New	60	55	80	-	-	-	23	23	44	-	-	-
312369	New	60	55	80	-	-	-	22	23	43	-	-	-
312370	New	60	55	80	-	-	-	21	21	43	-	-	-
312371	New	60	55	80	-	-	-	32	32	57	-	-	-
312372	New	60	55	80	-	-	-	10	10	3	-	-	-
312375	New	60	55	80	-	-	-	10	10	3	-	-	-
312378	New	60	55	80	-	-	-	29	29	56	-	-	-
312379	New	60	55	80	-	-	-	22	22	43	-	-	-
312381	New	60	55	80	-	-	-	23	23	47	-	-	-
312382	New	60	55	80	-	-	-	25	25	49	-	-	-
312383	New	60	55	80	-	-	-	23	24	46	-	-	-
312384	New	60	55	80	-	-	-	10	10	3	-	-	-
312385	New	60	55	80	-	-	-	10	10	3	-	-	-
312386	New	60	55	80	-	-	-	29	29	56	-	-	-
312388	New	60	55	80	-	-	-	10	10	3	-	-	-
312391	New	60	55	80	-	-	-	10	10	3	-	-	-
312392	New	60	55	80	-	-	-	10	10	3	-	-	-
312393	New	60	55	80	-	-	-	47	47	67	-	-	-
312395	New	60	55	80	-	-	-	21	21	45	-	-	-
312399	New	60	55	80	-	-	-	10	10	3	-	-	-
312400	New	60	55	80	-	-	-	10	10	3	-	-	-
312402	New	60	55	80	-	-	-	10	10	3	-	-	-
312403	New	60	55	80	-	-	-	18	18	40	-	-	-
312404	New	60	55	80	-	-	-	30	30	57	-	-	-
312406	New	60	55	80	-	-	-	10	10	3	-	-	-
312407	New	60	55	80	-	-	-	10	10	3	-	-	-
312409	New	60	55	80	-	-	-	10	10	3	-	-	-
312412	New	60	55	80	-	-	-	22	23	43	-	-	-
312413	New	60	55	80	-	-	-	26	26	47	-	-	-
312415	New	60	55	80	-	-	-	10	10	3	-	-	-
312416	New	60	55	80	-	-	-	21	22	42	-	-	-
312418	New	60	55	80	-	-	-	21	22	43	-	-	-
312419	New	60	55	80	-	-	-	21	21	42	-	-	-
312421	New	60	55	80	-	-	-	21	21	41	-	-	-
312422	New	60	55	80	-	-	-	39	40	61	-	-	-
312423	New	60	55	80	-	-	-	32	32	58	-	-	-
312426	New	60	55	80	-	-	-	22	22	43	-	-	-
312427	New	60	55	80	-	-	-	28	29	57	-	-	-
312428	New	60	55	80	-	-	-	24	24	44	-	-	-
312431	New	60	55	80	-	-	-	10	10	3	-	-	-
312432	New	60	55	80	-	-	-	10	10	3	-	-	-
312433	New	60	55	80	-	-	-	40	41	61	-	-	-
312434	New	60	55	80	-	-	-	26	27	47	-	-	-
312435	New	60	55	80	-	-	-	10	10	3	-	-	-
312436	New	60	55	80	-	-	-	10	10	3	-	-	-
312437	New	60	55	80	-	-	-	24	24	50	-	-	-
312440	New	60	55	80	-	-	-	22	22	46	-	-	-
312442	New	60	55	80	-	-	-	10	10	3	-	-	-
312444	New	60	55	80	-	-	-	10	10	3	-	-	-
312445	New	60	55	80	-	-	-	40	40	59	-	-	-
312446	New	60	55	80	-	-	-	10	10	3	-	-	-
312449	New	60	55	80	-	-	-	10	10	3	-	-	-
312450	New	60	55	80	-	-	-	21	21	42	-	-	-
312452	New	60	55	80	-	-	-	20	20	45	-	-	-
312453	New	60	55	80	-	-	-	10	10	3	-	-	-
312454	New	60	55	80	-	-	-	22	23	43	-	-	-
312455	New	60	55	80	-	-	-	10	10	3	-	-	-
312456	New	60	55	80	-	-	-	10	10	3	-	-	-
312458	New	60	55	80	-	-	-	10	10	3	-	-	-
312459	New	60	55	80	-	-	-	18	18	39	-	-	-
312460	New	60	55	80	-	-	-	22	23	44	-	-	-
312462	New	60	55	80	-	-	-	21	21	42	-	-	-
312465	New	60	55	80	-	-	-	25	26	46	-	-	-
312466	New	60	55	80	-	-	-	22	22	44	-	-	-
312467	New	60	55	80	-	-	-	27	27	56	-	-	-
312468	New	60	55	80	-	-	-	17	17	41	-	-	-
312469	New	60	55	80	-	-	-	10	10	3	-	-	-
312470	New	60	55	80	-	-	-	10	10	3	-	-	-
312471	New	60	55	80	-	-	-	10	10	3	-	-	-
312472	New	60	55	80	-	-	-	10	10	3	-	-	-
312474	New	60	55	80	-	-	-	18	18	42	-	-	-
312475	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312477	New	60	55	80	-	-	-	29	29	57	-	-	-
312479	New	60	55	80	-	-	-	26	26	49	-	-	-
312480	New	60	55	80	-	-	-	10	10	3	-	-	-
312481	New	60	55	80	-	-	-	10	10	3	-	-	-
312482	New	60	55	80	-	-	-	18	18	42	-	-	-
312483	New	60	55	80	-	-	-	10	10	3	-	-	-
312484	New	60	55	80	-	-	-	21	22	45	-	-	-
312485	New	60	55	80	-	-	-	25	26	49	-	-	-
312486	New	60	55	80	-	-	-	24	24	44	-	-	-
312487	New	60	55	80	-	-	-	23	23	52	-	-	-
312490	New	60	55	80	-	-	-	23	23	44	-	-	-
312491	New	60	55	80	-	-	-	27	27	56	-	-	-
312492	New	60	55	80	-	-	-	10	10	3	-	-	-
312493	New	60	55	80	-	-	-	21	21	44	-	-	-
312494	New	60	55	80	-	-	-	10	10	3	-	-	-
312495	New	60	55	80	-	-	-	17	18	41	-	-	-
312497	New	60	55	80	-	-	-	21	21	42	-	-	-
312498	New	60	55	80	-	-	-	24	24	47	-	-	-
312502	New	60	55	80	-	-	-	10	10	3	-	-	-
312504	New	60	55	80	-	-	-	24	24	45	-	-	-
312505	New	60	55	80	-	-	-	22	23	43	-	-	-
312506	New	60	55	80	-	-	-	31	31	57	-	-	-
312507	New	60	55	80	-	-	-	36	37	58	-	-	-
312508	New	60	55	80	-	-	-	10	10	3	-	-	-
312510	New	60	55	80	-	-	-	25	25	51	-	-	-
312511	New	60	55	80	-	-	-	21	22	42	-	-	-
312512	New	60	55	80	-	-	-	26	26	50	-	-	-
312514	New	60	55	80	-	-	-	24	24	49	-	-	-
312515	New	60	55	80	-	-	-	10	10	3	-	-	-
312517	New	60	55	80	-	-	-	10	10	3	-	-	-
312518	New	60	55	80	-	-	-	10	10	3	-	-	-
312519	New	60	55	80	-	-	-	10	10	3	-	-	-
312520	New	60	55	80	-	-	-	10	10	3	-	-	-
312522	New	60	55	80	-	-	-	33	33	60	-	-	-
312524	New	60	55	80	-	-	-	22	22	43	-	-	-
312525	New	60	55	80	-	-	-	20	21	43	-	-	-
312526	New	60	55	80	-	-	-	10	10	3	-	-	-
312529	New	60	55	80	-	-	-	36	37	59	-	-	-
312531	New	60	55	80	-	-	-	21	21	42	-	-	-
312532	New	60	55	80	-	-	-	10	10	3	-	-	-
312533	New	60	55	80	-	-	-	21	21	42	-	-	-
312535	New	60	55	80	-	-	-	24	24	49	-	-	-
312536	New	60	55	80	-	-	-	21	22	42	-	-	-
312537	New	60	55	80	-	-	-	18	18	42	-	-	-
312538	New	60	55	80	-	-	-	10	10	3	-	-	-
312542	New	60	55	80	-	-	-	27	27	57	-	-	-
312543	New	60	55	80	-	-	-	10	10	3	-	-	-
312546	New	60	55	80	-	-	-	20	20	44	-	-	-
312547	New	60	55	80	-	-	-	24	24	45	-	-	-
312548	New	60	55	80	-	-	-	10	10	3	-	-	-
312550	New	60	55	80	-	-	-	26	26	57	-	-	-
312551	New	60	55	80	-	-	-	32	32	57	-	-	-
312552	New	60	55	80	-	-	-	26	26	47	-	-	-
312553	New	60	55	80	-	-	-	25	25	46	-	-	-
312555	New	60	55	80	-	-	-	10	10	3	-	-	-
312557	New	60	55	80	-	-	-	20	21	46	-	-	-
312558	New	60	55	80	-	-	-	32	32	58	-	-	-
312559	New	60	55	80	-	-	-	22	22	43	-	-	-
312560	New	60	55	80	-	-	-	31	31	55	-	-	-
312562	New	60	55	80	-	-	-	10	10	3	-	-	-
312563	New	60	55	80	-	-	-	21	22	42	-	-	-
312566	New	60	55	80	-	-	-	22	23	43	-	-	-
312567	New	60	55	80	-	-	-	10	10	3	-	-	-
312568	New	60	55	80	-	-	-	32	32	58	-	-	-
312569	New	60	55	80	-	-	-	33	34	59	-	-	-
312571	New	60	55	80	-	-	-	23	23	44	-	-	-
312573	New	60	55	80	-	-	-	10	10	3	-	-	-
312574	New	60	55	80	-	-	-	20	20	42	-	-	-
312575	New	60	55	80	-	-	-	38	39	60	-	-	-
312576	New	60	55	80	-	-	-	10	10	3	-	-	-
312577	New	60	55	80	-	-	-	28	28	57	-	-	-
312578	New	60	55	80	-	-	-	25	26	46	-	-	-
312579	New	60	55	80	-	-	-	19	19	44	-	-	-
312580	New	60	55	80	-	-	-	30	30	55	-	-	-
312581	New	60	55	80	-	-	-	10	10	3	-	-	-
312583	New	60	55	80	-	-	-	10	10	3	-	-	-
312584	New	60	55	80	-	-	-	47	47	68	-	-	-
312585	New	60	55	80	-	-	-	22	22	42	-	-	-
312586	New	60	55	80	-	-	-	26	26	56	-	-	-
312587	New	60	55	80	-	-	-	30	30	56	-	-	-
312588	New	60	55	80	-	-	-	46	46	67	-	-	-
312589	New	60	55	80	-	-	-	10	10	3	-	-	-
312590	New	60	55	80	-	-	-	21	21	44	-	-	-
312591	New	60	55	80	-	-	-	29	29	53	-	-	-
312592	New	60	55	80	-	-	-	18	18	39	-	-	-
312593	New	60	55	80	-	-	-	32	32	60	-	-	-
312594	New	60	55	80	-	-	-	24	25	53	-	-	-
312595	New	60	55	80	-	-	-	22	22	43	-	-	-
312597	New	60	55	80	-	-	-	19	20	40	-	-	-
312599	New	60	55	80	-	-	-	22	22	43	-	-	-
312600	New	60	55	80	-	-	-	19	19	40	-	-	-
312601	New	60	55	80	-	-	-	26	26	45	-	-	-
312602	New	60	55	80	-	-	-	22	22	44	-	-	-
312603	New	60	55	80	-	-	-	10	10	3	-	-	-
312604	New	60	55	80	-	-	-	10	10	3	-	-	-
312605	New	60	55	80	-	-	-	29	29	57	-	-	-
312606	New	60	55	80	-	-	-	10	10	3	-	-	-
312607	New	60	55	80	-	-	-	20	20	43	-	-	-
312608	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312610	New	60	55	80	-	-	-	40	40	59	-	-	-
312611	New	60	55	80	-	-	-	27	27	47	-	-	-
312613	New	60	55	80	-	-	-	21	21	42	-	-	-
312614	New	60	55	80	-	-	-	34	34	60	-	-	-
312615	New	60	55	80	-	-	-	18	18	39	-	-	-
312618	New	60	55	80	-	-	-	25	25	45	-	-	-
312619	New	60	55	80	-	-	-	21	21	42	-	-	-
312620	New	60	55	80	-	-	-	10	10	3	-	-	-
312622	New	60	55	80	-	-	-	10	10	3	-	-	-
312623	New	60	55	80	-	-	-	10	10	3	-	-	-
312624	New	60	55	80	-	-	-	10	10	3	-	-	-
312626	New	60	55	80	-	-	-	19	19	40	-	-	-
312628	New	60	55	80	-	-	-	10	10	3	-	-	-
312629	New	60	55	80	-	-	-	21	22	42	-	-	-
312630	New	60	55	80	-	-	-	21	22	42	-	-	-
312631	New	60	55	80	-	-	-	21	21	42	-	-	-
312632	New	60	55	80	-	-	-	10	10	3	-	-	-
312633	New	60	55	80	-	-	-	33	33	59	-	-	-
312634	New	60	55	80	-	-	-	20	20	41	-	-	-
312635	New	60	55	80	-	-	-	21	21	42	-	-	-
312636	New	60	55	80	-	-	-	10	10	3	-	-	-
312637	New	60	55	80	-	-	-	10	10	3	-	-	-
312638	New	60	55	80	-	-	-	10	10	3	-	-	-
312640	New	60	55	80	-	-	-	10	10	3	-	-	-
312642	New	60	55	80	-	-	-	26	26	46	-	-	-
312644	New	60	55	80	-	-	-	47	47	69	-	-	-
312645	New	60	55	80	-	-	-	10	10	3	-	-	-
312646	New	60	55	80	-	-	-	21	21	42	-	-	-
312648	New	60	55	80	-	-	-	21	21	42	-	-	-
312649	New	60	55	80	-	-	-	10	10	3	-	-	-
312650	New	60	55	80	-	-	-	22	22	43	-	-	-
312652	New	60	55	80	-	-	-	27	27	55	-	-	-
312653	New	60	55	80	-	-	-	20	21	41	-	-	-
312655	New	60	55	80	-	-	-	10	10	3	-	-	-
312656	New	60	55	80	-	-	-	21	21	42	-	-	-
312657	New	60	55	80	-	-	-	10	10	3	-	-	-
312659	New	60	55	80	-	-	-	27	27	48	-	-	-
312660	New	60	55	80	-	-	-	24	24	44	-	-	-
312661	New	60	55	80	-	-	-	10	10	3	-	-	-
312662	New	60	55	80	-	-	-	18	18	39	-	-	-
312663	New	60	55	80	-	-	-	10	10	3	-	-	-
312664	New	60	55	80	-	-	-	25	25	46	-	-	-
312667	New	60	55	80	-	-	-	24	25	44	-	-	-
312668	New	60	55	80	-	-	-	24	24	45	-	-	-
312669	New	60	55	80	-	-	-	34	34	59	-	-	-
312670	New	60	55	80	-	-	-	10	10	3	-	-	-
312671	New	60	55	80	-	-	-	10	10	3	-	-	-
312672	New	60	55	80	-	-	-	18	18	40	-	-	-
312673	New	60	55	80	-	-	-	20	21	41	-	-	-
312675	New	60	55	80	-	-	-	23	24	44	-	-	-
312678	New	60	55	80	-	-	-	35	35	57	-	-	-
312679	New	60	55	80	-	-	-	24	24	45	-	-	-
312680	New	60	55	80	-	-	-	31	31	56	-	-	-
312682	New	60	55	80	-	-	-	30	30	57	-	-	-
312683	New	60	55	80	-	-	-	10	10	3	-	-	-
312685	New	60	55	80	-	-	-	22	23	43	-	-	-
312687	New	60	55	80	-	-	-	10	10	3	-	-	-
312688	New	60	55	80	-	-	-	33	33	58	-	-	-
312689	New	60	55	80	-	-	-	10	10	3	-	-	-
312690	New	60	55	80	-	-	-	10	10	3	-	-	-
312692	New	60	55	80	-	-	-	31	32	57	-	-	-
312693	New	60	55	80	-	-	-	20	21	41	-	-	-
312694	New	60	55	80	-	-	-	23	24	46	-	-	-
312695	New	60	55	80	-	-	-	23	23	45	-	-	-
312696	New	60	55	80	-	-	-	23	24	44	-	-	-
312697	New	60	55	80	-	-	-	20	20	41	-	-	-
312698	New	60	55	80	-	-	-	10	10	3	-	-	-
312699	New	60	55	80	-	-	-	21	21	42	-	-	-
312700	New	60	55	80	-	-	-	10	10	3	-	-	-
312701	New	60	55	80	-	-	-	29	29	57	-	-	-
312702	New	60	55	80	-	-	-	23	23	44	-	-	-
312703	New	60	55	80	-	-	-	10	10	3	-	-	-
312704	New	60	55	80	-	-	-	47	47	69	-	-	-
312705	New	60	55	80	-	-	-	22	22	43	-	-	-
312706	New	60	55	80	-	-	-	22	22	43	-	-	-
312707	New	60	55	80	-	-	-	10	10	3	-	-	-
312709	New	60	55	80	-	-	-	10	10	3	-	-	-
312711	New	60	55	80	-	-	-	10	10	3	-	-	-
312712	New	60	55	80	-	-	-	33	34	57	-	-	-
312713	New	60	55	80	-	-	-	21	21	42	-	-	-
312714	New	60	55	80	-	-	-	21	21	42	-	-	-
312715	New	60	55	80	-	-	-	10	10	3	-	-	-
312716	New	60	55	80	-	-	-	22	22	43	-	-	-
312717	New	60	55	80	-	-	-	22	22	43	-	-	-
312718	New	60	55	80	-	-	-	47	47	69	-	-	-
312719	New	60	55	80	-	-	-	22	23	43	-	-	-
312722	New	60	55	80	-	-	-	20	20	41	-	-	-
312723	New	60	55	80	-	-	-	10	10	3	-	-	-
312724	New	60	55	80	-	-	-	22	22	43	-	-	-
312725	New	60	55	80	-	-	-	20	21	41	-	-	-
312726	New	60	55	80	-	-	-	20	20	41	-	-	-
312727	New	60	55	80	-	-	-	10	10	3	-	-	-
312728	New	60	55	80	-	-	-	10	10	3	-	-	-
312730	New	60	55	80	-	-	-	22	22	43	-	-	-
312731	New	60	55	80	-	-	-	27	27	48	-	-	-
312732	New	60	55	80	-	-	-	22	22	42	-	-	-
312734	New	60	55	80	-	-	-	10	10	3	-	-	-
312735	New	60	55	80	-	-	-	10	10	3	-	-	-
312736	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312738	New	60	55	80	-	-	-	21	22	42	-	-	-
312739	New	60	55	80	-	-	-	18	18	41	-	-	-
312740	New	60	55	80	-	-	-	10	10	3	-	-	-
312741	New	60	55	80	-	-	-	20	21	41	-	-	-
312742	New	60	55	80	-	-	-	23	23	45	-	-	-
312745	New	60	55	80	-	-	-	19	19	42	-	-	-
312746	New	60	55	80	-	-	-	20	21	41	-	-	-
312748	New	60	55	80	-	-	-	22	22	43	-	-	-
312750	New	60	55	80	-	-	-	10	10	3	-	-	-
312752	New	60	55	80	-	-	-	10	10	3	-	-	-
312753	New	60	55	80	-	-	-	21	22	42	-	-	-
312755	New	60	55	80	-	-	-	21	22	42	-	-	-
312756	New	60	55	80	-	-	-	22	22	43	-	-	-
312757	New	60	55	80	-	-	-	21	21	42	-	-	-
312761	New	60	55	80	-	-	-	25	25	52	-	-	-
312762	New	60	55	80	-	-	-	22	23	43	-	-	-
312763	New	60	55	80	-	-	-	22	23	43	-	-	-
312764	New	60	55	80	-	-	-	23	23	44	-	-	-
312765	New	60	55	80	-	-	-	10	10	3	-	-	-
312766	New	60	55	80	-	-	-	21	21	42	-	-	-
312767	New	60	55	80	-	-	-	10	10	3	-	-	-
312768	New	60	55	80	-	-	-	19	19	40	-	-	-
312769	New	60	55	80	-	-	-	47	47	70	-	-	-
312771	New	60	55	80	-	-	-	47	47	69	-	-	-
312772	New	60	55	80	-	-	-	33	33	58	-	-	-
312773	New	60	55	80	-	-	-	24	24	44	-	-	-
312774	New	60	55	80	-	-	-	28	28	49	-	-	-
312776	New	60	55	80	-	-	-	20	20	41	-	-	-
312777	New	60	55	80	-	-	-	10	10	3	-	-	-
312778	New	60	55	80	-	-	-	34	35	61	-	-	-
312779	New	60	55	80	-	-	-	10	10	3	-	-	-
312780	New	60	55	80	-	-	-	10	10	3	-	-	-
312781	New	60	55	80	-	-	-	24	25	45	-	-	-
312782	New	60	55	80	-	-	-	22	22	43	-	-	-
312783	New	60	55	80	-	-	-	24	24	44	-	-	-
312784	New	60	55	80	-	-	-	20	21	41	-	-	-
312788	New	60	55	80	-	-	-	23	24	45	-	-	-
312790	New	60	55	80	-	-	-	19	19	40	-	-	-
312792	New	60	55	80	-	-	-	10	10	3	-	-	-
312793	New	60	55	80	-	-	-	10	10	3	-	-	-
312794	New	60	55	80	-	-	-	30	31	55	-	-	-
312795	New	60	55	80	-	-	-	10	10	3	-	-	-
312796	New	60	55	80	-	-	-	18	18	39	-	-	-
312797	New	60	55	80	-	-	-	32	32	58	-	-	-
312798	New	60	55	80	-	-	-	20	20	41	-	-	-
312799	New	60	55	80	-	-	-	22	23	44	-	-	-
312800	New	60	55	80	-	-	-	10	10	3	-	-	-
312801	New	60	55	80	-	-	-	21	22	42	-	-	-
312802	New	60	55	80	-	-	-	22	22	43	-	-	-
312806	New	60	55	80	-	-	-	37	37	61	-	-	-
312807	New	60	55	80	-	-	-	10	10	3	-	-	-
312808	New	60	55	80	-	-	-	10	10	3	-	-	-
312809	New	60	55	80	-	-	-	23	24	45	-	-	-
312811	New	60	55	80	-	-	-	21	21	43	-	-	-
312814	New	60	55	80	-	-	-	23	23	44	-	-	-
312815	New	60	55	80	-	-	-	10	10	3	-	-	-
312816	New	60	55	80	-	-	-	18	18	40	-	-	-
312817	New	60	55	80	-	-	-	10	10	3	-	-	-
312818	New	60	55	80	-	-	-	10	10	3	-	-	-
312820	New	60	55	80	-	-	-	25	25	45	-	-	-
312821	New	60	55	80	-	-	-	30	30	55	-	-	-
312823	New	60	55	80	-	-	-	21	21	42	-	-	-
312824	New	60	55	80	-	-	-	10	10	3	-	-	-
312825	New	60	55	80	-	-	-	10	10	3	-	-	-
312826	New	60	55	80	-	-	-	35	36	58	-	-	-
312827	New	60	55	80	-	-	-	20	20	42	-	-	-
312828	New	60	55	80	-	-	-	39	39	59	-	-	-
312829	New	60	55	80	-	-	-	10	10	3	-	-	-
312830	New	60	55	80	-	-	-	24	24	45	-	-	-
312831	New	60	55	80	-	-	-	10	10	3	-	-	-
312832	New	60	55	80	-	-	-	20	21	41	-	-	-
312833	New	60	55	80	-	-	-	22	22	43	-	-	-
312834	New	60	55	80	-	-	-	10	10	3	-	-	-
312835	New	60	55	80	-	-	-	10	10	3	-	-	-
312836	New	60	55	80	-	-	-	10	10	3	-	-	-
312837	New	60	55	80	-	-	-	24	24	44	-	-	-
312838	New	60	55	80	-	-	-	43	43	64	-	-	-
312839	New	60	55	80	-	-	-	22	22	43	-	-	-
312841	New	60	55	80	-	-	-	26	27	47	-	-	-
312842	New	60	55	80	-	-	-	22	22	43	-	-	-
312843	New	60	55	80	-	-	-	10	10	3	-	-	-
312844	New	60	55	80	-	-	-	22	22	43	-	-	-
312845	New	60	55	80	-	-	-	30	31	58	-	-	-
312846	New	60	55	80	-	-	-	18	18	39	-	-	-
312847	New	60	55	80	-	-	-	30	30	55	-	-	-
312848	New	60	55	80	-	-	-	10	10	3	-	-	-
312849	New	60	55	80	-	-	-	25	25	45	-	-	-
312850	New	60	55	80	-	-	-	21	22	43	-	-	-
312851	New	60	55	80	-	-	-	10	10	3	-	-	-
312853	New	60	55	80	-	-	-	19	19	42	-	-	-
312854	New	60	55	80	-	-	-	10	10	3	-	-	-
312856	New	60	55	80	-	-	-	10	10	3	-	-	-
312858	New	60	55	80	-	-	-	22	22	43	-	-	-
312859	New	60	55	80	-	-	-	22	22	42	-	-	-
312860	New	60	55	80	-	-	-	10	10	3	-	-	-
312861	New	60	55	80	-	-	-	18	18	39	-	-	-
312862	New	60	55	80	-	-	-	10	10	3	-	-	-
312864	New	60	55	80	-	-	-	22	22	42	-	-	-
312865	New	60	55	80	-	-	-	23	23	43	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312866	New	60	55	80	-	-	-	10	10	3	-	-	-
312867	New	60	55	80	-	-	-	10	10	3	-	-	-
312869	New	60	55	80	-	-	-	10	10	3	-	-	-
312870	New	60	55	80	-	-	-	23	23	44	-	-	-
312871	New	60	55	80	-	-	-	21	22	42	-	-	-
312874	New	60	55	80	-	-	-	10	10	3	-	-	-
312875	New	60	55	80	-	-	-	10	10	3	-	-	-
312877	New	60	55	80	-	-	-	27	27	48	-	-	-
312878	New	60	55	80	-	-	-	21	21	42	-	-	-
312879	New	60	55	80	-	-	-	10	10	3	-	-	-
312880	New	60	55	80	-	-	-	10	10	3	-	-	-
312881	New	60	55	80	-	-	-	21	21	43	-	-	-
312882	New	60	55	80	-	-	-	22	22	44	-	-	-
312883	New	60	55	80	-	-	-	25	26	46	-	-	-
312884	New	60	55	80	-	-	-	22	22	44	-	-	-
312885	New	60	55	80	-	-	-	10	10	3	-	-	-
312887	New	60	55	80	-	-	-	21	21	42	-	-	-
312888	New	60	55	80	-	-	-	10	10	3	-	-	-
312889	New	60	55	80	-	-	-	20	21	41	-	-	-
312890	New	60	55	80	-	-	-	10	10	3	-	-	-
312892	New	60	55	80	-	-	-	10	10	3	-	-	-
312893	New	60	55	80	-	-	-	10	10	3	-	-	-
312894	New	60	55	80	-	-	-	21	21	42	-	-	-
312895	New	60	55	80	-	-	-	21	21	42	-	-	-
312898	New	60	55	80	-	-	-	23	23	44	-	-	-
312901	New	60	55	80	-	-	-	20	20	41	-	-	-
312902	New	60	55	80	-	-	-	21	21	42	-	-	-
312903	New	60	55	80	-	-	-	27	28	54	-	-	-
312905	New	60	55	80	-	-	-	10	10	3	-	-	-
312906	New	60	55	80	-	-	-	23	23	45	-	-	-
312907	New	60	55	80	-	-	-	31	31	58	-	-	-
312908	New	60	55	80	-	-	-	10	10	3	-	-	-
312909	New	60	55	80	-	-	-	10	10	3	-	-	-
312912	New	60	55	80	-	-	-	10	10	3	-	-	-
312913	New	60	55	80	-	-	-	21	21	42	-	-	-
312914	New	60	55	80	-	-	-	10	10	3	-	-	-
312917	New	60	55	80	-	-	-	10	10	3	-	-	-
312918	New	60	55	80	-	-	-	22	22	43	-	-	-
312919	New	60	55	80	-	-	-	21	21	43	-	-	-
312920	New	60	55	80	-	-	-	10	10	3	-	-	-
312922	New	60	55	80	-	-	-	21	21	42	-	-	-
312923	New	60	55	80	-	-	-	25	25	46	-	-	-
312924	New	60	55	80	-	-	-	10	10	3	-	-	-
312927	New	60	55	80	-	-	-	10	10	3	-	-	-
312928	New	60	55	80	-	-	-	39	39	61	-	-	-
312929	New	60	55	80	-	-	-	10	10	3	-	-	-
312930	New	60	55	80	-	-	-	22	22	43	-	-	-
312931	New	60	55	80	-	-	-	10	10	3	-	-	-
312932	New	60	55	80	-	-	-	20	20	41	-	-	-
312933	New	60	55	80	-	-	-	20	20	41	-	-	-
312935	New	60	55	80	-	-	-	10	10	3	-	-	-
312936	New	60	55	80	-	-	-	32	32	58	-	-	-
312937	New	60	55	80	-	-	-	17	18	39	-	-	-
312939	New	60	55	80	-	-	-	10	10	3	-	-	-
312940	New	60	55	80	-	-	-	10	10	3	-	-	-
312941	New	60	55	80	-	-	-	30	30	50	-	-	-
312943	New	60	55	80	-	-	-	23	24	44	-	-	-
312945	New	60	55	80	-	-	-	10	10	3	-	-	-
312946	New	60	55	80	-	-	-	18	18	40	-	-	-
312947	New	60	55	80	-	-	-	24	24	45	-	-	-
312948	New	60	55	80	-	-	-	10	10	3	-	-	-
312949	New	60	55	80	-	-	-	24	24	45	-	-	-
312950	New	60	55	80	-	-	-	31	32	55	-	-	-
312951	New	60	55	80	-	-	-	20	20	41	-	-	-
312952	New	60	55	80	-	-	-	22	23	43	-	-	-
312953	New	60	55	80	-	-	-	10	10	3	-	-	-
312954	New	60	55	80	-	-	-	22	22	43	-	-	-
312955	New	60	55	80	-	-	-	35	36	60	-	-	-
312956	New	60	55	80	-	-	-	35	35	60	-	-	-
312959	New	60	55	80	-	-	-	10	10	3	-	-	-
312960	New	60	55	80	-	-	-	28	28	52	-	-	-
312962	New	60	55	80	-	-	-	22	22	43	-	-	-
312963	New	60	55	80	-	-	-	26	26	46	-	-	-
312964	New	60	55	80	-	-	-	10	10	3	-	-	-
312965	New	60	55	80	-	-	-	22	22	43	-	-	-
312968	New	60	55	80	-	-	-	22	22	43	-	-	-
312969	New	60	55	80	-	-	-	10	10	3	-	-	-
312970	New	60	55	80	-	-	-	10	10	3	-	-	-
312971	New	60	55	80	-	-	-	22	22	43	-	-	-
312972	New	60	55	80	-	-	-	23	23	44	-	-	-
312973	New	60	55	80	-	-	-	22	22	43	-	-	-
312974	New	60	55	80	-	-	-	23	23	43	-	-	-
312975	New	60	55	80	-	-	-	10	10	3	-	-	-
312977	New	60	55	80	-	-	-	20	20	41	-	-	-
312978	New	60	55	80	-	-	-	13	13	35	-	-	-
312979	New	60	55	80	-	-	-	10	10	3	-	-	-
312980	New	60	55	80	-	-	-	10	10	3	-	-	-
312981	New	60	55	80	-	-	-	22	22	43	-	-	-
312983	New	60	55	80	-	-	-	10	10	3	-	-	-
312984	New	60	55	80	-	-	-	24	24	45	-	-	-
312985	New	60	55	80	-	-	-	26	26	46	-	-	-
312989	New	60	55	80	-	-	-	10	10	3	-	-	-
312990	New	60	55	80	-	-	-	22	22	43	-	-	-
312991	New	60	55	80	-	-	-	10	10	3	-	-	-
312992	New	60	55	80	-	-	-	10	10	3	-	-	-
312993	New	60	55	80	-	-	-	10	10	3	-	-	-
312994	New	60	55	80	-	-	-	20	21	41	-	-	-
312996	New	60	55	80	-	-	-	10	10	3	-	-	-
312998	New	60	55	80	-	-	-	10	10	3	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
312999	New	60	55	80	-	-	-	22	22	43	-	-	-
313001	New	60	55	80	-	-	-	22	22	42	-	-	-
313002	New	60	55	80	-	-	-	23	23	45	-	-	-
313003	New	60	55	80	-	-	-	27	27	48	-	-	-
313004	New	60	55	80	-	-	-	20	21	41	-	-	-
313005	New	60	55	80	-	-	-	22	22	42	-	-	-
313007	New	60	55	80	-	-	-	10	10	3	-	-	-
313009	New	60	55	80	-	-	-	10	10	3	-	-	-
313010	New	60	55	80	-	-	-	10	10	3	-	-	-
313011	New	60	55	80	-	-	-	10	10	3	-	-	-
313012	New	60	55	80	-	-	-	23	24	44	-	-	-
313013	New	60	55	80	-	-	-	28	28	49	-	-	-
313014	New	60	55	80	-	-	-	23	23	43	-	-	-
313015	New	60	55	80	-	-	-	22	22	43	-	-	-
313016	New	60	55	80	-	-	-	10	10	3	-	-	-
313017	New	60	55	80	-	-	-	25	25	45	-	-	-
313018	New	60	55	80	-	-	-	21	22	42	-	-	-
313019	New	60	55	80	-	-	-	10	10	3	-	-	-
313020	New	60	55	80	-	-	-	17	18	39	-	-	-
313021	New	60	55	80	-	-	-	21	22	42	-	-	-
313022	New	60	55	80	-	-	-	24	24	45	-	-	-
313023	New	60	55	80	-	-	-	21	22	42	-	-	-
313026	New	60	55	80	-	-	-	23	24	44	-	-	-
313027	New	60	55	80	-	-	-	27	27	48	-	-	-
313028	New	60	55	80	-	-	-	20	20	44	-	-	-
313029	New	60	55	80	-	-	-	22	23	43	-	-	-
313030	New	60	55	80	-	-	-	21	21	42	-	-	-
313031	New	60	55	80	-	-	-	21	21	42	-	-	-
313032	New	60	55	80	-	-	-	21	22	42	-	-	-
313033	New	60	55	80	-	-	-	22	22	43	-	-	-
313034	New	60	55	80	-	-	-	10	10	3	-	-	-
313035	New	60	55	80	-	-	-	22	22	43	-	-	-
313036	New	60	55	80	-	-	-	10	10	3	-	-	-
313040	New	60	55	80	-	-	-	31	31	57	-	-	-
313042	New	60	55	80	-	-	-	10	10	3	-	-	-
313043	New	60	55	80	-	-	-	10	10	3	-	-	-
313044	New	60	55	80	-	-	-	22	22	43	-	-	-
313046	New	60	55	80	-	-	-	27	27	49	-	-	-
313047	New	60	55	80	-	-	-	18	18	39	-	-	-
313048	New	60	55	80	-	-	-	10	10	3	-	-	-
313049	New	60	55	80	-	-	-	10	10	3	-	-	-
313050	New	60	55	80	-	-	-	31	31	58	-	-	-
313051	New	60	55	80	-	-	-	22	22	43	-	-	-
313052	New	60	55	80	-	-	-	10	10	3	-	-	-
313053	New	60	55	80	-	-	-	20	21	41	-	-	-
313054	New	60	55	80	-	-	-	23	24	44	-	-	-
313055	New	60	55	80	-	-	-	36	37	59	-	-	-
313056	New	60	55	80	-	-	-	10	10	3	-	-	-
313057	New	60	55	80	-	-	-	10	10	3	-	-	-
313058	New	60	55	80	-	-	-	19	20	44	-	-	-
313059	New	60	55	80	-	-	-	28	28	49	-	-	-
313060	New	60	55	80	-	-	-	24	24	46	-	-	-
313061	New	60	55	80	-	-	-	20	21	41	-	-	-
313063	New	60	55	80	-	-	-	10	10	3	-	-	-
313066	New	60	55	80	-	-	-	10	10	3	-	-	-
313067	New	60	55	80	-	-	-	24	24	44	-	-	-
313068	New	60	55	80	-	-	-	10	10	3	-	-	-
313073	New	60	55	80	-	-	-	23	23	43	-	-	-
313074	New	60	55	80	-	-	-	22	22	43	-	-	-
313075	New	60	55	80	-	-	-	20	20	41	-	-	-
313076	New	60	55	80	-	-	-	18	18	39	-	-	-
313078	New	60	55	80	-	-	-	10	10	3	-	-	-
313079	New	60	55	80	-	-	-	20	21	41	-	-	-
313082	New	60	55	80	-	-	-	23	23	43	-	-	-
313084	New	60	55	80	-	-	-	24	24	44	-	-	-
313085	New	60	55	80	-	-	-	10	10	3	-	-	-
313086	New	60	55	80	-	-	-	41	41	64	-	-	-
313087	New	60	55	80	-	-	-	21	21	43	-	-	-
313089	New	60	55	80	-	-	-	22	23	43	-	-	-
313091	New	60	55	80	-	-	-	19	19	41	-	-	-
313092	New	60	55	80	-	-	-	10	10	3	-	-	-
313094	New	60	55	80	-	-	-	24	24	44	-	-	-
313095	New	60	55	80	-	-	-	21	21	42	-	-	-
313096	New	60	55	80	-	-	-	27	27	48	-	-	-
313097	New	60	55	80	-	-	-	22	23	43	-	-	-
313098	New	60	55	80	-	-	-	27	27	48	-	-	-
313099	New	60	55	80	-	-	-	10	10	3	-	-	-
313100	New	60	55	80	-	-	-	23	23	44	-	-	-
313102	New	60	55	80	-	-	-	24	24	48	-	-	-
313104	New	60	55	80	-	-	-	24	24	45	-	-	-
313105	New	60	55	80	-	-	-	10	10	3	-	-	-
313106	New	60	55	80	-	-	-	26	27	48	-	-	-
313107	New	60	55	80	-	-	-	22	23	43	-	-	-
313108	New	60	55	80	-	-	-	20	21	41	-	-	-
313111	New	60	55	80	-	-	-	22	22	43	-	-	-
313112	New	60	55	80	-	-	-	10	10	3	-	-	-
313113	New	60	55	80	-	-	-	21	21	43	-	-	-
313114	New	60	55	80	-	-	-	22	23	43	-	-	-
313115	New	60	55	80	-	-	-	29	29	50	-	-	-
313116	New	60	55	80	-	-	-	10	10	3	-	-	-
313119	New	60	55	80	-	-	-	10	10	3	-	-	-
313121	New	60	55	80	-	-	-	10	10	3	-	-	-
313122	New	60	55	80	-	-	-	22	22	43	-	-	-
313123	New	60	55	80	-	-	-	21	21	42	-	-	-
313124	New	60	55	80	-	-	-	20	21	42	-	-	-
313125	New	60	55	80	-	-	-	10	10	3	-	-	-
313126	New	60	55	80	-	-	-	22	22	42	-	-	-
313127	New	60	55	80	-	-	-	22	22	42	-	-	-
313128	New	60	55	80	-	-	-	44	44	66	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
313129	New	60	55	80	-	-	-	27	27	48	-	-	-
313130	New	60	55	80	-	-	-	27	27	48	-	-	-
313131	New	60	55	80	-	-	-	10	10	3	-	-	-
313133	New	60	55	80	-	-	-	24	24	46	-	-	-
313135	New	60	55	80	-	-	-	22	22	42	-	-	-
313138	New	60	55	80	-	-	-	21	22	42	-	-	-
313139	New	60	55	80	-	-	-	22	22	47	-	-	-
313141	New	60	55	80	-	-	-	21	21	41	-	-	-
313143	New	60	55	80	-	-	-	25	25	45	-	-	-
313144	New	60	55	80	-	-	-	21	22	42	-	-	-
313145	New	60	55	80	-	-	-	23	24	47	-	-	-
313147	New	60	55	80	-	-	-	28	28	49	-	-	-
313148	New	60	55	80	-	-	-	24	25	45	-	-	-
313149	New	60	55	80	-	-	-	21	22	42	-	-	-
313151	New	60	55	80	-	-	-	24	25	45	-	-	-
313152	New	60	55	80	-	-	-	30	30	52	-	-	-
313153	New	60	55	80	-	-	-	27	28	49	-	-	-
313154	New	60	55	80	-	-	-	24	24	44	-	-	-
313155	New	60	55	80	-	-	-	23	24	44	-	-	-
313158	New	60	55	80	-	-	-	21	21	42	-	-	-
313159	New	60	55	80	-	-	-	24	24	44	-	-	-
313160	New	60	55	80	-	-	-	21	21	42	-	-	-
313161	New	60	55	80	-	-	-	21	21	41	-	-	-
313162	New	60	55	80	-	-	-	30	31	57	-	-	-
313163	New	60	55	80	-	-	-	23	24	45	-	-	-
313166	New	60	55	80	-	-	-	40	40	60	-	-	-
313167	New	60	55	80	-	-	-	41	42	63	-	-	-
313168	New	60	55	80	-	-	-	22	22	42	-	-	-
313169	New	60	55	80	-	-	-	25	25	46	-	-	-
313171	New	60	55	80	-	-	-	18	18	39	-	-	-
313172	New	60	55	80	-	-	-	23	23	44	-	-	-
313173	New	60	55	80	-	-	-	27	28	50	-	-	-
313175	New	60	55	80	-	-	-	47	48	66	-	-	-
313177	New	60	55	80	-	-	-	24	25	45	-	-	-
313178	New	60	55	80	-	-	-	28	28	48	-	-	-
313179	New	60	55	80	-	-	-	24	24	46	-	-	-
313182	New	60	55	80	-	-	-	28	28	49	-	-	-
313184	New	60	55	80	-	-	-	23	23	44	-	-	-
313185	New	60	55	80	-	-	-	27	28	47	-	-	-
313186	New	60	55	80	-	-	-	24	25	45	-	-	-
313188	New	60	55	80	-	-	-	23	23	43	-	-	-
313189	New	60	55	80	-	-	-	46	46	67	-	-	-
313190	New	60	55	80	-	-	-	23	24	44	-	-	-
313191	New	60	55	80	-	-	-	27	27	48	-	-	-
313192	New	60	55	80	-	-	-	23	23	44	-	-	-
313193	New	60	55	80	-	-	-	34	35	56	-	-	-
313194	New	60	55	80	-	-	-	42	42	63	-	-	-
313195	New	60	55	80	-	-	-	24	25	45	-	-	-
313197	New	60	55	80	-	-	-	28	28	47	-	-	-
313198	New	60	55	80	-	-	-	24	24	44	-	-	-
313199	New	60	55	80	-	-	-	22	23	43	-	-	-
313201	New	60	55	80	-	-	-	23	23	43	-	-	-
313202	New	60	55	80	-	-	-	24	24	44	-	-	-
313203	New	60	55	80	-	-	-	28	28	49	-	-	-
313204	New	60	55	80	-	-	-	23	24	45	-	-	-
313205	New	60	55	80	-	-	-	22	22	43	-	-	-
313206	New	60	55	80	-	-	-	21	22	43	-	-	-
313208	New	60	55	80	-	-	-	36	37	59	-	-	-
313210	New	60	55	80	-	-	-	28	28	49	-	-	-
313211	New	60	55	80	-	-	-	22	23	43	-	-	-
313212	New	60	55	80	-	-	-	22	22	42	-	-	-
313214	New	60	55	80	-	-	-	22	23	43	-	-	-
313215	New	60	55	80	-	-	-	27	27	48	-	-	-
313216	New	60	55	80	-	-	-	28	28	50	-	-	-
313217	New	60	55	80	-	-	-	23	23	44	-	-	-
313219	New	60	55	80	-	-	-	22	22	43	-	-	-
313220	New	60	55	80	-	-	-	27	27	47	-	-	-
313221	New	60	55	80	-	-	-	22	22	43	-	-	-
313222	New	60	55	80	-	-	-	37	37	61	-	-	-
313223	New	60	55	80	-	-	-	22	22	42	-	-	-
313225	New	60	55	80	-	-	-	24	25	45	-	-	-
313226	New	60	55	80	-	-	-	22	22	42	-	-	-
313227	New	60	55	80	-	-	-	21	22	43	-	-	-
313228	New	60	55	80	-	-	-	27	27	49	-	-	-
313230	New	60	55	80	-	-	-	45	46	69	-	-	-
313233	New	60	55	80	-	-	-	26	26	46	-	-	-
313234	New	60	55	80	-	-	-	24	24	44	-	-	-
313235	New	60	55	80	-	-	-	21	21	42	-	-	-
313236	New	60	55	80	-	-	-	27	27	46	-	-	-
313237	New	60	55	80	-	-	-	21	21	42	-	-	-
313239	New	60	55	80	-	-	-	29	29	49	-	-	-
313240	New	60	55	80	-	-	-	29	29	48	-	-	-
313241	New	60	55	80	-	-	-	24	24	44	-	-	-
313242	New	60	55	80	-	-	-	42	42	64	-	-	-
313243	New	60	55	80	-	-	-	29	29	49	-	-	-
313244	New	60	55	80	-	-	-	24	24	44	-	-	-
313246	New	60	55	80	-	-	-	34	35	53	-	-	-
313249	New	60	55	80	-	-	-	26	26	46	-	-	-
313251	New	60	55	80	-	-	-	18	18	39	-	-	-
313253	New	60	55	80	-	-	-	22	22	43	-	-	-
313254	New	60	55	80	-	-	-	27	27	47	-	-	-
313255	New	60	55	80	-	-	-	22	22	42	-	-	-
313256	New	60	55	80	-	-	-	28	28	48	-	-	-
313258	New	60	55	80	-	-	-	21	21	42	-	-	-
313259	New	60	55	80	-	-	-	21	21	42	-	-	-
313260	New	60	55	80	-	-	-	13	13	35	-	-	-
313261	New	60	55	80	-	-	-	40	40	62	-	-	-
313262	New	60	55	80	-	-	-	27	27	48	-	-	-
313263	New	60	55	80	-	-	-	30	30	50	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
313264	New	60	55	80	-	-	-	35	35	57	-	-	-
313266	New	60	55	80	-	-	-	24	25	45	-	-	-
313267	New	60	55	80	-	-	-	30	30	50	-	-	-
313268	New	60	55	80	-	-	-	20	20	42	-	-	-
313269	New	60	55	80	-	-	-	24	25	44	-	-	-
313270	New	60	55	80	-	-	-	26	26	46	-	-	-
313271	New	60	55	80	-	-	-	28	29	48	-	-	-
313272	New	60	55	80	-	-	-	19	19	41	-	-	-
313273	New	60	55	80	-	-	-	20	20	41	-	-	-
313274	New	60	55	80	-	-	-	23	23	45	-	-	-
313275	New	60	55	80	-	-	-	24	24	44	-	-	-
313277	New	60	55	80	-	-	-	31	31	50	-	-	-
313279	New	60	55	80	-	-	-	21	21	41	-	-	-
313280	New	60	55	80	-	-	-	20	20	40	-	-	-
313281	New	60	55	80	-	-	-	24	24	44	-	-	-
313283	New	60	55	80	-	-	-	33	34	52	-	-	-
313284	New	60	55	80	-	-	-	35	35	57	-	-	-
313285	New	60	55	80	-	-	-	20	21	42	-	-	-
313287	New	60	55	80	-	-	-	22	23	43	-	-	-
313288	New	60	55	80	-	-	-	31	31	49	-	-	-
313290	New	60	55	80	-	-	-	33	33	51	-	-	-
313291	New	60	55	80	-	-	-	22	22	43	-	-	-
313292	New	60	55	80	-	-	-	29	29	48	-	-	-
313293	New	60	55	80	-	-	-	37	38	60	-	-	-
313295	New	60	55	80	-	-	-	20	20	41	-	-	-
313296	New	60	55	80	-	-	-	32	32	51	-	-	-
313297	New	60	55	80	-	-	-	23	23	43	-	-	-
313299	New	60	55	80	-	-	-	23	23	43	-	-	-
313300	New	60	55	80	-	-	-	22	22	43	-	-	-
313301	New	60	55	80	-	-	-	24	24	44	-	-	-
313302	New	60	55	80	-	-	-	23	24	43	-	-	-
313303	New	60	55	80	-	-	-	22	23	43	-	-	-
313304	New	60	55	80	-	-	-	20	21	41	-	-	-
313305	New	60	55	80	-	-	-	24	25	45	-	-	-
313306	New	60	55	80	-	-	-	30	31	49	-	-	-
313307	New	60	55	80	-	-	-	23	23	44	-	-	-
313308	New	60	55	80	-	-	-	35	35	57	-	-	-
313309	New	60	55	80	-	-	-	21	21	42	-	-	-
313312	New	60	55	80	-	-	-	23	24	44	-	-	-
313313	New	60	55	80	-	-	-	43	44	64	-	-	-
313314	New	60	55	80	-	-	-	22	23	43	-	-	-
313317	New	60	55	80	-	-	-	29	29	48	-	-	-
313319	New	60	55	80	-	-	-	21	21	41	-	-	-
313321	New	60	55	80	-	-	-	24	24	45	-	-	-
313322	New	60	55	80	-	-	-	24	24	44	-	-	-
313324	New	60	55	80	-	-	-	22	22	44	-	-	-
313325	New	60	55	80	-	-	-	34	35	58	-	-	-
313326	New	60	55	80	-	-	-	24	24	44	-	-	-
313327	New	60	55	80	-	-	-	24	24	44	-	-	-
313328	New	60	55	80	-	-	-	25	25	45	-	-	-
313330	New	60	55	80	-	-	-	21	21	42	-	-	-
313331	New	60	55	80	-	-	-	21	21	42	-	-	-
313332	New	60	55	80	-	-	-	34	34	53	-	-	-
313336	New	60	55	80	-	-	-	27	27	46	-	-	-
313338	New	60	55	80	-	-	-	37	37	58	-	-	-
313339	New	60	55	80	-	-	-	35	35	58	-	-	-
313340	New	60	55	80	-	-	-	24	24	43	-	-	-
313342	New	60	55	80	-	-	-	23	23	43	-	-	-
313343	New	60	55	80	-	-	-	26	26	46	-	-	-
313344	New	60	55	80	-	-	-	21	22	42	-	-	-
313345	New	60	55	80	-	-	-	20	20	40	-	-	-
313346	New	60	55	80	-	-	-	21	21	41	-	-	-
313347	New	60	55	80	-	-	-	23	23	44	-	-	-
313348	New	60	55	80	-	-	-	21	21	41	-	-	-
313349	New	60	55	80	-	-	-	22	22	43	-	-	-
313352	New	60	55	80	-	-	-	34	34	58	-	-	-
313353	New	60	55	80	-	-	-	12	13	36	-	-	-
313354	New	60	55	80	-	-	-	27	27	47	-	-	-
313355	New	60	55	80	-	-	-	21	21	43	-	-	-
313356	New	60	55	80	-	-	-	19	20	40	-	-	-
313358	New	60	55	80	-	-	-	22	22	43	-	-	-
313359	New	60	55	80	-	-	-	32	33	55	-	-	-
313362	New	60	55	80	-	-	-	24	25	44	-	-	-
313363	New	60	55	80	-	-	-	22	22	43	-	-	-
313366	New	60	55	80	-	-	-	36	37	59	-	-	-
313367	New	60	55	80	-	-	-	21	22	42	-	-	-
313368	New	60	55	80	-	-	-	25	25	44	-	-	-
313370	New	60	55	80	-	-	-	24	24	44	-	-	-
313374	New	60	55	80	-	-	-	21	21	42	-	-	-
313375	New	60	55	80	-	-	-	25	26	45	-	-	-
313376	New	60	55	80	-	-	-	21	22	42	-	-	-
313377	New	60	55	80	-	-	-	32	32	53	-	-	-
313378	New	60	55	80	-	-	-	23	23	43	-	-	-
313380	New	60	55	80	-	-	-	37	37	60	-	-	-
313382	New	60	55	80	-	-	-	22	22	44	-	-	-
313383	New	60	55	80	-	-	-	22	22	43	-	-	-
313386	New	60	55	80	-	-	-	20	21	42	-	-	-
313388	New	60	55	80	-	-	-	23	24	44	-	-	-
313390	New	60	55	80	-	-	-	40	40	63	-	-	-
313397	New	60	55	80	-	-	-	37	38	61	-	-	-
313398	New	60	55	80	-	-	-	22	22	42	-	-	-
313400	New	60	55	80	-	-	-	38	39	61	-	-	-
313401	New	60	55	80	-	-	-	37	37	60	-	-	-
313403	New	60	55	80	-	-	-	20	20	42	-	-	-
313406	New	60	55	80	-	-	-	22	22	42	-	-	-
313416	New	60	55	80	-	-	-	33	33	58	-	-	-
313425	New	60	55	80	-	-	-	37	38	60	-	-	-
313430	New	60	55	80	-	-	-	51	51	73	-	-	-
313439	New	60	55	80	-	-	-	40	40	62	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
313440	New	60	55	80	-	-	-	38	38	61	-	-	-
313442	New	60	55	80	-	-	-	40	41	63	-	-	-
313447	New	60	55	80	-	-	-	36	36	59	-	-	-
313451	New	60	55	80	-	-	-	39	39	61	-	-	-
313459	New	60	55	80	-	-	-	22	22	45	-	-	-
313462	New	60	55	80	-	-	-	38	39	61	-	-	-
313473	New	60	55	80	-	-	-	33	34	58	-	-	-
313475	New	60	55	80	-	-	-	32	32	51	-	-	-
313494	New	60	55	80	-	-	-	31	32	53	-	-	-
313497	New	60	55	80	-	-	-	38	39	61	-	-	-
313499	New	60	55	80	-	-	-	36	37	59	-	-	-
313503	New	60	55	80	-	-	-	33	33	56	-	-	-
313506	New	60	55	80	-	-	-	48	48	71	-	-	-
313507	New	60	55	80	-	-	-	40	41	63	-	-	-
313510	New	60	55	80	-	-	-	45	46	68	-	-	-
313513	New	60	55	80	-	-	-	35	36	58	-	-	-
313515	New	60	55	80	-	-	-	39	40	62	-	-	-
313523	New	60	55	80	-	-	-	41	41	63	-	-	-
313524	New	60	55	80	-	-	-	34	34	58	-	-	-
313527	New	60	55	80	-	-	-	38	39	61	-	-	-
313533	New	60	55	80	-	-	-	47	48	69	-	-	-
313535	New	60	55	80	-	-	-	30	31	52	-	-	-
313536	New	60	55	80	-	-	-	38	38	61	-	-	-
313539	New	60	55	80	-	-	-	28	28	56	-	-	-
313540	New	60	55	80	-	-	-	40	40	63	-	-	-
313543	New	60	55	80	-	-	-	28	28	55	-	-	-
313545	New	60	55	80	-	-	-	38	39	61	-	-	-
313551	New	60	55	80	-	-	-	40	40	63	-	-	-
313552	New	60	55	80	-	-	-	41	42	64	-	-	-
313555	New	60	55	80	-	-	-	31	31	55	-	-	-
313556	New	60	55	80	-	-	-	35	35	59	-	-	-
313561	New	60	55	80	-	-	-	38	38	61	-	-	-
313566	New	60	55	80	-	-	-	37	37	62	-	-	-
313572	New	60	55	80	-	-	-	39	40	62	-	-	-
313574	New	60	55	80	-	-	-	38	39	61	-	-	-
313575	New	60	55	80	-	-	-	41	41	64	-	-	-
313576	New	60	55	80	-	-	-	31	31	53	-	-	-
313578	New	60	55	80	-	-	-	37	38	61	-	-	-
313594	New	60	55	80	-	-	-	41	42	64	-	-	-
313596	New	60	55	80	-	-	-	41	42	63	-	-	-
313598	New	60	55	80	-	-	-	41	42	64	-	-	-
313603	New	60	55	80	-	-	-	27	28	50	-	-	-
313604	New	60	55	80	-	-	-	21	21	44	-	-	-
313606	New	60	55	80	-	-	-	29	29	52	-	-	-
313607	New	60	55	80	-	-	-	30	30	52	-	-	-
313611	New	60	55	80	-	-	-	37	37	61	-	-	-
313613	New	60	55	80	-	-	-	35	36	59	-	-	-
313614	New	60	55	80	-	-	-	41	42	64	-	-	-
313615	New	60	55	80	-	-	-	41	41	64	-	-	-
313620	New	60	55	80	-	-	-	27	27	50	-	-	-
313622	New	60	55	80	-	-	-	42	42	66	-	-	-
313623	New	60	55	80	-	-	-	41	42	66	-	-	-
313625	New	60	55	80	-	-	-	40	41	65	-	-	-
313626	New	60	55	80	-	-	-	40	40	63	-	-	-
313627	New	60	55	80	-	-	-	42	43	67	-	-	-
313629	New	60	55	80	-	-	-	25	25	48	-	-	-
313631	New	60	55	80	-	-	-	37	38	60	-	-	-
313633	New	60	55	80	-	-	-	32	32	56	-	-	-
313634	New	60	55	80	-	-	-	41	41	63	-	-	-
313636	New	60	55	80	-	-	-	40	40	63	-	-	-
313638	New	60	55	80	-	-	-	42	42	65	-	-	-
313639	New	60	55	80	-	-	-	38	39	61	-	-	-
313640	New	60	55	80	-	-	-	39	39	62	-	-	-
313642	New	60	55	80	-	-	-	41	42	66	-	-	-
313644	New	60	55	80	-	-	-	40	41	63	-	-	-
313647	New	60	55	80	-	-	-	36	36	61	-	-	-
313649	New	60	55	80	-	-	-	39	40	64	-	-	-
313650	New	60	55	80	-	-	-	39	39	63	-	-	-
313651	New	60	55	80	-	-	-	36	37	61	-	-	-
313652	New	60	55	80	-	-	-	36	37	61	-	-	-
313654	New	60	55	80	-	-	-	41	42	66	-	-	-
313659	New	60	55	80	-	-	-	53	53	78	-	-	-
313660	New	60	55	80	-	-	-	41	42	66	-	-	-
313661	New	60	55	80	-	-	-	27	27	51	-	-	-
313662	New	60	55	80	-	-	-	35	36	61	-	-	-
313663	New	60	55	80	-	-	-	38	38	62	-	-	-
313665	New	60	55	80	-	-	-	39	39	63	-	-	-
313668	New	60	55	80	-	-	-	58	58	84	-	-	-
313669	New	60	55	80	-	-	-	42	42	67	-	-	-
313670	New	60	55	80	-	-	-	42	43	65	-	-	-
313673	New	60	55	80	-	-	-	28	28	52	-	-	-
313674	New	60	55	80	-	-	-	29	30	52	-	-	-
313675	New	60	55	80	-	-	-	38	39	62	-	-	-
313679	New	60	55	80	-	-	-	37	38	60	-	-	-
313680	New	60	55	80	-	-	-	38	38	62	-	-	-
313682	New	60	55	80	-	-	-	39	39	62	-	-	-
313683	New	60	55	80	-	-	-	39	39	61	-	-	-
313684	New	60	55	80	-	-	-	57	57	81	-	-	-
313687	New	60	55	80	-	-	-	57	57	81	-	-	-
313688	New	60	55	80	-	-	-	35	35	60	-	-	-
313689	New	60	55	80	-	-	-	39	40	62	-	-	-
313690	New	60	55	80	-	-	-	34	34	57	-	-	-
313691	New	60	55	80	-	-	-	34	35	58	-	-	-
313693	New	60	55	80	-	-	-	34	34	57	-	-	-
313696	New	60	55	80	-	-	-	35	36	58	-	-	-
313697	New	60	55	80	-	-	-	36	36	63	-	-	-
313698	New	60	55	80	-	-	-	41	41	65	-	-	-
313700	New	60	55	80	-	-	-	39	39	63	-	-	-
313701	New	60	55	80	-	-	-	37	38	60	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
313702	New	60	55	80	-	-	-	37	37	61	-	-	-
313704	New	60	55	80	-	-	-	55	56	81	-	-	-
313707	New	60	55	80	-	-	-	31	31	54	-	-	-
313708	New	60	55	80	-	-	-	54	55	78	-	-	-
313709	New	60	55	80	-	-	-	35	36	57	-	-	-
313710	New	60	55	80	-	-	-	39	40	64	-	-	-
313711	New	60	55	80	-	-	-	37	38	61	-	-	-
313712	New	60	55	80	-	-	-	35	35	58	-	-	-
313713	New	60	55	80	-	-	-	40	40	64	-	-	-
313714	New	60	55	80	-	-	-	38	39	62	-	-	-
313715	New	60	55	80	-	-	-	36	36	58	-	-	-
313716	New	60	55	80	-	-	-	39	39	61	-	-	-
313717	New	60	55	80	-	-	-	35	35	60	-	-	-
313720	New	60	55	80	-	-	-	40	40	64	-	-	-
313721	New	60	55	80	-	-	-	36	37	61	-	-	-
313723	New	60	55	80	-	-	-	38	39	63	-	-	-
313724	New	60	55	80	-	-	-	39	39	62	-	-	-
313727	New	60	55	80	-	-	-	35	35	57	-	-	-
313728	New	60	55	80	-	-	-	37	37	60	-	-	-
313729	New	60	55	80	-	-	-	40	40	63	-	-	-
313730	New	60	55	80	-	-	-	41	41	65	-	-	-
313731	New	60	55	80	-	-	-	36	36	58	-	-	-
313732	New	60	55	80	-	-	-	40	40	62	-	-	-
313733	New	60	55	80	-	-	-	36	37	62	-	-	-
313735	New	60	55	80	-	-	-	23	23	47	-	-	-
313737	New	60	55	80	-	-	-	34	34	58	-	-	-
313739	New	60	55	80	-	-	-	39	39	61	-	-	-
313740	New	60	55	80	-	-	-	40	40	65	-	-	-
313742	New	60	55	80	-	-	-	42	42	66	-	-	-
313743	New	60	55	80	-	-	-	14	15	40	-	-	-
313746	New	60	55	80	-	-	-	40	41	63	-	-	-
313747	New	60	55	80	-	-	-	39	39	62	-	-	-
313748	New	60	55	80	-	-	-	29	29	52	-	-	-
313749	New	60	55	80	-	-	-	42	42	66	-	-	-
313751	New	60	55	80	-	-	-	39	40	64	-	-	-
313752	New	60	55	80	-	-	-	40	41	63	-	-	-
313753	New	60	55	80	-	-	-	34	35	57	-	-	-
313754	New	60	55	80	-	-	-	39	40	62	-	-	-
313755	New	60	55	80	-	-	-	42	42	66	-	-	-
313758	New	60	55	80	-	-	-	38	39	61	-	-	-
313761	New	60	55	80	-	-	-	49	49	72	-	-	-
313763	New	60	55	80	-	-	-	41	42	63	-	-	-
313765	New	60	55	80	-	-	-	40	40	64	-	-	-
313768	New	60	55	80	-	-	-	38	39	64	-	-	-
313771	New	60	55	80	-	-	-	34	35	56	-	-	-
313774	New	60	55	80	-	-	-	37	37	62	-	-	-
313775	New	60	55	80	-	-	-	43	43	64	-	-	-
313776	New	60	55	80	-	-	-	36	36	60	-	-	-
313779	New	60	55	80	-	-	-	36	36	58	-	-	-
313780	New	60	55	80	-	-	-	35	35	60	-	-	-
313781	New	60	55	80	-	-	-	43	43	64	-	-	-
313788	New	60	55	80	-	-	-	39	39	63	-	-	-
313790	New	60	55	80	-	-	-	39	40	61	-	-	-
313792	New	60	55	80	-	-	-	38	39	62	-	-	-
313793	New	60	55	80	-	-	-	20	21	45	-	-	-
313794	New	60	55	80	-	-	-	37	37	61	-	-	-
313795	New	60	55	80	-	-	-	42	42	65	-	-	-
313798	New	60	55	80	-	-	-	38	39	61	-	-	-
313799	New	60	55	80	-	-	-	39	39	63	-	-	-
313801	New	60	55	80	-	-	-	39	40	62	-	-	-
313803	New	60	55	80	-	-	-	39	40	62	-	-	-
313804	New	60	55	80	-	-	-	52	52	74	-	-	-
313806	New	60	55	80	-	-	-	41	41	66	-	-	-
313807	New	60	55	80	-	-	-	52	52	77	-	-	-
313808	New	60	55	80	-	-	-	40	40	64	-	-	-
313809	New	60	55	80	-	-	-	40	41	63	-	-	-
313810	New	60	55	80	-	-	-	37	38	60	-	-	-
313811	New	60	55	80	-	-	-	42	43	65	-	-	-
313812	New	60	55	80	-	-	-	48	48	71	-	-	-
313814	New	60	55	80	-	-	-	42	42	65	-	-	-
313815	New	60	55	80	-	-	-	38	38	63	-	-	-
313816	New	60	55	80	-	-	-	18	19	44	-	-	-
313817	New	60	55	80	-	-	-	38	39	61	-	-	-
313818	New	60	55	80	-	-	-	34	34	60	-	-	-
313820	New	60	55	80	-	-	-	43	43	66	-	-	-
313821	New	60	55	80	-	-	-	40	40	63	-	-	-
313825	New	60	55	80	-	-	-	42	42	65	-	-	-
313826	New	60	55	80	-	-	-	39	39	63	-	-	-
313827	New	60	55	80	-	-	-	38	39	61	-	-	-
313828	New	60	55	80	-	-	-	36	36	62	-	-	-
313829	New	60	55	80	-	-	-	39	40	63	-	-	-
313832	New	60	55	80	-	-	-	13	14	35	-	-	-
313836	New	60	55	80	-	-	-	40	41	65	-	-	-
313837	New	60	55	80	-	-	-	37	37	62	-	-	-
313838	New	60	55	80	-	-	-	41	42	66	-	-	-
313840	New	60	55	80	-	-	-	40	40	63	-	-	-
313841	New	60	55	80	-	-	-	40	40	62	-	-	-
313847	New	60	55	80	-	-	-	38	38	64	-	-	-
313850	New	60	55	80	-	-	-	26	26	49	-	-	-
313851	New	60	55	80	-	-	-	37	37	62	-	-	-
313853	New	60	55	80	-	-	-	36	36	60	-	-	-
313856	New	60	55	80	-	-	-	39	39	61	-	-	-
313857	New	60	55	80	-	-	-	37	38	63	-	-	-
313860	New	60	55	80	-	-	-	38	38	62	-	-	-
313863	New	60	55	80	-	-	-	38	39	63	-	-	-
313865	New	60	55	80	-	-	-	37	37	61	-	-	-
313868	New	60	55	80	-	-	-	39	40	62	-	-	-
313870	New	60	55	80	-	-	-	36	37	59	-	-	-
313871	New	60	55	80	-	-	-	41	41	63	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
313877	New	60	55	80	-	-	-	39	39	61	-	-	-
313879	New	60	55	80	-	-	-	40	40	62	-	-	-
313884	New	60	55	80	-	-	-	42	42	67	-	-	-
313885	New	60	55	80	-	-	-	50	50	73	-	-	-
313886	New	60	55	80	-	-	-	41	41	65	-	-	-
313888	New	60	55	80	-	-	-	40	40	62	-	-	-
313889	New	60	55	80	-	-	-	41	41	65	-	-	-
313890	New	60	55	80	-	-	-	40	40	63	-	-	-
313891	New	60	55	80	-	-	-	40	41	64	-	-	-
313892	New	60	55	80	-	-	-	40	41	65	-	-	-
313897	New	60	55	80	-	-	-	42	43	65	-	-	-
313898	New	60	55	80	-	-	-	41	41	65	-	-	-
313900	New	60	55	80	-	-	-	40	40	63	-	-	-
313904	New	60	55	80	-	-	-	56	56	85	-	-	-
313905	New	60	55	80	-	-	-	40	40	63	-	-	-
313909	New	60	55	80	-	-	-	38	38	62	-	-	-
313911	New	60	55	80	-	-	-	37	38	62	-	-	-
313912	New	60	55	80	-	-	-	39	40	64	-	-	-
313916	New	60	55	80	-	-	-	51	51	73	-	-	-
313917	New	60	55	80	-	-	-	49	49	70	-	-	-
313919	New	60	55	80	-	-	-	42	43	66	-	-	-
313922	New	60	55	80	-	-	-	42	42	67	-	-	-
313923	New	60	55	80	-	-	-	40	41	65	-	-	-
313929	New	60	55	80	-	-	-	42	42	64	-	-	-
313930	New	60	55	80	-	-	-	22	23	46	-	-	-
313932	New	60	55	80	-	-	-	50	50	73	-	-	-
313933	New	60	55	80	-	-	-	40	41	65	-	-	-
313936	New	60	55	80	-	-	-	50	50	72	-	-	-
313937	New	60	55	80	-	-	-	18	19	44	-	-	-
313941	New	60	55	80	-	-	-	40	40	64	-	-	-
313942	New	60	55	80	-	-	-	19	20	44	-	-	-
313944	New	60	55	80	-	-	-	40	40	64	-	-	-
313950	New	60	55	80	-	-	-	38	39	63	-	-	-
313952	New	60	55	80	-	-	-	40	40	64	-	-	-
313953	New	60	55	80	-	-	-	24	24	45	-	-	-
313954	New	60	55	80	-	-	-	23	23	45	-	-	-
313955	New	60	55	80	-	-	-	40	41	63	-	-	-
313956	New	60	55	80	-	-	-	39	39	64	-	-	-
313958	New	60	55	80	-	-	-	23	23	45	-	-	-
313962	New	60	55	80	-	-	-	33	33	55	-	-	-
313963	New	60	55	80	-	-	-	23	23	44	-	-	-
313965	New	60	55	80	-	-	-	21	22	46	-	-	-
313967	New	60	55	80	-	-	-	21	21	45	-	-	-
313968	New	60	55	80	-	-	-	23	23	44	-	-	-
313972	New	60	55	80	-	-	-	40	40	64	-	-	-
313973	New	60	55	80	-	-	-	38	38	63	-	-	-
313974	New	60	55	80	-	-	-	28	28	47	-	-	-
313975	New	60	55	80	-	-	-	22	22	42	-	-	-
313977	New	60	55	80	-	-	-	33	34	56	-	-	-
313978	New	60	55	80	-	-	-	38	39	63	-	-	-
313979	New	60	55	80	-	-	-	39	40	64	-	-	-
313980	New	60	55	80	-	-	-	21	21	42	-	-	-
313981	New	60	55	80	-	-	-	24	25	45	-	-	-
313982	New	60	55	80	-	-	-	19	19	43	-	-	-
313992	New	60	55	80	-	-	-	23	24	45	-	-	-
313997	New	60	55	80	-	-	-	11	12	34	-	-	-
313999	New	60	55	80	-	-	-	22	23	44	-	-	-
314000	New	60	55	80	-	-	-	25	26	48	-	-	-
314002	New	60	55	80	-	-	-	24	24	45	-	-	-
314003	New	60	55	80	-	-	-	22	22	46	-	-	-
314004	New	60	55	80	-	-	-	40	40	64	-	-	-
314005	New	60	55	80	-	-	-	37	37	60	-	-	-
314006	New	60	55	80	-	-	-	35	35	58	-	-	-
314010	New	60	55	80	-	-	-	42	42	67	-	-	-
314011	New	60	55	80	-	-	-	29	30	49	-	-	-
314012	New	60	55	80	-	-	-	38	38	62	-	-	-
314016	New	60	55	80	-	-	-	40	41	65	-	-	-
314018	New	60	55	80	-	-	-	22	23	43	-	-	-
314019	New	60	55	80	-	-	-	24	24	44	-	-	-
314021	New	60	55	80	-	-	-	26	27	46	-	-	-
314024	New	60	55	80	-	-	-	22	23	43	-	-	-
314026	New	60	55	80	-	-	-	25	25	45	-	-	-
314027	New	60	55	80	-	-	-	40	41	66	-	-	-
314028	New	60	55	80	-	-	-	22	22	45	-	-	-
314033	New	60	55	80	-	-	-	27	27	46	-	-	-
314035	New	60	55	80	-	-	-	40	40	65	-	-	-
314038	New	60	55	80	-	-	-	31	32	55	-	-	-
314039	New	60	55	80	-	-	-	25	25	48	-	-	-
314042	New	60	55	80	-	-	-	37	38	62	-	-	-
314043	New	60	55	80	-	-	-	41	41	65	-	-	-
314044	New	60	55	80	-	-	-	23	23	46	-	-	-
314045	New	60	55	80	-	-	-	42	43	65	-	-	-
314046	New	60	55	80	-	-	-	38	38	62	-	-	-
314049	New	60	55	80	-	-	-	24	24	45	-	-	-
314051	New	60	55	80	-	-	-	39	40	62	-	-	-
314055	New	60	55	80	-	-	-	25	25	46	-	-	-
314058	New	60	55	80	-	-	-	24	25	46	-	-	-
314060	New	60	55	80	-	-	-	26	26	47	-	-	-
314061	New	60	55	80	-	-	-	40	40	62	-	-	-
314062	New	60	55	80	-	-	-	25	25	45	-	-	-
314063	New	60	55	80	-	-	-	28	28	47	-	-	-
314064	New	60	55	80	-	-	-	38	39	63	-	-	-
314067	New	60	55	80	-	-	-	42	42	65	-	-	-
314071	New	60	55	80	-	-	-	25	26	46	-	-	-
314072	New	60	55	80	-	-	-	25	25	46	-	-	-
314073	New	60	55	80	-	-	-	23	23	43	-	-	-
314081	New	60	55	80	-	-	-	24	24	45	-	-	-
314082	New	60	55	80	-	-	-	40	41	63	-	-	-
314086	New	60	55	80	-	-	-	25	25	45	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
314087	New	60	55	80	-	-	-	24	25	45	-	-	-
314088	New	60	55	80	-	-	-	40	41	63	-	-	-
314089	New	60	55	80	-	-	-	44	44	66	-	-	-
314091	New	60	55	80	-	-	-	24	24	44	-	-	-
314093	New	60	55	80	-	-	-	27	28	47	-	-	-
314094	New	60	55	80	-	-	-	43	44	66	-	-	-
314095	New	60	55	80	-	-	-	21	21	41	-	-	-
314097	New	60	55	80	-	-	-	22	22	42	-	-	-
314099	New	60	55	80	-	-	-	25	25	44	-	-	-
314102	New	60	55	80	-	-	-	23	24	44	-	-	-
314103	New	60	55	80	-	-	-	21	21	43	-	-	-
314110	New	60	55	80	-	-	-	27	28	47	-	-	-
314111	New	60	55	80	-	-	-	19	20	40	-	-	-
314112	New	60	55	80	-	-	-	24	25	46	-	-	-
314116	New	60	55	80	-	-	-	22	22	43	-	-	-
314117	New	60	55	80	-	-	-	20	20	40	-	-	-
314118	New	60	55	80	-	-	-	24	25	44	-	-	-
314120	New	60	55	80	-	-	-	42	43	65	-	-	-
314121	New	60	55	80	-	-	-	31	31	51	-	-	-
314124	New	60	55	80	-	-	-	49	49	66	-	-	-
314125	New	60	55	80	-	-	-	19	19	40	-	-	-
314126	New	60	55	80	-	-	-	23	23	44	-	-	-
314127	New	60	55	80	-	-	-	25	25	45	-	-	-
314128	New	60	55	80	-	-	-	22	22	42	-	-	-
314132	New	60	55	80	-	-	-	21	21	44	-	-	-
314133	New	60	55	80	-	-	-	22	22	42	-	-	-
314135	New	60	55	80	-	-	-	21	22	42	-	-	-
314136	New	60	55	80	-	-	-	23	23	43	-	-	-
314139	New	60	55	80	-	-	-	48	49	69	-	-	-
314143	New	60	55	80	-	-	-	22	22	43	-	-	-
314146	New	60	55	80	-	-	-	20	20	41	-	-	-
314148	New	60	55	80	-	-	-	29	29	48	-	-	-
314150	New	60	55	80	-	-	-	22	22	43	-	-	-
314152	New	60	55	80	-	-	-	22	22	43	-	-	-
314153	New	60	55	80	-	-	-	20	21	42	-	-	-
314157	New	60	55	80	-	-	-	41	42	64	-	-	-
314159	New	60	55	80	-	-	-	41	42	65	-	-	-
314162	New	60	55	80	-	-	-	41	42	64	-	-	-
314164	New	60	55	80	-	-	-	34	34	52	-	-	-
314168	New	60	55	80	-	-	-	43	44	68	-	-	-
314173	New	60	55	80	-	-	-	54	55	81	-	-	-
314176	New	60	55	80	-	-	-	49	49	69	-	-	-
314180	New	60	55	80	-	-	-	40	40	63	-	-	-
314182	New	60	55	80	-	-	-	44	44	67	-	-	-
314184	New	60	55	80	-	-	-	52	52	79	-	-	-
314185	New	60	55	80	-	-	-	44	45	67	-	-	-
314190	New	60	55	80	-	-	-	42	42	64	-	-	-
314197	New	60	55	80	-	-	-	44	44	66	-	-	-
314199	New	60	55	80	-	-	-	45	45	69	-	-	-
314200	New	60	55	80	-	-	-	43	44	66	-	-	-
314203	New	60	55	80	-	-	-	40	40	62	-	-	-
314204	New	60	55	80	-	-	-	43	44	66	-	-	-
314210	New	60	55	80	-	-	-	48	48	67	-	-	-
314211	New	60	55	80	-	-	-	50	51	70	-	-	-
314213	New	60	55	80	-	-	-	51	51	73	-	-	-
314225	New	60	55	80	-	-	-	40	40	62	-	-	-
314239	New	60	55	80	-	-	-	44	44	68	-	-	-
314246	New	60	55	80	-	-	-	37	37	63	-	-	-
314258	New	60	55	80	-	-	-	42	43	67	-	-	-
314261	New	60	55	80	-	-	-	43	43	66	-	-	-
314263	New	60	55	80	-	-	-	43	43	64	-	-	-
314265	New	60	55	80	-	-	-	54	55	79	-	-	-
314273	New	60	55	80	-	-	-	54	54	75	-	-	-
314275	New	60	55	80	-	-	-	54	54	78	-	-	-
314282	New	60	55	80	-	-	-	49	49	67	-	-	-
314283	New	60	55	80	-	-	-	47	48	70	-	-	-
314285	New	60	55	80	-	-	-	44	44	65	-	-	-
314292	New	60	55	80	-	-	-	45	46	68	-	-	-
314293	New	60	55	80	-	-	-	35	35	57	-	-	-
314296	New	60	55	80	-	-	-	44	44	64	-	-	-
314297	New	60	55	80	-	-	-	43	43	65	-	-	-
314301	New	60	55	80	-	-	-	29	30	49	-	-	-
314303	New	60	55	80	-	-	-	46	46	67	-	-	-
314312	New	60	55	80	-	-	-	46	46	67	-	-	-
314314	New	60	55	80	-	-	-	30	30	52	-	-	-
314318	New	60	55	80	-	-	-	10	10	21	-	-	-
314321	New	60	55	80	-	-	-	30	30	55	-	-	-
314326	New	60	55	80	-	-	-	29	29	50	-	-	-
314327	New	60	55	80	-	-	-	44	44	64	-	-	-
314332	New	60	55	80	-	-	-	51	52	74	-	-	-
314339	New	60	55	80	-	-	-	47	48	71	-	-	-
314341	New	60	55	80	-	-	-	37	37	57	-	-	-
314342	New	60	55	80	-	-	-	46	46	70	-	-	-
314343	New	60	55	80	-	-	-	40	41	64	-	-	-
314346	New	60	55	80	-	-	-	46	46	64	-	-	-
314349	New	60	55	80	-	-	-	45	45	66	-	-	-
314351	New	60	55	80	-	-	-	48	49	71	-	-	-
314354	New	60	55	80	-	-	-	28	29	47	-	-	-
314359	New	60	55	80	-	-	-	40	40	61	-	-	-
314360	New	60	55	80	-	-	-	45	46	64	-	-	-
314365	New	60	55	80	-	-	-	34	34	56	-	-	-
314370	New	60	55	80	-	-	-	57	58	81	-	-	-
314376	New	60	55	80	-	-	-	30	31	49	-	-	-
314377	New	60	55	80	-	-	-	46	46	65	-	-	-
314379	New	60	55	80	-	-	-	28	28	47	-	-	-
314381	New	60	55	80	-	-	-	36	36	59	-	-	-
314382	New	60	55	80	-	-	-	39	39	62	-	-	-
314383	New	60	55	80	-	-	-	44	44	64	-	-	-
314384	New	60	55	80	-	-	-	29	29	47	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
314385	New	60	55	80	-	-	-	37	37	59	-	-	-
314388	New	60	55	80	-	-	-	45	46	69	-	-	-
314390	New	60	55	80	-	-	-	46	46	66	-	-	-
314395	New	60	55	80	-	-	-	44	45	69	-	-	-
314402	New	60	55	80	-	-	-	37	37	58	-	-	-
314403	New	60	55	80	-	-	-	47	47	71	-	-	-
314411	New	60	55	80	-	-	-	46	46	63	-	-	-
314412	New	60	55	80	-	-	-	46	46	66	-	-	-
314413	New	60	55	80	-	-	-	29	29	47	-	-	-
314420	New	60	55	80	-	-	-	39	39	64	-	-	-
314421	New	60	55	80	-	-	-	12	13	37	-	-	-
314422	New	60	55	80	-	-	-	27	27	45	-	-	-
314424	New	60	55	80	-	-	-	43	43	64	-	-	-
314425	New	60	55	80	-	-	-	34	34	54	-	-	-
314427	New	60	55	80	-	-	-	46	47	70	-	-	-
314429	New	60	55	80	-	-	-	13	13	37	-	-	-
314431	New	60	55	80	-	-	-	27	27	46	-	-	-
314435	New	60	55	80	-	-	-	47	47	71	-	-	-
314439	New	60	55	80	-	-	-	48	48	65	-	-	-
314442	New	60	55	80	-	-	-	35	35	60	-	-	-
314446	New	60	55	80	-	-	-	28	29	53	-	-	-
314448	New	60	55	80	-	-	-	47	47	65	-	-	-
314453	New	60	55	80	-	-	-	39	39	60	-	-	-
314455	New	60	55	80	-	-	-	33	34	54	-	-	-
314456	New	60	55	80	-	-	-	29	29	48	-	-	-
314459	New	60	55	80	-	-	-	25	25	48	-	-	-
314460	New	60	55	80	-	-	-	48	48	72	-	-	-
314466	New	60	55	80	-	-	-	28	29	50	-	-	-
314467	New	60	55	80	-	-	-	25	25	45	-	-	-
314470	New	60	55	80	-	-	-	34	34	52	-	-	-
314471	New	60	55	80	-	-	-	39	40	61	-	-	-
314472	New	60	55	80	-	-	-	21	21	40	-	-	-
314480	New	60	55	80	-	-	-	28	29	48	-	-	-
314485	New	60	55	80	-	-	-	28	28	50	-	-	-
314486	New	60	55	80	-	-	-	25	25	47	-	-	-
314487	New	60	55	80	-	-	-	30	30	49	-	-	-
314489	New	60	55	80	-	-	-	41	41	62	-	-	-
314490	New	60	55	80	-	-	-	56	56	81	-	-	-
314495	New	60	55	80	-	-	-	27	28	47	-	-	-
314496	New	60	55	80	-	-	-	56	56	83	-	-	-
314498	New	60	55	80	-	-	-	28	28	48	-	-	-
314501	New	60	55	80	-	-	-	26	26	47	-	-	-
314503	New	60	55	80	-	-	-	42	42	63	-	-	-
314506	New	60	55	80	-	-	-	54	54	78	-	-	-
314509	New	60	55	80	-	-	-	30	31	49	-	-	-
314511	New	60	55	80	-	-	-	28	28	49	-	-	-
314516	New	60	55	80	-	-	-	39	40	61	-	-	-
314519	New	60	55	80	-	-	-	27	27	47	-	-	-
314523	New	60	55	80	-	-	-	30	30	50	-	-	-
314525	New	60	55	80	-	-	-	46	47	71	-	-	-
314526	New	60	55	80	-	-	-	28	28	49	-	-	-
314529	New	60	55	80	-	-	-	19	19	38	-	-	-
314536	New	60	55	80	-	-	-	27	27	51	-	-	-
314540	New	60	55	80	-	-	-	42	42	63	-	-	-
314542	New	60	55	80	-	-	-	29	29	52	-	-	-
314544	New	60	55	80	-	-	-	25	25	48	-	-	-
314546	New	60	55	80	-	-	-	30	30	50	-	-	-
314547	New	60	55	80	-	-	-	29	29	48	-	-	-
314553	New	60	55	80	-	-	-	50	51	75	-	-	-
314556	New	60	55	80	-	-	-	28	28	48	-	-	-
314557	New	60	55	80	-	-	-	28	28	51	-	-	-
314561	New	60	55	80	-	-	-	49	50	73	-	-	-
314564	New	60	55	80	-	-	-	27	28	48	-	-	-
314566	New	60	55	80	-	-	-	14	15	37	-	-	-
314568	New	60	55	80	-	-	-	50	50	74	-	-	-
314569	New	60	55	80	-	-	-	49	50	74	-	-	-
314570	New	60	55	80	-	-	-	28	29	51	-	-	-
314572	New	60	55	80	-	-	-	33	33	58	-	-	-
314574	New	60	55	80	-	-	-	27	28	46	-	-	-
314576	New	60	55	80	-	-	-	42	42	63	-	-	-
314577	New	60	55	80	-	-	-	26	26	49	-	-	-
314579	New	60	55	80	-	-	-	34	34	59	-	-	-
314582	New	60	55	80	-	-	-	27	27	48	-	-	-
314587	New	60	55	80	-	-	-	30	30	49	-	-	-
314588	New	60	55	80	-	-	-	27	27	45	-	-	-
314589	New	60	55	80	-	-	-	28	28	51	-	-	-
314591	New	60	55	80	-	-	-	42	42	63	-	-	-
314594	New	60	55	80	-	-	-	44	45	68	-	-	-
314595	New	60	55	80	-	-	-	30	30	49	-	-	-
314599	New	60	55	80	-	-	-	26	27	49	-	-	-
314600	New	60	55	80	-	-	-	37	37	61	-	-	-
314603	New	60	55	80	-	-	-	20	21	40	-	-	-
314605	New	60	55	80	-	-	-	40	40	62	-	-	-
314613	New	60	55	80	-	-	-	31	31	51	-	-	-
314614	New	60	55	80	-	-	-	26	26	49	-	-	-
314616	New	60	55	80	-	-	-	30	30	48	-	-	-
314618	New	60	55	80	-	-	-	27	28	46	-	-	-
314619	New	60	55	80	-	-	-	50	50	74	-	-	-
314621	New	60	55	80	-	-	-	29	29	49	-	-	-
314623	New	60	55	80	-	-	-	27	28	51	-	-	-
314626	New	60	55	80	-	-	-	40	40	61	-	-	-
314627	New	60	55	80	-	-	-	27	27	52	-	-	-
314629	New	60	55	80	-	-	-	47	47	71	-	-	-
314632	New	60	55	80	-	-	-	37	37	60	-	-	-
314633	New	60	55	80	-	-	-	26	26	47	-	-	-
314635	New	60	55	80	-	-	-	25	25	48	-	-	-
314636	Redevelopment	65	60	85	46	46	71	52	52	76	5.6	5.5	5.0
314637	New	60	55	80	-	-	-	27	27	50	-	-	-
314638	Redevelopment	65	60	85	46	46	71	51	52	76	5.5	5.5	5.1

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
314639	New	60	55	80	-	-	-	27	27	48	-	-	-
314640	New	60	55	80	-	-	-	30	31	49	-	-	-
314642	New	60	55	80	-	-	-	26	26	47	-	-	-
314643	New	60	55	80	-	-	-	37	37	59	-	-	-
314646	New	60	55	80	-	-	-	28	29	48	-	-	-
314647	New	60	55	80	-	-	-	25	26	50	-	-	-
314648	New	60	55	80	-	-	-	26	26	47	-	-	-
314650	New	60	55	80	-	-	-	31	31	60	-	-	-
314651	Redevelopment	65	60	85	45	46	71	50	51	75	5.3	5.3	4.1
314653	New	60	55	80	-	-	-	29	29	48	-	-	-
314654	New	60	55	80	-	-	-	24	24	42	-	-	-
314656	New	60	55	80	-	-	-	41	41	62	-	-	-
314658	New	60	55	80	-	-	-	35	35	59	-	-	-
314661	Redevelopment	65	60	85	47	47	73	55	55	78	7.6	7.7	5.0
314662	New	60	55	80	-	-	-	39	40	62	-	-	-
314664	New	60	55	80	-	-	-	29	29	49	-	-	-
314665	New	60	55	80	-	-	-	19	19	38	-	-	-
314668	New	60	55	80	-	-	-	28	28	51	-	-	-
314670	New	60	55	80	-	-	-	14	14	36	-	-	-
314671	New	60	55	80	-	-	-	36	37	59	-	-	-
314672	New	60	55	80	-	-	-	29	29	51	-	-	-
314673	New	60	55	80	-	-	-	28	28	53	-	-	-
314674	New	60	55	80	-	-	-	26	26	51	-	-	-
314675	New	60	55	80	-	-	-	23	23	43	-	-	-
314676	New	60	55	80	-	-	-	29	30	51	-	-	-
314677	New	60	55	80	-	-	-	28	28	48	-	-	-
314678	New	60	55	80	-	-	-	40	40	61	-	-	-
314680	New	60	55	80	-	-	-	26	26	47	-	-	-
314681	New	60	55	80	-	-	-	28	29	49	-	-	-
314682	New	60	55	80	-	-	-	30	30	50	-	-	-
314684	New	60	55	80	-	-	-	43	43	63	-	-	-
314686	New	60	55	80	-	-	-	39	40	61	-	-	-
314691	New	60	55	80	-	-	-	17	17	36	-	-	-
314692	New	60	55	80	-	-	-	12	13	36	-	-	-
314693	New	60	55	80	-	-	-	41	41	61	-	-	-
314694	New	60	55	80	-	-	-	27	27	52	-	-	-
314699	Redevelopment	65	60	85	46	46	70	51	51	75	5.1	4.9	4.9
314701	New	60	55	80	-	-	-	41	41	62	-	-	-
314702	New	60	55	80	-	-	-	30	30	50	-	-	-
314703	New	60	55	80	-	-	-	38	38	60	-	-	-
314704	New	60	55	80	-	-	-	42	42	63	-	-	-
314705	Redevelopment	65	60	85	47	47	73	52	53	77	5.5	5.5	4.3
314706	New	60	55	80	-	-	-	40	40	60	-	-	-
314707	New	60	55	80	-	-	-	39	39	60	-	-	-
314708	New	60	55	80	-	-	-	40	40	61	-	-	-
314709	New	60	55	80	-	-	-	39	39	66	-	-	-
314711	New	60	55	80	-	-	-	39	39	60	-	-	-
314712	New	60	55	80	-	-	-	39	40	61	-	-	-
314713	New	60	55	80	-	-	-	22	22	42	-	-	-
314716	New	60	55	80	-	-	-	38	38	60	-	-	-
314718	New	60	55	80	-	-	-	25	25	46	-	-	-
314720	New	60	55	80	-	-	-	52	52	72	-	-	-
314721	New	60	55	80	-	-	-	34	35	59	-	-	-
314723	Redevelopment	65	60	85	47	47	72	52	53	77	5.6	5.6	4.9
314727	New	60	55	80	-	-	-	54	54	78	-	-	-
314729	New	60	55	80	-	-	-	25	26	44	-	-	-
314731	New	60	55	80	-	-	-	26	27	46	-	-	-
314732	New	60	55	80	-	-	-	27	27	46	-	-	-
314733	New	60	55	80	-	-	-	20	20	39	-	-	-
314734	New	60	55	80	-	-	-	26	27	46	-	-	-
314735	New	60	55	80	-	-	-	28	28	48	-	-	-
314738	New	60	55	80	-	-	-	43	43	63	-	-	-
314739	New	60	55	80	-	-	-	26	26	49	-	-	-
314744	New	60	55	80	-	-	-	30	30	54	-	-	-
314746	New	60	55	80	-	-	-	30	30	51	-	-	-
314748	New	60	55	80	-	-	-	26	27	48	-	-	-
314752	New	60	55	80	-	-	-	34	34	57	-	-	-
314753	New	60	55	80	-	-	-	6	6	34	-	-	-
314757	New	60	55	80	-	-	-	36	37	60	-	-	-
314759	New	60	55	80	-	-	-	35	35	59	-	-	-
314760	New	60	55	80	-	-	-	35	35	60	-	-	-
314761	New	60	55	80	-	-	-	34	35	56	-	-	-
314762	New	60	55	80	-	-	-	42	42	62	-	-	-
314763	New	60	55	80	-	-	-	25	25	45	-	-	-
314764	Redevelopment	65	60	85	47	47	72	52	52	77	5.4	5.3	4.9
314766	New	60	55	80	-	-	-	26	26	46	-	-	-
314767	Redevelopment	65	60	85	52	52	77	55	56	79	3.5	3.7	1.1
314769	New	60	55	80	-	-	-	53	53	76	-	-	-
314770	New	60	55	80	-	-	-	40	40	62	-	-	-
314771	New	60	55	80	-	-	-	39	40	60	-	-	-
314773	New	60	55	80	-	-	-	13	13	39	-	-	-
314778	New	60	55	80	-	-	-	27	28	46	-	-	-
314779	New	60	55	80	-	-	-	23	23	42	-	-	-
314780	New	60	55	80	-	-	-	27	27	46	-	-	-
314781	New	60	55	80	-	-	-	26	26	44	-	-	-
314784	New	60	55	80	-	-	-	26	26	46	-	-	-
314788	New	60	55	80	-	-	-	19	19	38	-	-	-
314790	New	60	55	80	-	-	-	26	26	46	-	-	-
314791	New	60	55	80	-	-	-	25	26	46	-	-	-
314792	New	60	55	80	-	-	-	25	25	45	-	-	-
314795	New	60	55	80	-	-	-	29	29	51	-	-	-
314796	New	60	55	80	-	-	-	25	26	45	-	-	-
314797	Redevelopment	65	60	85	52	52	77	57	58	82	5.4	5.6	5.3
314799	New	60	55	80	-	-	-	23	23	41	-	-	-
314801	New	60	55	80	-	-	-	27	27	46	-	-	-
314802	New	60	55	80	-	-	-	25	25	45	-	-	-
314805	New	60	55	80	-	-	-	26	26	46	-	-	-
314806	New	60	55	80	-	-	-	31	32	52	-	-	-
314811	New	60	55	80	-	-	-	22	22	41	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
314812	New	60	55	80	-	-	-	25	26	46	-	-	-
314817	New	60	55	80	-	-	-	27	27	45	-	-	-
314819	New	60	55	80	-	-	-	26	26	45	-	-	-
314821	Redevelopment	65	60	85	52	52	76	56	56	79	4.3	4.5	2.8
314822	New	60	55	80	-	-	-	28	28	47	-	-	-
314827	New	60	55	80	-	-	-	34	35	62	-	-	-
314830	New	60	55	80	-	-	-	16	17	36	-	-	-
314833	New	60	55	80	-	-	-	22	22	41	-	-	-
314834	New	60	55	80	-	-	-	19	20	40	-	-	-
314842	New	60	55	80	-	-	-	12	12	36	-	-	-
314844	New	60	55	80	-	-	-	25	25	44	-	-	-
314846	New	60	55	80	-	-	-	26	26	45	-	-	-
314847	New	60	55	80	-	-	-	23	23	42	-	-	-
314848	New	60	55	80	-	-	-	24	25	45	-	-	-
314851	New	60	55	80	-	-	-	28	28	47	-	-	-
314855	New	60	55	80	-	-	-	19	19	38	-	-	-
314859	New	60	55	80	-	-	-	20	20	39	-	-	-
314862	New	60	55	80	-	-	-	24	24	43	-	-	-
314868	New	60	55	80	-	-	-	25	25	43	-	-	-
314870	Redevelopment	65	60	85	54	54	79	58	58	81	4.1	4.3	2.3
314871	New	60	55	80	-	-	-	21	21	39	-	-	-
314875	New	60	55	80	-	-	-	51	51	75	-	-	-
314879	New	60	55	80	-	-	-	23	23	42	-	-	-
314885	New	60	55	80	-	-	-	22	22	41	-	-	-
314896	New	60	55	80	-	-	-	22	23	41	-	-	-
314899	New	60	55	80	-	-	-	21	22	41	-	-	-
314903	New	60	55	80	-	-	-	25	25	44	-	-	-
314906	New	60	55	80	-	-	-	23	23	43	-	-	-
314910	Redevelopment	65	60	85	51	51	77	56	57	81	5.9	5.9	4.8
314913	New	60	55	80	-	-	-	19	19	38	-	-	-
314915	Redevelopment	65	60	85	52	52	78	57	58	82	5.7	5.7	4.6
314918	New	60	55	80	-	-	-	21	22	41	-	-	-
314923	New	60	55	80	-	-	-	23	23	43	-	-	-
314928	New	60	55	80	-	-	-	20	21	40	-	-	-
314929	New	60	55	80	-	-	-	18	18	37	-	-	-
314930	New	60	55	80	-	-	-	22	22	42	-	-	-
314935	New	60	55	80	-	-	-	23	23	43	-	-	-
314936	New	60	55	80	-	-	-	19	19	39	-	-	-
314937	New	60	55	80	-	-	-	25	26	44	-	-	-
314938	New	60	55	80	-	-	-	14	14	37	-	-	-
314939	New	60	55	80	-	-	-	22	22	40	-	-	-
314946	New	60	55	80	-	-	-	22	22	43	-	-	-
314955	New	60	55	80	-	-	-	23	23	42	-	-	-
314958	New	60	55	80	-	-	-	20	20	43	-	-	-
314959	New	60	55	80	-	-	-	15	15	35	-	-	-
314961	Redevelopment	65	60	85	47	48	73	53	54	78	5.9	6.0	4.7
314963	New	60	55	80	-	-	-	22	22	42	-	-	-
314966	New	60	55	80	-	-	-	13	13	37	-	-	-
314968	Redevelopment	65	60	85	47	47	73	53	53	77	6.0	6.1	4.2
314969	New	60	55	80	-	-	-	27	27	49	-	-	-
314970	Redevelopment	65	60	85	53	53	78	58	59	83	5.5	5.4	4.7
314971	New	60	55	80	-	-	-	21	21	39	-	-	-
314978	New	60	55	80	-	-	-	17	18	38	-	-	-
314980	Redevelopment	65	60	85	49	49	75	53	54	78	4.5	4.6	3.1
314981	New	60	55	80	-	-	-	31	32	54	-	-	-
314985	New	60	55	80	-	-	-	14	14	37	-	-	-
314991	Redevelopment	65	60	85	54	55	80	60	60	84	5.3	5.5	4.2
314992	New	60	55	80	-	-	-	19	19	44	-	-	-
314998	New	60	55	80	-	-	-	13	14	36	-	-	-
315003	New	60	55	80	-	-	-	21	21	39	-	-	-
315005	New	60	55	80	-	-	-	15	15	36	-	-	-
315006	Redevelopment	65	60	85	50	51	75	54	54	78	3.6	3.6	2.1
315007	Redevelopment	65	60	85	47	47	71	50	51	74	3.5	3.5	2.9
315009	New	60	55	80	-	-	-	17	17	40	-	-	-
315010	Redevelopment	65	60	85	50	50	74	53	54	76	3.4	3.4	2.0
315011	New	60	55	80	-	-	-	20	20	39	-	-	-
315013	New	60	55	80	-	-	-	20	20	42	-	-	-
315014	New	60	55	80	-	-	-	21	21	39	-	-	-
315016	Redevelopment	65	60	85	47	48	71	52	53	76	5.6	5.3	5.4
315017	New	60	55	80	-	-	-	23	23	45	-	-	-
315019	New	60	55	80	-	-	-	21	21	40	-	-	-
315023	New	60	55	80	-	-	-	10	10	3	-	-	-
315028	Redevelopment	65	60	85	56	56	81	61	61	85	5.3	5.4	4.1
315031	Redevelopment	65	60	85	55	55	80	60	60	84	5.1	5.1	4.1
315036	Redevelopment	65	60	85	52	53	78	56	56	80	3.4	3.5	2.0
315040	New	60	55	80	-	-	-	16	17	37	-	-	-
315046	New	60	55	80	-	-	-	19	19	38	-	-	-
315050	Redevelopment	65	60	85	53	54	79	57	57	81	3.5	3.6	2.2
315051	New	60	55	80	-	-	-	14	15	36	-	-	-
315052	Redevelopment	65	60	85	54	54	79	57	58	82	3.8	3.9	2.8
315053	New	60	55	80	-	-	-	19	20	39	-	-	-
315056	Redevelopment	65	60	85	55	55	80	59	59	83	3.8	3.9	2.9
315059	Redevelopment	65	60	85	55	55	80	59	60	84	4.9	4.9	3.8
315068	New	60	55	80	-	-	-	20	20	39	-	-	-
315073	Redevelopment	65	60	85	55	55	80	60	60	84	4.9	5.0	3.9
315076	New	60	55	80	-	-	-	19	19	39	-	-	-
315081	Redevelopment	65	60	85	56	56	81	60	61	85	4.4	4.5	3.2
315088	Redevelopment	65	60	85	56	56	81	61	61	85	5.1	5.1	4.0
315090	Redevelopment	65	60	85	56	57	82	61	61	86	4.8	4.9	3.6
315093	New	60	55	80	-	-	-	18	19	38	-	-	-
315108	Redevelopment	65	60	85	56	56	82	61	61	85	4.6	4.7	3.4
315110	Redevelopment	65	60	85	57	58	83	62	62	86	4.2	4.3	3.0
315111	New	60	55	80	-	-	-	19	19	39	-	-	-
315117	New	60	55	80	-	-	-	18	19	38	-	-	-
315118	New	60	55	80	-	-	-	15	16	37	-	-	-
315126	New	60	55	80	-	-	-	11	12	36	-	-	-
315128	New	60	55	80	-	-	-	15	15	37	-	-	-
315129	Redevelopment	65	60	85	62	62	88	50	48	84	-11.6	-13.4	-3.4
315130	Redevelopment	65	60	85	56	56	82	46	47	71	-9.7	-9.7	-10.5

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
315133	Redevelopment	65	60	85	58	58	84	57	58	80	-1.0	-0.8	-4.3
315134	Redevelopment	65	60	85	59	59	84	57	57	81	-1.8	-1.7	-3.9
315136	New	60	55	80	-	-	-	15	15	36	-	-	-
315141	New	60	55	80	-	-	-	10	11	34	-	-	-
315143	New	60	55	80	-	-	-	16	16	37	-	-	-
315151	New	60	55	80	-	-	-	10	10	3	-	-	-
315154	New	60	55	80	-	-	-	15	16	38	-	-	-
315157	Redevelopment	65	60	85	61	61	87	65	66	90	4.5	4.7	3.1
315161	Redevelopment	65	60	85	53	53	78	55	55	80	2.1	2.3	1.5
315166	New	60	55	80	-	-	-	11	11	38	-	-	-
315171	Redevelopment	65	60	85	61	61	87	66	66	90	4.5	4.6	3.1
315179	New	60	55	80	-	-	-	21	22	45	-	-	-
315181	Redevelopment	65	60	85	60	61	86	66	66	90	5.5	5.5	4.4
315183	Redevelopment	65	60	85	60	61	86	66	66	90	5.2	5.3	4.2
315185	Redevelopment	65	60	85	56	56	82	61	61	85	4.9	4.9	3.6
315191	Redevelopment	65	60	85	61	61	86	65	66	90	4.9	5.1	4.0
315192	Redevelopment	65	60	85	57	57	83	62	62	87	5.1	5.1	3.9
315193	Redevelopment	65	60	85	60	60	86	65	66	90	5.4	5.4	4.6
315202	Redevelopment	65	60	85	59	60	85	64	65	89	5.1	5.2	4.1
315212	Redevelopment	65	60	85	61	61	87	64	65	89	3.0	3.2	1.6
315214	Redevelopment	65	60	85	62	62	88	65	66	90	3.3	3.4	1.6
315215	Redevelopment	65	60	85	61	61	87	66	66	90	4.9	5.0	3.3
315224	Redevelopment	65	60	85	55	56	81	61	61	85	5.4	5.5	3.8
315227	New	60	55	80	-	-	-	23	23	47	-	-	-
315238	New	60	55	80	-	-	-	10	10	3	-	-	-
315240	Redevelopment	65	60	85	54	54	79	59	59	83	5.2	5.2	4.4
315241	New	60	55	80	-	-	-	23	23	46	-	-	-
315244	New	60	55	80	-	-	-	37	37	60	-	-	-
315252	Redevelopment	65	60	85	51	52	76	57	57	81	5.3	5.2	4.8
315261	Redevelopment	65	60	85	55	55	81	45	45	69	-10.1	-10.0	-11.8
315262	Redevelopment	65	60	85	55	55	80	58	59	83	3.4	3.5	2.6
315279	Redevelopment	65	60	85	58	59	84	46	46	69	-12.7	-12.6	-15.5
315286	Redevelopment	65	60	85	51	52	75	55	55	78	3.6	3.5	3.5
315287	Redevelopment	65	60	85	51	51	75	55	55	78	3.7	3.6	3.2
315288	Redevelopment	65	60	85	56	56	81	47	48	71	-8.5	-8.5	-10.7
315292	Redevelopment	65	60	85	51	51	75	54	55	78	3.7	3.7	3.2
315295	Redevelopment	65	60	85	51	51	76	54	55	79	3.5	3.7	2.4
315296	Redevelopment	65	60	85	50	51	74	53	54	77	2.9	3.0	2.5
315299	New	60	55	80	-	-	-	34	35	53	-	-	-
315301	Redevelopment	65	60	85	51	51	75	55	55	78	4.0	4.0	3.4
315307	Redevelopment	65	60	85	51	51	77	54	55	78	3.3	3.5	1.7
315309	Redevelopment	65	60	85	50	50	74	53	53	77	2.8	2.8	2.6
315313	Redevelopment	65	60	85	51	51	75	54	55	78	3.7	3.8	3.3
315315	New	60	55	80	-	-	-	31	32	53	-	-	-
315316	Redevelopment	65	60	85	51	51	75	55	55	79	3.9	3.9	3.5
315328	Redevelopment	65	60	85	50	50	74	53	54	77	3.3	3.2	3.2
315329	Redevelopment	65	60	85	53	53	78	46	46	69	-7.2	-7.0	-9.4
315334	Redevelopment	65	60	85	48	49	73	53	54	77	4.9	4.7	3.9
315354	Redevelopment	65	60	85	51	51	76	55	55	79	4.2	4.3	2.5
315358	Redevelopment	65	60	85	50	50	73	53	53	76	2.9	2.8	2.8
315359	Redevelopment	65	60	85	49	49	73	53	54	77	4.6	4.4	3.7
315365	Redevelopment	65	60	85	50	51	74	55	55	79	4.5	4.4	4.4
315366	Redevelopment	65	60	85	48	48	72	52	53	76	4.0	4.1	3.7
315367	Redevelopment	65	60	85	50	50	75	54	54	77	4.0	4.1	2.8
315369	Redevelopment	65	60	85	48	49	72	53	53	76	4.4	4.4	4.0
315372	Redevelopment	65	60	85	49	49	74	53	54	77	4.0	4.1	3.0
315373	Redevelopment	65	60	85	50	50	72	53	53	75	2.8	2.7	3.4
315374	Redevelopment	65	60	85	48	49	73	53	53	76	4.2	4.3	2.5
315378	Redevelopment	65	60	85	47	48	72	52	52	76	4.6	4.5	4.2
315379	Redevelopment	65	60	85	50	50	74	54	55	78	4.5	4.5	4.3
315384	Redevelopment	65	60	85	49	49	74	53	53	77	4.2	4.1	3.1
315386	New	60	55	80	-	-	-	21	18	55	-	-	-
315388	Redevelopment	65	60	85	48	49	73	53	53	77	4.4	4.3	3.9
315389	Redevelopment	65	60	85	51	51	76	56	56	80	5.0	5.0	4.1
315391	Redevelopment	65	60	85	49	50	75	54	54	77	4.2	4.3	2.6
315396	New	60	55	80	-	-	-	30	30	48	-	-	-
315398	New	60	55	80	-	-	-	42	42	62	-	-	-
315399	Redevelopment	65	60	85	47	47	70	50	50	74	3.1	3.1	3.6
315401	Redevelopment	65	60	85	47	47	70	50	50	73	3.3	3.4	3.0
315402	Redevelopment	65	60	85	50	50	74	54	54	78	4.2	4.1	3.9
315403	Redevelopment	65	60	85	48	49	74	52	53	76	3.9	3.9	2.6
315404	Redevelopment	65	60	85	47	48	72	52	52	76	4.3	4.2	3.9
315407	Redevelopment	65	60	85	50	51	75	54	54	78	3.3	3.5	2.6
315409	Redevelopment	65	60	85	48	48	72	52	52	76	4.0	4.1	3.7
315412	Redevelopment	65	60	85	47	48	72	51	52	76	4.4	4.3	3.7
315417	Redevelopment	65	60	85	50	50	71	52	53	75	2.6	2.9	3.7
315418	Redevelopment	65	60	85	50	50	73	51	52	75	1.5	1.5	1.5
315424	Redevelopment	65	60	85	52	52	76	56	57	80	4.7	4.8	4.3
315427	Redevelopment	65	60	85	50	50	74	53	53	76	2.9	3.0	2.9
315428	Redevelopment	65	60	85	49	49	73	53	54	77	4.5	4.5	3.6
315429	Redevelopment	65	60	85	48	49	73	53	53	76	4.3	4.2	3.3
315434	Redevelopment	65	60	85	49	50	72	50	50	73	0.1	0.1	1.2
315437	Redevelopment	65	60	85	49	49	73	53	53	77	4.4	4.4	4.0
315438	Redevelopment	65	60	85	48	49	72	52	53	76	4.5	4.4	4.2
315440	New	60	55	80	-	-	-	41	42	61	-	-	-
315441	New	60	55	80	-	-	-	29	29	48	-	-	-
315444	Redevelopment	65	60	85	47	48	71	52	52	76	5.1	4.8	4.8
315445	Redevelopment	65	60	85	50	50	72	50	51	74	0.5	0.6	2.2
315446	Redevelopment	65	60	85	50	50	74	55	55	79	5.0	4.8	4.5
315449	Redevelopment	65	60	85	47	47	71	51	51	74	4.1	4.2	3.2
315450	Redevelopment	65	60	85	49	50	73	53	54	77	4.4	4.4	4.1
315451	Redevelopment	65	60	85	49	50	73	53	54	77	4.4	4.3	4.3
315453	Redevelopment	65	60	85	49	49	72	53	53	76	4.1	4.1	3.9
315456	Redevelopment	65	60	85	50	50	75	53	54	78	3.4	3.6	2.7
315460	Redevelopment	65	60	85	49	50	72	50	50	73	0.5	0.7	1.8
315462	Redevelopment	65	60	85	49	49	74	53	54	77	4.8	4.7	3.6
315464	Redevelopment	65	60	85	49	49	73	54	54	77	4.6	4.5	4.5
315465	Redevelopment	65	60	85	48	48	72	52	52	75	3.9	3.8	3.6
315473	Redevelopment	65	60	85	48	49	73	53	54	78	5.3	5.2	4.3

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
315474	Redevelopment	65	60	85	49	50	75	54	54	78	4.5	4.4	3.4
315478	New	60	55	80	-	-	-	47	47	71	-	-	-
315485	Redevelopment	65	60	85	48	49	73	52	53	76	3.9	3.8	3.3
315486	Redevelopment	65	60	85	47	47	71	51	52	75	4.5	4.3	3.8
315490	Redevelopment	65	60	85	50	50	73	54	55	78	4.2	4.3	4.7
315495	New	60	55	80	-	-	-	50	51	73	-	-	-
315498	Redevelopment	65	60	85	47	47	72	50	51	74	3.8	3.9	2.3
315510	Redevelopment	65	60	85	50	50	74	54	55	78	4.3	4.2	3.7
315511	Redevelopment	65	60	85	48	48	72	52	52	75	4.3	4.2	3.3
315512	New	60	55	80	-	-	-	51	51	74	-	-	-
315513	New	60	55	80	-	-	-	49	49	72	-	-	-
315514	Redevelopment	65	60	85	48	49	72	53	53	76	4.3	4.4	4.0
315515	Redevelopment	65	60	85	48	48	72	52	52	75	4.2	4.1	3.8
315517	Redevelopment	65	60	85	45	46	70	50	51	74	5.0	4.7	3.7
315519	New	60	55	80	-	-	-	51	51	74	-	-	-
315521	New	60	55	80	-	-	-	48	49	73	-	-	-
315523	New	60	55	80	-	-	-	52	53	76	-	-	-
315524	Redevelopment	65	60	85	49	49	73	53	54	77	4.3	4.3	4.4
315527	New	60	55	80	-	-	-	49	49	72	-	-	-
315528	New	60	55	80	-	-	-	49	49	73	-	-	-
315529	Redevelopment	65	60	85	49	49	73	54	54	77	5.1	5.0	4.8
315534	Redevelopment	65	60	85	49	50	73	55	55	78	5.3	5.2	5.1
315535	Redevelopment	65	60	85	49	50	73	54	55	78	5.3	5.3	5.2
315540	Redevelopment	65	60	85	46	47	72	52	52	76	5.3	5.2	4.2
315547	New	60	55	80	-	-	-	52	52	75	-	-	-
315553	Redevelopment	65	60	85	45	46	69	50	50	73	4.7	4.8	4.3
315555	New	60	55	80	-	-	-	50	51	74	-	-	-
315557	Redevelopment	65	60	85	47	47	72	52	52	76	4.8	4.8	3.6
315558	Redevelopment	65	60	85	50	50	73	46	46	70	-3.7	-3.6	-3.0
315559	Redevelopment	65	60	85	49	50	74	54	55	79	5.0	5.1	5.1
315560	New	60	55	80	-	-	-	51	51	74	-	-	-
315561	Redevelopment	65	60	85	47	47	71	51	52	75	4.7	4.6	3.9
315562	Redevelopment	65	60	85	49	49	72	53	54	77	4.5	4.2	4.2
315563	New	60	55	80	-	-	-	45	45	68	-	-	-
315567	New	60	55	80	-	-	-	53	53	76	-	-	-
315568	New	60	55	80	-	-	-	45	45	70	-	-	-
315569	Redevelopment	65	60	85	47	48	71	52	53	76	5.0	5.0	4.4
315573	New	60	55	80	-	-	-	47	47	70	-	-	-
315576	Redevelopment	65	60	85	47	47	71	52	52	76	5.1	5.0	4.9
315577	New	60	55	80	-	-	-	51	51	74	-	-	-
315580	Redevelopment	65	60	85	47	48	72	53	53	77	5.3	5.4	5.2
315581	Redevelopment	65	60	85	47	48	72	53	53	77	5.6	5.3	5.1
315582	Redevelopment	65	60	85	47	48	71	52	52	75	4.6	4.4	3.7
315583	New	60	55	80	-	-	-	51	51	74	-	-	-
315584	New	60	55	80	-	-	-	53	53	76	-	-	-
315585	New	60	55	80	-	-	-	51	52	75	-	-	-
315588	New	60	55	80	-	-	-	52	53	76	-	-	-
315589	New	60	55	80	-	-	-	41	41	70	-	-	-
315590	Redevelopment	65	60	85	49	50	74	54	55	78	5.0	5.0	4.4
315591	New	60	55	80	-	-	-	51	52	75	-	-	-
315592	New	60	55	80	-	-	-	51	51	74	-	-	-
315597	New	60	55	80	-	-	-	52	53	76	-	-	-
315598	Redevelopment	65	60	85	47	47	71	51	52	75	4.5	4.5	4.2
315602	New	60	55	80	-	-	-	51	52	75	-	-	-
315604	New	60	55	80	-	-	-	52	52	75	-	-	-
315606	New	60	55	80	-	-	-	46	46	69	-	-	-
315607	Redevelopment	65	60	85	45	45	68	49	50	73	4.6	4.6	4.9
315610	Redevelopment	65	60	85	46	46	69	50	51	74	4.8	4.5	4.4
315611	New	60	55	80	-	-	-	54	54	78	-	-	-
315612	New	60	55	80	-	-	-	53	54	77	-	-	-
315616	New	60	55	80	-	-	-	50	50	74	-	-	-
315617	Redevelopment	65	60	85	47	48	72	51	52	75	4.2	4.3	3.4
315618	New	60	55	80	-	-	-	53	54	76	-	-	-
315619	New	60	55	80	-	-	-	38	38	66	-	-	-
315620	Redevelopment	65	60	85	47	48	72	52	53	76	5.0	5.1	4.8
315624	New	60	55	80	-	-	-	52	53	76	-	-	-
315627	New	60	55	80	-	-	-	53	54	76	-	-	-
315629	New	60	55	80	-	-	-	51	51	74	-	-	-
315636	New	60	55	80	-	-	-	52	53	75	-	-	-
315648	New	60	55	80	-	-	-	51	52	76	-	-	-
315649	Redevelopment	65	60	85	46	47	70	51	51	74	4.6	4.5	4.1
315650	New	60	55	80	-	-	-	51	52	74	-	-	-
315652	New	60	55	80	-	-	-	53	53	76	-	-	-
315654	Redevelopment	65	60	85	45	46	69	50	51	74	4.9	5.0	5.0
315655	New	60	55	80	-	-	-	53	53	76	-	-	-
315657	New	60	55	80	-	-	-	40	41	66	-	-	-
315658	New	60	55	80	-	-	-	53	54	77	-	-	-
315660	New	60	55	80	-	-	-	53	53	76	-	-	-
315665	New	60	55	80	-	-	-	50	50	74	-	-	-
315668	New	60	55	80	-	-	-	53	53	77	-	-	-
315671	New	60	55	80	-	-	-	40	40	68	-	-	-
315673	New	60	55	80	-	-	-	49	49	72	-	-	-
315675	New	60	55	80	-	-	-	49	49	72	-	-	-
315677	New	60	55	80	-	-	-	51	51	74	-	-	-
315678	New	60	55	80	-	-	-	43	43	66	-	-	-
315679	New	60	55	80	-	-	-	51	51	74	-	-	-
315682	New	60	55	80	-	-	-	51	51	74	-	-	-
315683	New	60	55	80	-	-	-	52	52	75	-	-	-
315685	New	60	55	80	-	-	-	48	49	73	-	-	-
315690	New	60	55	80	-	-	-	42	42	66	-	-	-
315691	New	60	55	80	-	-	-	50	51	74	-	-	-
315692	New	60	55	80	-	-	-	53	54	78	-	-	-
315695	New	60	55	80	-	-	-	52	52	75	-	-	-
315696	New	60	55	80	-	-	-	52	53	76	-	-	-
315700	New	60	55	80	-	-	-	53	53	76	-	-	-
315704	New	60	55	80	-	-	-	52	52	75	-	-	-
315707	New	60	55	80	-	-	-	48	49	73	-	-	-
315714	New	60	55	80	-	-	-	49	50	72	-	-	-
315716	New	60	55	80	-	-	-	52	52	75	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
315722	New	60	55	80	-	-	-	48	48	72	-	-	-
315723	New	60	55	80	-	-	-	44	44	69	-	-	-
315725	New	60	55	80	-	-	-	52	53	76	-	-	-
315726	New	60	55	80	-	-	-	51	51	75	-	-	-
315729	New	60	55	80	-	-	-	50	50	73	-	-	-
315730	New	60	55	80	-	-	-	53	53	77	-	-	-
315732	New	60	55	80	-	-	-	50	50	74	-	-	-
315733	New	60	55	80	-	-	-	48	48	71	-	-	-
315734	New	60	55	80	-	-	-	51	51	74	-	-	-
315735	New	60	55	80	-	-	-	41	41	67	-	-	-
315736	New	60	55	80	-	-	-	44	45	67	-	-	-
315739	New	60	55	80	-	-	-	52	52	75	-	-	-
315749	New	60	55	80	-	-	-	52	52	75	-	-	-
315750	New	60	55	80	-	-	-	50	51	74	-	-	-
315751	New	60	55	80	-	-	-	51	51	74	-	-	-
315756	New	60	55	80	-	-	-	49	49	72	-	-	-
315757	New	60	55	80	-	-	-	50	51	74	-	-	-
315758	New	60	55	80	-	-	-	53	54	77	-	-	-
315759	New	60	55	80	-	-	-	43	44	68	-	-	-
315760	New	60	55	80	-	-	-	51	51	75	-	-	-
315761	New	60	55	80	-	-	-	49	50	73	-	-	-
315762	New	60	55	80	-	-	-	51	51	73	-	-	-
315764	New	60	55	80	-	-	-	53	53	76	-	-	-
315767	New	60	55	80	-	-	-	50	51	74	-	-	-
315770	New	60	55	80	-	-	-	48	49	72	-	-	-
315771	New	60	55	80	-	-	-	53	53	76	-	-	-
315772	New	60	55	80	-	-	-	45	45	71	-	-	-
315773	New	60	55	80	-	-	-	51	51	75	-	-	-
315774	New	60	55	80	-	-	-	44	44	70	-	-	-
315775	New	60	55	80	-	-	-	51	52	76	-	-	-
315776	New	60	55	80	-	-	-	51	52	74	-	-	-
315777	New	60	55	80	-	-	-	51	51	74	-	-	-
315780	New	60	55	80	-	-	-	50	51	74	-	-	-
315783	New	60	55	80	-	-	-	51	52	76	-	-	-
315784	New	60	55	80	-	-	-	54	55	79	-	-	-
315785	New	60	55	80	-	-	-	49	50	73	-	-	-
315787	New	60	55	80	-	-	-	49	49	73	-	-	-
315789	New	60	55	80	-	-	-	53	53	77	-	-	-
315791	New	60	55	80	-	-	-	53	53	77	-	-	-
315793	New	60	55	80	-	-	-	43	44	66	-	-	-
315794	New	60	55	80	-	-	-	52	52	74	-	-	-
315802	New	60	55	80	-	-	-	51	51	74	-	-	-
315811	New	60	55	80	-	-	-	46	47	71	-	-	-
315813	New	60	55	80	-	-	-	51	52	76	-	-	-
315816	New	60	55	80	-	-	-	52	52	76	-	-	-
315817	New	60	55	80	-	-	-	49	50	73	-	-	-
315820	New	60	55	80	-	-	-	52	52	75	-	-	-
315824	New	60	55	80	-	-	-	51	51	74	-	-	-
315828	New	60	55	80	-	-	-	43	43	71	-	-	-
315832	New	60	55	80	-	-	-	50	51	74	-	-	-
315833	New	60	55	80	-	-	-	50	51	74	-	-	-
315835	New	60	55	80	-	-	-	52	53	75	-	-	-
315837	New	60	55	80	-	-	-	49	49	73	-	-	-
315838	New	60	55	80	-	-	-	52	52	76	-	-	-
315839	New	60	55	80	-	-	-	43	43	69	-	-	-
315842	New	60	55	80	-	-	-	53	53	76	-	-	-
315846	New	60	55	80	-	-	-	54	54	78	-	-	-
315850	New	60	55	80	-	-	-	50	51	73	-	-	-
315851	New	60	55	80	-	-	-	43	43	63	-	-	-
315856	New	60	55	80	-	-	-	49	49	73	-	-	-
315857	New	60	55	80	-	-	-	48	49	72	-	-	-
315858	New	60	55	80	-	-	-	51	51	74	-	-	-
315859	New	60	55	80	-	-	-	51	51	74	-	-	-
315862	New	60	55	80	-	-	-	45	45	71	-	-	-
315865	New	60	55	80	-	-	-	42	43	67	-	-	-
315867	New	60	55	80	-	-	-	50	50	73	-	-	-
315874	New	60	55	80	-	-	-	52	52	75	-	-	-
315878	New	60	55	80	-	-	-	53	53	75	-	-	-
315879	New	60	55	80	-	-	-	49	50	73	-	-	-
315880	New	60	55	80	-	-	-	47	47	70	-	-	-
315884	New	60	55	80	-	-	-	52	53	76	-	-	-
315885	New	60	55	80	-	-	-	52	52	76	-	-	-
315889	New	60	55	80	-	-	-	50	51	74	-	-	-
315891	New	60	55	80	-	-	-	47	47	69	-	-	-
315893	New	60	55	80	-	-	-	50	51	74	-	-	-
315896	New	60	55	80	-	-	-	53	53	77	-	-	-
315897	New	60	55	80	-	-	-	41	41	66	-	-	-
315898	New	60	55	80	-	-	-	51	52	75	-	-	-
315903	New	60	55	80	-	-	-	52	52	76	-	-	-
315905	New	60	55	80	-	-	-	53	53	75	-	-	-
315906	New	60	55	80	-	-	-	51	51	74	-	-	-
315907	New	60	55	80	-	-	-	47	48	70	-	-	-
315914	New	60	55	80	-	-	-	48	49	72	-	-	-
315916	New	60	55	80	-	-	-	50	50	74	-	-	-
315918	New	60	55	80	-	-	-	52	52	75	-	-	-
315919	New	60	55	80	-	-	-	47	47	71	-	-	-
315921	New	60	55	80	-	-	-	52	53	76	-	-	-
315925	New	60	55	80	-	-	-	50	50	73	-	-	-
315928	New	60	55	80	-	-	-	54	55	78	-	-	-
315930	New	60	55	80	-	-	-	51	52	74	-	-	-
315931	New	60	55	80	-	-	-	51	52	74	-	-	-
315932	New	60	55	80	-	-	-	41	41	68	-	-	-
315933	New	60	55	80	-	-	-	49	50	73	-	-	-
315934	New	60	55	80	-	-	-	51	52	75	-	-	-
315937	New	60	55	80	-	-	-	51	52	75	-	-	-
315938	New	60	55	80	-	-	-	39	39	67	-	-	-
315940	New	60	55	80	-	-	-	50	51	73	-	-	-
315942	New	60	55	80	-	-	-	50	51	74	-	-	-
315947	New	60	55	80	-	-	-	49	50	74	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
315950	New	60	55	80	-	-	-	51	52	75	-	-	-
315954	New	60	55	80	-	-	-	48	48	71	-	-	-
315956	New	60	55	80	-	-	-	48	49	72	-	-	-
315958	New	60	55	80	-	-	-	48	49	72	-	-	-
315962	New	60	55	80	-	-	-	45	46	68	-	-	-
315964	New	60	55	80	-	-	-	44	44	70	-	-	-
315966	New	60	55	80	-	-	-	50	50	74	-	-	-
315969	New	60	55	80	-	-	-	50	51	74	-	-	-
315978	New	60	55	80	-	-	-	50	50	73	-	-	-
315979	New	60	55	80	-	-	-	48	48	72	-	-	-
315980	New	60	55	80	-	-	-	43	43	69	-	-	-
315981	New	60	55	80	-	-	-	50	50	73	-	-	-
315982	New	60	55	80	-	-	-	51	52	74	-	-	-
315983	New	60	55	80	-	-	-	47	48	71	-	-	-
315986	New	60	55	80	-	-	-	51	51	74	-	-	-
315987	New	60	55	80	-	-	-	50	50	74	-	-	-
315990	New	60	55	80	-	-	-	43	44	70	-	-	-
315997	New	60	55	80	-	-	-	50	50	73	-	-	-
315998	New	60	55	80	-	-	-	52	52	76	-	-	-
315999	New	60	55	80	-	-	-	43	43	70	-	-	-
316006	New	60	55	80	-	-	-	49	49	73	-	-	-
316007	New	60	55	80	-	-	-	49	49	73	-	-	-
316010	New	60	55	80	-	-	-	46	47	70	-	-	-
316012	New	60	55	80	-	-	-	41	41	67	-	-	-
316013	New	60	55	80	-	-	-	51	52	73	-	-	-
316015	New	60	55	80	-	-	-	53	53	76	-	-	-
316018	New	60	55	80	-	-	-	52	53	76	-	-	-
316019	New	60	55	80	-	-	-	48	48	71	-	-	-
316020	New	60	55	80	-	-	-	51	52	74	-	-	-
316022	New	60	55	80	-	-	-	51	51	75	-	-	-
316023	New	60	55	80	-	-	-	48	48	71	-	-	-
316024	New	60	55	80	-	-	-	47	48	71	-	-	-
316028	New	60	55	80	-	-	-	49	49	73	-	-	-
316035	New	60	55	80	-	-	-	51	52	75	-	-	-
316036	New	60	55	80	-	-	-	52	52	76	-	-	-
316039	New	60	55	80	-	-	-	52	52	74	-	-	-
316042	New	60	55	80	-	-	-	48	48	72	-	-	-
316043	New	60	55	80	-	-	-	50	50	74	-	-	-
316044	New	60	55	80	-	-	-	50	50	74	-	-	-
316045	New	60	55	80	-	-	-	48	48	72	-	-	-
316046	New	60	55	80	-	-	-	48	48	72	-	-	-
316049	New	60	55	80	-	-	-	51	51	74	-	-	-
316054	New	60	55	80	-	-	-	49	49	73	-	-	-
316056	New	60	55	80	-	-	-	48	48	72	-	-	-
316057	New	60	55	80	-	-	-	41	42	68	-	-	-
316059	New	60	55	80	-	-	-	42	43	65	-	-	-
316061	New	60	55	80	-	-	-	52	52	75	-	-	-
316063	New	60	55	80	-	-	-	48	49	73	-	-	-
316064	New	60	55	80	-	-	-	51	51	75	-	-	-
316065	New	60	55	80	-	-	-	49	49	72	-	-	-
316068	New	60	55	80	-	-	-	47	48	71	-	-	-
316069	New	60	55	80	-	-	-	51	52	75	-	-	-
316075	New	60	55	80	-	-	-	52	53	77	-	-	-
316077	New	60	55	80	-	-	-	49	50	73	-	-	-
316079	New	60	55	80	-	-	-	48	48	72	-	-	-
316080	New	60	55	80	-	-	-	48	49	72	-	-	-
316081	New	60	55	80	-	-	-	48	49	72	-	-	-
316082	New	60	55	80	-	-	-	49	49	72	-	-	-
316083	New	60	55	80	-	-	-	51	51	74	-	-	-
316087	New	60	55	80	-	-	-	50	50	73	-	-	-
316090	New	60	55	80	-	-	-	41	41	67	-	-	-
316091	New	60	55	80	-	-	-	49	50	73	-	-	-
316095	New	60	55	80	-	-	-	40	40	67	-	-	-
316101	New	60	55	80	-	-	-	47	47	71	-	-	-
316104	New	60	55	80	-	-	-	48	48	72	-	-	-
316105	New	60	55	80	-	-	-	50	51	73	-	-	-
316108	New	60	55	80	-	-	-	49	49	73	-	-	-
316109	New	60	55	80	-	-	-	51	52	74	-	-	-
316113	New	60	55	80	-	-	-	51	51	74	-	-	-
316114	New	60	55	80	-	-	-	39	40	64	-	-	-
316116	New	60	55	80	-	-	-	46	47	70	-	-	-
316120	New	60	55	80	-	-	-	49	49	73	-	-	-
316121	New	60	55	80	-	-	-	42	42	67	-	-	-
316122	New	60	55	80	-	-	-	40	40	65	-	-	-
316123	New	60	55	80	-	-	-	46	47	70	-	-	-
316124	New	60	55	80	-	-	-	50	51	74	-	-	-
316135	New	60	55	80	-	-	-	50	50	73	-	-	-
316136	New	60	55	80	-	-	-	50	50	72	-	-	-
316137	New	60	55	80	-	-	-	51	51	74	-	-	-
316139	New	60	55	80	-	-	-	50	51	74	-	-	-
316140	New	60	55	80	-	-	-	48	48	71	-	-	-
316143	New	60	55	80	-	-	-	47	47	71	-	-	-
316144	New	60	55	80	-	-	-	48	49	72	-	-	-
316145	New	60	55	80	-	-	-	50	51	73	-	-	-
316146	New	60	55	80	-	-	-	40	40	63	-	-	-
316150	New	60	55	80	-	-	-	41	41	67	-	-	-
316151	New	60	55	80	-	-	-	47	48	71	-	-	-
316152	New	60	55	80	-	-	-	50	51	74	-	-	-
316154	New	60	55	80	-	-	-	41	42	68	-	-	-
316156	New	60	55	80	-	-	-	42	42	66	-	-	-
316159	New	60	55	80	-	-	-	41	41	67	-	-	-
316160	New	60	55	80	-	-	-	47	47	71	-	-	-
316161	New	60	55	80	-	-	-	51	51	74	-	-	-
316162	New	60	55	80	-	-	-	51	51	74	-	-	-
316163	New	60	55	80	-	-	-	51	52	75	-	-	-
316164	New	60	55	80	-	-	-	48	48	72	-	-	-
316165	New	60	55	80	-	-	-	47	48	71	-	-	-
316166	New	60	55	80	-	-	-	46	46	70	-	-	-
316182	New	60	55	80	-	-	-	52	52	75	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
316185	New	60	55	80	-	-	-	46	47	70	-	-	-
316188	New	60	55	80	-	-	-	51	52	74	-	-	-
316189	New	60	55	80	-	-	-	46	47	71	-	-	-
316190	New	60	55	80	-	-	-	47	47	71	-	-	-
316191	New	60	55	80	-	-	-	51	52	74	-	-	-
316192	New	60	55	80	-	-	-	51	52	75	-	-	-
316193	New	60	55	80	-	-	-	42	43	68	-	-	-
316194	New	60	55	80	-	-	-	51	51	73	-	-	-
316202	New	60	55	80	-	-	-	39	40	65	-	-	-
316207	New	60	55	80	-	-	-	42	42	66	-	-	-
316211	New	60	55	80	-	-	-	50	50	73	-	-	-
316218	New	60	55	80	-	-	-	46	46	70	-	-	-
316220	New	60	55	80	-	-	-	50	51	74	-	-	-
316222	New	60	55	80	-	-	-	41	41	65	-	-	-
316225	New	60	55	80	-	-	-	51	51	75	-	-	-
316228	New	60	55	80	-	-	-	48	48	72	-	-	-
316230	New	60	55	80	-	-	-	40	41	64	-	-	-
316231	New	60	55	80	-	-	-	44	45	69	-	-	-
316236	New	60	55	80	-	-	-	51	52	74	-	-	-
316237	New	60	55	80	-	-	-	50	51	74	-	-	-
316238	New	60	55	80	-	-	-	51	51	75	-	-	-
316240	New	60	55	80	-	-	-	44	45	69	-	-	-
316241	New	60	55	80	-	-	-	51	51	74	-	-	-
316244	New	60	55	80	-	-	-	51	51	74	-	-	-
316246	New	60	55	80	-	-	-	47	48	71	-	-	-
316247	New	60	55	80	-	-	-	44	44	69	-	-	-
316250	New	60	55	80	-	-	-	41	41	66	-	-	-
316254	New	60	55	80	-	-	-	44	45	68	-	-	-
316256	New	60	55	80	-	-	-	50	51	73	-	-	-
316260	New	60	55	80	-	-	-	51	52	75	-	-	-
316267	New	60	55	80	-	-	-	44	44	69	-	-	-
316268	New	60	55	80	-	-	-	48	48	72	-	-	-
316272	New	60	55	80	-	-	-	45	45	69	-	-	-
316274	New	60	55	80	-	-	-	51	51	73	-	-	-
316282	New	60	55	80	-	-	-	49	50	73	-	-	-
316283	New	60	55	80	-	-	-	50	50	73	-	-	-
316285	New	60	55	80	-	-	-	43	43	67	-	-	-
316286	New	60	55	80	-	-	-	51	51	73	-	-	-
316287	New	60	55	80	-	-	-	51	51	73	-	-	-
316288	New	60	55	80	-	-	-	51	51	74	-	-	-
316290	New	60	55	80	-	-	-	46	46	70	-	-	-
316294	New	60	55	80	-	-	-	50	50	73	-	-	-
316295	New	60	55	80	-	-	-	51	52	74	-	-	-
316303	New	60	55	80	-	-	-	52	52	75	-	-	-
316304	New	60	55	80	-	-	-	48	48	72	-	-	-
316306	New	60	55	80	-	-	-	51	51	75	-	-	-
316308	New	60	55	80	-	-	-	49	50	73	-	-	-
316314	New	60	55	80	-	-	-	42	42	66	-	-	-
316315	New	60	55	80	-	-	-	49	50	73	-	-	-
316318	New	60	55	80	-	-	-	47	48	71	-	-	-
316319	New	60	55	80	-	-	-	52	52	75	-	-	-
316321	New	60	55	80	-	-	-	50	51	73	-	-	-
316325	New	60	55	80	-	-	-	48	48	72	-	-	-
316327	New	60	55	80	-	-	-	49	50	72	-	-	-
316329	New	60	55	80	-	-	-	50	50	73	-	-	-
316330	New	60	55	80	-	-	-	50	50	72	-	-	-
316332	New	60	55	80	-	-	-	52	52	75	-	-	-
316335	New	60	55	80	-	-	-	50	51	73	-	-	-
316336	New	60	55	80	-	-	-	49	49	72	-	-	-
316338	New	60	55	80	-	-	-	40	41	64	-	-	-
316339	New	60	55	80	-	-	-	52	52	75	-	-	-
316351	New	60	55	80	-	-	-	51	51	74	-	-	-
316353	New	60	55	80	-	-	-	50	51	73	-	-	-
316354	New	60	55	80	-	-	-	43	44	68	-	-	-
316355	New	60	55	80	-	-	-	48	49	72	-	-	-
316356	New	60	55	80	-	-	-	50	51	73	-	-	-
316357	New	60	55	80	-	-	-	35	35	61	-	-	-
316360	New	60	55	80	-	-	-	45	46	69	-	-	-
316362	New	60	55	80	-	-	-	41	42	66	-	-	-
316363	New	60	55	80	-	-	-	40	40	64	-	-	-
316366	New	60	55	80	-	-	-	51	51	73	-	-	-
316368	New	60	55	80	-	-	-	50	51	75	-	-	-
316371	New	60	55	80	-	-	-	37	37	58	-	-	-
316376	New	60	55	80	-	-	-	51	52	75	-	-	-
316378	New	60	55	80	-	-	-	45	46	66	-	-	-
316380	New	60	55	80	-	-	-	41	42	65	-	-	-
316382	New	60	55	80	-	-	-	40	41	64	-	-	-
316383	New	60	55	80	-	-	-	51	52	74	-	-	-
316386	New	60	55	80	-	-	-	50	51	74	-	-	-
316390	New	60	55	80	-	-	-	51	51	73	-	-	-
316392	New	60	55	80	-	-	-	43	43	67	-	-	-
316395	New	60	55	80	-	-	-	50	51	73	-	-	-
316397	New	60	55	80	-	-	-	50	50	74	-	-	-
316398	New	60	55	80	-	-	-	52	52	75	-	-	-
316407	New	60	55	80	-	-	-	49	50	73	-	-	-
316408	New	60	55	80	-	-	-	44	44	68	-	-	-
316409	New	60	55	80	-	-	-	44	44	68	-	-	-
316411	New	60	55	80	-	-	-	51	51	72	-	-	-
316412	New	60	55	80	-	-	-	41	42	65	-	-	-
316417	New	60	55	80	-	-	-	50	51	74	-	-	-
316418	New	60	55	80	-	-	-	44	44	68	-	-	-
316420	New	60	55	80	-	-	-	50	51	72	-	-	-
316422	New	60	55	80	-	-	-	52	52	76	-	-	-
316424	New	60	55	80	-	-	-	44	44	66	-	-	-
316425	New	60	55	80	-	-	-	44	45	68	-	-	-
316426	New	60	55	80	-	-	-	46	47	70	-	-	-
316427	New	60	55	80	-	-	-	43	44	68	-	-	-
316430	New	60	55	80	-	-	-	45	45	69	-	-	-
316431	New	60	55	80	-	-	-	51	51	73	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
316432	New	60	55	80	-	-	-	49	50	73	-	-	-
316436	New	60	55	80	-	-	-	44	45	68	-	-	-
316439	New	60	55	80	-	-	-	46	46	70	-	-	-
316442	New	60	55	80	-	-	-	43	43	67	-	-	-
316443	New	60	55	80	-	-	-	43	43	67	-	-	-
316445	New	60	55	80	-	-	-	48	48	72	-	-	-
316448	New	60	55	80	-	-	-	36	37	60	-	-	-
316450	New	60	55	80	-	-	-	47	48	71	-	-	-
316451	New	60	55	80	-	-	-	42	42	66	-	-	-
316452	New	60	55	80	-	-	-	43	43	67	-	-	-
316453	New	60	55	80	-	-	-	39	39	61	-	-	-
316458	New	60	55	80	-	-	-	46	46	70	-	-	-
316462	New	60	55	80	-	-	-	33	33	55	-	-	-
316463	New	60	55	80	-	-	-	46	46	70	-	-	-
316464	New	60	55	80	-	-	-	36	37	60	-	-	-
316468	New	60	55	80	-	-	-	32	33	54	-	-	-
316470	New	60	55	80	-	-	-	50	50	73	-	-	-
316478	New	60	55	80	-	-	-	51	51	74	-	-	-
316480	New	60	55	80	-	-	-	50	50	74	-	-	-
316481	New	60	55	80	-	-	-	43	44	67	-	-	-
316484	New	60	55	80	-	-	-	50	50	74	-	-	-
316485	New	60	55	80	-	-	-	31	32	54	-	-	-
316490	New	60	55	80	-	-	-	47	47	71	-	-	-
316492	New	60	55	80	-	-	-	42	43	67	-	-	-
316495	New	60	55	80	-	-	-	44	45	69	-	-	-
316496	New	60	55	80	-	-	-	43	43	67	-	-	-
316497	New	60	55	80	-	-	-	45	46	70	-	-	-
316501	New	60	55	80	-	-	-	50	51	74	-	-	-
316504	New	60	55	80	-	-	-	51	52	74	-	-	-
316505	New	60	55	80	-	-	-	50	51	72	-	-	-
316508	New	60	55	80	-	-	-	48	48	72	-	-	-
316513	New	60	55	80	-	-	-	51	51	74	-	-	-
316515	New	60	55	80	-	-	-	46	47	70	-	-	-
316518	New	60	55	80	-	-	-	40	41	65	-	-	-
316519	New	60	55	80	-	-	-	49	50	72	-	-	-
316522	New	60	55	80	-	-	-	51	51	74	-	-	-
316524	New	60	55	80	-	-	-	50	50	73	-	-	-
316527	New	60	55	80	-	-	-	46	47	71	-	-	-
316528	New	60	55	80	-	-	-	43	44	68	-	-	-
316529	New	60	55	80	-	-	-	50	50	73	-	-	-
316530	New	60	55	80	-	-	-	51	51	74	-	-	-
316533	New	60	55	80	-	-	-	50	50	72	-	-	-
316534	New	60	55	80	-	-	-	50	50	73	-	-	-
316536	New	60	55	80	-	-	-	46	46	70	-	-	-
316539	New	60	55	80	-	-	-	51	52	73	-	-	-
316540	New	60	55	80	-	-	-	50	50	72	-	-	-
316545	New	60	55	80	-	-	-	48	49	72	-	-	-
316546	New	60	55	80	-	-	-	45	46	70	-	-	-
316550	New	60	55	80	-	-	-	45	45	69	-	-	-
316552	New	60	55	80	-	-	-	49	49	72	-	-	-
316554	New	60	55	80	-	-	-	46	46	70	-	-	-
316559	New	60	55	80	-	-	-	49	49	72	-	-	-
316561	New	60	55	80	-	-	-	46	46	70	-	-	-
316562	New	60	55	80	-	-	-	48	48	72	-	-	-
316563	New	60	55	80	-	-	-	49	49	72	-	-	-
316568	New	60	55	80	-	-	-	29	29	51	-	-	-
316570	New	60	55	80	-	-	-	50	50	72	-	-	-
316576	New	60	55	80	-	-	-	51	51	73	-	-	-
316577	New	60	55	80	-	-	-	46	46	70	-	-	-
316579	New	60	55	80	-	-	-	46	46	70	-	-	-
316583	New	60	55	80	-	-	-	42	43	65	-	-	-
316584	New	60	55	80	-	-	-	51	52	74	-	-	-
316585	New	60	55	80	-	-	-	50	50	72	-	-	-
316589	New	60	55	80	-	-	-	45	46	70	-	-	-
316590	New	60	55	80	-	-	-	45	45	69	-	-	-
316593	New	60	55	80	-	-	-	44	44	68	-	-	-
316594	New	60	55	80	-	-	-	49	49	73	-	-	-
316595	New	60	55	80	-	-	-	48	48	71	-	-	-
316599	New	60	55	80	-	-	-	46	47	70	-	-	-
316604	New	60	55	80	-	-	-	47	47	69	-	-	-
316606	New	60	55	80	-	-	-	43	44	67	-	-	-
316607	New	60	55	80	-	-	-	49	49	72	-	-	-
316611	New	60	55	80	-	-	-	46	46	67	-	-	-
316614	New	60	55	80	-	-	-	47	48	72	-	-	-
316615	New	60	55	80	-	-	-	43	43	67	-	-	-
316616	New	60	55	80	-	-	-	44	44	68	-	-	-
316626	New	60	55	80	-	-	-	40	40	62	-	-	-
316631	New	60	55	80	-	-	-	41	41	65	-	-	-
316638	New	60	55	80	-	-	-	32	32	56	-	-	-
316639	New	60	55	80	-	-	-	43	44	68	-	-	-
316647	New	60	55	80	-	-	-	43	44	68	-	-	-
316650	New	60	55	80	-	-	-	43	44	67	-	-	-
316661	New	60	55	80	-	-	-	50	51	73	-	-	-
316662	New	60	55	80	-	-	-	46	46	70	-	-	-
316665	New	60	55	80	-	-	-	49	49	71	-	-	-
316670	New	60	55	80	-	-	-	49	49	71	-	-	-
316671	New	60	55	80	-	-	-	43	43	67	-	-	-
316674	New	60	55	80	-	-	-	49	49	71	-	-	-
316676	New	60	55	80	-	-	-	49	49	72	-	-	-
316679	New	60	55	80	-	-	-	44	44	68	-	-	-
316680	New	60	55	80	-	-	-	49	49	71	-	-	-
316681	New	60	55	80	-	-	-	49	49	72	-	-	-
316686	New	60	55	80	-	-	-	50	50	73	-	-	-
316691	New	60	55	80	-	-	-	48	48	70	-	-	-
316692	New	60	55	80	-	-	-	50	50	73	-	-	-
316697	New	60	55	80	-	-	-	48	48	72	-	-	-
316698	New	60	55	80	-	-	-	47	48	70	-	-	-
316703	New	60	55	80	-	-	-	48	49	71	-	-	-
316704	New	60	55	80	-	-	-	47	47	70	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
316705	New	60	55	80	-	-	-	50	51	73	-	-	-
316706	New	60	55	80	-	-	-	49	49	71	-	-	-
316708	New	60	55	80	-	-	-	31	31	53	-	-	-
316711	New	60	55	80	-	-	-	50	51	73	-	-	-
316715	New	60	55	80	-	-	-	45	45	69	-	-	-
316718	New	60	55	80	-	-	-	44	44	68	-	-	-
316727	New	60	55	80	-	-	-	49	49	73	-	-	-
316728	New	60	55	80	-	-	-	41	42	65	-	-	-
316733	New	60	55	80	-	-	-	39	39	62	-	-	-
316735	New	60	55	80	-	-	-	44	45	68	-	-	-
316736	New	60	55	80	-	-	-	42	43	65	-	-	-
316737	New	60	55	80	-	-	-	31	32	54	-	-	-
316742	New	60	55	80	-	-	-	40	40	63	-	-	-
316748	New	60	55	80	-	-	-	43	43	66	-	-	-
316750	New	60	55	80	-	-	-	40	41	64	-	-	-
316752	New	60	55	80	-	-	-	47	47	71	-	-	-
316755	New	60	55	80	-	-	-	44	44	68	-	-	-
316759	New	60	55	80	-	-	-	40	40	63	-	-	-
316773	New	60	55	80	-	-	-	35	36	59	-	-	-
316777	New	60	55	80	-	-	-	44	44	68	-	-	-
316779	New	60	55	80	-	-	-	42	42	66	-	-	-
316785	New	60	55	80	-	-	-	45	46	70	-	-	-
316788	New	60	55	80	-	-	-	39	40	63	-	-	-
316790	New	60	55	80	-	-	-	40	40	62	-	-	-
316791	New	60	55	80	-	-	-	37	38	60	-	-	-
316796	New	60	55	80	-	-	-	36	37	58	-	-	-
316804	New	60	55	80	-	-	-	35	36	57	-	-	-
316807	New	60	55	80	-	-	-	36	37	59	-	-	-
316817	New	60	55	80	-	-	-	32	32	54	-	-	-
316822	New	60	55	80	-	-	-	35	35	58	-	-	-
316824	New	60	55	80	-	-	-	39	39	63	-	-	-
316836	New	60	55	80	-	-	-	43	43	67	-	-	-
316840	New	60	55	80	-	-	-	38	39	62	-	-	-
316842	New	60	55	80	-	-	-	37	37	59	-	-	-
316863	New	60	55	80	-	-	-	34	35	55	-	-	-
316894	New	60	55	80	-	-	-	43	44	68	-	-	-
316921	New	60	55	80	-	-	-	45	45	69	-	-	-
316935	New	60	55	80	-	-	-	45	46	69	-	-	-
316959	New	60	55	80	-	-	-	42	43	67	-	-	-
316962	New	60	55	80	-	-	-	47	47	70	-	-	-
317012	New	60	55	80	-	-	-	43	43	67	-	-	-
324354	New	60	55	80	-	-	-	33	33	58	-	-	-
324355	New	60	55	80	-	-	-	34	34	58	-	-	-
324356	New	60	55	80	-	-	-	34	34	59	-	-	-
324357	New	60	55	80	-	-	-	34	34	58	-	-	-
324358	New	60	55	80	-	-	-	34	34	58	-	-	-
324359	New	60	55	80	-	-	-	34	34	59	-	-	-
324361	New	60	55	80	-	-	-	34	34	59	-	-	-
324365	New	60	55	80	-	-	-	38	38	62	-	-	-
324366	New	60	55	80	-	-	-	37	38	61	-	-	-
324367	New	60	55	80	-	-	-	37	38	62	-	-	-
324368	New	60	55	80	-	-	-	29	30	52	-	-	-
324369	New	60	55	80	-	-	-	30	31	53	-	-	-
324370	New	60	55	80	-	-	-	30	31	52	-	-	-
324371	New	60	55	80	-	-	-	30	31	52	-	-	-
324374	New	60	55	80	-	-	-	48	48	72	-	-	-
324375	New	60	55	80	-	-	-	40	40	64	-	-	-
324376	New	60	55	80	-	-	-	42	42	64	-	-	-
324377	New	60	55	80	-	-	-	39	40	63	-	-	-
324378	New	60	55	80	-	-	-	39	40	63	-	-	-
324379	New	60	55	80	-	-	-	34	35	58	-	-	-
324380	New	60	55	80	-	-	-	40	41	63	-	-	-
324381	New	60	55	80	-	-	-	39	40	62	-	-	-
324382	New	60	55	80	-	-	-	40	40	64	-	-	-
324383	New	60	55	80	-	-	-	39	40	63	-	-	-
324384	New	60	55	80	-	-	-	40	41	63	-	-	-
324385	New	60	55	80	-	-	-	41	42	65	-	-	-
324386	New	60	55	80	-	-	-	40	40	63	-	-	-
324387	New	60	55	80	-	-	-	40	41	64	-	-	-
324388	New	60	55	80	-	-	-	39	40	64	-	-	-
324391	New	60	55	80	-	-	-	34	34	56	-	-	-
324392	New	60	55	80	-	-	-	36	37	59	-	-	-
324393	New	60	55	80	-	-	-	37	38	60	-	-	-
324394	New	60	55	80	-	-	-	32	32	58	-	-	-
324395	New	60	55	80	-	-	-	32	33	56	-	-	-
324396	New	60	55	80	-	-	-	38	38	61	-	-	-
324397	New	60	55	80	-	-	-	34	34	58	-	-	-
324402	New	60	55	80	-	-	-	22	23	46	-	-	-
324403	New	60	55	80	-	-	-	20	20	46	-	-	-
324404	New	60	55	80	-	-	-	28	28	53	-	-	-
324405	New	60	55	80	-	-	-	25	25	49	-	-	-
324406	New	60	55	80	-	-	-	25	25	49	-	-	-
324407	New	60	55	80	-	-	-	22	22	47	-	-	-
324408	New	60	55	80	-	-	-	24	24	49	-	-	-
324409	New	60	55	80	-	-	-	23	23	49	-	-	-
324410	New	60	55	80	-	-	-	26	27	50	-	-	-
324411	New	60	55	80	-	-	-	25	26	51	-	-	-
324412	New	60	55	80	-	-	-	25	25	53	-	-	-
324413	New	60	55	80	-	-	-	24	24	50	-	-	-
324414	New	60	55	80	-	-	-	22	22	55	-	-	-
324415	New	60	55	80	-	-	-	23	23	54	-	-	-
324416	New	60	55	80	-	-	-	31	31	56	-	-	-
324417	New	60	55	80	-	-	-	32	32	56	-	-	-
324418	New	60	55	80	-	-	-	32	33	57	-	-	-
324419	New	60	55	80	-	-	-	26	27	50	-	-	-
324420	New	60	55	80	-	-	-	27	27	50	-	-	-
324421	New	60	55	80	-	-	-	32	32	56	-	-	-
324422	New	60	55	80	-	-	-	32	32	56	-	-	-
324423	New	60	55	80	-	-	-	25	26	50	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
324424	New	60	55	80	-	-	-	28	28	53	-	-	-
324425	New	60	55	80	-	-	-	27	27	51	-	-	-
324426	New	60	55	80	-	-	-	24	25	50	-	-	-
324427	New	60	55	80	-	-	-	27	27	51	-	-	-
324428	New	60	55	80	-	-	-	26	27	50	-	-	-
324429	New	60	55	80	-	-	-	25	25	49	-	-	-
324430	New	60	55	80	-	-	-	22	23	47	-	-	-
324431	New	60	55	80	-	-	-	27	27	50	-	-	-
324432	New	60	55	80	-	-	-	26	26	50	-	-	-
324433	New	60	55	80	-	-	-	23	24	47	-	-	-
324434	New	60	55	80	-	-	-	23	23	48	-	-	-
324435	New	60	55	80	-	-	-	24	24	47	-	-	-
324436	New	60	55	80	-	-	-	23	24	47	-	-	-
324437	New	60	55	80	-	-	-	23	23	47	-	-	-
324438	New	60	55	80	-	-	-	26	26	50	-	-	-
324439	New	60	55	80	-	-	-	25	26	50	-	-	-
324440	New	60	55	80	-	-	-	24	25	48	-	-	-
324441	New	60	55	80	-	-	-	23	23	46	-	-	-
324442	New	60	55	80	-	-	-	24	24	48	-	-	-
324443	New	60	55	80	-	-	-	22	22	45	-	-	-
324444	New	60	55	80	-	-	-	22	22	45	-	-	-
324445	New	60	55	80	-	-	-	22	22	45	-	-	-
324446	New	60	55	80	-	-	-	21	21	45	-	-	-
324447	New	60	55	80	-	-	-	20	20	44	-	-	-
324448	New	60	55	80	-	-	-	20	20	43	-	-	-
324449	New	60	55	80	-	-	-	20	20	44	-	-	-
324450	New	60	55	80	-	-	-	18	18	42	-	-	-
324451	New	60	55	80	-	-	-	19	19	43	-	-	-
324452	New	60	55	80	-	-	-	18	19	42	-	-	-
324453	New	60	55	80	-	-	-	22	22	48	-	-	-
324454	New	60	55	80	-	-	-	20	20	44	-	-	-
324455	New	60	55	80	-	-	-	22	22	46	-	-	-
324456	New	60	55	80	-	-	-	22	22	46	-	-	-
324457	New	60	55	80	-	-	-	24	24	48	-	-	-
324458	New	60	55	80	-	-	-	23	23	47	-	-	-
324459	New	60	55	80	-	-	-	28	28	52	-	-	-
324460	New	60	55	80	-	-	-	27	27	51	-	-	-
324461	New	60	55	80	-	-	-	23	24	48	-	-	-
324462	New	60	55	80	-	-	-	27	27	50	-	-	-
324463	New	60	55	80	-	-	-	24	24	48	-	-	-
324464	New	60	55	80	-	-	-	26	26	51	-	-	-
324465	New	60	55	80	-	-	-	25	25	49	-	-	-
324466	New	60	55	80	-	-	-	26	26	49	-	-	-
324467	New	60	55	80	-	-	-	25	25	49	-	-	-
324468	New	60	55	80	-	-	-	23	24	48	-	-	-
324469	New	60	55	80	-	-	-	23	24	47	-	-	-
324470	New	60	55	80	-	-	-	25	26	49	-	-	-
324471	New	60	55	80	-	-	-	26	26	50	-	-	-
324472	New	60	55	80	-	-	-	25	25	49	-	-	-
324473	New	60	55	80	-	-	-	26	26	50	-	-	-
324474	New	60	55	80	-	-	-	23	23	46	-	-	-
324475	New	60	55	80	-	-	-	22	22	46	-	-	-
324476	New	60	55	80	-	-	-	22	22	46	-	-	-
324477	New	60	55	80	-	-	-	22	22	46	-	-	-
324478	New	60	55	80	-	-	-	21	21	45	-	-	-
324479	New	60	55	80	-	-	-	20	20	45	-	-	-
324480	New	60	55	80	-	-	-	20	21	45	-	-	-
324481	New	60	55	80	-	-	-	25	25	49	-	-	-
324482	New	60	55	80	-	-	-	23	23	47	-	-	-
324483	New	60	55	80	-	-	-	22	22	46	-	-	-
324484	New	60	55	80	-	-	-	23	24	47	-	-	-
324485	New	60	55	80	-	-	-	22	22	46	-	-	-
324486	New	60	55	80	-	-	-	18	18	41	-	-	-
324487	New	60	55	80	-	-	-	20	20	44	-	-	-
324488	New	60	55	80	-	-	-	10	10	35	-	-	-
324489	New	60	55	80	-	-	-	32	32	56	-	-	-
324490	New	60	55	80	-	-	-	32	32	56	-	-	-
324491	New	60	55	80	-	-	-	10	10	3	-	-	-
324492	New	60	55	80	-	-	-	24	25	48	-	-	-
324493	New	60	55	80	-	-	-	24	24	47	-	-	-
324494	New	60	55	80	-	-	-	24	24	47	-	-	-
324495	New	60	55	80	-	-	-	23	23	47	-	-	-
324496	New	60	55	80	-	-	-	23	23	47	-	-	-
324497	New	60	55	80	-	-	-	25	25	50	-	-	-
324498	New	60	55	80	-	-	-	22	22	46	-	-	-
324499	New	60	55	80	-	-	-	24	25	48	-	-	-
324500	New	60	55	80	-	-	-	24	24	48	-	-	-
324501	New	60	55	80	-	-	-	23	24	47	-	-	-
324502	New	60	55	80	-	-	-	25	26	49	-	-	-
324503	New	60	55	80	-	-	-	25	25	49	-	-	-
324504	New	60	55	80	-	-	-	25	25	48	-	-	-
324505	New	60	55	80	-	-	-	26	26	49	-	-	-
324506	New	60	55	80	-	-	-	26	26	50	-	-	-
324507	New	60	55	80	-	-	-	25	25	50	-	-	-
324508	New	60	55	80	-	-	-	26	27	50	-	-	-
324509	New	60	55	80	-	-	-	25	25	48	-	-	-
324510	New	60	55	80	-	-	-	25	25	50	-	-	-
324511	New	60	55	80	-	-	-	25	25	49	-	-	-
324512	New	60	55	80	-	-	-	26	26	50	-	-	-
324513	New	60	55	80	-	-	-	25	25	49	-	-	-
324514	New	60	55	80	-	-	-	25	25	49	-	-	-
324515	New	60	55	80	-	-	-	26	27	50	-	-	-
324516	New	60	55	80	-	-	-	24	25	48	-	-	-
324517	New	60	55	80	-	-	-	22	23	47	-	-	-
324518	New	60	55	80	-	-	-	21	21	46	-	-	-
324519	New	60	55	80	-	-	-	32	32	56	-	-	-
324520	New	60	55	80	-	-	-	28	28	51	-	-	-
324521	New	60	55	80	-	-	-	29	29	53	-	-	-
324522	New	60	55	80	-	-	-	23	23	52	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
324523	New	60	55	80	-	-	-	27	27	51	-	-	-
324524	New	60	55	80	-	-	-	25	26	50	-	-	-
324525	New	60	55	80	-	-	-	27	27	50	-	-	-
324526	New	60	55	80	-	-	-	23	23	48	-	-	-
324527	New	60	55	80	-	-	-	25	26	51	-	-	-
324528	New	60	55	80	-	-	-	24	25	48	-	-	-
324529	New	60	55	80	-	-	-	17	18	42	-	-	-
324530	New	60	55	80	-	-	-	20	21	45	-	-	-
324531	New	60	55	80	-	-	-	10	10	3	-	-	-
324532	New	60	55	80	-	-	-	23	23	47	-	-	-
324533	New	60	55	80	-	-	-	26	26	51	-	-	-
324534	New	60	55	80	-	-	-	23	23	49	-	-	-
324535	New	60	55	80	-	-	-	25	25	48	-	-	-
324536	New	60	55	80	-	-	-	24	24	49	-	-	-
324537	New	60	55	80	-	-	-	24	24	48	-	-	-
324538	New	60	55	80	-	-	-	23	24	47	-	-	-
324539	New	60	55	80	-	-	-	23	23	46	-	-	-
324540	New	60	55	80	-	-	-	21	21	45	-	-	-
324541	New	60	55	80	-	-	-	23	23	46	-	-	-
324542	New	60	55	80	-	-	-	22	22	46	-	-	-
324543	New	60	55	80	-	-	-	21	21	45	-	-	-
324544	New	60	55	80	-	-	-	21	22	46	-	-	-
324545	New	60	55	80	-	-	-	25	25	49	-	-	-
324546	New	60	55	80	-	-	-	22	23	47	-	-	-
324547	New	60	55	80	-	-	-	22	23	47	-	-	-
324548	New	60	55	80	-	-	-	22	23	48	-	-	-
324549	New	60	55	80	-	-	-	24	24	48	-	-	-
324550	New	60	55	80	-	-	-	23	23	48	-	-	-
324551	New	60	55	80	-	-	-	23	24	48	-	-	-
324552	New	60	55	80	-	-	-	22	22	47	-	-	-
324553	New	60	55	80	-	-	-	20	20	44	-	-	-
324554	New	60	55	80	-	-	-	10	10	3	-	-	-
324555	New	60	55	80	-	-	-	10	10	3	-	-	-
324556	New	60	55	80	-	-	-	10	10	3	-	-	-
324557	New	60	55	80	-	-	-	10	10	3	-	-	-
324558	New	60	55	80	-	-	-	10	10	3	-	-	-
324559	New	60	55	80	-	-	-	10	10	3	-	-	-
324560	New	60	55	80	-	-	-	10	10	3	-	-	-
324561	New	60	55	80	-	-	-	10	10	3	-	-	-
324562	New	60	55	80	-	-	-	10	10	3	-	-	-
324563	New	60	55	80	-	-	-	10	10	3	-	-	-
324564	New	60	55	80	-	-	-	10	10	3	-	-	-
324565	New	60	55	80	-	-	-	10	10	3	-	-	-
324566	New	60	55	80	-	-	-	10	10	3	-	-	-
324567	New	60	55	80	-	-	-	10	10	3	-	-	-
324568	New	60	55	80	-	-	-	10	10	3	-	-	-
324569	New	60	55	80	-	-	-	10	10	3	-	-	-
324570	New	60	55	80	-	-	-	10	10	3	-	-	-
324571	New	60	55	80	-	-	-	10	10	3	-	-	-
324572	New	60	55	80	-	-	-	10	10	3	-	-	-
324573	New	60	55	80	-	-	-	20	20	46	-	-	-
324574	New	60	55	80	-	-	-	21	22	46	-	-	-
324575	New	60	55	80	-	-	-	22	22	46	-	-	-
324576	New	60	55	80	-	-	-	23	23	49	-	-	-
324577	New	60	55	80	-	-	-	23	23	51	-	-	-
324578	New	60	55	80	-	-	-	26	26	51	-	-	-
324579	New	60	55	80	-	-	-	23	24	47	-	-	-
324580	New	60	55	80	-	-	-	21	21	45	-	-	-
324581	New	60	55	80	-	-	-	21	21	45	-	-	-
324582	New	60	55	80	-	-	-	20	21	44	-	-	-
324583	New	60	55	80	-	-	-	20	20	45	-	-	-
324584	New	60	55	80	-	-	-	16	16	43	-	-	-
324585	New	60	55	80	-	-	-	18	18	43	-	-	-
324586	New	60	55	80	-	-	-	19	19	44	-	-	-
324587	New	60	55	80	-	-	-	11	11	39	-	-	-
324588	New	60	55	80	-	-	-	18	18	43	-	-	-
324589	New	60	55	80	-	-	-	19	19	44	-	-	-
324590	New	60	55	80	-	-	-	20	20	44	-	-	-
324591	New	60	55	80	-	-	-	21	21	45	-	-	-
324592	New	60	55	80	-	-	-	20	20	44	-	-	-
324593	New	60	55	80	-	-	-	22	22	47	-	-	-
324594	New	60	55	80	-	-	-	24	25	49	-	-	-
324595	New	60	55	80	-	-	-	24	24	49	-	-	-
324596	New	60	55	80	-	-	-	24	24	49	-	-	-
324597	New	60	55	80	-	-	-	25	25	50	-	-	-
324598	New	60	55	80	-	-	-	24	25	51	-	-	-
324599	New	60	55	80	-	-	-	21	21	54	-	-	-
324600	New	60	55	80	-	-	-	31	32	56	-	-	-
324601	New	60	55	80	-	-	-	31	32	56	-	-	-
324602	New	60	55	80	-	-	-	21	21	48	-	-	-
324603	New	60	55	80	-	-	-	18	19	47	-	-	-
324604	New	60	55	80	-	-	-	19	20	47	-	-	-
324605	New	60	55	80	-	-	-	18	18	47	-	-	-
324606	New	60	55	80	-	-	-	20	20	47	-	-	-
324607	New	60	55	80	-	-	-	21	21	47	-	-	-
324608	New	60	55	80	-	-	-	19	20	47	-	-	-
324609	New	60	55	80	-	-	-	20	20	47	-	-	-
324610	New	60	55	80	-	-	-	21	22	49	-	-	-
324611	New	60	55	80	-	-	-	21	22	48	-	-	-
324612	New	60	55	80	-	-	-	14	14	37	-	-	-
324613	New	60	55	80	-	-	-	14	14	36	-	-	-
324614	New	60	55	80	-	-	-	19	20	41	-	-	-
324615	New	60	55	80	-	-	-	19	19	39	-	-	-
324616	New	60	55	80	-	-	-	20	20	41	-	-	-
324617	New	60	55	80	-	-	-	21	21	41	-	-	-
324618	New	60	55	80	-	-	-	28	28	49	-	-	-
324619	New	60	55	80	-	-	-	21	21	42	-	-	-
324620	New	60	55	80	-	-	-	22	22	42	-	-	-
324622	New	60	55	80	-	-	-	27	27	51	-	-	-

Receptor ID	New rail corridor/ upgrade of existing infrastructure	Rail noise criteria			Existing rail noise levels, dBA			Project rail noise levels dBA			Change in noise level, dBA		
		LAeq Day	LAeq Night	Lamax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax	LAeq,15hr	LAeq,9hr	LAmax
324623	New	60	55	80	-	-	-	26	27	51	-	-	-
324624	New	60	55	80	-	-	-	29	29	55	-	-	-
324626	New	60	55	80	-	-	-	45	45	68	-	-	-
324627	New	60	55	80	-	-	-	47	48	69	-	-	-
324629	New	60	55	80	-	-	-	44	44	64	-	-	-
324630	New	60	55	80	-	-	-	42	42	60	-	-	-
324631	New	60	55	80	-	-	-	50	50	71	-	-	-
324632	Redevelopment	65	60	85	50	50	74	53	53	73	3.2	3.0	-1.5
324633	New	60	55	80	-	-	-	50	51	70	-	-	-
324634	New	60	55	80	-	-	-	49	50	71	-	-	-
324635	Redevelopment	65	60	85	44	44	69	49	49	70	5.3	5.2	1.7
324636	Redevelopment	65	60	85	48	49	72	53	53	71	4.7	4.4	-0.8
324637	New	60	55	80	-	-	-	46	46	67	-	-	-
324638	Redevelopment	65	60	85	47	47	69	53	53	71	6.1	5.7	1.9
324639	Redevelopment	65	60	85	52	53	77	54	54	75	1.5	1.3	-2.3
324644	New	60	55	80	-	-	-	44	44	65	-	-	-
324645	New	60	55	80	-	-	-	44	44	66	-	-	-
324646	New	60	55	80	-	-	-	44	45	66	-	-	-
324647	New	60	55	80	-	-	-	48	48	69	-	-	-
324648	New	60	55	80	-	-	-	46	46	68	-	-	-
324649	New	60	55	80	-	-	-	46	47	68	-	-	-
324650	New	60	55	80	-	-	-	47	48	71	-	-	-
324651	New	60	55	80	-	-	-	48	49	70	-	-	-
324652	New	60	55	80	-	-	-	49	49	71	-	-	-
324653	Redevelopment	65	60	85	51	51	76	51	51	73	-0.2	-0.3	-2.4
324654	Redevelopment	65	60	85	52	52	76	53	53	75	1.2	1.2	-0.8
324657	New	60	55	80	-	-	-	39	39	62	-	-	-
324658	New	60	55	80	-	-	-	38	39	60	-	-	-
324659	New	60	55	80	-	-	-	49	49	71	-	-	-
324660	New	60	55	80	-	-	-	52	52	74	-	-	-
324661	New	60	55	80	-	-	-	41	42	65	-	-	-
324662	New	60	55	80	-	-	-	42	43	66	-	-	-
324663	New	60	55	80	-	-	-	20	20	44	-	-	-
324664	New	60	55	80	-	-	-	25	26	45	-	-	-
324665	New	60	55	80	-	-	-	24	25	45	-	-	-
324666	New	60	55	80	-	-	-	25	25	46	-	-	-
324667	New	60	55	80	-	-	-	28	28	49	-	-	-
324670	New	60	55	80	-	-	-	46	46	65	-	-	-
324671	New	60	55	80	-	-	-	44	44	68	-	-	-
324673	New	60	55	80	-	-	-	36	37	56	-	-	-
324675	New	60	55	80	-	-	-	44	44	63	-	-	-
324677	New	60	55	80	-	-	-	39	39	63	-	-	-
324678	New	60	55	80	-	-	-	41	41	64	-	-	-
324679	New	60	55	80	-	-	-	40	40	63	-	-	-
324680	New	60	55	80	-	-	-	39	40	63	-	-	-
324684	New	60	55	80	-	-	-	38	39	62	-	-	-

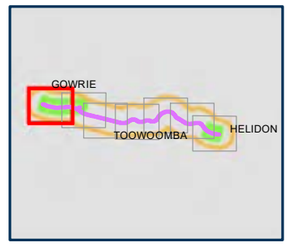
GOWRIE TO HELIDON

Year 2040 Daytime
Rail Noise Levels
Overview Mapsheets

APPENDIX E - Map 1 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
- Rail Alignment/Centreline
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500m



Noise contours are based on a set distance above the local terrain level of 2.4m.

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Date: 13-Mar-2021
Author: JG

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GOWRIE TO HELIDON

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APPENDIX E - Map 2 of 28

- Proposal Extent
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100m



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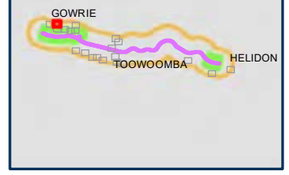
GOWRIE TO HELIDON

Year 2040 Daytime
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APPENDIX E - Map 3 of 28

- Proposal Extent
- Existing Railway
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GOWRIE TO HELIDON

Year 2040 Daytime
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APPENDIX E - Map 4 of 28

- Proposal Extent
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100m



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GOWRIE TO HELIDON

Year 2040 Daytime
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APPENDIX E - Map 5 of 28

- Proposal Extent
- Existing Railway
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100m



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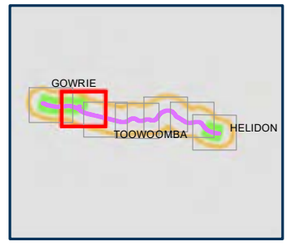
GOWRIE TO HELIDON

Year 2040 Daytime
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APPENDIX E - Map 6 of 28

- Proposal Extent
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500m



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320-BR02-UT1 GOWRIE CREEK RAIL BRIDGE
Gowrie West Portal Loop
TOOWOOMBA TUNNEL
Gowrie Creek
Western Line

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GOWRIE TO HELIDON

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APPENDIX E - Map 7 of 28

- Proposal Extent
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100m



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GOWRIE TO HELIDON

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APPENDIX E - Map 8 of 28

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GOWRIE TO HELIDON

Year 2040 Daytime
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APPENDIX E - Map 9 of 28

- Proposal Extent
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100m



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GOWRIE TO HELIDON

Year 2040 Daytime
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APPENDIX E - Map 10 of 28

- Proposal Extent
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100m



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GOWRIE TO HELIDON

Year 2040 Daytime
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100m



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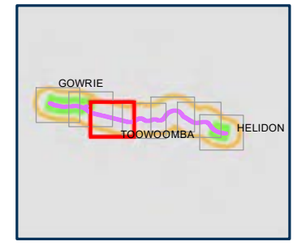
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Year 2040 Daytime
Rail Noise Levels
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APPENDIX E - Map 12 of 28

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500m



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GOWRIE TO HELIDON

Year 2040 Daytime
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APPENDIX E - Map 13 of 28

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GOWRIE TO HELIDON

Year 2040 Daytime
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APPENDIX E - Map 14 of 28

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GOWRIE TO HELIDON

Year 2040 Daytime
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APPENDIX E - Map 15 of 28

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GOWRIE TO HELIDON

Year 2040 Daytime
Rail Noise Levels
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APPENDIX E - Map 16 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
- Rail Alignment/Centreline
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- Toowoomba Range Tunnel
- Noise Assessment Area – Upgrading Existing Railway
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100m



Noise contours are based on a set distance above the local terrain level of 2.4m.

Coordinate System: GDA 1994 MGA Zone 56

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APPENDIX E - Map 18 of 28

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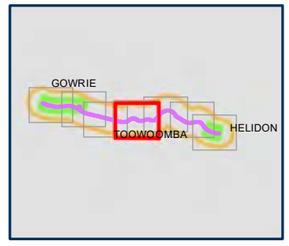
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500m



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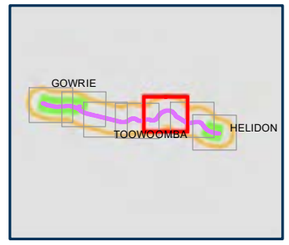
GOWRIE TO HELIDON

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APPENDIX E - Map 23 of 28

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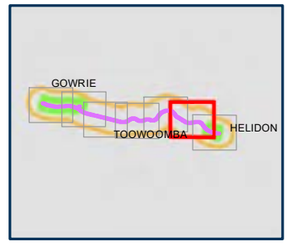
GOWRIE TO HELIDON

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APPENDIX E - Map 24 of 28

- Proposal Extent
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GOWRIE TO HELIDON

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100m



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APPENDIX E - Map 26 of 28

320-BR13 WITHCOTT SEEDLINGS VIADUCT

320-BR14 LOCKYER CREEK VIADUCT

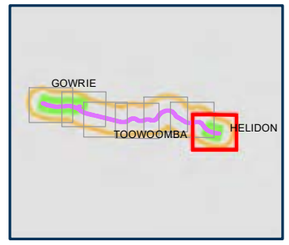
ROSSITERS ROAD
LOCKYER SIDING ROAD
TOOWOOMBA SECOND RANGE CROSSING
CATTOS ROAD
AIR FORCE ROAD
BORUESONS WAY
WARRIGAL ROAD
ANDERSONS ROAD
MCERLEAN ROAD
SHELLING ROAD
PROJECT EXTENT
LIONEL DRIVE
PAYNTER ROAD
POSTMANS RIDGE ROAD
WARREGO HIGHWAY
CONNOLES ROAD
TWIDALES ROAD
JOSEPH THOMAS DRIVE
NANS ROAD
KELLYS ROAD
MENZIES ROAD
LAVENDER ROAD
AIRFORCE ROAD
Main Line
HELIDON DIP ROAD
GUNN STREET
WRIGHTS ROAD
CONNORS ROAD
SYMES ROAD
STATION STREET
SEVENTEEN MILE ROAD
CEMETERY ROAD
BOWEN STREET
GEORGE STREET
ARTHUR STREET
TURNER STREET
LAWLERS ROAD
WARREGO HIGHWAY ON RAMP
RAILWAY STREET
SCHOOL STREET

Sheep Station Creek
Wrights Creek
Lockyer Creek
Rocky Creek
Monkey Water Holes Creek

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GOWRIE TO HELIDON

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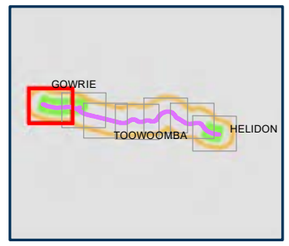
GOWRIE TO HELIDON

Year 2040 Night-time
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GOWRIE TO HELIDON

Year 2040 Night-time
Rail Noise Levels
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APPENDIX E - Map 3 of 28

- Proposal Extent
- Existing Railway
- Crossing Loops
- Rail Alignment/Centreline
- Bridges and Viaducts
- Toowoomba Range Tunnel
- Noise Assessment Area – Upgrading Existing Railway
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- Residential Sensitive Receptors
- Non-residential Sensitive Receptors
- Properties to be acquired by the Project

100 m



Noise contours are based on a set distance above the local terrain level of 2.4m.

Coordinate System: GDA 1994 MGA Zone 56

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GOWRIE TO HELIDON

Year 2040 Night-time
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APPENDIX E - Map 4 of 28

- Proposal Extent
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100 m



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GOWRIE TO HELIDON

Year 2040 Night-time
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APPENDIX E - Map 5 of 28

- Proposal Extent
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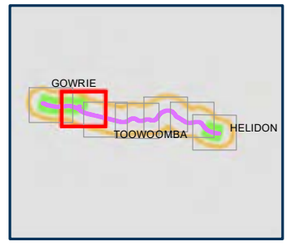
GOWRIE TO HELIDON

Year 2040 Night-time
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APPENDIX E - Map 6 of 28

- Proposal Extent
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500m



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320-BR02-UT1 GOWRIE CREEK RAIL BRIDGE
Gowrie West Portal Loop
TOOWOOMBA TUNNEL
Gowrie Creek
Western Line

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GOWRIE TO HELIDON

Year 2040 Night-time
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APPENDIX E - Map 7 of 28

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GOWRIE TO HELIDON

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APPENDIX E - Map 8 of 28

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- Proposal Extent
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GOWRIE TO HELIDON

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APPENDIX E - Map 10 of 28

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GOWRIE TO HELIDON

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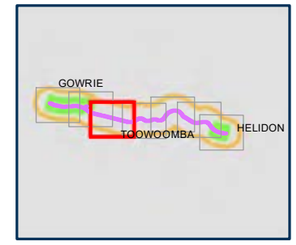
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Year 2040 Night-time
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APPENDIX E - Map 12 of 28

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500m



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GOWRIE TO HELIDON

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GOWRIE TO HELIDON

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APPENDIX E - Map 14 of 28

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100 m



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GOWRIE TO HELIDON

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GOWRIE TO HELIDON

Year 2040 Night-time
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APPENDIX E - Map 16 of 28

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APPENDIX E - Map 17 of 28

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100 m



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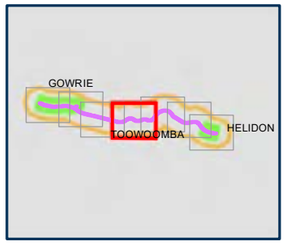
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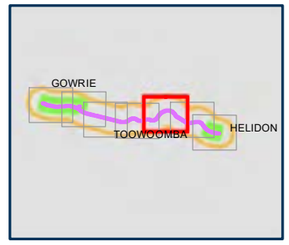
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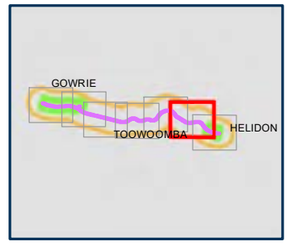
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COSTELLOS ROAD
MONTGOMERYS ROAD
MCDONALDS ROAD
Lockyer Creek
HOWMANS ROAD
LOCKYER SIDING ROAD
320-BR11
POSTMANS RIDGE VIADUCT
ROSSITERS ROAD
Main Line
Postman Ridge Loop
320-BR12 MURPHYS
CREEK ROAD VIADUCT
320-BR13 WITHCOTT
SEEDLINGS VIADUCT
OLD MURPHYS CREEK ROAD
TOOWOOMBA SECOND RANGE CROSSING
SIX MILE CREEK ROAD
320-BR14
LOCKYER
CREEK VIADUCT
CATTOS ROAD
AIR FORCE ROAD
SNELLING ROAD
POSTMANS RIDGE ROAD
LIONEL DRIVE
MURPHYS CREEK ROAD
25
Six Mile Creek
Little Oakey Creek
Rocky Creek
DIANA CRESCENT
Catton Creek
PAYNTER ROAD

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320-BR13 WITHCOTT SEEDLINGS VIADUCT

320-BR14 LOCKYER CREEK VIADUCT

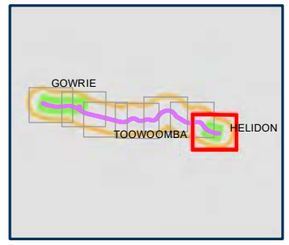
ROSSITERS ROAD
LOCKYER SIDING ROAD
TOOWOOMBA SECOND RANGE CROSSING
CATTOS ROAD
AIR FORCE ROAD
BORUESONS WAY
PROJECT EXTENT
WARRIGAL ROAD
ANDERSONS ROAD
MCERLEAN ROAD
Sheep Station Creek
SNELLING ROAD
LIONEL DRIVE
AIRFORCE ROAD Main Line
HELIDON DIP ROAD
GUNN STREET
Wrights Creek
Lockyer Creek
PAYNTER ROAD
POSTMANS RIDGE ROAD
WARREGO HIGHWAY
CONNOLES ROAD
Rocky Creek
TWIDALES ROAD
JOSEPH THOMAS DRIVE
NANS ROAD
KELLYS ROAD
MENZIES ROAD
LAVENDER ROAD
Monkey Water Holes Creek
WRIGHTS ROAD
CONNORS ROAD
STATION STREET
PATH
SEVENTEEN MILE ROAD
CEMETERY ROAD
SYMES ROAD
BOWEN STREET
GEORGE STREET
ARTHUR STREET
TURNER STREET
LAWLERS ROAD
WARREGO HIGHWAY ON RAMP
RAILWAY STREET
SCHOOL STREET

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APPENDIX

P

Operational Railway Noise and Vibration

Appendix F Basis of assessment—ground-borne noise and vibration in tunnel

GOWRIE TO HELIDON ENVIRONMENTAL IMPACT STATEMENT

Aspect	Parameter	Approach	Rationale, validation
General	Criteria	Refer **Table 13** and **Table 16**	Detailed study where triggered.
	Toowoomba Range Tunnel	4,102 km to 10,342 km	Design and constructability reports for the tunnel.
	Track alignment	As provided to date	-
	Locations of turnouts and track features	No turnouts or local track features within tunnels which could modify source levels	-
Operations	Number of train movements and mix	Refer **Table 23** and **Table 24**	No changes from current design.
	Speed profile	Refer **Section 6.3.1**	Not signal or max speed
Construction	Track type vs kilometrage	Tunnel: 100% track slab, Rheda2000 bibloc sleepers @ 650 mm centres. Portal approaches: ballasted, AS60kg on concrete monobloc sleepers @ 600 mm centres, 250-500 mm ballast	Design and constructability reports for the tunnel. No hard / HDPE pads – rail supports modelled as per 'Track dynamics' below
	Tunnel cross section (diameter and thickness of extrados)	As provided to date	Design and constructability reports for the tunnel.
	Tunnel linings	300 mm steel fibre reinforced 40 MPa concrete	No changes from current design
	Tunnel coupling loss to groundsoil	0 dB	Conservative
	Options for locating sound absorptive materials	None	-
Vehicle dynamics	General details, length, axle loads	As provided to date	-
	Wheel condition	'K' block equivalent. No influence of wheel flats / defects	Specification not provided
Track dynamics	Rail type	AS60kg	-
	Vertical dynamic stiffness of slab track, 10 mm HPDE rail pad	20 MN/m	Vossloh 300NG series highly resilient rail fastener (cellentic intermediate plate with 17 MN/m (mega Newton per metre) static stiffness, 1.1 dynamic to static stiffness ratio). Minor allowance for ageing/creep.
	Vertical dynamic stiffness of ballast track, 10 mm HPDE rail pad	1000 MN/m	800 MN/m static modelled in Design and constructability reports for the tunnel.
	Rail condition	ISO 3095	In lieu of suitable field data
	Variation in stiffness over time	Modelled levels are upper limit actual.	Stiffness values can increase with ageing over time, reducing isolation performance.

Aspect	Parameter	Approach	Rationale, validation
Source noise and vibration emissions	Base vibration overall level, ballasted track on grade, 10 mm HPDE rail pad, 5th percentile (L_5)	**Section 12.2**	SLR field measurements Federal Transit Administration 2006, Transit Noise and Vibration Impact Assessment, ("FTA Guidelines") Report FTA-VA-90-1003-06.
	Base vibration spectra, track slab in tunnel, represent tunnel invert position, 10 mm HPDE rail pad, 5th percentile (L_5)	**Section 12.2** (Based on ballasted track on grade less 5 dB)	
	Base vibration spectra, slab track in tunnel, for softer rail pads	Adjusted based on single degree of freedom (SDOF) model, using differences in trackform stiffness and sleeper spacings as relevant.	Note some trackforms with secondary resilient elements require a multi-degree of freedom (MDOF) model
Environmental factors	Ground contour lines/ elevation data outside the rail corridor	As provided	Ground terrain outside the rail corridor will not change.
	Ground contours/ dive structures within rail corridor	As provided	-
	Vibration correction for curved track less than 500 m radius but more than 300 m radius	None / not applicable	-
	Vibration correction for curved track less than 300 m radius	None / not applicable	-
	Vibration Correction for swing frog/ nose crossing (SNX), per	+6 dB over 15 m	-
	Vibration Correction for fixed frog crossing (FFX), per	+10 dB over 15 m	-
	Traffic volumes	As provided	-
	Design margin	0-1 dB	Not including uncertainty
	Ground soil types and layering	Sandstone principally Isotropic, homogeneous	-
	Propagation model	'1.5D' using 3D distance between nearest building foundation and 5 metre rail segments	Industry standard approach
	Ground vibration propagation losses	Excess attenuation based on 3D distance	Isotropic, homogenous media. No effects of stratification/ layering/ water table.
	Adjustments for coupling losses into buildings	None	FTA industry guideline advice for acoustics.
	Vibration losses between floors	None	
	Floor amplification values	None	
	Key assumptions	Airborne noise coupling into tunnel insignificant	
	Design margin	U_{90} to be developed	Industry standard approach where knowledge of ground conditions is limited.