

# TECHNICAL REPORT

INLAND  
RAIL 

# 8

## Noise and vibration assessment – construction and other operations

PART 1 OF 7

Main report to Appendix E

**NARROMINE TO NARRABRI** ENVIRONMENTAL IMPACT STATEMENT

**ARTC**

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

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## **ARTC Inland Rail**

### **Narromine to Narrabri Project**

Noise and Vibration Assessment - Construction and  
Other Operations

Technical Report 8

2-0001-250-EAP-00-RP-0007

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# Executive summary

## The proposal

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. This report relates to the Narromine to Narrabri section of Inland Rail (the proposal).

The proposal consists of about 306 kilometres of new single-track standard gauge railway with crossing loops. The proposal also includes changes to some roads to facilitate construction and operation of the new section of railway, and ancillary infrastructure to support the proposal.

The proposal would link the Parkes to Narromine section of Inland Rail located in central western NSW, with the Narrabri to North Star section of Inland Rail located in north-west NSW.

Australian Rail Track Corporation Ltd (ARTC) ('the proponent') is seeking approval to construct and operate the Narromine to Narrabri section of Inland Rail ('the proposal').

The proposal is State significant infrastructure and is subject to approval by the NSW Minister for Planning and Public Spaces under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The proposal is also determined to be a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and requires approval from the Australian Minister for the Environment.

## This report

This Noise and Vibration Assessment - Construction and Other Operations has been prepared on behalf of ARTC to support the environmental impact statement (EIS) for the proposal and responds to the Secretary environmental assessment requirements (SEARs) for construction and other operations noise and vibration.

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

## Existing environment

The existing noise environment was identified by noise monitoring at 21 locations within the study area. Existing noise levels are about 30 dB(A) during the day and are typical of a largely rural setting. Noise logging indicates relatively consistent background and ambient noise environments along the length of the proposal site, with localised sources such as road traffic, farm activities and natural noise sources (birds/insects) observed during the noise surveys.

Within the study area, sensitive residential receivers include dwellings located within towns such as Narromine, Gilgandra, Baradine and Narrabri, or are scattered across large areas between the towns. A total of 6,366 sensitive receivers were identified in the study area comprised of 5,472 residential receivers and 894 non-residential noise receivers (eg places of worship, educational facilities, health facilities, community facilities, childcare centres, active and passive recreation areas and commercial and industrial receivers).

The study area was divided into seven noise catchment areas (NCAs) to assist with identifying impacts and appropriate management and mitigation measures.

## Construction timing and duration

It is anticipated that overall construction would take about 48 months, subject to weather conditions. Bulk earthworks and construction of the larger structures at the Macquarie River, Castlereagh River and the Narrabri Creek / Namoi River crossings are significant construction activities which are expected to take up to 36 months.

Recommended standard hours are defined in the ICNG as:

- Normal construction - Monday to Friday 7am to 6pm, Saturday 8am to 1pm and no work on Sundays or public holidays
- Blasting - Monday to Friday 9am to 5pm, Saturday 9am to 1pm and no blasting on Sundays or public holidays.

In order to reduce the construction program (to 48 months) it is proposed to undertake normal construction activities (excluding blasting) outside the recommended standard hours, subject to certain restrictions, referred to as the primary proposal construction hours, as follows:

- Monday to Friday: 6am to 6pm
- Saturday: 6am to 6pm
- Sundays: 6am to 6pm
- Public holidays: no activities.

Discrete construction activities would also be undertaken outside the primary proposal construction hours, including work during rail corridor possessions. These are referred to as out of hours works and would be managed in accordance with an out of hours work protocol.

## Noise impacts from the proposal during construction

Noise emissions from construction have been assessed during recommended standard hours, the primary proposal construction hours and out of hours work periods as relevant.

An assessment has been carried out in accordance with the ICNG and with consideration to the Inland Rail *NSW Construction Noise and Vibration Management Framework* (ARTC 2017a).

The construction noise and vibration assessment has been divided into the three key areas with a number of scenarios assessed:

- Rail infrastructure including preliminary activities, preparation of the construction footprint, clearing, earthworks, track construction, bridges, culverts and drainage.
- Road infrastructure including changes to the road network and associated roadworks.
- Construction infrastructure that supports construction of the proposal including compounds, temporary accommodation facilities and borrow pits.

The linear nature of an infrastructure project means that construction activities and associated noise levels would be transient as they progress along the route past noise sensitive receivers. Consequently, impacts identified in this assessment would not occur concurrently and the maximum level of impact would only occur when works are located at the closest point relative to each receiver.

This assessment also includes a number of conservative assumptions relating to operating duration, intensity and proximity of equipment. Actual construction activities are expected to have quieter periods and typically operate at further distance relative to a given noise sensitive receiver than the assessed locations. Therefore this assessment represents a likely worst-case for mobile construction activities where predicted levels of impact are only relevant for short periods in relation to the proposal's construction duration. Additionally, numbers of impacted

receivers are presented in the context of the entire construction period and across the full length of the study area. Concurrently impacted receivers would typically be much lower as work occurs in a given area before progressing and moving away. Some activities do have a fixed location such as compounds, borrow pits and temporary accommodation facilities, however these would typically have lower source noise levels than mobile construction works such as earthmoving. Noise level, duration and extent of any impacts would be considered when determining appropriate mitigation measures.

Estimated durations of impact have been provided for assessed construction scenarios. For linear works these are based on the distance length of a work segment, an anticipated rate of progress, the activity construction duration and the source to receiver impact distance approximation over flat terrain for the given activity.

The construction noise assessment for rail infrastructure indicates that:

- The highly affected level of 75 dB(A)  $L_{Aeq}$  is predicted to be exceeded at up to 19 residential receivers.
- Stripping topsoil (scenario RAIL03) within the construction footprint is the worst-case activity for the extents of impact. Noise levels are predicted to exceed the 35 dB(A)  $L_{Aeq}$  CNML at up to 2,836 residential receivers. The duration of impact from this scenario for any individual receiver is estimated to be between one day and eight weeks on average.
- Rail construction activities during the primary proposal construction hours may exceed the relevant CNML at non-residential sensitive receivers including one community facility, five passive recreation receivers, one active recreation receiver and 24 commercial/industrial receivers. CNMLs are applicable only when these facilities are in use.
- Rail construction activities during standard hours have the potential to exceed the 45 dB(A)  $L_{Aeq}$  CNML at up to 972 residential receivers.
- Rail construction activities during out of hours work have the potential to exceed the OOHW CNML of 35 dB(A)  $L_{Aeq}$  at up to 2,836 residential receivers across all rail infrastructure assessment scenarios. The construction scenario with the highest number of predicted impacts during OOHW is stripping topsoil (scenario RAIL03) with impacts at up to 2,234 residential receivers. The duration of impact from this scenario for any individual receiver is estimated to be between one day and eight weeks on average.
- Stripping topsoil and landscaping (scenarios RAIL03 and RAIL11) have the predicted worst case numbers of residential receivers impacted for sleep disturbance and awakening potential. These activities are predicted to exceed the external 52 dB(A)  $L_{Amax}$  *Noise Policy for Industry* (EPA 2017) sleep disturbance criteria at up to 981 residential receivers and the internal 55 dB(A)  $L_{Amax}$  RNP awakening criteria at up to 220 residential receivers. On average, the duration of impact for any individual receiver is estimated to be between one day and eight weeks for stripping topsoil (RAIL03) and one day to seven weeks for landscaping (RAIL11).
- The duration of impact for an individual receiver from any given construction scenario is estimated to range from one day to about 32 weeks for construction of the most complex bridges (RAIL06).



The construction noise assessment for road infrastructure indicates that:

- The highly affected level of 75 dB(A)  $L_{Aeq}$  is predicted to be exceeded at one residential receiver.
- Stripping topsoil (scenario ROAD02), main earthworks (scenario ROAD03) and landscaping (scenario ROAD07) associated with road construction works are the worst-case activities for the extents of impact. Noise levels are predicted to exceed the 35 dB(A)  $L_{Aeq}$  CNML at up to 1,449 residential receivers. On average, the duration of impact for any individual receiver is estimated to be from one day to eight weeks for stripping topsoil (ROAD02), eight to twelve weeks for main earthworks (ROAD03) and two to four weeks for landscaping (ROAD07).
- Road construction activities during the primary proposal construction hours may exceed the relevant CNML at non-residential sensitive receivers including one community facility, three passive recreation receivers and four commercial/industrial receivers. CNMLs are applicable only when these facilities are in use.
- Road construction activities during standard hours have the potential to exceed the 45 dB(A)  $L_{Aeq}$  CNML at up to 294 residential receivers.
- Road construction activities during out of hours work have the potential to exceed the OOHW CNML of 35 dB(A)  $L_{Aeq}$  at up to 1,449 residential receivers across all road infrastructure assessment scenarios. The construction scenarios with the highest number of predicted impacts during OOHW are stripping topsoil (scenario ROAD02), main earthworks (scenario ROAD03) and landscaping (scenario ROAD07) with impacts at up to 1,449 residential receivers.
- Stripping topsoil, road earthworks and landscaping (scenarios ROAD02, ROAD03 and ROAD07) have the predicted worst case numbers of residential receivers impacted for sleep disturbance and awakening potential. These activities are predicted to exceed the external 52 dB(A)  $L_{Amax}$  *Noise Policy for Industry* (EPA 2017) sleep disturbance criteria at up to 564 residential receivers and the internal 55 dB(A)  $L_{Amax}$  RNP awakening criteria at up to 69 residential receivers.
- The duration of impact for an individual receiver from any given construction scenario is estimated to range from two to four weeks for landscaping (ROAD07) to about 14 weeks for drainage earthworks (ROAD04).

The construction noise assessment for construction infrastructure indicates that:

- The highly affected level of 75 dB(A)  $L_{Aeq}$  is predicted to be exceeded at four residential receivers.
- Temporary workforce accommodation site establishment works (scenario INFR13) is the worst-case construction infrastructure noise scenario for extents of impact due to the location within and near to existing residential areas within towns. Noise levels are predicted to exceed the 35 dB(A)  $L_{Aeq}$  CNML at up to 933 residential receivers. Establishment of temporary workforce accommodation is estimated to take about six weeks at each of the accommodation sites.
- Construction infrastructure activities during the primary proposal construction hours may exceed the relevant construction noise management level (CNML) at non-residential sensitive receivers including one community facility, 15 passive recreation receivers, one active recreation area and six commercial/industrial classified receivers. CNMLs are applicable only when these facilities are in use.

- Construction infrastructure activities during standard hours have the potential to exceed the 45 dB(A)  $L_{Aeq}$  CNML at up to 322 residential receivers.
- Construction infrastructure activities during out of hours work have the potential to exceed the OOHw CNML of 35 dB(A)  $L_{Aeq}$  at up to 1,374 residential receivers across all construction infrastructure assessment scenarios and across the full duration of the proposal construction. The construction scenario with the highest number of predicted impacts during OOHw is temporary workforce accommodation site establishment works (scenario INFR13) with impacts at up to 933 residential receivers.
- Camp establishment (scenario INFR13) has the predicted worst case numbers of residential receivers impacted for sleep disturbance and awakening potential. This activity is predicted to exceed the external 52 dB(A)  $L_{Amax}$  *Noise Policy for Industry* (EPA 2017) sleep disturbance criteria at up to 414 residential receivers and the internal 55 dB(A)  $L_{Amax}$  RNP awakening criteria at up to 90 residential receivers.
- The duration of impact for an individual receiver from any given construction scenario is estimated to range from about six weeks for temporary workforce accommodation site establishment works (scenario INFR13) to about 48 months for operation of multifunction compounds (scenario INFR07).

## **Vibration impacts from the proposal during construction**

### **Structural damage vibration**

With consideration to structural damage vibration impacts from general construction works activities, the expected magnitude of ground vibration should not be sufficient to cause damage if the equipment operates at distances greater than 18 metres from buildings of equivalent standard dwelling construction or 35 metres from heritage structures.

- For vibration generating works within the construction footprint (dozer activities), standard dwellings or buildings of similar construction may be affected by vibration within a maximum of eight metres of the works. A total of 44 structures including three residential receivers were identified within this distance.
- For vibration generating works within the rail earthworks extent (vibratory roller activities), standard dwellings or buildings of similar construction may be affected by vibration within a maximum of 18 metres of the works. A total of 12 structures including no residential receivers were identified within this distance.
- For vibration generating works associated with bridge construction (impact piling), standard dwellings or buildings of similar construction may be affected by vibration within a maximum of 100 metres of the works. A total of 19 structures including five residential receivers were identified within this distance.
- There are no listed or potential heritage structures that would be impacted by construction vibration.

## Human comfort vibration

For human comfort vibration impacts from construction of the proposal, the assessment evaluates vibration dose value, which incorporates the magnitude of vibration and the length of time the source of the vibration operates for day and night periods.

For rail infrastructure works the human comfort vibration impacts are summarised as:

- For vibration generating works within the construction footprint (dozer activities), receivers may be affected by vibration within a maximum of 54 metres of the works. A total of seven residential receivers were identified within this distance. Nineteen commercial/industrial receivers may be affected within 23 metres of the works. No other non-residential sensitive locations were identified within the human comfort buffer distance for these works.
- For vibration generating works within the rail earthworks extent (vibratory roller activities), receivers may be affected by vibration within a maximum of 130 metres of the works. A total of eight residential receivers were identified within this distance. Fourteen commercial/industrial premises may be affected within 54 metres of the works. No other non-residential sensitive locations were identified within this buffer distance.
- For vibration generating works associated with bridge construction (impact piling), receivers may be affected by vibration within a maximum of 670 metres of the works. A total of 39 residential receivers were identified within this distance. 47 commercial/industrial premises may be affected within 280 metres of the works. No other non-residential sensitive locations were identified within this buffer distance.
- During general construction works, vibration may be perceptible at certain times within 60 metres of dozer operation (eight residential receivers), 140 metres of the vibratory roller activities (10 residential receivers) and 700 metres of impact piling (41 residential receivers).

For road infrastructure works the human comfort vibration impacts are summarised as:

- For vibration generating works within the road construction earthworks extent (vibratory roller activities), receivers may be affected by vibration within a maximum of 130 metres of the works. One residential receiver was identified within this distance. Other sensitive land uses, such as offices, schools, educational institutions, and places of worship may be affected within 54 metres of the works. One community facility and nine commercial/industrial premises was identified within this buffer distance. No other non-residential sensitive locations were identified within this buffer distance.
- During general construction works, vibration may be perceptible at certain times within 140 metres of the vibratory roller activities (one residential receiver).

For construction infrastructure activities the human comfort vibration impacts (for the worst-case borrow pit scenario) are summarised as:

- For vibration generating works within the borrow pit footprints (dozer activities), receivers may be affected by vibration within a maximum of 54 metres of the works and other sensitive land uses, such as offices, schools, educational institutions, and places of worship may be affected within 23 metres. No residential or non-residential sensitive locations were identified within these buffer distances from the borrow pits.
- For vibration generating works within the borrow pit footprints during finishing works (vibratory roller activities), receivers may be affected by vibration within a maximum of 130 metres of the works and other sensitive land uses, such as offices, schools, educational institutions, and places of worship may be affected within 54 metres.

No residential or non-residential sensitive locations were identified within these buffer distances from the borrow pits.

- During general construction works, vibration perception buffer distances are 60 metres of dozer operation (no residential receivers present) and 140 metres from the vibratory roller activities (no residential receivers present).

## **Ground-borne noise**

In some instances, vibration generated through the ground from construction activities can cause the floors or walls of a structure to vibrate. This can result in an audible noise inside the structure which is known as ground-borne or regenerated noise. Management levels for ground-borne noise only apply where ground-borne noise levels are higher than airborne noise levels.

Ground-borne noise impacts associated with rail infrastructure construction scenarios are summarised as follows:

- For vibration generating works within the construction footprint (dozer activities), receivers may be subject to ground-borne noise levels of greater than 35 dB(A) LAeq (15 min) at distances of up to 100 metres from the works. A total of 12 residential receivers were identified within this distance. External airborne noise levels at these receivers are predicted to be 31 dB to 33 dB greater than ground-borne noise.
- For vibration generating works associated with rail earthworks, receivers may be subject to ground-borne noise levels of greater than 35 dB(A) LAeq (15 min) at distances of up to 180 metres from the works. A total of 15 residential receivers were identified within this distance. External airborne noise levels at these receivers are predicted to be 23 dB to 28 dB greater than ground-borne noise.
- For vibration generating works associated with bridge construction (impact piling), receivers may be subject to ground-borne noise levels of greater than 35 dB(A) LAeq (15 min) at distances of up to 540 metres from the works. A total of 31 residential receivers were identified within this distance. External airborne noise levels at these receivers are predicted to be 20 dB to 24 dB greater than ground-borne noise.

Ground-borne noise impacts associated with road infrastructure construction scenarios are summarised as follows:

- For vibration generating works associated with road earthworks, receivers may be subject to ground-borne noise levels of greater than 35 dB(A) LAeq (15 min) at distances of up to 180 metres from the works. A total of two residential receivers were identified within this distance. External airborne noise levels at these receivers are predicted to be 21 dB to 28 dB greater than ground-borne noise.

Ground-borne noise impacts associated with construction infrastructure scenarios are summarised as follows:

- For vibration generating works associated with borrow pit operations and finishing works (dozer and vibratory roller), no residential receivers are predicted to receive ground-borne noise levels exceeding the criteria.

Therefore ground-borne noise impacts associated with construction are not anticipated for dwellings of typical lightweight construction, however those with significant façade attenuation may result with higher internal ground-borne noise levels and therefore may exceed the night-time ground-borne noise criteria where works are conducted between 6am and 7am.

Construction would progress along the preferred infrastructure site, and ground-borne noise impacts would be experienced for relatively short times at most locations.



## **Noise and vibration impacts from construction blasting**

Blasting is anticipated at two borrow pit locations which would provide material for construction of the rail alignment and associated infrastructure. Blasting at the borrow pit locations has the potential to impact residential receivers surrounding the site. No impacts on non-residential receivers are expected as these are not located near the borrow pit locations. Receivers located within 1,600 metres of the borrow pit locations have been identified and have the potential to be noise impacted during blasting.

A summary of the noise impacts due to blasting based on a 100 kilogram charge mass follows:

- Borrow Pit C: Five receivers may be noise impacted due to blasting. The nearest receiver is located 550 metres from the site.
- Borrow Pit D: Seven receivers may be noise impacted due to blasting. The nearest receiver is located 960 metres from the site.

The number of blasting noise impacted receivers would decrease if a smaller charge mass is used. Maximum blast charge masses have been recommended for each borrow pit in order to meet the criteria based on the distance to the nearest receiver.

There is a sufficient distance buffer from proposed blasting locations to the nearest receivers, therefore ground vibration impacts due to blasting are not expected.

## **Noise impacts from construction traffic**

Construction works would generate light and heavy vehicle movements which could generate potential construction traffic noise impacts due to the additional traffic. Construction traffic impacts have been considered at four broader areas (Narromine, Gilgandra, Baradine and Narrabri).

A summary of the construction traffic noise assessment in Narromine follows:

- Ten construction traffic routes have been identified.
- Road traffic noise levels would increase by less than 2 dB(A) along six routes due to construction traffic. Construction traffic noise impacts would not be expected along these routes.
- Road traffic noise levels along four routes would increase by at least 2 dB(A).
- Predicted construction road traffic noise levels along these routes are below the road criteria. Therefore construction traffic noise impacts are not expected.

A summary of the construction traffic noise assessment in Gilgandra follows:

- Twelve construction traffic routes have been identified.
- Road traffic noise levels would increase by less than 2 dB(A) along eight routes due to construction traffic. Construction traffic noise impacts would not be expected along these routes.
- Road traffic noise levels along four routes would increase by at least 2 dB(A).
- Predicted construction road traffic noise levels along three routes are below the road criteria and traffic noise impacts would not be expected.
- A 2 dB(A) exceedance of the noise road criteria is predicted along one route (National Park Road East of Castlereagh Highway) which would not be considered noticeable. Exceedances of the criteria would only be expected during peak construction traffic periods and would not be expected throughout the day during construction.

A summary of the construction traffic noise assessment in Baradine follows:

- Seven construction traffic routes have been identified.
- Road traffic noise levels would increase by less than 2 dB(A) along six routes due to construction traffic. Construction traffic noise impacts would not be expected along these routes.
- Road traffic noise levels along one route would increase by at least 2 dB(A).
- Predicted construction road traffic noise levels along this routes is below the road criteria. Therefore construction traffic noise impacts are not expected.

A summary of the construction traffic noise assessment in Narrabri follows:

- Six construction traffic routes have been identified.
- Road traffic noise levels would increase by less than 2 dB(A) along all six routes due to construction traffic. Construction traffic noise impacts would not be expected along these routes.

### **Noise and vibration impacts from other operational activities**

Other operational activities would include siding operations, track maintenance and traffic generated due to use of maintenance roads and access tracks. Seven maintenance sidings associated with crossing loops have been identified along the rail alignment and would be used for temporary storage of rail vehicles.

Maintenance works and siding operations are approved activities under ARTC environment protection licence which provides details on the allowable work hours to maintain safe operation of the rail line.

### **Noise impacts from operational road traffic**

Portions of the public road network would be upgraded as part of the proposal to allow vehicle access across the rail corridor at proposed level crossings and to minimise the number of level crossings. During operation, the proposal would not increase existing traffic volumes.

Potential operational road traffic impacts have been considered at the level crossings that have been realigned from the existing road. The operational road traffic noise assessment identified that the predicted operational road traffic levels are below the road traffic noise criteria at the nearest sensitive receivers and there are no operational road traffic noise impacts.

One new road would be constructed to allow for access to Brooks Road and Nalders Access Road off National Park Road. No road traffic noise impacts are expected due to construction of the new road.

### **Mitigation and conclusion**

The proposal would be designed, constructed and operated in accordance with the *Inland Rail NSW Construction Noise and Vibration Management Framework* (ARTC 2017a), construction environment management plan (CEMP), construction noise and vibration management plan (CNVMP), construction noise and vibration impact statements (CNVIS), operational noise and vibration review (ONVR), conditions of approval for the proposal (if approved), construction environmental protection licence (EPL) and the ARTC EPL (number 3142).

Based on the findings of this assessment, it is considered that the noise and vibration impacts associated with the proposal can be managed provided the recommendations outlined in this report or equivalent are implemented.

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# Glossary

Acronym / term	Definition
Ambient noise	The all-encompassing noise associated within a given environment. It is the composite of sounds from many sources, both near and far.
Background noise	The underlying level of noise present in the ambient noise when extraneous noise is removed. This is described using the LA90 descriptor (see also Rating background level).
dB	Decibel, which is 10 times the logarithm (base 10) of the ratio of a given sound pressure to a reference pressure; used as a unit of sound.
dB(A)	Unit used to measure 'A-weighted' sound pressure levels.
Groundborne vibration	Groundborne vibration is vibration transmitted from source to receiver via the medium of the ground.
LA90 (Time)	The A-weighted sound pressure level that is exceeded for 90 per cent of the time over which a given sound is measured. This is considered to represent the background noise eg LA90 (15 min).
LAeq (Time)	Equivalent sound pressure level: the steady sound level that, over a specified period of time, would produce the same energy equivalence as the fluctuating sound level actually occurring.
LAeq (15 hr)	The LAeq noise level for the period 7.00 to 22.00 hours.
LAeq (9 hr)	The LAeq noise level for the period 22.00 to 7.00 hours.
LAeq (1 hr)	The highest hourly LAeq noise level during the day and night periods.
LA90(period)	The sound pressure level exceeded for 90 per cent of the measurement period.
L <sub>Amax</sub>	The maximum sound level recorded during the measurement period.
Mitigation	Reduction in severity.
Noise sensitive receiver	An area or place potentially affected by noise including residential dwellings, schools, child care centres, places of worship, health care institutions and active or passive recreational areas.
Operation	Operation of trains between Melbourne and Brisbane on the completed Inland Rail alignment.
Out-of-hours works	Out of hours works are those undertaken outside the primary proposal construction hours.
Peak Particle Velocity (PPV)	<p>The PPV is the maximum vector vibration velocity that occurs in any of the individual x, y or z orthogonal directions.</p> <p>Current practices for assessments of the risk of structural damage to buildings use measurements of Peak Particle Velocity (PPV) in millimetres per second.</p>
Primary proposal construction hours	<p>The primary proposal construction hours are:</p> <ul style="list-style-type: none"> <li>Monday to Friday: 6am to 6pm</li> <li>Saturday: 6am to 6pm</li> <li>Sundays: 6am to 6pm</li> <li>Public holidays: no activities.</li> </ul>
The proposal	Defined as the construction and operation of the Narromine to Narrabri section of Inland Rail.

Acronym / term	Definition
the proposal site	Defined as the area that would be directly affected by construction of the proposal (also known as the construction footprint). It includes the location of proposal infrastructure, the area that would be directly disturbed by the movement of construction plant and machinery, and the location of the compounds and laydown areas that would be used during construction.
Rail corridor	The corridor within which the rail tracks and associated infrastructure would be located.
Rating Background Level (RBL)	The overall single-figure background level representing each assessment period (day/evening/night) over the whole monitoring period. This is the level used for assessment purposes.
Receiver	A noise modelling term used to describe a map reference point where noise is predicted. (also see 'Noise sensitive receiver')
Recommended standard hours	Recommended standard hours are defined in <i>Interim Construction Noise Guideline</i> (DECC 2009) as: <ul style="list-style-type: none"> <li>• Normal construction - Monday to Friday 7am to 6pm, Saturday 8am to 1pm and no work on Sundays or public holidays.</li> <li>• Blasting - Monday to Friday 9am to 5pm, Saturday 9am to 1pm and no blasting on Sundays or public holidays.</li> </ul>
Sound Pressure Level	20 times the logarithm to the base 10 of the ratio of the root mean square sound pressure level to the reference sound pressure level of 20 micro Pascals.
Tonality	Noise containing a prominent frequency or frequencies characterised by a definite pitch.
Vibration dose value (VDV)	As defined in BS6472 – 1992, the vibration dose value is given by the fourth root of the integral of the fourth power of the frequency weighted acceleration.
Vibration	The variation of the magnitude of a quantity which is descriptive of the motion or position of a mechanical system, when the magnitude is alternately greater and smaller than some average value or reference.

# Abbreviations

Acronym / term	Definition
AADT	Average annual daily traffic
ANZEC	Australian and New Zealand Environment Council
AWS	Automatic weather station
AVTG	<i>Assessing Vibration: A Technical Guideline</i> (DEC 2006)
ARTC	Australian Rail Track Corporation
CadnaA	Computer Aided Noise Abatement
CEMP	Construction Environmental Management Plan
CNML	Construction noise management level
CoRTN	<i>Calculation of Road Traffic Noise</i> (Department of Transport, Welsh Office 1988) (UK)
CNVIS	Construction Noise and Vibration Impact Statement
CNVP	Construction Noise and Vibration Plan
DEC, DECC, DECCW	See OEH
DIN	German standard
DoP	Former NSW Department of Planning (now Department of Planning, Industry and Environment)
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EPA	Environment Protection Authority of NSW
EPL	Environment Protection Licence
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
HV	Heavy vehicle
ICNG	<i>Interim Construction Noise Guideline</i> (DECC 2009)
INP	<i>Industrial Noise Policy</i> (EPA 2000)
ISO	International standard
km/h	kilometres per hour
LGA	Local Government Area
LV	Light vehicle
MFC	Multi-function compound
mm/s	millimetres per second
m/s	metres per second
NCA	Noise catchment area
NPI	<i>Noise Policy for Industry</i> (EPA 2017)
NSW	New South Wales
NVRF	Sydney Trains Environmental Management System Guide for Noise and Vibration from Rail Facilities



Acronym / term	Definition
OEH	(Former) Office of Environment and Heritage. Previously the Department of Environment and Conservation (DEC) before becoming the Department of Environment and Climate Change (DECC), later known as the Department of Environment Climate Change and Water (DECCW). Now Environment, Energy and Science Group.
OOHW	Out of hours work
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PPV	Peak Particle Velocity
PNTL	Proposal noise trigger level
RBL	Rating background level
RIC	Relative increase criteria
RING	Rail Infrastructure Noise Guideline
rms or Vrms	Root Mean Square (velocity).
RNP	<i>Road Noise Policy</i> (DECCW 2011)
RTA	Former NSW Roads and Traffic Authority (now Transport for NSW)
SEARs	Secretary's Environmental Assessment Requirements
TfNSW	Transport for NSW
VDV	Vibration Dose Value

# 1. Introduction

## 1.1 Overview

### 1.1.1 Inland Rail and the proposal

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 will enhance Australia's existing national rail network and serve the interstate freight market.

The Inland Rail route, which is about 1,700 kilometres long, involves:

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

The Inland Rail program has been divided into 13 sections, seven of which are located in NSW. Each of these projects can be delivered and operated independently with tie-in points on the existing railway.

Australian Rail Track Corporation Ltd (ARTC) ('the proponent') is seeking approval to construct and operate the Narramine to Narrabri section of Inland Rail ('the proposal').

### 1.1.2 Approval and assessment requirements

The proposal is State significant infrastructure and is subject to approval by the NSW Minister for Planning and Public Spaces under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The proposal is also determined to be a controlled action under the Commonwealth *Environment Protection Biodiversity and Conservation Act 1999* (EPBC Act), and requires approval from the Australian Minister for the Environment.

This report has been prepared by the JacobsGHD Joint Venture as part of the environmental impact statement (EIS) for the proposal. The EIS has been prepared to support the application for approval of the proposal, and address the environmental assessment requirements of the Secretary of the NSW Department of Planning, Industry and Environment (the SEARs), dated 9 September 2020.

## 1.2 The proposal

The proposal consists of about 306 kilometres of new single-track standard gauge railway with crossing loops. The proposal also includes changes to some roads to facilitate construction and operation of the new section of railway, and ancillary infrastructure to support the proposal.

The proposal would be constructed to accommodate double-stacked freight trains up to 1,800 metres long and 6.5 metres high. It would include infrastructure to accommodate possible future augmentation and upgrades of the track, including a possible future requirement for 3,600 metre long trains.

The land requirements for the proposal would include a new rail corridor with a minimum width of 40 metres, with some variation to accommodate particular infrastructure and to cater for local topography. The corridor would be of sufficient width to accommodate the infrastructure currently proposed for construction, as well as possible future expansion of crossing loops for 3,600 metre long trains. Clearing of the proposal site would occur to allow for construction and to maintain the safe operation of the railway.

### **1.2.1 Location**

The proposal would be located between the towns of Narromine and Narrabri in NSW. The proposal would link the Parkes to Narromine section of Inland Rail located in central west NSW, with the Narrabri to North Star section of Inland Rail located in north west NSW.

The location of the proposal is shown in Figure 1.1.

### **1.2.2 Key features**

The key design features of the proposal include:

#### ***Rail infrastructure***

- a new 306 kilometre long rail corridor between Narromine and Narrabri
- a single-track standard gauge railway and track formation within the new rail corridor
- seven crossing loops, at Burroway, Balladoran, Curban, Black Hollow/Quanda, Baradine, The Pilliga and Bohena Creek
- bridges over rivers and other watercourses (including the Macquarie River, Castlereagh River and the Namoi River/Narrabri Creek system), floodplains and roads
- level crossings
- new rail connections
- possible future connections with existing ARTC and Country Regional Network rail lines.

#### ***Road infrastructure***

- road realignments at various locations, including realignment of the Pilliga Forest Way for a distance of 6.7 kilometres
- limited road closures.

The key features of the proposal are shown in Figure 1.2.

Ancillary infrastructure to support the proposal would include signalling and communications, drainage, signage and fencing, and services and utilities.

Further information on the proposal is provided in the EIS.

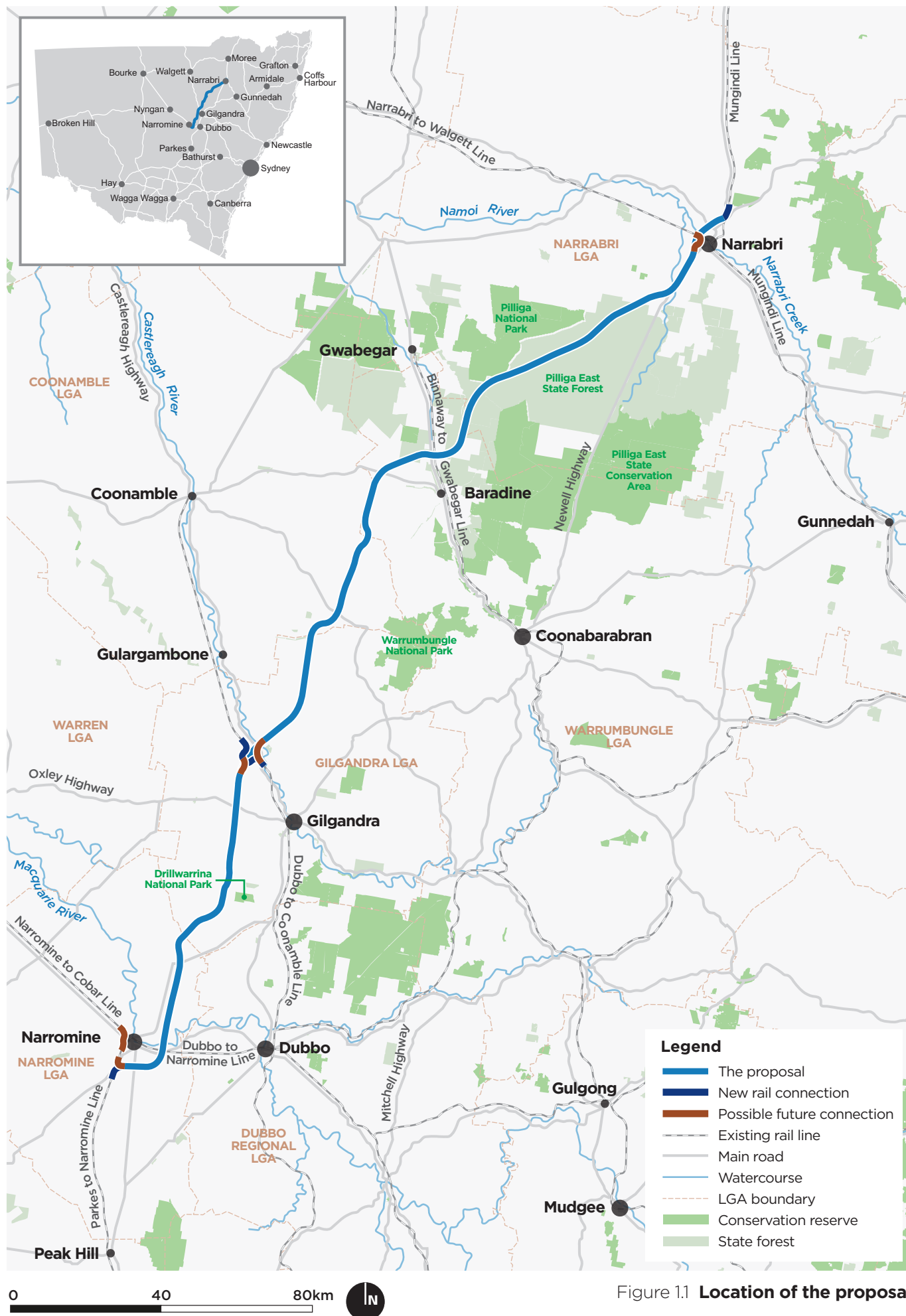


Figure 1.1 **Location of the proposal**



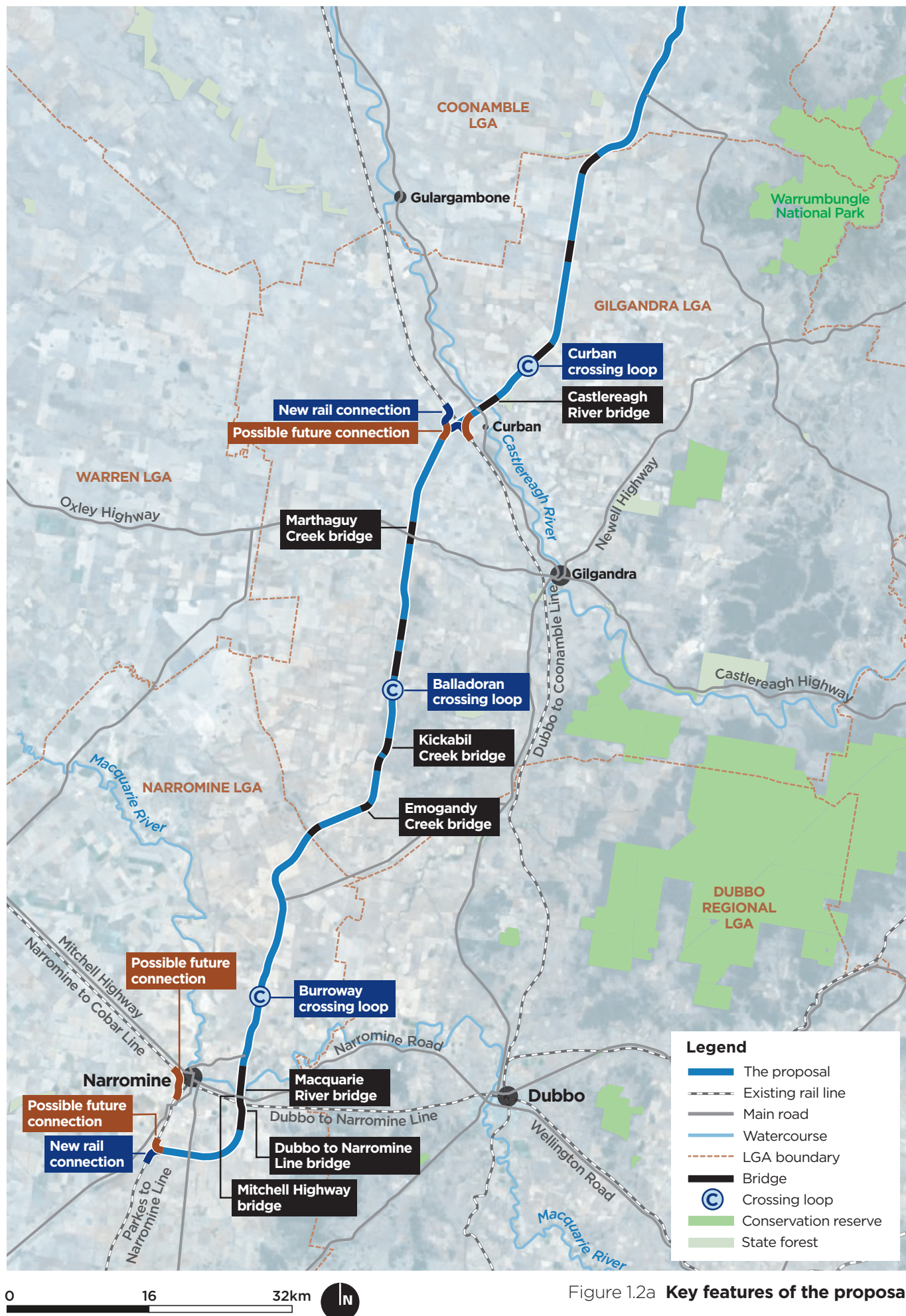


Figure 1.2a Key features of the proposal



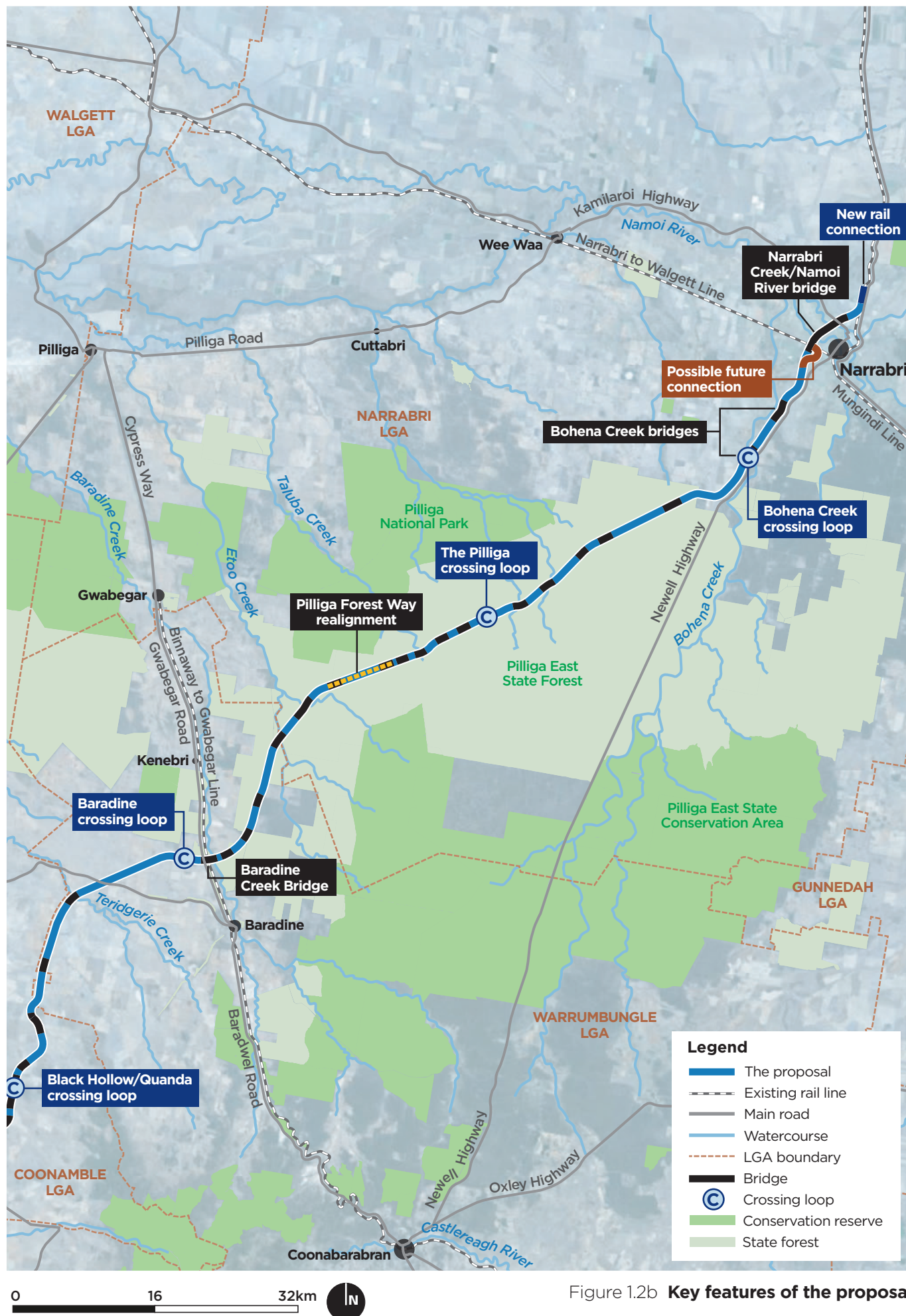


Figure 1.2b Key features of the proposal

### 1.2.3 Construction overview

An indicative construction strategy has been developed based on the current reference design to be used as a basis for the environmental assessment process. Detailed construction planning, including programming, work methodologies, staging and work sequencing would be undertaken once construction contractor(s) have been engaged and during detailed design.

#### *Timing and work phases*

Construction of the proposal would involve five main phases of work as outlined in Table 1.1. It is anticipated that the first phase would commence in late 2021, and construction would be completed in 2025.

**Table 1.1 Main construction phases and indicative activities**

Phase	Details
Pre-construction	<ul style="list-style-type: none"><li>Establishment of areas to receive early material deliveries</li><li>Delivery of certain materials that need to be brought to site before the main construction</li></ul>
Site establishment	<ul style="list-style-type: none"><li>Establishment of key construction infrastructure, work areas and other construction facilities</li><li>Installing environmental controls, fencing and site services</li><li>Preliminary activities including clearing/trimming of vegetation</li></ul>
Main construction	<ul style="list-style-type: none"><li>Construction of the proposed rail and road infrastructure, including earthworks, track, bridge and earth works</li></ul>
Testing and commissioning	<ul style="list-style-type: none"><li>Testing and commissioning of the rail line and communications and signalling systems</li></ul>
Finishing and rehabilitation	<ul style="list-style-type: none"><li>Demobilisation and decommissioning of construction compounds and other construction infrastructure</li><li>Restoration and rehabilitation of disturbed areas</li></ul>

#### *Key construction infrastructure*

The following key infrastructure is proposed to support construction of (see Figure 1.3):

- borrow pits:
  - borrow pit A – Tantitha Road, Narromine
  - borrow pit B – Tomingley Road, Narromine
  - borrow pit C – Euromedah Road, Narromine
  - borrow pit D – Perimeter Road, Narrabri
- three main compounds, which would include a range of facilities to support construction ('multi-function compounds'), located at:
  - Narromine South
  - Curban
  - Narrabri West
- temporary workforce accommodation for the construction workforce:
  - within the Narromine South multi-function compound
  - Narromine North
  - Gilgandra
  - Baradine
  - within the Narrabri West multi-function compound.



Other construction infrastructure would include a number of smaller compounds of various sizes located along the proposal site, concrete batching plants, laydown areas, welding yards and a concrete pre-cast facility.

#### **1.2.4 Operation**

The proposal would form part of the rail network managed and maintained by ARTC. Train services would be provided by a variety of operators. Inland Rail as a whole would be operational once all 13 sections are complete, which is estimated to be in 2025.

It is estimated that Inland Rail would be trafficked by an average of 10 trains per day (both directions) in 2025, increasing to about 14 trains per day (both directions) in 2040. This rail traffic would be in addition to the existing rail traffic using other lines that the proposal interacts with.

The trains would be a mix of grain, bulk freight, and other general transport trains. Total annual freight tonnages would be about 10 million tonnes in 2025, increasing to about 17.5 million tonnes in 2040.

Train speeds would vary according to axle loads, and range from 80 to 115 kilometres per hour.

### **1.3 Purpose and scope of this report**

The purpose of this report is to assess the potential noise and vibration impacts from the construction and other operations of the proposal. This report:

- addresses the relevant SEARs listed in Table 1.2
- describes the existing environment with respect to noise and vibration sensitive receivers, and presents existing ambient and background noise levels obtained through a noise monitoring survey
- assesses the noise and vibration impacts of constructing the proposal on noise and vibration sensitive receivers including construction activities within the construction footprint, construction traffic on public roads, and construction infrastructure
- assesses the other operations noise and vibration impacts on noise and vibration sensitive receivers. This includes a road traffic noise assessment for roads significantly upgraded or altered as part of the proposal, as well as noise and vibration impacts from stationary infrastructure such as maintenance sidings
- recommends feasible and reasonable measures to mitigate the impacts identified.

The methodology for the assessment is described in section 3.

This report excludes an assessment of operational rail noise and vibration impacts. The operational rail assessment is provided in *ARTC Inland Rail Narromine to Narrabri Noise and Vibration Assessment – Operational Rail* (SLR, 2020).

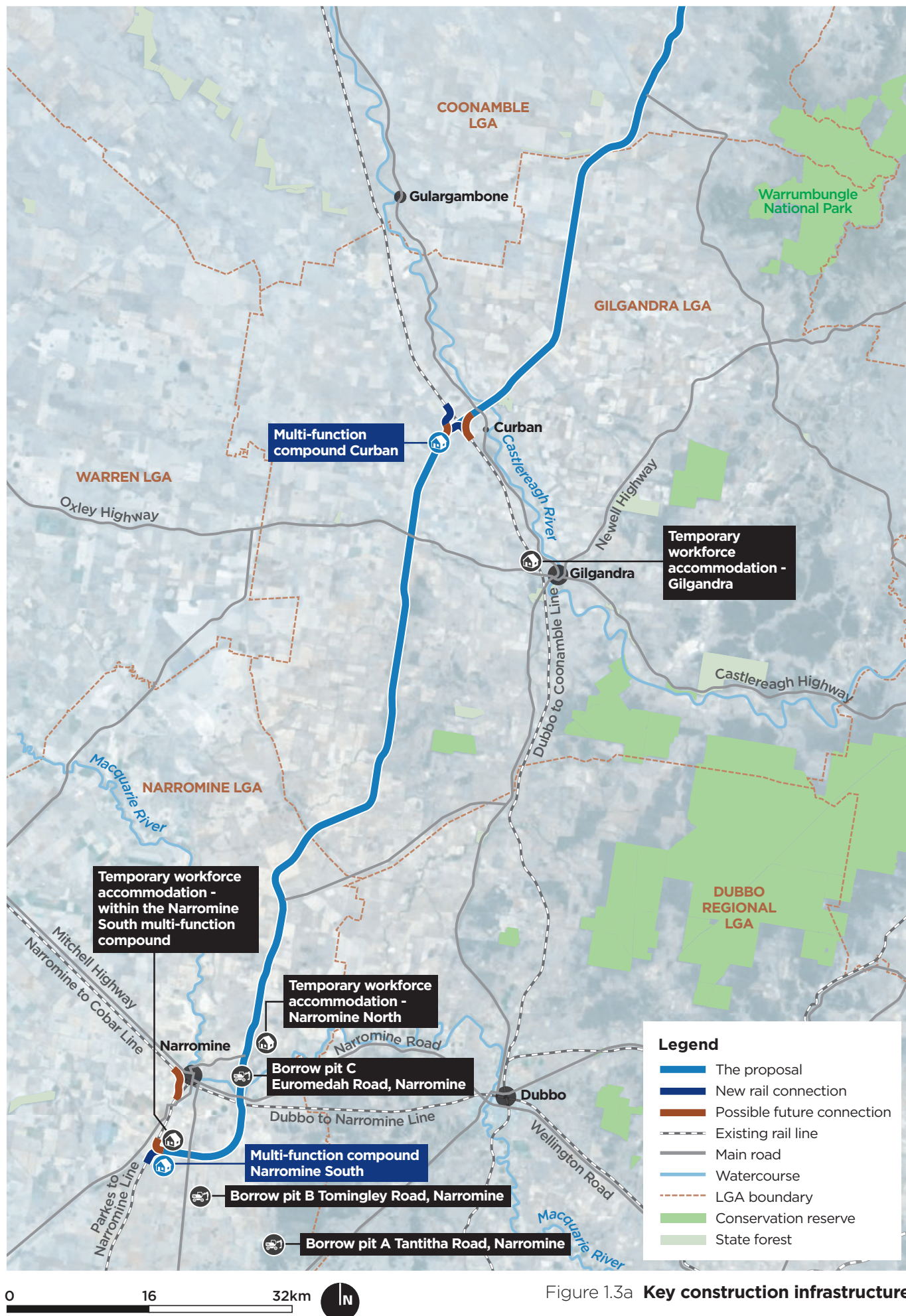


Figure 1.3a **Key construction infrastructure**



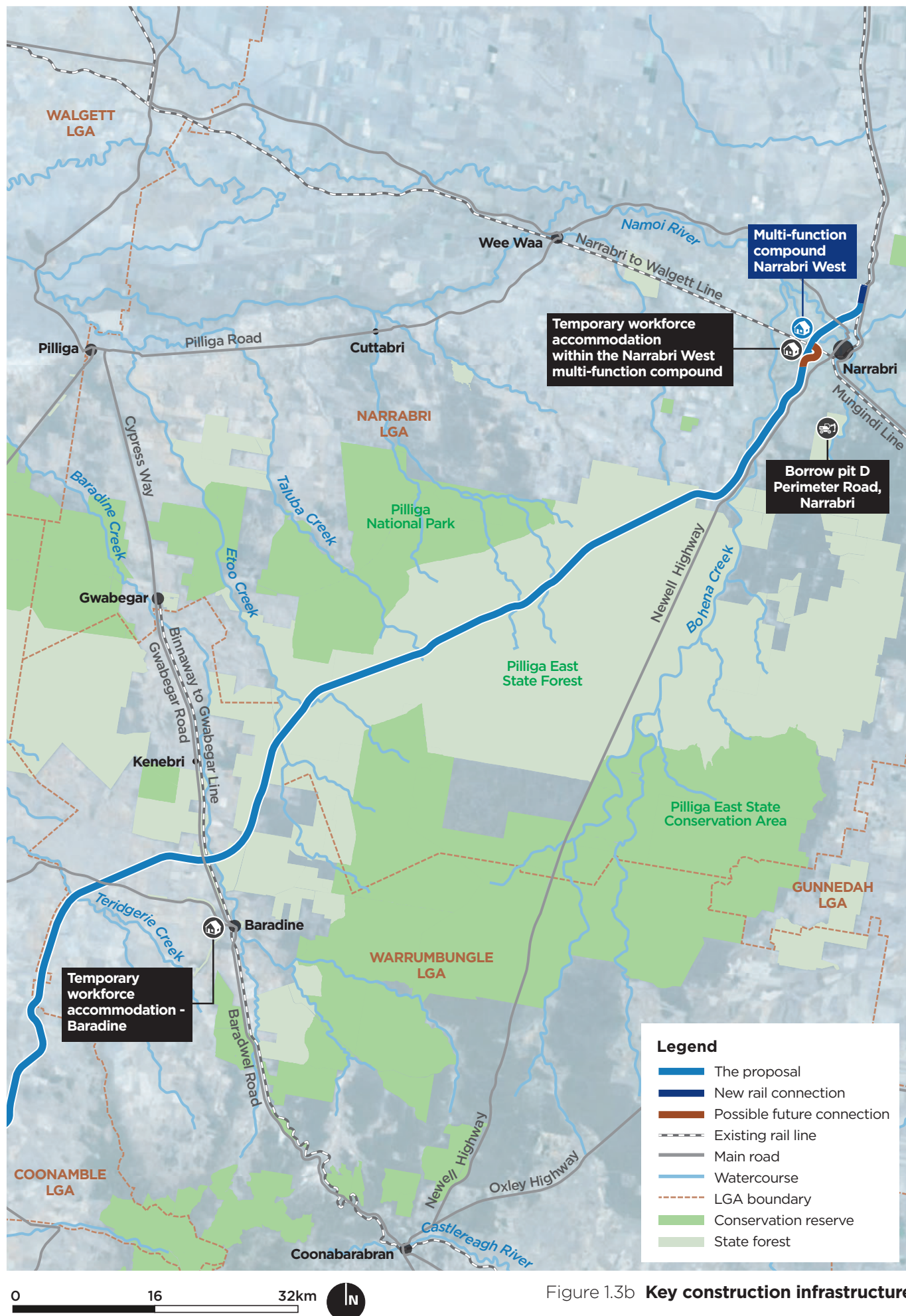


Figure 1.3b **Key construction infrastructure**

**Table 1.2 SEARs relevant to this assessment**

SEAR number	Requirements	Where addressed in this report
15.1	The Proponent must assess construction and operational noise and vibration impacts in accordance with relevant NSW noise and vibration guidelines. The assessment must include consideration of impacts to sensitive receivers including small businesses, and include consideration of sleep disturbance and, as relevant, the characteristics of noise and vibration (for example, low frequency noise).	Relevant noise criteria considered as part of this report are included in sections 2, 2.4, 2.5, 2.6 and 2.8.  Operational rail assessment is provided in <i>ARTC Inland Rail Narromine to Narrabri Noise and Vibration Assessment – Operational Rail</i> (SLR, 2020).
15.2	The Proponent's assessment of construction and operational noise and vibration impacts must consider activities within the proposed corridor, activities at ancillary sites, including but not limited to borrow sites, and vehicle movements associated with the proposal, including haulage vehicles.	Section 5.1 discusses construction noise impacts. Section 5.2 presents the results of sleep disturbance assessment. Section 5.3 shows the results of the predicted human comfort and structural damage vibration assessments. Section 5.5 presents the appropriate maximum charge mass and buffer distances for blasting at borrow pits. Section 5.6 shows the influence of construction traffic on overall traffic noise levels. Section 6.3 discusses maintenance siding locations and the associated noise generating operations. Section 6.5 discusses potential vibration impacts from other operational sources.  Section 7.5 discusses the predicted noise levels from vehicles and haulage.  Operational rail assessment is provided in <i>ARTC Inland Rail Narromine to Narrabri Noise and Vibration Assessment – Operational Rail</i> (SLR, 2020).
15.3	The Proponent must demonstrate that blast impacts are capable of complying with the current guidelines, if blasting is required.	Section 5.5 presents the appropriate maximum charge mass and buffer distances for blasting at borrow pits.
16.1	The Proponent must assess construction and operation noise and vibration impacts (including impacts of construction traffic) in accordance with relevant NSW noise and vibration guidelines. The assessment must include consideration of impacts to the structural integrity and heritage significance of items (including Aboriginal places and items of environmental heritage).	Section 5.3 shows the results of the predicted human comfort and structural damage vibration assessments. Section 5.6 shows the influence of construction traffic on overall traffic noise levels  Operational rail assessment is provided in <i>ARTC Inland Rail Narromine to Narrabri Noise and Vibration Assessment – Operational Rail</i> (SLR, 2020).
16.2	The Proponent must demonstrate that blast impacts are capable of complying with the current guidelines, if blasting is required.	Section 5.5 presents the appropriate maximum charge mass and buffer distances for blasting at borrow pits.

## **1.4 Structure of this report**

The structure of the report is outlined below.

- Section 1 - provides an introduction to the report
- Section 2 - details the noise and vibration assessment criteria relevant to construction and other operations
- Section 3 - describes the methods used in the assessment
- Section 4 - describes the existing ambient noise environment
- Section 5 - provide the construction noise and vibration assessment
- Section 6 - provides the other operations noise assessment
- Section 7 - provides the operational traffic noise assessment
- Section 8 - details the cumulative impact assessment
- Section 9 - describes the recommended mitigation measures
- Section 10 - the report conclusion summarises the key outcomes from the report.

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## 2. Legislation, policy and relevant guidelines

### 2.1 Protection of the Environment Operations Act 1997

Under the *Protection of the Environment Operations Act 1997* (POEO Act) an environment protection licence (EPL) is required to undertake a scheduled activity or scheduled development work. The construction of the proposal is a scheduled activity 'Railway activities – railway infrastructure construction' while operation is the scheduled activity 'Railway activities – railway infrastructure operation' and as such, the proposal requires an EPL. ARTC Inland Rail or the construction contractor would apply to the NSW Environment Protection Authority (EPA) for the construction licence. The application would include a construction noise and vibration management plan (CNVMP) that provides a description of how the proposal will meet the environmental noise and vibration criteria and approval conditions.

The premises description in ARTC's existing EPL for the rail network (number 3142) would be modified, to include the proposal, once constructed. The existing EPL is described in section 2.9.

### 2.2 Overview of assessment guidelines

An overview of the guidelines and standards used for the construction and other operations assessment is provided in Table 2.1.

**Table 2.1 Assessment guideline overview**

Guideline	Abbreviation	Application
<i>Interim Construction Noise Guideline</i> (DECC 2009)	ICNG	Assessment criteria for the construction noise assessment.
<i>Construction Noise Strategy</i> (TfNSW 2017)	-	Typical construction noise and vibration levels.
<i>Construction Noise and Vibration Strategy</i> (TfNSW 2018)	-	Note this document supersedes the <i>Construction Noise Strategy</i> that is stated as a requirement in the SEARs.
<i>Industrial Noise Policy</i> (EPA 2001)	INP	Noise monitoring and background noise level calculation requirements. This is specifically referenced in the ICNG for background noise level measurement and calculation methodology.
<i>Noise Policy for Industry</i> (EPA 2017)	NPI	Noise monitoring and background noise level calculation requirements.
<i>Assessing Vibration: A technical guideline</i> (DEC 2006)	AVTG	Assessment criteria for the construction vibration assessment.
<i>Road Noise Policy</i> (DECCW 2011)	RNP	Assessment criteria for the construction and operational road traffic noise assessments.
<i>Environmental Criteria for Road Traffic Noise</i> (EPA 1999)	-	Guidance for construction maximum noise level assessment for sleep disturbance.



Guideline	Abbreviation	Application
<i>Environmental Noise Management Manual</i> (RTA 2001)	-	Typical vibration levels and construction vibration procedure for the construction vibration assessment.
<i>Noise Criteria Guideline</i> (Roads and Maritime, 2015a)	-	Determination of the road traffic noise criteria for the operational road traffic noise assessment.
<i>Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration</i> (ANZEC 1990).	-	Assessment criteria for the construction blasting assessment.
<i>NSW Construction Noise and Vibration Management Framework</i> (ARTC 2017a)	-	Provides an outline of the approach that ARTC use to assess and manage noise and vibration from construction of the proposal in NSW.
<i>Inland Rail Noise and Vibration Management Strategy</i> (ARTC 2017b)	-	Provides an outline of the approach that ARTC use to assess and manage noise and vibration impacts from the proposal.
Standards		
AS 1055.1:1997 Acoustics – Description and measurement of environmental noise		Provides a general overview of the noise monitoring equipment and procedures used for noise monitoring.
AS 2436:2010 Guide to noise and vibration control on construction, demolition and maintenance sites		Provides an approach for the assessment of construction noise and vibration impacts.

## 2.3 Construction noise criteria

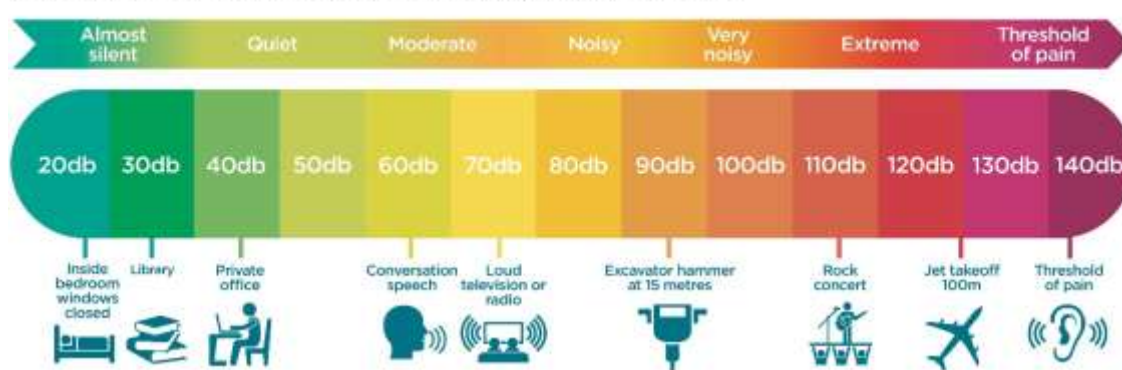
The *Interim Construction Noise Guideline* (ICNG) (DECC 2009) is the relevant guideline for assessment of construction noise impacts in NSW and establishes criteria for sensitive receivers based on the time of day the construction work is being undertaken (ie during recommended standard hours and outside the recommended standard hours).

As discussed in section 3.4, in order to reduce the construction program it is proposed to undertake normal construction activities (excluding blasting) outside the recommended standard hours, subject to certain restrictions. These are referred to as the primary proposal construction hours. Other discrete construction activities would also be undertaken outside the primary proposal construction hours, including work during rail corridor possessions. These are referred to as out of hours works. This is consistent with the approach taken on other Inland Rail projects.

This section identifies the relevant construction noise criteria that would apply to the recommended standard hours and the proposal specific construction noise criteria that have been adopted for the primary proposal construction hours and out of hours works. Figure 2.1 shows a comparison on noise levels from common sources.

### Noise level comparisons

People's perception of noise is strongly influenced by their environment.  
A noise level that is perceived as loud in one situation may appear quiet in another.



**Figure 2.1 Noise level comparisons**

### 2.3.1 Interim Construction Noise Guideline

The recommended standard hours as defined in the ICNG are provided in Table 2.2.

Table 2.3 and Table 2.4 list the ICNG construction noise criteria for residential and non-residential receivers.

**Table 2.2 ICNG recommended standard hours**

Work type	Recommended standard hours of work
Normal construction	Monday to Friday 7am to 6pm Saturday 8am to 1pm No work on Sundays or public holidays
Blasting	Monday to Friday 9am to 5pm Saturday 9am to 1pm No blasting on Sundays or public holidays

Source: *Interim Construction Noise Guideline* (DECC 2009)

**Table 2.3 ICNG construction noise criteria for residential receivers, dB(A)**

Time Period	ICNG Management Level $L_{Aeq}(15 \text{ min})$
Recommended standard hours: Day Mon-Fri (7am – 6pm) Sat (8am – 1pm) Sun/Public holidays (Nil)	Noise affected level: Rating background level (RBL)+10 dB(A) Highly noise affected level (all residential receivers) - 75 dB(A)
Outside of standard hours: Evening Mon-Fri (6pm – 10pm) Sat (1pm – 10pm) Sun/Pub holidays (8am – 6pm)	Noise affected level – RBL+5 dB(A)
Outside of standard hours: Night Mon-Fri (10pm – 7am) Sat (10pm – 8am) Sun/Public holidays (6pm – 7am)	Noise affected level – RBL+5 dB(A)

Source: *Interim Construction Noise Guideline* (DECC 2009)

**Table 2.4 ICNG construction noise criteria for non-residential receivers, dB(A)**

Receiver type	Time period	ICNG management level, $L_{Aeq}(15 \text{ min})$
Industrial premises	When in use	75 dB(A)
Offices, retail outlets	When in use	70 dB(A)
Educational institutes	When in use	45 dB(A) internal
Medical facilities	When in use	45 dB(A) internal
Places of worship	When in use	45 dB(A) internal
Active recreation areas	When in use	65 dB(A)
Passive recreation areas	When in use	60 dB(A)

Source: *Interim Construction Noise Guideline* (DECC 2009)

The 'noise affected' management level represents the point at which there may be some community reaction to noise. Where the noise affected management level is exceeded, all feasible and reasonable work practices to minimise noise need to be applied and all potentially affected receivers informed of the nature of the works, expected noise levels, duration of works and a method of contact. The noise affected management level is the background noise level plus 10 dB(A) during recommended standard hours and the background noise level plus 5 dB(A) outside of recommended standard hours.

The 'highly noise affected' management level represents the point at which there may be strong community reaction to noise. Where noise is above this management level, any feasible and reasonable ways to reduce noise below this level would be applied. If no quieter work method is feasible and reasonable, the affected residence would be advised of the duration and noise levels of the works and any respite periods that will be provided. The highly noise affected management level for standard hours is 75 dB(A).

Where construction noise is specified as an internal criteria a plus 7 dB conversion to external equivalent has been assumed in this assessment. This is conservatively representative of a typical dwelling of light construction with windows partially open.

The ICNG defines what is considered to be feasible and reasonable as follows:

*'Feasible - A work practice or abatement measure is feasible if it is capable of being put into practice or of being engineered and is practical to build given project constraints such as safety and maintenance requirements.'*

*'Reasonable - Selecting reasonable measures from those that are feasible involves making a judgment to determine whether the overall noise benefits outweigh the overall adverse social, economic and environmental effects, including the cost of the measure.'*

### 2.3.2 Construction noise criteria

Detailed information on the existing noise environment including background levels from which the criteria are derived, is presented in section 4.

#### *Recommended standard hours*

In accordance with ICNG the construction noise criteria for residential receivers during recommended standard hours are listed in Table 2.5.

The construction noise criteria for non-residential receivers defined in Table 2.4 also apply during recommended standard hours.

**Table 2.5 Recommended standard hours construction noise criteria for residential receivers, dB(A)**

Time period	ICNG Management Level $L_{Aeq}(15 \text{ min})$
Recommended standard hours:	
• Mon-Fri (7am – 6pm)	45
• Sat (8am – 1pm)	
• Sun/Public holidays (no work)	

**Primary proposal construction hours and out of hours works**

In accordance with ICNG the proposal specific construction noise management levels (CNMLs) for residential receivers during the primary proposal construction hours and out of hours works are listed in Table 2.6.

The construction noise criteria for non-residential receivers defined in Table 2.4 also apply during the primary proposal construction hours and out of hours works.

**Table 2.6 Proposal specific construction noise criteria for residential receivers, dB(A)**

Time period	Proposal specific CNML, $L_{Aeq}(15 \text{ min})$
Primary proposal construction hours:	
• Monday to Friday: 6am to 6pm	35
• Saturday: 6am to 6pm	
• Sundays: 6am to 6pm	
• Public holidays: no activities	
Out of hours	35

The preferred approach for the proposal is that the more stringent level of 35 dB(A) has been adopted as the proposal specific CNML.

This was derived from the RBL of 30 dB(A)  $L_{A90}$  (ie 35 dB(A) = RBL + 5 dB) that was recorded for all logger locations, with the exception of M1 and M12 (see section 4.1) which recorded marginally higher minimum backgrounds of 32 dB(A)  $L_{A90}$  and 31 dB(A)  $L_{A90}$  across the day, evening and night periods. As such, and to provide a consistent mitigation approach regardless of the time of day within the primary proposal construction hours, the lower noise management level of 35 dB(A) has been adopted across this proposal for construction noise.

The more stringent noise management level has been adopted to allow a consistent approach to mitigation (where required) across the proposal irrespective of the time the works are being undertaken. However additional analysis has also been conducted for standard hours noise management level of 45 dB(A) to indicate the level of impacts for activities in standard hours strictly in accordance with the ICNG. This does not supersede the assessment of impacts and recommendations of mitigation measures (where required) in relation to the proposal specific CNML of 35 dB(A)  $L_{Aeq}$ , and has been included for information purposes only.

Section 3.4 of this report presents further details on the anticipated work hours, project timing and approach to works outside the standard hours.

## 2.4 Construction traffic noise criteria

The RNP is the applicable construction traffic noise criteria and states that any increase in the total noise level at existing residences and other sensitive land uses affected by traffic generation on existing roads should be limited to 2 dB(A) above current levels. This limit only applies when the noise level without the development is within 2 dB(A) or exceeds the road traffic noise criterion provided in the RNP.

This has been used to identify potential impacts as a result of noise produced by construction traffic and the potential for reasonable and feasible mitigation measures to be applied. If road traffic noise increases as a result of construction works within 2 dB(A) of current levels then the objectives of the RNP are considered to be met and no specific mitigation measures would be required.

Where construction traffic generation results in a noise increase greater than 2 dB(A) above current levels, then the road traffic noise criteria in Table 2.7 would apply.

**Table 2.7 Road traffic noise criteria, dB(A)**

Type of development	Day 7am to 10pm	Night 10pm to 7am
Existing residence affected by additional traffic on arterial roads generated by land use developments	60 L <sub>Aeq</sub> (15 hour)	55 L <sub>Aeq</sub> (9 hour)
Existing residence affected by additional traffic on local roads generated by land use developments	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)

## 2.5 Sleep disturbance criteria

The ICNG states that '*where construction works are planned to extend over more than two consecutive nights, the impact assessment should cover the maximum noise level from the proposed works*'. In NSW, sleep disturbance and awakening are assessed using guidance in the RNP and the *Noise Policy for Industry* (EPA 2017).

Sleep awakening criteria are based on guidance in the RNP. The *Environmental Criteria for Road Traffic Noise* (EPA 1999) acknowledges that, based on the current level of understanding, no absolute noise level criteria have been established that correlate to an acceptable level of sleep disturbance. However, the RNP suggests that internal noise levels below 50 to 55 dB(A) L<sub>Amax</sub> are unlikely to cause awakening reactions, and one or two events per night, with internal noise levels of 65 to 70 dB(A) L<sub>Amax</sub> (inside dwellings) are not likely to significantly affect health and wellbeing.

The *Noise Policy for Industry* (EPA 2017) recommends a maximum noise level assessment to assess the potential for sleep disturbance events which includes awakenings and disturbance to sleep stages. An initial screening test for maximum noise level events should be assessed to the following levels:

- L<sub>Aeq</sub>(15 min) 40 dB(A) or the prevailing rating background level (RBL) plus 5 dB, whichever is greater, and/or
- L<sub>AFmax</sub> 52 dB(A) or the prevailing RBL plus 15 dB, whichever is greater.

If the screening test indicates a potential for sleep disturbance then a detailed maximum noise level assessment should be undertaken. The detailed assessment should cover the maximum noise level, the extent to which the maximum noise level exceeds the RBL and the number of times this happens during the night-time period. A summary of the sleep disturbance criteria is provided in Table 2.8.

**Table 2.8 Sleep awakening and disturbance criteria**

Criteria	L <sub>Amax</sub> criteria	Assessment location
Sleep awakening (RNP)	55 dB(A)	Internal
Sleep disturbance screening level (Noise Policy for Industry)	52 dB(A)	External

## 2.6 Vibration criteria

### 2.6.1 Human vibration criteria

The Department of Environment and Conservation (DEC) publication, *Assessing vibration: A technical guideline* (AVTG) (DEC 2006) outlines methods of assessing potential impacts and ways to manage vibration from construction activities. The AVTG is based on guidelines contained in British Standard *BS 6472-1:1992 Evaluation of human exposure to vibration in buildings (1–80 Hz)*.

Typically, construction works generate ground vibration of an intermittent nature. In accordance with BS 6472-1:1992, intermittent vibration is assessed using the Vibration Dose Value (VDV). Acceptable VDV, as outlined in AVTG, are listed in Table 2.9.

**Table 2.9 Acceptable vibration dose values for intermittent vibration**

Location	Daytime <sup>1</sup> (m/s <sup>1.75</sup> )		Night-time <sup>1</sup> (m/s <sup>1.75</sup> )	
	Preferred Value	Maximum Value	Preferred Value	Maximum Value
Critical areas <sup>2</sup>	0.10	0.20	0.10	0.20
Residences	0.20	0.40	0.13	0.26
Offices, schools, educational institutions and places of worship	0.40	0.80	0.40	0.80
Workshops	0.80	1.60	0.80	1.60

Source: Table 2.4 Assessing vibration: A technical guideline (DEC 2006)

Notes:

1. Daytime is 7.00 to 22.00 and night-time is 22.00 to 7.00.
2. Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring. These criteria are only indicative, and there may be need to assess intermittent values against the continuous or impulsive criteria for critical areas.

While the assessment of response to vibration in BS 6472-1:1992 is based on VDV and weighted acceleration, for construction-related vibration, it is considered more appropriate to provide guidance in terms of Peak Particle Velocity (PPV), since this parameter is more likely to be routinely measured based on the more usual concern over potential building damage.

Humans are capable of detecting vibration at levels well below those that risk causing damage to a building. The degrees of perception for humans are suggested by the vibration level categories given in British Standard *BS 5228-2:2009 Code of practice for noise and vibration on construction and open sites – Part 2: Vibration* as listed below in Table 2.10.



**Table 2.10 Guidance on the effects of vibration levels**

Approximate Vibration Level	Degree of Perception
0.14 mm/s	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.
0.30 mm/s	Vibration might be just perceptible in residential environments.
1.00 mm/s	It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if prior warning and explanation has been given to residents.
10.00 mm/s	Vibration is likely to be intolerable for any more than a very brief exposure to this level.

Source: BS 5228-2:2009 *Code of practice for noise and vibration on construction and open sites – Part 2: Vibration*

## 2.6.2 Structural damage criteria

Currently, there is no Australian Standard that sets criteria for the assessment of building damage caused by vibration. Consistent with other major projects of a similar type, guidance on limiting vibration values has been obtained by reference to German Standard *DIN 4150-3: 2016-02 Structural Vibration – Part 3: Effects of vibration on structures*. Short-term vibration guideline values for vibration at the foundation of a structure are listed in Table 2.11.

**Table 2.11 Guideline values for short-term vibration on structures**

Line	Type of Structure	Guideline Values for Velocity, $v_i(t)$ <sup>1</sup> [mm/s]		
		1 Hz to 10 Hz	10 Hz to 50 Hz	50 Hz to 100 Hz <sup>2</sup>
1	Buildings used for commercial purposes, industrial buildings, and buildings of similar design.	20	20 to 40	40 to 50
2	Dwellings and buildings of similar design and/or occupancy.	5	5 to 15	15 to 20
3	Structures that, because of their particular sensitivity to vibration, cannot be classified under lines 1 and 2 and are of great intrinsic value (such as heritage listed buildings under preservation order).	3	3 to 8	8 to 10

Source: *German Standard DIN 4150-3: 1999-02 Structural Vibration – Part 3: Effects of vibration on structures*

Notes:

1. The term  $v_i$  refers to vibration levels in any of the x, y or z axes
2. At frequencies above 100 Hz the values given in this column may be used as minimum values

## 2.6.3 Guidelines for buried pipework and services

The British Standard *BS 7385-2:1993 Evaluation and measurement for vibration in buildings* notes that structures below ground are known to sustain higher levels of vibration and are very resistant to damage unless in very poor condition.

Guideline values for vibration to evaluate the effects of vibration on buried pipework is provided in German Standard *DIN 4150-3: 1999-02 Structural Vibration – Part 3: Effects of vibration on structures*. These values are reproduced in Table 2.12.



**Table 2.12 Guideline values for vibration effects on buried pipework**

Line	Pipe material	Guideline values for vibration velocity measured on the pipe
1	Steel (including welded pipes)	100 mm/s
2	Clay, concrete, reinforced concrete, pre-stressed concrete, metal (with or without flange)	80 mm/s
3	Masonry, plastic	50 mm/s

Note that in general, compliance with the guideline values for structural damage in Table 2.11 would result in compliance with the guideline values for buried pipework.

## 2.7 Construction ground-borne noise

The ICNG is the relevant guideline for assessment of construction ground-borne noise impacts in NSW.

In some instances, vibration generated through the ground from construction activities can cause the floors or walls of a structure to vibrate. This can result in an audible noise inside the structure which is known as ground-borne or regenerated noise. Management levels for ground-borne noise only apply where ground-borne noise levels are higher than airborne noise levels, this may occur for tunnelling works where the path of airborne noise is obstructed.

Table 2.13 lists the ICNG construction ground-borne noise criteria for residential receivers. The objective is to protect the amenity and sleep of people when they are home, therefore they are only relevant for evening and night time periods. Noise levels are assessed at the centre of the most affected habitable room.

**Table 2.13 ICNG construction ground-borne noise criteria for residential receivers, dB(A)**

Time Period	Ground-borne noise management Level L <sub>Aeq</sub> (15 min)
Evening (6pm to 10pm)	40 dB(A)
Night-time (10pm to 7am)	35 dB(A)

Source: Interim Construction Noise Guideline (DECC 2009)

## 2.8 Blasting

Overpressure and vibration from blasting are assessed against the levels provided in the *Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration* (ANZEC 1990). The recommended maximum and maximum criteria are provided in Table 2.14.

The recommended maximum criteria may be exceeded on up to five per cent of the total number of blasts over a period of 12 months. The maximum criteria should not be exceeded at any time.

**Table 2.14 Recommended blasting overpressure and ground vibration maximum levels**

Item	Recommended maximum levels	Maximum levels
Airblast overpressure	115 dB(Lin), peak	120 dB(Lin), peak
Ground vibration	5 mm/s	10 mm/s

## 2.9 Environment protection licence

An environment protection licence (EPL) (EPL number: 3142) for 'Railway activities - railway infrastructure operations' specifies operational noise objectives, locomotive noise limits and conditions pertaining to construction and maintenance activities on the ARTC rail network. This EPL allows for construction activities at a scale below the threshold for the scheduled activity of 'Railway activities – railway infrastructure construction'. Therefore a new EPL will be required and developed for the construction of the proposal. Certain conditions within the existing EPL 3142 are relevant to guide this assessment, specifically the assessment of ongoing maintenance activities that would occur once the proposal is operational. These are provided below:

### **Railway maintenance and construction activities**

*Note: The objectives of these conditions are to minimise noise impacts from railway maintenance and construction activities, recognising that operational safety and other factors constrain when these activities can be carried out on the premises. These factors include avoiding disruptions during peak periods for passenger services and ensuring that programmed track closures facilitate the efficient completion of maintenance and construction activities. Night-time and weekend work will be required for some activities.*

### **Railway maintenance activities**

#### **Standard railway maintenance hours**

- O9.1 Maintenance activities must be undertaken:
- a) between the hours of 7:00am and 6:00pm Mondays to Friday
  - b) between the hours of 8:00am and 1:00pm Saturday; and
  - c) not on Sundays or public holidays,
- unless an exception in Condition O9.2 or Condition O9.3 applies.

#### **Exception to standard railway maintenance hours**

- O9.2 The licensee may undertake maintenance activities outside of the hours specified in Condition O9.1:
- a) to provide safe and reliable services or a safe working environment; or
  - b) for emergency works; or
  - c) for the delivery of oversized plant or structures that require special arrangements or authorisation to be lawfully transported along public roads.

### **Exception to standard railway maintenance hours for low noise impact generating works**

- O9.3 (a) The licensee may undertake maintenance activities outside of the hours specified in Condition O9.1, if the activities do not exceed:
- (i) 5 dBA (LAeq, 15min) above the relevant rating background levels at day, evening and night, as determined at the nearest noise sensitive receiver as assessed by acoustic investigation, and
  - (ii) 15 dBA (LA1, 1min or LAmax) above the relevant rating background level at night, as determined at the nearest noise sensitive receiver as assessed by acoustic investigation.
- (b) The results of any acoustic investigation undertaken in relation to Conditions O9.3(a)(i) and O9.3(a)(ii) must be provided by the licensee when requested by an authorised officer of the EPA.
- (c) An acoustic investigation referred to in Conditions O9.3(a)(i) and O9.3(a)(ii) is not required if there are no noise sensitive receivers impacted by the activities.

### **Management of noise impacts from railway maintenance**

- O9.4 Where maintenance activities are undertaken, including outside of the hours specified in Condition O9.1, noise impacts must be managed in accordance with the recommendations of the Interim Construction Noise Guideline (DECCW, 2009), as updated from time to time. Consistent with those recommendations, under this condition the licensee is required to:
- a) identify noise sensitive receivers that may be affected;
  - b) identify hours of work for the proposed activities;
  - c) identify noise impacts at noise sensitive receivers;
  - d) select and apply reasonable and feasible work practices to minimise noise impacts; and
  - e) notify the identified noise sensitive receivers at least 5 days prior to the commencement of maintenance activities undertaken outside of the hours specified in Condition O9.1, except where the licensee first becomes aware of the need to undertake those maintenance activities less than 5 days prior to the proposed commencement date, in which case the notification must be provided as soon as practicable after becoming aware of the need to undertake the maintenance activities.
- O9.5 When requested by an authorised officer of the EPA, the licensee must provide the following information regarding any proposed maintenance activities on the premises:
- a) dates and times of the proposed maintenance activity;
  - b) location of the proposed maintenance activity;
  - c) type(s) of work to be performed in conducting the proposed maintenance activity;
  - d) plant and equipment to be used; and
  - e) contact name and telephone number of a person who will be on site during the activity and who is authorised by the licensee to take action, including the cessation of the activity or any part of it, if so directed by the EPA. A contact person must be contactable 24 hours a day via the supplied telephone number(s) during the whole of the period that the activity takes place outside the hours specified in Condition O9.1.
- O9.6 When requested by an authorised officer of the EPA, the licensee must provide written reasons that demonstrate that maintenance activities undertaken outside of the hours specified in Condition O9.1 comply with the licence.

Clause O9.4 of EPL 3142 requires that noise and vibration impacts from maintenance activities are managed to the provisions of the *Interim Construction Noise Guideline* (DECCW 2009). Construction noise management levels provided for residential and non-residential receivers provided in section 2 would be applicable for any maintenance activities performed under EPL 3142.

A description of maintenance activities is provided in section 1.2.4 of this report. Assessment of noise and vibration impacts from the operation of maintenance sidings is presented in section 6.

## **2.10 Operational road traffic noise criteria**

Operational road traffic noise criteria for sensitive receivers are based on the RNP. Application of the RNP noise criteria has been conducted in accordance with the *Noise Criteria Guideline* (Roads and Maritime Services 2015a) where applicable.

Road traffic noise criteria is applied by considering the following factors:

- the functional class of the road (freeway, arterial, sub-arterial, collector or local)
- the road project type (new, redeveloped or minor works)
- does the road project include a transition zone (a junction between roads of different functional classes or between a new and redeveloped road)
- whether the road project would generate a noticeable increase in road traffic noise levels
- if the road project is likely to result in an excessive change in amenity due to traffic noise.

### **2.10.1 Road project definition**

Definitions for new, redeveloped and minor works road projects are provided in the *Noise Criteria Guideline* (Roads and Maritime Services 2015a).

A road project is considered new when one or more of the following applies:

- the road is constructed in an undeveloped corridor
- the functional class of the road is changed following the road upgrade
- the road alignment has been substantially realigned.

A road project is considered redeveloped when one or more of the following applies:

- the traffic carrying capacity of the road is increased
- the number of heavy vehicles increase by 50 per cent following the road upgrade.

All other road projects would typically be considered minor works as they are not intended to increase the traffic carrying capacity of the road, accommodate a significant increase in heavy vehicle traffic, or are not anticipated to cause a change in noise level of 2 dB or greater.

Transition zone noise criteria applies when the road project results in a residential receiver being exposed to noise from both new and redeveloped roads or noise from two roads with a different functional class. The objective of the transition zone noise criteria is to provide a smooth change in noise criteria to residences which are exposed to multiple road project types of functional classes.

### **2.10.2 Relative increase criteria**

Road projects may be located in areas with low existing background noise levels and the RNP assessment criteria may not protect the amenity of existing quiet areas. The relative increase criteria (RIC) is provided in Table 2.15 and would be applied when the RIC is more stringent than the new or redeveloped criteria.

Where the functional class of the road is a local road, the RIC does not apply.

**Table 2.15 Relative increase criteria for residential land uses**

Functional class	Type of project	Day	Night
		7am to 10pm	10pm to 7am
Freeway / arterial / sub-arterial roads and transitways	New road corridor		
	Redevelopment of existing road	Existing traffic	Existing traffic
	Land use development with the potential to generate additional traffic on an existing road	$L_{Aeq}(15 \text{ hour}) + 12$ external	$L_{Aeq}(9 \text{ hour}) + 12$ external

### 2.10.3 Road Noise Policy assessment criteria

The RNP road traffic noise assessment criteria are provided in Table 2.16 for different functional classes and road project types.

**Table 2.16 Road Noise Policy assessment criteria**

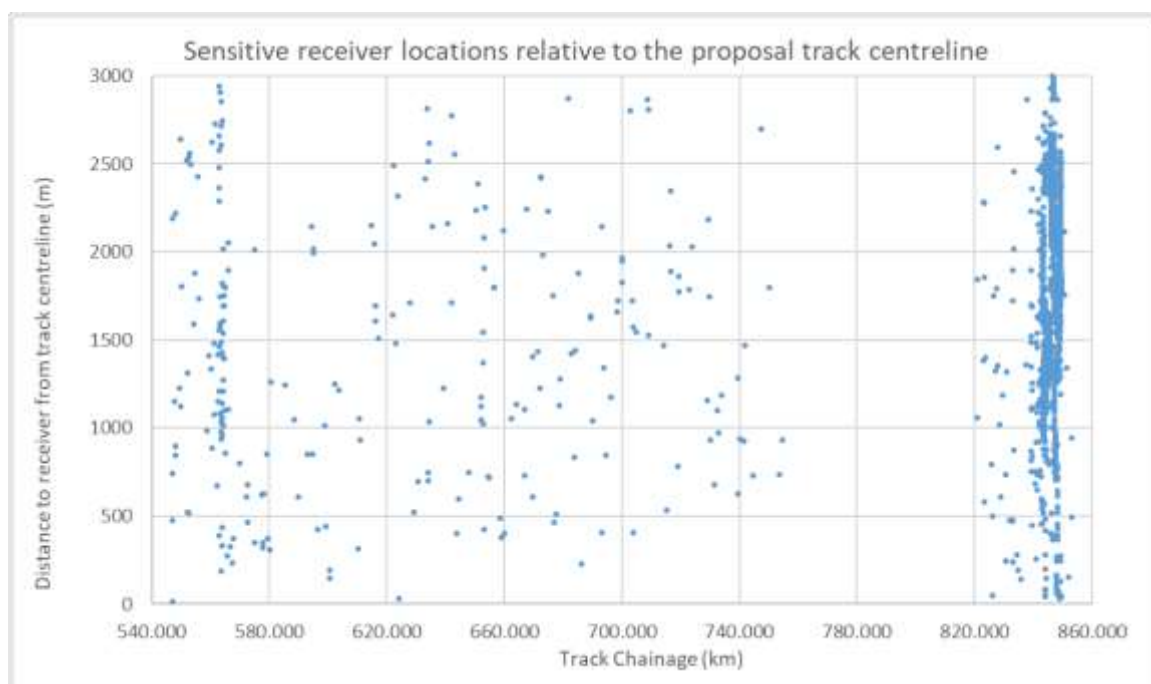
Functional class	Type of project	Day	Night
		7am to 10pm	10pm to 7am
Freeway / arterial / sub-arterial roads	Existing residences affected by noise from <b>new</b> arterial or sub-arterial roads	$L_{Aeq}(15 \text{ hour})$ 55 external	$L_{Aeq}(9 \text{ hour})$ 50 external
	Existing residences affected by noise from <b>redevelopment</b> of an existing arterial or sub-arterial roads		
	Existing residences affected by <b>additional traffic</b> on existing arterial and sub-arterial roads generated by land use developments	$L_{Aeq}(15 \text{ hour})$ 60 external	$L_{Aeq}(9 \text{ hour})$ 55 external
Local roads	Existing residences affected by noise from <b>new</b> or <b>redeveloped</b> local roads		
	Existing residences affected by <b>additional traffic</b> on existing local roads generated by land use developments	$L_{Aeq}(1 \text{ hour})$ 55 external	$L_{Aeq}(1 \text{ hour})$ 50 external

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## 3. Methodology and approach

### 3.1 Study area

A three kilometre buffer around the proposal site in all directions was used to identify sensitive receivers. The study area extends into the towns/villages of Narromine, Narrabri, Gilgandra and Baradine. The relative location of sensitive receivers along the proposed alignment by chainage and distance from the nearest point on the rail centreline is presented in Figure 3.1. The study area is shown in Figure 3.2.



**Figure 3.1 Relative location of noise and vibration sensitive receivers**

### 3.2 Noise monitoring methodology

#### 3.2.1 Noise logging

Baseline unattended noise monitoring was carried out at 21 locations (the noise monitoring locations have been labelled M01 to M21) in accordance with the procedures in the INP and *Noise Policy for Industry* (EPA 2017) guidelines. These locations are shown on Figure 3.2. Noise monitoring was completed in three rounds between the following dates:

- Round 1: 26 November 2018 to 12 December 2018 (M01 – M12)
- Round 2: 19 June 2019 to 3 July 2019 (M13 - M19)
- Round 3: 19 September 2019 to 2 October 2019 (M20 - M21).

Logger locations were selected to capture noise characteristics across the extents of the study area. Selection considerations included topography, distance from the proposal and contribution from other noise activities, such as industry, road or rail noise. The logger locations used for the assessment were considered to be representative of the existing background and ambient noise environment in the study area and are presented on figures in Appendix A.

Noise monitoring locations were constrained to locations where property access was possible and landholder agreement was obtained. Security against damage, theft and vandalism were also important considerations when choosing noise monitoring locations.



The objectives of the monitoring were to measure the existing background noise levels in the areas surrounding the proposal site for the purposes of establishing proposal specific noise criteria.

The noise loggers were programmed to accumulate  $L_{A90}$ ,  $L_{A10}$ ,  $L_{Aeq}$  and  $L_{Amax}$  noise descriptors continuously over sampling periods of 15 minutes for the entire monitoring period. Two attended noise measurements were also conducted at each logger location for 15 minute durations in order to identify ambient noise sources and validate logger data. Instantaneous noise levels for operator-identified noise sources were observed and noted during the measurements.

Several of the noise loggers were programmed to record the noise descriptors at more frequent time intervals. The more frequent time intervals were used to provide additional details and characteristics of the ambient and background noise sources.

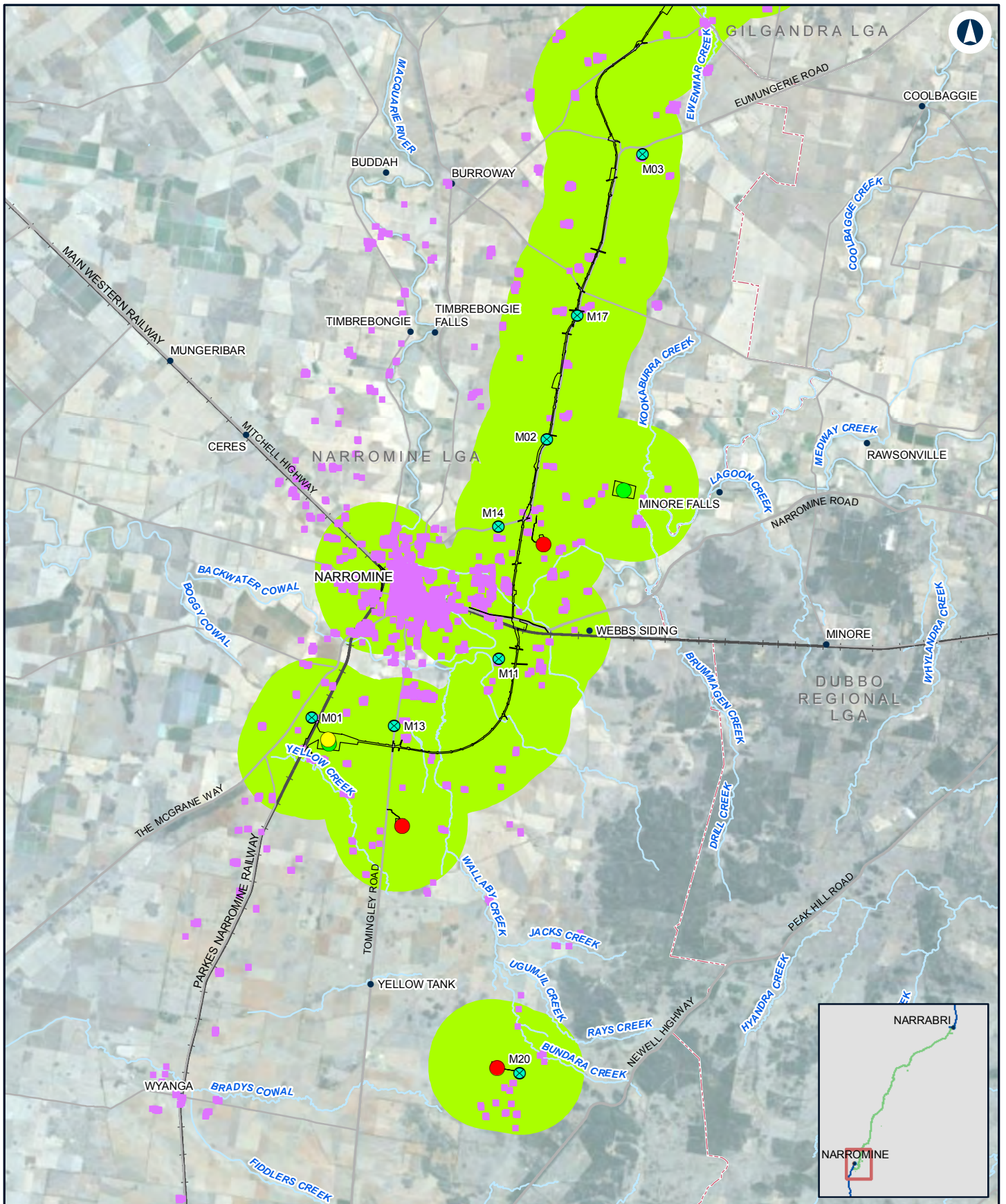
Prior to deployment, a calibration check was performed on the noise monitoring equipment using a GRAS 42AG sound level calibrator (serial number 278663). At completion of the measurements, the equipment was re-checked to ensure the sensitivity of the noise monitoring equipment had not varied. The noise loggers were found to be within the acceptable tolerance of  $\pm 0.5$  dB(A).

The data collected by the loggers was downloaded and analysed, and any invalid data removed. Invalid data generally refers to periods of time where average wind speeds were greater than five metres per second, or when rainfall occurred in accordance with the INP and *Noise Policy for Industry* (EPA 2017). Concurrent half hourly weather data was sourced from the following automatic weather stations (AWS) to identify any periods of weather which may have affected the monitoring results. The AWS that were used for this assessment are summarised in Table 3.1 for each noise monitoring location.

**Table 3.1 Automatic weather station**

Weather Station	Bureau of Meteorology Station ID	Logger locations
Dubbo Airport AWS	065070	M01, M02, M03, M11, M13, M14, M15, M16, M20
Coonamble Airport AWS	051161	M07
Narrabri Airport AWS	054038	M08, M09, M10, M12, M19, M21
GHD weather station	-	M04, M05, M06, M17, M18

All sampling activities were undertaken with consideration to the specifications outlined in AS 1055.1:1997 *Acoustics – Description and measurement of environmental noise* and the INP. Table 3.2 to Table 3.7 provide details of the noise loggers utilised for unattended monitoring.



## NARROMINE TO NARRABRI

Noise and vibration study area

Figure 3.2 Page 1 of 6

0 3.5 7  
Km

Coordinate System: GDA 1994 MGA Zone 55

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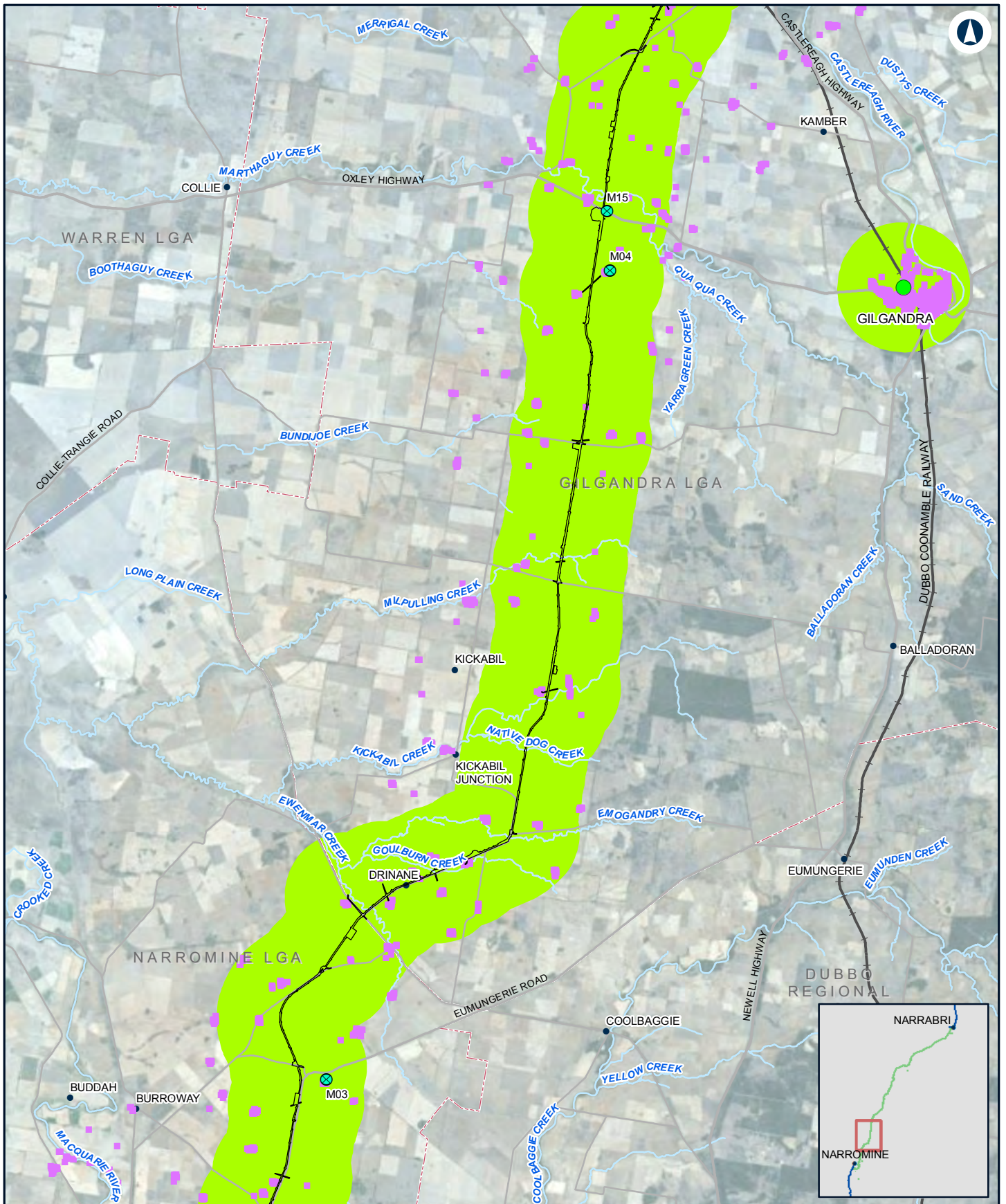
### LEGEND

- Building
- ⊗ Noise monitoring location
- Borrow pits
- Multi-function compounds
- Temporary workforce accommodation
- Construction footprint

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## NARROMINE TO NARRABRI

Noise and vibration study area

Figure 3.2 Page 2 of 6

0 3.5 7  
Km

Coordinate System: GDA 1994 MGA Zone 55

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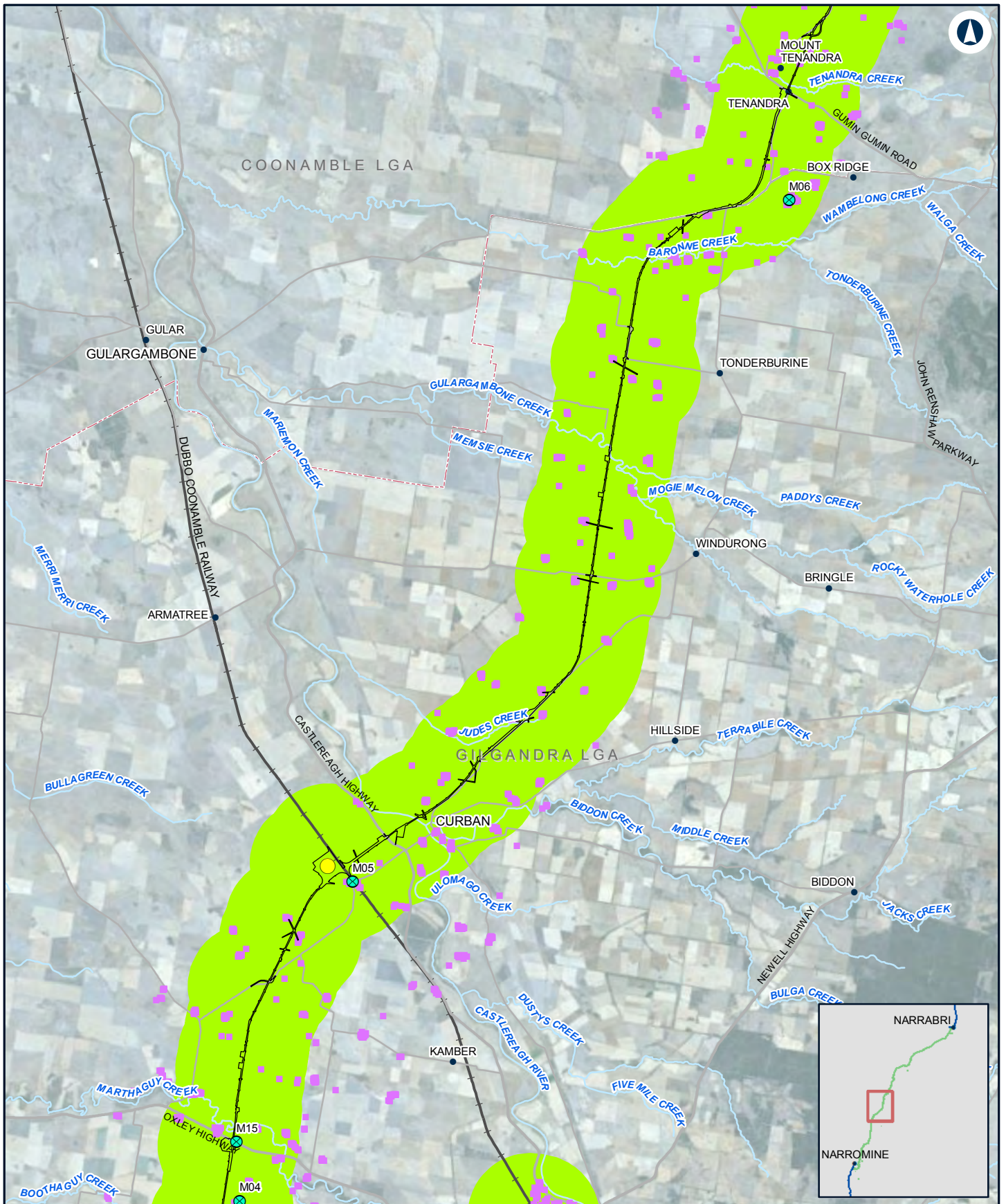
### LEGEND

- Building
- ⊗ Noise monitoring location
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## NARROMINE TO NARRABRI

## Noise and vibration study area

Figure 3.2 Page 3 of 6

0 3.5 7  
Km

Coordinate System: GDA 1994 MGA Zone 55

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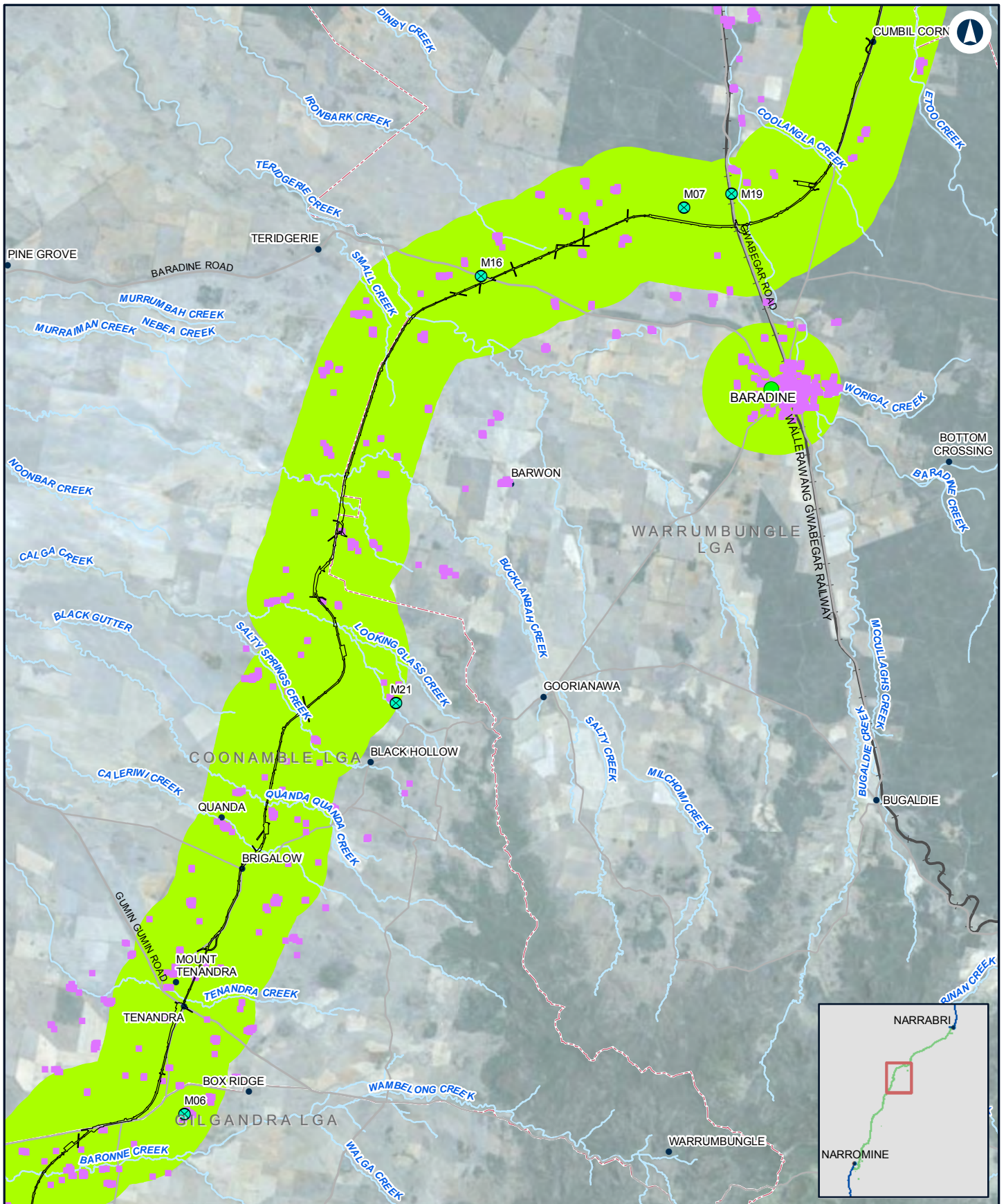
### LEGEND

- Building
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- Borrow pits
- Multi-function compounds
- Temporary workforce accommodation
- Construction footprint

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## NARROMINE TO NARRABRI

## Noise and vibration study area

Figure 3.2 Page 4 of 6

0 3.5 7  
Km

Coordinate System: GDA 1994 MGA Zone 55

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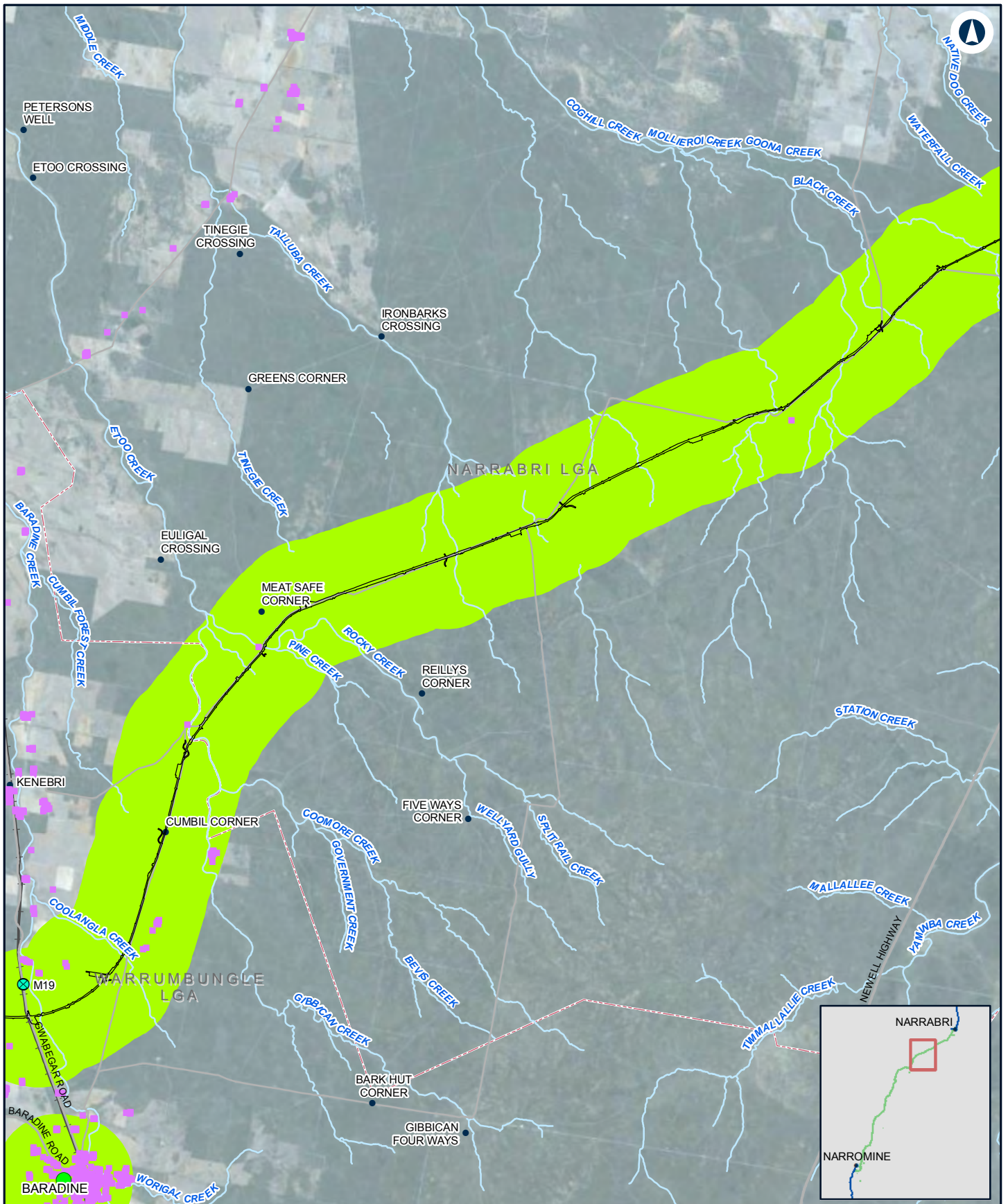
### LEGEND

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- Construction footprint

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## NARROMINE TO NARRABRI

Noise and vibration study area

Figure 3.2 Page 5 of 6

0 3.5 7  
Km

Coordinate System: GDA 1994 MGA Zone 55

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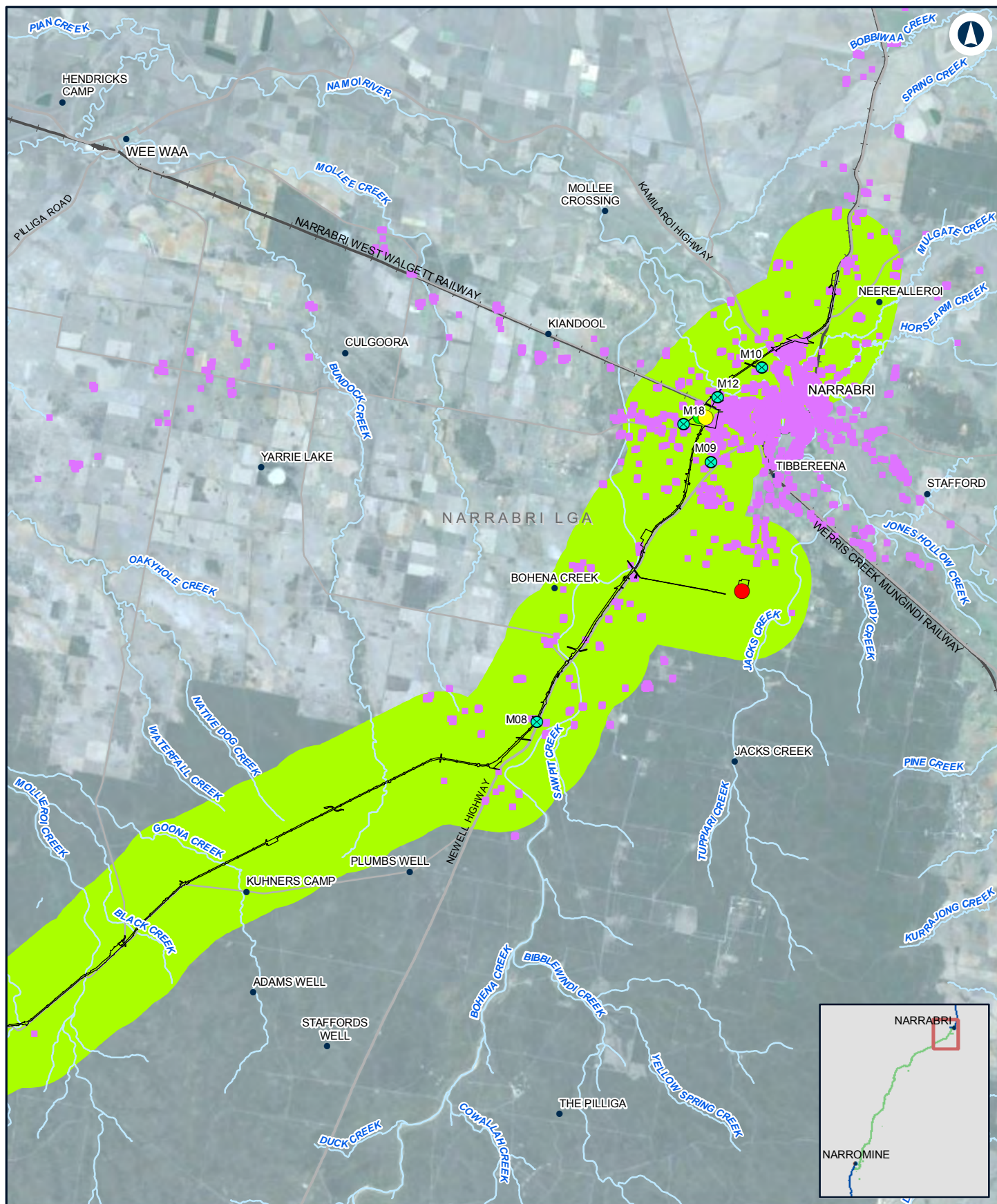
### LEGEND

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- Multi-function compounds
- Temporary workforce accommodation
- Construction footprint

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0 3.5 7 Km

Coordinate System: GDA 1994 MGA Zone 55

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#### LEGEND

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### 3.2.2 Attended noise monitoring

Baseline attended noise measurements were conducted at the above monitoring locations to supplement the unattended noise monitoring data and assist with noise source identification. The attended noise measurements were conducted using the following sound level meters at the time of noise logger deployment or collection:

- Round 1: Svan 977 (serial number: 45751)
- Round 2: Svan 977 (serial number: 45744)
- Round 3: Rion NL-52 (serial number: 131630 / 131632).


All sound level meters used for attended noise measurements are capable of measuring continuous sound pressure levels and are able to record  $L_{A90}$ ,  $L_{A10}$ ,  $L_{Aeq}$  and the maximum sound level recorded during the measurement period ( $L_{Amax}$ ) noise descriptors.

Prior to deployment, the sound level meter was calibrated using a GRAS 42AG Class 1 acoustic calibrator (serial number 278663) with a sound pressure level of 94 dB at one kilohertz. Calibration was checked prior to the commencement and at completion of the measurements. The difference was less than the acceptable tolerance of +/- 0.5 dB.

All instrumentation used during noise measurements comply with the requirements of *AS IEC 61672.1-2019 Electroacoustics - Sound Level Meters – Specifications*, *AS IEC 61672.2-2019*, *AS IEC 61672.3-2019* and carry current NATA or manufacturer calibration certificates which are valid for 2 years. Details of logger calibrations are provided in Table 3.2 to Table 3.7.


All sampling activities were undertaken with consideration to the specifications outlined in *AS 1055.1:1997 Acoustics – Description and measurement of environmental noise* and the *Noise Policy for Industry* (EPA 2017).

**Table 3.2 Unattended noise logger details – M01 – M04**

Noise logger	M01	M02	M03	M04
Location	397 Cragie Lea Lane, Narromine	1115 Eumungerie Road, Narromine	2672 Eumungerie Road, Narromine	253 Nancarrow Road, Gilgandra
Noise catchment area	NCA6 Narromine	NCA5 Gilgandra to Narromine	NCA5 Gilgandra to Narromine	NCA5 Gilgandra to Narromine
Easting (MGA56, metres)	612567	623778	628350	641901
Northing (MGA56, metres)	6426504	6439792	6453406	6492107
Equipment make/model	Svantek SVAN 977	Svantek SVAN 977	Svantek SVAN 977	Svantek SVAN 977
Serial number	36871	36872	36873	36874
Calibration certificate number	SLM 21238 FILT 4108	SLM 21136 FILT 4107	SLM 21139 FILT 4106	SLM 21137 FILT 4109
Date of laboratory calibration	01/08/2017	02/08/2017	01/08/2017	31/07/2017
Measurement started	26/11/2018	27/11/2018	27/11/2018	27/11/2018
Measurement ceased	12/12/2018	12/12/2018	11/12/2018	11/12/2018
Frequency weighting	A	A	A	A
Time response	Fast	Fast	Fast	Fast
Field calibration drift	0	0.2	0.4	0.1
Photographs				




**Table 3.3 Unattended noise logger details – M05 – M08**

Noise logger	M05	M06	M07	M08
Location	260 Berida Road, Gilgandra	4075 National Park Road, Tonderburine	383 Cumberdeen Road, Teridgerie	9833 Newell Highway, Bohena Creek
Noise catchment area	NCA4 Baradine to Gilgandra	NCA4 Baradine to Gilgandra	NCA3 Baradine	NCA2 Narrabri to Baradine
Easting (MGA56, metres)	647302	668147	692017	754902
Northing (MGA56, metres)	6507353	6539965	6583305	6625862
Equipment make/model	Svante SVAN 977	Svante SVAN 977	Svante SVAN 977	Svante SVAN 977
Serial number	45733	45743	36824	36872
Calibration certificate number	SLM 23143 FILT 4749	SLM 23142 FILT 4750	C17096 C17096A	SLM 21136 FILT 4107
Date of laboratory calibration	17/07/2018	17/07/2018	06/03/2017	02/08/2017
Measurement started	27/11/2018	27/11/2018	27/11/2018	19/06/2019
Measurement ceased	11/12/2018	11/12/2018	11/12/2018	03/07/2019
Frequency weighting	A	A	A	A
Time response	Fast	Fast	Fast	Fast
Field calibration drift	-0.1	0.3	-0.1	0.4
Photographs				

**Table 3.4 Unattended noise logger details – M09 – M12**




Noise logger	M09	M10	M11	M12
Location	265 Boundary Street, Narrabri	86 The Island Road, Narrabri	720 Dappo Road, Narramine	168 Yarrie Lake Road, Narrabri
Noise catchment area	NCA1 Narrabri	NCA1 Narrabri	NCA6 Narramine	NCA1 Narrabri
Easting (MGA56, metres)	763219	765655	621499	763533
Northing (MGA56, metres)	6638331	6642830	6429302	6641420
Equipment make/model	Svante SVAN 977	Svante SVAN 977	Svante SVAN 977	Svante SVAN 977
Serial number	36823	45744	59668	36825
Calibration certificate number	C17097 C17097A	SLM 23193 FILT 4758	SLM 21810 FILT 4649	C17094 C17094A
Date of laboratory calibration	07/03/2018	23/07/2018	10/05/2018	08/03/2017
Measurement started	28/11/2018	28/11/2018	26/11/2018	28/11/2018
Measurement ceased	11/12/2018	11/12/2018	12/12/2018	11/12/2018
Frequency weighting	A	A	A	A
Time response	Fast	Fast	Fast	Fast
Field calibration drift	-0.4	0.3	0.1	0
Photographs				

**Table 3.5 Unattended noise logger details – M13 – M16**

Noise logger	M13	M14	M15	M16
Location	397 Cragie Lea Lane, Narromine	602 Eumungerie Road, Narromine	1662 Oxley Highway, Gilgandra	Lot 56/DP 750248
Noise catchment area	NCA6 Narromine	NCA6 Narromine	NCA5 Gilgandra to Narromine	NCA4 Baradine to Gilgandra
Easting (MGA56, metres)	616499	621481	641751	682312
Northing (MGA56, metres)	6426107	6435618	6494936	6580003
Equipment make/model	Svante SVAN 977	Svante SVAN 977	Svante SVAN 977	Svante SVAN 977
Serial number	36820	45748	45733	36874
Calibration certificate number	SLM 24489 FILT 5121	SLM 23220 FILT 4770	SLM 23143 FILT 4749	SLM 21137 FILT 4109
Date of laboratory calibration	15/04/2019	26/07/2018	17/07/2018	31/07/2019
Measurement started	02/07/2019	20/06/2019	20/06/2019	19/06/2019
Measurement ceased	11/07/2019	02/07/2019	02/07/2019	03/07/2019
Frequency weighting	A	A	A	A
Time response	Fast	Fast	Fast	Fast
Field calibration drift	0.1	0.2	0.4	0.3
Photographs				



**Table 3.6 Unattended noise logger details – M17– M19**

Noise logger	M17	M18	M19
Location	1743 Eumungerie Road, Narromine	391 Yarrie Lake Road, Narrabri	Lot 7002/DP 1020881
Noise catchment area	NCA5 Gilgandra to Narromine	NCA1 Narrabri	NCA3 Baradine
Easting (MGA56, metres)	625244	761910	694266
Northing (MGA56, metres)	6445705	6640121	6583965
Equipment make/model	Svante SVAN 977	Svante SVAN 977	Svante SVAN 977
Serial number	45743	36871	45733
Calibration certificate number	SLM 23142 FILT 4750	SLM 24492 FILT 5132	SLM 23143 FILT 4749
Date of laboratory calibration	17/07/2018	15/04/2019	17/07/2018
Measurement started	20/06/2019	19/06/2019	03/07/2019
Measurement ceased	02/07/2019	03/07/2019	11/07/2019
Frequency weighting	A	A	A
Time response	Fast	Fast	Fast
Field calibration drift	0.3	0	0.3
Photographs			

**Table 3.7 Unattended noise logger details – M20 – M21**

Noise logger	M20	M21
Location	2042 Tantitha Road, Narromine	2015 Goorianawa Road, Black Hollow
Noise catchment area	NCA6 Narromine	NCA4 Baradine to Gilgandra
Easting (MGA56, metres)	622486	678238
Northing (MGA56, metres)	6409513	6559612
Equipment make/model	Rion NL-52	Rion NL-52
Serial number	131630	131632
Calibration certificate number	SLM 23533 FILT 7868	Calibration certificate not provided. Manufacturer calibrated in February 2018.
Date of laboratory calibration	23/09/2018	Manufacturer calibrated in February 2018.
Measurement started	19/09/2019	20/09/2019
Measurement ceased	02/10/2019	02/10/2019
Frequency weighting	A	A
Time response	Fast	Fast
Field calibration drift	0.2	-0.1

Photographs



### 3.3 Construction assessment methodology

#### 3.3.1 Methodology overview

The methodology for the construction noise and vibration assessment included:

- The rating background levels (RBL) for the proposal were calculated from the baseline noise monitoring data. The RBLs were used to establish the CNMLs in accordance with the ICNG.
- A list of likely construction activities and machinery were developed based on the constructability requirements for the proposal. The construction activities were used to develop construction scenarios for construction noise modelling. Representative sound power levels for the selected equipment were obtained from the *Construction Noise Strategy* (TfNSW 2017), AS 2436:2010 Guide to noise and vibration control on construction, demolition and maintenance sites and British Standard *BS 5228-1:2009 Code of Practice for noise and vibration control on construction and open sites – Part 1: Noise*.
- Noise modelling was undertaken for the identified construction scenarios and likely equipment that would be operating.
- Vibration from construction plant and equipment was predicted and assessed with consideration to the AVTG, British Standard *BS 6472:1992 Evaluation of human exposure to vibration in buildings (1–80 Hz)* and German Standard *DIN 4150-3: 1999-02 Structural Vibration – Part 3: Effects of vibration on structures*.
- Where noise or vibration levels were predicted to exceed the construction noise management levels or vibration criteria, feasible and reasonable construction noise or vibration mitigation measures are recommended to reduce potential impacts.

The methodology is detailed in the following sections. The approach to the construction noise assessment is detailed in section 3.4.

#### 3.3.2 Construction noise assessment

##### *Construction noise prediction method*

The noise emissions generated by construction activities have been determined using a computer software model Computer Aided Noise Abatement (CadnaA V2020MR1) to predict noise levels at the nearest sensitive receivers.

CadnaA is a computer program for the calculation, assessment and prognosis of noise propagation. CadnaA calculates sound propagation according to *ISO 9613-2:1996, Acoustics – Attenuation of sound during propagation outdoors*. The ISO 9613-2 algorithm also takes into account the presence of a well-developed moderate ground based temperature inversion, such as commonly occurs on clear, calm nights or ‘downwind’ conditions which are favourable to sound propagation.

Ground absorption, reflection, terrain and relevant shielding objects are taken into account in the calculations.

##### *Construction noise model configuration*

The noise model inputs and assumptions for the construction assessment are provided in Table 3.8.

**Table 3.8 Construction noise modelling assumptions**

Modelling component	Assumption
Prediction algorithm	ISO 9613 – 2 Acoustics – Attenuation of sound during propagation outdoors
Modelling period	Typical worst-case 15 minute period of operation where the two loudest items of equipment are running at full power
Meteorology	ISO 9613 considers the presence of a well-developed moderate ground based temperature inversion, such as commonly occurs on clear, calm nights or ‘downwind’ conditions which are favourable to sound propagation
Ground absorption coefficient	G = 0.5 for rural areas
Atmospheric absorption	Based on an average temperature of 10°C and an average humidity of 70%
Receiver heights	1.5 m above building ground level (ground floor)
Operating intensity	Construction scenario sound power levels have been adopted

The exact details of the construction methodology, plant or equipment for the proposal, such as the intensity of works, sound power levels or operating duration are not yet known therefore this assessment is based on a variety of conservative assumptions. This information would be refined during detailed design and construction planning. The magnitude of the noise levels associated with construction activities would be dependent upon a number of factors:

- the intensity and location of construction activities
- the type of equipment used
- existing local noise sources
- intervening terrain
- the prevailing weather conditions.

### 3.3.3 Construction vibration assessment

Energy from equipment is transmitted into the ground and transformed into vibration, which attenuates with distance. The magnitude and attenuation of ground vibration is dependent on the following:

- the efficiency of the energy transfer mechanism of the equipment (ie impulsive, reciprocating, rolling or rotating equipment)
- the frequency content
- the impact medium stiffness
- the type of wave (surface or body)
- the ground type and topography.

The construction vibration assessment is based on methods and information presented in:

- *Environmental Noise Management Manual* (Roads and Traffic Authority 2001)
- British Standard *BS 5228-2:2009 Code of practice for noise and vibration on construction and open sites – Part 2: Vibration*

- British Standard *BS 6472:1992 Evaluation of human exposure to vibration in buildings (1–80 Hz)*
- *NSW Construction Noise and Vibration Management Framework* (ARTC 2017a)
- AVTG (DEC 2006).

The assessment of vibration levels from intermittent construction sources is described in AVTG, which is based on BS 6472:1992. The assessment evaluates vibration dose value, which incorporates the magnitude of vibration and the length of time the source of the vibration operates. For construction, the vibration impact on a receiver can be predicted and compared to the AVTG vibration dose value criteria at various receiver types for day and night periods.

BS 6472:1992 provides a method to calculate the estimated vibration dose value using root-mean-square (r.m.s.) vibration velocity. The estimated vibration dose value (eVDV) is calculated as:

$$\text{eVDV} = 0.07 \times V_{\text{rms}} \times t^{0.25} \text{ (m/s}^{1.75}\text{)}$$

Where  $t$  = duration of the event.

The eVDV from construction equipment has been estimated, with assumptions discussed in this section.

With regards to frequency the AVTG states the following:

*‘Over the frequency range of 8 to 80 Hz, z-axis velocity requires no frequency weighting in order to determine annoyance or disturbance response (no weighting over frequency range 2–80 Hz for x- and y-axis vibration). At frequencies below 8 Hz, the use of unweighted velocity is more strict than the requirements of BS 6472.’*

Furthermore, to estimate r.m.s. vibration velocity from available PPV values for given plant items, a sinusoidal waveform has been assumed. This PPV is also based on the conservative propagation relationship of  $d^{-0.8}$  with typical ranges for this value being  $d^{-0.8}$  to  $d^{-1.6}$ . Considering these assumptions, the assessment of human comfort vibration impacts using eVDV calculated from velocity is conservative in nature.

An additional assumption of operating time of vibration generating equipment is required to calculate the eVDV. The construction methodology is not known to this level of detail at this stage. The linear nature of the works would typically result in intermittent vibration levels at any given location as equipment moves along the alignment (eg a vibratory roller passing up and down a section of the works). Therefore, a cumulative duration of one hour for a given plant item during the 15-hour day period has been assumed. The same proportion of time has been assumed for the night period (1/15th of the 1-hour period 6am – 7am). The 15-hour day period is as per that provided in the AVTG, where daytime is defined as 7am to 10pm and night time is defined as 10pm to 7am.

The exact details of the construction methodology for the proposal, such as the operating duration of vibration generating equipment, are not yet known. This information would be determined during detailed design and construction planning. As a result, estimating the vibration dose values from construction sources requires a broad range of assumptions described above. AVTG notes that velocity values can be used as a screening method. In addition, velocity values are widely available for typical construction equipment, and are more likely to be routinely measured in relation to potential building damage. Therefore, peak particle velocity is presented alongside VDV as a screening method to assess human comfort impacts from construction vibration, with consideration given to the guidance in BS 5228-2.2009, which provides level categories that relate to human perception of vibration.

### 3.3.4 Construction ground-borne noise assessment

Ground-borne noise travels to a structure via the ground as vibration. The vibration predictions described in section 3.3.3 therefore provide a basis for the prediction of ground-borne noise. Additional corrections are applied to the predicted vibration levels to account for the transmission from ground to structure and then the radiation of that vibration as noise from the internal surfaces of a habitable room. The specific parameters are unknown for any individual dwelling, therefore a conservative assessment is undertaken with the following assumptions:

- A median ground propagation constant has been assumed.
- No coupling loss has been applied between the ground and the receiving structure.
- No attenuation or amplification at floors above ground level.
- A crest-factor of 4 is assumed when converting from PPV to vibration  $V_{rms}$ .
- A conversion factor of -32 dB has been assumed between vibration level expressed in  $V_{dB}$  (re  $1 \times 10^{-6}$  mm/s) and airborne noise expressed in dB. This is based on guidance provided in *Measurement and Assessment of Groundborne Noise and Vibration* (Acoustics and Noise Consultants 2012).
- Vibration energy from construction is expected to be predominantly less than 125 Hz frequency. A correction of -26 dB has been applied for conversion to A-weighted noise levels.
- A time correction factor has been applied which assumes activities generate vibration for 50 per cent of the time during a 15-minute period.

### 3.3.5 Construction blasting assessment

The methodology for the construction blasting assessment included:

- determine airblast overpressure and ground vibration blasting criteria
- undertake a screening assessment to identify all sensitive receivers located within a buffer distance based on the blast charge used
- identify appropriate blast noise and vibration mitigation measures to reduce potential impacts where the criteria is exceeded.

### 3.3.6 Construction traffic assessment

A screening assessment has been undertaken for the construction traffic assessment. The screening assessment is based on the RNP which states “*any increase in the total noise level should be limited to 2 dB above that of the corresponding ‘without construction’ scenario*”.

Road traffic noise modelling has been undertaken where construction traffic increases the existing traffic volumes by over 58 per cent (this corresponds to an approximate 2 dB increase in noise levels). Modelling has been undertaken using SoundPlan Version 8.2 using the algorithm defined in the *Calculation of Road Traffic Noise* (Department of Transport, Welsh Office 1988).

Potential impacts have been identified using the following methodology:

- identify the construction traffic routes and their road classifications
- determine the existing and future total traffic volumes along each route



- undertake a screening assessment by calculating the increase in traffic between the existing and future scenarios
- where the increase in traffic volume is above 58 per cent, undertake noise modelling and assess towards the RNP road traffic noise criteria.

The noise model inputs and assumptions for the construction traffic assessment are provided in Table 3.9. The traffic data used for this assessment is based on the traffic assessment undertaken for the proposal in *ARTC Inland Rail Narromine to Narrabri Traffic and Transport Assessment* (JacobsGHD, 2020b).

**Table 3.9 Construction traffic modelling assumptions**

Modelling component	Assumption
Software	SoundPlan Version 8.2
Prediction algorithm	Department of Transport, Welsh Office Calculation of Road Traffic Noise (CoRTN) (UK) adjusted for NSW conditions
Traffic speeds	Sign-posted speeds
Façade correction	+2.5 dB(A)
CoRTN conversion	-3 dB(A) for conversion between $L_{A10}(1 \text{ hour})$ and $L_{Aeq}(1 \text{ hour})$ levels
Source height and correction	Cars 0.5 m, +0 dB(A) correction Truck engines 1.5 m, -0.6 dB(A) correction Truck exhausts 3.6 m, -8.6 dB(A) correction

## 3.4 Construction assessment approach

### 3.4.1 Construction methodology

#### *Construction approach*

Construction of the proposal would commence once all necessary approvals are obtained, and the detailed design is complete. It is anticipated that construction of the proposal would take about 48 months (weather dependent due to the accessibility impacts to the proposal site after rain events).

The construction methodology, sequencing and durations presented in this report is based on the current design and would continue to be refined during detailed design, as the final procurement strategy is defined and through continuing engagement with relevant stakeholders. A final construction methodology and program would be developed by the construction contractor. However, the construction strategy is based on an approach of dividing the overall alignment into four construction areas, with each construction area made up of a number of work fronts. The construction areas are:

- Narromine – the southern end of the proposal site to Leeches Creek Road.
- Gilgandra – Leeches Creek Road to Black Hollow.
- Baradine – Black Hollow to Pilliga East State Forest.
- Narrabri – Pilliga East State Forest to the northern end of the proposal site.

Construction work in each area would indicatively involve the following:

- Pre-construction – establishment of storage areas (including environmental and safety controls) within compounds and commencement of delivery of rail and sleepers.
- Site establishment and preliminary activities – establishment of compounds, temporary workforce accommodation, borrow pits and water infrastructure (eg sedimentation dams and bores). Preliminary activities would include activities such as vegetation clearing and grubbing, installation of environmental and safety controls and construction of haul roads.
- Main construction works – including rail infrastructure (eg crossing loops, turnouts, bridges and culverts) and road infrastructure (ie changes to the local road network).
- Testing and commissioning.
- Finishing and rehabilitation.

To facilitate construction of the proposal, each construction area would contain a range of construction features including borrow pits located on private land, multi-function construction compounds, general construction compounds, laydown and storage areas, temporary workforce accommodation, concrete batching plants, welding yards and a concrete precast yard.

Construction activities would be carried out within the construction footprint which includes all areas that would be directly disturbed by construction of the proposal.

Section 3.4.2 summarises the construction scenarios used in this assessment including representative noise levels based on the anticipated plant and equipment.

### ***Construction timing and duration***

#### **Construction program**

It is anticipated that overall construction would take about 48 months, subject to weather conditions.

#### **Primary proposal construction hours**

Construction is proposed to be undertaken outside the ICNG recommended standard hours in order to enable the proposal to be constructed in a shorter period. This would minimise disruptions to the community as a result of the long construction duration. It is estimated that the primary proposal construction hours would reduce the overall construction program by up to six months (to 48 months).

Construction of the proposal is proposed to be undertaken during the primary proposal construction hours as follows:

- Monday to Friday: 6am to 6pm
- Saturday: 6am to 6pm
- Sundays: 6am to 6pm
- Public holidays: no work.

Recommended standard hours for construction (other than blasting) are presented graphically in Figure 3.3 and for the primary proposal construction hours, in Figure 3.4.

Blasting would only be undertaken during the recommended standard hours for blasting provided in the ICNG as follows:

- Monday to Friday: 9am to 5pm
- Saturday: 9am to 1pm
- Sundays and public holidays: no work.

ARTC undertook consultation with 118 directly affected landholders regarding the proposed working hours with about half indicating they would support the primary proposal construction hours.

Standard Construction Hours																									
	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	
Monday																									
Tuesday																									
Wednesday	OOHW							Standard Construction Hours											OOHW			OOHW			
Thursday	Period 2																		Period 1			Period 2			
Friday																									
Saturday																									
Sunday and Public Holidays									OOHW Period 1																
Note: timestamp at start of period																									

**Figure 3.3 Recommended standard hours (ICNG)**

Proposed Project Construction Hours																								
	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
Monday																								
Tuesday																								
Wednesday																								
Thursday																								
Friday																								
Saturday																								
Sunday and Public Holidays																								
Note: timestamp at start of period																								

**Figure 3.4 Primary proposal construction hours**

In order to minimise impacts on, and provide respite for the community where construction activities outside the recommended standard hours affect a sensitive receiver, no work would be undertaken every alternate week between the hours of 1pm on Saturday and 7am on Monday excepting:

- where a negotiated agreement is in force with the affected receivers; or
- where construction noise levels cause:
  - $L_{Aeq(15 \text{ minute})}$  noise levels no more than 5 dB(A) above the rating background level at the facade of any residence or
  - if between the hours of 10:00 pm and 7:00 am,  $L_{Amax}$  noise levels are no more than 52 dB(A)  $L_{Amax}$  or more than 15 dB(A) above the rating background level, whichever is the higher or
  - $L_{Aeq(15 \text{ minute})}$  noise levels of no more than the noise management levels specified in Table 2.4 at other sensitive land uses
- or for other circumstances outlined below.

## **Works outside the primary proposal construction hours**

Discrete construction activities would also be undertaken outside the primary proposal construction hours as described below. All work undertaken outside of the recommended standard hours would be in accordance with the Inland Rail *NSW Construction Noise and Vibration Management Framework* (ARTC 2017a) and in accordance with an out of hours work (OOHW) protocol that would be prepared as part of the construction environmental management plan.

### **Work during rail corridor possessions**

Some works associated with connections/interactions with existing rail lines may be carried out during scheduled rail corridor possession periods (that is, the times that the movement of trains along the rail corridor are stopped for maintenance). This could include, for example, the connection of the tracks at either end, abutment / pier works, girder installation, concrete deck installation and some finishing works. Rail corridor possessions are typically for a 72-hour period, four times a year. During possessions, works may need to be carried out on a 24 hour basis.

The proposal intersects with the following existing rail lines:

- Parkes to Narromine Line
- Dubbo to Narromine Line
- Narromine to Cobar Line
- Dubbo to Coonamble Line
- Narrabri to Walgett Line
- Narrabri to North Star Line.

Construction noise assessment scenario, Rail10 – Track Connections, considers the impacts of rail works at these locations.

### **Other out of hours construction activities**

The following construction activities are also proposed to be undertaken outside the primary proposal construction hours:

- Delivery of oversized plant or structures where required by the police or other authorities for safety reasons.
- Emergency work to avoid the loss of life or damage to property, or to prevent environmental harm.
- Large concrete pours at Macquarie River, Castlereagh River and Narrabri Creek/ Namoi River bridges to allow it to be completed in one pour and avoid high temperatures during the daytime.
- Girder / bridge deck installation at bridges over the following public roads, to minimise impacts to road users and workers:
  - Webb's Siding Road
  - Mitchell Highway
  - Old Mill Road
  - Kickabil Road
  - Cains Crossing Road
  - Yarrie Lake Road

- The Island Road
- Kamilaroi Highway.

The above works are not expected to exceed 48 hours at any one location.

Construction noise assessment scenario, RAIL07 – Bridges (night work), considers the impacts of these activities and locations including support from the nearest structure compound to each bridge site.

### **3.4.2 Construction noise scenarios**

Construction of the proposal will be a large and complex task involving many interrelated activities across a wide area. The construction noise and vibration assessment has therefore been divided into the three key areas to allow for detailed assessment of impacts and identification of appropriate noise and vibration mitigation measures. These key areas are:

- rail infrastructure including preliminary activities, preparation of the construction footprint, clearing, earthworks, track construction, bridges, culverts and drainage
- road infrastructure including additions and changes to the road network
- construction infrastructure that supports construction of the proposal including compounds, temporary accommodation facilities and borrow pits.

The anticipated construction scenarios for the purposes of the noise and vibration assessment are described in the following sections.

#### ***Rail, road and construction infrastructure noise scenarios***

Noise emissions from construction activities have been assessed at identified sensitive receivers in the study area during the primary proposal construction hours and outside the primary proposal construction hours. A quantitative assessment has been carried out with consideration to the ICNG.

Plant and equipment to be used to construct the proposal would be confirmed by the construction contractor once appointed. For this assessment, the plant and equipment have been selected using professional judgement and known examples. Construction equipment will move about the proposal site and will operate at maximum power for only brief periods. At other times, noise levels will be reduced as the machinery may not require full power or will operate in a different location. It is highly unlikely that all assumed construction equipment would be operating at maximum power simultaneously. However, the two loudest construction plant are assumed to operate concurrently and used to predict the expected construction noise levels. A number of these assumptions therefore provide a degree of conservatism in the predicted results.

The predicted construction sound power levels are shown in Table 3.10, Table 3.11 and Table 3.12 for the construction scenarios identified for construction of rail infrastructure, road infrastructure and construction infrastructure respectively. Levels are based on the plant and equipment expected to be used for each construction scenario.

Estimated durations of impact have been provided throughout section 5 for assessed construction scenarios. For linear works these are based on the distance length of a work segment, an anticipated rate of progress, the activity construction duration and the source to receiver impact distance approximation over flat terrain for the given activity.

**Table 3.10 Construction activities and corresponding equipment – rail infrastructure**

Modelling scenario	Description	General tasks	Location	Work hours	Adopted activity sound power level, LW dB(A)
RAIL01	Site establishment	Install bores, haul routes, environmental controls, clearing vegetation and grubbing	Preliminary activities in construction footprint	Primary proposal construction hours	118
RAIL02	Utility relocations	Utility relocations	Utilities	Primary proposal construction hours	115
RAIL03	Stripping topsoil	Stripping topsoil	Earthworks preparation including any potential activities within the entire construction footprint	Primary proposal construction hours	120
RAIL04	Main earthworks	Bulk earthworks including capping placement	Earthworks - cuts, fills and spoil removal, rail earthworks extent	Primary proposal construction hours	120
RAIL05	Bridges and culverts	Culverts and bridges (non-piling)	Culvert and bridge locations	Primary proposal construction hours	116
RAIL06	Bridges (piling)	Bridges - piling	Bridge locations	Primary proposal construction hours	126
RAIL07	Bridges (night work)	Bridges - night works (large concrete pour or crane in girders)	Webbs Siding Road Mitchell Highway Old Mill Road Kickabil Road Cains Crossing Road Yarrie Lake Road The Island Road Kamilaroi Highway	Primary proposal construction hours Rail corridor possessions	116
RAIL08	Level crossings	Install road level crossings	Road level crossings	Primary proposal construction hours	115



Modelling scenario	Description	General tasks	Location	Work hours	Adopted activity sound power level, LW dB(A)
RAIL09	Track construction	Track construction including main line and crossing loops, maintenance sidings, installation of infrastructure including ballast, sleepers and rail. Includes rail tamping, regulating and grinding.	Track alignment	Primary proposal construction hours	119
RAIL10	Track connections	Connections to existing track including junctions	Parkes to Narromine Line Dubbo to Narromine Line Narromine to Cobar Line Dubbo to Coonamble Line Narrabri to Walgett Line Narrabri to North Star Line.	Primary proposal construction hours Rail corridor possessions	115
RAIL11	Landscaping	Landscaping, topsoil and seeding	Construction footprint	Primary proposal construction hours	120
RAIL12	Decommissioning	Finishing works and decommissioning	Construction footprint	Primary proposal construction hours	113

**Table 3.11 Construction activities and corresponding equipment – road infrastructure**

Modelling scenario	Description	General tasks	Location	Work hours	Adopted activity sound power level, LW dB(A)
ROAD01	Site establishment	Install environmental controls, clearing vegetation and grubbing	Road works extents	Primary proposal construction hours	118
ROAD02	Stripping topsoil	Removing topsoil from the construction footprint	Road works extents	Primary proposal construction hours	120
ROAD03	Main earthworks	Bulk earthworks including road formation	Road works extents	Primary proposal construction hours	120
ROAD04	Drainage	Drainage	Road works extents	Primary proposal construction hours	118
ROAD05	Road pavement	Road paving works	Road works extents	Primary proposal construction hours	115
ROAD06	Road furniture	Road furniture installation	Road works extents	Primary proposal construction hours	116
ROAD07	Landscaping	Landscaping, topsoil and seeding	Road works extents	Primary proposal construction hours	120
ROAD08	Decommissioning	Finishing works and decommissioning	Road works extents	Primary proposal construction hours	113

**Table 3.12 Construction activities and corresponding equipment – construction infrastructure**

Modelling scenario	Description	General tasks	Location	Work hours	Adopted activity sound power level, LW dB(A)
INFR01	(Pre-construction) multi-function compound (MFC) establishment	Site establishment - MFC only	Multi-function compounds	Primary proposal construction hours	118
INFR02	(Pre-construction) rail and sleeper deliveries	Rail and sleeper deliveries	Multi-function compounds	Primary proposal construction hours	113
INFR03	Camp operation (temporary workforce accommodation)	Camp operation	Narromine South Narromine North Gilgandra Baradine Narrabri West	Primary proposal construction hours Rail corridor possessions Other out of hours construction activities (bridge works)	108
INFR04	Minor compounds	Minor compounds operation	Minor compounds	Primary proposal construction hours	113
INFR05	Structure compounds	Structure compound operation	Structure compound operation	Primary proposal construction hours Other out of hours construction activities (bridge works)	113
INFR06	General compounds	General compound operation	General compounds	Primary proposal construction hours	113
INFR07	MFC operation	MFC operation	Multi-function compounds	Primary proposal construction hours	113
INFR08	Curban concrete precast yard	Curban concrete precast yard operation	MFC at Curban	Primary proposal construction hours	115

Modelling scenario	Description	General tasks	Location	Work hours	Adopted activity sound power level, LW dB(A)
INFR09	Fixed batching plants	Fixed batching plant operation	General, structure and major compounds	Primary proposal construction hours	115
INFR10	Mobile batching plants	Mobile batching plant operations	General, structure and major compounds	Primary proposal construction hours	115
INFR11	Borrow pit A	Borrow pit A operation	Borrow pit A	Outside ICNG standard hours	112
	Borrow pit B	Borrow pit B operation	Borrow pit B		
	Borrow pit C	Borrow pit C operation	Borrow pit C		
	Borrow pit D	Borrow pit D operation	Borrow pit D		
INFR12	Borrow pit A	Borrow pit A operation	Borrow pit A	ICNG standard hours	124
	Borrow pit B	Borrow pit B operation	Borrow pit B		
	Borrow pit C	Borrow pit C operation	Borrow pit C		
	Borrow pit D	Borrow pit D operation	Borrow pit D		
INFR13	Camp establishment (temporary workforce accommodation)	Camp establishment	Narromine South Narromine North Gilgandra Baradine Narrabri West	Primary proposal construction hours	118

### Cumulative proposal noise scenarios

There is potential for some construction activities associated with the proposal to be undertaken concurrently, however due to the conservative nature of the assessment methodology and separation distance between discrete construction elements, it is considered that the assessed scenarios typically represent a likely worst-case including cumulative impacts from construction scenarios should they be conducted concurrently.

However, some construction activities that may occur concurrently are presented in Table 3.13.

**Table 3.13 Cumulative construction scenarios**

Cumulative scenario	Scenario A	Scenario B	Scenario C
CL01	RAIL03 - Rail earthworks	RAIL06 - Bridges (piling)	Construction infrastructure (compounds, temporary accommodation facilities, borrow pits)
CL02	RAIL03 - Rail earthworks	ROAD03 - Road earthworks	Construction infrastructure (compounds, accommodation facilities, borrow pits)

These cumulative scenarios assume that the two loudest pieces of construction equipment in each sub scenario could potentially operate concurrently. In reality this is unlikely to be the case, because the majority of the activities would occur sequentially rather than concurrently. Additionally, there are very few locations along the proposal site where all the proposed infrastructure is located close to each other, as well as close to a sensitive receiver. These cumulative impact assessment scenarios are therefore representative of anticipated worst-case conditions. Cumulative construction noise impacts may also occur where a separate nearby project's construction timing coincides with the construction of the proposal or where consecutive impacts occur, potentially extending the total duration of construction noise impact on any noise sensitive receiver. An assessment is provided in section 8 that addresses potential cumulative impacts associated with other proposed projects near to the proposal.

## 3.5 Operational assessment methodology

### 3.5.1 Other operations noise and vibration assessment methodology

The methodology for the other operations noise and vibration assessment included:

- review the EPL 3142 conditions relating to maintenance operations
- identify other operational noise and vibration activities
- locate the receivers nearest each maintenance sidings.

### 3.5.2 Operational road traffic noise assessment methodology

#### Operational road traffic noise assessment methodology

The methodology for the operational road traffic noise assessment included:

- The noise study area was established in accordance with the *Noise Criteria Guideline* (Roads and Maritime Services 2015a).
- Road classification changes were assessed for existing side roads.
- Substantially realigned roads were identified.

- Determine whether transition zones are required to be established between new and redeveloped road segments and roads with different functional classes.
- A traffic noise model was prepared to predict the existing and future levels of road traffic noise.
- These models were used to assess the potential noise impact against the noise criteria and assess any increase in road traffic noise at sensitive receivers.

The traffic data used for this assessment is based on the traffic assessment undertaken for the proposal in *ARTC Inland Rail Narromine to Narrabri Traffic and Transport Assessment* (JacobsGHD, 2020b).

### **Operational road traffic noise model configuration**

Details of the noise model inputs and assumptions for the operational road traffic noise assessment are provided in Table 3.14.

**Table 3.14 Road traffic noise model inputs and assumptions**

Inputs/assumptions	Data incorporated into noise model
Noise model	SoundPlan Version 8.2
Prediction algorithm	United Kingdom Department of Transport, Calculation of Road Traffic Noise (CoRTN) adapted for NSW conditions
Future traffic speeds	Sign-posted speeds
Traffic volumes	Provided in section 7.4
Low traffic flow	Disabled
Road gradient	Taken into account based on the road design
Terrain resolution	1 m
Grid contour spacing	20 m
Buildings	4.5 m – single storey buildings 7.5 m – double storey buildings
Road surface adjustments	Dense graded asphalt (DGA) – 0 dB(A)
Façade correction	+2.5 dB(A) to account for noise reflected from the façade.
CoRTN conversion factors	CoRTN predicts $L_{A10(1hr)}$ noise levels which is converted to the $L_{Aeq(1hr)}$ descriptor with a -3 dB(A) correction factor
CoRTN factor (Australian Road Research Board)	-1.7 façade -0.7 freefield
Source height	Cars - 0.5 m Truck engines - 1.5 m, include -0.6 dB(A) source correction Truck exhausts - 3.6 m, includes -8.6 dB(A) source correction
Receiver heights	1.5 m above terrain level for ground floor 4.5 m above terrain level for first floor
Ground absorption	G = 0.5 for rural areas



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## 4. Existing environment

### 4.1 Baseline monitoring

#### 4.1.1 Ambient noise monitoring results

##### *Unattended monitoring*

A summary of the calculated rating background level (RBL)  $L_{A90(\text{period})}$  and  $L_{Aeq(\text{period})}$  noise monitoring results are shown in Table 4.1. The RBL represents the existing background noise environment in the area of the proposal. Detailed noise monitoring charts are provided in Appendix B.

##### *Attended monitoring*

A summary of the attended noise monitoring results is given in Table 4.2.

**Table 4.1 Summary of measured noise levels, dB(A)<sup>1,2</sup>**

Location	Noise catchment area	L <sub>A90</sub> RBL noise levels			L <sub>Aeq</sub> ambient noise levels		
		Day <sup>2</sup>	Evening <sup>2</sup>	Night <sup>2</sup>	Day <sup>2</sup>	Evening <sup>2</sup>	Night <sup>2</sup>
M01	NCA6 Narromine	32	37	34	52	55	50
M02	NCA5 Gilgandra to Narromine	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	50	50	48
M03	NCA5 Gilgandra to Narromine	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	53	49	50
M04	NCA5 Gilgandra to Narromine	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	50	49	45
M05	NCA4 Baradine to Gilgandra	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	52	50	54
M06	NCA4 Baradine to Gilgandra	31	30 <sup>1</sup>	30 <sup>1</sup>	50	46	41
M07	NCA3 Baradine	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	50	45	45
M08	NCA2 Narrabri to Baradine	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	60	60	57
M09	NCA1 Narrabri	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	47	48	46
M10	NCA1 Narrabri	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	49	48	42
M11	NCA6 Narromine	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	45	43	42
M12	NCA1 Narrabri	31	34	32	61	58	54
M13	NCA6 Narromine	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	53	50	48
M14	NCA6 Narromine	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	62	60	56
M15	NCA5 Gilgandra to Narromine	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	53	49	44
M16	NCA4 Baradine to Gilgandra	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	55	49	45
M17	NCA5 Gilgandra to Narromine	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	59	57	53
M18	NCA1 Narrabri	30	30 <sup>1</sup>	30 <sup>1</sup>	58	53	51
M19	NCA3 Baradine	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	57	52	47

<sup>1</sup> The INP (EPA 2000) states that where the RBL is less than 30 dB(A), then it is set to 30 dB(A). The INP also states that the evening RBL should not be higher than the day time RBL, and that the night time RBL should not be higher than the evening RBL.

<sup>2</sup> The INP (EPA 2000) defines day as the period from 7:00 am to 6:00 pm Monday to Saturday; or 8:00 am to 6:00 pm on Sundays and Public Holidays. Evening is defined as the period from 6:00 pm to 10:00 pm. Night time is defined as the remaining period.

Location	Noise catchment area	L <sub>A90</sub> RBL noise levels			L <sub>Aeq</sub> ambient noise levels		
		Day <sup>2</sup>	Evening <sup>2</sup>	Night <sup>2</sup>	Day <sup>2</sup>	Evening <sup>2</sup>	Night <sup>2</sup>
M20	NCA6 Narromine	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	49	41	45
M21	NCA4 Baradine to Gilgandra	30 <sup>1</sup>	30 <sup>1</sup>	30 <sup>1</sup>	56	47	43

**Table 4.2 Attended monitoring results**

Location and date	Measurement time		Measured noise levels dB(A)			Observations
	Start	Stop	L90	L10	L <sub>Aeq</sub>	
M01 26/11/2018	16.13	16.28	30	42	40	Bird and insect noise throughout measurements Rustling grass and wind through trees Distance road traffic noise
	16.28	16.43	31	43	41	Observations same as first measurement
M02 27/11/2018	08:40	08:55	31	49	57	Intermittent bird noise and road traffic noise throughout measurement Slight breeze throughout measurement
	09:23	09:38	31	55	50	Intermittent bird noise and road traffic noise throughout measurement Calm conditions during measurement
M03 27/11/2018	10:05	10:20	36	52	49	Farm animal noise constant throughout measurements Distant road traffic noise audible Still conditions during measurement
	10:20	10:35	33	50	48	Observations same as first measurement
M04 27/11/2018	11:48	12:03	34	53	48	Slight drizzle during measurements – no contribution to noise level Bird and insect noise dominant throughout Occasional gust throughout measurement
	12:03	12:18	35	50	45	Observations same as first measurement
M05 27/11/2018	14:33	14:48	31	44	42	Bird and insect noise intermittent throughout measurement
	14:48	15:03	31	42	40	Observations same as first measurement

Location and date	Measurement time		Measured noise levels dB(A)			Observations
	Start	Stop	L90	L10	LAeq	
M06 27/11/2018	15:48	16:02	33	45	41	Bird noise intermittent throughout measurement Slight breeze throughout, occasional gust
	16:02	16:17	35	42	40	Observations same as first measurement Plane passby audible – no contribution to observed noise level
M07 27/11/2018	17:38	17:53	28	37	35	Bird and insect noise throughout measurement Slight breeze intermittent
	17:53	18:08	28	37	34	Observations same as first measurement Farm animal sounds constant throughout second half of measurement
M08 28/11/2018	09:46	10:01	45	64	60	Road traffic noise intermittent throughout measurement Dogs barking in background Occasional gust
	10:01	10:16	48	62	60	Observations same as previous measurement
	10:28	10:43	10	65	61	Road traffic noise intermittent throughout measurement Slight breeze Bird noise intermittent
M09 28/11/2018	10:42	10:57	48	60	57	Bird and insect noise constant throughout measurements Low to medium winds throughout measurement
	10:57	11:12	49	59	56	Observations same as previous measurement
M10 29/11/2018	09:08	09:23	33	43	44	Bird and insect noise constant throughout measurements Distant road traffic noise audible – no contribution to level Occasional breeze
	09:23	09:38	35	46	48	Observations same as previous measurement
M11 26/11/2018	17:18	17:33	30	39	36	Intermittent bird noise Occasional breeze
	17:33	17:48	30	38	35	Observations same as previous measurement
M12 11/12/2018	08:39	08:54	36	63	61	Road traffic noise on local road dominant – intermittent throughout Occasional bird and insect noise Generally calm conditions with occasional breeze
	08:54	09:09	36	65	61	Observations same as previous measurement

Location and date	Measurement time		Measured noise levels dB(A)			Observations
	Start	Stop	L90	L10	LAeq	
M13 20/06/2019	13:42	13:57	31	56	56	Road traffic noise dominant Still conditions Intermittent bird noise
M14 20/06/2019	13:07	13:22	24	47	60	Road traffic noise dominant Still conditions Plane pass-by audible
M15 20/06/2019	12:34	12:49	24	50	65	Road traffic noise dominant Still conditions Intermittent bird noise
M16 20/06/2019	10:48	11:03	< 20	52	62	Road traffic noise dominant Still conditions
M17 19/06/2019	14:44	14:59	34	51	60	Road traffic noise dominant Slight breeze on occasion
M18 19/06/2019	13:07	13:22	27	42	55	Road traffic noise dominant Slight breeze on occasion Intermittent bird noise
M19 19/06/2019	9:27	9:42	29	58	62	Road traffic noise dominant Slight breeze on occasion
M20 19/09/2019	10.30	10.45	23	44	50	Intermittent breeze Natural noise sources dominant – birds, insects
M21 20/09/2019	10.30	10.45	47	59	55	Strong breeze throughout the measurement Intermittent bird and insect noise – not audible during gusts



## 4.2 Identification of sensitive receivers

### 4.2.1 Sensitive receivers

Within the study area, sensitive residential receivers include dwellings located within towns such as Narromine, Gilgandra, Baradine and Narrabri, or are scattered across large areas between the towns. Noise sensitive receiver locations were identified using aerial imagery and geospatial information within a three kilometre buffer from the construction footprint.

A total of 6,366 sensitive receivers were identified in the study area as follows:

- 5,472 residential receivers
- 894 non-residential noise receivers including 27 places of worship, 28 educational facilities, 12 health facilities, 53 community facilities, five childcare centres, 47 active and 35 passive recreation areas and 687 commercial and industrial receivers.

The receivers within the study area are presented in Figure 3.2. The sensitive receivers used in this assessment differ slightly to those used in *ARTC Inland Rail Narromine to Narrabri Noise and Vibration Assessment – Operational Rail* (SLR, 2020).

Sensitive receivers subject to predicted noise impacts are individually identified in Appendix C, Appendix D and Appendix E and presented on aerial maps in Appendix F.

Sensitive receivers subject to human comfort vibration impacts are presented in section 5.3.3 and presented on aerial maps with vibration buffers in Appendix L and Appendix M.

Sensitive receivers subject to structural vibration impacts are presented in section 5.3.2 and presented on aerial maps with vibration buffers in Appendix N.

A number of commercial and industrial facilities are also located adjacent to the rail corridor and are subject to assessment for construction noise and vibration only.

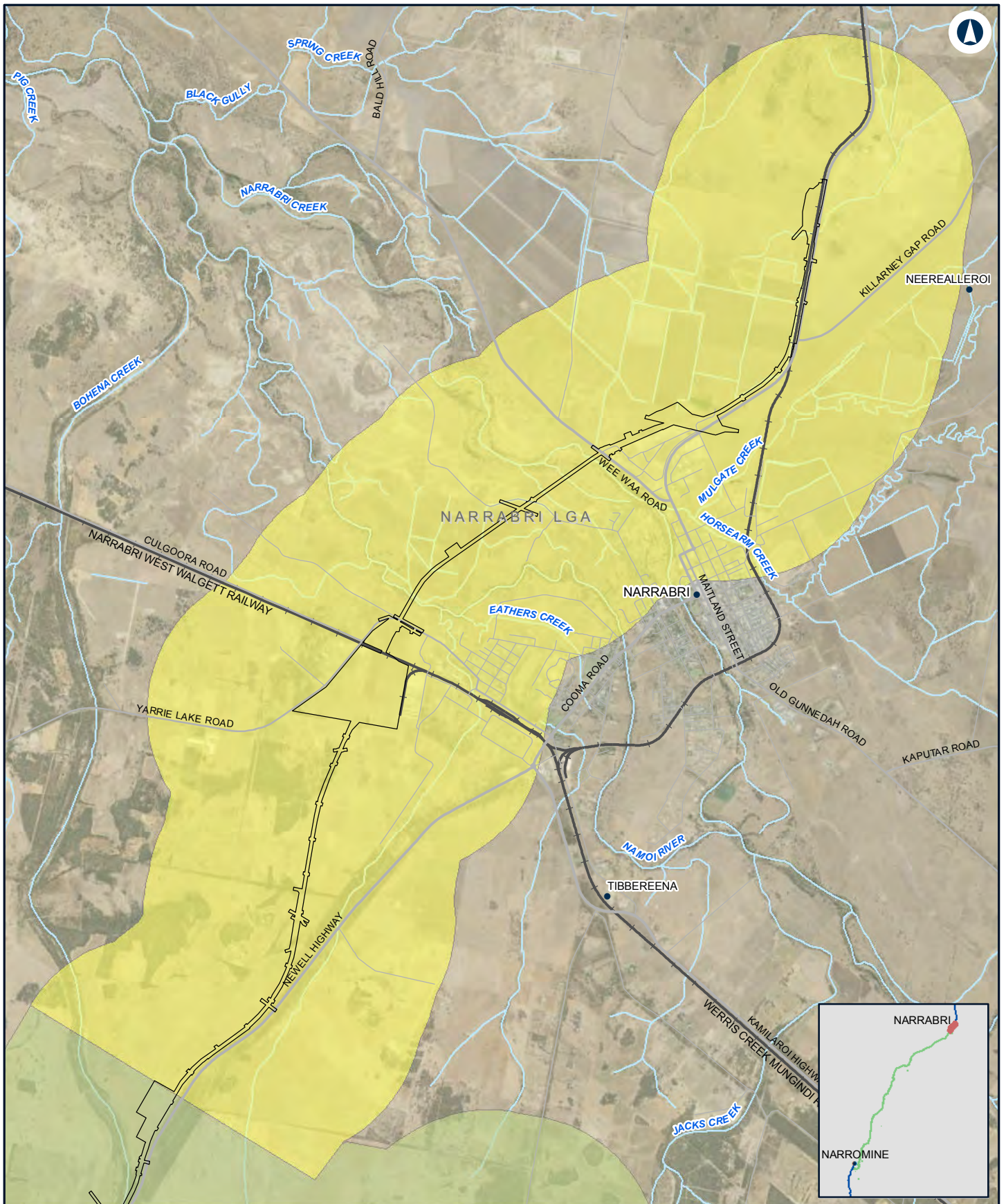
Where receivers have been identified as qualifying for noise mitigation from this proposal, preliminary noise mitigation solutions have been identified to meet the requirements of the SEARs (refer to section 9). A review will be undertaken during detailed design and when further information is available regarding construction methods to verify the number of receivers affected and which would be subject to noise or vibration mitigation relating to construction or other operations.

### 4.2.2 Noise catchment areas

Noise logging indicates relatively consistent background and ambient noise environments along the length of the proposal site, with localised sources such as road traffic, farm activities and natural noise sources (birds/insects) observed during the noise surveys. Therefore noise catchment areas (NCAs) have been set based on the nearby number of receivers rather than existing noise levels.

The identified NCAs are shown on Figure 4.1 as follows:

- NCA1 – Narrabri.
- NCA2– Narrabri to Baradine (Coolangla Creek).
- NCA3 – Baradine.
- NCA4 – Baradine (Baradine Road) to Gilgandra (Oxley Highway).
- NCA5 – Gilgandra (Oxley Highway) to Narromine (Eumungerie Road).
- NCA6 – Narromine.
- NCA7 – Gilgandra.



## NARROMINE TO NARRABRI

Noise catchment areas

Figure 4.1 Page 1 of 7

0 1 2 Km

Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD

Scale: 1:71,790

Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

### LEGEND

Construction footprint

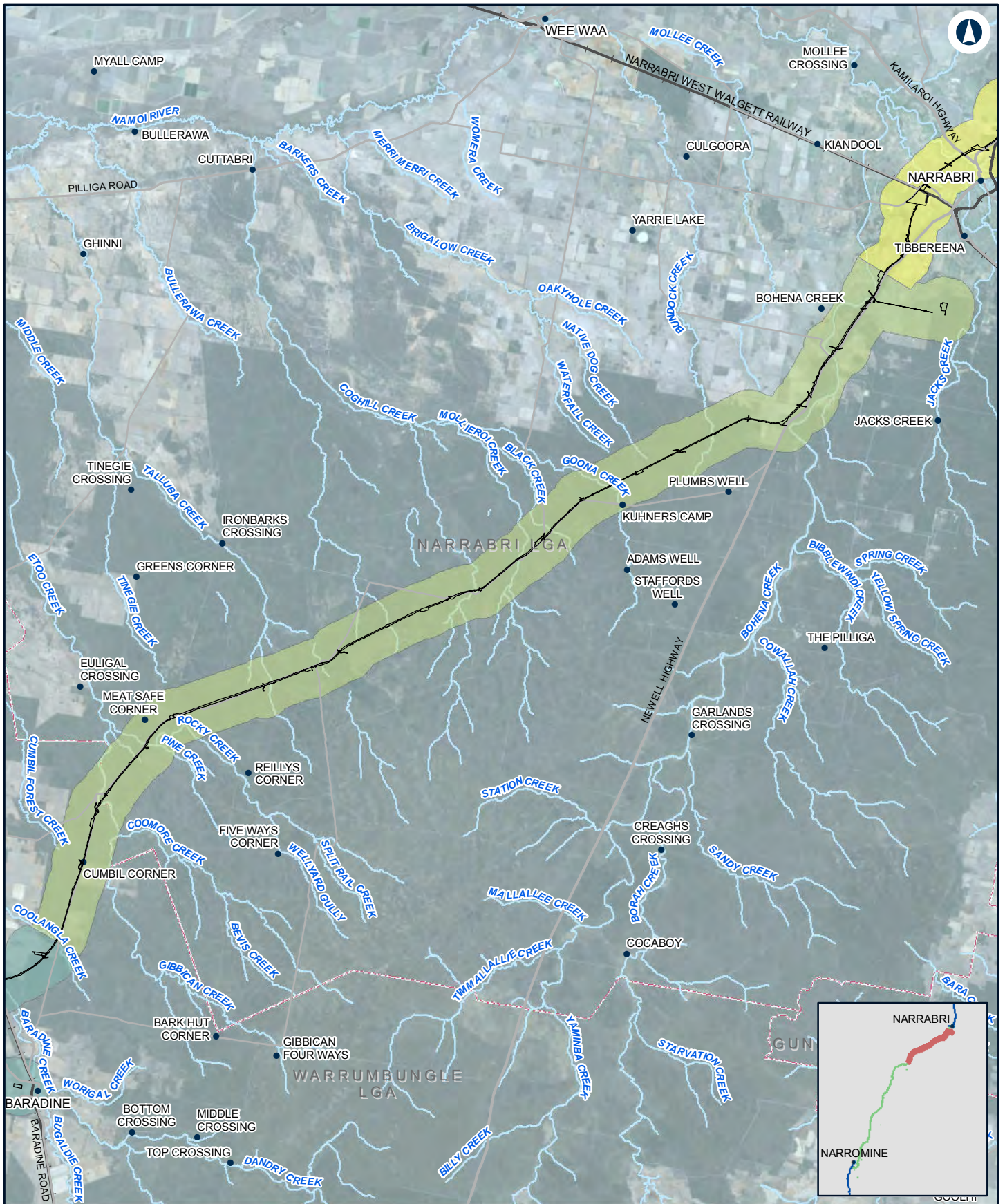
Noise catchment area

1  
2

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## NARROMINE TO NARRABRI

Noise catchment areas

Figure 4.1 Page 2 of 7

0 5 10  
Km

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### LEGEND

Construction footprint

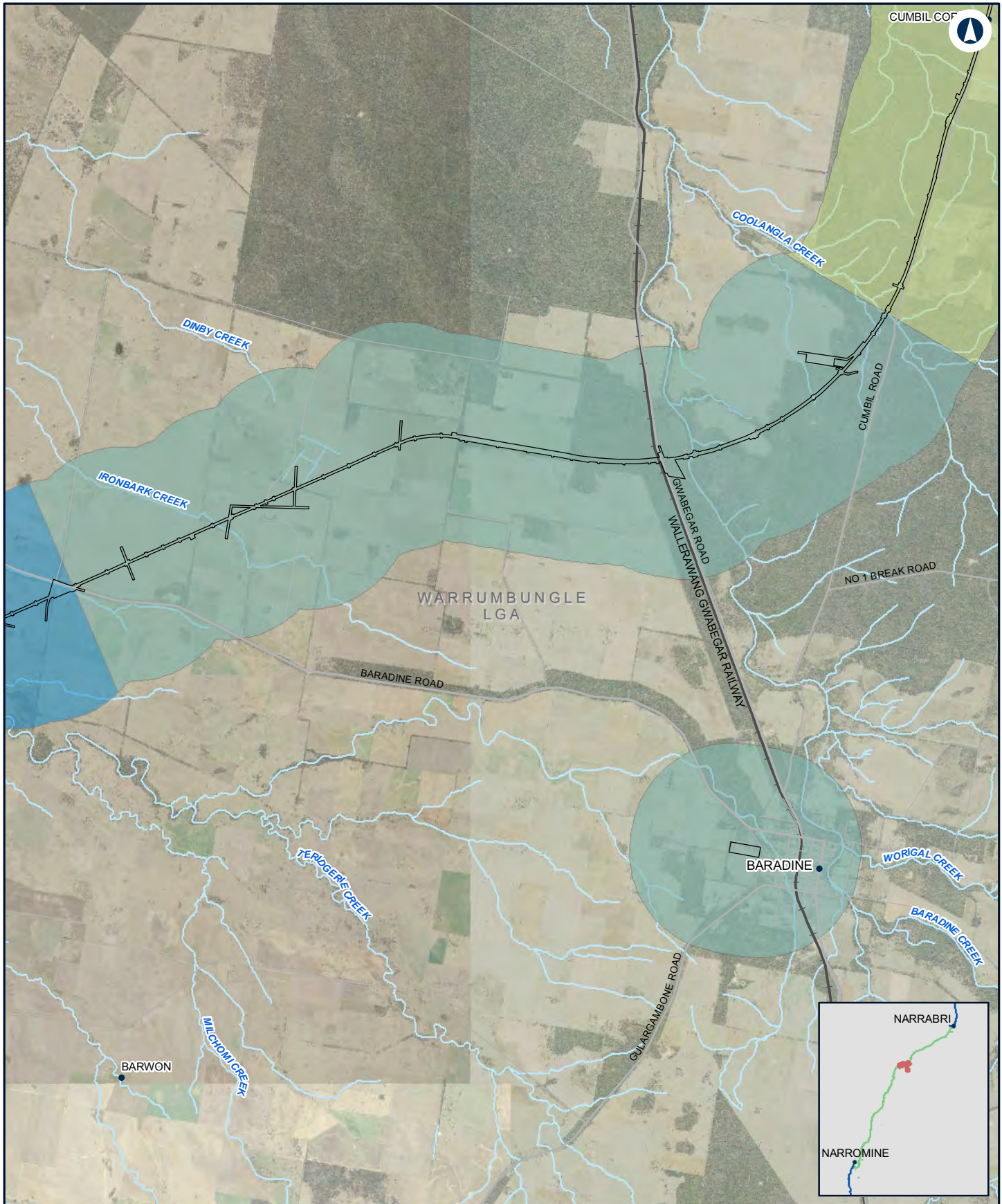
Noise catchment area

- 1
- 2
- 3

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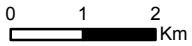




**NARROMINE TO NARRABRI**

**Noise catchment areas**

Figure 4.1 Page 3 of 7

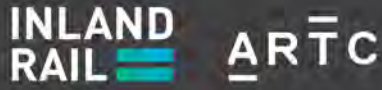


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 Author: GHD      Scale: 1:104,530  
 Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

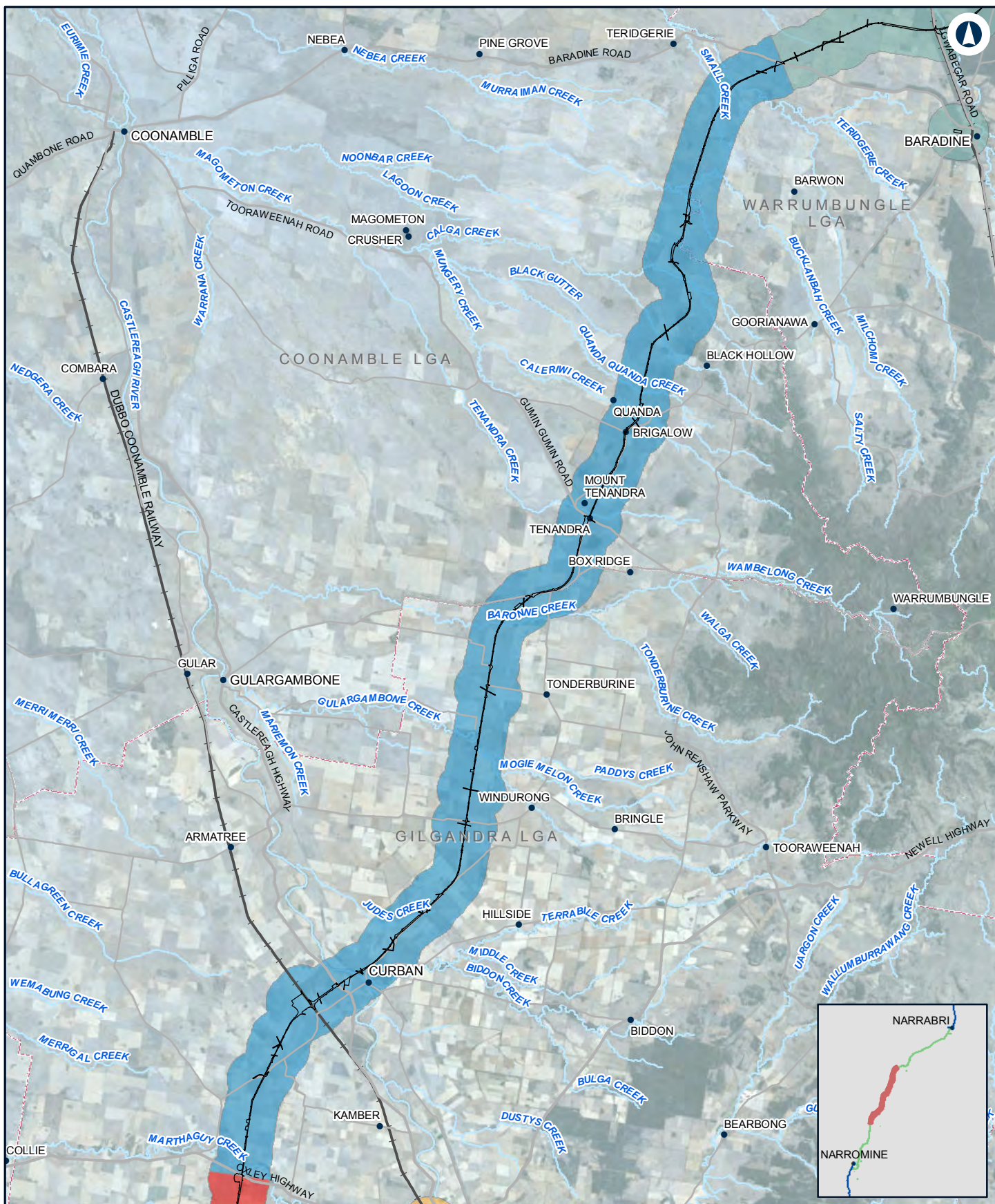
**LEGEND**

- Construction footprint
- Noise catchment area**
- 2
- 3
- 4



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## NARROMINE TO NARRABRI

Noise catchment areas

Figure 4.1 Page 4 of 7

0 5.5 11 Km

Coordinate System: GDA 1994 MGA Zone 55

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### LEGEND

Construction footprint

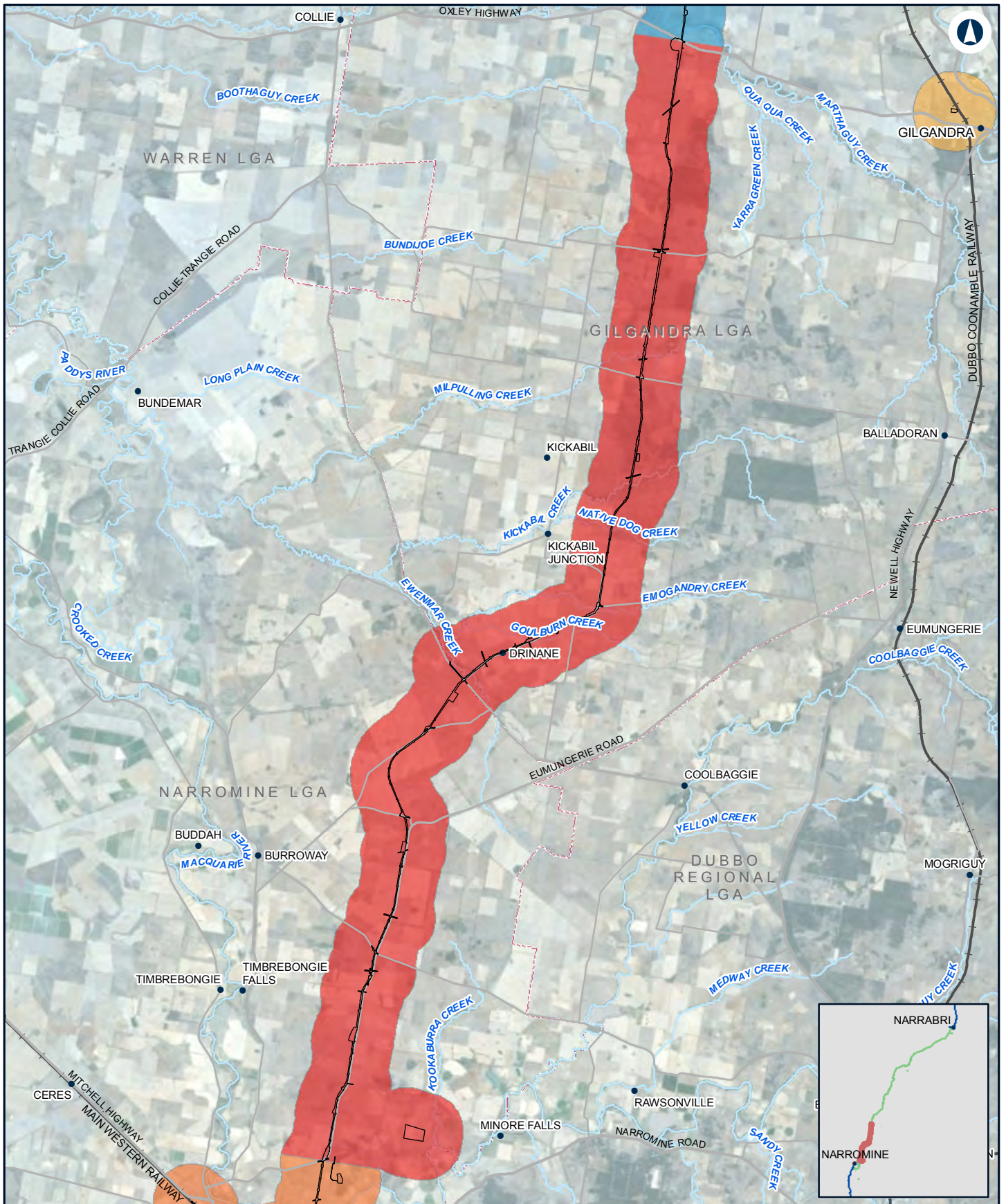
### Noise catchment area

- 3
- 4
- 5
- 7

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## NARROMINE TO NARRABRI

Noise catchment areas

Figure 4.1 Page 5 of 7

0 3.5 7 Km

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Scale: 1:275,700

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### LEGEND

Construction footprint

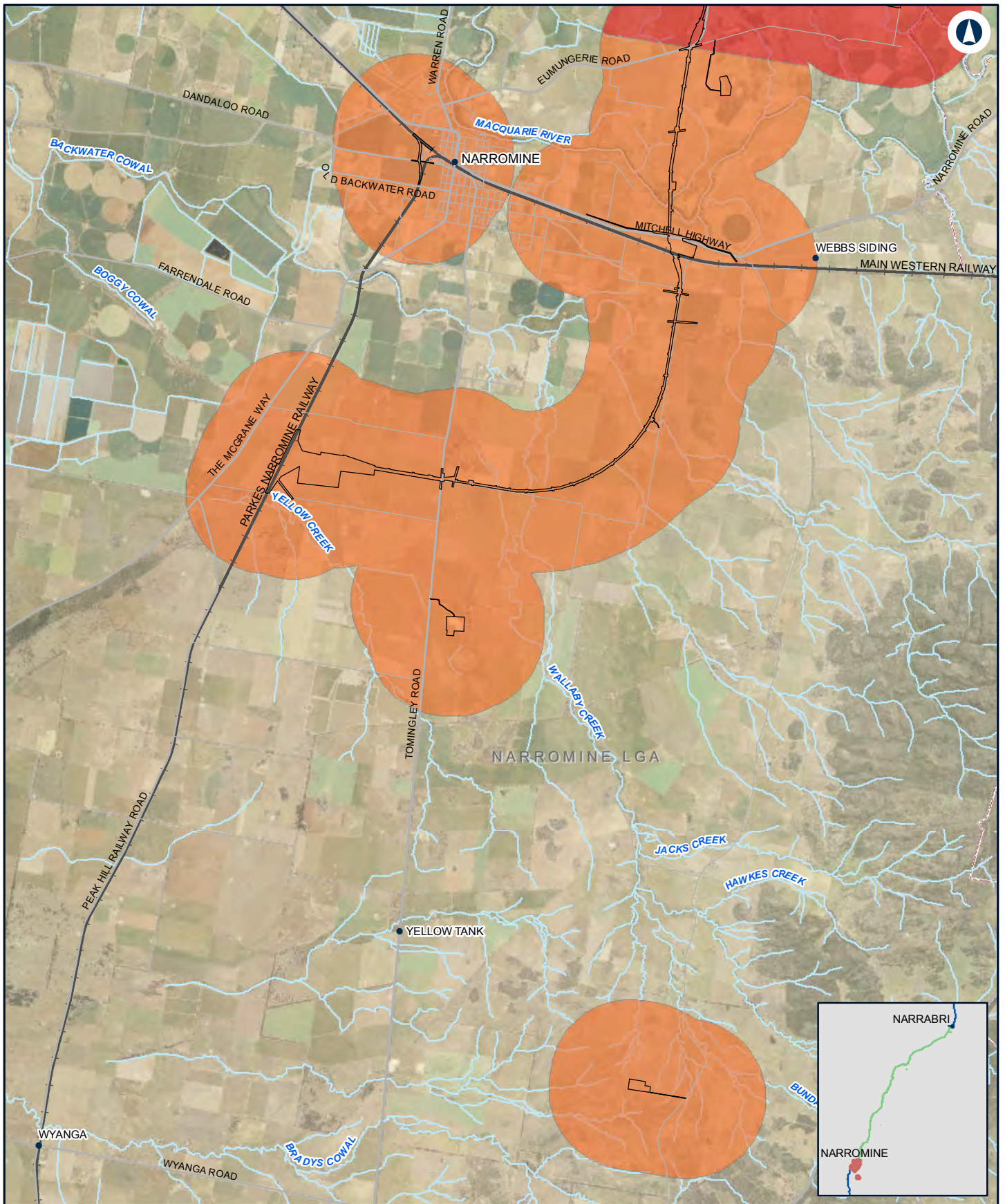
Noise catchment area

- 4
- 5
- 6
- 7

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## NARROMINE TO NARRABRI

Noise catchment areas

Figure 4.1 Page 6 of 7

0 1.5 3  
Km

Coordinate System: GDA 1994 MGA Zone 55

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Scale: 1:131,230

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### LEGEND

Construction footprint

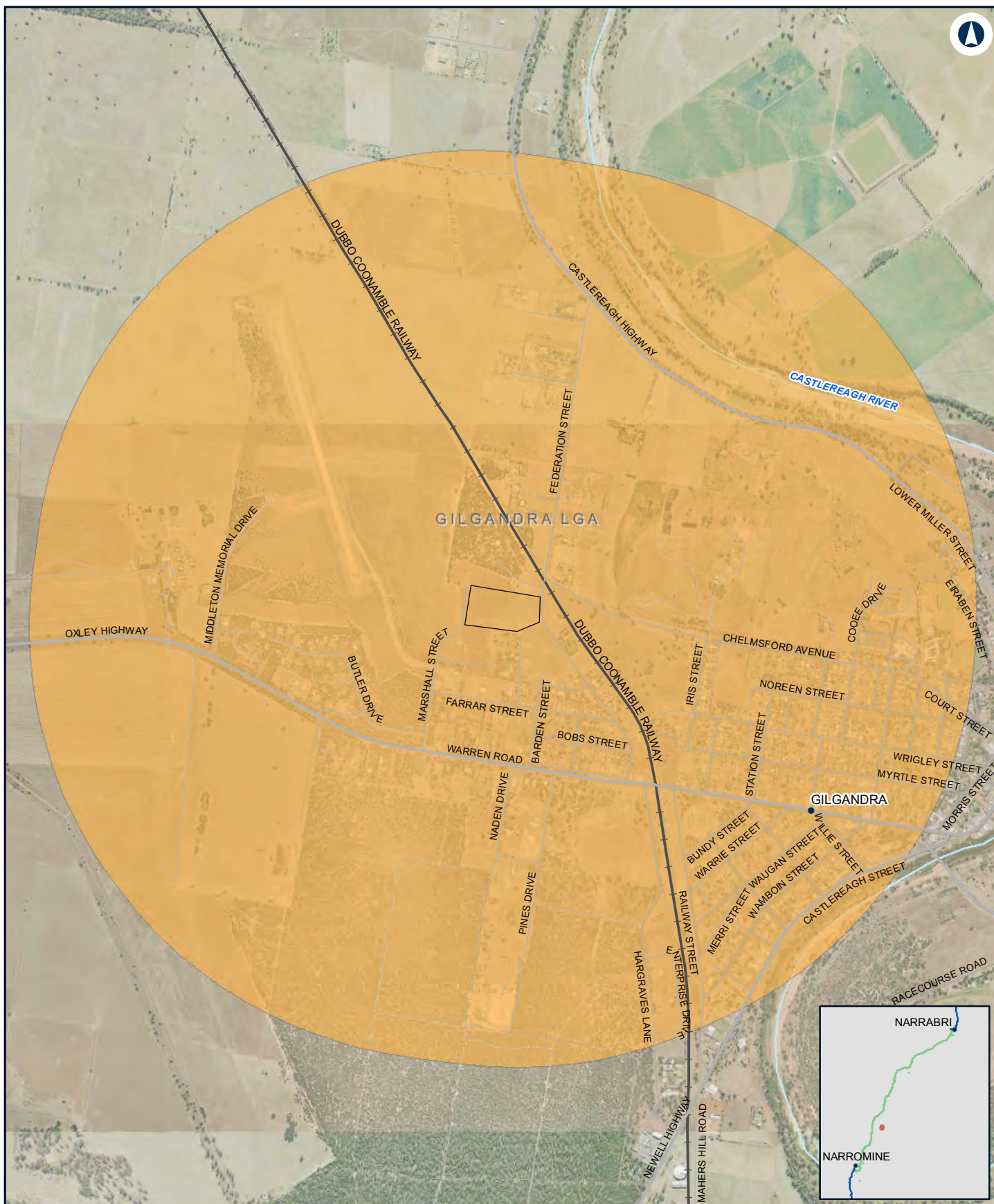
**Noise catchment area**

5  
 6

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## NARROMINE TO NARRABRI

## Noise catchment areas

Figure 4.1 Page 7 of 7

0 0.3 0.6  
Km

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### LEGEND

Construction footprint

**Noise catchment area**

7

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## 5. Construction noise and vibration impact assessment

### 5.1 Construction noise impacts

#### 5.1.1 Rail infrastructure

##### *Construction noise impacts*

The predicted CNML exceedances at residential receivers for each rail infrastructure construction scenario are shown in Table 5.1 while the numbers of receivers exceeding the CNML are presented in Table 5.2. The number of exceedances for non-residential receivers are presented in Table 5.3. A full list impacted noise sensitive receivers is provided in Appendix C.

The level of impact and number of impacts have also been summarised for NCA1 to NCA6 (refer section 4.2.2) and are shown in the Table 5.4 to Table 5.15. NCA7 is not assessed for rail infrastructure or road infrastructure as it is significant distance from these activities and only relevant for assessment of impacts relating to establishment and operation of the temporary accommodation facilities (refer section 5.1.3).

Locations of rail infrastructure works across the proposal site are shown in Appendix F. These figures include noise contours for the worst-case assessment scenario (RAIL03) and show noise sensitive receivers with their respective unique identifiers (IDs).

The adopted CNML for primary proposal construction hours provides a more stringent assessment for work undertaken during standard hours. Accordingly the number of exceedances represents a conservative estimate of the noise impact and therefore the implemented management and mitigation measures will in principle produce a more favourable outcome for nearby sensitive receivers than adopting the standard approach presented in the ICNG.

Where noise is above the CNML, all feasible and reasonable work practices to minimise noise need to be implemented, and all potentially affected receivers need to be informed. If no quieter work method is feasible and reasonable, consultation with the impacted residence would be undertaken to explain the duration and noise levels of the works and any respite periods that would be provided. Further information is provided in section 9.

## Impacts for all receivers

**Table 5.1 Rail infrastructure - all residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	<b>75</b>	21	18	23	7	-	8	-	-	3	-	23	16	9	9
Standard Hours	<b>45</b>	51	48	53	37	28	38	25	19	33	14	53	46	39	39
OOHW (all periods)	<b>35</b>	61	58	63	47	38	48	35	29	43	24	63	56	49	49

**Table 5.2 Rail infrastructure - all residential receivers – number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	<b>75</b>	6	17	6	2	0	5	0	0	1	0	6	3	12	6
Standard Hours	<b>45</b>	469	101	606	461	95	523	29	45	438	132	606	201	1208	749
OOHW (all periods)	<b>35</b>	1838	522	2234	1958	665	1556	203	553	1890	753	2234	930	3829	2962

**Table 5.3 Rail infrastructure - all non-residential receivers - number of receivers with exceedances of CNML per scenario**

Receiver	CNML dB(A) L <sub>eq</sub> (15min) (external)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Childcare facility	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worship	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hospital /Health	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Educational	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Community facility	52	1	1	1	1	1	0	0	1	1	0	1	1	3	1
Recreation, Passive	60	4	2	4	3	2	1	0	0	3	0	4	3	19	18
Recreation, Active	65	0	0	0	0	0	1	0	0	0	0	0	0	2	1
Commercial/Industrial	70	21	16	23	12	5	7	0	0	12	1	23	15	23	17



## Impacts for each NCA

### NCA1 - Narrabri

**Table 5.4 Rail infrastructure – NCA1, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	75	21	18	23	0	0	8	0	0	0	0	23	16	8	0
Standard Hours	45	51	48	53	30	28	38	25	5	30	13	53	46	38	30
OOHW (all periods)	35	61	58	63	40	38	48	35	15	40	23	63	56	48	40

**Table 5.5 Rail infrastructure – NCA1, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	75	4	7	4	0	0	5	0	0	0	0	4	2	6	0
Standard Hours	45	115	38	157	94	47	450	27	4	95	18	157	46	556	143
OOHW (all periods)	35	669	360	872	649	504	1379	182	37	688	159	872	281	1645	818

**NCA2 - Narrabri to Baradine (Coolangla Creek)**

**Table 5.6 Rail infrastructure - NCA2, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	75	5	18	7	1	0	0	0	0	0	0	7	0	1	1
Standard Hours	45	35	48	37	31	16	26	0	8	29	0	37	30	31	31
OOHW (all periods)	35	45	58	47	41	26	36	9	18	39	0	47	40	41	41

**Table 5.7 Rail infrastructure - NCA2, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	75	1	3	1	1	0	0	0	0	0	0	1	0	1	1
Standard Hours	45	16	10	17	17	12	10	0	2	15	0	17	11	20	17
OOHW (all periods)	35	30	18	32	30	23	26	4	9	30	0	32	21	33	30

### NCA3 - Baradine

**Table 5.8 Rail infrastructure – NCA3, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	4	6	6	6	0	0	0	0	3	0	6	0	21	21
OOHW (all periods)	35	14	16	16	16	10	4	0	8	13	0	16	9	31	31

**Table 5.9 Rail infrastructure – NCA3, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	4	2	6	4	0	0	0	0	4	0	6	0	85	85
OOHW (all periods)	35	7	5	7	7	6	2	0	1	6	0	7	6	298	296

**NCA4 - Baradine (Baradine Road) to Gilgandra (Oxley Highway)**

**Table 5.10 Rail infrastructure - NCA4, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	75	0	18	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	19	48	21	16	12	15	0	5	15	8	21	14	16	16
OOHW (all periods)	35	29	58	31	26	22	25	6	15	25	18	31	24	26	26

**Table 5.11 Rail infrastructure - NCA4, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	75	0	3	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	27	15	35	26	16	25	0	2	25	1	35	16	47	31
OOHW (all periods)	35	68	45	79	74	58	68	3	22	67	1	79	47	97	77



**NCA5 - Gilgandra (Oxley Highway) to Narromine (Eumungerie Road)**

**Table 5.12 Rail infrastructure - NCA5, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	75	21	18	23	7	0	0	0	0	3	0	23	16	7	7
Standard Hours	45	51	48	53	37	7	16	6	0	33	0	53	46	37	37
OOHW (all periods)	35	61	58	63	47	17	26	16	10	43	0	63	56	47	47

**Table 5.13 Rail infrastructure - NCA5, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	75	1	3	1	1	0	0	0	0	1	0	1	1	1	1
Standard Hours	45	23	16	28	27	15	9	1	0	22	0	28	15	33	28
OOHW (all periods)	35	43	29	46	43	31	24	2	18	36	0	46	31	52	49

## NCA6 - Narromine NCA

**Table 5.14 Rail infrastructure – NCA6, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) Leq(15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	75	0	3	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	18	33	20	18	12	22	2	19	18	14	20	13	23	21
OOHW (all periods)	35	28	43	30	28	22	32	12	29	28	24	30	23	33	31

**Table 5.15 Rail infrastructure – NCA6, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) Leq(15min)	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11- Landscaping	RAIL12- Decommissioning	CL01	CL02
Highly Affected	75	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	284	20	363	293	5	29	1	37	277	113	363	113	326	304
OOHW (all periods)	35	1021	65	1198	1155	43	57	12	466	1063	593	1198	544	1199	1187

### ***Construction noise impact description***

A summary of highest level of impact and numbers of impacted residential noise sensitive receivers within each NCA are presented below for each rail infrastructure assessment scenario. The numbers of impacted receivers and level of impacts are in relation to the 35 dB(A)  $L_{Aeq}$  proposal specific CNML.

#### **RAIL01-Site establishment**

Site establishment works are predicted to exceed the proposal specific CNML:

- NCA1 - at 669 receivers with exceedances up to 61 dB
- NCA2 - at 30 receivers with exceedances up to 45 dB
- NCA3 - at 7 receivers with exceedances up to 14 dB
- NCA4 - at 68 receivers with exceedances up to 29 dB
- NCA5 - at 43 receivers with exceedances up to 61 dB
- NCA6 - at 1021 receivers with exceedances up to 28 dB.

The duration of impact for an individual receiver is estimated to range from about one day up to six weeks for this construction scenario.

#### **RAIL02-Utility relocations**

Utility relocations works are predicted to exceed the proposal specific CNML:

- NCA1 - at 360 receivers with exceedances up to 58 dB
- NCA2 - at 18 receivers with exceedances up to 58 dB
- NCA3 - at 5 receivers with exceedances up to 16 dB
- NCA4 - at 45 receivers with exceedances up to 58 dB
- NCA5 - at 29 receivers with exceedances up to 58 dB
- NCA6 - at 65 receivers with exceedances up to 43 dB.

The duration of impact for an individual receiver is estimated to range from about four days up to two weeks for this construction scenario.

#### **RAIL03-Stripping topsoil**

Stripping topsoil works are predicted to exceed the proposal specific CNML:

- NCA1 - at 872 receivers with exceedances up to 63 dB
- NCA2 - at 32 receivers with exceedances up to 47 dB
- NCA3 - at 7 receivers with exceedances up to 16 dB
- NCA4 - at 79 receivers with exceedances up to 31 dB
- NCA5 - at 46 receivers with exceedances up to 63 dB
- NCA6 - at 1198 receivers with exceedances up to 30 dB.

The duration of impact for an individual receiver is estimated to range from about one day up to eight weeks for this construction scenario.

#### **RAIL04-Main earthworks**

Main earthworks are predicted to exceed the proposal specific CNML:

- NCA1 - at 649 receivers with exceedances up to 40 dB
- NCA2 - at 30 receivers with exceedances up to 41 dB
- NCA3 - at 7 receivers with exceedances up to 16 dB
- NCA4 - at 74 receivers with exceedances up to 26 dB
- NCA5 - at 43 receivers with exceedances up to 47 dB
- NCA6 - at 1155 receivers with exceedances up to 28 dB.

The duration of impact for an individual receiver is estimated to range from about ten days up to 32 weeks for this construction scenario.

#### **RAIL05-Bridges and culverts**

Bridges and culverts works are predicted to exceed the proposal specific CNML:

- NCA1 - at 504 receivers with exceedances up to 38 dB
- NCA2 - at 23 receivers with exceedances up to 26 dB
- NCA3 - at 6 receivers with exceedances up to 10 dB
- NCA4 - at 58 receivers with exceedances up to 22 dB
- NCA5 - at 31 receivers with exceedances up to 17 dB
- NCA6 - at 43 receivers with exceedances up to 22 dB.

The duration of impact for an individual receiver is estimated to range from about five days up to 15 weeks for this construction scenario.

#### **RAIL06-Bridges (piling)**

Bridges (piling) works are predicted to exceed the proposal specific CNML:

- NCA1 - at 1379 receivers with exceedances up to 48 dB
- NCA2 - at 26 receivers with exceedances up to 36 dB
- NCA3 - at 2 receivers with exceedances up to 4 dB
- NCA4 - at 68 receivers with exceedances up to 25 dB
- NCA5 - at 24 receivers with exceedances up to 26 dB
- NCA6 - at 57 receivers with exceedances up to 32 dB.

The duration of impact for an individual receiver is estimated to range from about five days up to 31 weeks for this construction scenario.

#### **RAIL07-Bridges (night work)**

Bridges (night work) works are predicted to exceed the proposal specific CNML:

- NCA1 - at 182 receivers with exceedances up to 35 dB
- NCA2 - at 4 receivers with exceedances up to 9 dB
- NCA3 - at 0 receivers with exceedances up to 0 dB
- NCA4 - at 3 receivers with exceedances up to 6 dB



- NCA5 - at 2 receivers with exceedances up to 16 dB
- NCA6 - at 12 receivers with exceedances up to 12 dB.

The duration of impact for an individual receiver is estimated to be about two days for this construction scenario.

### **RAIL08-Level crossings**

Level crossings works are predicted to exceed the proposal specific CNML:

- NCA1 - at 37 receivers with exceedances up to 15 dB
- NCA2 - at 9 receivers with exceedances up to 18 dB
- NCA3 - at 1 receivers with exceedances up to 8 dB
- NCA4 - at 22 receivers with exceedances up to 15 dB
- NCA5 - at 18 receivers with exceedances up to 10 dB
- NCA6 - at 466 receivers with exceedances up to 29 dB.

The duration of impact for an individual receiver is estimated to range from about one to ten weeks for this construction scenario.

### **RAIL09-Track construction**

Track construction works are predicted to exceed the proposal specific CNML:

- NCA1 - at 688 receivers with exceedances up to 40 dB
- NCA2 - at 30 receivers with exceedances up to 39 dB
- NCA3 - at 6 receivers with exceedances up to 13 dB
- NCA4 - at 67 receivers with exceedances up to 25 dB
- NCA5 - at 36 receivers with exceedances up to 43 dB
- NCA6 - at 1063 receivers with exceedances up to 28 dB.

The duration of impact for an individual receiver is estimated to range from about one to 30 weeks for this construction scenario.

### **RAIL10-Track connections**

Track connections works are predicted to exceed the proposal specific CNML:

- NCA1 - at 159 receivers with exceedances up to 23 dB
- NCA2 - at 0 receivers with exceedances up to 0 dB
- NCA3 - at 0 receivers with exceedances up to 0 dB
- NCA4 - at 1 receivers with exceedances up to 18 dB
- NCA5 - at 0 receivers with exceedances up to 0 dB
- NCA6 - at 593 receivers with exceedances up to 24 dB.

The duration of impact for an individual receiver is estimated to range from about one to 10 weeks for this construction scenario.

### **RAIL11-Landscaping**

Landscaping works are predicted to exceed the proposal specific CNML:

- NCA1 - at 872 receivers with exceedances up to 63 dB
- NCA2 - at 32 receivers with exceedances up to 47 dB
- NCA3 - at 7 receivers with exceedances up to 16 dB
- NCA4 - at 79 receivers with exceedances up to 31 dB
- NCA5 - at 46 receivers with exceedances up to 63 dB
- NCA6 - at 1198 receivers with exceedances up to 30 dB.

The duration of impact for an individual receiver is estimated to range from about one day up to seven weeks for this construction scenario.

### **RAIL12-Decommissioning**

Decommissioning works are predicted to exceed the proposal specific CNML:

- NCA1 - at 281 receivers with exceedances up to 56 dB
- NCA2 - at 21 receivers with exceedances up to 40 dB
- NCA3 - at 6 receivers with exceedances up to 9 dB
- NCA4 - at 47 receivers with exceedances up to 24 dB
- NCA5 - at 31 receivers with exceedances up to 56 dB
- NCA6 - at 544 receivers with exceedances up to 23 dB.

The duration of impact for an individual receiver is estimated to range from about one day up to twelve weeks for this construction scenario.

### **CL01-Rail earthworks, Bridges (piling), construction infrastructure**

Potential cumulative scenarios of rail earthworks, bridges (piling) and construction infrastructure works are predicted to exceed the proposal specific CNML:

- NCA1 - at 1645 receivers with exceedances up to 48 dB
- NCA2 - at 33 receivers with exceedances up to 41 dB
- NCA3 - at 298 receivers with exceedances up to 31 dB
- NCA4 - at 97 receivers with exceedances up to 26 dB
- NCA5 - at 52 receivers with exceedances up to 47 dB
- NCA6 - at 1199 receivers with exceedances up to 33 dB.

### **CL02-Rail earthworks, Road earthworks, construction infrastructure**

Potential cumulative scenarios of rail earthworks, road earthworks and construction infrastructure works are predicted to exceed the proposal specific CNML:

- NCA1 - at 818 receivers with exceedances up to 40 dB
- NCA2 - at 30 receivers with exceedances up to 41 dB
- NCA3 - at 296 receivers with exceedances up to 31 dB
- NCA4 - at 77 receivers with exceedances up to 26 dB

- NCA5 - at 49 receivers with exceedances up to 47 dB
- NCA6 - at 1187 receivers with exceedances up to 31 dB.

### Comparison to standard hours

Additional analysis has been carried out to collate the highest level of impact and numbers of noise impacted receivers for each of the assessed construction scenarios. The analysis considers construction activities conducted during standard hours and for OOHw. The criteria for OOHw is consistent across each OOHw period (evening and night) as low background noise levels result in the minimum of 35 dB(A)  $L_{Aeq}$  being applied. This comparison has been undertaken for residential receivers only as the noise management levels for standard hours and OOHw within the ICNG do not apply to non-residential receivers.

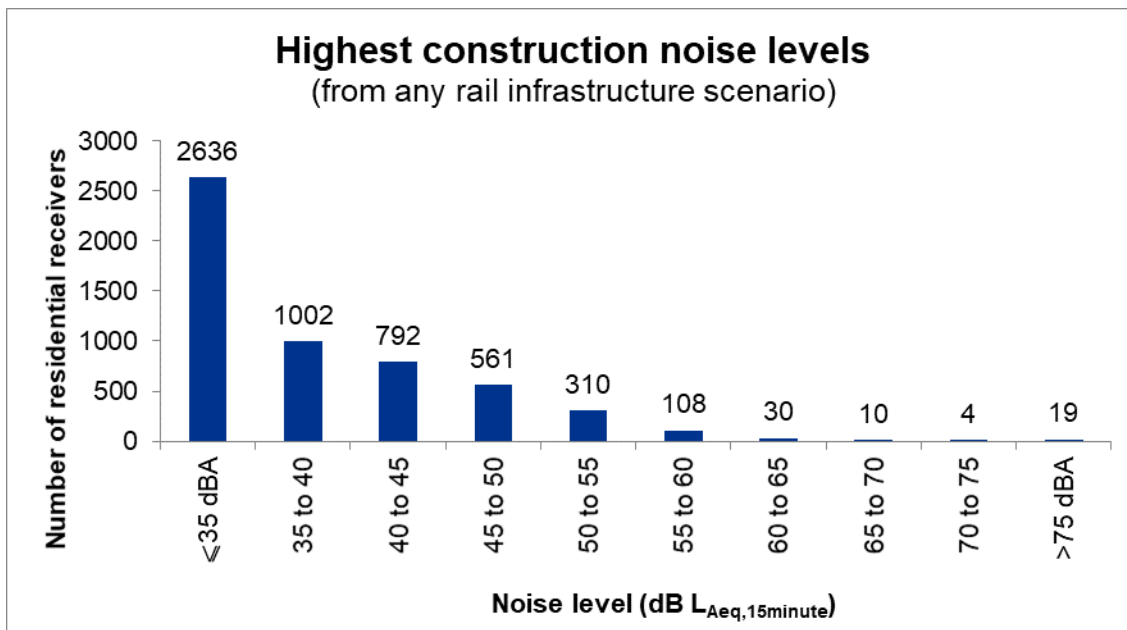
Table 5.16 indicates the numbers of residential receivers where the 'noise affected' level may be exceeded for each activity modelled for the assessment of rail infrastructure construction noise. The number of sensitive receivers that have been impacted for different locations across the proposal site and the value of the highest exceedances of the relevant ICNG CNMLs (Table 5.1) are provided in Table 5.4 to Table 5.15.

**Table 5.16 Rail infrastructure – construction activity noise management level exceedances at residential receivers for works during standard hours and OOHw**

Construction activity	Number of residential receivers with predicted exceedances of the relevant ICNG CNML		
	During standard hours (CNML = 45 dB(A))	During OOHw (all periods) (CNML = 35 dB(A))	Highly affected = 75 dB(A))
RAIL01-Site establishment	469	1838	6
RAIL02-Utility relocations	101	522	17
RAIL03-Stripping topsoil	606	2234	6
RAIL04-Main earthworks	461	1958	2
RAIL05-Bridges and culverts	95	665	0
RAIL06-Bridges (piling)	523	1556	5
RAIL07-Bridges (night work)	29	203	0
RAIL08-Level crossings	45	553	0
RAIL09-Track construction	438	1890	1
RAIL10-Track connections	132	753	0
RAIL11-Landscaping	606	2234	6
RAIL12-Decommissioning	201	930	3
CL01-Rail earthworks, Bridges(piling), Construction infrastructure	1067	3324	8
CL02-Rail earthworks, Road earthworks, Construction infrastructure	608	2457	2

### Construction noise results summary

Figure 5.1 below presents the highest construction noise levels that would be experienced by individual receivers during any construction scenario for all residential receivers across the proposal site associated with rail infrastructure construction works.



**Figure 5.1 Rail infrastructure – highest construction noise level experienced at individual receivers**

As shown in Figure 5.1 the highest levels of noise impact are predicted at small numbers of receivers with consideration to the scale of the project. About half of all receivers within the study area are predicted to receive construction noise levels less than the 35 dB(A) LAeq CNML. Note that the study area was derived from the anticipated extent of impacts.

The linear nature of an infrastructure project means that construction activities and associated noise levels will be transient as they progress along the route past noise sensitive receivers. Consequently, impacts identified in this assessment will not occur concurrently and the maximum level of impact would only occur when works are located at the closest point relative to each receiver.

This assessment also includes a number of conservative assumptions relating to operating duration, intensity and proximity of equipment. Actual construction activities are expected to have quieter periods and typically operate at further distance relative to a given noise sensitive receiver than the assessed locations. Therefore this assessment represents a likely worst-case for mobile construction activities where predicted levels of impact are only relevant for short periods in relation to the proposal's construction duration. Additionally, numbers of impacted receivers are presented in the context of the entire construction period and across the full length of the study area. Concurrently impacted receivers would typically be much lower as work occurs in a given area before progressing and moving away. Some activities do have a fixed location such as compounds, borrow pits and temporary accommodation facilities, however these would typically have lower source noise levels than mobile construction works such as earthmoving. Noise level, duration and extent of any impacts would be considered when determining appropriate mitigation measures.



In summary, the construction noise and vibration impact assessment for rail infrastructure indicates that:

- The highly affected level of 75 dB(A)  $L_{Aeq}$  is predicted to be exceeded at up to 19 residential receivers.
- Stripping topsoil (scenario RAIL03) within the construction footprint is the worst-case activity for the extents of impact. Noise levels are predicted to exceed the 35 dB(A)  $L_{Aeq}$  CNML at up to 2,836 identified sensitive residential receiver locations across the study area that may be impacted. The receivers with the highest level of impact may experience exceedances of the 35 dB(A)  $L_{Aeq}$  CNML of up to 63 dB, however as shown in Figure 5.1 very few locations are predicted to be impacted over the 75 dB(A)  $L_{Aeq}$  highly affected level. Any impacts would not occur simultaneously, but would be typically be transient or temporary as the construction progresses along the proposal alignment. The duration of impact from this scenario for any individual receiver is estimated to be between one day and eight weeks on average.
- Rail construction activities during the primary proposal construction hours may exceed the relevant CNML at non-residential sensitive receivers including one community facility, five passive recreation receivers, one active recreation receiver and 24 commercial/industrial receivers. CNMLs are applicable only when these facilities are in use.
- Rail construction activities during standard hours have the potential to exceed the 45 dB(A)  $L_{Aeq}$  CNML at up to 972 residential receivers.
- Rail construction activities during OOHW have the potential to exceed the OOHW CNML of 35 dB(A)  $L_{Aeq}$  at up to 2,836 residential receivers across all rail infrastructure assessment scenarios. The construction scenario with the highest number of predicted impacts during OOHW is stripping topsoil (scenario RAIL03) with impacts at up to 2,234 residential receivers. The duration of impact from this scenario for any individual receiver is estimated to be between one day and eight weeks on average.
- The duration of impact for an individual receiver from any given scenario is estimated to range from one day to about 32 weeks for construction of the most complex bridges (RAIL06).

#### **Work areas without construction noise impacts**

Due to the large proposal extents and rural or remote nature of a large proportion of the surrounding environment there are significant portions of the proposal site that are sufficient distance from noise sensitive receivers such that noise impacts are not anticipated. These sections of alignment within the rail earthworks extent were calculated using *ISO 9613-2:1996, Acoustics – Attenuation of sound during propagation outdoors* noise propagation over flat terrain. Locations identified would therefore be suitable for works within the primary proposal construction hours (ie outside recommended standard hours) and for out of hours works (if required) without any predicted impacts at noise sensitive receivers.

Works along about 51 kilometres of the proposal are predicted to have no construction noise impacts for the primary proposal construction hours or out of hours work. These sections are predominantly located within Pilliga East State Forest which makes up about 49 kilometres of this total length with no predicted construction noise impacts.

A figure presenting these work areas is presented in Appendix I.

## 5.1.2 Road infrastructure

### *Construction noise impacts*

The predicted CNML exceedances at residential receivers for each road infrastructure construction scenario are shown in Table 5.17 while the numbers of receivers exceeding the CNML are presented Table 5.18. The number of exceedances for non-residential receivers are presented in Table 5.19. A full list impacted noise sensitive receivers is provided in Appendix D.

The level of impact and number of impacts have also been summarised for NCA1 to NCA6 (refer section 4.2.2) and are shown in Table 5.20 to Table 5.31. NCA7 is not assessed for rail infrastructure or road infrastructure as it is significant distance from these activities and only relevant for assessment of impacts relating to establishment and operation of the temporary accommodation facilities (refer section 5.1.3).

Locations of road infrastructure works across the proposal site are shown in Appendix G. These figures include noise contours for the worst-case assessment scenario (ROAD03 – Road earthworks) and show noise sensitive receivers with their respective unique identifiers (IDs).

The adopted CNML for primary proposal construction hours provides a more stringent assessment for work undertaken during standard hours. Accordingly the number of exceedances represents a conservative estimate of the noise impact and therefore the implemented management and mitigation measures will in principle produce a more favourable outcome for nearby sensitive receivers than adopting the standard approach presented in the ICNG.

Where noise is above the relevant CNML, all feasible and reasonable work practices to minimise noise need to be implemented, and all potentially affected receivers need to be informed. If no quieter work method is feasible and reasonable, consultation with the impacted residence would be undertaken to explain the duration and noise levels of the works and any respite periods that would be provided. Further information is provided in section 9.

## Impacts for all receivers

**Table 5.17 Road infrastructure - all residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	ROAD01-Site establishment	ROAD02- Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	13	15	15	13	10	11	15	8
Standard Hours	45	43	45	45	43	40	41	45	38
OOHW (all periods)	35	53	55	55	53	50	51	55	48

**Table 5.18 Road infrastructure – all residential receivers – number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	1	1	1	1	1	1	1	1
Standard Hours	45	189	294	294	189	96	119	294	60
OOHW (all periods)	35	1101	1449	1449	1101	680	795	1449	532

**Table 5.19 Road infrastructure - all non-residential receivers - number of receivers with exceedances of CNML per scenario**

Receiver	CNML dB(A) Leq(15min) (external)	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Childcare facility	52	0	0	0	0	0	0	0	0
Worship	52	0	0	0	0	0	0	0	0
Hospital /Health	52	0	0	0	0	0	0	0	0
Educational	52	0	0	0	0	0	0	0	0
Community facility	52	1	1	1	1	1	1	1	1
Recreation, Passive	60	3	3	3	3	0	1	3	0
Recreation, Active	65	0	0	0	0	0	0	0	0
Commercial/Industrial	70	3	4	4	3	2	3	4	2

## Impacts for each NCA

### NCA1 - Narrabri

**Table 5.20 Road infrastructure –NCA1, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	ROAD01-Site establishment	ROAD02- Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	13	15	15	13	10	11	15	8
Standard Hours	45	43	45	45	43	40	41	45	38
OOHW (all periods)	35	53	55	55	53	50	51	55	48

**Table 5.21 Road infrastructure –NCA1, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	1	1	1	1	1	1	1	1
Standard Hours	45	29	44	44	29	15	20	44	8
OOHW (all periods)	35	145	239	239	145	99	108	239	73



**NCA2 - Narrabri to Baradine (Coolangla Creek)**

**Table 5.22 Road infrastructure –NCA2, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	0	0	0	0	0	0	0	0
Standard Hours	45	14	16	16	14	11	12	16	9
OOHW (all periods)	35	24	26	26	24	21	22	26	19

**Table 5.23 Road infrastructure –NCA2, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	0	0	0	0	0	0	0	0
Standard Hours	45	9	9	9	9	5	6	9	4
OOHW (all periods)	35	21	26	26	21	17	18	26	14

### NCA3 - Baradine

**Table 5.24 Road infrastructure –NCA3, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) Leq(15min)	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	0	0	0	0	0	0	0	0
Standard Hours	40	3	5	5	3	0	1	5	0
OOHW (all periods)	35	13	15	15	13	10	11	15	8

**Table 5.25 Road infrastructure –NCA3, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) Leq(15min)	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	0	0	0	0	0	0	0	0
Standard Hours	45	2	2	2	2	0	1	2	0
OOHW (all periods)	35	3	5	5	3	2	2	5	2

**NCA4 - Baradine (Baradine Road) to Gilgandra (Oxley Highway)**

**Table 5.26 Road infrastructure –NCA4, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) $L_{eq}(15min)$	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	0	0	0	0	0	0	0	0
Standard Hours	45	18	20	20	18	15	16	20	13
OOHW (all periods)	35	28	30	30	28	25	26	30	23

**Table 5.27 Road infrastructure –NCA4, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) $L_{eq}(15min)$	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	0	0	0	0	0	0	0	0
Standard Hours	45	13	15	15	13	8	9	15	6
OOHW (all periods)	35	47	58	58	47	31	38	58	30

**NCA5 - Gilgandra (Oxley Highway) to Narromine (Eumungerie Road)**

**Table 5.28 Road infrastructure –NCA5, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) $L_{eq}(15min)$	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	0	0	0	0	0	0	0	0
Standard Hours	45	5	7	7	5	2	3	7	0
OOHW (all periods)	35	15	17	17	15	12	13	17	10

**Table 5.29 Road infrastructure –NCA5, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) $L_{eq}(15min)$	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	0	0	0	0	0	0	0	0
Standard Hours	45	8	14	14	8	4	5	14	0
OOHW (all periods)	35	27	34	34	27	22	25	34	19

## NCA6 - Narromine

**Table 5.30 Road infrastructure –NCA6, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	0	0	0	0	0	0	0	0
Standard Hours	45	12	14	14	12	9	10	14	7
OOHW (all periods)	35	22	24	24	22	19	20	24	17

**Table 5.31 Road infrastructure –NCA6, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07- Landscaping	ROAD08- Decommissioning
Highly Affected	75	0	0	0	0	0	0	0	0
Standard Hours	45	128	210	210	128	64	78	210	42
OOHW (all periods)	35	858	1087	1087	858	509	604	1087	394



### **Construction noise impact description**

A summary of highest level of impact and numbers of impacted residential noise sensitive receivers within each NCA are presented below for each road infrastructure assessment scenario. These numbers of impacted receivers and level of impacts are in relation to the 35 dB(A)  $L_{Aeq}$  proposal specific CNML.

#### **ROAD01-Site establishment**

Site establishment works are predicted to exceed the proposal specific CNML:

- NCA1 - at 145 receivers with exceedances up to 53 dB
- NCA2 - at 21 receivers with exceedances up to 24 dB
- NCA3 - at 3 receivers with exceedances up to 13 dB
- NCA4 - at 47 receivers with exceedances up to 28 dB
- NCA5 - at 27 receivers with exceedances up to 15 dB
- NCA6 - at 858 receivers with exceedances up to 22 dB.

The duration of impact for an individual receiver is estimated to range from about one day up to four weeks for this construction scenario.

#### **ROAD02-Stripping topsoil**

Stripping topsoil works are predicted to exceed the proposal specific CNML:

- NCA1 - at 239 receivers with exceedances up to 55 dB
- NCA2 - at 26 receivers with exceedances up to 26 dB
- NCA3 - at 5 receivers with exceedances up to 15 dB
- NCA4 - at 58 receivers with exceedances up to 30 dB
- NCA5 - at 34 receivers with exceedances up to 17 dB
- NCA6 - at 1087 receivers with exceedances up to 24 dB.

The duration of impact for an individual receiver is estimated to range from about one day up to eight weeks for this construction scenario.

#### **ROAD03-Main earthworks**

Main earthworks works are predicted to exceed the proposal specific CNML:

- NCA1 - at 239 receivers with exceedances up to 55 dB
- NCA2 - at 26 receivers with exceedances up to 26 dB
- NCA3 - at 5 receivers with exceedances up to 15 dB
- NCA4 - at 58 receivers with exceedances up to 30 dB
- NCA5 - at 34 receivers with exceedances up to 17 dB
- NCA6 - at 1087 receivers with exceedances up to 24 dB.

The duration of impact for an individual receiver is estimated to range from about eight weeks up to 12 weeks for this construction scenario.

#### **ROAD04-Drainage**

Drainage works are predicted to exceed the proposal specific CNML:

- NCA1 - at 145 receivers with exceedances up to 53 dB
- NCA2 - at 21 receivers with exceedances up to 24 dB
- NCA3 - at 3 receivers with exceedances up to 13 dB
- NCA4 - at 47 receivers with exceedances up to 28 dB.
- NCA5 - at 27 receivers with exceedances up to 15 dB
- NCA6 - at 858 receivers with exceedances up to 22 dB.

The duration of impact for an individual receiver is estimated to range from about nine weeks up to 14 weeks for this construction scenario.

#### **ROAD05-Road pavement**

Road pavement works are predicted to exceed the proposal specific CNML:

- NCA1 - at 99 receivers with exceedances up to 50 dB
- NCA2 - at 17 receivers with exceedances up to 21 dB
- NCA3 - at 2 receivers with exceedances up to 10 dB
- NCA4 - at 31 receivers with exceedances up to 25 dB
- NCA5 - at 22 receivers with exceedances up to 12 dB
- NCA6 - at 509 receivers with exceedances up to 19 dB.

The duration of impact for an individual receiver is estimated to range from about six weeks up to ten weeks for this construction scenario.

#### **ROAD06-Road furniture**

Road furniture works are predicted to exceed the proposal specific CNML:

- NCA1 - at 108 receivers with exceedances up to 51 dB
- NCA2 - at 18 receivers with exceedances up to 22 dB
- NCA3 - at 2 receivers with exceedances up to 11 dB
- NCA4 - at 38 receivers with exceedances up to 26 dB
- NCA5 - at 25 receivers with exceedances up to 13 dB
- NCA6 - at 604 receivers with exceedances up to 20 dB.

The duration of impact for an individual receiver is estimated to range from about four weeks up to six weeks for this construction scenario.

#### **ROAD07-Landscaping**

Landscaping works are predicted to exceed the proposal specific CNML:

- NCA1 - at 239 receivers with exceedances up to 55 dB
- NCA2 - at 26 receivers with exceedances up to 26 dB
- NCA3 - at 5 receivers with exceedances up to 15 dB

- NCA4 - at 58 receivers with exceedances up to 30 dB
- NCA5 - at 34 receivers with exceedances up to 17 dB
- NCA6 - at 1087 receivers with exceedances up to 24 dB.

The duration of impact for an individual receiver is estimated to range from about two weeks up to four weeks for this construction scenario.

### **ROAD08-Decommissioning**

Decommissioning works are predicted to exceed the proposal specific CNML:

- NCA1 - at 73 receivers with exceedances up to 48 dB
- NCA2 - at 14 receivers with exceedances up to 19 dB
- NCA3 - at 2 receivers with exceedances up to 8 dB
- NCA4 - at 30 receivers with exceedances up to 23 dB
- NCA5 - at 19 receivers with exceedances up to 10 dB
- NCA6 - at 394 receivers with exceedances up to 17 dB.

The duration of impact for an individual receiver is estimated to range from about two weeks up to four weeks for this construction scenario.

### **Comparison to standard hours**

Additional analysis has been carried out to collate the highest level of impact and numbers of noise impacted receivers for each of the assessed construction scenarios. The analysis considers construction activities conducted during standard hours and for OOHw. The criteria for OOHw is consistent across each OOHw period (evening and night) as low background noise levels result in the minimum of 35 dB(A)  $L_{Aeq}$  being applied. This comparison has been undertaken for residential receivers only as the noise management levels for standard hours and OOHw within the ICNG do not apply to non-residential receivers.

Table 5.32 indicates the numbers of residential receivers where the 'noise affected' level may be exceeded for each activity modelled for the assessment of road infrastructure construction noise. The number of sensitive receivers that have been impacted for different locations across the study area and the value of the highest exceedances of the relevant ICNG CNMLs (Table 5.1) are provided in Table 5.20 to Table 5.31.

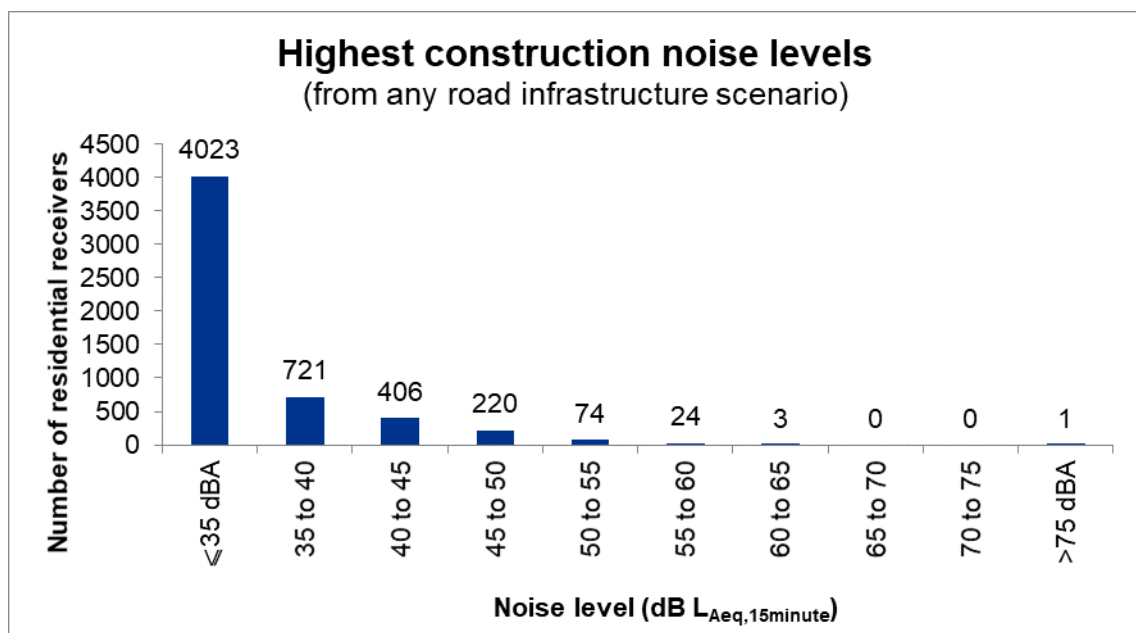
**Table 5.32 Road infrastructure – construction activity noise management level exceedances at residential receivers for works during standard hours and OOHw**

Construction activity	Number of residential receivers with predicted exceedances of the relevant ICNG CNML		
	During standard hours (CNML = 45 dB(A))	During OOHw (all periods) (CNML = 35 dB(A))	Highly affected = 75 dB(A))
ROAD01-Site establishment	189	1101	1
ROAD02-Stripping topsoil	294	1449	1
ROAD03-Main earthworks	294	1449	1
ROAD04-Drainage	189	1101	1

Construction activity	Number of residential receivers with predicted exceedances of the relevant ICNG CNML		
	During standard hours (CNML = 45 dB(A))	During OOHW (all periods) (CNML = 35 dB(A))	Highly affected = 75 dB(A))
ROAD05-Road pavement	96	680	1
ROAD06-Road furniture	119	795	1
ROAD07-Landscaping	294	1449	1
ROAD08-Decommissioning	60	532	1

#### Construction noise results summary

Figure 5.2 below presents the highest construction noise levels that would be experienced by individual receivers during any construction scenario for all residential receivers across the proposal site associated with road infrastructure construction works.



**Figure 5.2 Road infrastructure – highest construction noise level experienced at individual receivers**

The linear nature of an infrastructure project means that construction activities and associated noise levels will be transient as they progress along the route past noise sensitive receivers. Consequently, impacts identified in this assessment will not occur concurrently and the maximum level of impact would only occur when works are located at the closest point relative to each receiver.

This assessment also includes a number of conservative assumptions relating to operating duration, intensity and proximity of equipment. Actual construction activities are expected to have quieter periods and typically operate at further distance relative to a given noise sensitive receiver than the assessed locations. Therefore this assessment represents a likely worst-case for mobile construction activities where predicted levels of impact are only relevant for short periods in relation to the proposal's construction duration. Additionally, numbers of impacted receivers are presented in the context of the entire construction period and across the full length of the study area. Concurrently impacted receivers would typically be much lower as work occurs in a given area before progressing and moving away. Some activities do have a fixed

location such as compounds, borrow pits and temporary accommodation facilities, however these would typically have lower source noise levels than mobile construction works such as earthmoving. Noise level, duration and extent of any impacts would be considered when determining appropriate mitigation measures.

In summary, the construction noise impact assessment for road infrastructure indicates that:

- The highly affected level of 75 dB(A)  $L_{Aeq}$  is predicted to be exceeded at one residential receiver.
- Stripping topsoil (scenario ROAD02), main earthworks (scenario ROAD03) and landscaping (scenario ROAD07) associated with road construction works are the worst-case activities for the extents of impact. Noise levels are predicted to exceed the 35 dB(A)  $L_{Aeq}$  CNML at up to 1,449 residential receivers. On average, the duration of impact for any individual receiver is estimated to be from one day to eight weeks for stripping topsoil (ROAD02), eight to twelve weeks for main earthworks (ROAD03) and two to four weeks for landscaping (ROAD07).
- Road construction activities during the primary proposal construction hours may exceed the relevant CNML at non-residential sensitive receivers including one community facility, three passive recreation receivers and four commercial/industrial receivers. Construction noise management levels are applicable only when these facilities are in use.
- Road construction activities during standard hours have the potential to exceed the CNML of 45 dB(A)  $L_{Aeq}$  at up to 294 residential receivers.
- Road construction activities during out of hours work have the potential to exceed the OOHW CNML of 35 dB(A)  $L_{Aeq}$  at up to 1,449 residential receivers across all road infrastructure assessment scenarios. The construction scenarios with the highest number of predicted impacts during OOHW are stripping topsoil (scenario ROAD02), main earthworks (scenario ROAD03) and landscaping (scenario ROAD07) with impacts at up to 1,449 residential receivers.
- The duration of impact for an individual receiver from any given construction scenario is estimated to range from two to four weeks for landscaping (ROAD07) to about 14 weeks for drainage earthworks (ROAD04).

### **5.1.3 Construction infrastructure**

#### ***Construction noise impacts***

The predicted CNML exceedances at residential receivers for each construction infrastructure assessment scenario are shown in Table 5.33 while the numbers of receivers exceeding the CNML are presented in Table 5.34. The number of exceedances for non-residential receivers are presented in Table 5.35. A full list impacted noise sensitive receivers is provided in Appendix E.

The level of impact and number of impacts have also been summarised for each NCA (refer section 4.2.2) and are shown in the Table 5.36 to Table 5.47.

Locations of construction infrastructure across the proposal site are shown in Appendix H. These figures include combined noise contours for assessment scenarios representing the operation of each type of construction infrastructure (INFR03 to INFR12) and show noise sensitive receivers with their respective unique identifiers (IDs).



The adopted CNML for primary proposal construction hours provides a more stringent assessment for work undertaken during standard hours. Accordingly the number of exceedances represents a conservative estimate of the noise impact and therefore the implemented management and mitigation measures will in principle produce a more favourable outcome for nearby sensitive receivers than adopting the standard approach presented in the ICNG.

Where noise is above the CNML, all feasible and reasonable work practices to minimise noise need to be implemented, and all potentially affected receivers need to be informed. If no quieter work method is feasible and reasonable, consultation with the impacted residence would be undertaken to explain the duration and noise levels of the works and any respite periods that would be provided. Further information is provided in section 9.

## Impacts for all receivers

**Table 5.33 Construction infrastructure - all residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	5	0	-	50	-	-	0	-	2	2	-	-	9
Standard Hours	45	35	30	27	80	14	5	30	-	32	32	7	-	39
OOHW (all periods)	35	45	40	37	90	24	15	40	4	42	42	17	3	49

**Table 5.34 Construction infrastructure - all residential receivers – number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	1	0	0	1	0	0	0	0	1	1	0	0	4
Standard Hours	45	65	30	20	7	24	7	30	0	74	74	3	0	242
OOHW (all periods)	35	290	141	145	70	37	93	141	1	312	312	25	1	933

**Table 5.35 Construction infrastructure - all non-residential receivers - number of receivers with exceedances of CNML per scenario**

Receiver	CNML dB(A) L <sub>eq</sub> (15min) (external)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Childcare facility	52	0	0	0	0	0	0	0	0	0	0	0	0	0
Worship	52	0	0	0	0	0	0	0	0	0	0	0	0	0
Hospital /Health	52	0	0	0	0	0	0	0	0	0	0	0	0	0
Educational	52	0	0	0	0	0	0	0	0	0	0	0	0	0
Community facility	52	0	0	0	0	0	1	0	0	0	1	0	0	0
Recreation, Passive	60	0	0	11	0	0	0	0	0	0	0	0	0	15
Recreation, Active	65	0	0	0	0	0	0	0	0	0	0	0	0	1
Commercial/Industrial	70	6	2	0	0	0	0	2	0	0	0	0	0	0

## Impacts for each NCA

### NCA1 - Narrabri

**Table 5.36 Construction infrastructure –NCA1, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	24	19	1	5	18	0	19	0	4	15	0	4	11
OOHW (all periods)	35	34	29	11	15	28	10	29	0	14	25	0	14	21

**Table 5.37 Construction infrastructure –NCA1, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	59	20	1	7	8	0	20	0	3	19	0	4	16
OOHW (all periods)	35	389	135	16	69	18	2	135	0	63	103	0	28	129

**NCA2 - Narrabri to Baradine (Coolangla Creek)**

**Table 5.38 Construction infrastructure –NCA2, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	0	0	0	0	0	0	0	0	0	0	0	0	0
OOHW (all periods)	35	0	0	0	3	0	5	0	0	0	7	0	0	0

**Table 5.39 Construction infrastructure –NCA2, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	0	0	0	0	0	0	0	0	0	0	0	0	0
OOHW (all periods)	35	0	0	0	3	0	3	0	0	0	3	0	0	0



### NCA3 - Baradine

**Table 5.40 Construction infrastructure –NCA3, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	0	0	11	0	0	0	0	0	0	0	0	0	21
OOHW (all periods)	35	0	0	21	0	0	0	0	0	0	0	0	0	31

**Table 5.41 Construction infrastructure –NCA3, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	0	0	5	0	0	0	0	0	0	0	0	0	81
OOHW (all periods)	35	0	0	81	0	0	0	0	0	0	0	0	0	289

**NCA4 - Baradine (Baradine Road) to Gilgandra (Oxley Highway)**

**Table 5.42 Construction infrastructure –NCA4, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) $L_{eq}(15min)$	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	4	0	0	3	0	6	0	0	0	3	0	0	0
OOHW (all periods)	35	14	9	0	13	6	16	9	9	8	13	0	0	0

**Table 5.43 Construction infrastructure – NCA4, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) $L_{eq}(15min)$	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	1	0	0	1	0	3	0	0	0	2	0	0	0
OOHW (all periods)	35	1	1	0	9	3	13	1	1	5	16	0	0	0

**NCA5 - Gilgandra (Oxley Highway) to Narromine (Eumungerie Road)**

**Table 5.44 Construction infrastructure – NCA5, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	0	0	0	3	0	9	0	0	0	3	0	0	8
OOHW (all periods)	35	0	0	8	13	0	19	0	0	0	13	0	8	18

**Table 5.45 Construction infrastructure – NCA5, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	0	0	0	3	0	1	0	0	0	1	0	0	1
OOHW (all periods)	35	0	0	1	6	0	3	0	0	0	5	0	2	3

## NCA6 - Narromine

**Table 5.46 Construction infrastructure –NCA6, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) Leq(15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	18	13	0	9	0	0	13	0	0	0	0	11	6
OOHW (all periods)	35	28	23	6	19	9	8	23	0	10	10	7	21	16

**Table 5.47 Construction infrastructure –NCA6, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) Leq(15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	0
Standard Hours	45	7	5	0	1	0	0	5	0	0	0	0	7	3
OOHW (all periods)	35	11	8	3	4	6	3	8	0	4	1	3	33	7

## NCA7 - Gilgandra

**Table 5.48 Construction infrastructure –NCA7, residential receivers - highest exceedances of CNML per scenario, dB(A)**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	9
Standard Hours	45	0	0	29	0	0	0	0	0	0	0	0	0	39
OOHW (all periods)	35	0	0	39	0	0	0	0	0	0	0	0	0	49

**Table 5.49 Construction infrastructure –NCA7, residential receivers - number of receivers with exceedances of CNML per scenario**

Criteria	CNML dB(A) L <sub>eq</sub> (15min)	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-Curban concrete precast yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
Highly Affected	75	0	0	0	0	0	0	0	0	0	0	0	0	4
Standard Hours	45	0	0	35	0	0	0	0	0	0	0	0	0	141
OOHW (all periods)	35	0	0	141	0	0	0	0	0	0	0	0	0	505



### **Construction noise impact description**

A summary of highest level of impact and numbers of impacted residential noise sensitive receivers within each NCA are presented below for each construction infrastructure assessment scenario. These numbers of impacted receivers and level of impacts are in relation to the 35 dB(A)  $L_{Aeq}$  proposal specific CNML.

#### **INFR01-(Pre-construction) MFC establishment**

(Pre-construction) MFC establishment works are predicted to exceed the proposal specific CNML:

- NCA1- at 389 receivers with exceedances up to 34 dB
- NCA2- at 0 receivers with exceedances up to 0 dB
- NCA3- at 0 receivers with exceedances up to 0 dB
- NCA4- at 1 receivers with exceedances up to 14 dB
- NCA5- at 0 receivers with exceedances up to 0 dB
- NCA6- at 11 receivers with exceedances up to 28 dB
- NCA7- at 0 receivers with exceedances up to 0 dB.

The duration of impact for an individual receiver is estimated at about six weeks for this construction scenario.

#### **INFR02-(Pre-construction) Rail and sleeper deliveries**

(Pre-construction) rail and sleeper deliveries works are predicted to exceed the proposal specific CNML:

- NCA1- at 135 receivers with exceedances up to 29 dB
- NCA2- at 0 receivers with exceedances up to 0 dB
- NCA3- at 0 receivers with exceedances up to 0 dB
- NCA4- at 1 receivers with exceedances up to 9 dB
- NCA5- at 0 receivers with exceedances up to 0 dB
- NCA6- at 8 receivers with exceedances up to 23 dB
- NCA7- at 0 receivers with exceedances up to 0 dB.

The duration of impact for an individual receiver is estimated at about 51 weeks for this construction scenario.

#### **INFR03-Camp operation**

Camp (temporary accommodation facilities) operation works are predicted to exceed the proposal specific CNML:

- NCA1- at 16 receivers with exceedances up to 11 dB
- NCA2- at 0 receivers with exceedances up to 0 dB
- NCA3- at 81 receivers with exceedances up to 21 dB
- NCA4- at 0 receivers with exceedances up to 0 dB
- NCA5- at 1 receivers with exceedances up to 8 dB

- NCA6- at 3 receivers with exceedances up to 6 dB
- NCA7- at 141 receivers with exceedances up to 39 dB.

The duration of impact for an individual receiver is estimated at about 48 months for this construction scenario.

#### **INFR04-Minor compounds**

Minor compounds works are predicted to exceed the proposal specific CNML:

- NCA1- at 69 receivers with exceedances up to 15 dB
- NCA2- at 3 receivers with exceedances up to 3 dB
- NCA3- at 0 receivers with exceedances up to 0 dB
- NCA4- at 9 receivers with exceedances up to 13 dB
- NCA5- at 6 receivers with exceedances up to 13 dB
- NCA6- at 4 receivers with exceedances up to 19 dB
- NCA7- at 0 receivers with exceedances up to 0 dB.

The duration of impact for an individual receiver is estimated to be about five weeks to six months on average for this construction scenario.

#### **INFR05-Structure compounds**

Structure compounds works are predicted to exceed the proposal specific CNML:

- NCA1- at 18 receivers with exceedances up to 28 dB
- NCA2- at 0 receivers with exceedances up to 0 dB
- NCA3- at 0 receivers with exceedances up to 0 dB
- NCA4- at 3 receivers with exceedances up to 6 dB
- NCA5- at 0 receivers with exceedances up to 0 dB
- NCA6- at 6 receivers with exceedances up to 9 dB
- NCA7- at 0 receivers with exceedances up to 0 dB.

The duration of impact for an individual receiver is estimated at about 26 months for this construction scenario.

#### **INFR06-General compounds**

General compounds works are predicted to exceed the proposal specific CNML:

- NCA1- at 2 receivers with exceedances up to 10 dB
- NCA2- at 3 receivers with exceedances up to 5 dB
- NCA3- at 0 receivers with exceedances up to 0 dB
- NCA4- at 13 receivers with exceedances up to 16 dB
- NCA5- at 3 receivers with exceedances up to 19 dB
- NCA6- at 3 receivers with exceedances up to 8 dB
- NCA7- at 0 receivers with exceedances up to 0 dB.

The average duration of impact for an individual receiver is estimated at about eight weeks to 12 months for this construction scenario.

### **INFR07-MFC operation**

MFC operation works are predicted to exceed the proposal specific CNML:

- NCA1- at 135 receivers with exceedances up to 29 dB
- NCA2- at 0 receivers with exceedances up to 0 dB
- NCA3- at 0 receivers with exceedances up to 0 dB
- NCA4- at 1 receivers with exceedances up to 9 dB
- NCA5- at 0 receivers with exceedances up to 0 dB
- NCA6- at 8 receivers with exceedances up to 23 dB
- NCA7- at 0 receivers with exceedances up to 0 dB.

The duration of impact for an individual receiver is estimated to be about 48 months for this construction scenario.

### **INFR08-Curban concrete precast yard**

Curban concrete precast yard works are predicted to exceed the proposal specific CNML:

- NCA1- at 0 receivers with exceedances up to 0 dB
- NCA2- at 0 receivers with exceedances up to 0 dB
- NCA3- at 0 receivers with exceedances up to 0 dB
- NCA4- at 1 receivers with exceedances up to 9 dB
- NCA5- at 0 receivers with exceedances up to 0 dB
- NCA6- at 0 receivers with exceedances up to 0 dB
- NCA7- at 0 receivers with exceedances up to 0 dB.

The duration of impact for an individual receiver is estimated at about 34 weeks for this construction scenario.

### **INFR09 Fixed-Batching Plants**

Fixed batching plants are predicted to exceed the proposal specific CNML:

- NCA1- at 63 receivers with exceedances up to 14 dB
- NCA2- at 0 receivers with exceedances up to 0 dB
- NCA3- at 0 receivers with exceedances up to 0 dB
- NCA4- at 5 receivers with exceedances up to 8 dB
- NCA5- at 0 receivers with exceedances up to 0 dB
- NCA6- at 4 receivers with exceedances up to 10 dB
- NCA7- at 0 receivers with exceedances up to 0 dB.

The duration of impact for an individual receiver is estimated at about 26 months for this construction scenario.

### **INFR10 Mobile-Batching Plants**

Mobile batching plants are predicted to exceed the proposal specific CNML:

- NCA1- at 103 receivers with exceedances up to 25 dB
- NCA2- at 3 receivers with exceedances up to 7 dB

- NCA3- at 0 receivers with exceedances up to 0 dB
- NCA4- at 16 receivers with exceedances up to 13 dB
- NCA5- at 5 receivers with exceedances up to 13 dB
- NCA6- at 1 receivers with exceedances up to 10 dB
- NCA7- at 0 receivers with exceedances up to 0 dB.

The duration of impact for an individual receiver is estimated at about 26 months for this construction scenario.

#### **INFR11-Borrow pits (Outside standard hours)**

Borrow pits (outside standard hours) works are predicted to exceed the proposal specific CNML:

- NCA1- at 0 receivers with exceedances up to 0 dB
- NCA2- at 0 receivers with exceedances up to 0 dB
- NCA3- at 0 receivers with exceedances up to 0 dB
- NCA4- at 0 receivers with exceedances up to 0 dB
- NCA5- at 0 receivers with exceedances up to 0 dB
- NCA6- at 3 receivers with exceedances up to 7 dB
- NCA7- at 0 receivers with exceedances up to 0 dB.

The duration of impact for an individual receiver is estimated at about three to 18 months for this construction scenario.

#### **INFR12-Borrow pits (Standard hours)**

Borrow pits (standard hours) works are predicted to exceed the proposal specific CNML:

- NCA1- at 28 receivers with exceedances up to 14 dB
- NCA2- at 0 receivers with exceedances up to 0 dB
- NCA3- at 0 receivers with exceedances up to 0 dB
- NCA4- at 0 receivers with exceedances up to 0 dB
- NCA5- at 2 receivers with exceedances up to 8 dB
- NCA6- at 33 receivers with exceedances up to 21 dB
- NCA7- at 0 receivers with exceedances up to 0 dB.

The duration of impact for an individual receiver is estimated at about three to 18 months for this construction scenario.

#### **INFR13-Camp establishment**

- NCA1- at 129 receivers with exceedances up to 21 dB
- NCA2- at 0 receivers with exceedances up to 0 dB
- NCA3- at 289 receivers with exceedances up to 31 dB
- NCA4- at 0 receivers with exceedances up to 0 dB
- NCA5- at 3 receivers with exceedances up to 18 dB
- NCA6- at 7 receivers with exceedances up to 16 dB
- NCA7- at 505 receivers with exceedances up to 49 dB.

The duration of impact for an individual receiver is estimated at about six weeks for this construction scenario.

#### Comparison to standard hours

Additional analysis has been carried out to collate the highest level of impact and numbers of noise impacted receivers for each of the assessed construction scenarios. The analysis considers construction activities conducted during standard hours and for OOHW. The criteria for OOHW is consistent across each OOHW period (evening and night) as low background noise levels result in the minimum of 35 dB(A)  $L_{Aeq}$  being applied. This comparison has been undertaken for residential receivers only as the noise management levels for standard hours and OOHW within the ICNG do not apply to non-residential receivers.

Table 5.50 indicates the numbers of residential receivers where the 'noise affected' level may be exceeded for each activity modelled for the assessment of construction infrastructure construction noise. The number of sensitive receivers that have been impacted for different locations across the study area and the value of the highest exceedances of the relevant ICNG CNMLs (Table 5.1) are provided in Table 5.36 to Table 5.49.

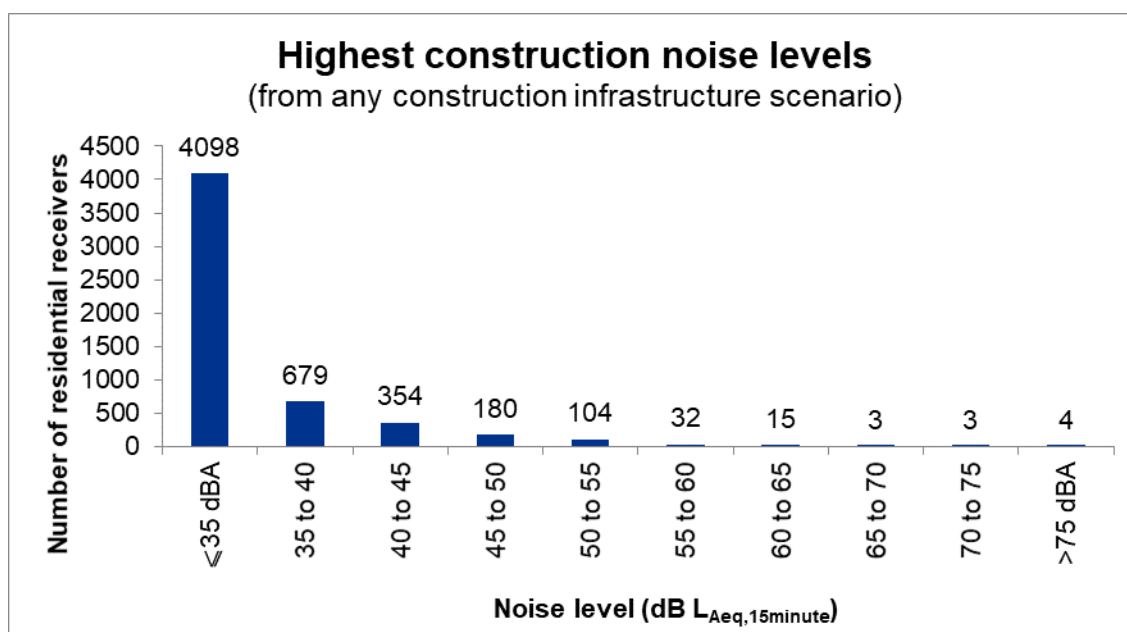
**Table 5.50 Construction infrastructure - construction activity noise management level exceedances at residential receivers for works during standard hours and OOHW**

Construction activity	Number of residential receivers with predicted exceedances of the relevant ICNG CNML		
	During standard hours (CNML = 45 dB(A))	During OOHW (all periods) (CNML = 35 dB(A))	Highly affected = 75 dB(A))
INFR01-(Pre-construction) MFC establishment	67	401	0
INFR02-(Pre-construction) Rail & sleeper deliveries	25	144	0
INFR03-Camp operation	41	242	0
INFR04-Minor compounds	12	91	0
INFR05-Structure compounds	8	27	0
INFR06-General compounds	4	24	0
INFR07-MFC operation	25	144	0
INFR08-MFC concrete precast yard	0	1	0
INFR09-Fixed batching plants	3	72	0
INFR10-Mobile batching plants	22	128	0
INFR11-Borrow pits (Outside standard hours)	0	3	0
INFR12-Borrow pits (Standard hours)	11	63	0
INFR13-Camp establishment	242	933	4



### Construction noise results summary

Figure 5.3 below presents the highest construction noise levels that would be experienced by individual receivers during any construction scenario for all residential receivers across the proposal site associated with construction infrastructure construction works.



**Figure 5.3 Construction infrastructure - highest construction noise level experienced at individual receivers**

The linear nature of an infrastructure project means that construction activities and associated noise levels will be transient as they progress along the route past noise sensitive receivers. Consequently, impacts identified in this assessment will not occur concurrently and the maximum level of impact would only occur when works are located at the closest point relative to each receiver.

This assessment also includes a number of conservative assumptions relating to operating duration, intensity and proximity of equipment. Actual construction activities are expected to have quieter periods and typically operate at further distance relative to a given noise sensitive receiver than the assessed locations. Therefore this assessment represents a likely worst-case for mobile construction activities where predicted levels of impact are only relevant for short periods in relation to the proposal's construction duration. Additionally, numbers of impacted receivers are presented in the context of the entire construction period and across the full length of the study area. Concurrently impacted receivers would typically be much lower as work occurs in a given area before progressing and moving away. Some activities do have a fixed location such as compounds, borrow pits and temporary accommodation facilities, however these would typically have lower source noise levels than mobile construction works such as earthmoving. Noise level, duration and extent of any impacts would be considered when determining appropriate mitigation measures.

In summary, the construction noise impact assessment for construction infrastructure indicates that:

- The highly affected level of 75 dB(A)  $L_{Aeq}$  is predicted to be exceeded at four residential receivers.
- Temporary workforce accommodation site establishment works (scenario INFR13) is the worst-case construction infrastructure noise scenario for extents of impact due to the location within and near to existing residential areas within towns. Noise levels are predicted to exceed the 35 dB(A)  $L_{Aeq}$  CNML at up to 933 residential receivers.

Establishment of temporary workforce accommodation is estimated to take about six weeks at each of the accommodation sites.

- Construction infrastructure activities during the primary proposal construction hours may exceed the relevant CNML at non-residential sensitive receivers including one community facility, 15 passive recreation receivers, one active recreation area and six commercial/industrial classified receivers. Construction noise management levels are applicable only when these facilities are in use.
- Construction infrastructure activities during standard hours have the potential to exceed the 45 dB(A)  $L_{Aeq}$  CNML at up to 322 residential receivers.
- Construction infrastructure activities during out of hours work have the potential to exceed the OOHW CNML of 35 dB(A)  $L_{Aeq}$  at up to 1,374 residential receivers total across all construction infrastructure assessment scenarios and across the full duration of the proposal construction. The construction scenario with the highest number of predicted impacts during OOHW is temporary workforce accommodation site establishment works (scenario INFR13) with impacts at up to 933 residential receivers.
- The duration of impact for an individual receiver from any given construction scenario is estimated to range from about six weeks for temporary workforce accommodation site establishment works (scenario INFR13) to about 48 months for operation of multifunction compounds (scenario INFR07).

## 5.2 Sleep disturbance and awakening impacts

The sleep disturbance and awakening assessment criteria are provided in section 2.5. Potential noise impacts have been considered through a maximum noise level ( $L_{Amax}$ ) assessment. Typically maximum ( $L_{Amax}$ ) noise levels are around 5 dB to 10 dB greater than the  $L_{Aeq(15\ min)}$  noise levels. A standard window will generally provide a 10 dB reduction when partially open and a 20 dB reduction when closed. As a potential worst-case and for consistency with other recent Inland Rail assessments it is assumed that a seven dB reduction is achieved where windows would be kept partially open at potentially impacted residential dwellings.

There is the potential for sleep disturbance and awakening impacts, with consideration to the RNP and *Noise Policy for Industry* (EPA 2017) criteria, if construction activities occur during the night-time period. Potential exceedances of these criteria are provided in Table 5.51 for rail infrastructure scenarios (including the worst-case cumulative scenarios). Table 5.52 for road infrastructure scenarios and Table 5.53 for construction infrastructure scenarios.

For rail infrastructure the noise predictions indicate that:

- Stripping topsoil and landscaping (scenarios RAIL03 and RAIL11) have the predicted worst case numbers of residential receivers impacted for sleep disturbance and awakening potential. These activities are predicted to exceed the external 52 dB(A)  $L_{Amax}$  NPI sleep disturbance criteria at up to 981 residential receivers and the internal 55 dB(A)  $L_{Amax}$  RNP awakening criteria at up to 220 residential receivers. The duration of impact for an individual receiver is estimated to range from about one day up to eight weeks for these scenarios.

For road infrastructure the noise predictions indicate that:

- Stripping topsoil, road earthworks and landscaping (scenarios ROAD02, ROAD03 and ROAD07) have the predicted worst case numbers of residential receivers impacted for sleep disturbance and awakening potential. These activities are predicted to exceed the external 52 dB(A)  $L_{Amax}$  NPI sleep disturbance criteria at up to 564 residential receivers and the internal 55 dB(A)  $L_{Amax}$  RNP awakening criteria at up to 69 residential receivers. The duration of impact for an individual receiver is estimated to range from about one day up to twelve weeks for these scenarios.

For construction infrastructure the noise predictions indicate that:

- Camp establishment (scenario INFR13) has the predicted worst case numbers of residential receivers impacted for sleep disturbance and awakening potential. This activity is predicted to exceed the external 52 dB(A)  $L_{Amax}$  NPI sleep disturbance criteria at up to 414 residential receivers and the internal 55 dB(A)  $L_{Amax}$  RNP awakening criteria at up to 90 residential receivers. The duration of impact for an individual receiver is estimated at about six weeks for this construction scenario.

Impacts identified in this assessment would not occur concurrently and the maximum level of impact would only occur when works are located at the closest point relative to each receiver. Sleep disturbance impacts are assessed for the night time period (10 pm to 7am), therefore are relevant for the first hour of work during the primary proposal construction hours (6am to 7am) or for out of hours works during rail corridor possessions and other potential activities that may occur outside of the primary proposed construction hours (see section 3.4.1). The likelihood of high noise generating activities being undertaken between 6am to 7am is considered low and potential sleep disturbance impacts would be experienced for limited periods.

Due to the numbers of potential sleep disturbance and awakening impacts a detailed assessment is to be undertaken as part of the CNVMP once further detail of construction locations, timing, and methods are known. The approach to mitigation is discussed in section 9.

**Table 5.51 Rail infrastructure - exceedances of sleep awakening and disturbance criteria**

Criteria		RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01	CL02
<i>Noise Policy for Industry sleep disturbance screening criteria</i>	Number of exceedances	756	174	981	761	202	810	63	108	722	294	981	356	1953	1270
	Maximum predicted exceedance (dB(A))	54	51	56	40	31	41	28	22	36	17	56	49	42	42
<i>Road Noise Policy sleep awakening criteria</i>	Number of exceedances	156	56	220	141	26	129	12	2	133	31	220	51	374	257
	Maximum predicted exceedance (dB(A))	44	41	46	30	21	31	18	12	26	7	46	39	32	32

**Table 5.52 Road infrastructure - exceedances of sleep awakening and disturbance criteria**

		ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08- Decommissioning
<i>Noise Policy for Industry sleep disturbance screening criteria</i>	Number of exceedances	404	564	564	404	209	261	564	133
	Maximum predicted exceedance (dB(A))	46	48	48	46	43	44	48	41
<i>Road Noise Policy sleep awakening criteria</i>	Number of exceedances	39	69	69	39	15	22	69	6
	Maximum predicted exceedance (dB(A))	36	38	38	36	33	34	38	31



**Table 5.53 Construction infrastructure - exceedances of sleep awakening and disturbance criteria**

		INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail & sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13-Camp Establishment
<i>Noise Policy for Industry sleep disturbance screening criteria</i>	Number of exceedances	122	52	90	20	12	9	52	1	13	33	1	23	414
	Maximum predicted exceedance (dB(A))	27	22	32	12	21	12	22	2	7	18	0	14	42
<i>Road Noise Policy sleep awakening criteria</i>	Number of exceedances	17	5	11	1	6	1	5	0	0	7	0	2	90
	Maximum predicted exceedance (dB(A))	17	12	22	2	11	2	12	-	-	8	-	4	32

## 5.3 Construction vibration impacts

### 5.3.1 Potential impacts of individual equipment

Table 5.54 outlines typical vibration levels for different plant activities sourced from the *Environmental Noise Management Manual* (RTA 2001), British Standard *BS 5228-2: 2009 Code of Practice for noise and vibration control on construction and open sites: Part 2 Vibration* and the *Construction Noise Strategy* (TfNSW 2017).

As stated in the *Environmental Noise Management Manual* (RTA 2001), it can be assumed that the vibration level of a source is inversely proportional to the distance source-receiver. Field variations show that the distance relationship generally varies between  $d^{-0.8}$  and  $d^{-1.6}$ , rather than  $d^{-1}$ . The figures below are based on the conservative assumption of  $d^{-0.8}$  unless otherwise stated.

The potential vibration levels due to the construction works at various distances are shown in Table 5.54.

**Table 5.54 Predicted construction vibration levels**

Vibration source	Distance to Source/Peak Particle Velocity (mm/s)			
	10 m	20 m	50 m	100 m
Roller	6.0	3.4	1.7	1.0
15 tonne vibratory roller	8.0	4.6	2.2	1.3
7 tonne compactor	6.0	3.4	1.7	1.0
Dozer	4.0	2.3	1.1	0.6
Backhoe	1.0	0.6	0.3	0.2
Excavator	2.1	1.2	0.6	0.3
Piling (impact)	30	17.2	8.3	4.8
Piling (vibratory) <sup>1</sup>	16.8	7.3	2.4	1.1
Piling (bored) <sup>1</sup>	7.4	4.3	2.1	1.2

Note 1: Based on levels derived from BS 5228-2. *Bored piling through stones or other obstruction*. Vibratory piling based on relationship provided in Table E.1

#### **Construction vibration buffer distances, structural damage**

Predicted safe working buffer distances to comply with the cosmetic damage, standard dwelling and heritage building structural damage criteria were calculated for typical vibration values and listed in Table 5.55. This table is based on advice given in *BS 7385-2:1993 Evaluation and measurement for vibration in buildings*.

While vibration may be amplified in multi-level buildings through the structure to the upper floors, the buffer distances provided in Table 5.55 are based on *DIN4150-3 (2016)* and are applicable at a building's foundation where "if these values are complied with, damage that reduces the serviceability of the building will not occur". *DIN4150-3 (2016)* specifies higher acceptable values for upper floors by a multiple of three to four compared to be base value for standard dwellings used in this assessment, therefore these buffers are considered appropriate for multi-level buildings of typical construction.

For the purposes of this assessment, non-residential receiver structures such as educational facilities, churches and medical facilities are assumed to have equivalent construction to standard dwellings. Passive and active recreational receivers have also been included as these may include facilities building, club houses or buildings for equipment storage.

**Table 5.55 Vibration buffer distances – structural damage**

Activity	Structural damage	
	Heritage building/structure DIN 4150-3 criteria (3.0 mm/s)	Standard dwellings DIN 4150-3 criteria (5.0 mm/s)
<b>General construction activities</b>		
Roller	24 m	13 m
15 tonne vibratory roller	35 m	18 m
7 tonne compactor	24 m	13 m
Dozer	15 m	8 m
Backhoe	3 m	2 m
Excavator	7 m	4 m
<b>Piling (bridges)</b>		
Piling (impact)	180 m	100 m
Piling (vibratory) <sup>1</sup>	50 m	30 m
Piling (bored) <sup>1</sup>	35 m	17 m

Note 1: Based on levels derived from BS 5228-2. *Bored piling through stones or other obstruction*. Vibratory piling based on relationship provided in Table E.1.

#### **Construction vibration buffer distances, human comfort and perception**

Predicted safe working buffer distances to comply with the human comfort, and human perception were calculated for typical vibration values and listed in Table 5.56 and Table 5.57 for residential receivers and non-residential receivers respectively. This table is based on advice given in *BS 5228-2:2009 Code of practice for noise and vibration on construction and open sites – Part 2: Vibration* and the AVTG. The various criteria buffers are interpreted as follows:

- The BS 5228-2:2009 criteria represents a level at which “It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if prior warning and explanation has been given to residents”
- The ‘preferred’ AVTG vibration dose values represent a goal at which there is low probability of adverse comment or disturbance to building occupants.
- For ‘maximum values’ the AVTG states: “Where all feasible and reasonable measures have been applied, values up to the maximum value may be used if they can be justified. For values beyond the maximum value, the operator should negotiate directly with the affected community.”

Vibration is typically attenuated through multi-levels building to upper floors, however in some cases it may be amplified in the upper floors due to structural resonances and other factors. Locations of multi-level buildings are not known at this stage and therefore should be reviewed on a case-by case basis when identified. As a guide for multi-level receivers, adoption of the preferred value buffers in Table 5.56 and Table 5.57 is anticipated to typically protect against exceedances of the acceptable maximum human comfort values.

**Table 5.56 Vibration buffer distances – human comfort and perception, residential receivers**

Equipment	Human comfort criteria based on BS 5228-2:2009 (1.0 mm/s)	Human comfort based on AVTG vibration dose value (m/s <sup>1.75</sup> )			
		Day preferred value 0.2 m/s <sup>1.75</sup>	Day maximum value 0.4 m/s <sup>1.75</sup>	Night preferred value 0.13 m/s <sup>1.75</sup>	Night maximum value 0.26 m/s <sup>1.75</sup>
Roller	90 m	220 m	89 m	160 m	65 m
15 tonne vibratory roller	140 m	310 m	130 m	230 m	94 m
7 tonne compactor	90 m	220 m	89 m	160 m	65 m
Dozer	60 m	130 m	54 m	94 m	39 m
Backhoe	10 m	23 m	9 m	17 m	7 m
Excavator	25 m	57 m	24 m	42 m	18 m
Piling impact)	700 m	1590 m	670 m	1170 m	490 m
Piling (vibratory)1	110 m	770 m	110 m	150 m	83 m
Piling (bored)	120 m	280 m	120 m	210 m	85 m

Note 1: Based on levels derived from BS 5228-2. *Bored piling through stones or other obstruction*. Vibratory piling based on relationship provided in Table E.1.

**Table 5.57 Vibration buffer distances – human comfort and perception, non-residential receivers**

Equipment	Human comfort criteria based on BS 5228-2:2009 (1.0 mm/s)	Human comfort based on AVTG vibration dose value (m/s <sup>1.75</sup> )			
		Day preferred value 0.4 m/s <sup>1.75</sup>	Day maximum value 0.8 m/s <sup>1.75</sup>	Night preferred value 0.4 m/s <sup>1.75</sup>	Night maximum value 0.8 m/s <sup>1.75</sup>
Roller	90 m	89 m	37 m	38 m	16 m
15 tonne vibratory roller	140 m	130 m	54 m	55 m	23 m
7 tonne compactor	90 m	89 m	37 m	38 m	16 m
Dozer	60 m	54 m	23 m	23 m	10 m
Backhoe	10 m	9 m	4 m	4 m	2 m
Excavator	25 m	24 m	10 m	10 m	4 m
Piling (impact)	700 m	670 m	280 m	290 m	120 m
Piling (vibratory)1	110 m	330 m	57 m	58 m	32 m
Piling (bored)	120 m	120 m	49 m	50 m	21 m

Note 1: Based on levels derived from BS 5228-2. *Bored piling through stones or other obstruction*. Vibratory piling based on relationship provided in Table E.1.

### 5.3.2 Construction vibration impacts on structures

With consideration to structural damage vibration impacts from general construction works activities, the expected magnitude of ground vibration should not be sufficient to cause damage if the equipment operates at distances greater than 18 metres from buildings of equivalent standard dwelling construction or 35 metres from heritage structures. Assessment of specific activities are presented below.

#### *Standard buildings*

Using the *DIN 4150-3: 1999-02 Structural Vibration – Part 3: Effects of vibration on structures* criteria, structural vibration impacts are summarised as follows:

- For vibration generating works within the construction footprint (dozer activities), standard dwellings or buildings of similar construction may be affected by vibration within a maximum of eight metres of the works. A total of 44 structures including three residential receivers were identified within this distance.
- For vibration generating works within the rail earthworks extent (vibratory roller activities), standard dwellings or buildings of similar construction may be affected by vibration within a maximum of 18 metres of the works. A total of 12 structures were identified within this distance. No residential receivers were identified.
- For vibration generating works associated with bridge construction (impact piling), standard dwellings or buildings of similar construction may be affected by vibration within a maximum of 100 metres of the works. A total of 19 structures including five residential receivers were identified within this distance.

Construction would progress along the preferred infrastructure site, and vibration impacts would be experienced for relatively short times at most locations. Measures to mitigate these potential impacts are described in section 9.

#### *Identified heritage structures within structural vibration buffers*

Heritage items in the vicinity of the proposal site were identified as part of the *ARTC Inland Rail Narromine to Narrabri Non-Aboriginal Heritage Assessment and Statement of Heritage Impact* (JacobsGHD, 2020a). Listed and potential heritage items within heritage item buffer distances are identified in Table 5.58. All other listed and potential heritage items identified are not located within the buffer distances and would not be impacted by construction vibration. Potential impacts are summarised below:

- Two locally listed heritage items (Woodvale Park Private Cemetery and Curban Inn site) and one potential heritage item (Convict Road, Baradine) do not have any structures and would therefore not be impacted by construction vibration.
- Two potential heritage items, Drinane Public School site and Corrugated iron hut with chimney, would be removed as part of the proposal and therefore there are no construction vibration impacts.
- Three potential heritage items, Kickabil Homestead and Woolshed, Allandale Homestead and Two storey barn / shed, are within the construction footprint however, only utility adjustment works are proposed and therefore there are no construction vibration impacts. In addition, subject to further investigations the two storey barn/shed may be removed as part of the proposal.
- The potential heritage item, Graves of Dingwell children, has no structures and may be removed as part of the proposal and therefore there are no construction vibration impacts.



- The curtilage for the potential heritage item, Digilah Homestead, is located within the construction footprint however, the buildings are not located within any of the vibration buffers.

Therefore there are no listed or potential heritage structures that would be impacted by construction vibration.

**Table 5.58 Heritage structures within construction vibration buffers**

Heritage Item	Status	Within construction footprint?	Within vibration buffer?			
			Construction footprint (Dozer, 15 m buffer)	Rail earthworks extent (Vibratory roller, 35 m buffer)	Bridges (impact piling, 180 m buffer)	Road earthworks extent (Vibratory roller, 35 m buffer)
Drinane Public School site	Potential	Yes	Yes	Yes	No	No
Kickabil Homestead and Woolshed	Potential	Yes (utility adjustment only)	No	No	No	No
Woodvale Park Private Cemetery	Listed (local)	Yes	Yes	Yes	Yes	Yes
Curban Inn site	Listed (local)	Yes	Yes	No	Yes	Yes
Allandale Homestead	Potential	Yes (utility adjustment only)	No	No	No	No
Corrugated iron hut with chimney	Potential	Yes	Yes	Yes	No	No
Digilah Homestead	Potential	Yes	No	No	No	No
Convict Road, Baradine	Potential	Yes	Yes	Yes	No	No
Graves of Dingwell children	Potential	Yes	Yes	Yes	No	No
Two storey barn / shed	Potential	Yes (utility adjustment only)	No	No	No	No

### 5.3.3 Human comfort impacts

#### *Rail infrastructure*

The number of potentially impacted receivers are discussed below and provided in Table 5.59 for the worst-case anticipated vibration generating for a set of representative rail infrastructure scenarios. Further information is provided as figures in Appendix L and Appendix M that show the sensitive receivers located within the buffer distances as per those provided in the AVTG, which adopts *BS 6472:1992 Evaluation of human exposure to vibration in buildings (1–80 Hz)*, and those provided in *BS 5228-2: 2009 Code of practice for noise and vibration on construction and open sites – Part 2: Vibration*. Identification numbers for potentially impacted sensitive receivers are presented in Table 5.60.

Using the BS 6472:1992 criteria adopted by the AVTG, human comfort impacts are summarised as follows:

- For vibration generating works within the construction footprint (dozer activities), receivers may be affected by vibration within a maximum of 54 metres of the works. A total of seven residential receivers were identified within this distance. Nineteen commercial/industrial receivers may be affected within 23 metres of the works. No other non-residential sensitive locations were identified within the human comfort buffer distance for these works.
- For vibration generating works within the rail earthworks extent (vibratory roller activities), receivers may be affected by vibration within a maximum of 130 metres of the works. A total of eight residential receivers were identified within this distance. Fourteen commercial/industrial premises may be affected within 54 metres of the works. No other non-residential sensitive locations were identified within this buffer distance.
- For vibration generating works associated with bridge construction (impact piling), receivers may be affected by vibration within a maximum of 670 metres of the works. A total of 39 residential receivers were identified within this distance. Forty seven commercial/industrial premises may be affected within 280 metres of the works. No other non-residential sensitive locations were identified within this buffer distance.

Using the BS 5228-2:2009 criteria, during general construction works, vibration may be perceptible at certain times within 60 metres of dozer operation (eight residential receivers), 140 metres of the vibratory roller activities (10 residential receivers) and 700 metres of impact piling (41 residential receivers). Appendix L (Clearing and stripping) and Appendix M (Rail earthworks and bridges-impact piling) provides the location of these receivers in the context of the vibration buffers.

Construction would progress along the preferred infrastructure site, and vibration impacts would be experienced for relatively short periods at most locations. Measures to mitigate these potential impacts are described in section 9.

**Table 5.59 Construction vibration activities - number of potentially impacted receivers (residential)**

Activity	Number of receivers potentially impacted by vibration		
	(based on BS 5228-2.2009 (1.0 mm/s))	(based on AVTG vibration dose day maximum value 0.4 M/S <sup>1.75</sup> )	(based on AVTG vibration dose night maximum value 0.26 M/S <sup>1.75</sup> )
Construction footprint (Dozer)	8	7	7
Rail earthworks extent (Vibratory roller)	10	8	5
Bridges (impact piling)	41	39	28
Road earthworks extent (Vibratory roller)	1	1	1
Borrow pit operation (Dozer)	0	0	0
Borrow pit finishing works (Vibratory roller)	0	0	0

**Table 5.60 Residential receivers within vibration buffers – rail infrastructure**

Receiver ID	Construction footprint (Dozer)			Rail earthworks extent (Vibratory roller)			Bridges (impact piling)		
	BS 5228-2:2009 (1 mm/s, 60 m)	AVTG day max (0.4 m/s <sup>1.75</sup> , 54 m)	AVTG day max (0.26 m/s <sup>1.75</sup> , 39 m)	BS 5228-2:2009 (1 mm/s, 140 m)	AVTG day max (0.4 m/s <sup>1.75</sup> , 128 m)	AVTG night max (0.26 m/s <sup>1.75</sup> , 94 m)	BS 5228-2:2009 (1 mm/s, 700 m)	AVTG day max (0.4 m/s <sup>1.75</sup> , 666 m)	AVTG night max (0.26 m/s <sup>1.75</sup> , 489 m)
243868							Y	Y	
243475				Y					
332838	Y	Y	Y	Y	Y				
244309							Y	Y	
332063	Y	Y	Y	Y	Y	Y			
332056							Y	Y	
332434							Y		
243690							Y		
332023							Y	Y	Y
331901	Y	Y	Y	Y	Y	Y	Y	Y	
332467							Y	Y	Y
332459							Y	Y	
332471							Y	Y	Y
331851				Y	Y		Y	Y	Y
332075							Y	Y	Y
331852							Y	Y	Y
246451							Y	Y	Y
246365							Y	Y	
246532							Y	Y	Y
245534				Y			Y	Y	Y
245454							Y	Y	Y
245167							Y	Y	
246536							Y	Y	Y
246470							Y	Y	Y



Receiver ID	Construction footprint (Dozer)			Rail earthworks extent (Vibratory roller)			Bridges (impact piling)		
	BS 5228-2:2009 (1 mm/s, 60 m)	AVTG day max (0.4 m/s <sup>1.75</sup> , 54 m)	AVTG day max (0.26 m/s <sup>1.75</sup> , 39 m)	BS 5228-2:2009 (1 mm/s, 140 m)	AVTG day max (0.4 m/s <sup>1.75</sup> , 128 m)	AVTG night max (0.26 m/s <sup>1.75</sup> , 94 m)	BS 5228-2:2009 (1 mm/s, 700 m)	AVTG day max (0.4 m/s <sup>1.75</sup> , 666 m)	AVTG night max (0.26 m/s <sup>1.75</sup> , 489 m)
246457							Y	Y	Y
246439							Y	Y	Y
246399							Y	Y	
246387							Y	Y	
245544							Y	Y	Y
245517	Y	Y	Y	Y	Y	Y	Y	Y	Y
246271							Y	Y	Y
246233							Y	Y	Y
246320							Y	Y	
246054							Y	Y	Y
245512	Y	Y	Y	Y	Y	Y	Y	Y	Y
245459	Y	Y	Y	Y	Y	Y	Y	Y	Y
245524	Y			Y	Y		Y	Y	Y
246187							Y	Y	Y
246517	Y	Y	Y				Y	Y	Y
246464							Y	Y	Y
246433							Y	Y	Y
246369							Y	Y	
245523							Y	Y	Y
245462							Y	Y	Y

## Road infrastructure

The number of potentially impacted receivers are discussed below and provided in Table 5.61 for the worst-case anticipated vibration generating for a set of representative road infrastructure scenarios. Further information is provided as figures in Appendix L that show the sensitive receivers located within the buffer distances as per those provided in the AVTG, which adopts *BS 6472:1992 Evaluation of human exposure to vibration in buildings (1–80 Hz)*, and those provided in *BS 5228-2: 2009 Code of practice for noise and vibration on construction and open sites – Part 2: Vibration*. Identification numbers for potentially impacted sensitive receivers are presented in Table 5.62.

Using the BS 6472:1992 criteria adopted by the AVTG, human comfort impacts are summarised as follows:

- For vibration generating works within the road construction earthworks extent (vibratory roller activities), receivers may be affected by vibration within a maximum of 130 metres of the works. One residential receiver was identified within this distance. Other sensitive land uses, such as offices, schools, educational institutions, and places of worship may be affected within 54 metres of the works. One community facility and nine commercial/industrial premises was identified within this buffer distance. No other non-residential sensitive locations were identified within this buffer distance.

Using the BS 5228-2:2009 criteria, during general construction works, vibration may be perceptible at certain times within 140 metres of the vibratory roller activities (one residential receiver). Appendix L provides the location of these receivers in the context of the vibration buffers.

Construction would progress along the preferred infrastructure site, and vibration impacts would be experienced for relatively short times at most locations. Measures to mitigate these potential impacts are described in section 9.

**Table 5.61 Construction vibration activities number of potentially impacted receivers (residential)**

Activity	Number of receivers potentially impacted by vibration		
	(based on BS 5228-2:2009 (1.0 mm/s))	(based on AVTG vibration dose day maximum value 0.4 m/s <sup>1.75</sup> )	(based on AVTG vibration dose night maximum value 0.26 m/s <sup>1.75</sup> )
Rail earthworks extent (Vibratory roller)	1	1	1

**Table 5.62 Residential receivers within vibration buffers – road construction works**

Receiver ID	Road earthworks extent (Vibratory roller)		
	BS 5228-2:2009 (1 mm/s, 60 m)	AVTG day max (0.4 m/s <sup>1.75</sup> , 54 m)	AVTG night max (0.26 m/s <sup>1.75</sup> , 39 m)
246517	Y	Y	Y

### Construction infrastructure

The number of potentially impacted receivers are discussed below and provided in Table 5.63 for the worst-case anticipated vibration generating for a set of representative construction infrastructure scenarios for borrow pits.

Using the BS 6472:1992 criteria adopted by the AVTG, human comfort impacts are summarised as follows:

- For vibration generating works within the borrow pit footprints (dozer activities), receivers may be affected by vibration within a maximum of 54 metres of the works and other sensitive land uses, such as offices, schools, educational institutions, and places of worship may be affected within 23 metres. No residential or non-residential sensitive locations were identified within these buffer distances from the borrow pits.
- For vibration generating works within the borrow pit footprints during finishing works (vibratory roller activities), receivers may be affected by vibration within a maximum of 130 metres of the works and other sensitive land uses, such as offices, schools, educational institutions, and places of worship may be affected within 54 metres. No residential or non-residential sensitive locations were identified within these buffer distances from the borrow pits.

Using the BS 5228-2:2009 criteria, during general construction works, vibration may be perceptible at certain times within 60 metres of dozer operation (no residential receivers) and 140 metres of the vibratory roller activities (no residential receivers).

While no impacts are predicted, standard construction practice associated with the proposal includes measures to further minimise the potential for impacts, as described in section 9.

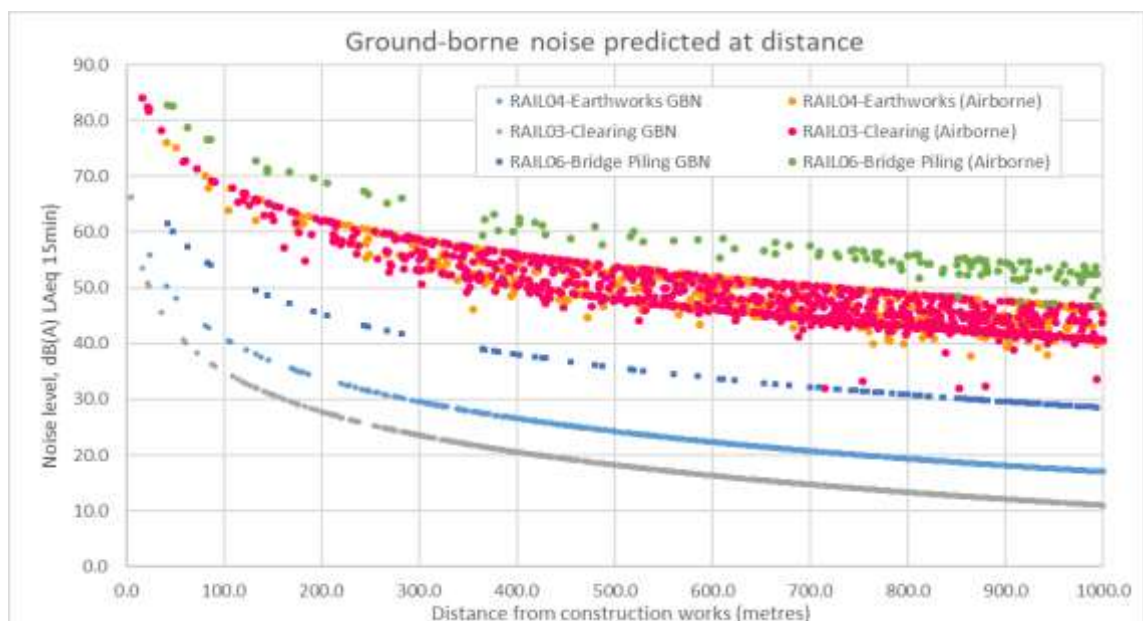
**Table 5.63 Construction vibration activities number of potentially impacted receivers (residential)**

Activity	Number of receivers potentially impacted by vibration		
	(based on BS 5228-2:2009 (1.0 mm/s))	(based on AVTG vibration dose day maximum value 0.4 m/s <sup>1.75</sup> )	(based on AVTG vibration dose night maximum value 0.26 m/s <sup>1.75</sup> )
<i>Borrow pit footprint (Dozer)</i>	0	0	0
<i>Borrow pit footprint (Vibratory roller)</i>	0	0	0

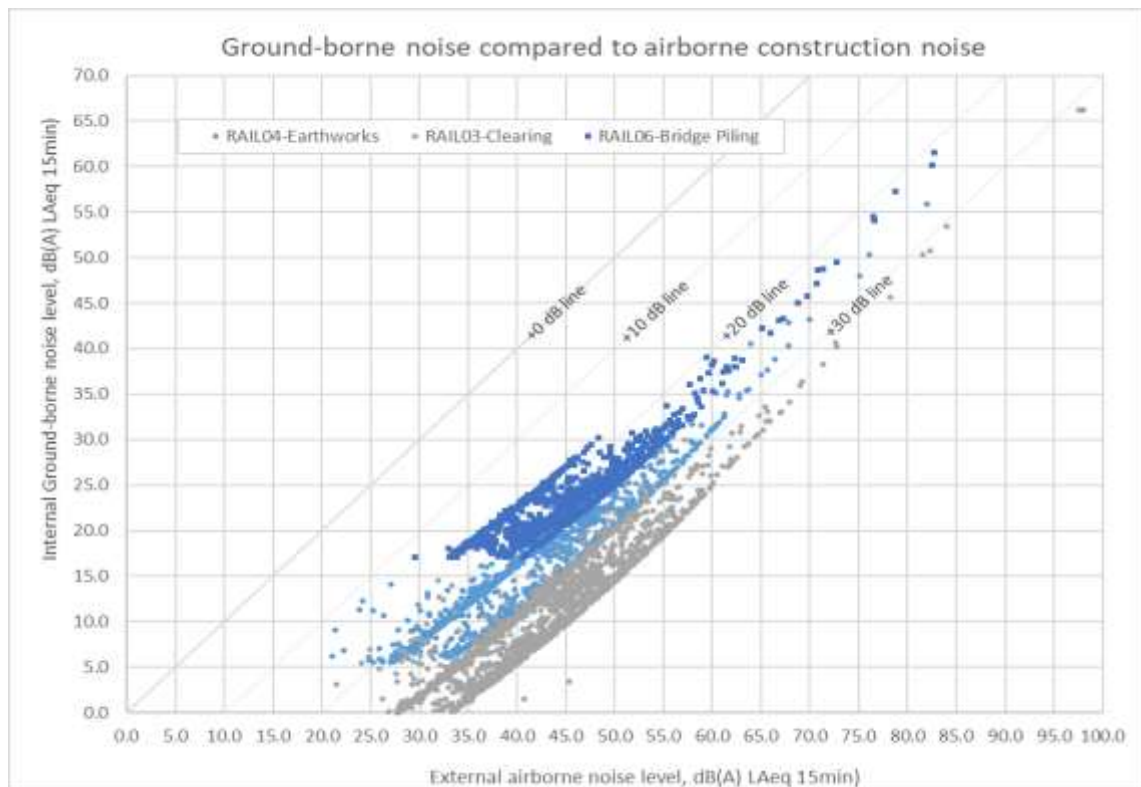
## 5.4 Construction ground-borne noise impacts

Ground-borne noise has been assessed for the same construction scenarios as human comfort vibration (see section 5.3.3). The number of potentially impacted receivers are discussed below for the anticipated ground-borne noise generating activities. Ground-borne noise criteria only apply where levels are higher than airborne noise levels within the same room, therefore this assessment is based on the comparison between the two noise types and indicates the distance from construction works at which ground-borne noise is predicted to exceed the 35 dB(A)  $L_{Aeq}(15 \text{ min})$  internal noise criteria. Identification numbers for potentially impacted sensitive receivers are presented in Table 5.64

Ground-borne noise levels (internal) and airborne noise levels (external) from the same construction activities are presented in Figure 5.4 relative to the distance from the works. As indicated in Figure 5.5, where ground-borne noise is predicted to be louder than 35 dB(A) the external airborne noise are typically louder by +20 dB or more. The numbers of potentially impacted receivers are discussed in the following sections.



**Figure 5.4 Ground-borne noise predicted at distance**



**Figure 5.5 Ground-borne noise compared to airborne construction noise**

#### 5.4.1 Rail infrastructure

Ground-borne noise impacts associated with rail infrastructure construction scenarios are summarised as follows:

- For vibration generating works within the construction footprint (dozer activities), receivers may be subject to ground-borne noise levels of greater than 35 dB(A)  $L_{Aeq}(15\text{ min})$  at distances of up to 100 metres from the works. A total of 12 residential receivers were identified within this distance. External airborne noise levels at these receivers are predicted to be 31 dB to 33 dB greater than ground-borne noise. Therefore ground-borne noise impacts associated with dozer operations within the construction footprint are not anticipated for dwellings of typical lightweight construction, however those with significant façade attenuation may result with higher internal ground-borne noise levels and therefore may exceed the night-time criteria for works conducted between 6am and 7am.
- For vibration generating works associated with rail earthworks, receivers may be subject to ground-borne noise levels of greater than 35 dB(A)  $L_{Aeq}(15\text{ min})$  at distances of up to 180 metres from the works. A total of 15 residential receivers were identified within this distance. External airborne noise levels at these receivers are predicted to be 23 dB to 28 dB greater than ground-borne noise. Therefore ground-borne noise impacts associated with vibratory roller operations within the construction footprint are not anticipated for dwellings of typical lightweight construction, however those with significant façade attenuation may result with higher internal ground-borne noise levels and therefore may exceed the night-time criteria for works conducted between 6am and 7am.
- For vibration generating works associated with bridge construction (impact piling), receivers may be subject to ground-borne noise levels of greater than 35 dB(A)  $L_{Aeq}(15\text{ min})$  at distances of up to 540 metres from the works. A total of 31 residential receivers were identified within this distance. External airborne noise levels at these receivers are predicted to be 20 dB to 24 dB greater than ground-borne noise. Therefore ground-borne noise impacts associated with impact piling operations within the construction footprint are



not anticipated for dwellings of typical lightweight construction, however those with significant façade attenuation may result with higher internal ground-borne noise levels and therefore may exceed the night-time criteria for works conducted between 6am and 7am.

Construction would progress along the preferred infrastructure site, and ground-borne noise impacts would be experienced for relatively short times at most locations. Measures to mitigate these potential impacts are described in section 9

#### **5.4.2 Road infrastructure**

Ground-borne noise impacts associated with road infrastructure construction scenarios are summarised as follows:

- For vibration generating works associated with road earthworks, receivers may be subject to ground-borne noise levels of greater than 35 dB(A)  $L_{Aeq (15 \text{ min})}$  at distances of up to 180 metres from the works. A total of two residential receivers were identified within this distance. External airborne noise levels at these receivers are predicted to be 21 dB to 28 dB greater than ground-borne noise. Therefore ground-borne noise impacts associated with vibratory roller operations within the construction footprint are not anticipated for dwellings of typical lightweight construction, however those with significant façade attenuation may result with higher internal ground-borne noise levels and therefore may exceed the night-time criteria for works conducted between 6am and 7am.

Construction would progress along the preferred infrastructure site, and ground-borne noise impacts would be experienced for relatively short times at most locations. Measures to mitigate these potential impacts are described in section 9

#### **5.4.3 Construction infrastructure**

Ground-borne noise impacts associated with construction infrastructure scenarios are summarised as follows:

- For vibration generating works associated with borrow pit operations and finishing works (dozer and vibratory roller), no residential receivers are predicted to receive ground-borne noise levels exceeding the criteria.

**Table 5.64 Residential receivers within ground-borne noise buffers**

Receiver ID	Clearing (Dozer)		Rail earthworks (Vibratory roller)		Bridges (impact piling)		Road earthworks (Vibratory roller)	
	Ground-borne noise dB(A) $L_{Aeq}$ (15 min)	Air-borne noise minus ground-borne noise dB(A)	Ground-borne noise dB(A) $L_{Aeq}$ (15 min)	Air-borne noise minus ground-borne noise dB(A)	Ground-borne noise dB(A) $L_{Aeq}$ (15 min)	Air-borne noise minus ground-borne noise dB(A)	Ground-borne noise dB(A) $L_{Aeq}$ (15 min)	Air-borne noise minus ground-borne noise dB(A)
243868	-	-	-	-	35	25	-	-
333005	38	33	-	-	-	-	-	-
243475	-	-	38	28	-	-	-	-
239748	-	-	35	26	-	-	-	-
332838	66	32	40	27	-	-	-	-
332063	50	31	50	26	-	-	-	-
332023	-	-	-	-	37	24	-	-
246673	36	33	37	28	-	-	-	-
331901	66	31	56	26	-	-	-	-
332467	-	-	-	-	43	24	-	-
332471	-	-	-	-	36	22	-	-
244141	-	-	-	-	-	-	37	28
331851	36	33	39	28	49	23	-	-
332075	-	-	36	28	46	24	-	-
331852	-	-	-	-	42	24	-	-
246451	-	-	-	-	38	22	-	-
246532	-	-	-	-	47	24	-	-
245534	40	33	38	24	54	23	-	-
245454	-	-	35	28	45	24	-	-
246536	-	-	-	-	43	24	-	-
246470	-	-	-	-	42	23	-	-
246457	-	-	-	-	39	22	-	-

Receiver ID	Clearing (Dozer)		Rail earthworks (Vibratory roller)		Bridges (impact piling)		Road earthworks (Vibratory roller)	
	Ground-borne noise dB(A) L <sub>Aeq</sub> (15 min)	Air-borne noise minus ground-borne noise dB(A)	Ground-borne noise dB(A) L <sub>Aeq</sub> (15 min)	Air-borne noise minus ground-borne noise dB(A)	Ground-borne noise dB(A) L <sub>Aeq</sub> (15 min)	Air-borne noise minus ground-borne noise dB(A)	Ground-borne noise dB(A) L <sub>Aeq</sub> (15 min)	Air-borne noise minus ground-borne noise dB(A)
246439	-	-	-	-	37	22	-	-
246399	-	-	-	-	35	23	-	-
245544	-	-	-	-	38	24	-	-
245517	53	31	43	25	62	21	-	-
246271	-	-	-	-	38	24	-	-
246233	-	-	-	-	38	24	-	-
246320	-	-	-	-	35	24	-	-
246054	-	-	-	-	39	23	-	-
245512	51	32	43	27	60	22	-	-
245459	46	33	48	27	50	23	-	-
245524	41	32	41	23	54	22	-	-
246187	-	-	-	-	39	24	-	-
246517	66	32	35	25	57	21	69	21
246464	-	-	-	-	39	20	-	-
246433	-	-	-	-	37	22	-	-
245523	-	-	-	-	49	22	-	-
245462	-	-	-	-	36	25	-	-

## 5.5 Construction blasting impacts

Blasting may need to be carried out at two borrow pits. The borrow pits would provide material for construction of the rail alignment and associated infrastructure. Blasting has the potential to generate ground vibration and airblast overpressure impacts on the surrounding environment.

The locations of the borrow pits are (refer Figure 1.3):

- Borrow Pit C – Euromedah Road, Narromine
- Borrow Pit D – Perimeter Road, Narrabri.

Blasting details, such as explosive charge mass or local ground properties are not known at this stage. These variables can affect the magnitude and transmission characteristics of blasting. A general blasting assessment has been carried out in accordance with AS 2187.2 -2006 *Explosives – storage and use*, which provides site exponents for ‘average’ meteorological attenuation and ground conditions. The following equation is provided in AS 2187.2 for ground vibration.

$$V = K_g \left( \frac{R}{Q^{\frac{1}{2}}} \right)^{-B}$$

The parameters of this equation are described in Table 5.65.

**Table 5.65 Construction blasting parameters**

Parameter	Description	Value
V	Ground vibration as peak particle velocity, mm/s	Calculated
$K_g$	Site constant for average conditions	1,140
R	Distance between charge and measurement point, m	0 to 500
Q	Charge mass, kg	5 to 100
B	Site exponent for average conditions	1.6

The equation provided in AS 2187.2 for airblast overpressure is:

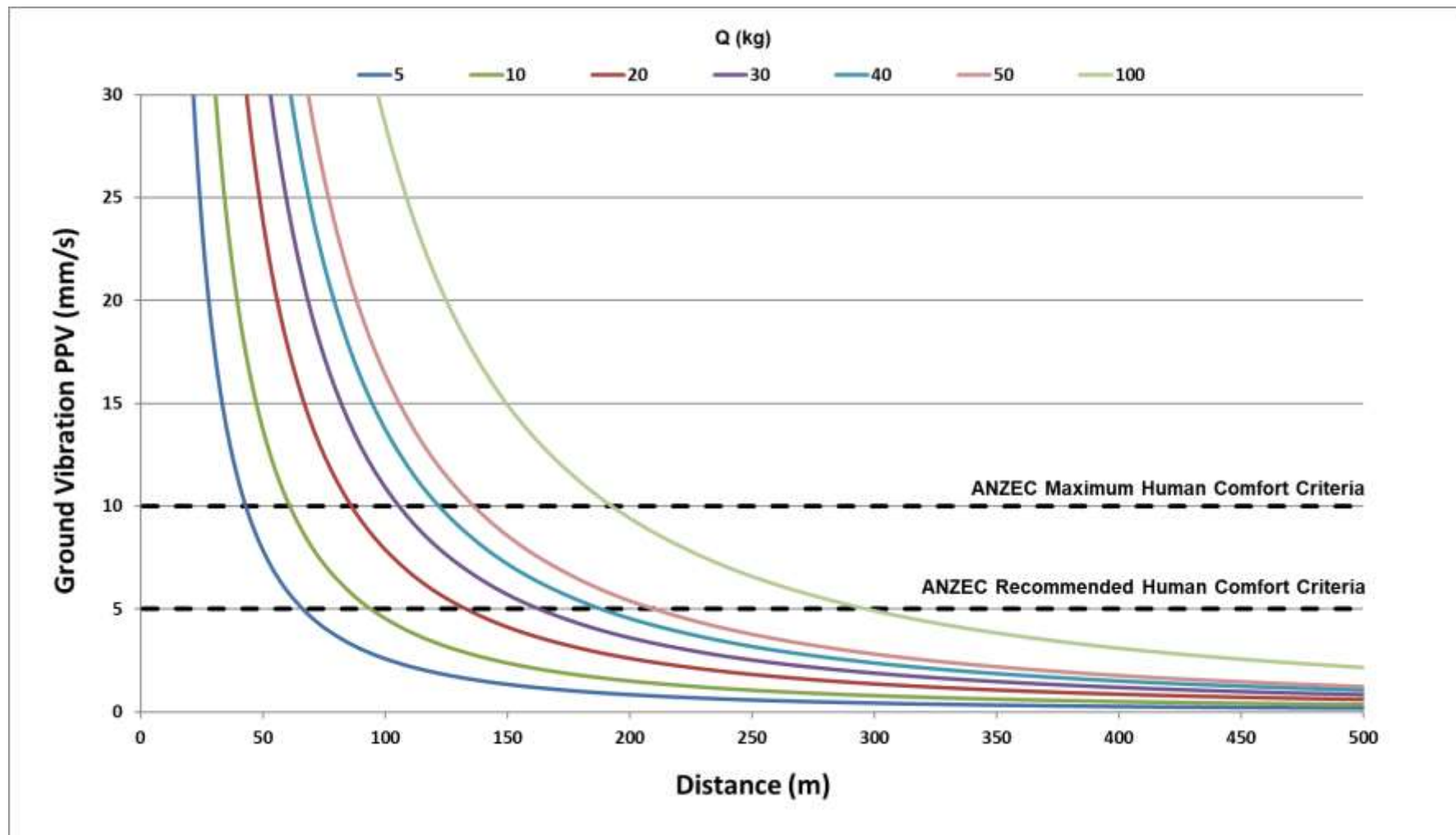
$$P = K_a \left( \frac{R}{Q^{\frac{1}{3}}} \right)^a$$

The parameters of this equation are described in Table 5.66.

**Table 5.66 Construction blasting parameters**

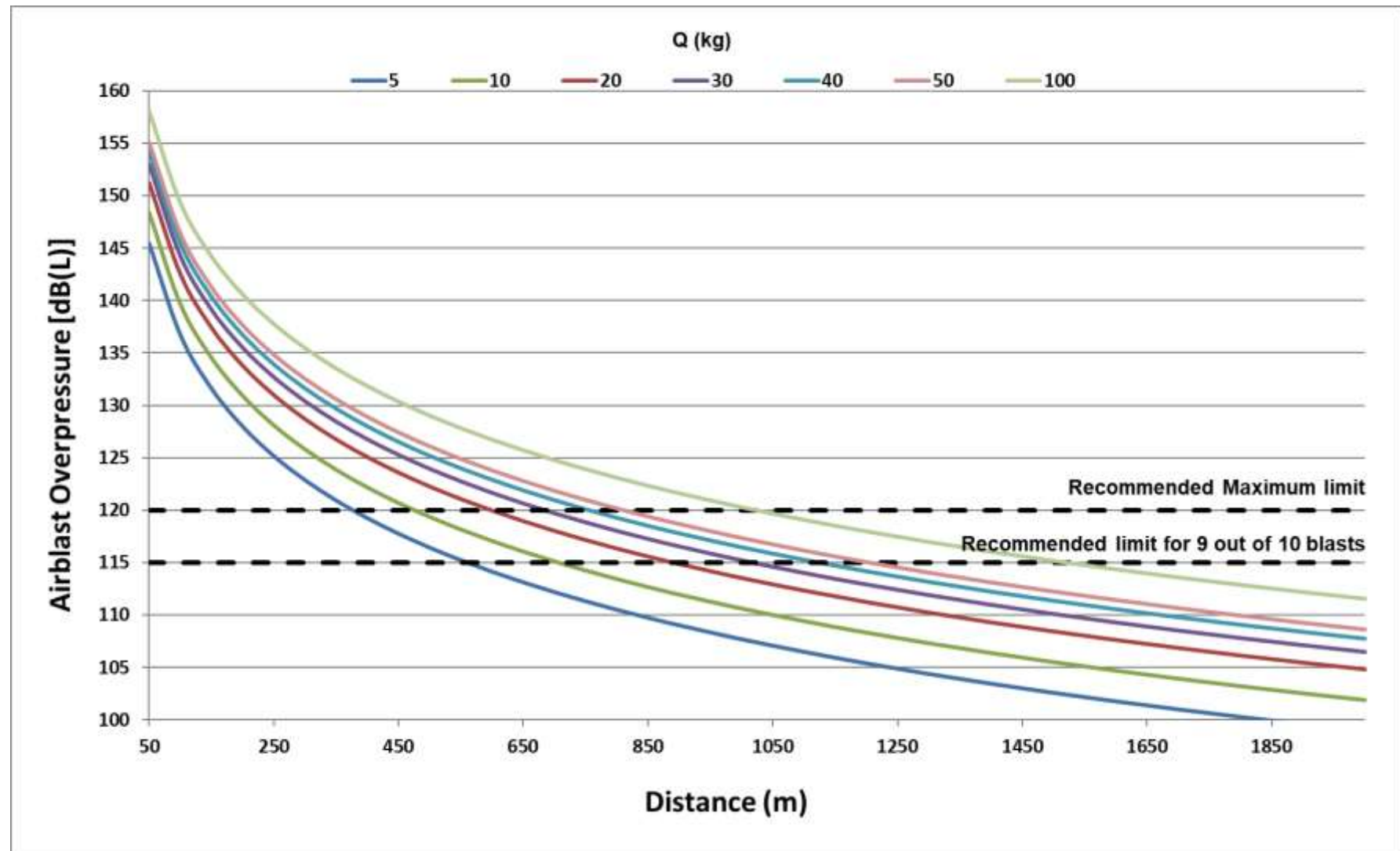
Parameter	Description	Value
P	Airblast overpressure, kPa	Calculated
$K_a$	Site constant for average conditions	50
R	Distance between charge and measurement point, m	0 to 2,000
Q	Charge mass, kg	5 to 100
a	Site exponent for average conditions	-1.45

Ground vibration and airblast overpressure levels at various distance from the blasting site have been calculated and are shown in Figure 5.6 and Figure 5.7 for various charge masses. Airblast overpressure levels have been calculated based on a confined blasthole charge.



**Figure 5.6 Ground vibration levels at different distances due to blasting for various charge masses**





**Figure 5.7 Airblast overpressure levels for various charge masses with distance**

The recommended maximum airblast overpressure and ground vibration criteria in section 2.8 may be exceeded at some sensitive receivers. The level of overpressure or vibration experienced will be dependent on the mass of the charge used for blasting and the ground conditions experienced on-site. Receivers located within the airblast overpressure impact distances for different charge masses have been identified in Table 5.67 and shown in Figure 5.8 (borrow pit C) and Figure 5.9 (borrow pit D).

The ground vibration criteria is not predicted to be exceeded due to blasting with consideration to the assumptions of this assessment.

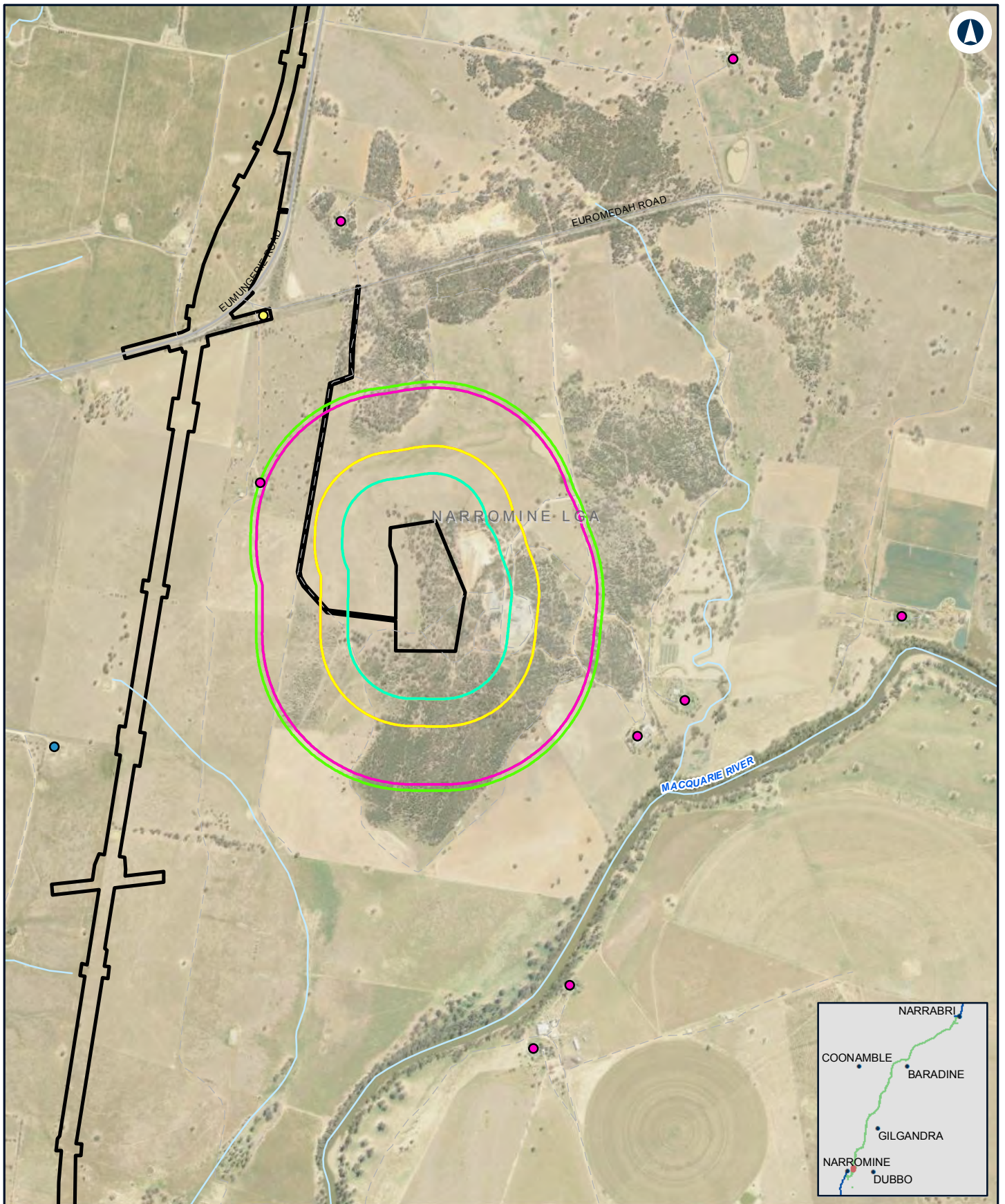
The maximum number of receivers that may exceed the recommended maximum airblast overpressure level, based on a 100 kilogram charge mass, are:

- Borrow Pit C: 5 receivers
- Borrow Pit D: 7 receivers.

This number would decrease with a smaller charge mass. The impact distances should be refined for community consultation purposes once blasting details are known.

**Table 5.67 Receivers potentially affected by construction blasting**

Receiver	Distance from borrow pit, m	Nearest borrow pit	Maximum instantaneous charge mass, kg						
			5	10	20	30	40	50	100
Impact distance, m			560	710	890	1020	1120	1210	1520
331749	550	C	X	X	X	X	X	X	X
331740	790	C			X	X	X	X	X
324678	890	C			X	X	X	X	X
331735	1,120	C					X	X	X
331739	1,420	C							X
331638	860	D				X	X	X	X
331641	1,140	D						X	X
331644	1,320	D							X
331645	1,340	D							X
331648	1,350	D							X
331649	1,350	D							X
331650	1,370	D							X
331637	1,510	D							
331646	1,610	D							



## NARROMINE TO NARRABRI

## Borrow Pit C blasting impacts

Figure 5.8

0 0.25 0.5  
Km

Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD

Scale: 1:20,000

Data Sources: Basemap layers: NSWSS; All other la

### LEGEND

Construction footprint

193 m buffer: 10 mm/s PPV - 100 kg charge mass

298 m buffer: 5 mm/s PPV - 100 kg charge mass

521 m buffer: 115 dB (Lin Peak) - 4 kg charge mass

544 m buffer: 120 dB (Lin Peak) - 15 kg charge mass

### Structure type

Active recreation

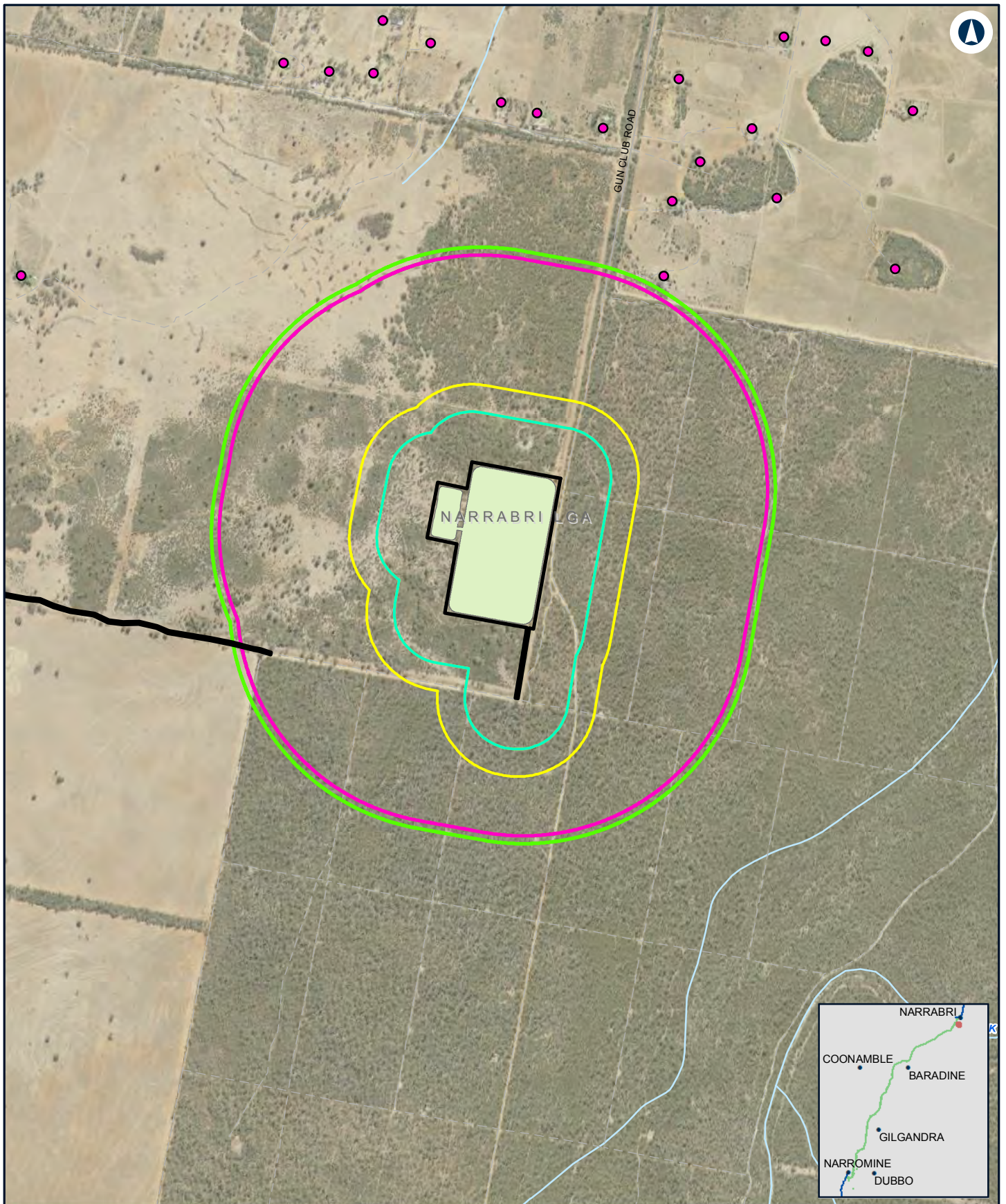
Community

Residential

**INLAND RAIL** **ARTC**

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





## NARROMINE TO NARRABRI

## Borrow Pit D blasting impacts

Figure 5.9

0 0.25 0.5  
Km

Coordinate System: GDA 1994 MGA Zone 55

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Data Sources: Basemap layers: NSWSS; All other layers: JacobsGHD

Table 5.68 shows the distances that are required to meet the recommended maximum and maximum airblast overpressure and ground vibration criteria. Note that the recommended maximum criteria of 115 dB(Lin)<sub>peak</sub> may be exceeded on up to five per cent of the total number of blasts over a period of 12 months up to a maximum level of 120 dB(Lin)<sub>peak</sub>.

The airblast overpressure levels will control the charge mass that may be used. Near Borrow Pit C, the charge mass should be limited to below 4 kilograms. The largest charge mass that may be used without exceeding the maximum criteria at the nearest receiver (331749) is 15 kilograms.

At Borrow Pit D, the charge mass should be limited to below 15 kilograms. The largest charge mass that may be used without exceeding the maximum criteria at the nearest receiver (331638) is 55 kilograms.

**Table 5.68 Blasting distances to comply with blasting criteria, m**

Charge mass, kg	Airblast overpressure		Ground vibration	
	Recommended maximum	Maximum	Recommended maximum	Maximum
Criteria	115 dB(Lin) <sub>peak</sub>	120 dB(Lin) <sub>peak</sub>	5 mm/s	10 mm/s
3	473	318	52	33
4	521	350	60	39
5	561	377	67	43
10	707	475	94	61
15	809	544	115	75
20	890	599	133	86
25	959	645	149	97
30	1019	685	163	106
40	1122	754	188	122
50	1208	812	210	136
55	1247	839	221	143
100	1522	1023	298	193

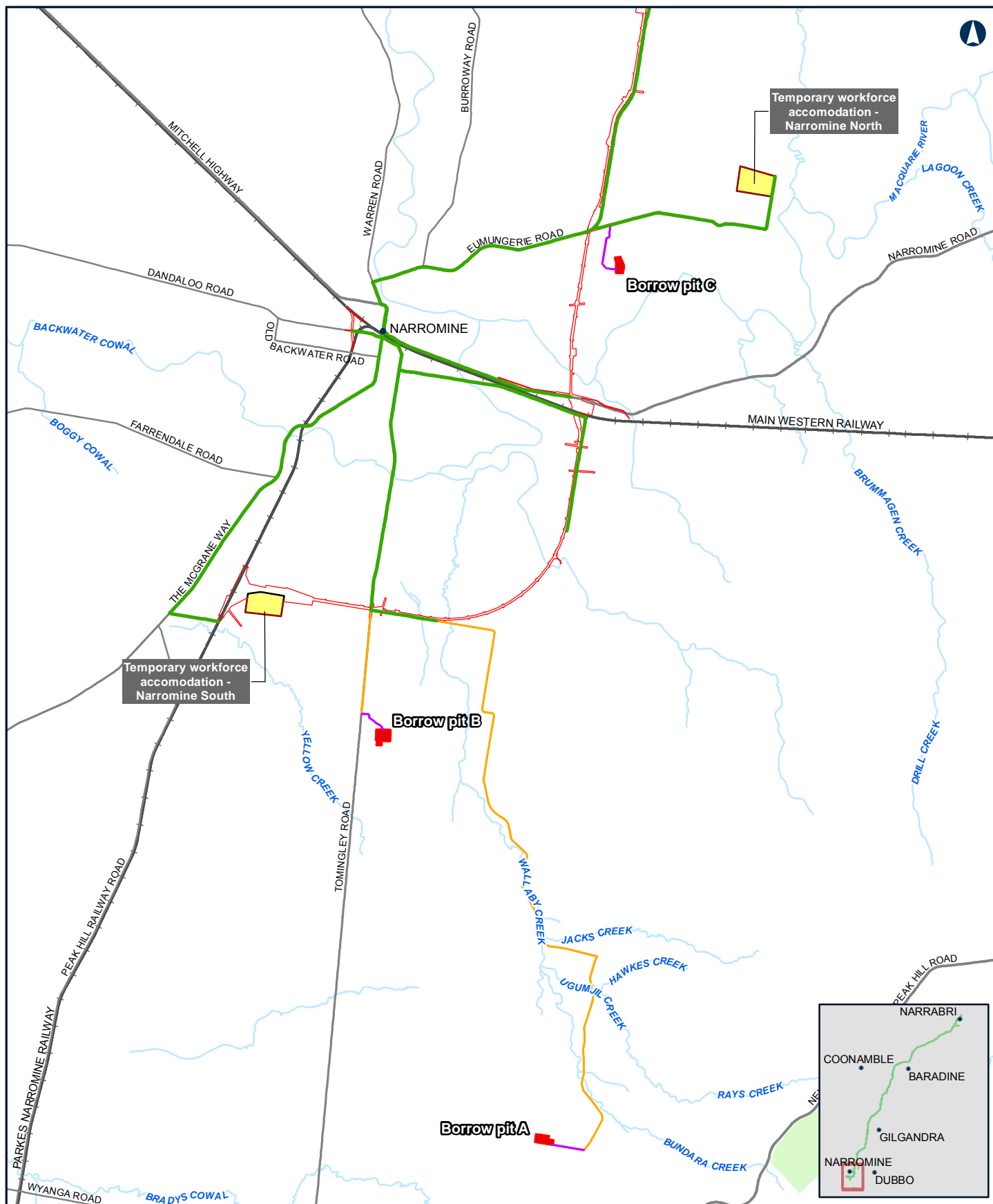
## 5.6 Construction traffic assessment

Construction would generate light and heavy vehicle movements associated with worker movements, the transportation of construction machinery, equipment and materials to the proposal site. Construction traffic would be based around the four construction areas which have been used to assess potential impacts. The construction traffic routes for each area are shown in the following figures:

- Narromine: Figure 5.10
- Gilgandra: Figure 5.11
- Baradine: Figure 5.12
- Narrabri: Figure 5.13.

Potential construction traffic noise impacts have been assessed in the following sections for each area. Traffic volumes and heavy vehicle percentages for each area are based on the *ARTC Inland Rail Narromine to Narrabri Traffic and Transport Assessment* (JacobsGHD, 2020b). A heavy vehicle percentage of 20 per cent has been used along routes with no available data based on similar local roads in the area.





## NARROMINE TO NARRABRI

## Construction access routes – Narromine

Figure 5.10

0 2 4 Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 31/07/2020

Paper: A4

Author: JacobsGHD

Scale: 1:150,000

Data Sources: Basemap layers: NSWSS; Study area, project elements: GHDJACOBS

### LEGEND

The proposal site

Access roads

Temporary workforce accommodation

Road

Existing railway

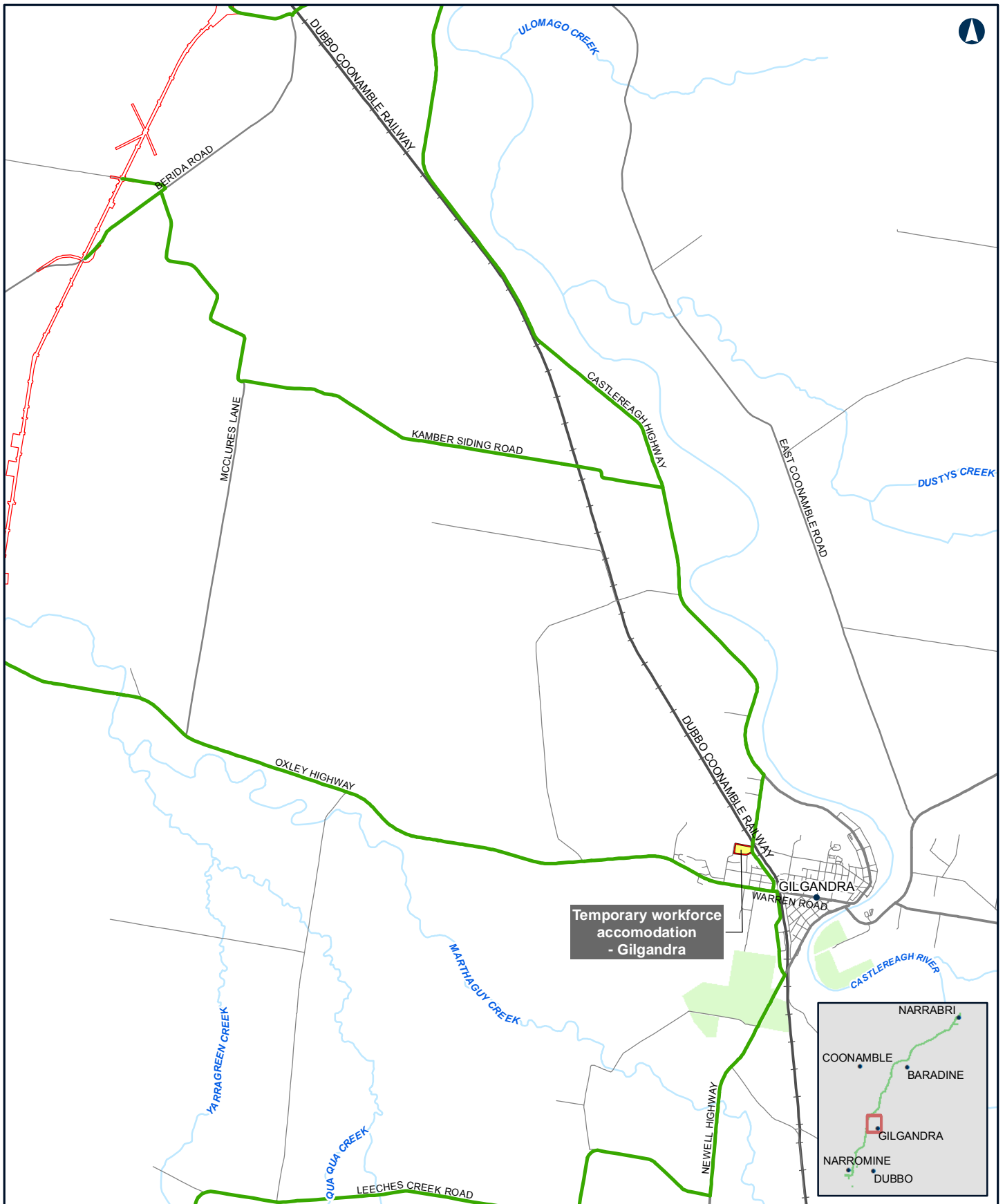
Borrow pit

New haul road

Public road

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## NARROMINE TO NARRABRI

## Construction access routes – Gilgandra

Figure 5.11

0 1 2  
Km

Coordinate System: GDA 1994 MGA Zone 55

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Paper: A4

Author: JacobsGHD

Scale: 1:100,000

Data Sources: Basemap layers: NSWSS; Study area, project elements: GHDJACOBS

### LEGEND

- The proposal site
- Access roads
- Temporary workforce accommodation
- Road
- +— Existing railway

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## NARROMINE TO NARRABRI

## Construction access routes – Baradine

Figure 5.12

0 1 2  
Km

Coordinate System: GDA 1994 MGA Zone 55

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Author: JacobsGHD

Paper: A4  
Scale: 1:100,000

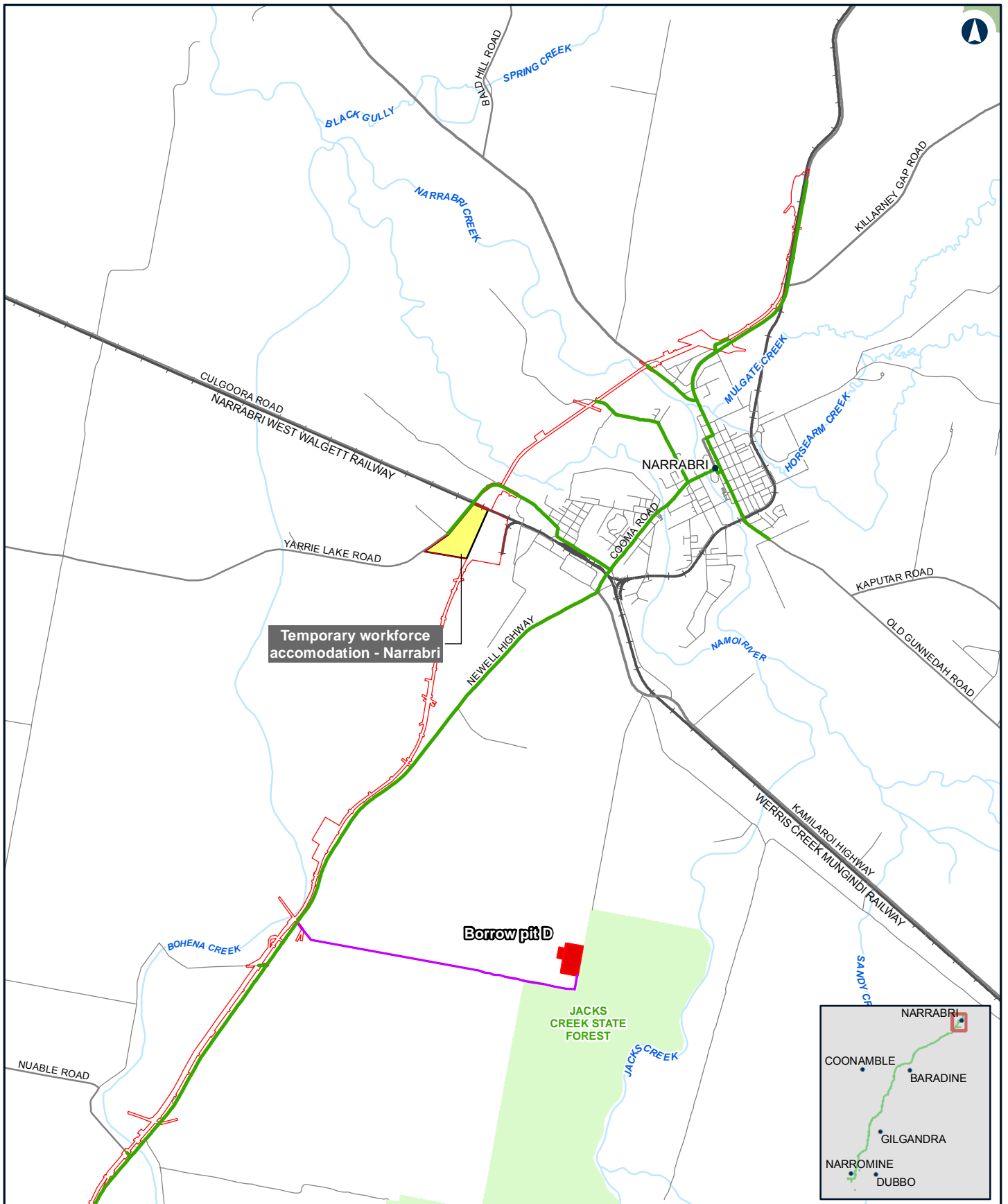
Data Sources: Basemap layers: NSWSS; Study area, project elements: GHDJACOBS

### LEGEND

- The proposal site
- Access roads
- Temporary workforce accommodation
- Road
- Existing railway

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## NARROMINE TO NARRABRI

## Construction access routes – Narrabri

Figure 5.13

0 1 2  
Km

Coordinate System: GDA 1994 MGA Zone 55

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Date: 31/07/2020  
Author: JacobsGHD

Paper: A4  
Scale: 1:100,000

Data Sources: Basemap layers: NSWSS; Study area, project elements: GHDJACOBS

### LEGEND

The proposal site

Access roads

Temporary workforce accommodation

Road

Existing railway

Borrow pit

New haul road

**INLAND RAIL** **ARTC**

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### 5.6.1 Narromine construction traffic

Construction traffic routes identified around Narromine and relevant criteria are provided in Table 5.69 and shown in Figure 5.10. Light vehicle (LV) and heavy vehicle (HV) volumes have been calculated based on the existing total traffic volumes and the heavy vehicle percentage along the identified routes. Existing traffic volumes are provided in Table 5.70 for the following road classes:

- Arterial: hourly volumes based on the average annual daily traffic (AADT) volumes distributed evenly across the 24-hour period.
- Local: peak hourly volumes.

**Table 5.69 Narromine construction traffic routes**

Road	Road classification	Road traffic noise criteria	
		Day	Night
Tomingley Road	Arterial	60 L <sub>Aeq</sub> (15 hour)	55 L <sub>Aeq</sub> (9 hour)
Dappo Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Tantitha Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Mitchell Highway	Arterial	60 L <sub>Aeq</sub> (15 hour)	55 L <sub>Aeq</sub> (9 hour)
Eumungerie Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Euromedah Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Merrits Lane	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Dubbo-Burroway Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Euromedah Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Emogandy Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)

**Table 5.70 Narromine existing hourly traffic volumes**

Road	Total volume (hourly)	HV%	LV volume	HV volume
Tomingley Road	23.5	36%	15.1	8.5
Dappo Road	3.0	20%	2.4	0.6
Tantitha Road <sup>1</sup>	3.0	20%	2.4	0.6
Mitchell Highway	149.2	15%	126.8	22.4
Eumungerie Road	62.0	48%	32.2	29.8
Euromedah Road <sup>2</sup>	2.0	20% <sup>3</sup>	1.6	0.4
Merrits Lane	2.0	40%	1.2	0.8
Dubbo-Burroway Road	42.0	10%	37.8	4.2
Cobboco Road	5.0	6%	4.7	0.3
Emogandy Road	1.0	22%	0.8	0.2

Note 1: Existing traffic volumes along Tantitha Road are not available. Volumes are based off Dappo Road.

Note 2: Existing traffic volumes along Euromedah Road are not available. Volumes are based off Merrits Lane.

Note 3: Heavy vehicle percentages are assumed to be 20 per cent along those routes as existing data is not available.



The expected construction traffic generation during main construction works are provided in the *ARTC Inland Rail Narromine to Narrabri Traffic and Transport Assessment* (JacobsGHD, 2020b) and summarised in Table 5.71.

**Table 5.71 Narromine construction traffic generation**

Vehicle type	Category	Daily movements	Peak hour movements
Light vehicle	Cars and utilities	98	11.6
Heavy vehicle	Haulage	260	30.6
	General	50	5.9
	Bus	16	2.0
	<b>Total</b>	<b>326</b>	<b>38.5</b>

A screening assessment has been undertaken along each construction traffic route. The total change in traffic movements due to construction and the percentage increase are provided in Table 5.72.

**Table 5.72 Narromine increase in traffic volumes**

Road	Light vehicles			Heavy vehicles		
	Existing	Proposed	Change	Existing	Proposed	Change
Tomingley Road	15.1	15.3	2%	8.5	19.9	135%
Dappo Road	2.4	3.6	50%	0.6	32.4	5,300%
Tantitha Road	2.4	3.6	50%	0.6	32.4	5,300%
Mitchell Highway	126.8	127.2	0%	22.4	23.3	4%
Eumungerie Road	32.2	35.3	10%	29.8	31.5	6%
Euromedah Road	1.6	4.7	194%	0.4	2.1	425%
Merrits Lane	1.2	1.2	0%	0.8	0.8	0%
Dubbo-Burroway Road	37.8	37.8	0%	4.2	4.2	0%
Cobboco Road	4.7	4.7	0%	0.3	0.3	0%
Emogandy Road	0.8	0.8	0%	0.2	0.2	0%

The screening assessment indicates that the following roads have the potential to experience road traffic noise level increases by over 58 per cent:

- Tomingley Road: heavy vehicles are expected to increase by up to 135 per cent.
- Dappo Road / Tantitha Road: heavy vehicles are expected to increase by up to 5,300 per cent.
- Euromedah Road: light vehicles are expected to increase by up to 194 per cent and heavy vehicles by up to 425 per cent.

The increase in traffic along all other access routes would be below 58 per cent and construction road traffic noise impacts would not be anticipated.

Road traffic noise modelling was undertaken along the routes identified in the screening assessment to assess the road traffic noise level increase and to identify the road traffic noise criteria. Predicted road traffic noise levels are provided in Table 5.73.

The predicted noise levels along all identified roads have an increase greater than 2 dB(A). The total road traffic noise level due to construction traffic is below the noise criteria at all locations. Therefore, the conditions of the RNP are satisfied.

**Table 5.73 Narromine predicted construction traffic noise levels, dB(A)**

Road	Noise criteria	Existing level	With construction level	Difference	Exceeds criteria
Tomingley Road	60 L <sub>Aeq</sub> (15 hour)	56	60	3.5	No
Dappo Road	55 L <sub>Aeq</sub> (1 hour)	42	52	9.4	No
Tantitha Road	55 L <sub>Aeq</sub> (1 hour)	32	48	15.7	No
Euromedah Road	55 L <sub>Aeq</sub> (1 hour)	29	36	6.6	No

### 5.6.2 Gilgandra construction traffic

Construction traffic routes identified around Gilgandra and relevant criteria are provided in Table 5.74 and shown in Figure 5.11. Light vehicle (LV) and heavy vehicle (HV) volumes have been calculated based on the existing total traffic volumes and the heavy vehicle percentage along the identified routes. Existing traffic volumes are provided in Table 5.75 for the following road classes:

- Arterial: hourly volumes based on the average annual daily traffic (AADT) volumes distributed evenly across the 24-hour period.
- Local: peak hourly volumes.

**Table 5.74 Gilgandra construction traffic routes**

Road	Road classification	Road traffic noise criteria	
		Day	Night
Collie Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Old Mill Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Kickabil Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Milpulling Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Leeches Creek Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Oxley Highway	Arterial	60 L <sub>Aeq</sub> (15 hour)	55 L <sub>Aeq</sub> (9 hour)
Berida Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Castlereagh Highway	Arterial	60 L <sub>Aeq</sub> (15 hour)	55 L <sub>Aeq</sub> (9 hour)
National Park Road East of Castlereagh Highway	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Yarrandale Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
National Park Road North of Hillside Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)
Box Ridge Road	Local	55 L <sub>Aeq</sub> (1 hour)	50 L <sub>Aeq</sub> (1 hour)

**Table 5.75 Gilgandra existing hourly traffic volumes**

Road	Total volume (hourly)	HV%	LV volume	HV volume
Collie Road	13.0	13%	11.3	1.7
Old Mill Road	5.0	17%	4.2	0.8
Kickabil Road	2.0	20% <sup>1</sup>	1.6	0.4
Milpulling Road	2.0	24%	1.5	0.5
Leeches Creek Road	7.0	25%	5.3	1.8
Oxley Highway	15.4	20%	12.3	3.1
Berida Road	5.0	29%	3.6	1.5
Castlereagh Highway	35.7	15%	30.3	5.4
National Park Road East of Castlereagh Highway	34.0	21%	26.9	7.1
Yarrandale Road	4.0	12%	3.5	0.5
National Park Road North of Hillside Road	22.0	22%	17.2	4.8
Box Ridge Road	3.0	18%	2.5	0.5

Note 1: Heavy vehicle percentages are assumed to be 20 per cent along those routes as existing data is not available.

The expected construction generation during main construction works are provided in the *ARTC Inland Rail Narromine to Narrabri Traffic and Transport Assessment* (JacobsGHD, 2020b) and summarised in Table 5.76.

**Table 5.76 Gilgandra construction traffic generation**

Vehicle type	Category	Daily movements	Peak hour movements
Light vehicle	Cars and utilities	150	17.7
	Haulage	198	23.2
	General	165	19.7
Heavy vehicle	Bus	16	2.0
	<b>Total</b>	<b>379</b>	<b>44.9</b>

A screening assessment has been undertaken along each construction traffic route. The total change in traffic movements due to construction and the percentage increase are provided in Table 5.77.

**Table 5.77 Gilgandra increase in traffic volumes**

Road	Light vehicles			Heavy vehicles		
	Existing	Proposed	Change	Existing	Proposed	Change
Collie Road	11.3	17.4	54%	1.7	4.1	142%
Old Mill Road	4.2	4.2	0%	0.9	0.9	0%
Kickabil Road	1.6	1.6	0%	0.4	0.4	0%
Milpulling Road	1.5	1.5	0%	0.5	0.5	0%
Leeches Creek Road	5.3	5.3	0%	1.8	1.8	0%
Oxley Highway	12.3	12.3	0%	3.1	3.1	0%
Berida Road	3.6	3.6	0%	1.5	1.5	0%
Castlereagh Highway	30.3	36.1	19%	5.4	10.0	87%
National Park Road						
East of Castlereagh Highway	26.9	33.0	23%	7.1	15.1	112%
Yarrandale Road	3.5	3.5	0%	0.5	0.5	0%
National Park Road						
North of Hillside Road	17.2	23.3	36%	4.8	12.8	165%
Box Ridge Road	2.5	2.5	0%	0.5	0.5	0%

The screening assessment indicates that the following roads have the potential to experience road traffic noise level increases by over 58 per cent:

- Collie Road: heavy vehicles are expected to increase by up to 142 per cent
- Castlereagh Highway: heavy vehicles are expected to increase by up to 87 per cent
- National Park Road: heavy vehicles are expected to increase by up to 112 per cent east of Castlereagh Highway and by 165 per cent north of Hillside Road.

The increase in traffic along all other access routes would be below 58 per cent and construction road traffic noise impacts would not be anticipated.

Road traffic noise modelling was undertaken along the routes identified in the screening assessment to assess the road traffic noise level increase and to identify the road traffic noise criteria. Predicted road traffic noise levels are provided in Table 5.78.

The predicted noise levels along all identified roads have an increase greater than 2 dB(A). The road traffic noise criteria is exceeded at one residential receiver located at 78 National Park Road, Curban (Lot 5 / DP 30733). The predicted noise level is 2 dB(A) above the road traffic noise criteria and would not be considered noticeable. Exceedances of the road traffic noise criteria would only be expected during peak construction traffic periods and would not be expected throughout the day during construction.

The total road traffic noise level along all other locations are below the noise criteria and the conditions of the RNP are satisfied.

**Table 5.78 Gilgandra predicted construction traffic noise levels, dB(A)**

Road	Noise criteria	Existing level	With construction level	Difference	Exceeds criteria
Collie Road	55 LAeq(1 hour)	48	51	3.1	No
Castlereagh Highway	60 LAeq(15 hour)	46	48	2.1	No
National Park Road East of Castlereagh Highway	55 LAeq(1 hour)	54	57	2.7	Yes
National Park Road North of Hillside Road	55 LAeq(1 hour)	49	53	3.6	No

### 5.6.3 Baradine construction traffic

Construction traffic routes identified around Baradine and relevant criteria are provided in Table 5.79 and shown in Figure 5.12. Light vehicle (LV) and heavy vehicle (HV) volumes have been calculated based on the existing total traffic volumes and the heavy vehicle percentage along the identified routes. Existing traffic volumes are provided in Table 5.80 for the following road classes:

- Arterial: hourly volumes based on the average annual daily traffic (AADT) volumes distributed evenly across the 24-hour period.
- Local: peak hourly volumes.

**Table 5.79 Baradine construction traffic routes**

Road	Road classification	Road traffic noise criteria	
		Day	Night
Gumin Gumin Road	Local	55 LAeq(1 hour)	50 LAeq(1 hour)
Goorianawa Road	Local	55 LAeq(1 hour)	50 LAeq(1 hour)
Mungery Road	Local	55 LAeq(1 hour)	50 LAeq(1 hour)
Munns Road	Local	55 LAeq(1 hour)	50 LAeq(1 hour)
Baradine Road	Arterial	60 LAeq(15 hour)	55 LAeq(9 hour)
Gwabegar Road	Arterial	60 LAeq(15 hour)	55 LAeq(9 hour)
Pilliga Forest Way	Local	55 LAeq(1 hour)	50 LAeq(1 hour)

**Table 5.80 Baradine existing hourly traffic volumes**

Road	Total volume (hourly)	HV%	LV volume	HV volume
Gumin Gumin Road	10.0	26	7.4	2.6
Goorianawa Road	2.0	18	1.6	0.4
Mungery Road	3.0	16	2.5	0.5
Munns Road	1.0	82	0.2	0.8
Baradine Road	5.9	12	5.2	0.7



Road	Total volume (hourly)	HV%	LV volume	HV volume
Gwabegar Road	8.0	12	7.1	1.0
Pilliga Forest Way	3.0	12	2.6	0.4

The expected construction generation during main construction works are provided in the *ARTC Inland Rail Narromine to Narrabri Traffic and Transport Assessment* (JacobsGHD, 2020b) and summarised in Table 5.81.

**Table 5.81 Baradine construction traffic generation**

Vehicle type	Category	Daily movements	Peak hour movements
Light vehicle	Cars and utilities	46	5.5
Heavy vehicle	Haulage	11	1.3
	General	34	4.1
	Bus	10	1.3
	<b>Total</b>	<b>55</b>	<b>6.7</b>

A screening assessment has been undertaken along each construction traffic route. The total change in traffic movements due to construction and the percentage increase are provided in Table 5.82.

**Table 5.82 Baradine increase in traffic volumes**

Road	Light vehicles			Heavy vehicles		
	Existing	Proposed	Change	Existing	Proposed	Change
Gumin Gumin Road	7.4	7.4	0%	2.6	2.6	0%
Goorianawa Road	1.6	1.6	0%	0.4	0.4	0%
Mungery Road	2.5	2.5	0%	0.5	0.5	0%
Munns Road	0.2	0.2	0%	0.8	0.8	0%
Baradine Road	5.2	6.8	30%	0.7	2.2	203%
Gwabegar Road	7.1	7.1	0%	1.0	1.0	0%
Pilliga Forest Way	2.6	2.6	0%	0.4	0.4	0%

The screening assessment indicates Baradine Road has the potential to experience road traffic noise level increases by over two per cent as heavy vehicles are expected to increase by up to 203 per cent.

The increase in traffic along all other access routes would be below 58 per cent and construction road traffic noise impacts would not be anticipated.

Road traffic noise modelling was undertaken along the routes identified in the screening assessment to assess the road traffic noise level increase and to identify the road traffic noise criteria. Predicted road traffic noise levels are provided in Table 5.83.

The predicted noise levels along Baradine Road is greater than 2 dB(A). The conditions of the RNP would be satisfied as predicted road traffic noise levels are below the criteria.

**Table 5.83 Baradine predicted construction traffic noise levels, dB(A)**

Road	Noise criteria	Existing level	With construction level	Difference	Exceeds criteria
Baradine Road	60 LAeq(15 hour)	47	51	3.5	No

**5.6.4 Narrabri construction traffic**

Construction traffic routes identified around Narrabri and relevant criteria are provided in Table 5.84 and shown in Figure 5.13. LV and HV volumes have been calculated based on the existing total traffic volumes and the heavy vehicle percentage along the identified routes. Existing traffic volumes are provided in Table 5.85 for the following road classes:

- Arterial: hourly volumes based on the AADT volumes distributed evenly across the 24-hour period.
- Local: peak hourly volumes.

**Table 5.84 Narrabri construction traffic routes**

Road	Road classification	Road traffic noise criteria	
		Day	Night
Glenwood Lane	Local	55 LAeq(1 hour)	50 LAeq(1 hour)
Cains Crossing Road	Local	55 LAeq(1 hour)	50 LAeq(1 hour)
Yarrie Lake Road	Local	55 LAeq(1 hour)	50 LAeq(1 hour)
The Island Road	Local	55 LAeq(1 hour)	50 LAeq(1 hour)
Kamilaroi Highway	Arterial	60 LAeq(15 hour)	55 LAeq(9 hour)
Newell Highway	Arterial	60 LAeq(15 hour)	55 LAeq(9 hour)

**Table 5.85 Narrabri existing hourly traffic volumes**

Road	Total volume (hourly)	HV%	LV volume	HV volume
Glenwood Lane	1.0	20	0.8	0.2
Cains Crossing Road	3.0	22	2.4	0.6
Yarrie Lake Road	149.0	14	128.1	20.9
The Island Road	6.0	2	5.9	0.1
Kamilaroi Highway	68.7	15	58.4	10.3
Newell Highway	80.3	34	53.0	27.3

The expected construction generation during main construction works are provided in the *ARTC Inland Rail Narromine to Narrabri Traffic and Transport Assessment* (JacobsGHD, 2020b) and summarised in Table 5.86.

**Table 5.86 Narrabri construction traffic generation**

Vehicle type	Category	Daily movements	Peak hour movements
Light vehicle	Cars and utilities	82	9.7
Heavy vehicle	Haulage	229	26.9
	General	91	10.8
	Bus	16	2.0
	<b>Total</b>	<b>336</b>	<b>39.7</b>

A screening assessment has been undertaken along each construction traffic route. The total change in traffic movements due to construction and the percentage increase are provided in Table 5.87.

**Table 5.87 Narrabri increase in traffic volumes**

Road	Light vehicles			Heavy vehicles		
	Existing	Proposed	Change	Existing	Proposed	Change
Glenwood Lane	0.8	0.8	0%	0.2	0.2	0%
Cains Crossing Road	2.4	2.4	0%	0.6	0.6	0%
Yarrie Lake Road	128.1	129.3	1%	20.9	24.7	18%
The Island Road	5.9	5.9	0%	0.1	0.1	0%
Kamilaroi Highway	58.4	58.4	0%	10.3	10.3	0%
Newell Highway	53.0	56.6	7%	27.3	29.2	7%

The increase in traffic volumes along all access routes in Narrabri are below 58 per cent and construction road traffic noise impacts would not be anticipated.

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## 6. Other operations noise and vibration impact assessment

### 6.1 Other operational activities

Other operational activities considered include noise generated from siding operations, vehicle noise from use of maintenance roads and access tracks and noise due to track maintenance. The following section details the potential noise impacts that may be generated due to other operational activities.

#### 6.1.1 Siding operations

Operational activities would take place at the seven proposed maintenance sidings located at a single end of the seven crossing loops. The maintenance sidings would be used for temporary storage of rail vehicles which would generate noise due to movements along the siding.

#### 6.1.2 Track maintenance

Track maintenance would be required along the rail alignment in order to maintain a high standard of safety and reliability across the rail network. Track maintenance works would generally be scheduled overnight or during rail possessions to avoid disruption to rail services and provide safe access to the track for maintenance staff.

#### 6.1.3 Maintenance roads and access tracks

Vehicular traffic associated with maintenance and operations would generate noise adjacent the rail track. This traffic would be generated due to track maintenance requirements and staff changeovers during operation of the proposal.

### 6.2 Maintenance sidings

The maintenance sidings assessed and the nearest structures are provided in Table 6.1. Maintenance siding MR5A is located within Pilliga East State Forest and has no nearby sensitive receivers.

**Table 6.1 Maintenance sidings and nearest receivers**

Siding ID	Nearest receiver	Receiver type	Distance to siding (m)
MR1A	331718	Residential	370
MR2A	243585	Residential	1,710
MR3A	243931	Residential	320
MR3B	244284	Residential	1,752
MR4B	244562	Residential	920
MR5A	-	-	-
MR6A	332056	Residential	1020



### **6.3 Siding operations noise impacts**

Maintenance works and siding operations are activities that are approved activities under ARTC EPL 3142. The EPL recognises that maintenance works and siding operations should be undertaken such that they do not adversely affect ARTC's ability to provide safe and reliable services, a safe working environment, for emergency works, or for the delivery of oversized plant or structures. .

Standard hours for maintenance activities are:

- Monday to Friday: 7am to 6pm
- Saturday: 8am to 1pm
- No work on Sunday or public holidays.

Works outside these hours may be required in order to maintain safe operation of the rail line. Where this is the case, the following would be required:

- Identify and notify noise sensitive receivers that may be affected at least five days prior to the proposed commencement date. Where activities are required less than five days prior to the proposed commencement date then notification must be undertaken as soon as practicable after becoming aware of the need to undertake the activities.
- Identify hours for the proposed activities.
- Identify noise impacts at the noise sensitive receivers.
- Select and apply reasonable and feasible work practices to minimise noise impacts.

Maintenance activities may be undertaken outside of the hours specified where noise levels at the nearest noise sensitive receivers are less than 5 dBA  $L_{Aeq\ 15\ minute}$  over the RBL and less than 15 dBA  $L_{A1\ 1\ minute}$  (or  $L_{Amax}$ ) over the RBL at night or where there are no impacted noise sensitive receivers.

### **6.4 Maintenance roads and access track operations**

The track maintenance roads and access tracks would be used during maintenance operations and staff changeovers during operation of the proposal. This would generate light vehicle movements along the track. The daily light vehicle movements generated are expected to be up to two vehicles per day. This is considered insignificant and would be unlikely to cause any noise impacts on the surrounding receivers.

### **6.5 Other operations vibration assessment**

Operational of the maintenance sidings would not generate any vibration impacts as the nearest receiver is located 320 metres from the siding.

## 7. Operational road traffic noise impact assessment

### 7.1 Assessment locations

Road upgrades will be required for the level crossings proposed along the alignment in order to provide access across the rail corridor. The proposal would include new active and passive level crossings.

An assessment of the noise associated with operation of level crossings is provided in *ARTC Inland Rail Narromine to Narrabri Noise and Vibration Assessment – Operational Rail* (SLR, 2020).

The road upgrades at most level crossings would be considered minor works and would not create operational road traffic noise impacts due to the following:

- road traffic volumes are not expected to increase as a result of the proposal
- road classifications would not change as a result of the proposal
- the level crossing provides access to private property and is not a part of the public road network
- the road alignment has not been substantially realigned from the existing alignment.

The locations in Table 7.1 are public road upgrades that are considered substantially realigned and have been assessed for potential operational road traffic noise impacts. Access routes to private property that are substantially realigned have not been considered for this assessment because of the low volumes of traffic on these roads.

**Table 7.1 Substantially realigned public roads**

Road	Nearest sensitive receiver	Distance to nearest receiver (m)
Emogandy Road	332028	1,250
Cobboco Road	243390	1,000
Old Mill Road / Gilmours Road	331746	1,100
Nancarrows Road	331834	710
Berida Road	243783	1,460
Wyuna Road	243829	810
Bardens Road	243829	310
Brooks Road	243898	1,690
Nalders Access Road	244906	450
Seven Mile Road	244075	1,080
Box Ridge Road	244118	1,920
Goorianawa Road	244225	830
Munns Road	244419	340
Quiet Road	331843	1,870
Route connecting Cumbil Road and Pilliga Forest Way near Mistletoe Road	324956	2,450

Road	Nearest sensitive receiver	Distance to nearest receiver (m)
Cumbil Road	No nearby receivers	No nearby receivers
Cubbo Creek Road	No nearby receivers	No nearby receivers
Pilliga Forest Way	No nearby receivers	No nearby receivers
Twenty Foot Road	No nearby receivers	No nearby receivers
Old Mill Road	No nearby receivers	No nearby receivers
Cains Crossing Road	331852	230

## 7.2 Road classifications

Road traffic noise criteria is provided in section 2.10. A summary of the functional class and road project type of each road assessed in the study area is provided in Table 7.2. The road project type is based on the propose design alignment and future traffic volumes.

The proposal is not expected to increase the traffic carrying capacity of the public road network and is being undertaken primarily to improve safety. As a result, the road project type for each assessed road has been defined as 'minor works'. Transition zones are not considered for 'minor works' projects as the road project is not considered new or redeveloped.

Roads and Maritime Services apply existing road criteria where the minor works increase noise levels by more than 2 dB(A) relative to the existing noise levels at the worst-affected receiver. Where noise levels are not expected to increase by more than 2 dB(A) then no additional assessment is required. The existing road assessment criteria are provided in Table 2.16.

**Table 7.2 Assessed roads functional class and road project type**

Road name	Functional class	Road project type (NCG)	Change in functional class?
Emogandy Road	Local	Minor	No
Cobboco Road	Local	Minor	No
Old Mill Road / Gilmours Road	Local	Minor	No
Nancarrows Road	Local	Minor	No
Berida Road	Local	Minor	No
Wyuna Road	Local	Minor	No
Bardens Road	Local	Minor	No
Brooks Road	Local	New	Yes
Nalders Access Road	Local	New	Yes
National Park Road	Local	Minor	No
Seven Mile Road	Local	Minor	No
Box Ridge Road	Local	Minor	No
Goorianawa Road	Local	Minor	No
Munns Road	Local	Minor	No
Quiet Road	Local	Minor	No
Sixteen Foot Road	Local	Minor	No
Cumbil Road	Local	Minor	No

Road name	Functional class	Road project type (NCG)	Change in functional class?
Cubba Creek Road	Forestry road	Minor	No
Pilliga Forest Way	Forestry road	Minor	No
Twenty Foot Road	Forestry road	Minor	No
Old Mill Road	Forestry road	Minor	No
Cains Crossing Road	Local	Minor	No

### 7.3 Study area

In general, the *Noise Criteria Guideline* (Roads and Maritime Services 2015a) defines the study area for a road project as '600 metres from the centre line of the outermost traffic lane on each side of the subject road'. However, for road projects which are considered 'minor works', the study area is defined as the area where road traffic noise levels are predicted to increase relative to the existing road traffic noise levels. In this instance, a 600 metre study area may not be required.

Three substantially realigned roads listed below are located within 600 metres of a residence. These roads have been modelled to determine the change in noise levels to determine potential operational road traffic noise impacts:

- Bardens Road
- Munns Road
- Cains Crossing Road.

One new road is proposed to be constructed to allow for access to Brooks Road and Nalders Access Road off National Park Road. The access road would be provided via a road realignment located about 900 m south of the existing Brooks Road and National Park Road intersection. Potential noise impacts have been assessed from operation of the new road.

### 7.4 Traffic data

Existing traffic volumes at the assessment locations in Table 7.3 are based on the *ARTC Inland Rail Narromine to Narrabri Traffic and Transport Assessment* (JacobsGHD, 2020b).

**Table 7.3 Existing peak hour traffic volumes**

Road	Light vehicle	Heavy vehicle	Total vehicles
Bardens Road	No data <sup>1</sup>	No data <sup>1</sup>	No data <sup>1</sup>
Munns Road	0.2	0.8	1.0
Cains Crossing Road	2.4	0.6	3.0
National Park Road	17.2	4.8	22.0
New road connecting Brooks Road and Nalders Access Road	No data <sup>1</sup>	No data <sup>1</sup>	No data <sup>1</sup>

Note 1: Bardens Road, Brooks Road and Nalders Access Road are unsealed local access roads with expected very low traffic volumes

The existing traffic volumes are not expected to increase as a result of the proposal therefore the traffic volumes in Table 7.3 have been used for future traffic volumes.

## 7.5 Predicted noise levels

Road traffic noise levels have been predicted for the following scenarios:

- ‘No-build’: traffic along the existing road alignment
- ‘Build’: traffic flow along the substantially realigned road alignment.

Predicted road traffic noise levels at the worst-affected receivers relative to each assessed road realignment are provided in Table 7.4. Operational road traffic noise impacts are not expected as the result of the proposal as the predicted noise level is below the road traffic noise criteria at all locations. The road traffic noise criteria is based off the local road criteria provided in section 2.10.3.

**Table 7.4 Predicted operational road traffic noise levels (dB(A))**

Road	Criteria	Existing level	Predicted level	Difference
Bardens Road	55 L <sub>Aeq</sub> (1 hour)	27	27	+0.1
Munns Road	55 L <sub>Aeq</sub> (1 hour)	23	28	-0.2
Cains Crossing Road	55 L <sub>Aeq</sub> (1 hour)	16	23	+6.8
New road connecting Brooks Road and Nalders Access Road	55 L <sub>Aeq</sub> (1 hour)	29	30	+0.9

## 8. Cumulative impact assessment

### 8.1 Overview

For an EIS, cumulative impacts can be defined as the successive, incremental, and combined effect of multiple impacts, which may in themselves be minor, but could become significant when considered together. The methodology and projects considered for the cumulative impact assessment are provided in detail in the EIS (Part D chapter D1). Cumulative construction noise impacts may occur where nearby project construction timing coincides with the construction of the proposal or where consecutive impacts occur, potentially extending the duration of construction noise impact on any noise sensitive receiver. Noise impacts were considered for noise sensitive receivers within a two kilometre radius of the proposal and identified projects.

Beyond this distance there is negligible potential for cumulative impacts.

Six major projects were identified as having a cumulative impact and sufficient information to undertake a cumulative impact assessment. These include:

- APA - Western Slopes Pipeline.
- Inland Rail – Narrabri to North Star
- Inland Rail – Parkes to Narromine
- Narrabri Gas Project
- Silverleaf Solar Farm, Narrabri
- Narromine Solar Farm.

Gilgandra Solar Farm is 16.5 kilometres from the proposal and hence cumulative noise and vibration impacts are not anticipated at this distance.

### 8.2 Construction

A summary description and assessment of the potential for cumulative noise and/or vibration impacts are discussed in Table 8.1 and shown on Figure 8.1.

**Table 8.1 Cumulative construction noise – other nearby projects**

Project	Potential cumulative impacts
APA - Western Slopes Pipeline	The APA Western Slopes Pipeline crosses the proposal site about 20 kilometres south of Narrabri. There are nine residential noise sensitive receivers and one non-residential receiver within a two kilometre radius from this interface that may experience cumulative construction noise impacts should the works be undertaken concurrently with the proposal construction.
Inland Rail - Narrabri to North Star	The proposal connects to the Narrabri to North Star Line north of Narrabri. There is the potential for cumulative localised noise impacts in terms of the duration of construction noise impact. In the proposal noise assessment study area there are eight residential noise sensitive receivers and four non-residential receivers also within two kilometres of the Narrabri to North Star project. Extensive concurrent construction impacts are not anticipated as the Narrabri to North Star project is expected to be largely complete before the proposal commences, however these receivers may receive construction noise for a cumulative longer duration.



Project	Potential cumulative impacts
Inland Rail - Parkes to Narromine	The proposal connects to the Parkes to Narromine Line south of Narromine. Works are expected to be completed prior to the commencement of work associated with the Narromine to Narrabri project. In the proposal noise assessment study area there are 1472 residential noise sensitive receivers and 169 non-residential receivers also within two kilometres of the Parkes to Narromine project. Concurrent construction impacts are not anticipated as the Parkes to Narromine project is expected to be complete about six months before the proposal commences.
Narrabri Gas Project (Santos)	The proposal is located on the northern boundary of Lot 1 of DP 771141. There are six residential noise sensitive receivers and one non-residential receivers within a two kilometre radius from this interface that may experience cumulative construction noise impacts should the works be undertaken concurrently with the proposal construction.
Silverleaf Solar Farm	The proposal is located on the eastern boundary of the solar farm, with associated transmission line upgrades crossing the proposal site. There are six residential noise sensitive receivers and five non-residential receivers within a two kilometre radius from this interface that may experience cumulative construction noise impacts should the works be undertaken concurrently with the proposal construction.
Narromine Solar Farm	The proposal is located on the western border of the solar farm. There are 33 noise sensitive receivers and two non-residential receivers within a two kilometre radius from this interface that may experience cumulative construction noise impacts should the works be undertaken concurrently with the proposal construction.

Cumulative construction noise impacts may occur where nearby project construction timing coincides with the construction of the proposal or where consecutive impacts occur, potentially extending the duration of construction noise impact on any noise sensitive receiver.

The construction strategy for the proposal consists of a progressive approach along the proposal and therefore concurrent construction impacts with a nearby project (most of which have a relatively short duration) would only last for a short period until the works have progressed out of range. However, where cumulative impacts relate to the proposal's construction infrastructure, these concurrent impacts may occur for a longer duration as the construction infrastructure (temporary accommodation facilities, compounds, borrow pits) typically operates in a specific location in support of other activities.

The greatest number of potential cumulative impacts are associated with the Parkes to Narromine and Narrabri to North Star Inland Rail projects. Potential cumulative noise impacts associated with these projects have been assessed as part of track connection works noise modelling (scenario RAIL10) which is discussed in section 5.1.1, with mitigations provided in section 9.2.

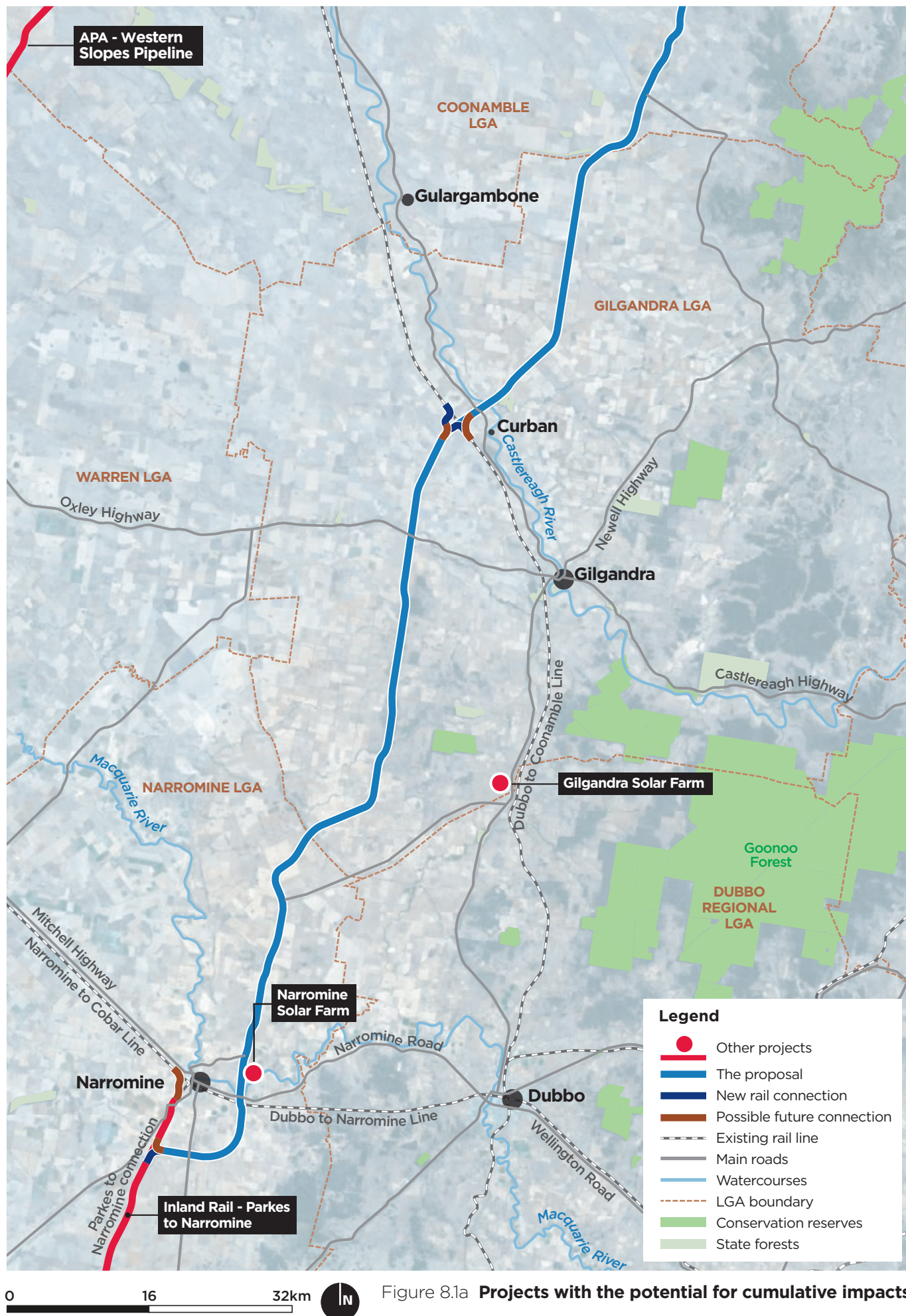
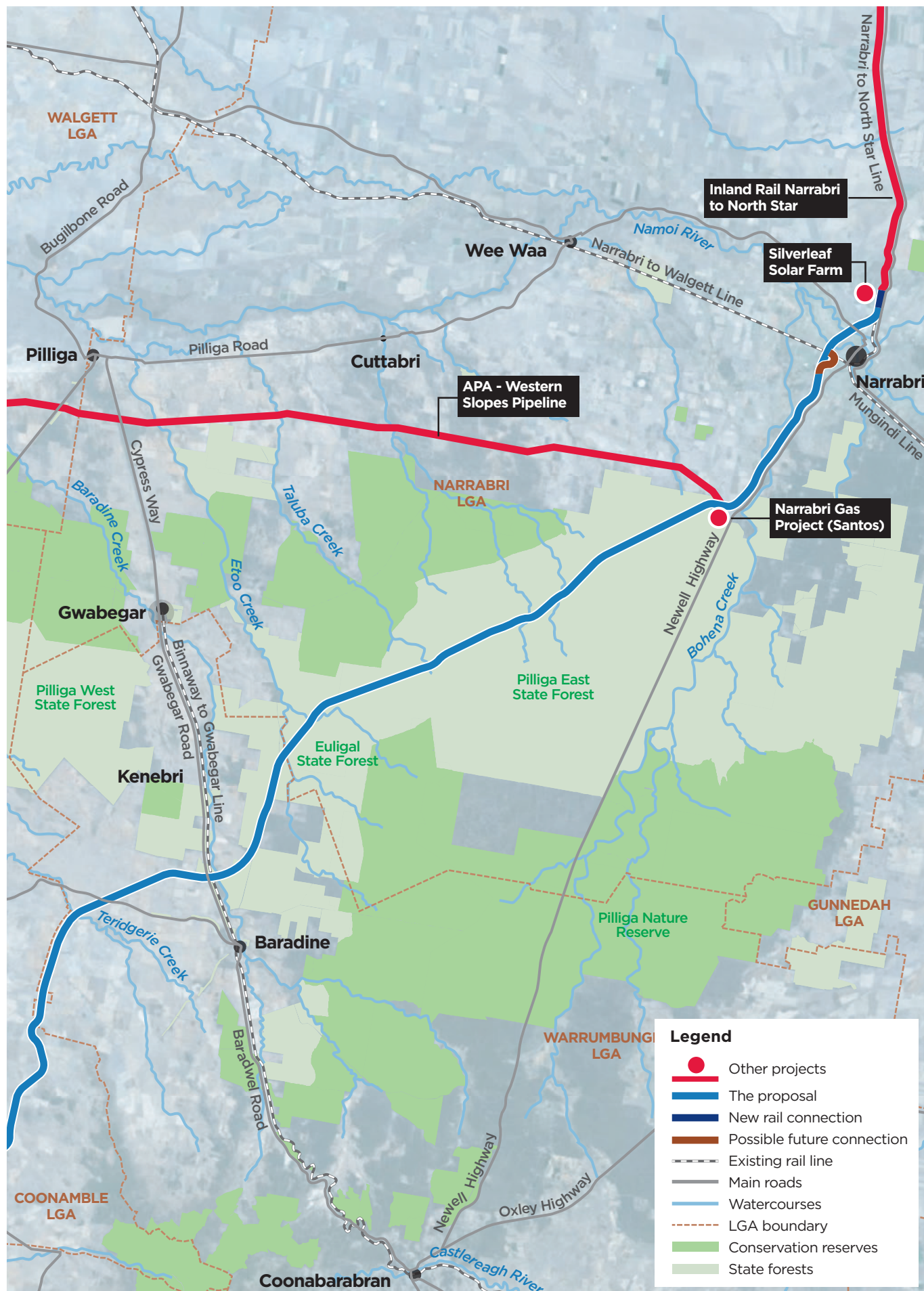


Figure 8.1a **Projects with the potential for cumulative impacts**





0 16 32km



Figure 8.1b Projects with the potential for cumulative impacts

### 8.3 Other operations cumulative impacts

Other operational noise impacts associated with the proposal are presented in section 6 of this assessment and consists of noise relating to the operation of maintenance sidings.

The sidings assessed and the nearest assessed structures are provided in Table 8.2. All structures located within 2,000 metres of each siding has been included in the other operations noise and vibration assessment. Maintenance siding MR5A is located within Pilliga East State Forest and has no nearby sensitive receivers.

**Table 8.2 Maintenance sidings and nearest receivers**

Siding ID	Nearest receiver	Receiver type	Distance to siding (m)
MR1A	331718	Residential	370
MR2A	243585	Residential	1,710
MR3A	243931	Residential	320
MR3B	244284	Residential	1,752
MR4B	244562	Residential	920
MR5A	-	-	-
MR6A	332056	Residential	1,020

Due to the significant distance of maintenance sidings from other industrial noise sources and sensitive receivers, cumulative other operations noise impacts are not anticipated.

No other cumulative other operations noise impacts are expected.

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## 9. Recommended mitigation and management measures

### 9.1 Approach to mitigation

An operational noise and vibration review (ONVR) would be prepared to detail how the predicted operational impacts would be mitigated.

A CEMP and CNVMP would be developed based on the requirements and methodologies presented in the *Inland Rail NSW Construction Noise and Vibration Management Framework* (ARTC 2017a). These documents provide the approach to managing noise and vibration during construction.

The proposal would be designed, constructed and operated in accordance with the *Inland Rail NSW Construction Noise and Vibration Management Framework* (ARTC 2017a), CEMP, ONVR, the conditions of approval for the proposal (if approved), construction EPL and the ARTC EPL (number 3142).

### 9.2 Construction noise and vibration

#### 9.2.1 Noise control strategy

The *Inland Rail NSW Construction Noise and Vibration Management Framework* (ARTC 2017a) has been developed to show how construction noise and vibration will be managed for Inland Rail in NSW. It provides a framework for managing construction noise and vibration impacts in accordance with the ICNG, to provide a consistent approach to management and mitigation across Inland Rail in NSW.

Specifically, the *Inland Rail NSW Construction Noise and Vibration Management Framework* identifies the requirements and methodology to develop construction noise and vibration impact statements (CNVIS). These would be prepared prior to specific construction activities and based on a more detailed understanding of the construction methods, including the size and type of construction equipment, duration and timing of works, and detailed reviews of local receivers if required. A CNVIS would include:

- a more detailed understanding of surrounding receivers, including particularly sensitive receivers such as education and child care, and vibration sensitive medical, imaging, and scientific equipment
- application of appropriate noise and vibration criteria for each receiver type
- an assessment of the potential noise and vibration impacts as a result of different construction activities
- minimum requirements in relation to standard noise and vibration mitigation measures
- noise and vibration auditing and monitoring requirements
- additional mitigation measures to be implemented when exceedances to the noise management levels are likely to occur - these measures are aimed at pro-active engagement with potentially affected receivers, provision of respite periods, and alternative accommodation for defined exceedance levels.

The proposal would be constructed in accordance with the *Inland Rail NSW Construction Noise and Vibration Management Framework*, the CEMP, site-specific CNVIS, the conditions of approval for the proposal (if approved), and the construction EPL.



Reasonable and feasible measures would be implemented to reduce the noise and vibration levels at sensitive receivers. Section 9.2.2 outlines additional measures to manage noise and vibration where the construction noise assessment identified exceedances of the relevant management levels.

#### *Out of hours work protocol*

An out of hours work protocol would be prepared to guide the assessment, management and approval of works outside the primary proposal construction hours. The protocol would be developed to ensure that out of hours works are managed effectively during construction, to avoid incidents and reduce impacts to the community as a result of out of hours work. The protocol would be prepared in consultation with key stakeholders (including the EPA) and be approved prior to works commencing. It would:

- be consistent with the Inland Rail *NSW Construction Noise and Vibration Management Framework* (ARTC 2017a) for the proposal
- be prepared in accordance with the conditions of approval for the proposal
- take into account the results of this construction noise assessment
- address the requirements of the environment protection licence for the proposal
- provide guidance for the preparation of out of hours work plans for each construction work location and for key works, which would be prepared in consultation with key stakeholders (including the EPA) and the community
- document procedures to control potential impacts
- identify responsibilities for implementation and management including managing complaints.

### **9.2.2 Management of construction noise and vibration exceedances**

Mitigation management practices are listed below and the contexts in which they should be implemented are described in Table 9.1 and Table 9.2.

#### *Communication (CO)*

The level of noise and vibration impact and duration will guide communication with receivers. Accurate and timely communication is essential to manage and understand community expectations for works undertaken outside of the primary proposal construction hours.

Measures have been developed to manage communication with receivers affected by works undertaken outside of the primary proposal construction hours. Two categories of communication have been developed commensurate with the scale of the impact. The purpose of the communication is described below, but the method of communication would be at the discretion of the proposal and detailed in the NSW communication strategy for Inland Rail.

- Category 1 CO1: Communication to provide information on the proposal via letter box drop, email, newsletter, media advertisements and/or website a minimum of five days prior to the works commencing.
- Category 2 CO2: Communication should be personalised (eg door knock, meeting, telephone call). Contact with these residents should commence early to enable feedback to be considered by the proposal.

At minimum the information provided to stakeholders (CO1 or CO2) would include:

- the reason the work is required to be undertaken outside of the primary proposal construction hours
- a diagram that identifies the location of the proposed works in relation to nearby cross streets and local landmarks
- the nature, scope and duration of the works, including start and finish times
- the expected noise impacts on receivers
- information on how to obtain further information or make a complaint, including an after-hours number and Programme website.

#### **Respite Offer (RO)**

Residents subjected to lengthy periods of noise or vibration may be eligible for a respite offer. The purpose of such an offer is to provide residents with respite from an ongoing impact across more than two consecutive evening periods. The offer could comprise pre-purchased movie tickets or similar offer.

#### **Alternate Accommodation (AA)**

Alternate accommodation options (ie accommodation in motels away from the worksite) may be provided residents living in close proximity to construction sites that are likely to incur noise levels significantly above the applicable level across two or more consecutive sleep periods.

Acceptable accommodation measures would be developed with the affected community and project team.

#### **Assigning additional mitigation measures**

The implementation of the above measures is determined by matching the predicted exceedance to the appropriate mitigation measures as detailed in Table 9.1 and Table 9.2. The specific details of communication are to be outlined in the communication strategy for the proposal.

**Table 9.1 Additional mitigation measures –construction noise**

Time period	CNML, dB(A)	Perception	Exceedance of CNML, dB(A)	Mitigation measures
All hours	>75 dB(A)	Highly affected	-	RO, C
OOHW Rest Period Evening Monday to Sunday 6pm to 10pm (including public holidays)	35	Noticeable	< 5	CO1
		Clearly audible	5-15	CO1
		Moderately intrusive	15-25	CO1, CO2
		Highly intrusive	>25	CO1, CO2, RO (>2 consecutive periods)
OOHW Sleep Period Night Monday to Sunday 10pm to 6am (including public holidays)	25	Noticeable	< 5	CO1
		Clearly audible	5-15	CO1
		Moderately intrusive	15-25	CO1, CO2, RO (>2 consecutive periods)
		Highly intrusive	>25	CO1, CO2, RO, AA (>2 consecutive periods)

Notes: OOHW: Out Of Hours Work  
CO – Communication. RO – Respite Offer. AA – Alternate Accommodation

**Table 9.2 Additional mitigation measures – construction vibration**

Time period		Mitigation measures	
		Predicted vibration levels exceed preferred levels	Predicted vibration levels exceed maximum levels
OOHW Rest Period Evening	Monday to Sunday 6pm to 10pm (including public holidays)	CO1, CO2	CO1, CO2, RO
OOHW Sleep Period Night	Monday to Sunday 10pm to 6am (including public holidays)	CO1, CO2, RO	CO1, CO2, RO, AA

Note 1: OOHW= Out-of-hours Work  
CO – Communication. RO – Respite Offer. AA – Alternate Accommodation

### 9.2.3 Recommended mitigation measures

Mitigation measures for construction noise and vibration are provided in Table 9.3.

**Table 9.3 Recommended mitigation measures**

Issue / impact	Recommended mitigation measure	Timing
<i>Managing the potential for construction noise and vibration impacts</i>	Location and activity-specific construction noise and vibration impact statements would be prepared based on a more detailed understanding of the construction methods, including the size and type of construction equipment, duration and timing of works, and detailed reviews of local receivers as required.  The statements would confirm predicted impacts at relevant receivers to assist with the selection of feasible and reasonable management measures.	Detailed design / preconstruction
<i>Minimising the potential for construction vibration (structural) impacts</i>	Where vibration levels are predicted to exceed the screening criteria, a more detailed assessment of the structure and vibration monitoring would be carried out in accordance with the <i>Inland Rail NSW Construction Noise and Vibration Management Framework</i> , to ensure vibration levels remain below appropriate limits for that structure.	Detailed design / preconstruction
<i>Blasting management (borrow pits)</i>	A blast management strategy would be prepared in accordance with relevant guidelines and in consultation with the NSW EPA and would include: <ul style="list-style-type: none"> <li>• sequencing and review of trial blasting to inform blasting</li> <li>• regularity of blasting</li> <li>• intensity of blasting</li> <li>• periods of relief</li> <li>• blasting program.</li> </ul>	Detailed design / preconstruction

Issue / impact	Recommended mitigation measure	Timing
<i>Managing the potential for noise and vibration impacts during construction</i>	A construction noise and vibration management plan would be prepared and implemented as part of the CEMP in accordance with the <i>Inland Rail NSW Construction Noise and Vibration Management Framework</i> . The plan would include measures, processes and responsibilities to manage noise and vibration and minimise the potential for impacts during construction.	Construction
	<p>The <i>Inland Rail NSW Construction Noise and Vibration Management Framework</i> would be implemented, and the proposal would be constructed, with the aim of achieving the construction noise management levels and vibration criteria identified by the noise and vibration assessment.</p> <p>All feasible and reasonable noise and vibration measures would be implemented.</p> <p>Any activities that could exceed the construction noise management levels and vibration criteria would be identified and managed in accordance with the framework, the noise and vibration management plan and the construction noise and vibration impact statements.</p> <p>Notification of impacts would be undertaken in accordance with the communication management plan for the proposal.</p>	Construction
<i>Impacts of out-of-hours work</i>	<p>An out-of-hours work protocol would be developed to define the process for considering, approving and managing out-of-hours work, including implementation of feasible and reasonable measures and communication requirements. Measures would be aimed at pro-active communication and engagement with potentially affected receivers, provision of respite periods and/or alternative accommodation for defined exceedance levels.</p> <p>All work outside the primary proposal construction hours would be undertaken in accordance with the <i>Inland Rail NSW Construction Noise and Vibration Management Framework</i> and in accordance with the out-of-hours work protocol.</p> <p>The protocol would provide guidance for the preparation of out-of-hours work plans for each construction work location and for key works. Out-of-hours work plans would be prepared in consultation with key stakeholders (including the NSW EPA) and the community, and incorporated into the construction noise and vibration management plan.</p>	Construction

Issue / impact	Recommended mitigation measure	Timing
<i>Minimising the potential for construction vibration (structural) impacts</i>	If vibration-generating activities are conducted within 18 metres of a residence, attended vibration measurements would be undertaken at the commencement of vibration generating activities to confirm that structural vibration limits are within the acceptable range. For piling, this distance is increased to 100 metres. Where vibration levels are found to be unacceptable, alternative work methods would be implemented so the vibration impacts are reduced to acceptable levels.	Construction
	Building condition surveys would be completed before and after construction works where buildings or structures are within the minimum vibration working distances for cosmetic damage.	Construction
<i>Impacts on heritage items as a result of construction vibration</i>	<p>Prior to the commencement of vibration intensive works within the minimum working distances for cosmetic damage for heritage items, the potential for damage to the item would be assessed. Where there is potential for damage, alternative methods that generate less vibration would be investigated and substituted where practicable.</p> <p>Where residual cosmetic damage risks remain, condition surveys would be carried out and vibration monitoring with real-time notification of exceedance would occur during the activity.</p> <p>Site activities would be modified where practicable to avoid exceeding the cosmetic damage criteria. Any identified vibration-related damage to the items would be rectified.</p>	Construction
<i>Minimising potential for impacts of blasting at borrow pits</i>	<p>Blasting would be undertaken during the recommended standard hours for blasting.</p> <p>Management measures defined by the blasting management strategy would be implemented.</p>	Construction



# 10. Conclusions

Noise and vibration impacts from construction and other operational activities for the proposal have been assessed. The following conclusions are made with consideration to the assumptions, results and findings detailed in this report.

## 10.1 Construction noise

The linear nature of an infrastructure project means that construction activities and associated noise levels would be transient as they progress along the route past noise sensitive receivers. Consequently, impacts identified in this assessment would not occur concurrently and the maximum level of impact would only occur when works are located at the closest point relative to each receiver.

This assessment also includes a number of conservative assumptions relating to operating duration, intensity and proximity of equipment. Actual construction activities are expected to have quieter periods and typically operate at further distance relative to a given noise sensitive receiver than the assessed locations. Therefore, this assessment represents a likely worst-case for mobile construction activities where predicted levels of impact are only relevant for short periods in relation to the proposal's construction duration. Additionally, numbers of impacted receivers are presented in the context of the entire construction period and across the full length of the study area. Concurrently impacted receivers would typically be much lower as work occurs in a given area before progressing and moving away. Some activities do have a fixed location such as compounds, borrow pits and temporary accommodation facilities, however these would typically have lower source noise levels than mobile construction works such as earthmoving.

Estimated durations of impact have been provided for assessed construction scenarios. For linear works these are based on the distance length of a work segment, an anticipated rate of progress, the activity construction duration and the source to receiver impact distance approximation over flat terrain for the given activity. Noise level, duration and extent of any impacts would be considered when determining appropriate mitigation measures.

### 10.1.1 Rail infrastructure

The construction noise assessment for rail infrastructure indicates that:

- The highly affected level of 75 dB(A)  $L_{Aeq}$  is predicted to be exceeded at 19 residential receivers.
- Stripping topsoil (scenario RAIL03) within the construction footprint is the worst-case activity for the extents of impact. Noise levels are predicted to exceed the 35 dB(A)  $L_{Aeq}$  CNML at up to 2,836 identified sensitive residential receivers. The duration of impact from this scenario for any individual receiver is estimated to be between one day and eight weeks on average.
- Rail construction activities during the primary proposal construction hours may exceed the relevant CNML at non-residential sensitive receivers including one community facility, five passive recreation receivers, one active recreation receiver and 24 commercial/industrial receivers. CNMLs are applicable only when these facilities are in use.
- Rail construction activities during standard hours have the potential to exceed the 45 dB(A)  $L_{Aeq}$  CNML at up to 972 residential receivers.

- Rail construction activities during out of hours work have the potential to exceed the OOHw CNML of 35 dB(A)  $L_{Aeq}$  at up to 2,836 residential receivers across all rail infrastructure assessment scenarios. The construction scenario with the highest number of predicted impacts during OOHw is stripping topsoil (scenario RAIL03) with impacts at up to 2,234 residential receivers. The duration of impact from this scenario for any individual receiver is estimated to be between one day and eight weeks on average.
- Stripping topsoil and landscaping (scenarios RAIL03 and RAIL11) have the predicted worst case numbers of residential receivers impacted for sleep disturbance and awakening potential. These activities are predicted to exceed the external 52 dB(A)  $L_{Amax}$  NPI sleep disturbance criteria at up to 981 residential receivers and the internal 55 dB(A)  $L_{Amax}$  RNP awakening criteria at up to 220 residential receivers. On average, the duration of impact for any individual receiver is estimated to be between one day and eight weeks for stripping topsoil (RAIL03) and between one day to seven weeks for landscaping (RAIL11)
- The duration of impact for an individual receiver from any given construction scenario is estimated to range from one day to about 32 weeks for construction of the most complex bridges (RAIL06).

### **10.1.2 Road infrastructure**

The construction noise assessment for road infrastructure indicates that:

- The highly affected level of 75 dB(A)  $L_{Aeq}$  is predicted to be exceeded at one residential receiver.
- Stripping topsoil (scenario ROAD02), main earthworks (scenario ROAD03) and landscaping (scenario ROAD07) associated with road construction works are the worst-case activities for the extents of impact. Noise levels are predicted to exceed the 35 dB(A)  $L_{Aeq}$  CNML at up to 1,449 residential receivers. On average, the duration of impact for any individual receiver is estimated to be from one day to eight weeks for stripping topsoil (ROAD02), eight to twelve weeks for main earthworks (ROAD03) and two to four weeks for landscaping (ROAD07).
- Road construction activities during the primary proposal construction hours may exceed the relevant construction noise management level at non-residential sensitive receivers including one community facility, three passive recreation receivers and four commercial/industrial receivers. CNMLs are applicable only when these facilities are in use.
- Road construction activities during standard hours have the potential to exceed the 45 dB(A)  $L_{Aeq}$  CNML at up to 294 residential receivers.
- Road construction activities during out of hours work have the potential to exceed the OOHw CNML of 35 dB(A)  $L_{Aeq}$  at up to 1,449 residential receivers across all road infrastructure assessment scenarios. The construction scenarios with the highest number of predicted impacts during OOHw are stripping topsoil (scenario ROAD02), main earthworks (scenario ROAD03) and landscaping (scenario ROAD07) with impacts at up to 1,449 residential receivers.
- Stripping topsoil, road earthworks and landscaping (scenarios ROAD02, ROAD03 and ROAD07) have the predicted worst case numbers of residential receivers impacted for sleep disturbance and awakening potential. These activities are predicted to exceed the external 52 dB(A)  $L_{Amax}$  NPI sleep disturbance criteria at up to 564 residential receivers and the internal 55 dB(A)  $L_{Amax}$  RNP awakening criteria at up to 69 residential receivers.

- The duration of impact for an individual receiver from any given construction scenario is estimated to range from two to four weeks for landscaping (ROAD07) to about 14 weeks for drainage earthworks (ROAD04).

### **10.1.3 Construction infrastructure**

The construction noise assessment for construction infrastructure indicates that:

- The highly affected level of 75 dB(A)  $L_{Aeq}$  is predicted to be exceeded at four residential receivers.
- Temporary workforce accommodation site establishment works (scenario INFR13) is the worst-case construction infrastructure noise scenario for extents of impact due to the location within and near to existing residential areas within towns. Noise levels are predicted to exceed the 35 dB(A)  $L_{Aeq}$  construction noise management level at up to 933 residential receivers. Establishment of temporary workforce accommodation is estimated to take about six weeks at each of the accommodation sites.
- Construction infrastructure activities during the primary proposal construction hours may exceed the relevant construction noise management level at non-residential sensitive receivers including one community facility, 15 passive recreation receivers, one active recreation area and six commercial/industrial classified receivers. CNMLs are applicable only when these facilities are in use.
- Construction infrastructure activities during standard hours have the potential to exceed the 45 dB(A)  $L_{Aeq}$  construction noise management level at up to 322 residential receivers.
- Construction infrastructure activities during out of hours work have the potential to exceed the OOHW CNML of 35 dB(A)  $L_{Aeq}$  at up to 1,374 residential receivers across all construction infrastructure assessment scenarios and across the full duration of the proposal construction. The construction scenario with the highest number of predicted impacts during OOHW is temporary workforce accommodation site establishment works (scenario INFR13) with impacts at up to 933 residential receivers.
- Camp establishment (scenario INFR13) has the predicted worst case numbers of residential receivers impacted for sleep disturbance and awakening potential. This activity is predicted to exceed the external 52 dB(A)  $L_{Amax}$  NPI sleep disturbance criteria at up to 414 residential receivers and the internal 55 dB(A)  $L_{Amax}$  RNP awakening criteria at up to 90 residential receivers
- The duration of impact for an individual receiver from any given construction scenario is estimated to range from about six weeks for temporary workforce accommodation site establishment works (scenario INFR13) to about 48 months for operation of multifunction compounds (scenario INFR07).

## 10.2 Construction vibration

### 10.2.1 Structural

With consideration to structural damage vibration impacts from general construction works activities, the expected magnitude of ground vibration should not be sufficient to cause damage if the equipment operates at distances greater than 18 metres from buildings of equivalent standard dwelling construction or 35 metres from heritage structures. Assessment of specific activities are presented below.

Using the *DIN 4150-3: 1999-02 Structural Vibration – Part 3: Effects of vibration on structures* criteria, structural vibration impacts are summarised as follows:

- For vibration generating works within the construction footprint (dozer activities), standard dwellings or buildings of similar construction may be affected by vibration within a maximum of eight metres of the works. A total of 44 structures including three residential receivers were identified within this distance.
- For vibration generating works within the rail earthworks extent (vibratory roller activities), standard dwellings or buildings of similar construction may be affected by vibration within a maximum of 18 metres of the works. A total of 12 structures including no residential receivers were identified within this distance.
- For vibration generating works associated with bridge construction (impact piling), standard dwellings or buildings of similar construction may be affected by vibration within a maximum of 100 metres of the works. A total of 19 structures including five residential receivers were identified within this distance.
- There are no listed or potential heritage structures that would be impacted by construction vibration.

### 10.2.2 Human comfort

#### Rail infrastructure works

Using the *BS 6472:1992 Evaluation of human exposure to vibration in buildings (1–80 Hz)* criteria adopted by the AVTG, human comfort impacts are summarised as follows:

- For vibration generating works within the construction footprint (dozer activities), receivers may be affected by vibration within a maximum of 54 metres of the works. A total of seven residential receivers were identified within this distance. Nineteen commercial/industrial receivers may be affected within 23 metres of the works. No other non-residential sensitive locations were identified within the human comfort buffer distance for these works.
- For vibration generating works within the rail earthworks extent (vibratory roller activities), receivers may be affected by vibration within a maximum of 130 metres of the works. A total of eight residential receivers were identified within this distance. Fourteen commercial/industrial premises may be affected within 54 metres of the works. No other non-residential sensitive locations were identified within this buffer distance.
- For vibration generating works associated with bridge construction (impact piling), receivers may be affected by vibration within a maximum of 670 metres of the works. A total of 39 residential receivers were identified within this distance. A total of 47 commercial/industrial premises may be affected within 280 metres of the works. No other non-residential sensitive locations were identified within this buffer distance.

Using the BS 5228-2: 2009 Code of practice for noise and vibration on construction and open sites – Part 2: Vibration criteria, during general construction works, vibration may be perceptible at certain times within 60 metres of dozer operation (eight residential receivers), 140 metres of the vibratory roller activities (10 residential receivers) and 700 metres of impact piling (41 residential receivers).

### **Road infrastructure works**

Using the BS 6472:1992 criteria adopted by the AVTG, human comfort impacts are summarised as follows:

- For vibration generating works within the road construction earthworks extent (vibratory roller activities), receivers may be affected by vibration within a maximum of 130 metres of the works. One residential receiver was identified within this distance. Other sensitive land uses, such as offices, schools, educational institutions, and places of worship may be affected within 54 metres of the works. One community facility and nine commercial/industrial premises was identified within this buffer distance. No other non-residential sensitive locations were identified within this buffer distance.

Using the BS 5228-2:2009 criteria, during general construction works, vibration may be perceptible at certain times within 140 metres of the vibratory roller activities (one residential receiver).

### **Construction infrastructure works**

Using the BS 6472:1992 criteria adopted by the AVTG, human comfort impacts are summarised as follows:

- For vibration generating works within the borrow pit footprints (dozer activities), receivers may be affected by vibration within a maximum of 54 metres of the works and other sensitive land uses, such as offices, schools, educational institutions, and places of worship may be affected within 23 metres. No residential or non-residential sensitive locations were identified within these buffer distances from the borrow pits.
- For vibration generating works within the borrow pit footprints during finishing works (vibratory roller activities), receivers may be affected by vibration within a maximum of 130 metres of the works and other sensitive land uses, such as offices, schools, educational institutions, and places of worship may be affected within 54 metres. No residential or non-residential sensitive locations were identified within these buffer distances from the borrow pits

Using the BS 5228-2:2009 criteria, during general construction works, vibration may be perceptible at certain times within 60 metres of dozer operation (no residential receivers) and 140 metres of the vibratory roller activities (no residential receivers).

Construction would progress along the preferred infrastructure site, and vibration impacts would be experienced for relatively short times at most locations. Measures to mitigate these potential impacts are described in Section 9

### 10.3 Ground-borne noise

Ground-borne noise impacts associated with rail infrastructure construction scenarios are summarised as follows:

- For vibration generating works within the construction footprint (dozer activities), receivers may be subject to ground-borne noise levels of greater than 35 dB(A) LAeq (15 min) at distances of up to 100 metres from the works. A total of 12 residential receivers were identified within this distance. External airborne noise levels at these receivers are predicted to be 31 dB to 33 dB greater than ground-borne noise.
- For vibration generating works associated with rail earthworks, receivers may be subject to ground-borne noise levels of greater than 35 dB(A) LAeq (15 min) at distances of up to 180 metres from the works. A total of 15 residential receivers were identified within this distance. External airborne noise levels at these receivers are predicted to be 23 dB to 28 dB greater than ground-borne noise.
- For vibration generating works associated with bridge construction (impact piling), receivers may be subject to ground-borne noise levels of greater than 35 dB(A) LAeq (15 min) at distances of up to 540 metres from the works. A total of 31 residential receivers were identified within this distance. External airborne noise levels at these receivers are predicted to be 20 dB to 24 dB greater than ground-borne noise.

Ground-borne noise impacts associated with road infrastructure construction scenarios are summarised as follows:

- For vibration generating works associated with road earthworks, receivers may be subject to ground-borne noise levels of greater than 35 dB(A) LAeq (15 min) at distances of up to 180 metres from the works. A total of two residential receivers were identified within this distance. External airborne noise levels at these receivers are predicted to be 21 dB to 28 dB greater than ground-borne noise.

Ground-borne noise impacts associated with construction infrastructure scenarios are summarised as follows:

- For vibration generating works associated with borrow pit operations and finishing works (dozer and vibratory roller), no residential receivers are predicted to receive ground-borne noise levels exceeding the criteria.

Therefore ground-borne noise impacts associated with construction are not anticipated for dwellings of typical lightweight construction, however those with significant façade attenuation may result with higher internal ground-borne noise levels and therefore may exceed the night-time ground-borne noise criteria where works are conducted between 6am and 7am.

Construction would progress along the preferred infrastructure site, and ground-borne noise impacts would be experienced for relatively short times at most locations.

### 10.4 Construction blasting

Blasting is anticipated at two borrow pit locations which would provide material for construction of the rail alignment and associated infrastructure. Blasting at the borrow pit locations has the potential to impact residential receivers surrounding the site. No impacts on non-residential receivers are expected as these are not located near the borrow pit locations. Receivers located within 1,600 metres of each borrow pit location have been identified.

There is a sufficient distance buffer from proposed blasting locations to the nearest receivers, therefore ground vibration impacts due to blasting are not expected.



A summary of the noise impacts due to blasting based on a 100 kilogram charge mass follows:

- Borrow Pit C: Five receivers may be noise impacted due to blasting. The nearest receiver is located 550 metres from the site.
- Borrow Pit D: Seven receivers may be noise impacted due to blasting. The nearest receiver is located 960 metres from the site.

The number of blasting noise impacted receivers would decrease if a smaller charge mass is used. Maximum blast charge masses have been recommended for each borrow pit in order to meet the criteria based on the distance to the nearest receiver.

It is recommended that the construction blasting mitigation measures detailed in section 9.2 be considered and implemented where feasible and reasonable to minimise potential noise impacts from blasting.

## **10.5 Construction traffic**

Construction works would generate light and heavy vehicle movements which could generate potential construction traffic noise impacts due to the additional traffic. Construction traffic impacts have been considered at four broader areas (Narromine, Gilgandra, Baradine and Narrabri) and in accordance with the RNP.

### **10.5.1 Summary of construction traffic noise in Narromine**

A summary of the construction traffic noise assessment in Narromine follows:

- Ten construction traffic routes have been identified.
- Road traffic noise levels would increase by less than 2 dB(A) along six routes due to construction traffic. Construction traffic noise impacts would not be expected along these routes.
- Road traffic noise levels along four routes would increase by at least 2 dB(A).

Predicted construction road traffic noise levels along these routes are below the road criteria. Therefore, construction traffic noise impacts are not expected.

### **10.5.2 Summary of construction traffic noise in Gilgandra**

A summary of the construction traffic noise assessment in Gilgandra follows:

- Twelve construction traffic routes have been identified.
- Road traffic noise levels would increase by less than 2 dB(A) along eight routes due to construction traffic. Construction traffic noise impacts would not be expected along these routes.
- Road traffic noise levels along four routes would increase by at least 2 dB(A).
- Predicted construction road traffic noise levels along four routes are below the road criteria and traffic noise impacts would not be expected.
- A 1 dB(A) exceedance of the noise road criteria is predicted along one route (National Park Road East of Castlereagh Highway) which would not be considered noticeable. Exceedances of the criteria would only be expected during peak construction traffic periods and would not be expected throughout the day during construction.

### **10.5.3 Summary of construction traffic noise in Baradine**

A summary of the construction traffic noise assessment in Baradine follows:

- Seven construction traffic routes have been identified.
- Road traffic noise levels would increase by less than 2 dB(A) along six routes due to construction traffic. Construction traffic noise impacts would not be expected along these routes.
- Road traffic noise levels along one route would increase by at least 2 dB(A).

Predicted construction road traffic noise levels along these routes are below the road criteria. Therefore, construction traffic noise impacts are not expected.

### **10.5.4 Summary of construction traffic noise in Narrabri**

A summary of the construction traffic noise assessment in Narrabri follows:

- Six construction traffic routes have been identified.
- Road traffic noise levels would increase by less than 2 dB(A) along all six routes due to construction traffic. Construction traffic noise impacts would not be expected along these routes.

## **10.6 Other operations activities**

Other operations activities would include siding operations, track maintenance and traffic generated due to use of maintenance roads and access tracks. Seven maintenance sidings associated with crossing loops have been identified along the rail alignment and would be used for temporary storage of rail vehicles.

Maintenance works and siding operations are approved activities under ARTC environment protection licence which provides details on the allowable work hours to maintain safe operation of the rail line.

No vibration impacts are expected from maintenance siding operation as the nearest sensitive receiver is 320 metres from the siding.

## **10.7 Operational road traffic**

Portions of the public road network would be upgraded as part of the proposal to allow vehicle access across the rail corridor at proposed level crossings and to minimise the number of level crossings. During operation, the proposal would not increase existing traffic volumes.

Potential operational road traffic impacts has been considered where there is a substantial realignment of a public road. These impacts have been assessed in accordance with the RNP, *Noise Criteria Guideline* (Roads and Maritime Services 2015a) and *Noise Mitigation Guideline* (Roads and Maritime Services 2015b).

The operational road traffic noise assessment identified that the predicted operational road traffic levels are below the road traffic noise criteria at the nearest sensitive receivers and there are no operational road traffic noise impacts.

## **10.8 Summary**

Based on the findings of this assessment, it is considered that the noise and vibration impacts associated with the proposal can be managed provided the recommendations outlined in this report or equivalent are implemented.

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Transport for NSW (2018), *Construction Noise and Vibration Strategy*.

# Appendices

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# TECHNICAL REPORT

# 8

## Noise and vibration assessment – construction and other operations

### **Appendix A**    Noise monitoring locations

NARROMINE TO NARRABRI ENVIRONMENTAL IMPACT STATEMENT





## NARROMINE TO NARRABRI

## Noise monitoring locations

Appendix A - Page 1 of 6

0 3.5 7  
Km

### LEGEND

- ⊗ Noise monitoring location
- Construction footprint

Coordinate System: GDA 1994 MGA Zone 55

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Author: GHD

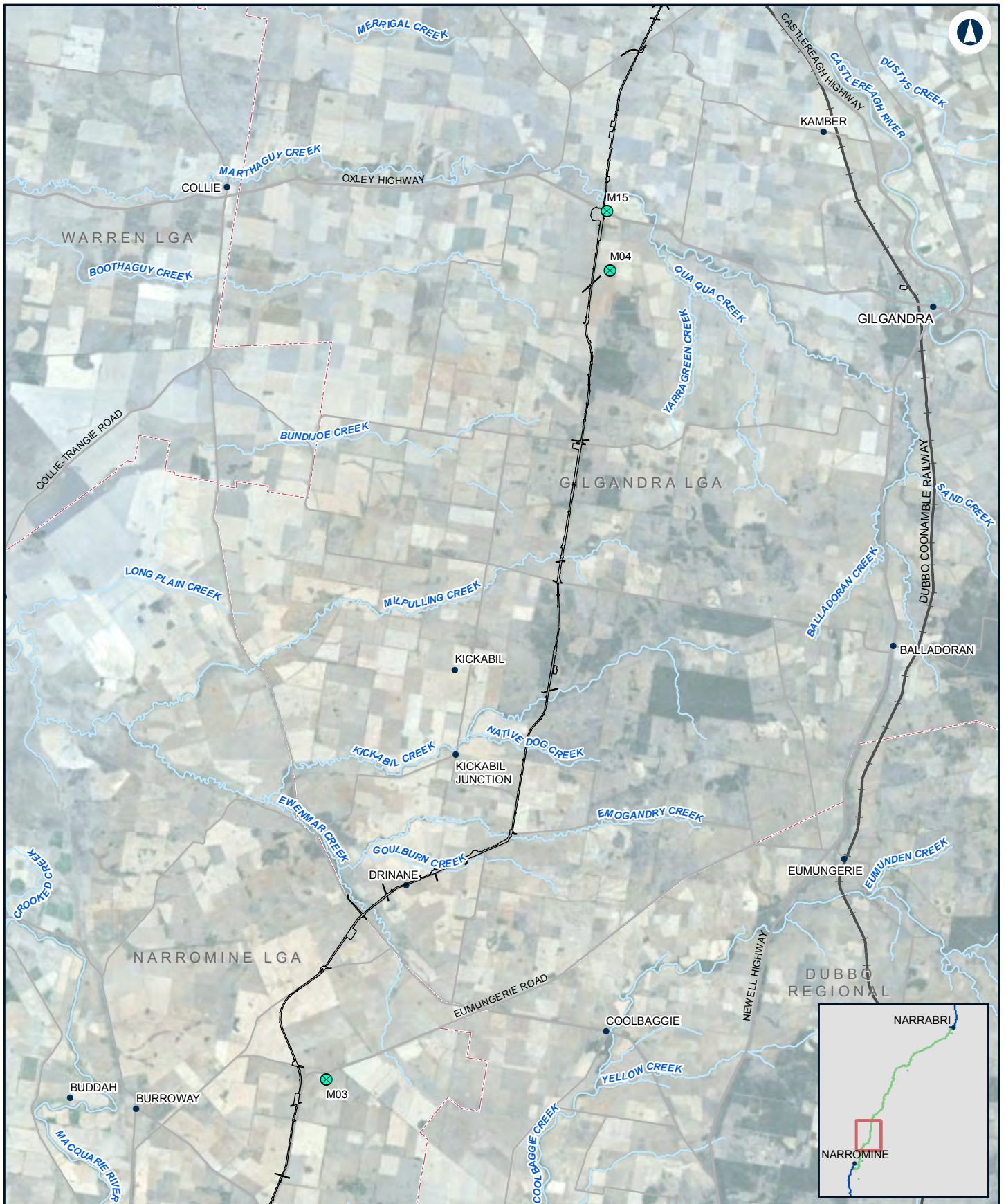
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## NARROMINE TO NARRABRI

## Noise monitoring locations

Appendix A - Page 2 of 6

0 3.5 7  
Km

### LEGEND

- ✕ Noise monitoring location
- Construction footprint

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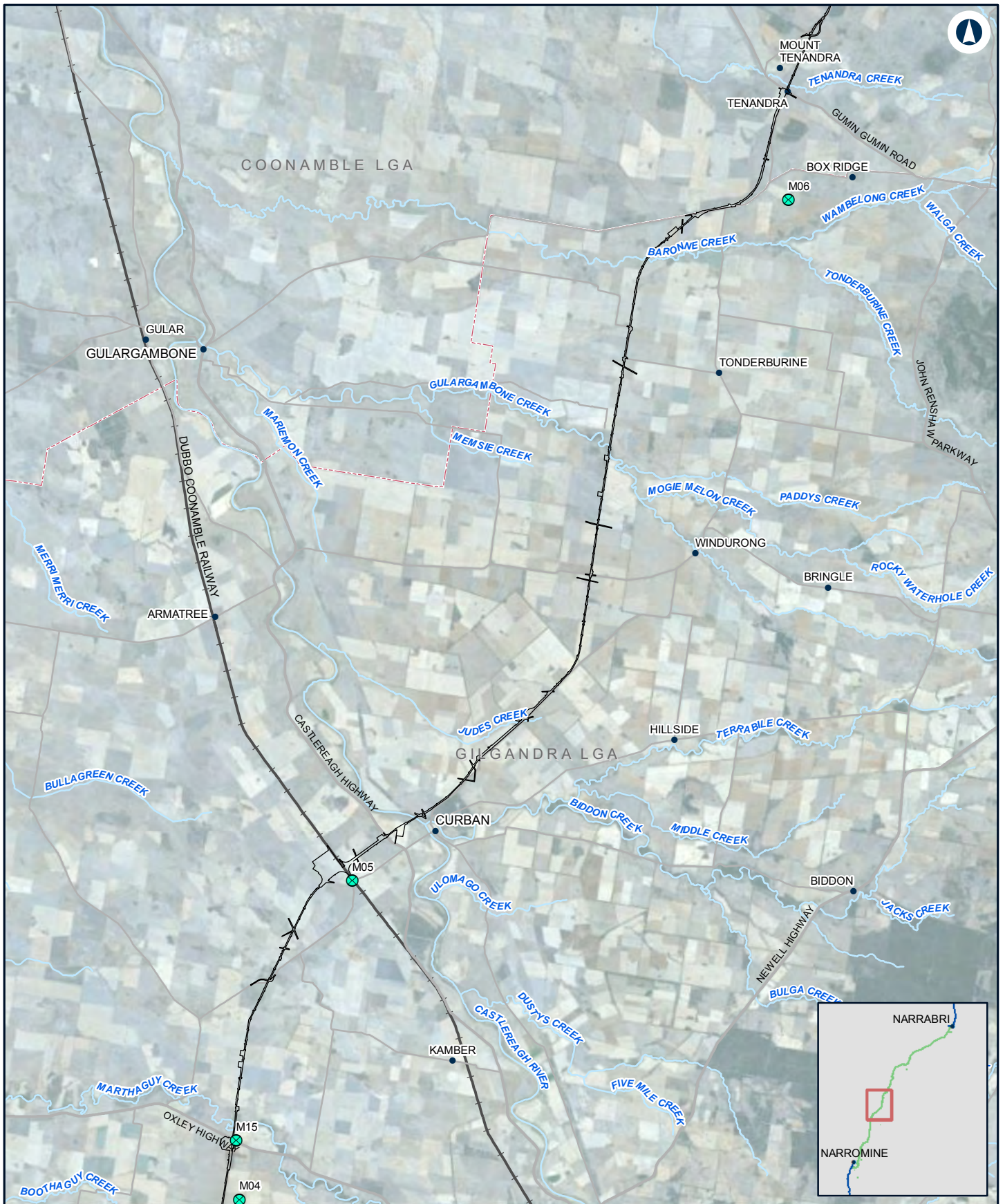
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## NARROMINE TO NARRABRI

## Noise monitoring locations

Appendix A - Page 3 of 6

0 3.5 7 Km

### LEGEND

- Noise monitoring location
- Construction footprint

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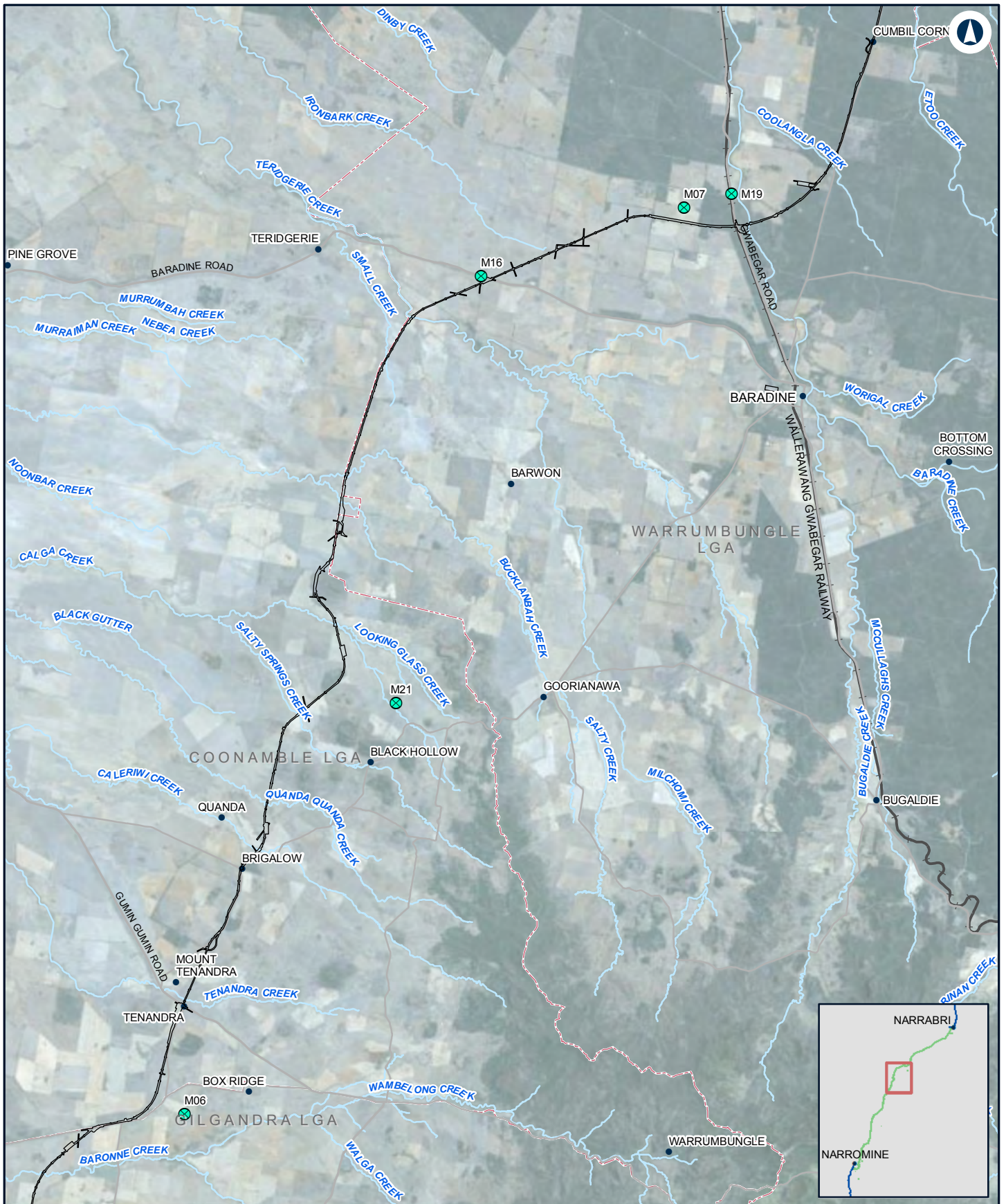
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## NARROMINE TO NARRABRI

## Noise monitoring locations

Appendix A - Page 4 of 6

0 3.5 7  
Km

### LEGEND

- ⊗ Noise monitoring location
- Construction footprint

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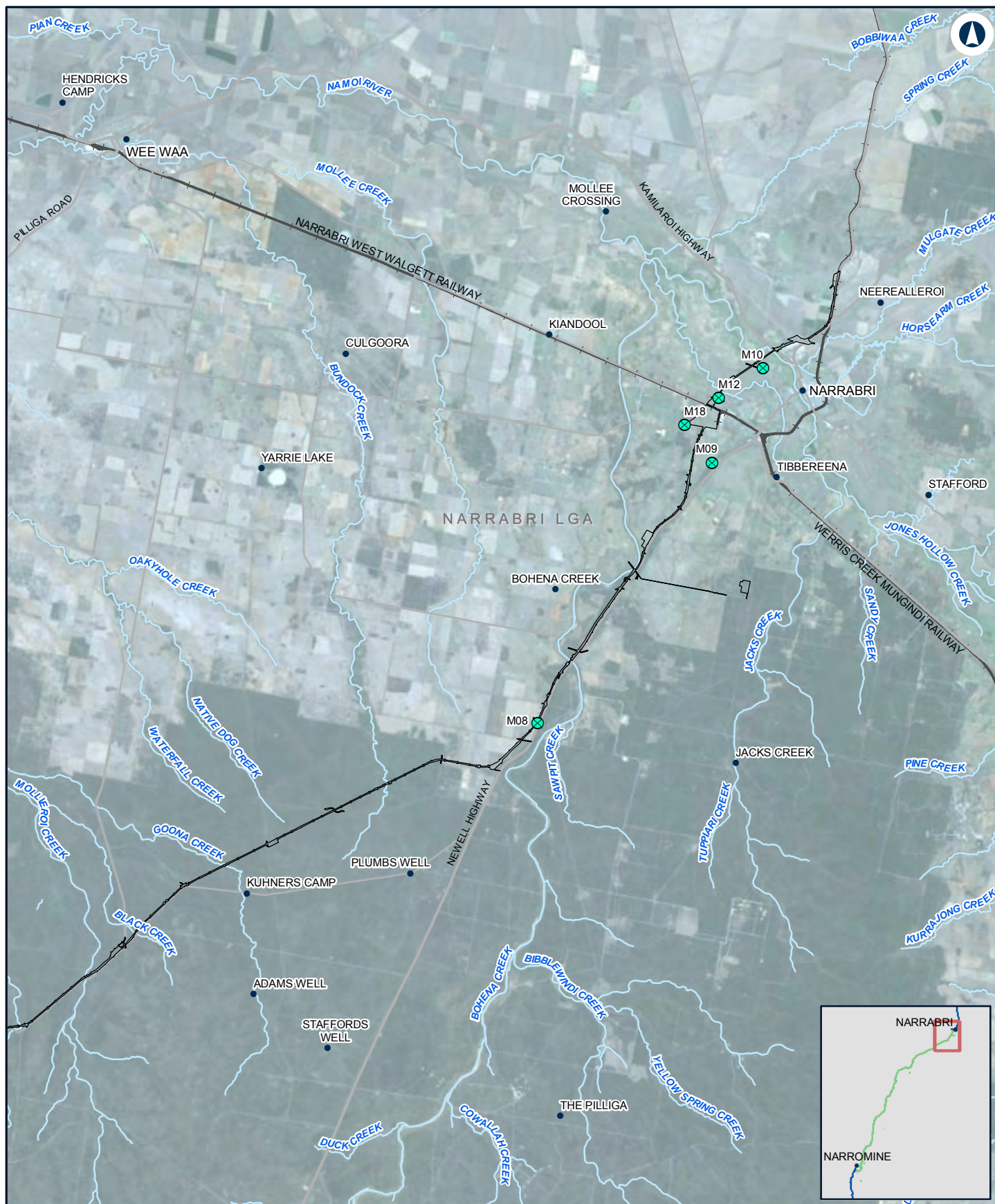
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## NARROMINE TO NARRABRI

## Noise monitoring locations

Appendix A - Page 6 of 6

0 3.5 7 Km

### LEGEND

- ✕ Noise monitoring location
- Construction footprint

Coordinate System: GDA 1994 MGA Zone 55

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# TECHNICAL REPORT

# 8

## Noise and vibration assessment – construction and other operations

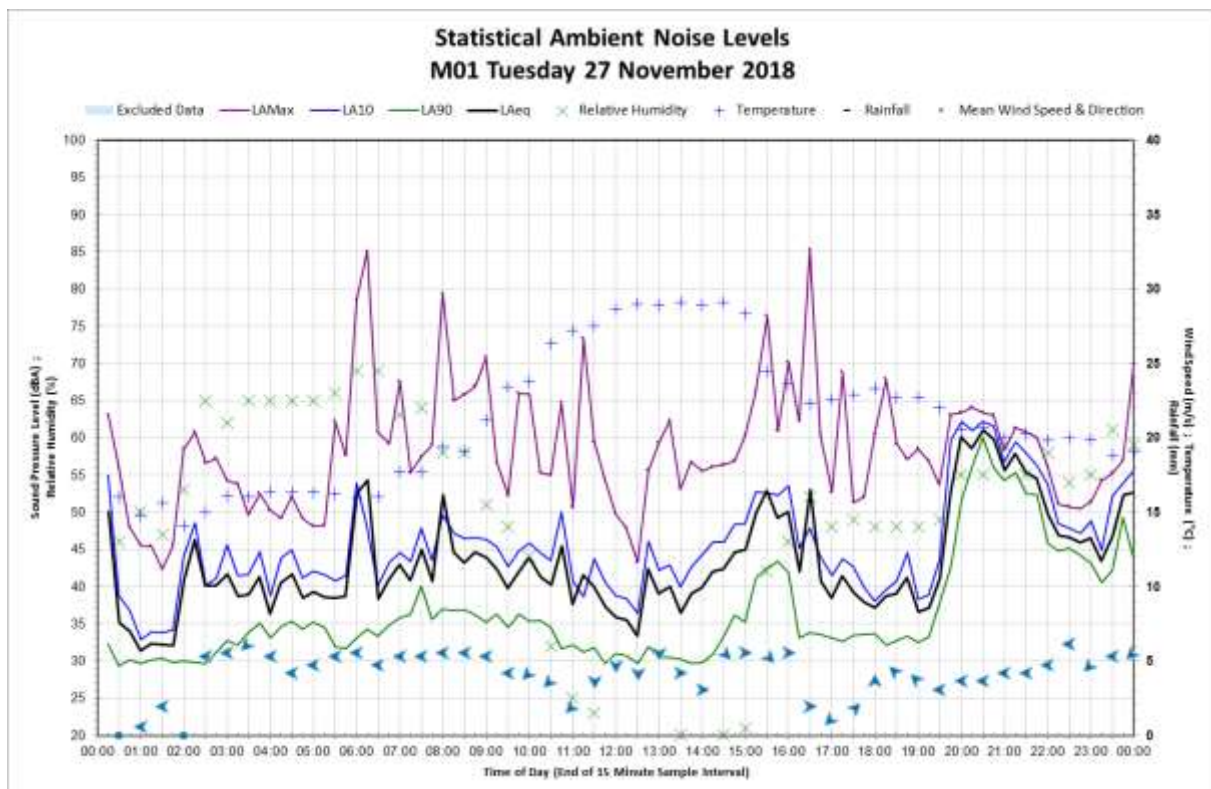
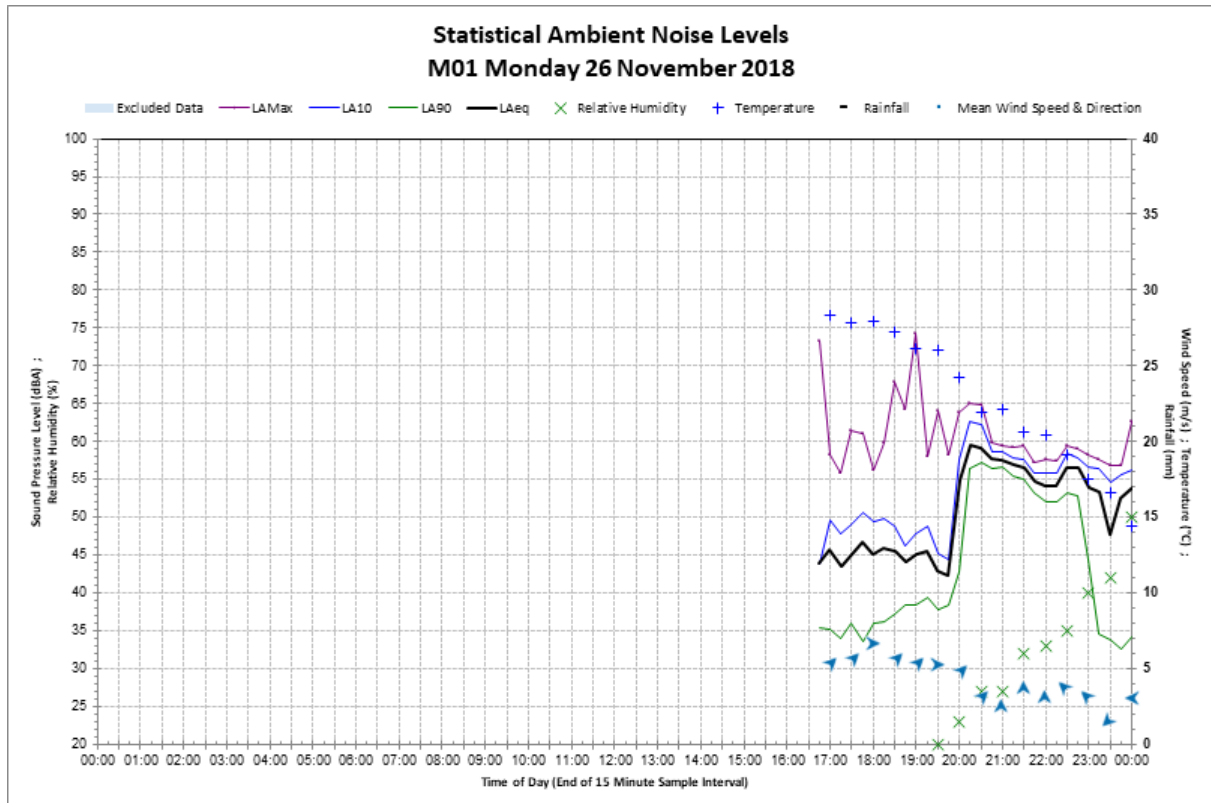
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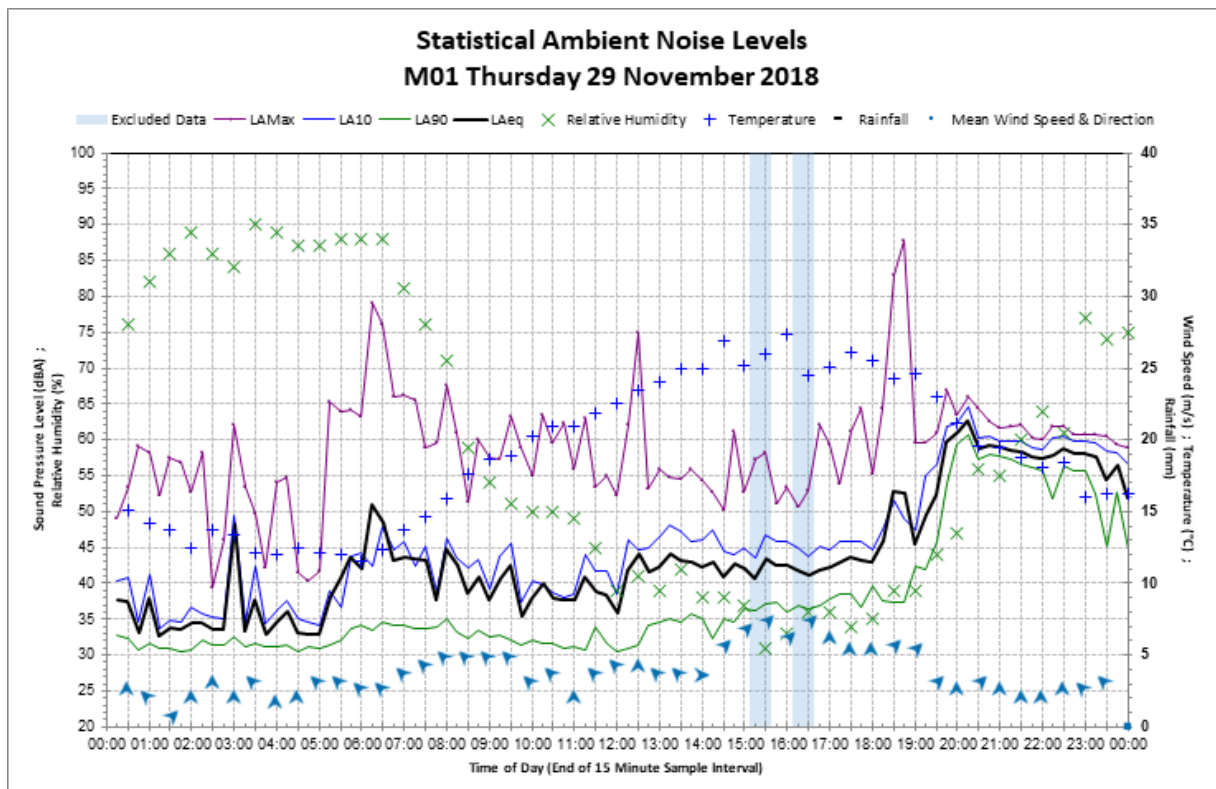
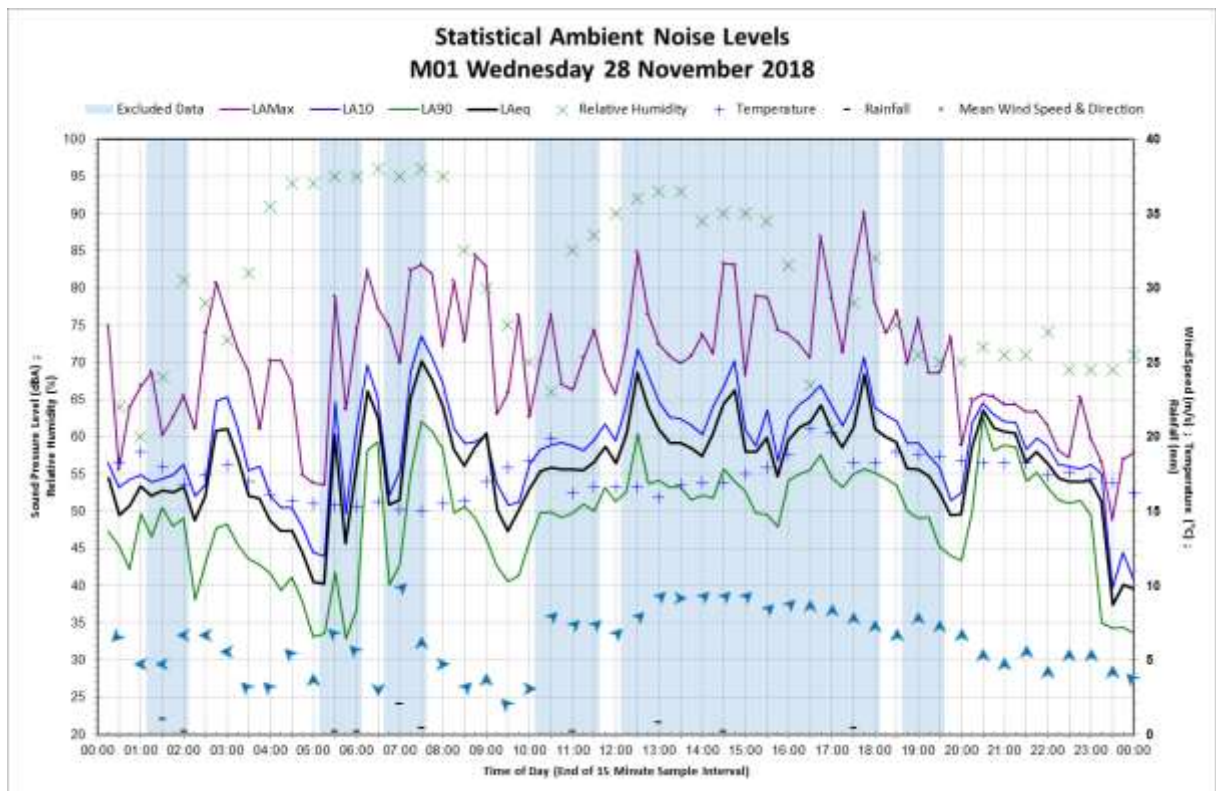
NARROMINE TO NARRABRI ENVIRONMENTAL IMPACT STATEMENT

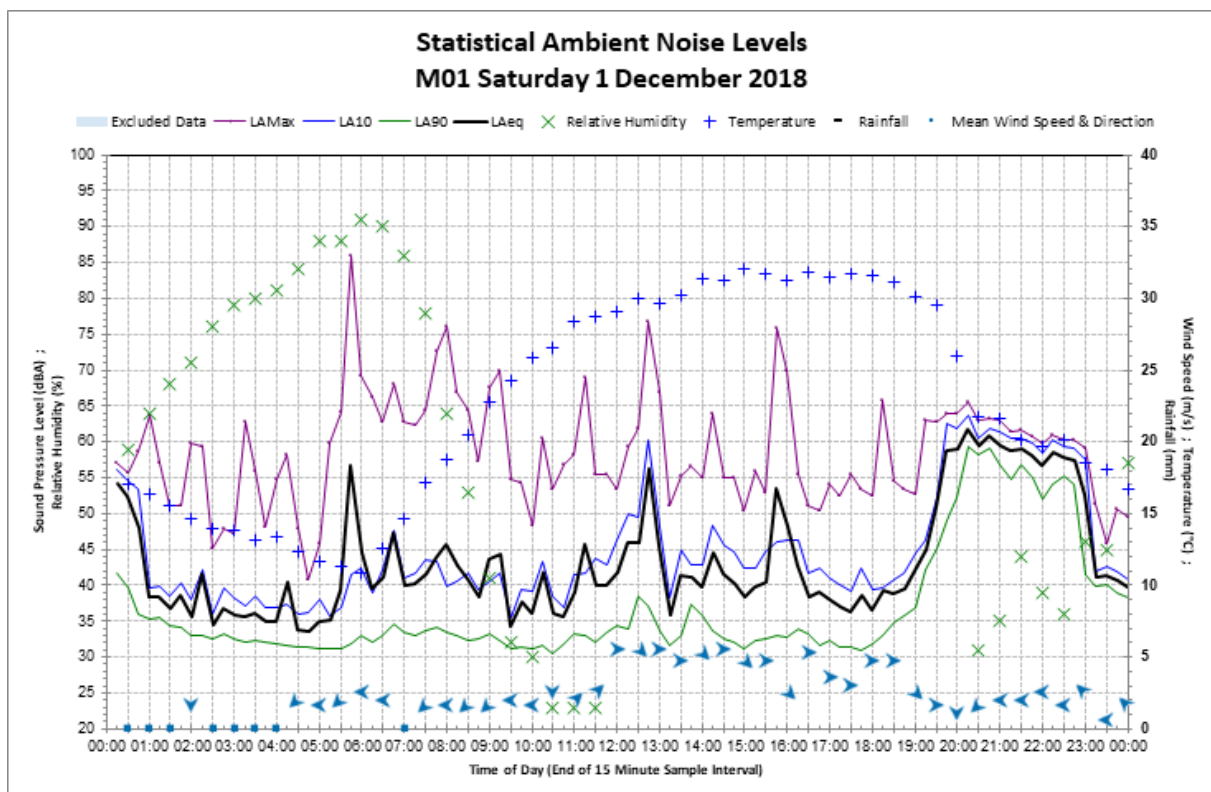
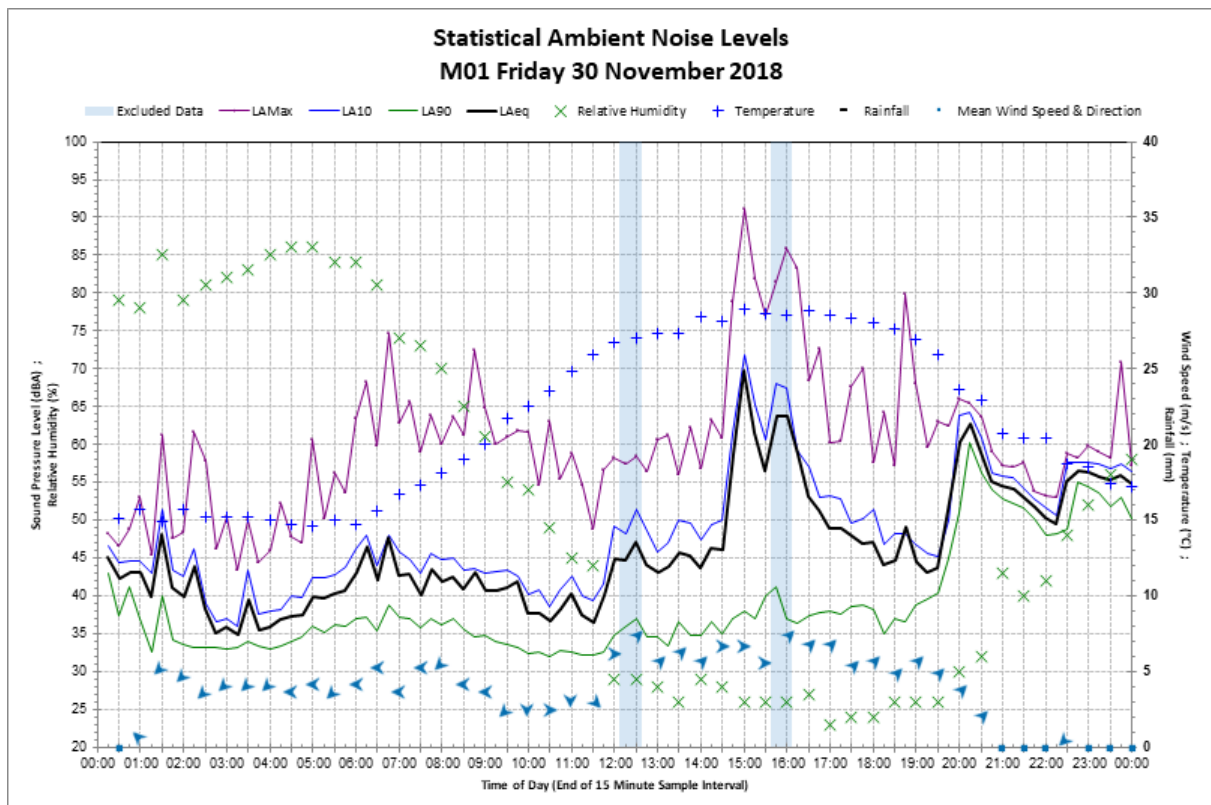




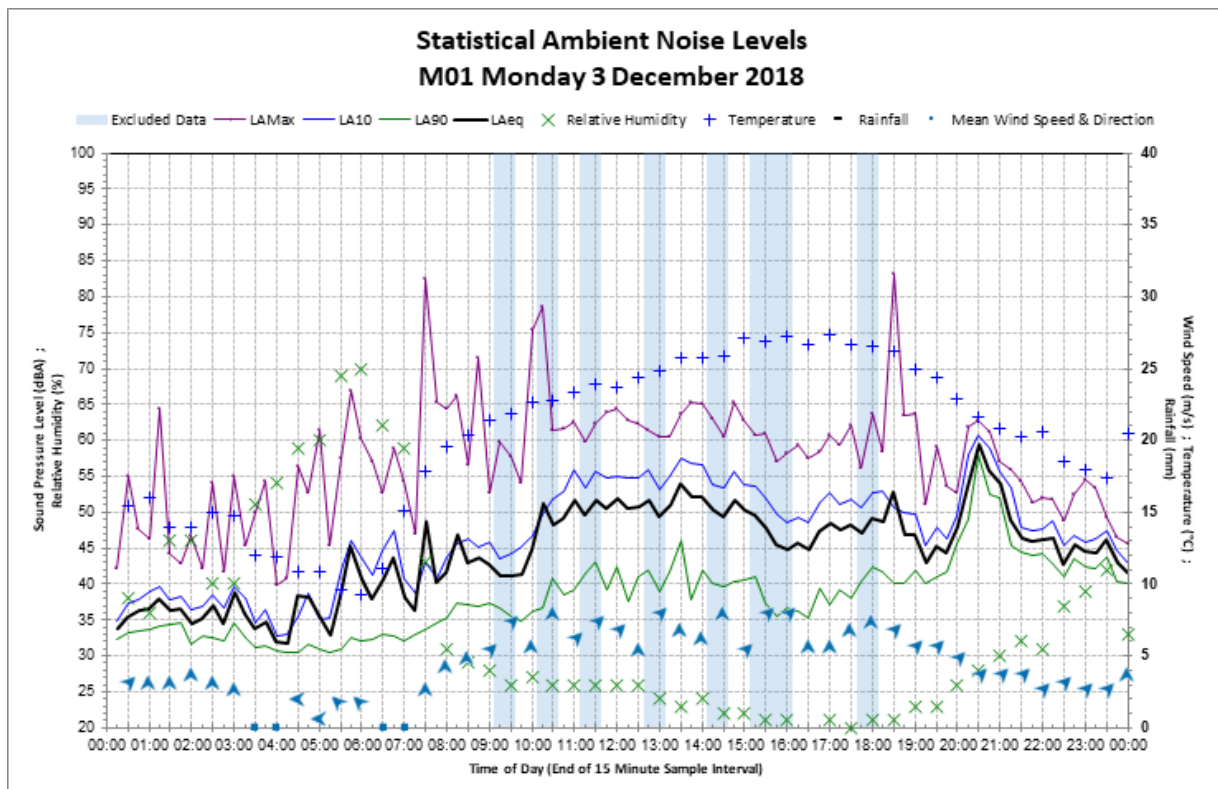
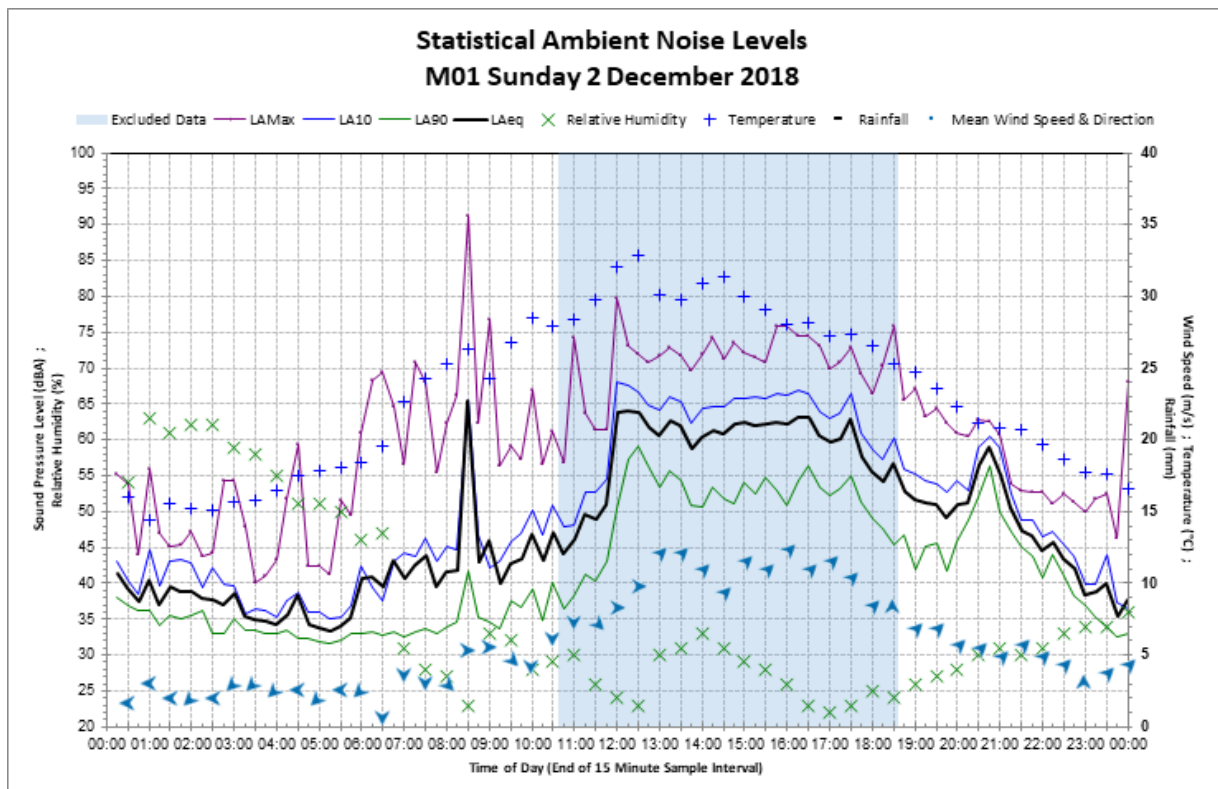
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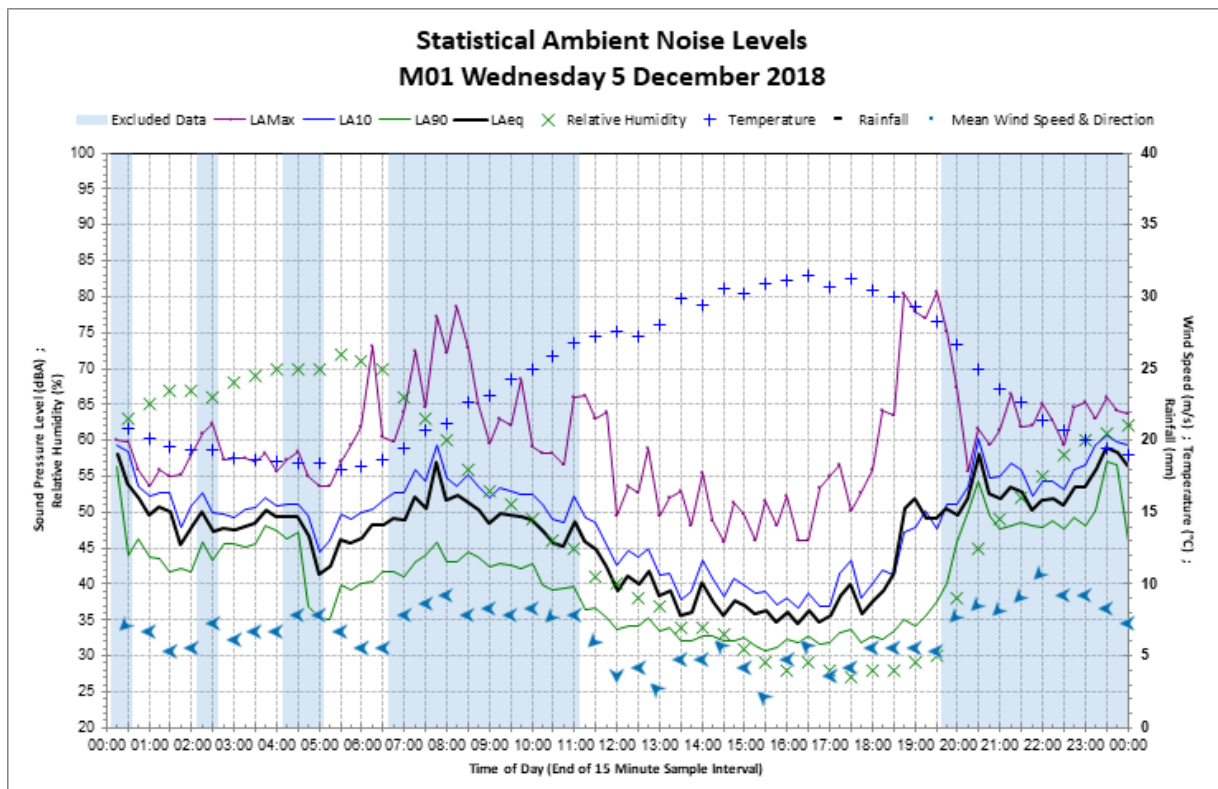
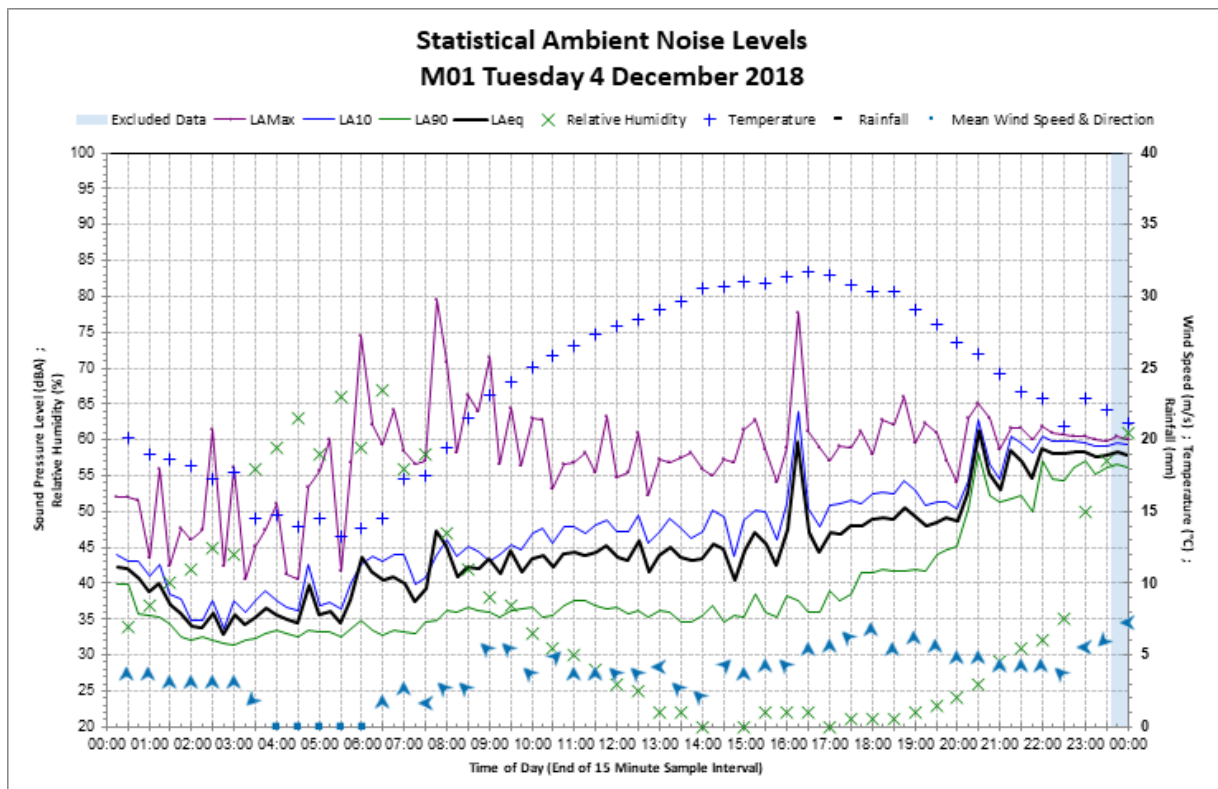


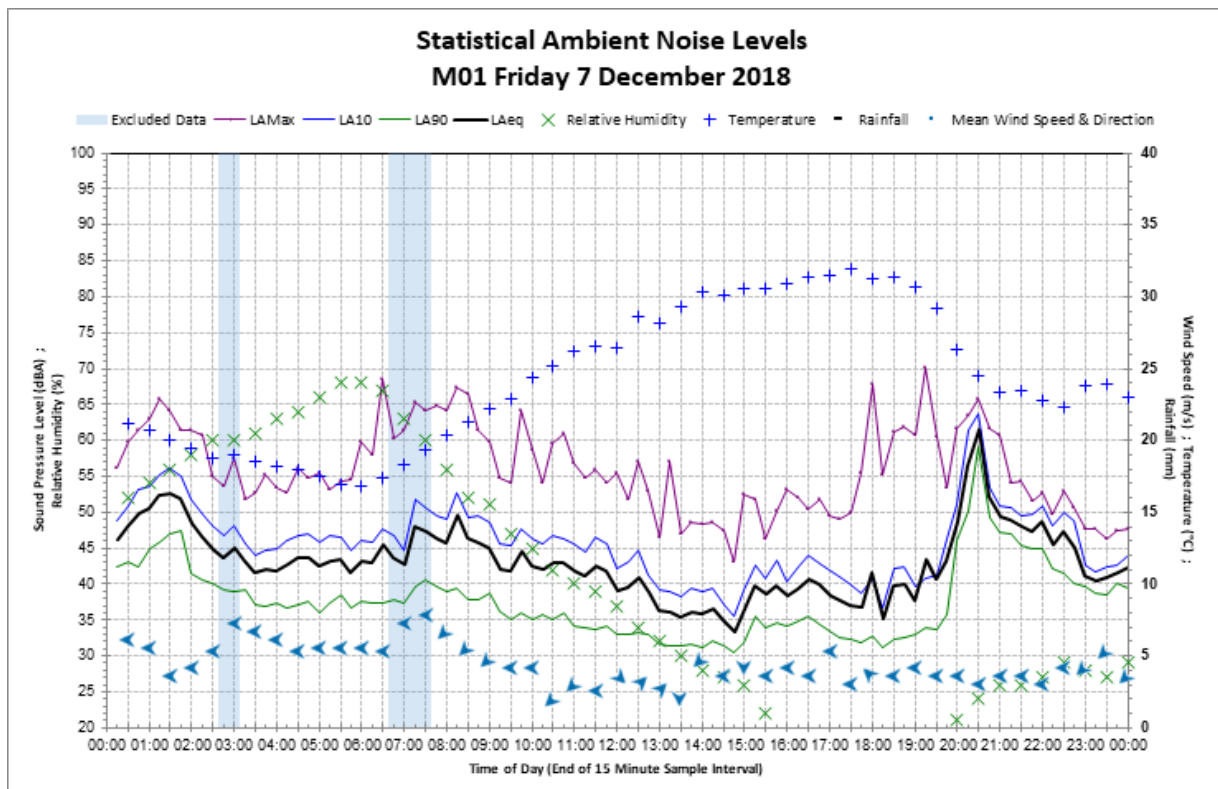
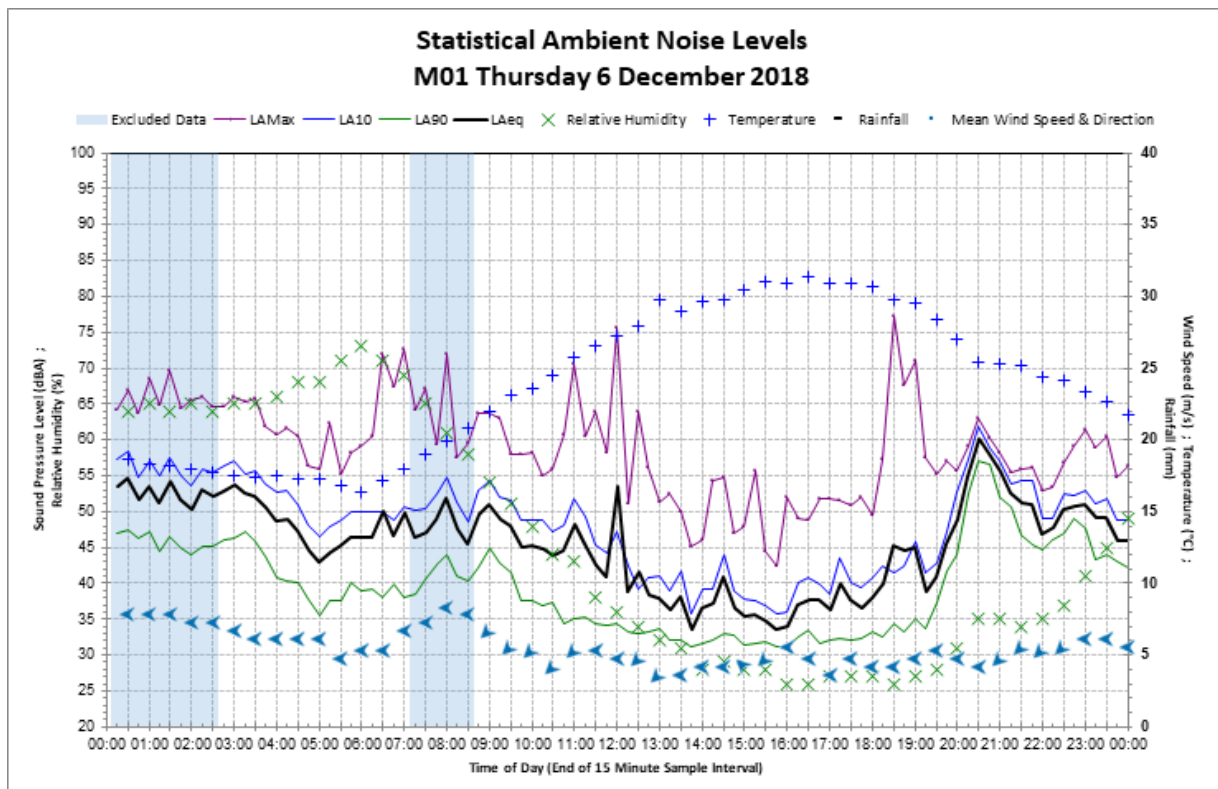


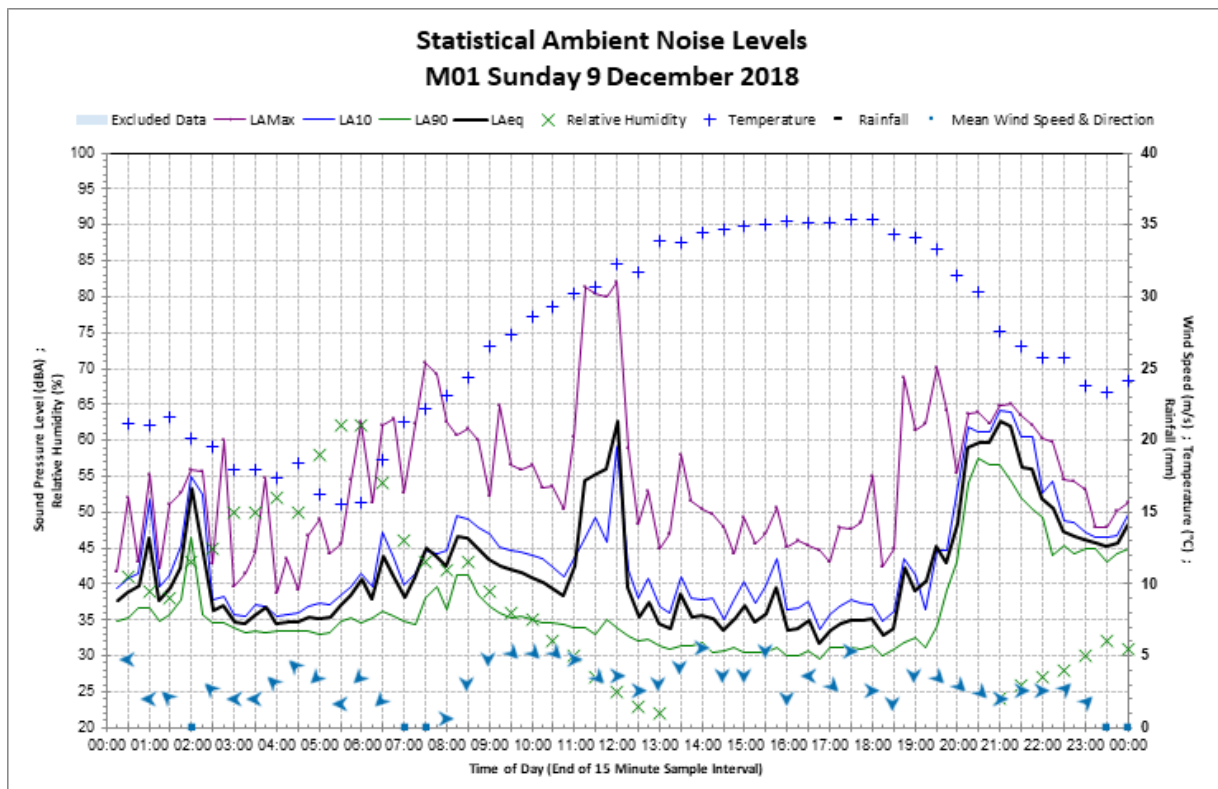
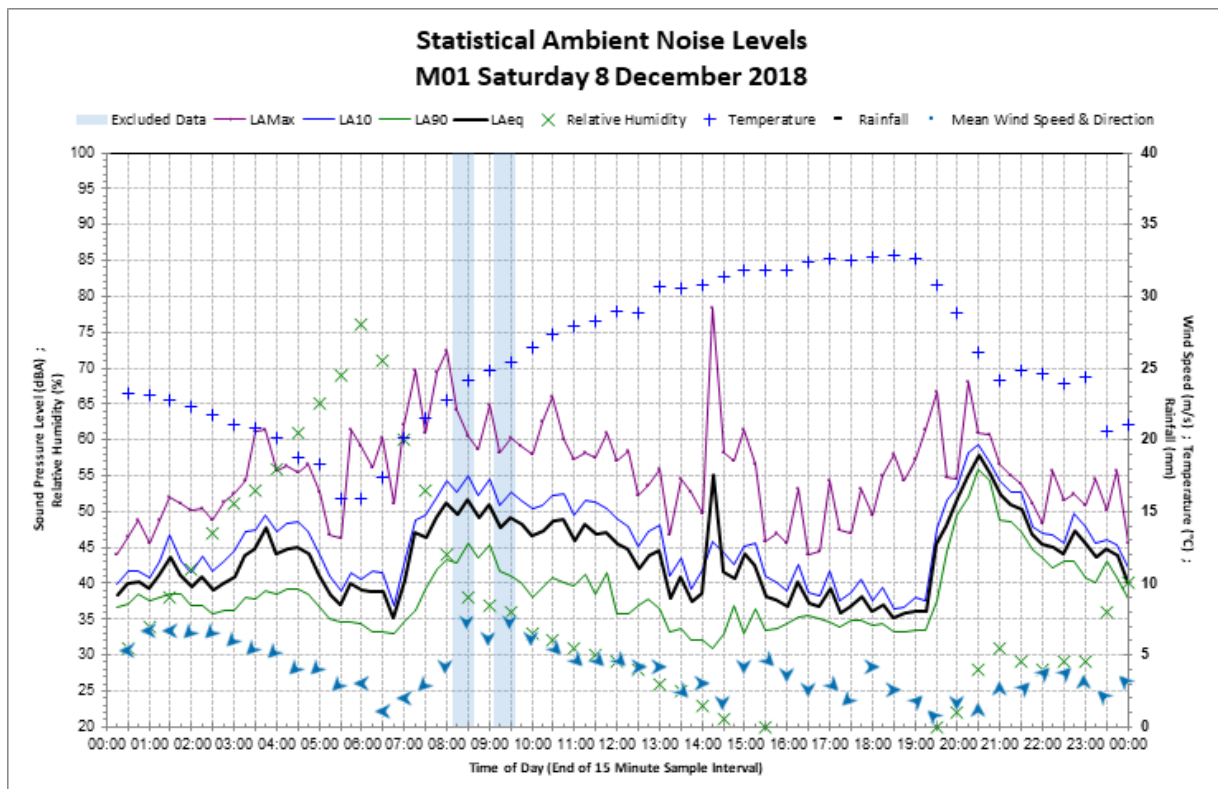




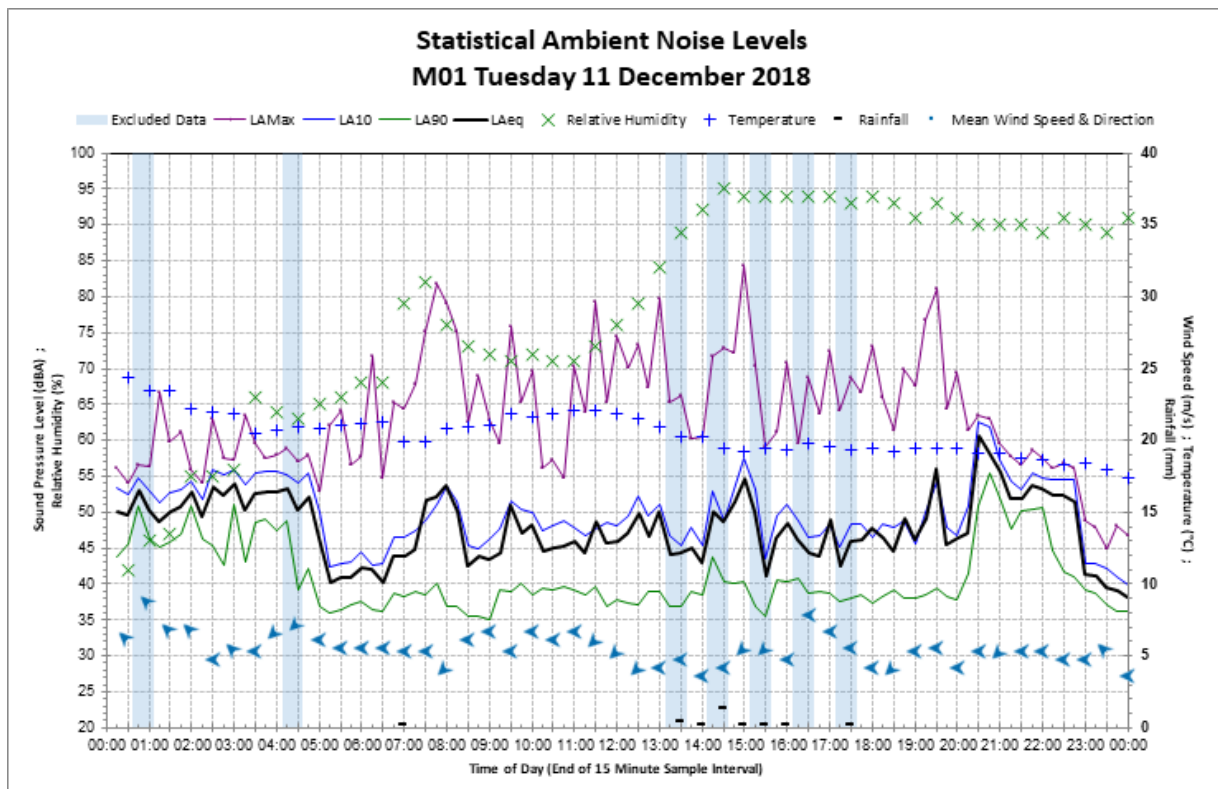
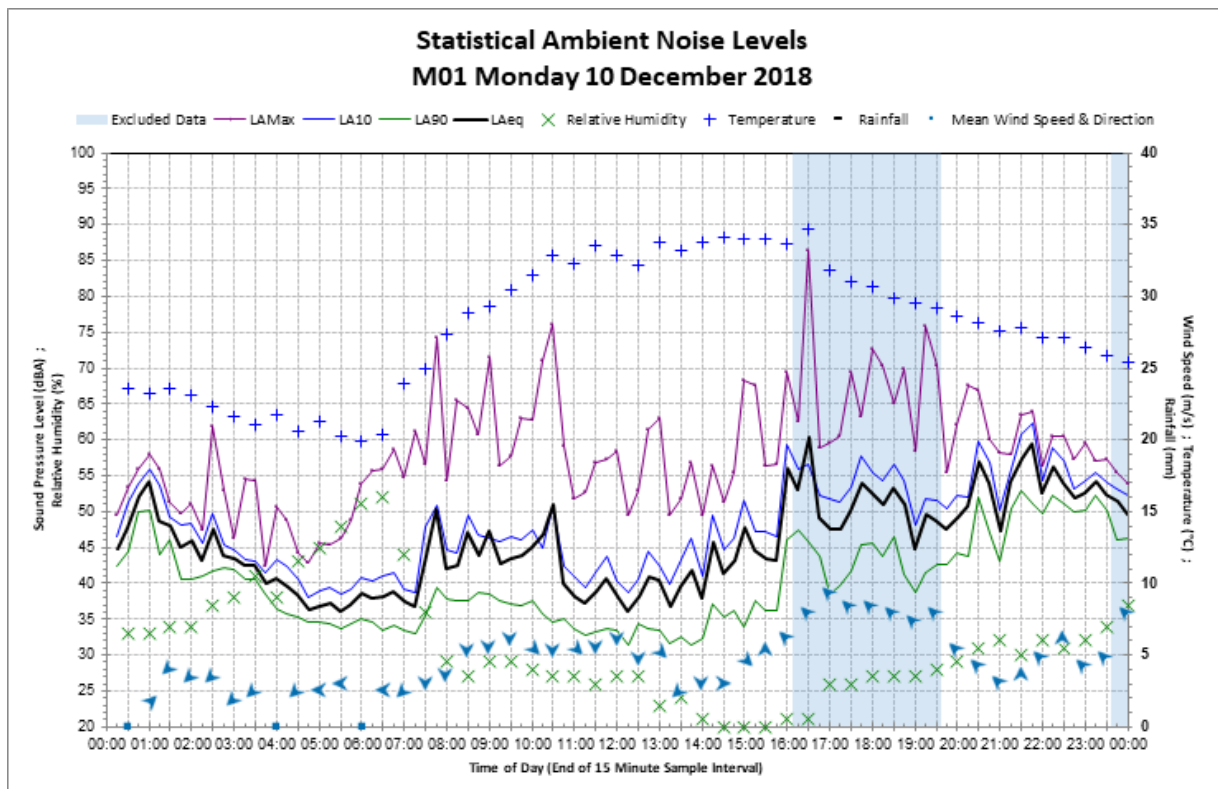




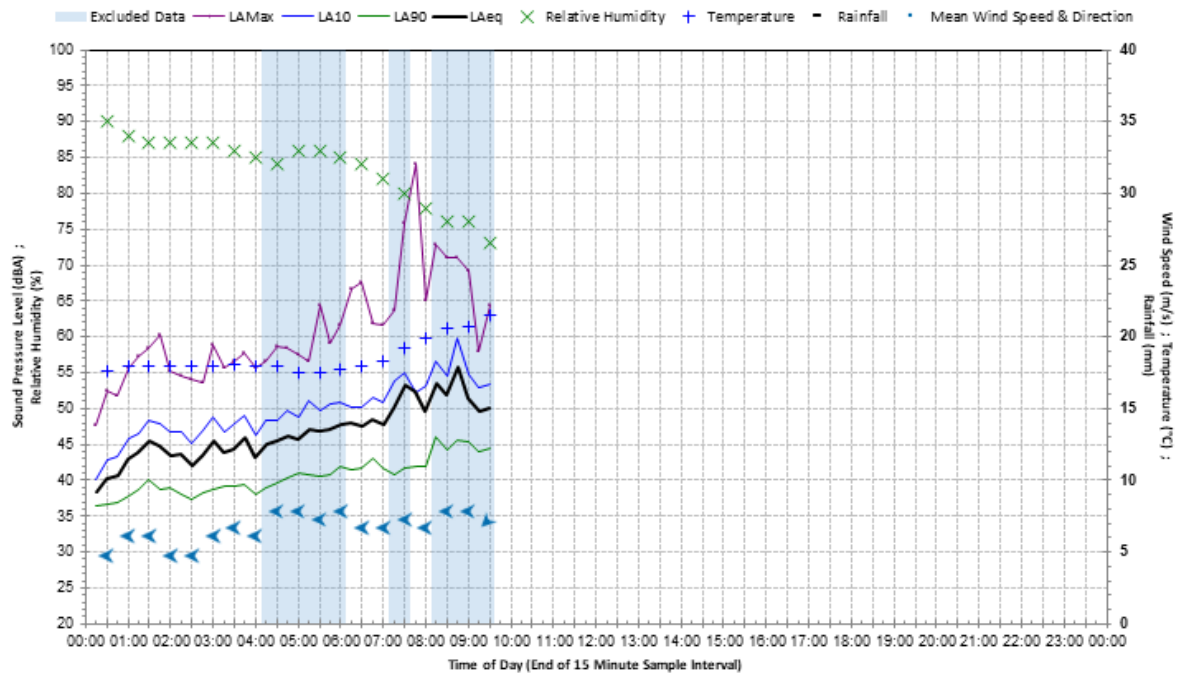






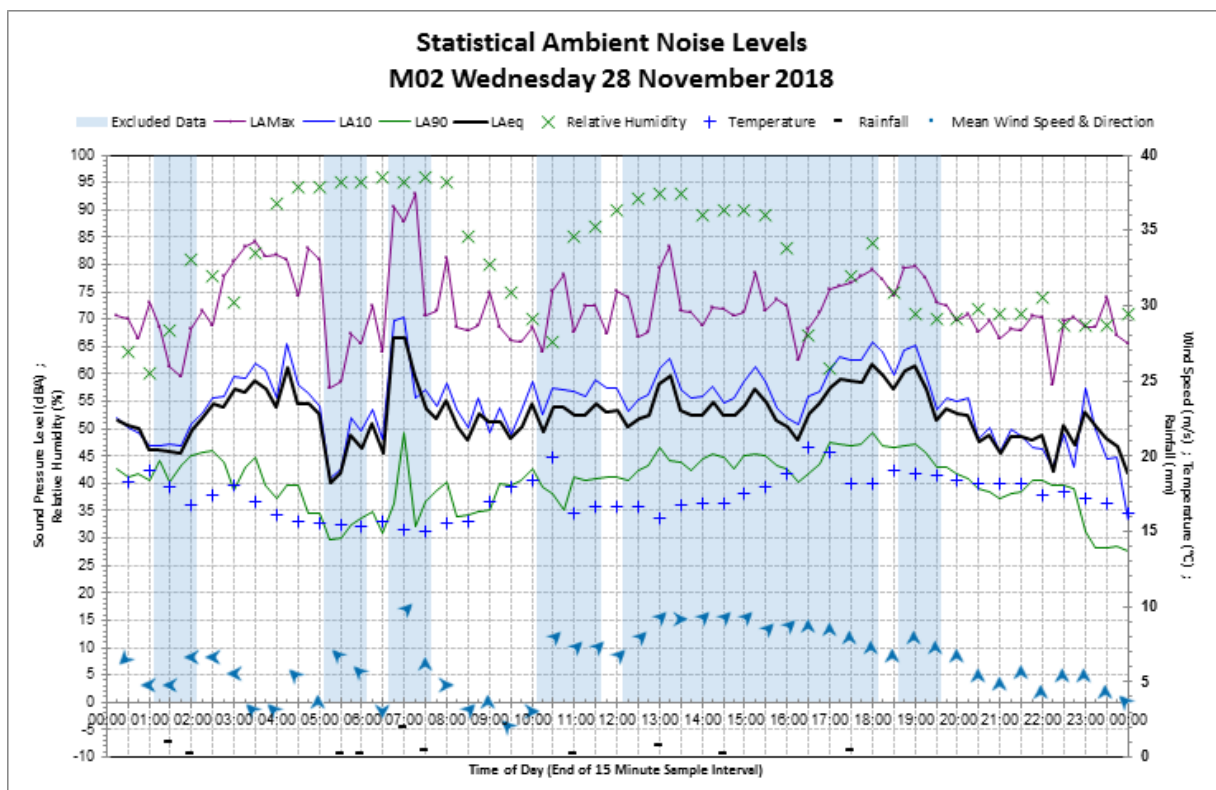
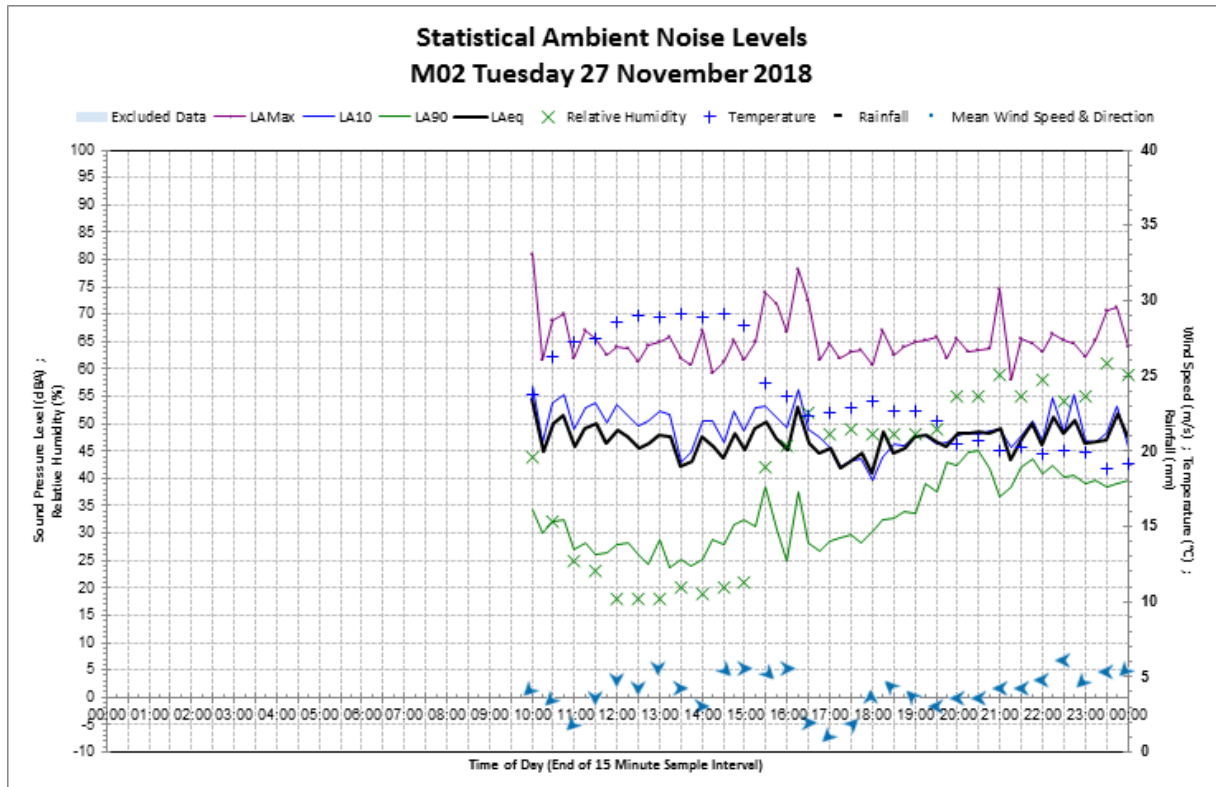


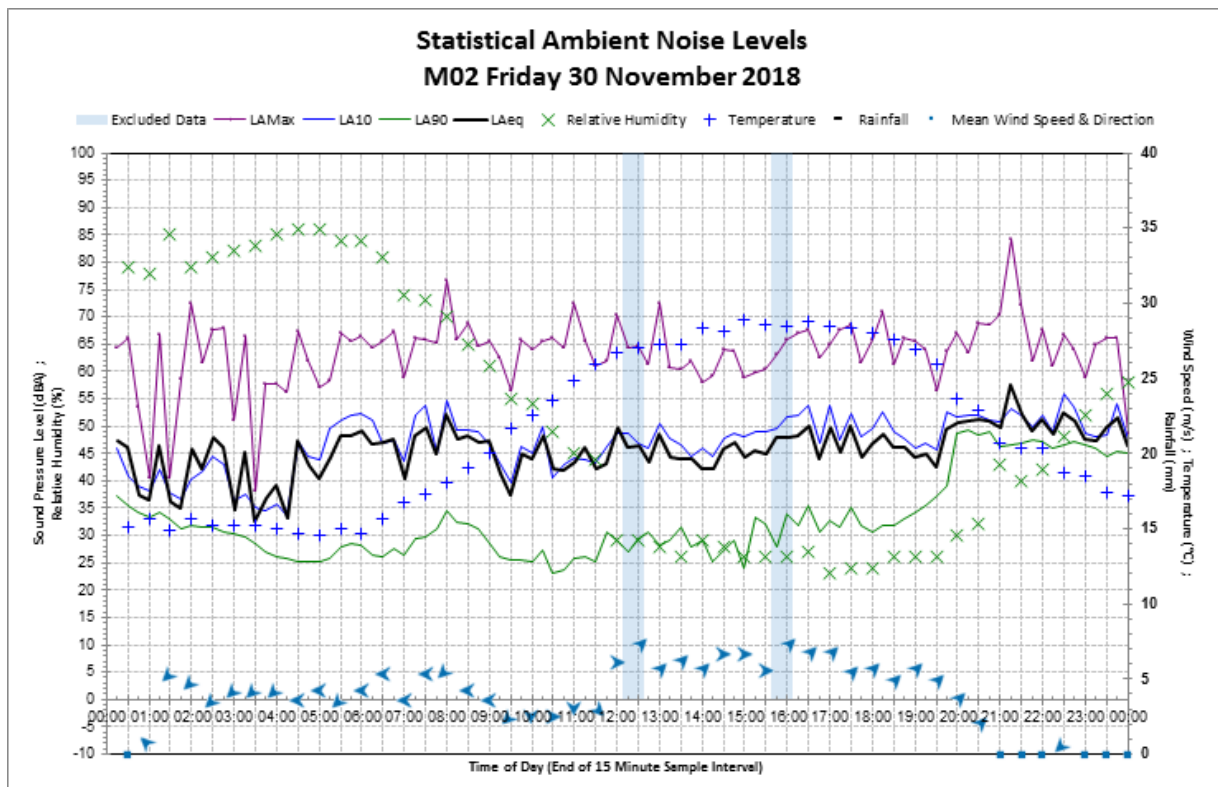
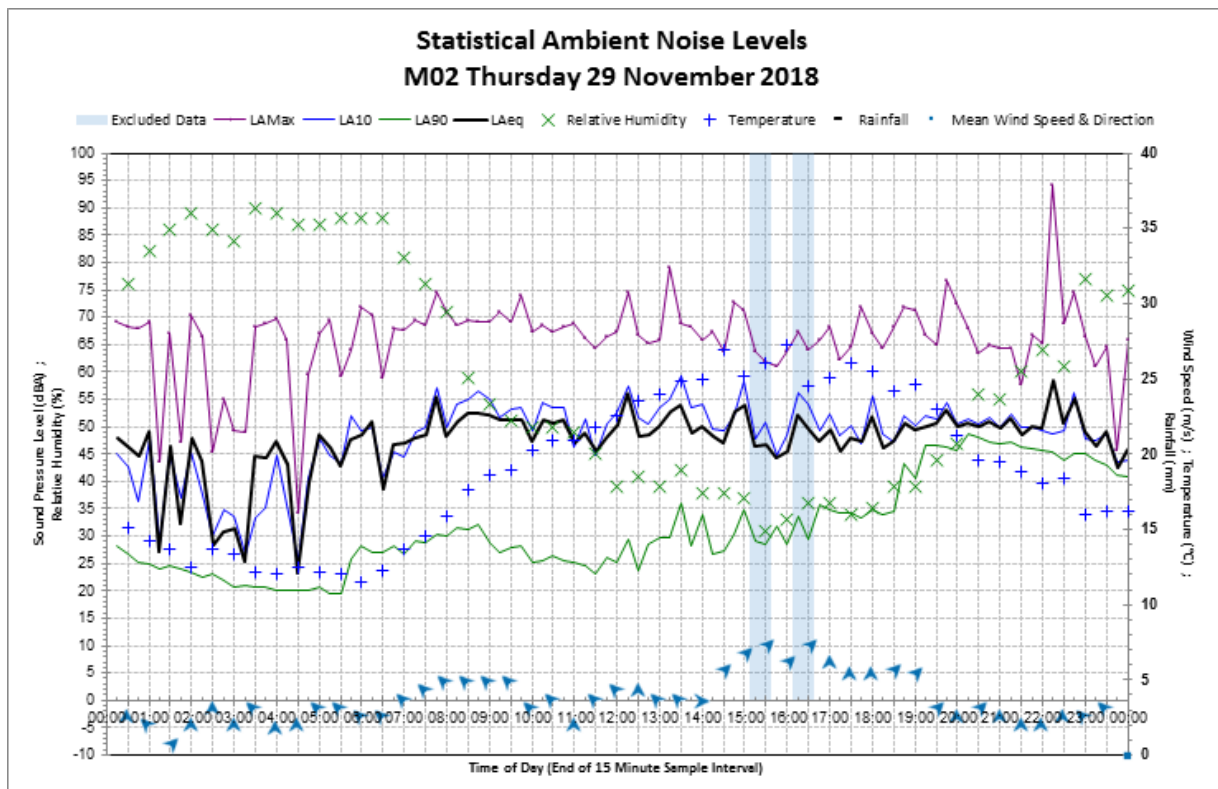
## Statistical Ambient Noise Levels M01 Wednesday 12 December 2018

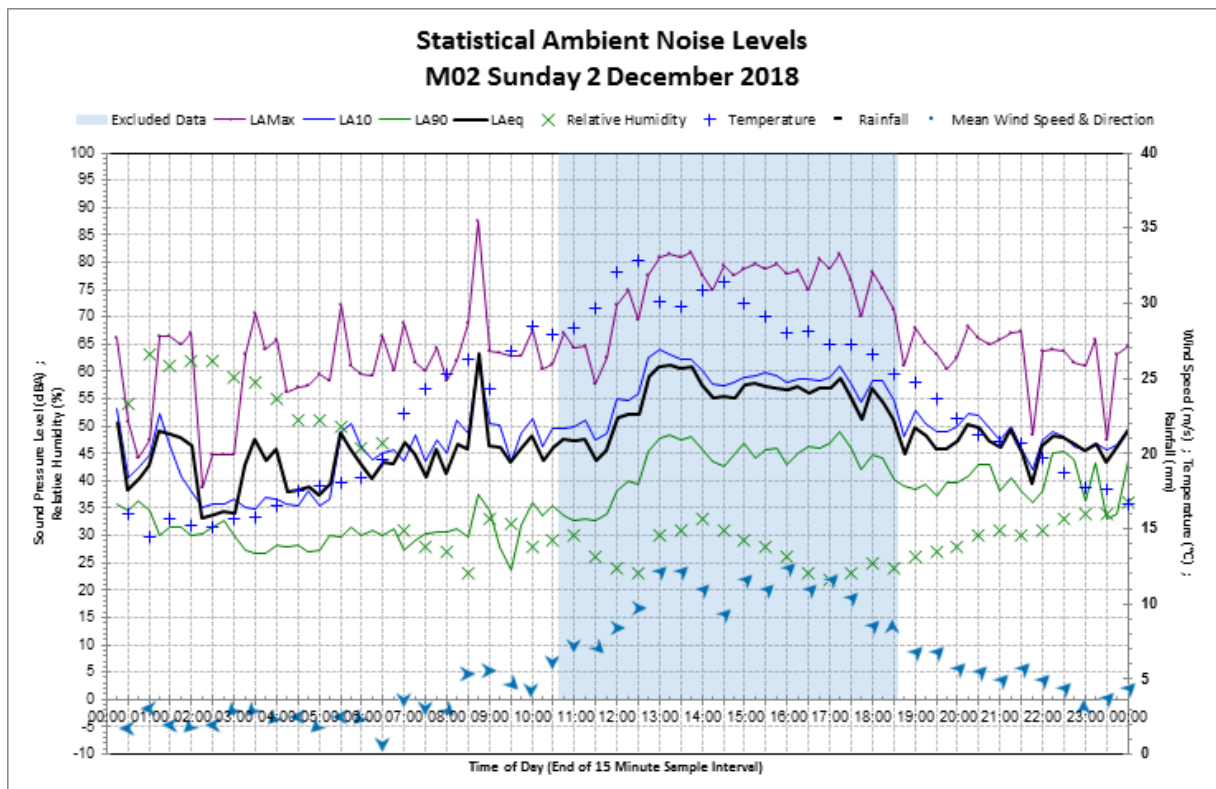
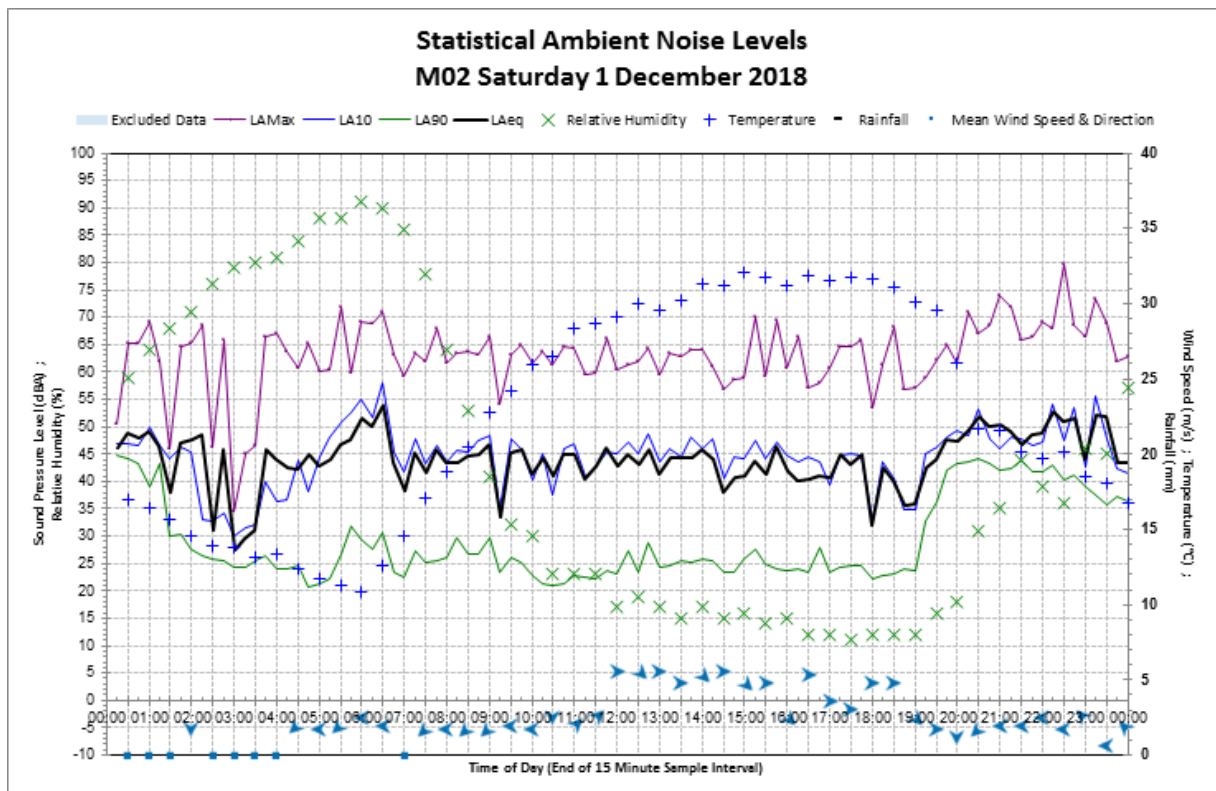


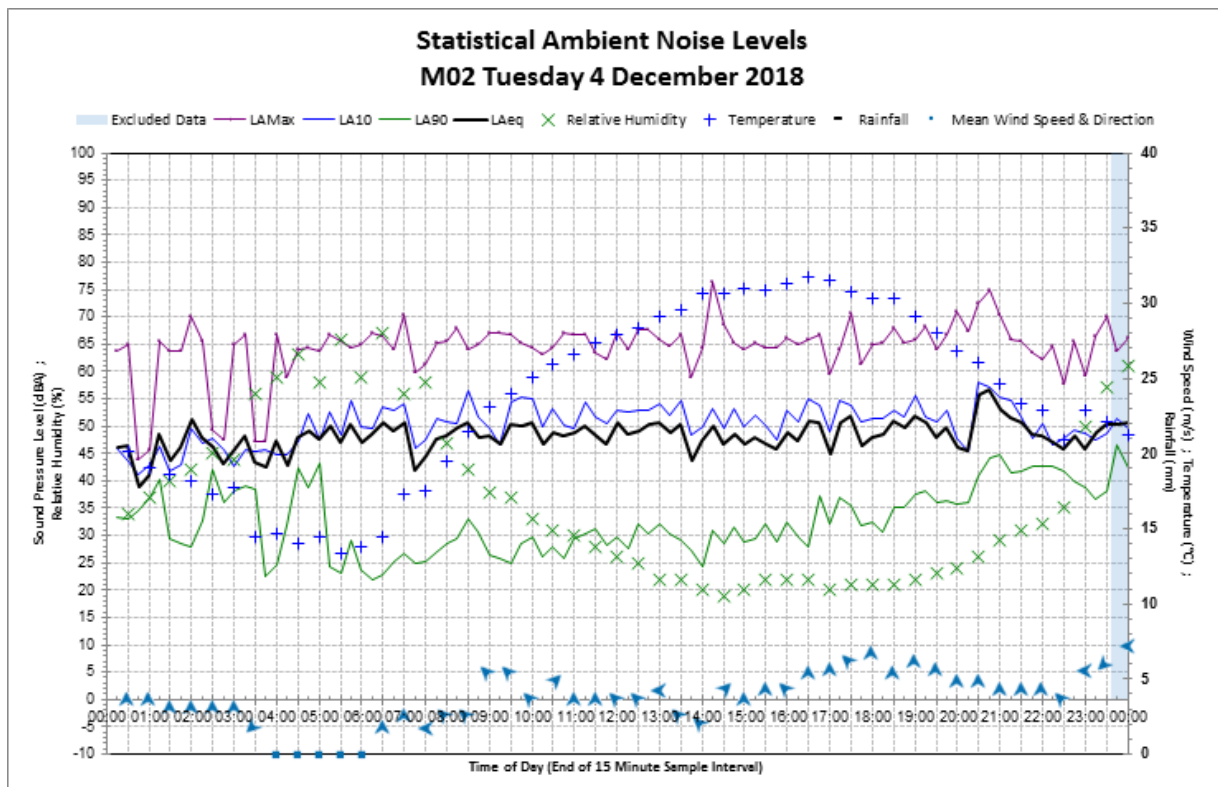
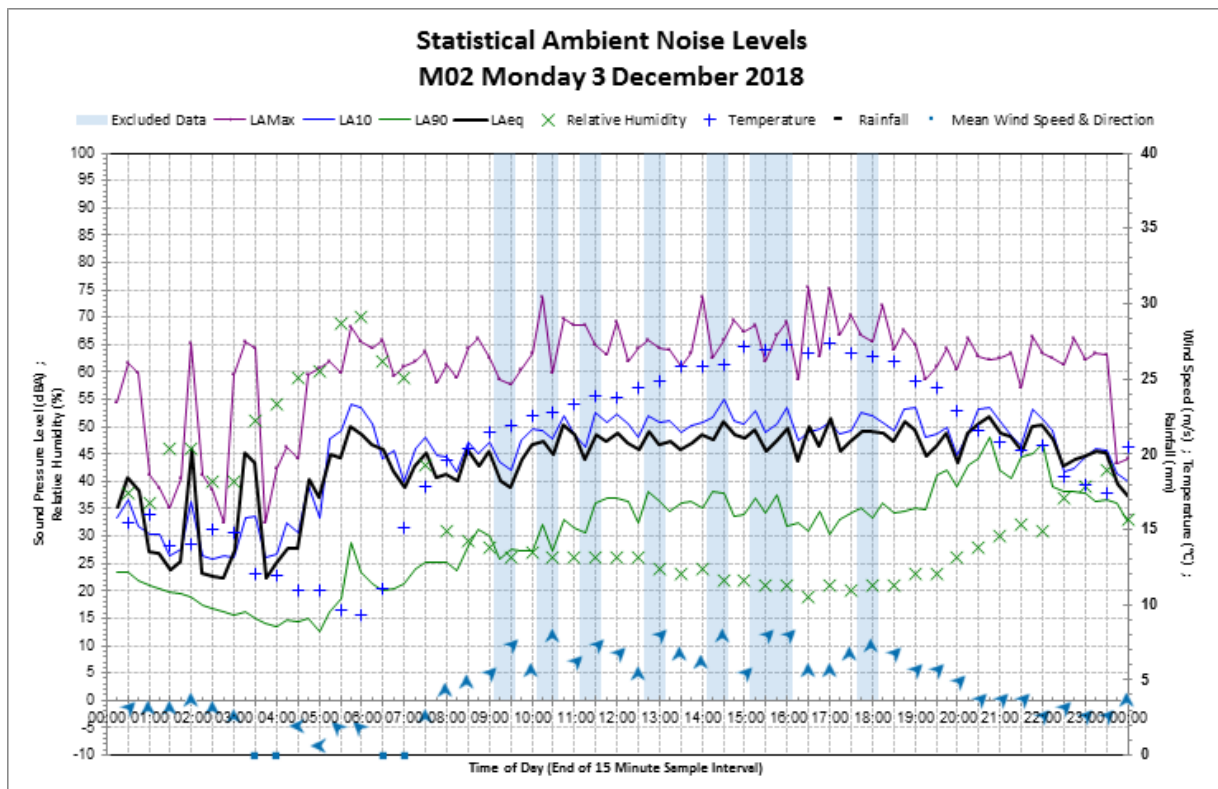


## Monitoring location M02 – 1115 Eumungerie Road, Narromine

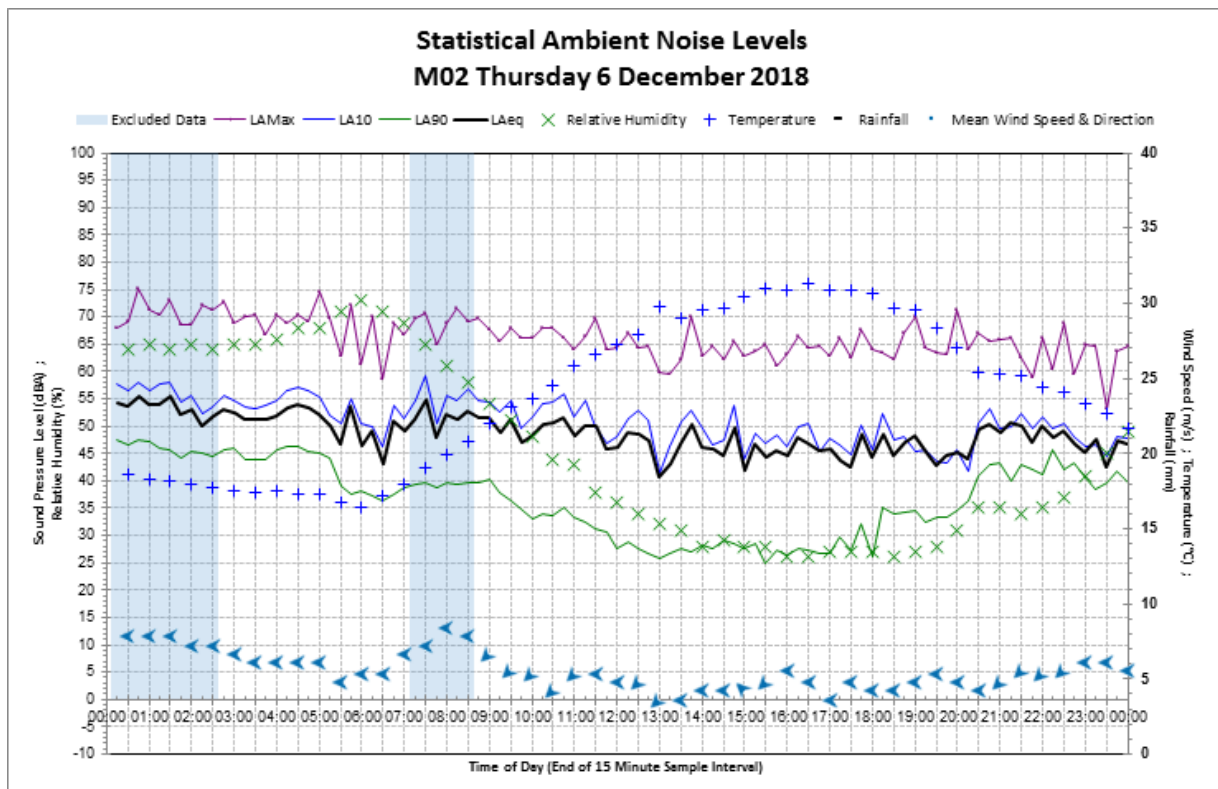
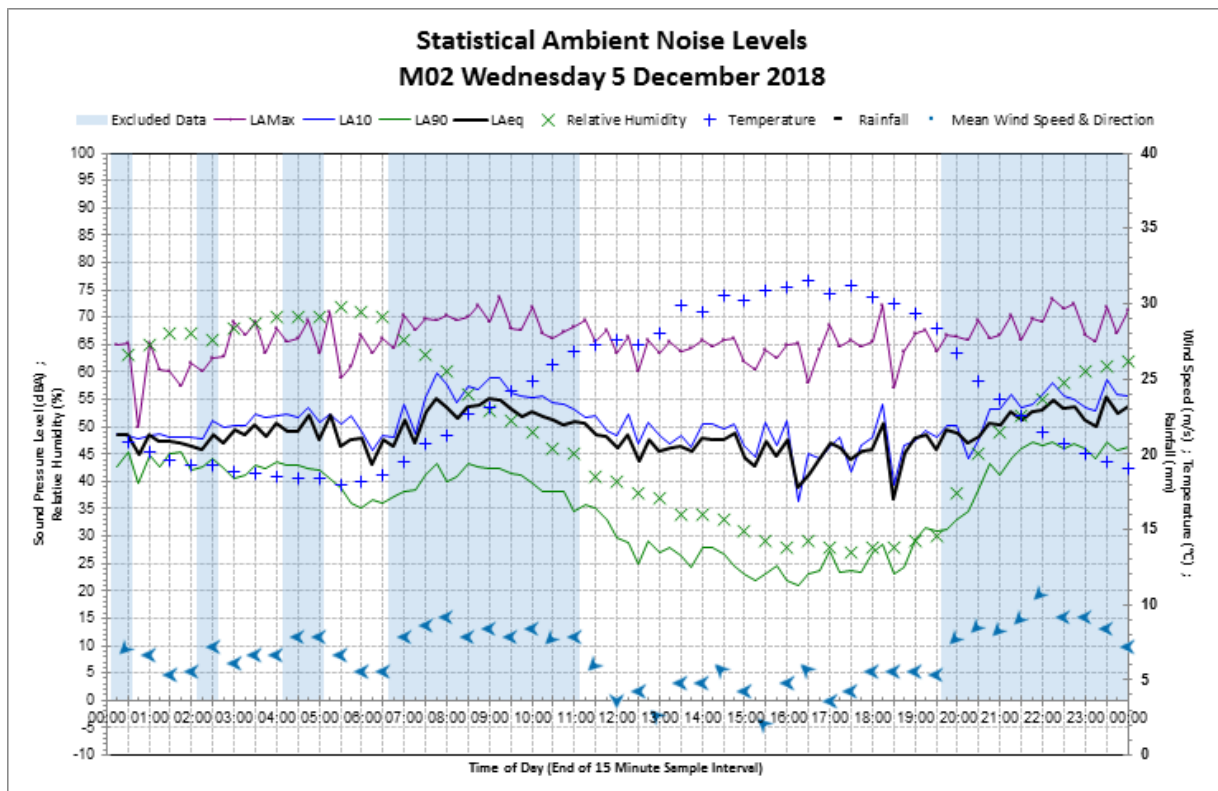


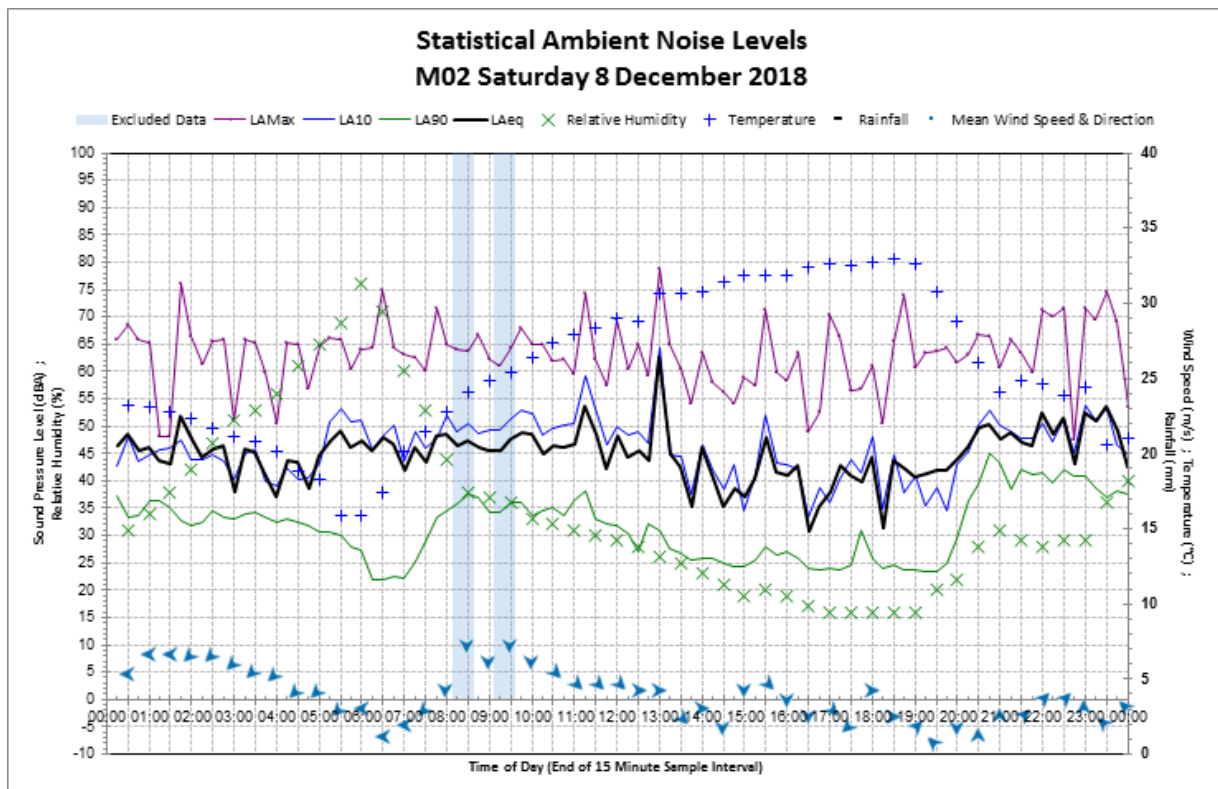
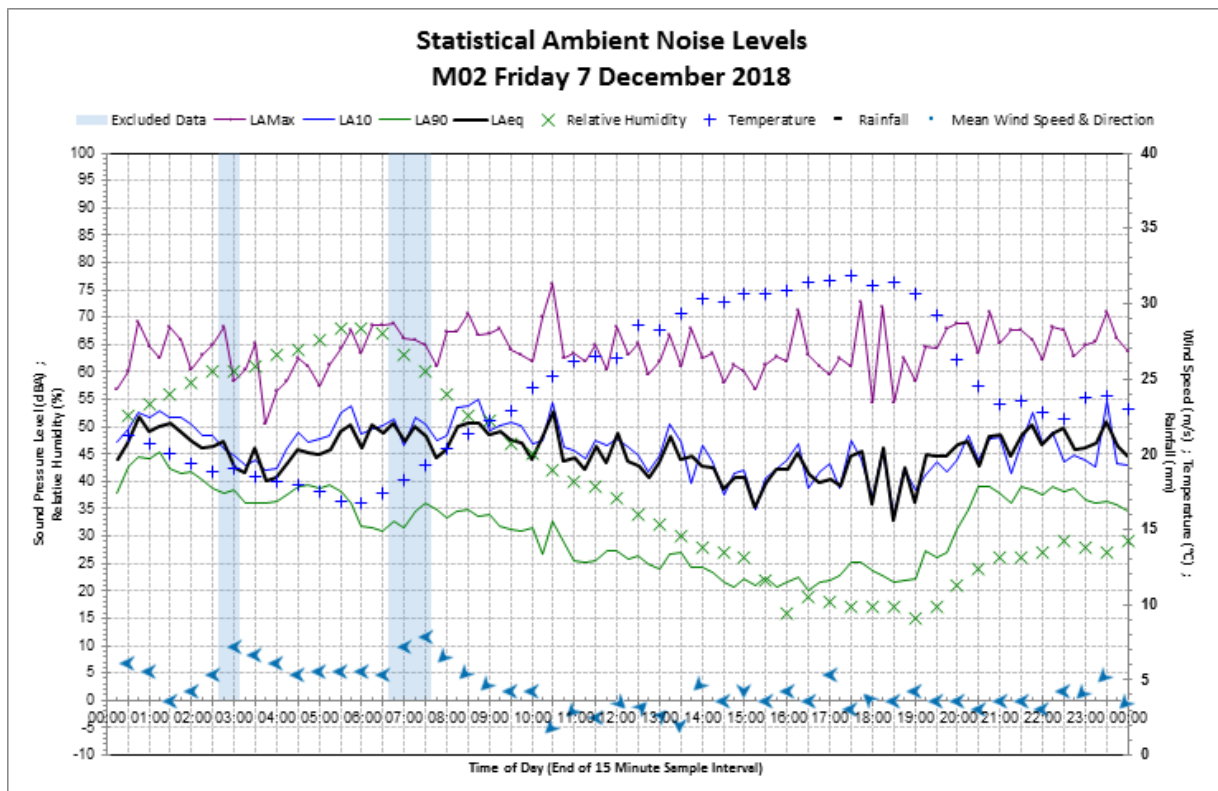




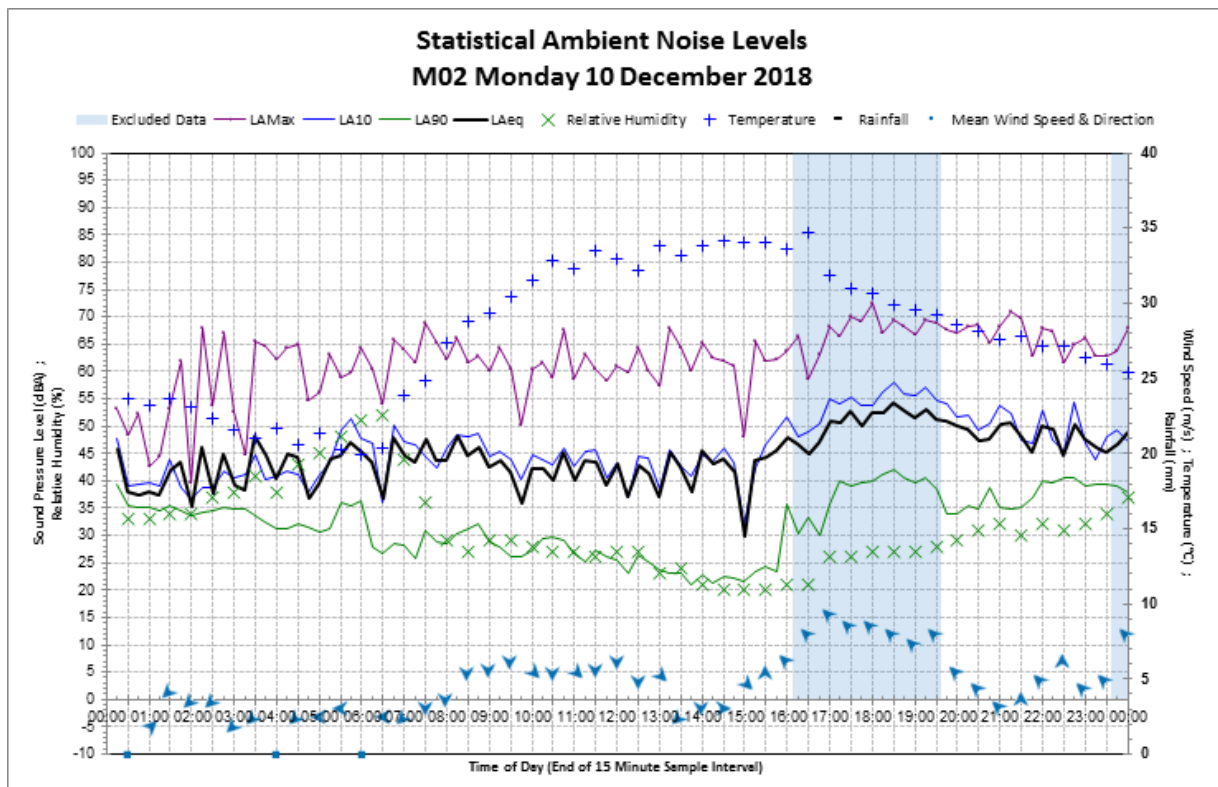
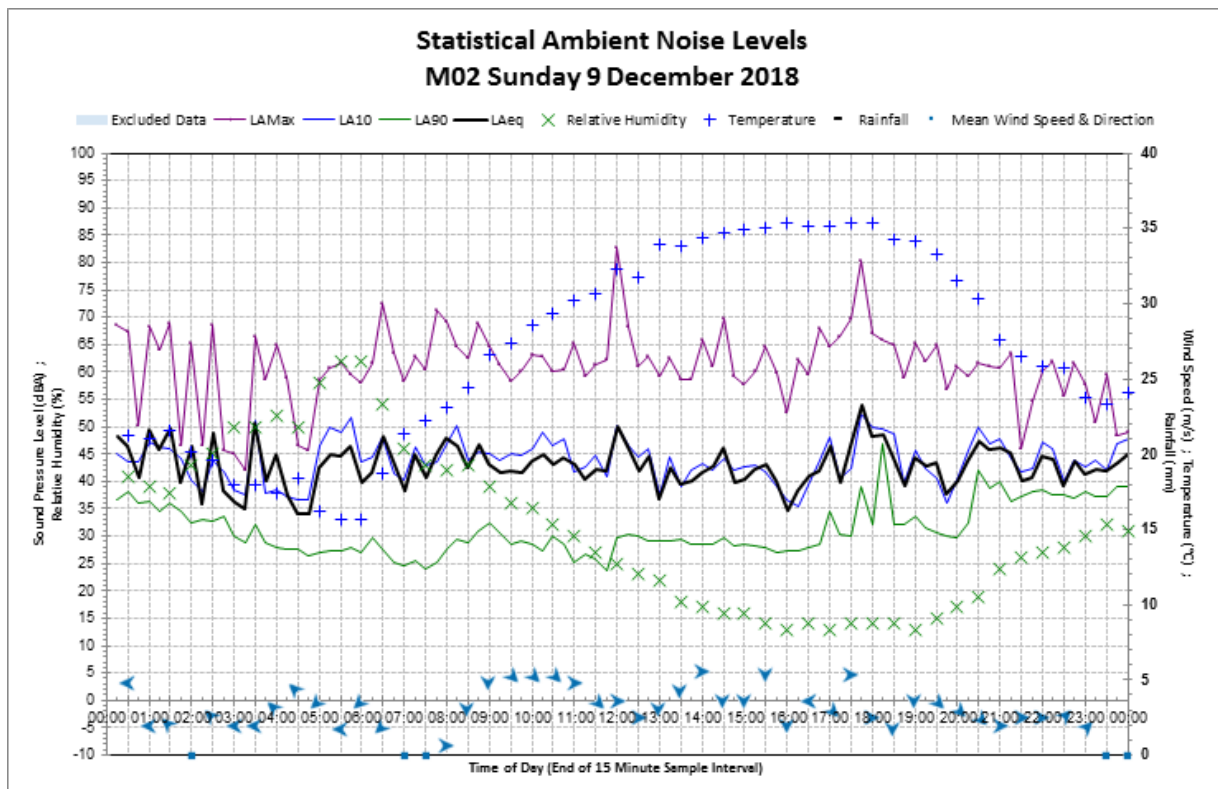


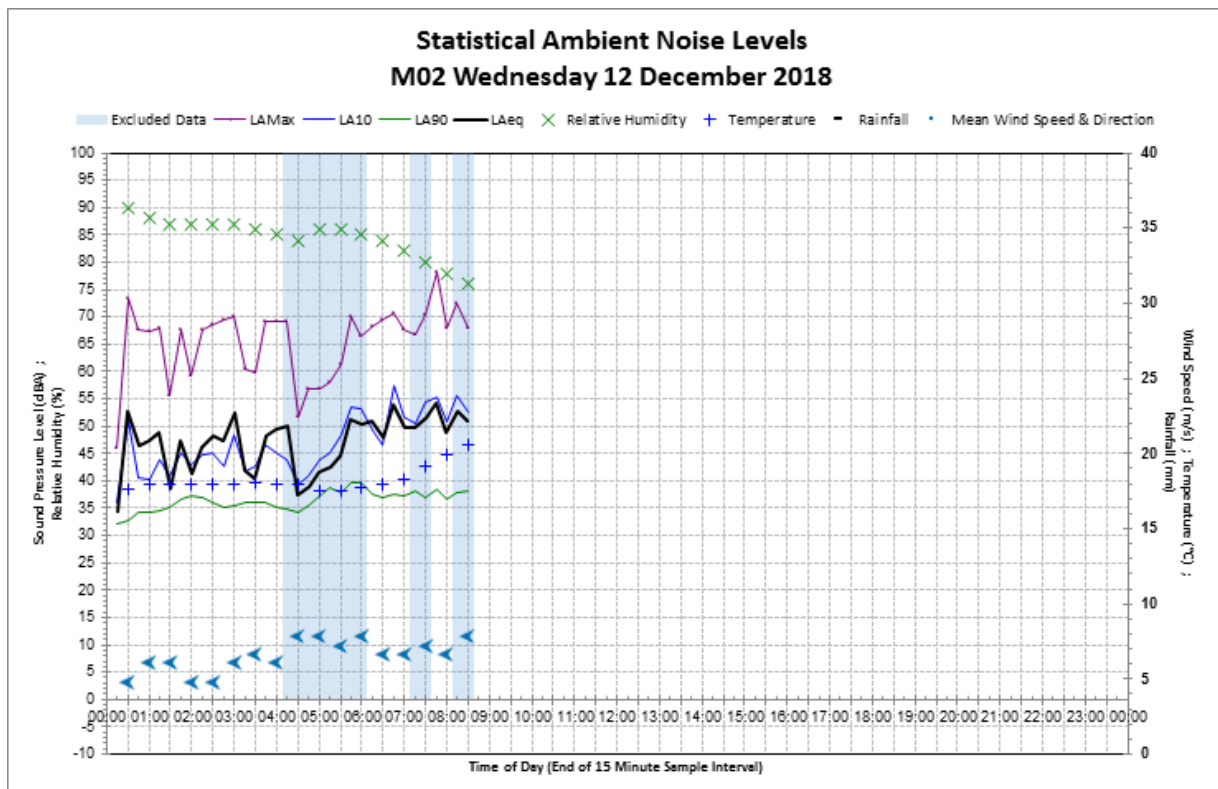
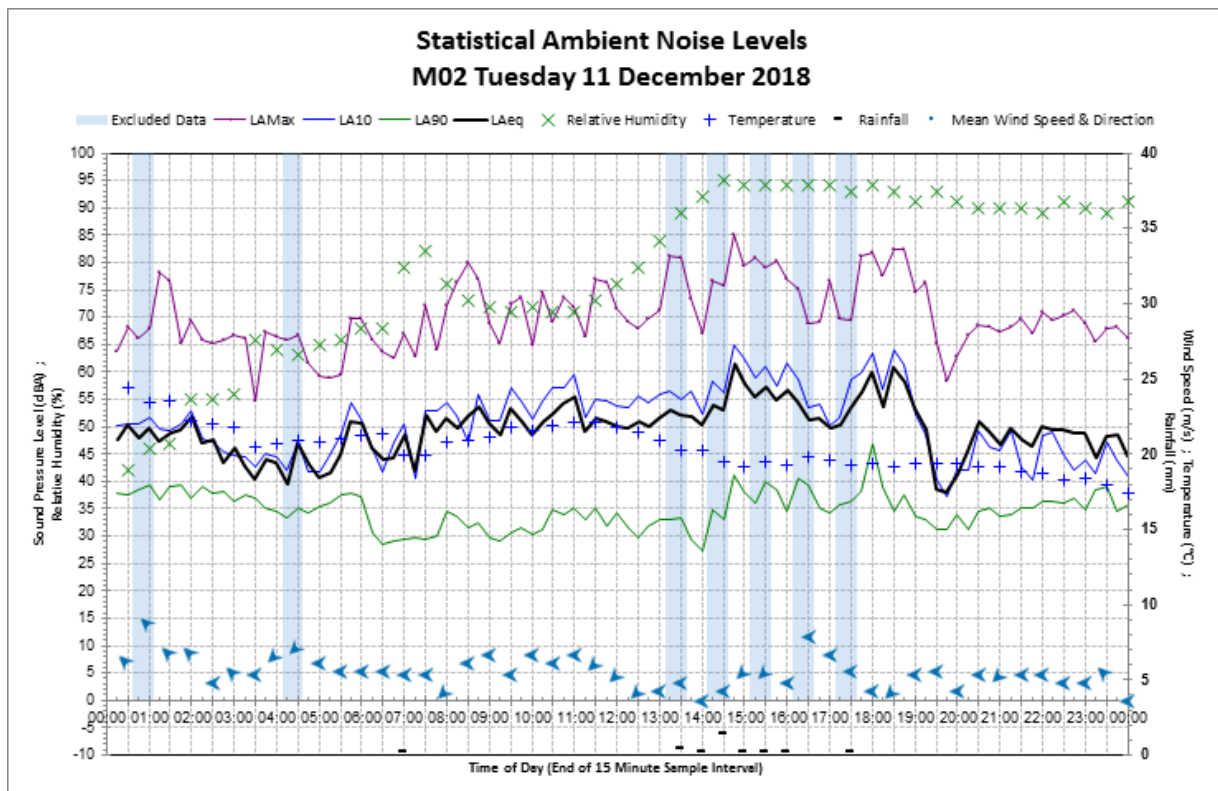




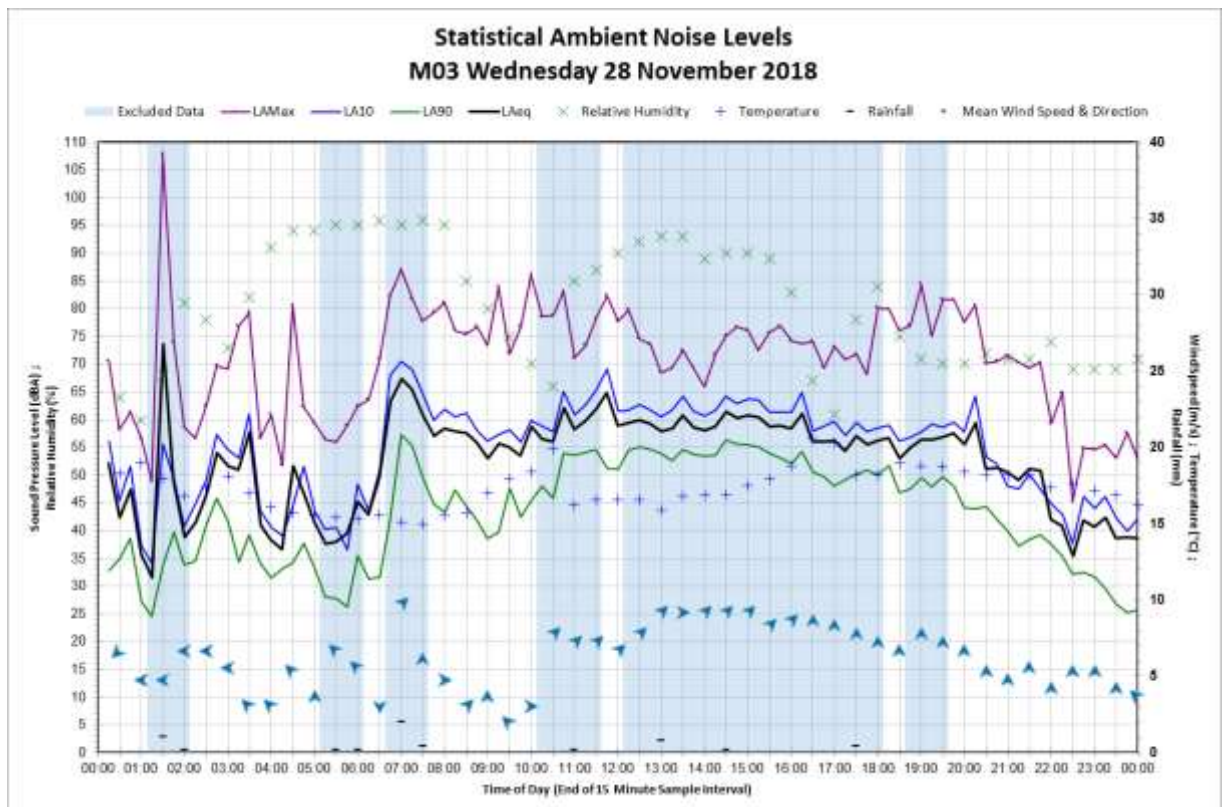
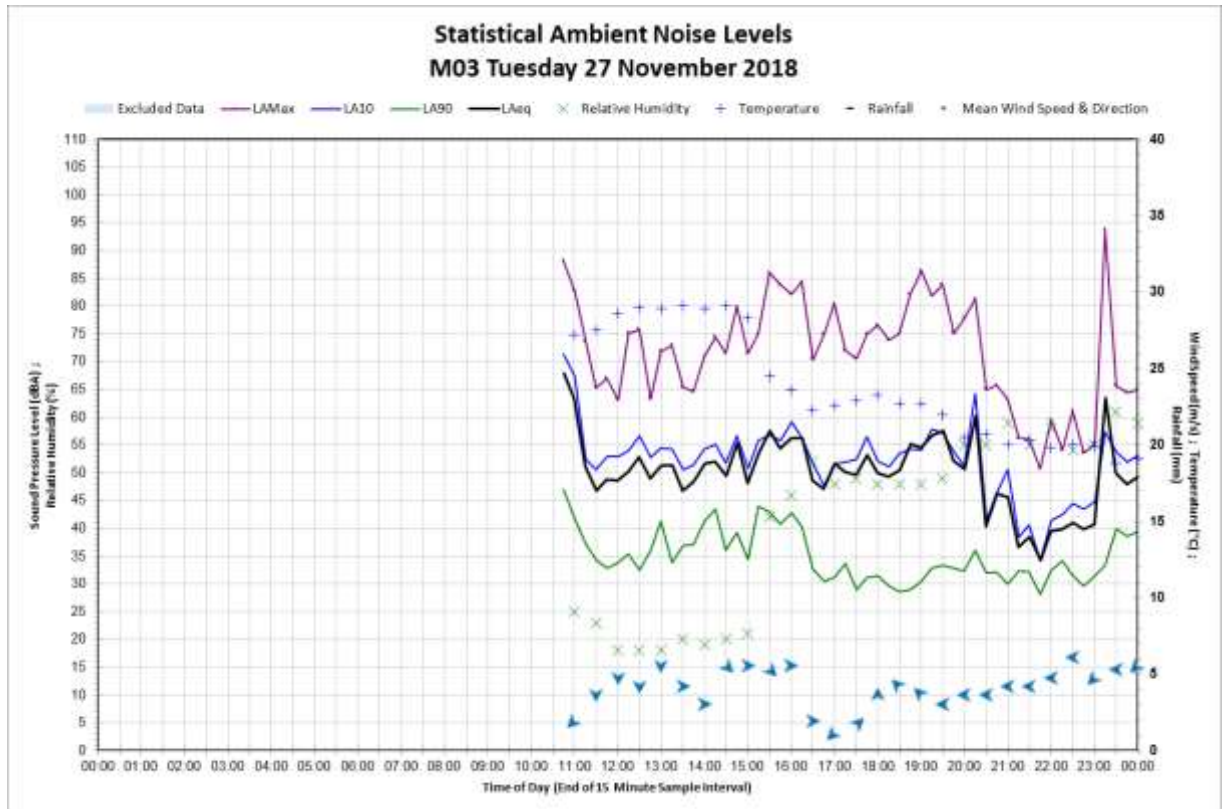




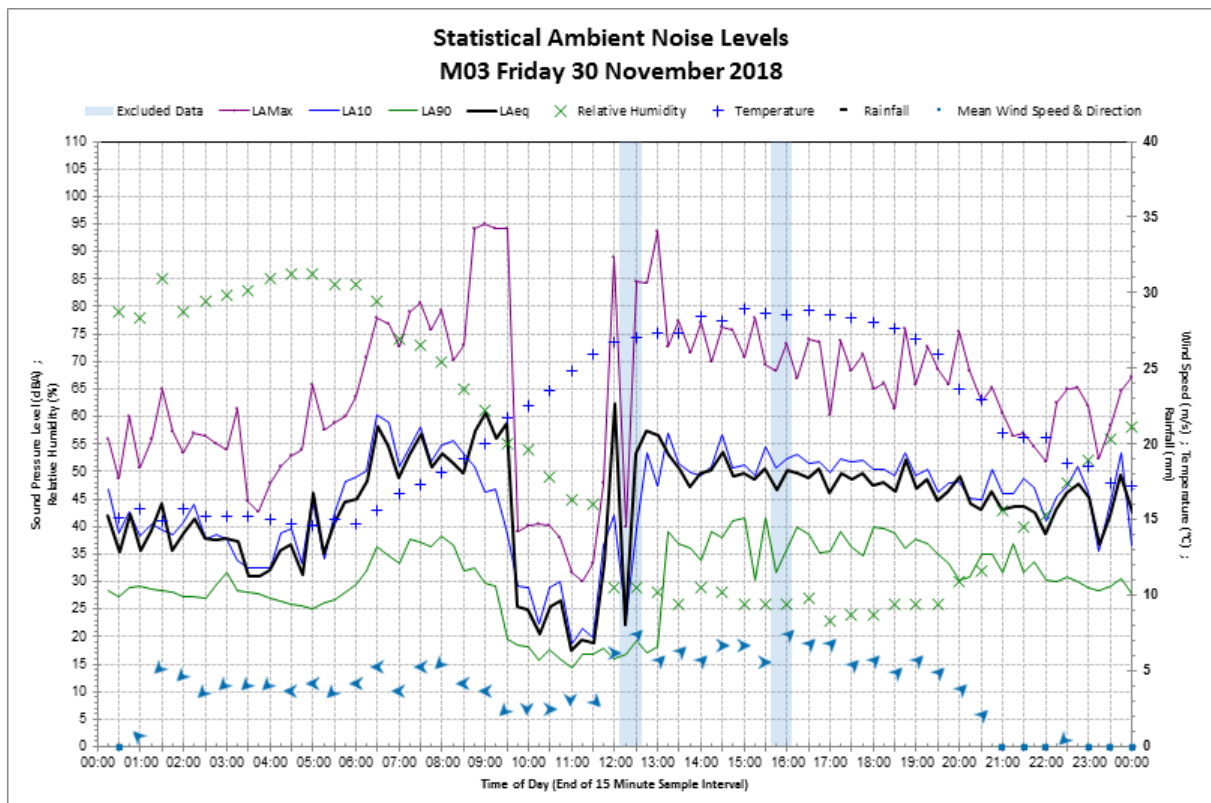
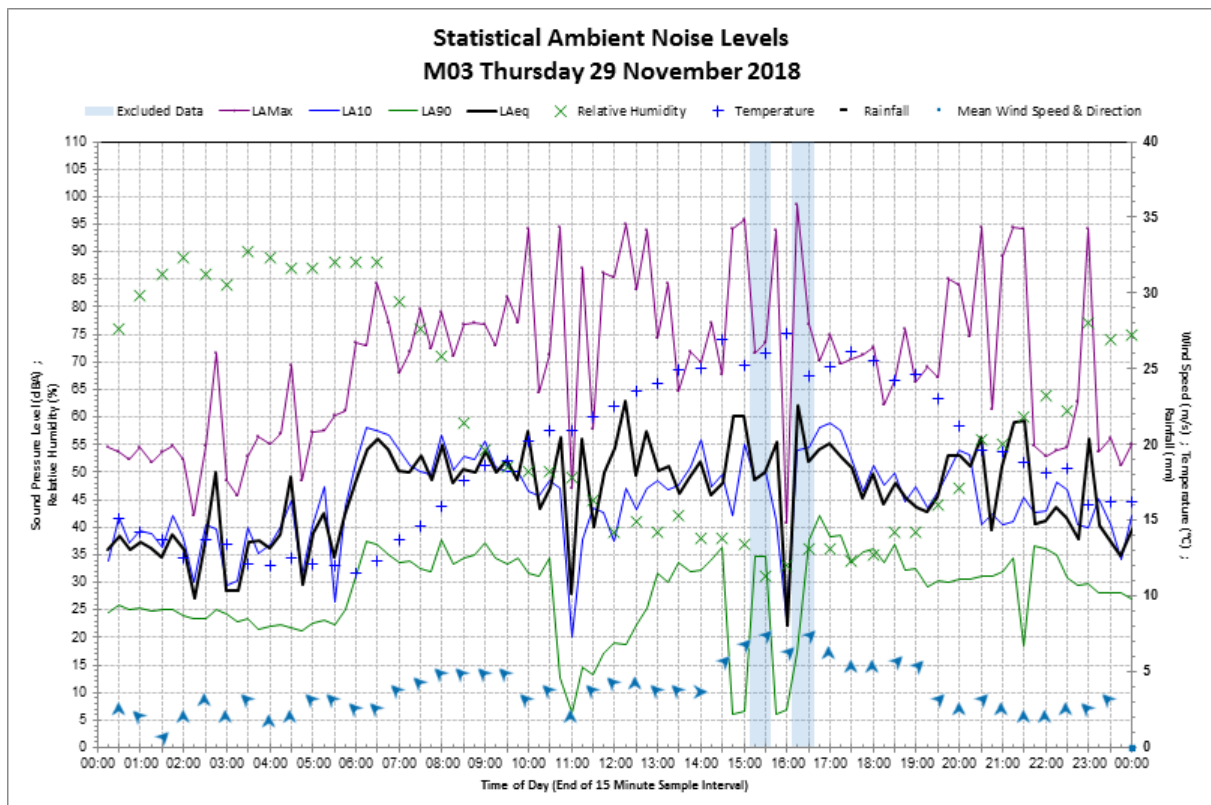


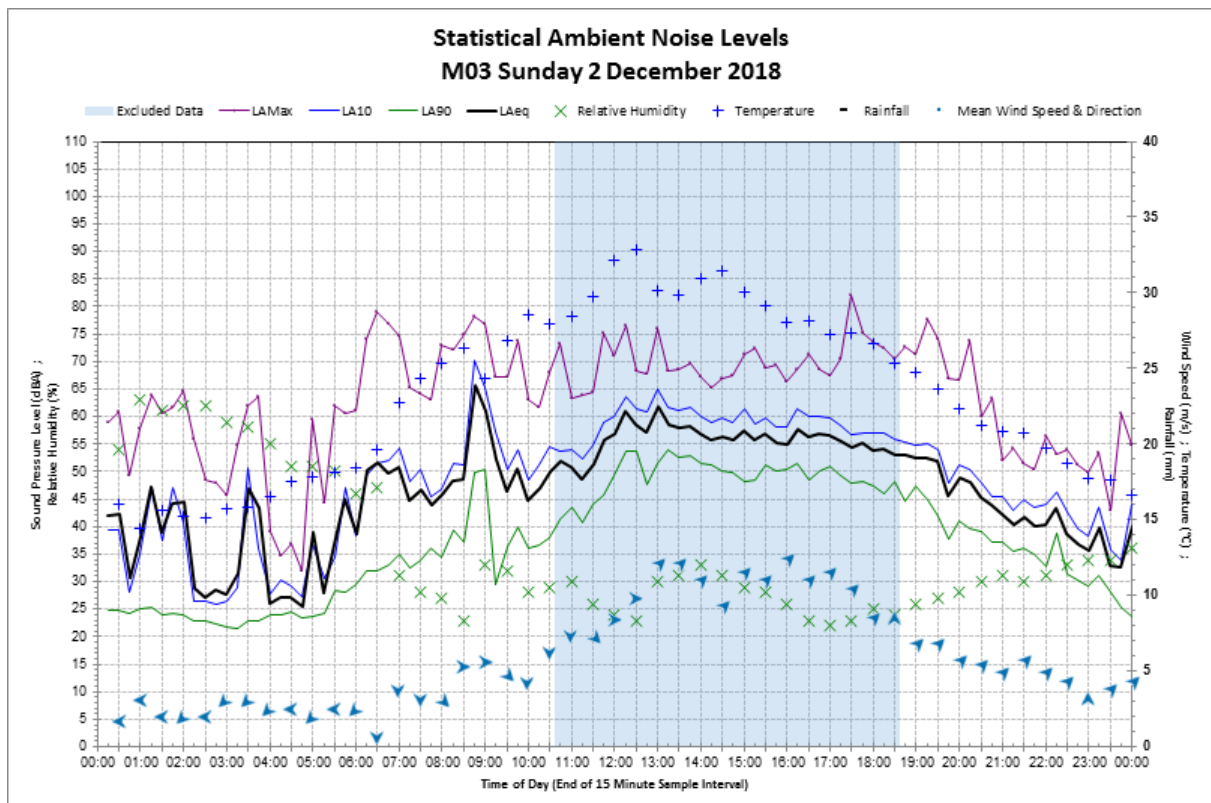
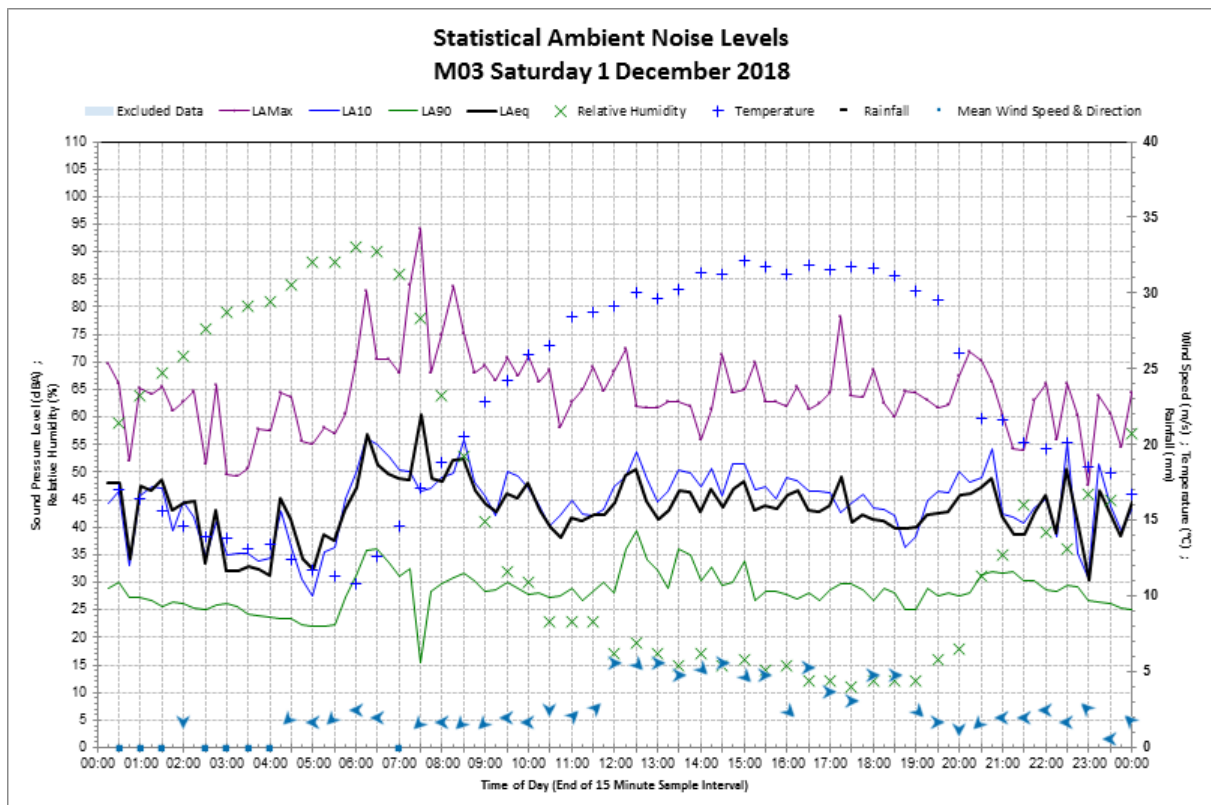


## Monitoring location M03 – 2672 Eumungerie Road, Narromine

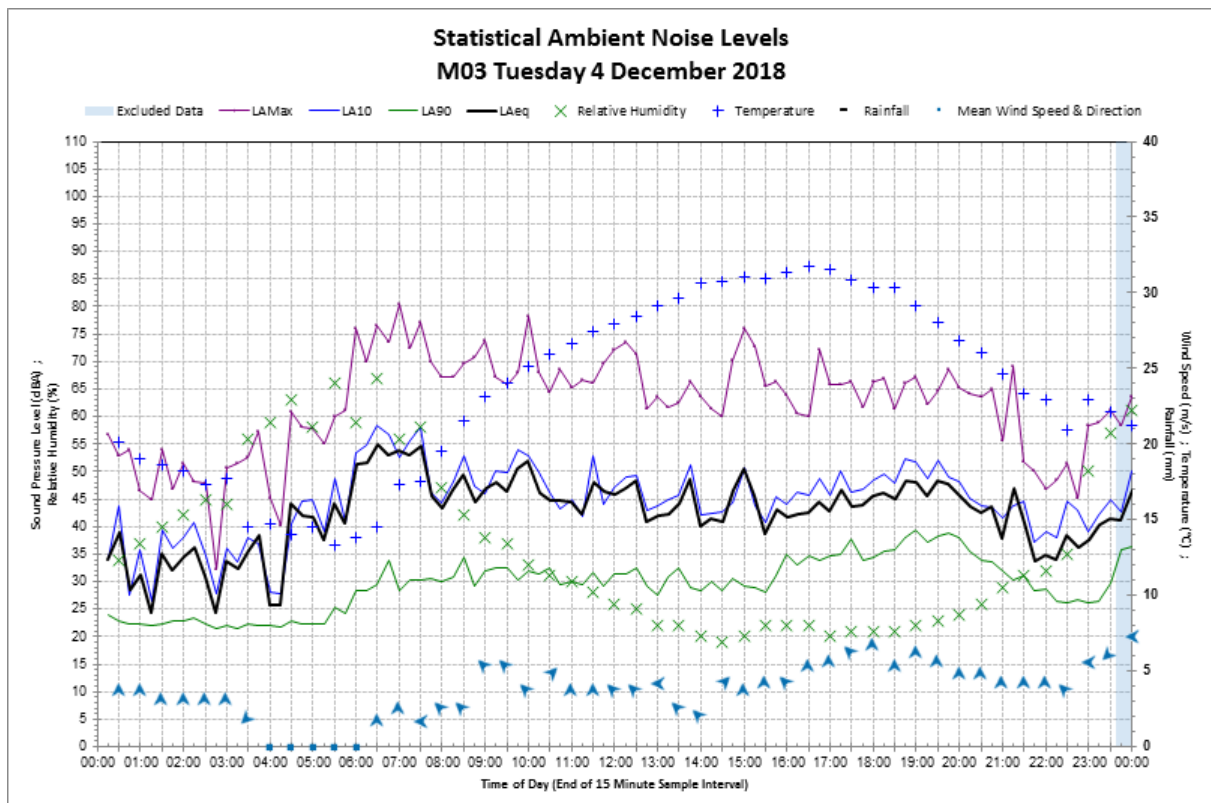
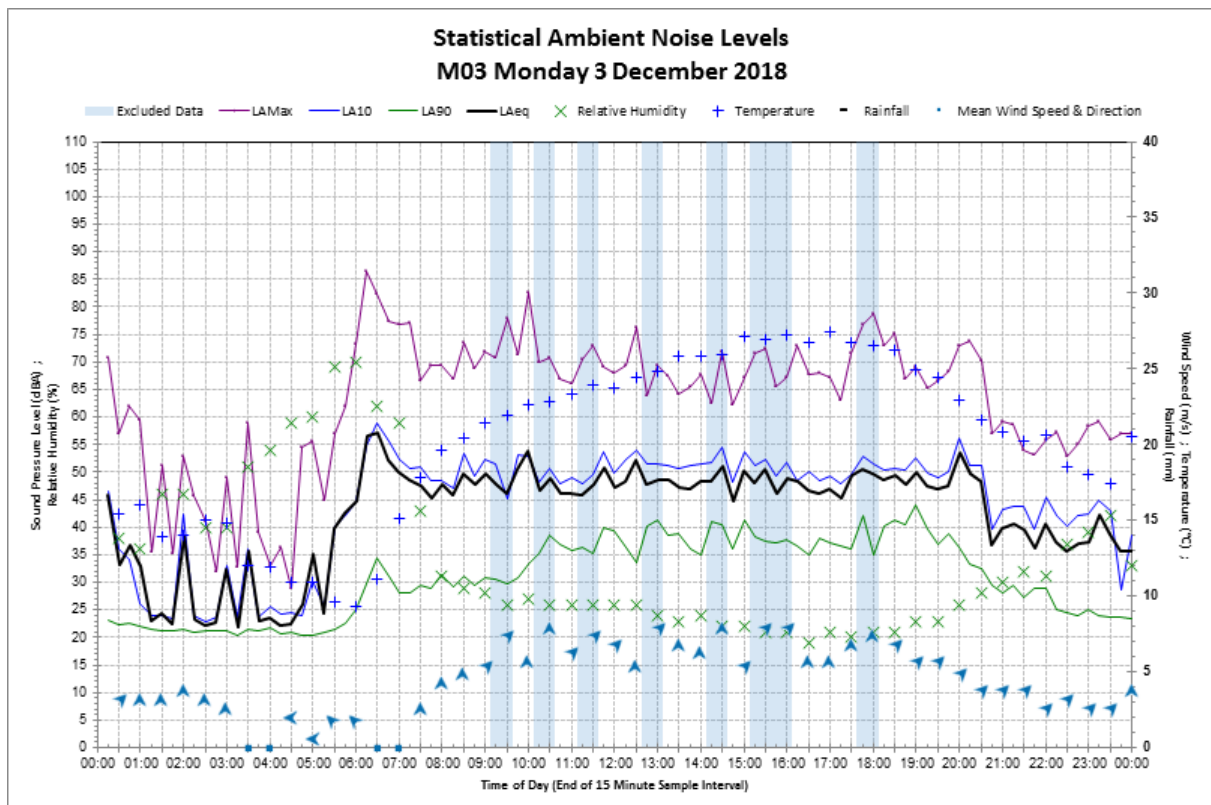


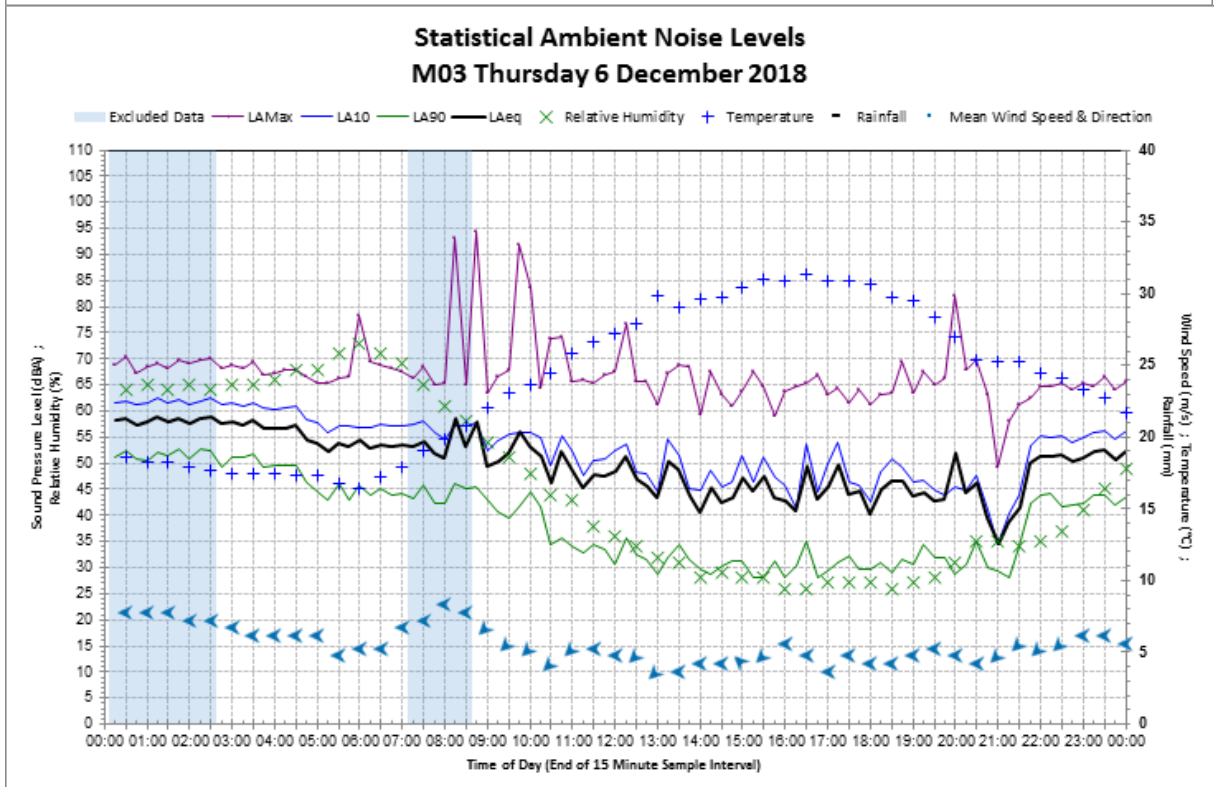
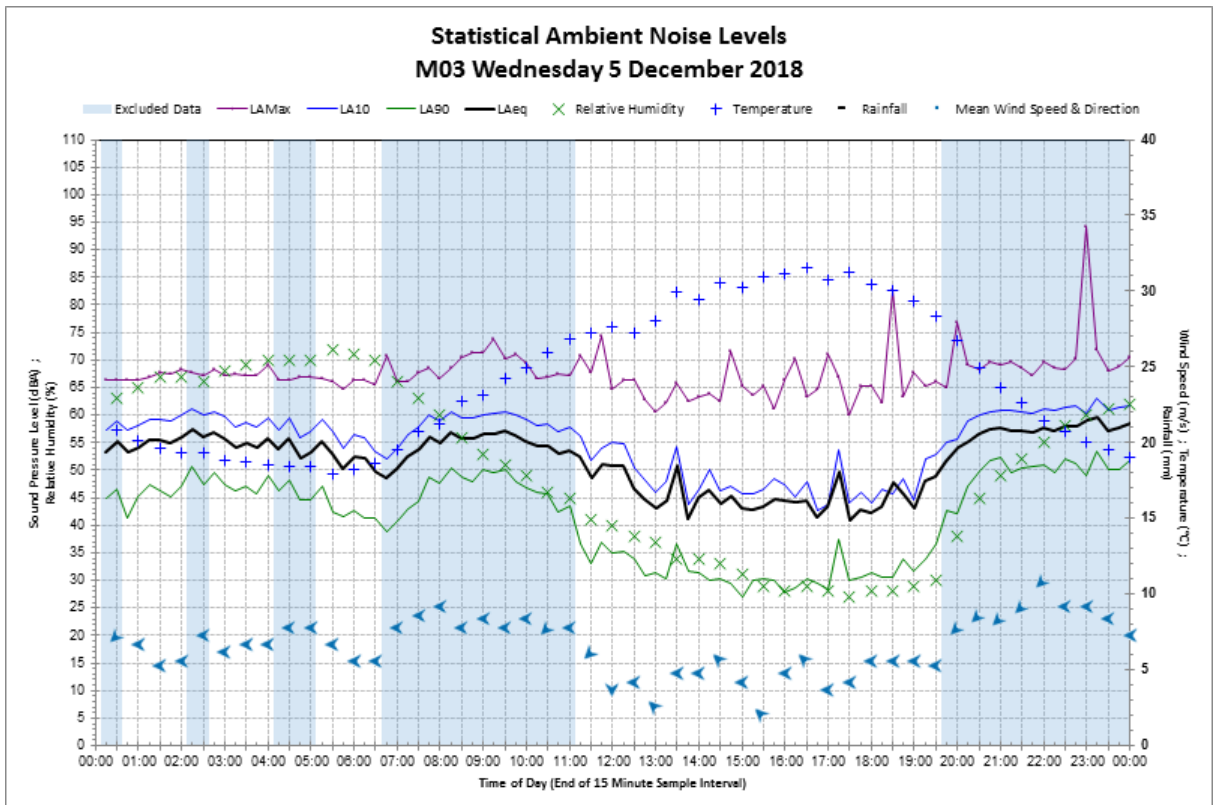


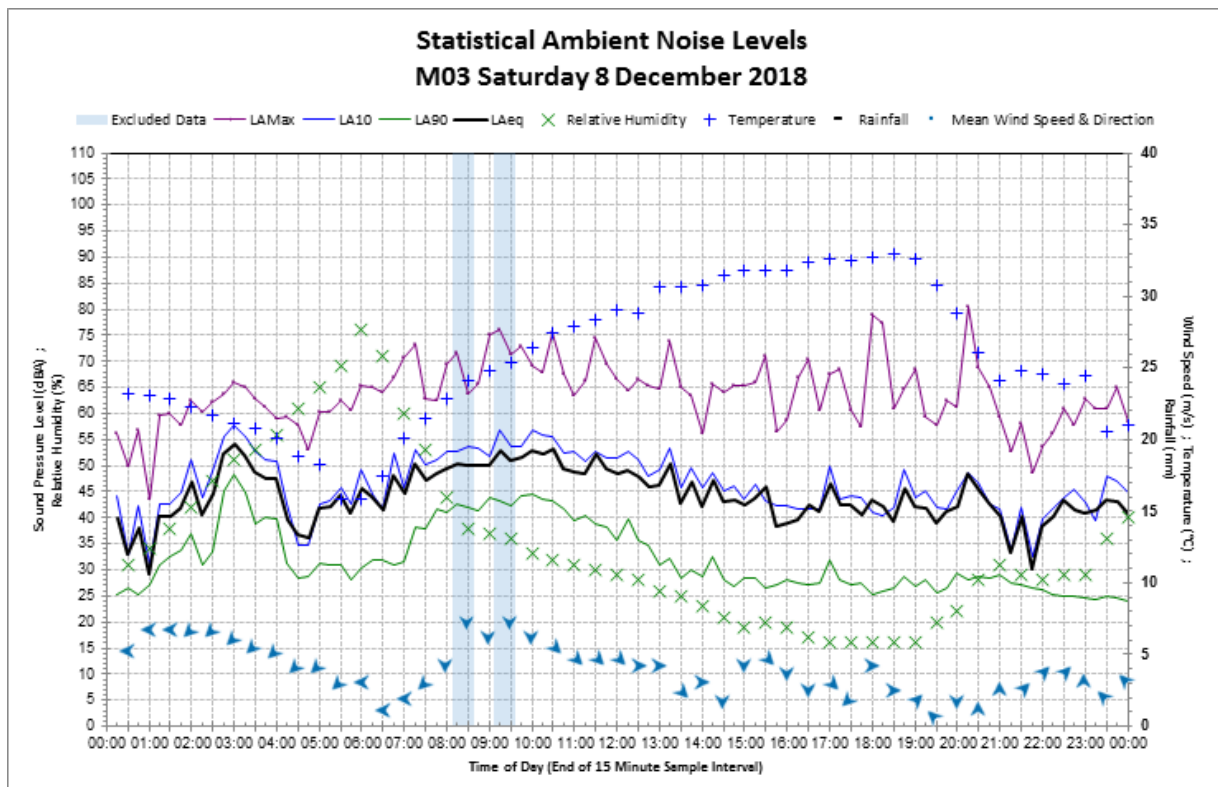
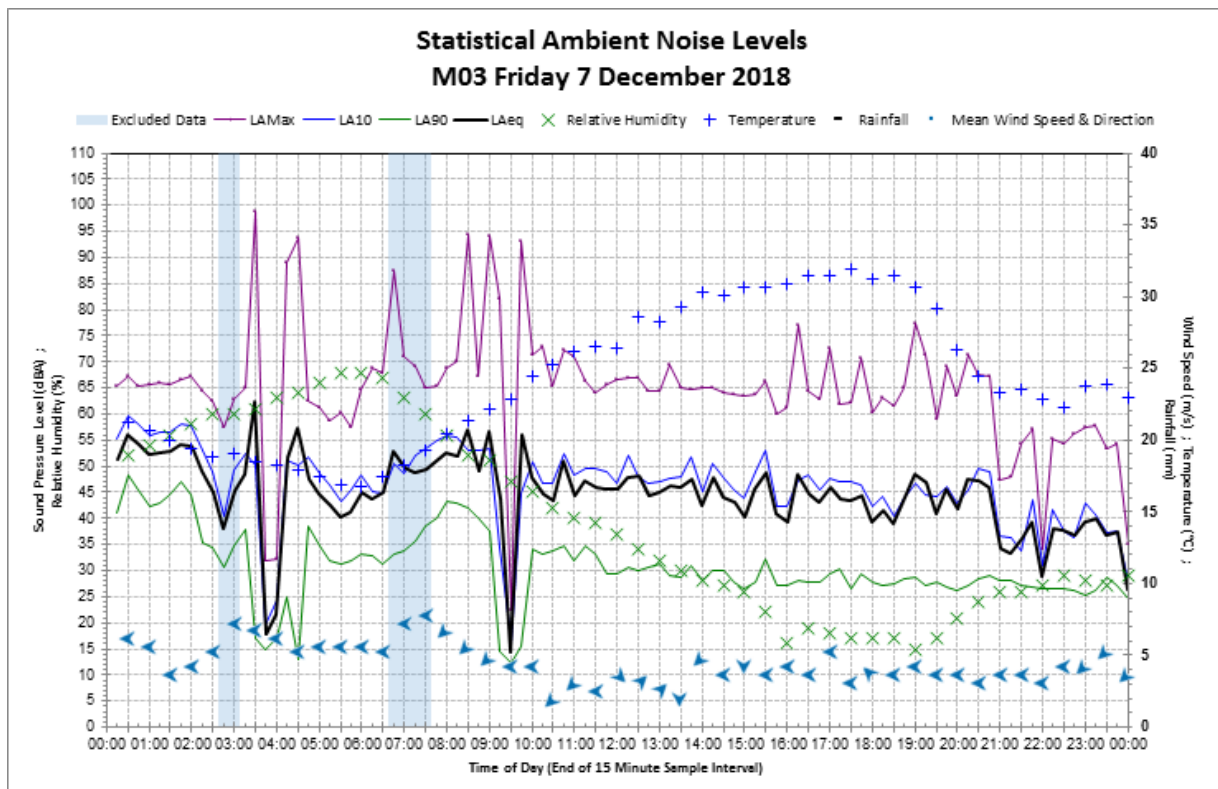


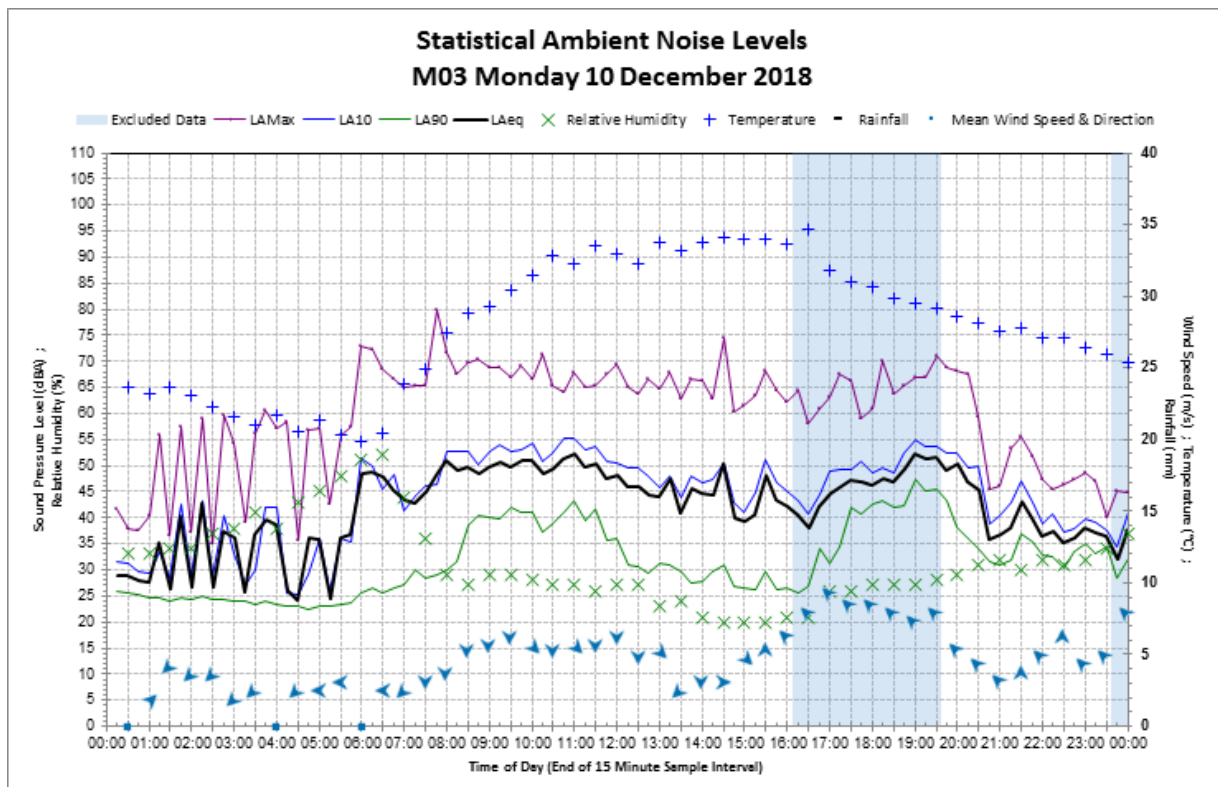
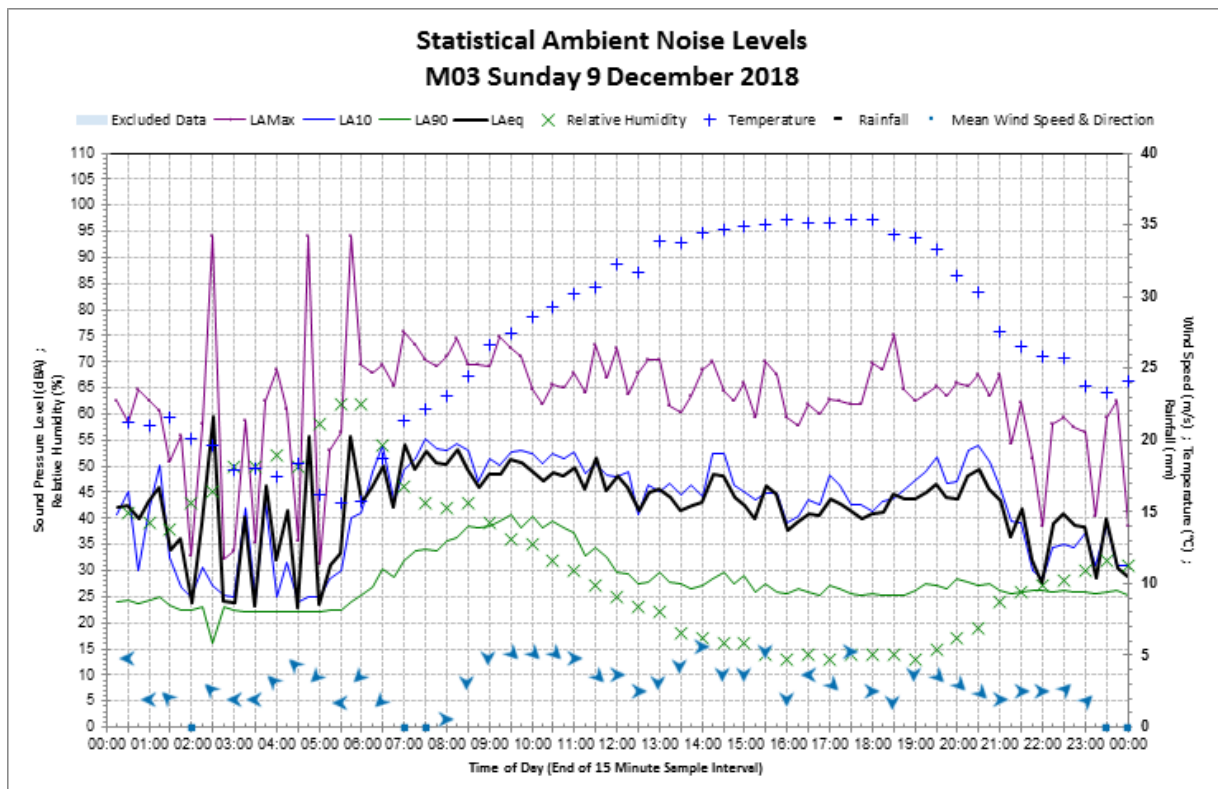






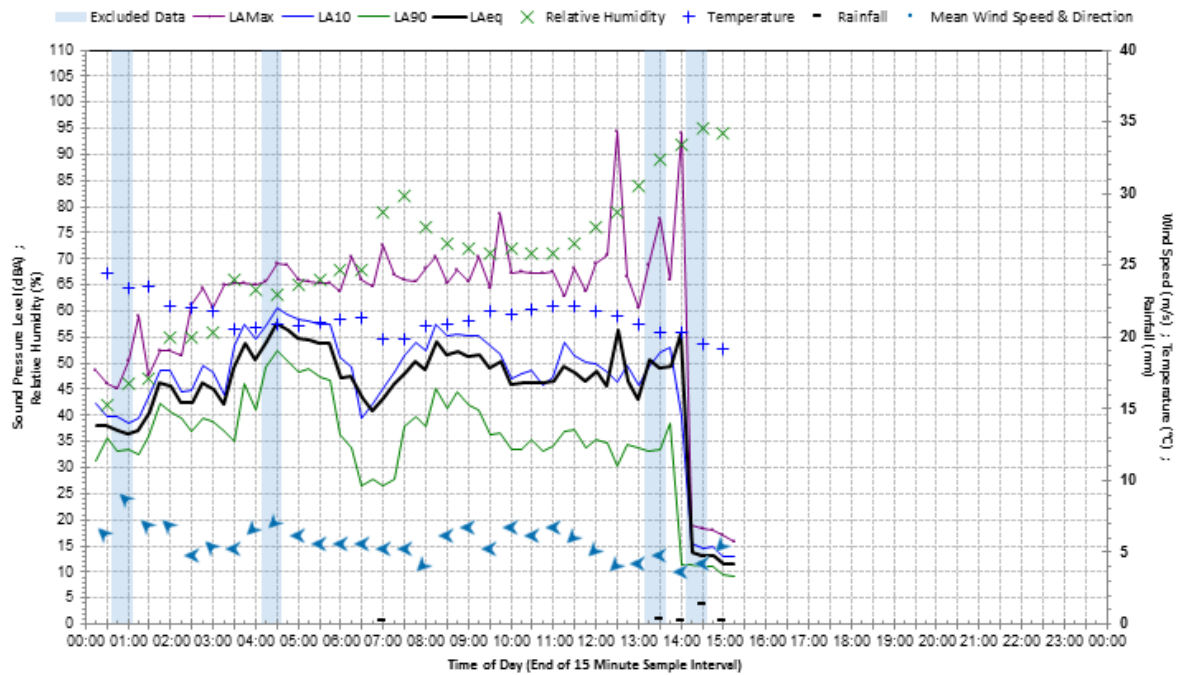






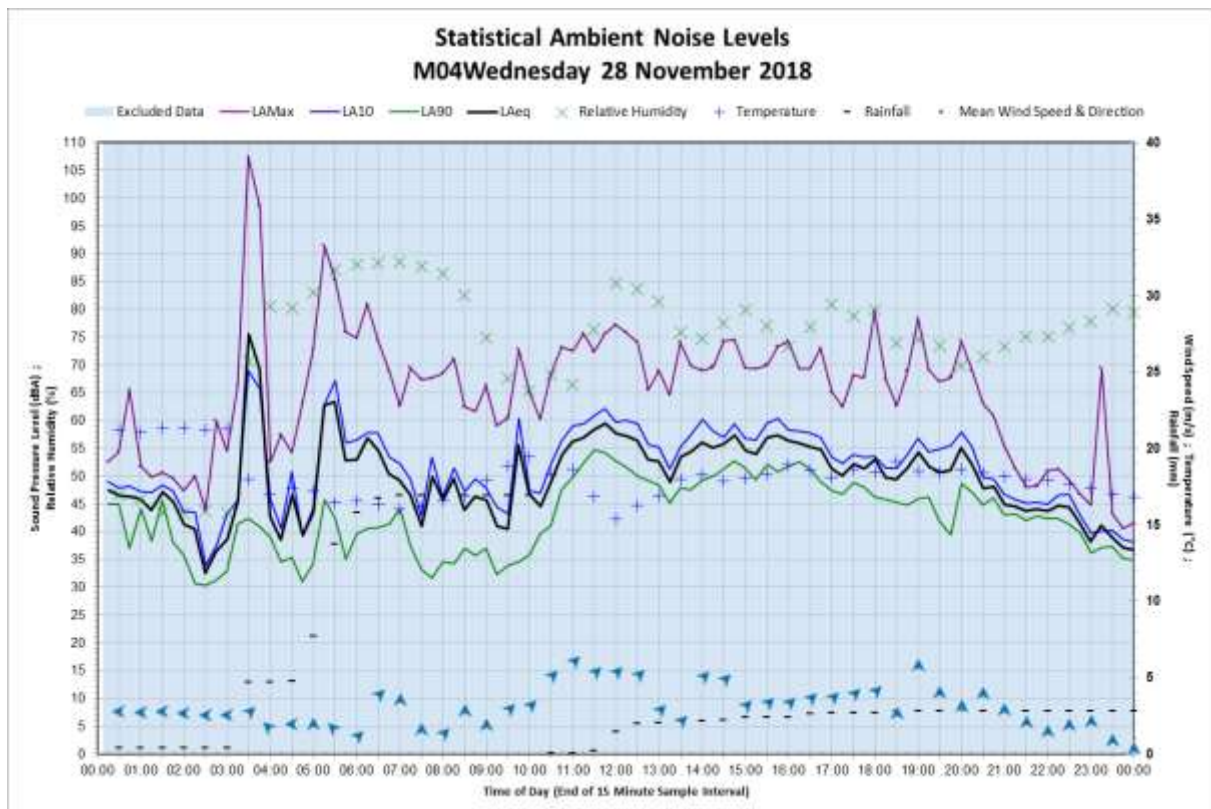
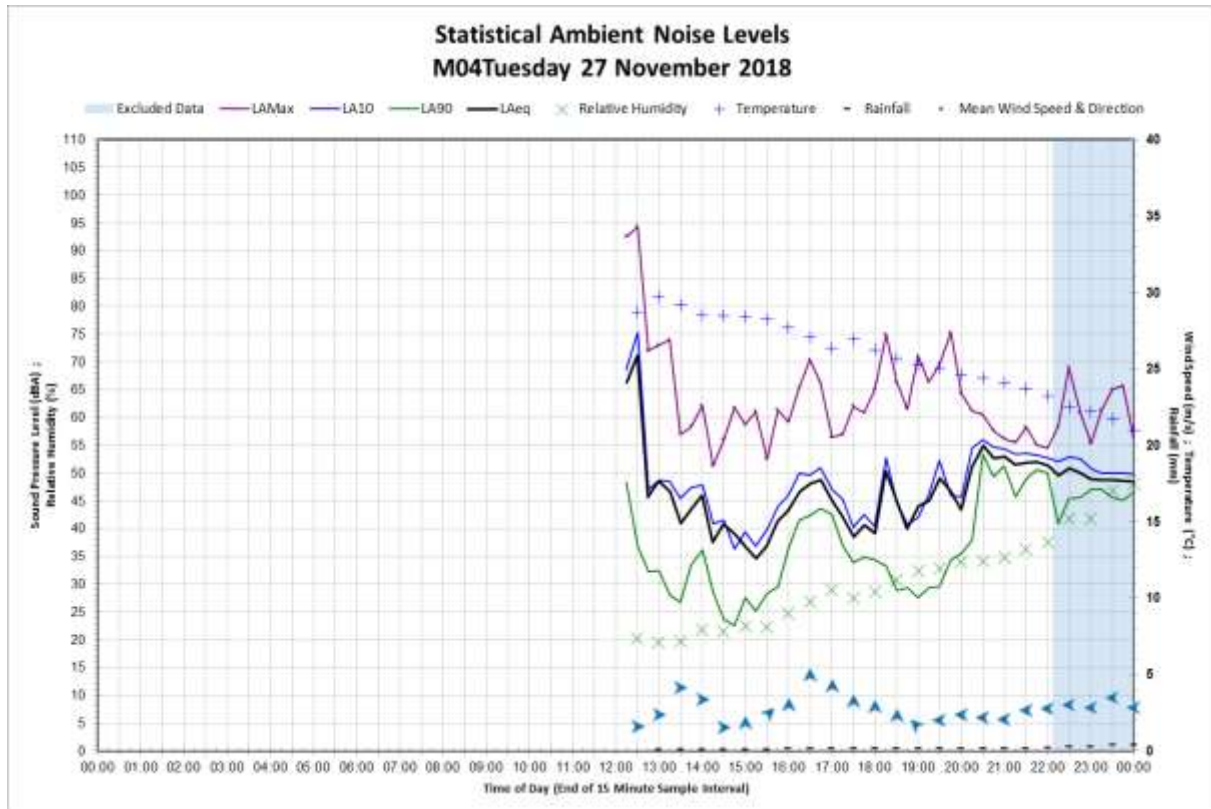


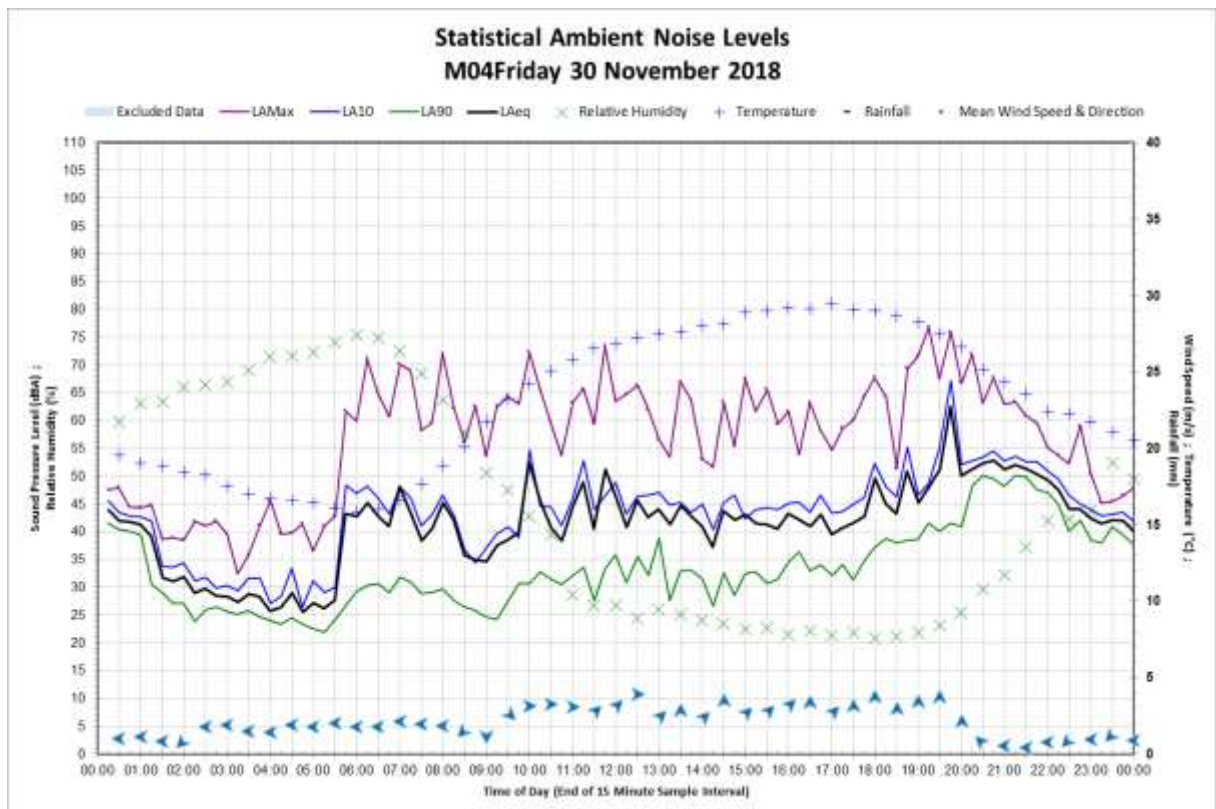
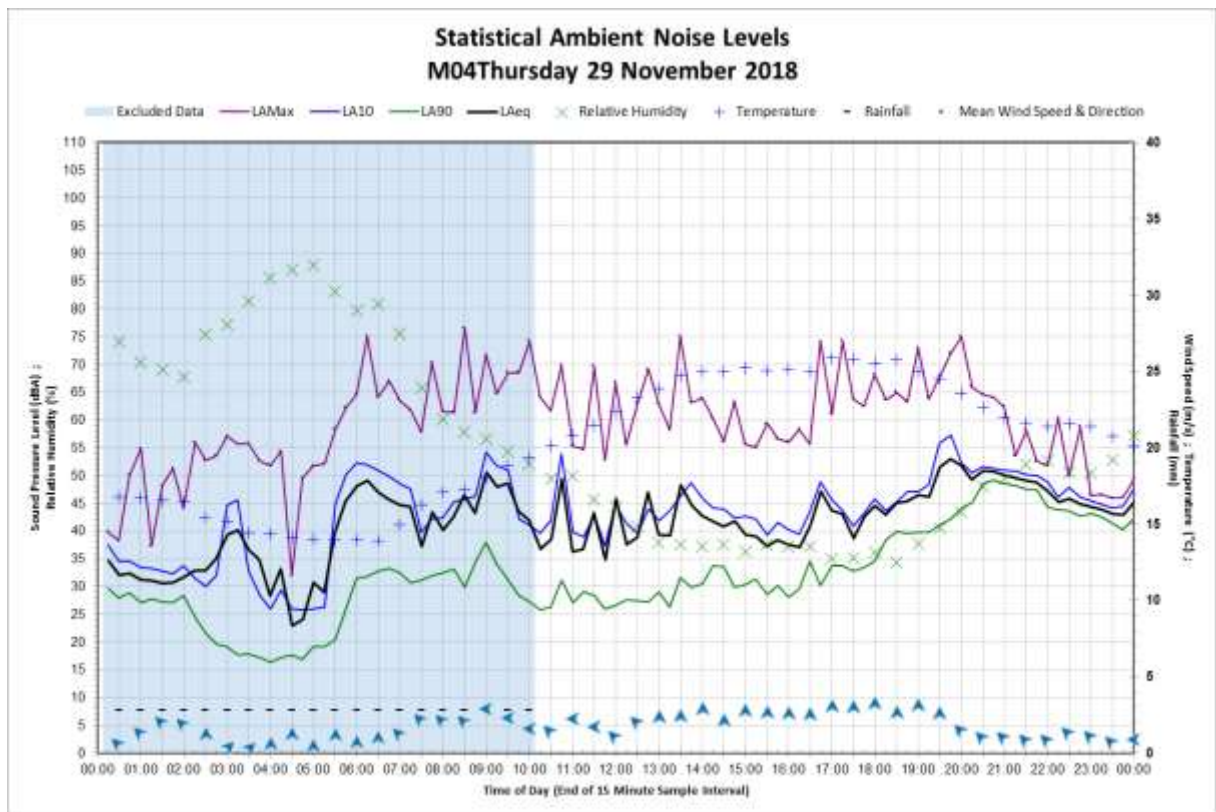
## Statistical Ambient Noise Levels M03 Tuesday 11 December 2018

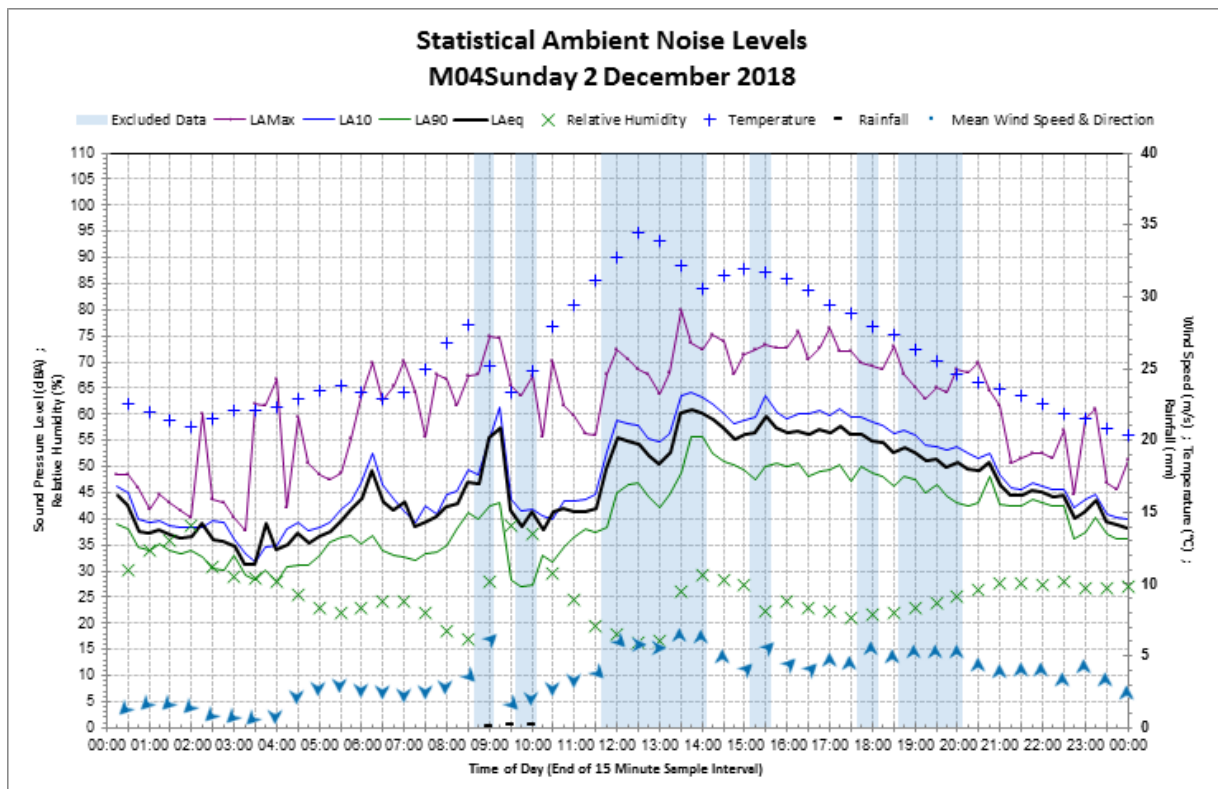
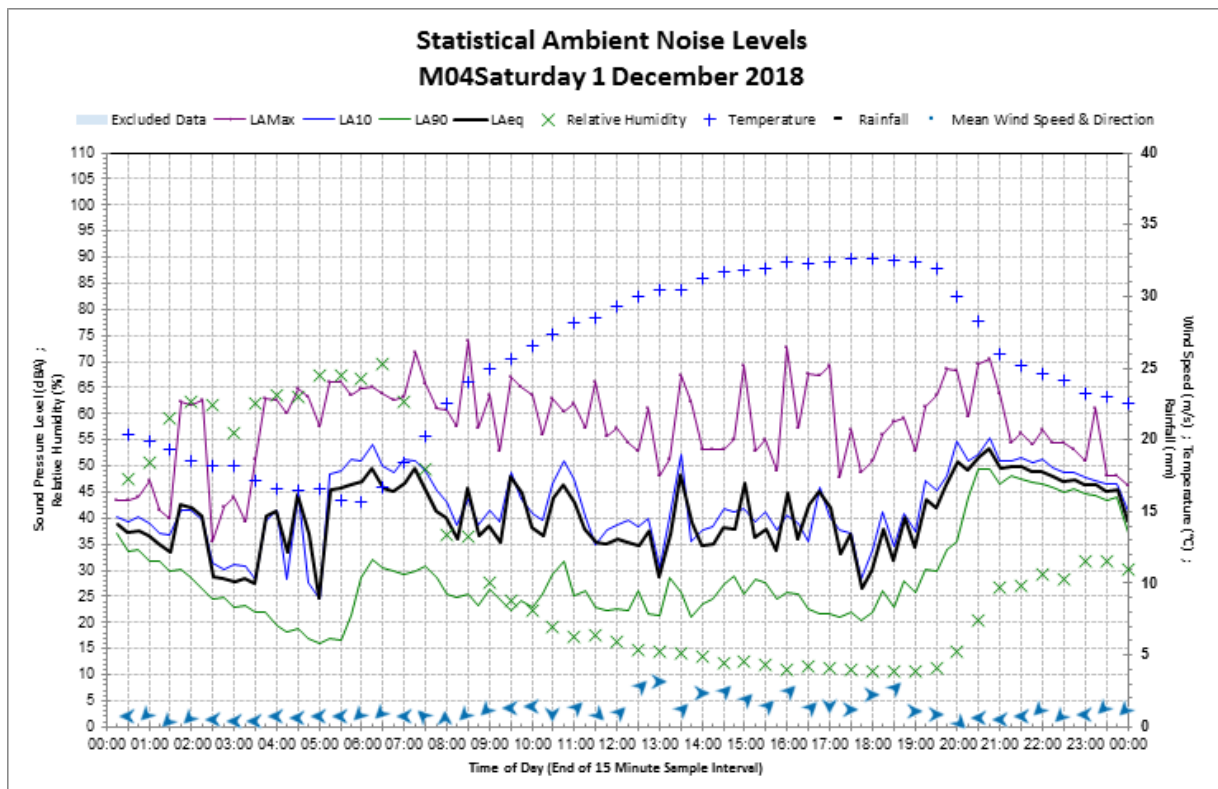




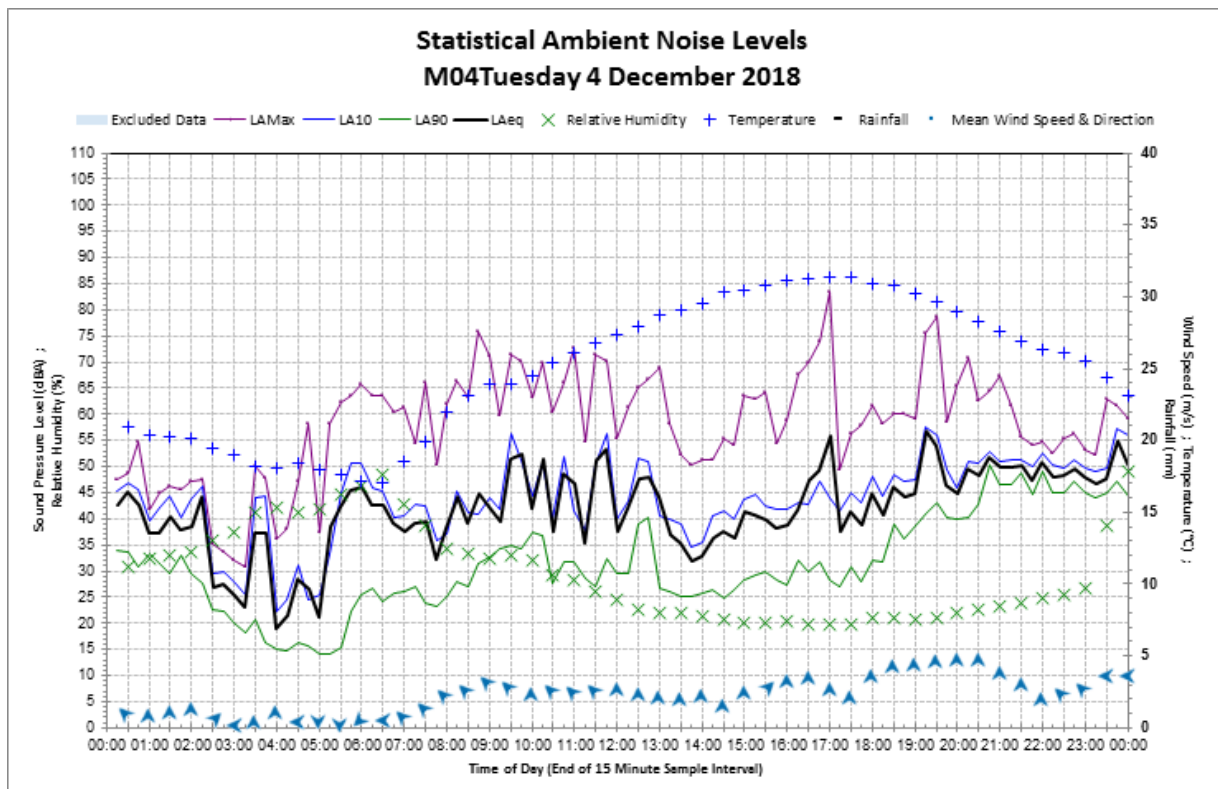
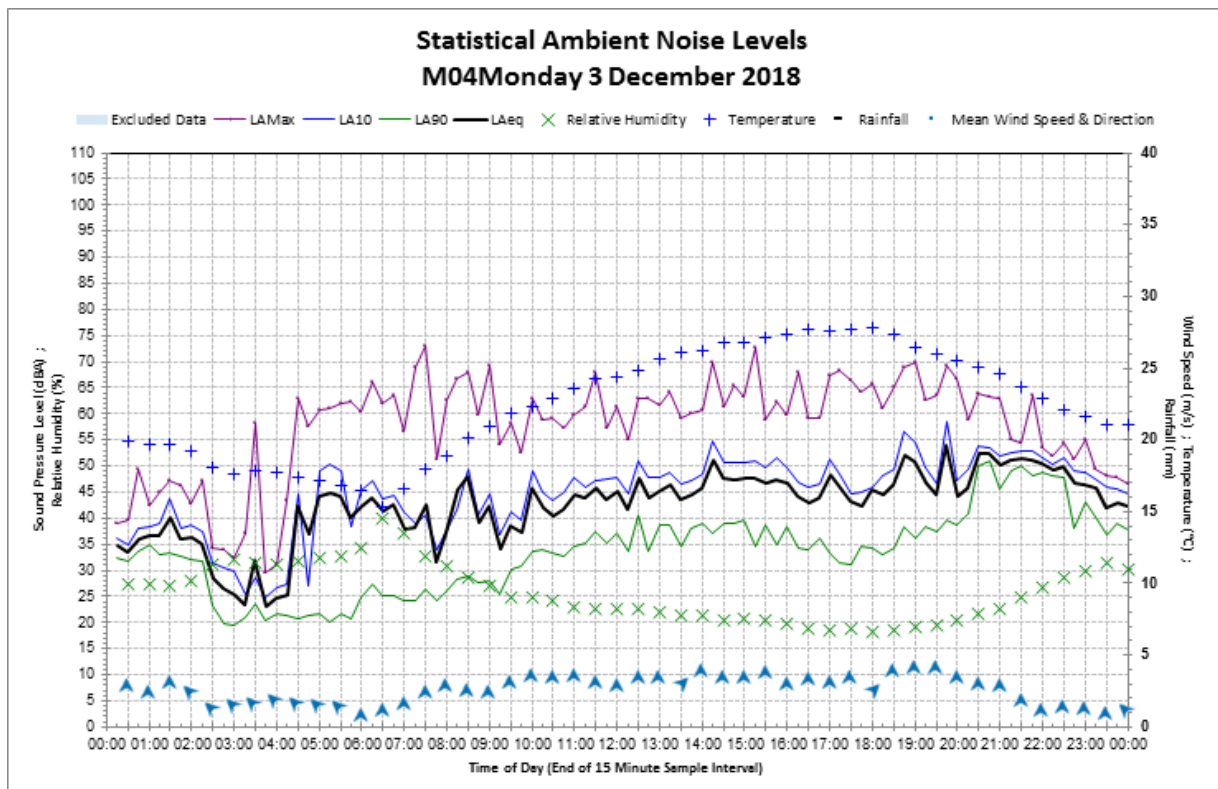
## Monitoring location M04 – 253 Nancarrow Road, Gilgandra

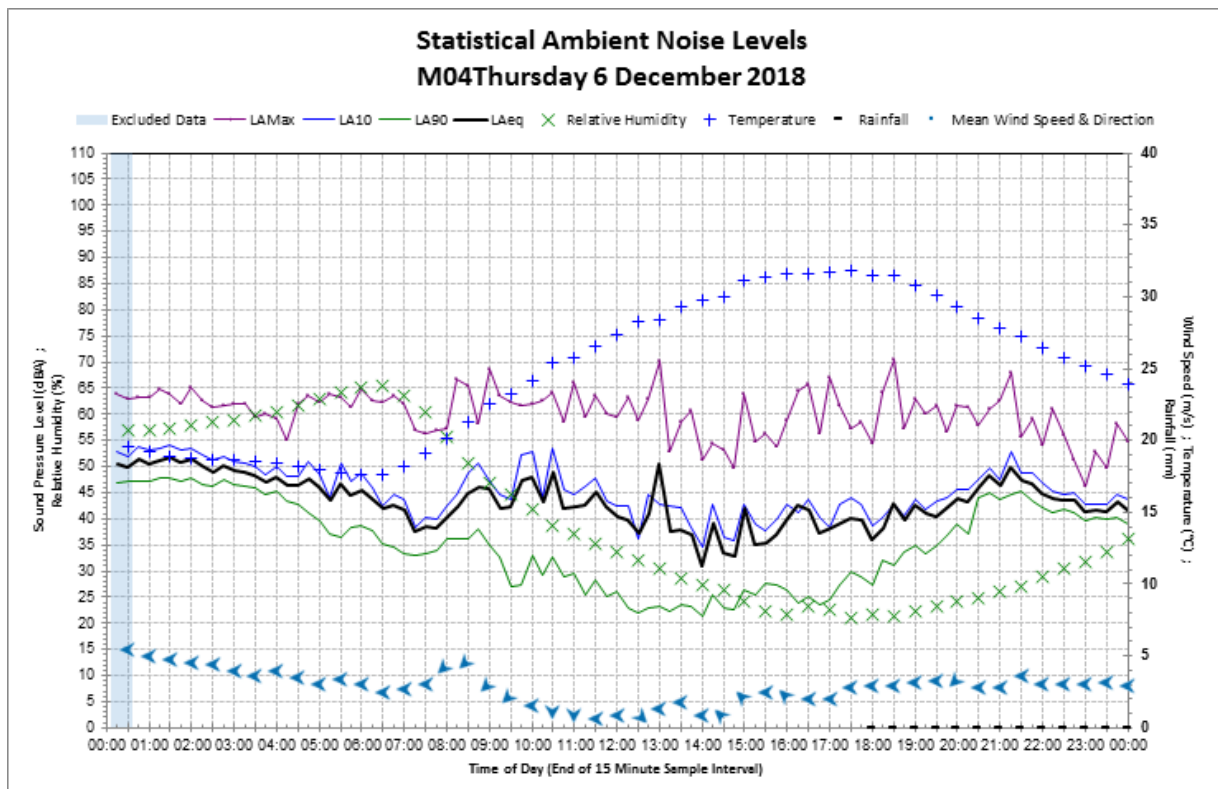
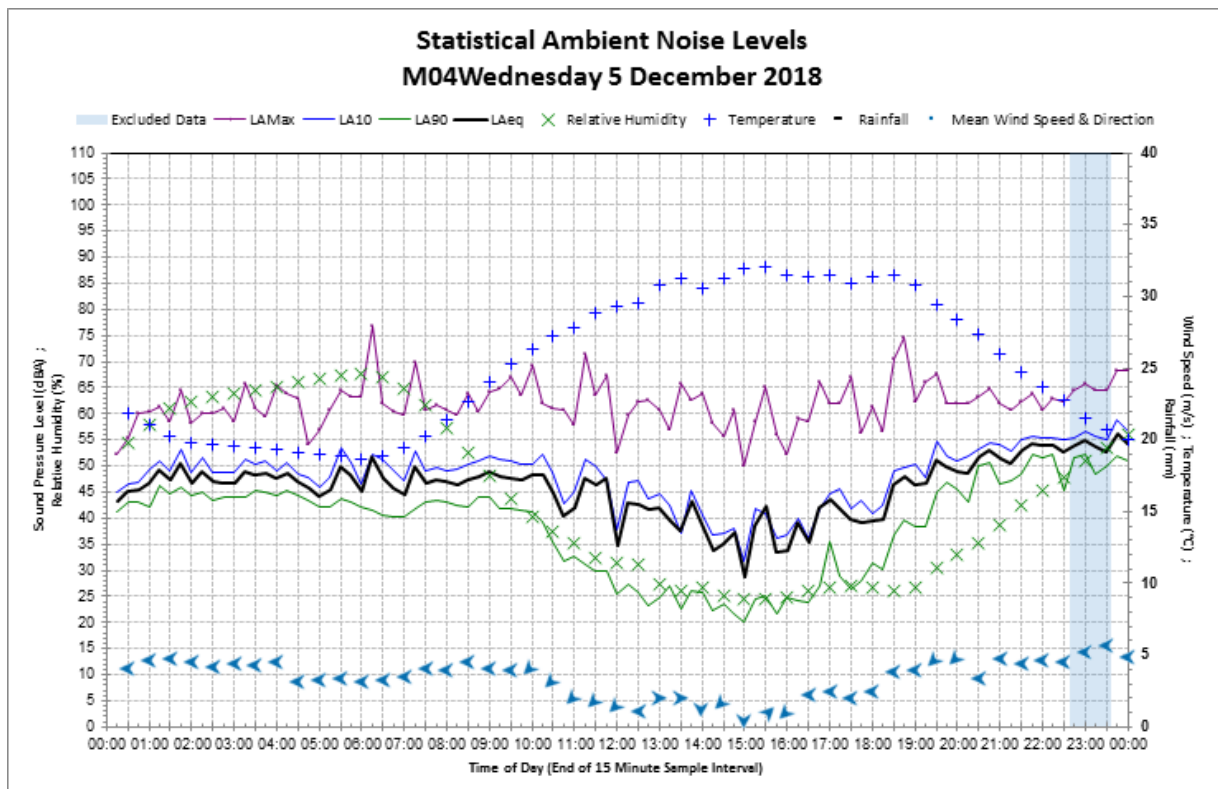




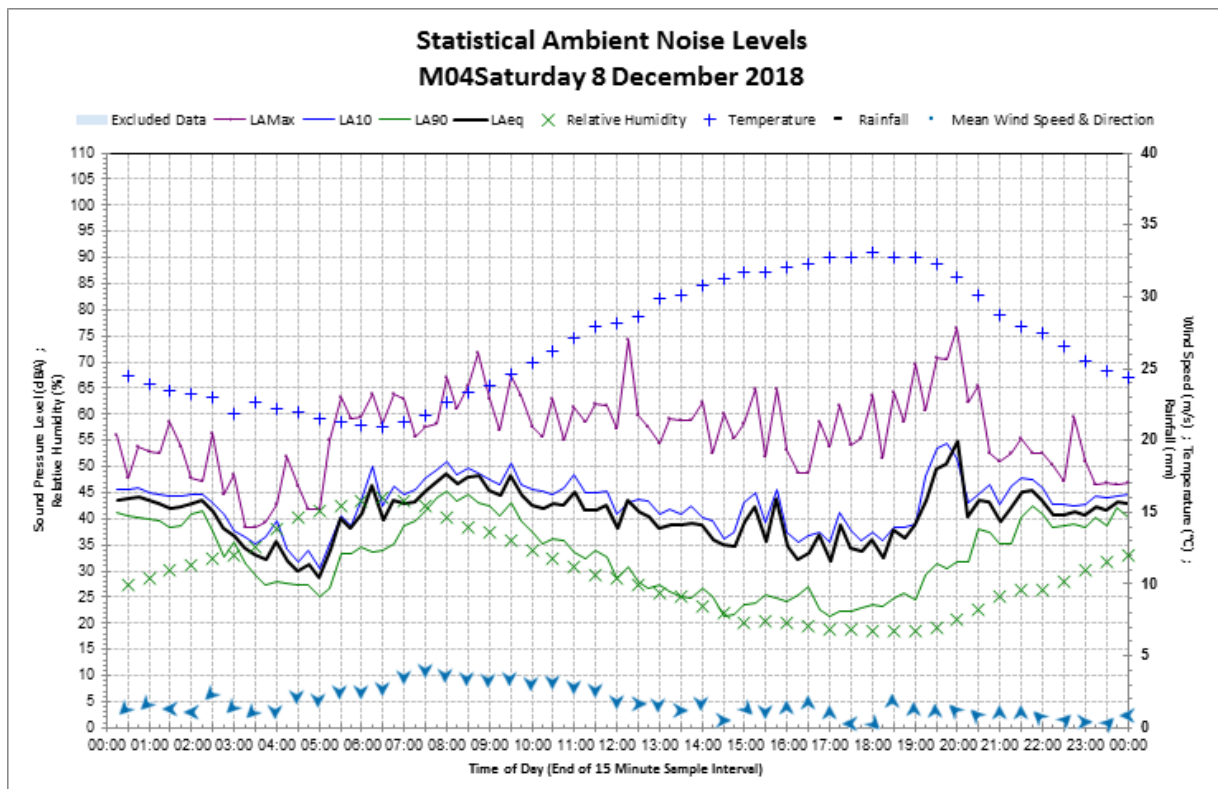
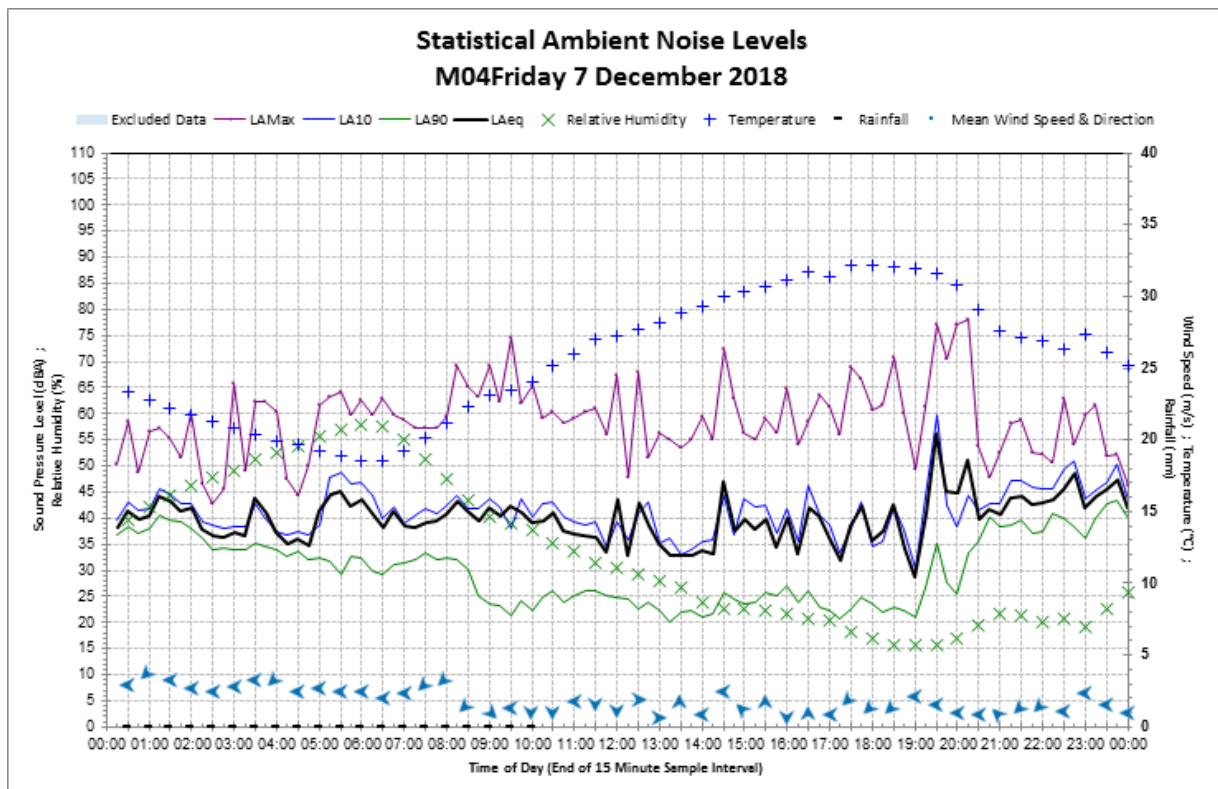


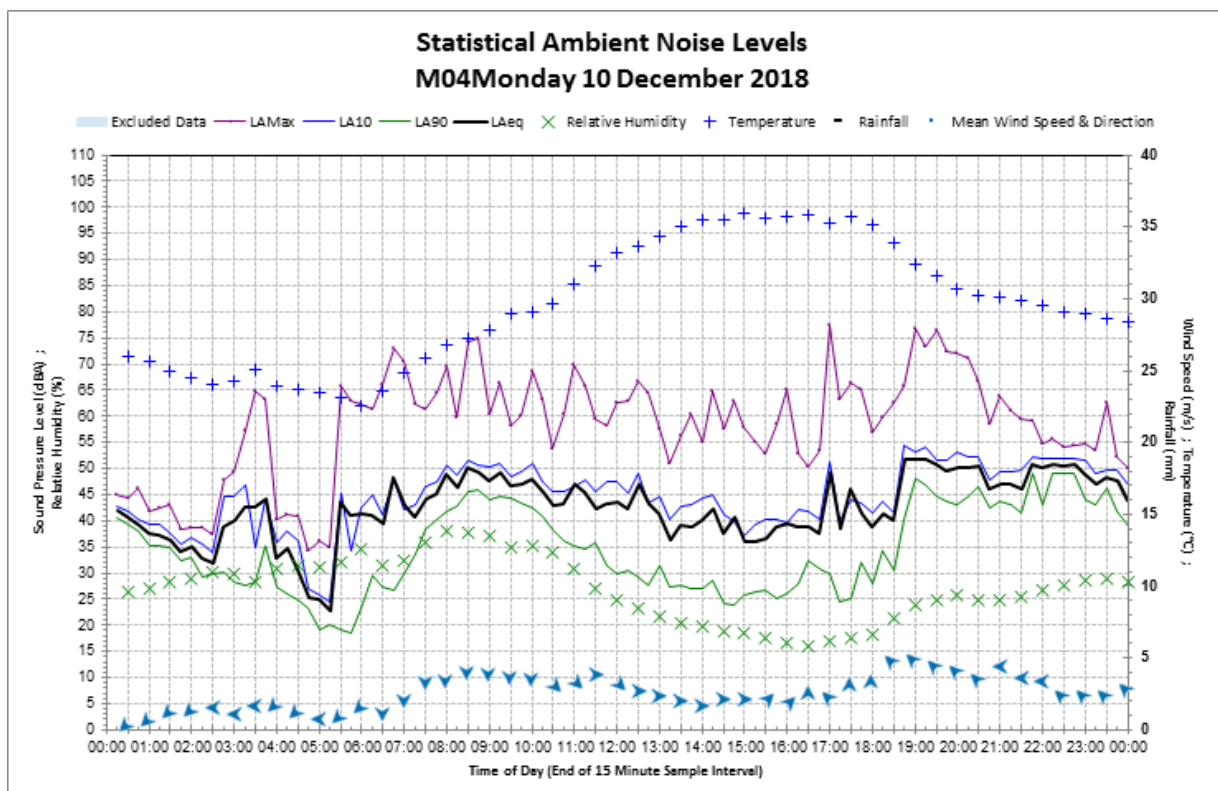
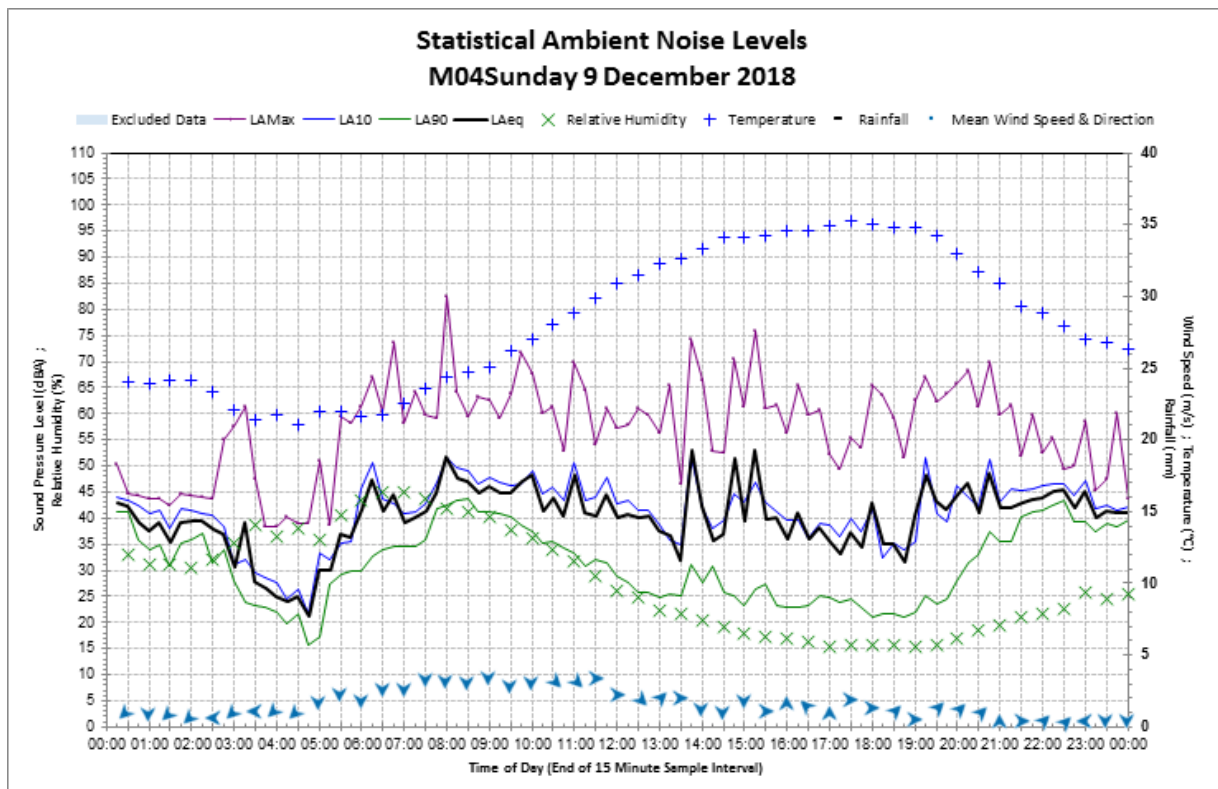




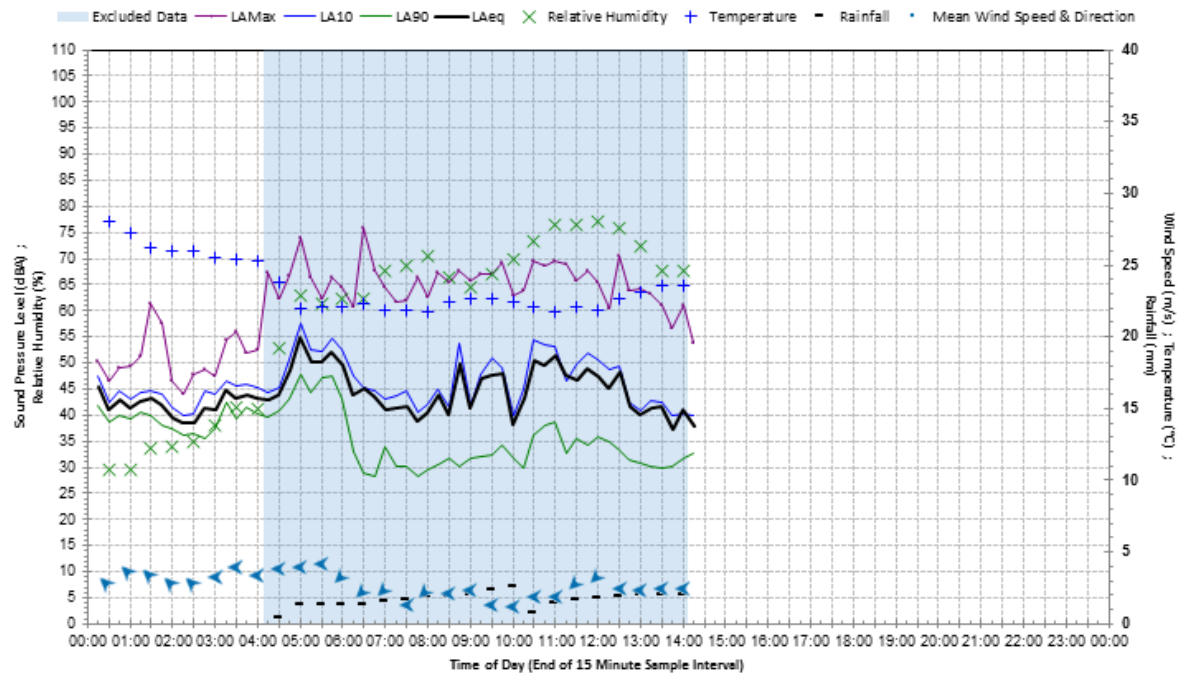




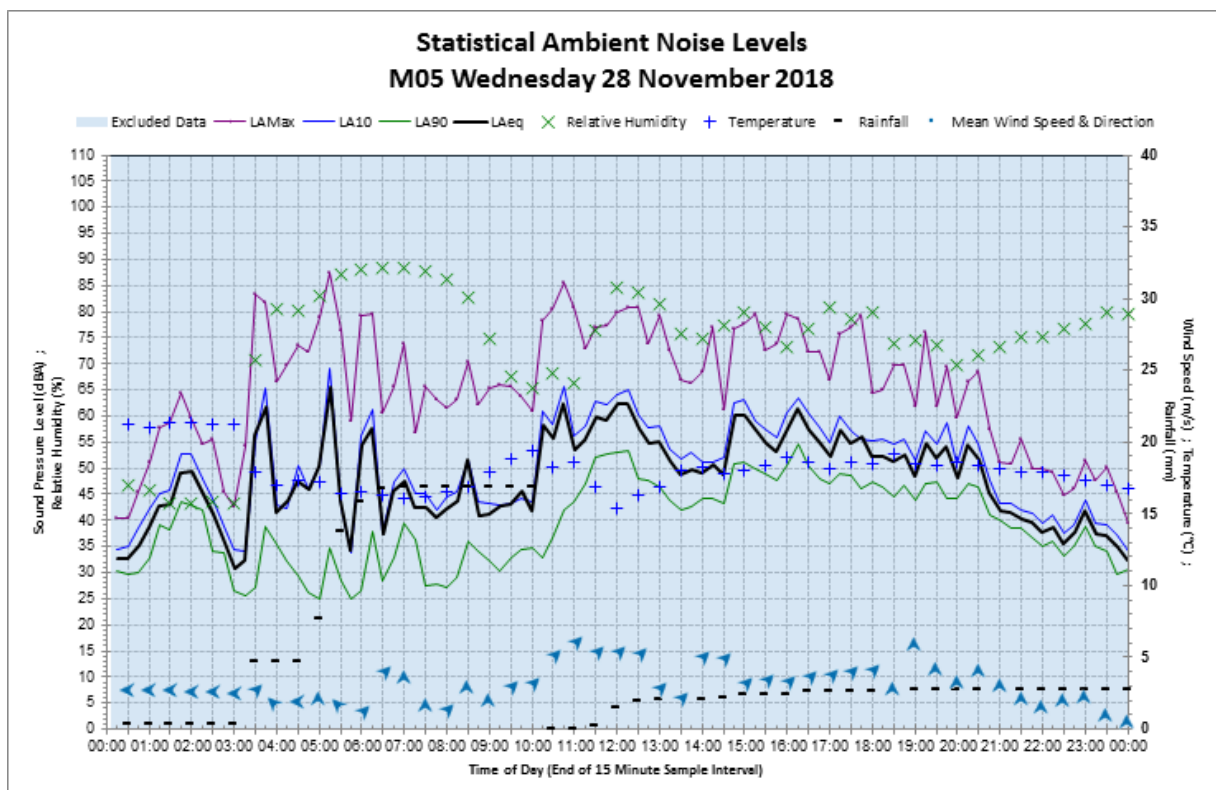
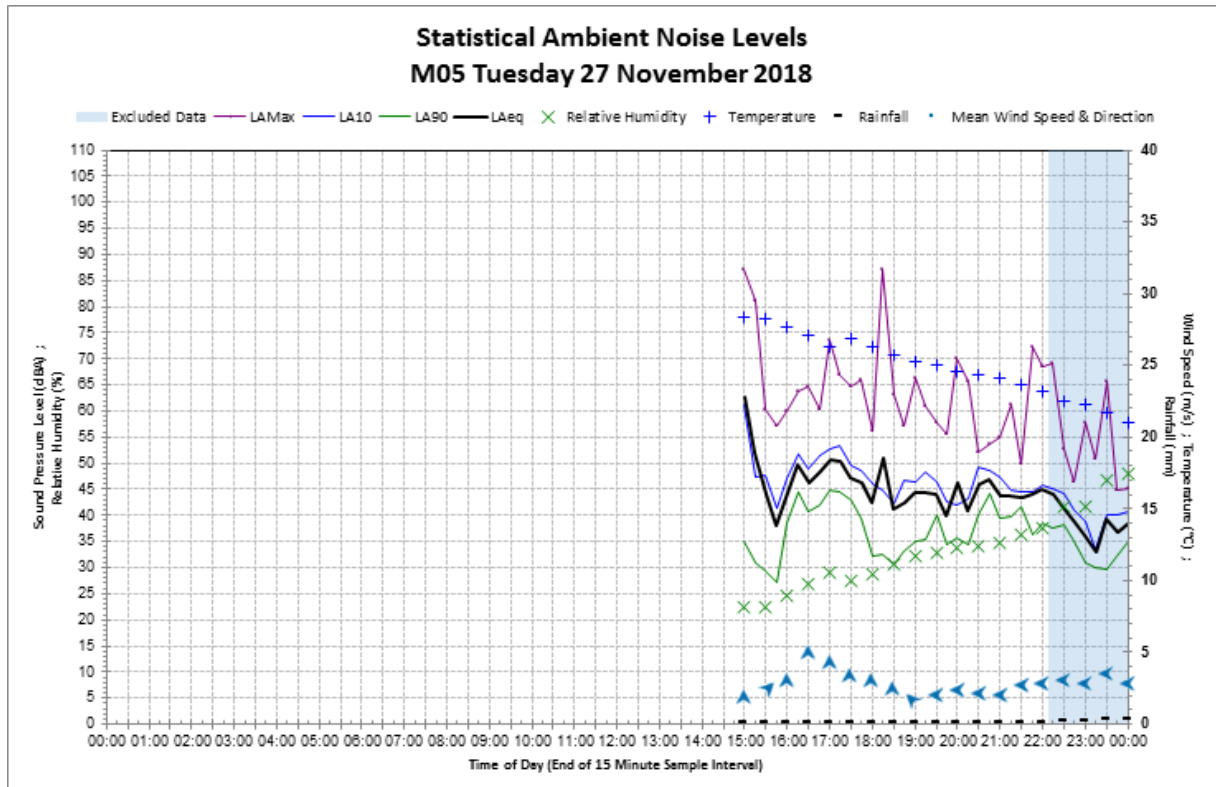




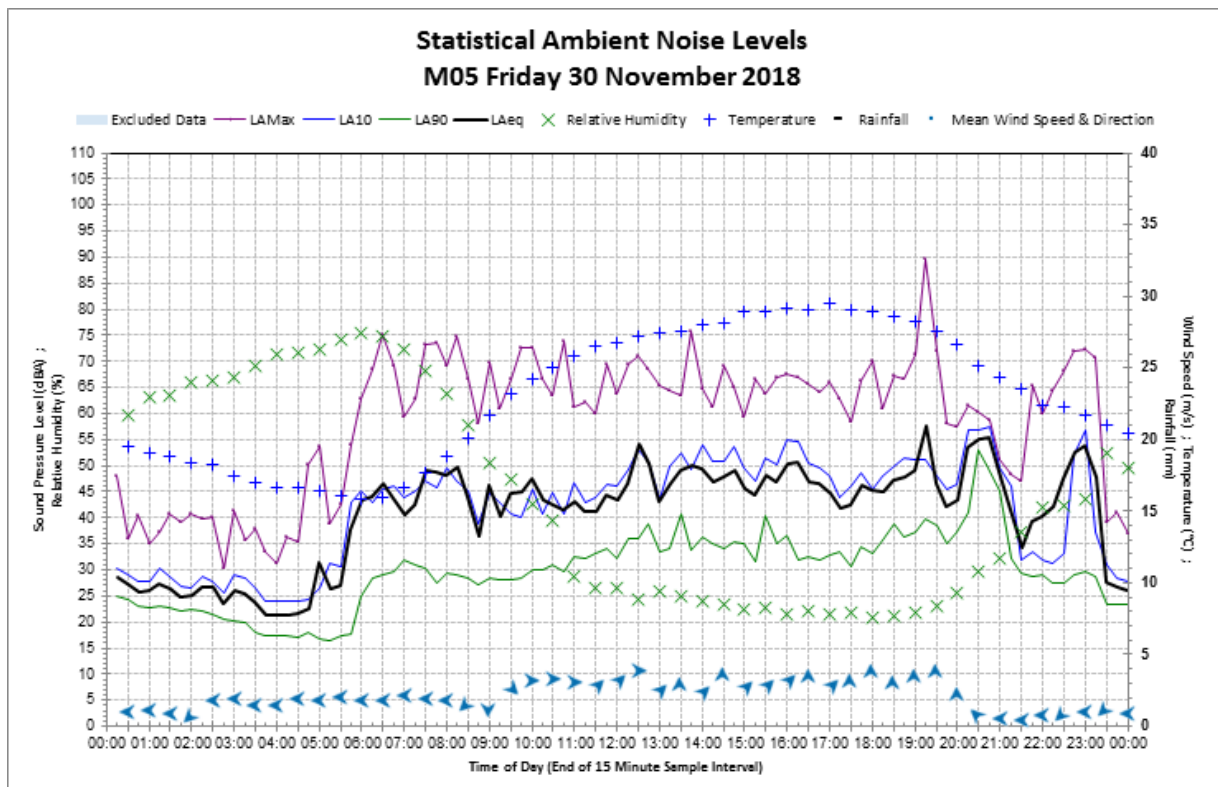
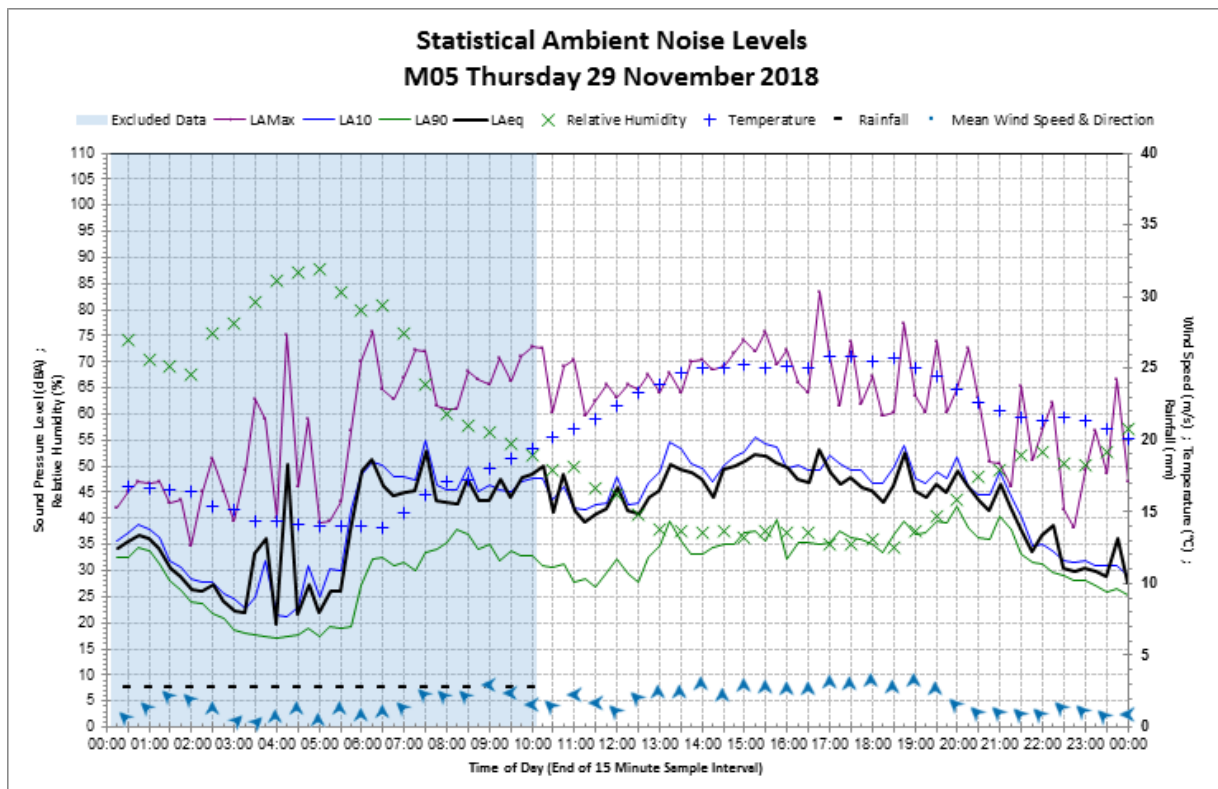
## Statistical Ambient Noise Levels M04Tuesday 11 December 2018



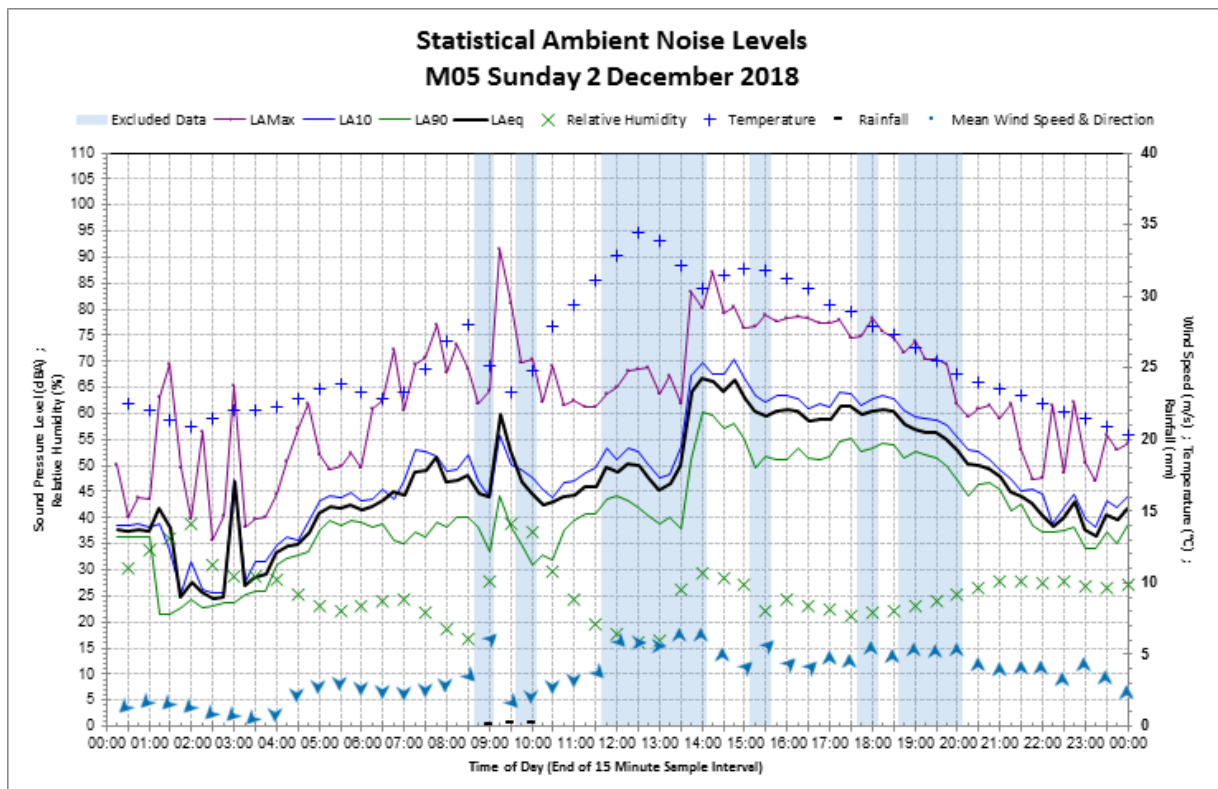
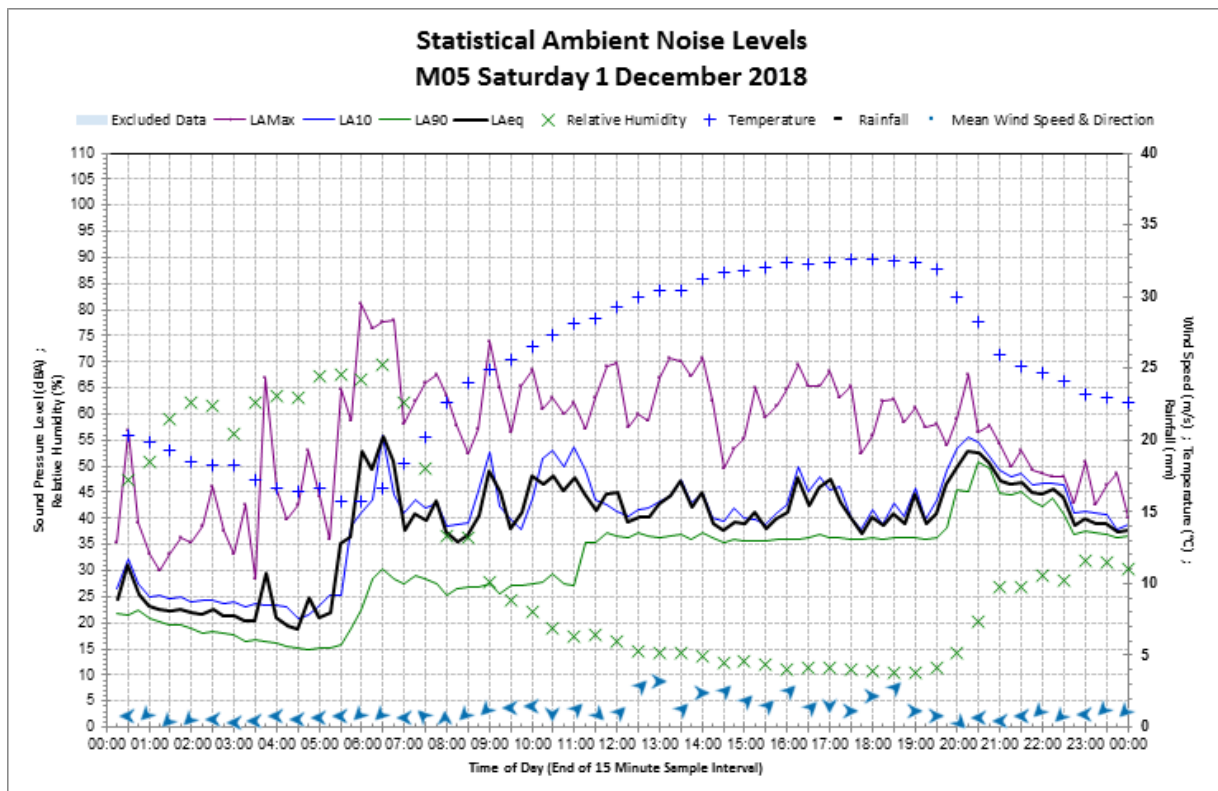
## Monitoring location M05 – 260 Berida Road, Gilgandra

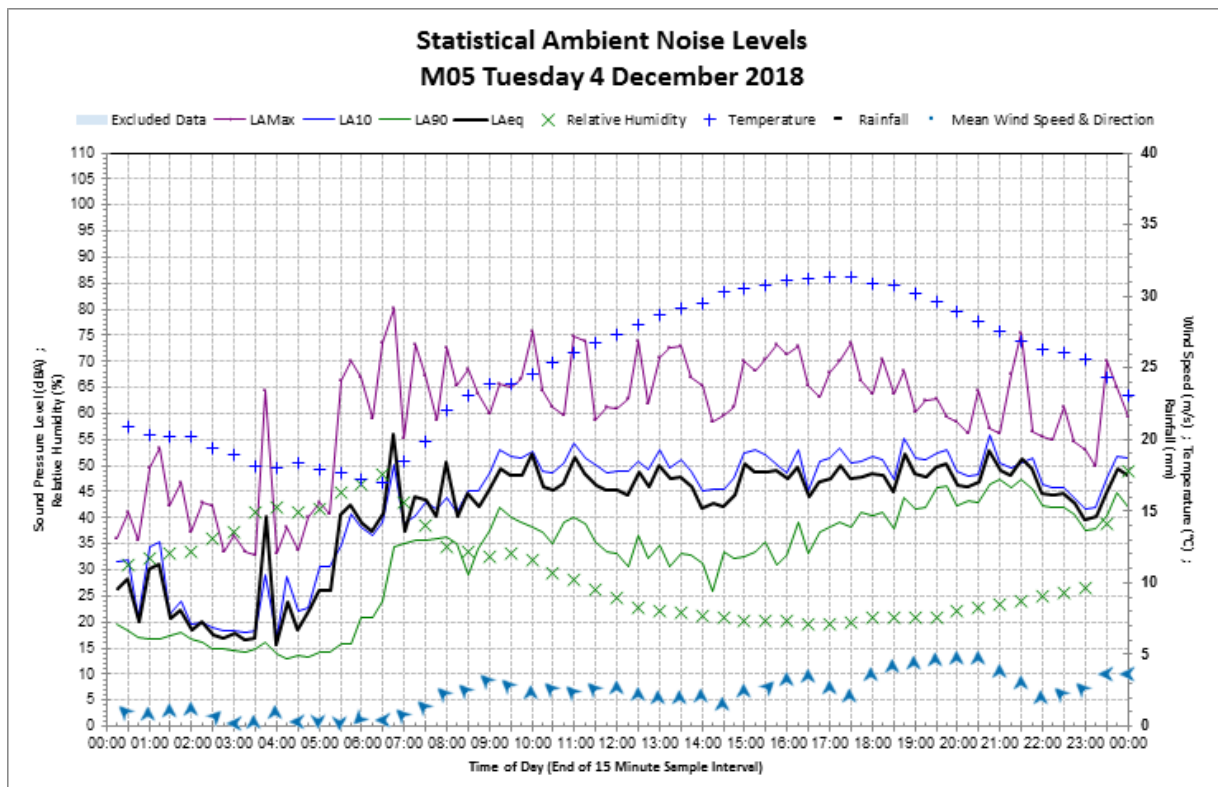
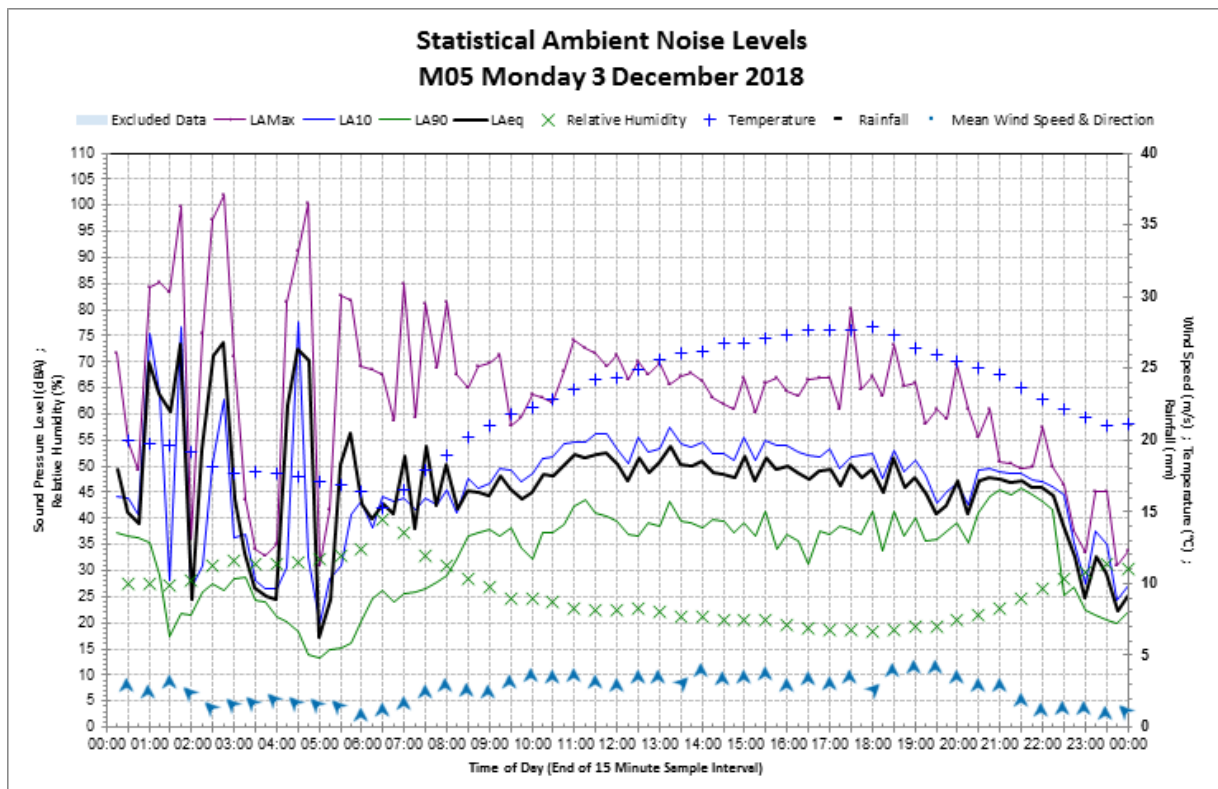


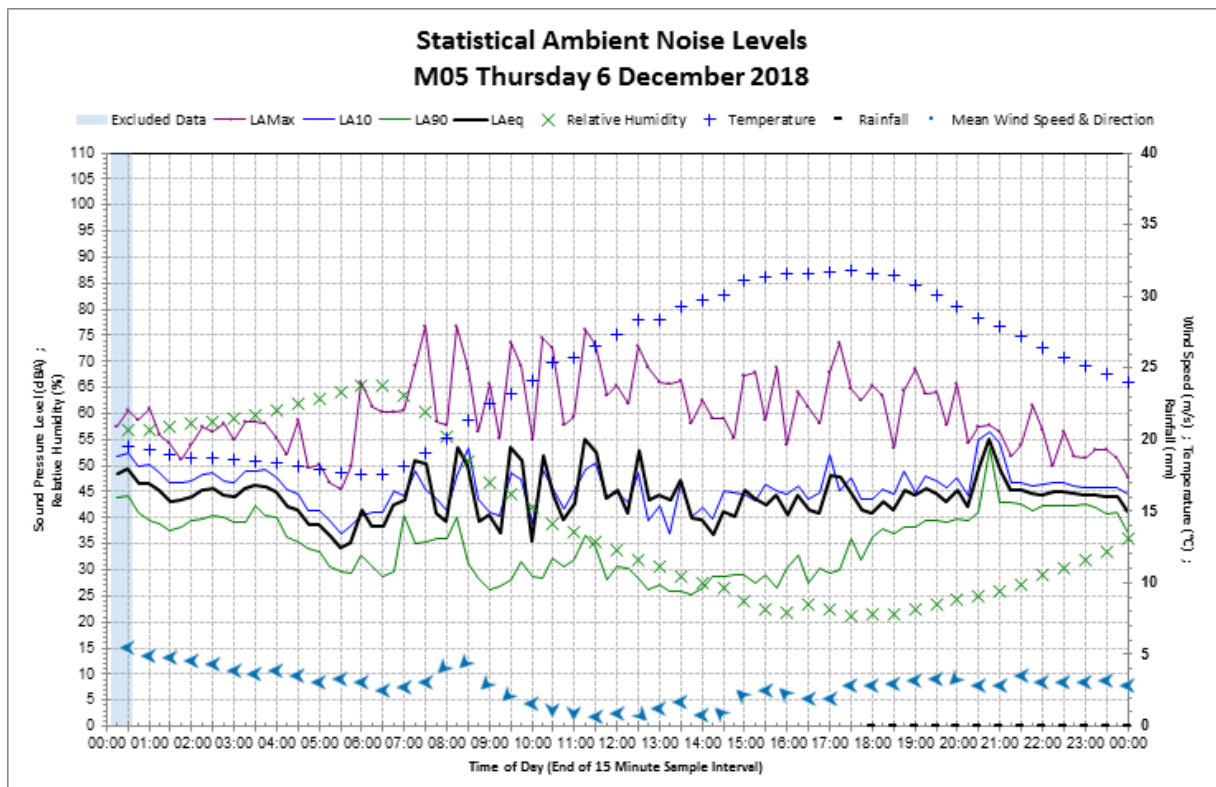
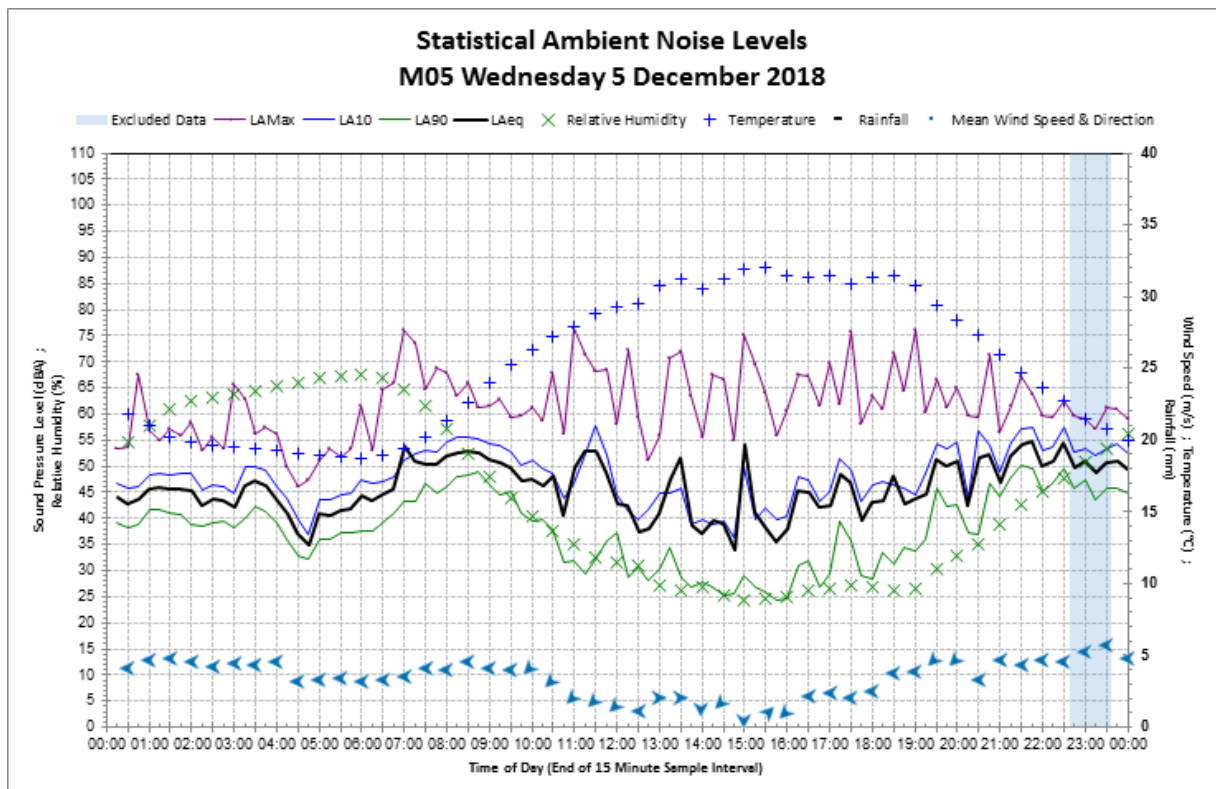


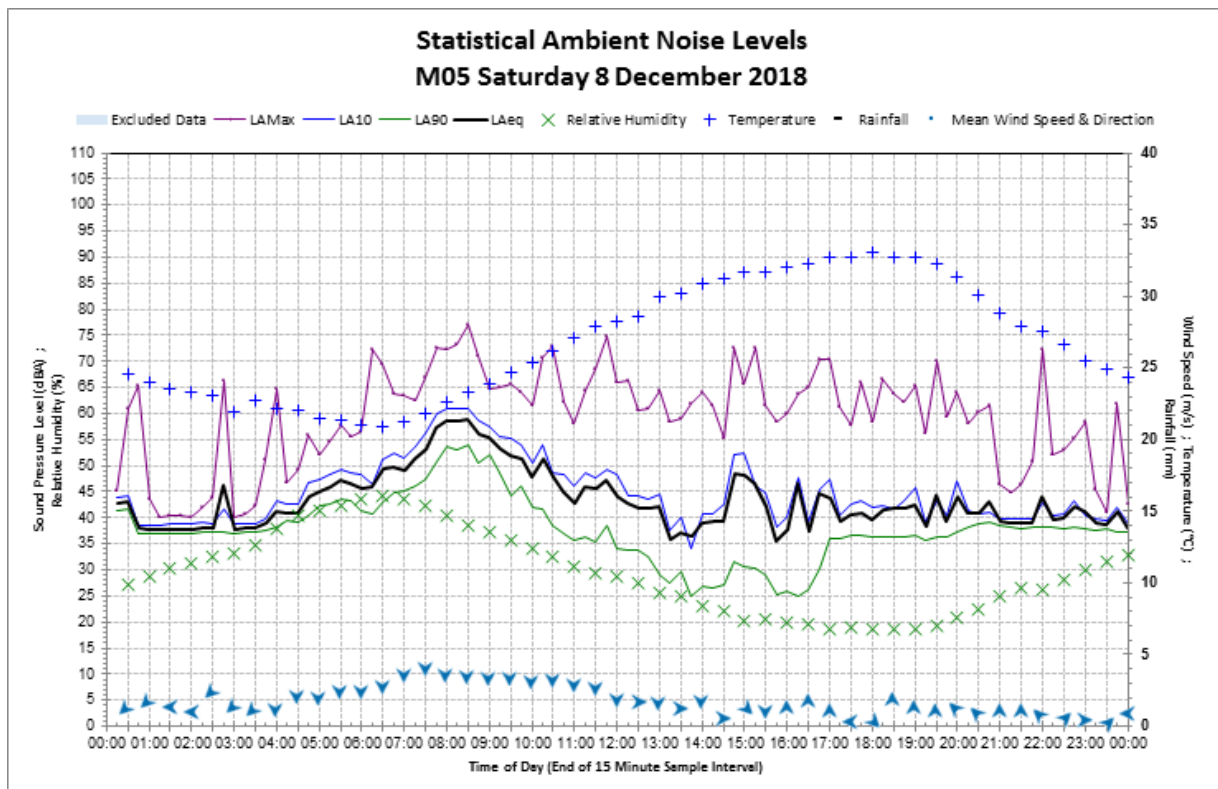
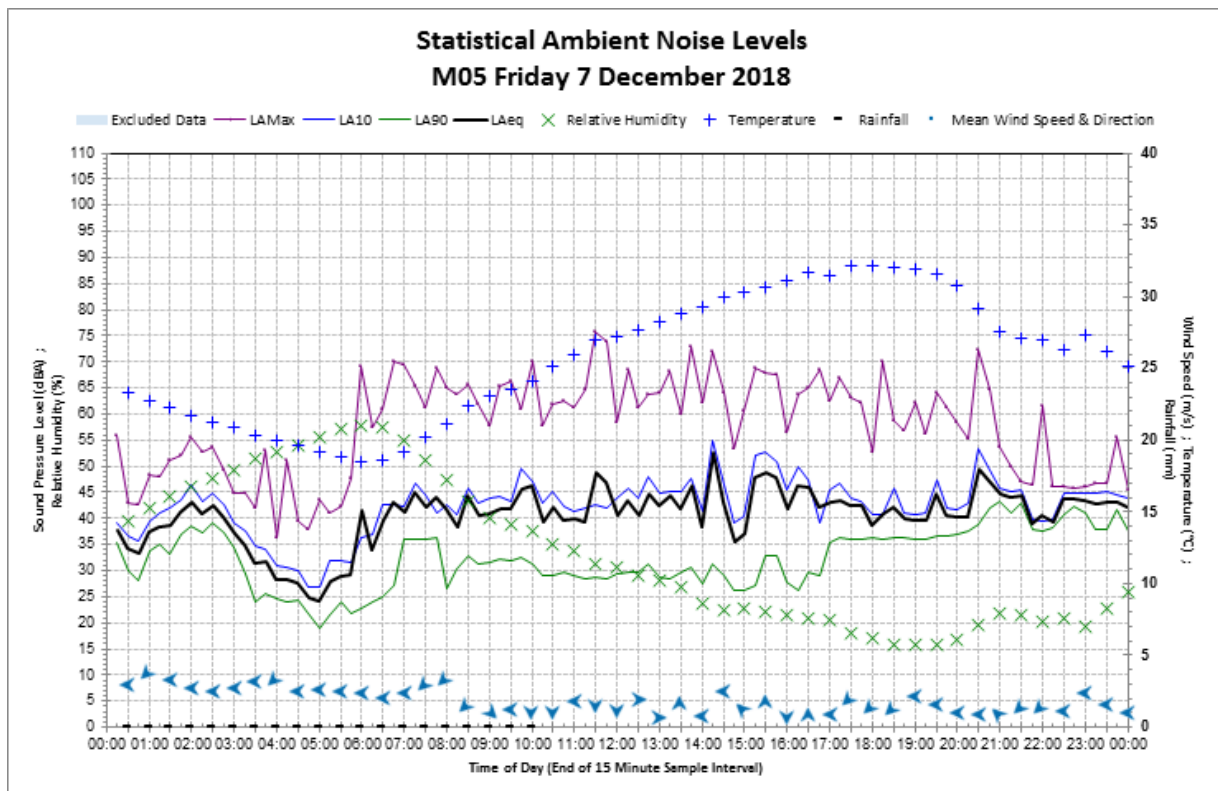




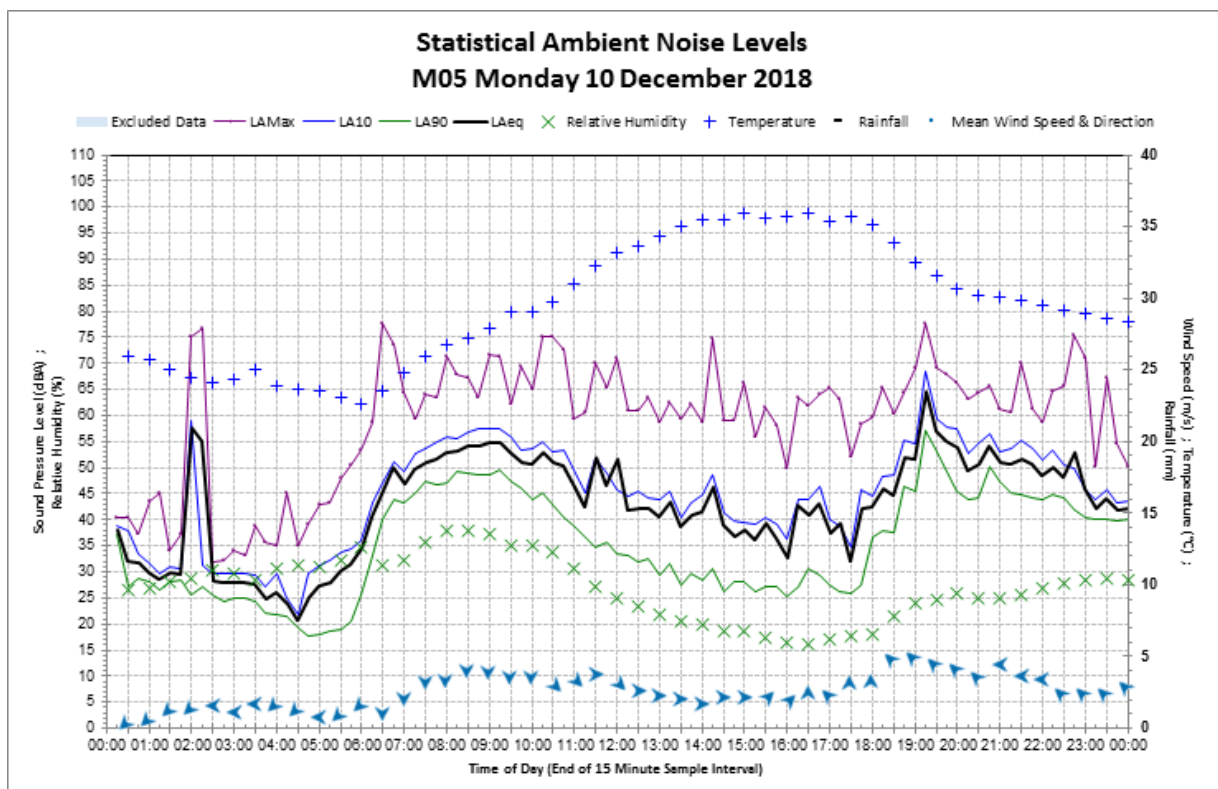
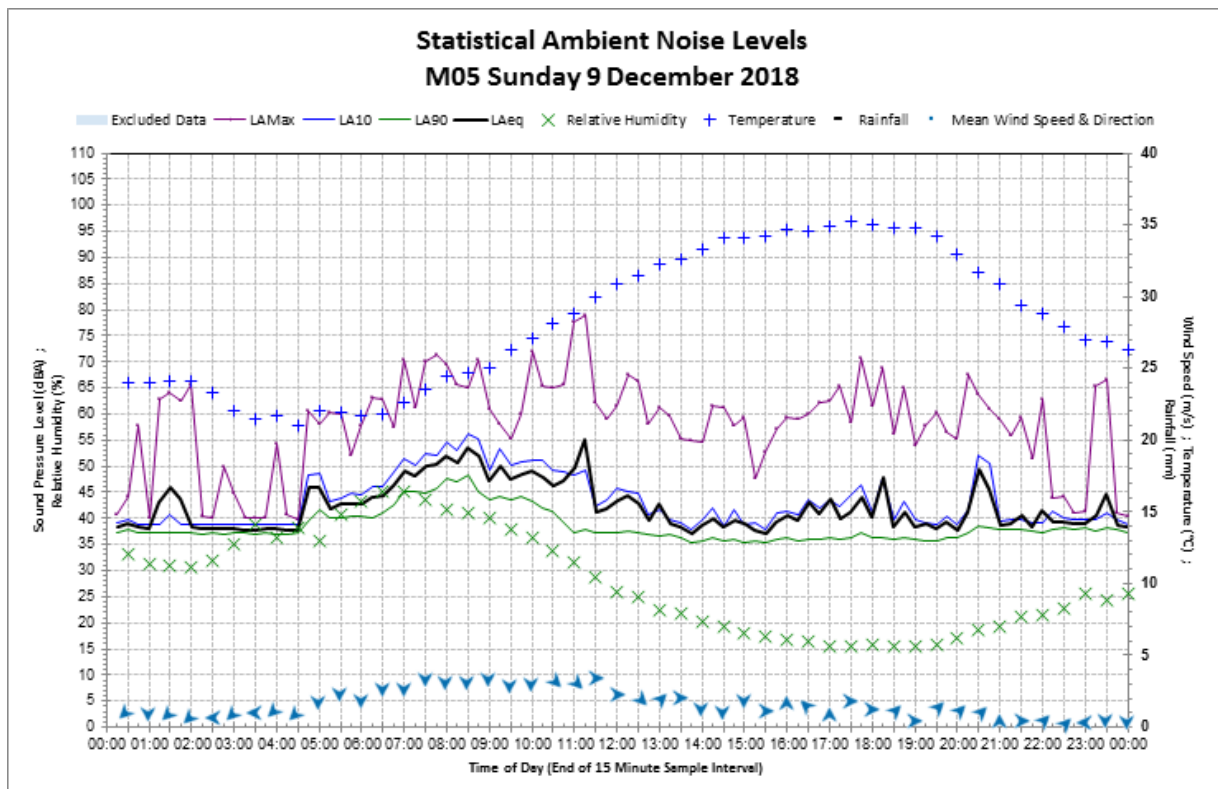






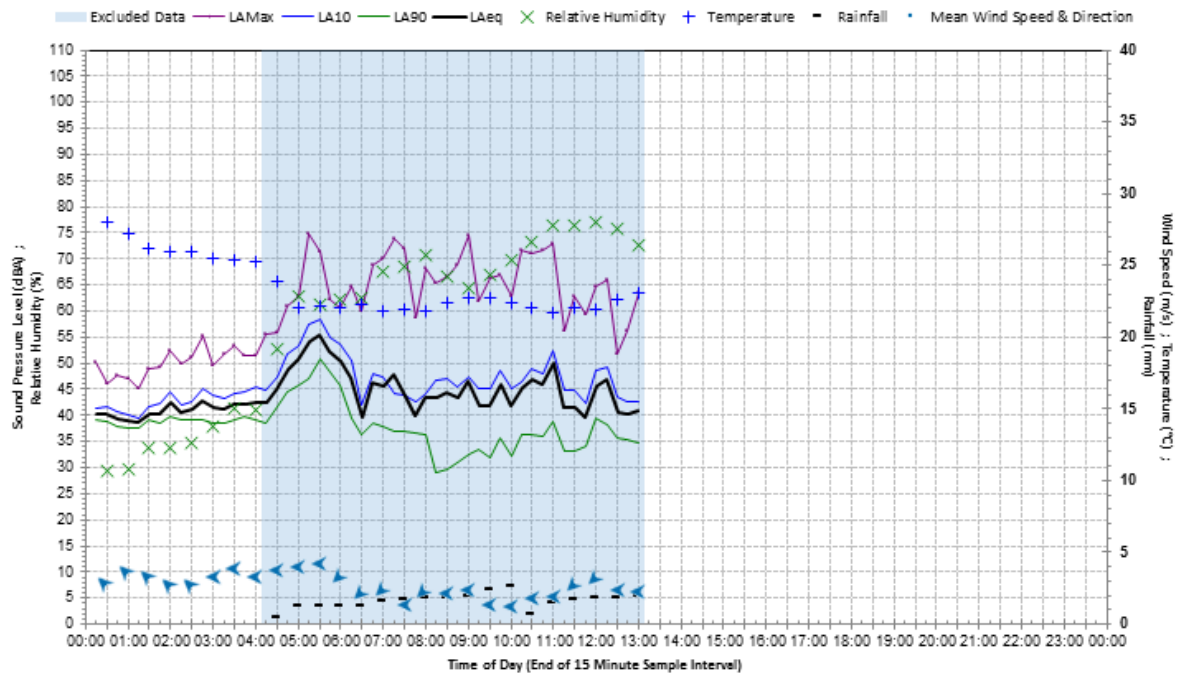




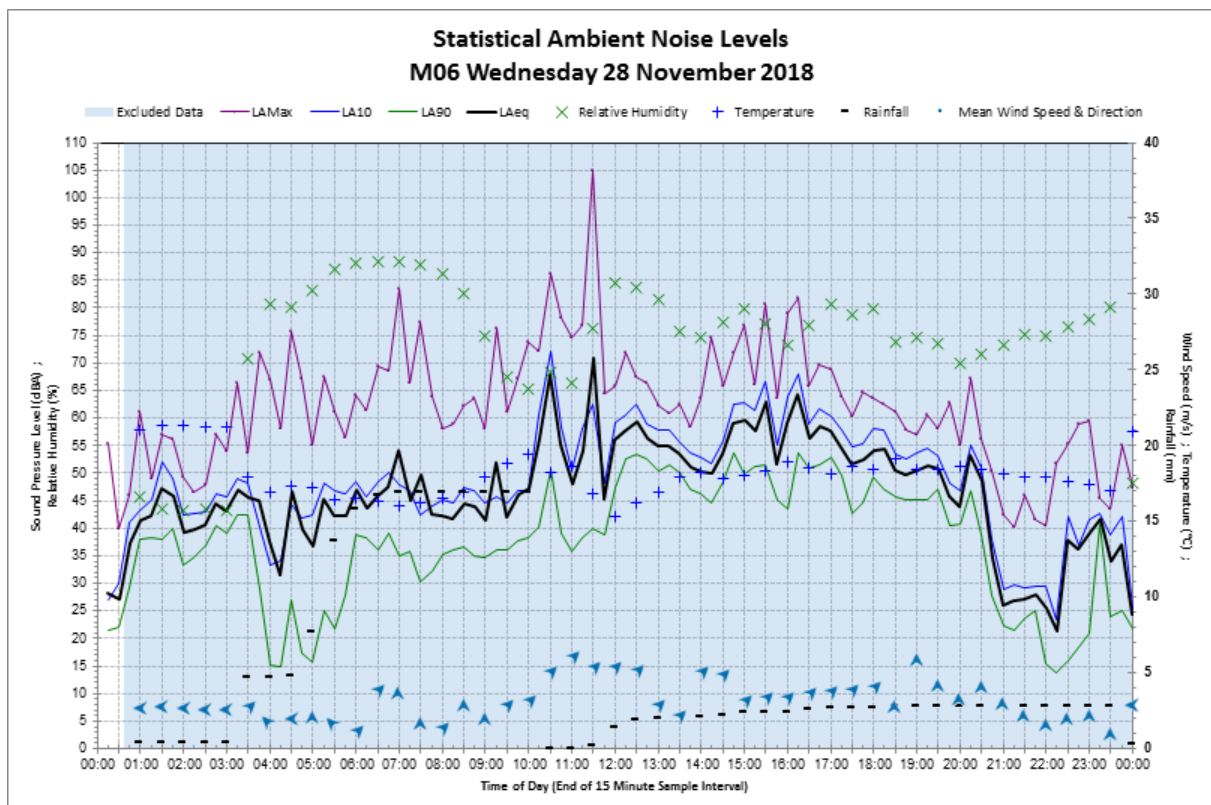
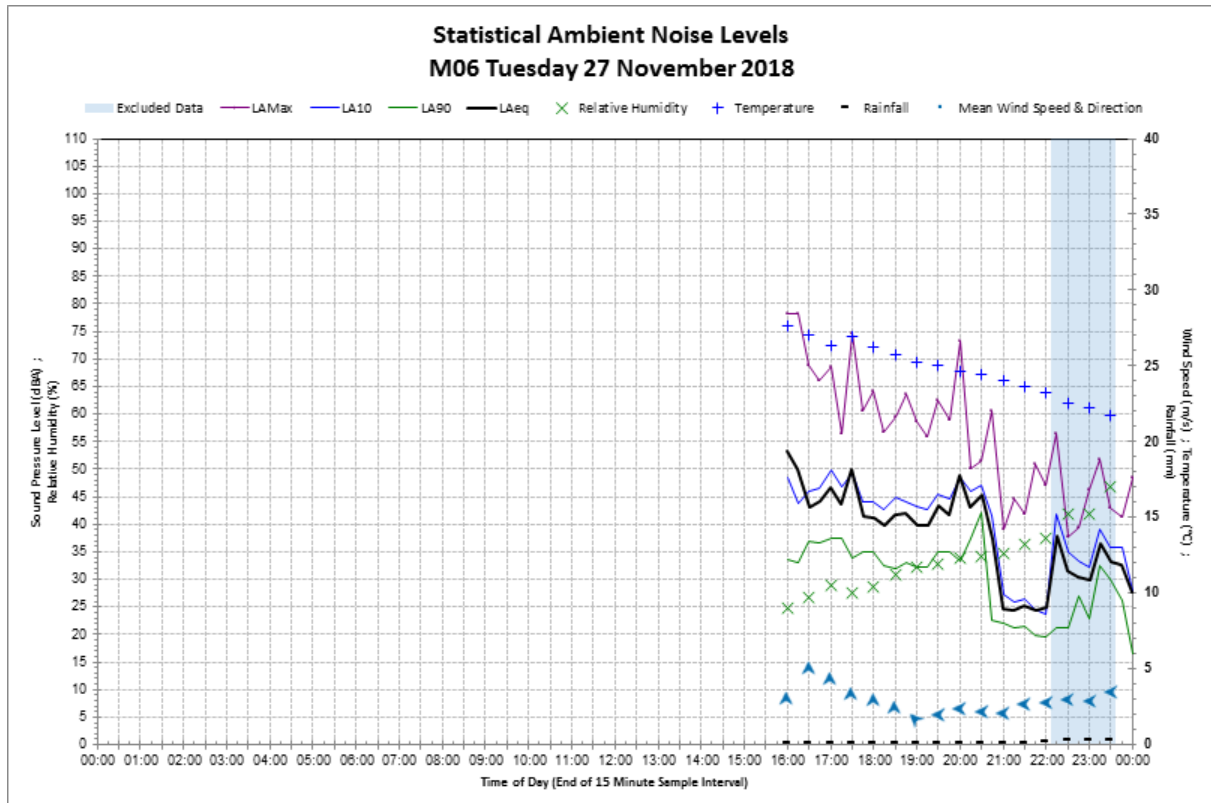


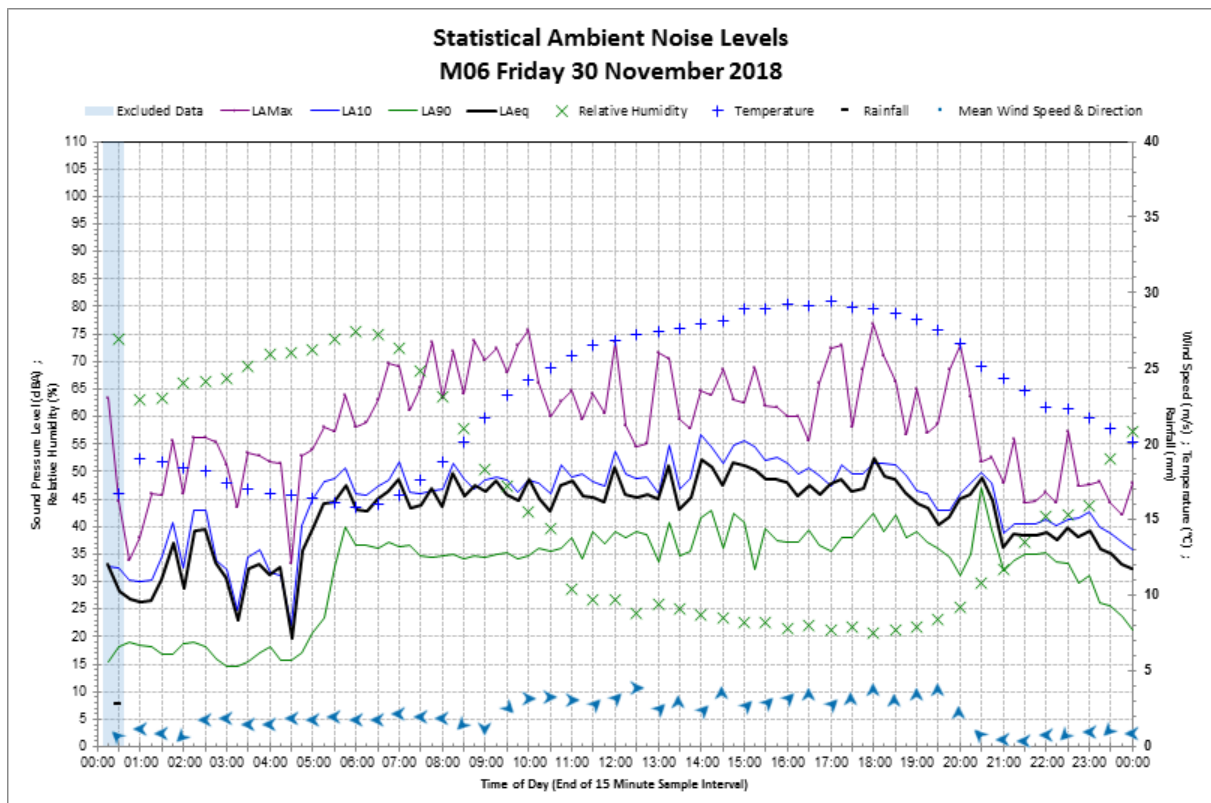
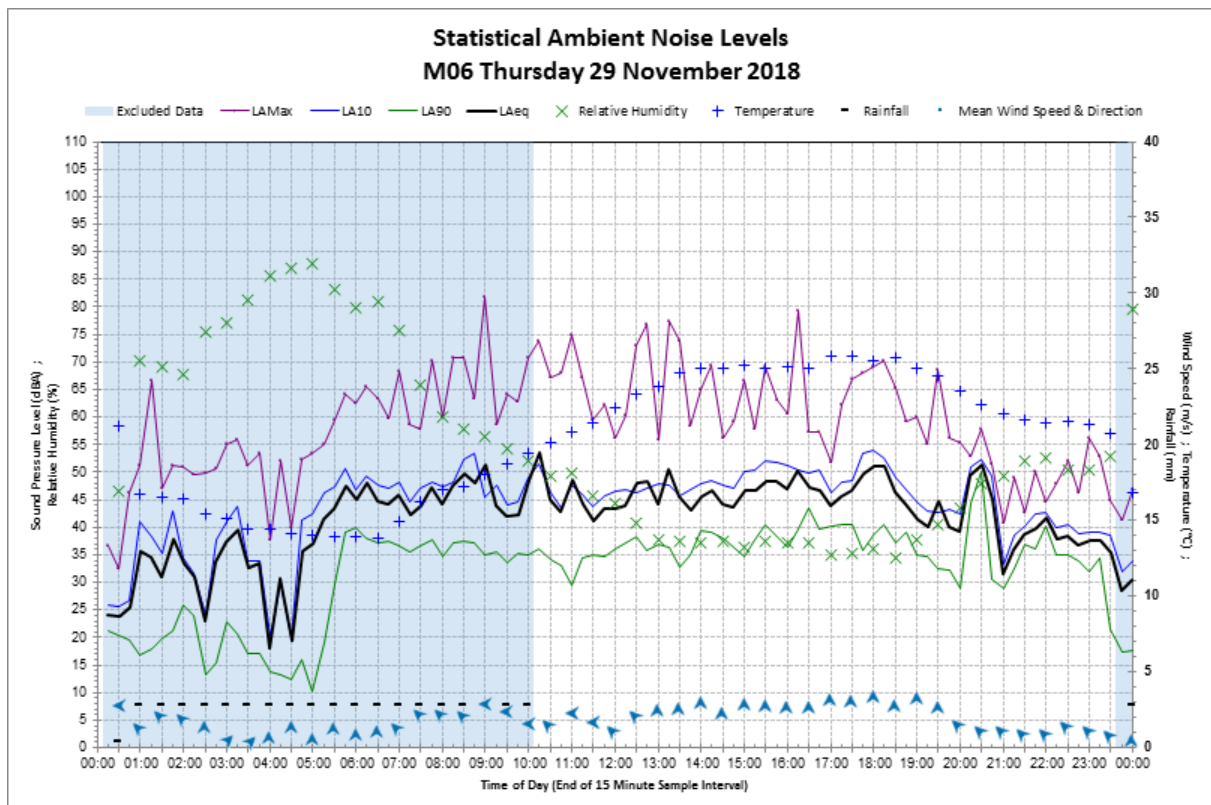


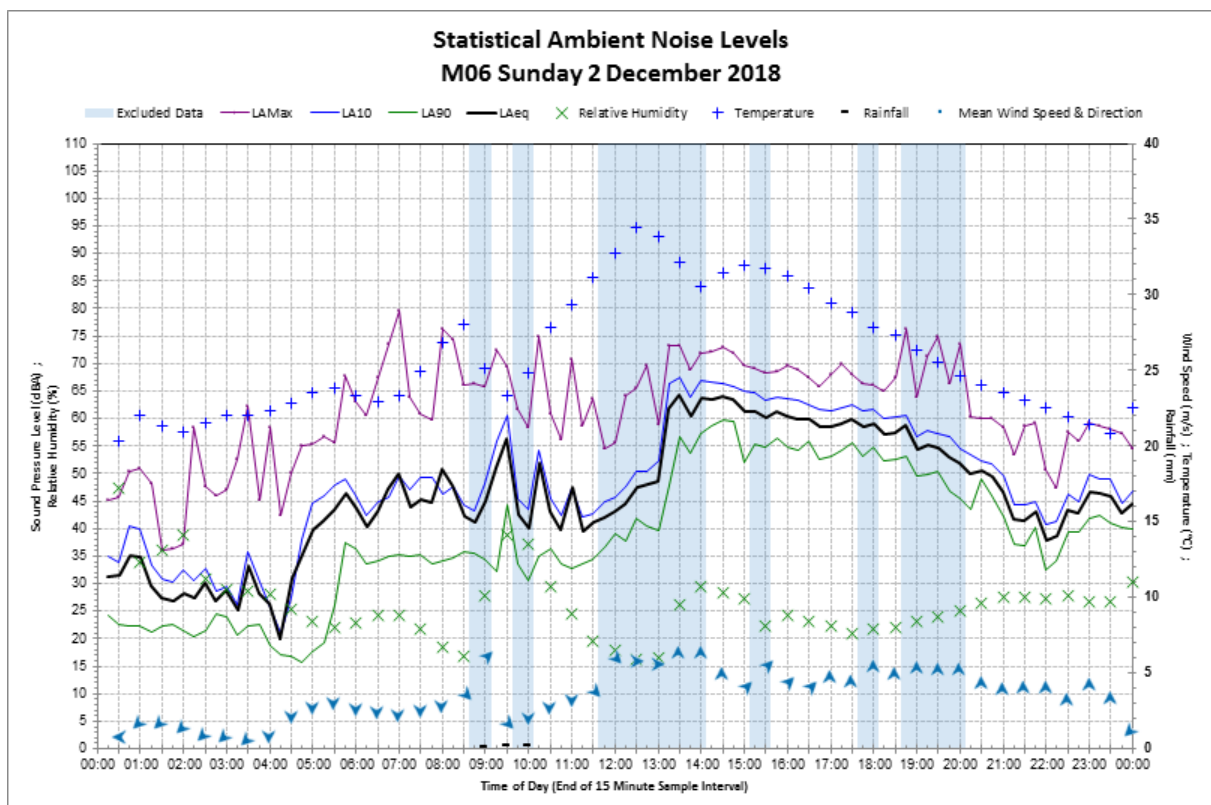
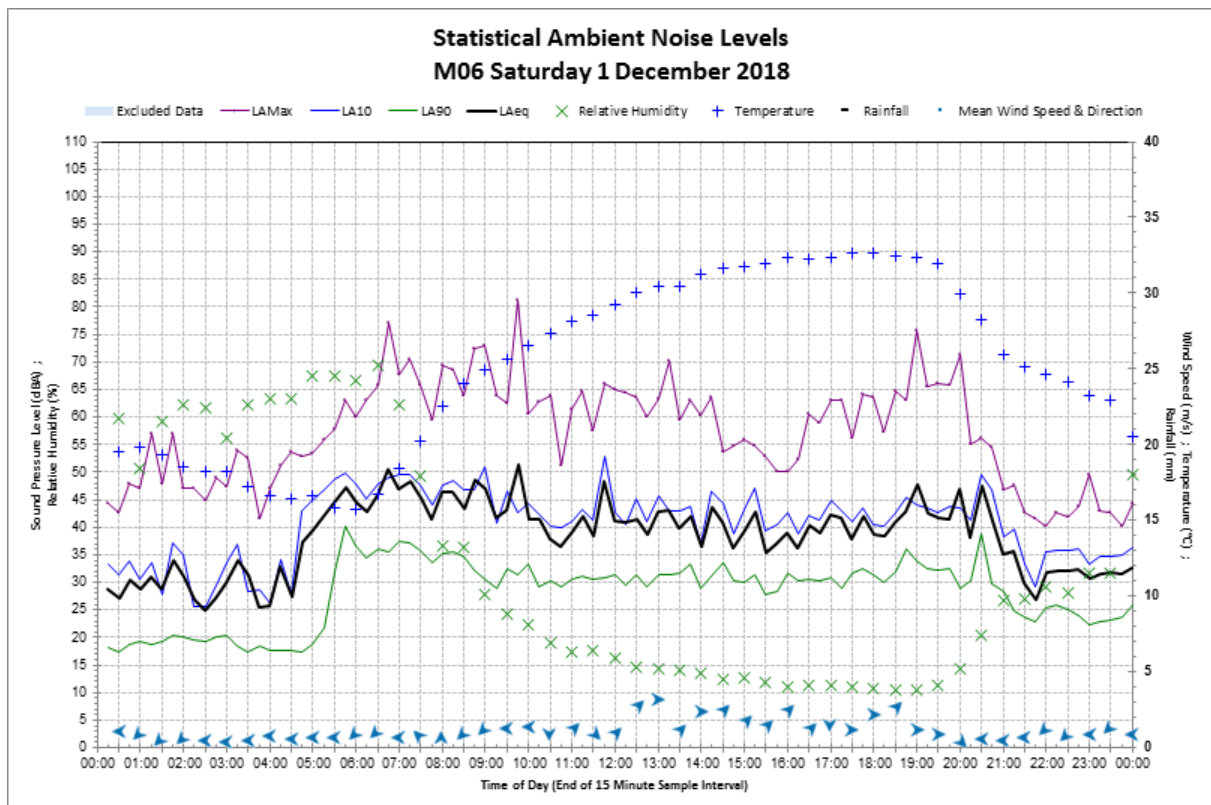
## Statistical Ambient Noise Levels M05 Tuesday 11 December 2018

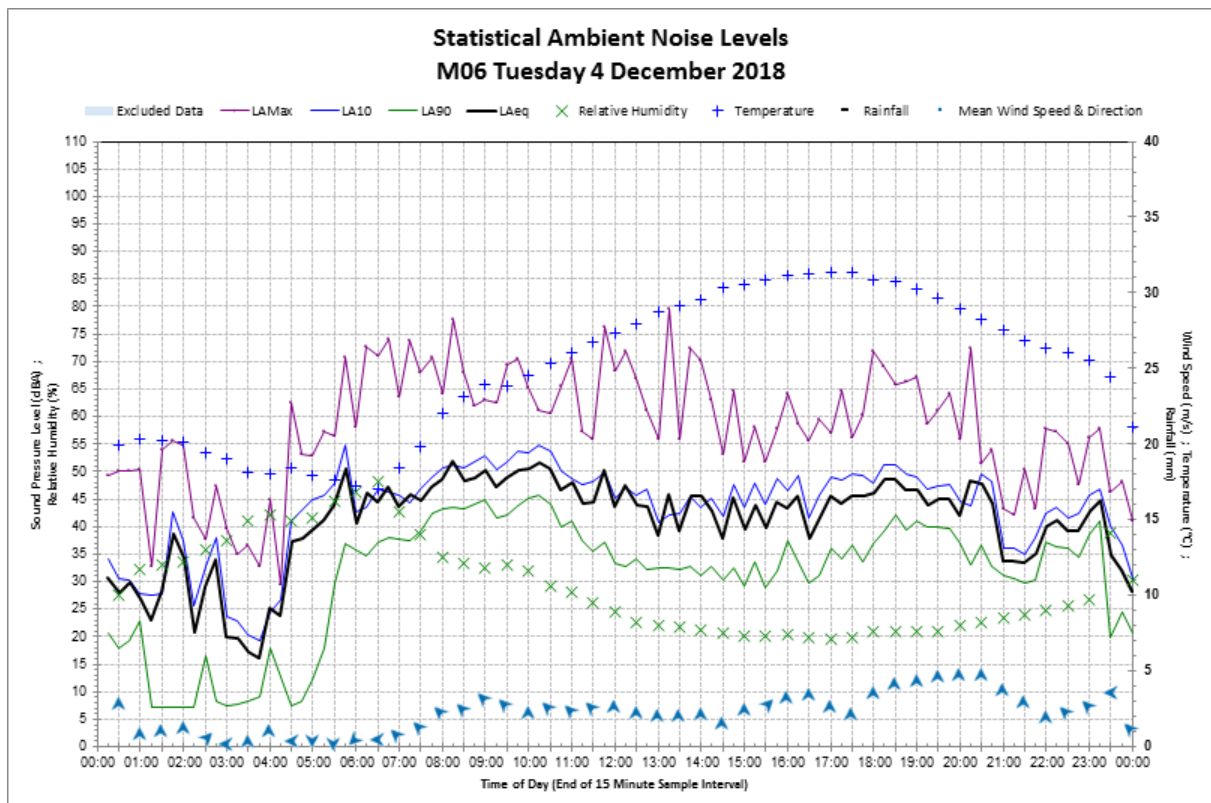
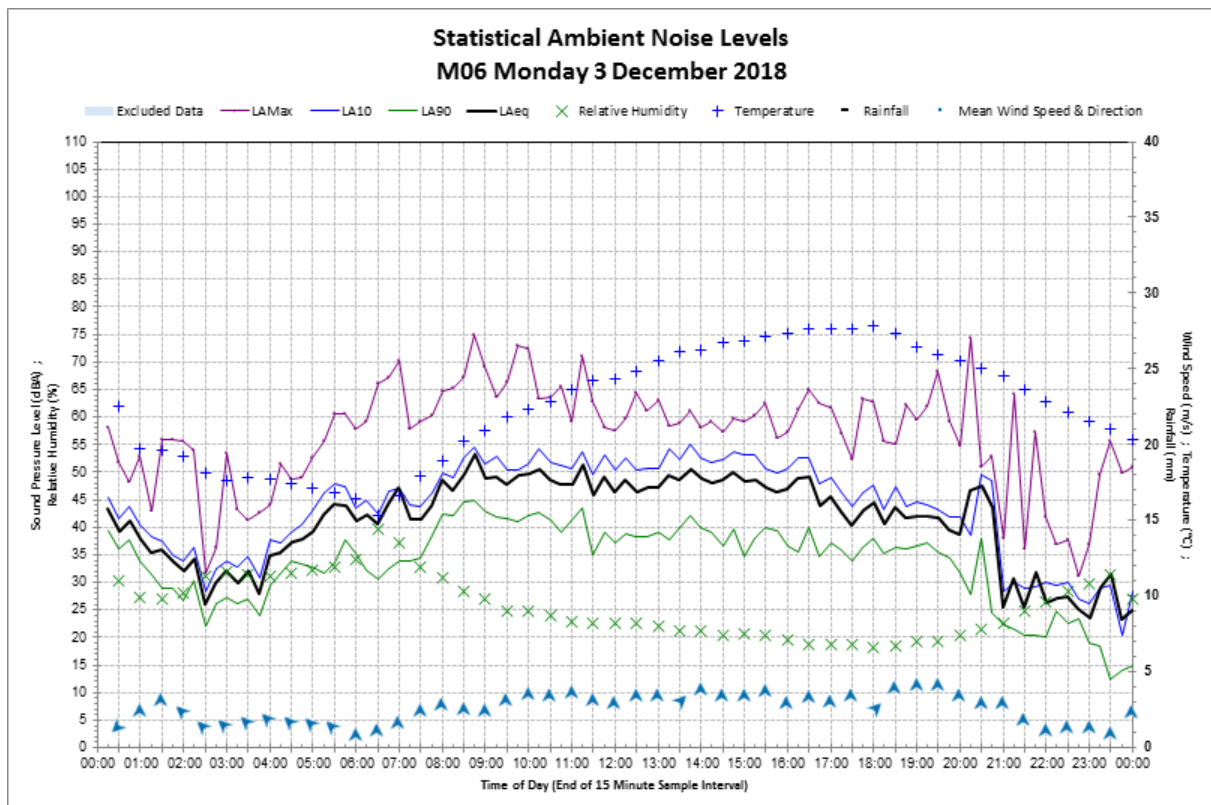


## Monitoring location M06 – 4075 National Park Road, Tonderburine

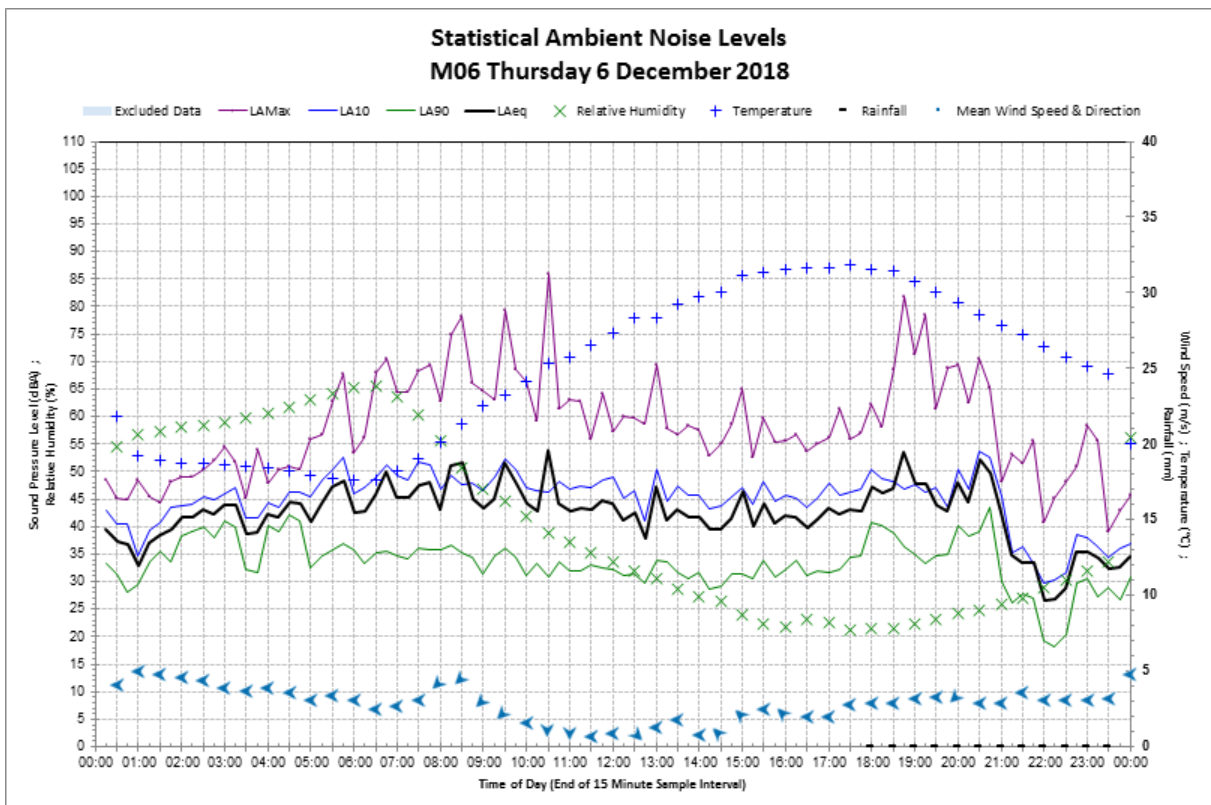
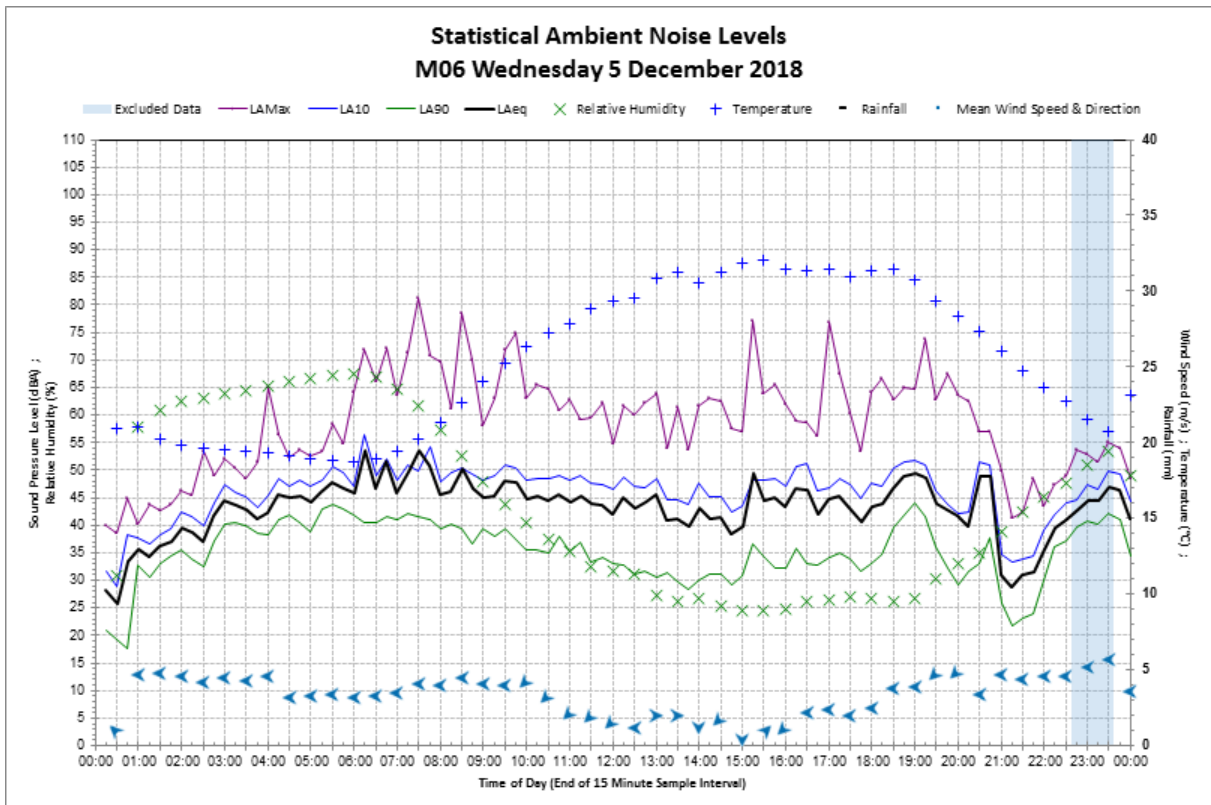


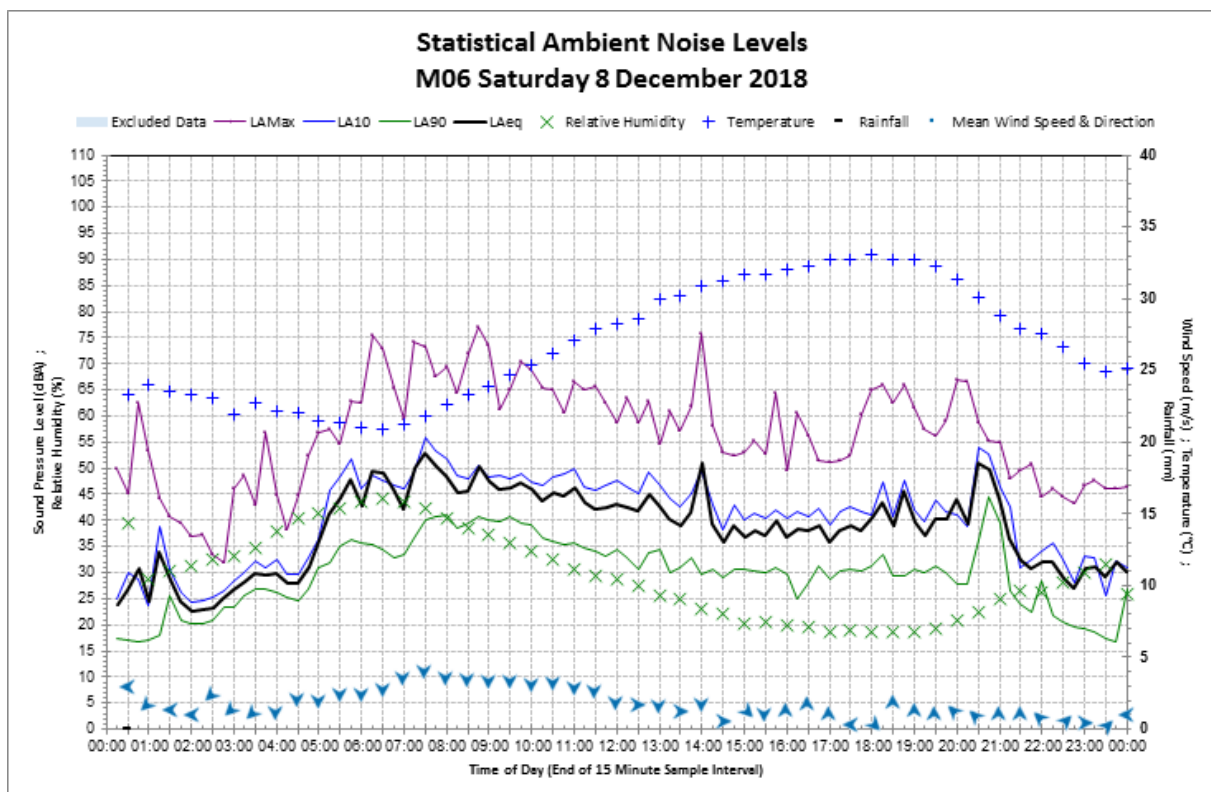
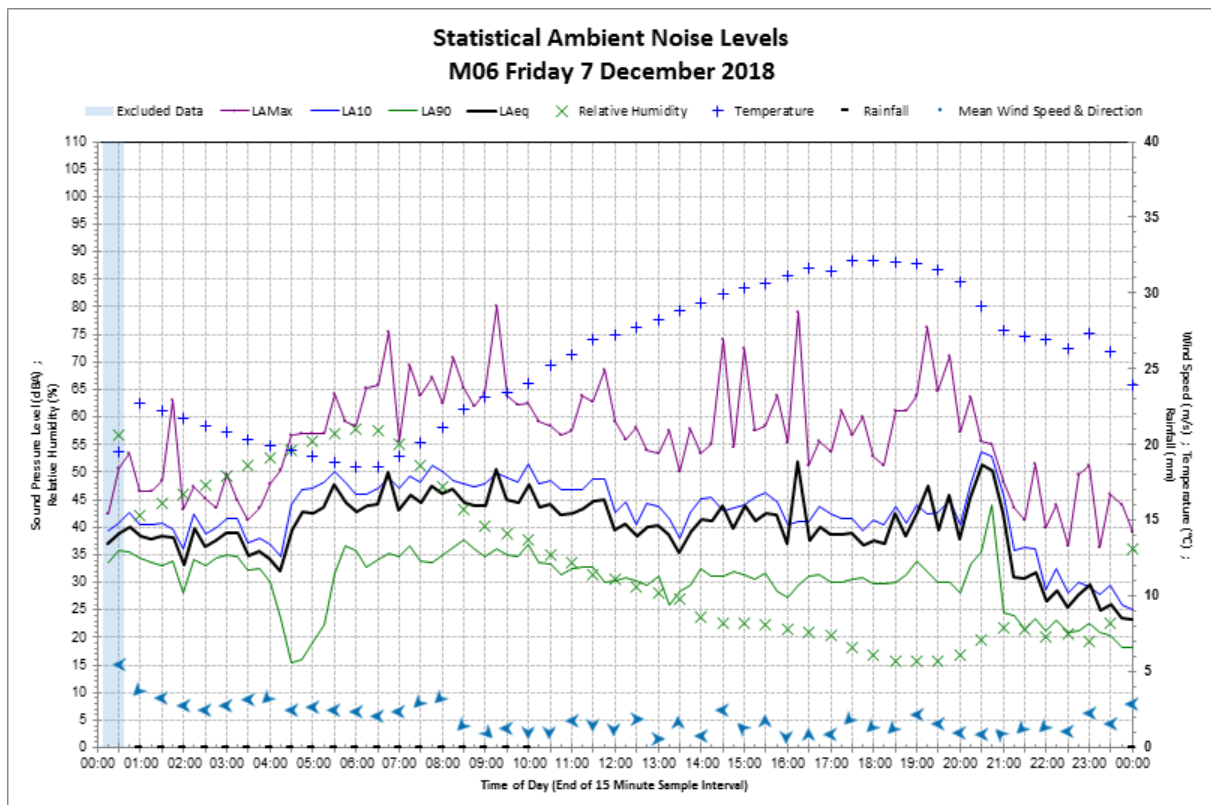


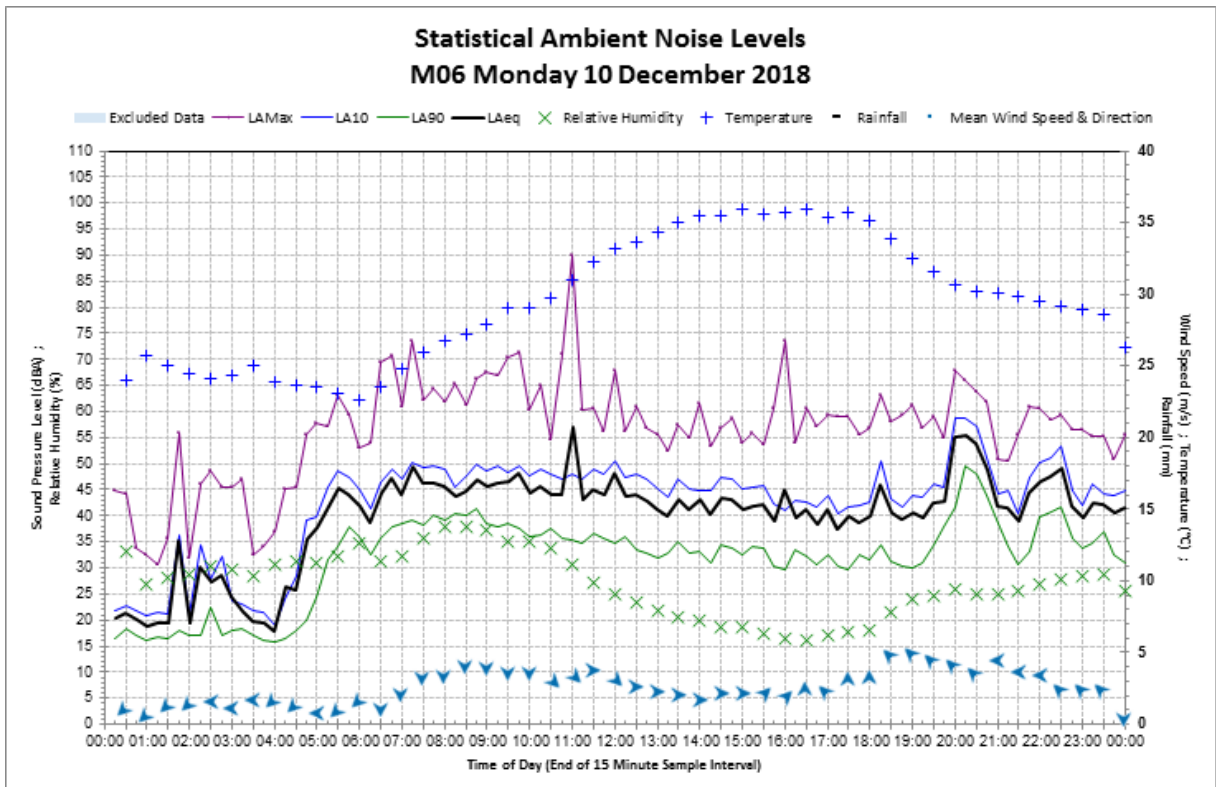
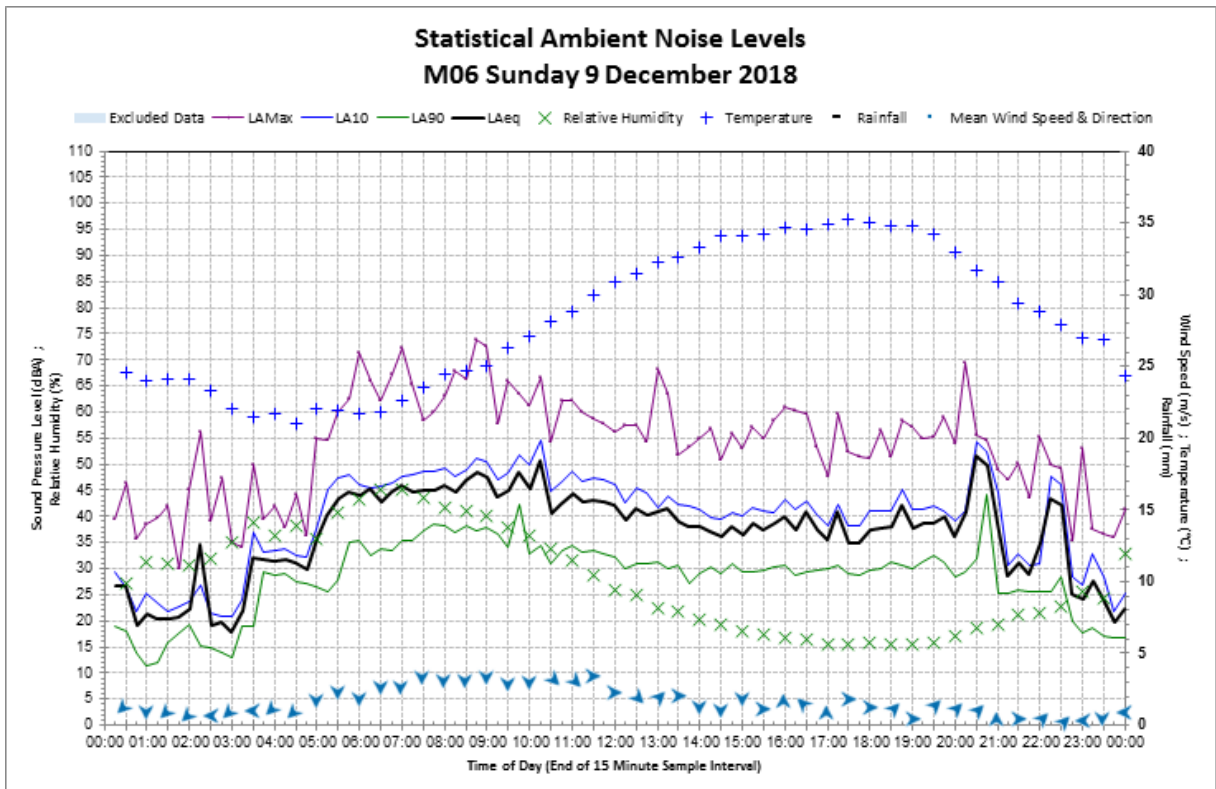




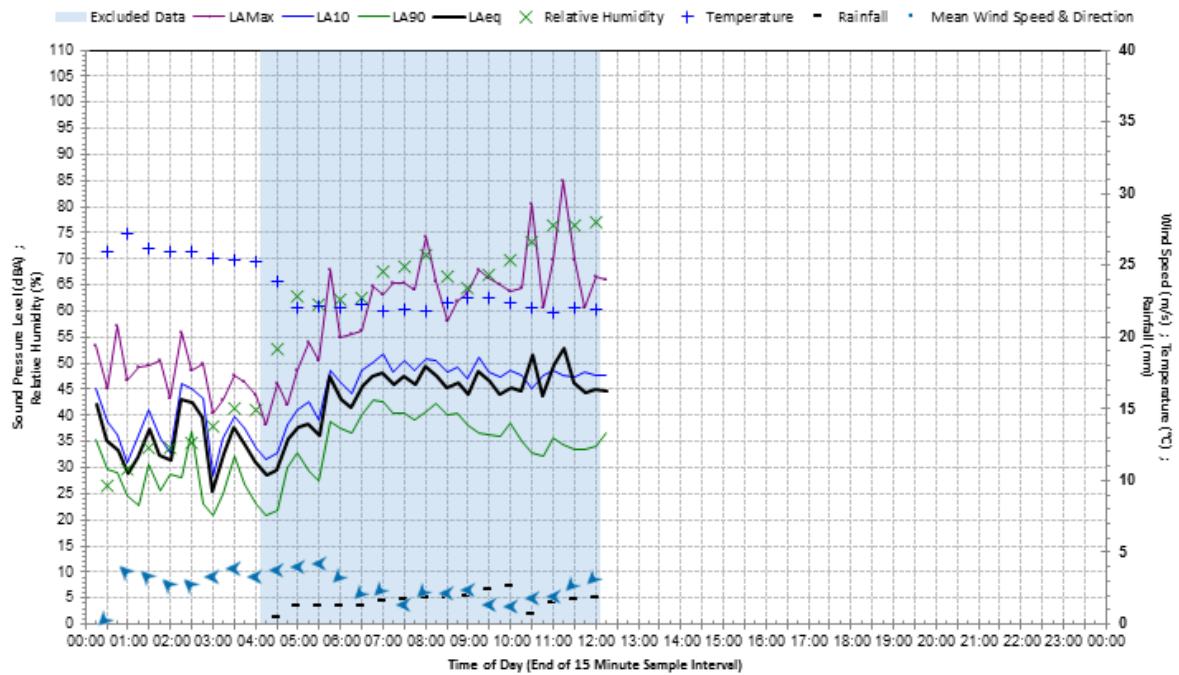






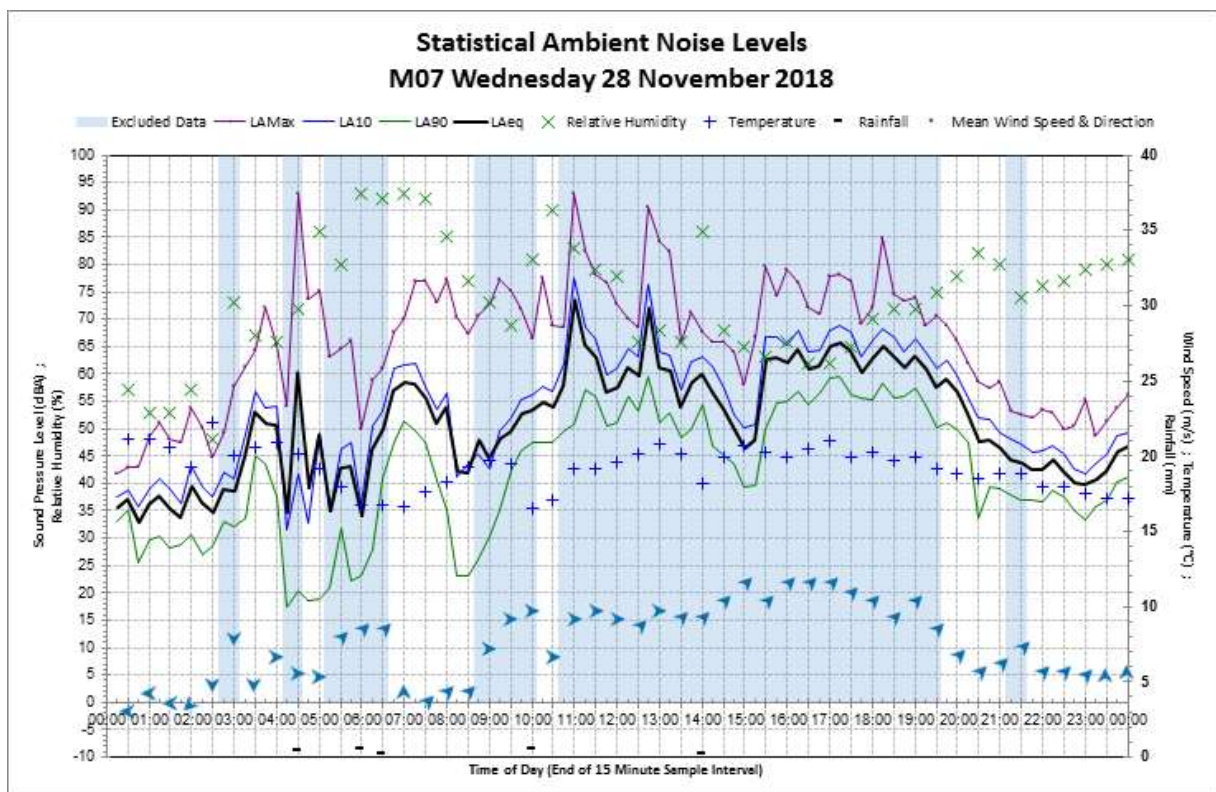
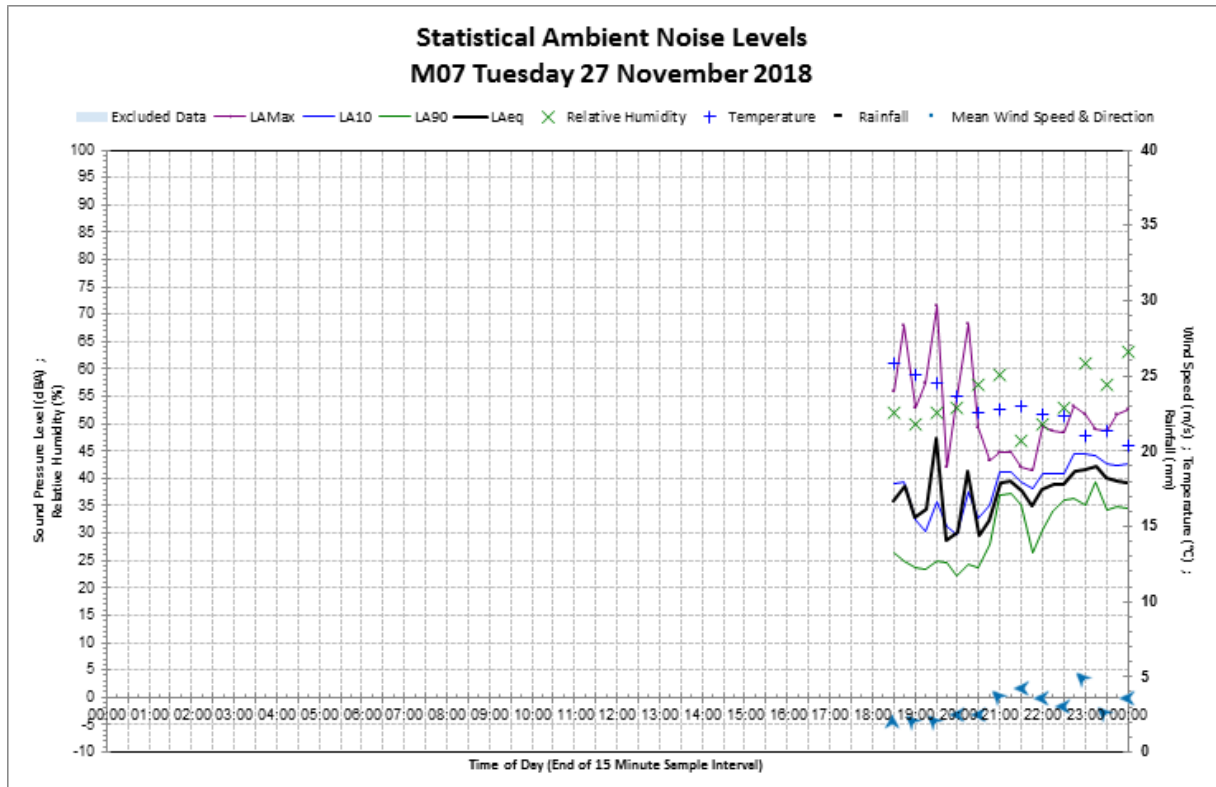


## Statistical Ambient Noise Levels M06 Tuesday 11 December 2018

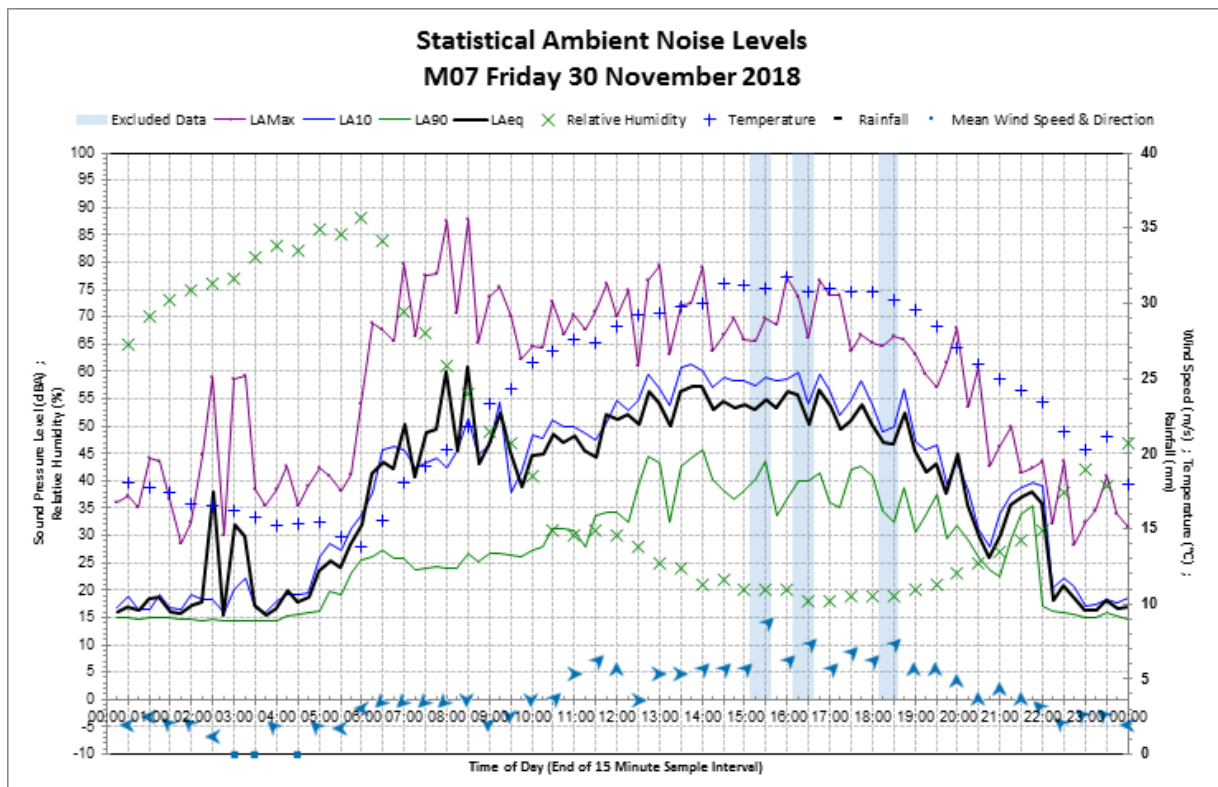
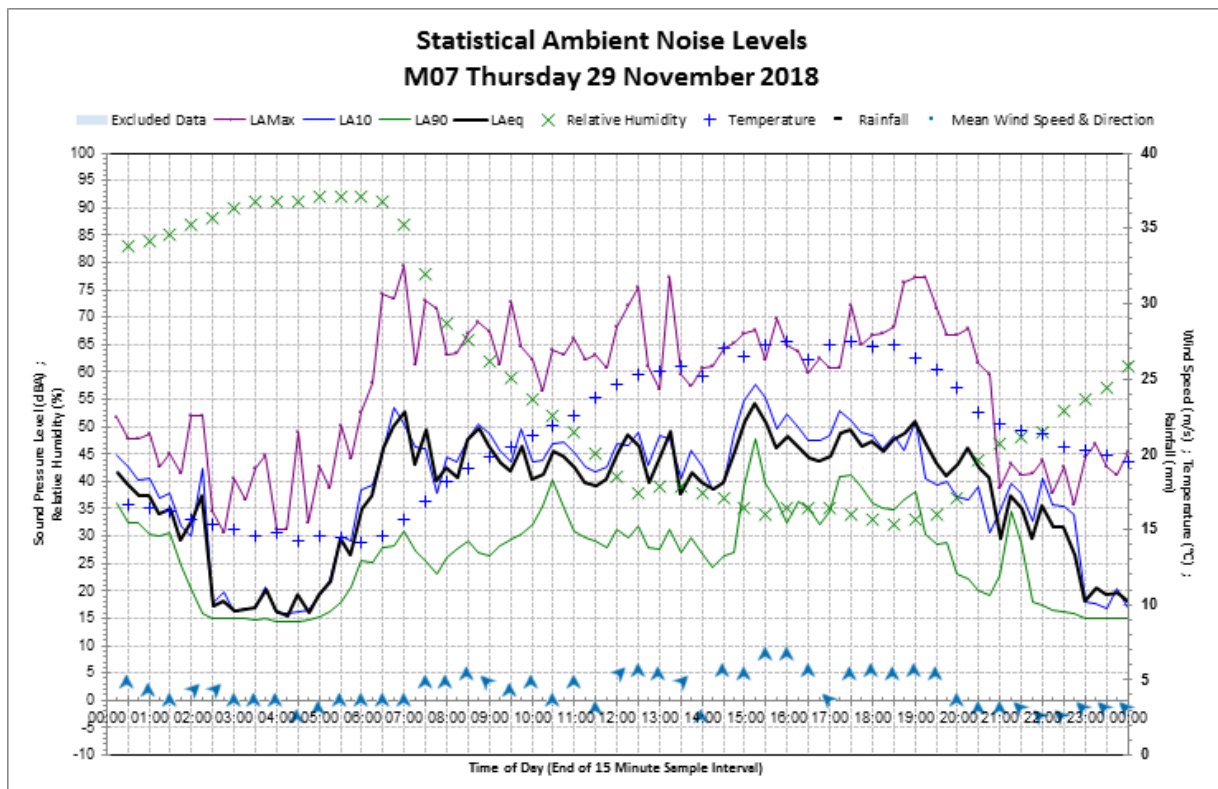


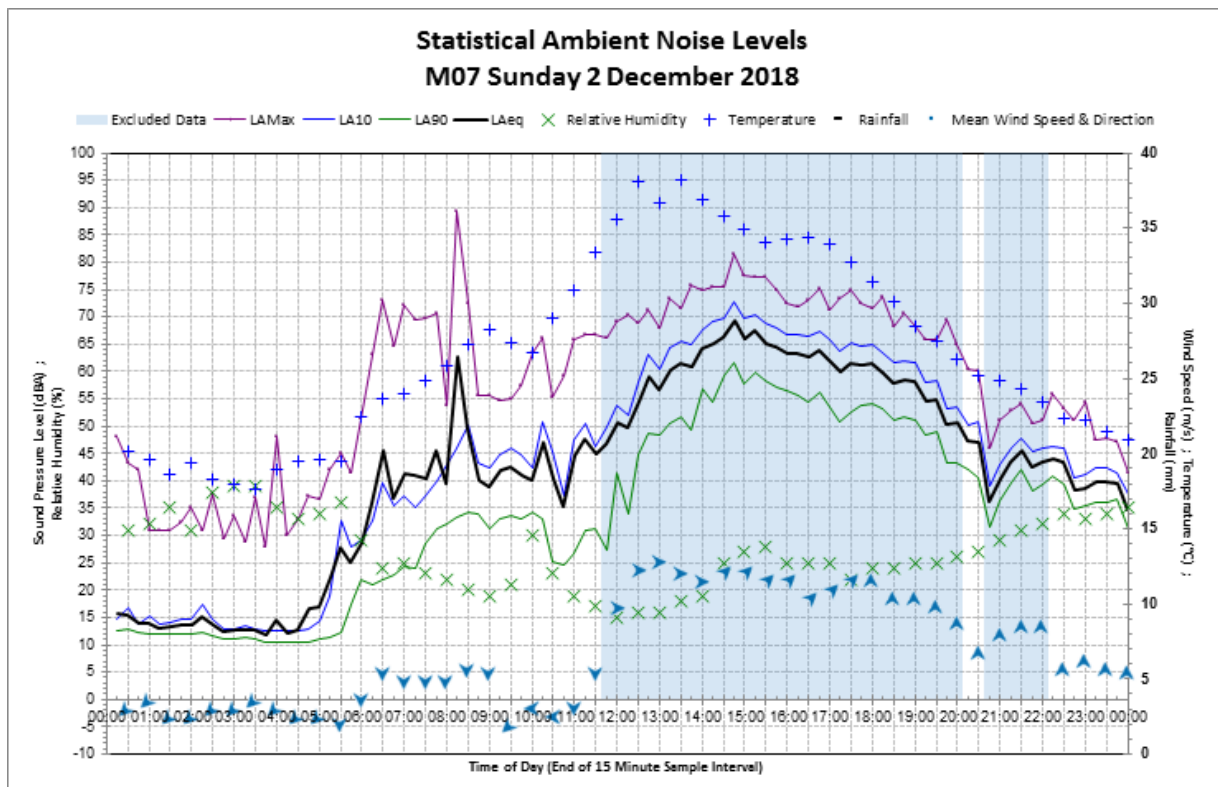
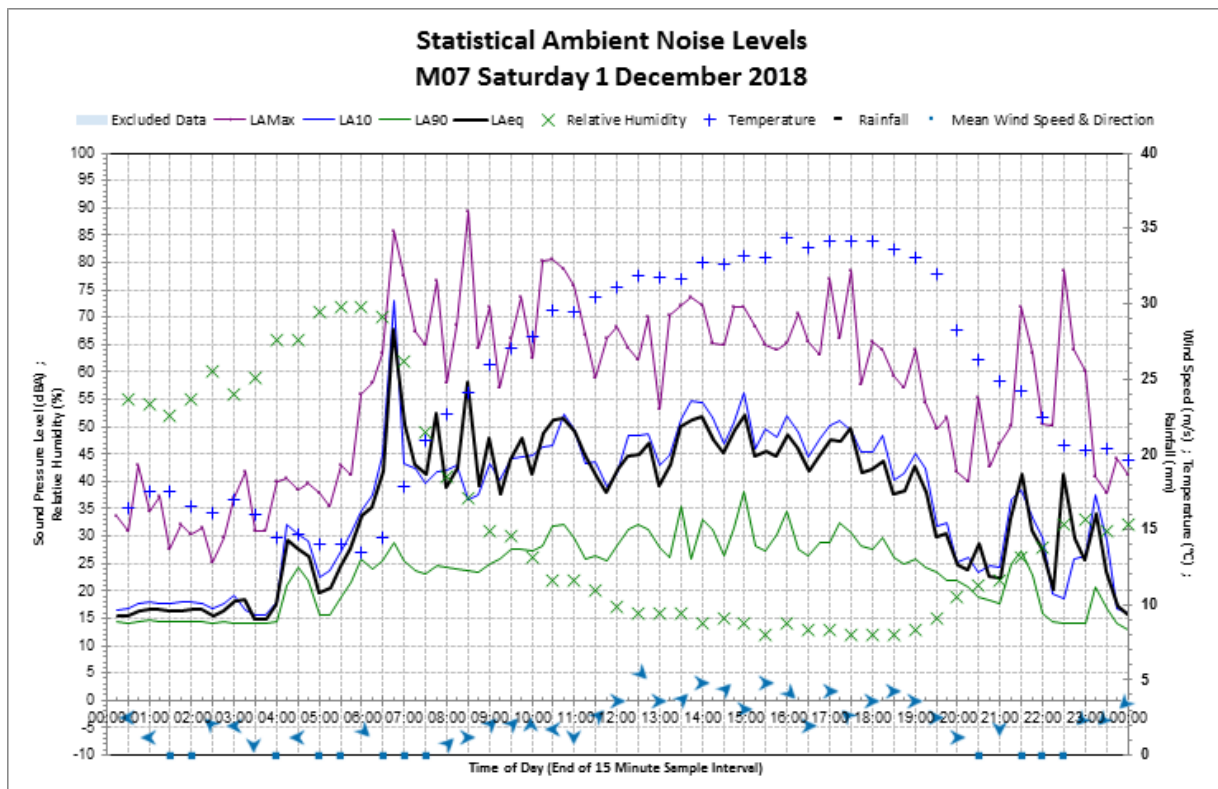


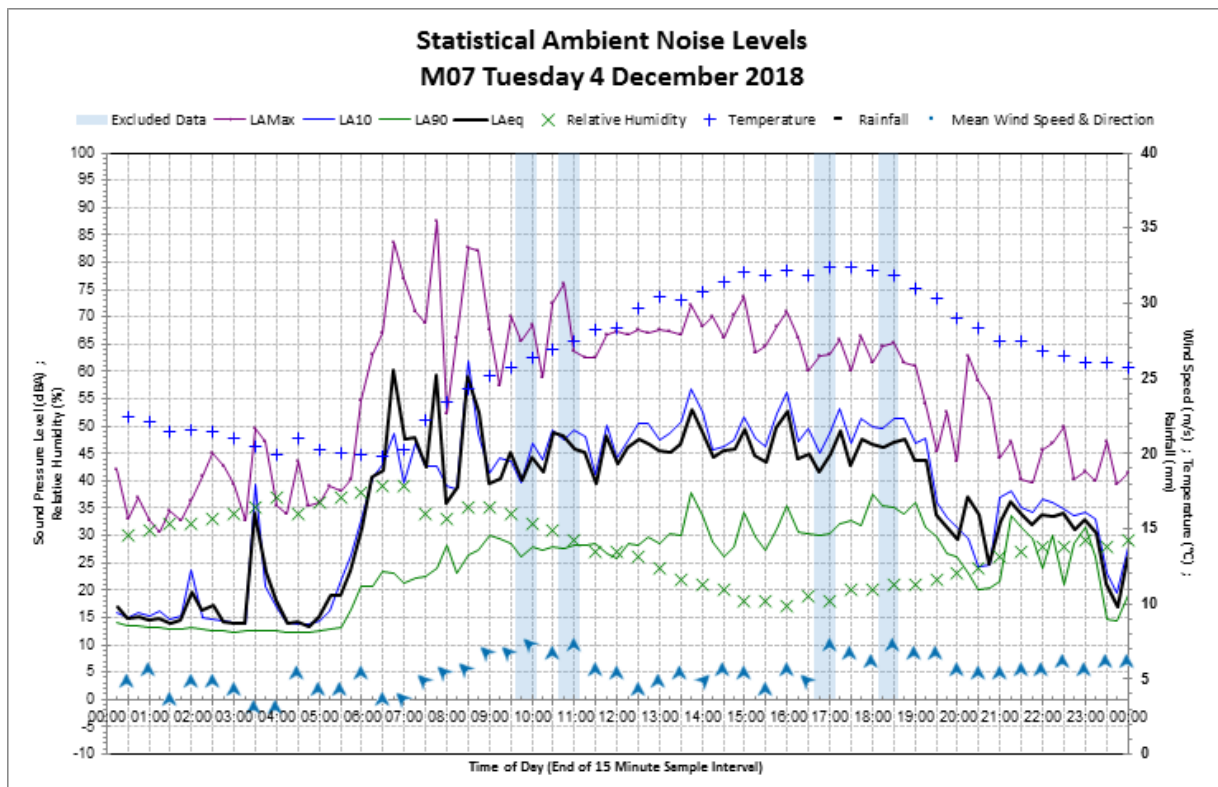
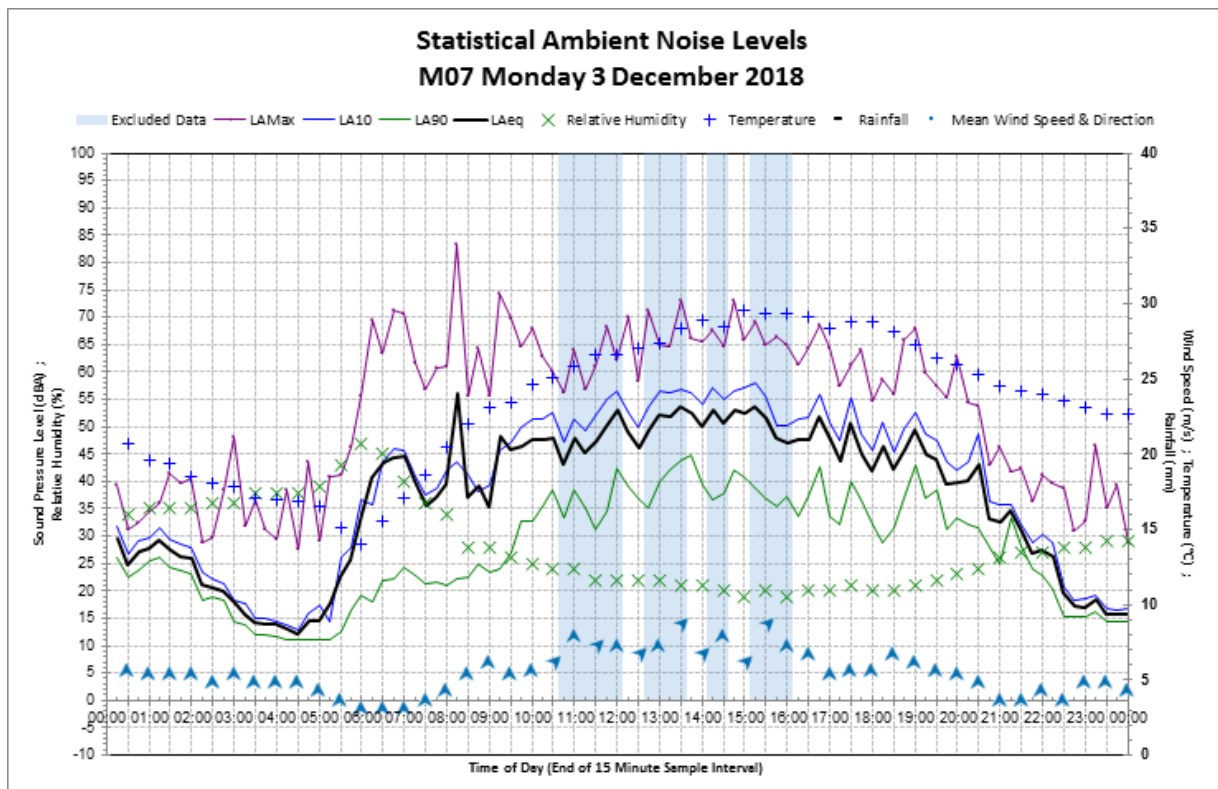
## Monitoring location M07 – 383 Cumberland Road, Teridgerie

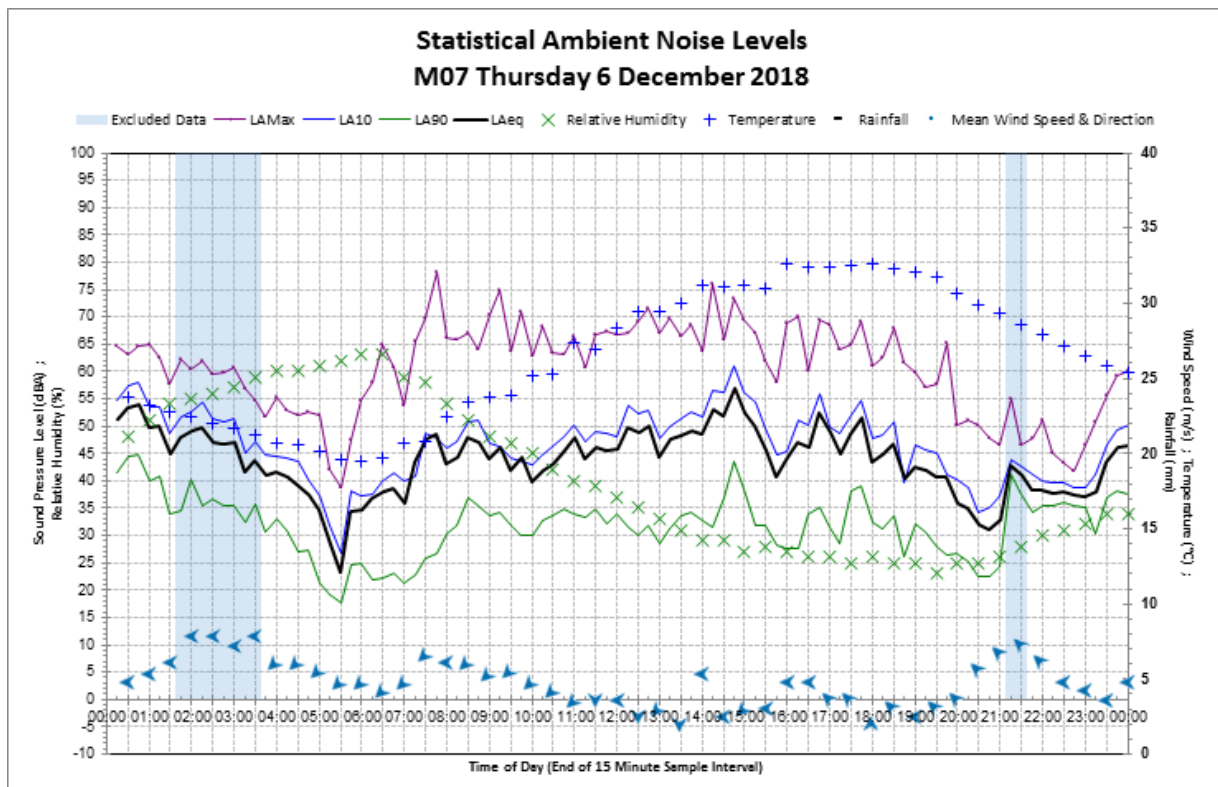
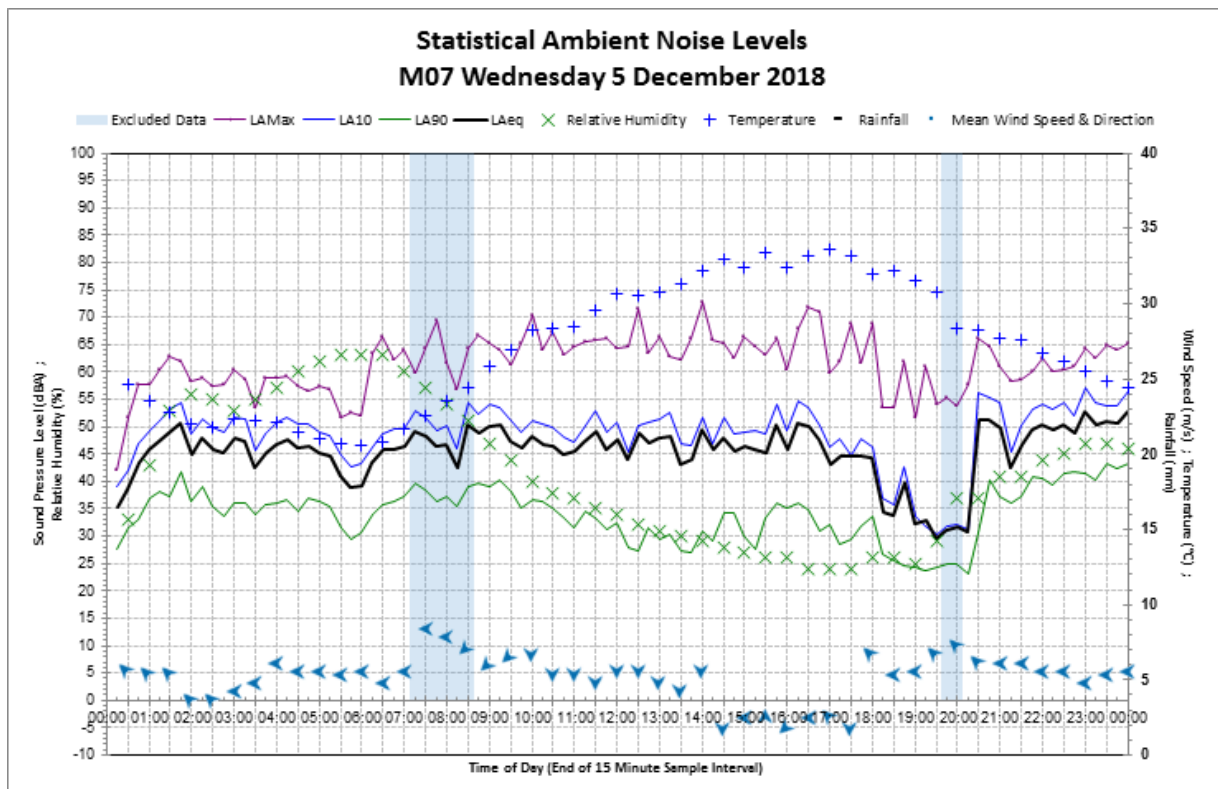




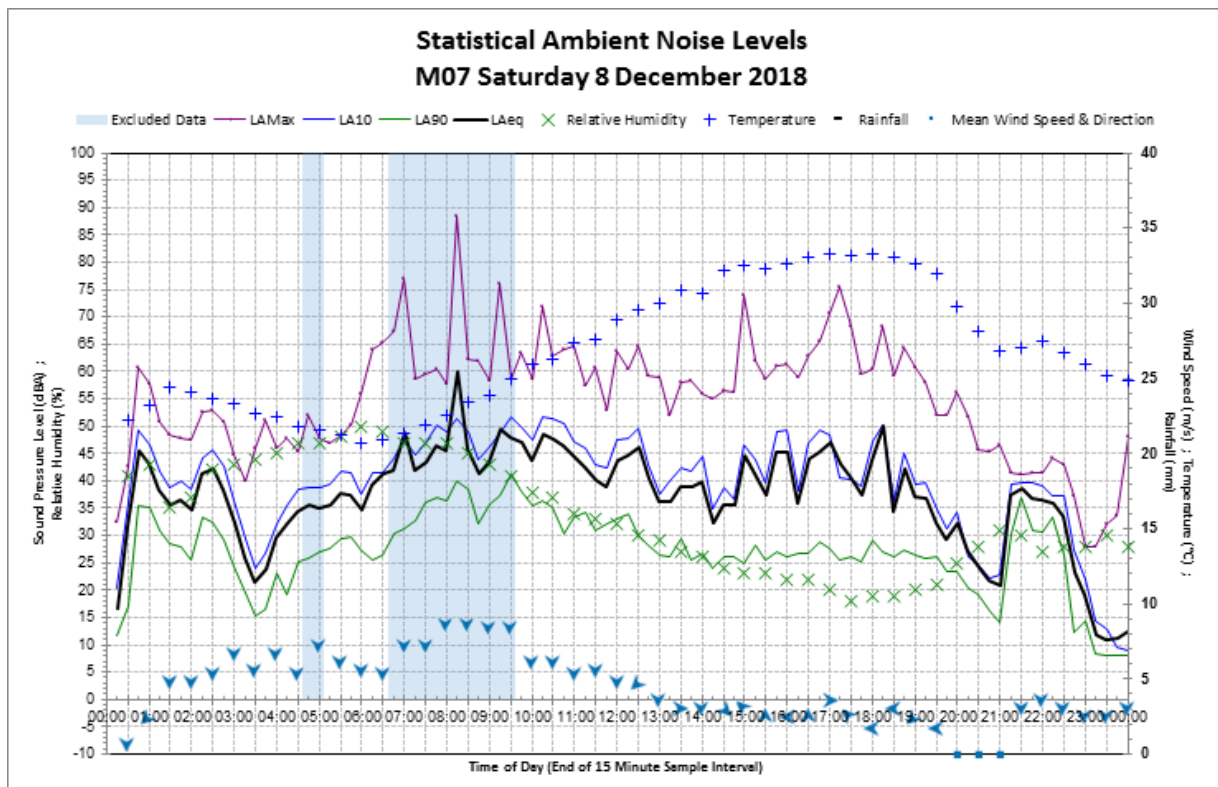
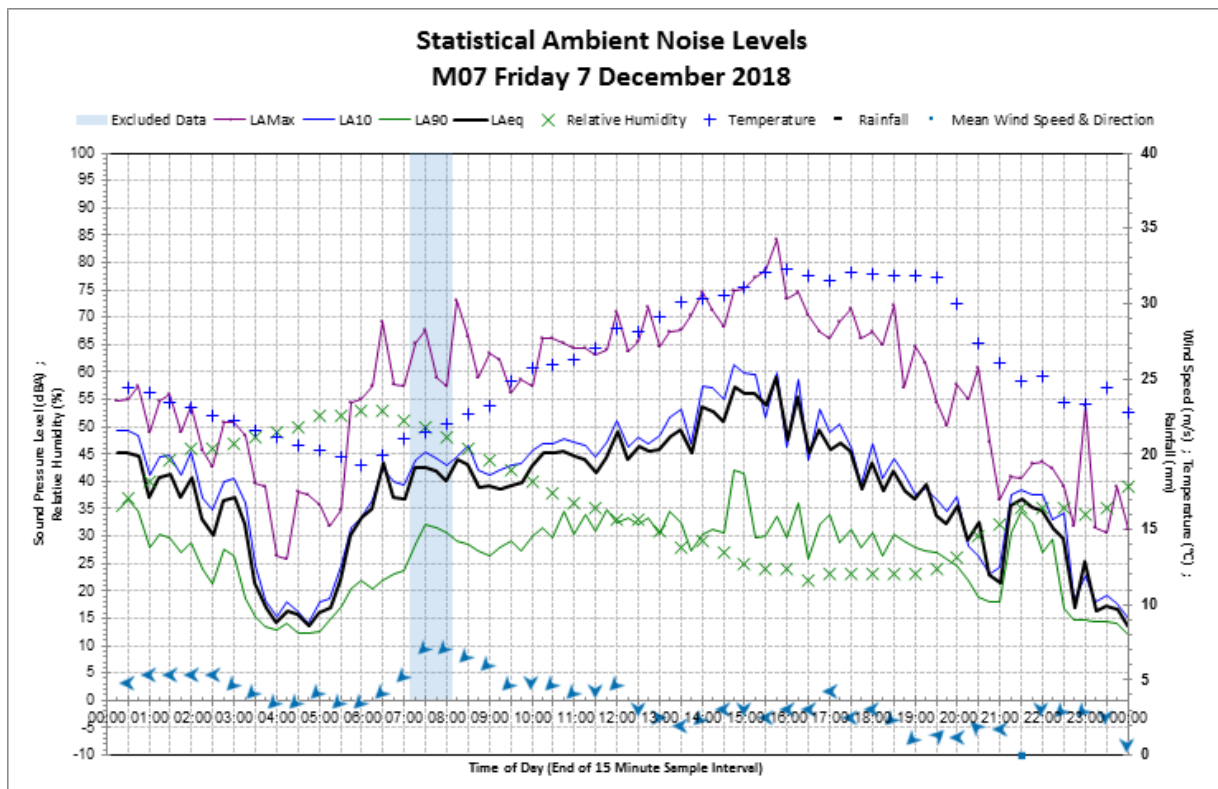




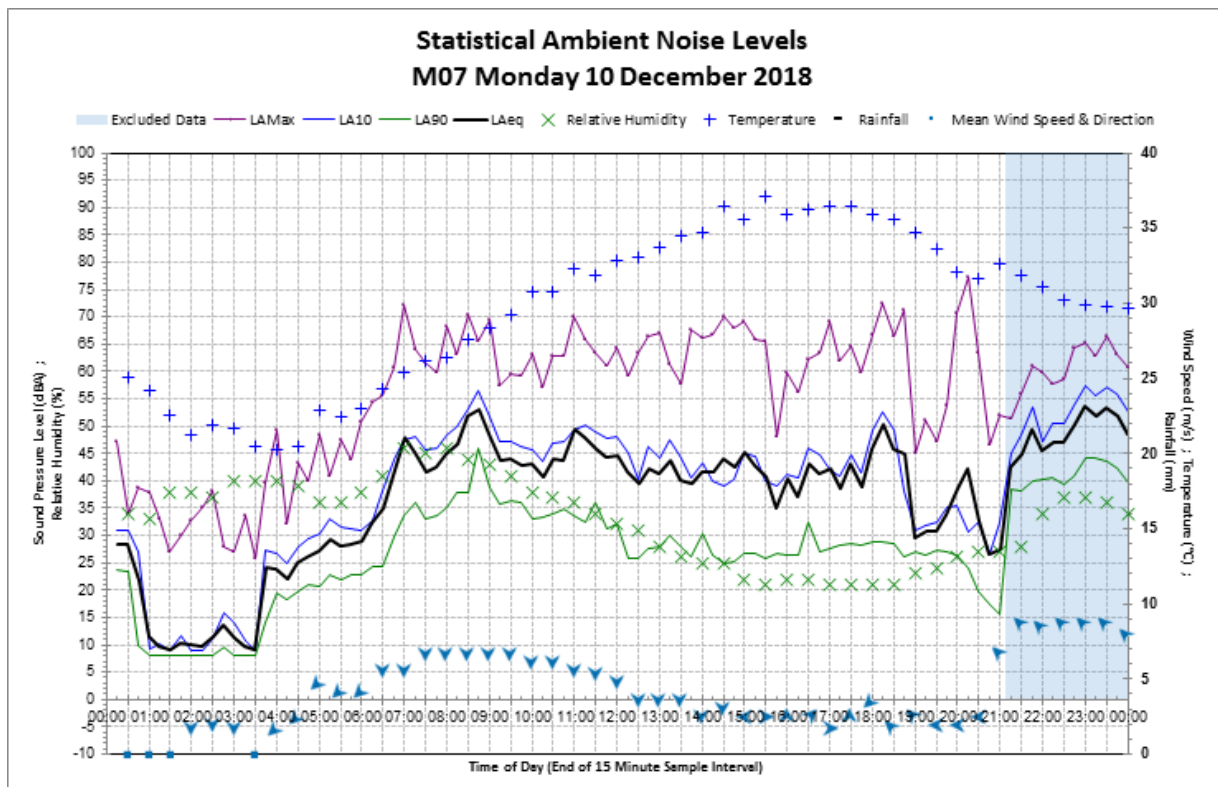
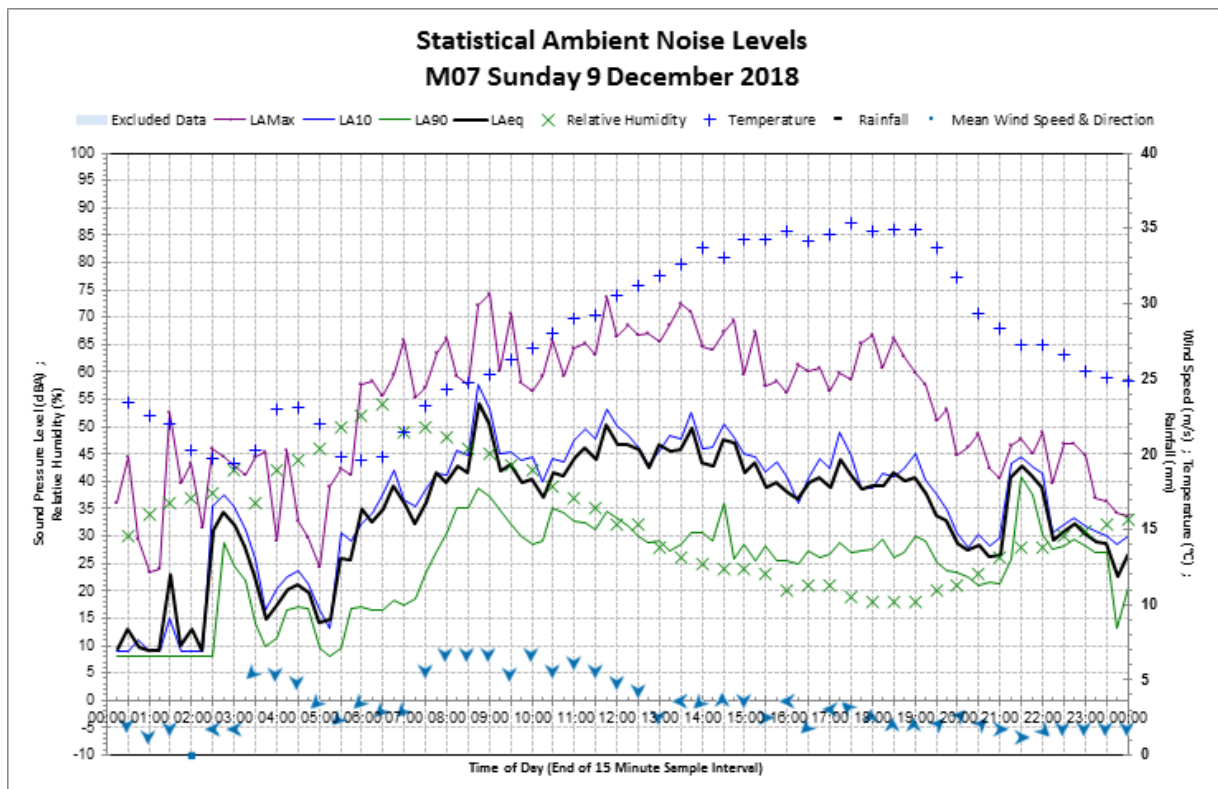




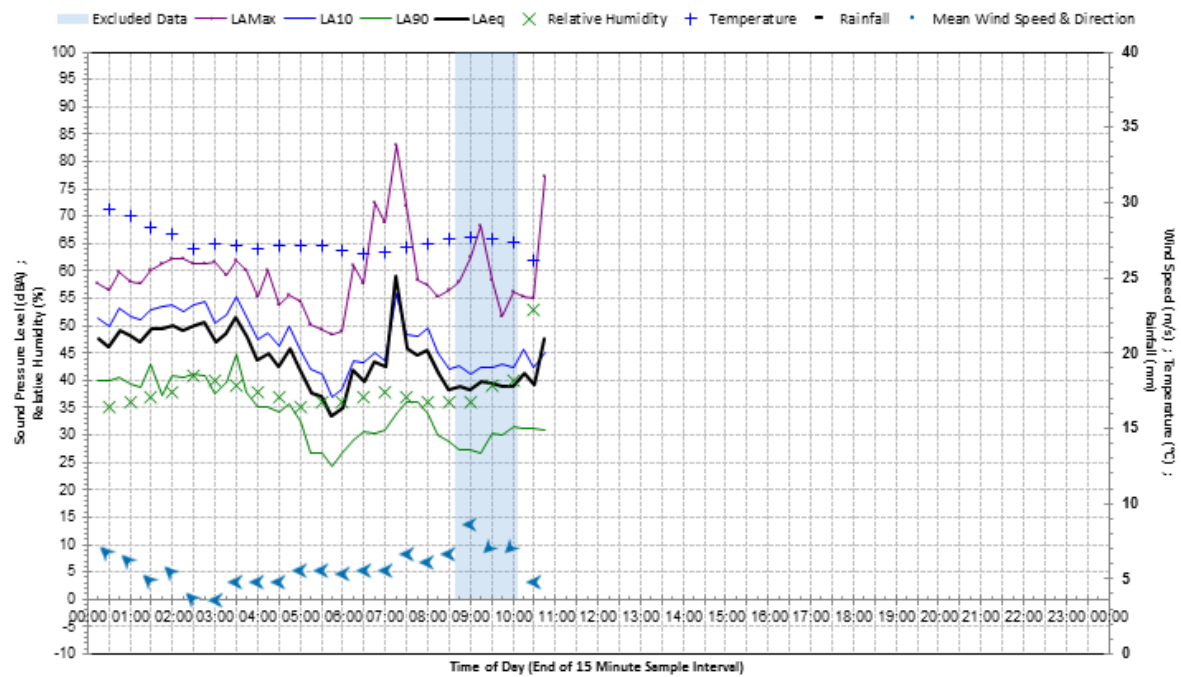




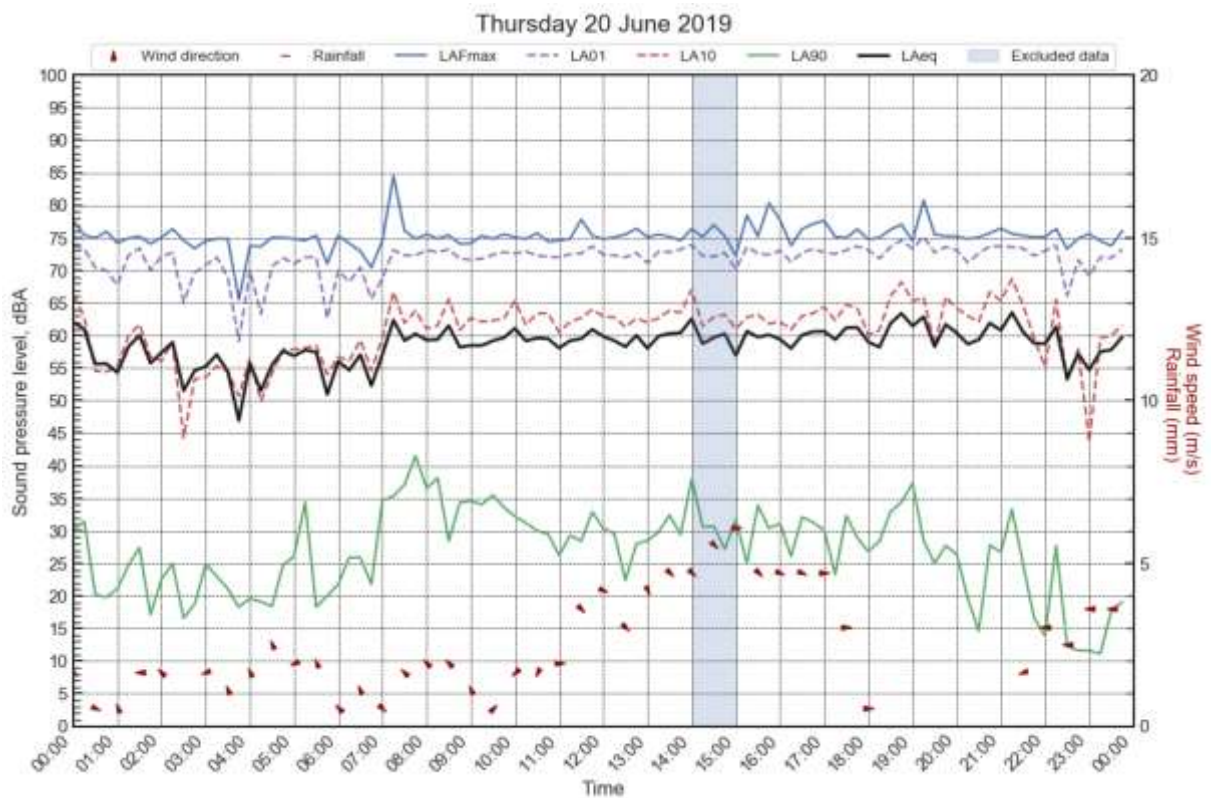
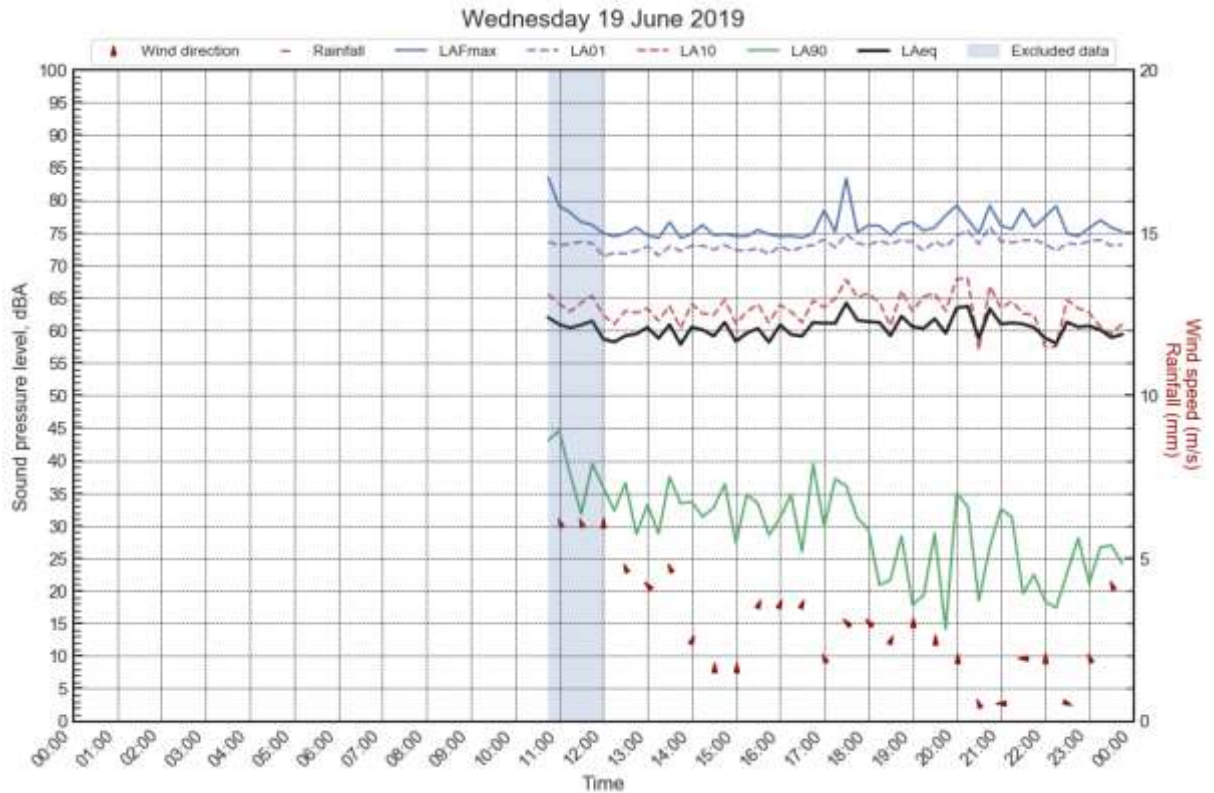




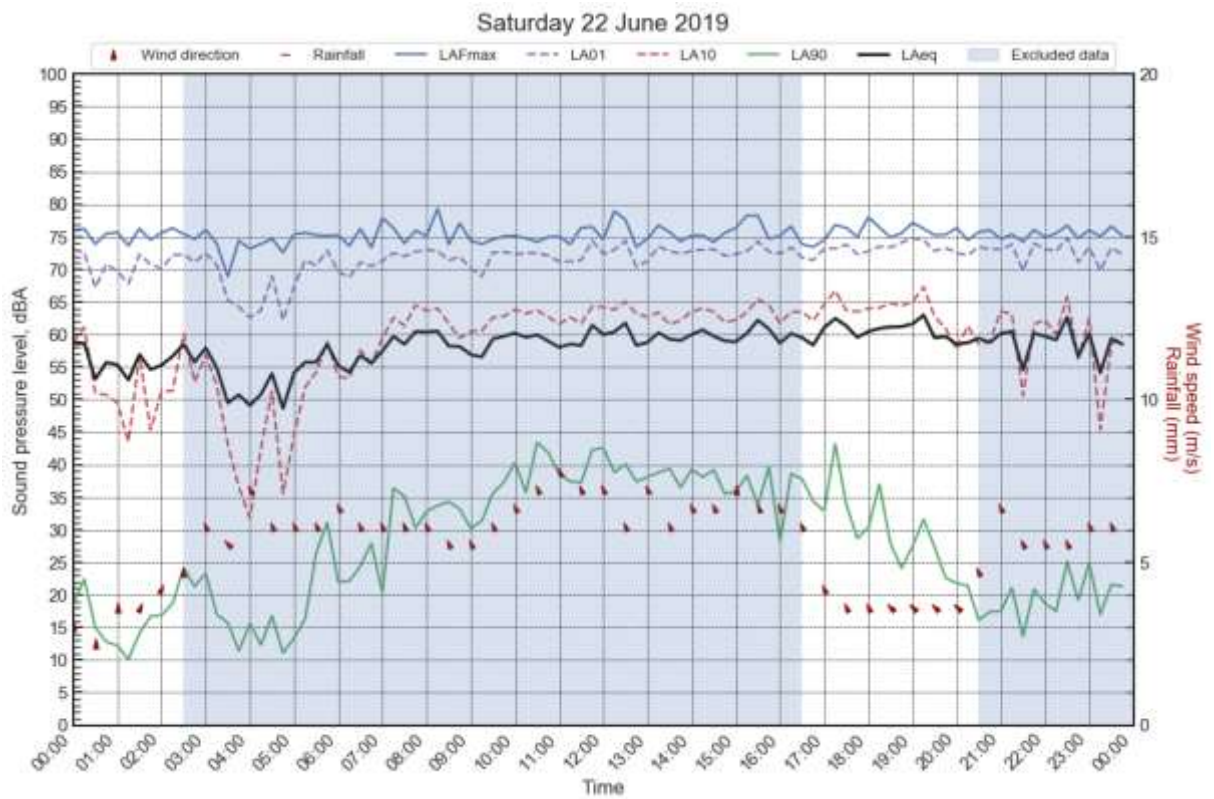
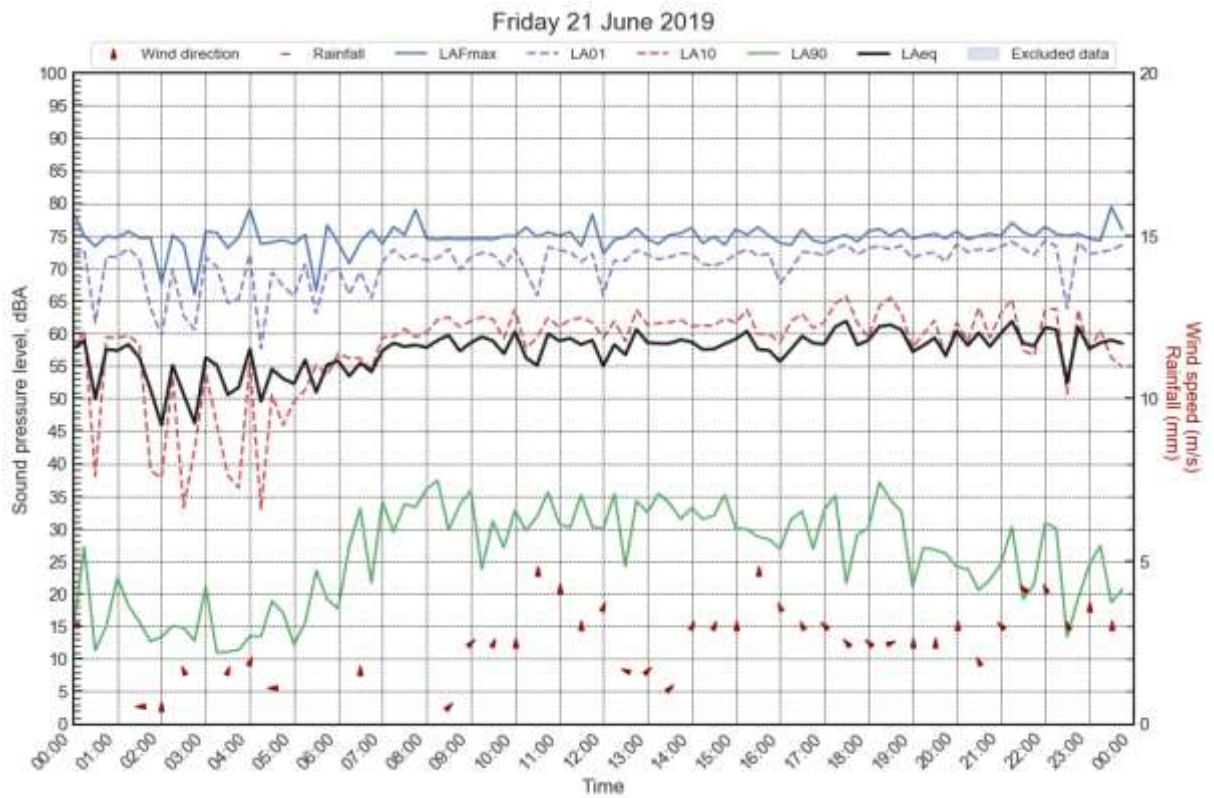
## Statistical Ambient Noise Levels M07 Tuesday 11 December 2018

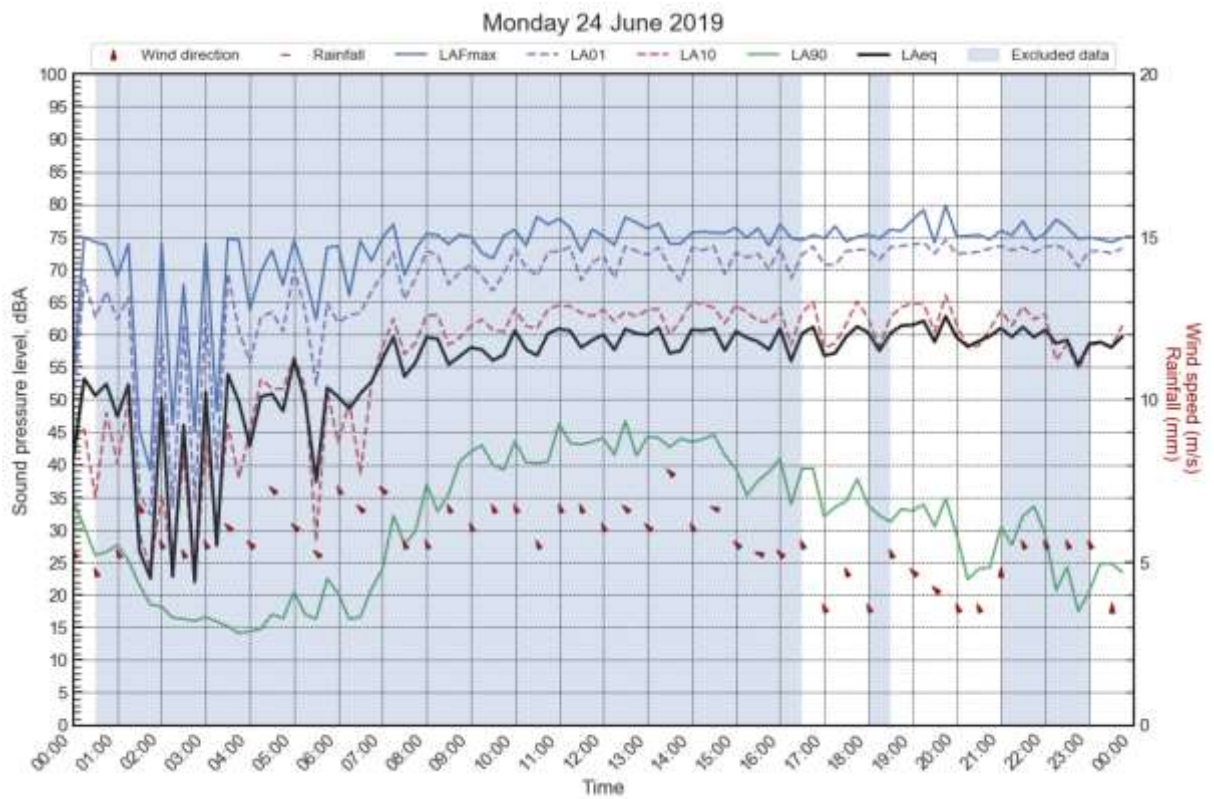
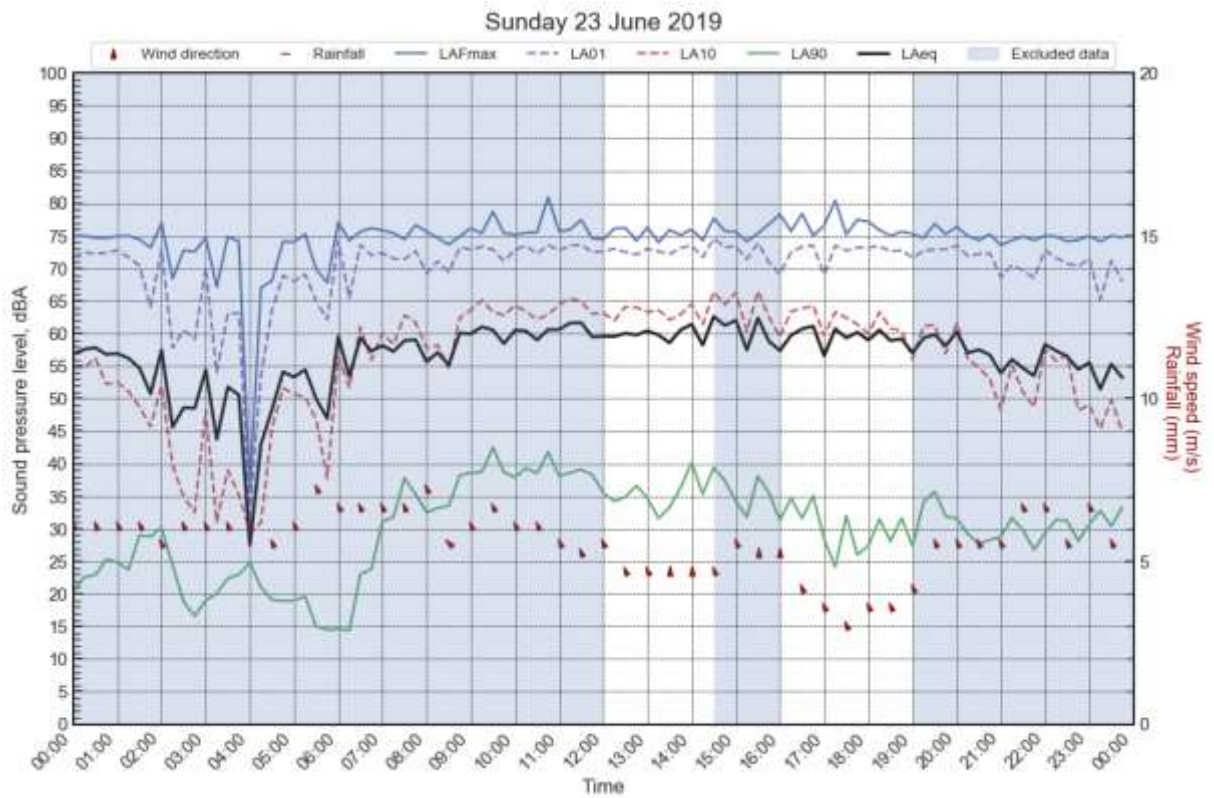


## Monitoring location M08 – 9833 Newell Highway, Bohena Creek

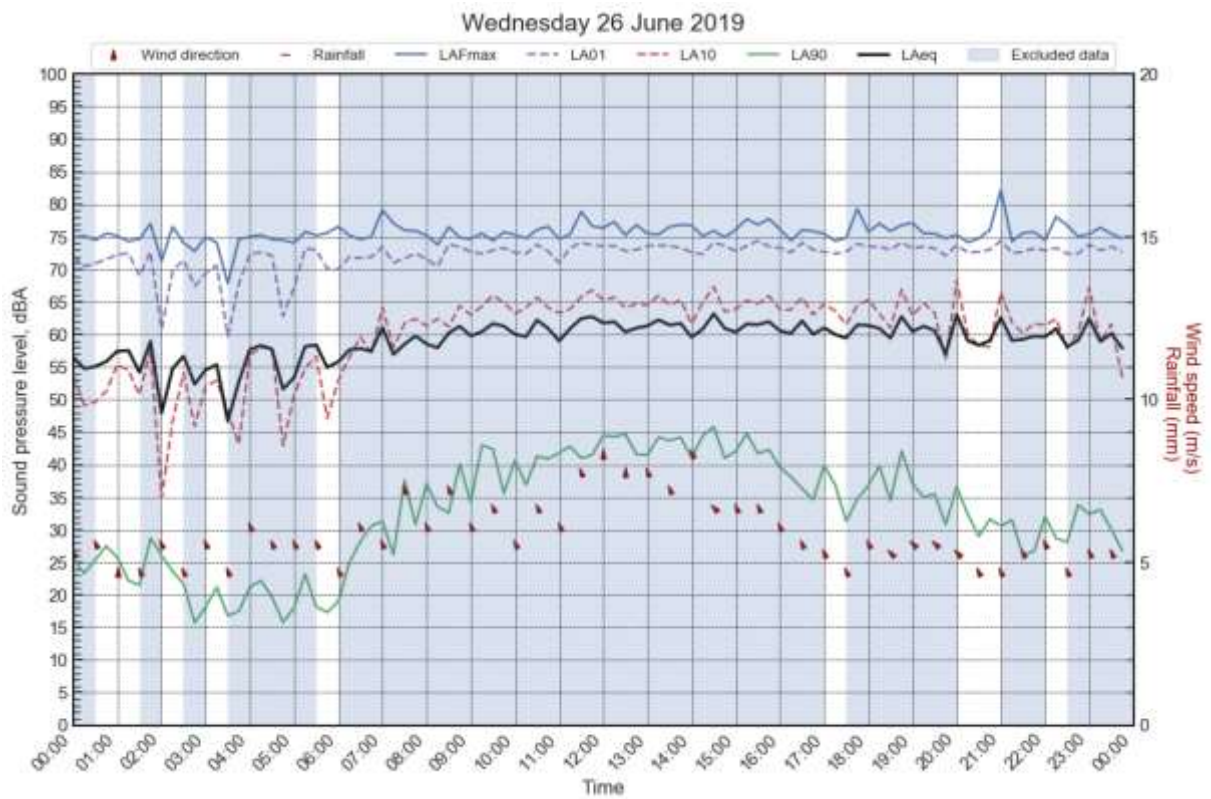
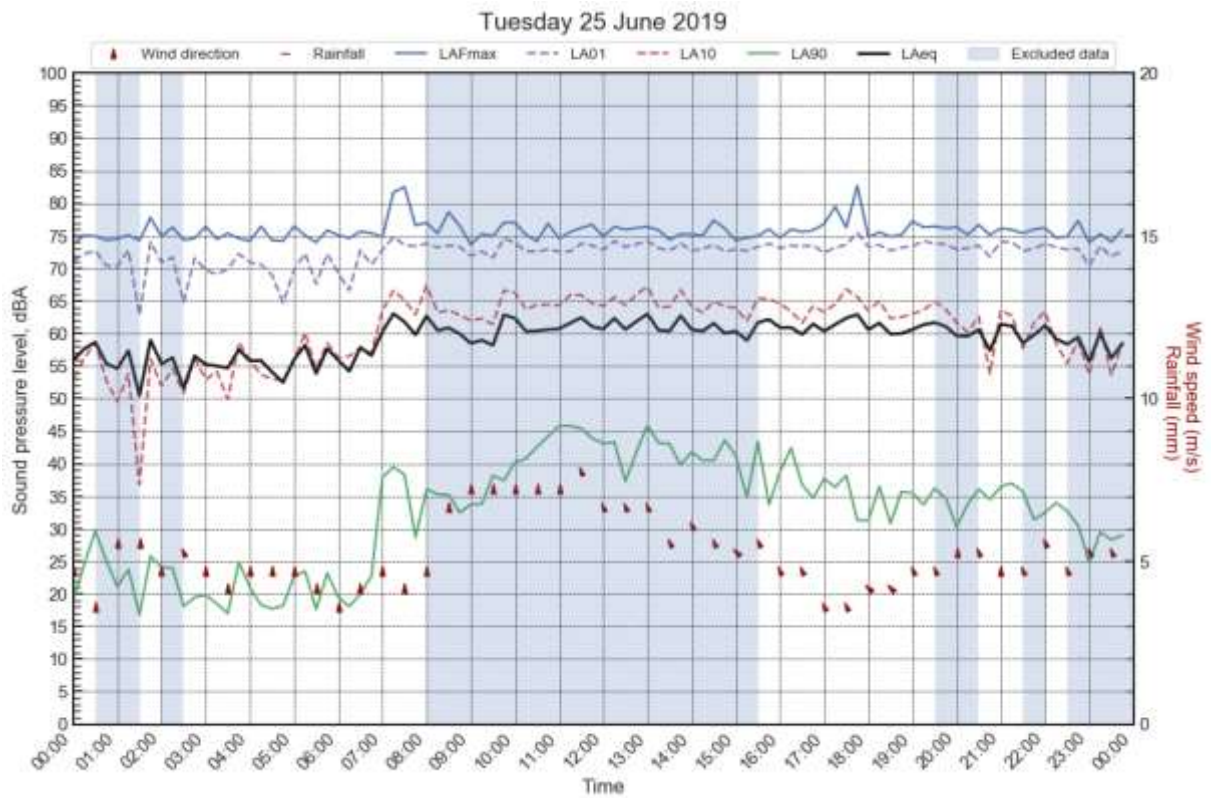


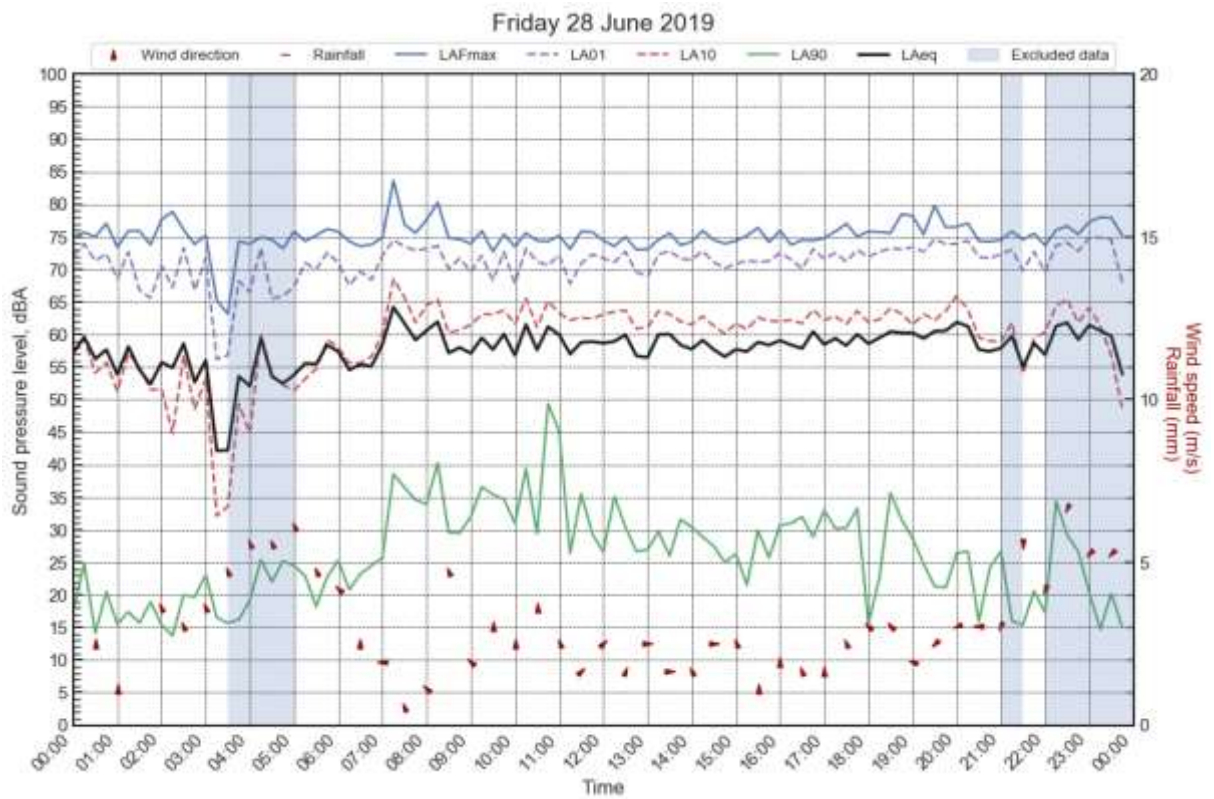
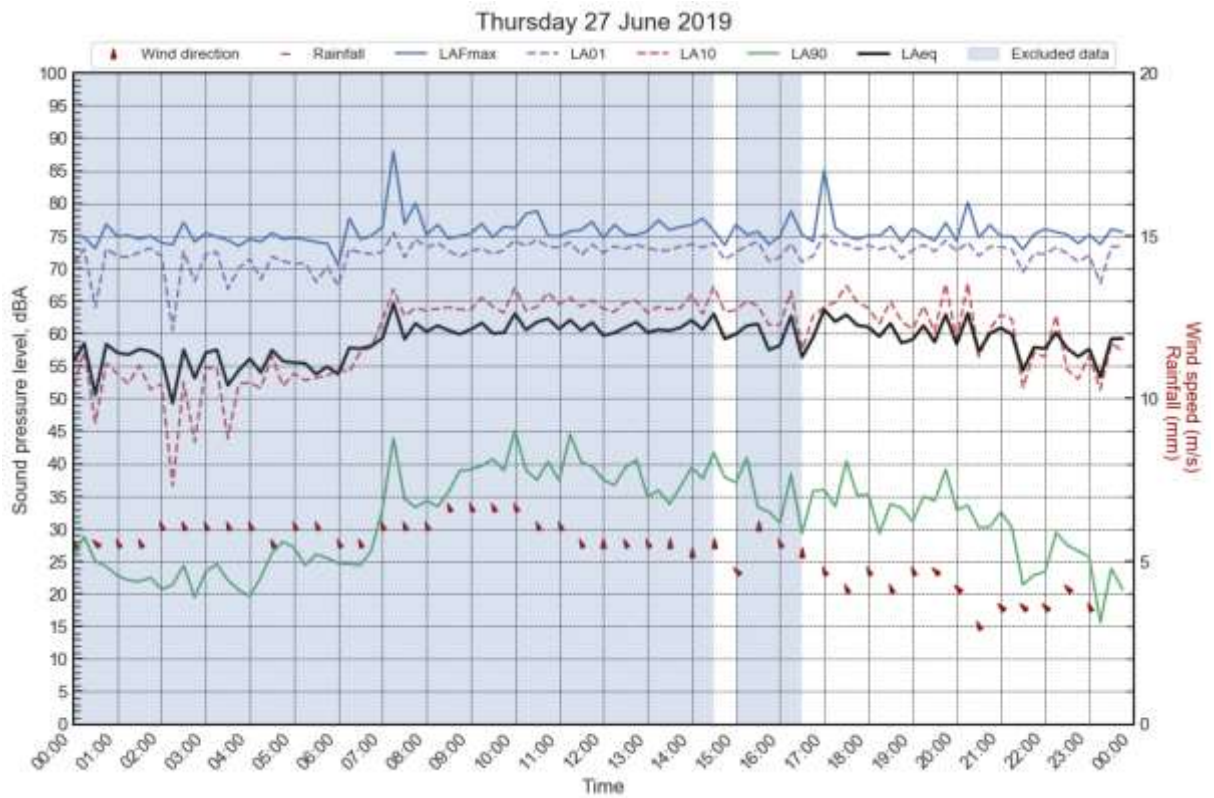




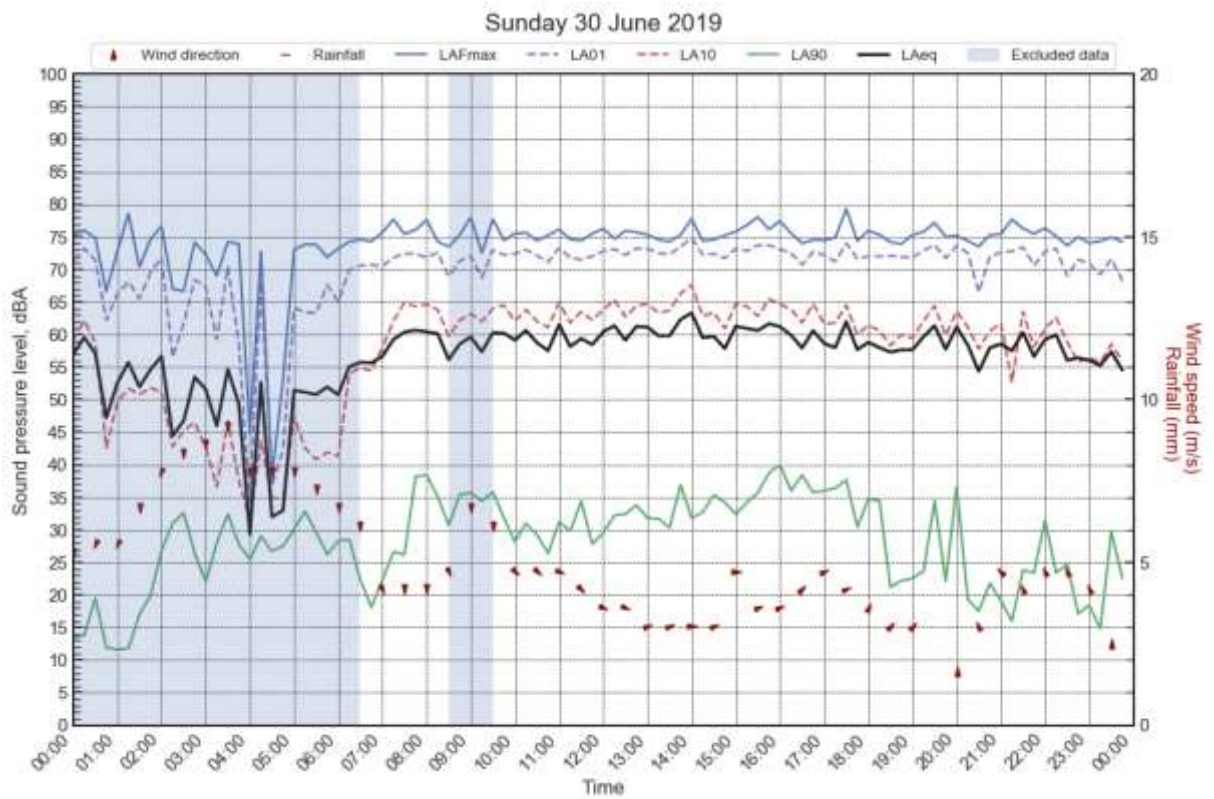
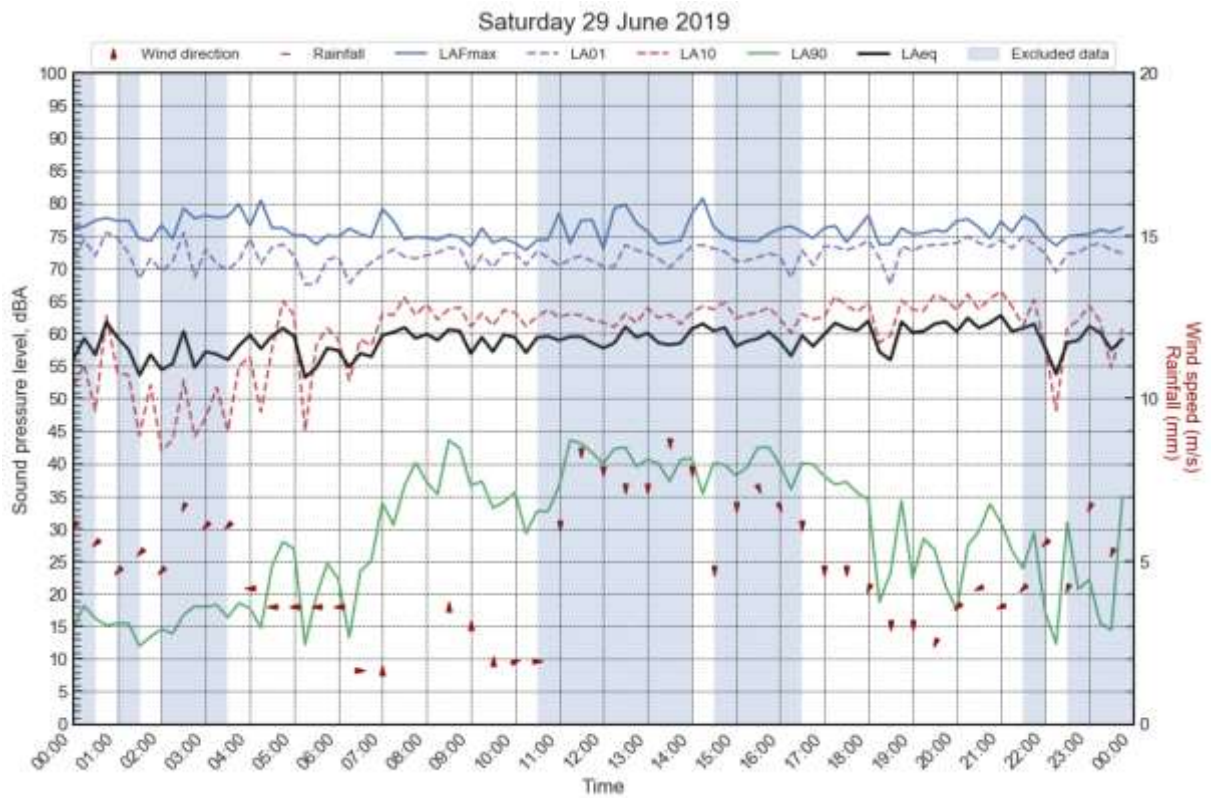


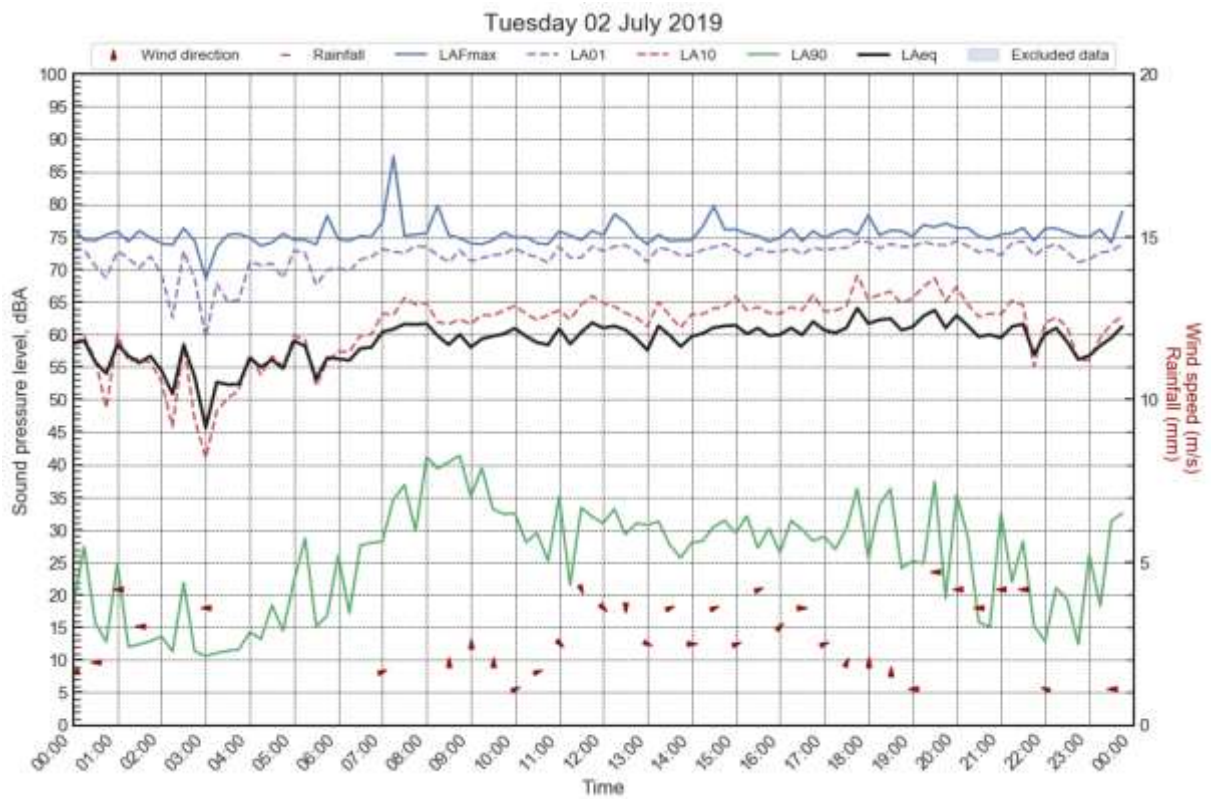
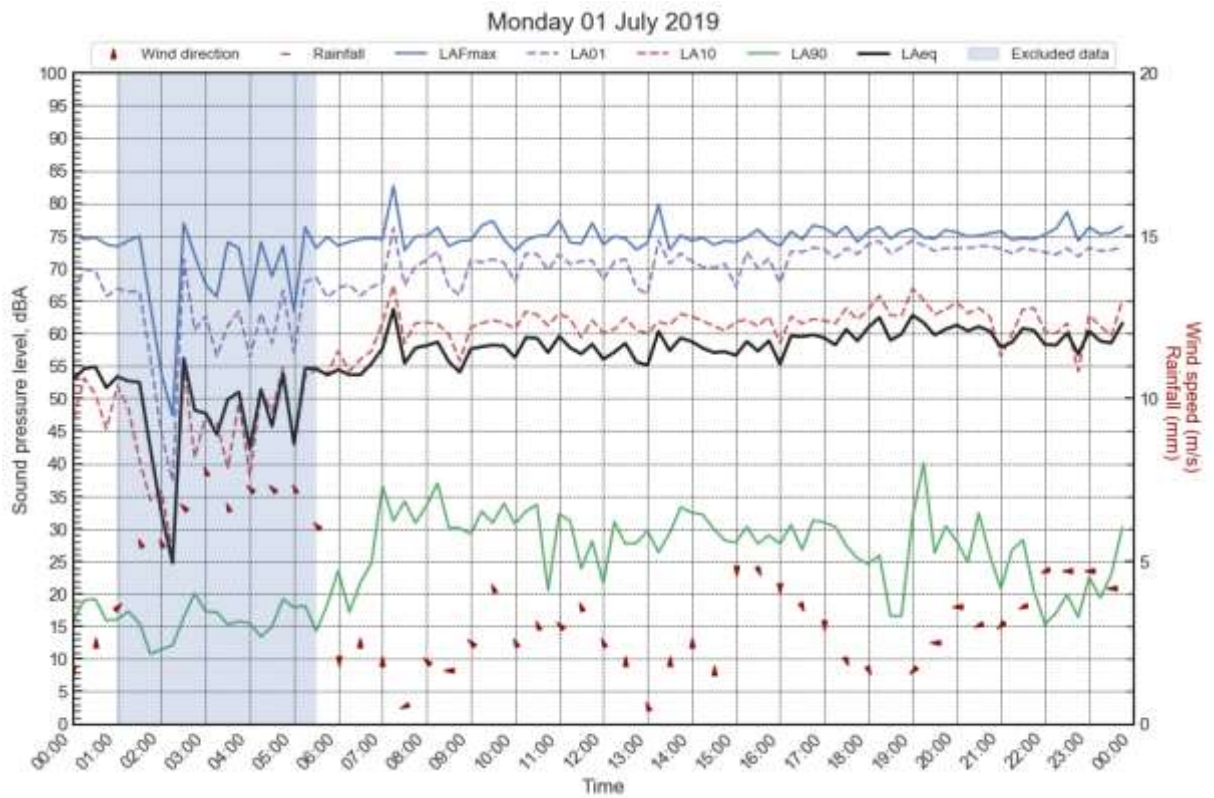


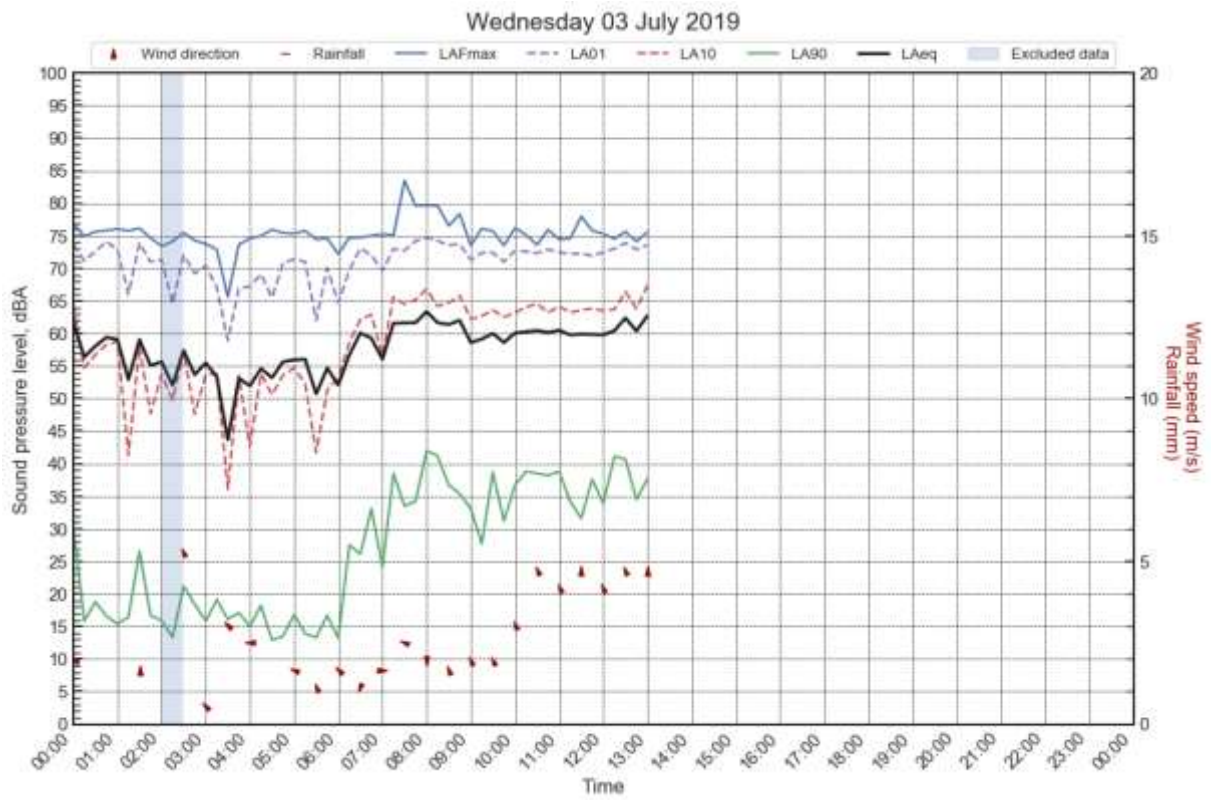






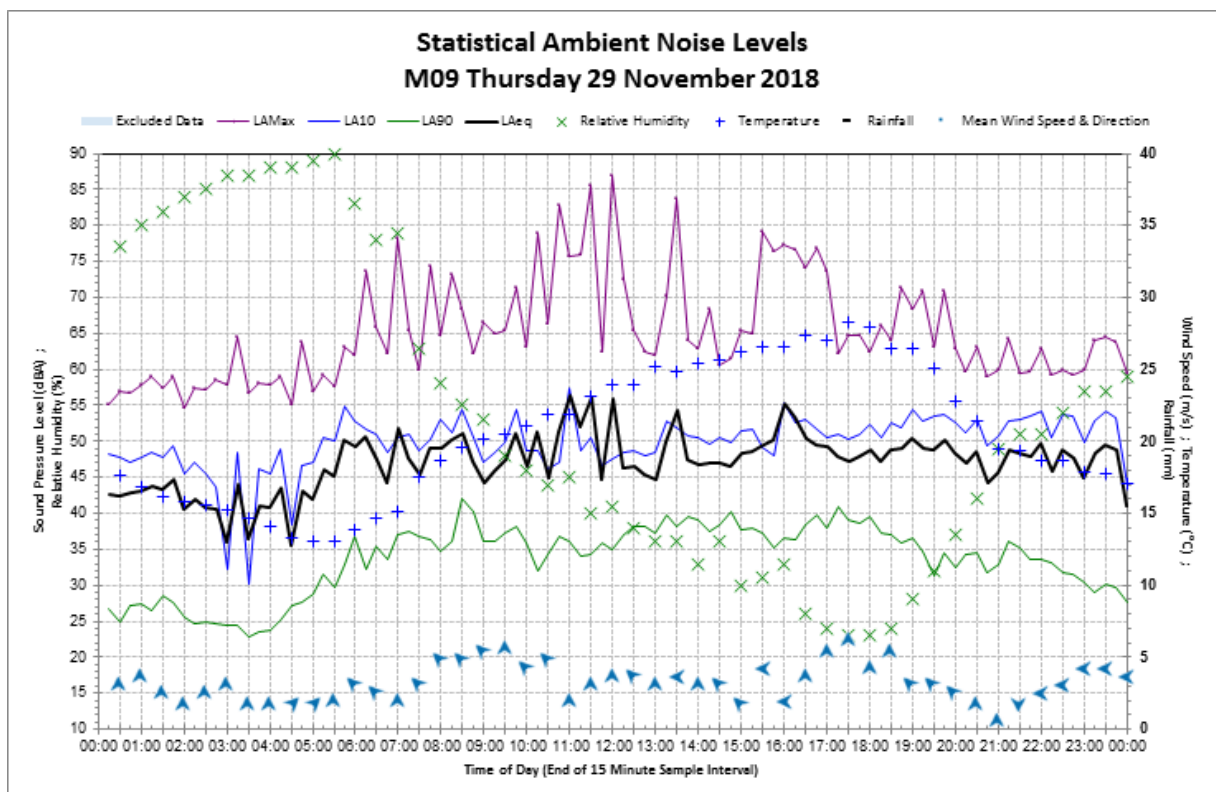
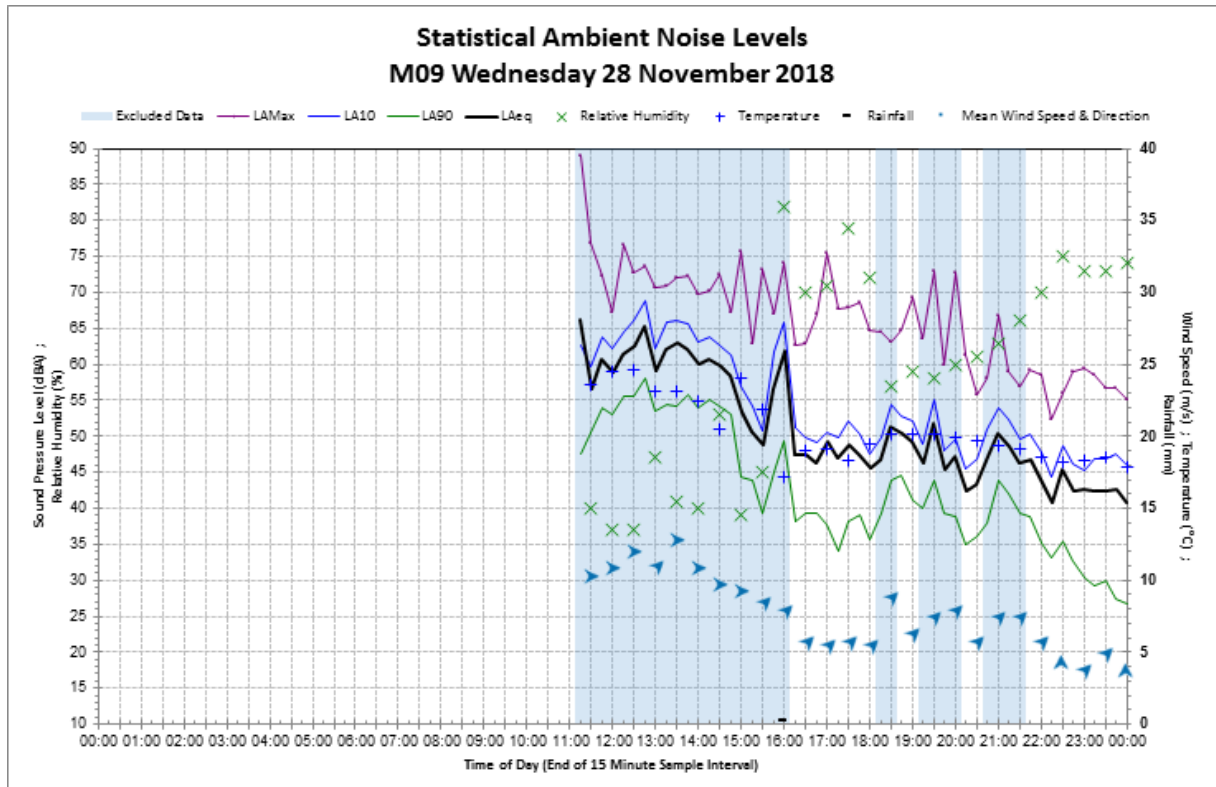


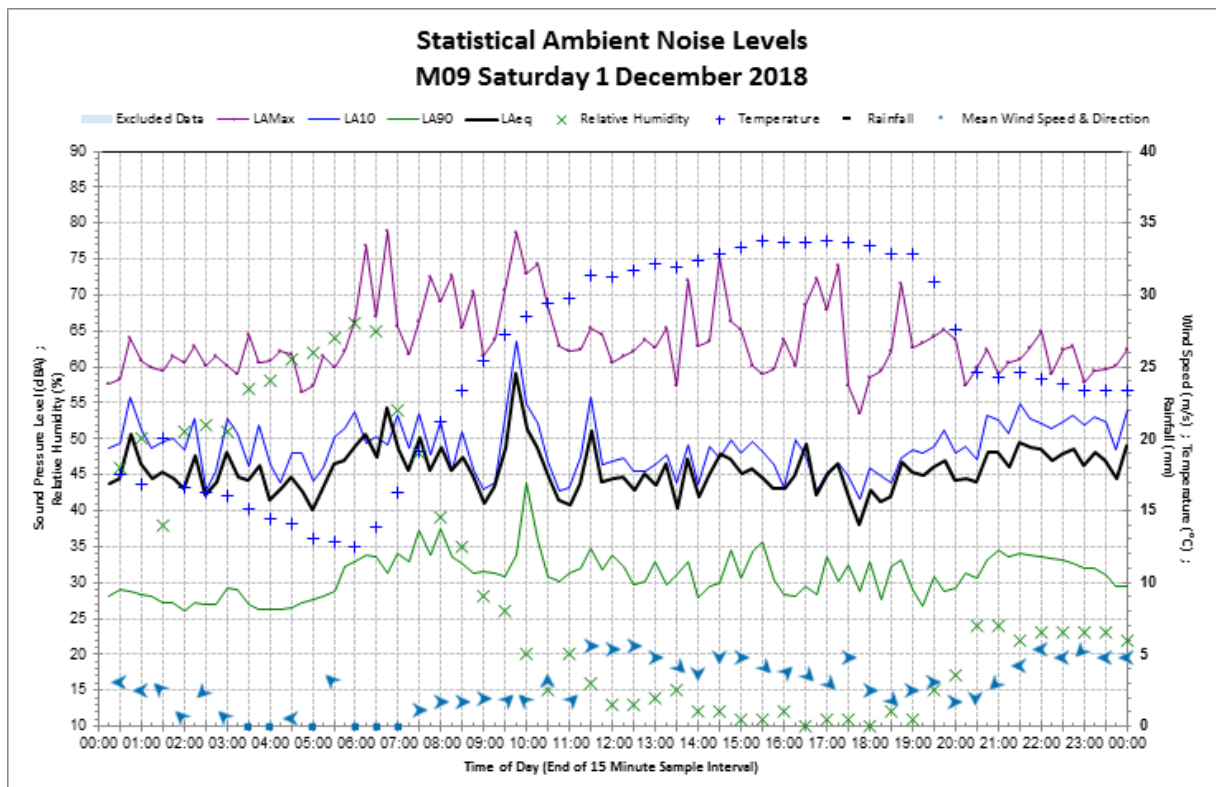
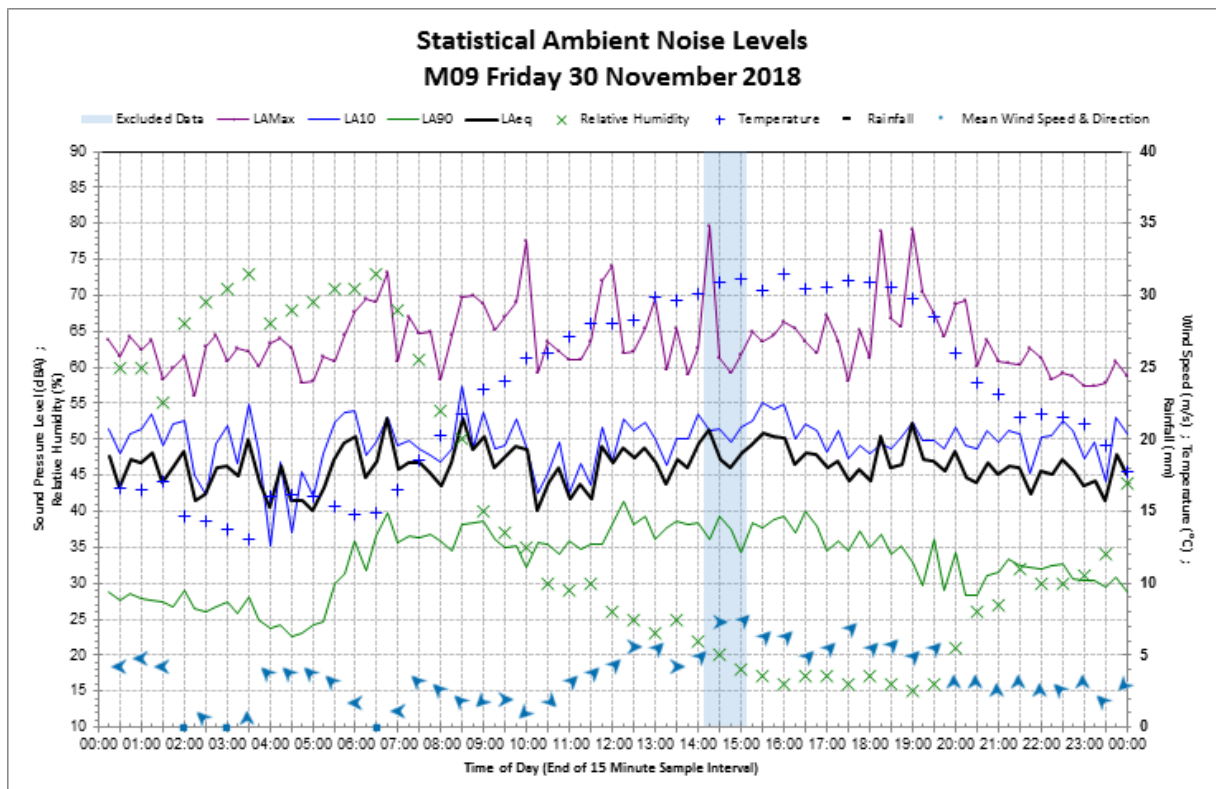


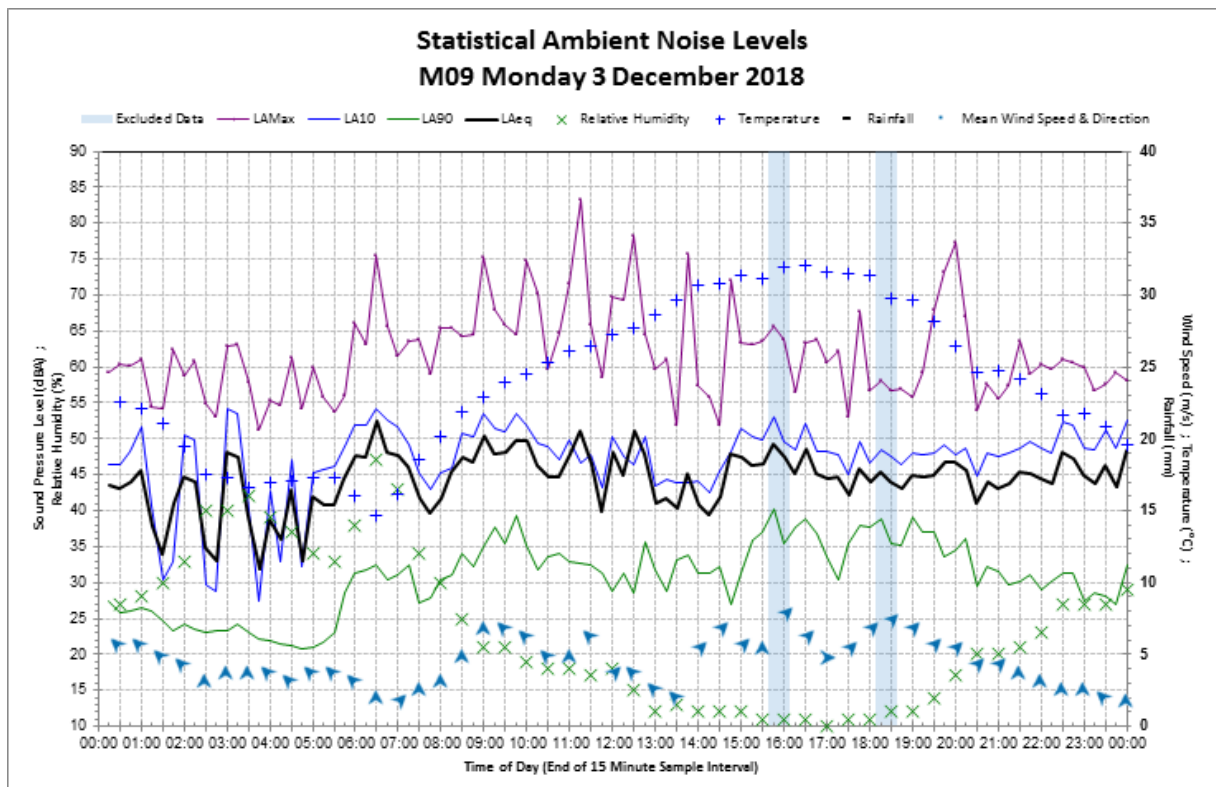
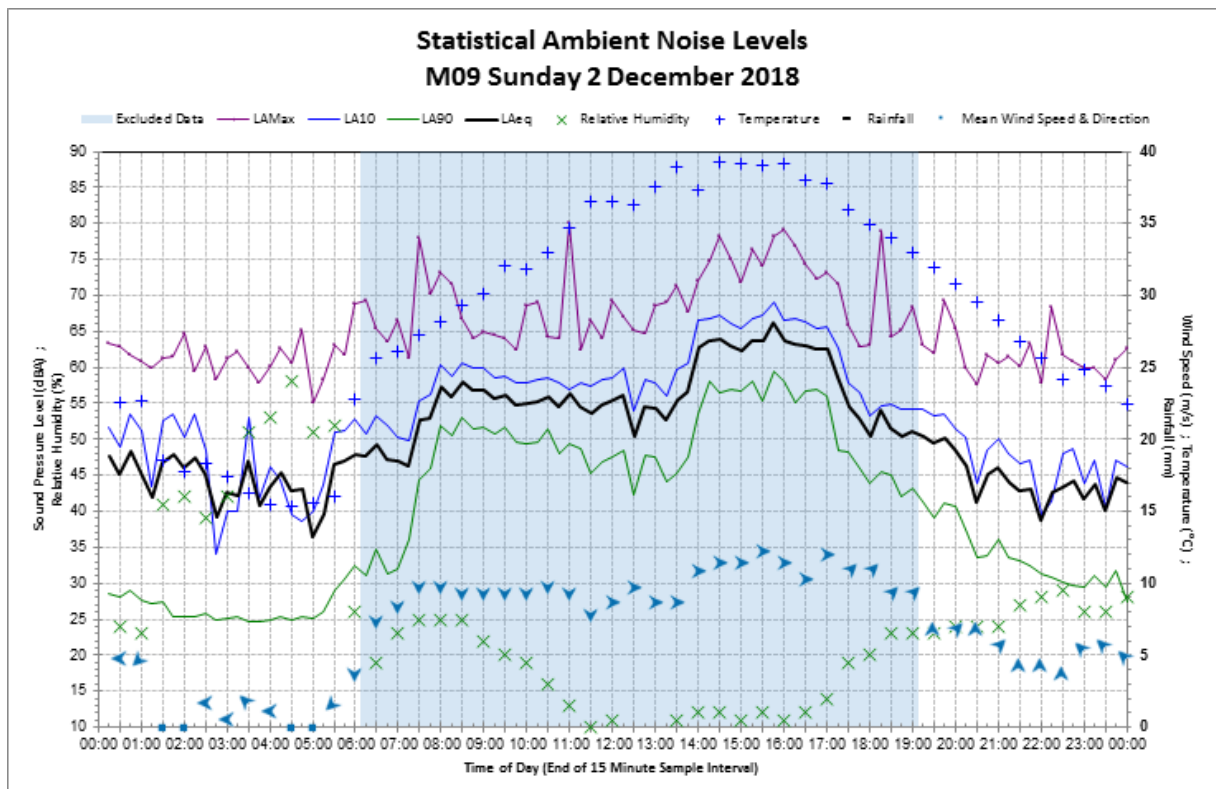


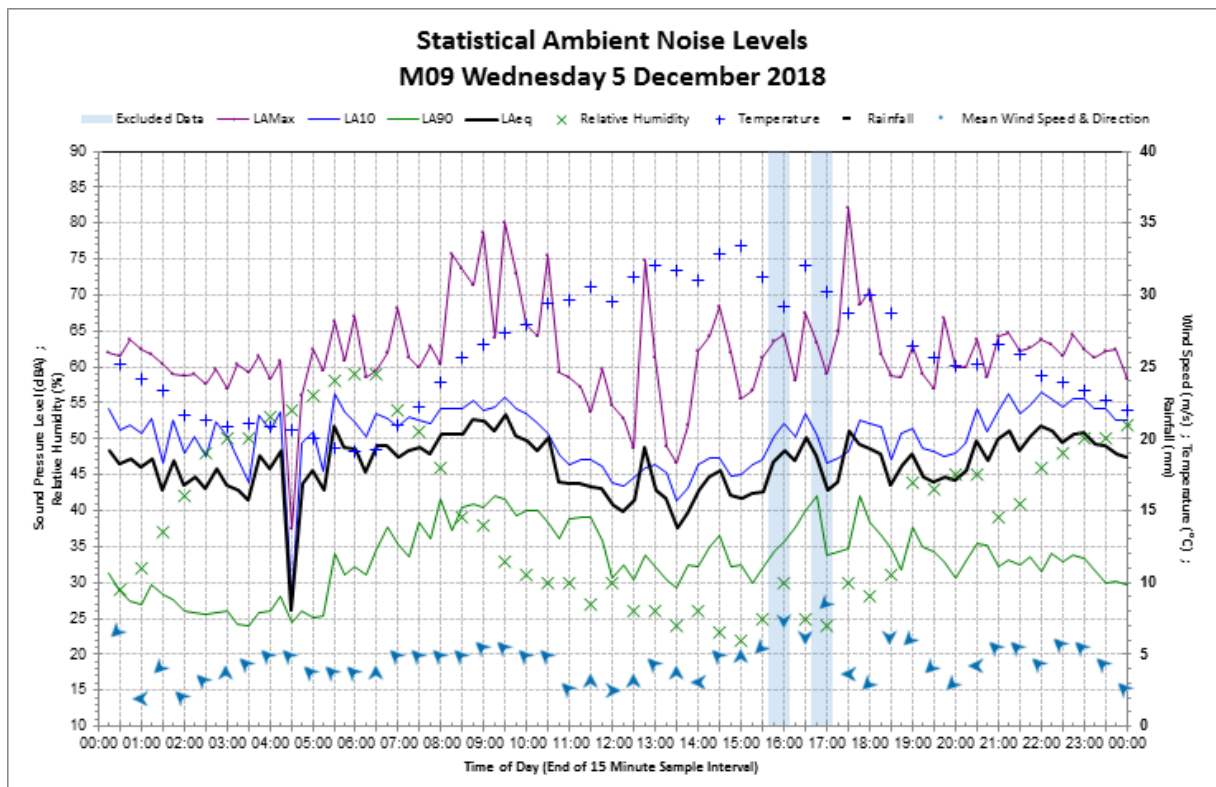
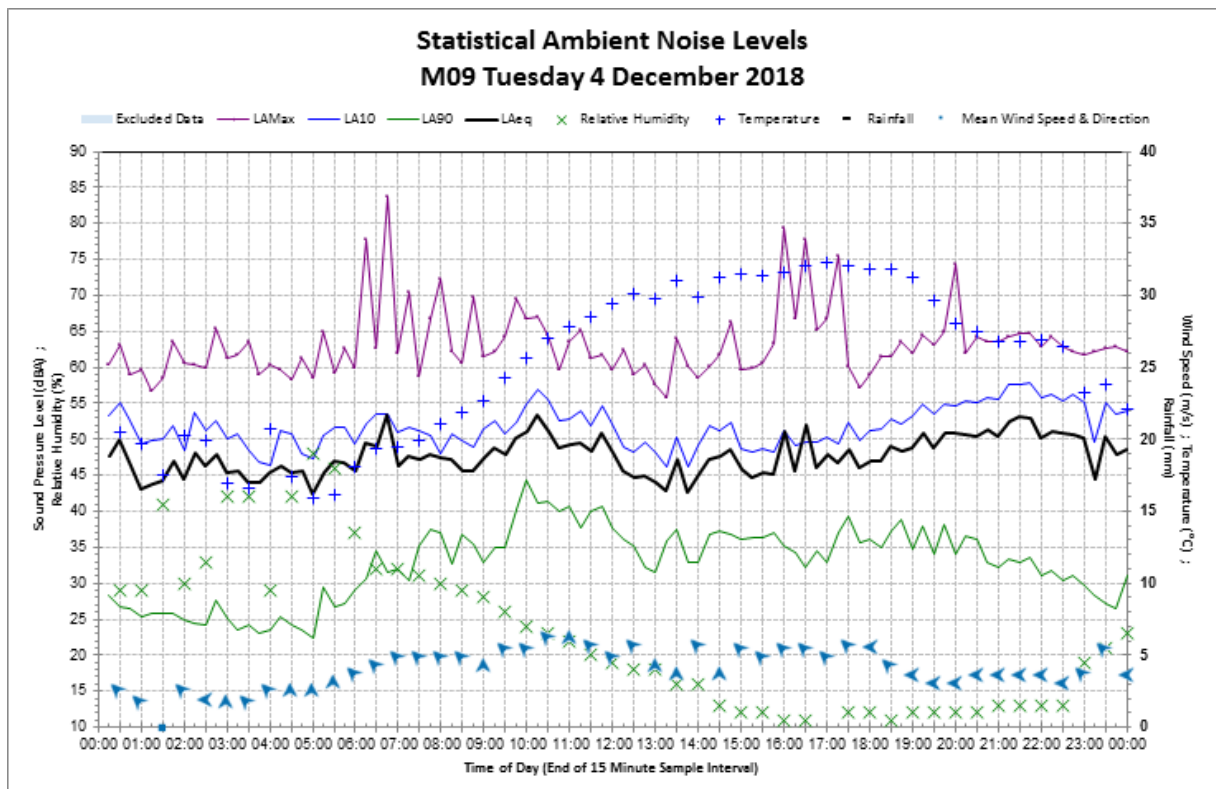


## Monitoring location M09 – 265 Boundary Street, Narrabri

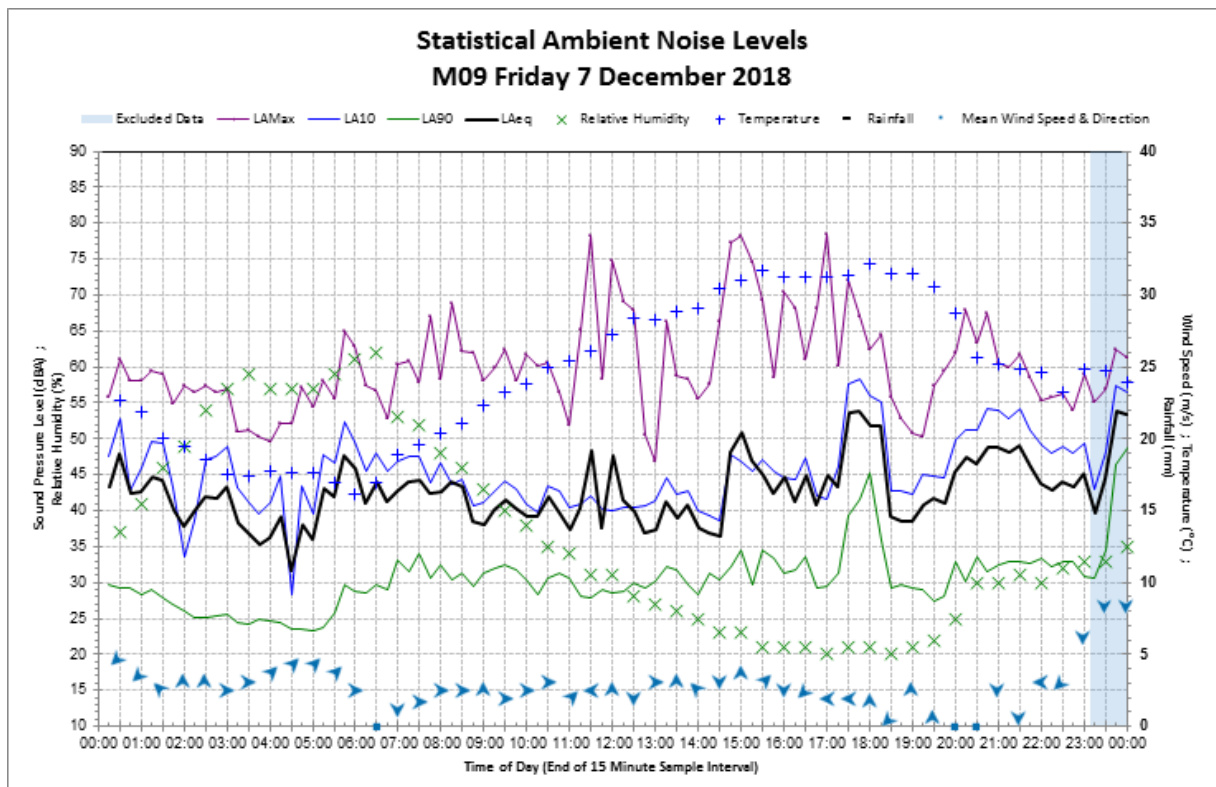
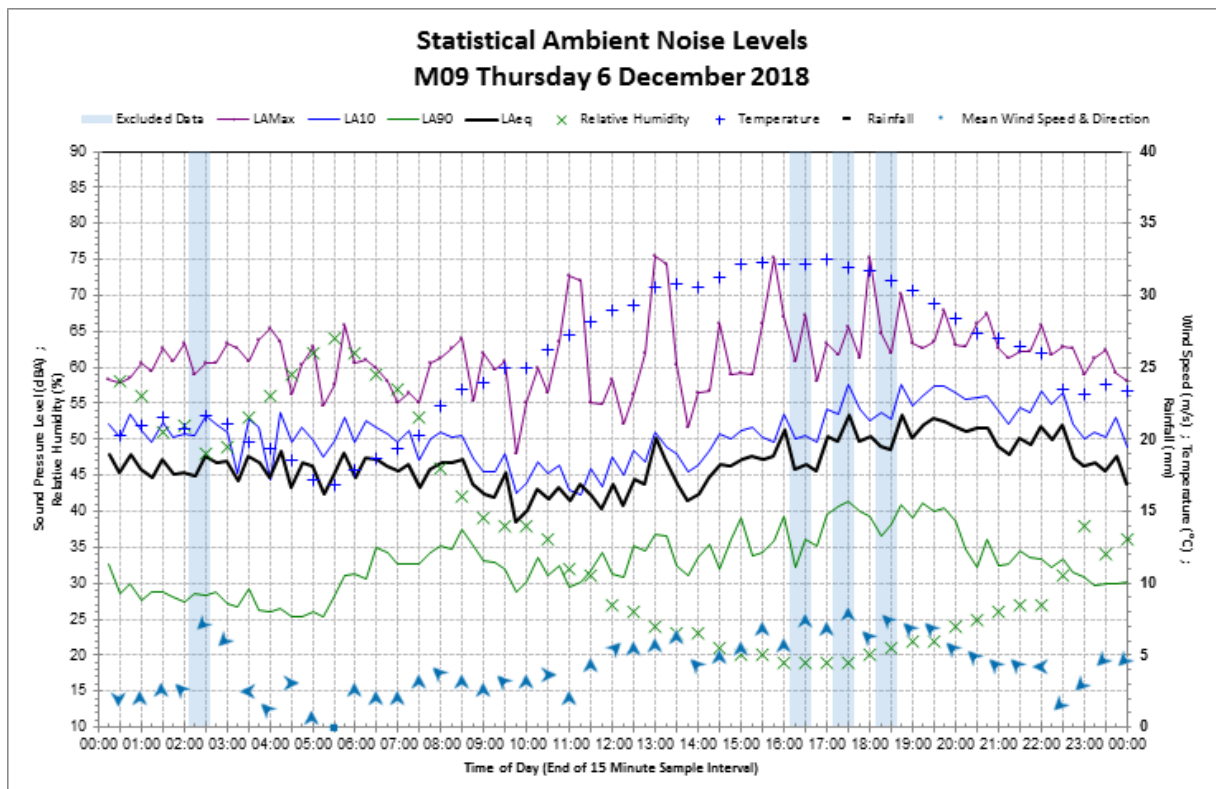




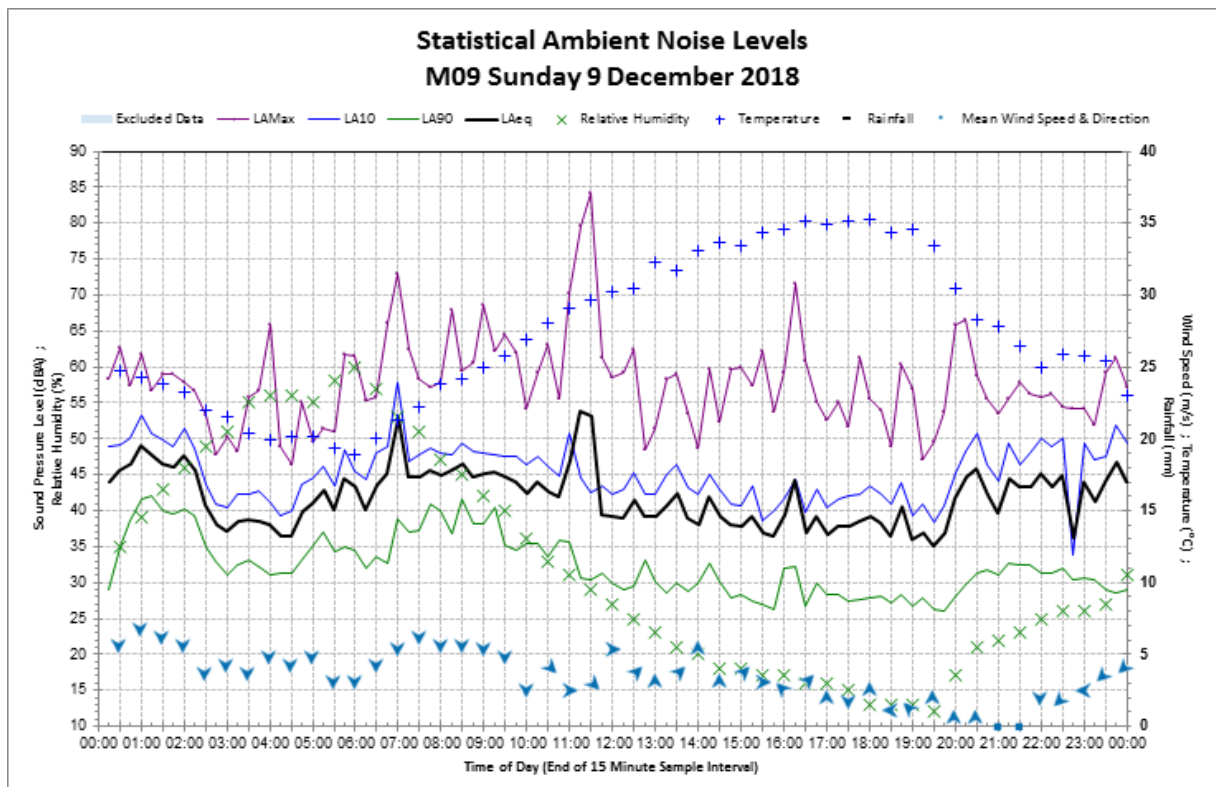
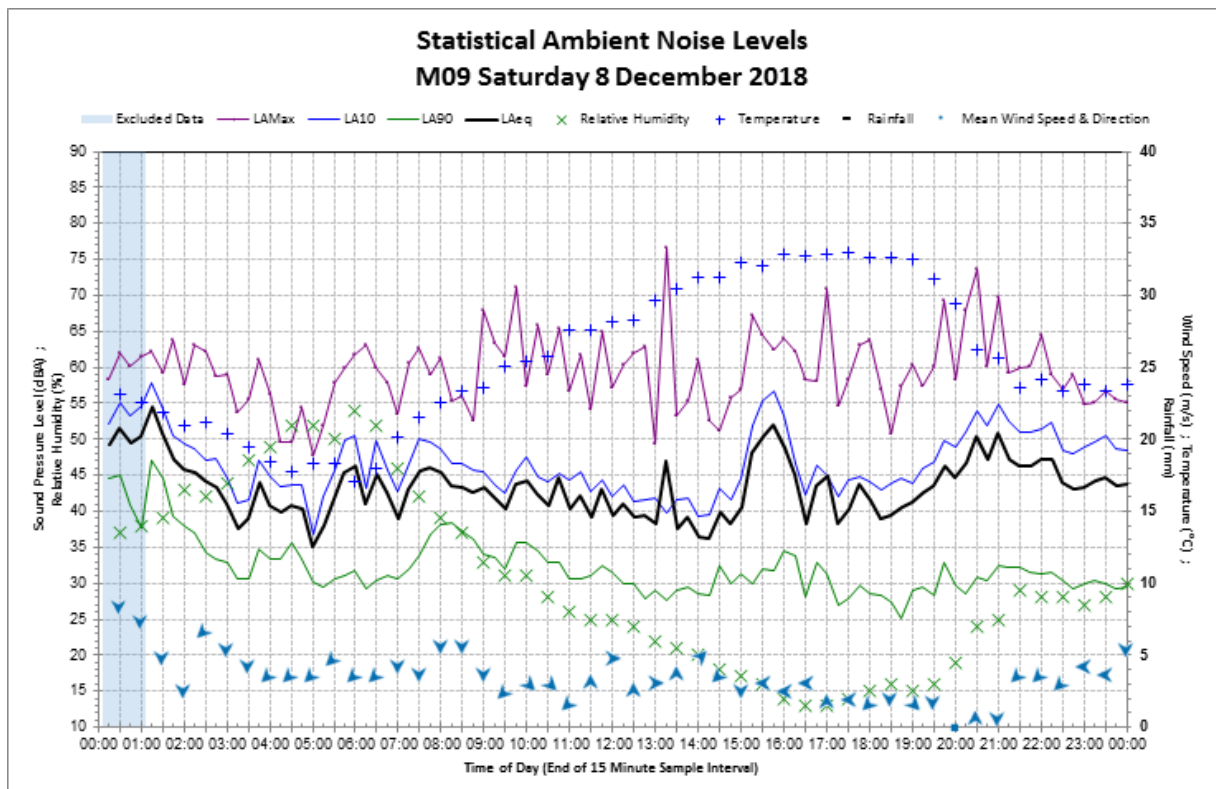


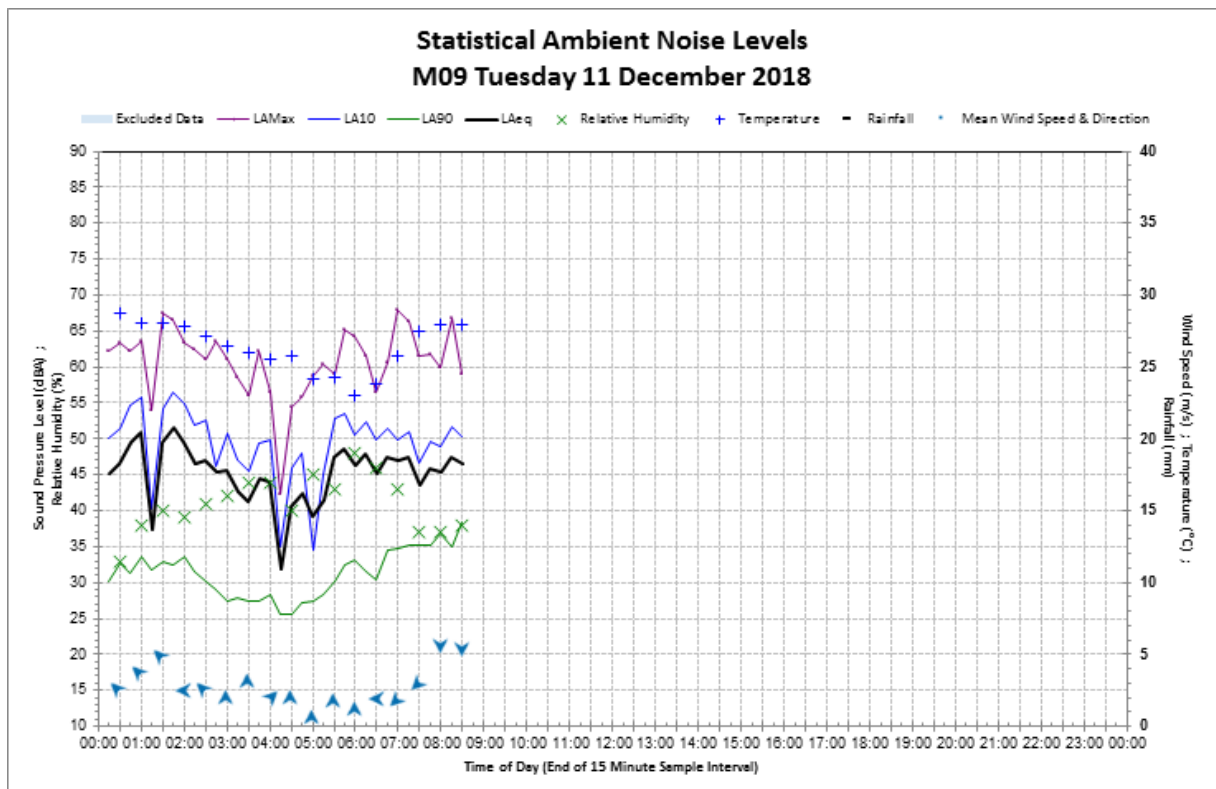
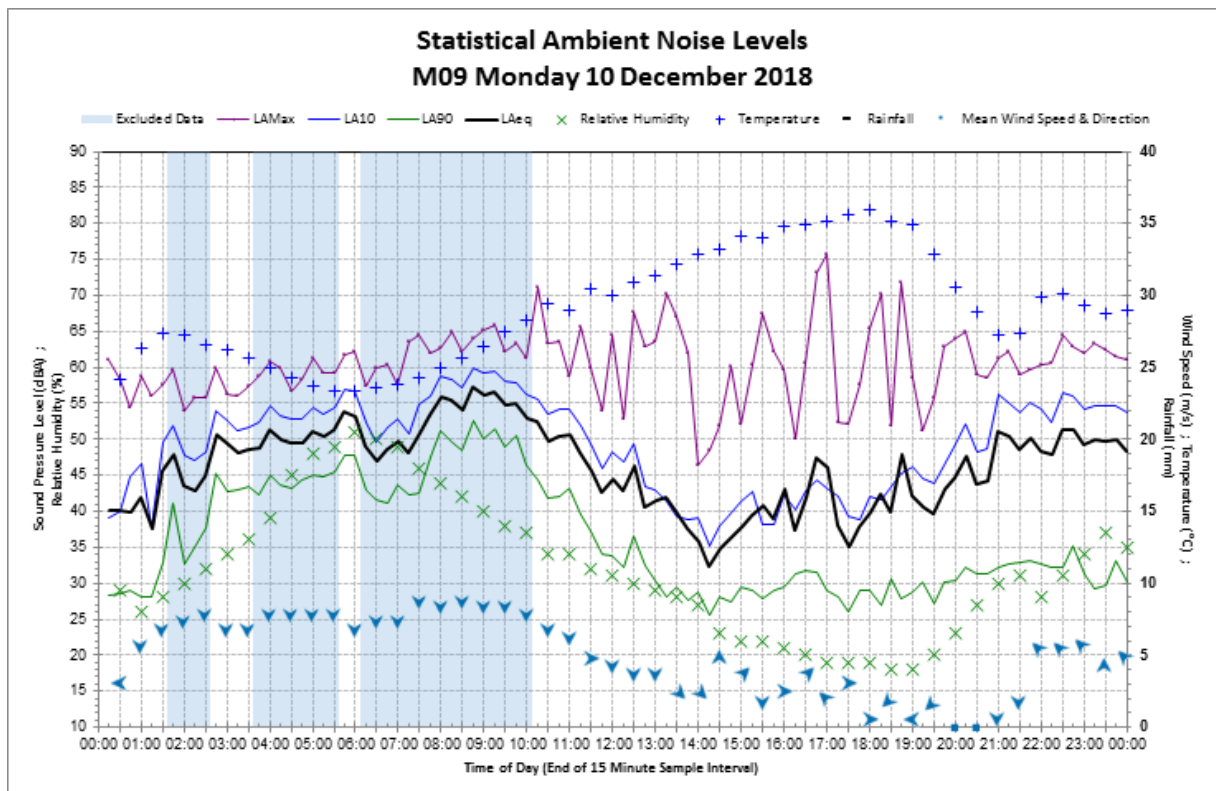




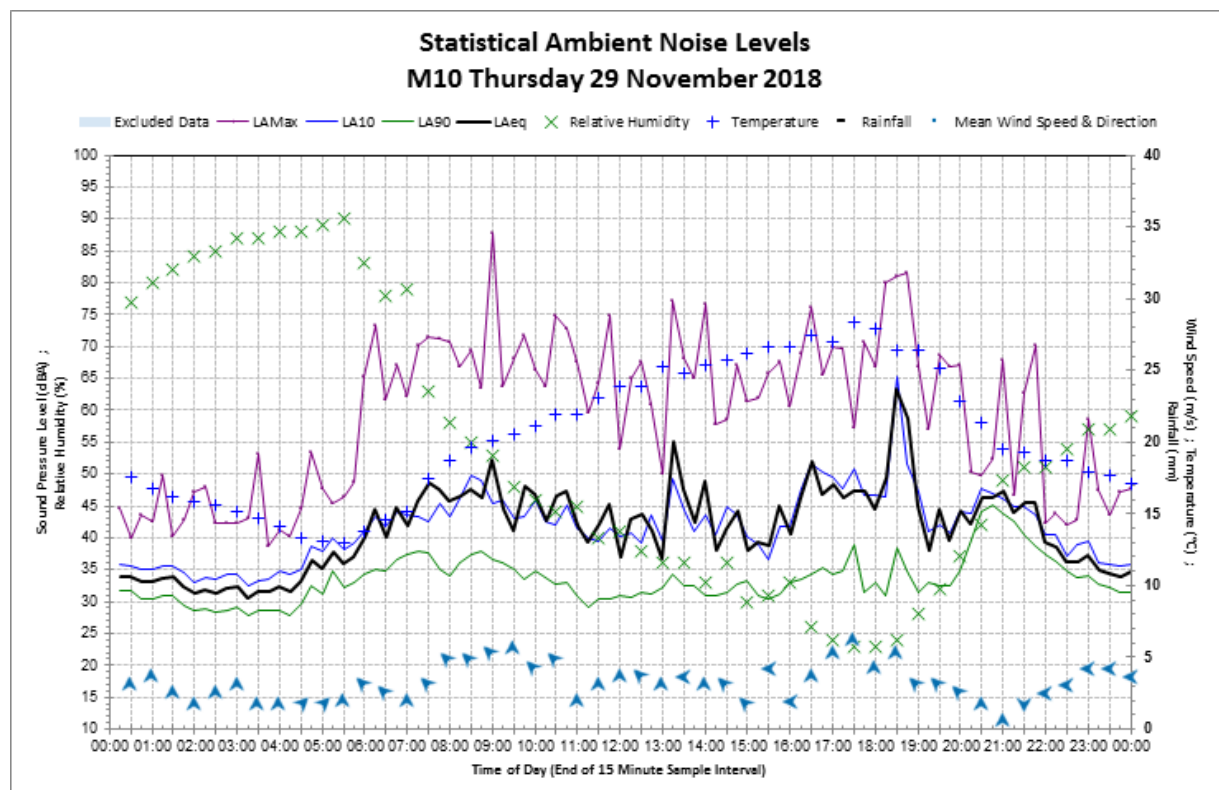
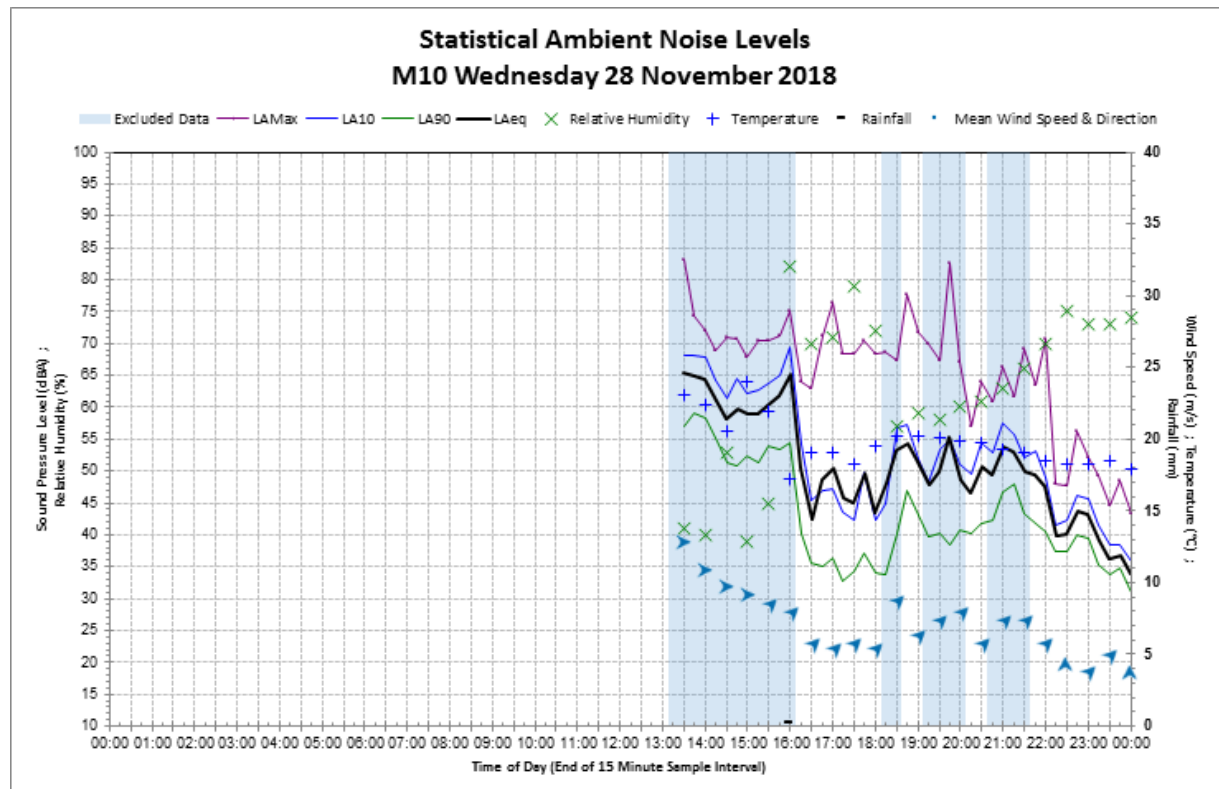


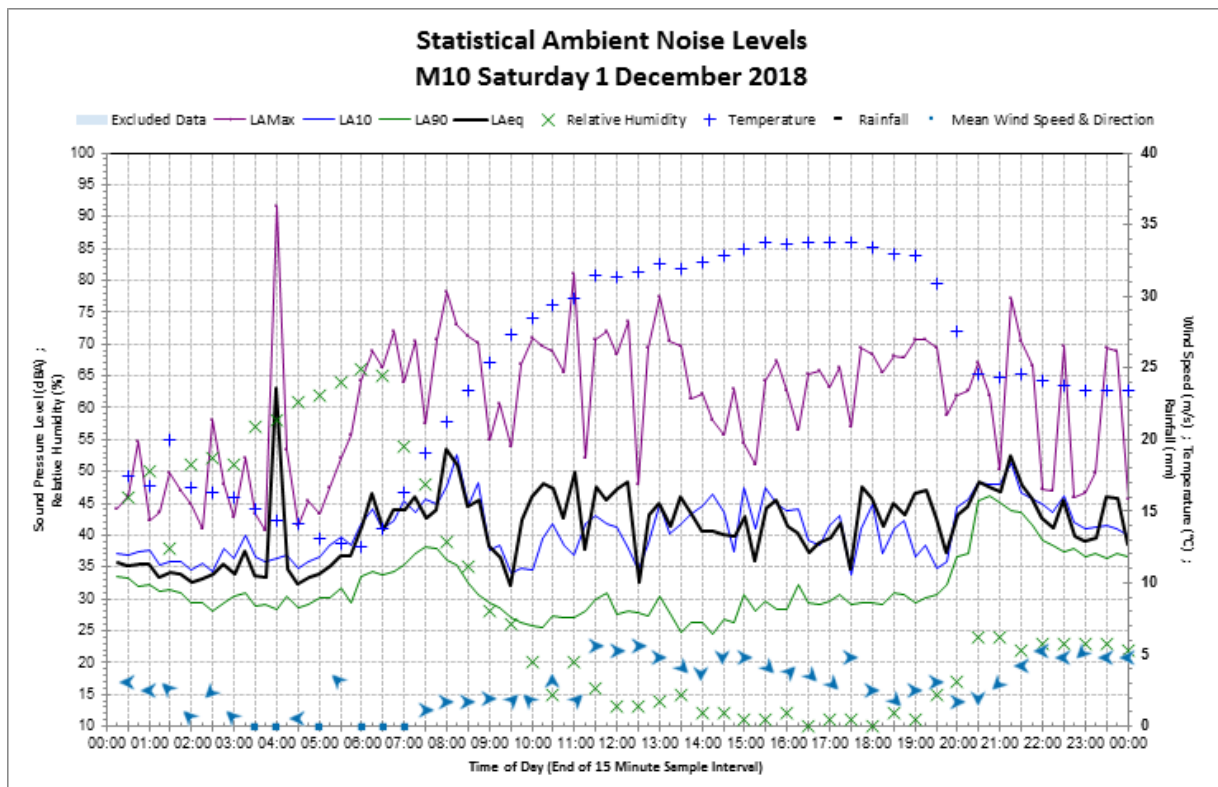
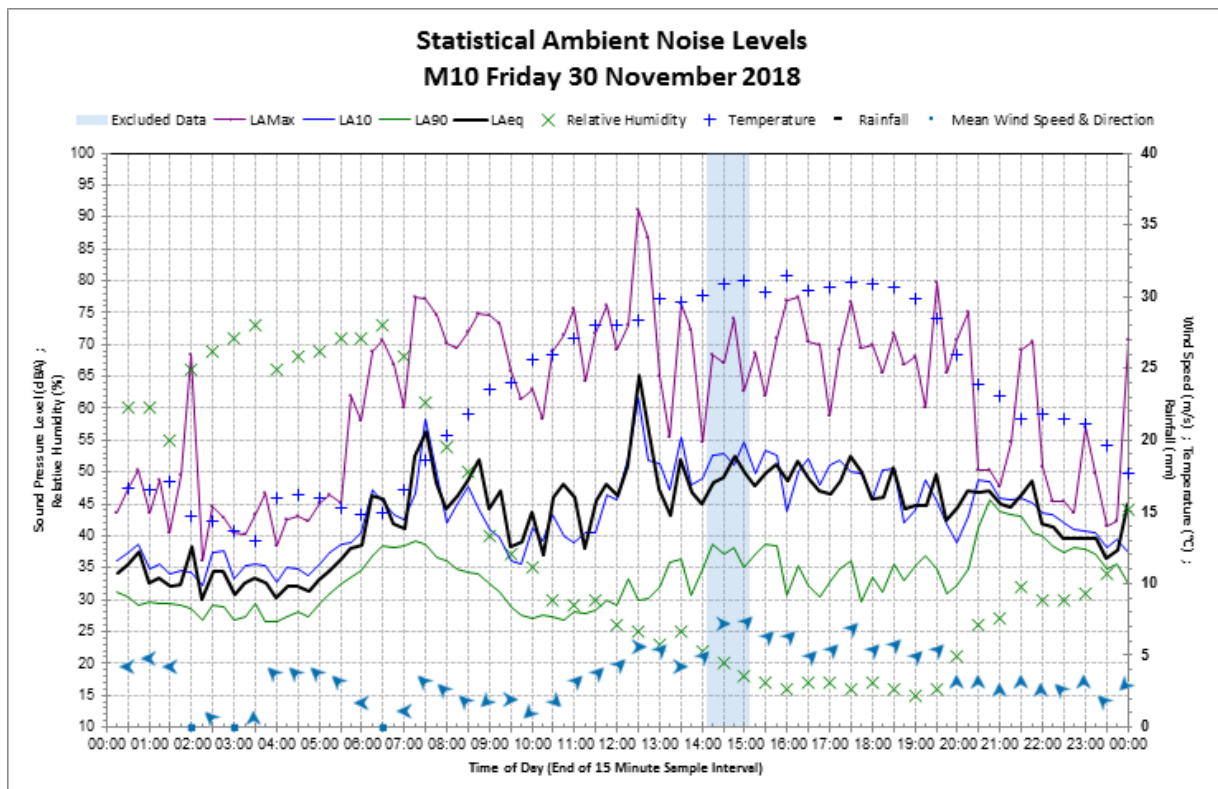




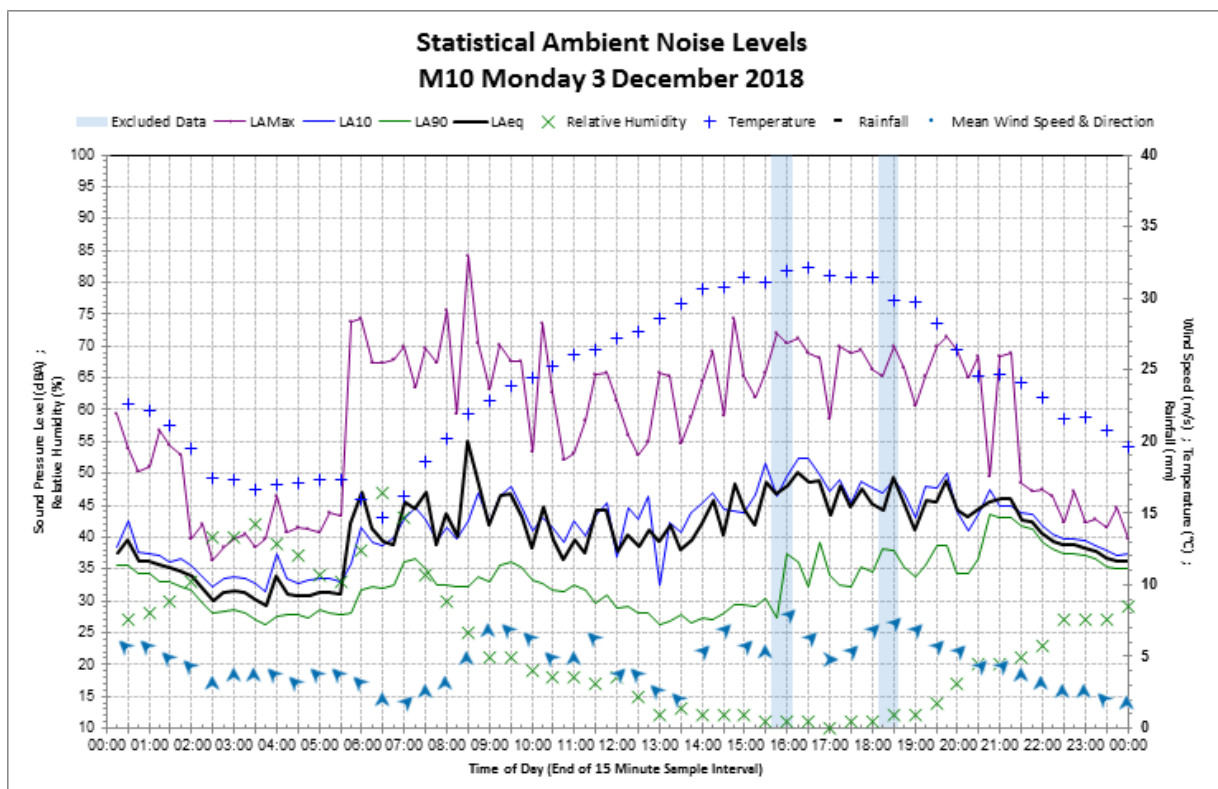
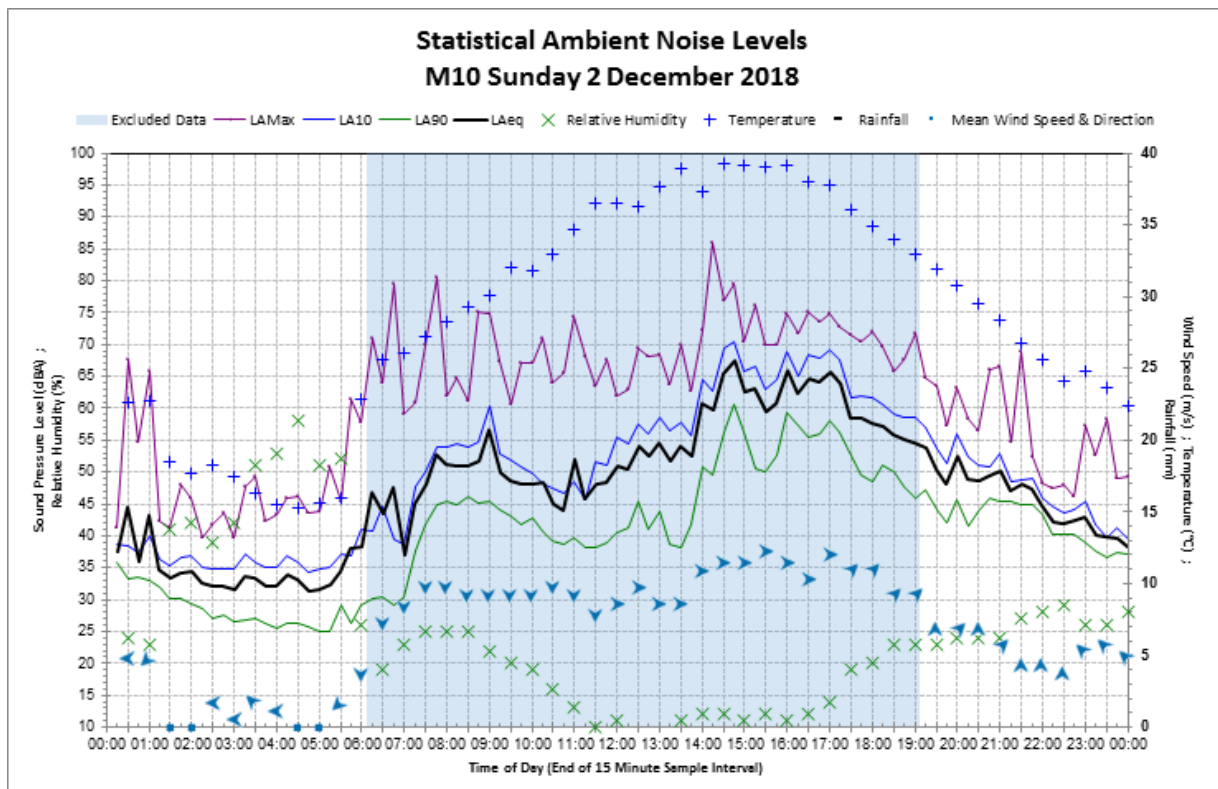


## Monitoring location M10 – 86 The Island Road, Narrabri

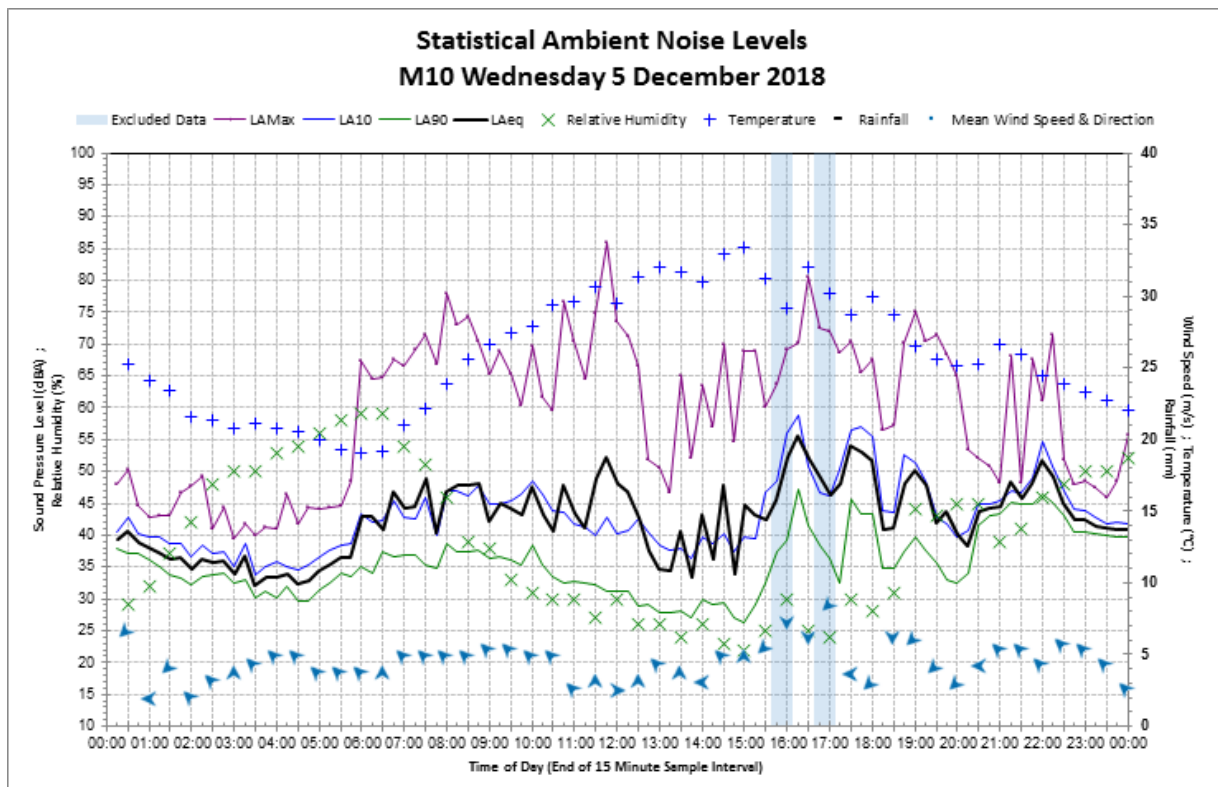
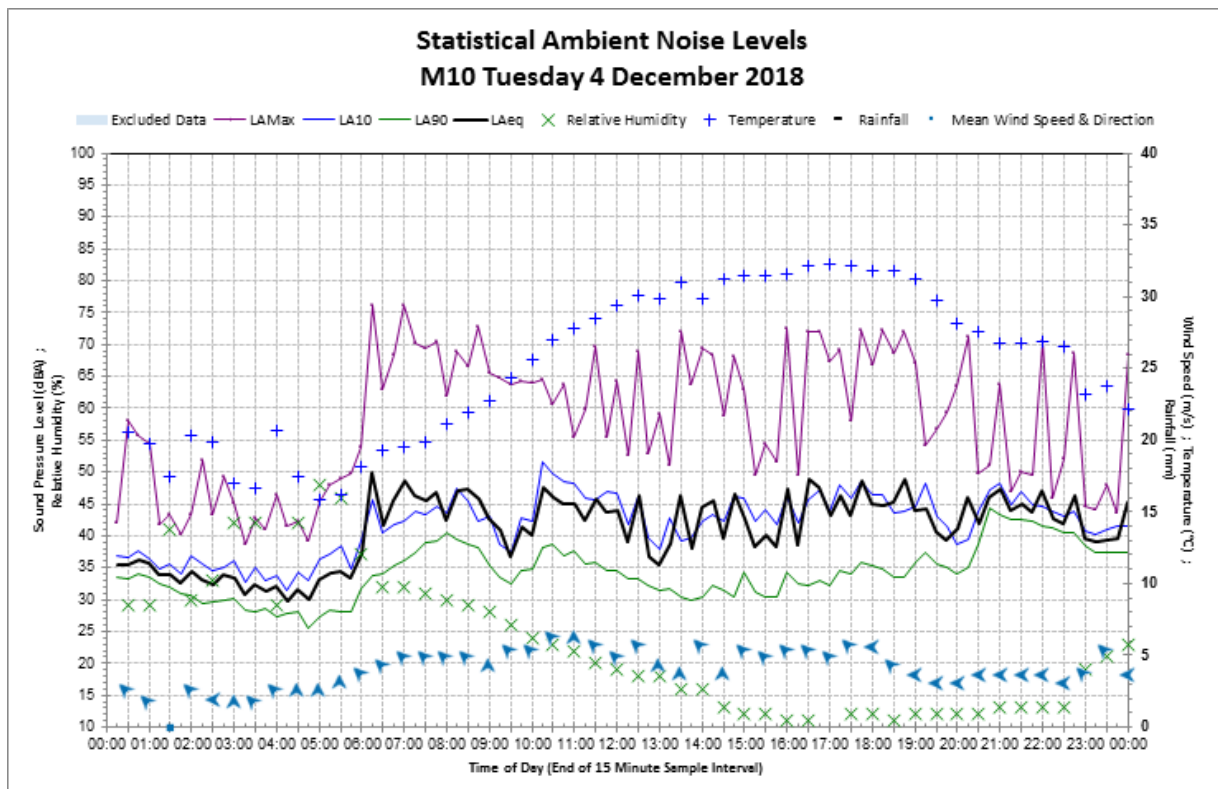


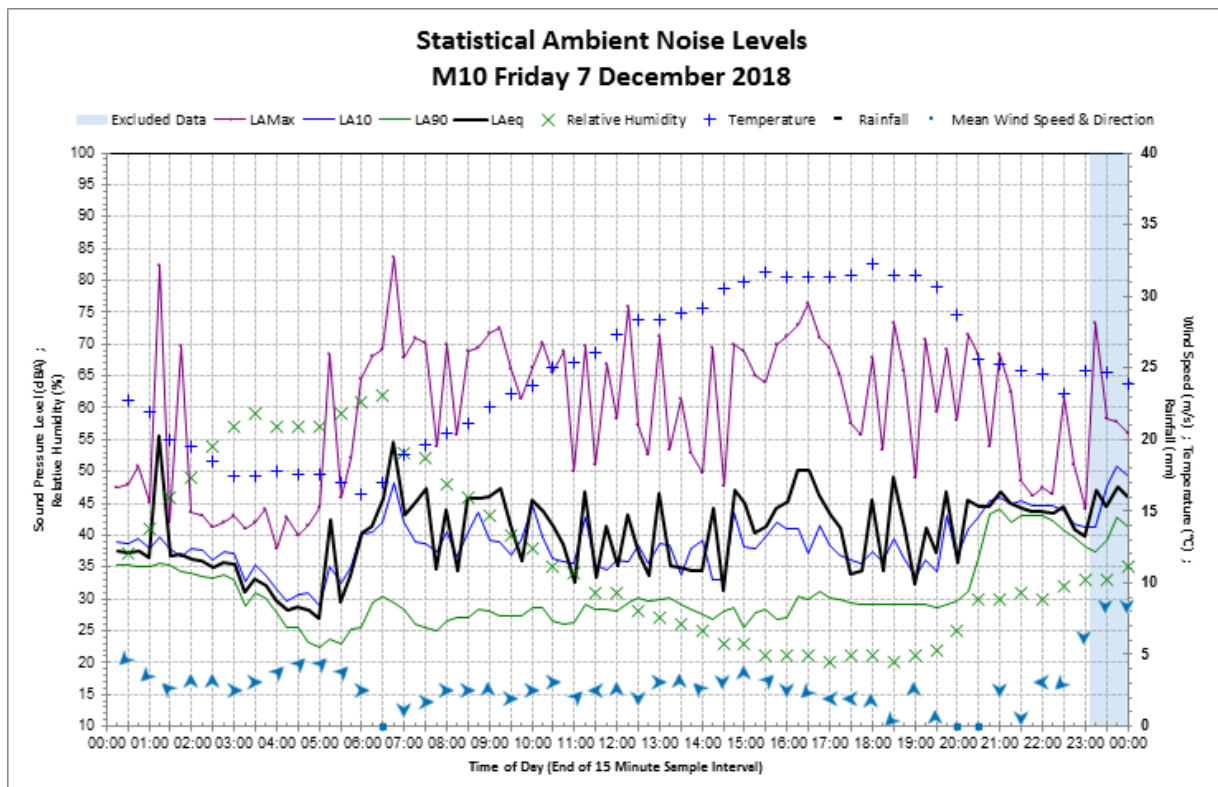
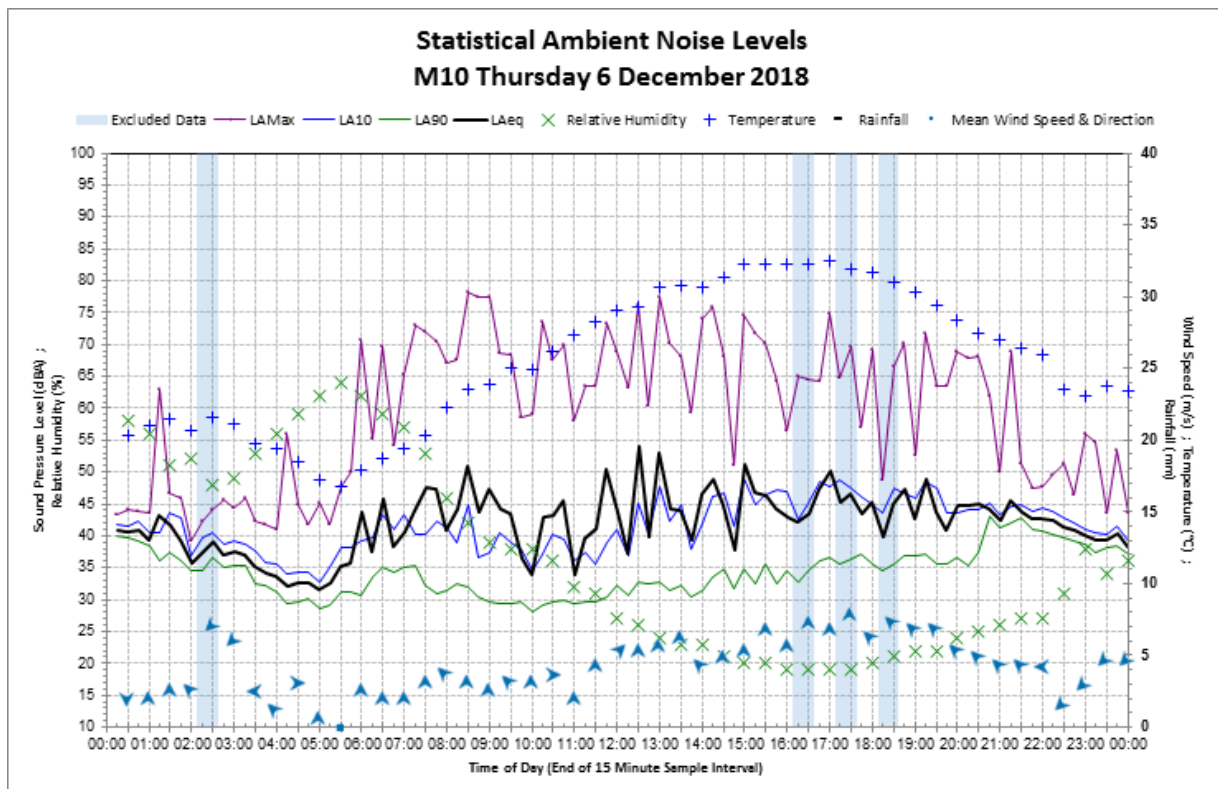


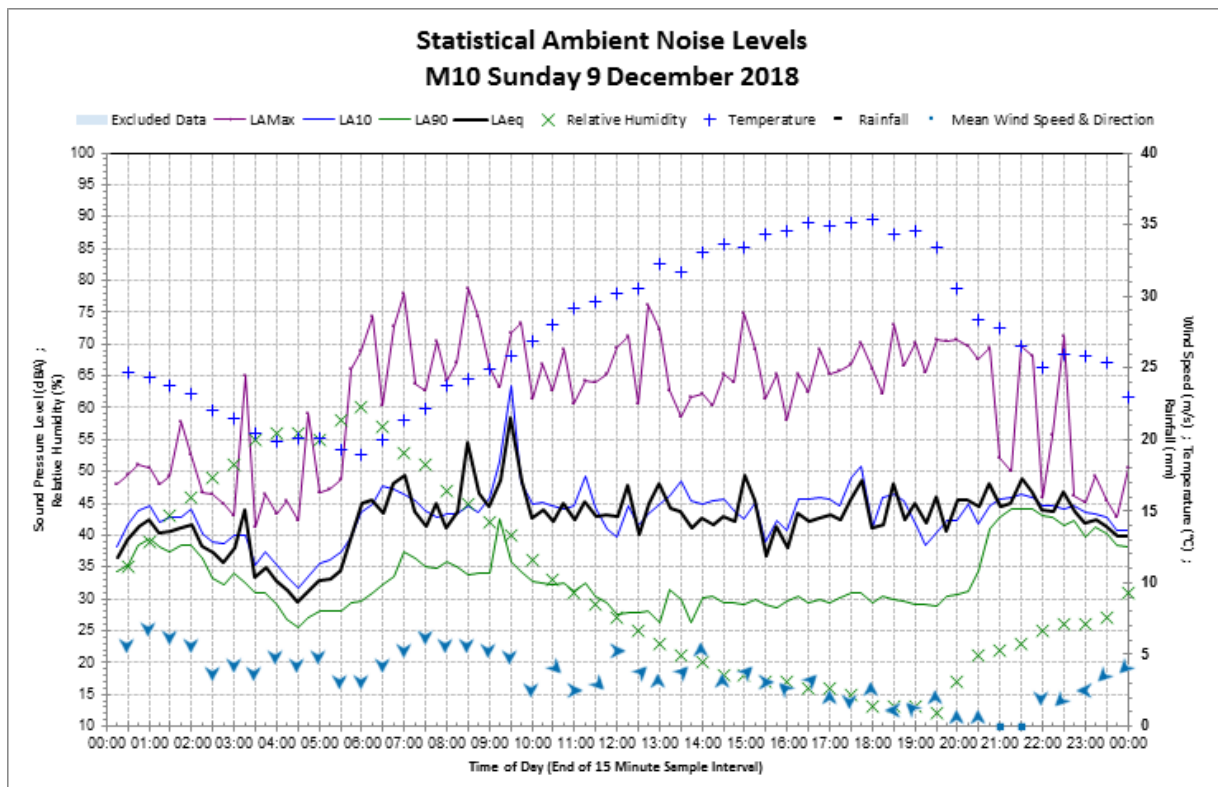
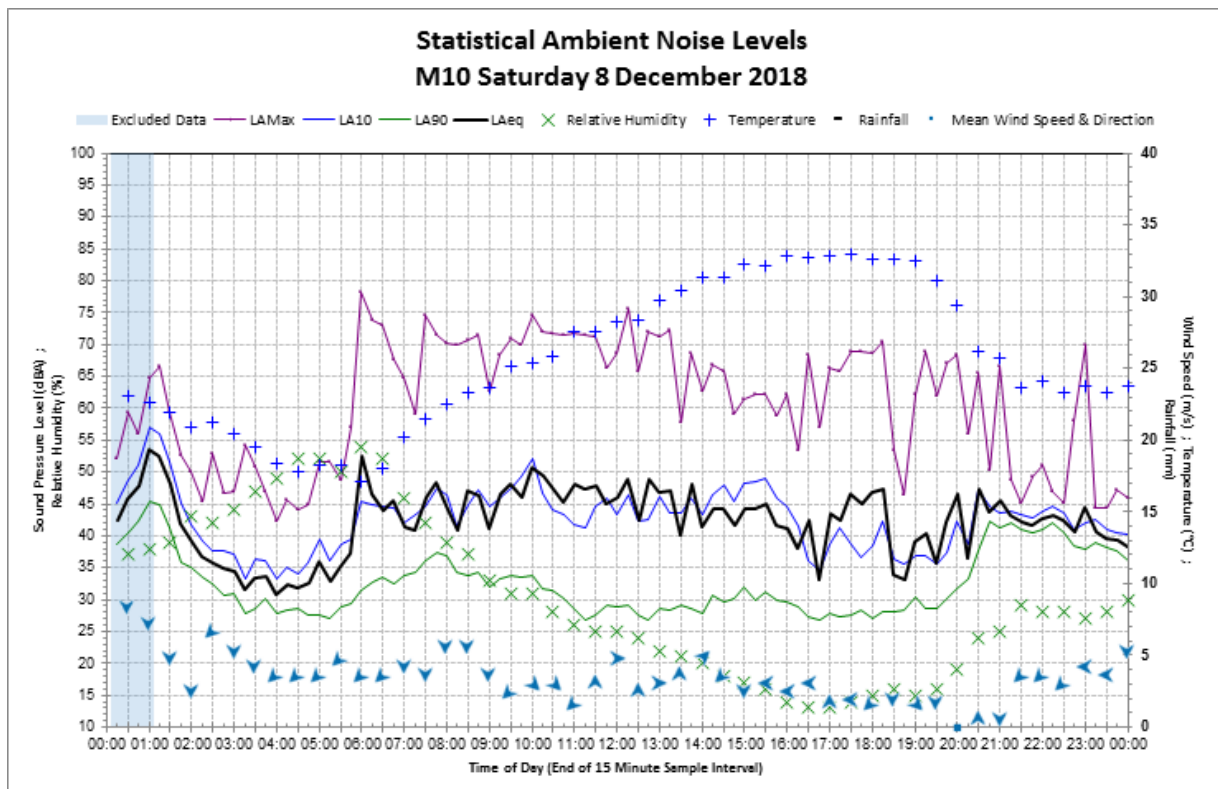


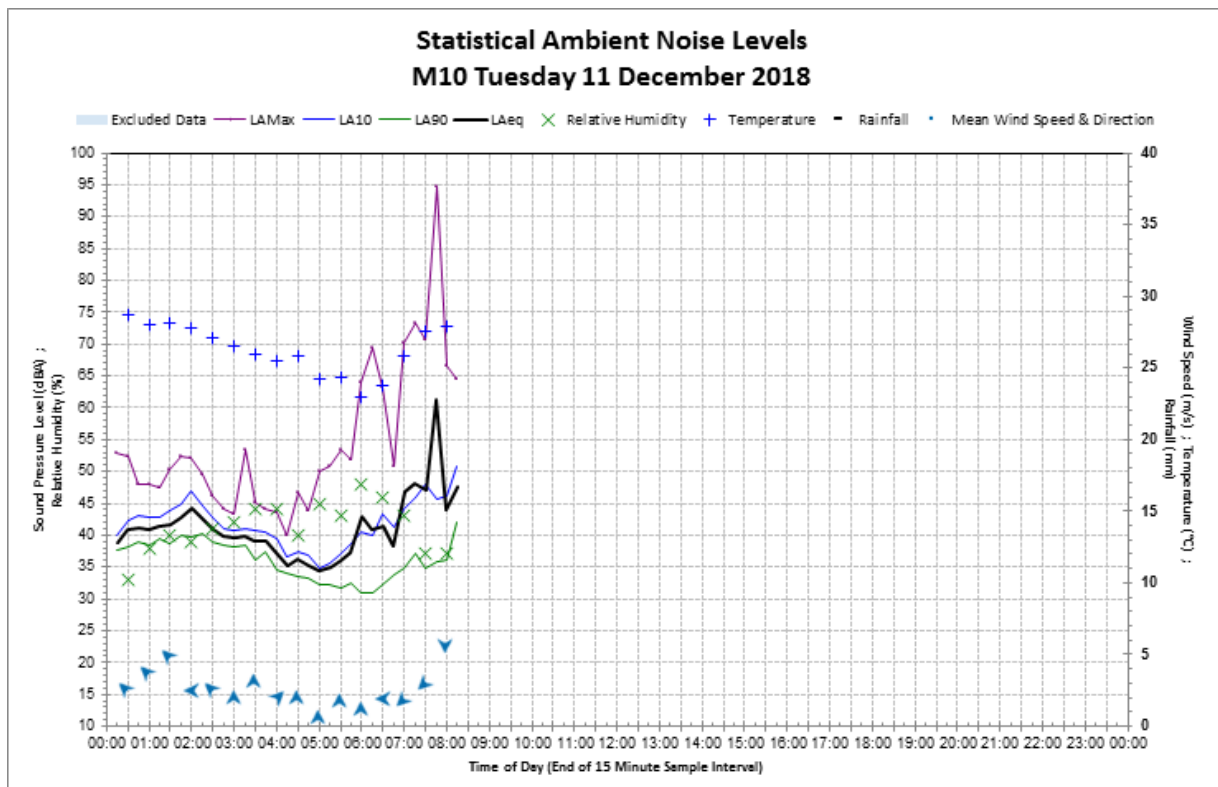
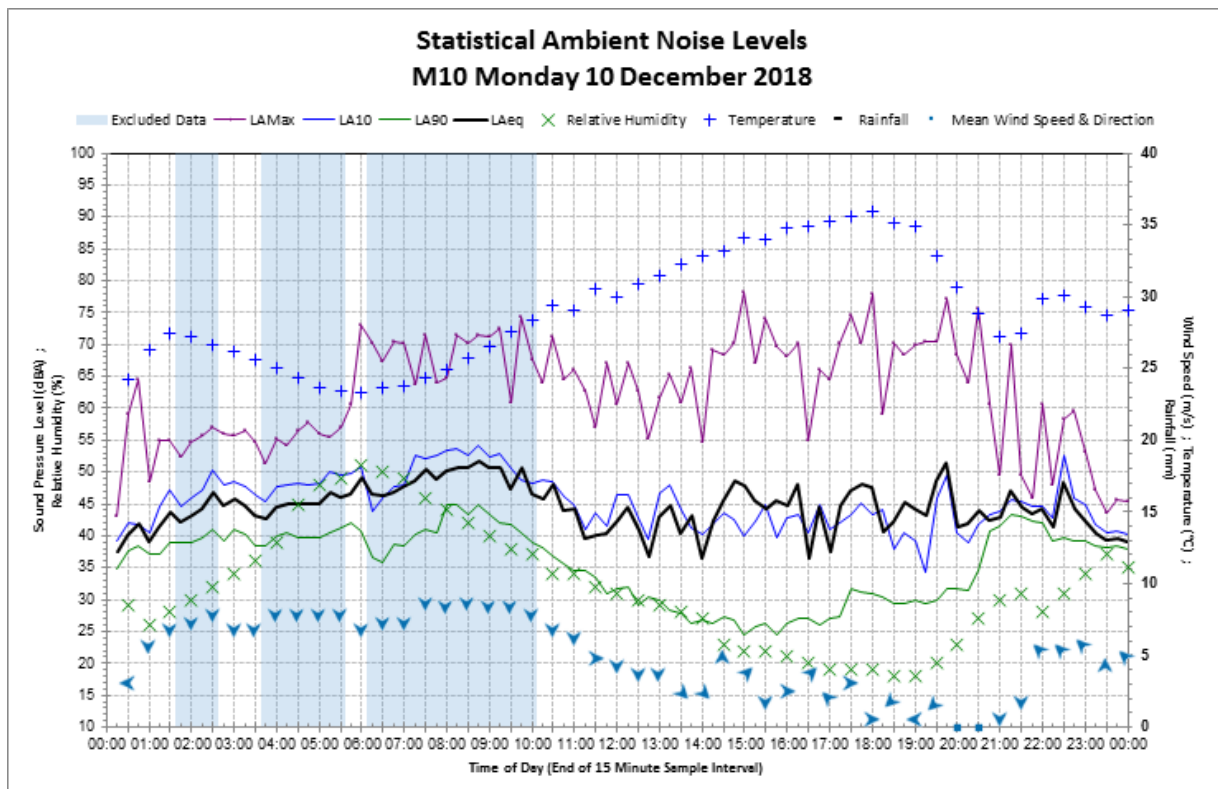






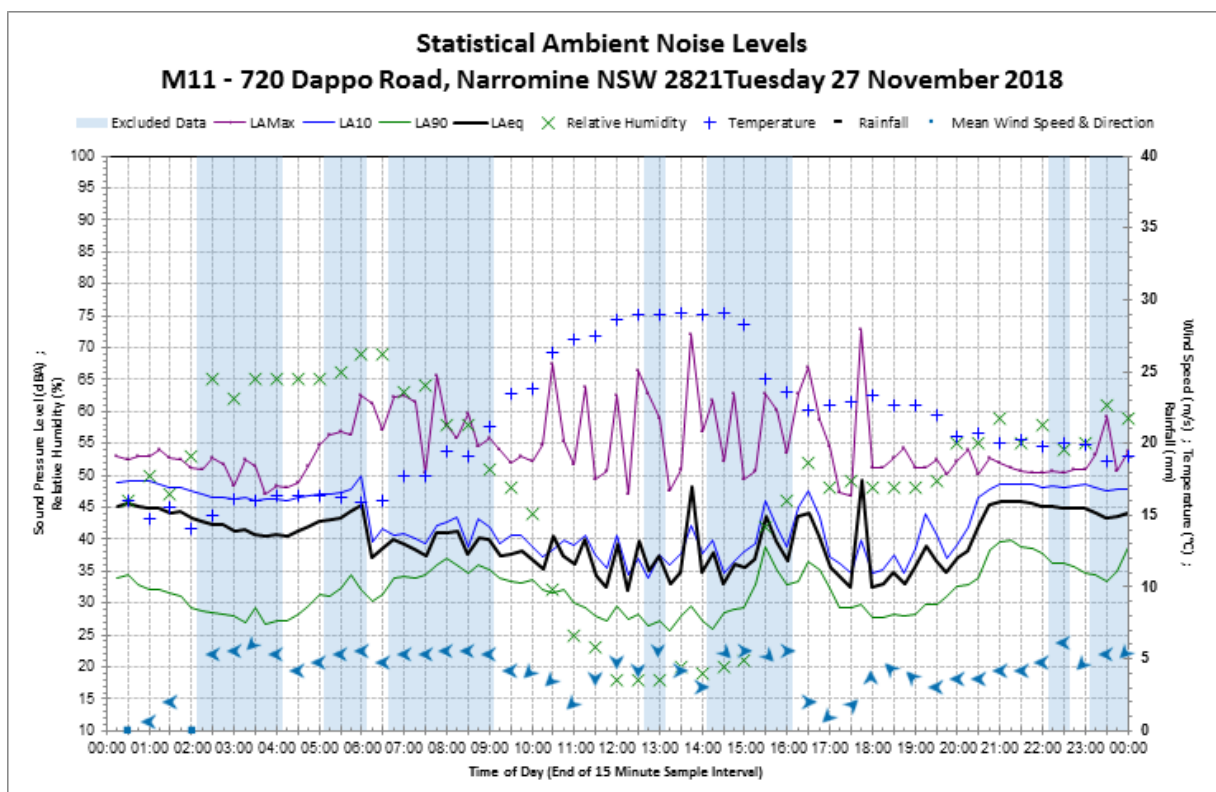
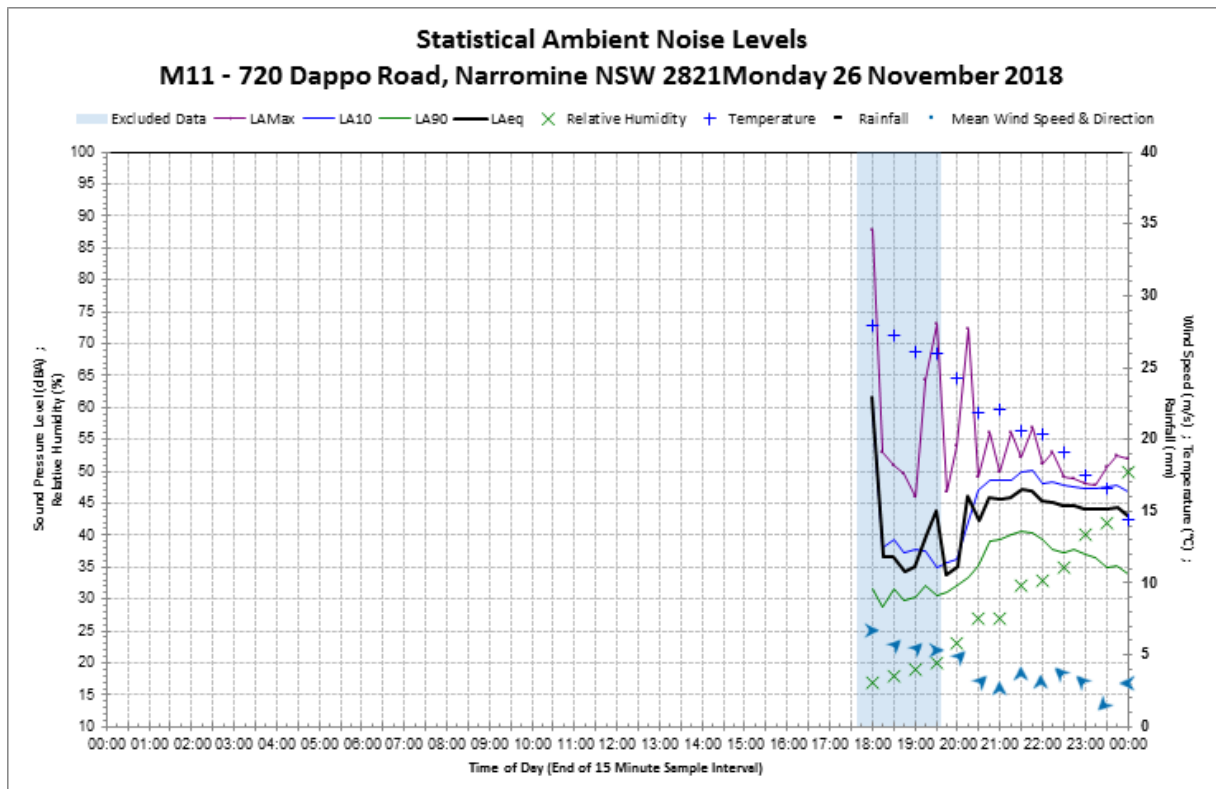




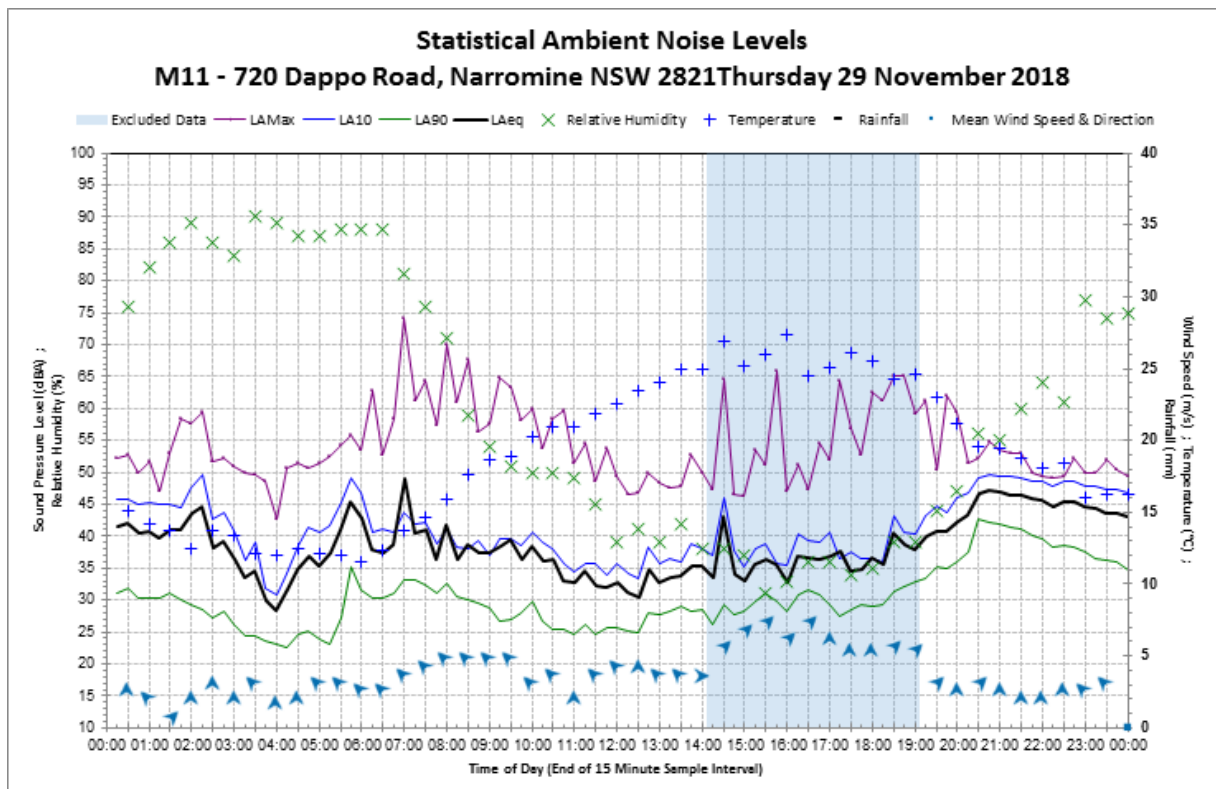
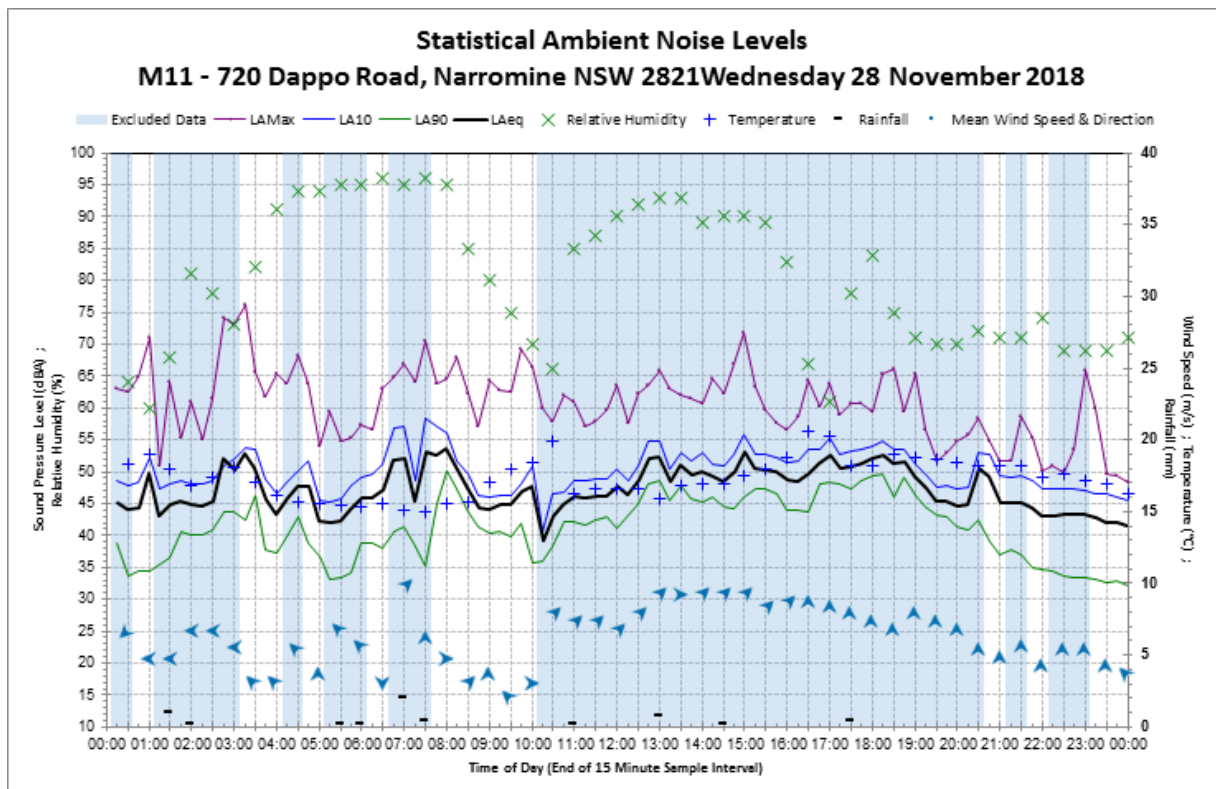


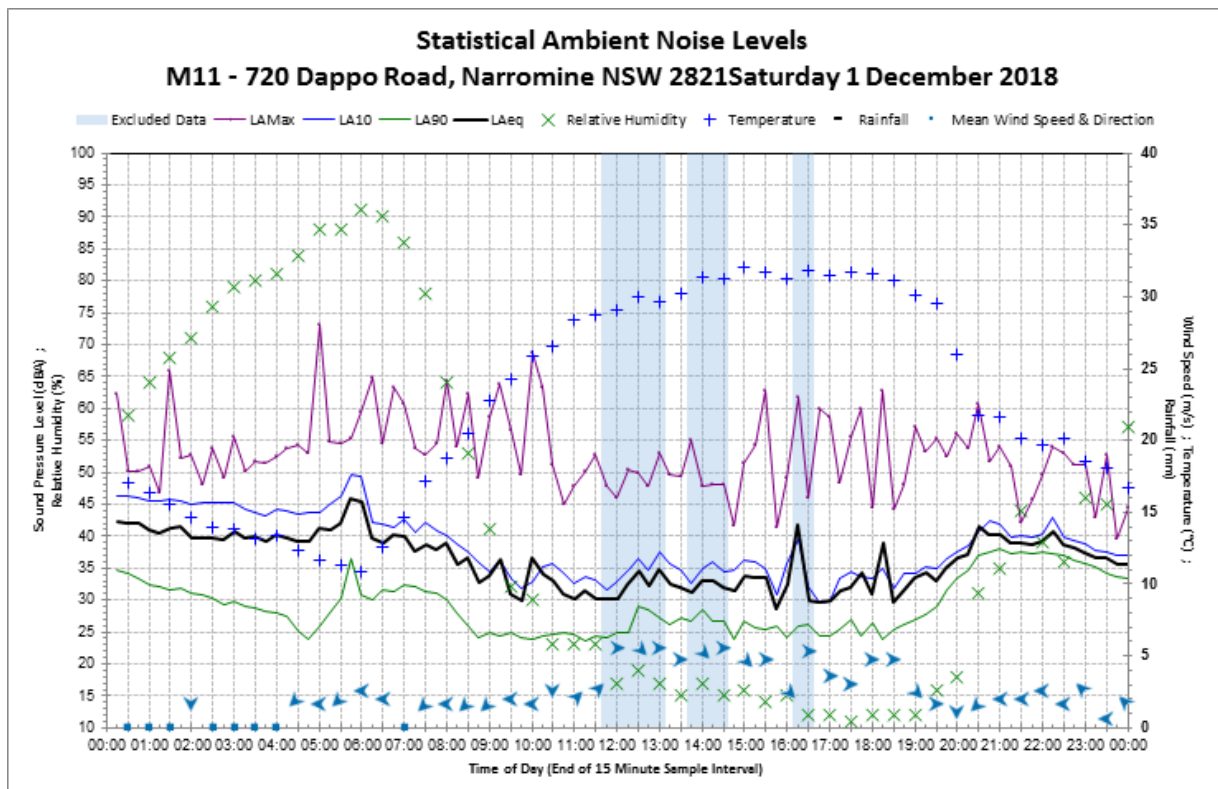
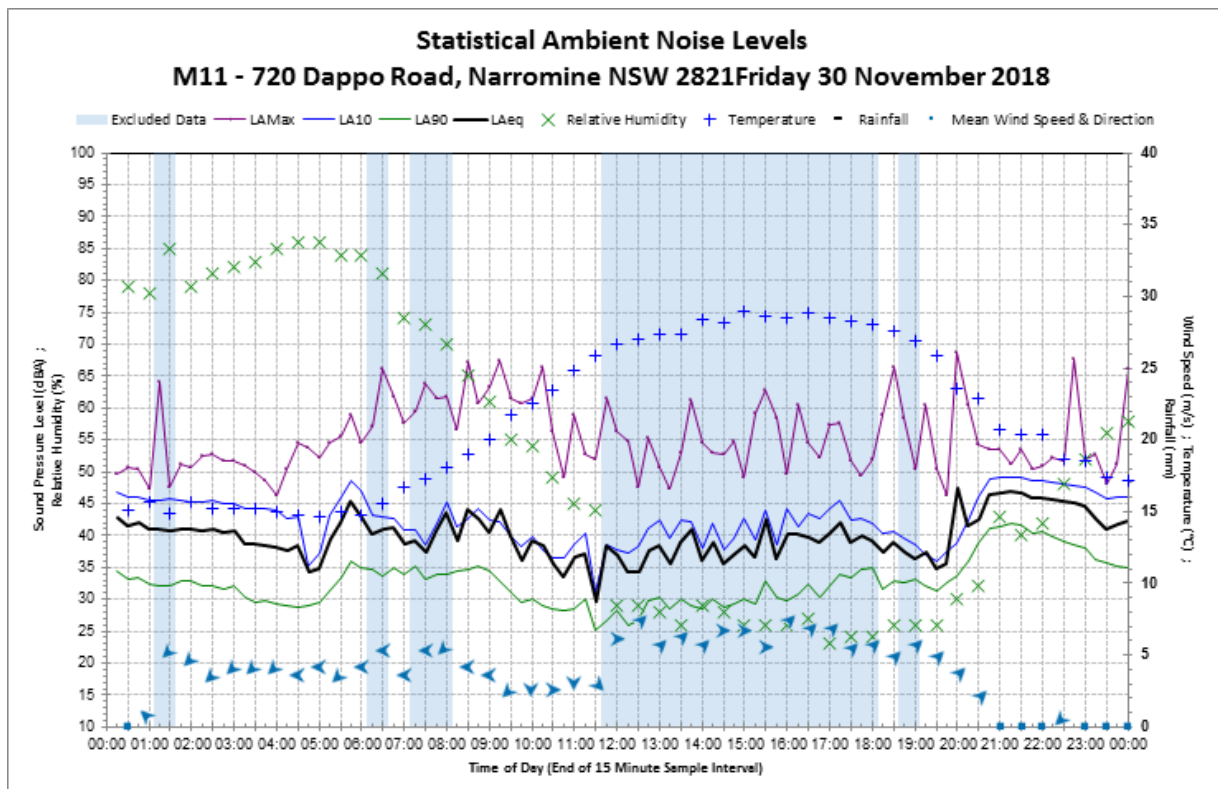


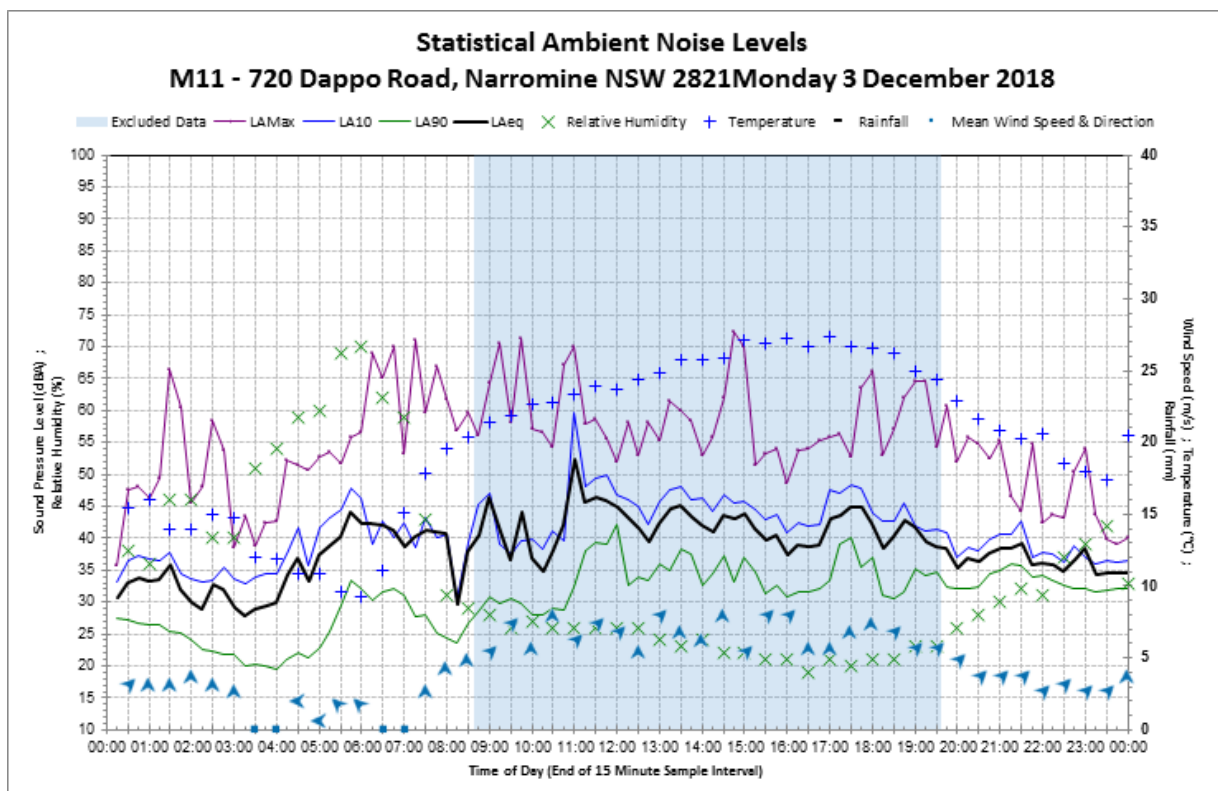
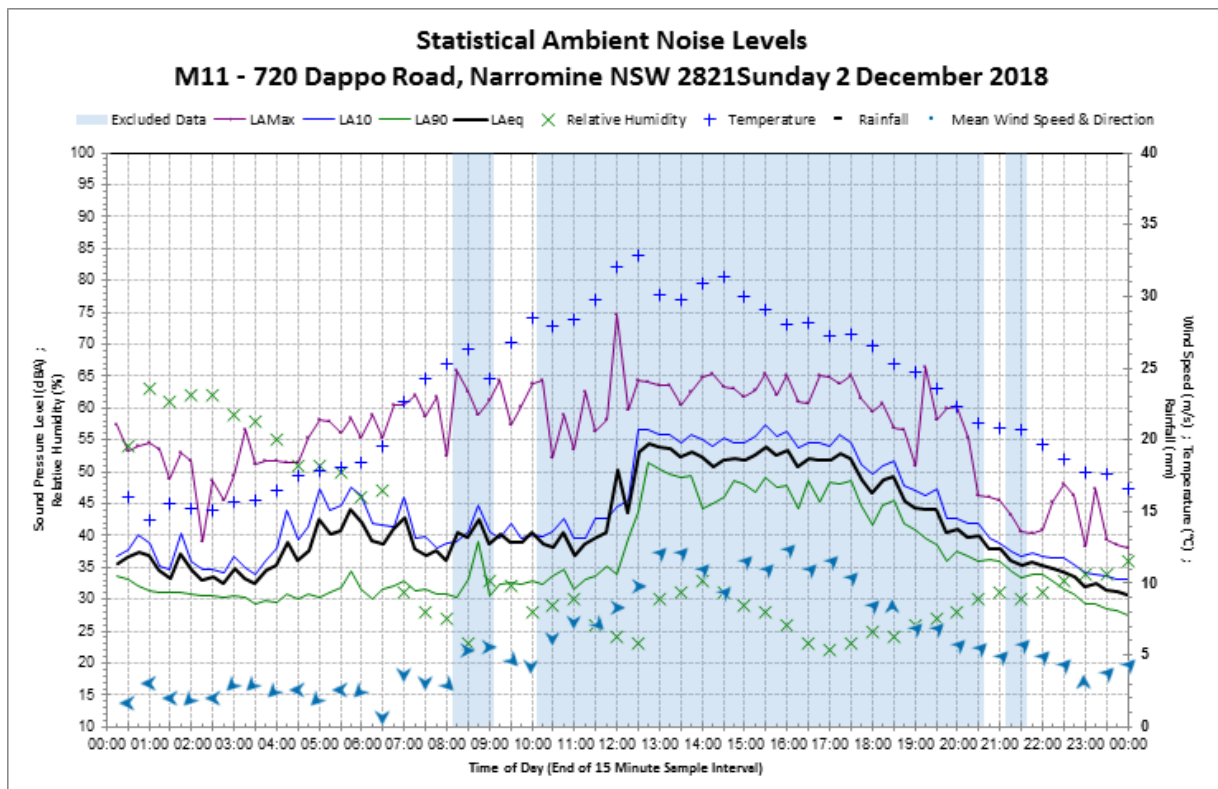
## Monitoring location M11 – 720 Dappo Road, Narromine

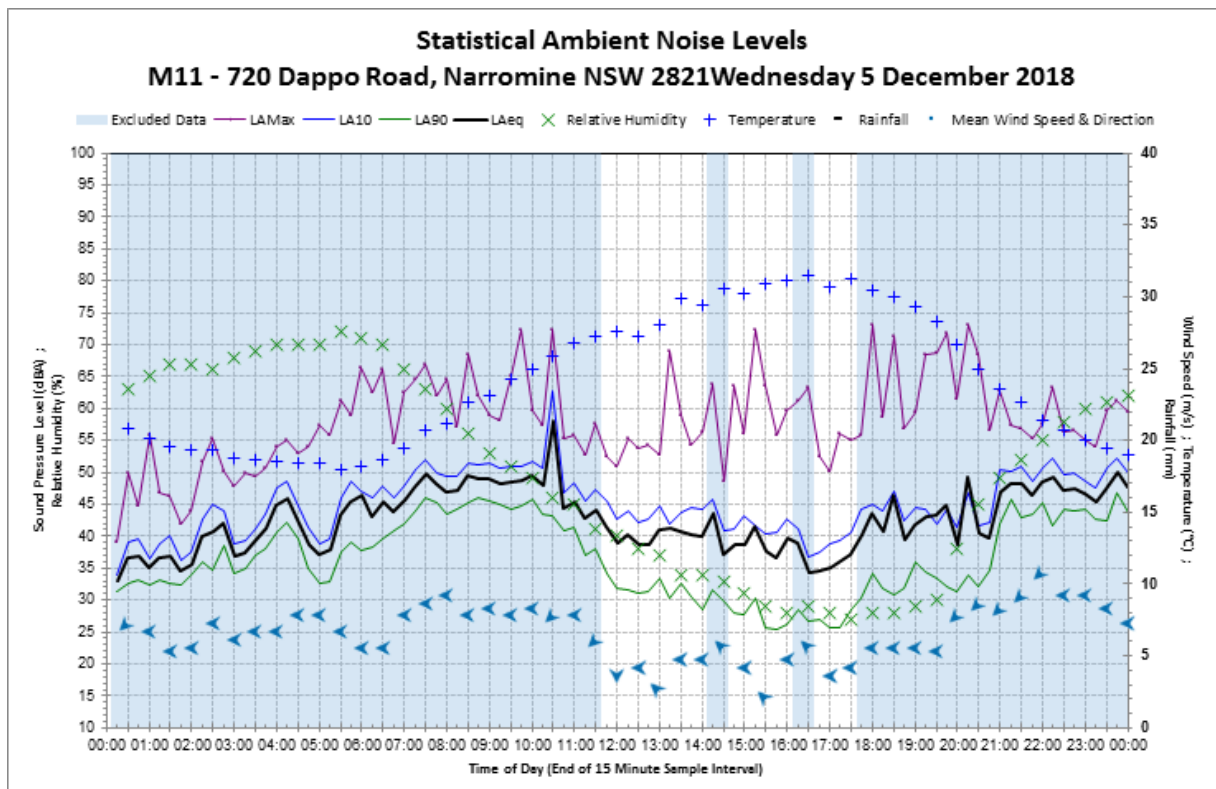
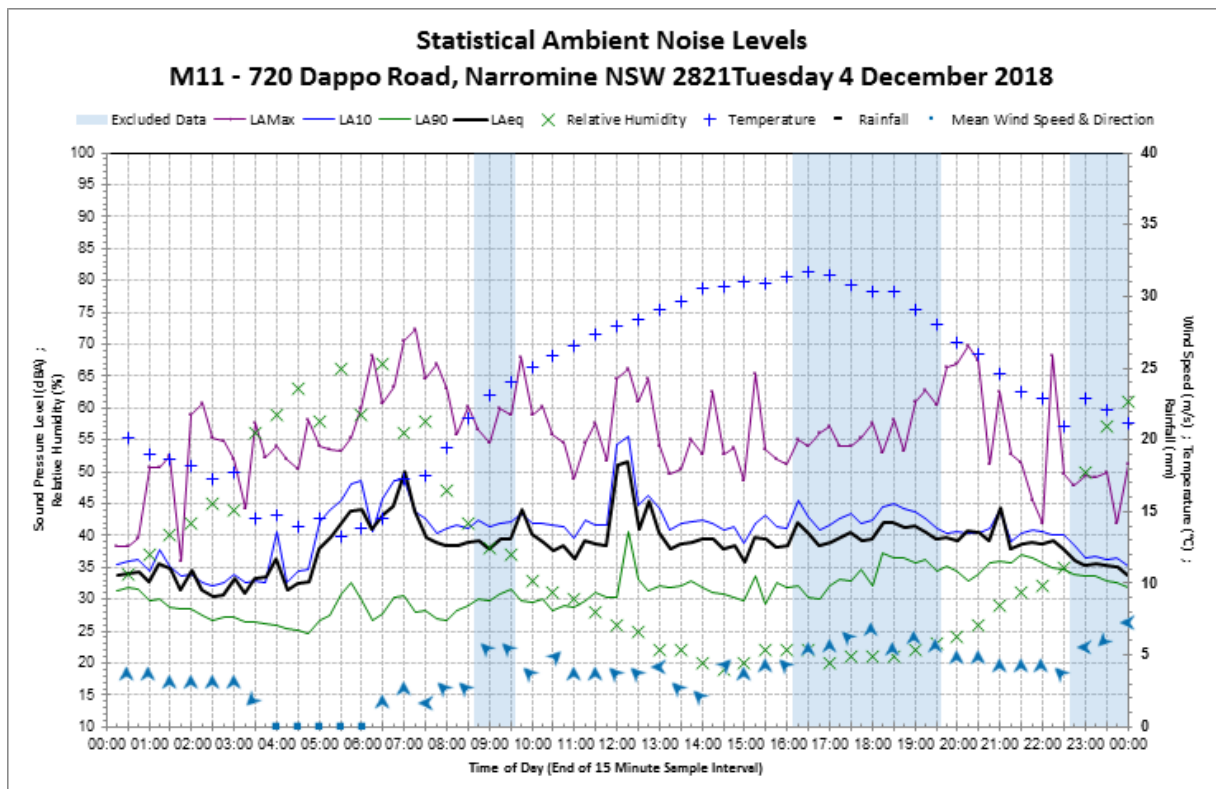




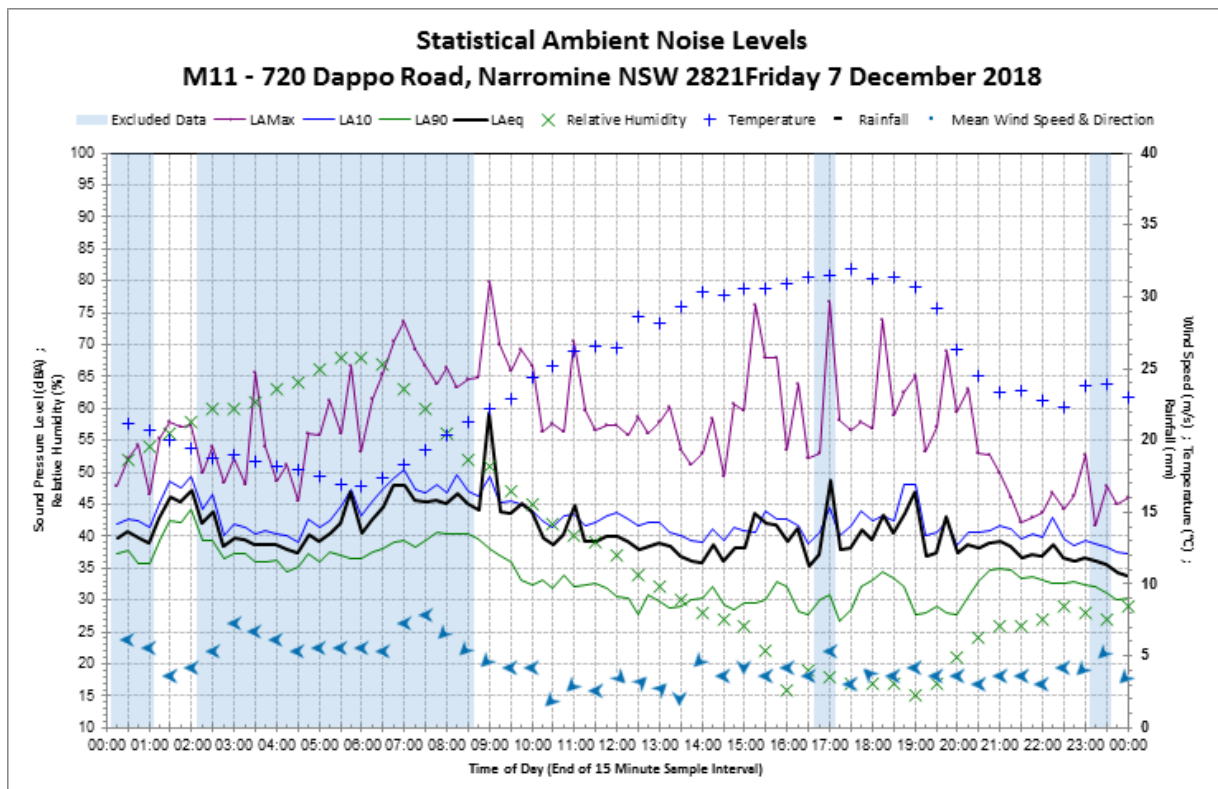
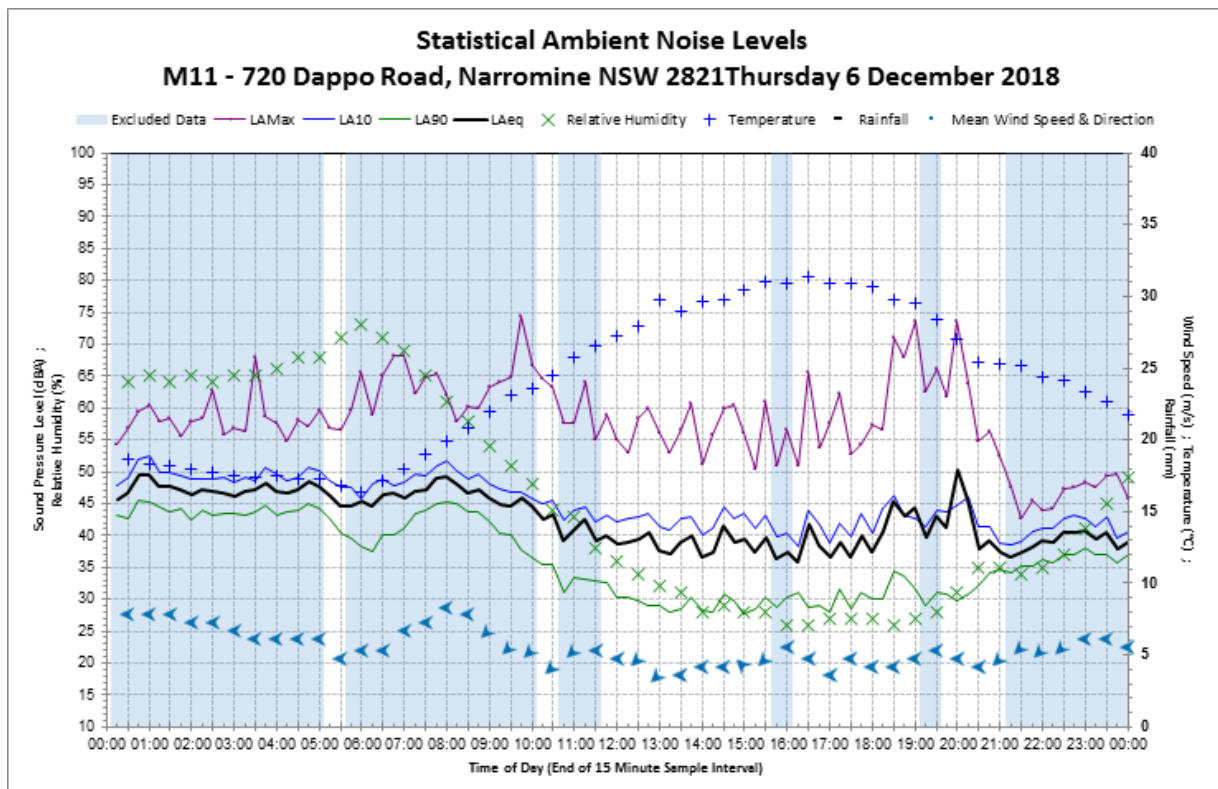




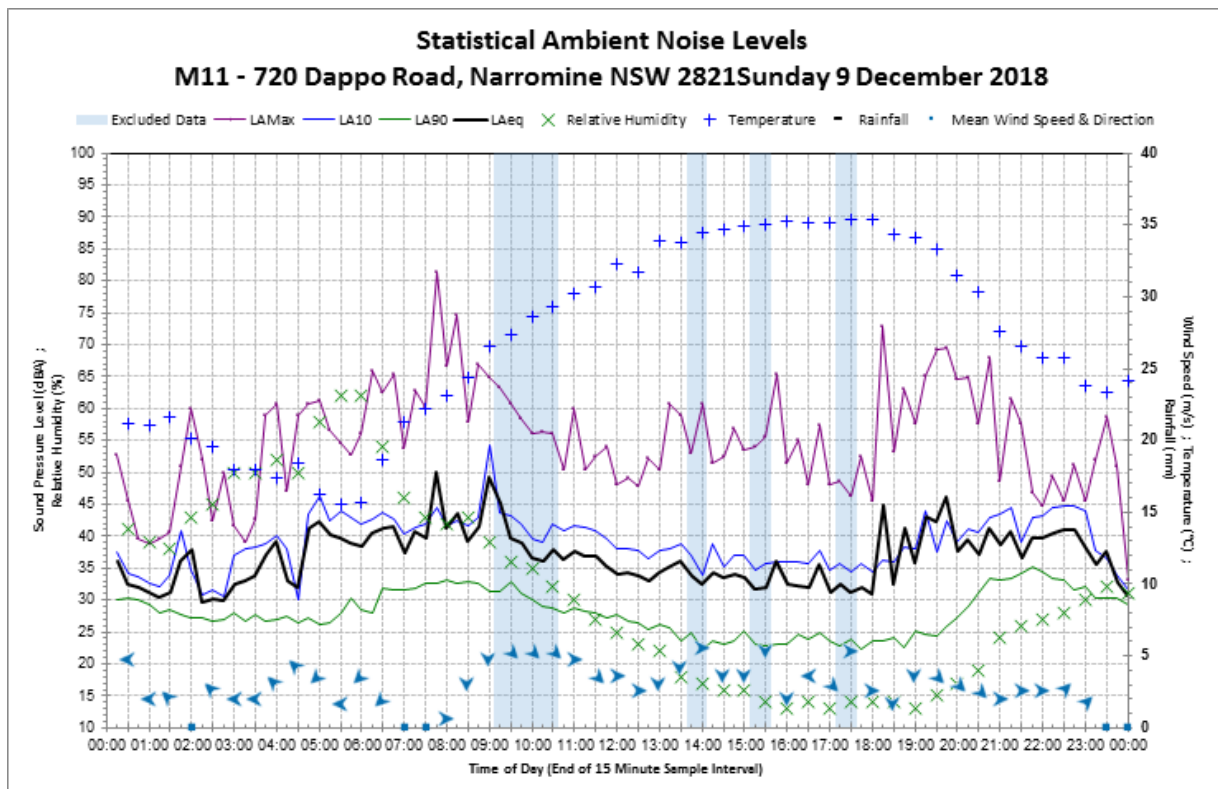
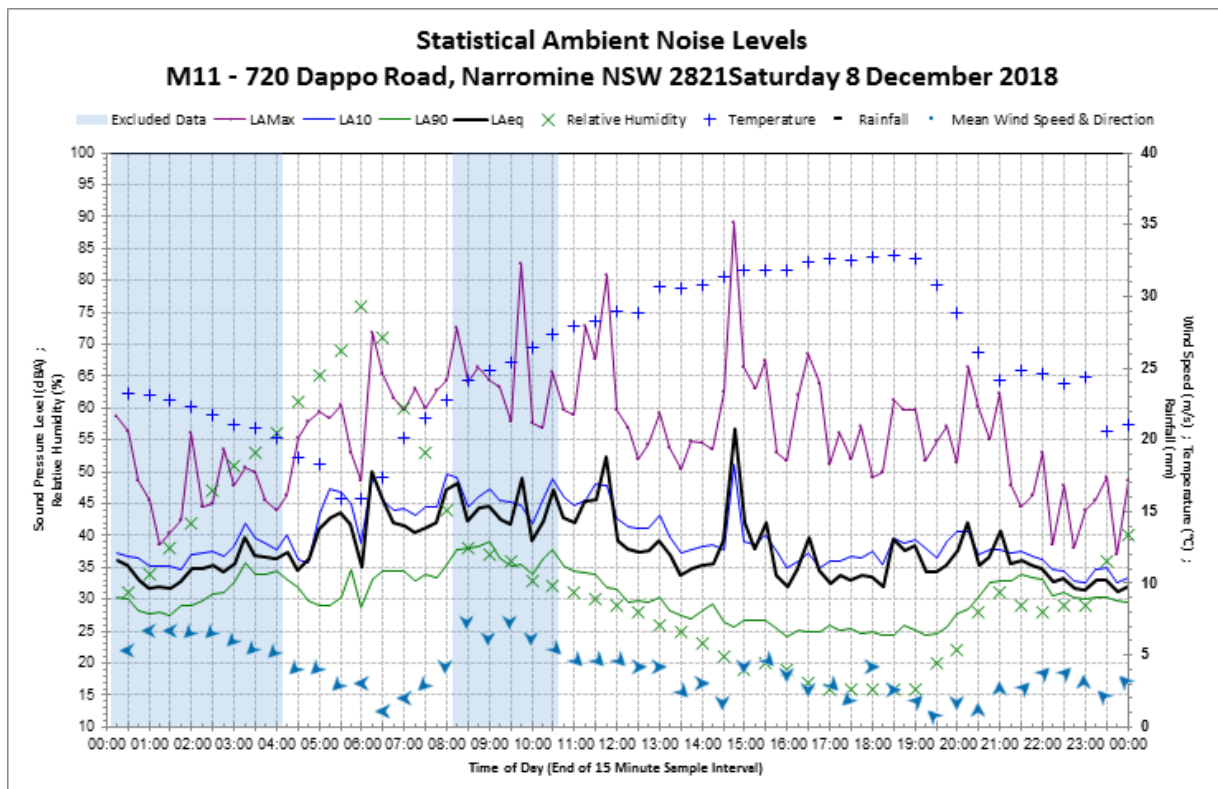


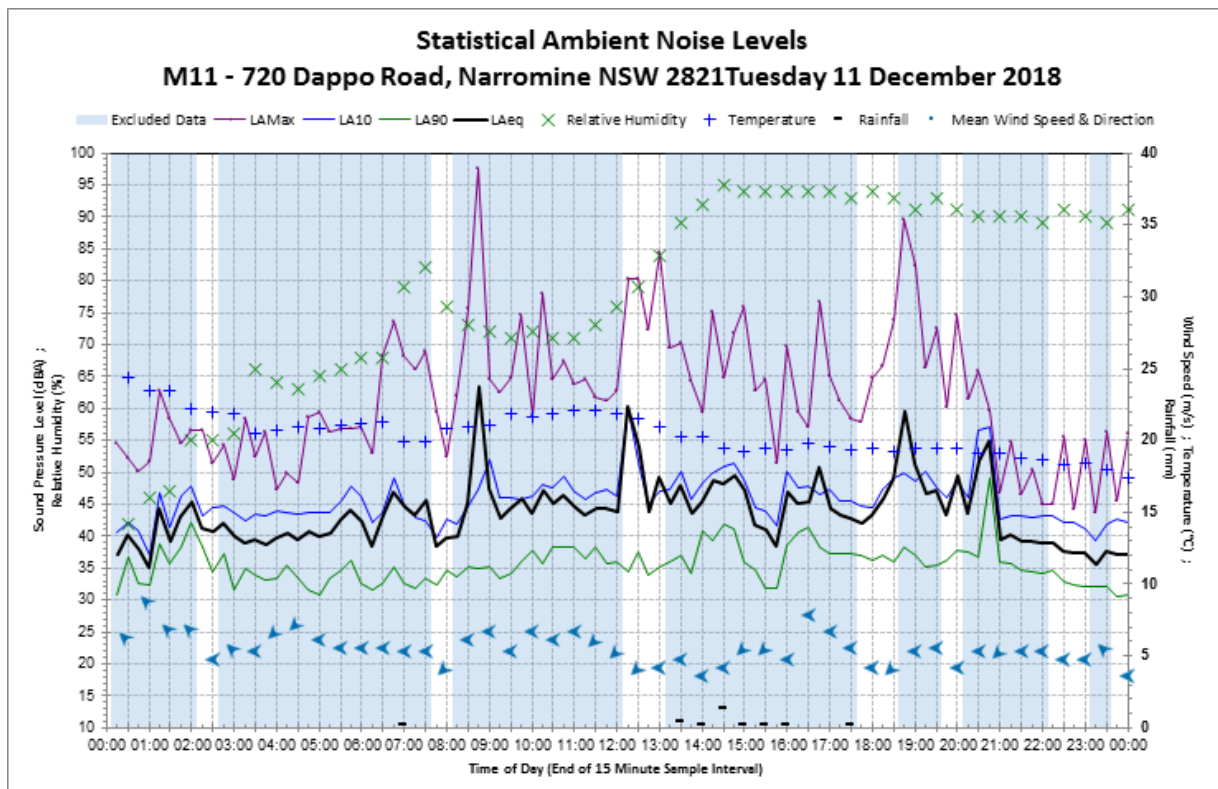
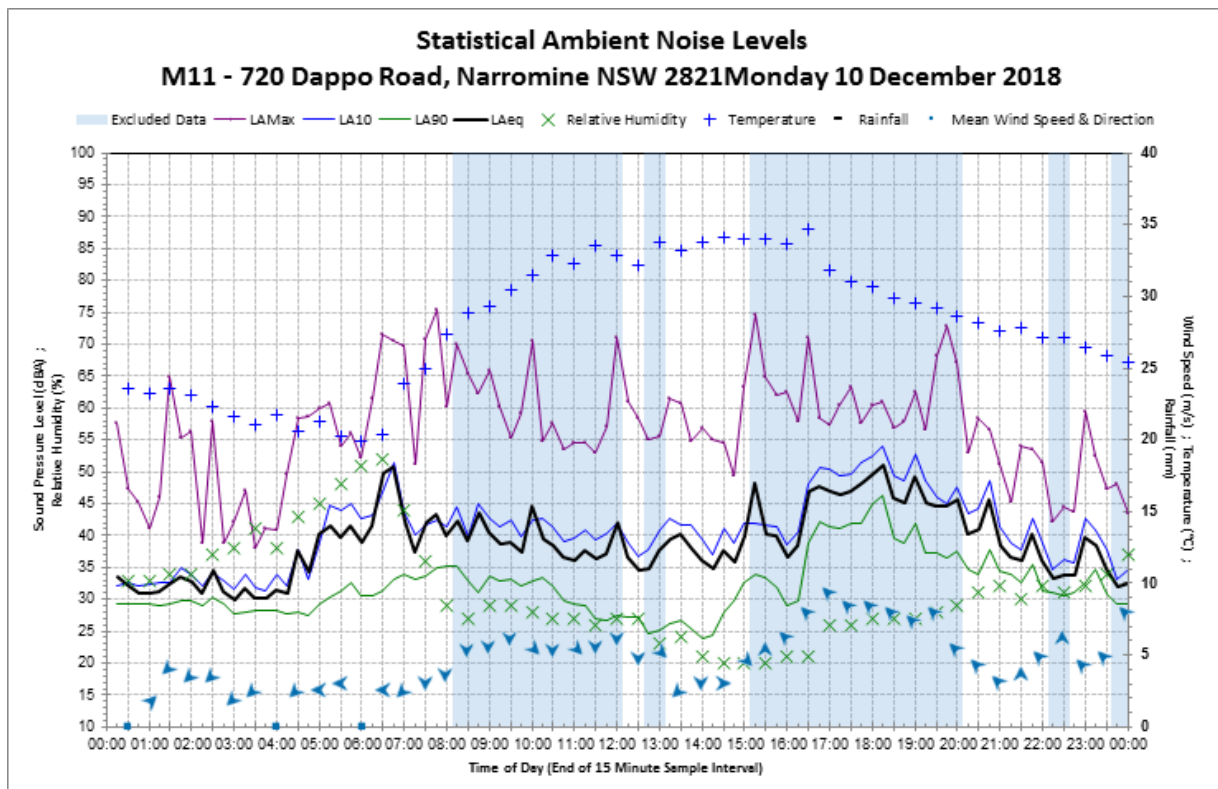


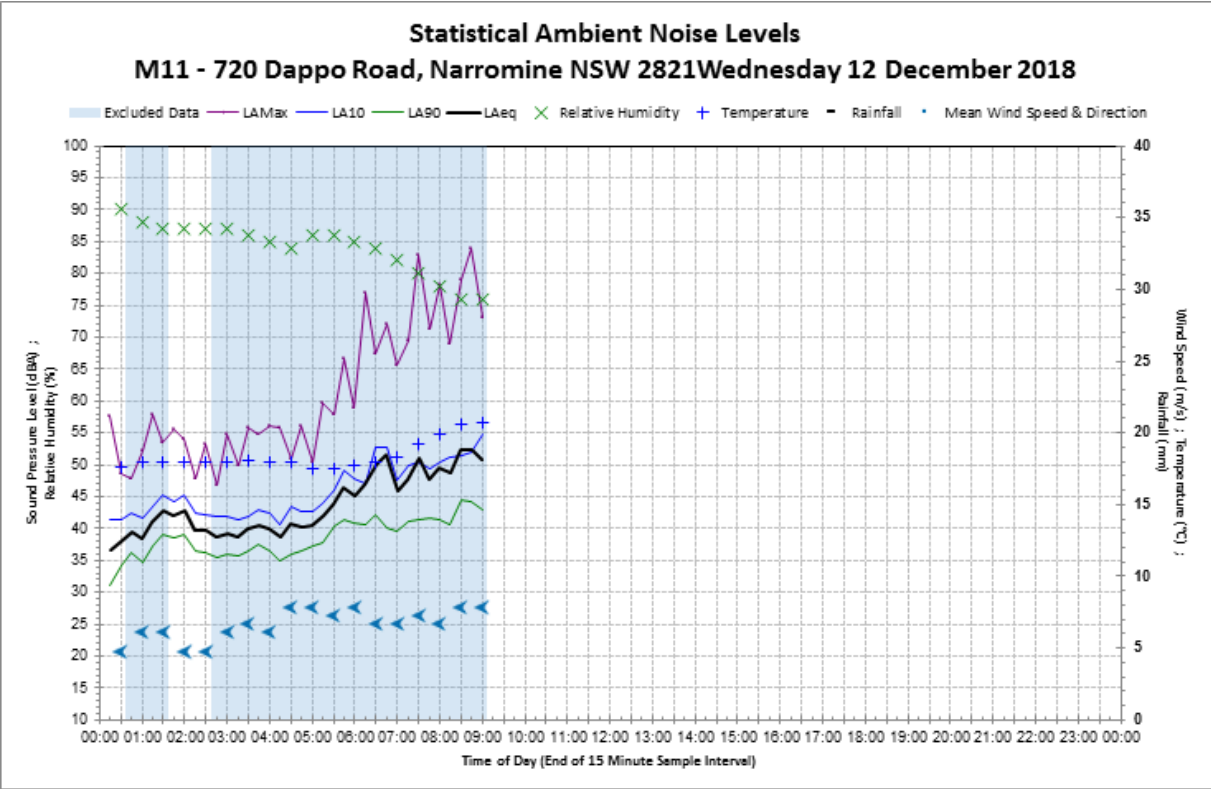




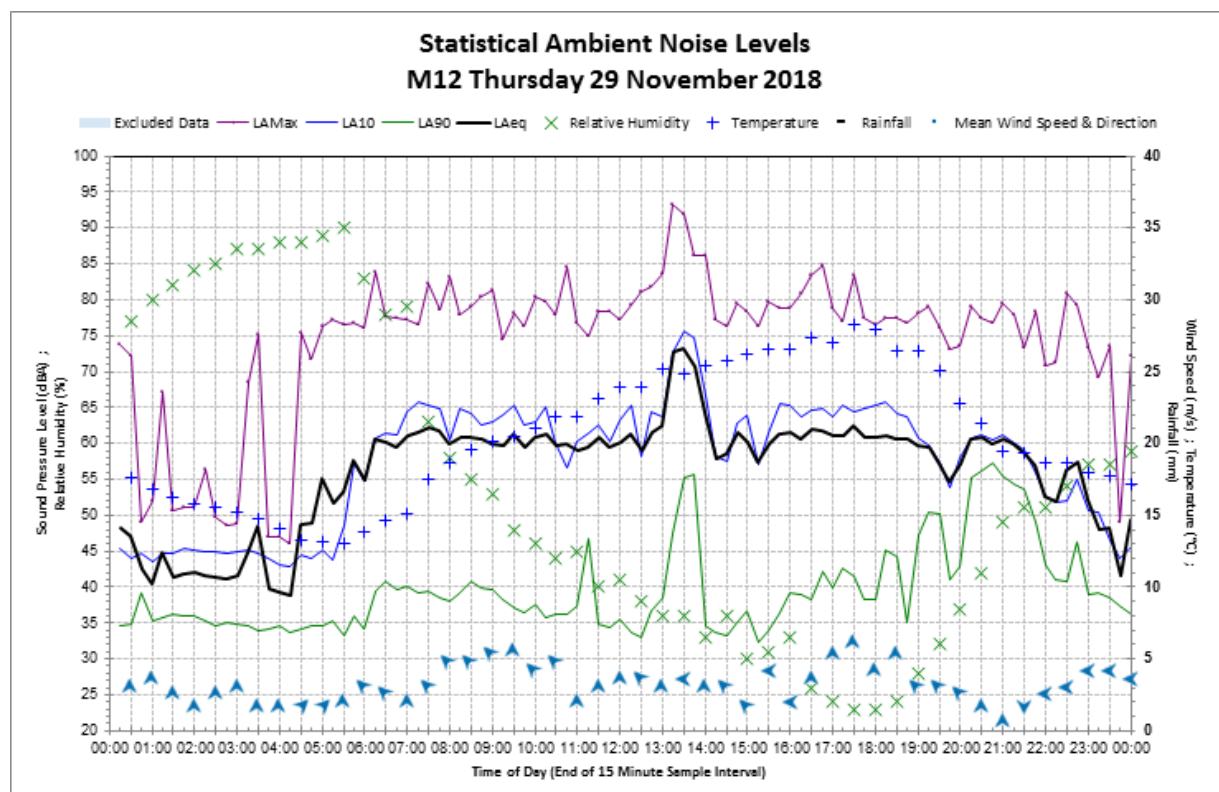
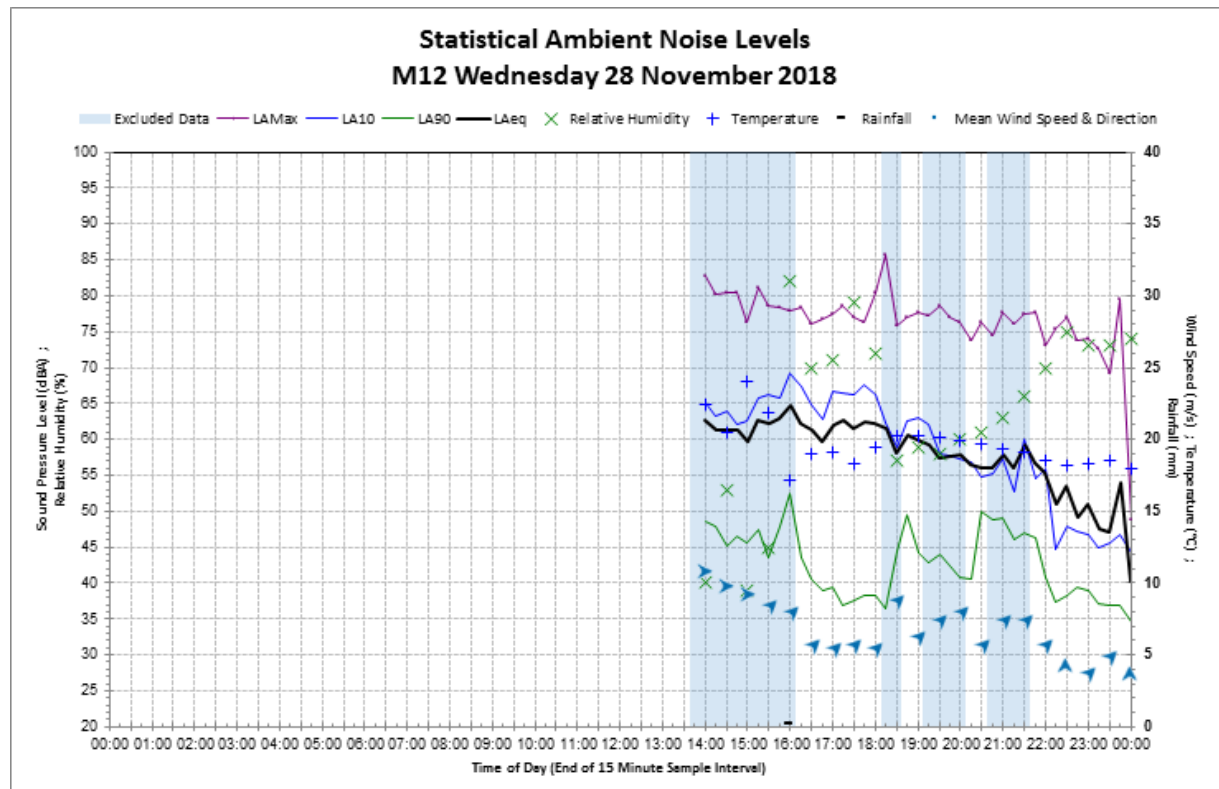




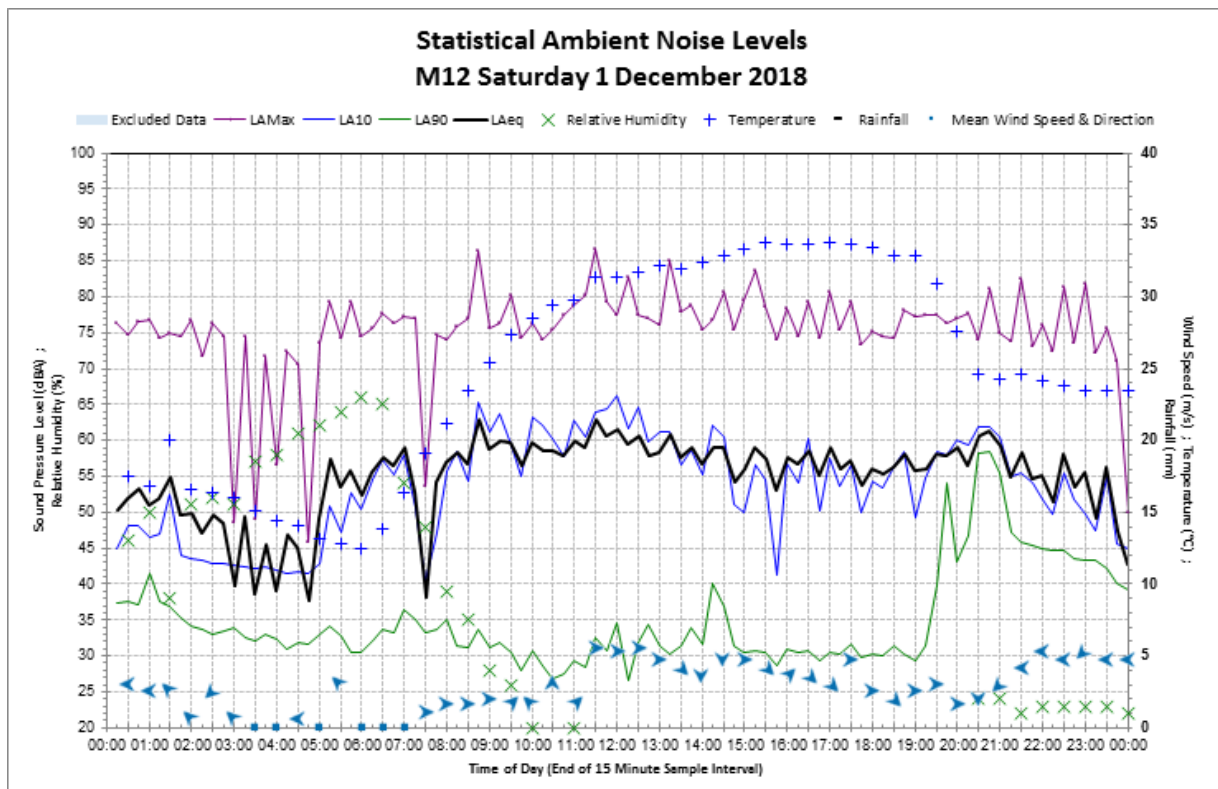
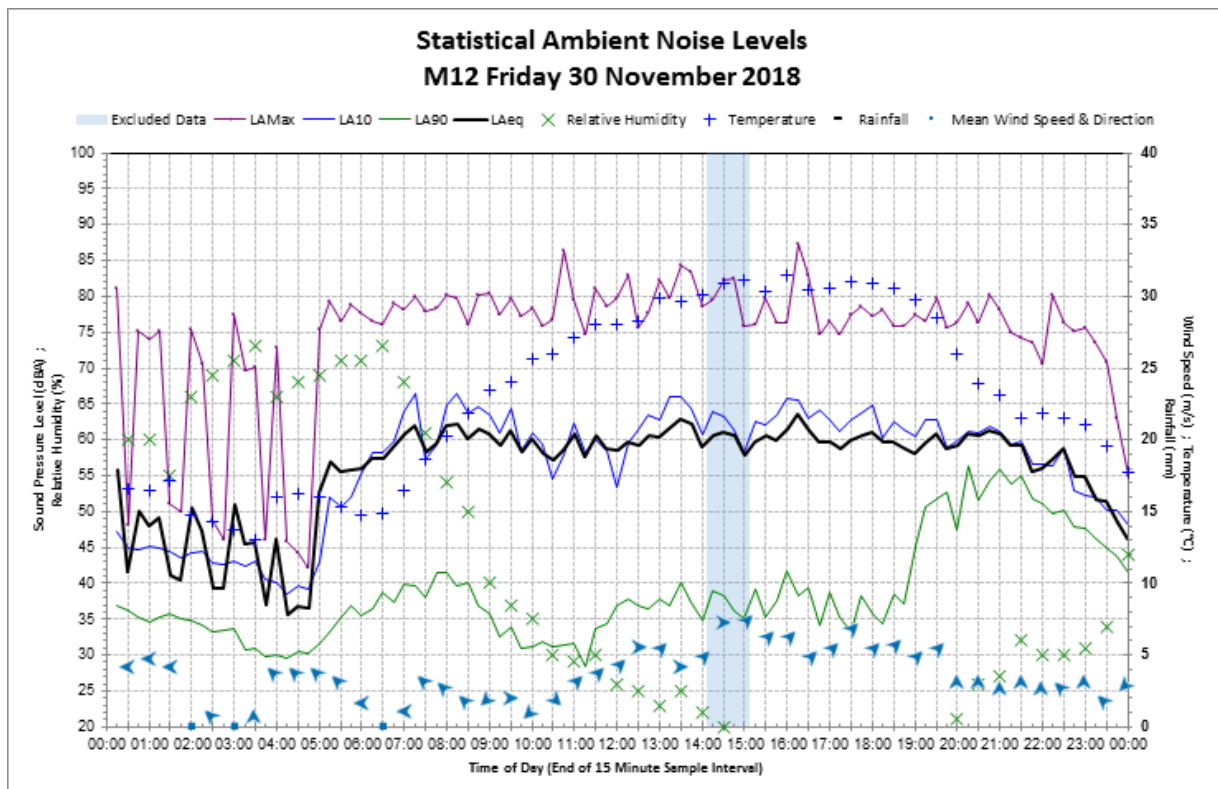




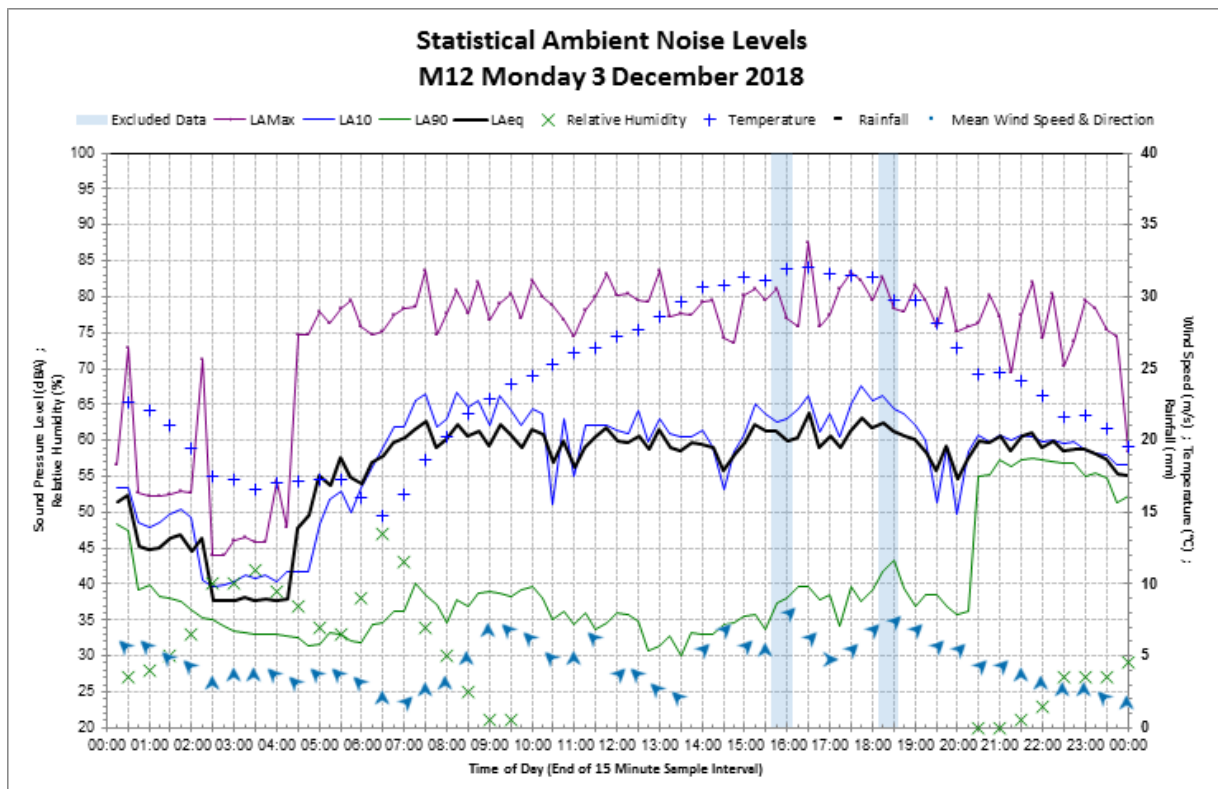
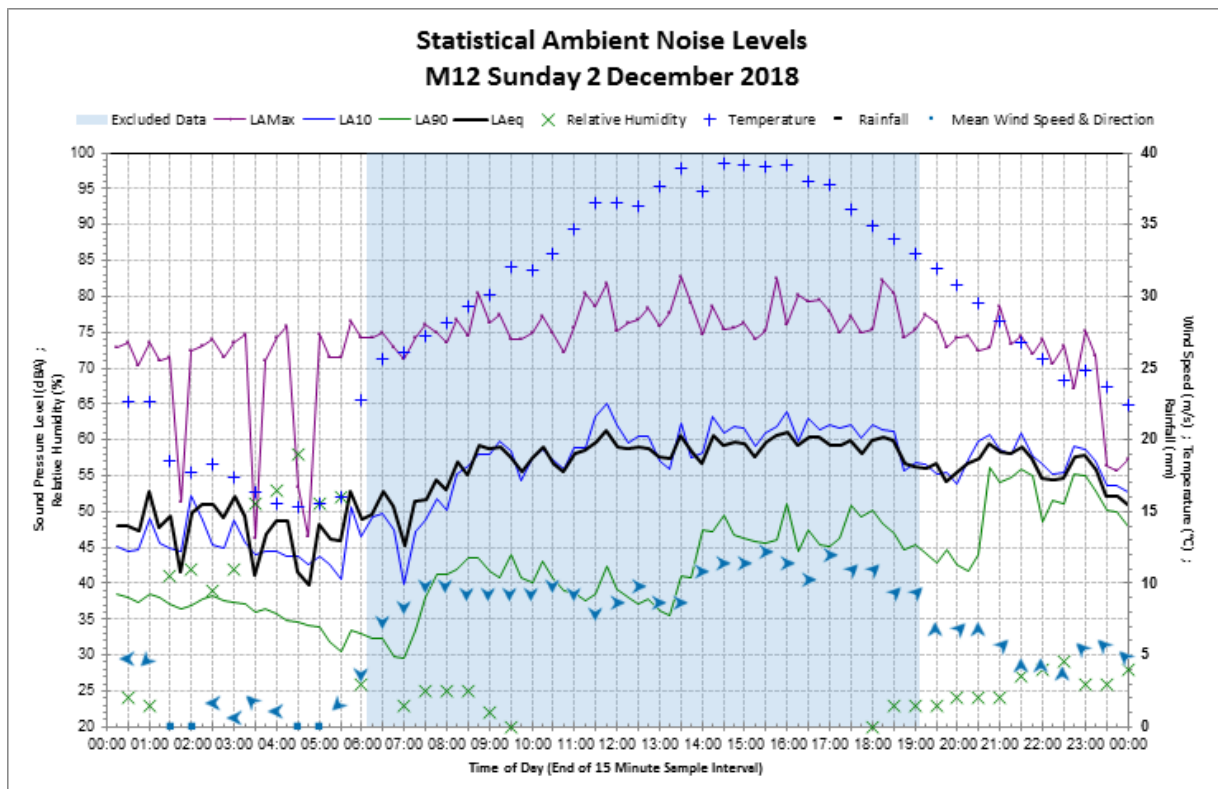
## Monitoring location M12 – 168 Yarrie Lake Road, Narrabri

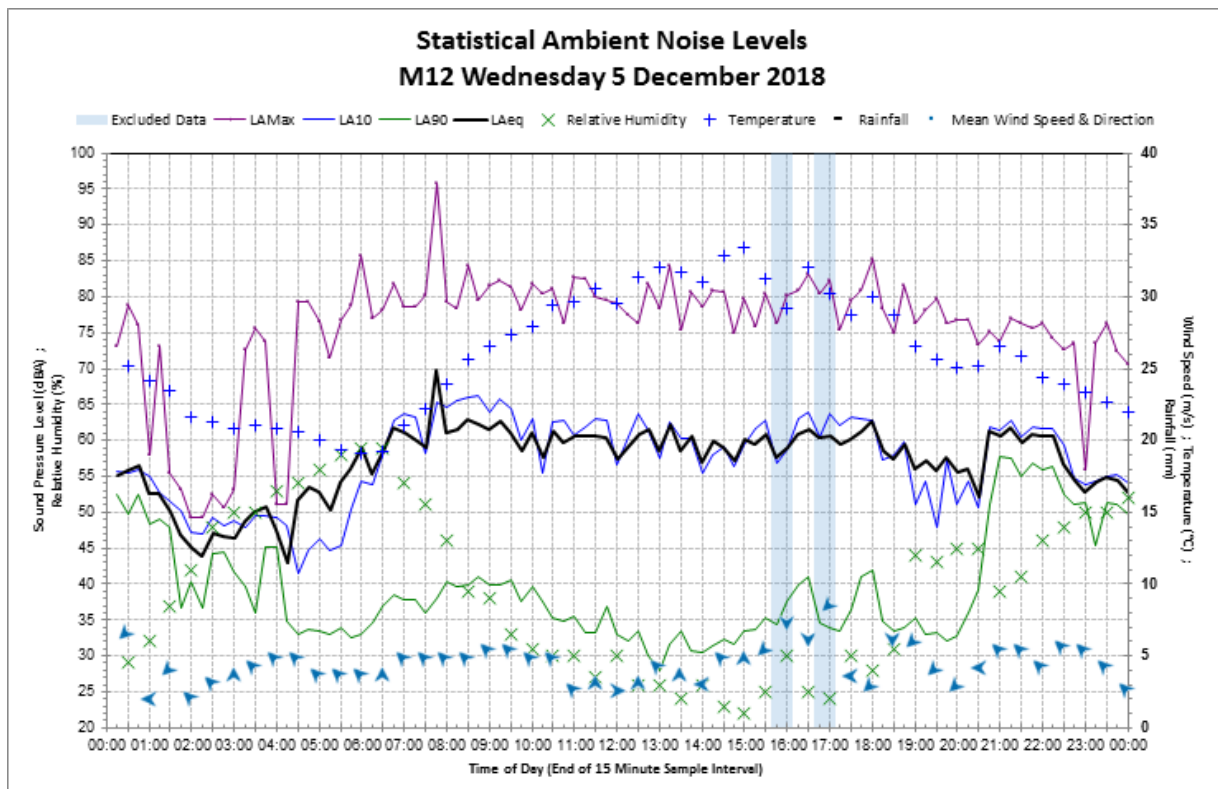
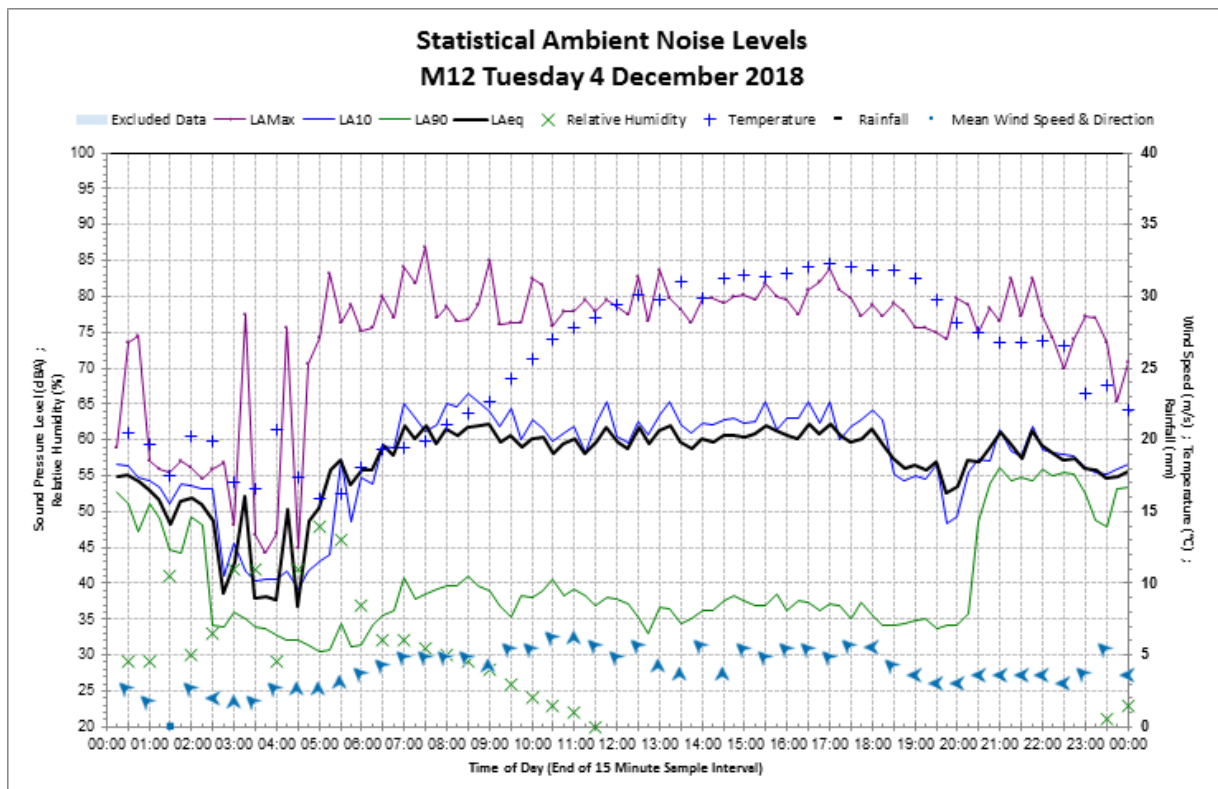


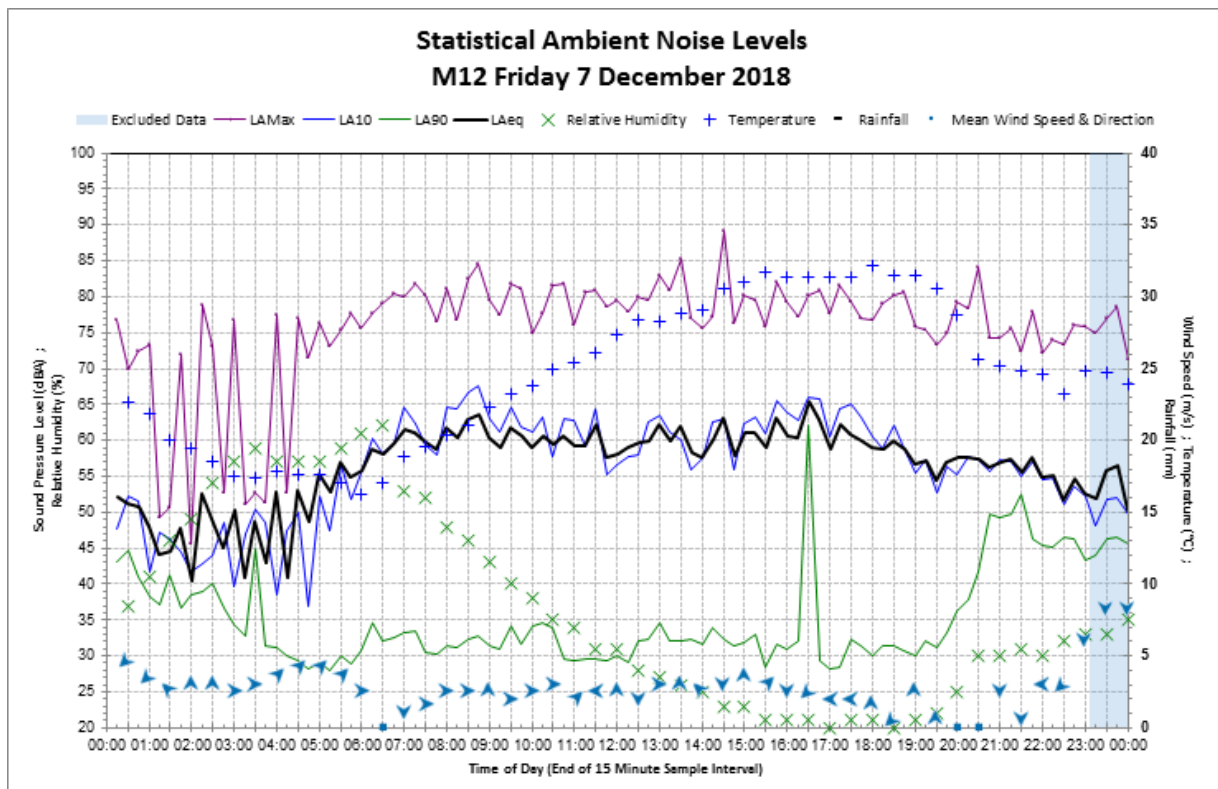
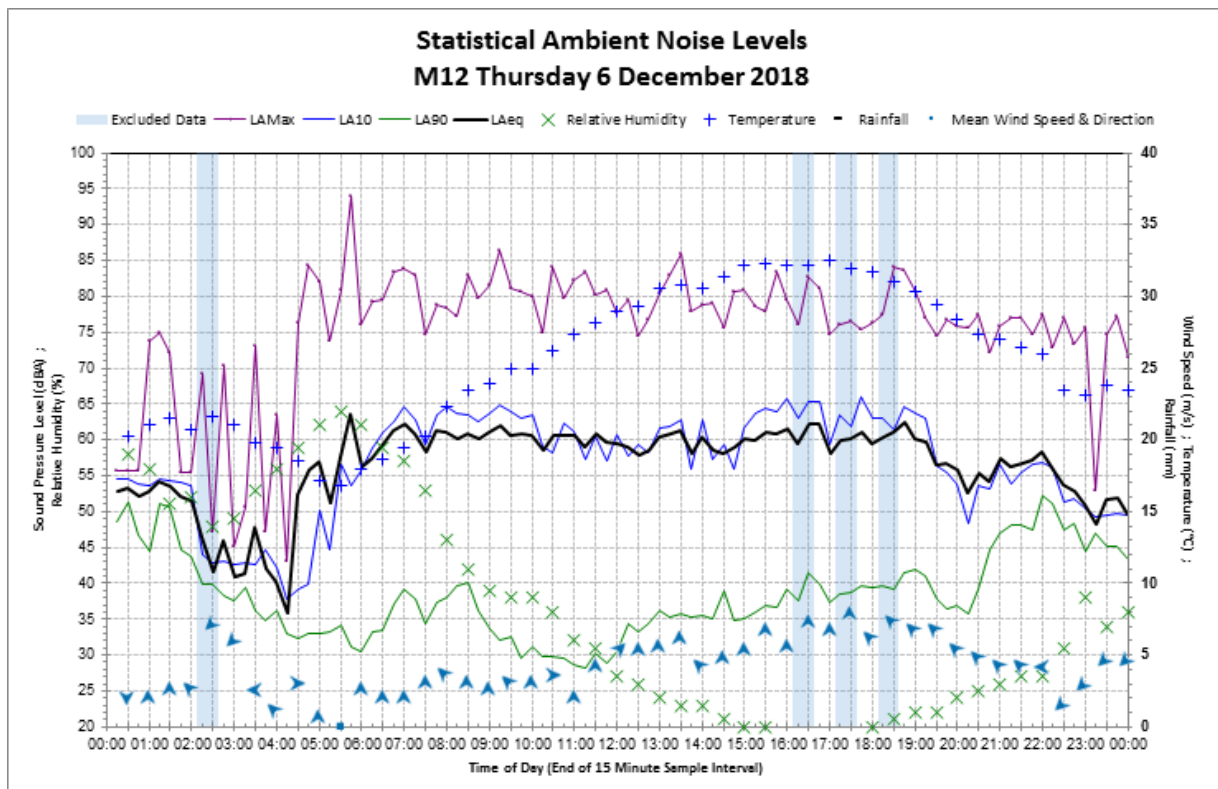


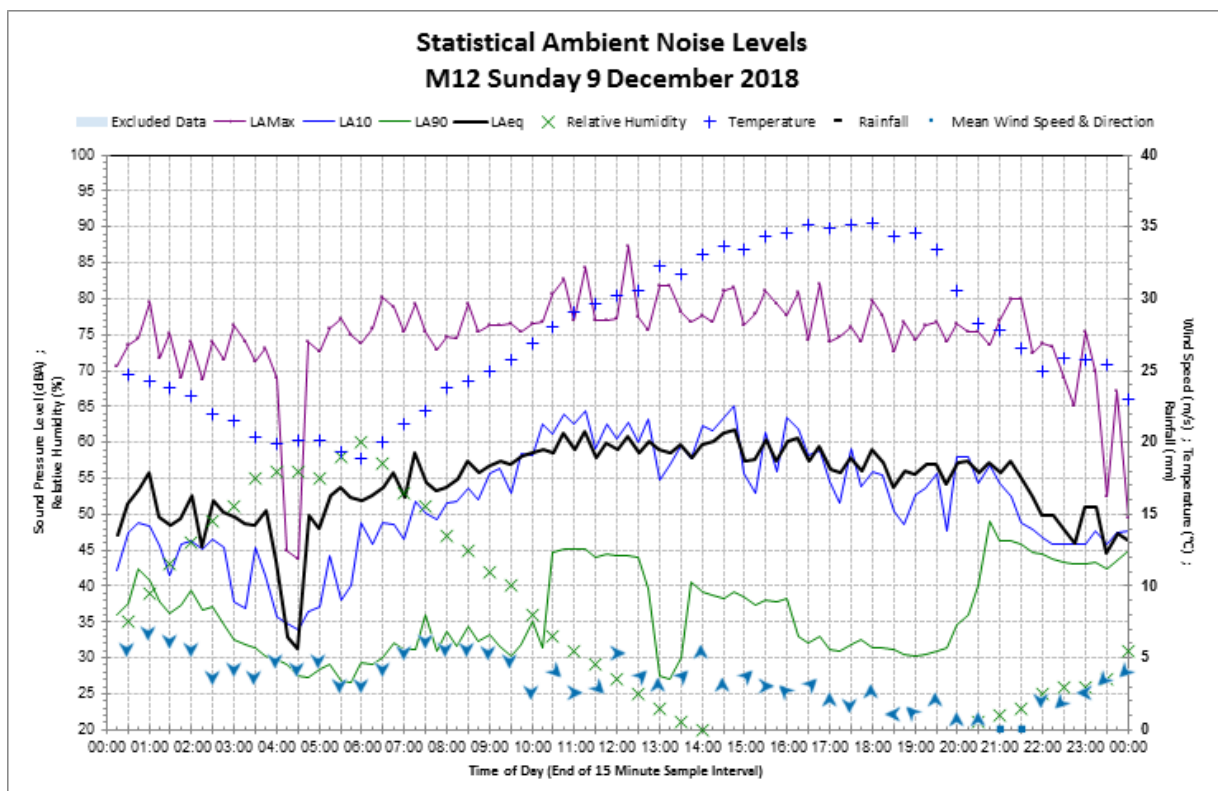
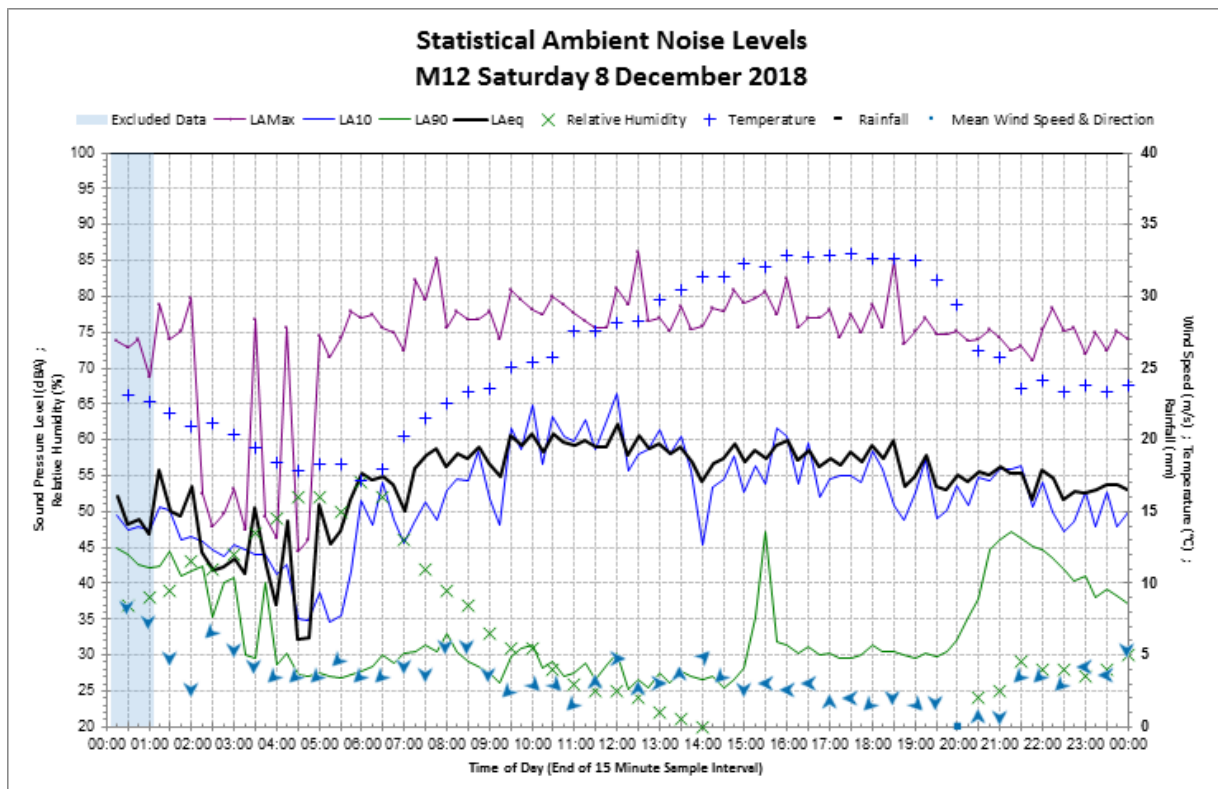




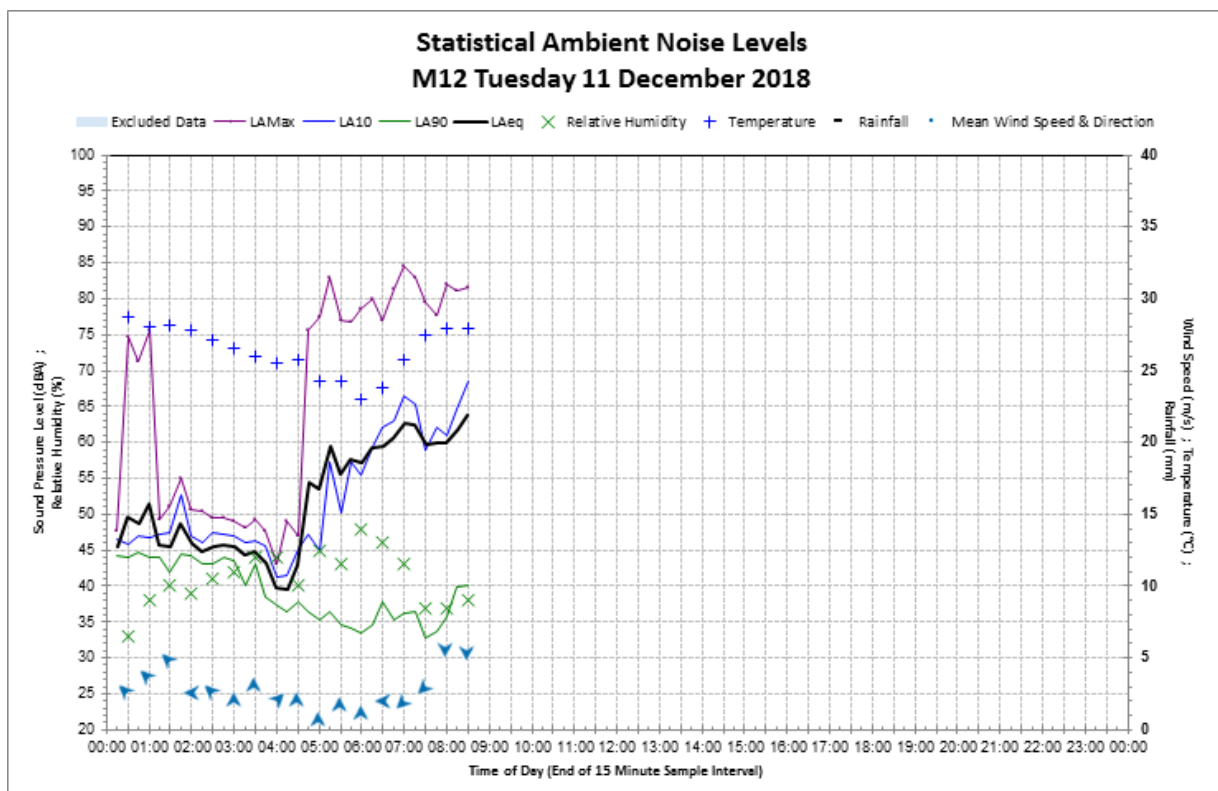
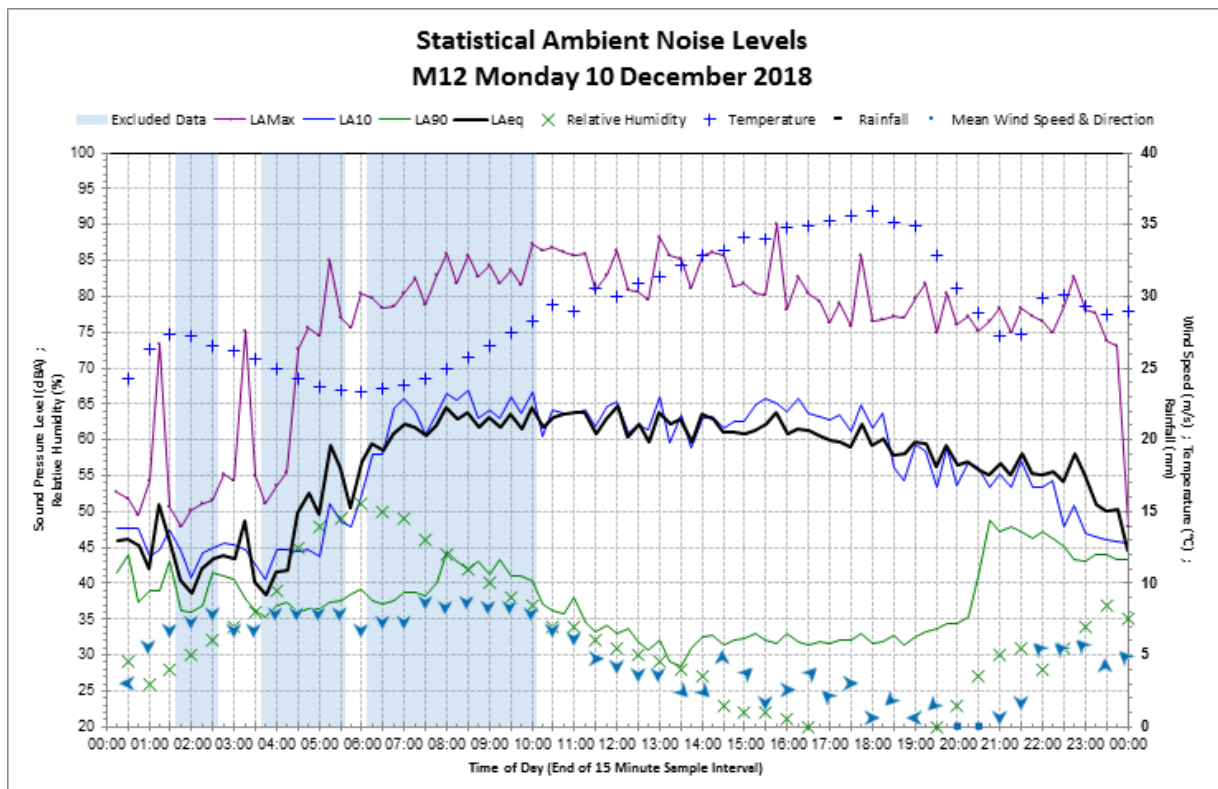






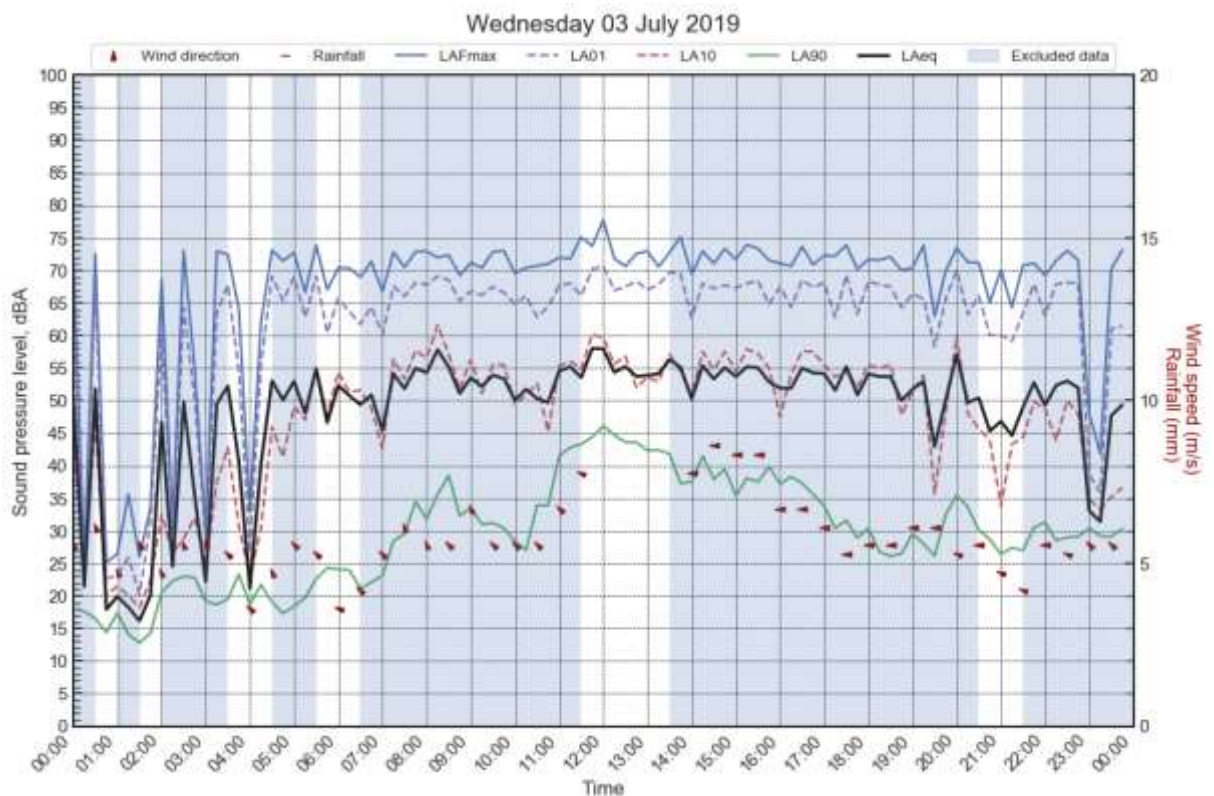
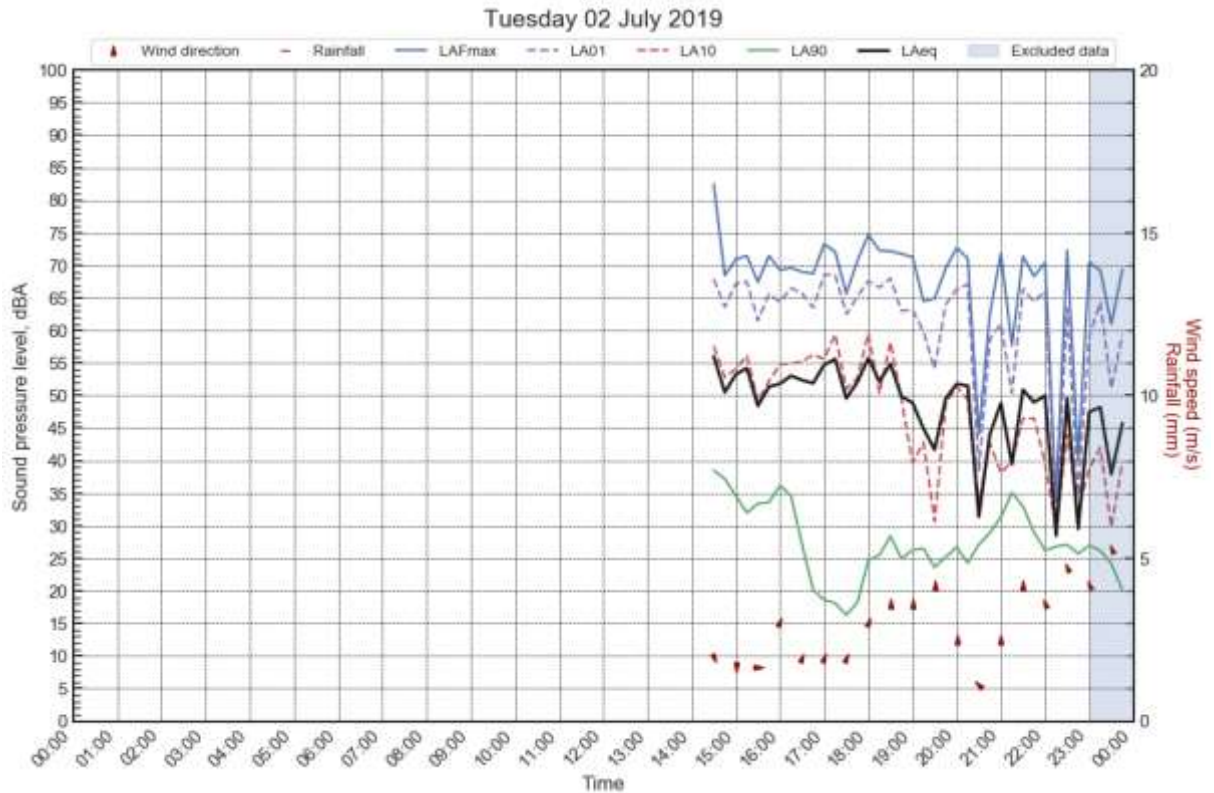


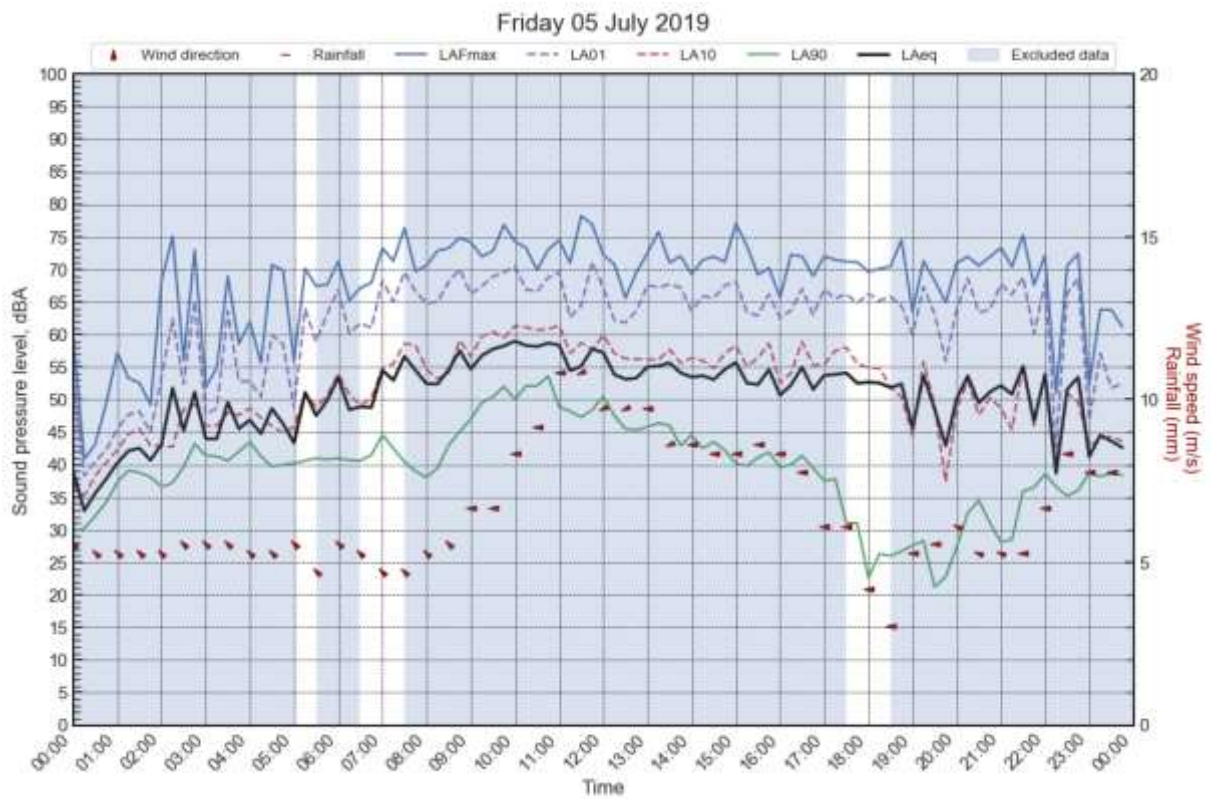
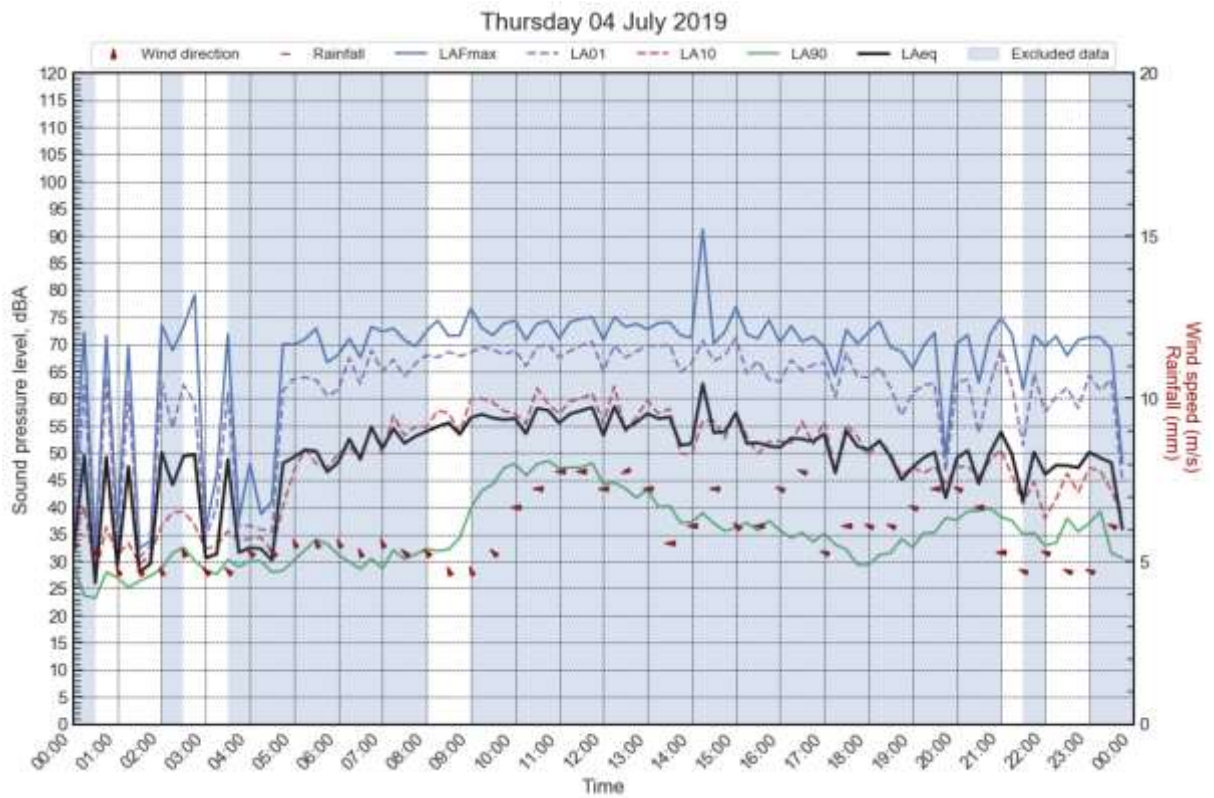




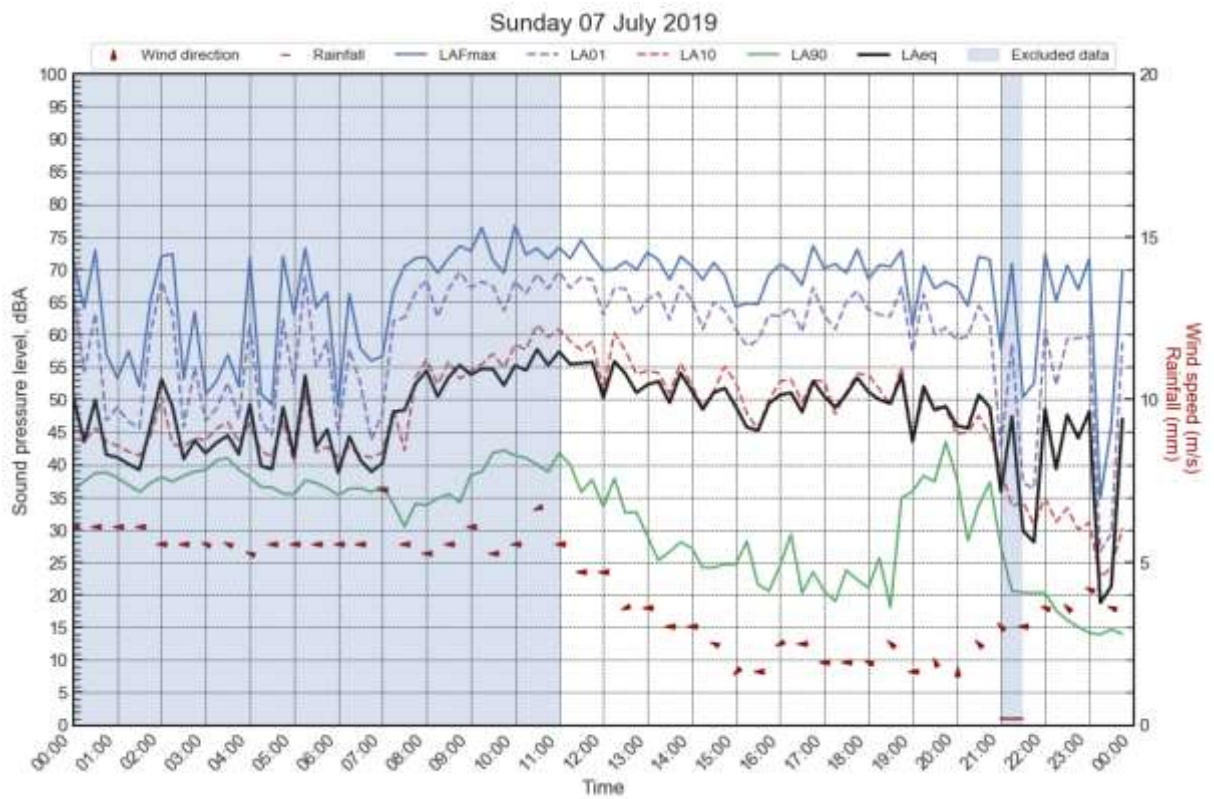
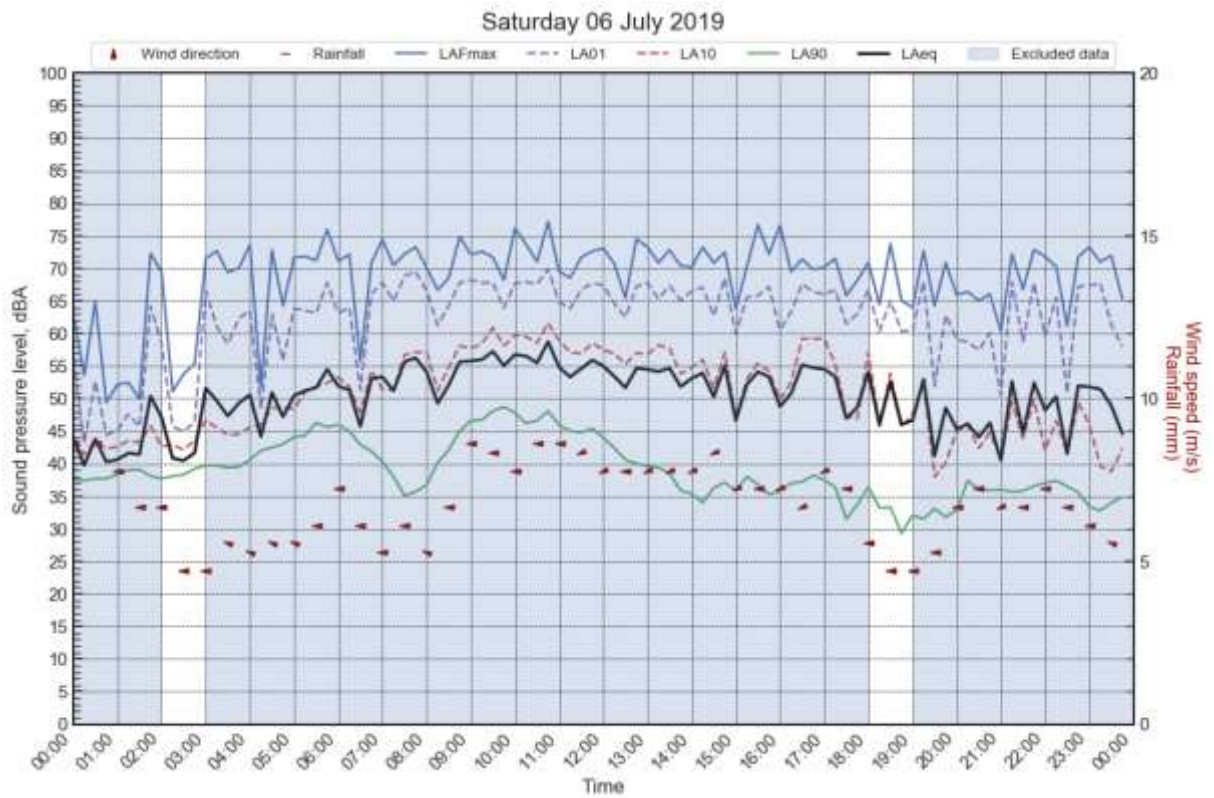


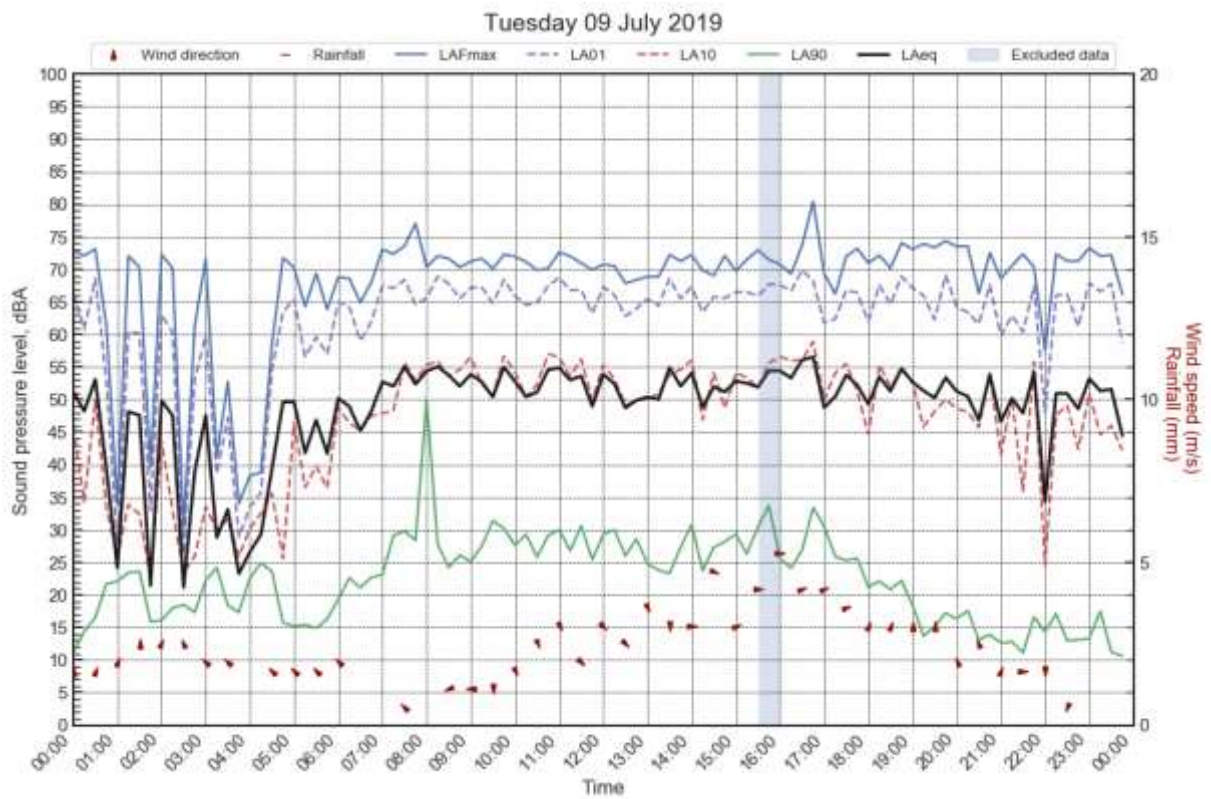
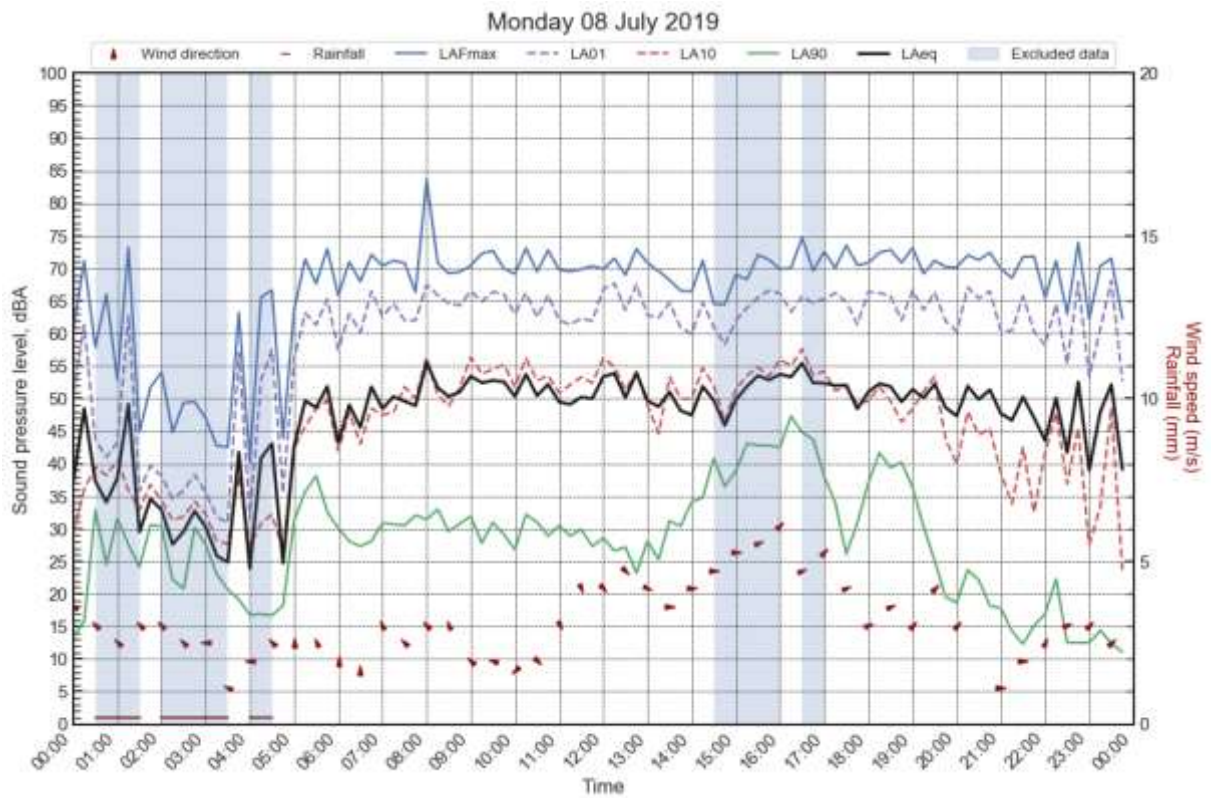
## Monitoring location M13 – 397 Cragie Lea Lane, Narromine



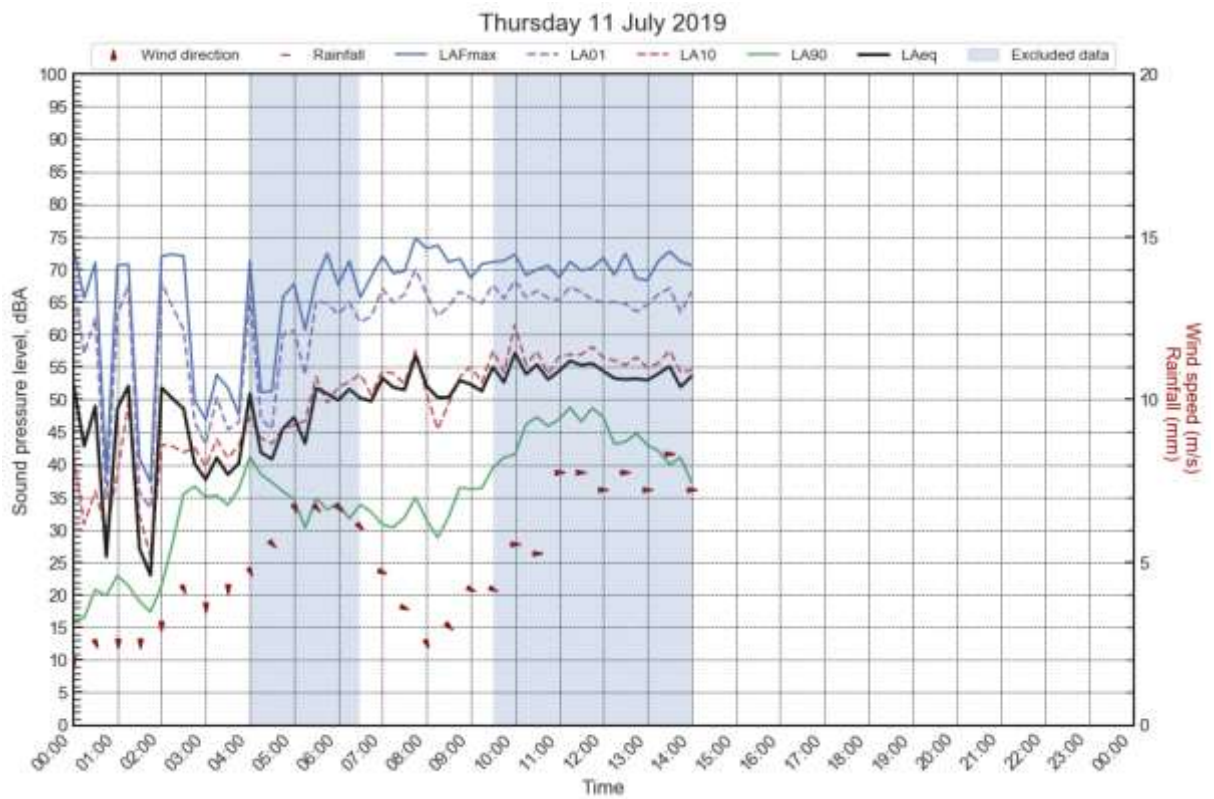
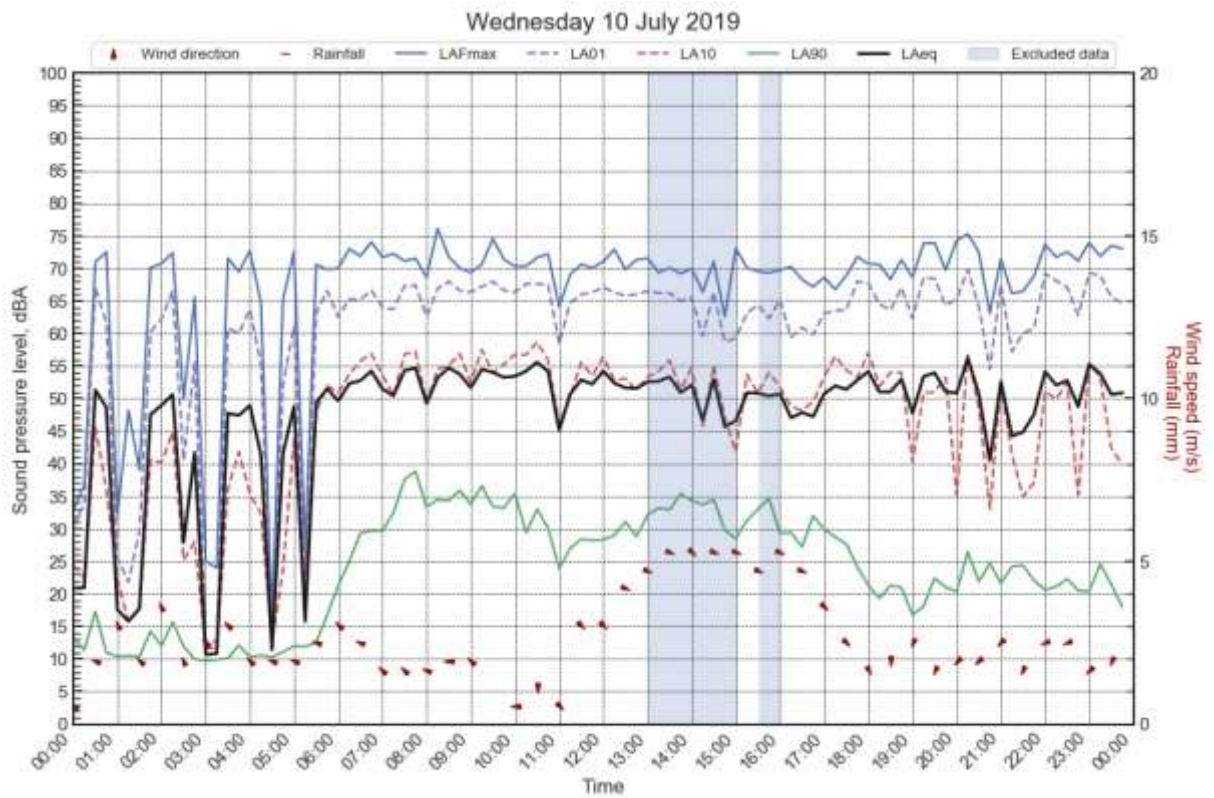






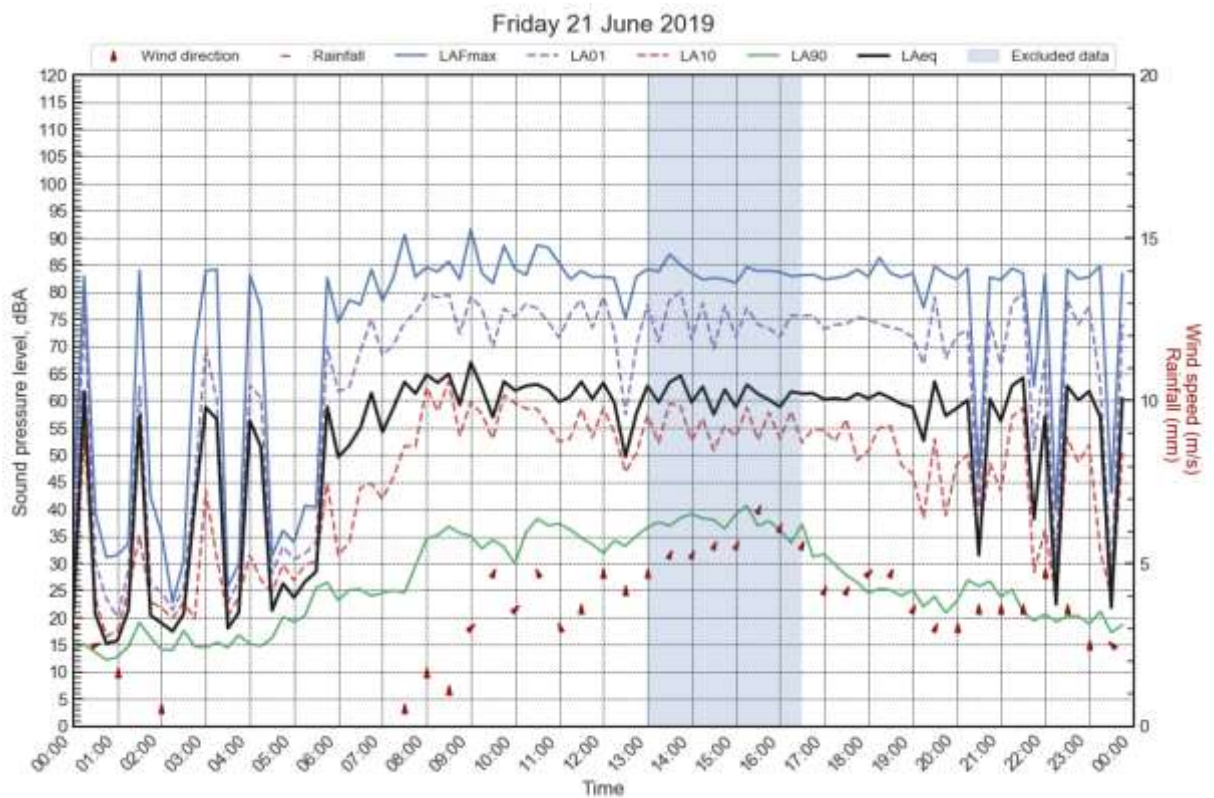
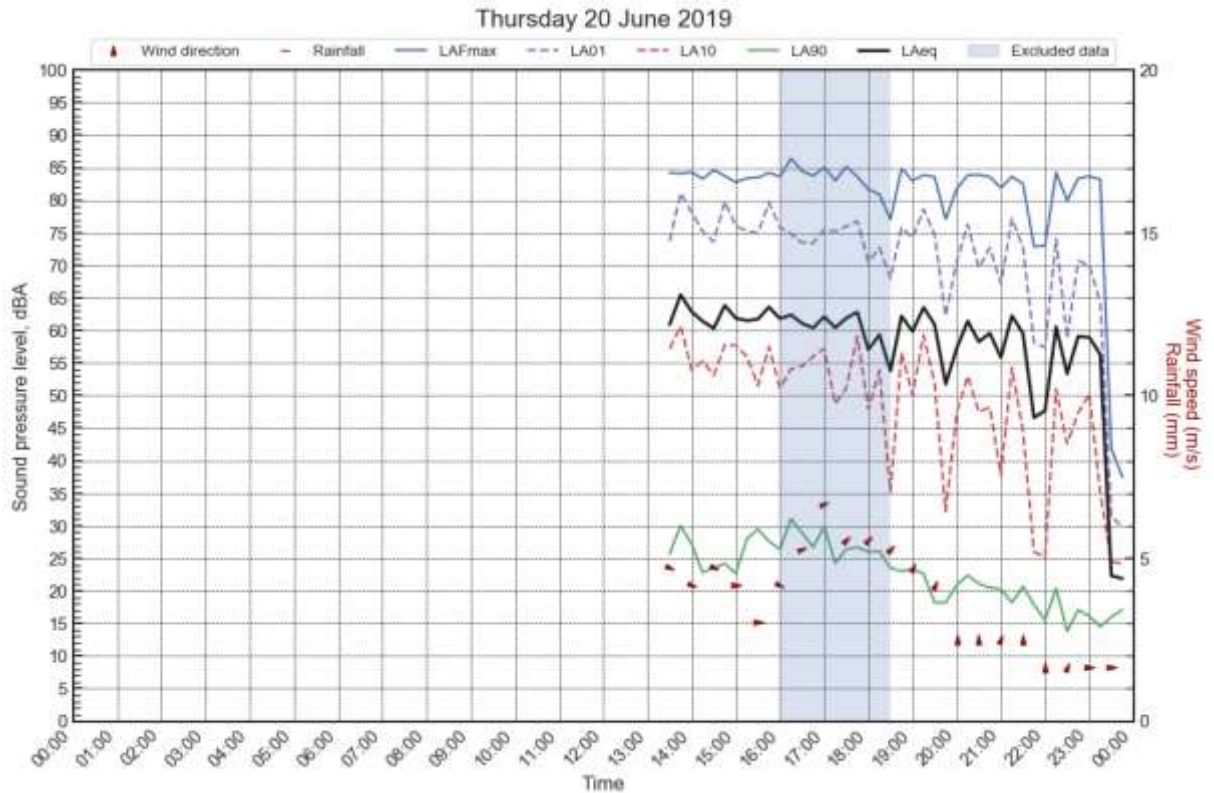


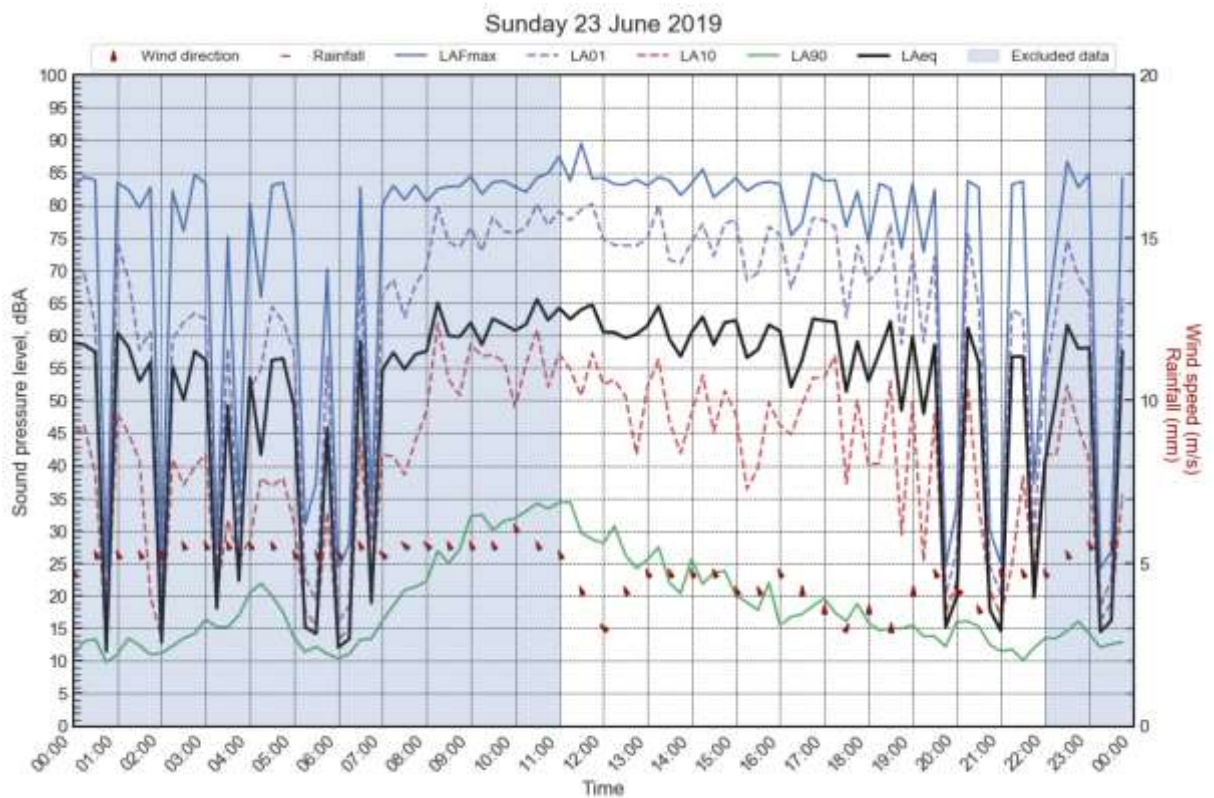
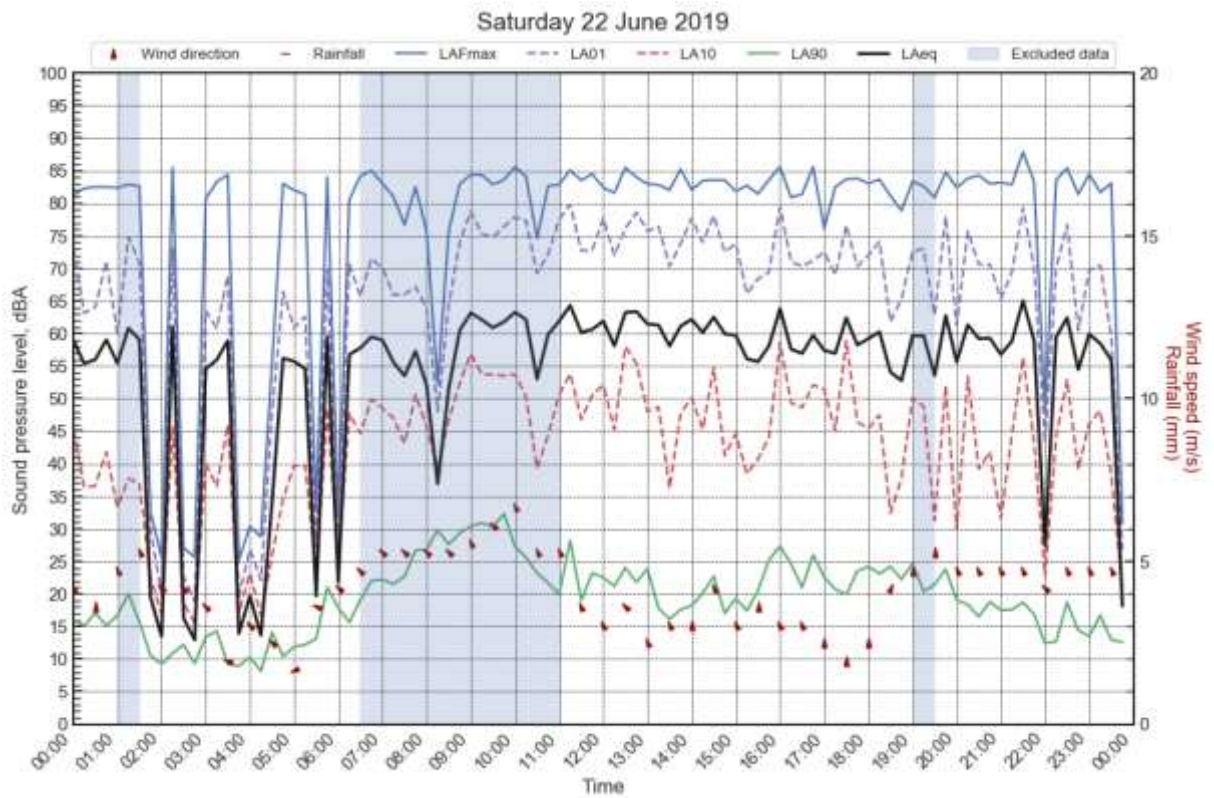




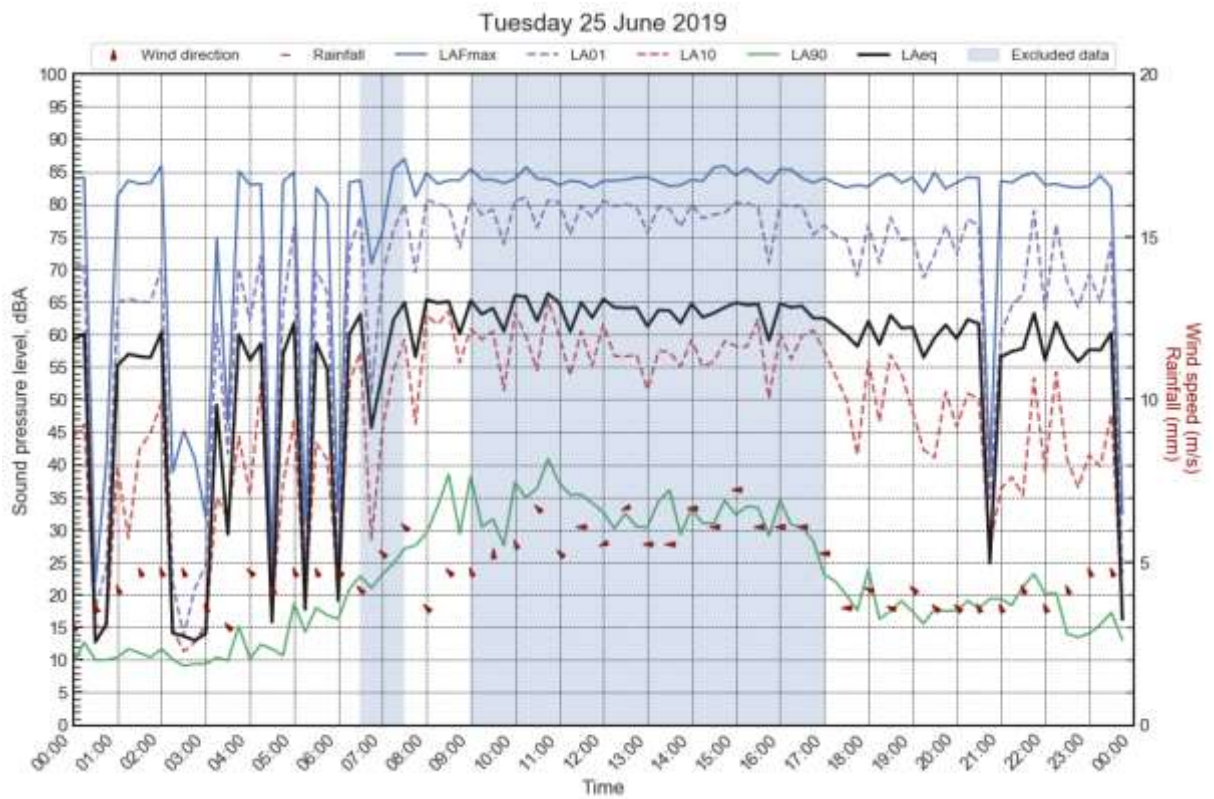
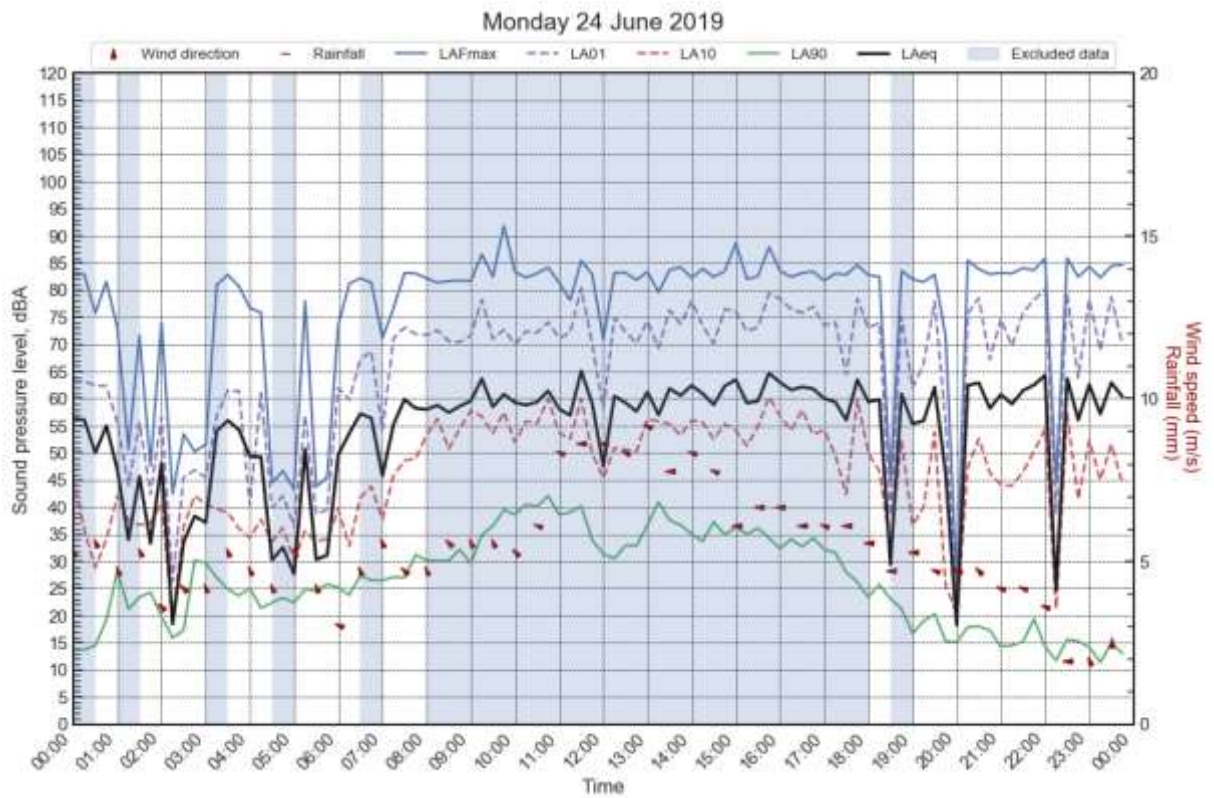


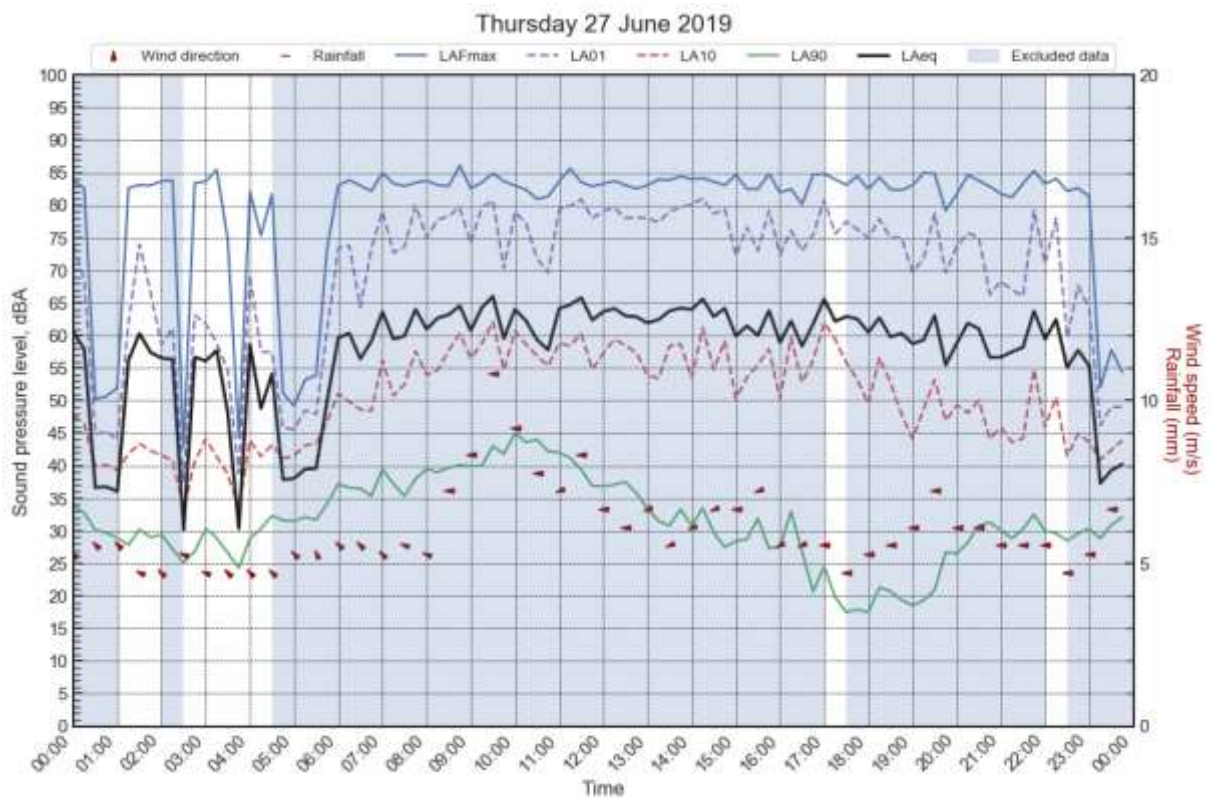
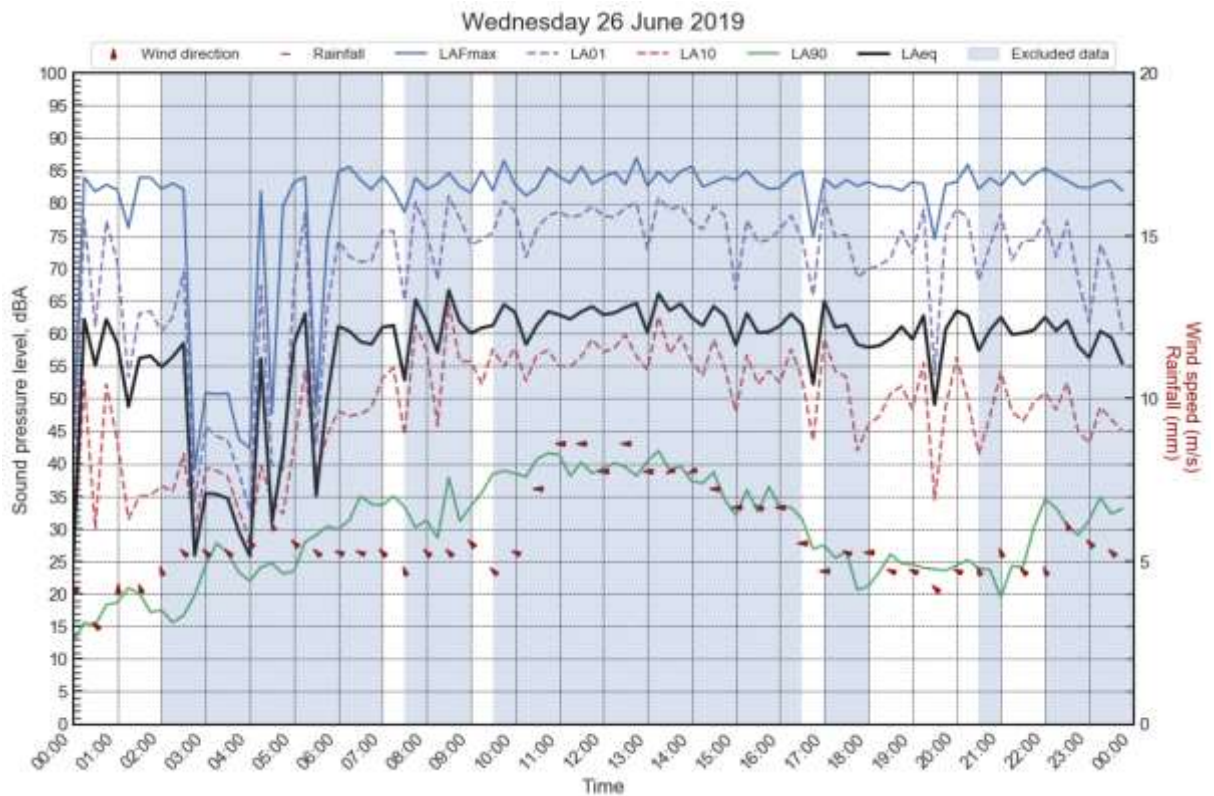
## Monitoring location M14 – 602 Eumungerie Road, Narromine



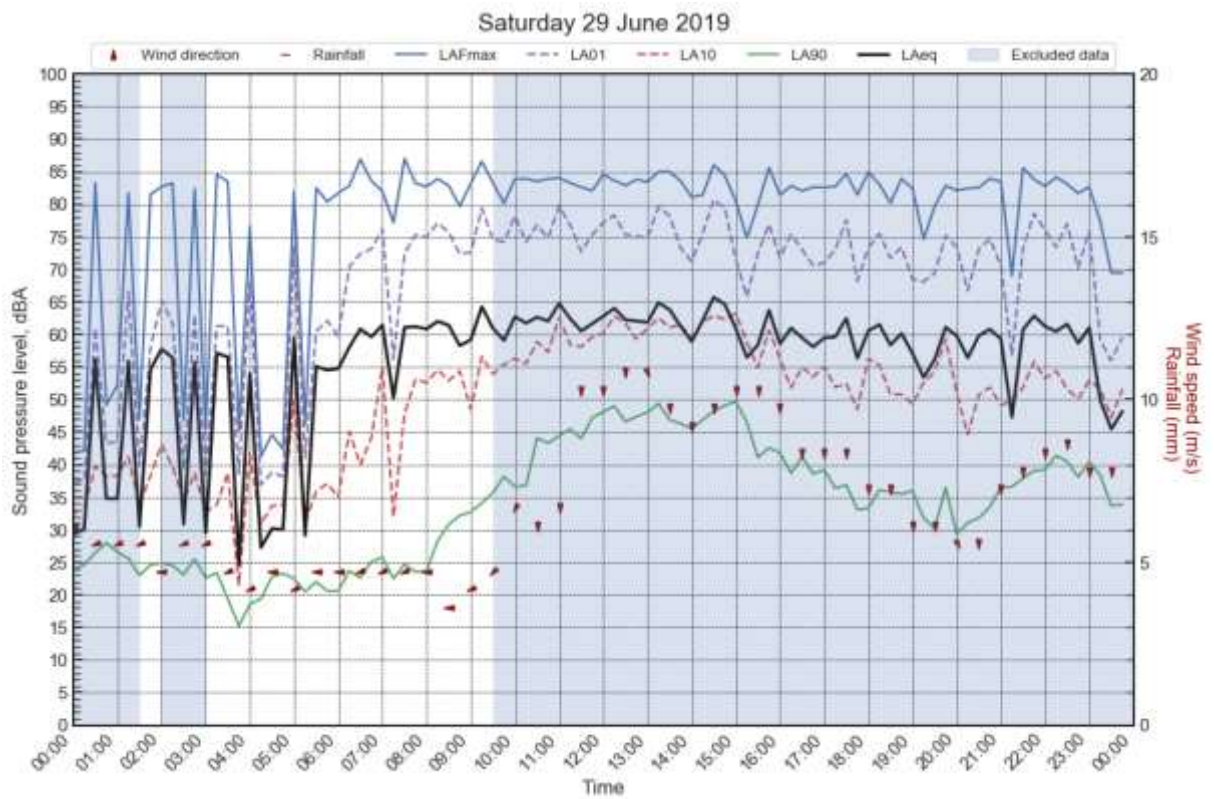
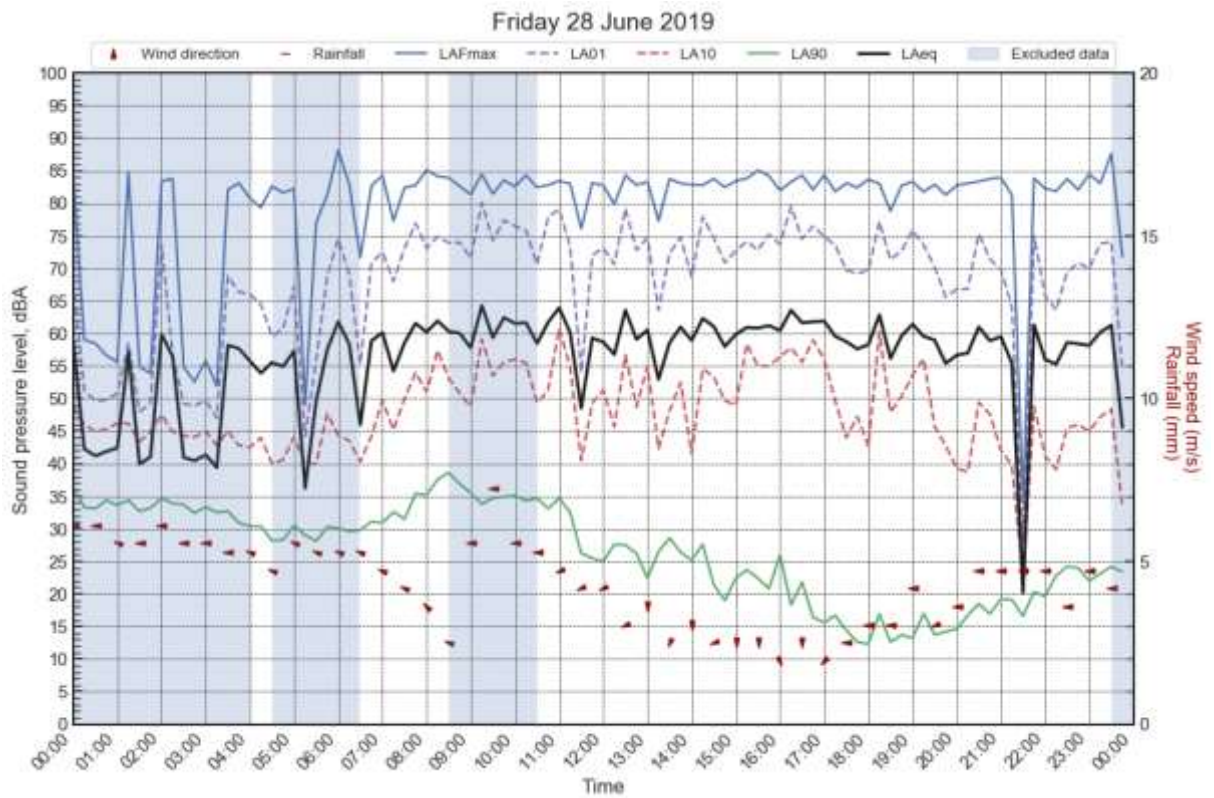




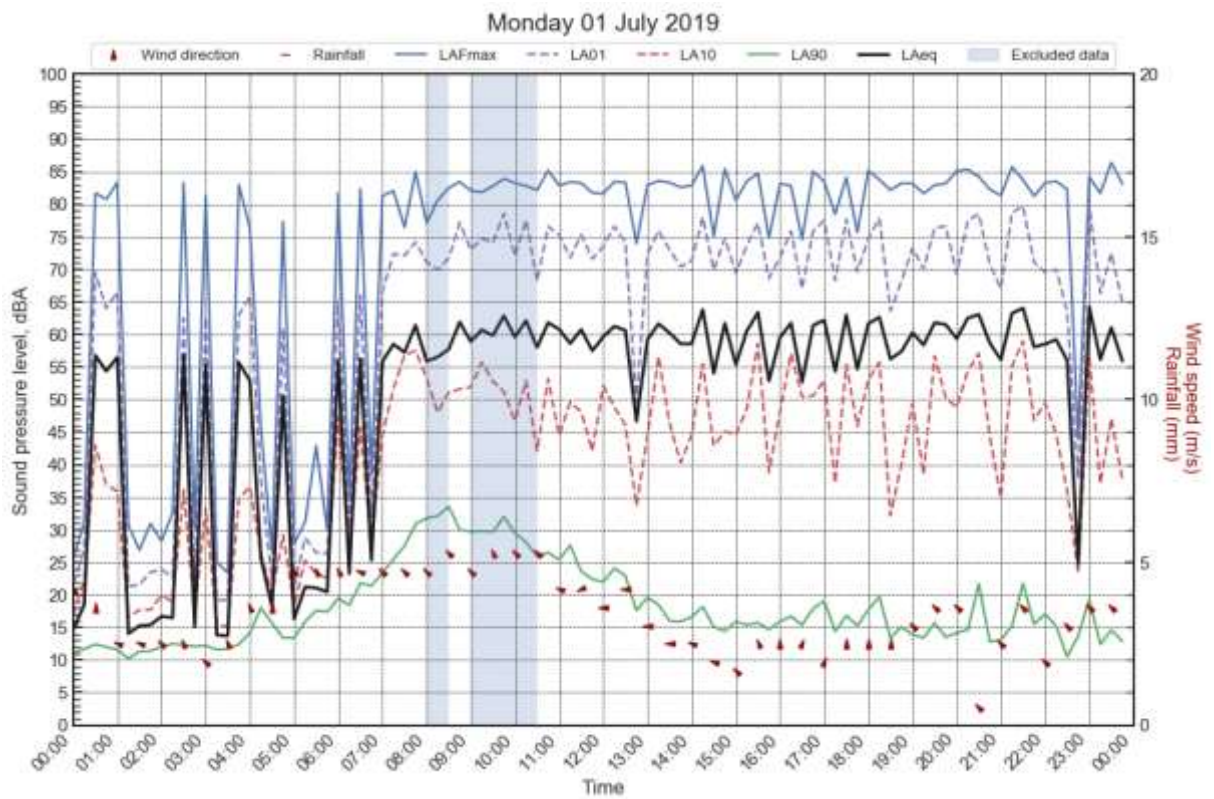
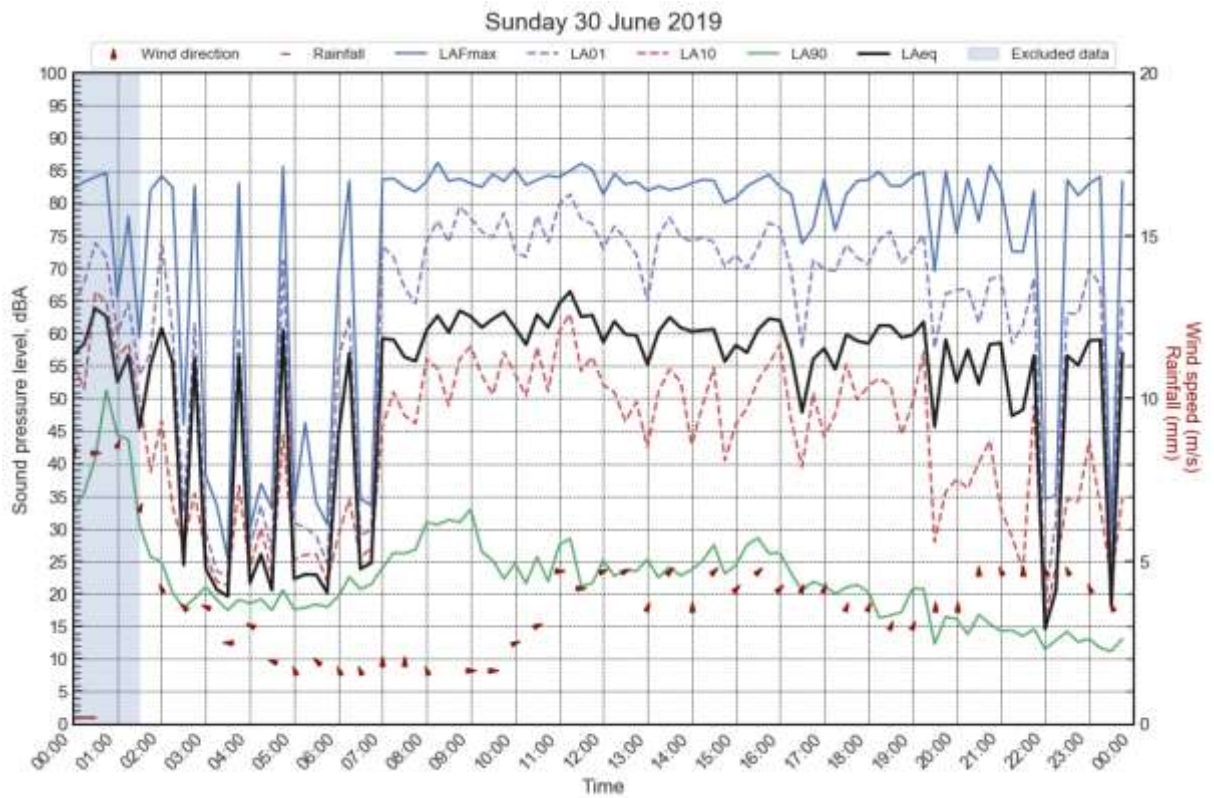


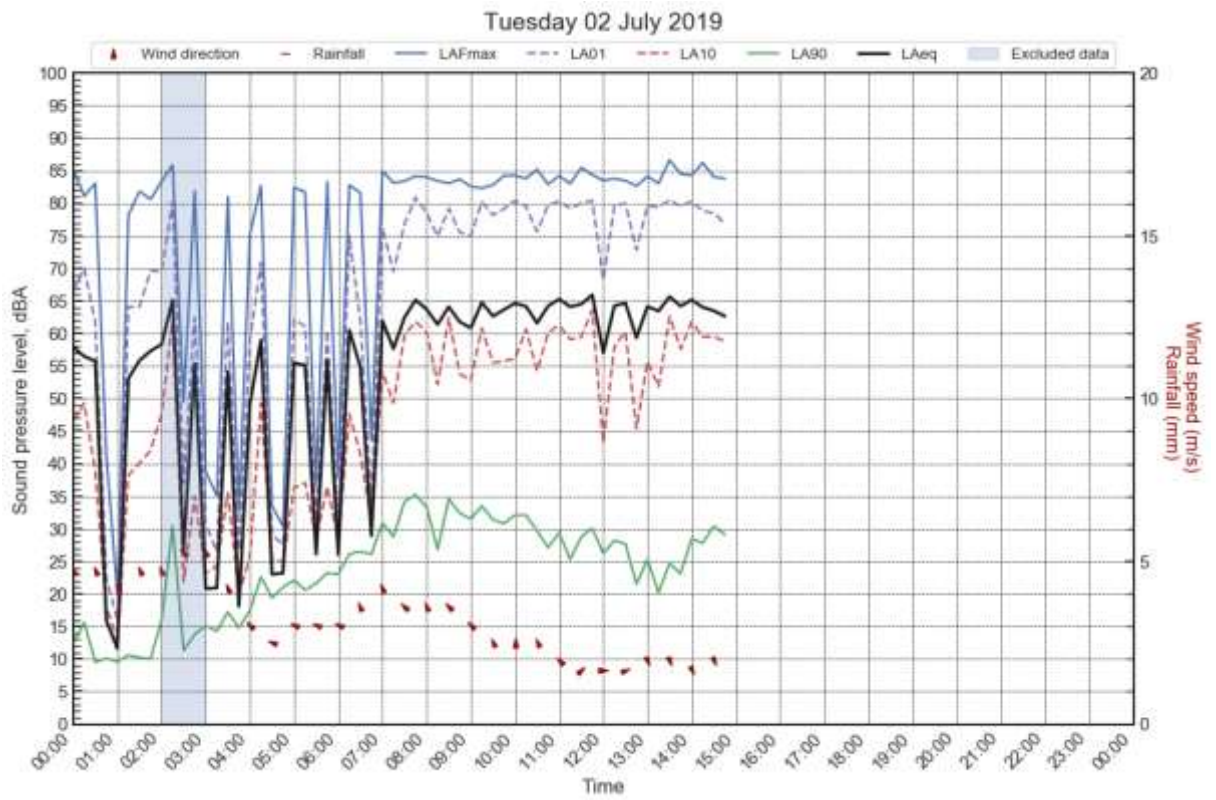




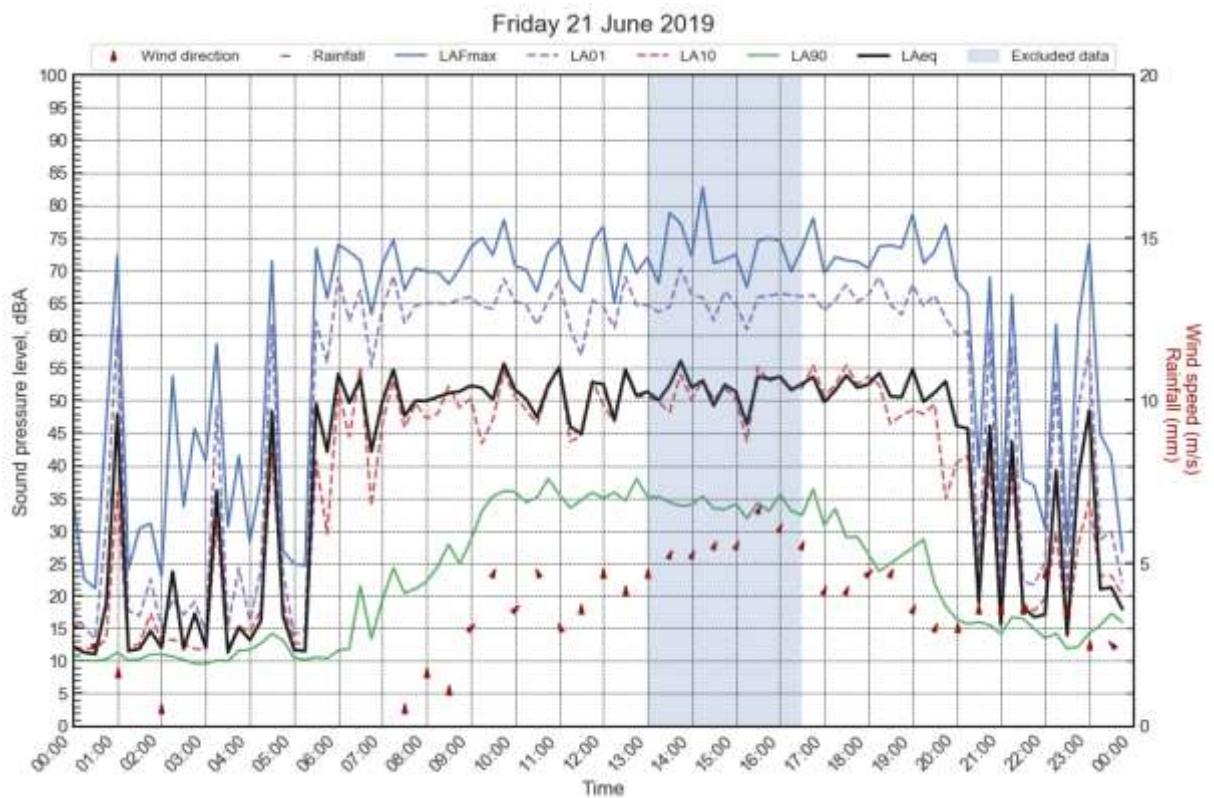
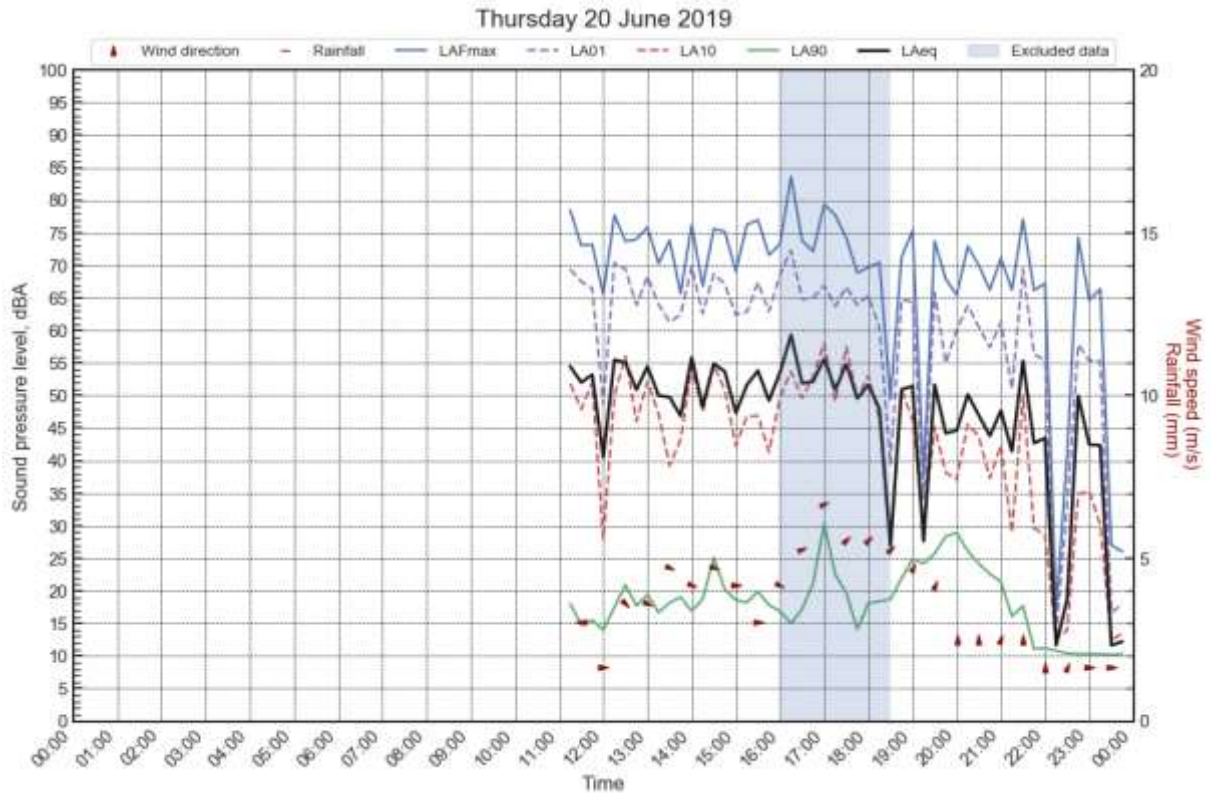




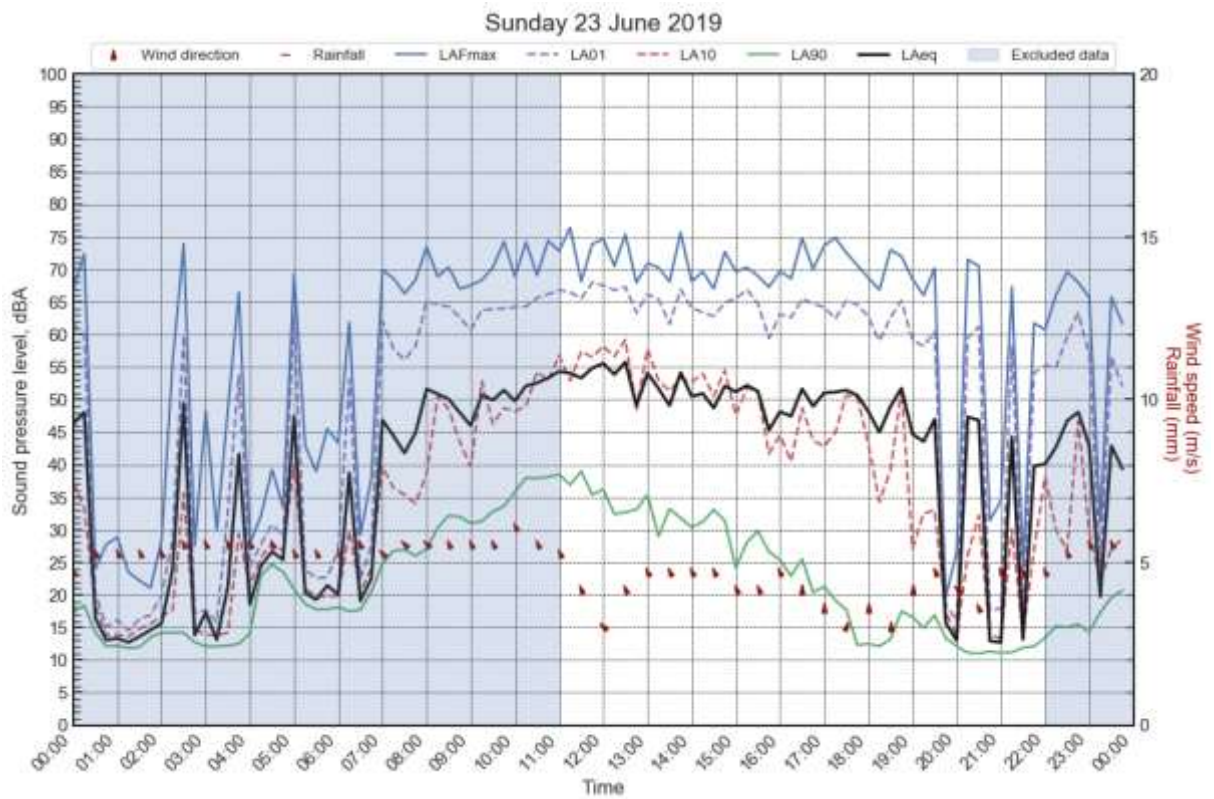
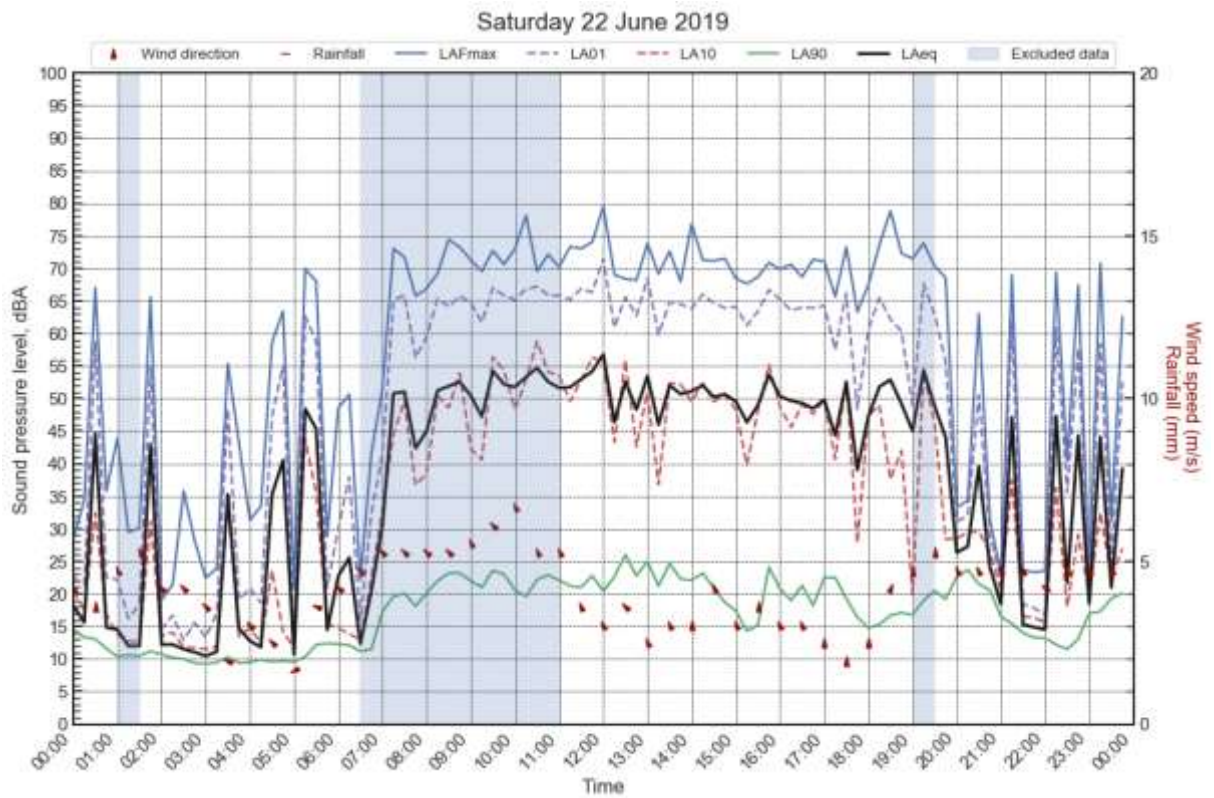


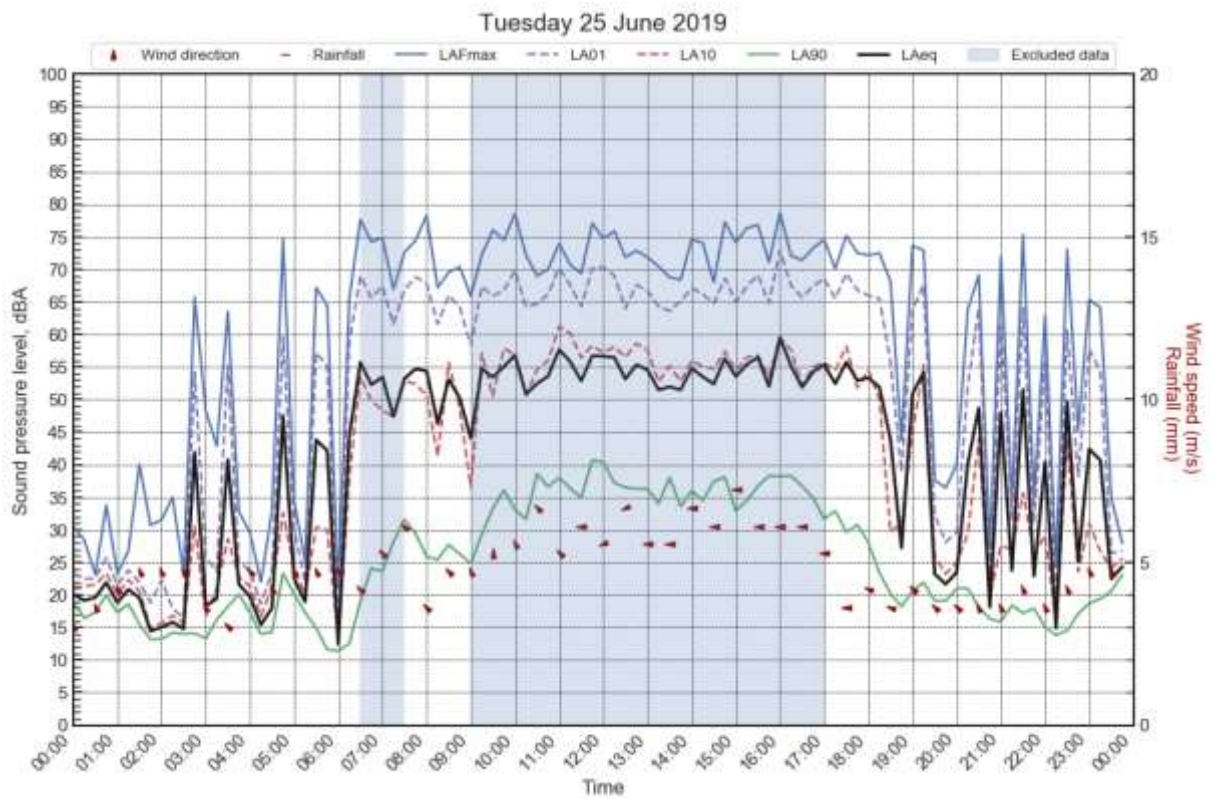
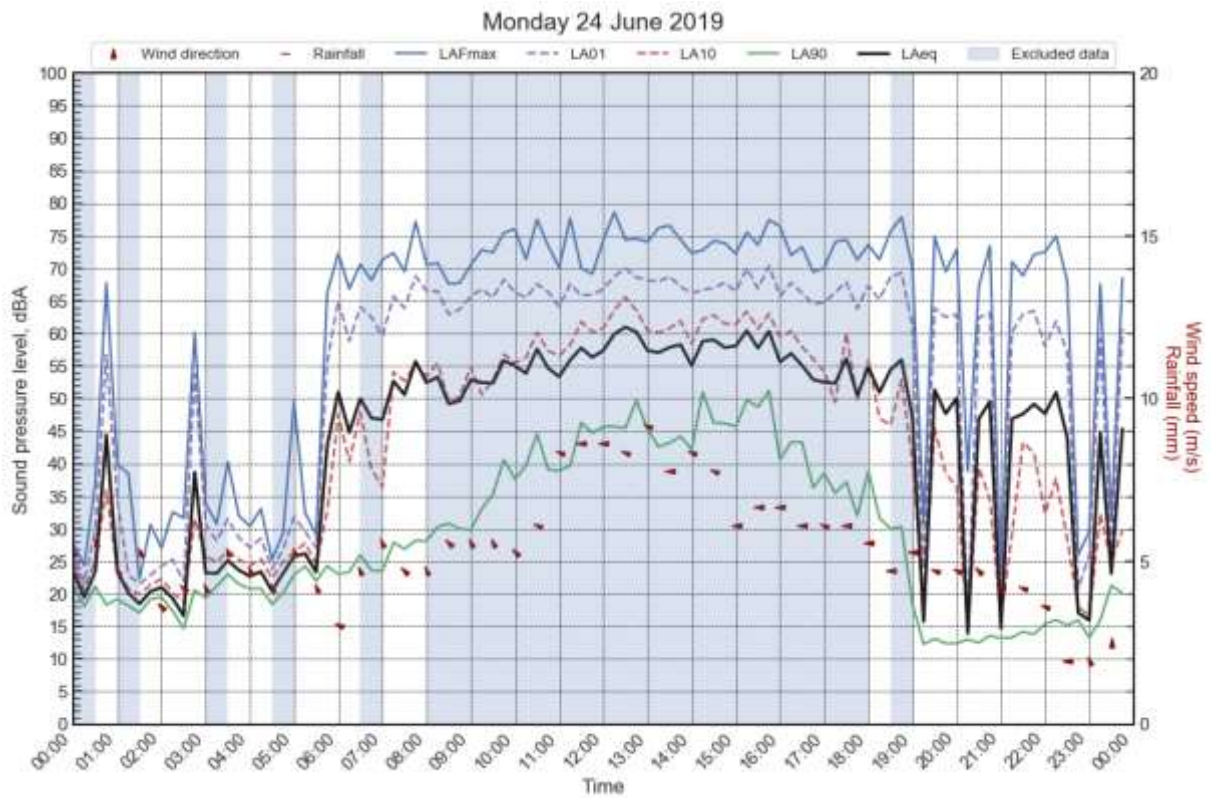


## Monitoring location M15 – 1662 Oxley Highway, Gilgandra

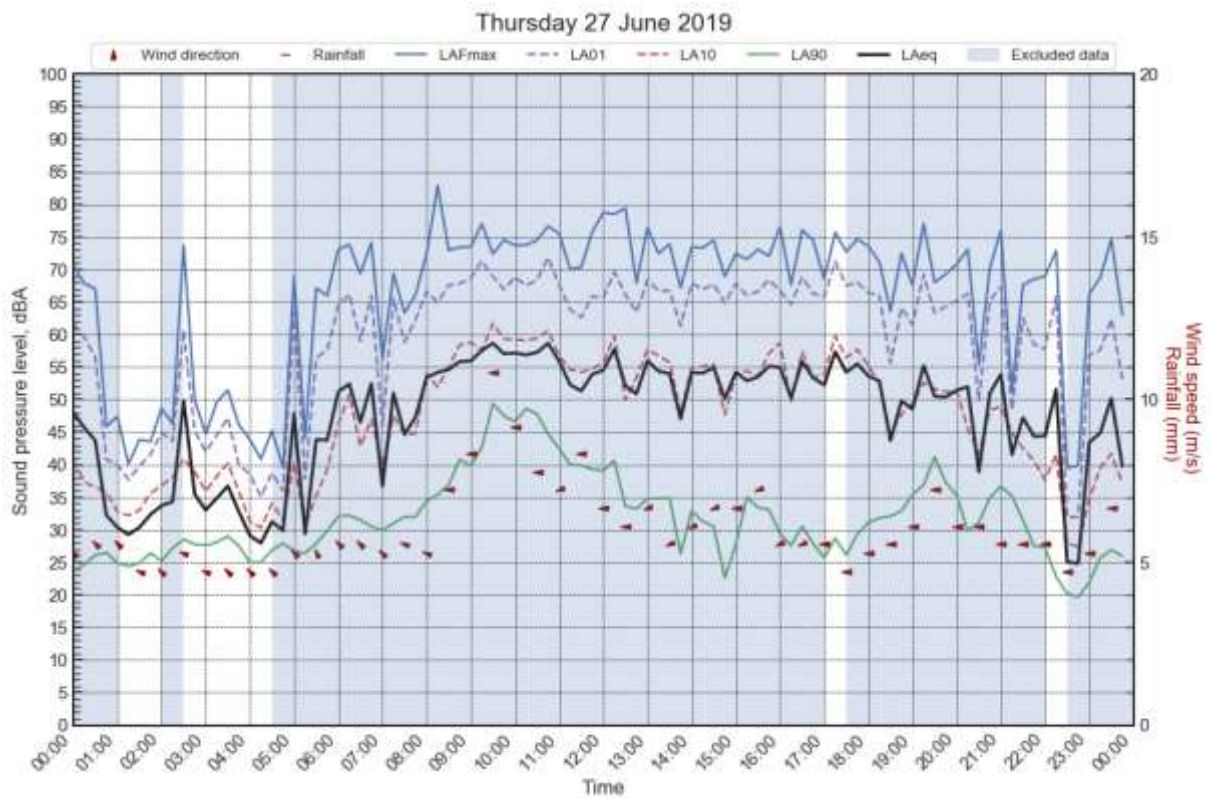
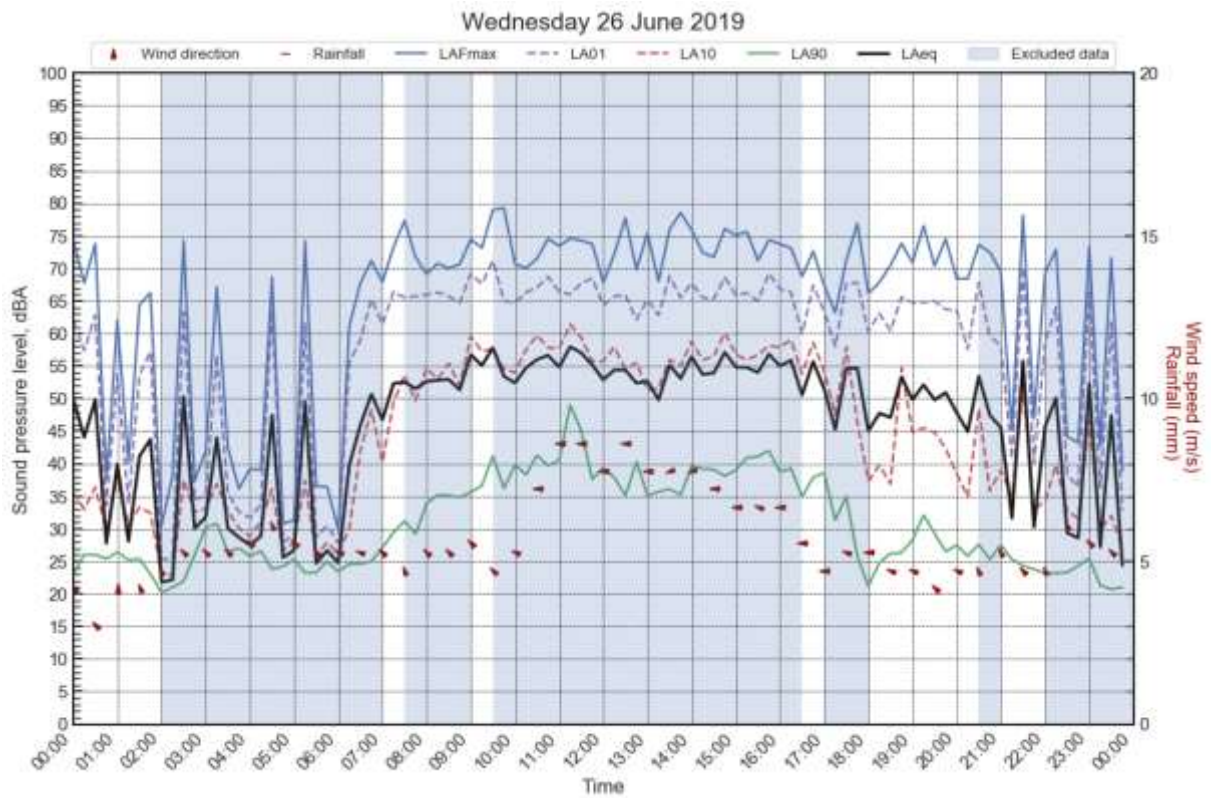


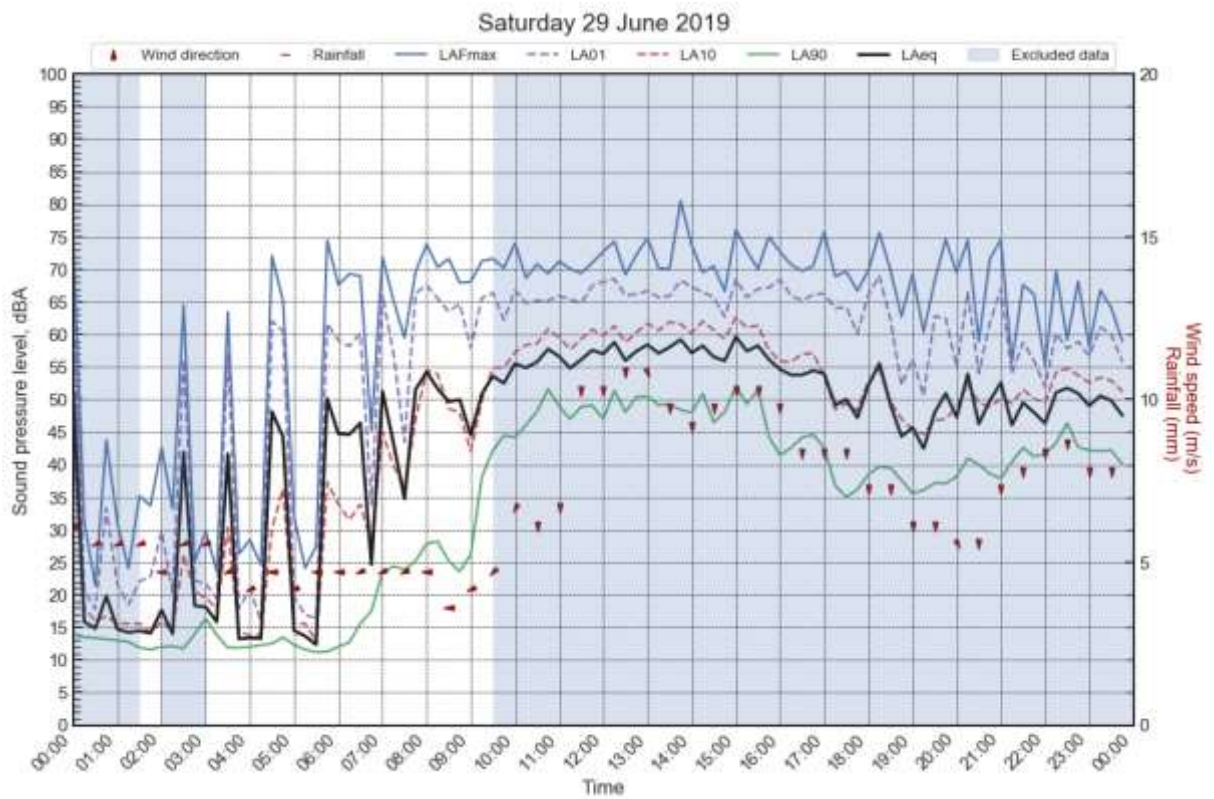
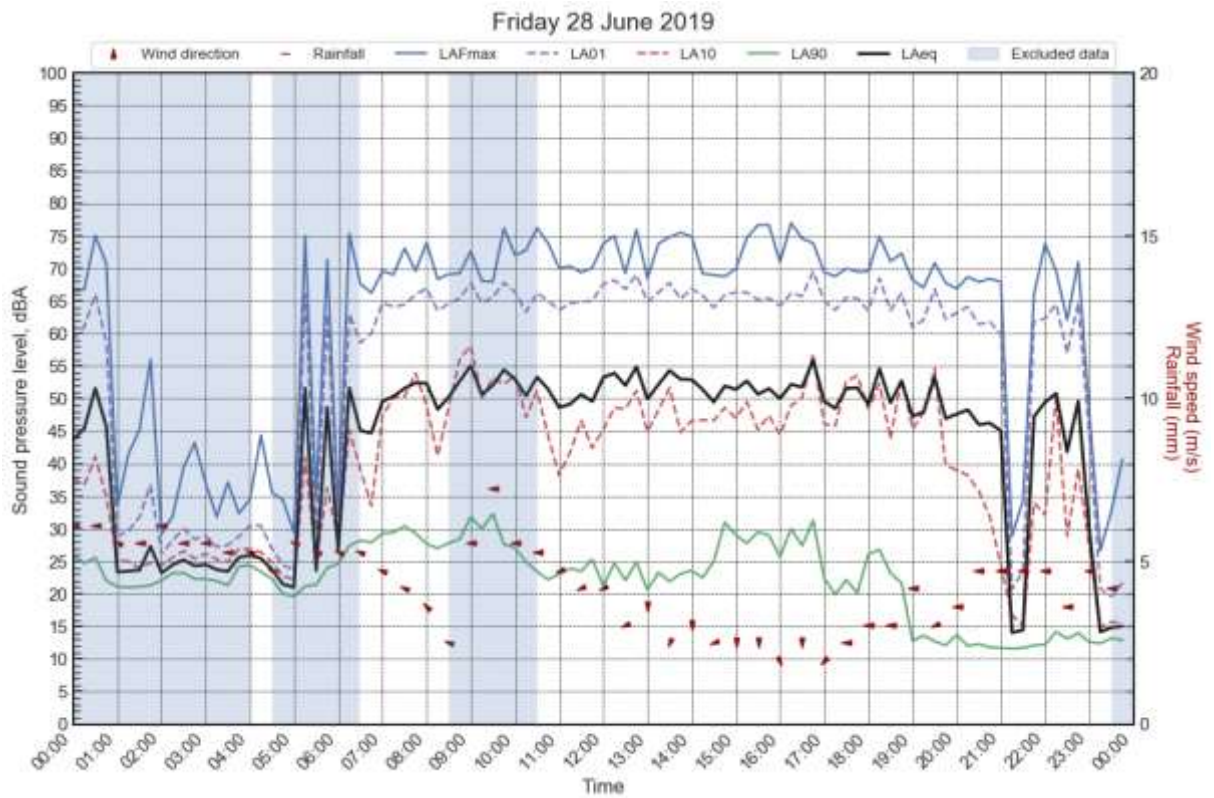




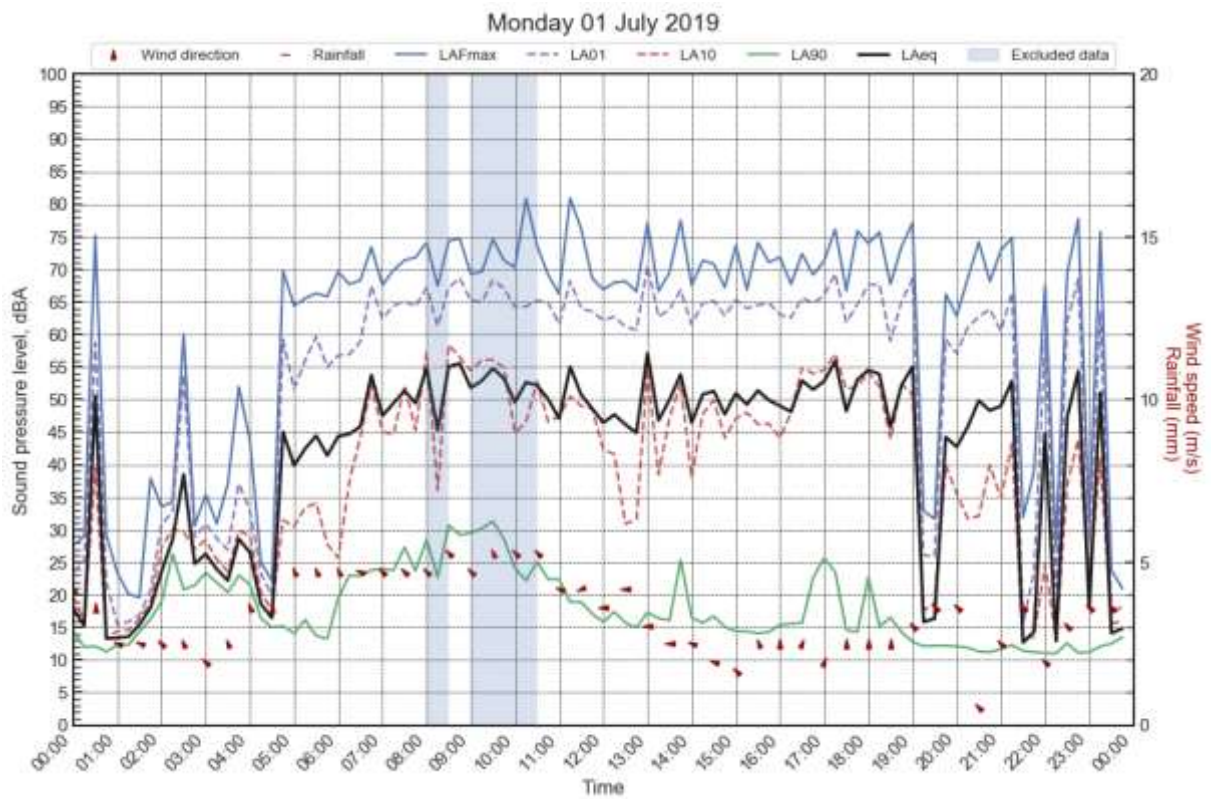
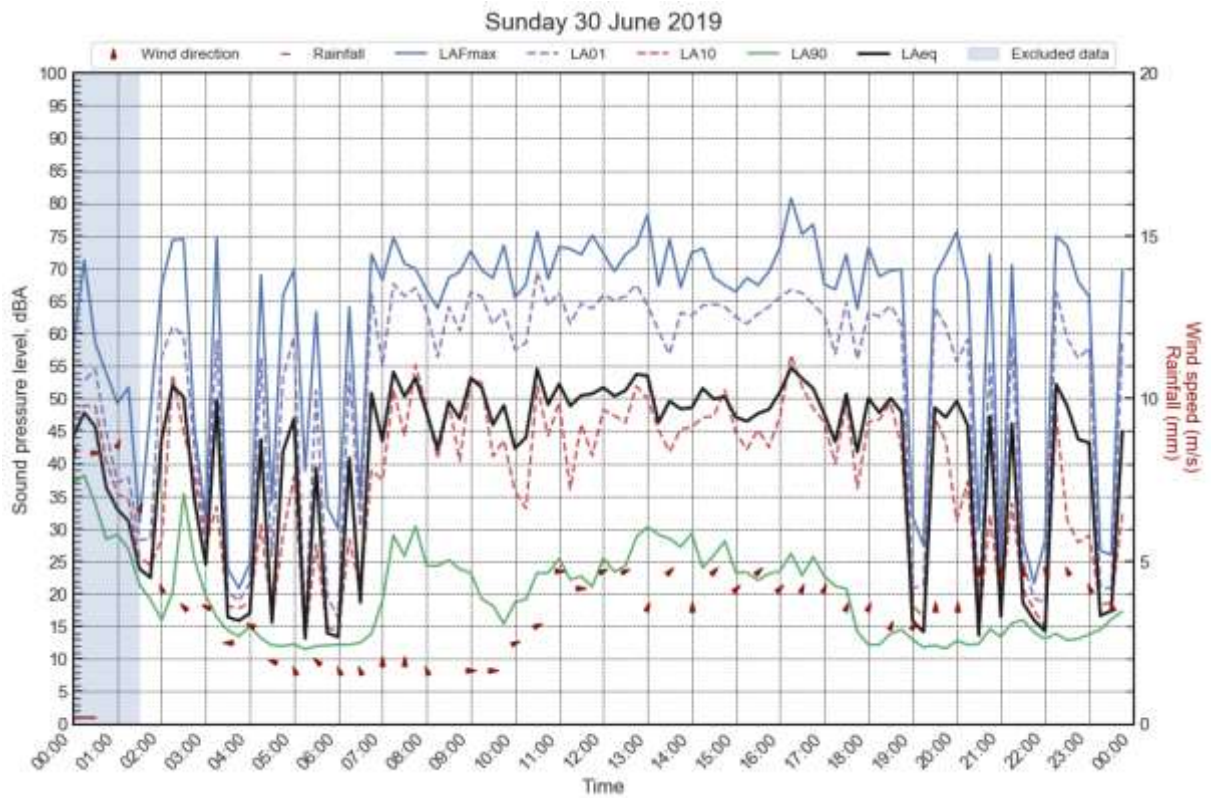


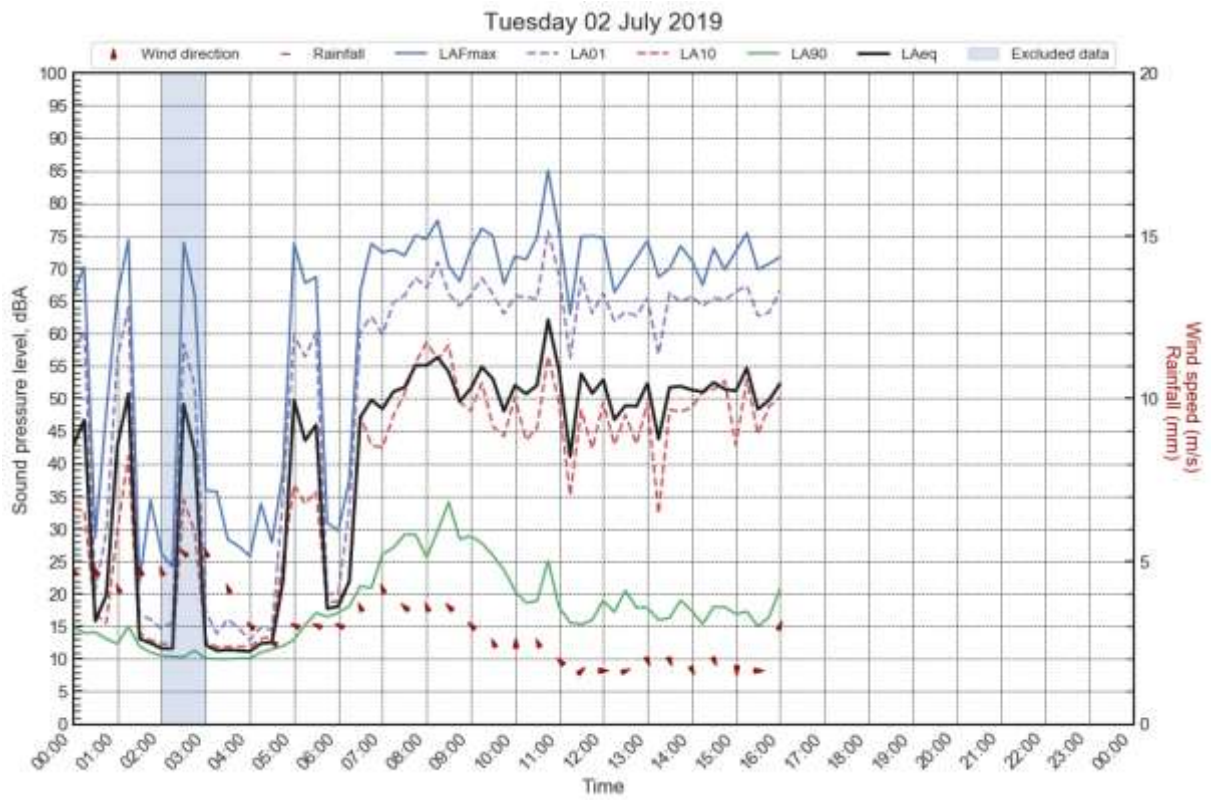




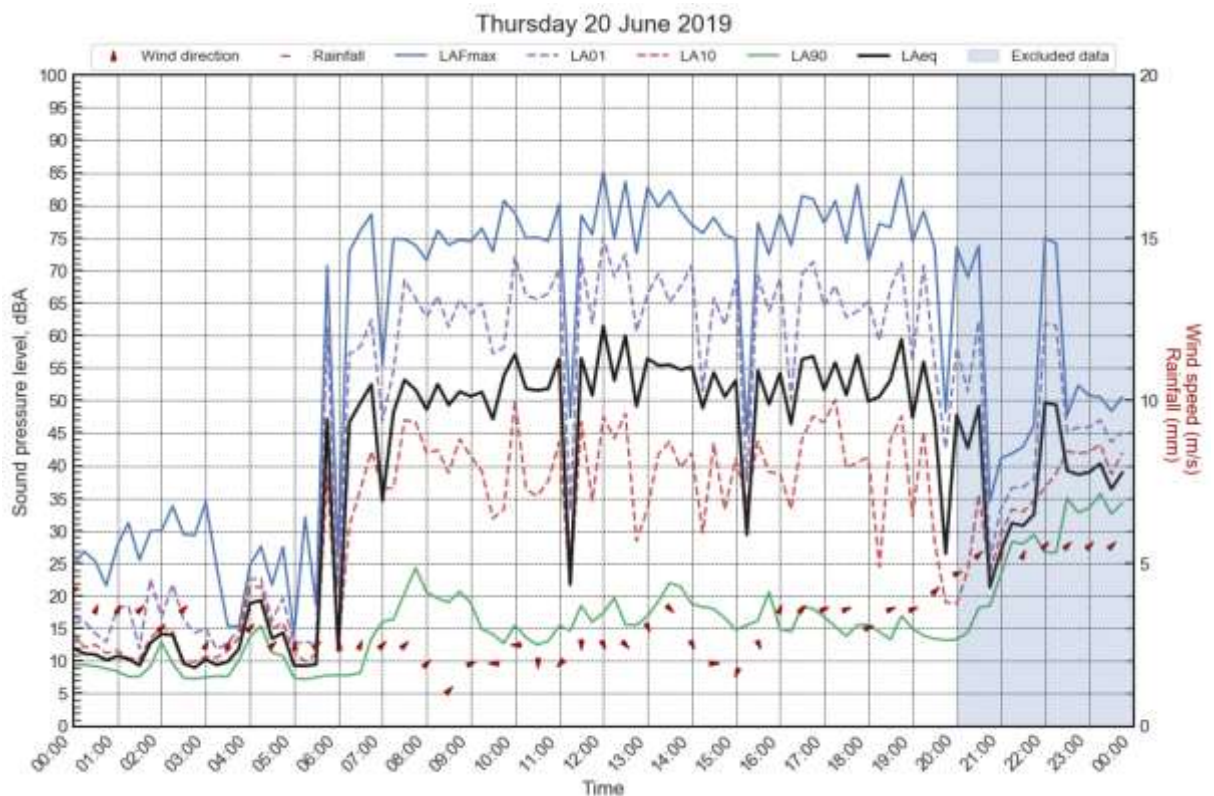
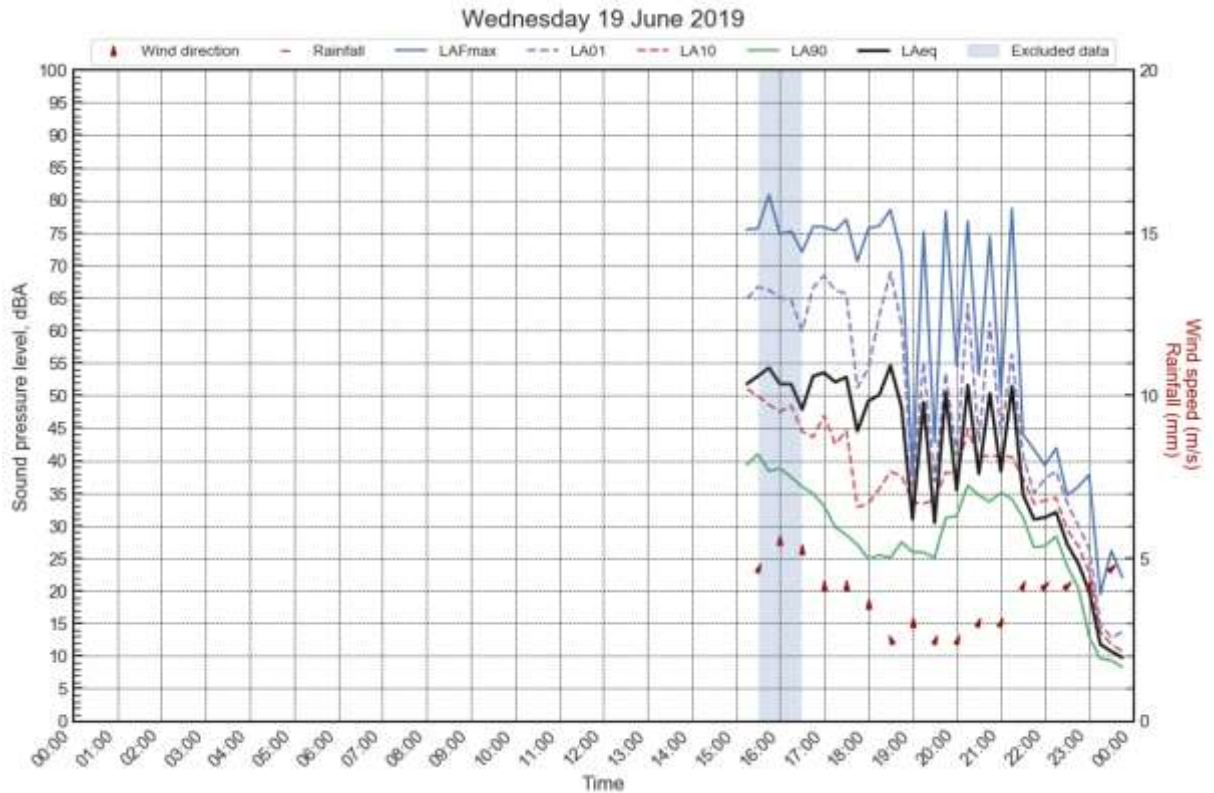




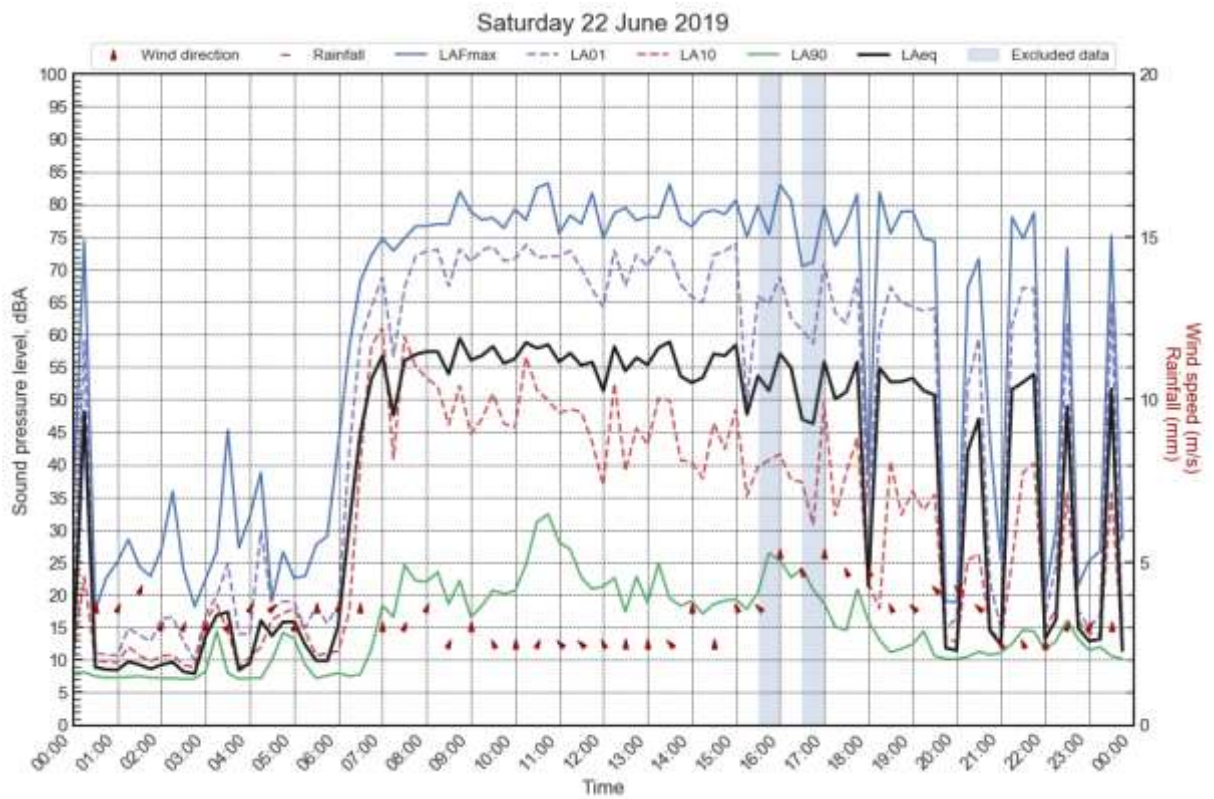
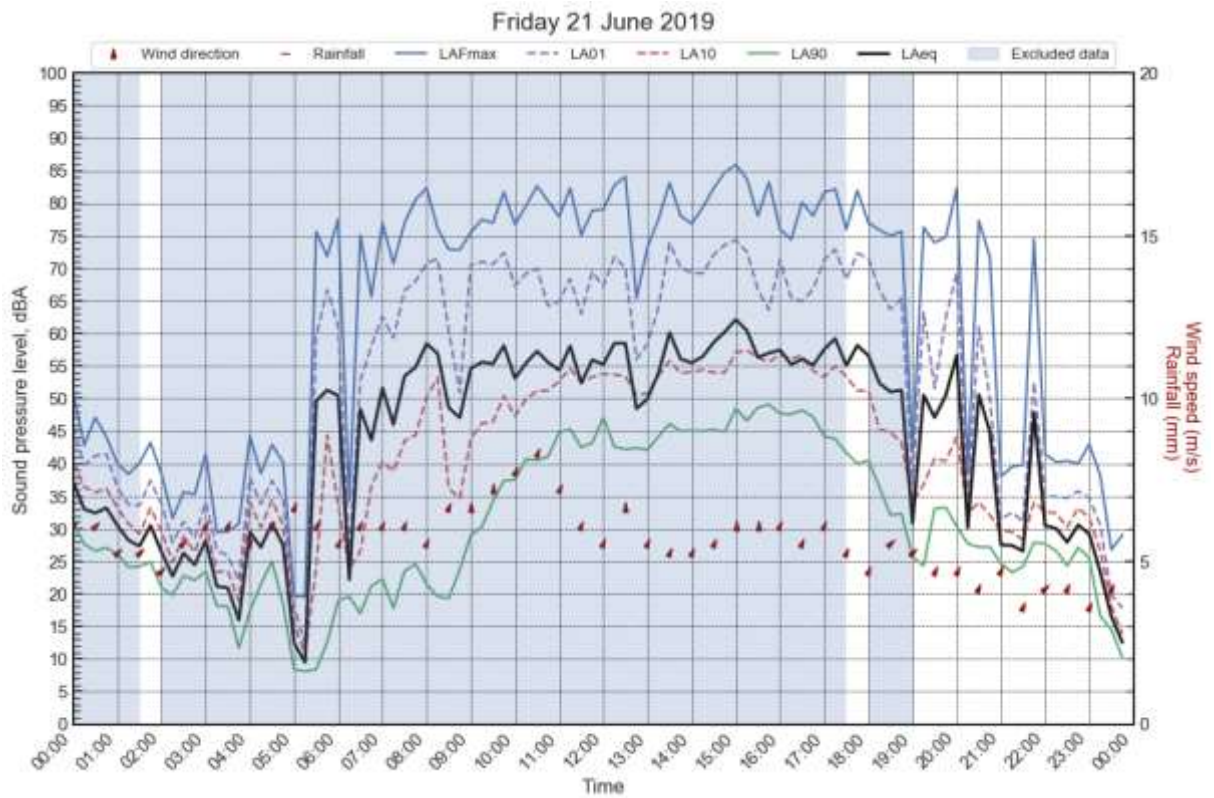


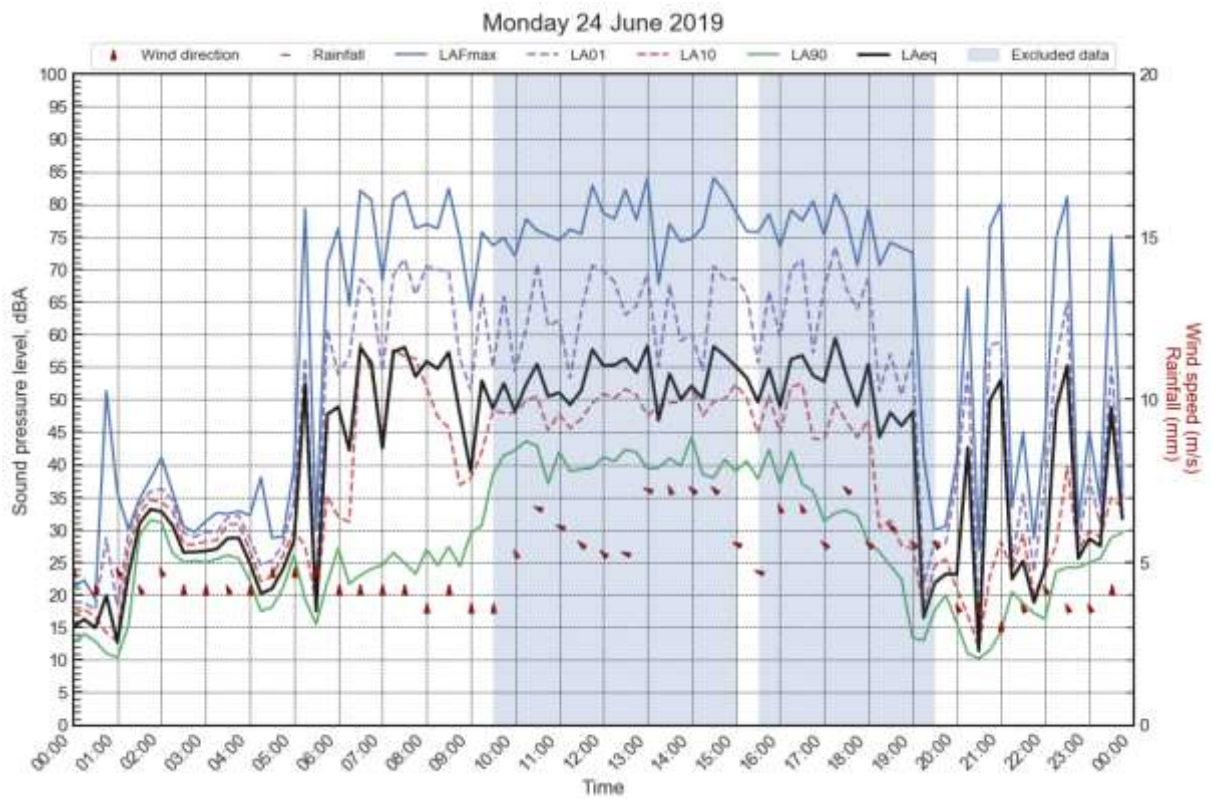
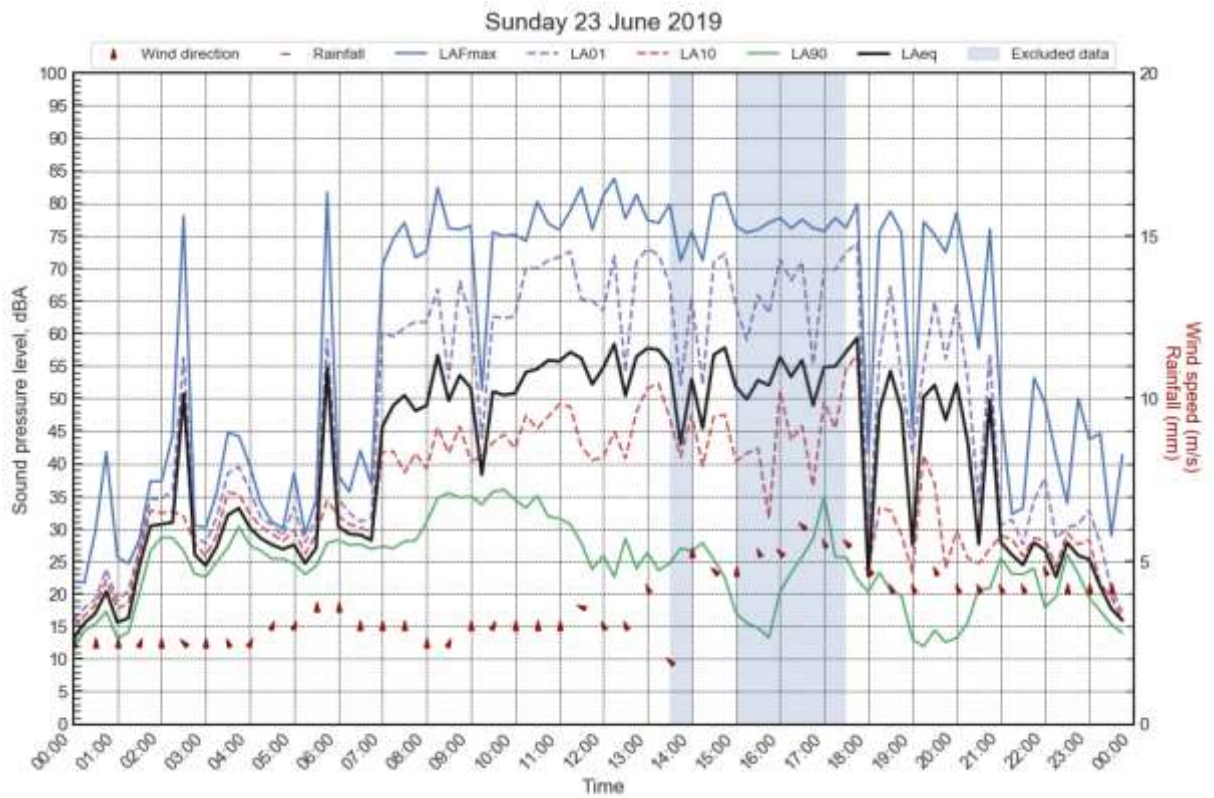


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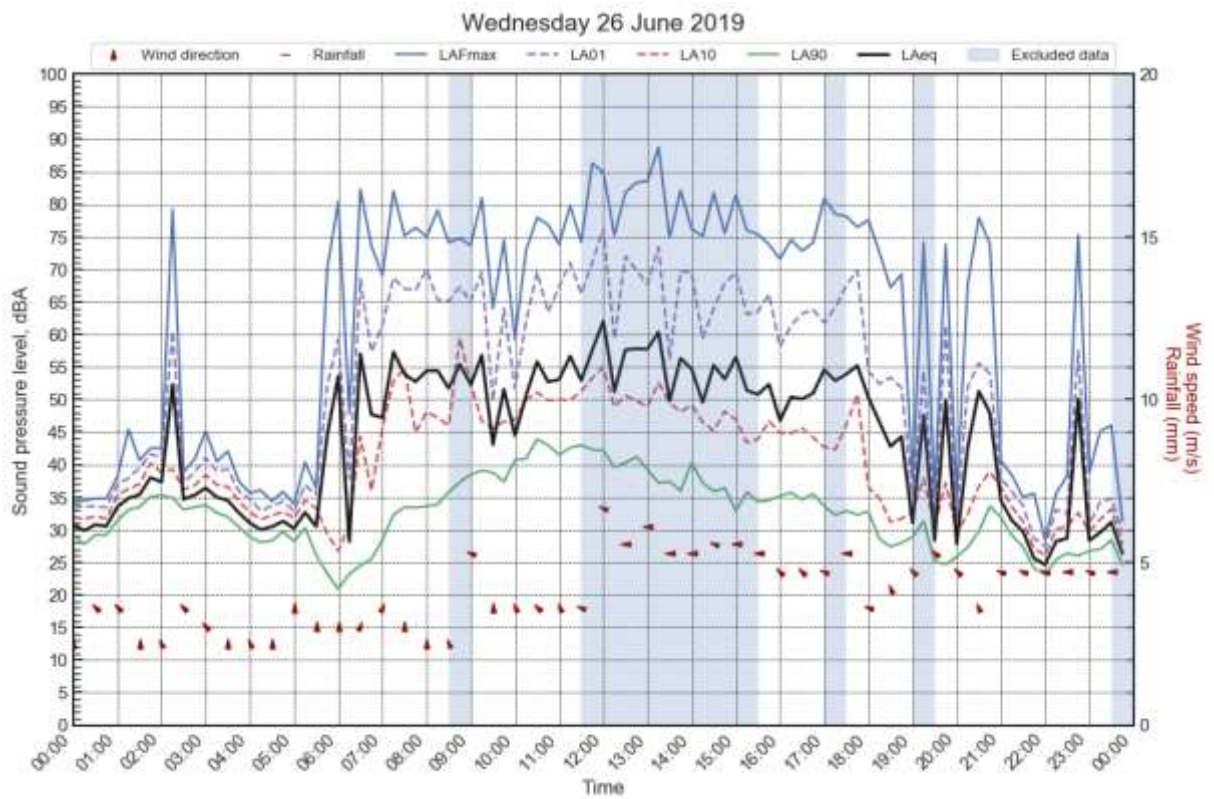
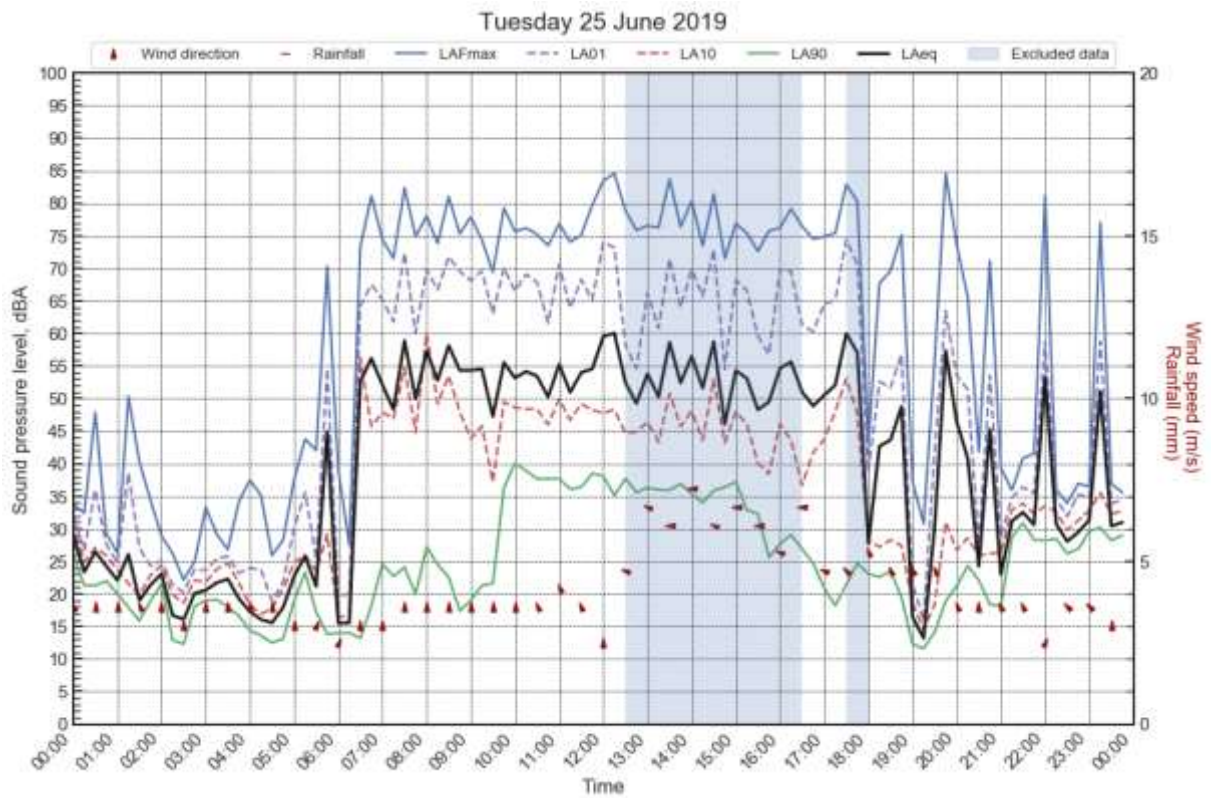


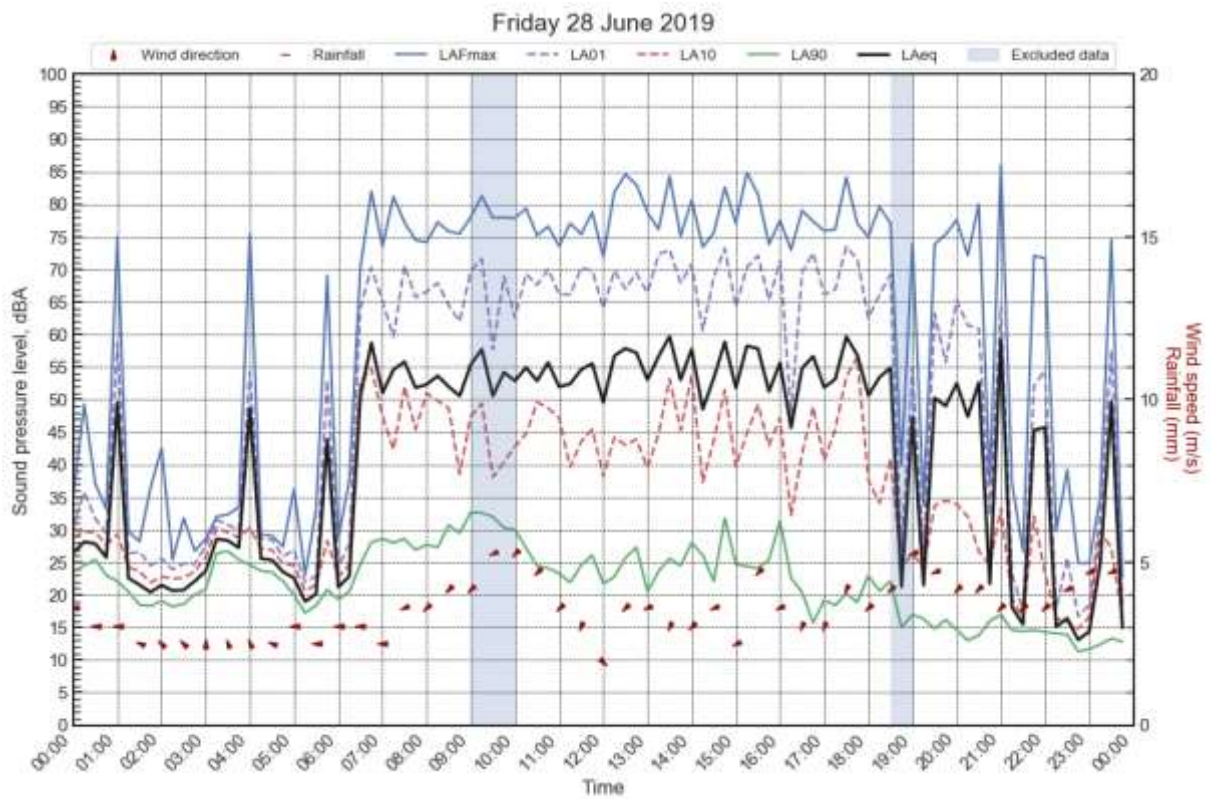
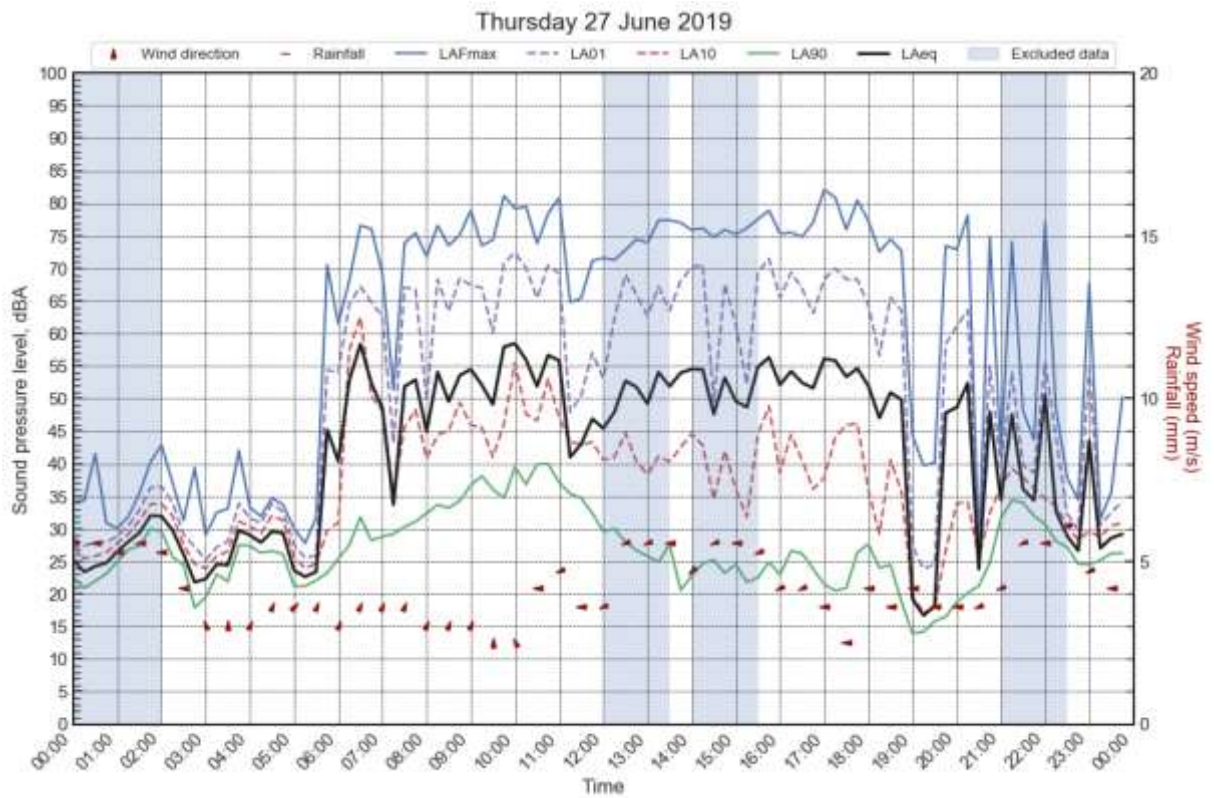




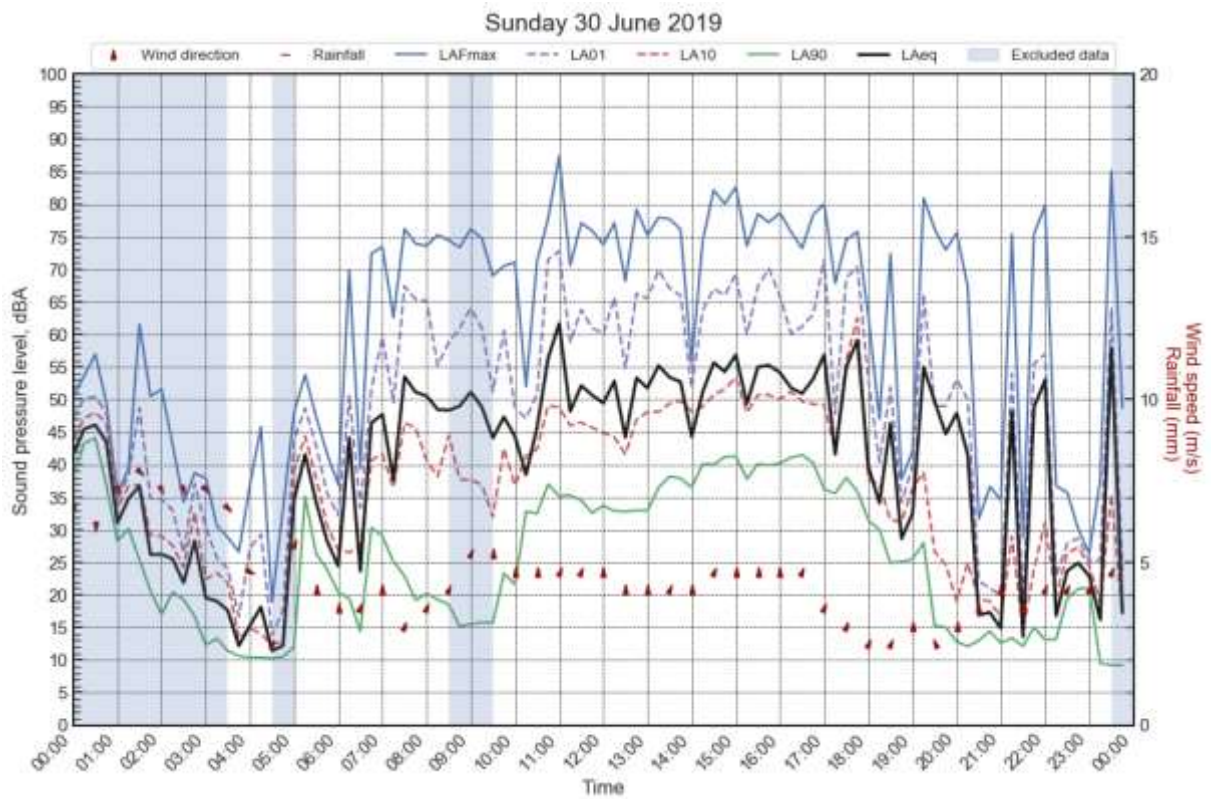
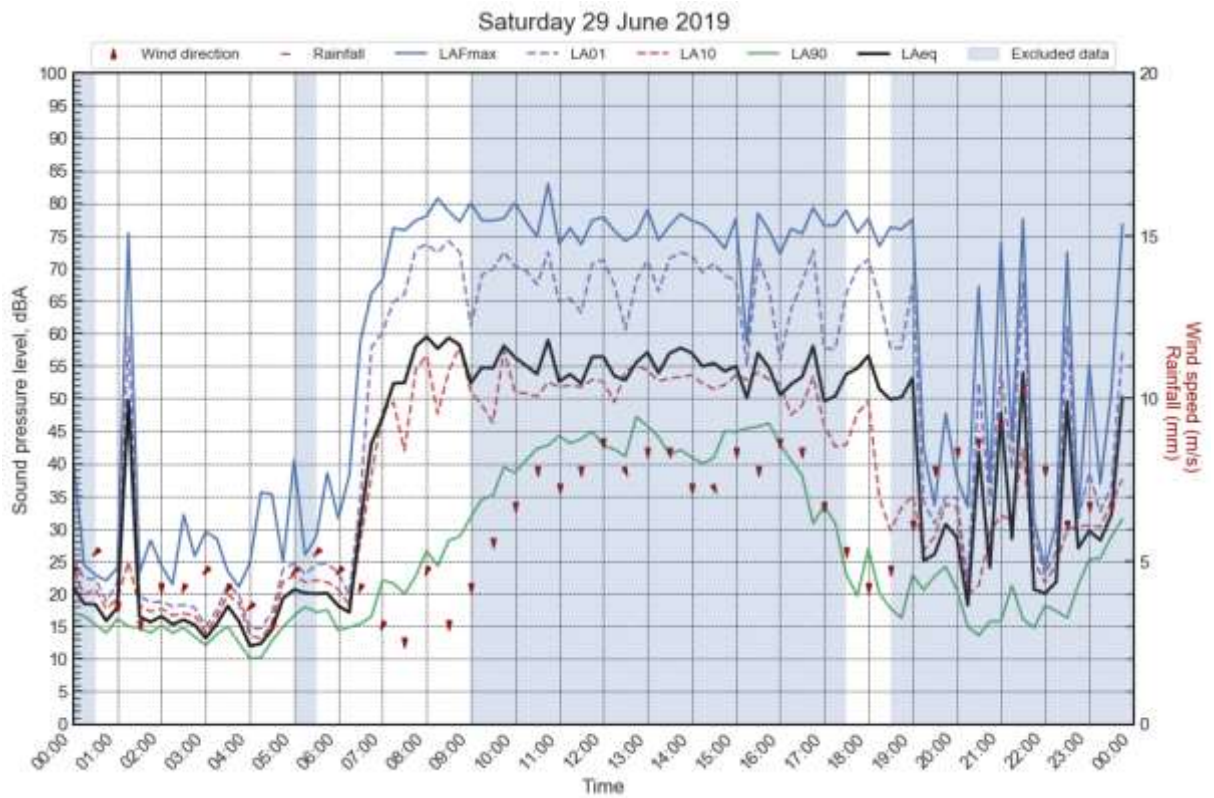


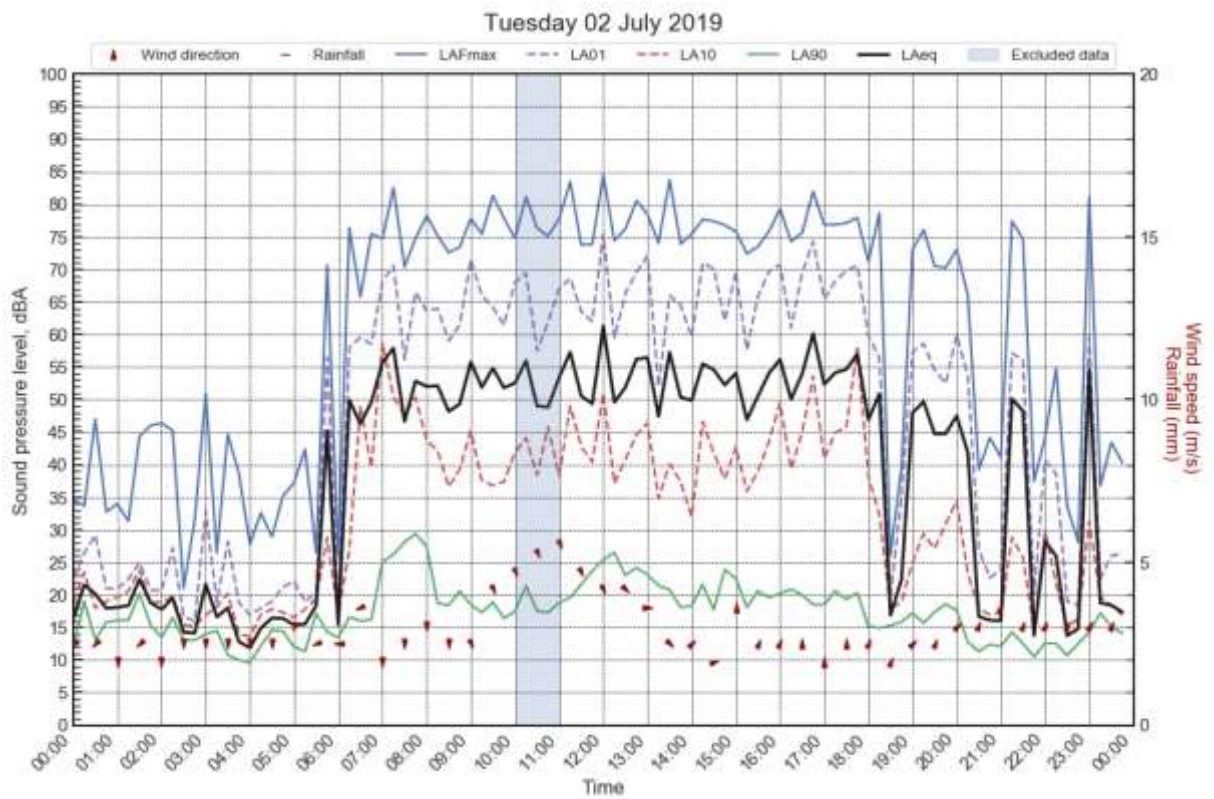
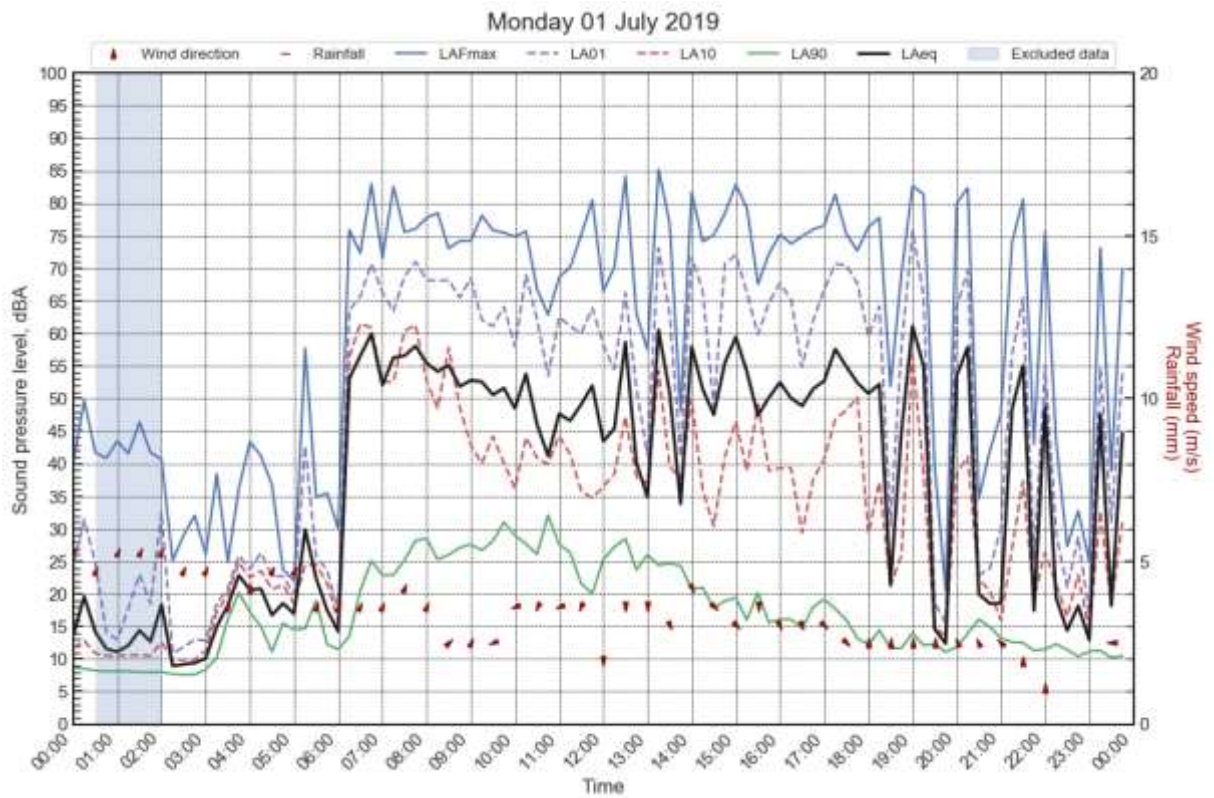


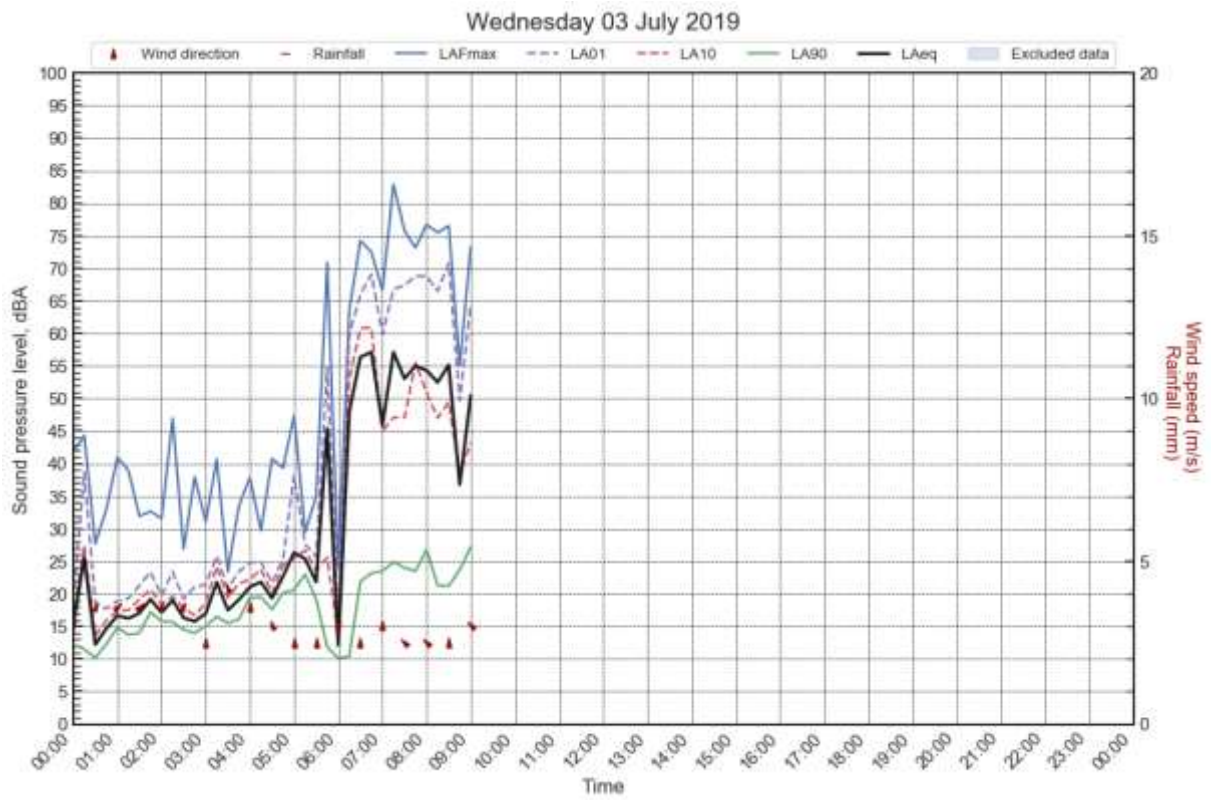






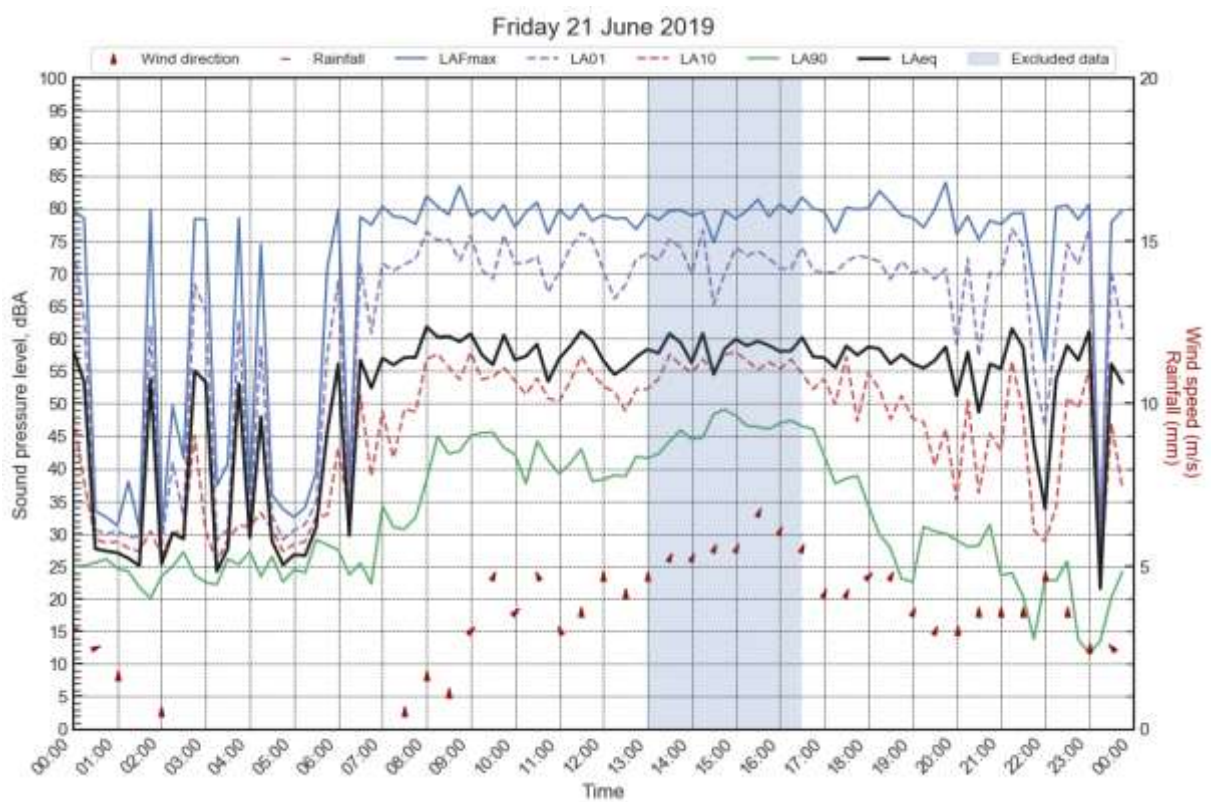
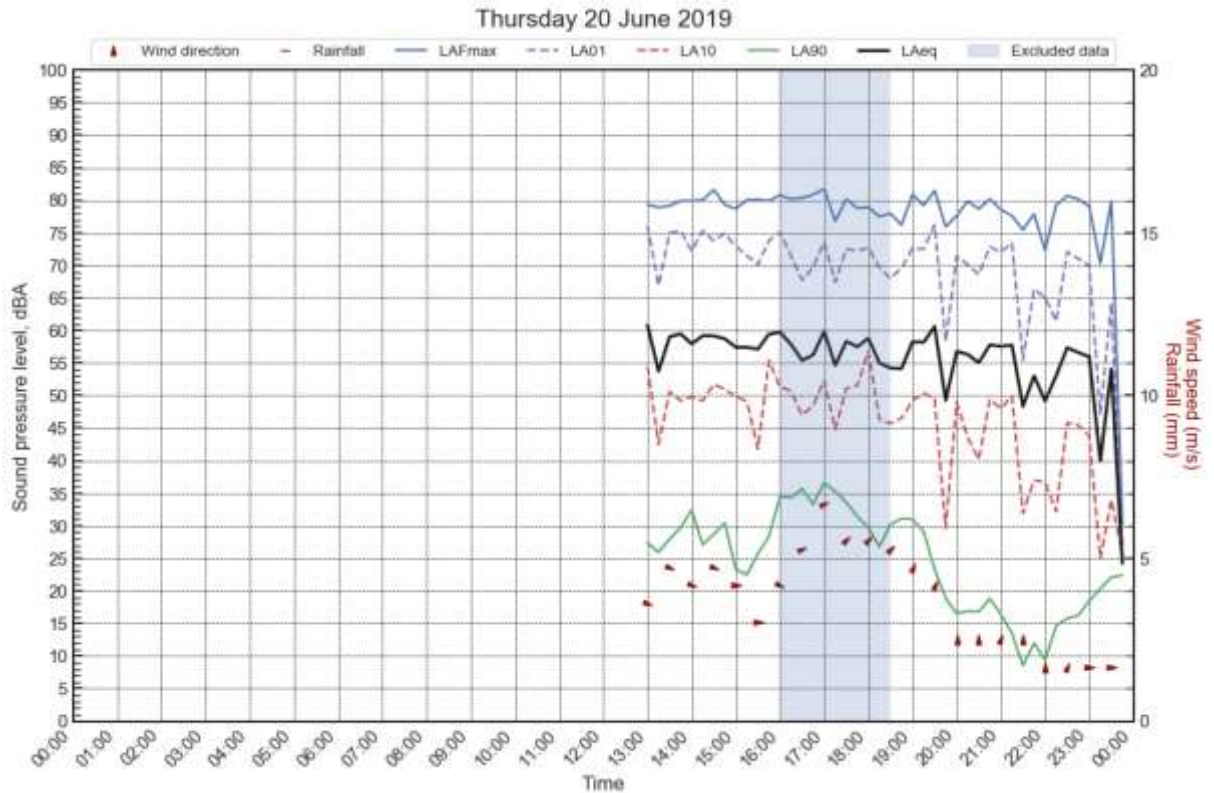




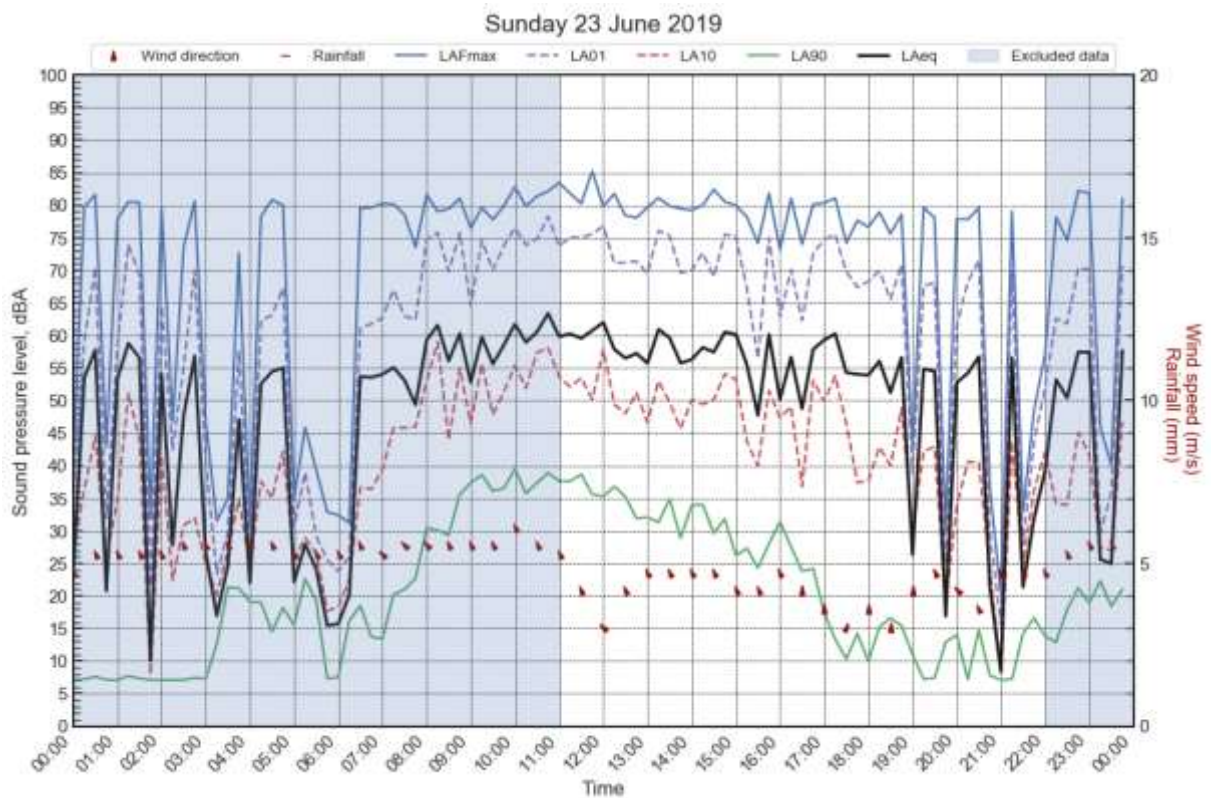
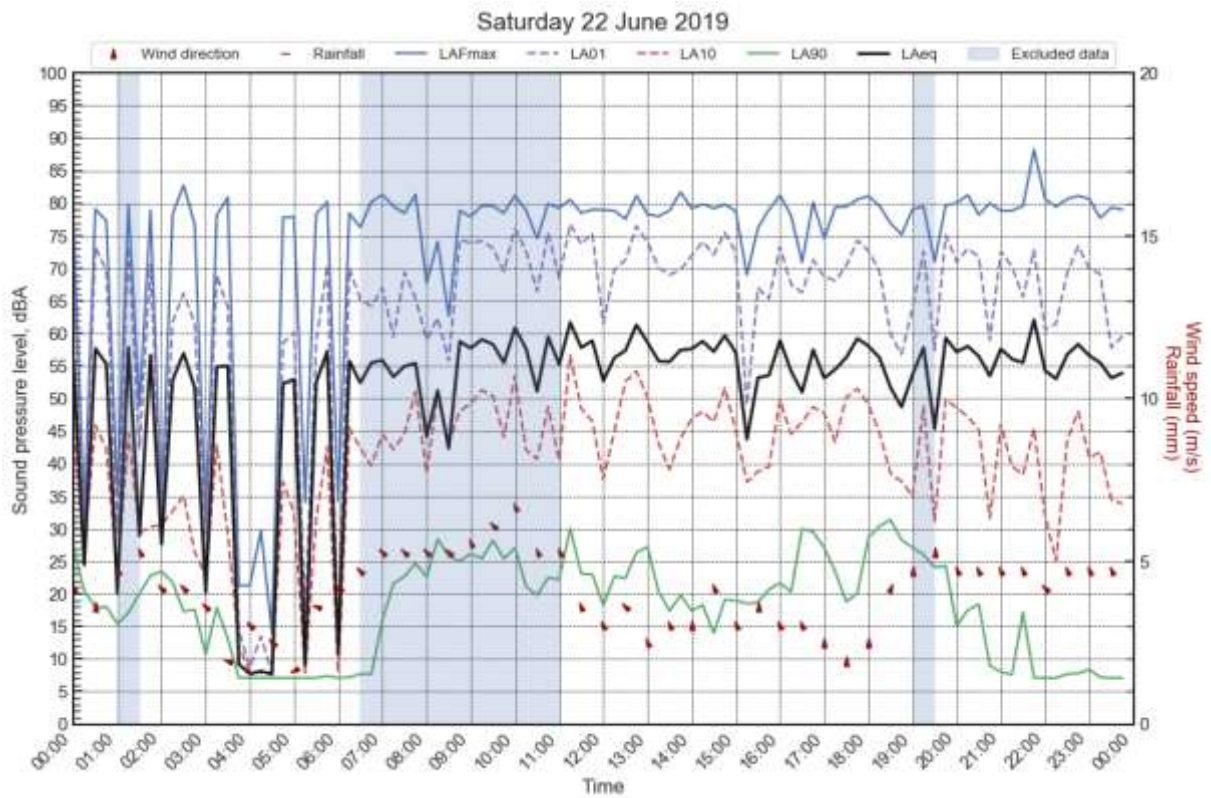


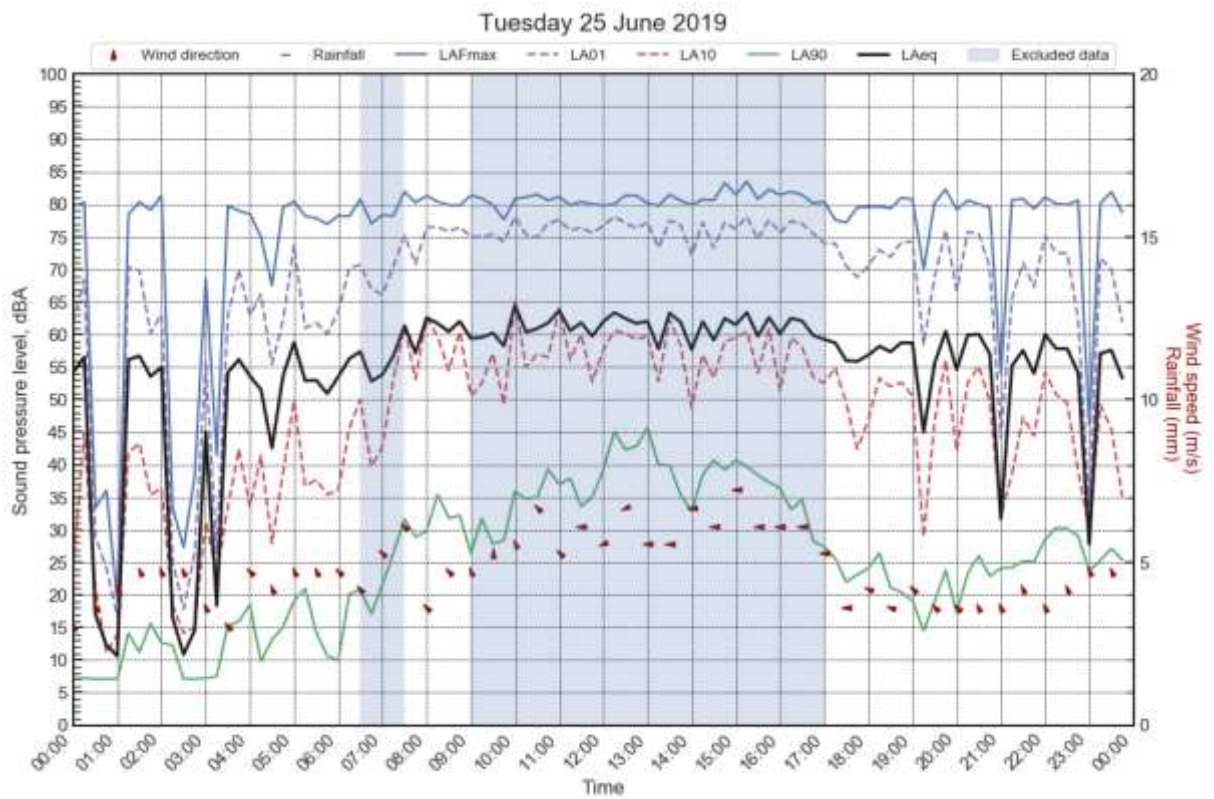
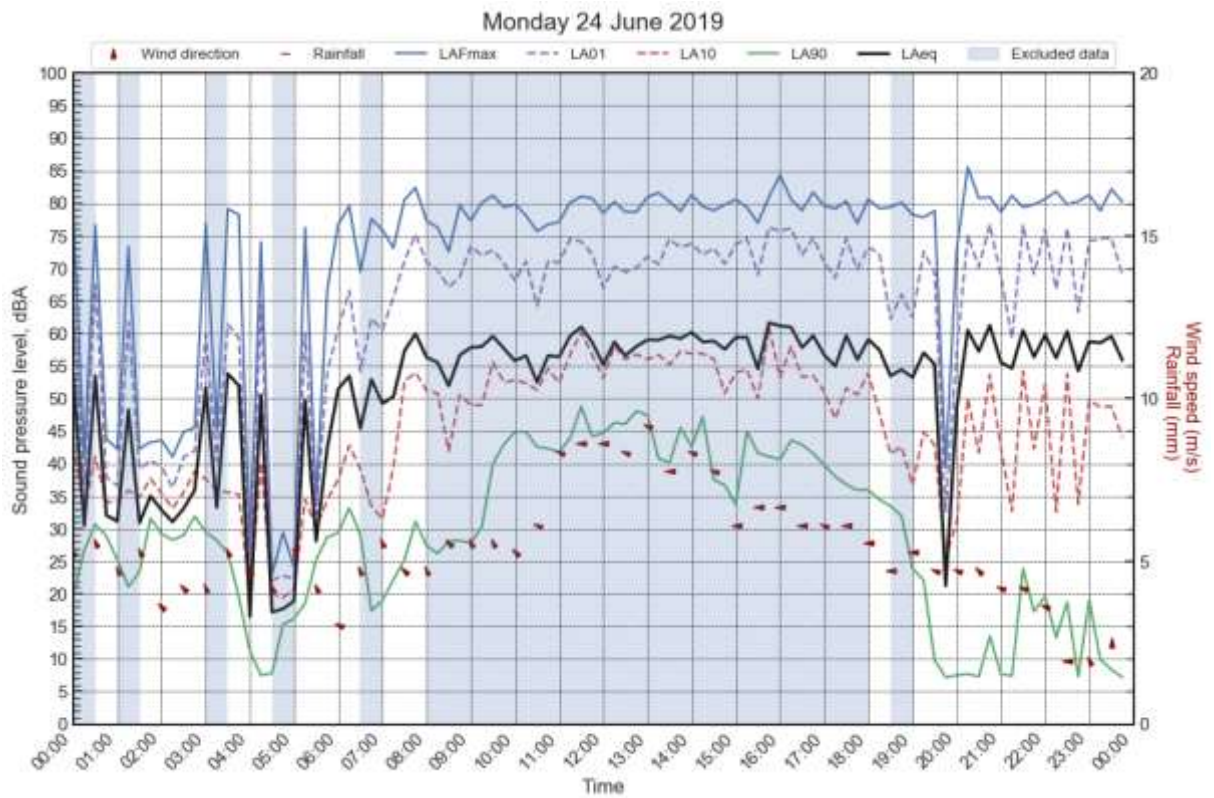


## Monitoring location M17 – 1743 Eumungerie Road, Narromine

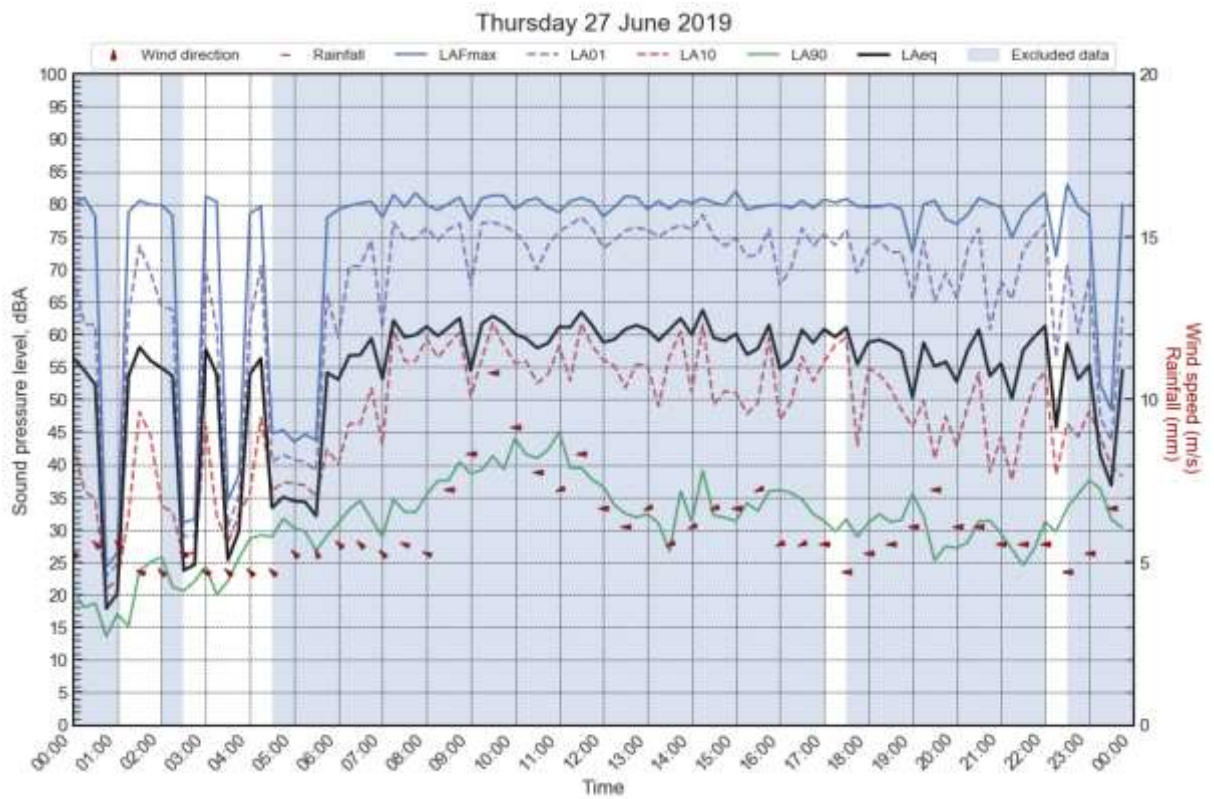
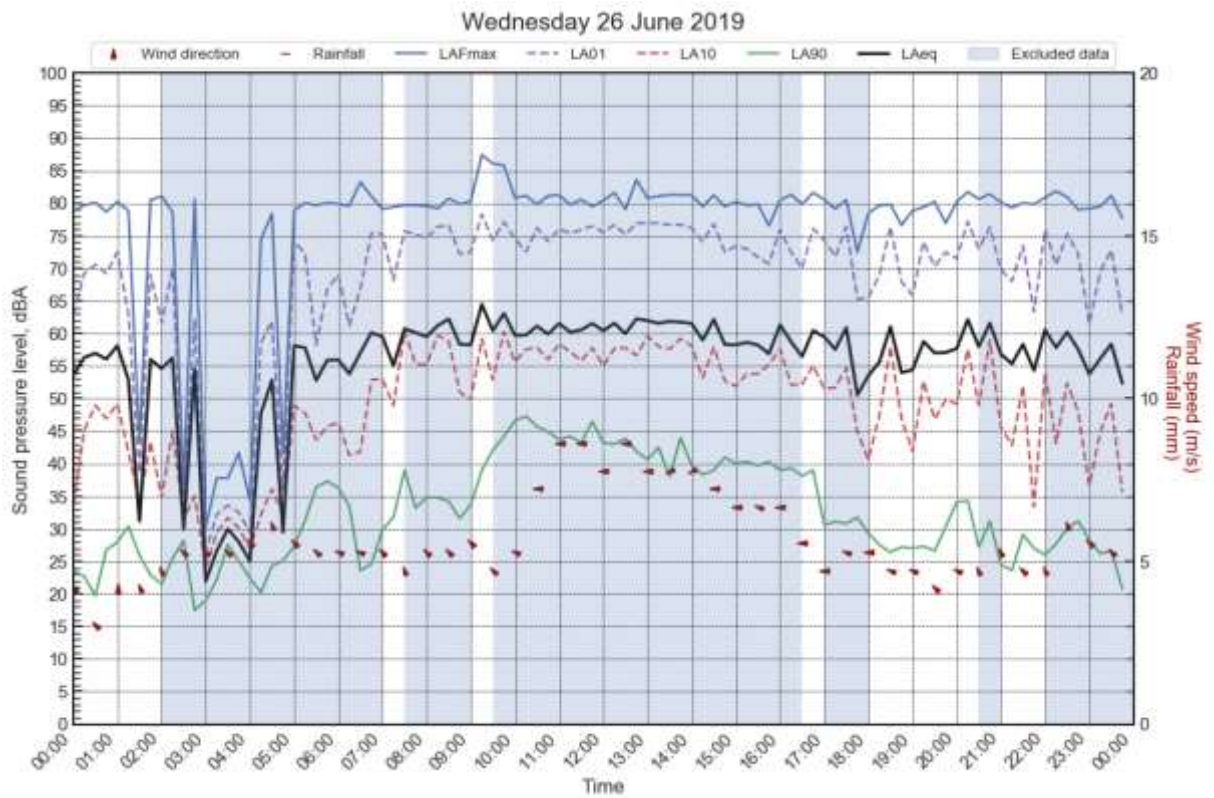


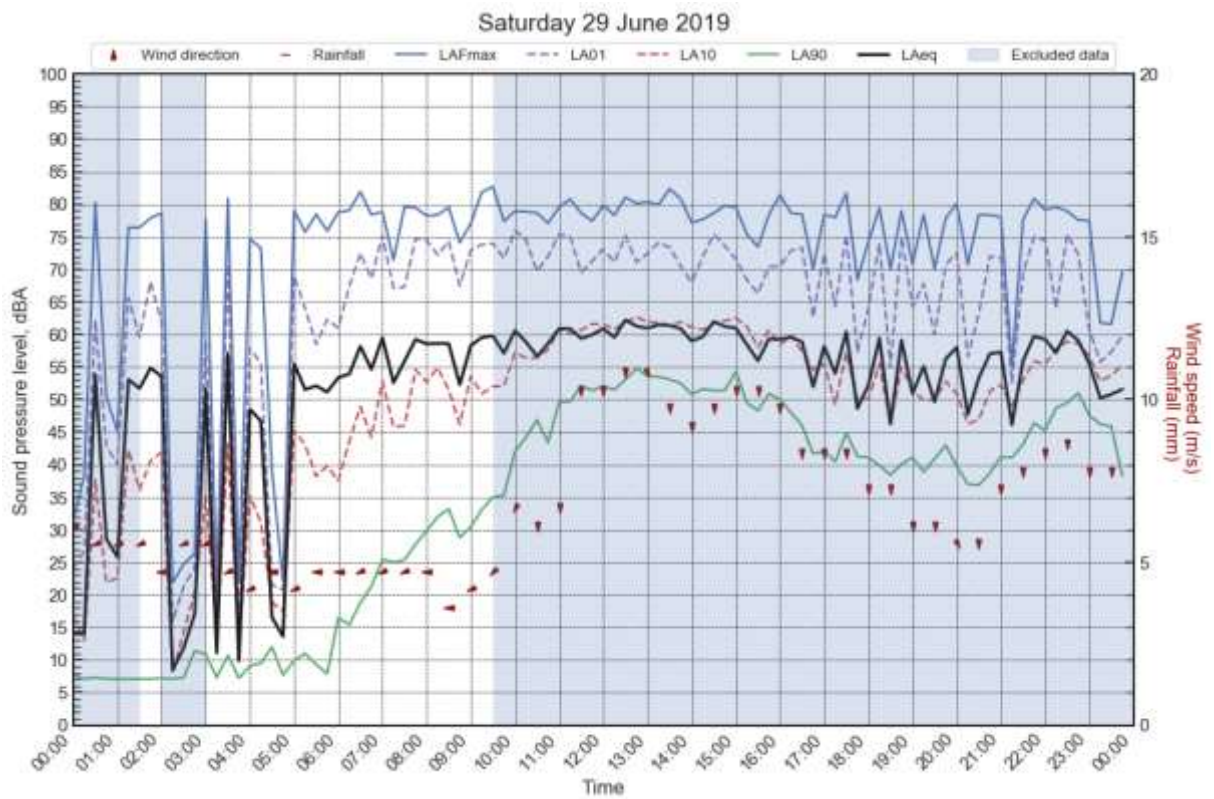
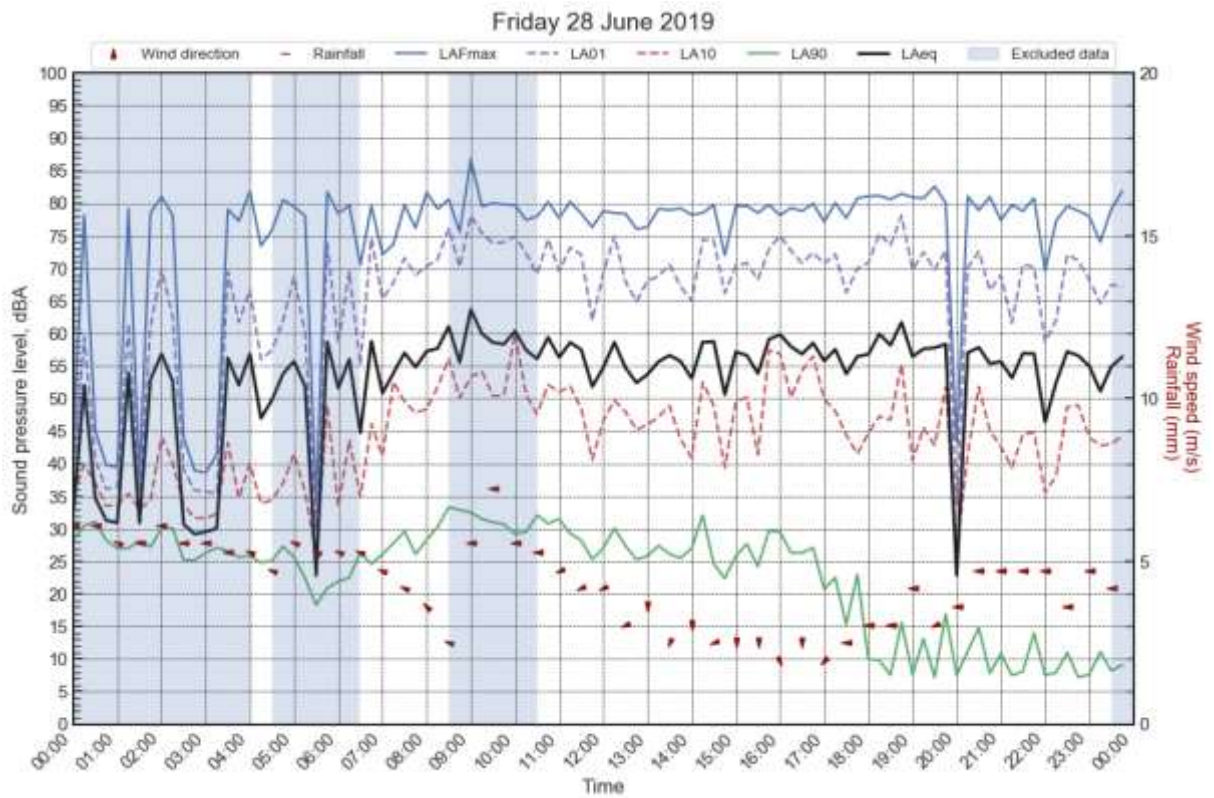






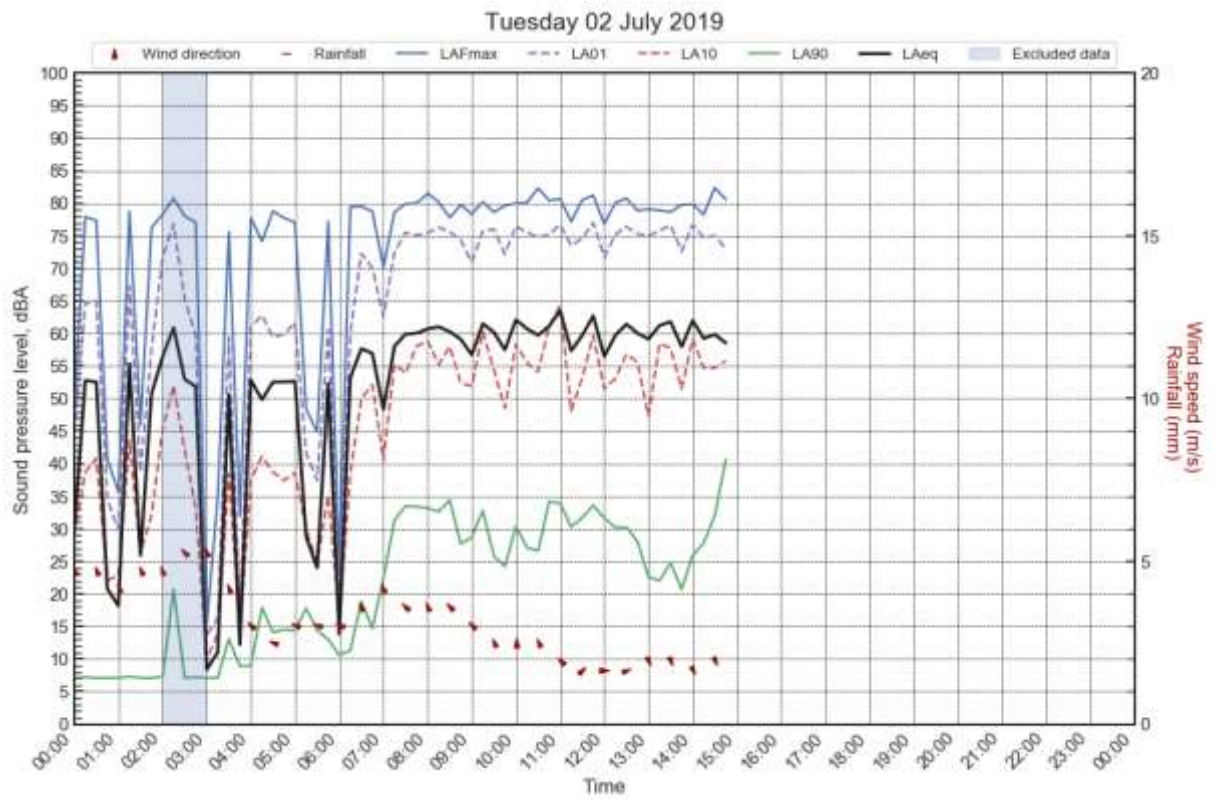




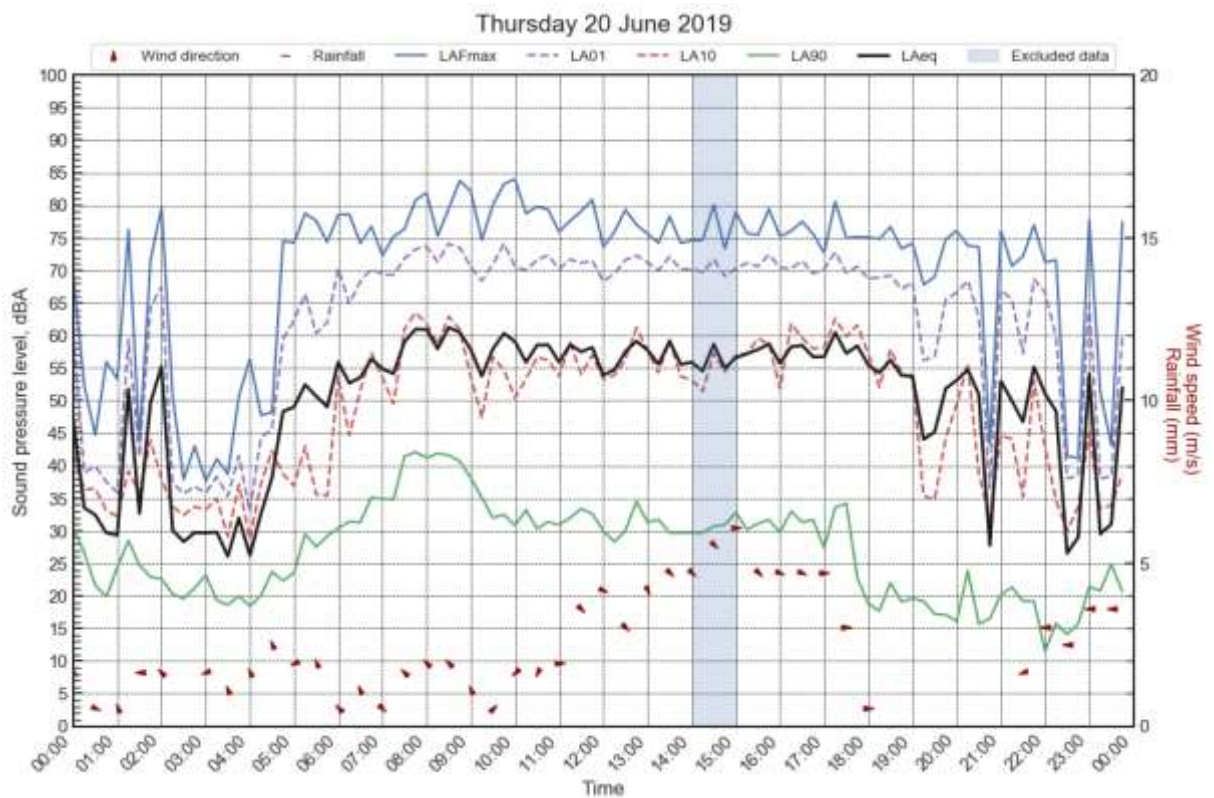
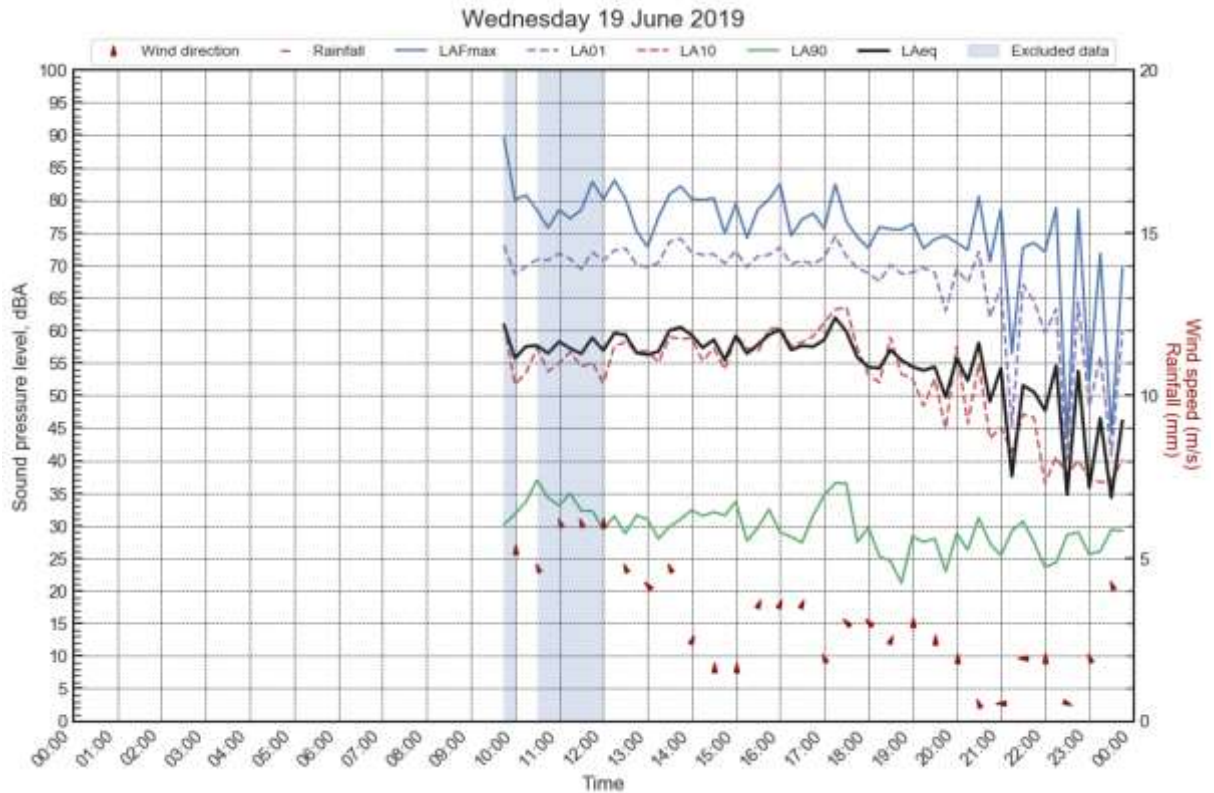




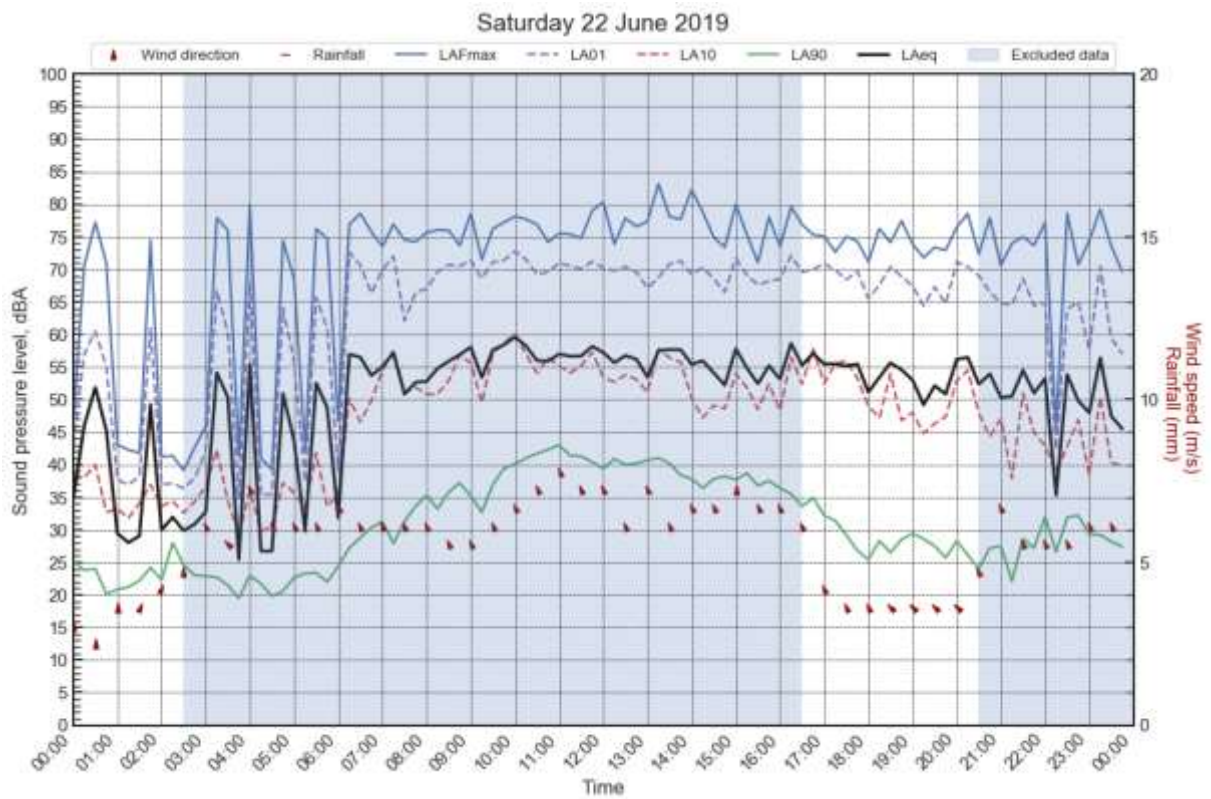
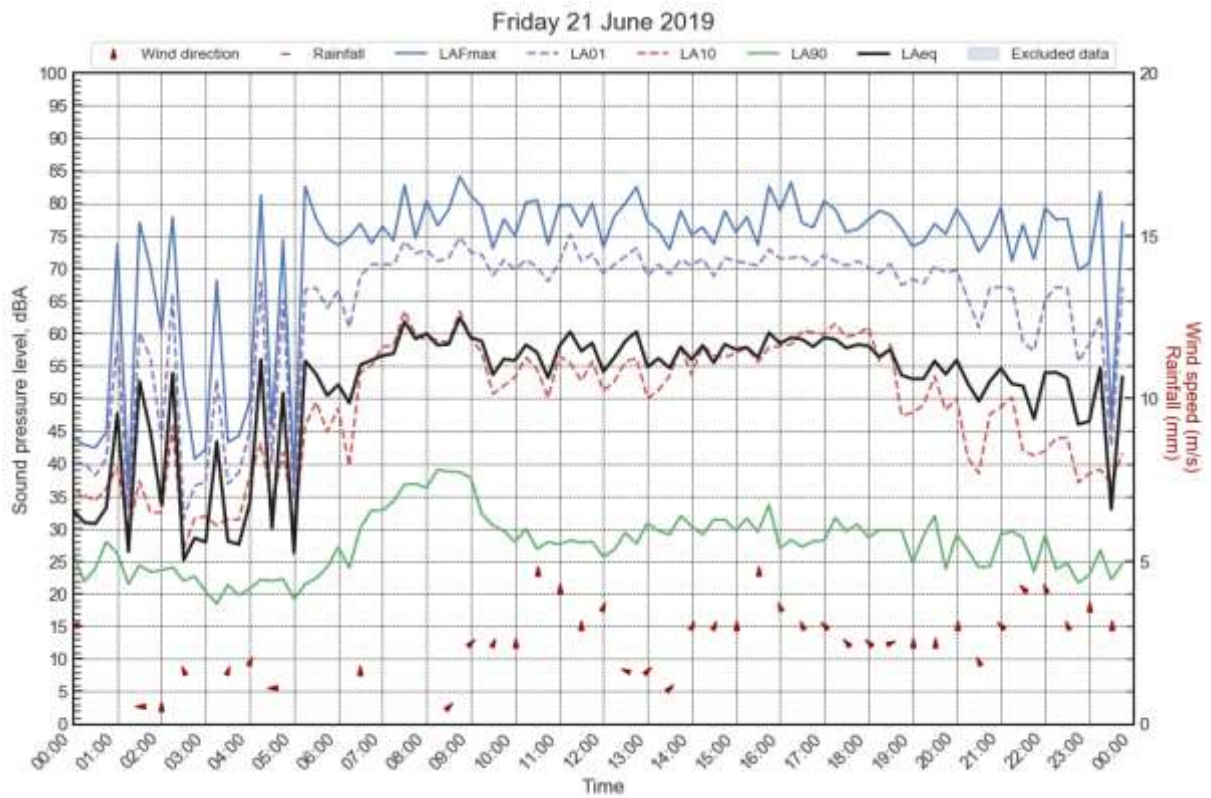




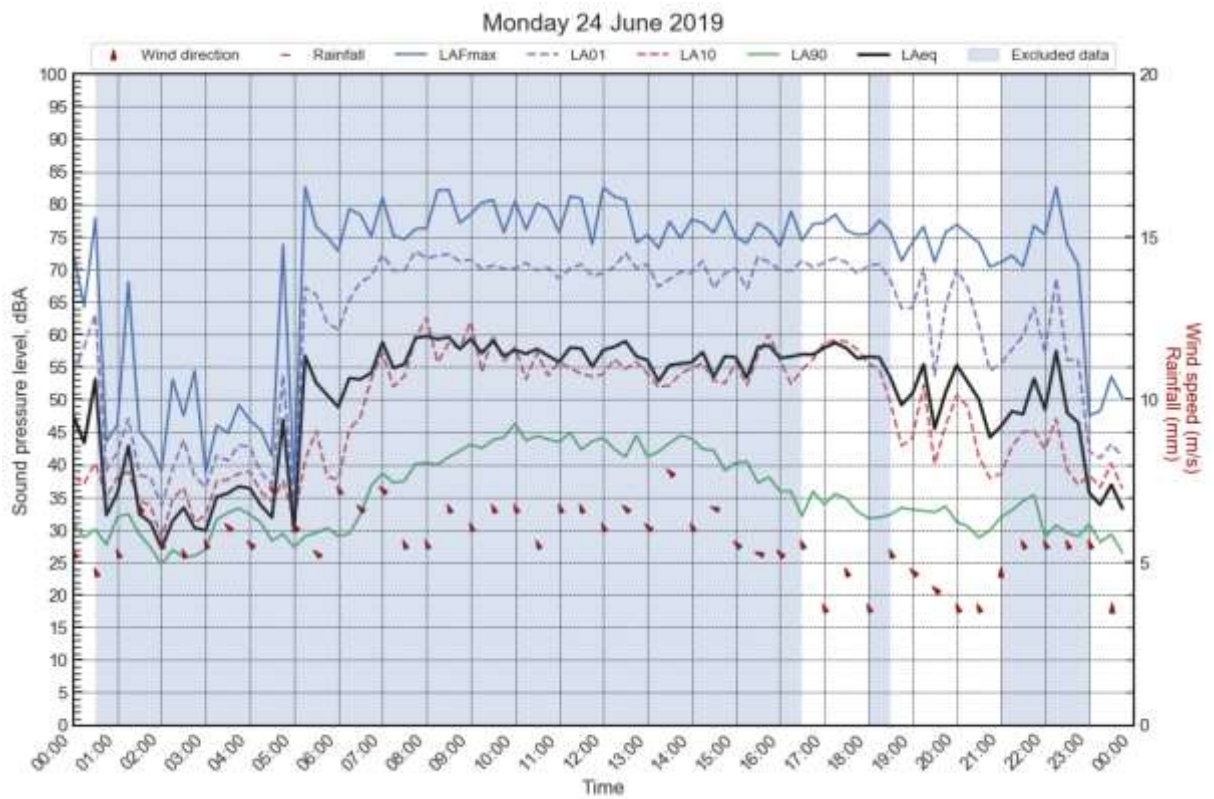
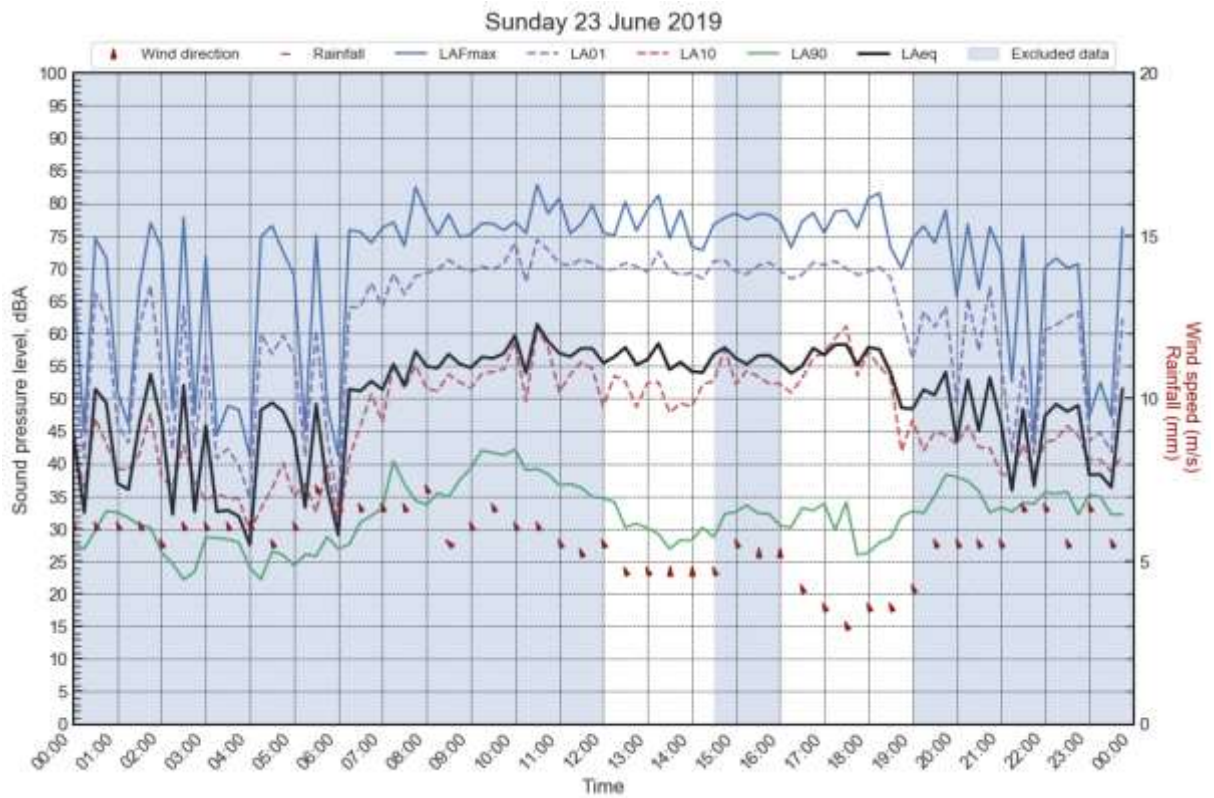
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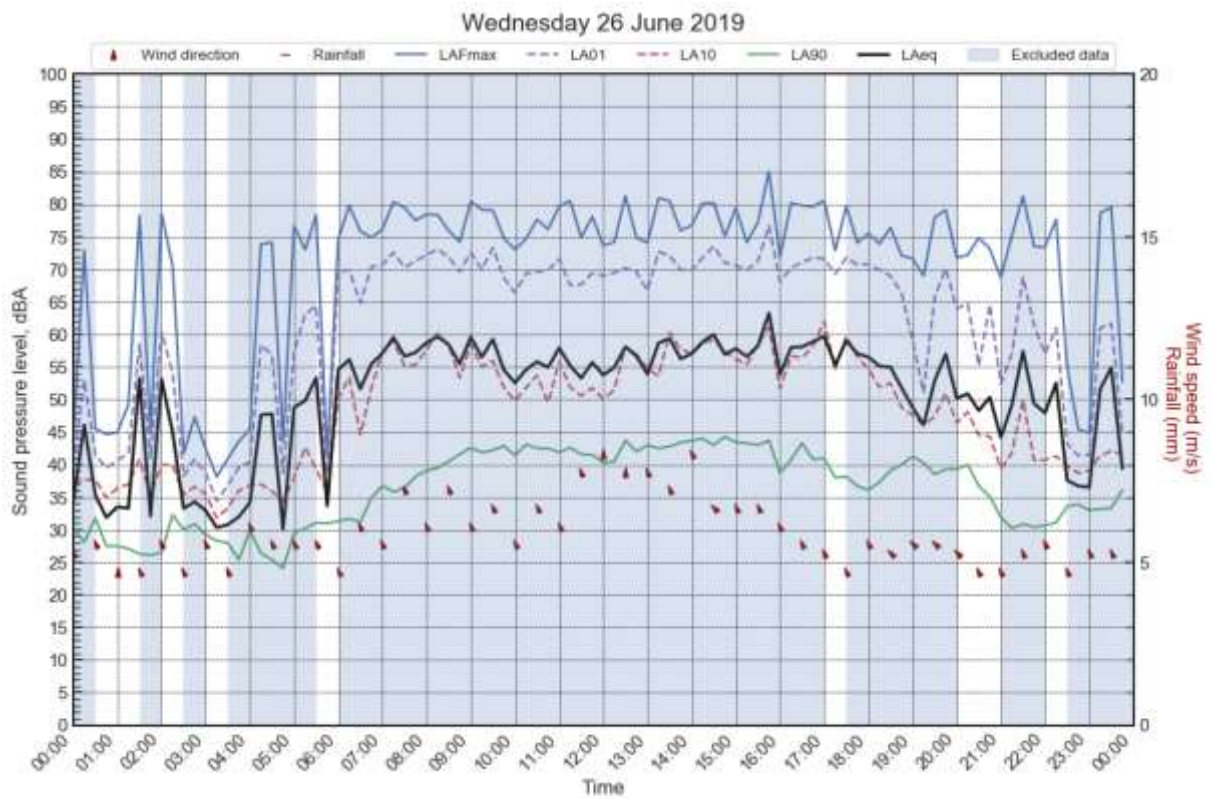
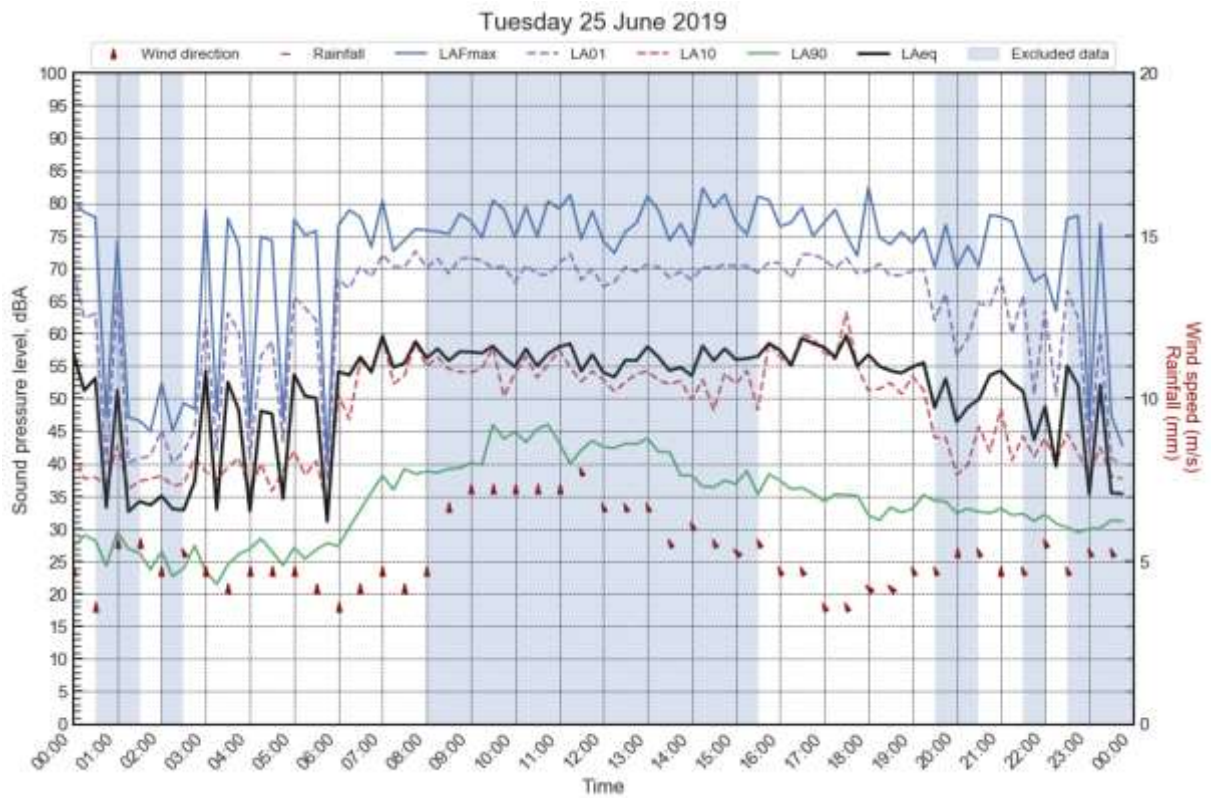




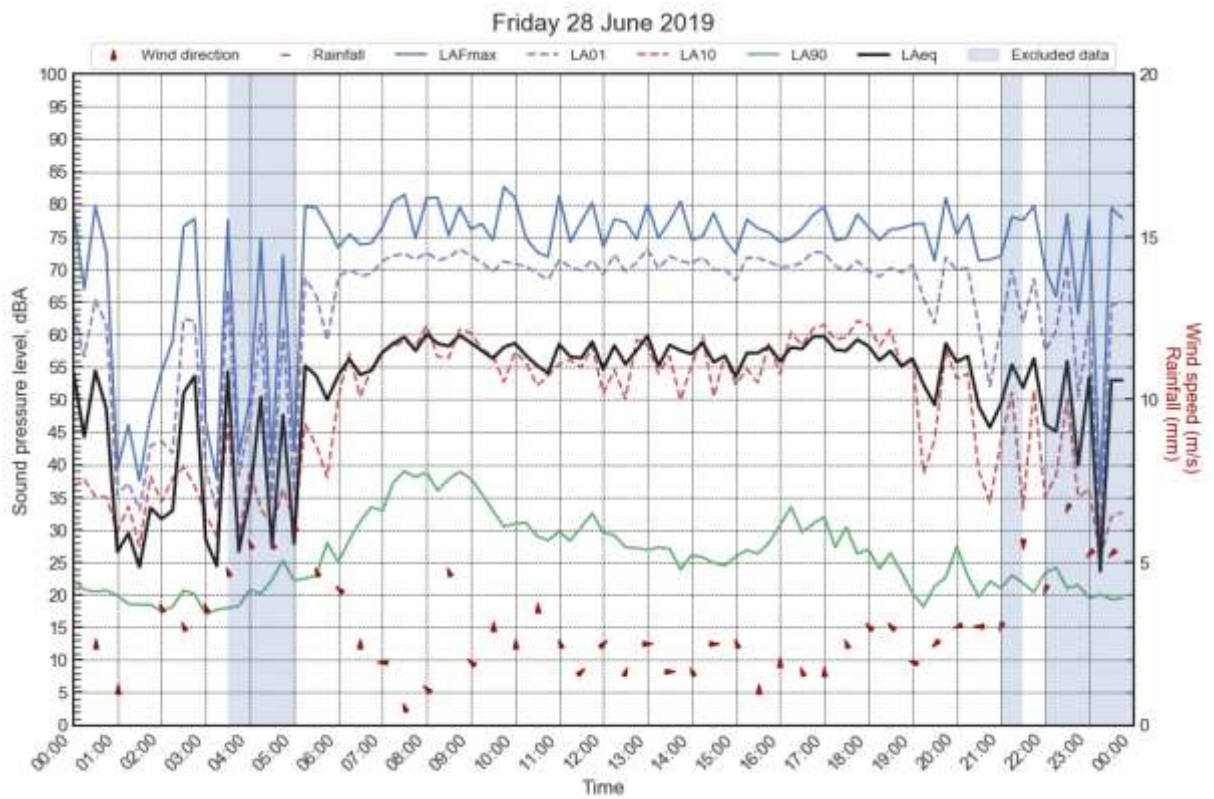
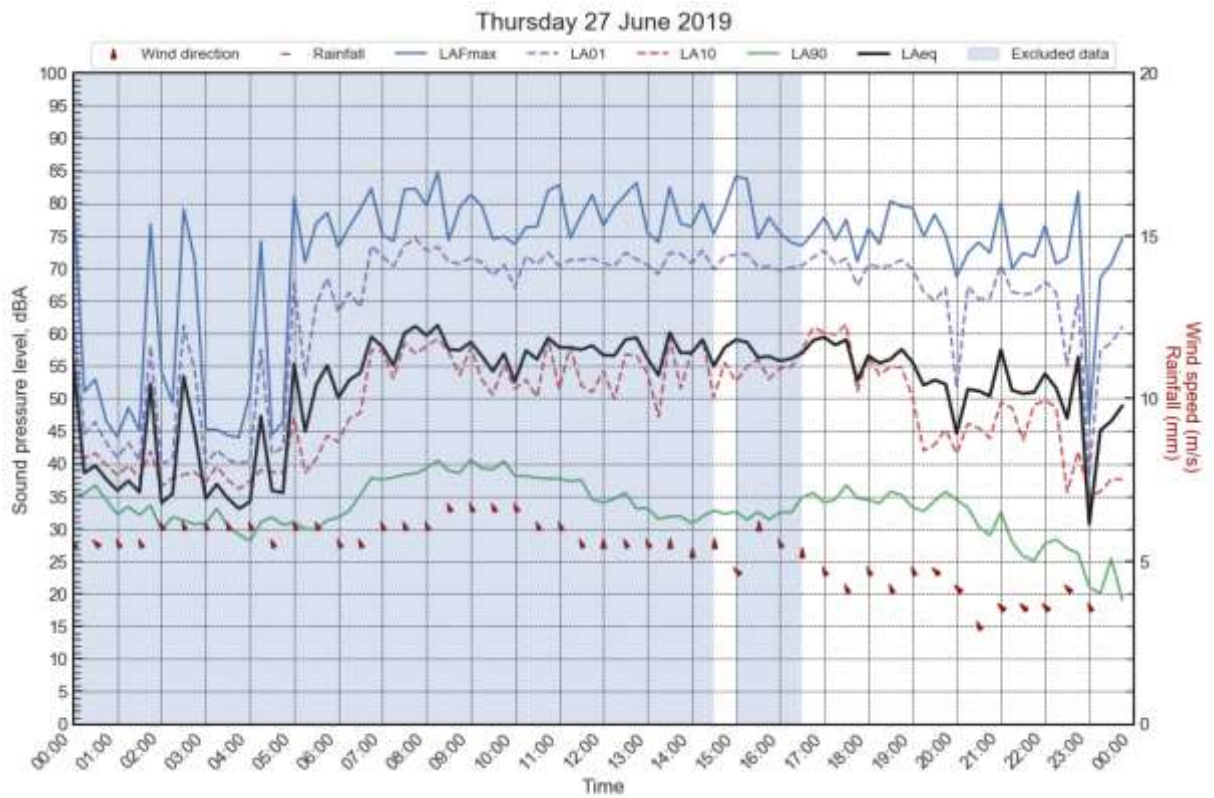


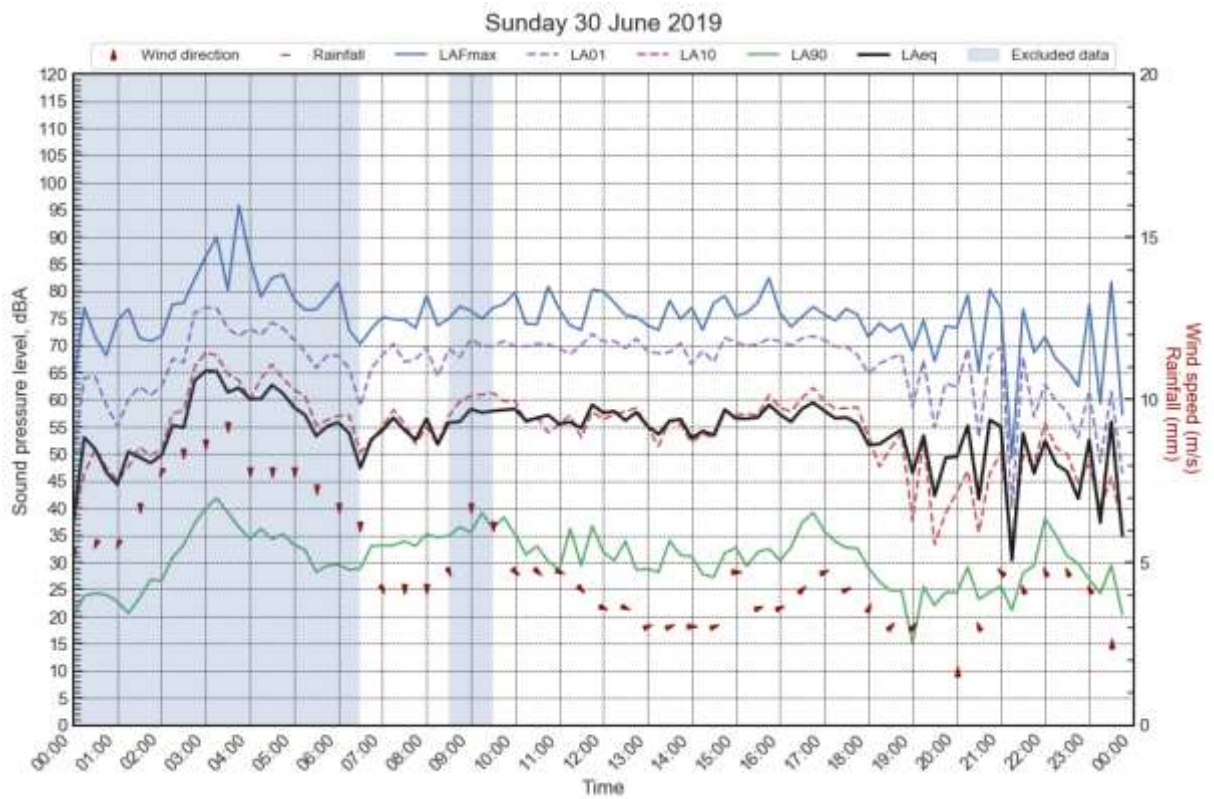
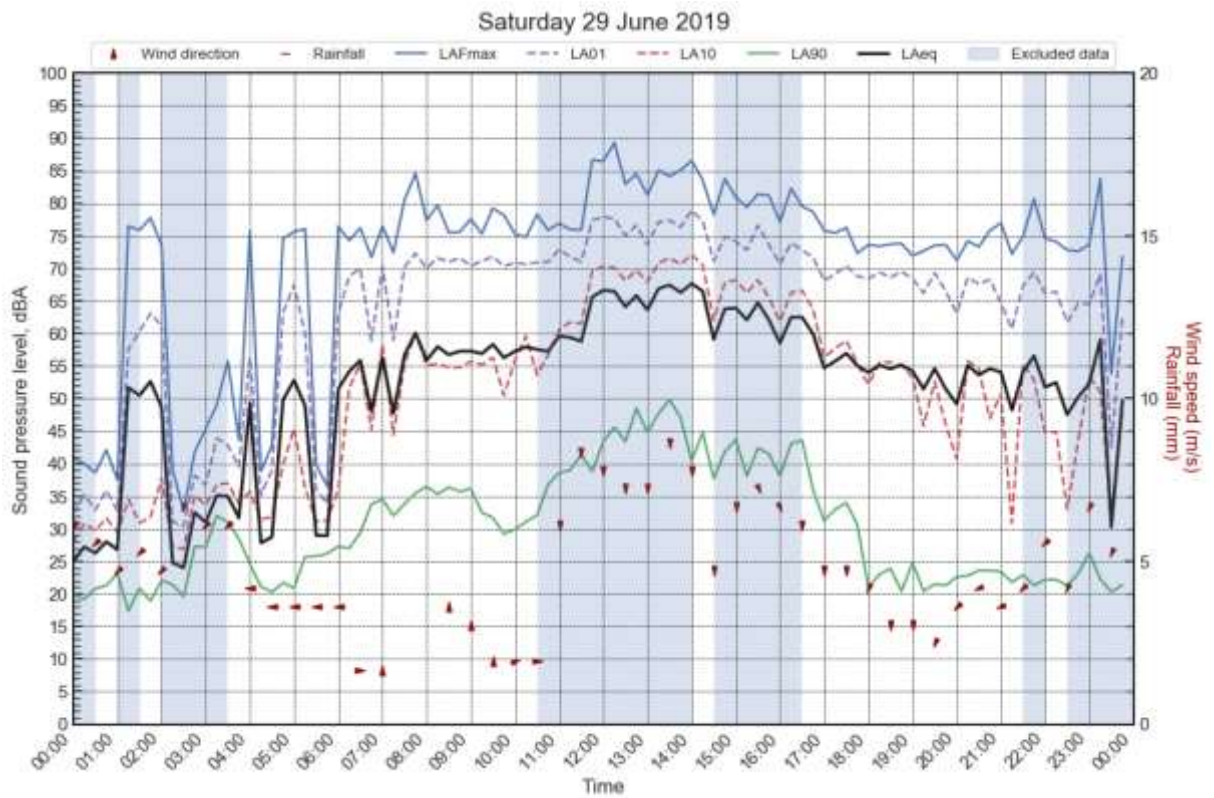




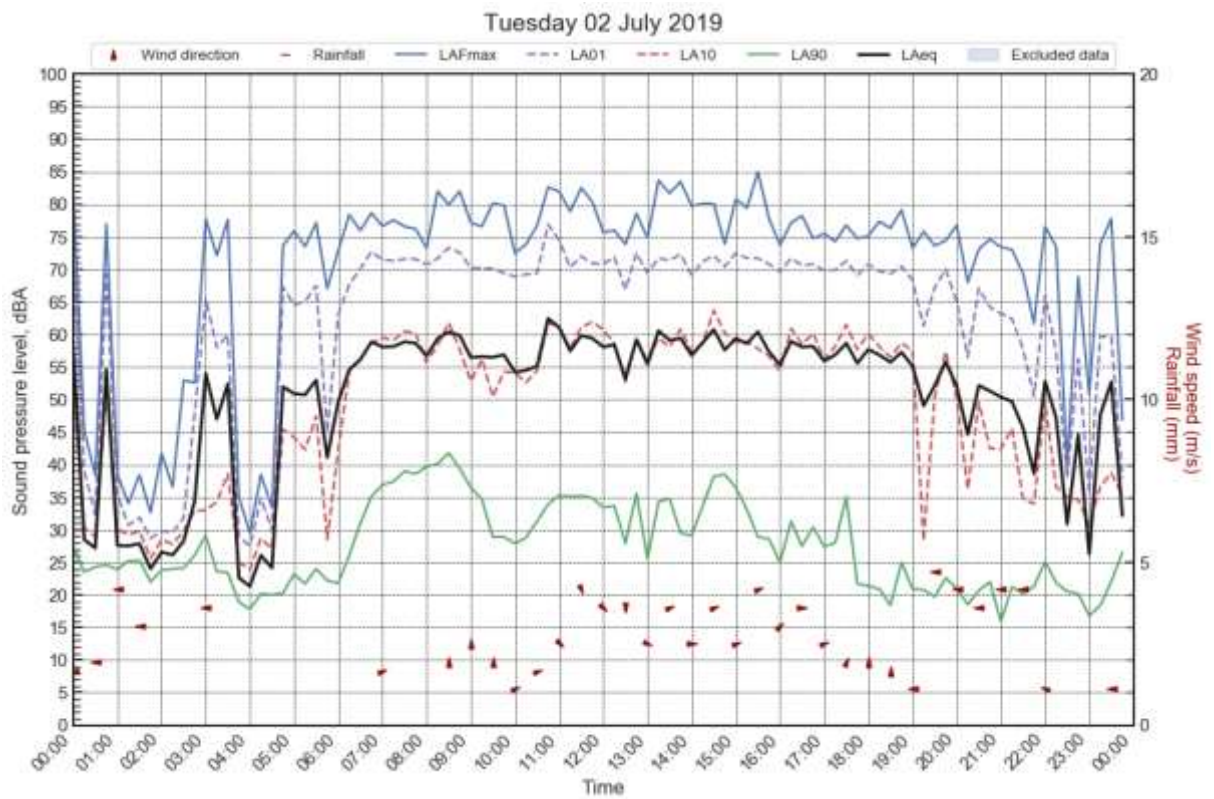
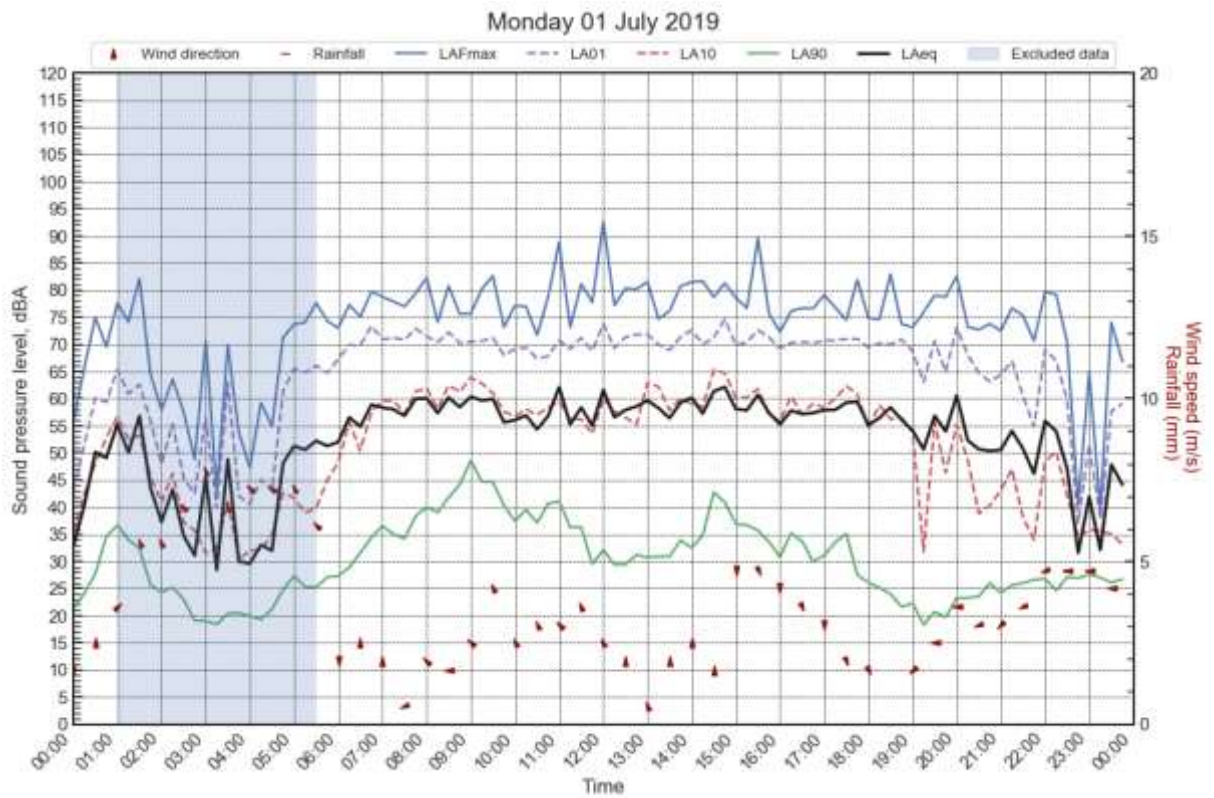


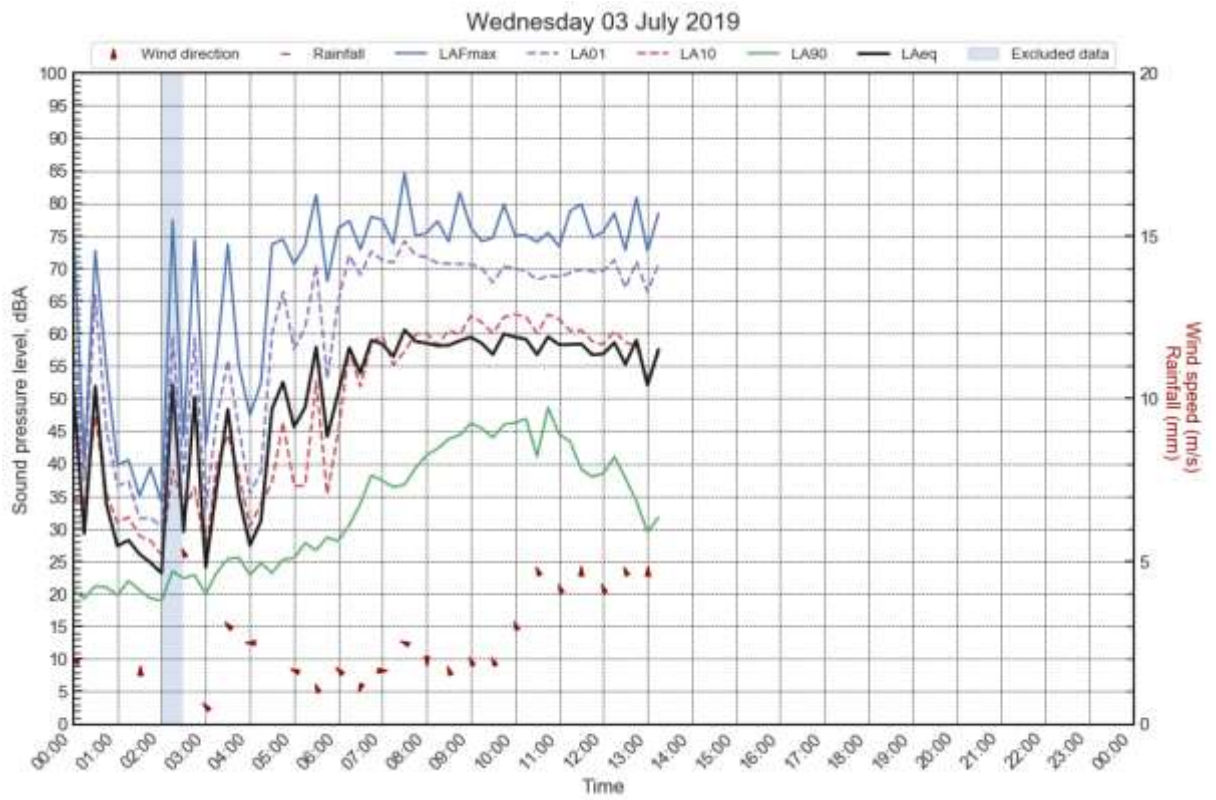




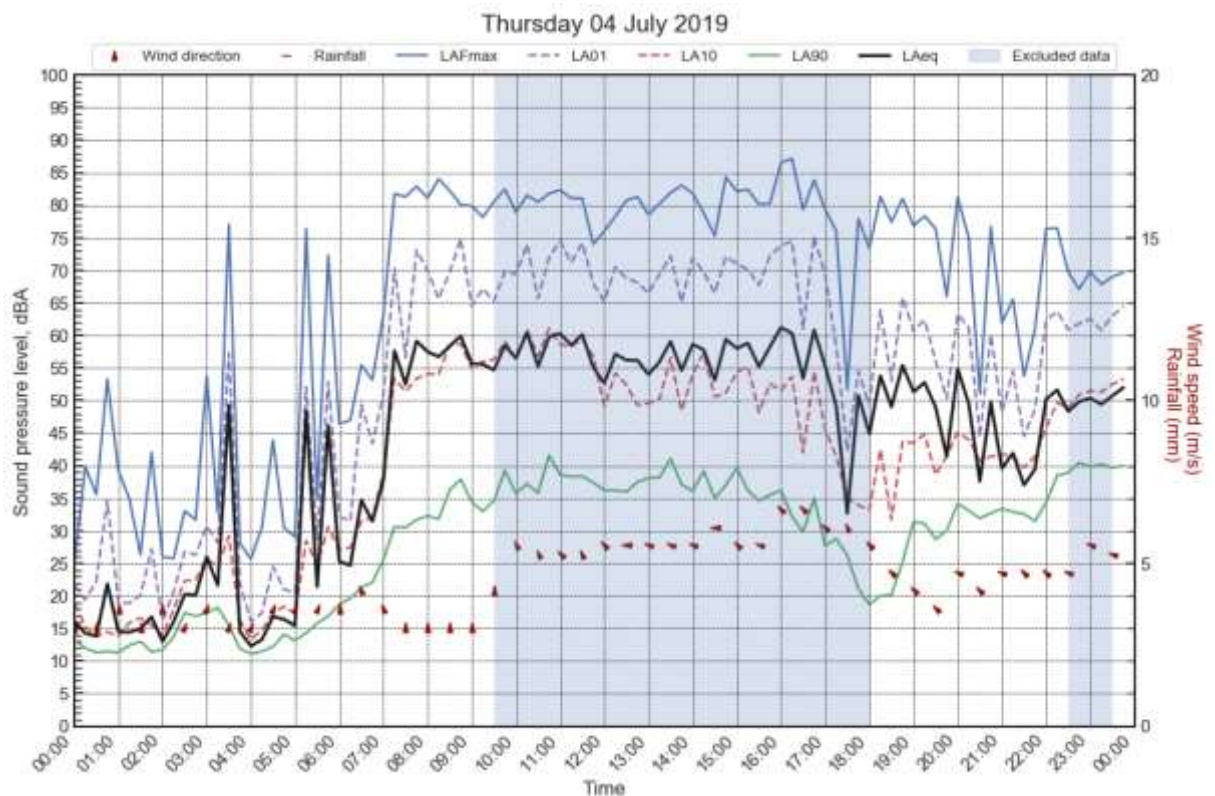
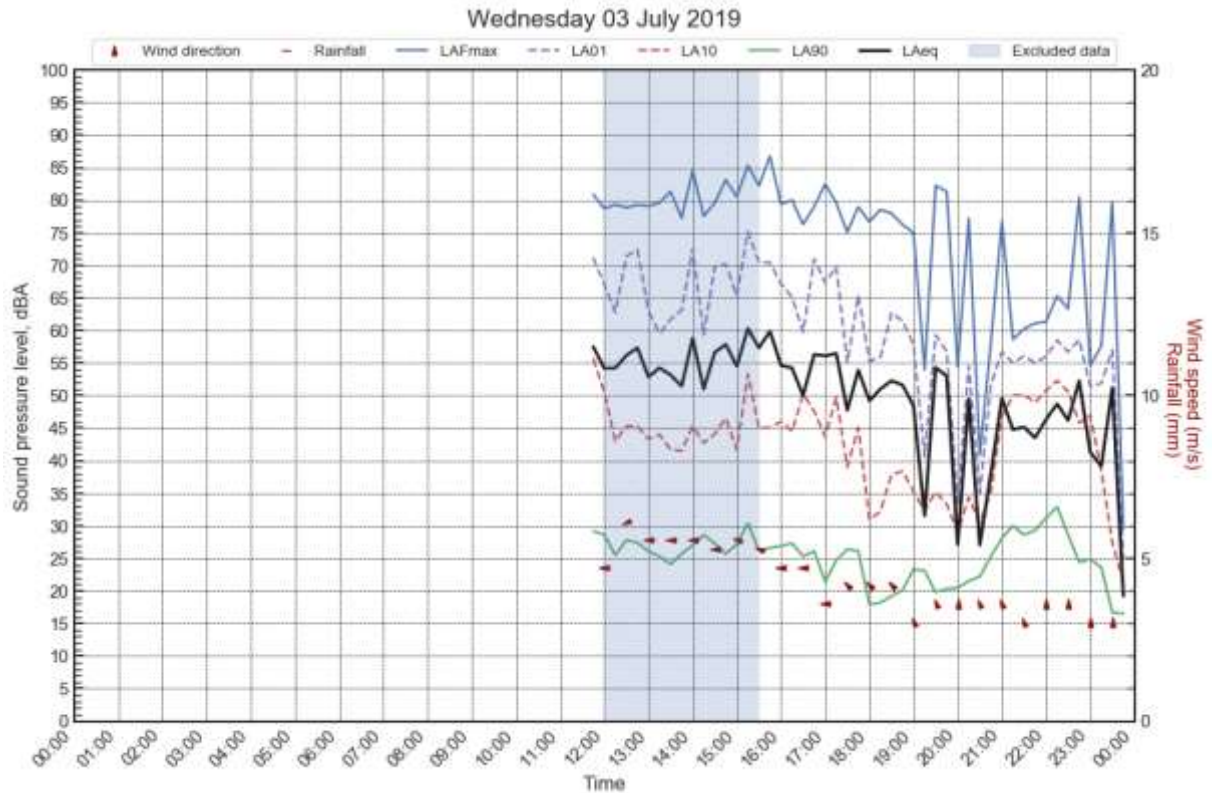




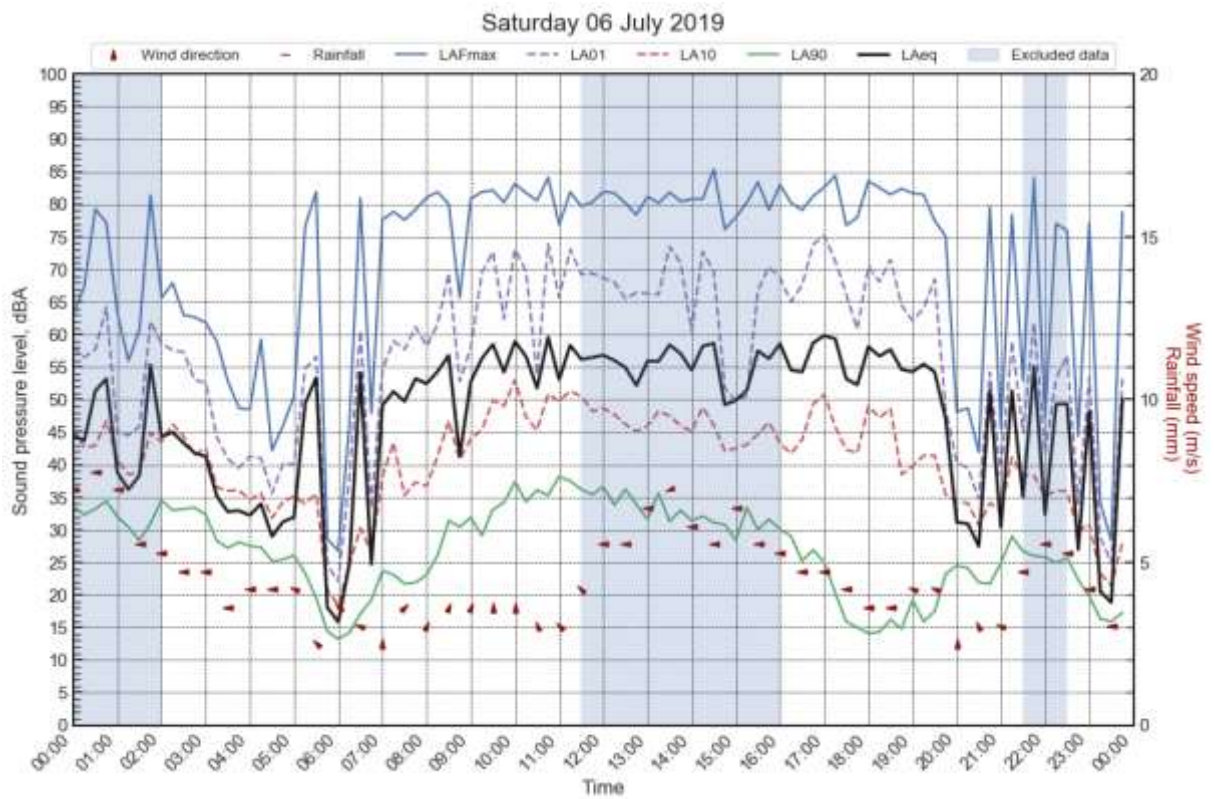
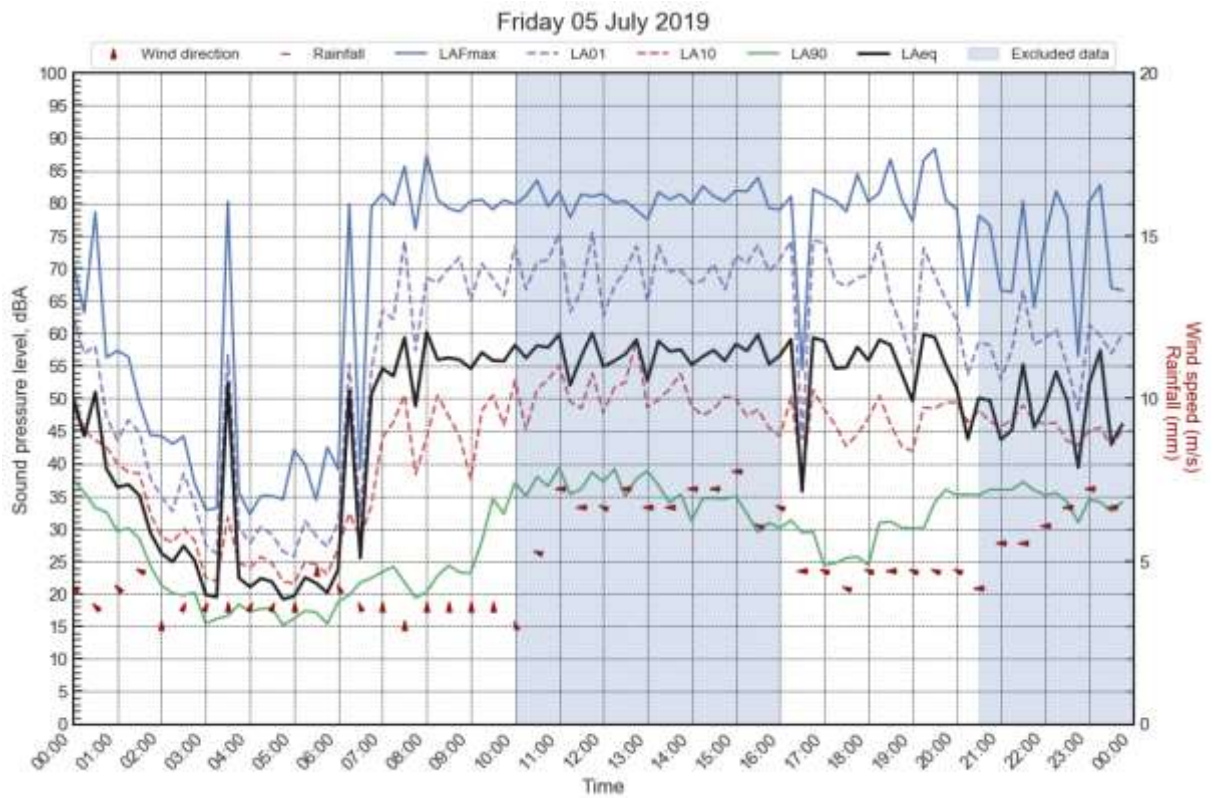




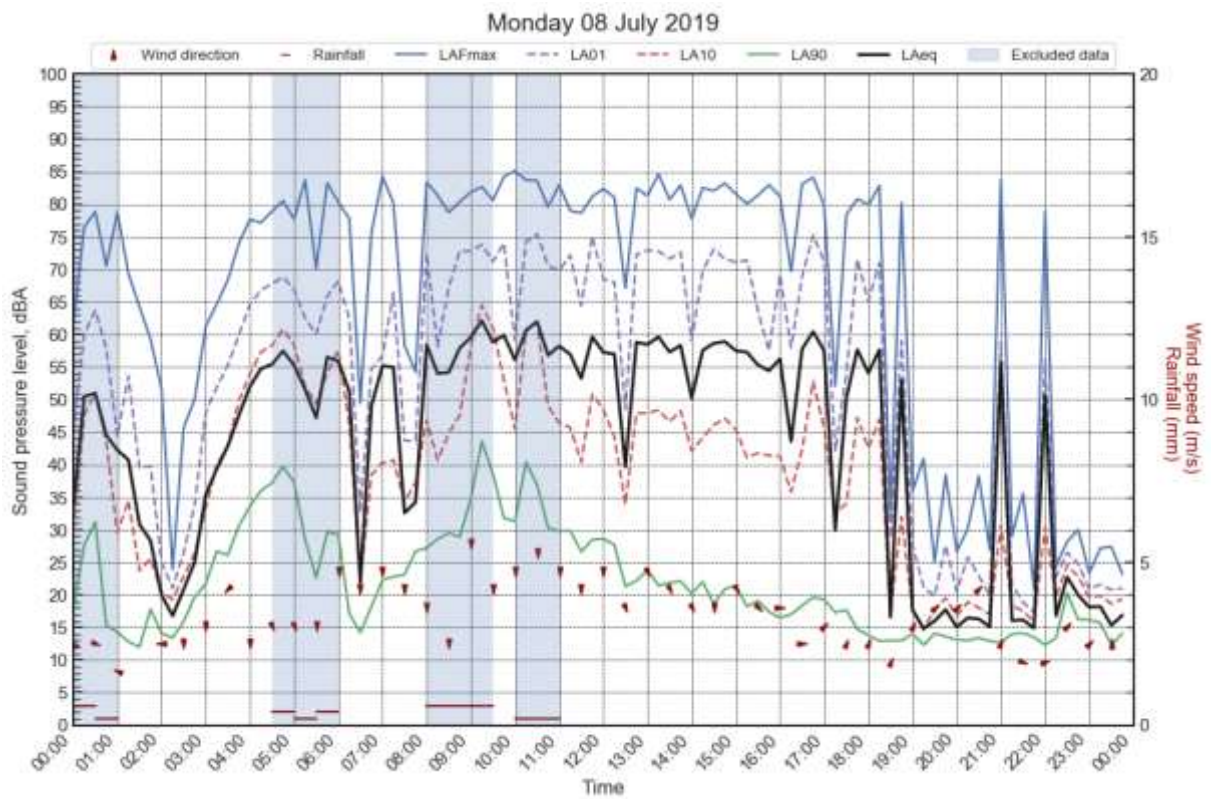
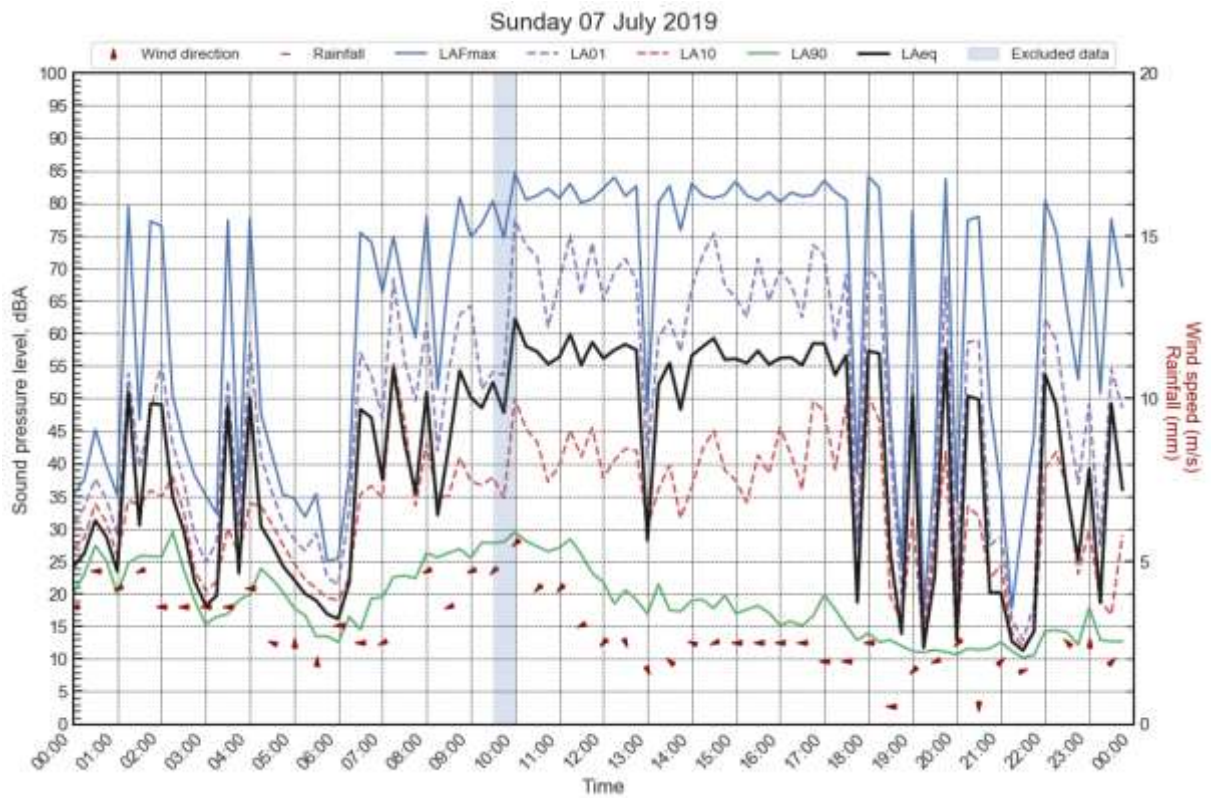
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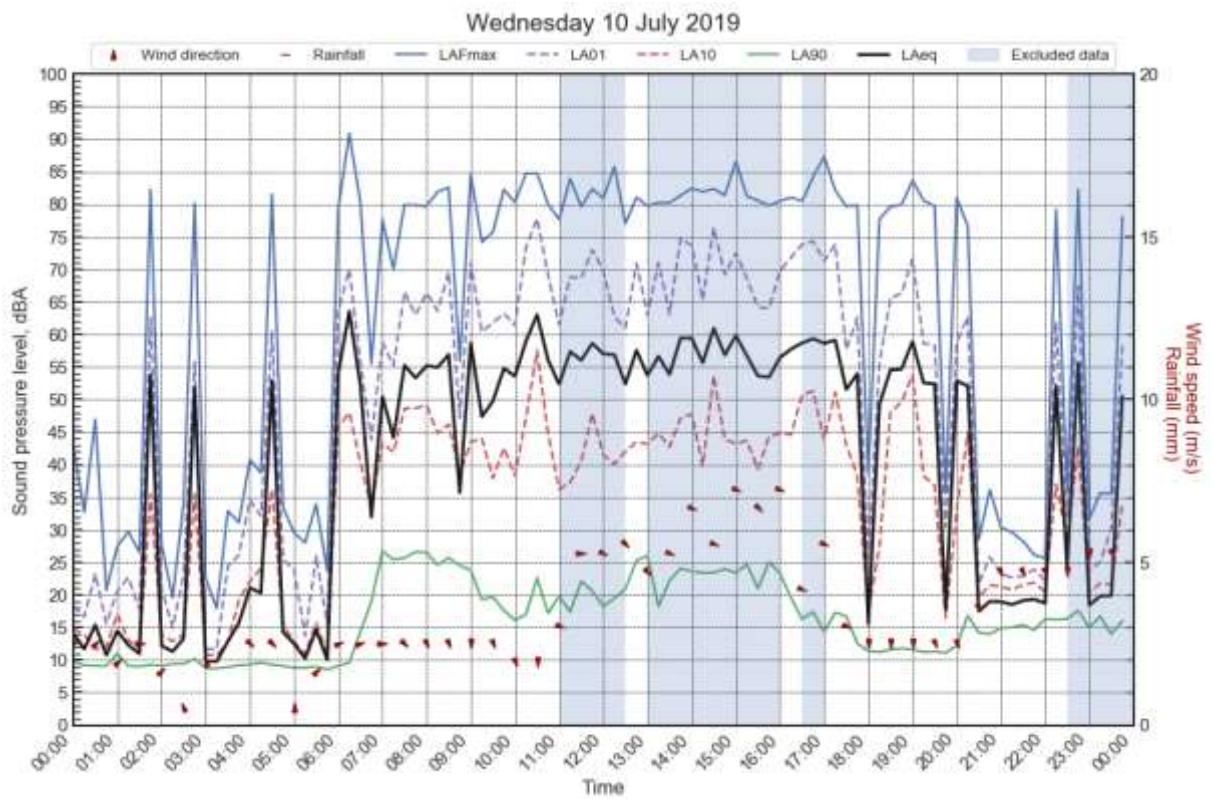
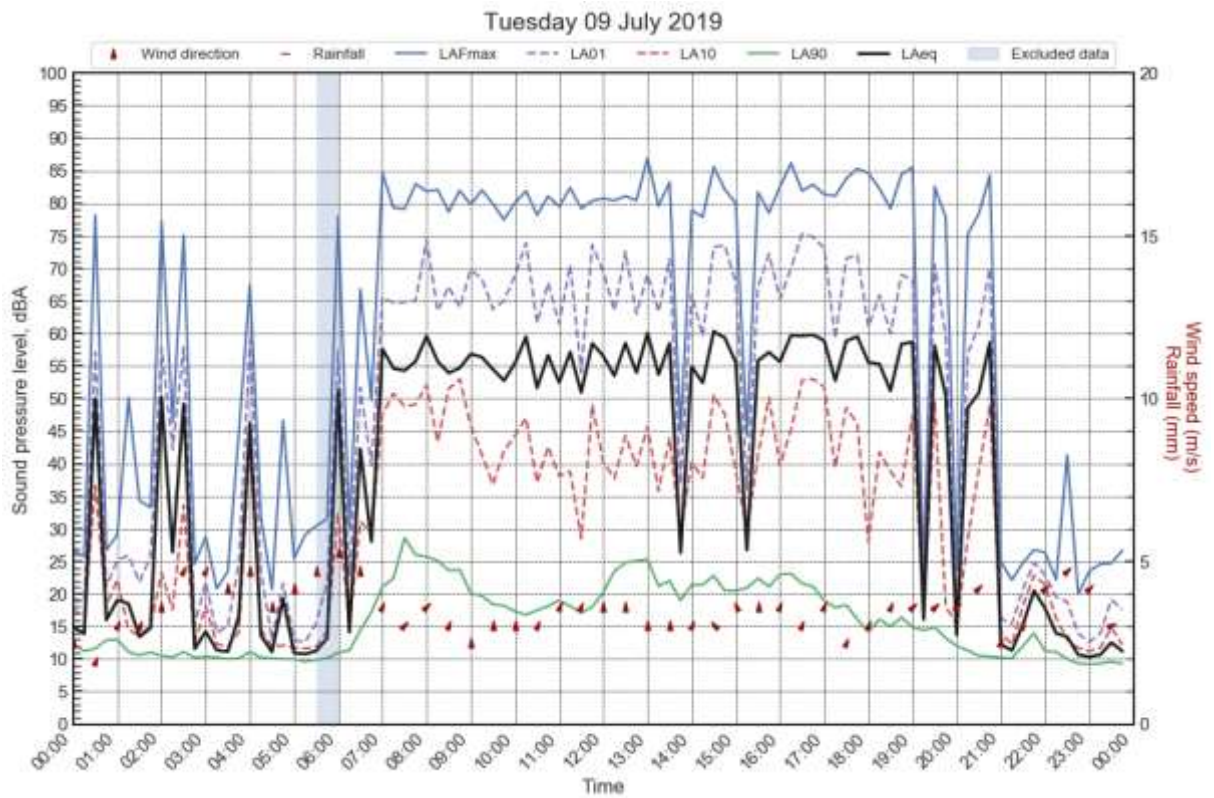




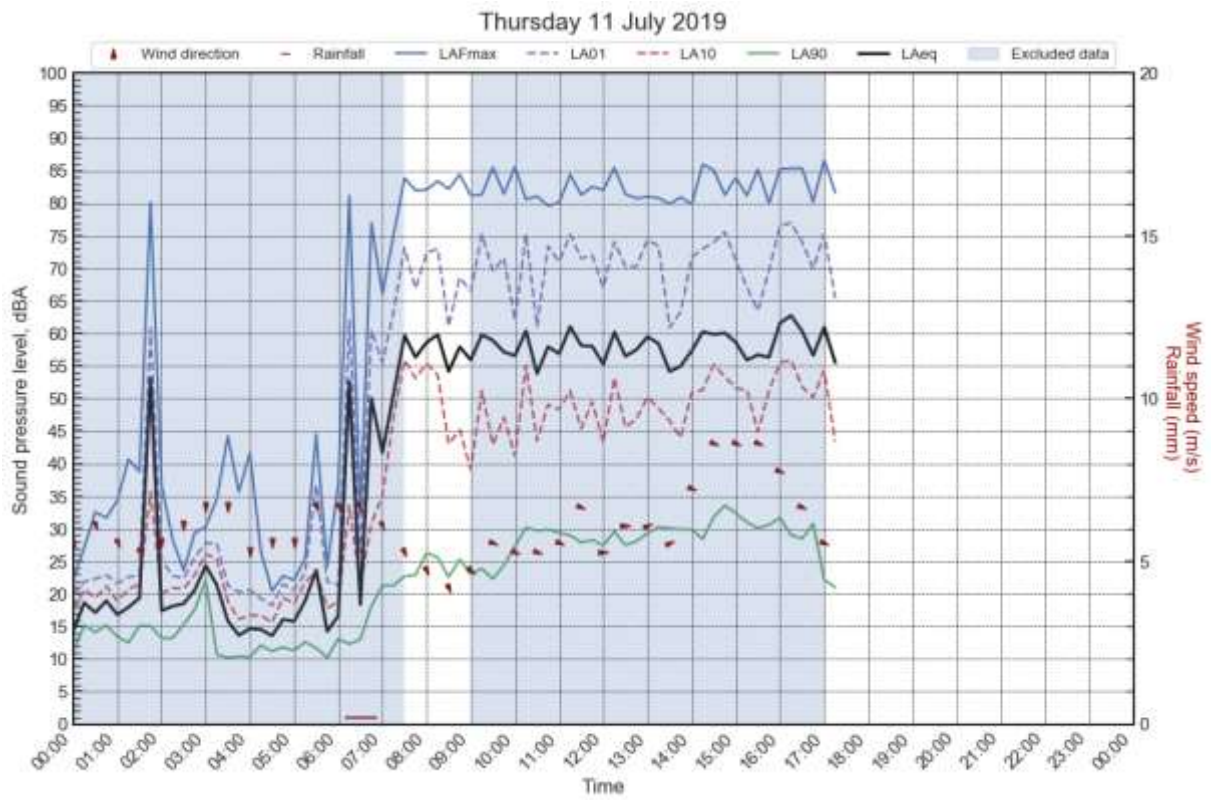




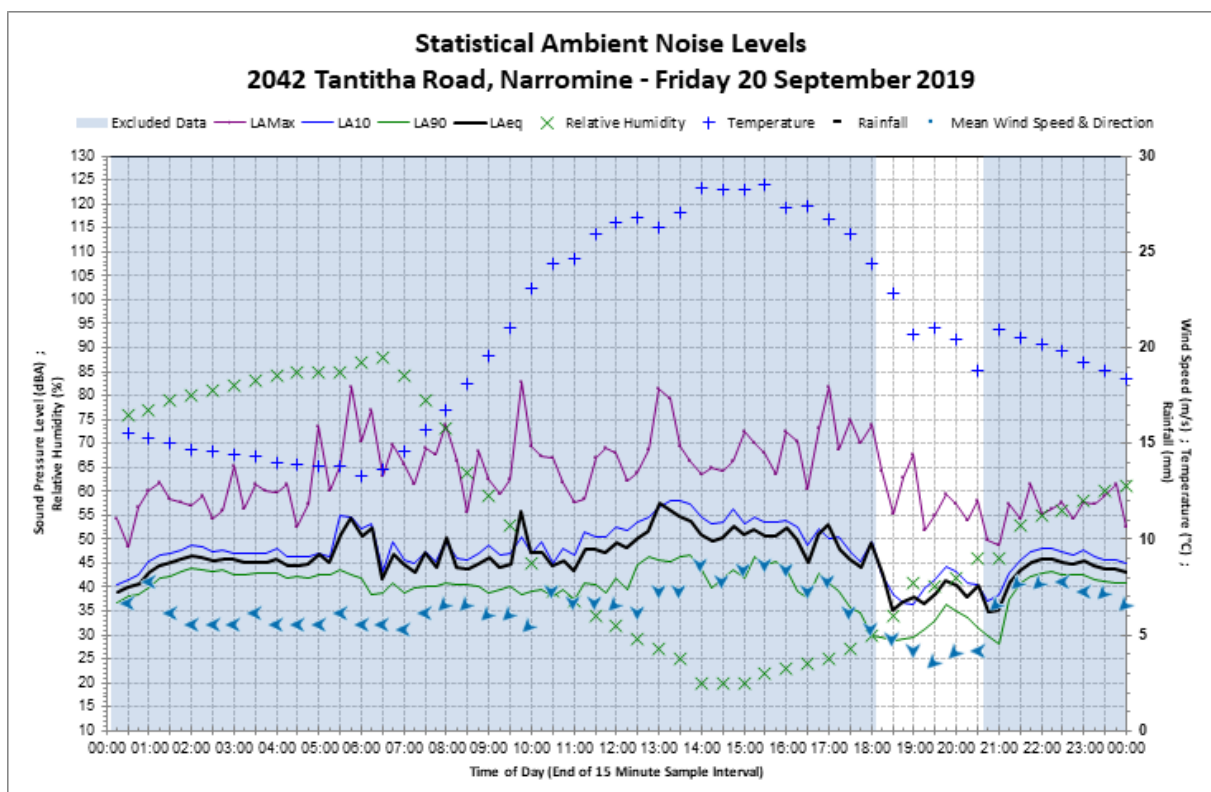
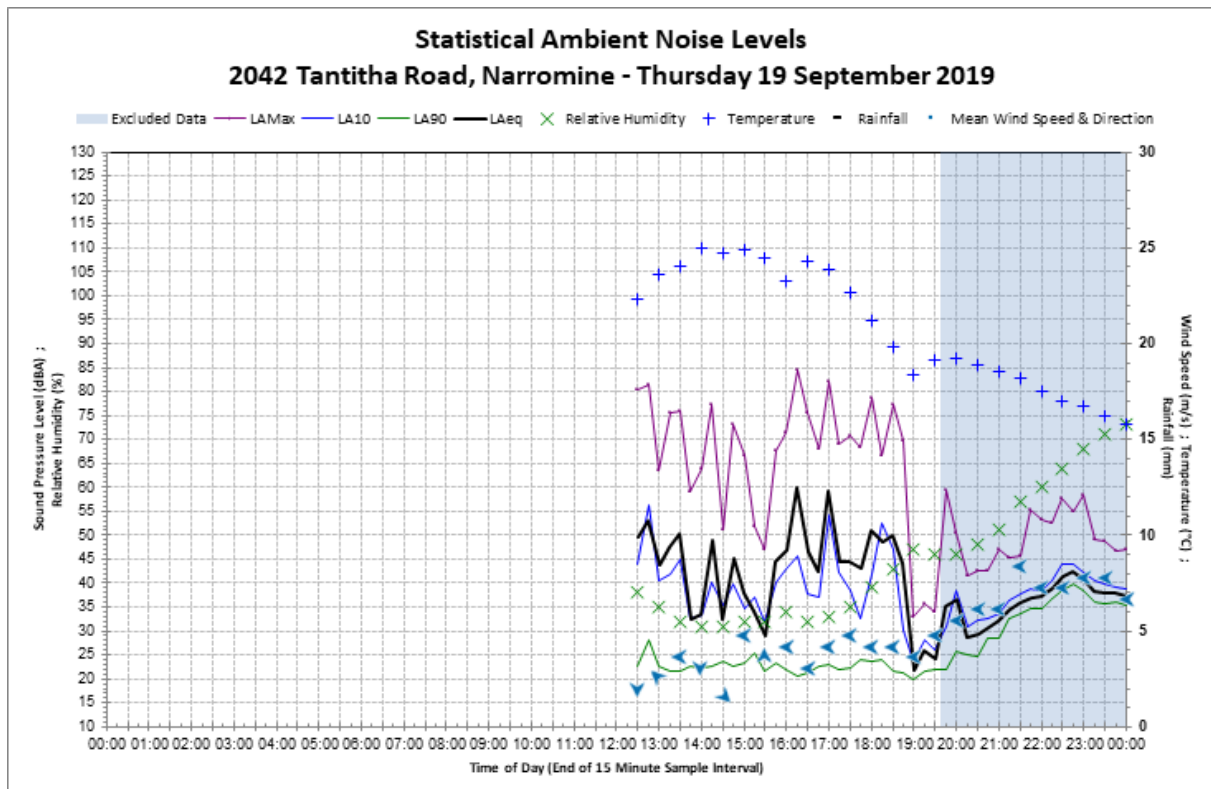




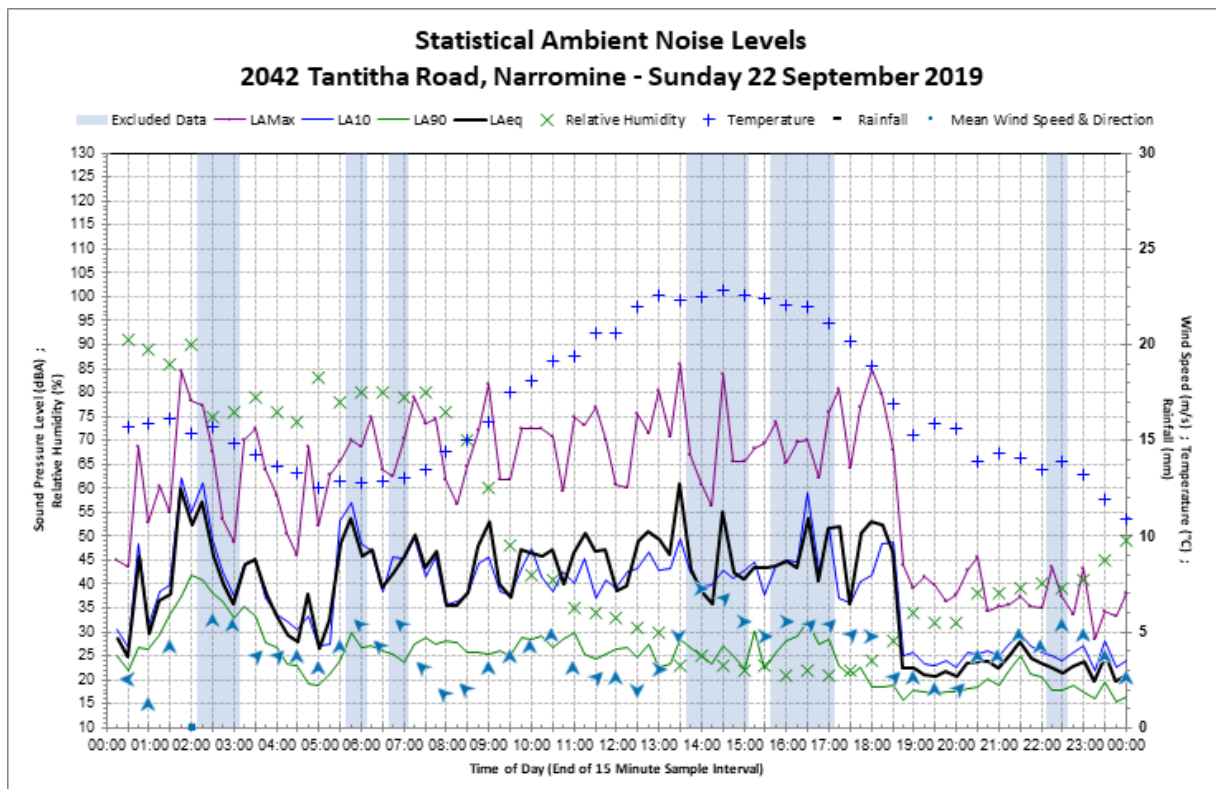
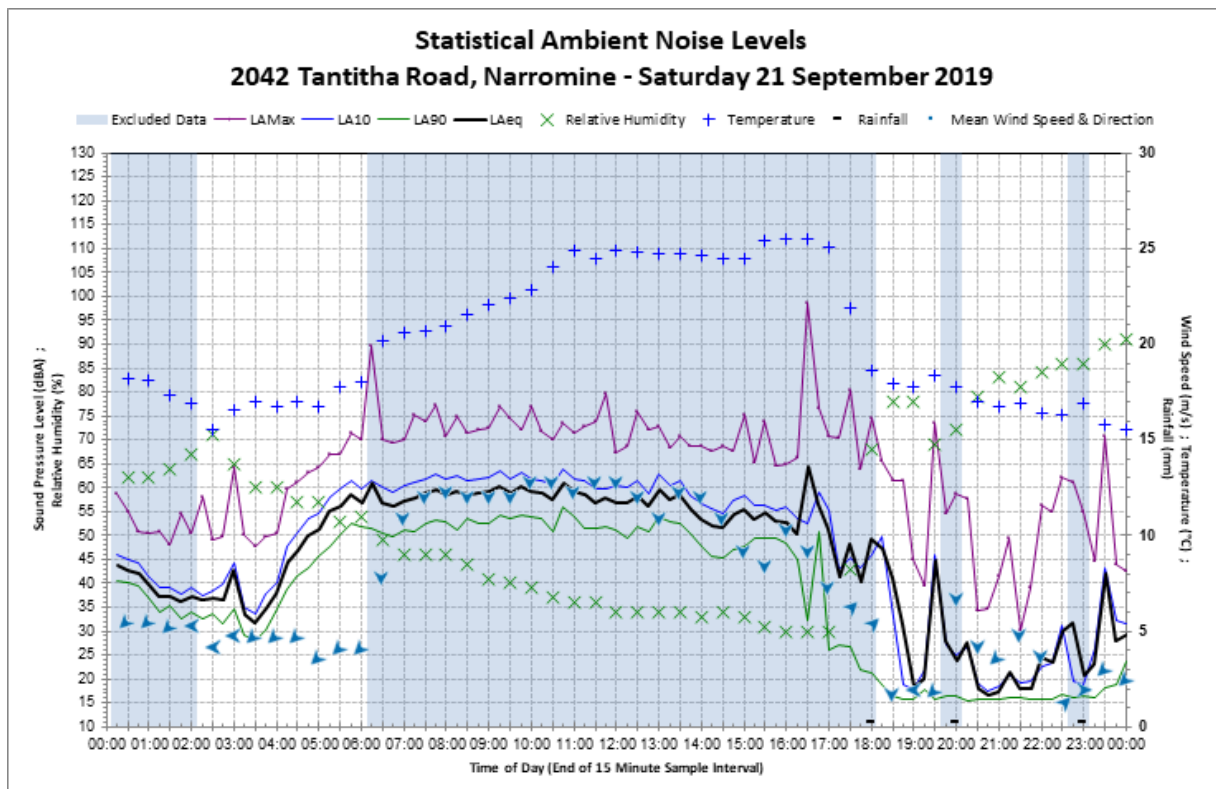


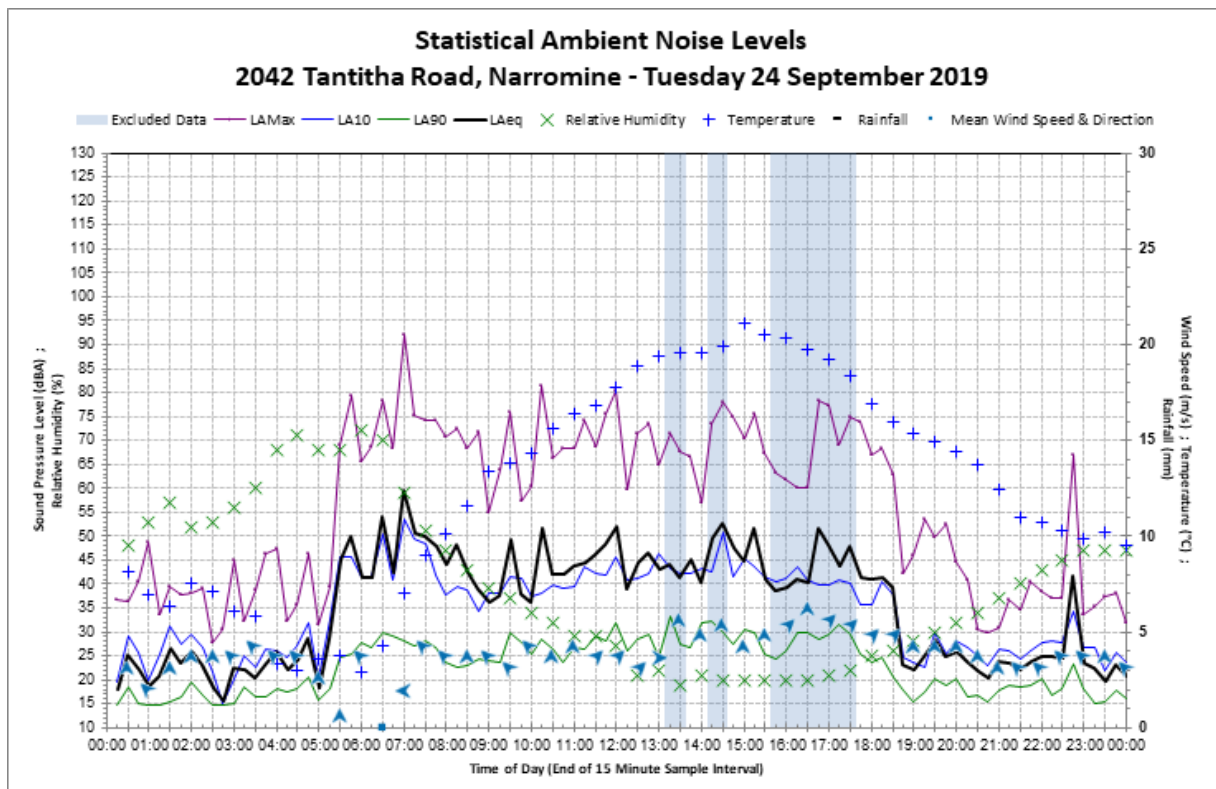
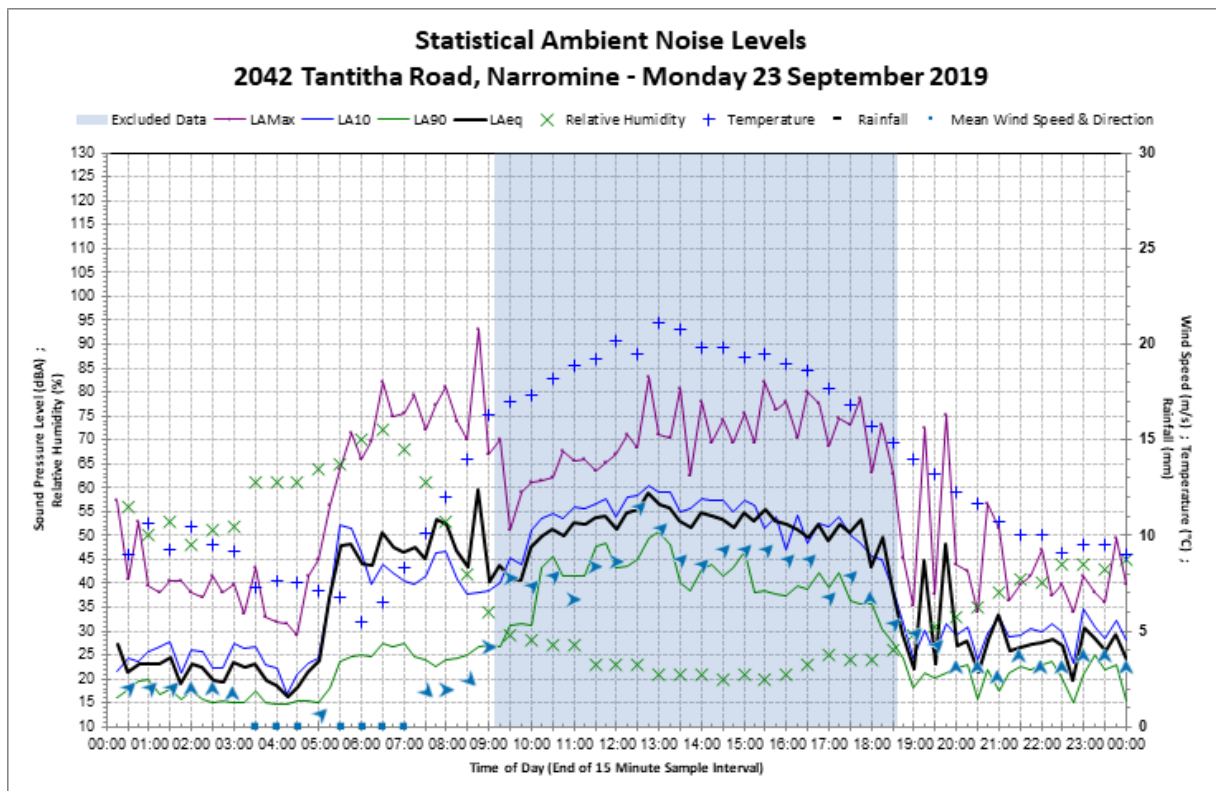


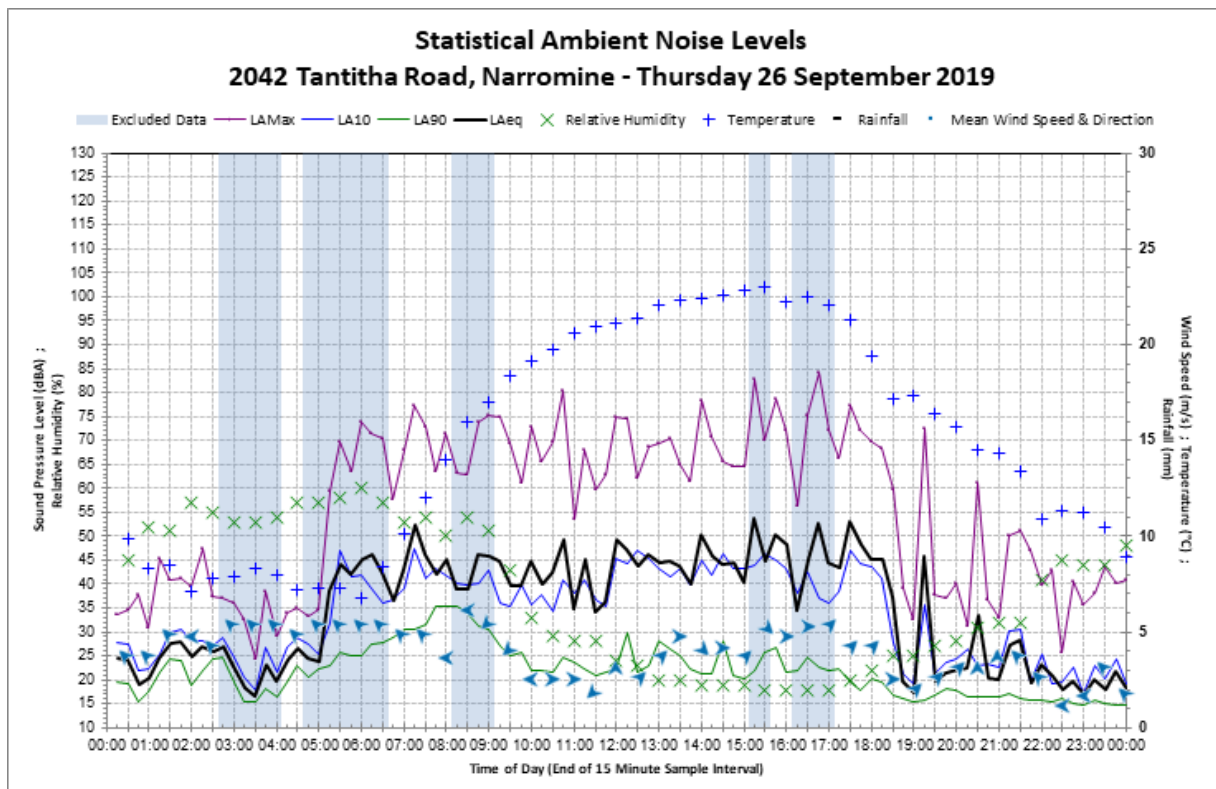
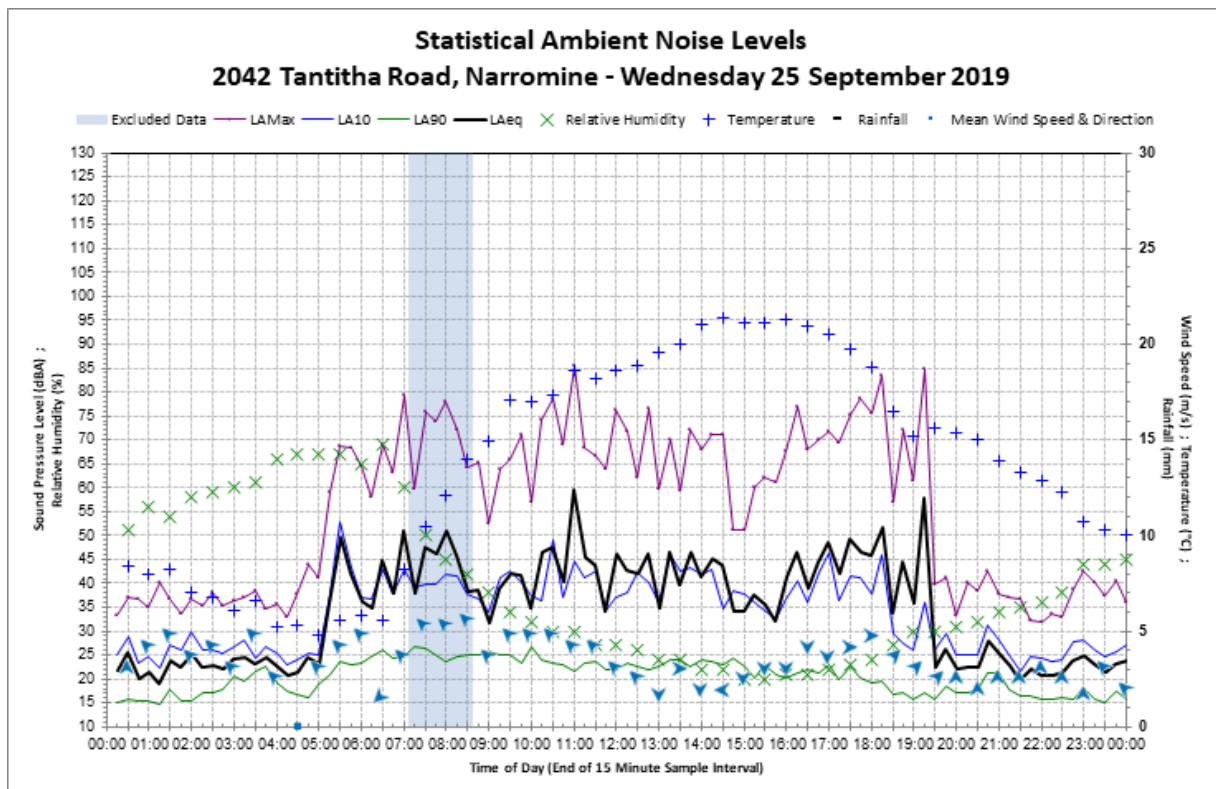
## Monitoring location M20 – 2042 Tantitha Road, Narromine



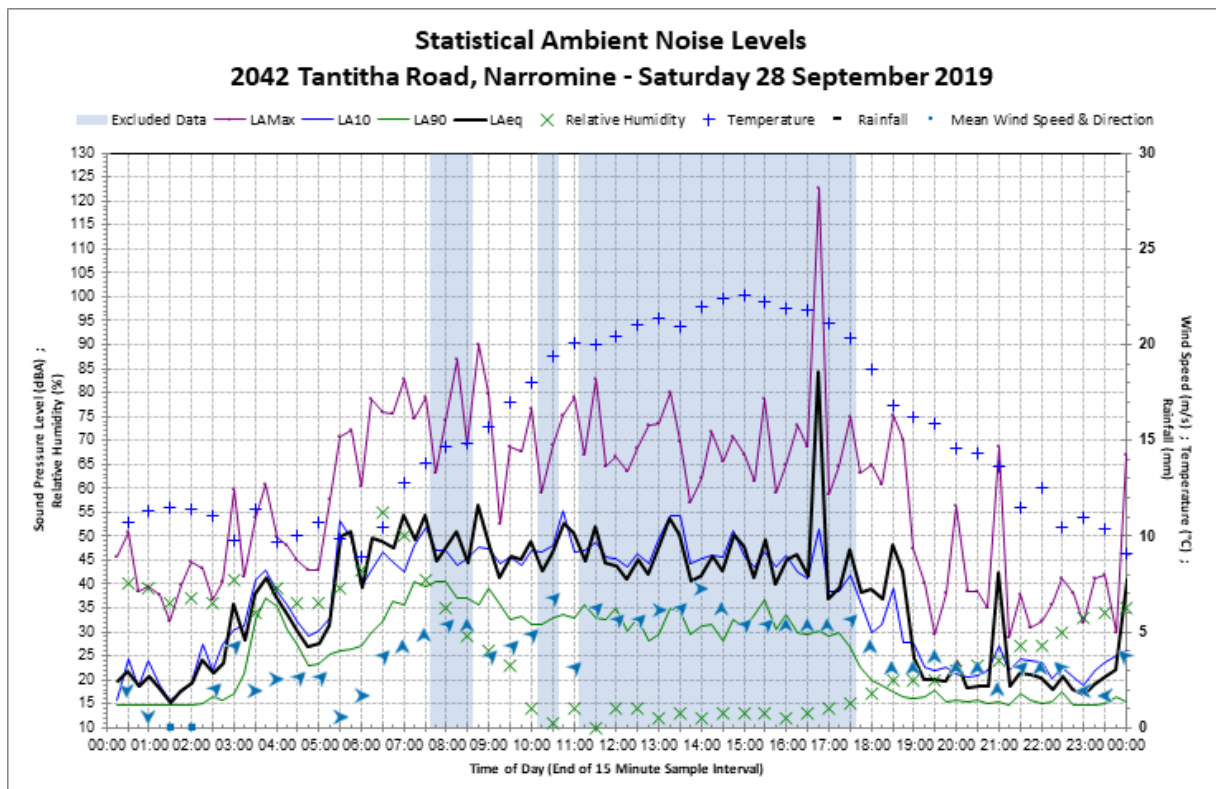
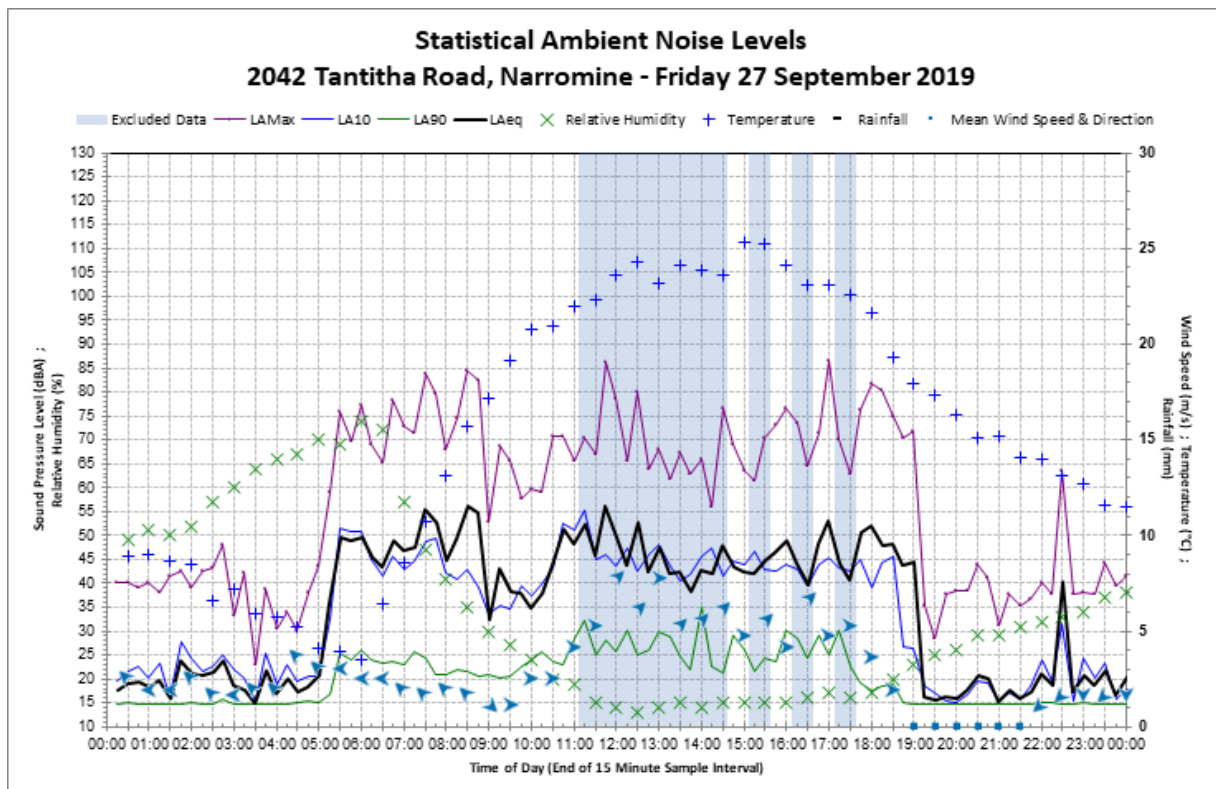




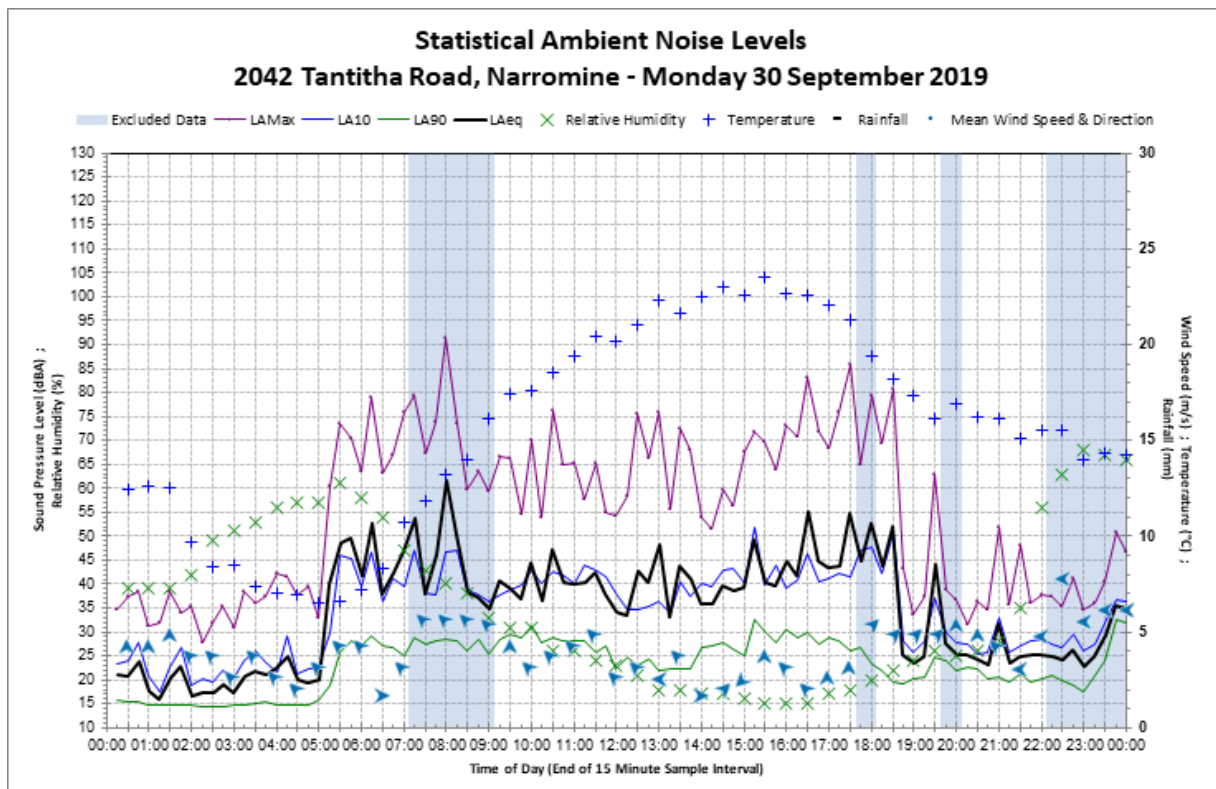
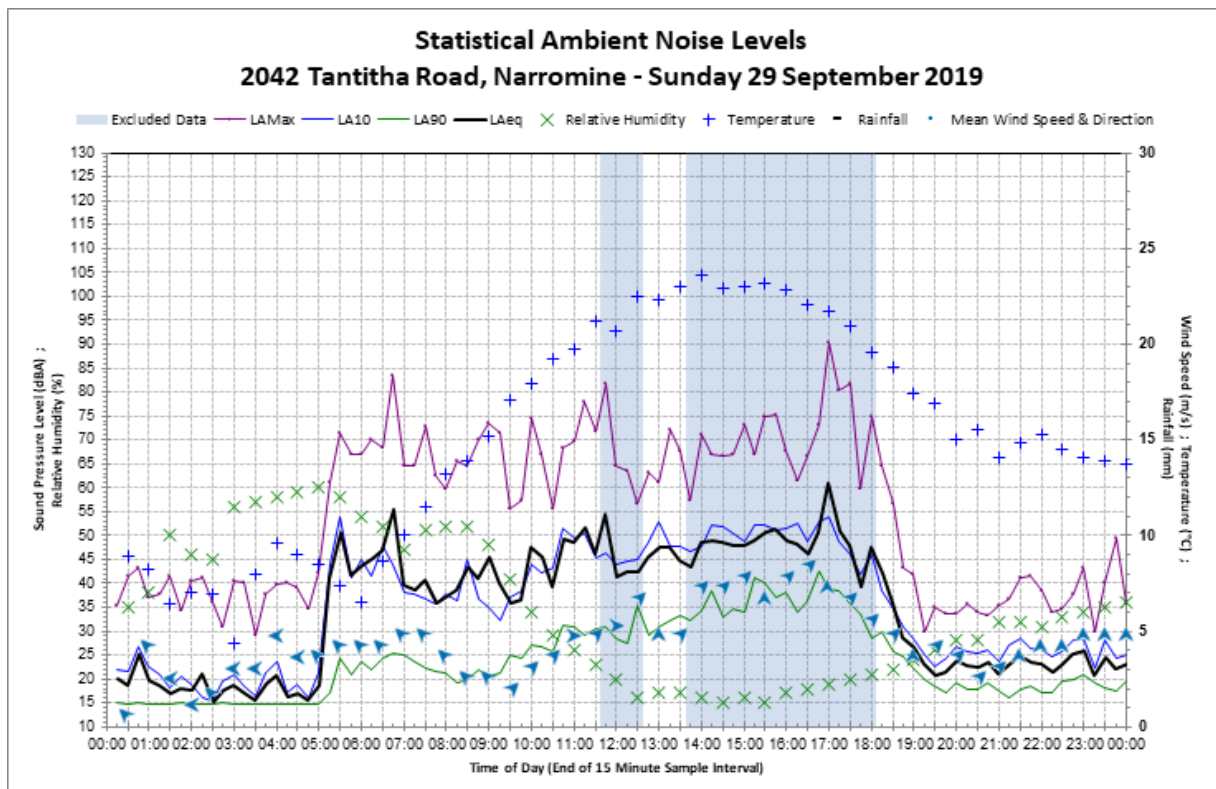


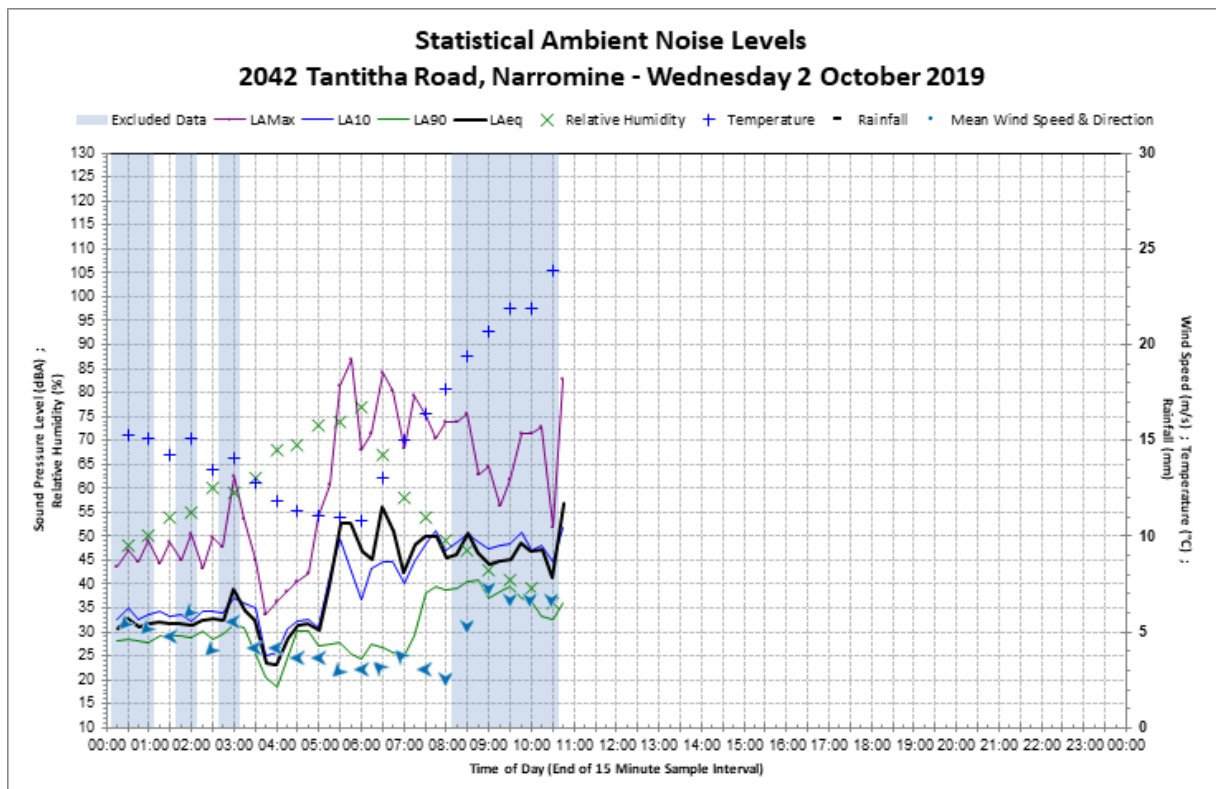
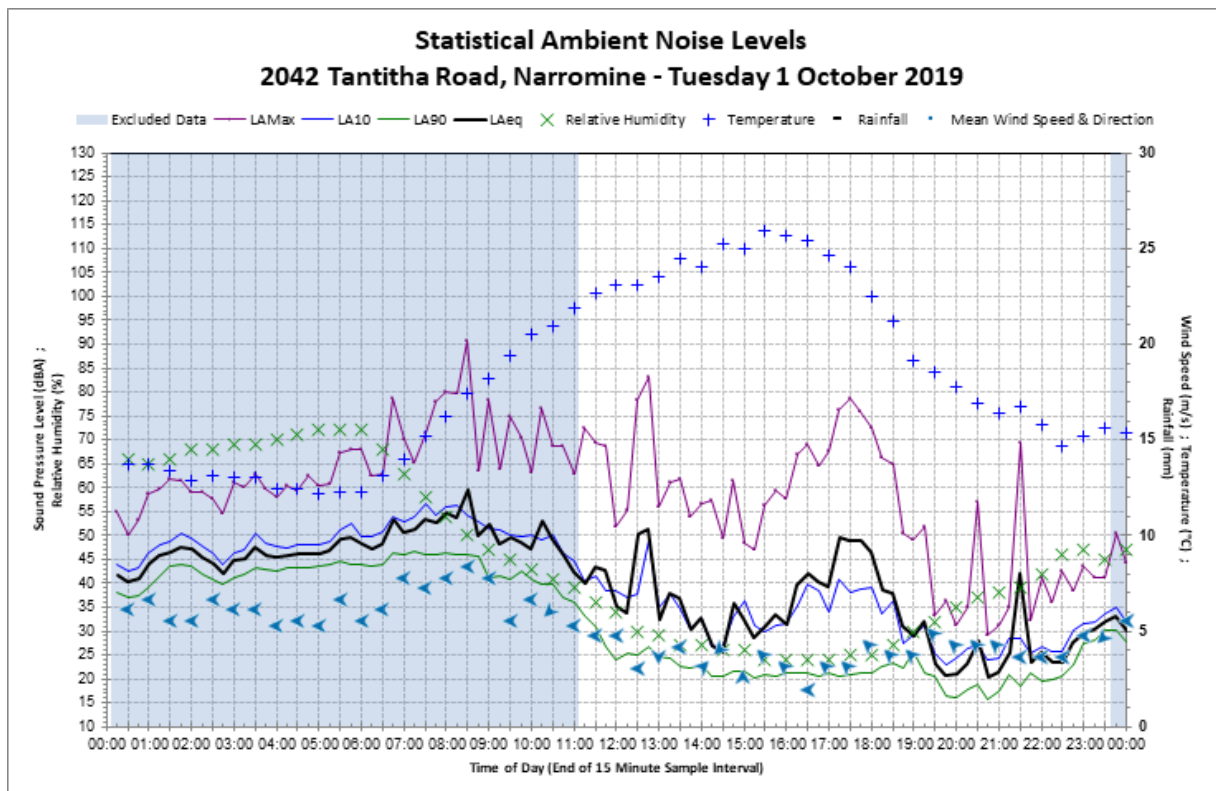




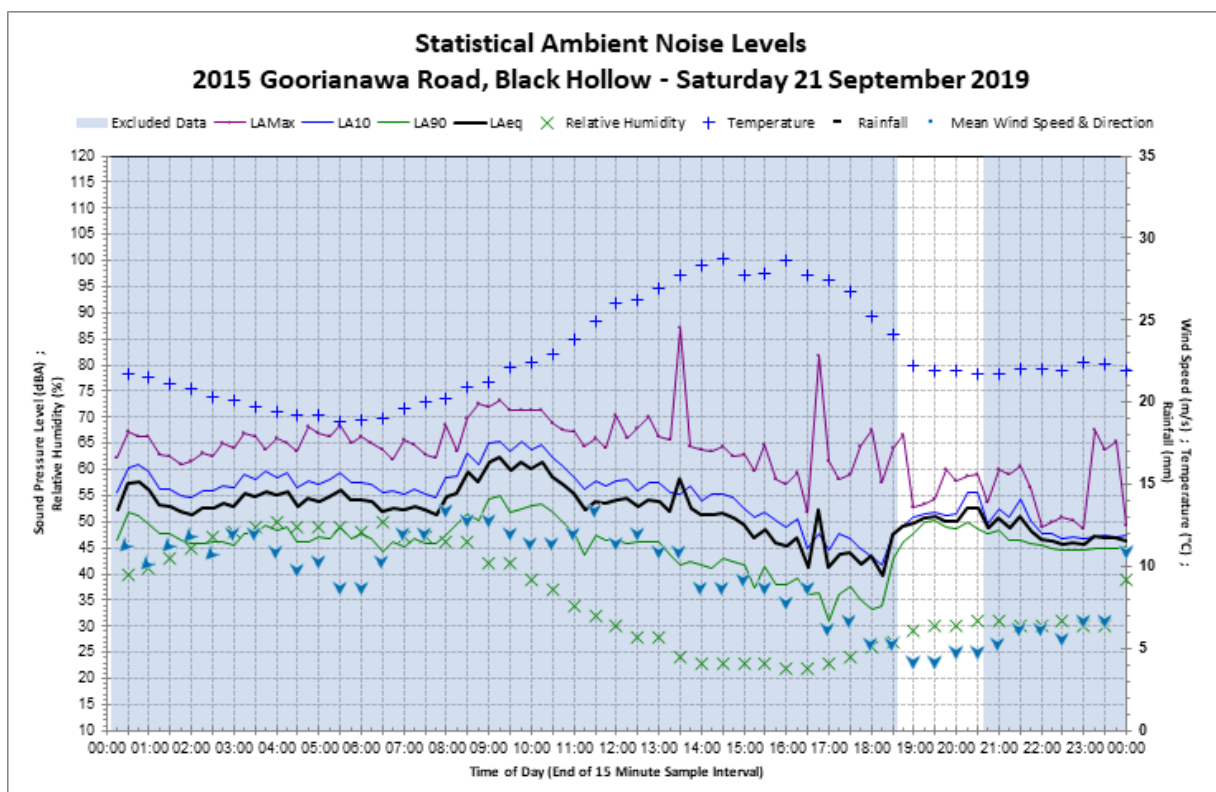
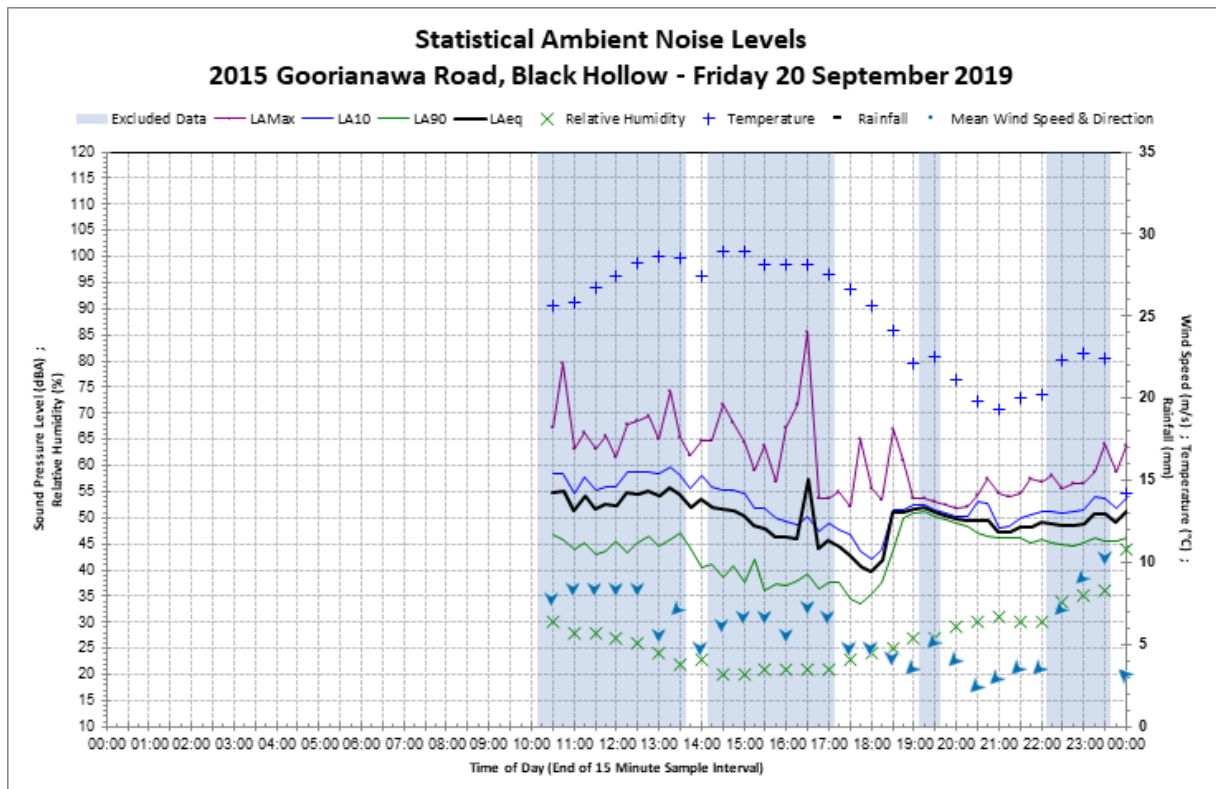


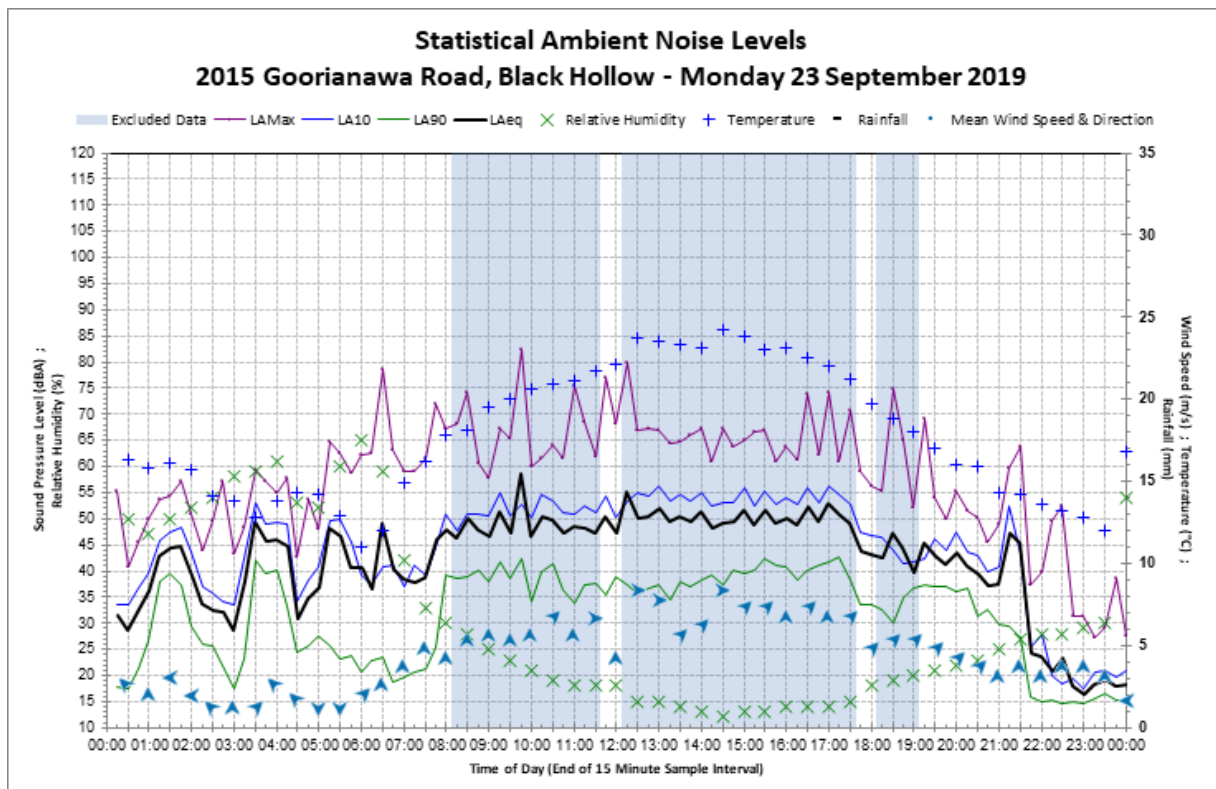
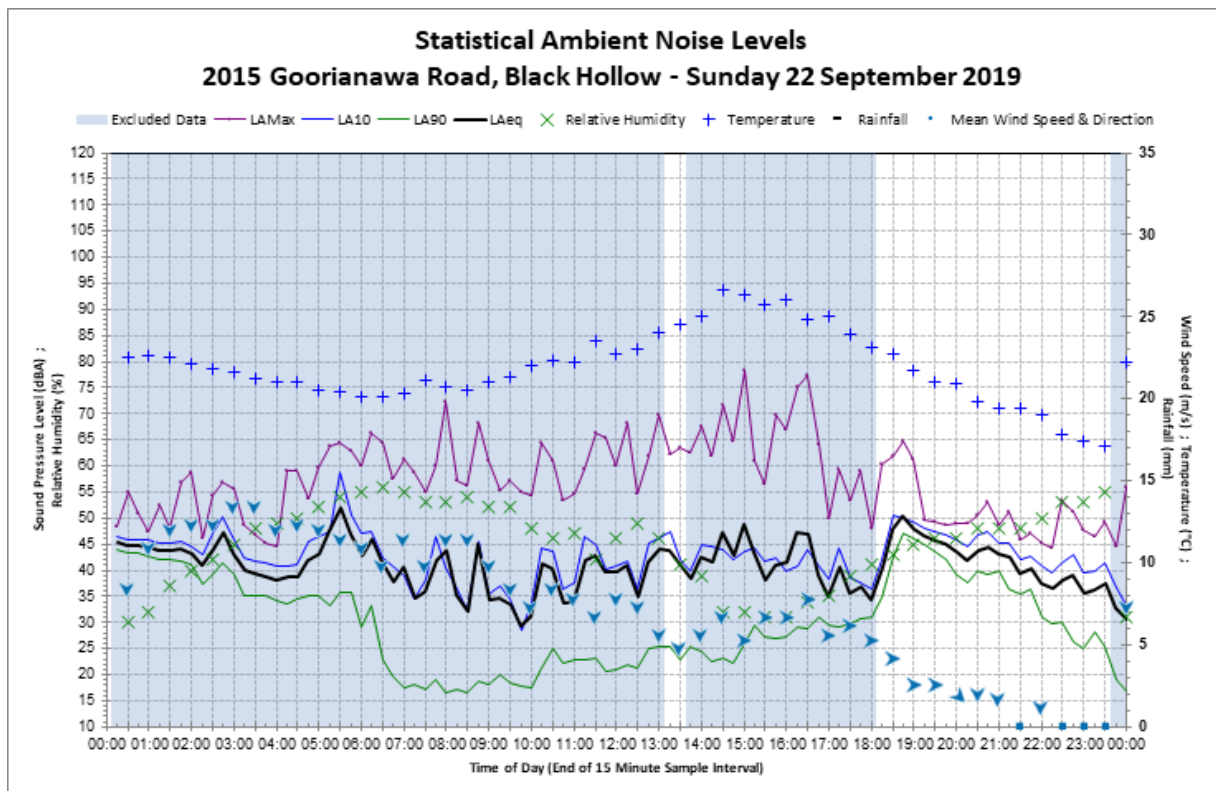




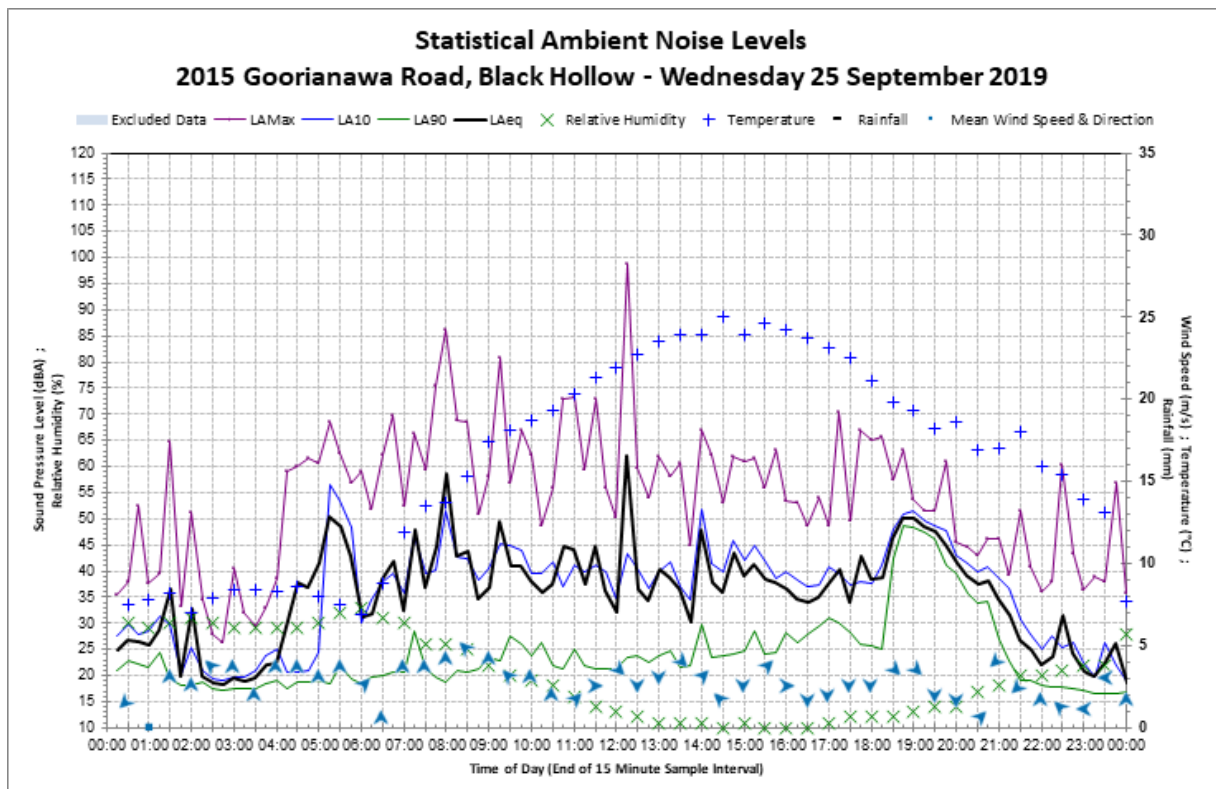
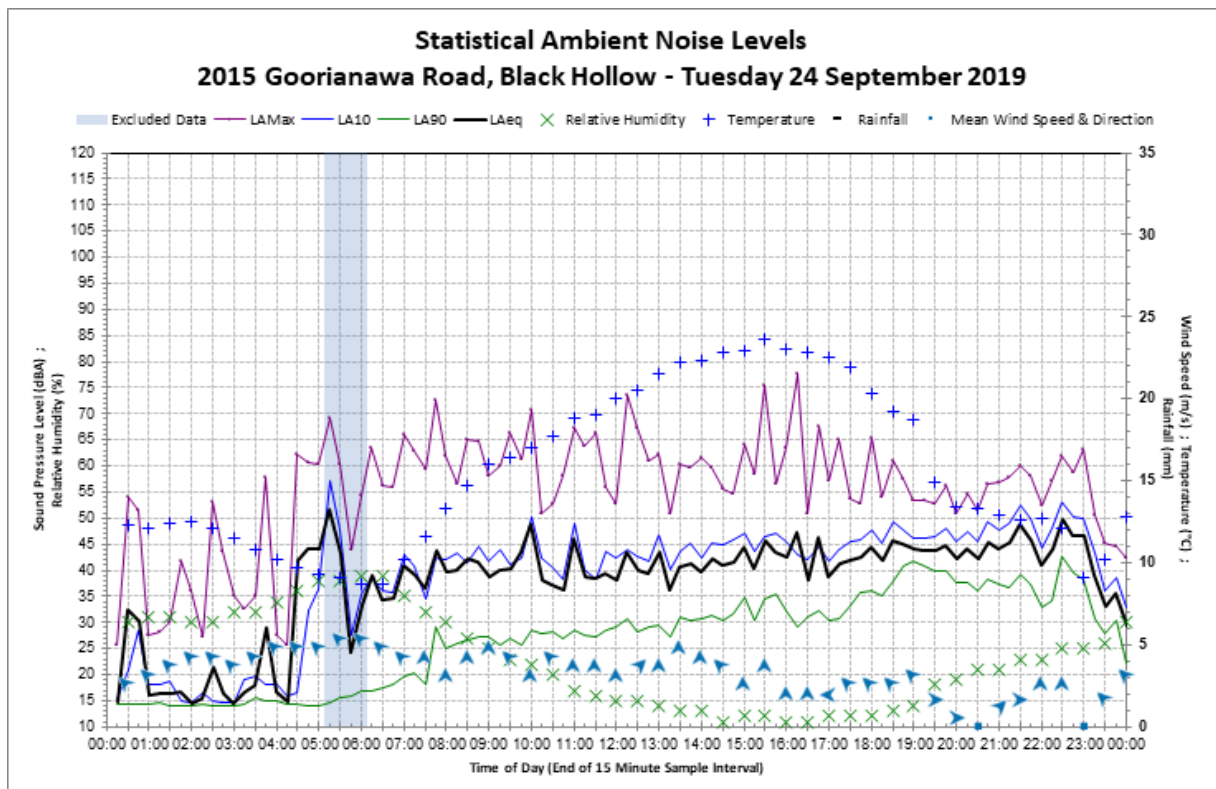


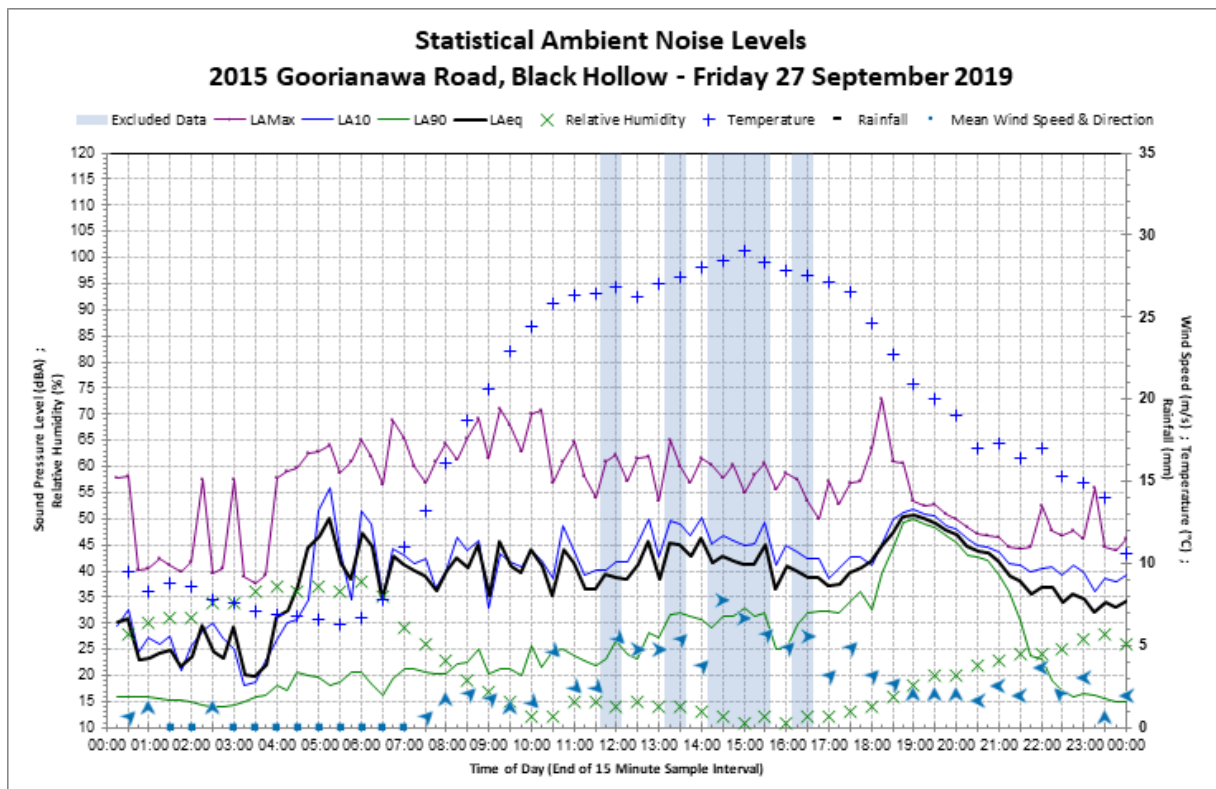
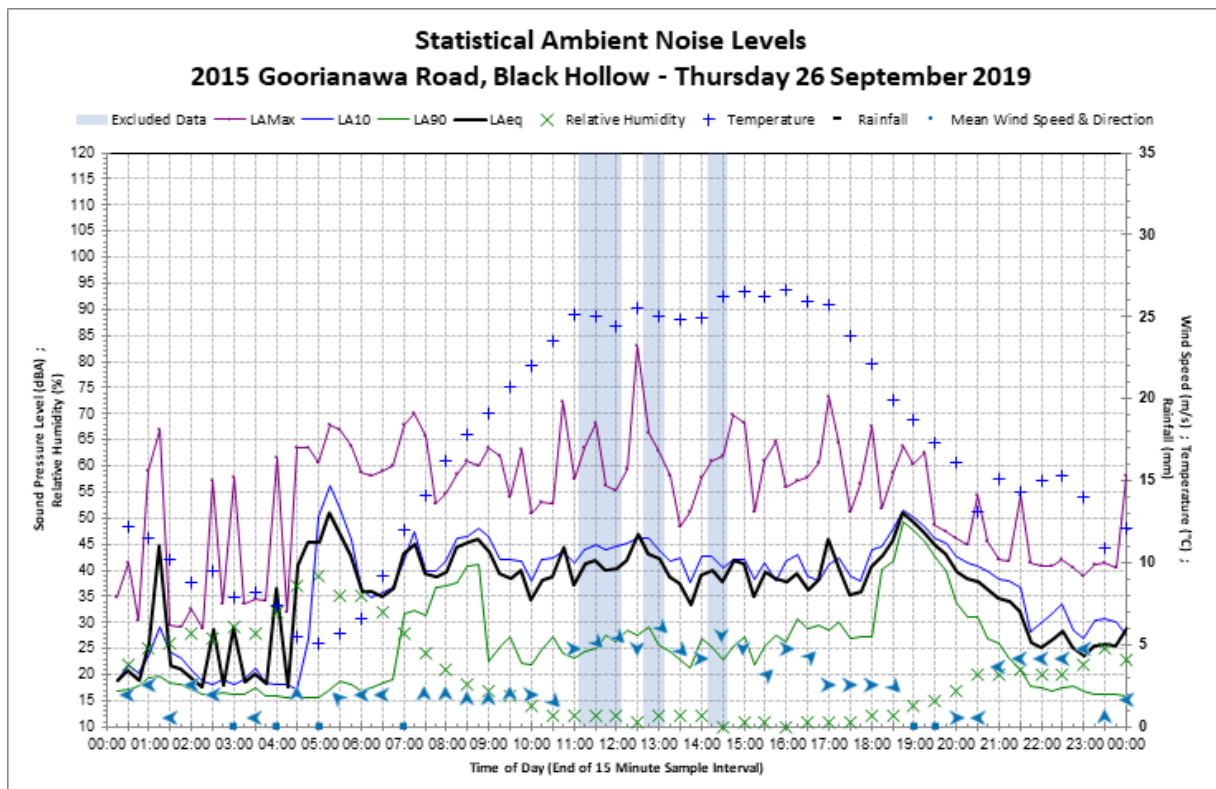
## Monitoring location M21 – 2051 Goorianawa Road, Black Hollow

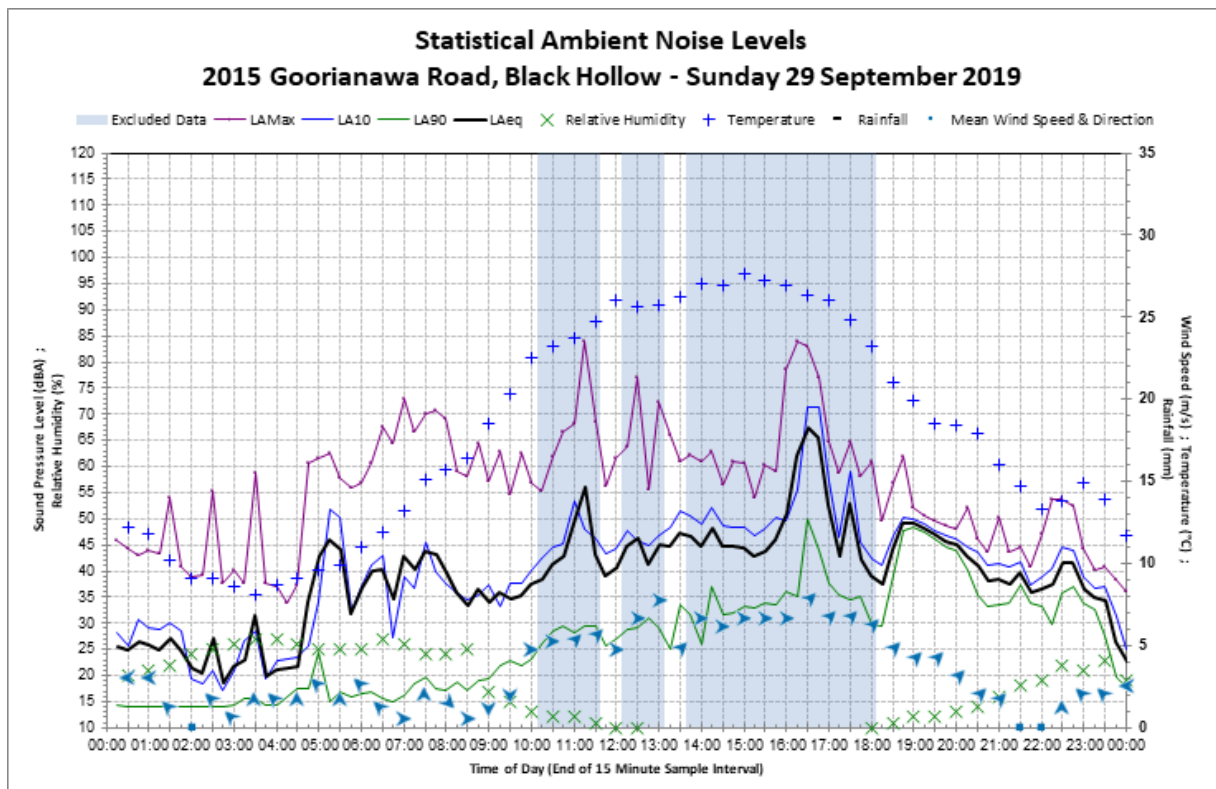
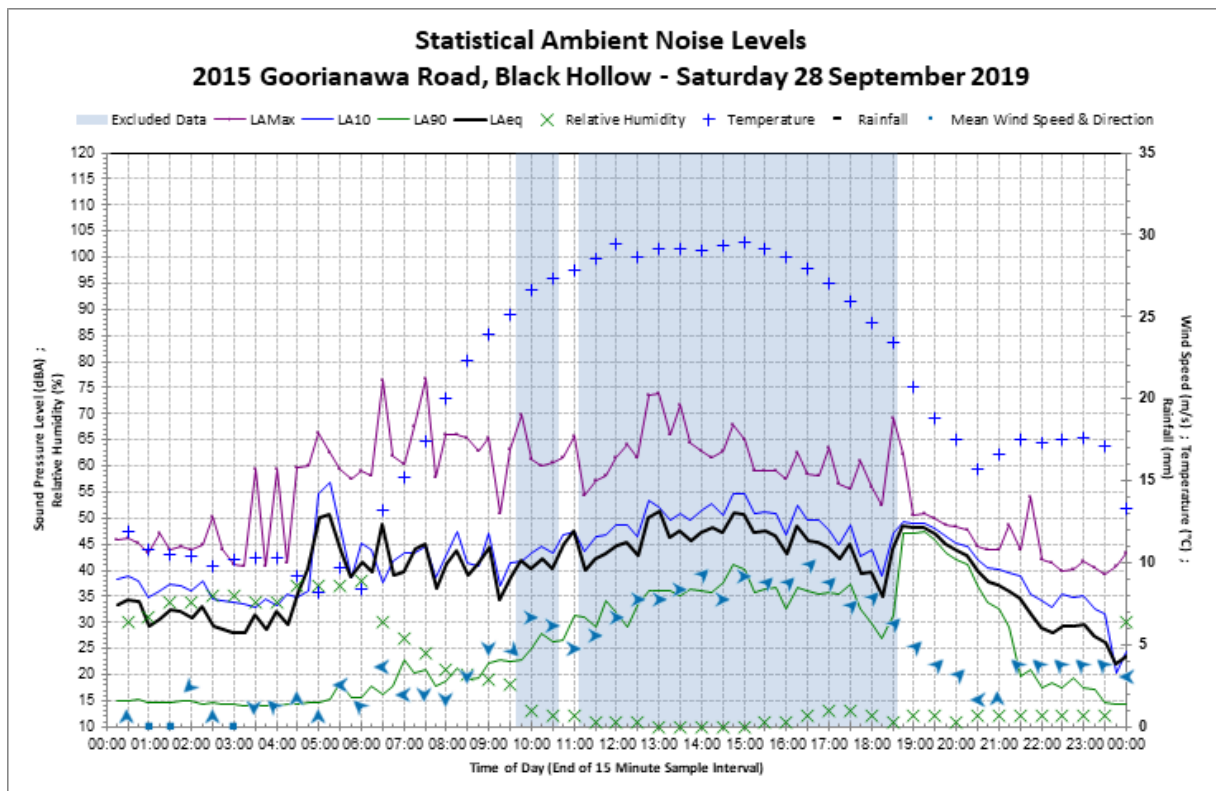


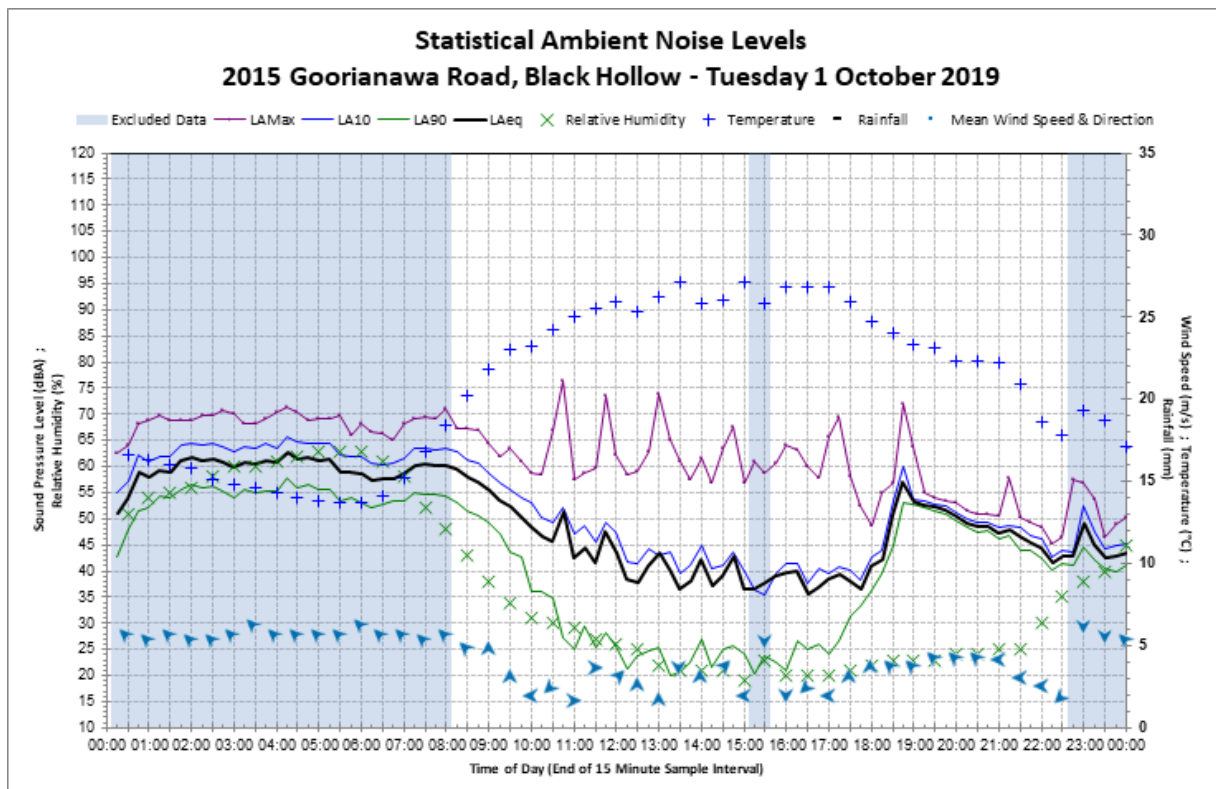
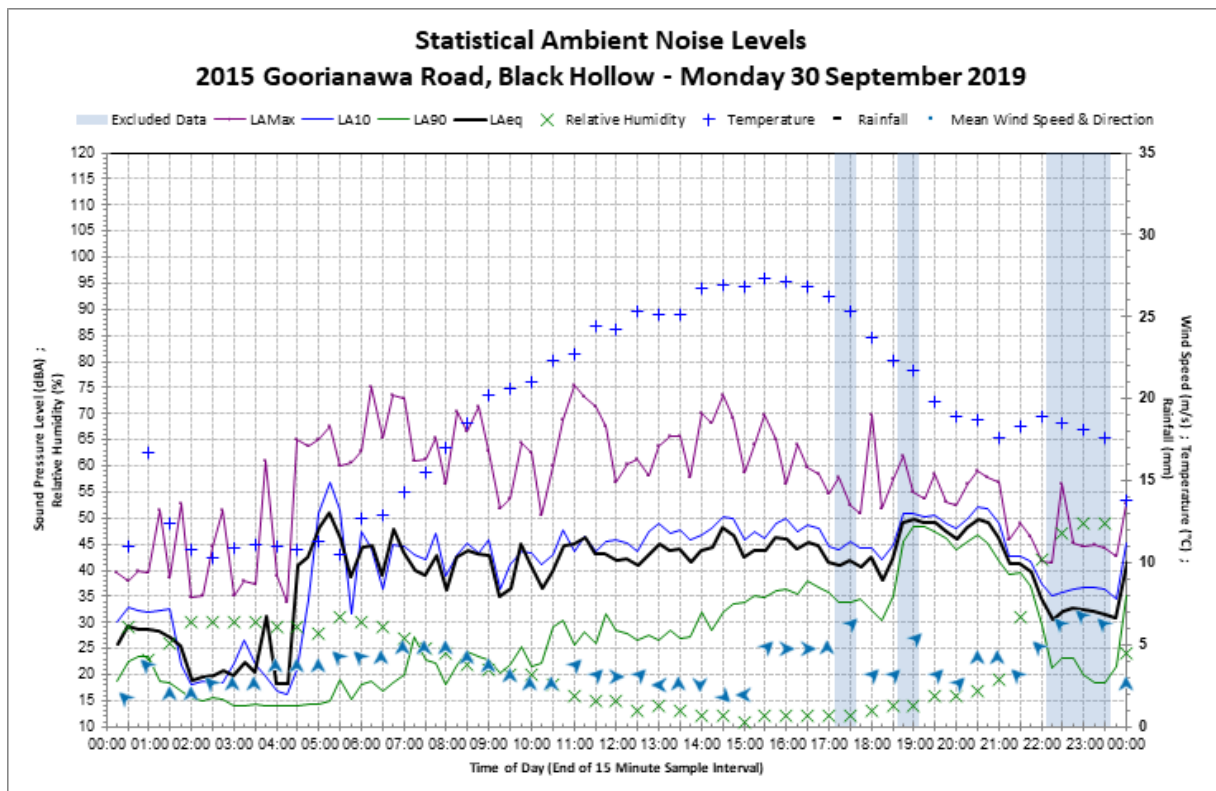






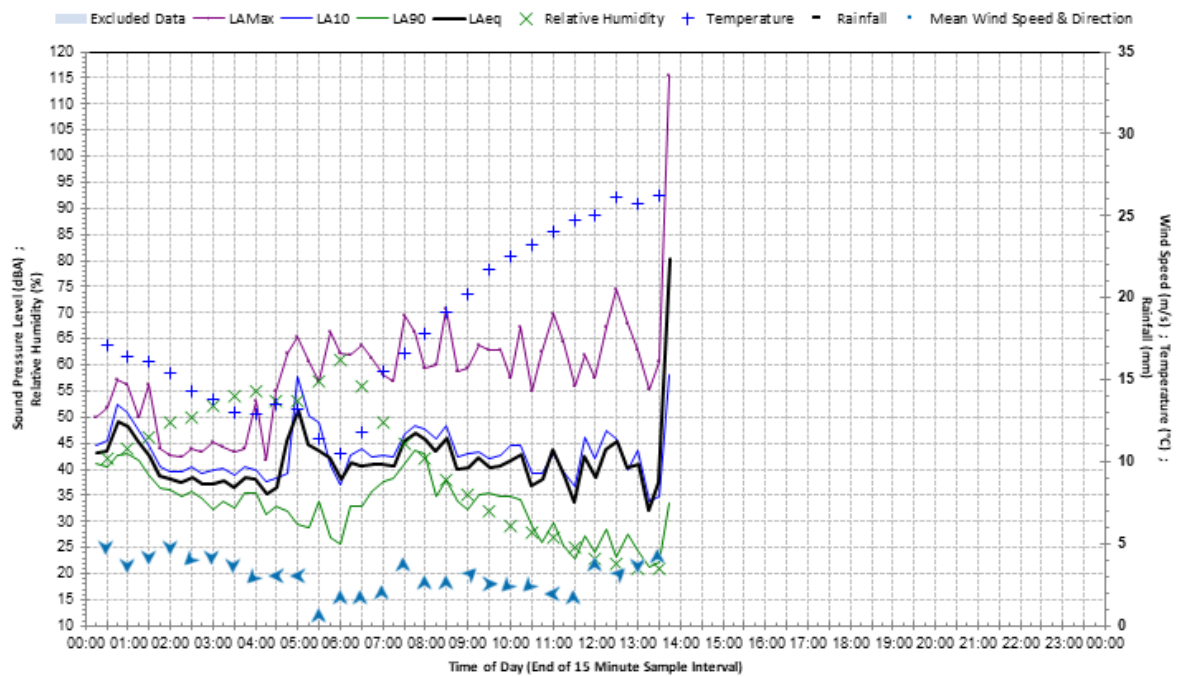








## Statistical Ambient Noise Levels 2015 Goorianawa Road, Black Hollow - Wednesday 2 October 2019



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# TECHNICAL REPORT

# 8

## Noise and vibration assessment – construction and other operations

### **Appendix C** Construction noise impacts: rail infrastructure

NARROMINE TO NARRABRI ENVIRONMENTAL IMPACT STATEMENT



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
G901590	767704.8	6644101.1	74.3	93.0	76.3	67.5	62.2	48.1	32.0	54.9	65.8	23.2	76.3	69.3	67.6	67.5	60	60	-	PRA
G901591	767657.3	6644037.0	69.1	93.0	71.1	62.9	58.7	47.1	32.5	55.9	63.0	22.8	71.1	64.1	63.0	62.9	60	60	-	PRA
G901588	757242.2	6629743.0	76.4	51.1	78.4	74.3	63.4	51.4	38.7	0.0	72.4	0.0	78.4	71.4	74.3	74.3	60	60	-	PRA
G901589	753070.1	6623450.8	63.2	35.9	65.2	48.0	33.8	0.0	0.0	27.9	51.7	0.0	65.2	58.2	51.4	51.4	60	60	-	PRA
G901587	622466.7	6431555.7	57.2	47.5	59.2	49.1	54.3	64.3	50.4	25.4	57.5	39.3	59.2	52.2	64.5	50.4	60	60	-	PRA
R_246745	769949.2	6647895.2	43.0	30.7	45.0	43.2	37.9	0.0	0.0	38.6	42.8	39.9	45.0	38.0	43.9	43.9	35	45	75	RR
R_246693	769711.8	6647434.1	54.7	38.2	56.7	53.9	43.7	0.0	0.0	44.2	53.1	48.0	56.7	49.7	54.8	54.8	35	45	75	RR
R_246673	768928.8	6646453.6	67.2	54.1	69.2	65.0	52.4	0.0	0.0	47.1	63.8	58.4	69.2	62.2	65.0	65.0	35	45	75	RR
R_246629	770250.4	6645259.2	41.4	38.4	43.4	43.0	30.3	0.0	0.0	28.5	42.0	31.4	43.4	36.4	43.2	43.2	35	45	75	RR
R_246593	765808.2	6644555.2	46.3	44.3	48.3	47.1	44.6	54.6	44.6	34.8	46.4	0.0	48.3	41.3	55.4	47.9	35	45	75	RR
R_246578	765770.7	6644362.9	48.3	45.2	50.3	48.4	46.3	56.3	46.4	34.8	48.4	0.0	50.3	43.3	57.1	49.5	35	45	75	RR
R_246577	767775.4	6644312.7	81.0	93.0	83.0	77.4	70.5	51.3	33.5	52.4	75.3	24.3	83.0	76.0	77.4	77.4	70	70	-	CIP
R_246569	765464.5	6644212.8	44.5	42.3	46.5	43.3	44.3	54.3	43.4	27.2	46.7	0.0	46.5	39.5	54.7	43.9	35	45	75	RR
R_246567	765573.2	6644194.1	48.1	46.3	50.1	47.2	46.6	56.6	46.0	33.5	48.8	0.0	50.1	43.1	57.2	48.3	35	45	75	RR
R_246565	767317.5	6644067.2	95.3	93.0	97.3	76.9	71.6	54.3	35.8	57.7	74.6	22.2	97.3	90.3	76.9	76.9	70	70	-	CIP
R_246563	767211.2	6644059.2	96.0	93.0	98.0	81.9	74.0	63.1	43.7	53.4	78.6	0.0	98.0	91.0	82.0	81.9	70	70	-	CIP
R_246560	767159.6	6644037.7	96.0	93.0	98.0	78.2	72.1	64.3	43.0	38.3	75.1	0.0	98.0	91.0	78.4	78.2	70	70	-	CIP
R_246558	767444.0	6644022.6	79.9	80.8	81.9	66.9	62.3	52.4	34.5	59.8	65.4	27.5	81.9	74.9	67.1	66.9	70	70	-	CIP
R_246554	767108.1	6644008.0	96.0	93.0	98.0	76.3	70.5	66.9	45.0	44.6	73.5	0.0	98.0	91.0	76.8	76.3	70	70	-	CIP
R_246549	767058.4	6643984.8	87.9	83.0	89.9	74.8	69.3	69.0	43.4	43.4	72.0	0.0	89.9	82.9	75.8	74.8	70	70	-	CIP
R_324684	770605.0	6643965.9	34.4	30.8	36.4	31.8	27.4	0.0	0.0	0.0	34.6	22.4	36.4	29.4	31.8	31.8	35	45	75	RR
R_246543	766940.0	6643929.9	85.8	83.1	87.8	73.5	67.6	75.1	46.1	37.8	71.0	0.0	87.8	80.8	77.4	73.6	70	70	-	CIP
R_246536	766051.7	6643920.0	60.5	64.1	62.5	56.0	57.3	67.3	57.0	36.8	59.6	0.0	62.5	55.5	67.7	56.8	35	45	75	RR
R_246552	770159.1	6643919.8	35.9	32.2	37.9	34.1	31.0	0.0	0.0	24.0	36.4	23.2	37.9	30.9	34.1	34.1	35	45	75	RR
R_246537	766893.6	6643905.5	85.8	83.1	87.8	73.7	67.2	77.2	46.9	34.6	70.5	0.0	87.8	80.8	78.8	73.8	70	70	-	CIP
R_246535	766844.5	6643883.1	83.2	80.5	85.2	73.7	67.6	77.6	47.9	33.0	70.2	0.0	85.2	78.2	79.1	73.8	70	70	-	CIP
R_246532	766126.0	6643869.3	65.9	76.6	67.9	57.9	60.7	70.7	60.7	31.8	62.8	0.0	67.9	60.9	71.0	58.6	35	45	75	RR
R_246517	766337.4	6643704.8	96.0	93.0	98.0	60.4	68.8	78.8	65.6	33.0	72.0	0.0	98.0	91.0	78.9	61.0	35	45	75	RR
R_246513	766366.3	6643690.4	87.8	82.8	89.8	63.6	66.6	76.6	63.9	33.2	68.8	0.0	89.8	82.8	76.8	64.0	70	70	-	CIP
R_246510	766384.0	6643677.7	84.2	79.8	86.2	63.6	64.9	74.9	62.8	33.3	66.9	0.0	86.2	79.2	75.2	64.0	70	70	-	CIP
R_246507	766409.3	6643666.7	77.2	76.2	79.2	63.8	62.8	72.8	60.8	33.5	65.5	0.0	79.2	72.2	73.4	64.2	70	70	-	CIP
R_246505	766443.3	6643657.2	70.3	70.8	72.3	62.2	60.9	70.9	53.4	33.9	63.7	0.0	72.3	65.3	71.5	62.6	70	70	-	CIP
R_246472	763748.3	6643595.5	40.4	33.8	42.4	33.9	39.4	49.4	36.9	24.1	41.3	29.6	42.4	35.4	49.7	37.2	35	45	75	RR
R_246470	766452.2	6643528.0	59.8	59.7	61.8	55.2	55.1	65.1	54.7	33.2	57.9	0.0	61.8	54.8	65.6	55.8	35	45	75	RR
R_246464	766613.2	6643504.1	50.8	47.5	52.8	51.4	49.4	59.4	45.6	34.5	50.2	0.0	52.8	45.8	60.1	52.1	35	45	75	RR
R_246457	766623.1	6643489.8	53.1	51.7	55.1	46.1	50.2	60.2	43.7	34.3	50.9	0.0	55.1	48.1	60.4	47.0	35	45	75	RR
R_246451	766643.2	6643477.8	54.0	52.7	56.0	52.2	50.0	60.0	45.7	34.5	52.1	0.0	56.0	49.0	60.8	53.2	35	45	75	RR
R_246439	766665.2	6643453.4	53.7	51.8	55.7	55.2	49.6	59.6	49.5	34.4	53.0	0.0	55.7	48.7	61.2	56.0	35	45	75	RR
R_246433	766693.9	6643440.3	53.9	51.1	55.9	55.3	48.8	58.8	44.6	34.8	53.9	0.0	55.9	48.9	60.7	56.1	35	45	75	RR
R_246399	766751.1	6643387.8	53.0	49.7	55.0	53.8	48.2	58.2	47.6	35.0	52.4	0.0	55.0	48.0	59.8	54.6	35	45	75	RR
R_246387	766770.3	6643364.2	52.0	49.2	54.0	53.2	48.5	58.5	48.4	34.9	51.7	0.0	54.0	47.0	59.8	54.0	35	45	75	RR
R_246369	766830.2	6643326.8	47.4	44.4	49.4	48.6	47.0	57.0	41.4	34.7	49.9	0.0	49.4	42.4	57.7	49.2	35	45	75	RR
R_246365	766849.5	6643308.1	50.2	47.2	52.2	51.6	46.6	56.6	41.3	34.7	50.3	0.0	52.2	45.2	58.0	52.5	35	45	75	RR
R_246320	764617.1	6643251.2	49.7	53.2	51.7	37.2	49.1	59.1	46.8	26.8	51.4	31.0	51.7	44.7	59.2	42.2	35	45	75	RR
R_246333	766838.3	6643231.7	48.8	46.5	50.8	46.7	46.5	56.5	46.4	33.9	46.0	0.0	50.8	43.8	57.0	47.4	35	45	75	RR
R_246328	766855.0	6643218.1	0.0	46.1	0.0	47.4	46.1	56.1	42.1	34.0	46.5	0.0	0.0	0.0	56.8	48.2	35	45	75	RR
R_246314	766890.7	6643188.3	45.9	42.9	47.9	46.8	44.3	54.3	42.7	32.0	43.3	0.0	47.9	40.9	55.1	47.3	35	45	75	RR
R_246310	766906.3	6643167.7	44.9	40.6	46.9	44.1	43.2	53.2	42.3	33.9	43.2	0.0	46.9	39.9	53.8	45.0	35	45	75	RR
R_246301	767073.1	6643121.0	43.6	39.3	45.6	41.9	41.5	51.5	36.4	33.5	40.8	0.0	45.6	38.6	52.1	42.9	35	45	75	RR
R_246302	768115.7	6643097.0	43.1	42.2	45.1	44.3	40.9	44.5	29.6	33.8	43.4	0.0	45.1	38.1	47.5	44.4	35	45	75	RR
R_246271	764507.5	6643036.4	54.6	53.5	56.6	37.4	52.4	62.4	46.7	28.1	55.1	32.6	56.6	49.6	62.5	47.5	35	45	75	RR
R_246233	764420.4	6642972.5	52.3	48.7	54.3	34.4	51.5	61.5	44.2	25.4	54.4	29.9	54.3	47.3	61.6	44.2	35	45	75	RR
R_246259	766628.2	6642953.2	46.6	44.9	48.6	47.3	45.3	55.3	45.3	30.9	47.2	0.0	48.6	41.6	56.0	47.6	35	45	75	RR
R_246251	766374.2	6642948.5	47.4	44.8	49.4	46.7	45.7	55.7	43.9	29.7	48.2	0.0	49.4	42.4	56.3	47.7	35	45	75	RR
R_246249	766470.4	6642944.6	47.9	44.9	49.9	47.4	46.2	56.2	45.9	35.8	48.3	0.0	49.9	42.9	56.9	48.4	35	45	75	RR
R_246242	766414.4	6642935.8	45.4	42.4	47.4	44.2	45.2	55.2	43.6	29.9	47.7	0.0	47.4	40.4	55.6	44.8	35	45	75	RR
R_246238	766443.1	6642930.7	46.3	43.7	48.3	43.8	45.0	55.0	44.5	29.7	47.4	0.0	48.3	41.3	55.4	44.4	35	45	75	RR
R_246241	766608.8	6642930.4	45.4	42.8	47.4	44.8	43.8	53.8	43.8	29.8	46.1	0.0	47.4	40.4	54.4	45.3	35	45	75	RR
R_246235	766494.7	6642926.3	46.9	44.4	48.9	47.2	45.8	55.8	43.4	30.2	47.9	0.0	48.9	41.9	56.4	47.5	35	45	75	RR
R_246232	766524.8	6642920.3	45.7	43.3	47.7	44.1	44.2	54.2	44.1	30.3	46.6	0.0	47.7	40.7	54.7	44.7	35	45	75	RR
R_246228	766355.5	6642914.4	47.1	42.0	49.1	39.7	45.5	55.5	44.5	29.3	47.9	0.0	49.1	42.1	55.6	40.7	35	45	75	RR
R_246243	767799.6	6642902.4	40.2	39.7	42.2	38.0	38.9	46.8	31.1	32.9	41.3	0.0	42.2	35.2	47.4	38.7	35	45	75	RR
R_246224	76																			



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_246170	766245.6	6642811.0	47.9	43.5	49.9	44.9	46.4	56.4	44.6	28.3	48.3	0.0	49.9	42.9	56.7	45.6	35	45	75	RR
R_246169	766410.0	6642806.8	46.4	40.5	48.4	40.5	45.2	55.2	42.2	29.1	46.7	0.0	48.4	41.4	55.4	41.4	35	45	75	RR
R_246162	766526.2	6642792.5	39.8	37.4	41.8	40.2	39.5	49.5	37.0	29.4	40.4	0.0	41.8	34.8	50.1	41.1	35	45	75	RR
R_246159	766464.2	6642788.8	45.1	40.0	47.1	40.5	43.0	53.0	41.7	29.2	46.1	0.0	47.1	40.1	53.3	41.4	35	45	75	RR
R_246166	767204.4	6642785.3	42.1	39.1	44.1	44.0	40.6	50.6	33.9	31.5	41.5	0.0	44.1	37.1	51.5	44.3	35	45	75	RR
R_246168	767300.7	6642784.1	36.4	33.4	38.4	38.0	39.6	49.6	32.8	31.8	42.4	0.0	38.4	31.4	50.0	39.0	35	45	75	RR
R_246163	767363.6	6642772.8	37.3	37.8	39.3	37.5	39.0	49.0	32.4	31.8	40.2	0.0	39.3	32.3	49.4	38.5	35	45	75	RR
R_246153	766511.1	6642770.6	39.0	36.2	41.0	39.6	37.2	47.2	36.6	22.6	40.1	0.0	41.0	34.0	48.1	40.6	35	45	75	RR
R_246149	766384.5	6642766.9	46.3	40.7	48.3	40.1	44.9	54.9	41.1	28.8	46.8	0.0	48.3	41.3	55.1	41.0	35	45	75	RR
R_246157	767309.7	6642765.3	36.0	37.2	38.0	37.7	38.1	48.1	32.6	31.7	39.4	0.0	38.0	31.0	48.6	38.7	35	45	75	RR
R_246147	766440.6	6642760.4	45.0	38.1	47.0	40.1	44.1	54.1	37.6	28.9	44.2	0.0	47.0	40.0	54.3	41.0	35	45	75	RR
R_331682	767442.5	6642757.8	39.9	38.5	41.9	37.0	37.7	47.7	32.6	31.7	39.6	0.0	41.9	34.9	48.4	40.0	35	45	75	RR
R_246155	767373.3	6642751.7	35.8	37.9	37.8	37.3	39.1	49.1	32.3	31.6	40.1	0.0	37.8	30.8	49.4	38.3	35	45	75	RR
R_246143	766497.2	6642751.4	39.3	37.0	41.3	39.4	37.2	47.2	36.6	29.1	40.0	0.0	41.3	34.3	48.0	40.4	35	45	75	RR
R_246152	767231.7	6642749.8	36.0	33.3	38.0	37.7	38.1	48.1	32.9	31.3	39.8	0.0	38.0	31.0	48.6	38.8	35	45	75	RR
R_246151	767318.4	6642747.4	35.8	35.9	37.8	37.5	37.9	47.9	32.5	31.5	40.8	0.0	37.8	30.8	48.4	38.5	35	45	75	RR
R_246131	766356.6	6642737.8	46.2	39.8	48.2	39.5	44.9	54.9	42.3	28.5	46.6	0.0	48.2	41.2	55.1	40.5	35	45	75	RR
R_246128	766427.1	6642733.4	42.5	37.2	44.5	39.6	43.1	53.1	36.6	23.5	42.3	0.0	44.5	37.5	53.3	40.6	35	45	75	RR
R_246129	766482.6	6642732.5	39.5	36.9	41.5	39.7	41.8	51.8	36.4	29.0	40.2	0.0	41.5	34.5	52.1	40.6	35	45	75	RR
R_246140	767236.4	6642730.4	35.9	35.4	37.9	37.6	38.4	48.4	33.3	20.4	39.7	0.0	37.9	30.9	48.8	38.6	35	45	75	RR
R_246142	767325.5	6642729.8	35.3	36.0	37.3	37.0	37.4	47.4	32.2	31.3	35.9	0.0	37.3	30.3	47.9	38.1	35	45	75	RR
R_246134	767393.7	6642716.9	35.5	37.6	37.5	36.9	39.6	49.6	32.0	31.3	37.1	0.0	37.5	30.5	49.9	38.0	35	45	75	RR
R_246130	767253.1	6642714.6	35.6	33.0	37.6	37.4	38.2	48.2	32.5	31.1	39.5	0.0	37.6	30.6	48.6	38.4	35	45	75	RR
R_246133	767521.8	6642713.7	38.3	38.6	40.3	36.5	37.5	42.5	31.7	31.3	37.3	0.0	40.3	33.3	43.7	37.5	35	45	75	RR
R_246115	766303.1	6642713.6	45.9	42.3	47.9	39.5	44.4	54.4	42.9	28.1	46.9	0.0	47.9	40.9	54.6	40.4	35	45	75	RR
R_246113	766331.1	6642711.9	46.0	42.4	48.0	39.6	42.8	52.8	41.3	28.3	46.4	0.0	48.0	41.0	53.0	40.5	35	45	75	RR
R_246127	767331.6	6642709.7	35.1	32.3	37.1	37.1	37.5	47.5	32.1	31.2	35.9	0.0	37.1	30.1	48.0	38.1	35	45	75	RR
R_246114	766461.7	6642709.4	41.2	36.8	43.2	39.4	41.0	51.0	36.2	28.7	40.0	0.0	43.2	36.2	51.4	40.3	35	45	75	RR
R_246109	766364.3	6642703.5	44.3	39.4	46.3	39.4	43.2	53.2	39.3	28.4	45.1	0.0	46.3	39.3	53.4	40.3	35	45	75	RR
R_246126	767501.7	6642703.4	39.3	38.4	41.3	36.5	34.7	42.3	31.4	31.3	37.2	0.0	41.3	34.3	44.1	39.4	35	45	75	RR
R_246119	767249.4	6642696.5	40.1	36.4	42.1	37.3	39.8	49.8	33.6	31.0	40.7	0.0	42.1	35.1	50.1	38.4	35	45	75	RR
R_246123	767488.8	6642695.4	39.3	38.4	41.3	36.4	37.3	42.3	31.6	31.2	35.3	0.0	41.3	34.3	44.1	39.4	35	45	75	RR
R_246106	766417.7	6642694.7	44.4	37.6	46.4	39.5	43.6	53.6	36.3	28.5	41.8	0.0	46.4	39.4	53.8	40.4	35	45	75	RR
R_246122	767400.6	6642694.6	37.9	37.4	39.9	36.6	37.9	47.9	31.6	31.1	37.0	0.0	39.9	32.9	48.3	37.7	35	45	75	RR
R_246104	766456.4	6642688.1	41.8	36.5	43.8	39.4	41.1	51.1	36.0	28.6	42.7	0.0	43.8	36.8	51.4	40.3	35	45	75	RR
R_246108	767265.7	6642677.6	39.9	37.9	41.9	37.1	37.6	47.6	33.6	30.9	40.5	0.0	41.9	34.9	48.1	38.2	35	45	75	RR
R_246110	767563.0	6642674.6	38.1	38.4	40.1	36.2	35.9	41.9	30.6	31.0	37.2	0.0	40.1	33.1	43.2	37.2	35	45	75	RR
R_246103	767578.1	6642656.3	39.7	38.2	41.7	36.0	35.8	41.7	30.4	30.9	37.1	0.0	41.7	34.7	43.0	37.0	35	45	75	RR
R_246100	767512.9	6642644.3	37.8	38.0	39.8	36.0	37.0	41.8	30.7	30.8	36.9	0.0	39.8	32.8	43.1	37.0	35	45	75	RR
R_246095	767279.1	6642641.1	35.1	32.3	37.1	36.7	34.5	44.5	34.4	30.6	37.0	0.0	37.1	30.1	45.3	37.8	35	45	75	RR
R_246054	765318.7	6642635.4	53.4	55.0	55.4	35.0	52.3	62.3	51.2	23.6	55.4	29.6	55.4	48.4	62.3	38.2	35	45	75	RR
R_246096	767581.8	6642634.9	34.9	37.1	36.9	35.8	31.8	41.5	30.3	30.7	34.8	0.0	36.9	29.9	42.8	36.8	35	45	75	RR
R_246093	767490.1	6642633.6	34.8	32.1	36.8	36.0	31.8	41.8	30.8	30.7	34.8	0.0	36.8	29.8	43.1	37.0	35	45	75	RR
R_246092	767522.9	6642630.7	38.2	37.8	40.2	35.6	36.9	41.7	30.6	30.6	36.8	0.0	40.2	33.2	42.9	36.7	35	45	75	RR
R_246071	766417.4	6642627.7	43.8	40.8	45.8	38.7	42.9	52.9	35.5	28.1	43.8	0.0	45.8	38.8	53.1	39.6	35	45	75	RR
R_246083	767289.8	6642625.5	39.5	37.4	41.5	36.6	36.5	46.5	36.5	30.5	40.1	0.0	41.5	34.5	47.0	37.7	35	45	75	RR
R_246084	767340.6	6642624.7	34.8	36.7	36.8	36.3	32.3	42.3	31.6	30.6	35.3	0.0	36.8	29.8	43.5	37.4	35	45	75	RR
R_246086	767594.4	6642620.0	39.4	37.9	41.4	35.6	35.5	41.4	30.2	30.6	36.9	0.0	41.4	34.4	42.6	36.6	35	45	75	RR
R_246077	767443.3	6642615.7	37.5	37.6	39.5	36.0	37.2	47.2	31.0	30.6	36.6	0.0	39.5	32.5	47.6	37.1	35	45	75	RR
R_246081	767679.8	6642615.0	39.4	37.9	41.4	35.6	37.0	47.0	37.0	30.5	37.0	0.0	41.4	34.4	47.4	36.5	35	45	75	RR
R_246074	767527.2	6642610.6	34.7	36.5	36.7	35.4	35.3	41.6	30.5	30.5	35.2	0.0	36.7	29.7	42.8	36.5	35	45	75	RR
R_246090	768459.3	6642606.0	37.6	37.2	39.6	39.6	36.2	41.7	25.7	28.9	38.6	0.0	39.6	32.6	43.9	39.8	35	45	75	RR
R_246051	766431.1	6642605.4	43.6	40.6	45.6	38.5	42.8	52.8	35.2	28.1	43.6	0.0	45.6	38.6	53.0	39.4	35	45	75	RR
R_246069	767292.6	6642604.7	39.3	35.6	41.3	36.5	36.4	46.4	36.3	30.3	40.0	0.0	41.3	34.3	46.9	37.6	35	45	75	RR
R_246072	767607.7	6642602.9	38.2	37.8	40.2	35.4	31.5	41.2	30.0	30.4	36.8	0.0	40.2	33.2	42.4	36.4	35	45	75	RR
R_246066	767537.0	6642594.1	34.5	37.1	36.5	35.6	31.5	41.4	30.4	30.4	34.5	0.0	36.5	29.5	42.7	36.6	35	45	75	RR
R_246067	767680.5	6642592.2	39.2	37.7	41.2	35.6	37.5	47.5	30.1	30.3	36.8	0.0	41.2	34.2	47.8	36.5	35	45	75	RR
R_246061	767446.1	6642591.6	34.4	31.7	36.4	35.7	31.7	41.7	30.8	30.3	34.7	0.0	36.4	29.4	42.9	36.8	35	45	75	RR
R_246059	767388.8	6642589.2	34.4	31.5	36.4	36.0	31.9	41.9	31.1	30.3	34.9	0.0	36.4	29.4	43.1	37.1	35	45	75	RR
R_246073	768463.0	6642585.3	37.6	35.8	39.6	33.9	29.8	38.2	25.7	28.5	32.9	0.0	39.6	32.6	39.7	34.5	35	45	75	RR
R_246055	767448.2	6642583.5	34.3	31.6	36.3	35.5	31.6	41.6	30.7	30.3	34.6	0.0	36.3	29.3	42.8	36.6	35	45	75	RR
R_246057	767610.0	6642581.9	34.4	31.9	36.4	35.3	31.3	41.1	29.9	30.3	34.3	0.0	36.4	29.4	42.3	36.3				

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_246021	767622.3	6642536.0	34.0	31.5	36.0	34.9	31.0	40.7	29.6	29.9	33.8	0.0	36.0	29.0	42.0	35.9	35	45	75	RR
R_246036	768490.5	6642534.5	32.0	30.9	34.0	33.4	29.4	37.2	25.4	28.1	32.4	0.0	34.0	27.0	38.9	34.0	35	45	75	RR
R_246000	766461.7	6642534.5	43.2	40.2	45.2	37.9	42.5	52.5	34.5	27.9	44.2	0.0	45.2	38.2	52.7	38.9	35	45	75	RR
R_246015	767421.5	6642532.6	33.9	31.2	35.9	35.5	31.4	41.4	30.6	29.9	34.3	0.0	35.9	28.9	42.6	36.6	35	45	75	RR
R_246012	767260.1	6642531.3	39.1	35.4	41.1	36.0	38.8	48.8	38.7	29.8	39.8	0.0	41.1	34.1	49.1	37.1	35	45	75	RR
R_246016	767495.0	6642531.2	34.0	31.4	36.0	35.2	31.1	41.1	30.3	30.0	34.1	0.0	36.0	29.0	42.3	36.3	35	45	75	RR
R_246014	767631.0	6642524.3	33.9	31.6	35.9	34.8	30.9	40.6	29.5	29.8	33.8	0.0	35.9	28.9	41.9	35.8	35	45	75	RR
R_245992	766478.4	6642520.5	37.6	34.7	39.6	37.8	37.3	47.3	34.4	27.8	38.3	0.0	39.6	32.6	47.9	38.8	35	45	75	RR
R_246004	767332.6	6642520.1	38.6	35.0	40.6	35.7	36.8	46.8	36.7	29.8	34.6	0.0	40.6	33.6	47.2	36.8	35	45	75	RR
R_246006	767422.6	6642518.3	33.9	31.1	35.9	35.4	31.2	41.2	30.6	29.8	34.3	0.0	35.9	28.9	42.5	36.5	35	45	75	RR
R_246008	767572.1	6642517.7	33.9	31.3	35.9	34.9	30.9	40.7	29.8	29.8	33.9	0.0	35.9	28.9	42.0	35.9	35	45	75	RR
R_246023	768503.1	6642515.3	36.2	30.7	38.2	33.3	29.3	39.1	25.4	27.9	32.3	0.0	38.2	31.2	40.3	33.9	35	45	75	RR
R_246001	767270.0	6642515.3	39.0	35.3	41.0	35.9	36.1	46.1	36.1	29.7	39.7	0.0	41.0	34.0	46.6	37.0	35	45	75	RR
R_245998	767496.5	6642508.3	33.8	31.1	35.8	35.0	31.0	41.0	30.2	29.8	34.0	0.0	35.8	28.8	42.2	36.1	35	45	75	RR
R_245974	766485.7	6642502.0	40.3	39.8	42.3	37.6	40.3	50.3	34.1	27.7	40.9	0.0	42.3	35.3	50.6	38.6	35	45	75	RR
R_245997	767581.7	6642501.1	33.7	31.2	35.7	34.8	30.7	40.6	29.7	29.7	33.7	0.0	35.7	28.7	41.9	35.8	35	45	75	RR
R_245991	767281.1	6642499.6	33.8	31.4	35.8	35.7	31.4	41.4	31.1	29.5	34.5	0.0	35.8	28.8	42.7	36.8	35	45	75	RR
R_245988	767274.6	6642496.4	38.8	35.1	40.8	35.7	35.8	45.8	35.8	29.3	34.6	0.0	40.8	33.8	46.3	36.8	35	45	75	RR
R_245993	767731.0	6642490.7	38.4	36.9	40.4	37.4	36.8	40.1	28.9	29.5	34.2	0.0	40.4	33.4	42.2	37.9	35	45	75	RR
R_245979	767354.3	6642486.8	33.4	31.0	35.4	35.3	36.5	46.5	36.4	29.5	34.2	0.0	35.4	28.4	46.9	36.4	35	45	75	RR
R_245982	767499.0	6642486.7	33.7	31.0	35.7	34.7	30.8	40.8	30.0	29.6	33.8	0.0	35.7	28.7	42.0	35.8	35	45	75	RR
R_245981	767587.0	6642484.0	33.6	31.1	35.6	34.7	30.6	40.5	29.6	29.6	33.6	0.0	35.6	28.6	41.8	35.7	35	45	75	RR
R_245954	766493.5	6642482.9	42.6	39.7	44.6	37.4	41.9	51.9	40.5	27.6	43.6	0.0	44.6	37.6	52.1	38.5	35	45	75	RR
R_245977	767439.4	6642481.0	33.6	30.8	35.6	35.1	30.9	40.9	30.3	29.5	33.9	0.0	35.6	28.6	42.2	36.2	35	45	75	RR
R_245972	767284.2	6642480.8	34.8	33.5	36.8	35.6	34.6	44.6	31.3	29.4	34.4	0.0	36.8	29.8	45.2	36.7	35	45	75	RR
R_245980	767811.2	6642477.6	38.3	36.3	40.3	34.5	36.6	39.7	28.4	29.4	33.4	0.0	40.3	33.3	41.1	35.4	35	45	75	RR
R_245978	767743.2	6642475.4	38.3	36.8	40.3	34.5	30.6	39.9	28.8	29.4	33.5	0.0	40.3	33.3	41.2	35.5	35	45	75	RR
R_245966	767512.0	6642469.2	33.5	30.8	35.5	34.7	30.6	40.6	29.9	29.5	33.7	0.0	35.5	28.5	41.8	35.8	35	45	75	RR
R_245940	766506.0	6642468.2	40.1	39.5	42.1	37.2	39.7	49.7	33.8	27.6	40.6	0.0	42.1	35.1	50.0	38.3	35	45	75	RR
R_245959	767292.7	6642467.6	33.6	31.1	35.6	35.4	35.8	45.8	30.9	29.3	34.3	0.0	35.6	28.6	46.3	36.5	35	45	75	RR
R_245958	767363.1	6642465.8	33.6	30.7	35.6	35.2	35.0	45.0	30.6	29.4	36.1	0.0	35.6	28.6	45.5	36.3	35	45	75	RR
R_245957	767665.1	6642457.7	33.4	30.9	35.4	34.4	30.4	40.1	29.1	29.3	33.3	0.0	35.4	28.4	41.4	35.4	35	45	75	RR
R_245948	767301.6	6642456.0	33.5	30.5	35.5	35.1	36.0	46.0	30.8	29.3	37.8	0.0	35.5	28.5	46.4	36.2	35	45	75	RR
R_245956	767748.5	6642454.6	38.1	36.6	40.1	34.3	30.4	39.8	28.7	29.3	33.3	0.0	40.1	33.1	41.1	35.3	35	45	75	RR
R_245965	768056.2	6642454.5	37.7	36.5	39.7	39.6	36.1	45.2	27.2	28.8	38.5	0.0	39.7	32.7	46.3	39.8	35	45	75	RR
R_245950	767519.3	6642451.3	33.4	30.7	35.4	34.6	30.5	40.5	29.8	29.3	33.5	0.0	35.4	28.4	41.7	35.7	35	45	75	RR
R_245924	766517.2	6642449.5	41.9	39.3	43.9	37.1	41.2	51.2	40.2	27.5	42.2	0.0	43.9	36.9	51.4	38.2	35	45	75	RR
R_245951	767820.4	6642445.5	38.0	36.5	40.0	34.3	36.3	39.5	28.3	29.1	33.1	0.0	40.0	33.0	40.9	35.2	35	45	75	RR
R_245939	767370.1	6642444.6	38.1	30.6	40.1	35.1	35.0	45.0	30.4	29.3	33.9	0.0	40.1	33.1	45.5	36.2	35	45	75	RR
R_245946	767678.4	6642442.3	33.1	30.6	35.1	33.4	30.1	39.4	28.9	28.4	32.5	0.0	35.1	28.1	40.6	34.5	35	45	75	RR
R_245936	767305.7	6642441.9	33.7	30.9	35.7	35.3	31.2	41.2	30.8	29.2	34.1	0.0	35.7	28.7	42.4	36.4	35	45	75	RR
R_245953	768040.6	6642441.1	37.7	36.4	39.7	34.3	35.8	43.5	27.2	28.7	38.4	0.0	39.7	32.7	44.1	35.0	35	45	75	RR
R_245942	767757.5	6642438.7	33.2	34.7	35.2	34.2	35.0	39.6	26.5	29.1	34.4	0.0	35.2	28.2	40.9	35.2	35	45	75	RR
R_245935	767610.7	6642434.0	33.2	30.7	35.2	34.3	30.3	40.1	29.2	29.2	33.1	0.0	35.2	28.2	41.4	35.3	35	45	75	RR
R_245945	768019.9	6642433.7	37.1	36.0	39.1	33.8	35.8	45.3	27.4	29.0	36.0	0.0	39.1	32.1	45.7	34.6	35	45	75	RR
R_245931	767675.0	6642428.4	33.1	30.6	35.1	34.1	30.1	39.8	28.9	29.1	33.0	0.0	35.1	28.1	41.1	35.1	35	45	75	RR
R_245923	767381.0	6642428.1	33.2	30.4	35.2	34.9	34.8	44.8	30.3	29.1	33.8	0.0	35.2	28.2	45.3	36.0	35	45	75	RR
R_245933	767827.6	6642426.3	33.0	35.2	35.0	34.0	34.8	39.3	28.2	29.0	33.0	0.0	35.0	28.0	40.7	34.9	35	45	75	RR
R_245898	766516.7	6642425.7	40.9	33.6	42.9	36.9	39.9	49.9	38.6	27.4	41.9	0.0	42.9	35.9	50.2	37.9	35	45	75	RR
R_245934	768003.2	6642423.5	37.1	35.9	39.1	33.8	35.7	45.3	27.4	29.0	36.0	0.0	39.1	32.1	45.7	34.6	35	45	75	RR
R_245926	767767.9	6642421.0	37.9	35.8	39.9	34.1	36.2	39.5	28.4	29.0	35.8	0.0	39.9	32.9	40.8	35.1	35	45	75	RR
R_245914	767304.0	6642419.8	36.9	33.3	38.9	34.8	36.3	46.3	31.6	29.0	37.7	0.0	38.9	31.9	46.7	35.9	35	45	75	RR
R_245918	767615.0	6642417.5	33.1	30.6	35.1	34.1	30.1	40.0	29.2	29.1	33.0	0.0	35.1	28.1	41.2	35.2	35	45	75	RR
R_245911	767381.6	6642415.4	32.8	30.4	34.8	34.8	30.6	40.6	30.2	29.0	33.7	0.0	34.8	27.8	41.9	35.9	35	45	75	RR
R_245925	767987.0	6642413.6	37.0	35.8	39.0	39.4	34.7	38.7	27.4	28.9	38.3	0.0	39.0	32.0	42.2	39.6	35	45	75	RR
R_245885	766537.7	6642413.2	36.3	33.5	38.3	36.8	34.1	44.1	33.3	27.4	36.9	0.0	38.3	31.3	45.0	37.8	35	45	75	RR
R_245921	767965.8	6642412.5	37.7	35.6	39.7	34.1	36.0	45.5	33.2	29.0	38.4	0.0	39.7	32.7	45.9	34.9	35	45	75	RR
R_245916	767920.5	6642407.5	37.7	35.7	39.7	34.1	36.0	38.9	27.7	29.0	38.4	0.0	39.7	32.7	40.4	34.9	35	45	75	RR
R_245915	767835.0	6642407.1	32.4	29.8	34.4	33.9	29.8	39.2	28.0	28.3	32.4	0.0	34.4	27.4	40.5	34.8	35	45	75	RR
R_245906	767684.3	6642403.6	32.7	30.4	34.7	33.6	29.9	39.6	28.8	28.8	32.6	0.0	34.7	27.7	40.8	34.7	35	45	75	RR
R_245917	768114.7	6642403.2	37.3	36.0	39.3	35.0	35.7	38.1	26.7	28.6	38.1	0.0	39.3	32.3	40.0	35.6	35	45	75	RR
R_245903	767629.3	6642403.0	33.0	30.4	35.0	34.0	30.0	39.8	29.0	29.0	33.0	0.0	35.0	28.0	41.1	35.1				



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_245866	767702.5	6642366.6	31.9	28.9	33.9	33.5	29.4	39.4	28.5	27.5	31.1	0.0	33.9	26.9	40.6	34.6	35	45	75	RR
R_245870	767876.5	6642365.3	32.5	30.3	34.5	33.6	29.6	38.8	27.7	28.5	32.6	0.0	34.5	27.5	40.2	34.5	35	45	75	RR
R_245858	767641.7	6642360.3	32.7	30.1	34.7	33.7	29.7	39.6	28.8	28.7	32.7	0.0	34.7	27.7	40.8	34.8	35	45	75	RR
R_245867	768014.5	6642359.8	32.2	30.3	34.2	33.3	29.3	38.3	27.0	28.2	32.3	0.0	34.2	27.2	39.7	34.2	35	45	75	RR
R_245861	767857.3	6642358.0	32.5	30.2	34.5	33.5	34.5	38.9	27.8	28.5	32.5	0.0	34.5	27.5	40.2	34.4	35	45	75	RR
R_245820	766556.6	6642357.4	41.1	38.6	43.1	36.3	38.2	48.2	32.9	27.1	38.1	0.0	43.1	36.1	48.6	37.5	35	45	75	RR
R_245856	767803.5	6642354.0	32.5	34.0	34.5	33.6	34.3	39.0	28.0	28.5	32.5	0.0	34.5	27.5	40.3	34.6	35	45	75	RR
R_245846	767560.1	6642353.3	32.1	29.1	34.1	33.7	29.7	39.7	29.1	22.4	32.7	0.0	34.1	27.1	40.9	34.8	35	45	75	RR
R_245851	767711.3	6642351.5	32.5	30.1	34.5	33.5	29.6	38.8	28.4	28.5	32.4	0.0	34.5	27.5	40.2	34.5	35	45	75	RR
R_245852	767974.0	6642345.5	32.2	30.0	34.2	33.3	29.3	38.4	27.2	28.3	32.3	0.0	34.2	27.2	39.8	34.2	35	45	75	RR
R_245840	767649.1	6642344.9	32.5	30.0	34.5	33.6	29.6	39.4	28.6	28.5	32.6	0.0	34.5	27.5	40.7	34.6	35	45	75	RR
R_327586	769263.0	6642341.9	33.8	33.0	35.8	30.5	32.4	33.4	0.0	30.1	34.8	0.0	35.8	28.8	35.2	30.5	35	45	75	RR
R_245795	766569.3	6642338.6	35.7	32.8	37.7	36.2	37.2	47.2	32.6	27.1	36.4	0.0	37.7	30.7	47.6	37.2	35	45	75	RR
R_245827	767576.5	6642336.3	32.5	29.9	34.5	33.7	29.6	39.6	29.0	28.6	32.6	0.0	34.5	27.5	40.8	34.8	35	45	75	RR
R_245836	767958.4	6642336.0	35.1	33.8	37.1	33.3	29.2	38.4	27.2	28.2	32.2	0.0	37.1	30.1	39.8	34.2	35	45	75	RR
R_245833	767809.9	6642335.4	32.3	33.8	34.3	33.4	34.2	38.3	27.8	28.4	32.4	0.0	34.3	27.3	39.7	34.2	35	45	75	RR
R_245825	767719.7	6642332.0	32.4	29.9	34.4	33.4	29.4	39.1	28.3	28.4	32.2	0.0	34.4	27.4	40.4	34.4	35	45	75	RR
R_245834	767998.9	6642331.3	32.2	30.1	34.2	33.3	29.3	38.3	27.1	28.3	32.3	0.0	34.2	27.2	39.7	34.2	35	45	75	RR
R_245821	767657.3	6642330.8	32.4	29.9	34.4	33.5	29.5	39.3	28.5	28.5	32.5	0.0	34.4	27.4	40.6	34.6	35	45	75	RR
R_245831	767940.0	6642330.7	32.2	35.2	34.2	33.3	29.2	38.4	27.3	28.2	32.2	0.0	34.2	27.2	39.8	34.2	35	45	75	RR
R_245781	766585.5	6642325.9	39.0	38.2	41.0	36.0	36.6	46.6	32.5	27.0	37.9	0.0	41.0	34.0	47.1	37.0	35	45	75	RR
R_245806	767665.1	6642319.3	32.3	33.2	34.3	33.4	29.4	39.2	28.4	28.4	32.4	0.0	34.3	27.3	40.5	34.5	35	45	75	RR
R_245808	767894.3	6642314.6	32.1	29.8	34.1	33.2	29.2	38.5	27.4	28.2	32.2	0.0	34.1	27.1	39.9	34.1	35	45	75	RR
R_245794	767581.6	6642313.8	32.3	29.7	34.3	33.4	29.4	39.4	28.8	28.4	32.4	0.0	34.3	27.3	40.6	34.5	35	45	75	RR
R_245800	767759.4	6642311.6	32.2	29.8	34.2	33.3	29.3	38.9	28.0	28.3	32.3	0.0	34.2	27.2	40.2	34.3	35	45	75	RR
R_245784	767516.8	6642307.2	32.3	29.6	34.3	33.7	29.6	39.6	29.1	28.3	32.6	0.0	34.3	27.3	40.8	34.8	35	45	75	RR
R_245757	766592.2	6642307.1	40.5	38.1	42.5	35.9	39.8	49.8	32.4	27.0	37.8	0.0	42.5	35.5	50.0	37.2	35	45	75	RR
R_245790	767672.4	6642306.7	32.3	33.1	34.3	33.3	29.3	39.1	28.4	28.3	32.3	0.0	34.3	27.3	40.4	34.4	35	45	75	RR
R_245788	767728.5	6642304.4	32.1	29.5	34.1	33.2	29.2	39.0	28.1	28.2	32.2	0.0	34.1	27.1	40.3	34.2	35	45	75	RR
R_245782	767743.1	6642299.9	31.8	29.7	33.8	33.1	29.2	38.8	28.0	28.0	32.0	0.0	33.8	26.8	40.1	34.1	35	45	75	RR
R_245772	767590.3	6642296.9	32.2	29.6	34.2	33.3	29.3	39.3	28.7	28.3	32.3	0.0	34.2	27.2	40.5	34.4	35	45	75	RR
R_245770	767679.7	6642294.5	32.2	29.7	34.2	33.2	29.2	39.0	28.3	28.2	32.2	0.0	34.2	27.2	40.3	34.3	35	45	75	RR
R_245780	767888.1	6642293.4	30.7	27.7	32.7	32.5	28.5	38.4	27.3	20.1	29.9	0.0	32.7	25.7	39.6	33.5	35	45	75	RR
R_245774	768021.3	6642286.9	31.7	29.5	33.7	32.9	28.8	37.9	26.8	27.8	31.8	0.0	33.7	26.7	39.3	33.8	35	45	75	RR
R_245768	767892.5	6642286.4	31.8	29.6	33.8	33.0	28.9	38.3	27.3	27.9	32.0	0.0	33.8	26.8	39.7	33.9	35	45	75	RR
R_245760	767517.3	6642286.3	32.2	29.5	34.2	33.3	29.4	39.4	28.9	28.2	32.4	0.0	34.2	27.2	40.6	34.4	35	45	75	RR
R_245753	767375.2	6642285.4	32.2	29.6	34.2	33.9	35.0	45.0	29.6	28.2	36.6	0.0	34.2	27.2	45.4	35.0	35	45	75	RR
R_245728	766602.7	6642283.2	40.5	38.1	42.5	35.8	40.0	50.0	39.1	26.9	37.8	0.0	42.5	35.5	50.2	37.1	35	45	75	RR
R_245758	767609.2	6642282.4	32.2	29.6	34.2	33.3	29.2	39.2	28.6	28.2	32.3	0.0	34.2	27.2	40.4	34.4	35	45	75	RR
R_245759	767833.2	6642278.5	32.0	29.6	34.0	33.1	29.0	38.5	27.6	28.0	32.0	0.0	34.0	27.0	39.8	34.1	35	45	75	RR
R_245765	768095.7	6642275.2	35.9	34.2	37.9	32.7	34.6	37.6	26.4	27.6	33.6	0.0	37.9	30.9	39.0	33.5	35	45	75	RR
R_245754	767899.7	6642272.9	31.3	29.3	33.3	32.8	28.7	38.2	27.2	26.5	31.7	0.0	33.3	26.3	39.5	33.8	35	45	75	RR
R_245749	767812.3	6642271.3	31.9	29.5	33.9	33.0	29.0	38.6	27.7	28.0	33.2	0.0	33.9	26.9	39.9	34.0	35	45	75	RR
R_245741	767533.9	6642268.4	32.0	29.4	34.0	33.3	29.3	39.3	27.4	28.1	32.2	0.0	34.0	27.0	40.4	33.9	35	45	75	RR
R_245752	768071.6	6642268.0	31.5	29.4	33.5	32.7	28.7	37.6	26.4	27.6	31.6	0.0	33.5	26.5	39.0	33.6	35	45	75	RR
R_245742	767658.0	6642265.5	31.9	29.4	33.9	33.0	29.1	38.9	28.2	28.0	32.0	0.0	33.9	26.9	40.1	34.1	35	45	75	RR
R_245737	767782.8	6642260.2	31.9	29.4	33.9	33.0	28.9	38.5	27.7	27.9	31.9	0.0	33.9	26.9	39.8	34.0	35	45	75	RR
R_245744	768059.7	6642259.7	31.6	29.4	33.6	32.6	28.8	37.6	26.5	27.6	31.6	0.0	33.6	26.6	39.0	33.5	35	45	75	RR
R_245745	768167.4	6642257.4	31.3	29.2	33.3	32.5	28.4	37.3	26.0	27.4	31.4	0.0	33.3	26.3	38.8	33.3	35	45	75	RR
R_245738	767922.5	6642257.3	31.7	29.4	33.7	32.8	28.8	38.1	27.1	27.8	31.8	0.0	33.7	26.7	39.5	33.7	35	45	75	RR
R_245743	768129.6	6642254.1	35.8	34.9	37.8	32.5	34.6	37.4	26.3	27.5	31.5	0.0	37.8	30.8	38.8	33.4	35	45	75	RR
R_245740	768146.2	6642253.0	36.4	34.8	38.4	38.2	34.8	37.4	26.2	27.5	37.2	0.0	38.4	31.4	41.0	38.4	35	45	75	RR
R_245733	768039.6	6642252.4	31.5	29.3	33.5	32.6	28.6	37.6	26.6	27.5	31.6	0.0	33.5	26.5	39.0	33.5	35	45	75	RR
R_245721	767757.2	6642249.5	31.8	29.4	33.8	32.9	28.9	38.6	27.8	27.9	31.9	0.0	33.8	26.8	39.9	33.9	35	45	75	RR
R_245722	767847.1	6642248.5	31.7	29.4	33.7	32.8	28.8	38.3	27.4	27.8	31.8	0.0	33.7	26.7	39.6	33.8	35	45	75	RR
R_245717	767539.2	6642247.7	31.9	29.3	33.9	33.2	29.1	39.1	28.7	28.0	32.1	0.0	33.9	26.9	40.3	34.3	35	45	75	RR
R_245726	768018.3	6642247.3	31.5	29.3	33.5	32.6	33.5	37.8	26.7	27.6	31.6	0.0	33.5	26.5	39.2	33.5	35	45	75	RR
R_245716	768004.3	6642235.5	31.4	29.2	33.4	32.6	28.5	37.7	26.6	27.5	31.6	0.0	33.4	26.4	39.1	33.5	35	45	75	RR
R_245712	767768.1	6642233.6	31.7	29.3	33.7	32.8	28.8	38.4	27.7	27.8	31.8	0.0	33.7	26.7	39.7	33.8	35	45	75	RR
R_245713	767919.1	6642233.0	31.5	29.2	33.5	32.7	28.6	38.0	27.0	27.6	31.6	0.0	33.5	26.5	39.4	33.6	35	45	75	RR
R_245705	767550.5	6642232.3	31.8	29.1	33.8	33.2	29.0	39.0	28.6	27.9	32.0	0.0	33.8	26.8	40.3	34.3	35	45	75	RR
R_328082	768139.2	6642230.0	31.1	29.0	33.1	32.3	28.2	37.2	26.0	27.2	31.3	0.0	33.1	26.1	38.6	33.2				

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_328084	767868.8	6642190.4	31.3	28.9	33.3	32.4	28.4	37.9	27.0	27.4	31.4	0.0	33.3	26.3	39.2	33.4	35	45	75	RR
R_327500	768043.1	6642186.3	31.1	28.8	33.1	32.2	28.2	37.3	26.3	27.2	31.2	0.0	33.1	26.1	38.7	33.1	35	45	75	RR
R_245682	767505.9	6642186.1	31.5	28.8	33.5	32.7	28.8	38.8	28.5	27.6	31.9	0.0	33.5	26.5	40.0	33.8	35	45	75	RR
R_245684	767724.9	6642186.0	31.4	28.9	33.4	32.4	28.5	38.2	27.6	27.5	31.3	0.0	33.4	26.4	39.5	33.5	35	45	75	RR
R_328333	768017.7	6642182.6	31.1	28.8	33.1	32.2	28.2	37.4	26.4	27.2	31.2	0.0	33.1	26.1	38.8	33.1	35	45	75	RR
R_327508	767793.1	6642178.4	31.3	28.9	33.3	32.5	28.4	38.1	27.3	27.4	31.4	0.0	33.3	26.3	39.4	33.5	35	45	75	RR
R_245681	767644.5	6642176.5	31.3	28.8	33.3	32.4	28.5	38.4	27.9	27.5	31.4	0.0	33.3	26.3	39.6	33.5	35	45	75	RR
R_328202	767965.3	6642175.5	31.1	28.8	33.1	32.2	28.2	37.5	26.6	27.2	31.2	0.0	33.1	26.1	38.9	33.1	35	45	75	RR
R_327117	767995.3	6642173.3	31.1	28.9	33.1	32.3	28.2	37.5	26.6	27.2	31.2	0.0	33.1	26.1	38.9	33.2	35	45	75	RR
R_328260	767880.1	6642171.9	31.2	28.8	33.2	32.3	28.3	37.8	26.9	27.3	31.3	0.0	33.2	26.2	39.1	33.3	35	45	75	RR
R_327494	768188.2	6642171.3	30.7	28.6	32.7	31.9	27.9	36.8	25.6	26.8	33.2	0.0	32.7	25.7	38.2	32.7	35	45	75	RR
R_327557	767729.6	6642169.3	31.3	28.8	33.3	32.4	28.4	38.2	27.5	27.4	31.4	0.0	33.3	26.3	39.5	33.5	35	45	75	RR
R_328083	768143.8	6642167.9	30.8	28.6	32.8	32.0	27.9	36.9	25.8	26.9	30.9	0.0	32.8	25.8	38.3	32.9	35	45	75	RR
R_327520	767657.1	6642160.0	31.1	28.7	33.1	32.3	28.3	38.3	27.8	27.3	31.3	0.0	33.1	26.1	39.5	33.4	35	45	75	RR
R_329894	768126.6	6642158.8	30.7	28.6	32.7	31.9	27.9	36.9	25.9	26.9	30.9	0.0	32.7	25.7	38.3	32.8	35	45	75	RR
R_327509	767804.4	6642158.8	31.2	28.7	33.2	32.3	28.3	37.9	27.2	27.3	31.3	0.0	33.2	26.2	39.2	33.3	35	45	75	RR
R_327116	767952.4	6642158.1	31.1	28.8	33.1	32.2	28.2	37.6	26.6	27.2	31.2	0.0	33.1	26.1	38.9	33.2	35	45	75	RR
R_328203	767975.4	6642153.6	30.6	27.4	32.6	31.8	27.8	37.3	26.4	26.8	30.7	0.0	32.6	25.6	38.6	32.8	35	45	75	RR
R_328267	768197.6	6642152.9	30.6	28.5	32.6	31.8	27.7	36.7	25.5	26.7	31.7	0.0	32.6	25.6	38.1	32.6	35	45	75	RR
R_327207	767887.2	6642152.8	31.0	28.7	33.0	32.2	28.1	37.6	26.8	27.1	31.1	0.0	33.0	26.0	38.9	33.2	35	45	75	RR
R_328281	767739.4	6642151.1	31.1	28.7	33.1	32.3	28.3	37.7	27.4	27.2	31.1	0.0	33.1	26.1	39.0	33.1	35	45	75	RR
R_328154	768111.2	6642150.6	30.7	28.5	32.7	31.9	27.9	37.0	25.9	26.9	30.9	0.0	32.7	25.7	38.4	32.8	35	45	75	RR
R_328276	767834.3	6642149.1	31.1	28.7	33.1	32.2	28.2	37.8	27.0	27.2	31.2	0.0	33.1	26.1	39.1	33.2	35	45	75	RR
R_327495	768085.5	6642146.3	30.7	28.5	32.7	31.9	27.9	37.0	26.0	26.8	30.9	0.0	32.7	25.7	38.4	32.8	35	45	75	RR
R_327519	767660.9	6642141.2	31.1	28.6	33.1	32.3	28.3	38.2	27.7	27.2	31.3	0.0	33.1	26.1	39.4	33.4	35	45	75	RR
R_328204	767815.0	6642140.0	30.9	28.6	32.9	32.1	28.1	37.4	27.0	27.1	31.1	0.0	32.9	25.9	38.8	33.1	35	45	75	RR
R_328200	768204.3	6642133.6	30.4	28.3	32.4	31.7	27.6	36.6	25.4	26.6	30.6	0.0	32.4	25.4	38.0	32.5	35	45	75	RR
R_327504	767747.8	6642133.5	31.1	28.6	33.1	32.2	28.2	37.9	27.3	27.2	31.2	0.0	33.1	26.1	39.2	33.2	35	45	75	RR
R_327496	768070.0	6642131.8	30.7	28.4	32.7	31.9	27.8	37.0	26.0	26.8	30.8	0.0	32.7	25.7	38.4	32.8	35	45	75	RR
R_327498	768050.7	6642129.9	30.7	28.4	32.7	31.8	27.8	37.0	26.1	26.8	30.8	0.0	32.7	25.7	38.4	32.7	35	45	75	RR
R_328277	767815.3	6642124.8	30.9	28.5	32.9	32.1	28.0	37.7	27.0	27.0	31.1	0.0	32.9	25.9	39.0	33.1	35	45	75	RR
R_328157	767902.8	6642121.9	30.9	28.5	32.9	32.0	28.0	37.5	26.7	27.0	31.0	0.0	32.9	25.9	38.8	33.0	35	45	75	RR
R_329932	768031.1	6642120.0	30.6	28.4	32.6	31.8	27.8	37.0	26.1	26.8	30.8	0.0	32.6	25.6	38.4	32.7	35	45	75	RR
R_327505	767759.6	6642116.2	30.9	28.5	32.9	32.1	28.0	37.8	27.2	27.0	31.1	0.0	32.9	25.9	39.1	33.1	35	45	75	RR
R_328078	768210.4	6642115.6	30.3	28.2	32.3	31.5	27.5	36.4	25.4	26.4	30.5	0.0	32.3	25.3	37.8	32.3	35	45	75	RR
R_328343	767609.7	6642114.4	31.0	28.4	33.0	32.1	28.1	38.1	17.9	27.1	31.1	0.0	33.0	26.0	39.3	33.0	35	45	75	RR
R_327502	768168.0	6642114.2	30.4	28.2	32.4	31.6	27.6	36.6	25.5	26.5	30.6	0.0	32.4	25.4	38.0	32.5	35	45	75	RR
R_327497	768058.1	6642113.7	30.5	28.3	32.5	31.7	27.7	36.9	25.6	26.7	30.7	0.0	32.5	25.5	38.3	32.6	35	45	75	RR
R_328261	767880.4	6642112.1	30.8	28.4	32.8	32.0	27.9	37.5	26.7	26.9	30.9	0.0	32.8	25.8	38.8	33.0	35	45	75	RR
R_327499	768015.8	6642110.5	30.6	28.4	32.6	31.8	27.8	37.1	26.2	26.8	30.8	0.0	32.6	25.6	38.5	32.7	35	45	75	RR
R_327071	767687.6	6642106.4	30.9	28.4	32.9	32.0	28.0	37.4	27.0	27.0	30.9	0.0	32.9	25.9	38.7	32.7	35	45	75	RR
R_327503	768149.7	6642105.7	30.4	28.2	32.4	31.6	27.5	36.6	25.6	26.5	30.6	0.0	32.4	25.4	38.0	32.5	35	45	75	RR
R_330052	768027.0	6642103.0	30.5	28.3	32.5	31.7	27.7	37.0	26.0	26.7	30.7	0.0	32.5	25.5	38.4	32.6	35	45	75	RR
R_327501	767997.8	6642101.9	30.6	28.3	32.6	31.8	27.7	37.1	26.2	26.7	30.7	0.0	32.6	25.6	38.5	32.7	35	45	75	RR
R_330049	767860.9	6642100.6	30.7	28.3	32.7	31.9	33.1	37.4	26.7	26.8	30.8	0.0	32.7	25.7	38.7	32.9	35	45	75	RR
R_329936	767763.3	6642099.4	30.8	28.3	32.8	32.0	27.9	37.7	27.1	26.9	30.9	0.0	32.8	25.8	39.0	33.0	35	45	75	RR
R_327563	768132.4	6642099.1	30.4	28.2	32.4	31.6	27.5	36.6	25.6	26.5	30.5	0.0	32.4	25.4	38.0	32.5	35	45	75	RR
R_329887	768223.6	6642096.8	30.1	28.0	32.1	31.4	27.3	36.2	25.2	26.3	32.4	0.0	32.1	25.1	37.6	32.1	35	45	75	RR
R_329848	767979.3	6642094.2	30.6	28.2	32.6	31.7	27.7	37.1	26.2	26.7	30.7	0.0	32.6	25.6	38.4	32.7	35	45	75	RR
R_245666	766845.8	6642093.4	36.7	35.5	38.7	34.1	37.1	47.1	36.9	26.4	36.0	0.0	38.7	31.7	47.4	35.4	35	45	75	RR
R_328280	767844.6	6642092.5	30.6	28.3	32.6	31.9	27.8	37.5	26.7	26.8	30.8	0.0	32.6	25.6	38.8	32.9	35	45	75	RR
R_327407	768111.9	6642091.5	30.3	28.1	32.3	31.5	27.5	36.6	25.7	26.5	30.5	0.0	32.3	25.3	38.0	32.4	35	45	75	RR
R_328279	767829.6	6642085.8	30.7	28.3	32.7	31.9	27.8	37.5	26.8	26.8	30.8	0.0	32.7	25.7	38.8	32.9	35	45	75	RR
R_245663	766685.7	6642084.8	38.7	36.5	40.7	34.2	36.8	46.8	36.1	26.0	36.8	0.0	40.7	33.7	47.1	35.7	35	45	75	RR
R_245625	761840.0	6642084.5	37.2	31.3	39.2	36.3	36.0	46.0	35.9	31.5	37.7	34.8	39.2	32.2	46.9	39.8	35	45	75	RR
R_327487	768093.8	6642082.5	30.3	28.1	32.3	31.5	27.5	36.7	25.7	26.5	30.5	0.0	32.3	25.3	38.1	32.4	35	45	75	RR
R_245662	766820.2	6642081.1	38.0	35.7	40.0	34.0	37.5	47.5	36.9	26.2	36.1	0.0	40.0	33.0	47.8	35.4	35	45	75	RR
R_327547	767690.4	6642080.1	30.0	27.7	32.0	31.7	27.8	37.8	27.3	22.3	30.0	0.0	32.0	25.0	39.0	32.8	35	45	75	RR
R_327403	768231.9	6642078.5	30.0	27.9	32.0	31.3	27.2	36.2	24.2	26.2	30.3	0.0	32.0	25.0	37.5	31.7	35	45	75	RR
R_327347	769061.5	6642073.6	33.2	32.2	35.2	30.3	31.7	33.4	0.0	24.3	34.1	0.0	35.2	28.2	35.1	30.3	35	45	75	RR
R_245660	766884.4	6642072.3	32.6	30.0	34.6	33.9	37.1	47.1	30.0	26.3	33.3	0.0	34.6	27.6	47.4	34.9	35	45	75	RR
R_327488	768081.1	6642072.1	30.3	28.1	32.3	31.5	27.5	36.7	25.8	26.4	30.5	0.0	32.3	25.3	38.1	32.4				



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_245646	766811.7	6642024.7	35.2	30.4	37.2	33.3	35.9	45.9	35.2	18.8	34.7	0.0	37.2	30.2	46.2	34.4	35	45	75	RR
R_327234	768251.5	6642023.9	29.6	27.6	31.6	30.9	26.9	35.9	24.9	25.8	31.1	0.0	31.6	24.6	37.3	31.8	35	45	75	RR
R_245643	766734.2	6642023.3	32.8	30.3	34.8	33.7	34.3	44.3	30.0	25.7	33.6	0.0	34.8	27.8	44.8	34.7	35	45	75	RR
R_327902	767866.2	6642022.3	30.3	27.8	32.3	31.5	27.4	36.7	26.4	26.4	30.4	0.0	32.3	25.3	37.9	31.6	35	45	75	RR
R_245644	766855.7	6642020.7	36.4	32.5	38.4	33.6	36.0	46.0	29.7	26.0	33.1	0.0	38.4	31.4	46.3	34.6	35	45	75	RR
R_245645	766926.5	6642020.5	32.2	29.6	34.2	33.5	35.1	45.1	29.6	26.1	32.8	0.0	34.2	27.2	45.5	34.5	35	45	75	RR
R_327405	767950.1	6642016.6	30.1	27.7	32.1	31.3	27.2	36.7	26.0	26.2	30.3	0.0	32.1	25.1	38.0	32.3	35	45	75	RR
R_328079	768215.3	6642012.9	29.7	27.5	31.7	31.0	26.9	36.0	25.0	25.9	29.9	0.0	31.7	24.7	37.4	31.9	35	45	75	RR
R_327350	768410.7	6642006.4	34.4	33.0	36.4	31.0	32.8	35.3	24.2	25.7	35.2	0.0	36.4	29.4	36.9	31.8	35	45	75	RR
R_327492	768021.3	6642004.9	30.0	27.7	32.0	31.2	27.1	36.1	25.7	26.1	30.1	0.0	32.0	25.0	37.6	32.1	35	45	75	RR
R_328591	767880.1	6642004.9	30.1	27.7	32.1	31.3	27.3	36.6	26.2	26.3	30.3	0.0	32.1	25.1	38.0	32.3	35	45	75	RR
R_245641	766820.8	6642004.8	37.6	29.7	39.6	33.5	37.3	47.3	29.7	25.8	33.2	0.0	39.6	32.6	47.5	34.5	35	45	75	RR
R_329818	768197.3	6642001.8	29.7	26.8	31.7	30.8	26.9	36.0	25.0	25.8	29.8	0.0	31.7	24.7	37.4	31.7	35	45	75	RR
R_328637	768352.4	6642000.0	32.1	30.9	34.1	30.9	31.5	35.5	24.4	25.7	32.2	0.0	34.1	27.1	37.0	31.7	35	45	75	RR
R_327406	767961.0	6641999.5	30.0	27.6	32.0	31.2	27.2	36.7	25.9	26.2	30.2	0.0	32.0	25.0	38.0	32.2	35	45	75	RR
R_328031	768176.8	6641999.4	29.7	27.4	31.7	30.9	26.9	36.1	25.1	25.9	29.9	0.0	31.7	24.7	37.5	31.8	35	45	75	RR
R_245635	766742.1	6641998.3	32.4	30.7	34.4	33.5	34.3	44.3	29.7	19.3	33.7	0.0	34.4	27.4	44.7	34.5	35	45	75	RR
R_328590	767891.9	6641988.1	30.0	27.6	32.0	31.2	27.2	36.8	26.1	26.2	30.2	0.0	32.0	25.0	38.1	32.2	35	45	75	RR
R_328030	768158.7	6641987.8	29.7	27.5	31.7	30.9	26.9	36.1	25.2	25.9	29.9	0.0	31.7	24.7	37.5	31.8	35	45	75	RR
R_328592	768034.6	6641984.1	29.8	27.5	31.8	31.1	27.0	36.4	25.6	26.0	30.0	0.0	31.8	24.8	37.8	32.0	35	45	75	RR
R_329403	767970.1	6641981.2	29.9	27.5	31.9	31.1	27.0	36.5	25.8	26.0	30.0	0.0	31.9	24.9	37.8	32.1	35	45	75	RR
R_245631	766754.5	6641981.1	32.4	30.0	34.4	33.4	34.1	44.1	29.6	19.6	33.3	0.0	34.4	27.4	44.5	34.4	35	45	75	RR
R_328712	768276.9	6641980.9	29.4	27.3	31.4	30.7	26.6	35.6	24.7	25.6	30.9	0.0	31.4	24.4	37.0	31.6	35	45	75	RR
R_245617	765484.8	6641978.7	40.4	39.4	42.4	31.9	42.3	52.3	41.3	23.6	44.4	32.2	42.4	35.4	52.4	35.4	35	45	75	RR
R_245629	766835.6	6641972.4	32.7	29.5	34.7	33.3	35.5	45.5	29.4	18.1	32.9	0.0	34.7	27.7	45.8	34.3	35	45	75	RR
R_329252	768284.6	6641963.6	34.0	32.8	36.0	30.6	26.5	35.6	24.6	25.5	33.2	0.0	36.0	29.0	37.0	31.5	35	45	75	RR
R_328049	768082.6	6641962.6	29.6	27.3	31.6	30.9	26.8	36.2	25.3	25.8	29.8	0.0	31.6	24.6	37.6	31.8	35	45	75	RR
R_328051	767967.6	6641958.5	29.7	27.4	31.7	31.0	26.9	36.4	25.8	25.9	29.9	0.0	31.7	24.7	37.7	32.0	35	45	75	RR
R_245619	766766.0	6641954.6	37.7	35.5	39.7	33.3	37.2	47.2	36.8	19.9	38.3	0.0	39.7	32.7	47.5	35.0	35	45	75	RR
R_328048	768237.2	6641950.0	29.3	27.1	31.3	30.6	26.6	35.7	24.7	25.5	29.6	0.0	31.3	24.3	37.1	31.5	35	45	75	RR
R_328638	767903.7	6641949.4	29.8	27.4	31.8	31.0	26.9	36.6	26.0	25.9	29.9	0.0	31.8	24.8	37.9	32.0	35	45	75	RR
R_327102	768053.1	6641949.1	29.7	27.4	31.7	30.9	26.9	36.2	25.5	25.9	29.9	0.0	31.7	24.7	37.6	31.9	35	45	75	RR
R_328713	768291.0	6641947.5	29.2	32.7	31.2	30.5	26.4	35.5	24.5	25.4	33.1	0.0	31.2	24.2	36.9	31.4	35	45	75	RR
R_328072	767985.7	6641943.2	29.6	27.3	31.6	30.9	26.8	36.3	25.7	25.8	29.8	0.0	31.6	24.6	37.6	31.9	35	45	75	RR
R_327549	767655.3	6641942.2	29.4	27.3	31.4	31.1	27.1	37.1	26.9	25.8	30.2	0.0	31.4	24.4	38.3	32.2	35	45	75	RR
R_328052	767966.8	6641934.9	29.6	27.2	31.6	30.8	26.8	36.3	25.7	25.8	29.8	0.0	31.6	24.6	37.6	31.8	35	45	75	RR
R_328777	768206.8	6641934.6	29.3	27.1	31.3	30.6	26.5	35.7	24.8	25.5	29.5	0.0	31.3	24.3	37.1	31.5	35	45	75	RR
R_328714	768300.2	6641932.1	29.1	32.4	31.1	30.4	26.3	35.4	24.4	25.3	29.3	0.0	31.1	24.1	36.8	31.3	35	45	75	RR
R_328776	768189.4	6641931.8	29.3	27.0	31.3	30.6	26.5	35.7	24.8	25.5	29.5	0.0	31.3	24.3	37.1	31.5	35	45	75	RR
R_245612	766856.4	6641928.9	34.4	29.2	36.4	32.9	34.1	44.1	29.1	18.9	32.6	0.0	36.4	29.4	44.5	33.9	35	45	75	RR
R_328029	767905.8	6641927.4	29.1	27.1	31.1	30.6	26.7	36.5	25.9	25.0	29.5	0.0	31.1	24.1	37.7	31.7	35	45	75	RR
R_245611	766778.0	6641926.9	37.5	35.3	39.5	33.0	37.1	47.1	36.6	25.3	38.2	0.0	39.5	32.5	47.3	34.7	35	45	75	RR
R_328033	768168.9	6641923.2	29.3	27.0	31.3	30.5	26.5	35.7	24.9	25.5	29.5	0.0	31.3	24.3	37.1	31.4	35	45	75	RR
R_328634	768307.3	6641914.7	28.9	27.2	30.9	30.2	26.2	35.2	24.3	25.1	29.2	0.0	30.9	23.9	36.6	31.1	35	45	75	RR
R_328028	767915.0	6641911.9	29.3	27.1	31.3	30.7	26.7	36.3	25.7	25.6	29.7	0.0	31.3	24.3	37.6	31.7	35	45	75	RR
R_245608	766863.7	6641910.5	36.9	29.0	38.9	32.8	35.0	45.0	29.0	25.4	32.5	0.0	38.9	31.9	45.3	33.8	35	45	75	RR
R_329888	768133.3	6641906.5	29.2	27.0	31.2	30.5	26.4	35.8	24.9	25.4	29.5	0.0	31.2	24.2	37.2	31.4	35	45	75	RR
R_245606	766788.8	6641903.7	36.9	34.7	38.9	32.9	36.5	46.5	36.4	19.5	35.9	0.0	38.9	31.9	46.8	34.6	35	45	75	RR
R_328635	768314.9	6641899.3	29.0	29.9	31.0	30.2	26.1	35.2	24.3	25.1	32.0	0.0	31.0	24.0	36.6	31.1	35	45	75	RR
R_328145	768114.9	6641898.2	29.2	26.9	31.2	30.5	26.4	35.8	25.0	25.4	29.4	0.0	31.2	24.2	37.2	31.4	35	45	75	RR
R_245605	766876.4	6641894.0	36.8	28.9	38.8	32.7	36.6	46.6	28.9	25.3	32.3	0.0	38.8	31.8	46.8	33.7	35	45	75	RR
R_328594	767923.4	6641893.8	29.4	27.0	31.4	30.6	26.6	36.2	25.6	25.6	29.6	0.0	31.4	24.4	37.5	31.6	35	45	75	RR
R_328144	768079.3	6641887.2	29.2	26.9	31.2	30.4	26.4	35.8	25.1	25.4	29.4	0.0	31.2	24.2	37.1	31.4	35	45	75	RR
R_245604	766804.5	6641885.4	34.6	29.3	36.6	32.7	34.3	44.3	28.9	22.3	32.5	0.0	36.6	29.6	44.7	34.5	35	45	75	RR
R_328636	768319.5	6641880.5	33.4	32.0	35.4	30.1	26.4	35.1	24.2	25.0	31.9	0.0	35.4	28.4	36.5	31.0	35	45	75	RR
R_328146	767936.2	6641879.1	29.4	26.9	31.4	30.6	26.5	36.2	25.6	25.5	29.6	0.0	31.4	24.4	37.5	31.6	35	45	75	RR
R_328019	768086.3	6641872.5	29.1	26.8	31.1	30.4	26.3	35.7	25.0	25.3	29.3	0.0	31.1	24.1	37.1	31.4	35	45	75	RR
R_245570	760746.9	6641870.1	34.9	30.0	36.9	34.6	32.3	42.3	30.0	31.3	33.5	31.3	36.9	29.9	43.6	37.8	35	45	75	RR
R_245600	766819.6	6641867.9	36.0	34.3	38.0	32.6	35.9	45.9	28.8	22.3	35.7	0.0	38.0	31.0	46.2	34.4	35	45	75	RR
R_327197	768095.3	6641858.4	29.0	26.7	31.0	30.3	26.2	35.6	24.9	25.2	29.3	0.0	31.0	24.0	37.0	31.3	35	45	75	RR
R_328722	768027.5	6641854.9	29.1	26.7	31.1	30.3	26.3	35.8	25.1	25.3	29.3	0.0	31.1	24.1	37.1	31.3	35	45	75	RR
R_245599	766888.1	6641852.3	31.2	28.7	33.2	32.1	33.6	43.6	28.6	25.1	32.0	0.0	33.2	26.2	44.0	33				

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_332825	766785.1	6641766.3	31.2	29.0	33.2	32.0	34.6	44.6	34.2	17.5	36.0	0.0	33.2	26.2	44.9	33.0	35	45	75	RR
R_328132	767917.8	6641765.8	28.7	26.2	30.7	30.0	25.9	35.6	25.2	24.9	28.9	0.0	30.7	23.7	36.9	31.0	35	45	75	RR
R_328120	767989.7	6641762.2	28.6	26.2	30.6	29.9	25.8	35.5	24.9	24.8	28.9	0.0	30.6	23.6	36.8	30.9	35	45	75	RR
R_332994	766952.3	6641760.9	31.2	28.0	33.2	31.8	29.2	39.2	27.9	19.5	31.3	0.0	33.2	26.2	40.2	33.1	35	45	75	RR
R_328403	767091.1	6641750.0	30.1	27.5	32.1	31.6	34.9	44.9	34.9	24.8	30.8	0.0	32.1	25.1	45.2	32.7	35	45	75	RR
R_328262	767924.1	6641747.6	28.6	26.2	30.6	29.9	25.8	35.5	25.1	24.8	28.8	0.0	30.6	23.6	36.8	30.9	35	45	75	RR
R_332762	766940.0	6641747.2	33.6	28.0	35.6	31.7	34.2	44.2	27.9	18.2	34.8	0.0	35.6	28.6	44.5	32.8	35	45	75	RR
R_332727	766880.8	6641746.4	36.1	33.6	38.1	31.8	35.6	45.6	35.4	24.5	31.5	0.0	38.1	31.1	45.8	32.9	35	45	75	RR
R_328121	768003.7	6641742.4	28.5	26.1	30.5	29.8	25.7	35.3	24.8	24.7	28.7	0.0	30.5	23.5	36.6	30.8	35	45	75	RR
R_333045	766964.7	6641737.0	34.5	27.9	36.5	31.6	34.3	44.3	27.7	24.6	31.2	0.0	36.5	29.5	44.6	32.7	35	45	75	RR
R_333075	766864.5	6641736.8	36.1	33.0	38.1	31.8	35.8	45.8	28.0	24.5	31.5	0.0	38.1	31.1	46.0	32.8	35	45	75	RR
R_327510	767854.9	6641736.4	28.6	26.1	30.6	29.9	25.8	35.7	25.3	24.8	28.8	0.0	30.6	23.6	37.0	31.0	35	45	75	RR
R_328263	767932.7	6641730.7	28.5	26.0	30.5	29.8	25.7	35.4	25.0	24.7	28.7	0.0	30.5	23.5	36.7	30.8	35	45	75	RR
R_332826	766847.3	6641726.6	30.7	28.4	32.7	31.7	34.1	44.1	33.8	20.8	33.8	0.0	32.7	25.7	44.4	32.7	35	45	75	RR
R_328122	768011.2	6641725.9	28.4	26.0	30.4	29.6	25.6	35.2	24.7	24.6	28.6	0.0	30.4	23.4	36.5	30.6	35	45	75	RR
R_245560	765314.9	6641723.3	43.3	39.5	45.3	33.3	42.6	52.6	40.6	24.8	44.2	27.1	45.3	38.3	52.8	39.8	35	45	75	RR
R_327356	767107.4	6641720.9	29.9	27.3	31.9	31.4	34.7	44.7	33.0	24.7	30.6	0.0	31.9	24.9	45.0	32.5	35	45	75	RR
R_332729	766969.8	6641717.3	30.1	27.7	32.1	27.8	29.5	39.5	27.5	13.8	30.9	0.0	32.1	25.1	39.9	29.1	35	45	75	RR
R_245544	763131.0	6641717.2	54.4	54.9	56.4	51.0	51.7	61.7	51.1	41.2	52.0	45.1	56.4	49.4	62.3	53.3	35	45	75	RR
R_333072	766828.5	6641715.0	36.3	33.7	38.3	31.7	35.8	45.8	28.2	21.4	35.3	0.0	38.3	31.3	46.0	32.7	35	45	75	RR
R_327247	767704.7	6641713.0	28.5	26.0	30.5	29.9	25.9	35.9	25.7	24.7	28.9	0.0	30.5	23.5	37.1	31.0	35	45	75	RR
R_332726	766808.0	6641708.7	30.8	28.6	32.8	31.7	34.2	44.2	33.9	19.8	34.0	0.0	32.8	25.8	44.5	32.7	35	45	75	RR
R_327101	768025.9	6641706.4	28.3	25.9	30.3	29.6	25.5	35.1	24.6	24.5	28.5	0.0	30.3	23.3	36.4	30.6	35	45	75	RR
R_332987	766892.1	6641701.0	30.4	28.1	32.4	31.5	33.8	43.8	27.8	24.3	31.2	0.0	32.4	25.4	44.1	32.6	35	45	75	RR
R_327516	767869.7	6641700.2	28.4	25.9	30.4	29.6	25.6	35.4	25.1	24.6	28.6	0.0	30.4	23.4	36.7	30.7	35	45	75	RR
R_333073	766974.2	6641695.2	31.4	28.1	33.4	29.2	31.8	41.8	27.3	17.2	30.9	0.0	33.4	26.4	42.1	30.2	35	45	75	RR
R_327208	767946.2	6641691.7	28.3	25.8	30.3	29.6	25.5	35.2	24.8	24.5	28.5	0.0	30.3	23.3	36.5	30.6	35	45	75	RR
R_327698	767125.4	6641691.6	29.3	26.6	31.3	31.1	32.7	42.7	27.1	24.5	30.3	0.0	31.3	24.3	43.1	32.2	35	45	75	RR
R_332788	766772.7	6641691.0	30.9	28.7	32.9	31.6	34.2	44.2	34.0	19.8	34.1	0.0	32.9	25.9	44.5	32.6	35	45	75	RR
R_328320	767810.9	6641682.4	28.3	25.8	30.3	29.6	25.6	35.5	25.2	24.6	28.6	0.0	30.3	23.3	36.7	30.7	35	45	75	RR
R_327377	766991.6	6641681.4	35.0	32.0	37.0	31.3	33.0	43.0	27.4	24.3	30.8	0.0	37.0	30.0	43.4	32.4	35	45	75	RR
R_332787	766756.5	6641680.1	36.4	33.9	38.4	31.5	35.9	45.9	35.7	20.9	35.6	0.0	38.4	31.4	46.1	33.0	35	45	75	RR
R_332913	766899.2	6641679.4	30.2	28.0	32.2	31.4	35.4	45.4	27.7	21.6	31.1	0.0	32.2	25.2	45.6	32.5	35	45	75	RR
R_328335	767952.8	6641676.8	28.2	25.7	30.2	29.5	25.4	35.1	24.7	24.4	28.4	0.0	30.2	23.2	36.4	30.5	35	45	75	RR
R_333179	766738.6	6641676.0	36.4	34.0	38.4	31.5	35.9	45.9	35.7	21.3	35.6	0.0	38.4	31.4	46.1	33.1	35	45	75	RR
R_245553	765837.1	6641675.7	39.9	38.7	41.9	31.1	39.6	49.6	39.3	22.4	41.1	28.7	41.9	34.9	49.8	36.4	35	45	75	RR
R_328401	768505.3	6641675.7	33.4	30.9	35.4	28.8	24.9	33.7	0.0	23.7	27.8	0.0	35.4	28.4	35.1	29.7	35	45	75	RR
R_332894	766843.3	6641675.7	27.4	28.2	29.4	31.4	34.0	44.0	27.9	24.1	35.1	0.0	29.4	22.4	44.3	32.5	35	45	75	RR
R_330101	767872.7	6641673.7	28.2	25.7	30.2	29.5	25.4	35.3	24.9	24.5	28.5	0.0	30.2	23.2	36.6	30.6	35	45	75	RR
R_327697	767137.2	6641668.2	29.5	26.9	31.5	31.0	34.3	44.3	27.2	24.4	30.2	0.0	31.5	24.5	44.6	32.1	35	45	75	RR
R_328361	767885.4	6641666.6	28.2	25.7	30.2	29.5	25.4	35.2	24.9	24.4	28.4	0.0	30.2	23.2	36.5	30.6	35	45	75	RR
R_333201	766720.3	6641665.7	30.9	28.8	32.9	31.5	34.3	44.3	34.1	21.8	34.3	0.0	32.9	25.9	44.6	32.5	35	45	75	RR
R_327112	766995.8	6641662.6	29.8	27.4	31.8	31.2	34.7	44.7	27.3	19.0	30.7	0.0	31.8	24.8	44.9	32.3	35	45	75	RR
R_332758	766904.1	6641660.7	30.1	27.8	32.1	30.6	33.5	43.5	27.6	19.1	31.0	0.0	32.1	25.1	43.8	31.3	35	45	75	RR
R_332986	766847.4	6641654.2	34.4	31.4	36.4	31.3	33.8	43.8	33.5	24.0	31.2	0.0	36.4	29.4	44.1	32.3	35	45	75	RR
R_327522	767894.7	6641654.1	28.1	25.6	30.1	29.4	25.4	35.2	24.8	24.4	28.4	0.0	30.1	23.1	36.5	30.5	35	45	75	RR
R_327750	766923.5	6641648.5	29.8	27.6	31.8	31.2	27.8	37.8	27.4	19.6	30.7	0.0	31.8	24.8	38.9	32.2	35	45	75	RR
R_327696	767148.2	6641647.8	29.3	26.7	31.3	30.8	34.2	44.2	26.9	24.3	30.1	0.0	31.3	24.3	44.4	31.9	35	45	75	RR
R_332908	766784.3	6641647.0	36.1	33.0	38.1	31.3	35.6	45.6	28.1	22.1	35.3	0.0	38.1	31.1	45.8	32.6	35	45	75	RR
R_327691	767102.9	6641644.7	29.4	26.8	31.4	30.9	27.2	37.2	26.9	24.3	30.2	0.0	31.4	24.4	38.3	32.0	35	45	75	RR
R_245543	766104.9	6641641.5	38.9	37.3	40.9	31.2	38.2	48.2	38.2	22.6	39.5	23.3	40.9	33.9	48.4	35.3	35	45	75	RR
R_327111	767000.7	6641641.3	29.7	27.3	31.7	30.4	34.6	44.6	27.1	17.2	30.6	0.0	31.7	24.7	44.8	31.5	35	45	75	RR
R_245542	765791.5	6641637.6	39.8	36.8	41.8	30.8	39.5	49.5	39.2	22.6	41.0	29.0	41.8	34.8	49.7	36.4	35	45	75	RR
R_327566	767892.7	6641635.7	28.0	25.5	30.0	29.3	25.3	35.1	24.7	24.3	28.3	0.0	30.0	23.0	36.4	30.4	35	45	75	RR
R_332776	766856.3	6641635.0	31.1	28.0	33.1	31.2	30.1	40.1	27.7	24.0	31.1	0.0	33.1	26.1	40.8	32.2	35	45	75	RR
R_333300	766799.9	6641632.7	30.1	28.0	32.1	31.2	28.9	38.9	27.8	18.3	31.0	0.0	32.1	25.1	39.7	32.2	35	45	75	RR
R_327690	767110.0	6641631.0	29.3	26.7	31.3	30.8	29.3	39.3	26.8	24.2	30.1	0.0	31.3	24.3	40.0	31.9	35	45	75	RR
R_327749	766931.3	6641630.0	29.9	27.6	31.9	31.1	27.7	37.7	27.3	19.8	30.7	0.0	31.9	24.9	38.8	32.1	35	45	75	RR
R_332960	766743.4	6641626.3	35.9	33.8	37.9	31.2	35.6	45.6	35.5	21.5	36.9	0.0	37.9	30.9	45.9	33.5	35	45	75	RR
R_332728	766863.9	6641618.9	35.7	31.4	37.7	31.1	32.5	42.5	27.6	23.8	31.0	0.0	37.7	30.7	42.9	32.1	35	45	75	RR
R_327694	767164.3	6641618.8	29.0	26.4	31.0	30.7	31.2	41.2	26.7	24.2	29.9	0.0	31.0	24.0	41.7	31.8	35	45	75	RR
R_327692	767116.4	6641618.5	34.5	31.5	36.5	30.7	29.1	39.1	26.8	24.1	30.0	0.0	36.5	29.5	39.8					



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_245534	763432.2	6641553.7	70.8	70.4	72.8	62.1	66.6	76.6	58.4	44.6	68.9	43.2	72.8	65.8	76.8	63.6	35	45	75	RR
R_333184	766778.1	6641552.2	35.6	32.6	37.6	30.7	32.6	42.6	32.4	22.4	36.5	0.0	37.6	30.6	43.1	33.1	35	45	75	RR
R_327729	767236.1	6641551.7	28.7	26.0	30.7	30.2	33.6	43.6	26.4	23.9	29.4	0.0	30.7	23.7	43.8	31.3	35	45	75	RR
R_328505	766865.8	6641546.8	29.7	27.6	31.7	30.6	33.2	43.2	27.3	16.8	30.6	0.0	31.7	24.7	43.5	31.7	35	45	75	RR
R_327705	767149.3	6641542.4	28.7	26.2	30.7	30.3	26.6	36.6	26.3	23.8	29.6	0.0	30.7	23.7	37.7	31.4	35	45	75	RR
R_329659	766848.7	6641535.1	29.7	27.6	31.7	30.6	27.5	37.5	27.3	23.4	30.6	0.0	31.7	24.7	38.5	31.7	35	45	75	RR
R_245524	763416.5	6641528.2	70.6	81.9	72.6	63.9	66.5	76.5	64.6	45.1	67.8	43.6	72.6	65.6	76.9	65.8	35	45	75	RR
R_328504	766832.5	6641527.8	29.7	27.6	31.7	30.6	28.3	38.3	27.3	23.4	30.6	0.0	31.7	24.7	39.1	31.6	35	45	75	RR
R_327745	766992.4	6641525.0	29.2	26.8	31.2	30.4	27.0	37.0	26.6	21.1	30.0	0.0	31.2	24.2	38.1	31.5	35	45	75	RR
R_327730	767230.8	6641524.1	28.4	25.8	30.4	29.5	26.2	36.2	26.0	23.5	29.2	0.0	30.4	23.4	37.3	30.6	35	45	75	RR
R_330107	767115.4	6641521.8	28.7	26.3	30.7	30.2	30.5	40.5	26.3	23.6	29.6	0.0	30.7	23.7	41.0	31.3	35	45	75	RR
R_327857	766819.1	6641519.9	33.0	27.7	35.0	30.6	33.0	43.0	27.4	23.3	30.6	0.0	35.0	28.0	43.4	32.9	35	45	75	RR
R_245523	763701.8	6641519.7	63.7	60.2	65.7	58.9	60.8	70.8	57.3	41.7	63.3	43.9	65.7	58.7	71.1	59.4	35	45	75	RR
R_329663	766933.4	6641514.8	29.3	27.1	31.3	30.4	27.2	37.2	26.9	22.2	30.2	0.0	31.3	24.3	38.2	31.5	35	45	75	RR
R_327813	766804.9	6641513.7	29.7	27.7	31.7	30.5	32.3	42.3	27.4	19.4	30.6	0.0	31.7	24.7	42.6	31.4	35	45	75	RR
R_327811	766976.2	6641513.1	29.2	26.9	31.2	30.4	27.1	37.1	26.7	21.8	30.0	0.0	31.2	24.2	38.1	31.5	35	45	75	RR
R_328405	767096.2	6641511.6	28.8	26.3	30.8	30.2	26.7	36.7	26.3	23.6	29.6	0.0	30.8	23.8	37.8	31.3	35	45	75	RR
R_329616	767080.3	6641507.4	34.2	26.4	36.2	30.2	31.1	41.1	26.3	23.5	29.6	0.0	36.2	29.2	41.5	31.3	35	45	75	RR
R_245517	763446.2	6641505.2	82.0	88.6	84.0	67.8	72.7	82.7	69.6	45.0	75.4	48.0	84.0	77.0	82.9	69.0	35	45	75	RR
R_327814	766794.9	6641504.1	35.4	32.3	37.4	30.5	34.9	44.9	34.8	23.2	36.2	0.0	37.4	30.4	45.2	32.9	35	45	75	RR
R_327809	766912.6	6641503.3	29.3	27.2	31.3	30.4	34.5	44.5	26.9	21.8	30.2	0.0	31.3	24.3	44.7	31.5	35	45	75	RR
R_327798	767065.3	6641496.6	28.8	26.4	30.8	30.2	28.0	38.0	26.3	23.5	29.7	0.0	30.8	23.8	38.8	31.3	35	45	75	RR
R_327808	766894.3	6641495.9	29.3	27.2	31.3	30.3	27.2	37.2	27.0	17.9	30.2	0.0	31.3	24.3	38.2	31.4	35	45	75	RR
R_329662	766967.3	6641492.6	29.1	26.9	31.1	30.3	27.0	37.0	26.7	23.4	29.9	0.0	31.1	24.1	38.0	31.4	35	45	75	RR
R_327790	767232.4	6641487.6	28.2	25.7	30.2	29.4	26.1	36.1	25.9	23.5	29.1	0.0	30.2	23.2	37.2	30.5	35	45	75	RR
R_328585	766881.0	6641479.0	29.3	27.2	31.3	30.3	27.2	37.2	27.0	22.5	30.2	0.0	31.3	24.3	38.2	31.4	35	45	75	RR
R_327815	766952.1	6641479.0	29.1	26.9	31.1	30.2	26.9	36.9	26.7	19.6	30.0	0.0	31.1	24.1	37.9	31.3	35	45	75	RR
R_328584	766862.4	6641473.6	29.4	27.3	31.4	30.3	30.6	40.6	27.0	17.5	30.2	0.0	31.4	24.4	41.1	31.3	35	45	75	RR
R_327362	767252.5	6641463.5	28.0	25.5	30.0	29.7	25.9	35.9	25.7	23.5	28.9	0.0	30.0	23.0	37.1	30.8	35	45	75	RR
R_333421	766492.6	6641461.5	36.4	34.2	38.4	30.4	35.6	45.6	34.1	22.6	36.2	0.0	38.4	31.4	45.9	33.4	35	45	75	RR
R_327176	766845.6	6641460.5	33.0	27.4	35.0	30.2	34.4	44.4	27.1	22.6	34.6	0.0	35.0	28.0	44.7	32.6	35	45	75	RR
R_328583	766823.8	6641457.4	29.5	27.4	31.5	30.2	32.9	42.9	32.8	23.1	34.4	0.0	31.5	24.5	43.2	31.3	35	45	75	RR
R_245520	766045.8	6641456.9	37.6	34.0	39.6	30.1	37.4	47.4	32.5	0.0	38.8	23.8	39.6	32.6	47.6	34.7	35	45	75	RR
R_327789	767178.3	6641456.5	28.3	25.8	30.3	29.8	26.1	36.1	25.8	23.4	29.1	0.0	30.3	23.3	37.2	30.9	35	45	75	RR
R_327746	767091.3	6641456.4	28.5	26.2	30.5	29.9	26.4	36.4	26.0	23.3	29.4	0.0	30.5	23.5	37.5	31.0	35	45	75	RR
R_245512	763542.5	6641447.1	80.3	93.0	82.3	70.0	72.5	82.5	69.8	44.2	75.1	48.2	82.3	75.3	82.8	70.4	35	45	75	RR
R_327363	767266.7	6641446.9	28.0	25.4	30.0	29.6	30.8	40.8	25.6	23.4	28.8	0.0	30.0	23.0	41.2	30.7	35	45	75	RR
R_327801	766999.7	6641445.5	28.8	26.5	30.8	30.0	26.7	36.7	26.4	23.2	29.6	0.0	30.8	23.8	37.7	31.1	35	45	75	RR
R_327364	767213.5	6641439.3	28.2	25.6	30.2	29.7	25.9	35.9	25.7	23.3	29.0	0.0	30.2	23.2	37.1	30.8	35	45	75	RR
R_327743	767097.3	6641438.2	28.4	26.1	30.4	29.7	26.3	36.3	25.9	23.2	29.3	0.0	30.4	23.4	37.4	30.8	35	45	75	RR
R_327854	766987.6	6641434.1	28.8	26.6	30.8	29.9	26.6	36.6	26.3	18.7	29.6	0.0	30.8	23.8	37.7	31.0	35	45	75	RR
R_327742	767104.0	6641420.6	0.0	26.0	0.0	27.8	26.1	36.1	25.8	22.4	29.1	0.0	0.0	0.0	36.9	29.0	35	45	75	RR
R_327855	766972.7	6641416.4	28.7	26.6	30.7	29.8	26.6	36.6	26.3	23.0	29.6	0.0	30.7	23.7	37.6	30.9	35	45	75	RR
R_328900	767041.7	6641414.5	28.4	26.2	30.4	29.7	26.3	36.3	26.0	23.1	29.3	0.0	30.4	23.4	37.4	30.8	35	45	75	RR
R_332822	766293.7	6641413.9	36.8	33.8	38.8	30.1	36.2	46.2	36.2	0.0	37.5	22.7	38.8	31.8	46.3	31.6	35	45	75	RR
R_328895	767187.0	6641412.1	28.0	25.6	30.0	29.5	25.9	35.9	25.6	23.1	28.9	0.0	30.0	23.0	37.0	30.6	35	45	75	RR
R_327800	766890.6	6641411.7	28.9	26.9	30.9	29.9	32.4	42.4	26.7	22.9	29.8	0.0	30.9	23.9	42.7	31.0	35	45	75	RR
R_327738	766785.6	6641410.4	35.0	31.9	37.0	30.0	34.5	44.5	34.4	22.8	35.8	0.0	37.0	30.0	44.7	31.6	35	45	75	RR
R_327741	767118.7	6641403.2	28.2	25.9	30.2	29.6	26.1	36.1	25.7	23.1	29.1	0.0	30.2	23.2	37.2	30.7	35	45	75	RR
R_328954	767199.3	6641399.3	27.9	25.5	29.9	29.4	25.8	35.8	25.5	23.1	28.8	0.0	29.9	22.9	36.9	30.5	35	45	75	RR
R_327733	767173.6	6641397.8	28.0	25.6	30.0	29.5	25.9	35.9	25.5	23.1	28.9	0.0	30.0	23.0	37.0	30.6	35	45	75	RR
R_328955	767151.0	6641397.2	28.1	25.7	30.1	29.5	25.9	35.9	25.6	23.1	28.9	0.0	30.1	23.1	37.0	30.6	35	45	75	RR
R_327376	767056.3	6641393.3	28.3	26.1	30.3	29.6	26.2	36.2	25.9	23.0	29.2	0.0	30.3	23.3	37.3	30.7	35	45	75	RR
R_332860	766321.8	6641386.7	36.0	29.1	38.0	29.9	33.3	43.3	31.0	0.0	35.8	22.6	38.0	31.0	43.7	33.7	35	45	75	RR
R_327805	766949.4	6641385.0	28.7	26.6	30.7	29.7	26.7	36.7	26.5	22.9	29.5	0.0	30.7	23.7	37.7	30.8	35	45	75	RR
R_328960	767124.3	6641384.0	28.0	25.7	30.0	27.3	25.9	35.9	25.6	23.0	28.9	0.0	30.0	23.0	36.6	28.6	35	45	75	RR
R_327731	767298.1	6641382.5	27.7	25.0	29.7	29.2	26.2	36.2	25.2	23.1	28.4	0.0	29.7	22.7	37.2	30.3	35	45	75	RR
R_327375	767031.5	6641381.5	28.4	26.1	30.4	29.5	26.2	36.2	26.0	22.9	29.2	0.0	30.4	23.4	37.3	30.6	35	45	75	RR
R_328961	767062.8	6641372.0	28.5	26.3	30.5	29.5	27.2	37.2	26.6	22.9	29.2	0.0	30.5	23.5	38.1	30.6	35	45	75	RR
R_327806	766935.1	6641368.5	28.7	26.6	30.7	29.6	26.7	36.7	26.5	22.8	29.5	0.0	30.7	23.7	37.7	30.7	35	45	75	RR
R_329617	766991.4	6641360.5	28.4	26.2	30.4	29.5	26.3	36.3	26.0	22.8	29.2	0.0	30.4	23.4	37.3	30.6	35	45	75	RR
R_327735	767248.0	6641356.8	27.6	25.1	29.6	29.2	25.4	35.4	25.2	22.9	28.4	0.0	29.6	22.6	36.6	30.				

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_328959	767108.8	6641289.6	27.7	25.5	29.7	29.0	25.6	35.6	25.3	22.5	28.6	0.0	29.7	22.7	36.7	30.1	35	45	75	RR
R_245497	764364.2	6641287.3	43.9	45.0	45.9	44.1	43.4	53.4	41.4	31.6	46.1	35.5	45.9	38.9	54.1	46.0	35	45	75	RR
R_329615	767026.3	6641287.1	27.9	25.8	29.9	29.1	25.8	35.8	25.6	22.5	28.8	0.0	29.9	22.9	36.9	30.2	35	45	75	RR
R_332821	766336.2	6641285.1	35.9	32.9	37.9	29.4	35.3	45.3	30.6	0.0	36.6	22.7	37.9	30.9	45.5	32.0	35	45	75	RR
R_327179	767810.8	6641284.2	26.3	23.7	28.3	27.8	28.1	38.1	27.9	22.6	26.7	0.0	28.3	21.3	38.6	28.9	35	45	75	RR
R_327367	767180.8	6641280.6	27.5	25.1	29.5	28.6	25.4	35.4	25.0	20.9	28.3	0.0	29.5	22.5	36.4	29.7	35	45	75	RR
R_328890	767111.4	6641280.4	27.6	24.8	29.6	29.0	25.5	35.5	25.0	22.5	28.5	0.0	29.6	22.6	36.6	30.1	35	45	75	RR
R_245496	764982.8	6641271.6	41.7	38.5	43.7	36.0	40.9	50.9	37.6	27.2	42.5	30.4	43.7	36.7	51.2	40.1	35	45	75	RR
R_327370	767218.9	6641271.5	27.3	25.0	29.3	28.8	25.2	35.2	24.9	22.5	28.2	0.0	29.3	22.3	36.3	29.9	35	45	75	RR
R_327109	766943.7	6641270.3	28.2	26.1	30.2	29.1	29.1	39.1	25.9	18.6	29.0	0.0	30.2	23.2	39.6	30.2	35	45	75	RR
R_245502	765229.7	6641269.8	38.6	31.6	40.6	34.1	38.2	48.2	30.5	25.7	38.5	28.7	40.6	33.6	48.6	37.8	35	45	75	RR
R_332789	766312.5	6641268.0	35.3	31.3	37.3	29.3	35.4	45.4	31.3	0.0	35.0	22.8	37.3	30.3	45.6	31.1	35	45	75	RR
R_333623	766274.5	6641267.0	35.4	32.1	37.4	29.3	35.5	45.5	35.5	0.0	31.2	22.9	37.4	30.4	45.8	33.3	35	45	75	RR
R_245494	764952.4	6641265.5	40.5	34.2	42.5	36.2	39.6	49.6	37.8	27.4	41.4	34.5	42.5	35.5	50.0	39.5	35	45	75	RR
R_327366	767112.1	6641265.2	27.5	25.3	29.5	28.8	25.4	35.4	25.2	22.4	28.4	0.0	29.5	22.5	36.5	29.9	35	45	75	RR
R_333396	766281.3	6641264.8	30.9	28.6	32.9	28.0	33.8	43.8	29.7	0.0	31.2	22.9	32.9	25.9	44.0	30.3	35	45	75	RR
R_327816	767374.7	6641262.8	27.0	24.3	29.0	28.5	30.1	40.1	24.5	22.5	27.7	0.0	29.0	22.0	40.5	29.6	35	45	75	RR
R_245491	765017.0	6641258.7	41.4	35.6	43.4	35.6	40.7	50.7	37.0	26.9	42.2	30.2	43.4	36.4	51.0	39.7	35	45	75	RR
R_245490	764999.3	6641255.4	39.8	35.2	41.8	35.8	38.9	48.9	36.9	27.1	36.5	30.3	41.8	34.8	49.2	38.1	35	45	75	RR
R_245489	765044.2	6641253.4	41.3	35.6	43.3	35.5	40.6	50.6	36.9	26.9	42.0	30.1	43.3	36.3	50.9	39.6	35	45	75	RR
R_327732	767328.1	6641252.8	27.0	24.5	29.0	28.6	25.3	35.3	25.0	22.5	27.8	0.0	29.0	22.0	36.4	29.7	35	45	75	RR
R_245488	765070.5	6641250.9	40.1	35.3	42.1	35.2	39.5	49.5	37.0	26.6	40.8	29.8	42.1	35.1	49.8	38.6	35	45	75	RR
R_328782	767050.0	6641249.8	27.7	25.6	29.7	28.9	25.6	35.6	25.4	22.3	28.6	0.0	29.7	22.7	36.7	30.0	35	45	75	RR
R_245459	763475.3	6641248.0	76.2	90.0	78.2	75.1	62.8	72.8	60.6	48.0	70.5	53.6	78.2	71.2	77.2	75.2	35	45	75	RR
R_327736	767123.0	6641246.6	27.5	25.3	29.5	28.8	25.4	35.4	25.1	22.3	28.4	0.0	29.5	22.5	36.5	29.9	35	45	75	RR
R_245485	765086.1	6641245.9	39.7	35.2	41.7	35.1	40.1	50.1	37.0	26.5	40.9	29.7	41.7	34.7	50.3	37.4	35	45	75	RR
R_245484	765105.5	6641245.2	40.9	35.3	42.9	35.0	40.2	50.2	37.0	26.4	41.7	29.6	42.9	35.9	50.5	39.2	35	45	75	RR
R_333472	766352.1	6641244.3	31.9	28.2	33.9	29.2	32.3	42.3	30.2	0.0	36.1	22.6	33.9	26.9	42.6	30.9	35	45	75	RR
R_327734	767206.1	6641244.3	27.2	24.9	29.2	28.7	25.1	35.1	24.8	22.4	28.1	0.0	29.2	22.2	36.2	29.8	35	45	75	RR
R_245481	765160.9	6641242.7	40.6	35.3	42.6	34.6	40.0	50.0	37.0	26.1	41.4	29.2	42.6	35.6	50.3	38.8	35	45	75	RR
R_245480	765124.3	6641241.6	40.8	35.2	42.8	34.9	40.1	50.1	37.0	26.3	41.6	29.5	42.8	35.8	50.4	39.1	35	45	75	RR
R_245477	764944.1	6641240.1	40.3	38.3	42.3	36.3	39.4	49.4	32.2	27.4	41.3	34.9	42.3	35.3	49.8	39.5	35	45	75	RR
R_245462	763920.6	6641239.2	53.1	62.0	55.1	50.2	51.0	61.0	51.0	39.0	52.4	44.5	55.1	48.1	61.6	52.4	35	45	75	RR
R_245454	763603.0	6641238.8	63.9	89.3	65.9	63.5	58.8	68.8	58.1	44.4	61.4	51.3	65.9	58.9	70.0	63.9	35	45	75	RR
R_245478	765141.2	6641237.7	40.6	35.2	42.6	34.7	40.0	50.0	37.0	26.2	41.4	29.3	42.6	35.6	50.3	38.9	35	45	75	RR
R_245476	765176.3	6641234.1	40.4	35.1	42.4	34.5	39.8	49.8	36.9	26.0	41.2	29.1	42.4	35.4	50.1	38.7	35	45	75	RR
R_245475	765194.5	6641231.0	40.3	35.1	42.3	34.3	39.7	49.7	36.9	25.9	41.1	29.0	42.3	35.3	50.0	38.5	35	45	75	RR
R_327471	767054.5	6641230.1	27.6	25.4	29.6	28.3	25.5	35.5	25.3	22.2	28.5	0.0	29.6	22.6	36.4	29.2	35	45	75	RR
R_245474	765215.9	6641230.0	40.2	35.1	42.2	34.0	39.5	49.5	31.9	24.0	41.0	28.8	42.2	35.2	49.8	38.4	35	45	75	RR
R_329911	767133.2	6641229.8	27.2	25.1	29.2	22.2	25.2	35.2	25.0	22.3	27.7	0.0	29.2	22.2	35.5	23.7	35	45	75	RR
R_327539	768234.1	6641227.7	35.6	23.2	37.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.6	30.6	0.0	3.0	35	45	75	RR
R_333258	766341.3	6641227.7	25.7	32.5	27.7	29.1	32.2	42.2	27.7	0.0	30.8	22.7	27.7	20.7	42.5	30.9	35	45	75	RR
R_245471	765236.7	6641225.9	40.1	31.6	42.1	34.0	39.4	49.4	32.0	25.7	40.9	28.7	42.1	35.1	49.7	38.3	35	45	75	RR
R_332766	766264.0	6641222.0	35.0	31.9	37.0	29.0	35.4	45.4	27.9	0.0	36.7	23.0	37.0	30.0	45.7	33.2	35	45	75	RR
R_245470	765255.3	6641218.2	39.7	35.0	41.7	33.9	39.2	49.2	32.0	25.6	39.4	28.6	41.7	34.7	49.5	37.4	35	45	75	RR
R_332710	766287.6	6641216.9	30.1	28.3	32.1	29.0	31.7	41.7	27.8	0.0	30.9	22.9	32.1	25.1	42.0	30.9	35	45	75	RR
R_245452	764370.4	6641216.5	46.0	42.5	48.0	44.0	44.9	54.9	44.7	31.5	46.5	36.2	48.0	41.0	55.4	45.6	35	45	75	RR
R_245469	765275.4	6641214.4	38.7	35.0	40.7	33.7	39.1	49.1	35.2	25.4	39.2	28.5	40.7	33.7	49.3	36.1	35	45	75	RR
R_332837	765998.6	6641213.3	36.2	33.2	38.2	29.4	36.3	46.3	35.9	0.0	37.6	24.4	38.2	31.2	46.4	31.7	35	45	75	RR
R_328642	767405.0	6641212.1	26.6	24.0	28.6	28.2	31.6	41.6	24.4	22.3	27.4	0.0	28.6	21.6	41.8	29.3	35	45	75	RR
R_328177	767141.7	6641211.0	27.3	25.1	29.3	28.6	25.2	35.2	24.9	22.2	28.2	0.0	29.3	22.3	36.3	29.7	35	45	75	RR
R_245456	764951.1	6641210.6	41.4	34.2	43.4	36.2	40.7	50.7	32.6	27.4	42.2	30.8	43.4	36.4	51.0	39.1	35	45	75	RR
R_245466	765296.2	6641210.4	39.6	34.4	41.6	33.6	39.1	49.1	36.8	25.4	40.4	28.4	41.6	34.6	49.3	36.0	35	45	75	RR
R_327292	767065.2	6641208.9	27.5	25.3	29.5	28.7	25.4	35.4	25.2	22.1	28.4	0.0	29.5	22.5	36.5	29.8	35	45	75	RR
R_245438	764286.0	6641208.8	47.0	49.1	49.0	45.8	45.9	55.9	45.6	32.3	45.4	40.0	49.0	42.0	56.6	48.5	35	45	75	RR
R_245455	764995.6	6641208.2	38.8	30.4	40.8	34.3	38.6	48.6	31.1	25.7	36.2	29.7	40.8	33.8	48.9	36.8	35	45	75	RR
R_332772	766401.5	6641208.2	33.9	27.8	35.9	29.0	31.5	41.5	27.5	0.0	34.7	22.4	35.9	28.9	41.8	30.7	35	45	75	RR
R_245463	765315.8	6641206.5	39.3	34.3	41.3	33.5	39.0	49.0	32.0	25.3	40.0	28.3	41.3	34.3	49.3	37.8	35	45	75	RR
R_333317	766332.1	6641205.0	34.2	28.1	36.2	29.0	31.5	41.5	28.5	0.0	30.7	22.7	36.2	29.2	42.1	32.9	35	45	75	RR
R_245453	764973.1	6641204.8	38.9	34.5	40.9	36.0	39.8	49.8	32.4	27.3	38.2	30.6	40.9	33.9	50.1	38.4	35	45	75	RR
R_330149	767112.4	6641204.0	27.3	25.1	29.3	28.6	25.2	35.2	25.0	22.1	28.2	0.0	29.3	22.3	36.3	29.7	35	45	75	RR
R_245451	765014.2	6641200.5	0.0	35.2	0.0	35.6	39.9	49.9	31.7	27.0	37.4	30.3	0.0	0.0						



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_245416	764896.1	6641176.5	39.5	32.9	41.5	36.3	38.8	48.8	34.6	27.7	36.4	31.2	41.5	34.5	49.2	38.8	35	45	75	RR
R_332705	766202.7	6641176.1	30.1	28.3	32.1	28.8	33.7	43.7	33.5	0.0	35.1	23.3	32.1	25.1	43.9	30.8	35	45	75	RR
R_245418	765204.3	6641171.7	36.3	34.1	38.3	34.2	37.7	47.7	30.1	25.9	37.3	29.0	38.3	31.3	48.0	36.6	35	45	75	RR
R_245419	765248.6	6641170.7	33.9	31.4	35.9	33.9	38.2	48.2	31.8	25.6	34.7	28.8	35.9	28.9	48.5	36.3	35	45	75	RR
R_245412	764940.5	6641170.2	39.9	38.2	41.9	36.2	38.9	48.9	32.2	27.5	40.7	31.0	41.9	34.9	49.3	39.1	35	45	75	RR
R_245422	765356.4	6641170.1	33.7	30.6	35.7	33.2	36.1	46.1	29.3	25.0	36.5	28.0	35.7	28.7	46.5	35.6	35	45	75	RR
R_328311	767075.8	6641169.9	27.3	25.2	29.3	28.5	25.2	35.2	25.0	0.0	28.2	0.0	29.3	22.3	36.3	29.6	35	45	75	RR
R_332691	766141.8	6641169.4	30.4	28.4	32.4	28.7	33.9	43.9	28.0	0.0	35.5	23.6	32.4	25.4	44.1	31.0	35	45	75	RR
R_245415	765268.4	6641167.1	35.4	31.2	37.4	33.8	37.2	47.2	31.8	25.5	34.6	28.6	37.4	30.4	47.5	36.2	35	45	75	RR
R_328094	766385.8	6641165.0	29.6	27.7	31.6	28.8	27.7	37.7	27.3	0.0	30.4	22.5	31.6	24.6	38.5	30.6	35	45	75	RR
R_328095	766457.0	6641163.9	31.7	30.3	33.7	28.8	32.8	42.8	27.1	0.0	35.7	22.2	33.7	26.7	43.1	30.5	35	45	75	RR
R_245411	765223.6	6641163.2	36.1	31.7	38.1	34.1	38.8	48.8	30.0	25.8	34.8	28.9	38.1	31.1	49.0	36.5	35	45	75	RR
R_245403	764991.7	6641163.2	35.2	33.7	37.2	35.8	39.7	49.7	31.8	27.1	36.1	30.6	37.2	30.2	50.0	38.2	35	45	75	RR
R_245401	764973.3	6641163.2	40.9	33.9	42.9	35.9	39.0	49.0	31.9	27.2	41.7	30.7	42.9	35.9	49.4	38.7	35	45	75	RR
R_245395	764718.0	6641162.9	42.5	37.8	44.5	38.0	41.7	51.7	34.3	28.9	43.2	38.4	44.5	37.5	52.1	41.1	35	45	75	RR
R_333021	766247.7	6641161.6	35.2	32.5	37.2	28.7	35.2	45.2	27.7	0.0	36.2	23.2	37.2	30.2	45.5	33.0	35	45	75	RR
R_245400	765008.6	6641160.4	40.0	33.5	42.0	35.6	39.5	49.5	31.6	27.0	40.9	30.5	42.0	35.0	49.8	38.1	35	45	75	RR
R_332711	766272.3	6641159.7	33.3	28.0	35.3	28.7	33.4	43.4	27.6	0.0	34.9	22.9	35.3	28.3	43.6	30.7	35	45	75	RR
R_245396	765043.7	6641156.4	34.8	33.2	36.8	35.3	32.8	42.8	31.3	26.8	35.6	30.2	36.8	29.8	44.0	37.8	35	45	75	RR
R_245404	765289.5	6641156.2	33.7	30.6	35.7	33.6	34.0	44.0	29.6	25.4	34.5	28.5	35.7	28.7	44.6	36.0	35	45	75	RR
R_332629	766198.0	6641155.2	30.1	28.2	32.1	28.7	34.8	44.8	27.8	0.0	30.9	23.4	32.1	25.1	45.0	30.9	35	45	75	RR
R_332873	766310.3	6641154.9	33.2	27.9	35.2	28.7	33.2	43.2	27.5	0.0	34.8	22.8	35.2	28.2	43.5	31.9	35	45	75	RR
R_330028	767048.4	6641154.8	27.3	25.2	29.3	28.5	25.2	35.2	25.1	0.0	28.2	0.0	29.3	22.3	36.2	29.6	35	45	75	RR
R_245381	764742.2	6641153.9	42.2	37.4	44.2	37.9	41.4	51.4	36.0	28.8	42.9	32.6	44.2	37.2	51.8	40.9	35	45	75	RR
R_245393	765022.4	6641153.6	0.0	33.1	0.0	35.5	32.6	42.6	31.3	26.9	35.6	30.3	0.0	0.0	43.9	37.9	35	45	75	RR
R_245399	765307.8	6641153.1	33.6	29.6	35.6	33.4	33.8	43.8	31.8	25.2	34.4	28.3	35.6	28.6	44.4	35.8	35	45	75	RR
R_245377	764777.6	6641150.8	42.0	36.0	44.0	37.6	41.2	51.2	33.5	28.5	42.7	32.3	44.0	37.0	51.6	40.7	35	45	75	RR
R_245387	765058.0	6641149.0	34.7	33.0	36.7	35.2	32.5	42.5	31.1	26.7	35.5	30.1	36.7	29.7	43.7	37.7	35	45	75	RR
R_245374	764710.7	6641147.0	42.4	41.8	44.4	38.1	41.7	51.7	34.0	29.0	43.2	38.5	44.4	37.4	52.1	41.1	35	45	75	RR
R_333473	766138.0	6641146.7	35.5	32.0	37.5	28.8	35.4	45.4	35.2	0.0	36.6	23.7	37.5	30.5	45.6	31.1	35	45	75	RR
R_245382	765075.8	6641146.0	0.0	32.8	0.0	35.1	32.4	42.4	31.0	26.6	35.4	30.0	0.0	0.0	43.6	37.6	35	45	75	RR
R_245391	765347.2	6641145.3	38.0	33.8	40.0	33.2	35.3	45.3	30.1	24.9	34.2	28.1	40.0	33.0	45.7	35.6	35	45	75	RR
R_329336	766374.9	6641144.7	33.7	27.6	35.7	28.7	30.9	40.9	27.2	0.0	30.3	22.6	35.7	28.7	41.5	32.6	35	45	75	RR
R_245378	765094.2	6641143.2	34.4	32.7	36.4	34.9	32.2	42.2	30.8	26.5	35.2	29.8	36.4	29.4	43.4	37.4	35	45	75	RR
R_245376	765110.7	6641140.2	34.4	32.6	36.4	34.9	32.2	42.2	30.8	26.4	35.2	29.8	36.4	29.4	43.4	37.3	35	45	75	RR
R_330027	767036.4	6641139.5	27.3	25.2	29.3	28.4	25.1	35.1	25.1	0.0	28.2	0.0	29.3	22.3	36.2	29.5	35	45	75	RR
R_333160	766192.6	6641137.9	29.9	27.5	31.9	28.5	30.9	40.9	27.6	0.0	30.8	23.4	31.9	24.9	41.3	30.8	35	45	75	RR
R_245367	764844.5	6641137.9	41.2	35.2	43.2	36.9	39.1	49.1	32.8	28.1	42.1	31.8	43.2	36.2	49.5	39.4	35	45	75	RR
R_333022	766247.4	6641135.6	29.8	27.5	31.8	28.2	33.3	43.3	27.5	0.0	30.6	23.1	31.8	24.8	43.5	30.5	35	45	75	RR
R_328247	767017.2	6641134.4	27.4	25.2	29.4	28.4	25.3	35.3	25.1	0.0	28.2	0.0	29.4	22.4	36.3	29.5	35	45	75	RR
R_245372	765130.1	6641134.0	34.2	32.4	36.2	34.7	32.1	42.1	30.6	26.3	35.0	29.6	36.2	29.2	43.3	37.2	35	45	75	RR
R_329377	766445.8	6641133.8	34.3	27.3	36.3	28.7	34.0	44.0	27.0	0.0	30.0	22.3	36.3	29.3	44.2	30.5	35	45	75	RR
R_245371	765148.9	6641132.7	34.2	32.2	36.2	34.6	35.1	45.1	30.5	26.2	35.0	29.5	36.2	29.2	45.7	37.1	35	45	75	RR
R_245361	764880.6	6641131.9	40.8	34.8	42.8	36.6	40.4	50.4	32.7	27.9	41.8	31.6	42.8	35.8	50.7	39.3	35	45	75	RR
R_245358	764705.2	6641130.2	42.4	41.9	44.4	38.1	41.6	51.6	34.0	29.0	43.1	38.6	44.4	37.4	52.0	41.0	35	45	75	RR
R_332761	766306.2	6641129.5	29.6	27.7	31.6	28.6	27.4	37.4	27.3	0.0	30.4	22.9	31.6	24.6	38.2	30.6	35	45	75	RR
R_332752	766137.3	6641127.4	31.5	28.2	33.5	28.8	33.7	43.7	33.5	0.0	35.3	23.7	33.5	26.5	43.9	31.1	35	45	75	RR
R_245368	765344.7	6641126.1	33.2	30.5	35.2	33.2	34.1	44.1	29.1	25.1	34.1	28.1	35.2	28.2	44.7	35.6	35	45	75	RR
R_245366	765249.8	6641125.7	35.1	31.4	37.1	33.9	34.8	44.8	29.8	25.6	34.5	28.8	37.1	30.1	45.4	36.3	35	45	75	RR
R_245356	764837.3	6641124.9	36.6	34.9	38.6	36.9	39.1	49.1	32.8	28.1	40.9	31.8	38.6	31.6	49.5	39.4	35	45	75	RR
R_245362	765175.5	6641124.8	34.0	32.0	36.0	34.4	31.8	41.8	30.3	26.0	34.8	29.3	36.0	29.0	43.0	36.9	35	45	75	RR
R_245357	764904.1	6641124.4	41.0	34.6	43.0	36.4	40.1	50.1	32.4	27.7	41.8	31.3	43.0	36.0	50.4	38.9	35	45	75	RR
R_245365	765233.4	6641123.8	33.7	31.5	35.7	34.0	33.7	43.7	29.9	25.7	34.5	29.0	35.7	28.7	44.4	36.5	35	45	75	RR
R_329272	766378.6	6641123.7	29.3	27.4	31.3	27.6	27.1	37.1	27.1	0.0	30.1	22.5	31.3	24.3	37.9	29.9	35	45	75	RR
R_245352	764770.0	6641123.1	40.4	35.9	42.4	37.5	39.6	49.6	33.4	28.6	41.4	36.4	42.4	35.4	50.1	40.0	35	45	75	RR
R_328243	767003.9	6641122.5	27.4	25.3	29.4	28.4	25.4	35.4	25.1	0.0	28.2	0.0	29.4	22.4	36.4	29.5	35	45	75	RR
R_245353	764926.8	6641119.8	40.4	34.3	42.4	36.2	40.1	50.1	32.2	27.6	36.1	31.2	42.4	35.4	50.4	38.7	35	45	75	RR
R_245360	765215.0	6641119.6	33.0	31.3	35.0	34.1	31.0	41.0	30.0	25.8	33.9	29.0	35.0	28.0	42.3	36.6	35	45	75	RR
R_333266	766242.4	6641118.0	29.7	27.8	31.7	28.3	32.8	42.8	27.4	0.0	33.2	23.2	31.7	24.7	43.1	30.6	35	45	75	RR
R_245351	764944.0	6641117.8	35.0	34.1	37.0	36.1	39.7	49.7	32.0	27.4	35.9	31.0	37.0	30.0	50.0	38.6	35	45	75	RR
R_333311	766192.0	6641116.8	29.9	27.9	31.9	28.5	30.2	40.2	27.5	0.0	30.7	23.4	31.9	24.9	40.7	30.8	35	45	75	RR
R_245359	765300.8	6641116.5	33.4	30.9	35.4	33.6	32.9	42.9	31.6	25.3	34.2	28.5	35.4</							

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_245324	764748.4	6641094.8	36.7	37.0	38.7	37.7	41.2	51.2	33.6	28.7	37.1	32.7	38.7	31.7	51.5	40.2	35	45	75	RR
R_330152	766945.5	6641094.3	27.4	25.4	29.4	28.2	30.8	40.8	25.2	0.0	28.2	0.0	29.4	22.4	41.1	29.3	35	45	75	RR
R_333353	766292.8	6641091.9	29.4	27.5	31.4	28.4	27.3	37.3	27.1	0.0	30.3	23.0	31.4	24.4	38.1	30.6	35	45	75	RR
R_245336	765344.0	6641091.5	33.0	35.0	35.0	33.3	33.0	43.0	31.5	25.1	33.8	28.3	35.0	28.0	43.7	35.7	35	45	75	RR
R_245328	765095.6	6641090.4	34.1	32.4	36.1	34.8	36.5	46.5	31.1	26.5	34.9	29.5	36.1	29.1	46.9	36.8	35	45	75	RR
R_328245	766928.3	6641090.0	33.1	30.0	35.1	28.3	27.7	37.7	27.8	0.0	28.3	0.0	35.1	28.1	38.3	29.4	35	45	75	RR
R_333458	765578.7	6641088.1	37.6	29.1	39.6	31.9	37.2	47.2	35.8	23.9	38.5	26.8	39.6	32.6	47.5	36.0	35	45	75	RR
R_333162	766133.3	6641087.7	35.3	32.3	37.3	28.8	35.2	45.2	34.9	0.0	36.5	23.8	37.3	30.3	45.5	33.1	35	45	75	RR
R_245325	765117.0	6641086.1	34.0	32.4	36.0	34.9	36.3	46.3	36.3	26.4	34.8	29.8	36.0	29.0	46.8	37.3	35	45	75	RR
R_245321	764901.9	6641085.9	35.4	34.5	37.4	36.5	33.6	43.6	32.3	27.7	35.9	31.5	37.4	30.4	44.9	39.0	35	45	75	RR
R_328244	766909.1	6641084.5	33.1	30.1	35.1	28.3	27.5	37.5	27.1	0.0	33.9	0.0	35.1	28.1	38.3	30.3	35	45	75	RR
R_328087	766354.7	6641082.1	29.2	27.3	31.2	28.4	27.0	37.0	26.9	0.0	30.0	22.7	31.2	24.2	37.9	30.4	35	45	75	RR
R_332977	765670.8	6641080.6	36.9	33.6	38.9	31.4	36.8	46.8	28.5	23.4	38.1	26.3	38.9	31.9	47.1	35.5	35	45	75	RR
R_245313	764735.2	6641079.9	36.9	42.0	38.9	37.9	41.2	51.2	33.7	28.8	37.0	32.8	38.9	31.9	51.6	40.4	35	45	75	RR
R_245310	764654.4	6641079.0	42.7	43.1	44.7	38.7	41.7	51.7	41.6	29.4	41.9	38.9	44.7	37.7	52.1	41.3	35	45	75	RR
R_245319	765154.0	6641078.8	33.8	32.1	35.8	34.6	31.6	41.6	30.4	26.2	34.6	29.6	35.8	28.8	42.9	37.1	35	45	75	RR
R_333312	766181.6	6641078.8	29.7	27.8	31.7	28.6	30.6	40.6	27.4	0.0	30.7	23.6	31.7	24.7	41.0	30.9	35	45	75	RR
R_245314	764918.1	6641076.8	35.3	34.3	37.3	36.4	32.5	42.5	32.1	27.6	34.8	31.3	37.3	30.3	44.1	38.9	35	45	75	RR
R_245311	764805.5	6641076.5	36.3	35.5	38.3	37.3	39.0	49.0	33.9	28.3	36.4	32.2	38.3	31.3	49.5	39.8	35	45	75	RR
R_245316	765008.6	6641075.4	34.5	33.4	36.5	35.7	32.2	42.2	31.6	27.0	35.2	30.6	36.5	29.5	43.6	38.2	35	45	75	RR
R_245317	765184.9	6641073.7	0.0	31.8	0.0	34.4	31.4	41.4	30.2	26.0	34.4	29.3	0.0	0.0	42.7	36.9	35	45	75	RR
R_332748	766238.2	6641073.4	33.4	27.6	35.4	28.4	31.0	41.0	27.2	0.0	30.4	23.3	35.4	28.4	41.4	30.7	35	45	75	RR
R_327964	766416.0	6641072.8	29.0	27.1	31.0	28.3	26.8	36.8	26.7	0.0	29.8	22.5	31.0	24.0	37.7	30.3	35	45	75	RR
R_327977	766283.2	6641071.6	29.3	27.4	31.3	28.3	27.2	37.2	27.1	0.0	30.2	23.1	31.3	24.3	38.0	30.5	35	45	75	RR
R_245309	764935.8	6641071.6	35.1	34.1	37.1	36.3	32.9	42.9	32.0	27.5	35.9	31.2	37.1	30.1	44.3	38.8	35	45	75	RR
R_245312	765081.6	6641069.8	34.1	32.8	36.1	35.2	31.9	41.9	30.9	26.6	34.9	30.1	36.1	29.1	43.3	37.7	35	45	75	RR
R_333023	766128.8	6641068.9	35.1	32.2	37.1	28.9	35.1	45.1	34.8	0.0	36.3	23.8	37.1	30.1	45.3	32.1	35	45	75	RR
R_329322	766350.3	6641067.9	29.1	27.2	31.1	28.3	27.0	37.0	26.9	0.0	30.0	22.8	31.1	24.1	37.9	30.4	35	45	75	RR
R_245294	764677.4	6641064.6	42.0	40.8	44.0	38.5	41.3	51.3	34.6	29.2	39.7	38.9	44.0	37.0	51.7	41.0	35	45	75	RR
R_245296	764727.7	6641063.4	41.4	37.9	43.4	38.0	41.2	51.2	33.9	28.9	37.2	32.9	43.4	36.4	51.6	40.5	35	45	75	RR
R_245299	764951.0	6641061.9	35.0	34.0	37.0	36.2	36.3	46.3	31.9	27.4	35.5	31.1	37.0	30.0	47.0	38.7	35	45	75	RR
R_245300	764997.2	6641061.1	34.4	33.5	36.4	35.7	32.2	42.2	31.5	27.1	35.2	30.6	36.4	29.4	43.6	38.1	35	45	75	RR
R_245295	764827.7	6641061.0	39.5	35.1	41.5	37.1	38.8	48.8	32.8	28.1	38.5	32.0	41.5	34.5	49.3	39.5	35	45	75	RR
R_245290	764689.2	6641058.7	42.0	40.5	44.0	38.3	41.3	51.3	34.5	29.1	41.4	37.0	44.0	37.0	51.7	40.9	35	45	75	RR
R_333398	765536.4	6641058.2	37.7	33.8	39.7	32.2	37.2	47.2	35.7	24.1	38.5	27.1	39.7	32.7	47.5	36.1	35	45	75	RR
R_333264	766185.2	6641056.9	32.4	27.6	34.4	28.6	30.7	40.7	27.2	0.0	30.5	23.6	34.4	27.4	41.1	30.9	35	45	75	RR
R_328494	767480.0	6641056.4	0.0	23.2	0.0	27.4	30.8	40.8	23.6	0.0	26.6	0.0	0.0	0.0	41.0	27.4	35	45	75	RR
R_245298	765071.9	6641055.9	34.1	32.8	36.1	35.3	31.8	41.8	30.9	26.7	34.8	30.2	36.1	29.1	43.2	37.8	35	45	75	RR
R_327992	766408.1	6641052.5	28.9	27.0	30.9	28.2	26.8	36.8	26.7	0.0	29.8	22.5	30.9	23.9	37.7	30.2	35	45	75	RR
R_333024	766230.5	6641052.1	29.4	27.5	31.4	28.4	31.8	41.8	27.1	0.0	30.3	23.3	31.4	24.4	42.1	30.7	35	45	75	RR
R_245283	764793.1	6641050.4	36.4	35.5	38.4	37.5	33.4	43.4	33.1	28.4	36.4	32.4	38.4	31.4	45.0	40.0	35	45	75	RR
R_245286	764840.9	6641050.1	40.6	35.1	42.6	37.1	40.0	50.0	35.5	28.1	36.1	32.1	42.6	35.6	50.4	39.6	35	45	75	RR
R_327409	766341.1	6641048.0	29.0	27.1	31.0	28.2	26.9	36.9	26.8	0.0	29.9	22.8	31.0	24.0	37.8	30.4	35	45	75	RR
R_333399	765574.6	6641047.4	31.9	28.8	33.9	31.9	35.3	45.3	33.9	23.9	37.0	26.8	33.9	26.9	45.6	34.3	35	45	75	RR
R_245289	765170.7	6641046.9	33.4	31.9	35.4	34.5	31.3	41.3	30.2	26.0	34.3	29.4	35.4	28.4	42.6	36.9	35	45	75	RR
R_245285	764990.1	6641046.2	34.7	33.5	36.7	35.9	35.8	45.8	31.5	27.1	35.2	30.8	36.7	29.7	46.5	38.4	35	45	75	RR
R_245279	764855.8	6641041.0	39.2	34.8	41.2	37.0	38.4	48.4	32.5	24.8	35.9	31.8	41.2	34.2	48.9	39.5	35	45	75	RR
R_245276	764712.9	6641040.8	41.7	41.5	43.7	38.2	41.0	51.0	34.4	29.0	37.2	33.2	43.7	36.7	51.4	40.8	35	45	75	RR
R_332790	766011.1	6641040.1	35.4	32.3	37.4	29.5	35.4	45.4	27.6	0.0	36.6	24.4	37.4	30.4	45.7	33.6	35	45	75	RR
R_245280	765067.7	6641038.7	34.1	32.8	36.1	35.3	31.8	41.8	31.0	26.7	34.8	30.3	36.1	29.1	43.2	37.8	35	45	75	RR
R_329320	766278.1	6641038.5	29.2	27.3	31.2	28.2	29.9	39.9	26.9	0.0	30.1	23.1	31.2	24.2	40.4	30.5	35	45	75	RR
R_333071	765739.6	6641036.4	35.3	28.4	37.3	31.0	34.7	44.7	32.4	23.1	32.0	25.9	37.3	30.3	45.0	33.4	35	45	75	RR
R_329634	766932.4	6641035.8	32.8	29.8	34.8	28.0	26.2	36.2	25.8	0.0	28.0	0.0	34.8	27.8	37.0	29.1	35	45	75	RR
R_333149	766073.7	6641034.0	32.2	31.8	34.2	29.2	35.1	45.1	27.4	0.0	36.4	24.1	34.2	27.2	45.4	33.4	35	45	75	RR
R_332842	766050.7	6641033.8	35.1	32.2	37.1	29.3	35.2	45.2	34.8	0.0	36.4	24.3	37.1	30.1	45.5	33.5	35	45	75	RR
R_245274	764981.6	6641031.3	34.8	33.6	36.8	36.0	32.6	42.6	31.9	27.2	35.0	30.9	36.8	29.8	44.0	38.5	35	45	75	RR
R_245268	764782.9	6641030.5	36.6	35.6	38.6	37.6	39.0	49.0	33.1	28.5	36.6	32.5	38.6	31.6	49.5	40.1	35	45	75	RR
R_333207	766092.1	6641030.1	35.0	30.8	37.0	29.1	32.4	42.4	27.3	0.0	36.3	24.0	37.0	30.0	42.9	33.2	35	45	75	RR
R_245264	764618.5	6641030.0	42.7	43.2	44.7	39.1	41.8	51.8	41.7	29.6	43.2	34.1	44.7	37.7	52.2	41.7	35	45	75	RR
R_245275	765146.9	6641028.2	33.5	32.1	35.5	34.7	31.3	41.3	30.4	26.2	34.3	29.7	35.5	28.5	42.7	37.2	35	45	75	RR
R_245265	764870.7	6641026.4	35.9	34.7	37.9	36.9	33.6	43.6	32.5	27.9	35.8	31.9	37.9	30.9	45.0	39.4	35	45	75	RR
R_328088	766332.8	6641026.4	29.0	27.1	31.0	28.1	26.8	36.8	26.7	0.0	29.8	22.8	31.0							



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_330258	766354.4	6640998.2	28.7	26.8	30.7	27.6	29.8	39.8	26.5	0.0	29.6	22.6	30.7	23.7	40.2	30.0	35	45	75	RR
R_245234	764528.7	6640997.4	43.1	40.7	45.1	40.1	40.9	50.9	35.1	30.2	41.3	38.5	45.1	38.1	51.8	44.4	35	45	75	RR
R_329215	766399.0	6640996.9	28.6	26.7	30.6	28.0	26.5	36.5	26.4	0.0	29.5	22.5	30.6	23.6	37.4	30.1	35	45	75	RR
R_245240	764950.0	6640995.2	36.2	33.9	38.2	36.3	39.3	49.3	31.8	27.4	35.6	31.3	38.2	31.2	49.7	38.8	35	45	75	RR
R_329565	766212.6	6640994.0	29.2	27.2	31.2	28.5	27.1	37.1	26.8	0.0	30.1	23.4	31.2	24.2	38.0	30.8	35	45	75	RR
R_328446	766258.7	6640994.0	32.4	27.1	34.4	28.3	32.6	42.6	26.8	0.0	29.9	23.3	34.4	27.4	42.9	30.6	35	45	75	RR
R_245237	764784.5	6640993.7	36.7	35.4	38.7	37.7	38.8	48.8	33.3	28.5	36.7	32.6	38.7	31.7	49.4	40.2	35	45	75	RR
R_245235	764846.9	6640990.6	36.1	34.8	38.1	37.2	32.9	42.9	32.6	28.0	36.1	32.1	38.1	31.1	44.6	39.7	35	45	75	RR
R_327270	766323.9	6640990.6	32.1	26.9	34.1	28.0	32.0	42.0	26.6	0.0	29.7	22.9	34.1	27.1	42.3	30.3	35	45	75	RR
R_245233	764804.9	6640987.5	36.4	35.2	38.4	37.5	33.2	43.2	32.9	28.3	36.5	32.5	38.4	31.4	44.9	40.0	35	45	75	RR
R_329217	766374.7	6640986.4	28.7	26.7	30.7	27.9	26.5	36.5	26.4	0.0	29.5	22.7	30.7	23.7	37.4	30.1	35	45	75	RR
R_245232	764685.7	6640986.3	37.3	39.4	39.3	37.9	39.6	49.6	39.5	28.8	36.8	33.3	39.3	32.3	50.1	40.6	35	45	75	RR
R_332792	765999.7	6640986.1	34.9	31.9	36.9	29.6	33.5	43.5	33.0	0.0	36.4	24.6	36.9	29.9	43.9	33.7	35	45	75	RR
R_332867	765125.7	6640985.2	33.7	32.2	35.7	35.0	31.1	41.1	30.4	26.3	34.1	29.9	35.7	28.7	42.6	37.4	35	45	75	RR
R_245224	764543.4	6640983.3	39.6	39.0	41.6	40.0	40.8	50.8	35.0	30.1	38.9	38.4	41.6	34.6	51.4	42.8	35	45	75	RR
R_332716	766023.3	6640981.1	35.1	31.9	37.1	29.5	32.5	42.5	29.1	0.0	36.3	24.5	37.1	30.1	43.0	33.6	35	45	75	RR
R_245225	764819.0	6640978.4	36.3	35.0	38.3	37.4	32.9	42.9	32.7	28.2	36.3	32.3	38.3	31.3	44.7	39.9	35	45	75	RR
R_245228	764945.7	6640976.3	35.2	33.8	37.2	36.4	37.5	47.5	31.7	27.4	35.3	31.3	37.2	30.2	48.1	38.9	35	45	75	RR
R_245218	764563.3	6640975.3	42.9	40.8	44.9	39.9	40.8	50.8	35.0	30.0	39.1	34.8	44.9	37.9	51.7	44.7	35	45	75	RR
R_328447	766246.4	6640974.2	29.0	27.0	31.0	28.4	31.5	41.5	26.7	0.0	29.9	23.2	31.0	24.0	41.8	30.7	35	45	75	RR
R_329576	766313.3	6640970.1	28.8	26.8	30.8	28.0	26.6	36.6	26.5	0.0	29.6	22.9	30.8	23.8	37.5	30.3	35	45	75	RR
R_245219	764834.8	6640969.6	36.2	34.9	38.2	37.3	39.8	49.8	32.6	28.1	36.2	32.2	38.2	31.2	50.2	39.8	35	45	75	RR
R_245216	764671.4	6640969.4	40.9	39.2	42.9	38.8	40.6	50.6	34.0	29.2	37.7	33.7	42.9	35.9	51.1	41.3	35	45	75	RR
R_245214	764583.6	6640968.0	39.1	37.0	41.1	39.6	40.3	50.3	33.6	29.8	38.6	34.4	41.1	34.1	50.9	42.2	35	45	75	RR
R_333165	766058.8	6640967.3	29.6	27.4	31.6	29.3	28.2	38.2	27.8	0.0	30.5	24.1	31.6	24.6	39.1	31.6	35	45	75	RR
R_245210	764279.1	6640966.4	46.1	47.8	48.1	46.9	44.6	54.6	44.6	32.3	45.5	41.5	48.1	41.1	55.8	49.5	35	45	75	RR
R_328309	766793.9	6640965.7	33.0	29.9	35.0	27.7	27.2	37.2	27.2	0.0	33.7	0.0	35.0	28.0	37.8	28.8	35	45	75	RR
R_332868	765118.3	6640965.7	33.8	32.3	35.8	35.1	31.1	41.1	30.5	26.4	34.1	30.0	35.8	28.8	42.7	37.5	35	45	75	RR
R_332717	766038.5	6640963.3	29.7	30.6	31.7	29.4	29.5	39.5	27.1	0.0	30.5	24.4	31.7	24.7	40.2	31.7	35	45	75	RR
R_332718	766101.1	6640962.4	34.4	27.3	36.4	29.1	31.5	41.5	26.9	0.0	30.3	24.1	36.4	29.4	41.9	31.4	35	45	75	RR
R_245209	764459.2	6640961.8	43.4	41.4	45.4	44.2	39.7	49.7	35.7	30.8	43.8	37.3	45.4	38.4	51.5	46.8	35	45	75	RR
R_245215	764936.8	6640961.2	35.2	33.8	37.2	36.4	32.0	42.0	31.7	27.4	35.4	31.3	37.2	30.2	43.7	38.9	35	45	75	RR
R_245213	764849.0	6640960.4	36.1	34.7	38.1	37.2	39.8	49.8	32.4	28.0	36.2	32.1	38.1	31.1	50.2	39.7	35	45	75	RR
R_329223	766382.9	6640959.5	28.5	26.6	30.5	27.8	30.0	40.0	26.3	0.0	29.4	22.7	30.5	23.5	40.4	30.0	35	45	75	RR
R_333166	766078.6	6640959.3	29.5	27.3	31.5	29.2	27.9	37.9	27.0	0.0	30.4	24.0	31.5	24.5	38.8	31.5	35	45	75	RR
R_245211	764733.4	6640957.9	40.6	38.7	42.6	38.2	40.5	50.5	33.5	28.8	37.1	33.1	42.6	35.6	50.9	40.7	35	45	75	RR
R_333125	766120.6	6640957.4	29.3	27.2	31.3	28.6	27.2	37.2	26.9	0.0	30.2	23.7	31.3	24.3	38.1	30.8	35	45	75	RR
R_245208	764602.5	6640957.0	42.2	41.4	44.2	39.5	41.6	51.6	34.6	29.7	38.5	34.4	44.2	37.2	52.1	42.1	35	45	75	RR
R_245212	765004.6	6640954.4	34.7	32.9	36.7	35.9	37.1	47.1	31.2	27.0	34.9	30.8	36.7	29.7	47.6	38.4	35	45	75	RR
R_327147	766177.1	6640954.1	29.2	27.1	31.2	28.7	32.6	42.6	26.8	0.0	30.1	23.6	31.2	24.2	42.9	31.0	35	45	75	RR
R_333126	766137.7	6640954.1	29.3	27.1	31.3	28.9	31.1	41.1	26.8	0.0	30.1	23.8	31.3	24.3	41.5	31.2	35	45	75	RR
R_245205	764476.4	6640952.7	43.8	41.6	45.8	43.0	40.3	50.3	35.5	30.6	43.6	35.7	45.8	38.8	51.8	46.4	35	45	75	RR
R_333077	765109.8	6640950.8	33.8	32.3	35.8	35.1	31.0	41.0	30.5	26.4	34.1	30.0	35.8	28.8	42.6	37.5	35	45	75	RR
R_329577	766303.4	6640948.9	28.7	26.7	30.7	28.1	31.0	41.0	26.4	0.0	29.6	23.0	30.7	23.7	41.4	30.4	35	45	75	RR
R_328443	766201.5	6640948.1	29.1	27.0	31.1	28.6	28.8	38.8	26.7	0.0	30.0	23.4	31.1	24.1	39.5	30.9	35	45	75	RR
R_245206	764927.3	6640944.5	34.7	33.8	36.7	36.5	32.0	42.0	31.7	27.5	35.4	31.4	36.7	29.7	43.7	38.7	35	45	75	RR
R_328444	766217.1	6640944.0	29.0	27.0	31.0	28.5	31.8	41.8	26.7	0.0	29.9	23.5	31.0	24.0	42.1	30.8	35	45	75	RR
R_245203	764754.7	6640943.2	36.7	35.2	38.7	37.8	38.9	48.9	33.0	28.5	36.5	32.8	38.7	31.7	49.5	40.3	35	45	75	RR
R_328445	766239.7	6640941.4	28.9	26.9	30.9	28.4	26.8	36.8	26.6	0.0	29.8	23.4	30.9	23.9	37.8	30.7	35	45	75	RR
R_245199	764495.3	6640940.6	42.8	41.7	44.8	40.6	40.9	50.9	35.3	30.5	43.3	35.5	44.8	37.8	51.6	43.6	35	45	75	RR
R_327961	766377.3	6640938.9	28.4	26.5	30.4	27.7	26.3	36.3	26.2	0.0	29.3	22.6	30.4	23.4	37.2	30.0	35	45	75	RR
R_245201	764614.2	6640938.6	38.5	42.6	40.5	39.4	40.0	50.0	34.3	29.6	38.4	34.3	40.5	33.5	50.6	42.0	35	45	75	RR
R_332724	765030.0	6640938.6	34.5	33.0	36.5	35.8	31.3	41.3	31.0	26.9	34.7	30.7	36.5	29.5	43.0	38.2	35	45	75	RR
R_245197	764721.3	6640934.5	37.2	36.7	39.2	38.4	39.1	49.1	33.4	28.8	37.3	33.2	39.2	32.2	49.7	40.9	35	45	75	RR
R_245198	764770.7	6640933.8	36.8	35.4	38.8	37.9	38.4	48.4	32.9	28.5	36.8	32.8	38.8	31.8	49.0	40.4	35	45	75	RR
R_327784	766742.1	6640932.2	27.5	25.4	29.5	27.6	27.4	37.4	25.3	0.0	28.2	0.0	29.5	22.5	38.0	28.8	35	45	75	RR
R_245200	764915.2	6640931.3	35.5	34.0	37.5	36.7	32.3	42.3	31.9	27.6	35.6	31.6	37.5	30.5	44.0	39.2	35	45	75	RR
R_245194	764631.8	6640930.7	38.9	37.1	40.9	39.2	38.4	48.4	32.4	29.4	38.1	34.0	40.9	33.9	49.2	41.7	35	45	75	RR
R_245191	764511.6	6640930.3	42.7	41.3	44.7	40.5	42.3	52.3	35.2	30.4	39.4	35.4	44.7	37.7	53.0	44.4	35	45	75	RR
R_329100	766507.3	6640927.8	28.0	26.0	30.0	27.6	27.4	37.4	25.8	0.0	33.2	0.0	30.0	23.0	38.1	29.7	35	45	75	RR
R_332673	764998.9	6640926.9	34.8	33.1	36.8	36.0	31.5	41.5	31.2	27.0	35.0	30.8	36.8	29.8	43.2	38.5	35	45	75	RR
R_327783	766648.6	6640926.2	32.7	25.6	34.7	27.6	26.8	36.8	25.4	0.0	33.0	0.0	34.							

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_329127	766359.1	6640898.1	27.8	24.9	29.8	27.9	29.1	39.1	25.8	0.0	28.9	22.7	29.8	22.8	39.6	30.2	35	45	75	RR
R_245161	764339.1	6640897.5	45.7	46.2	47.7	46.8	43.6	53.6	43.6	31.7	44.4	40.8	47.7	40.7	55.0	49.3	35	45	75	RR
R_332902	764960.9	6640894.7	35.1	33.4	37.1	36.4	32.1	42.1	32.1	27.3	35.3	31.3	37.1	30.1	43.8	38.8	35	45	75	RR
R_327779	766660.9	6640892.8	27.4	25.4	29.4	27.5	25.2	35.2	25.2	0.0	28.2	0.0	29.4	22.4	36.1	28.8	35	45	75	RR
R_245162	764582.4	6640891.9	42.0	37.3	44.0	39.4	39.9	49.9	34.3	29.8	37.4	34.5	44.0	37.0	50.6	42.1	35	45	75	RR
R_245171	764829.8	6640891.4	36.3	34.6	38.3	37.5	38.1	48.1	32.3	28.1	36.4	32.3	38.3	31.3	48.7	40.0	35	45	75	RR
R_332665	765077.0	6640891.0	34.2	32.2	36.2	35.5	30.8	40.8	30.5	26.5	34.4	30.3	36.2	29.2	42.6	37.9	35	45	75	RR
R_245156	764438.2	6640890.4	44.9	42.2	46.9	44.5	40.2	50.2	35.7	30.9	40.3	39.6	46.9	39.9	52.1	47.7	35	45	75	RR
R_245164	764695.5	6640890.3	40.8	41.5	42.8	38.7	40.7	50.7	33.4	29.0	37.7	33.6	42.8	35.8	51.2	41.2	35	45	75	RR
R_245155	764595.5	6640885.0	41.7	40.2	43.7	39.7	41.1	51.1	34.2	29.7	38.6	34.6	43.7	36.7	51.6	42.2	35	45	75	RR
R_333451	764972.3	6640882.1	35.0	33.3	37.0	36.3	32.0	42.0	31.7	27.2	35.2	31.2	37.0	30.0	43.7	38.7	35	45	75	RR
R_245159	764842.6	6640881.9	36.2	34.5	38.2	37.4	32.4	42.4	32.3	28.0	36.3	32.3	38.2	31.2	44.3	39.9	35	45	75	RR
R_327963	766426.1	6640880.9	28.0	26.0	30.0	27.5	25.9	35.9	25.8	0.0	28.9	22.5	30.0	23.0	36.9	29.8	35	45	75	RR
R_333248	765068.2	6640878.3	34.2	32.4	36.2	35.5	30.9	40.9	30.6	26.6	34.5	30.5	36.2	29.2	42.7	37.9	35	45	75	RR
R_245144	764454.1	6640877.3	43.7	37.2	45.7	44.0	40.3	50.3	33.3	30.7	40.4	39.3	45.7	38.7	51.9	46.9	35	45	75	RR
R_245150	764715.1	6640877.0	37.4	40.3	39.4	38.5	40.4	50.4	33.2	28.8	37.5	33.4	39.4	32.4	50.9	41.0	35	45	75	RR
R_245146	764601.1	6640875.1	38.6	37.0	40.6	39.6	39.7	49.7	34.0	29.6	37.6	34.4	40.6	33.6	50.4	42.1	35	45	75	RR
R_332630	764882.9	6640874.2	35.8	33.7	37.8	36.1	37.7	47.7	31.9	27.7	35.0	31.8	37.8	30.8	48.2	39.0	35	45	75	RR
R_332975	764986.1	6640871.2	34.9	33.1	36.9	36.2	36.9	46.9	31.5	27.1	35.1	31.1	36.9	29.9	47.5	38.6	35	45	75	RR
R_245139	764615.4	6640870.0	38.5	40.1	40.5	39.5	34.2	44.2	34.1	29.5	38.5	34.4	40.5	33.5	46.3	42.0	35	45	75	RR
R_245142	764731.8	6640869.7	37.3	35.5	39.3	38.4	38.3	48.3	33.0	28.7	37.3	33.3	39.3	32.3	49.0	40.9	35	45	75	RR
R_332640	764999.5	6640866.7	34.8	33.0	36.8	36.1	36.8	46.8	31.0	27.0	35.0	30.9	36.8	29.8	47.4	38.5	35	45	75	RR
R_245135	764472.6	6640865.1	44.5	41.4	46.5	41.1	40.2	50.2	35.2	30.6	40.0	39.2	46.5	39.5	51.6	46.1	35	45	75	RR
R_245138	764747.6	6640863.0	37.2	39.9	39.2	38.3	40.0	50.0	32.9	28.6	37.2	33.2	39.2	32.2	50.5	40.8	35	45	75	RR
R_333197	765058.8	6640861.6	34.3	32.5	36.3	35.6	30.8	40.8	30.6	26.6	34.6	30.5	36.3	29.3	42.6	38.0	35	45	75	RR
R_328630	766408.3	6640857.3	28.0	26.0	30.0	27.7	30.7	40.7	30.7	0.0	28.9	22.6	30.0	23.0	41.1	29.9	35	45	75	RR
R_245132	764762.9	6640855.5	37.0	38.2	39.0	38.1	38.4	48.4	32.7	28.5	37.1	33.0	39.0	32.0	49.1	40.6	35	45	75	RR
R_332678	764870.7	6640854.6	35.9	34.2	37.9	37.2	32.1	42.1	32.0	27.8	36.1	32.1	37.9	30.9	44.0	39.6	35	45	75	RR
R_245128	764491.1	6640853.8	42.2	41.1	44.2	40.9	40.4	50.4	34.9	30.4	39.8	38.9	44.2	37.2	51.2	43.7	35	45	75	RR
R_328248	766620.3	6640852.8	27.4	25.3	29.4	27.3	25.4	35.4	25.1	0.0	28.2	0.0	29.4	22.4	36.2	28.6	35	45	75	RR
R_332674	765046.9	6640851.1	34.4	32.5	36.4	35.7	30.9	40.9	30.7	26.7	34.7	30.6	36.4	29.4	42.7	38.1	35	45	75	RR
R_328629	766391.1	6640846.4	28.0	25.9	30.0	27.7	29.0	39.0	29.0	0.0	28.8	22.6	30.0	23.0	39.5	30.0	35	45	75	RR
R_245120	764505.1	6640845.2	39.9	40.9	41.9	40.7	39.8	49.8	34.8	30.3	39.6	35.6	41.9	34.9	50.7	43.3	35	45	75	RR
R_245126	764777.8	6640844.5	36.8	34.9	38.8	38.0	38.3	48.3	32.5	28.4	36.9	32.7	38.8	31.8	49.0	40.5	35	45	75	RR
R_333415	764862.8	6640842.1	36.0	34.2	38.0	37.3	37.7	47.7	32.0	27.8	36.2	32.2	38.0	31.0	48.3	39.7	35	45	75	RR
R_245114	764385.6	6640839.2	44.1	44.7	46.1	44.3	42.9	52.9	42.9	31.2	41.8	38.5	46.1	39.1	53.9	47.2	35	45	75	RR
R_332865	764932.2	6640838.2	35.4	33.3	37.4	36.7	38.8	48.8	31.4	27.4	35.6	31.4	37.4	30.4	49.2	39.1	35	45	75	RR
R_245118	764796.8	6640837.0	36.7	34.8	38.7	37.9	39.0	49.0	32.5	28.3	36.8	32.8	38.7	31.7	49.6	40.4	35	45	75	RR
R_328628	766373.8	6640834.8	0.0	25.9	0.0	27.8	25.9	35.9	25.7	0.0	28.9	22.6	0.0	0.0	36.9	30.1	35	45	75	RR
R_245113	764521.6	6640833.0	39.9	40.8	41.9	40.6	36.8	46.8	33.9	30.1	40.3	35.3	41.9	34.9	48.4	43.3	35	45	75	RR
R_245115	764655.4	6640832.8	41.2	39.5	43.2	39.2	40.6	50.6	33.7	29.2	38.2	34.1	43.2	36.2	51.1	41.7	35	45	75	RR
R_333416	765040.9	6640832.4	34.4	32.5	36.4	35.7	30.8	40.8	30.6	26.7	34.7	30.5	36.4	29.4	42.7	38.1	35	45	75	RR
R_245111	764581.4	6640829.4	42.1	40.1	44.1	40.0	41.3	51.3	34.3	29.8	38.9	34.9	44.1	37.1	52.1	44.2	35	45	75	RR
R_245112	764672.4	6640828.3	37.9	36.0	39.9	39.0	33.4	43.4	33.3	29.1	37.9	33.9	39.9	32.9	45.6	41.5	35	45	75	RR
R_332696	764807.9	6640827.7	0.0	34.5	0.0	37.7	38.0	48.0	32.2	28.1	36.7	32.5	0.0	0.0	48.7	40.2	35	45	75	RR
R_332677	764852.5	6640823.8	36.1	34.2	38.1	37.4	32.1	42.1	32.0	27.9	36.3	32.3	38.1	31.1	44.1	39.8	35	45	75	RR
R_245107	764429.1	6640823.6	44.0	41.0	46.0	43.4	42.0	52.0	41.0	30.9	42.9	39.5	46.0	39.0	53.1	46.7	35	45	75	RR
R_328540	766359.3	6640821.2	28.0	25.9	30.0	27.9	25.8	35.8	25.7	0.0	28.8	22.7	30.0	23.0	36.8	30.1	35	45	75	RR
R_245106	764539.0	6640820.9	41.7	40.6	43.7	40.4	39.9	49.9	34.4	30.0	40.1	35.3	43.7	36.7	50.9	44.1	35	45	75	RR
R_332794	764919.2	6640819.6	35.5	33.6	37.5	36.8	31.6	41.6	31.5	27.4	35.7	31.7	37.5	30.5	43.6	39.2	35	45	75	RR
R_333032	764960.8	6640818.5	35.2	33.3	37.2	36.5	31.4	41.4	31.3	27.2	35.5	31.5	37.2	30.2	43.3	38.9	35	45	75	RR
R_245104	764398.0	6640815.5	42.7	41.2	44.7	42.4	41.2	51.2	41.2	31.1	41.5	39.5	44.7	37.7	52.2	45.6	35	45	75	RR
R_245105	764687.7	6640814.3	37.7	35.8	39.7	38.9	33.2	43.2	33.2	29.0	37.8	33.8	39.7	32.7	45.4	41.4	35	45	75	RR
R_245103	764445.6	6640814.1	40.1	37.4	42.1	41.4	40.4	50.4	33.4	30.7	41.5	36.1	42.1	35.1	51.3	43.8	35	45	75	RR
R_332676	764821.0	6640810.2	36.4	34.4	38.4	37.6	37.9	47.9	32.2	28.1	36.6	32.6	38.4	31.4	48.6	40.1	35	45	75	RR
R_329156	766432.7	6640809.6	27.7	25.6	29.7	27.5	25.5	35.5	25.4	0.0	28.5	22.5	29.7	22.7	36.5	29.8	35	45	75	RR
R_245101	764703.5	6640806.9	37.5	35.5	39.5	38.7	40.0	50.0	33.0	28.8	37.7	33.7	39.5	32.5	50.5	41.2	35	45	75	RR
R_245097	764469.5	6640801.1	42.0	38.2	44.0	41.2	41.6	51.6	34.9	30.5	42.5	36.1	44.0	37.0	52.3	43.8	35	45	75	RR
R_245096	764567.0	6640798.0	39.1	39.9	41.1	40.2	34.2	44.2	34.2	29.8	39.1	35.1	41.1	34.1	46.5	42.7	35	45	75	RR
R_333412	764838.7	6640797.2	36.2	34.2	38.2	37.4	37.7	47.7	31.9	27.9	36.3	32.2	38.2	31.2	48.4	39.9	35	45	75	RR
R_332938	764726.6	6640796.8	40.6	35.3	42.6	38.5	39.9	49.9	32.8	28.7	37.5	33.5	42.6	35.6	50.4	41.0	35	45	75	RR
R_332976	764947.8	6640796.4	35.3	33.3	37.3	36.6	31.4	41.4	31.3	27.3	35.6									



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_332971	764994.2	6640762.3	34.8	32.7	36.8	36.2	35.5	45.5	30.8	26.9	35.2	31.1	36.8	29.8	46.3	38.6	35	45	75	RR
R_332722	764899.4	6640760.1	35.7	33.5	37.7	37.0	37.1	47.1	31.4	27.5	35.9	31.9	37.7	30.7	47.8	39.4	35	45	75	RR
R_328175	767019.4	6640759.2	31.3	28.4	33.3	0.0	27.4	37.4	23.7	0.0	32.2	0.0	33.3	26.3	37.4	3.0	35	45	75	RR
R_245078	764480.4	6640758.2	40.4	38.7	42.4	41.2	39.8	49.8	34.6	30.4	40.4	38.8	42.4	35.4	50.8	43.8	35	45	75	RR
R_333119	764653.2	6640756.0	38.1	38.8	40.1	39.3	33.2	43.2	33.2	29.1	38.2	34.2	40.1	33.1	45.5	41.8	35	45	75	RR
R_332797	764912.9	6640755.8	35.5	33.3	37.5	36.9	37.0	47.0	31.3	27.4	35.9	31.6	37.5	30.5	47.7	39.3	35	45	75	RR
R_332720	764801.6	6640753.0	36.6	34.2	38.6	37.9	37.6	47.6	32.0	27.7	36.8	32.6	38.6	31.6	48.3	40.3	35	45	75	RR
R_245077	764542.7	6640753.0	37.9	37.6	39.9	39.4	39.3	49.3	33.6	29.4	38.1	34.4	39.9	32.9	50.0	41.7	35	45	75	RR
R_328633	766377.2	6640751.4	27.6	25.5	29.6	27.8	31.6	41.6	25.3	0.0	28.5	22.8	29.6	22.6	41.9	30.1	35	45	75	RR
R_328632	766473.7	6640747.9	27.3	25.3	29.3	27.4	25.2	35.2	25.0	0.0	28.2	22.2	29.3	22.3	36.3	29.6	35	45	75	RR
R_332972	764986.8	6640744.4	34.1	32.0	36.1	35.2	35.5	45.5	30.6	25.8	33.9	30.5	36.1	29.1	46.2	37.7	35	45	75	RR
R_330114	766990.6	6640743.8	31.5	28.4	33.5	0.0	31.1	41.1	29.4	0.0	32.3	0.0	33.5	26.5	41.1	3.0	35	45	75	RR
R_332652	764670.5	6640743.7	37.9	40.6	39.9	39.1	33.2	43.2	33.0	29.0	38.1	34.0	39.9	32.9	45.5	41.6	35	45	75	RR
R_332723	764928.5	6640743.2	35.4	33.2	37.4	36.8	36.9	46.9	31.1	27.3	35.7	31.5	37.4	30.4	47.6	39.2	35	45	75	RR
R_332668	764685.9	6640739.0	37.7	35.4	39.7	39.0	33.2	43.2	33.0	28.8	37.9	33.9	39.7	32.7	45.4	41.4	35	45	75	RR
R_330146	766971.5	6640738.0	31.5	28.5	33.5	0.0	31.1	41.1	31.1	0.0	32.3	0.0	33.5	26.5	41.1	3.0	35	45	75	RR
R_245073	764479.5	6640738.0	40.0	39.4	42.0	41.2	40.1	50.1	34.4	30.3	40.5	38.8	42.0	35.0	51.0	43.7	35	45	75	RR
R_330113	767023.5	6640734.9	25.8	28.3	27.8	0.0	30.9	40.9	29.2	0.0	26.6	0.0	27.8	20.8	40.9	3.0	35	45	75	RR
R_333062	764792.3	6640734.9	36.6	34.5	38.6	38.0	32.2	42.2	32.2	28.2	36.9	32.6	38.6	31.6	44.4	40.4	35	45	75	RR
R_333188	764942.9	6640734.1	35.3	31.8	37.3	36.6	30.6	40.6	30.5	27.2	35.6	31.3	37.3	30.3	42.9	39.0	35	45	75	RR
R_327960	766395.4	6640733.7	27.5	25.4	29.5	27.7	31.5	41.5	25.2	0.0	28.4	22.7	29.5	22.5	41.8	30.0	35	45	75	RR
R_332936	764976.8	6640733.6	35.0	32.8	37.0	36.4	30.9	40.9	30.8	27.0	35.3	31.3	37.0	30.0	43.0	38.8	35	45	75	RR
R_332951	764707.9	6640727.9	37.5	35.2	39.5	38.8	32.7	42.7	32.7	28.7	37.8	33.7	39.5	32.5	45.0	41.2	35	45	75	RR
R_332982	764587.5	6640727.1	38.7	37.0	40.7	40.0	38.9	48.9	33.5	29.5	38.9	34.9	40.7	33.7	49.8	42.4	35	45	75	RR
R_327285	767089.3	6640723.9	31.1	28.1	33.1	0.0	29.0	39.0	24.0	0.0	31.9	0.0	33.1	26.1	39.0	3.0	35	45	75	RR
R_329744	766320.1	6640722.6	27.6	25.5	29.6	28.1	25.6	35.6	25.3	0.0	28.6	23.0	29.6	22.6	36.7	30.3	35	45	75	RR
R_332898	764857.0	6640722.2	39.0	33.8	41.0	37.4	38.8	48.8	31.6	27.7	36.4	32.4	41.0	34.0	49.3	39.8	35	45	75	RR
R_245066	764498.3	6640719.2	39.8	38.4	41.8	41.0	39.9	49.9	34.2	30.1	40.2	35.6	41.8	34.8	50.8	43.5	35	45	75	RR
R_332916	764965.8	6640716.6	35.1	32.8	37.1	36.5	33.4	43.4	30.8	27.1	35.4	31.3	37.1	30.1	44.7	38.9	35	45	75	RR
R_328868	766933.6	6640715.6	31.5	28.5	33.5	0.0	31.2	41.2	31.2	0.0	32.3	0.0	33.5	26.5	41.2	3.0	35	45	75	RR
R_330147	767025.0	6640715.1	25.7	23.5	27.7	0.0	29.2	39.2	23.5	0.0	26.5	0.0	27.7	20.7	39.2	3.0	35	45	75	RR
R_332634	764604.5	6640713.8	38.6	37.0	40.6	39.5	33.3	43.3	33.3	29.4	37.7	34.4	40.6	33.6	45.7	42.1	35	45	75	RR
R_332953	764719.4	6640711.6	37.4	35.0	39.4	38.7	32.8	42.8	32.5	28.6	37.6	33.6	39.4	32.4	45.0	41.1	35	45	75	RR
R_328614	766335.0	6640708.6	27.5	25.4	29.5	28.0	25.5	35.5	25.2	0.0	28.5	23.0	29.5	22.5	36.6	30.3	35	45	75	RR
R_329144	766916.4	6640705.6	31.5	28.5	33.5	0.0	29.4	39.4	29.4	0.0	32.3	0.0	33.5	26.5	39.4	3.0	35	45	75	RR
R_327286	767087.4	6640705.1	25.5	23.3	27.5	0.0	29.0	39.0	23.3	0.0	26.3	0.0	27.5	20.5	39.0	3.0	35	45	75	RR
R_333318	764516.6	6640701.9	39.6	42.3	41.6	40.8	41.1	51.1	34.0	30.0	41.3	35.7	41.6	34.6	51.8	43.3	35	45	75	RR
R_333333	764578.1	6640701.5	38.8	36.4	40.8	40.1	33.5	43.5	33.5	29.5	39.0	35.0	40.8	33.8	46.0	42.5	35	45	75	RR
R_332698	764892.8	6640701.1	38.7	33.4	40.7	37.1	38.5	48.5	31.3	27.5	36.0	32.0	40.7	33.7	49.0	39.5	35	45	75	RR
R_333301	764738.2	6640701.0	37.1	35.2	39.1	38.5	32.3	42.3	32.3	28.4	37.4	33.4	39.1	32.1	44.7	40.9	35	45	75	RR
R_330148	767025.6	6640697.5	25.6	23.5	27.6	0.0	29.0	39.0	23.4	0.0	26.4	0.0	27.6	20.6	39.0	3.0	35	45	75	RR
R_329145	766899.7	6640695.9	26.0	23.8	28.0	0.0	29.4	39.4	23.8	0.0	26.7	0.0	28.0	21.0	39.4	3.0	35	45	75	RR
R_332914	764848.4	6640694.6	36.1	33.8	38.1	37.5	31.6	41.6	31.6	27.8	36.5	32.2	38.1	31.1	43.8	39.9	35	45	75	RR
R_245057	762499.8	6640692.2	69.9	44.8	71.9	52.5	48.6	55.5	42.4	46.4	51.3	48.1	71.9	64.9	70.1	70.0	70	70	-	CIP
R_333008	764640.0	6640692.1	38.2	35.6	40.2	39.5	33.0	43.0	33.0	29.1	38.4	34.4	40.2	33.2	45.5	41.9	35	45	75	RR
R_329142	766356.1	6640691.0	27.4	25.2	29.4	27.9	25.3	35.3	25.0	0.0	28.3	22.7	29.4	22.4	36.5	30.2	35	45	75	RR
R_332784	764906.4	6640690.7	35.6	33.2	37.6	37.0	31.1	41.1	31.1	27.4	35.9	31.9	37.6	30.6	43.3	39.4	35	45	75	RR
R_332996	764560.5	6640687.4	39.0	36.3	41.0	40.3	33.6	43.6	33.5	29.6	39.2	35.2	41.0	34.0	46.2	42.7	35	45	75	RR
R_332897	764616.3	6640685.7	38.0	32.9	40.0	39.7	32.8	42.8	32.8	29.2	38.6	34.2	40.0	33.0	45.4	41.9	35	45	75	RR
R_327287	767088.3	6640685.2	25.4	23.2	27.4	0.0	28.8	38.8	23.2	0.0	26.2	0.0	27.4	20.4	38.8	3.0	35	45	75	RR
R_333009	764663.9	6640682.5	37.9	35.3	39.9	39.3	32.9	42.9	32.8	28.9	38.2	34.2	39.9	32.9	45.3	41.7	35	45	75	RR
R_333406	764831.2	6640679.4	36.2	33.8	38.2	37.7	31.6	41.6	31.6	27.8	36.6	32.3	38.2	31.2	43.9	40.0	35	45	75	RR
R_333359	764556.0	6640677.9	39.1	36.3	41.1	40.3	33.5	43.5	33.5	29.6	39.3	35.2	41.1	34.1	46.2	42.8	35	45	75	RR
R_328867	767025.2	6640676.1	25.6	23.6	27.6	0.0	30.8	40.8	30.8	0.0	26.4	0.0	27.6	20.6	40.8	3.0	35	45	75	RR
R_332700	764936.6	6640674.7	35.3	32.8	37.3	36.7	30.9	40.9	30.8	26.3	35.7	31.4	37.3	30.3	43.1	39.1	35	45	75	RR
R_333191	764673.9	6640672.3	37.7	34.9	39.7	39.1	32.7	42.7	32.7	28.8	38.1	34.0	39.7	32.7	45.1	41.5	35	45	75	RR
R_328553	766238.6	6640663.8	27.6	25.4	29.6	28.5	32.9	42.9	25.2	0.0	28.6	23.5	29.6	22.6	43.2	30.7	35	45	75	RR
R_328616	766335.3	6640663.7	27.3	25.2	29.3	28.0	25.2	35.2	25.0	0.0	28.2	23.0	29.3	22.3	36.4	30.3	35	45	75	RR
R_333192	764688.0	6640662.7	37.3	34.1	39.3	39.0	32.4	42.4	31.6	28.7	38.0	33.6	39.3	32.3	44.9	41.2	35	45	75	RR
R_333058	764926.8	6640658.4	35.5	33.0	37.5	36.9	31.0	41.0	31.0	27.3	35.9	31.9	37.5	30.5	43.2	39.3	35	45	75	RR
R_329071	765867.7	6640657.1	33.3	30.4	35.3	30.4	29.2	39.2	26.1	22.3	34.0	25.4	35.3	28.3	40.1	32.7	35	45	75	RR
R_329909	767028.0	6640655.6	25.5	23.3	27.5	0.0	28.9	38.9	23.2	0.0	26.2	0.0	27.5	20.5	38.9	3.0	35			

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_332918	764616.6	6640620.2	38.3	35.4	40.3	39.8	32.9	42.9	32.8	29.1	38.7	34.7	40.3	33.3	45.5	42.1	35	45	75	RR
R_329082	766291.5	6640618.9	32.1	25.0	34.1	28.2	32.5	42.5	24.8	0.0	28.2	23.2	34.1	27.1	42.8	31.6	35	45	75	RR
R_332697	764916.4	6640616.0	35.4	32.8	37.4	36.9	30.8	40.8	30.8	27.2	35.9	31.9	37.4	30.4	43.1	39.2	35	45	75	RR
R_328124	767027.9	6640615.4	30.9	27.9	32.9	0.0	30.6	40.6	0.0	0.0	31.7	0.0	32.9	25.9	40.6	3.0	35	45	75	RR
R_332988	764725.4	6640614.2	37.2	34.3	39.2	38.7	32.1	42.1	32.0	28.4	37.6	33.6	39.2	32.2	44.6	41.0	35	45	75	RR
R_329141	766205.6	6640614.0	27.5	25.2	29.5	28.7	29.4	39.4	25.0	0.0	28.4	23.6	29.5	22.5	40.0	30.9	35	45	75	RR
R_328550	765837.8	6640613.3	29.0	26.6	31.0	30.6	26.5	36.5	25.6	22.4	29.6	25.4	31.0	24.0	38.1	32.9	35	45	75	RR
R_329586	766270.0	6640607.9	27.3	25.0	29.3	28.3	30.7	40.7	24.8	0.0	28.2	23.3	29.3	22.3	41.1	30.6	35	45	75	RR
R_332683	764786.8	6640606.4	36.6	34.9	38.6	38.1	37.2	47.2	31.7	28.0	37.0	33.0	38.6	31.6	48.0	40.4	35	45	75	RR
R_332800	764634.5	6640602.8	38.1	35.1	40.1	39.6	32.6	42.6	32.6	29.0	38.5	34.5	40.1	33.1	45.3	41.9	35	45	75	RR
R_332811	764887.5	6640602.7	35.6	37.4	37.6	37.2	31.0	41.0	31.0	27.4	36.1	32.1	37.6	30.6	43.3	39.5	35	45	75	RR
R_332915	764919.9	6640597.9	35.4	32.7	37.4	36.9	30.7	40.7	30.7	27.2	35.8	31.8	37.4	30.4	43.0	39.2	35	45	75	RR
R_333202	764506.9	6640596.2	39.5	38.1	41.5	40.9	39.1	49.1	33.4	29.8	39.9	35.4	41.5	34.5	50.1	43.3	35	45	75	RR
R_328450	766191.0	6640595.9	27.5	25.1	29.5	28.7	26.1	36.1	24.9	0.0	29.1	23.5	29.5	22.5	37.3	30.9	35	45	75	RR
R_333392	764646.6	6640595.6	37.9	34.9	39.9	39.4	32.5	42.5	32.5	28.9	38.4	34.3	39.9	32.9	45.1	41.7	35	45	75	RR
R_332801	764658.9	6640592.1	37.8	34.8	39.8	39.3	32.5	42.5	32.4	28.8	38.3	34.2	39.8	32.8	45.1	41.6	35	45	75	RR
R_333329	764713.2	6640589.3	37.2	34.3	39.2	38.7	32.0	42.0	32.0	28.4	37.7	33.2	39.2	32.2	44.5	41.0	35	45	75	RR
R_327278	766270.0	6640588.6	27.2	24.9	29.2	28.3	32.4	42.4	24.7	0.0	28.1	23.3	29.2	22.2	42.7	30.5	35	45	75	RR
R_332810	764910.6	6640588.0	35.4	32.8	37.4	37.0	35.5	45.5	30.8	27.2	35.9	31.9	37.4	30.4	46.4	39.3	35	45	75	RR
R_333417	764818.5	6640587.6	36.2	33.4	38.2	37.8	31.4	41.4	31.3	27.7	36.7	32.7	38.2	31.2	43.8	40.1	35	45	75	RR
R_332684	764799.4	6640586.9	36.4	33.3	38.4	37.9	31.4	41.4	31.4	27.9	36.9	32.9	38.4	31.4	43.9	40.2	35	45	75	RR
R_333304	764563.9	6640585.2	38.8	35.6	40.8	40.3	39.5	49.5	33.1	29.4	39.2	35.2	40.8	33.8	50.3	42.6	35	45	75	RR
R_328457	765812.7	6640584.3	29.1	26.7	31.1	30.8	26.5	36.5	25.7	22.5	29.7	25.7	31.1	24.1	38.1	33.0	35	45	75	RR
R_332682	764772.3	6640583.8	36.7	33.8	38.7	38.2	31.8	41.8	31.7	28.0	37.2	33.1	38.7	31.7	44.2	40.5	35	45	75	RR
R_332802	764669.5	6640583.7	37.7	34.7	39.7	39.2	32.3	42.3	32.3	28.7	38.2	34.1	39.7	32.7	44.9	41.5	35	45	75	RR
R_332803	764684.5	6640579.7	37.5	34.5	39.5	39.1	32.2	42.2	32.2	28.6	38.0	34.0	39.5	32.5	44.8	41.4	35	45	75	RR
R_333367	764574.5	6640576.4	38.6	35.2	40.6	40.2	38.4	48.4	32.8	29.3	39.1	34.6	40.6	33.6	49.4	42.5	35	45	75	RR
R_333152	764506.4	6640574.2	39.5	36.8	41.5	41.0	39.0	49.0	33.3	29.8	39.9	35.3	41.5	34.5	50.0	43.3	35	45	75	RR
R_327252	766252.8	6640573.0	27.2	24.9	29.2	28.4	32.5	42.5	24.7	0.0	28.1	23.4	29.2	22.2	42.8	30.6	35	45	75	RR
R_333433	764833.0	6640570.3	36.1	33.3	38.1	37.7	31.2	41.2	31.2	27.6	36.6	32.6	38.1	31.1	43.6	40.0	35	45	75	RR
R_245053	763996.4	6640570.2	53.2	45.7	55.2	54.4	44.1	54.1	36.9	33.7	53.0	47.5	55.2	48.2	58.7	56.9	35	45	75	RR
R_332804	764701.8	6640569.8	37.3	32.5	39.3	38.9	31.9	41.9	31.7	28.4	37.8	33.3	39.3	32.3	44.6	41.2	35	45	75	RR
R_332919	764587.6	6640569.2	38.5	35.1	40.5	39.5	38.4	48.4	32.7	26.6	38.0	34.4	40.5	33.5	49.3	42.0	35	45	75	RR
R_328452	766163.3	6640566.5	27.7	25.0	29.7	28.9	30.8	40.8	25.0	0.0	33.9	23.8	29.7	22.7	41.2	31.1	35	45	75	RR
R_329007	765799.6	6640562.0	29.1	26.7	31.1	30.8	26.6	36.6	25.7	22.5	29.8	25.8	31.1	24.1	38.2	33.0	35	45	75	RR
R_245048	764027.8	6640561.9	52.4	45.5	54.4	52.7	43.8	53.8	37.4	33.5	51.2	46.5	54.4	47.4	57.8	55.6	35	45	75	RR
R_332909	764596.5	6640560.0	38.4	35.1	40.4	40.0	38.3	48.3	38.3	29.1	38.9	34.9	40.4	33.4	49.3	42.3	35	45	75	RR
R_332948	764850.1	6640559.3	35.9	32.7	37.9	37.5	31.0	41.0	31.0	27.5	36.4	32.0	37.9	30.9	43.4	39.8	35	45	75	RR
R_333218	764553.8	6640559.3	38.8	35.5	40.8	40.3	38.3	48.3	32.9	29.4	39.2	34.7	40.8	33.8	49.3	42.6	35	45	75	RR
R_333002	764754.0	6640559.2	36.7	33.6	38.7	38.3	31.6	41.6	31.6	28.1	37.3	32.8	38.7	31.7	44.1	40.6	35	45	75	RR
R_331692	764503.6	6640555.4	39.7	36.0	41.7	41.4	38.9	48.9	33.2	29.7	39.9	35.3	41.7	34.7	50.0	43.6	35	45	75	RR
R_332775	764606.1	6640555.2	38.1	35.0	40.1	39.8	38.2	48.2	38.2	26.6	38.8	34.1	40.1	33.1	49.1	42.0	35	45	75	RR
R_332947	764872.0	6640554.0	35.7	32.7	37.7	37.3	38.1	48.1	30.9	27.4	36.3	31.8	37.7	30.7	48.7	39.6	35	45	75	RR
R_333368	764616.0	6640553.5	34.7	34.9	36.7	36.3	38.2	48.2	38.1	22.6	34.8	25.3	36.7	29.7	48.5	37.3	35	45	75	RR
R_329008	765764.5	6640550.9	29.3	26.9	31.3	31.0	30.0	40.0	25.9	22.7	30.0	26.0	31.3	24.3	40.8	33.2	35	45	75	RR
R_332864	764628.2	6640545.6	38.0	34.7	40.0	39.1	38.0	48.0	38.0	28.8	36.9	34.0	40.0	33.0	48.9	41.6	35	45	75	RR
R_245034	761224.6	6640544.2	42.2	31.3	44.2	39.2	35.9	44.0	26.6	29.7	38.3	35.0	44.2	37.2	47.0	44.0	35	45	75	RR
R_245047	764062.0	6640543.3	48.7	41.4	50.7	50.1	41.8	51.8	36.1	33.0	48.6	45.9	50.7	43.7	55.2	52.5	35	45	75	RR
R_333001	764742.3	6640541.0	36.9	33.8	38.9	38.5	31.7	41.7	31.6	28.1	37.4	33.4	38.9	31.9	44.3	40.8	35	45	75	RR
R_245046	764094.9	6640539.0	46.4	39.1	48.4	45.2	42.8	52.8	35.7	32.7	44.2	40.4	48.4	41.4	54.3	48.9	35	45	75	RR
R_328793	766242.7	6640538.2	27.1	24.7	29.1	28.5	30.6	40.6	24.5	0.0	28.0	23.4	29.1	22.1	41.0	30.7	35	45	75	RR
R_332949	764903.8	6640534.0	35.3	32.4	37.3	37.0	30.6	40.6	30.5	27.1	35.9	31.9	37.3	30.3	43.0	39.2	35	45	75	RR
R_332681	764752.4	6640533.9	36.7	33.7	38.7	38.4	31.5	41.5	31.5	28.1	37.3	33.3	38.7	31.7	44.1	40.6	35	45	75	RR
R_332981	764649.5	6640528.8	37.8	39.8	39.8	39.4	39.4	49.4	39.3	28.7	38.3	34.3	39.8	32.8	50.1	41.7	35	45	75	RR
R_245044	764115.9	6640527.2	50.1	40.5	52.1	49.8	43.9	53.9	35.5	32.5	48.3	44.8	52.1	45.1	56.5	53.0	35	45	75	RR
R_332743	764763.6	6640523.3	36.6	33.5	38.6	38.3	31.4	41.4	31.4	28.0	37.2	33.2	38.6	31.6	44.0	40.5	35	45	75	RR
R_332713	764559.0	6640522.5	39.7	35.2	41.7	40.4	32.9	42.9	32.7	29.3	39.3	34.7	41.7	34.7	46.0	43.1	35	45	75	RR
R_245042	764129.5	6640521.6	50.2	38.5	52.2	51.4	36.8	46.8	35.4	32.4	48.3	44.7	52.2	45.2	54.6	53.9	35	45	75	RR
R_332744	764777.9	6640519.4	36.5	33.4	38.5	38.1	31.3	41.3	31.3	27.9	37.1	33.1	38.5	31.5	43.9	40.4	35	45	75	RR
R_329352	765766.3	6640518.5	29.3	26.8	31.3	31.0	33.7	43.7	25.8	22.6	34.7	26.0	31.3	24.3	44.1	33.2	35	45	75	RR
R_332745	764792.6	6640516.2	36.4	33.3	38.4	38.0	31.2	41.2	31.2	27.8	37.0	32.9	38.4	31.4	43.8	40.3	35	45	75	RR
R_328522	765836.5	6640513.6	29.4	26.4	31.4	30.6	27.6	37.6	25.4	22.3										



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_332999	764596.7	6640475.2	38.7	34.6	40.7	39.9	32.5	42.5	32.2	28.9	39.8	37.1	40.7	33.7	45.4	42.4	35	45	75	RR
R_333014	764727.4	6640474.6	36.9	33.6	38.9	38.6	31.5	41.5	31.4	28.1	37.5	33.5	38.9	31.9	44.2	40.8	35	45	75	RR
R_327943	765738.1	6640472.9	29.4	26.9	31.4	31.2	31.8	41.8	25.8	22.7	33.2	25.9	31.4	24.4	42.4	33.4	35	45	75	RR
R_333010	764099.7	6640471.1	49.9	38.0	51.9	51.2	42.5	52.5	35.1	32.4	45.2	44.6	51.9	44.9	56.1	53.6	35	45	75	RR
R_327448	766103.0	6640466.3	27.4	24.9	29.4	29.2	32.1	42.1	24.5	0.0	28.1	24.1	29.4	22.4	42.5	31.4	35	45	75	RR
R_333111	764753.2	6640466.1	36.6	33.3	38.6	38.3	31.3	41.3	31.2	27.9	37.3	33.2	38.6	31.6	43.9	40.5	35	45	75	RR
R_333034	764074.6	6640465.3	51.1	40.6	53.1	52.6	44.1	54.1	35.4	32.7	51.6	45.7	53.1	46.1	57.5	54.9	35	45	75	RR
R_332812	764861.1	6640463.9	35.6	31.1	37.6	37.3	30.5	40.5	29.4	27.2	36.3	31.7	37.6	30.6	43.1	39.5	35	45	75	RR
R_333454	764241.3	6640463.6	42.7	37.1	44.7	44.3	35.4	45.4	34.3	31.3	43.2	39.1	44.7	37.7	49.0	46.6	35	45	75	RR
R_333436	764903.7	6640458.1	35.1	32.0	37.1	36.8	30.3	40.3	30.3	27.0	35.7	31.3	37.1	30.1	42.7	39.0	35	45	75	RR
R_332941	764160.6	6640457.8	46.2	37.8	48.2	46.3	39.1	49.1	34.7	31.9	44.6	41.0	48.2	41.2	52.2	49.3	35	45	75	RR
R_333057	764214.7	6640453.7	45.0	37.2	47.0	44.7	36.7	46.7	34.4	31.5	43.6	39.6	47.0	40.0	50.3	47.9	35	45	75	RR
R_332638	764252.6	6640453.3	42.5	36.9	44.5	44.1	35.2	45.2	34.1	31.2	43.0	38.9	44.5	37.5	48.8	46.4	35	45	75	RR
R_332813	764878.9	6640452.8	35.5	32.3	37.5	37.2	30.4	40.4	30.4	27.1	36.1	32.1	37.5	30.5	43.0	39.4	35	45	75	RR
R_333013	764762.4	6640451.2	36.6	32.9	38.6	38.3	31.2	41.2	31.1	27.9	37.2	32.6	38.6	31.6	43.9	40.5	35	45	75	RR
R_332889	764615.4	6640450.3	38.0	34.0	40.0	39.7	32.3	42.3	31.7	28.8	38.6	36.9	40.0	33.0	45.1	41.9	35	45	75	RR
R_329441	766131.5	6640449.1	27.3	24.6	29.3	29.0	32.3	42.3	24.3	0.0	28.0	24.0	29.3	22.3	42.6	31.2	35	45	75	RR
R_327944	765756.0	6640449.1	29.3	26.7	31.3	31.1	33.2	43.2	25.7	22.6	30.0	26.0	31.3	24.3	43.6	33.3	35	45	75	RR
R_333316	764779.9	6640445.2	36.4	32.9	38.4	38.1	31.0	41.0	30.9	27.7	37.0	33.0	38.4	31.4	43.7	40.3	35	45	75	RR
R_327968	765716.6	6640445.0	29.5	26.9	31.5	31.3	31.3	41.3	25.9	22.8	30.2	25.9	31.5	24.5	42.0	33.5	35	45	75	RR
R_327450	766137.6	6640442.7	27.2	24.7	29.2	29.0	32.3	42.3	24.3	0.0	27.9	23.9	29.2	22.2	42.6	31.2	35	45	75	RR
R_245022	763619.5	6640442.4	74.8	48.4	76.8	72.0	48.9	58.9	43.2	42.4	70.2	64.8	76.8	69.8	76.7	76.6	70	70	-	CIP
R_245009	761526.1	6640441.9	50.8	34.0	52.8	42.0	38.6	45.8	31.7	35.1	40.9	37.6	52.8	45.8	52.4	51.3	35	45	75	RR
R_332637	764274.4	6640440.1	41.2	36.5	43.2	42.9	35.0	45.0	33.9	31.0	39.3	37.4	43.2	36.2	48.1	45.1	35	45	75	RR
R_332884	764069.7	6640440.0	50.4	37.0	52.4	51.8	42.6	52.6	34.9	32.5	46.7	45.3	52.4	45.4	56.5	54.2	35	45	75	RR
R_333286	764149.8	6640438.7	45.6	38.1	47.6	46.4	41.8	51.8	34.6	31.9	44.7	41.1	47.6	40.6	53.6	49.0	35	45	75	RR
R_333012	764800.5	6640437.1	36.2	32.8	38.2	37.9	36.4	46.4	30.8	27.6	36.8	32.8	38.2	31.2	47.3	40.1	35	45	75	RR
R_328996	766051.8	6640435.1	28.0	25.1	30.0	29.4	32.3	42.3	30.1	0.0	33.7	24.1	30.0	23.0	42.7	31.6	35	45	75	RR
R_332774	764142.7	6640427.8	49.0	37.2	51.0	50.4	41.7	51.7	34.5	31.9	46.4	43.7	51.0	44.0	55.3	52.8	35	45	75	RR
R_329306	765702.7	6640424.8	29.6	27.0	31.6	31.4	30.7	40.7	25.9	22.8	30.3	26.3	31.6	24.6	41.5	33.6	35	45	75	RR
R_333011	764811.2	6640423.2	36.0	32.3	38.0	37.8	30.8	40.8	30.7	27.5	36.7	32.1	38.0	31.0	43.4	40.0	35	45	75	RR
R_332622	764305.4	6640422.0	41.6	36.2	43.6	43.3	34.6	44.6	33.6	30.7	42.2	38.1	43.6	36.6	48.1	45.5	35	45	75	RR
R_328483	766075.2	6640418.1	27.5	24.9	29.5	29.3	30.7	40.7	24.3	0.0	32.1	24.0	29.5	22.5	41.2	31.5	35	45	75	RR
R_245004	760935.9	6640416.8	43.7	31.5	45.7	38.9	35.7	43.8	29.2	30.7	38.0	34.7	45.7	38.7	47.4	44.9	35	45	75	RR
R_245015	763627.9	6640415.7	68.4	31.8	70.4	67.0	44.4	42.9	28.5	39.1	65.6	60.5	70.4	63.4	70.8	70.8	70	70	-	CIP
R_333271	764058.5	6640412.8	50.5	39.0	52.5	51.9	42.5	52.5	34.9	32.5	48.0	45.5	52.5	45.5	56.5	54.3	35	45	75	RR
R_332881	764131.6	6640412.7	49.8	38.4	51.8	51.3	41.8	51.8	34.5	32.0	46.5	44.4	51.8	44.8	55.8	53.6	35	45	75	RR
R_333036	764828.9	6640411.8	35.7	32.4	37.7	37.6	35.1	45.1	30.5	27.4	36.5	32.0	37.7	30.7	46.2	39.8	35	45	75	RR
R_329196	765689.3	6640408.2	29.7	27.0	31.7	31.4	26.5	36.5	25.9	22.9	30.4	26.4	31.7	24.7	38.3	33.6	35	45	75	RR
R_327276	765790.7	6640407.9	29.1	26.4	31.1	30.8	33.0	43.0	25.4	22.4	32.9	25.8	31.1	24.1	43.4	33.0	35	45	75	RR
R_327973	766306.0	6640404.0	26.4	23.9	28.4	28.1	28.7	38.7	23.8	0.0	27.3	23.1	28.4	21.4	39.3	30.3	35	45	75	RR
R_329442	766094.4	6640400.3	27.4	24.3	29.4	29.1	29.4	39.4	24.1	0.0	30.6	23.9	29.4	22.4	40.0	31.3	35	45	75	RR
R_332829	764344.6	6640398.1	42.3	35.7	44.3	42.7	34.2	44.2	33.2	30.4	41.6	37.0	44.3	37.3	47.9	45.5	35	45	75	RR
R_333261	764131.1	6640394.3	47.1	36.9	49.1	47.6	35.9	45.9	32.8	31.8	47.6	42.2	49.1	42.1	51.7	50.4	35	45	75	RR
R_328415	765777.0	6640393.5	29.2	26.5	31.2	30.9	25.8	35.8	25.5	22.5	29.9	25.9	31.2	24.2	37.7	33.1	35	45	75	RR
R_332945	764046.6	6640390.3	50.5	38.9	52.5	51.9	42.5	52.5	34.7	32.5	48.0	45.4	52.5	45.5	56.5	54.3	35	45	75	RR
R_327271	765843.9	6640389.7	28.7	26.1	30.7	30.5	25.5	35.5	25.1	22.1	29.5	25.5	30.7	23.7	37.3	32.7	35	45	75	RR
R_332714	764364.7	6640388.4	40.8	35.5	42.8	42.5	34.0	44.0	33.1	30.2	41.4	38.1	42.8	35.8	47.4	44.7	35	45	75	RR
R_332639	764726.2	6640387.1	36.8	33.0	38.8	38.5	38.5	48.5	31.0	27.9	37.5	37.5	38.8	31.8	49.2	40.7	35	45	75	RR
R_327970	765690.0	6640386.4	29.7	27.0	31.7	31.5	26.0	36.0	25.9	22.9	30.4	26.1	31.7	24.7	38.0	33.7	35	45	75	RR
R_332712	764379.4	6640380.9	40.4	35.2	42.4	42.0	33.7	43.7	32.9	28.7	40.7	36.4	42.4	35.4	47.0	44.3	35	45	75	RR
R_327325	766107.9	6640380.0	27.6	24.7	29.6	29.1	29.5	39.5	24.1	0.0	33.3	24.1	29.6	22.6	40.1	31.3	35	45	75	RR
R_332883	764154.4	6640379.2	46.3	36.4	48.3	47.1	35.5	45.5	34.1	30.1	44.9	43.4	48.3	41.3	51.1	49.7	35	45	75	RR
R_328482	765672.2	6640378.9	29.7	27.0	31.7	31.5	26.2	36.2	25.9	22.9	30.5	26.5	31.7	24.7	38.1	33.7	35	45	75	RR
R_329312	765738.2	6640376.7	29.3	26.6	31.3	31.1	25.8	35.8	25.6	22.6	30.1	25.7	31.3	24.3	37.7	33.3	35	45	75	RR
R_328416	765763.6	6640376.3	29.2	26.1	31.2	30.9	25.7	35.7	25.5	22.3	29.3	25.6	31.2	24.2	37.6	33.1	35	45	75	RR
R_332824	764038.3	6640375.2	51.4	39.7	53.4	52.9	43.8	53.8	34.8	32.5	47.8	46.2	53.4	46.4	57.6	55.2	35	45	75	RR
R_332900	764758.9	6640373.5	36.5	32.8	38.5	38.2	30.8	40.8	30.8	26.2	37.2	32.6	38.5	31.5	43.6	40.4	35	45	75	RR
R_327272	765836.7	6640371.7	28.8	26.1	30.8	30.6	32.9	42.9	25.1	22.2	29.5	25.5	30.8	23.8	43.3	32.8	35	45	75	RR
R_332672	764397.5	6640369.0	40.2	35.1	42.2	41.8	33.6	43.6	32.8	29.9	40.8	36.8	42.2	35.2	46.9	44.1	35	45	75	RR
R_327971	765659.2	6640367.5	29.8	27.1	31.8	31.6	26.7	36.7	26.1	23.0	30.6	26.6	31.8	24.8	38.5	33.8	35	45	75	RR
R_330863	765738.1	6640366.7	29.3	26.6	31.3	31.1	25.7	35.7	25.6	22.6										

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_332669	764244.7	6640326.3	42.8	35.6	44.8	43.6	34.6	44.6	33.2	30.7	41.8	39.0	44.8	37.8	48.5	46.2	35	45	75	RR
R_333155	764902.3	6640326.1	35.1	31.5	37.1	36.8	29.9	39.9	29.7	26.7	35.8	31.2	37.1	30.1	42.5	39.0	35	45	75	RR
R_329570	765798.5	6640325.2	29.0	26.2	31.0	30.8	25.4	35.4	25.2	22.3	29.7	25.7	31.0	24.0	37.4	33.0	35	45	75	RR
R_332985	764076.1	6640322.6	48.0	38.8	50.0	49.0	36.1	46.1	34.0	31.9	45.1	44.0	50.0	43.0	52.6	51.5	35	45	75	RR
R_332954	764262.5	6640320.3	44.4	35.5	46.4	46.3	34.5	44.5	33.1	30.6	41.8	41.2	46.4	39.4	49.9	48.5	35	45	75	RR
R_332955	764277.2	6640314.8	41.4	35.4	43.4	40.8	34.3	44.3	33.0	29.2	37.8	35.9	43.4	36.4	47.2	44.1	35	45	75	RR
R_333263	763916.1	6640313.9	53.9	42.0	55.9	54.9	43.0	53.0	36.5	33.0	50.3	48.1	55.9	48.9	58.8	57.4	35	45	75	RR
R_329781	765715.3	6640312.3	29.2	26.6	31.2	31.1	25.6	35.6	25.6	22.6	30.0	25.7	31.2	24.2	37.6	33.3	35	45	75	RR
R_332740	764295.6	6640310.4	40.7	35.2	42.7	41.8	34.2	44.2	32.9	30.4	40.0	36.8	42.7	35.7	47.3	44.3	35	45	75	RR
R_333120	764166.6	6640307.8	46.0	35.9	48.0	46.8	42.4	52.4	33.5	31.2	43.1	42.2	48.0	41.0	54.2	49.4	35	45	75	RR
R_333068	764415.8	6640306.9	42.2	34.4	44.2	41.7	35.4	45.4	32.4	29.7	40.5	36.5	44.2	37.2	48.2	45.0	35	45	75	RR
R_328417	765785.2	6640305.4	29.0	26.2	31.0	30.8	25.4	35.4	25.2	22.3	29.8	25.8	31.0	24.0	37.4	33.0	35	45	75	RR
R_328500	765949.5	6640304.2	28.1	25.3	30.1	29.9	31.7	41.7	24.4	0.0	28.9	24.6	30.1	23.1	42.2	32.1	35	45	75	RR
R_329782	765674.8	6640300.0	29.6	26.8	31.6	31.5	25.8	35.8	25.7	22.8	30.4	26.4	31.6	24.6	37.9	33.7	35	45	75	RR
R_332666	764186.1	6640297.6	44.1	35.7	46.1	43.7	40.6	50.6	33.4	29.9	38.5	39.6	46.1	39.1	52.1	46.9	35	45	75	RR
R_332731	764887.2	6640294.8	35.1	31.4	37.1	36.9	29.9	39.9	29.7	26.7	35.8	31.8	37.1	30.1	42.5	39.1	35	45	75	RR
R_329606	765773.6	6640293.9	29.1	26.3	31.1	30.9	25.3	35.3	25.2	22.3	29.8	25.5	31.1	24.1	37.3	33.1	35	45	75	RR
R_244987	760724.2	6640291.6	36.0	24.6	38.0	34.6	30.9	40.9	23.3	27.4	34.1	30.9	38.0	31.0	42.8	38.4	35	45	75	RR
R_244985	760037.4	6640289.2	34.1	0.0	36.1	28.9	24.5	0.0	0.0	23.6	27.9	23.3	36.1	29.1	35.2	35.2	35	45	75	RR
R_333348	764301.1	6640288.9	43.6	35.0	45.6	44.4	34.0	44.0	32.7	30.2	40.0	40.5	45.6	38.6	48.8	47.0	35	45	75	RR
R_329001	765943.1	6640288.7	28.1	25.4	30.1	29.9	30.1	40.1	24.5	0.0	28.9	24.8	30.1	23.1	40.7	32.1	35	45	75	RR
R_333232	764381.3	6640287.2	40.8	34.4	42.8	41.6	33.4	43.4	32.3	29.7	37.4	36.3	42.8	35.8	46.8	44.2	35	45	75	RR
R_332798	764409.1	6640286.2	41.0	34.4	43.0	41.7	33.3	43.3	32.2	29.6	40.6	36.6	43.0	36.0	46.9	44.4	35	45	75	RR
R_332993	764318.4	6640285.3	39.6	34.8	41.6	40.9	33.7	43.7	32.5	29.0	39.5	35.1	41.6	34.6	46.5	43.3	35	45	75	RR
R_327942	765583.9	6640284.8	30.2	27.3	32.2	32.0	26.1	36.1	26.1	23.2	31.0	26.9	32.2	25.2	38.3	34.2	35	45	75	RR
R_333016	764903.4	6640284.7	35.0	31.0	37.0	36.8	29.7	39.7	29.5	26.6	35.7	31.1	37.0	30.0	42.4	39.0	35	45	75	RR
R_328827	765601.7	6640283.7	30.0	27.1	32.0	31.9	26.0	36.0	26.0	23.1	30.8	26.8	32.0	25.0	38.1	34.1	35	45	75	RR
R_327939	765692.0	6640280.0	29.5	26.7	31.5	31.3	30.3	40.3	25.6	22.7	30.3	26.3	31.5	24.5	41.1	33.5	35	45	75	RR
R_333276	764216.0	6640279.4	43.7	35.3	45.7	43.7	40.3	50.3	33.1	30.7	40.7	39.3	45.7	38.7	51.9	46.7	35	45	75	RR
R_333424	764108.9	6640278.5	48.7	35.8	50.7	47.8	41.3	51.3	33.5	31.5	43.7	43.3	50.7	43.7	54.3	51.3	35	45	75	RR
R_328499	765761.0	6640276.6	29.1	26.3	31.1	30.9	25.3	35.3	25.3	22.4	29.9	25.8	31.1	24.1	37.3	33.1	35	45	75	RR
R_332741	764044.2	6640272.3	49.5	41.2	51.5	49.5	43.1	53.1	39.4	31.9	44.6	43.9	51.5	44.5	55.8	52.5	35	45	75	RR
R_332833	764332.5	6640271.7	40.8	34.6	42.8	42.3	33.7	43.7	32.4	29.9	39.3	36.8	42.8	35.8	47.2	44.6	35	45	75	RR
R_329783	765615.6	6640270.9	43.3	26.9	45.3	31.8	25.9	35.9	25.9	23.0	30.7	26.3	45.3	38.3	38.0	34.0	35	45	75	RR
R_332625	764229.4	6640270.9	29.9	35.2	31.9	43.4	40.2	50.2	32.9	30.6	38.0	39.2	31.9	24.9	51.7	46.4	35	45	75	RR
R_332942	763969.5	6640269.0	50.4	39.3	52.4	51.2	43.6	53.6	34.3	32.3	47.5	46.4	52.4	45.4	56.7	53.8	35	45	75	RR
R_332886	764389.4	6640267.0	40.2	34.2	42.2	41.6	33.3	43.3	32.2	29.6	38.1	36.6	42.2	35.2	46.7	44.0	35	45	75	RR
R_332759	764350.1	6640263.3	42.8	34.5	44.8	42.5	33.5	43.5	32.3	29.8	39.1	37.7	44.8	37.8	47.7	45.7	35	45	75	RR
R_332626	764246.4	6640260.6	43.5	35.0	45.5	43.6	34.4	44.4	32.8	30.5	42.6	39.5	45.5	38.5	48.6	46.6	35	45	75	RR
R_327940	765749.3	6640259.8	29.2	26.3	31.2	31.0	25.3	35.3	25.3	22.4	30.0	25.6	31.2	24.2	37.4	33.2	35	45	75	RR
R_327081	765573.9	6640251.2	30.2	27.3	32.2	32.1	26.1	36.1	26.1	23.2	31.0	27.0	32.2	25.2	38.3	34.3	35	45	75	RR
R_244983	761638.5	6640248.4	55.5	35.5	57.5	44.9	41.5	47.7	34.8	36.7	43.8	40.4	57.5	50.5	56.5	55.9	35	45	75	RR
R_328521	765628.1	6640246.7	29.9	26.9	31.9	31.7	25.8	35.8	25.8	22.9	30.7	26.6	31.9	24.9	38.0	33.9	35	45	75	RR
R_332627	764258.4	6640246.0	43.9	34.8	45.9	45.2	34.2	44.2	32.6	30.4	41.8	39.9	45.9	38.9	49.2	47.6	35	45	75	RR
R_328539	765739.0	6640243.4	29.2	26.3	31.2	31.0	29.7	39.7	25.3	22.4	30.0	26.0	31.2	24.2	40.6	33.2	35	45	75	RR
R_328520	765561.0	6640240.8	30.3	27.3	32.3	32.1	26.2	36.2	26.1	23.2	31.1	27.1	32.3	25.3	38.4	34.3	35	45	75	RR
R_244979	760199.8	6640239.9	35.1	0.0	37.1	35.4	31.6	0.0	20.6	26.7	34.3	30.6	37.1	30.1	38.3	38.3	35	45	75	RR
R_332817	764025.9	6640239.5	49.4	39.2	51.4	49.8	42.9	52.9	39.3	31.8	48.6	43.4	51.4	44.4	55.8	52.6	35	45	75	RR
R_332734	764378.2	6640238.6	41.1	34.2	43.1	41.7	33.3	43.3	32.0	29.6	40.2	37.0	43.1	36.1	46.9	44.4	35	45	75	RR
R_333204	764298.8	6640231.4	43.0	34.5	45.0	42.4	35.2	45.2	32.3	30.0	41.1	37.6	45.0	38.0	48.5	45.7	35	45	75	RR
R_330174	765673.4	6640231.2	29.6	26.6	31.6	31.4	25.6	35.6	25.6	22.7	30.4	26.4	31.6	24.6	37.7	33.6	35	45	75	RR
R_327667	765550.1	6640230.3	30.3	27.3	32.3	32.2	29.9	39.9	26.1	23.3	31.1	26.7	32.3	25.3	41.0	34.4	35	45	75	RR
R_333048	763578.0	6640220.2	73.7	45.3	75.7	65.1	46.4	56.4	40.0	36.1	63.6	58.5	75.7	68.7	74.3	74.3	70	70	-	CIP
R_332763	764306.7	6640216.6	43.0	34.3	45.0	42.4	33.6	43.6	32.2	29.9	41.0	37.5	45.0	38.0	47.8	45.7	35	45	75	RR
R_327626	765681.3	6640215.0	29.5	26.5	31.5	31.4	25.5	35.5	25.5	22.7	30.3	26.3	31.5	24.5	37.6	33.6	35	45	75	RR
R_328388	765536.0	6640210.8	30.4	27.3	32.4	32.2	29.9	39.9	26.4	23.3	32.7	27.2	32.4	25.4	41.0	34.4	35	45	75	RR
R_332735	764429.6	6640208.2	41.4	33.4	43.4	41.2	32.8	42.8	31.6	29.2	39.0	35.5	43.4	36.4	46.6	44.3	35	45	75	RR
R_333216	764323.3	6640205.8	42.0	34.1	44.0	42.1	33.5	43.5	32.0	29.8	40.8	37.2	44.0	37.0	47.4	45.1	35	45	75	RR
R_332861	764339.0	6640204.1	42.6	34.0	44.6	41.8	35.7	45.7	32.0	29.7	40.8	37.0	44.6	37.6	48.5	45.2	35	45	75	RR
R_332729	765790.9	6640201.2	28.8	25.9	30.8	30.7	25.1	35.1	24.9	22.1	29.7	25.7	30.8	23.8	37.1	32.9	35	45	75	RR
R_244975	760368.5	6640196.5	37.0	22.7	39.0	36.3	32.7	33.4	21.3	27.7	33.5	31.5	39.0	32.0	40.6	39.7	35	45	75	RR
R_333240	764360.9	6640195.3	42.5	33.8	44.5	41.4	35.2	45.2	31.8	29.4</										



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_333474	764975.2	6640026.9	34.0	29.6	36.0	35.6	35.3	45.3	28.1	25.6	34.6	30.6	36.0	29.0	46.0	37.9	35	45	75	RR
R_332707	764718.9	6640026.5	36.2	30.9	38.2	37.7	35.4	45.4	29.3	26.9	36.6	32.7	38.2	31.2	46.5	40.0	35	45	75	RR
R_333052	764635.3	6640017.7	37.0	31.2	39.0	38.5	36.2	46.2	29.6	27.4	37.9	35.3	39.0	32.0	47.3	40.8	35	45	75	RR
R_333044	764864.5	6640017.6	34.9	29.0	36.9	36.1	29.3	39.3	28.5	26.1	32.3	30.7	36.9	29.9	42.0	38.6	35	45	75	RR
R_332807	765004.8	6640015.2	33.8	29.3	35.8	35.4	31.8	41.8	27.9	25.4	34.3	30.4	35.8	28.8	43.2	37.7	35	45	75	RR
R_332765	764905.1	6640007.1	34.5	29.8	36.5	35.7	29.0	39.0	28.3	25.9	32.0	30.2	36.5	29.5	41.6	38.2	35	45	75	RR
R_333298	764708.5	6640006.6	36.2	30.8	38.2	37.7	35.8	45.8	29.2	27.0	36.6	34.9	38.2	31.2	46.8	40.0	35	45	75	RR
R_333328	764417.6	6640004.5	39.2	32.1	41.2	40.4	32.0	41.8	30.4	28.8	39.3	35.0	41.2	34.2	45.4	42.9	35	45	75	RR
R_327699	765356.8	6639999.7	31.3	27.5	33.3	33.0	26.5	36.5	26.3	23.7	31.3	28.0	33.3	26.3	38.9	35.2	35	45	75	RR
R_332706	764689.5	6639994.9	36.5	30.8	38.5	37.9	35.8	45.8	29.2	27.1	36.8	34.9	38.5	31.5	46.9	40.3	35	45	75	RR
R_327935	765380.6	6639992.2	31.1	27.3	33.1	32.8	26.4	36.4	26.2	23.6	30.8	27.8	33.1	26.1	38.8	35.0	35	45	75	RR
R_332932	764610.0	6639987.4	37.3	31.1	39.3	38.8	33.4	43.4	29.5	27.6	38.1	37.0	39.3	32.3	45.4	41.1	35	45	75	RR
R_327877	765397.7	6639981.3	31.0	27.1	33.0	32.6	26.2	36.2	26.1	23.4	30.8	27.6	33.0	26.0	38.6	34.9	35	45	75	RR
R_332646	764934.4	6639977.6	34.2	29.5	36.2	35.8	28.8	38.8	28.1	25.7	34.8	30.9	36.2	29.2	41.5	38.1	35	45	75	RR
R_332618	764692.2	6639975.8	36.4	30.8	38.4	37.9	35.1	45.1	29.2	27.2	36.9	32.9	38.4	31.4	46.3	40.2	35	45	75	RR
R_332688	764597.5	6639971.7	37.3	31.1	39.3	38.7	33.1	43.1	29.5	27.7	37.6	37.1	39.3	32.3	45.2	41.1	35	45	75	RR
R_329696	765425.0	6639970.3	30.8	27.0	32.8	32.5	26.1	36.1	25.9	23.4	31.0	27.5	32.8	25.8	38.5	34.7	35	45	75	RR
R_332644	764871.0	6639969.5	34.7	29.8	36.7	36.3	29.1	39.1	28.3	26.1	35.3	31.3	36.7	29.7	41.9	38.6	35	45	75	RR
R_332920	764965.9	6639968.7	34.0	29.3	36.0	35.5	28.5	38.5	27.9	25.5	34.6	30.6	36.0	29.0	41.2	37.8	35	45	75	RR
R_332841	764668.7	6639967.8	36.7	30.8	38.7	38.1	32.9	42.9	29.2	27.3	37.0	33.1	38.7	31.7	44.9	40.5	35	45	75	RR
R_328220	765859.6	6639963.1	28.3	25.0	30.3	30.1	29.7	39.7	24.3	0.0	29.1	25.1	30.3	23.3	40.4	32.3	35	45	75	RR
R_332664	764589.6	6639957.5	37.6	31.1	39.6	38.7	32.9	42.9	29.5	27.8	38.2	33.6	39.6	32.6	45.1	41.2	35	45	75	RR
R_332921	764990.2	6639954.8	33.8	29.1	35.8	35.4	29.7	39.7	27.8	25.4	34.4	30.4	35.8	28.8	41.8	37.7	35	45	75	RR
R_332840	764693.0	6639951.5	36.5	30.5	38.5	38.0	34.7	44.7	29.0	27.2	36.7	32.9	38.5	31.5	46.1	40.3	35	45	75	RR
R_332839	764664.1	6639948.2	36.8	30.7	38.8	38.2	30.2	40.2	29.1	27.3	37.2	33.2	38.8	31.8	43.4	40.6	35	45	75	RR
R_327873	765449.1	6639947.6	30.6	26.8	32.6	32.4	25.9	35.9	25.7	23.2	31.3	27.3	32.6	25.6	38.3	34.6	35	45	75	RR
R_330120	765838.6	6639946.8	28.3	25.0	30.3	30.2	27.2	37.2	24.1	0.0	29.1	25.1	30.3	23.3	38.4	32.4	35	45	75	RR
R_327218	765468.7	6639940.5	30.5	26.7	32.5	32.2	25.8	35.8	25.6	23.1	31.2	26.6	32.5	25.5	38.2	34.4	35	45	75	RR
R_327701	765345.8	6639939.6	31.3	27.3	33.3	33.0	26.4	36.4	26.1	23.6	32.0	27.4	33.3	26.3	38.9	35.2	35	45	75	RR
R_332663	764579.0	6639938.8	41.8	31.0	43.8	43.8	32.4	42.4	29.4	27.9	37.7	35.5	43.8	36.8	47.5	45.9	35	45	75	RR
R_327215	760339.1	6639938.3	38.4	27.8	40.4	35.7	32.7	0.0	22.2	28.5	33.5	31.3	40.4	33.4	40.3	40.3	35	45	75	RR
R_333444	765010.9	6639935.8	33.6	29.0	35.6	35.2	32.0	42.0	27.6	25.3	34.2	30.2	35.6	28.6	43.3	37.5	35	45	75	RR
R_332781	764652.0	6639934.1	36.7	30.6	38.7	38.0	30.2	40.1	29.1	27.4	37.0	32.9	38.7	31.7	43.3	40.4	35	45	75	RR
R_333128	764527.6	6639930.2	42.1	31.1	44.1	39.2	31.8	41.8	29.5	28.2	38.0	35.6	44.1	37.1	46.0	43.9	35	45	75	RR
R_327876	765485.2	6639929.4	30.4	26.6	32.4	32.2	25.7	35.7	25.5	23.0	31.1	27.1	32.4	25.4	38.1	34.4	35	45	75	RR
R_327312	760411.7	6639926.5	38.9	28.7	40.9	36.9	32.7	33.9	21.0	28.3	33.9	31.7	40.9	33.9	41.8	41.0	35	45	75	RR
R_329527	765347.8	6639925.9	31.2	27.2	33.2	32.9	28.9	38.9	26.1	23.6	31.9	27.9	33.2	26.2	40.4	35.1	35	45	75	RR
R_332911	765028.4	6639925.4	33.1	28.8	35.1	34.7	31.8	41.8	27.4	25.2	31.0	29.5	35.1	28.1	43.0	37.0	35	45	75	RR
R_333255	764635.4	6639922.5	36.8	30.6	38.8	38.1	30.3	40.2	29.1	27.5	37.1	33.0	38.8	31.8	43.4	40.5	35	45	75	RR
R_332700	765363.4	6639922.0	31.1	27.0	33.1	32.7	26.2	36.2	26.0	22.9	29.2	26.9	33.1	26.1	38.6	35.0	35	45	75	RR
R_333079	764574.1	6639920.5	42.0	30.9	44.0	38.9	30.7	40.6	29.3	27.9	39.3	37.1	44.0	37.0	45.5	43.7	35	45	75	RR
R_329694	765499.3	6639913.5	30.3	26.5	32.3	32.0	25.6	35.6	25.4	22.9	31.0	27.0	32.3	25.3	38.0	34.2	35	45	75	RR
R_332931	764560.7	6639908.1	37.6	30.8	39.6	38.6	32.0	42.0	29.3	28.0	37.4	35.3	39.6	32.6	44.6	41.1	35	45	75	RR
R_333445	765046.8	6639906.5	33.3	28.4	35.3	34.8	27.9	37.9	27.3	25.1	33.8	29.8	35.3	28.3	40.5	37.1	35	45	75	RR
R_332912	765079.8	6639899.7	33.0	28.4	35.0	34.3	27.7	37.7	27.1	24.9	30.7	28.9	35.0	28.0	40.2	36.7	35	45	75	RR
R_327874	765534.3	6639897.7	30.0	26.3	32.0	31.8	25.4	35.4	25.2	22.7	30.8	26.8	32.0	25.0	37.8	34.0	35	45	75	RR
R_332655	764626.9	6639896.0	37.1	30.5	39.1	38.1	30.3	40.2	29.0	27.6	37.1	33.1	39.1	32.1	43.4	40.6	35	45	75	RR
R_333005	763265.5	6639886.6	69.3	41.3	71.3	58.4	50.3	50.1	37.3	46.2	57.2	52.0	71.3	64.3	69.5	69.5	35	45	75	RR
R_332689	764615.2	6639877.1	37.3	30.4	39.3	38.1	30.4	40.2	28.9	27.7	38.1	33.2	39.3	32.3	43.5	40.7	35	45	75	RR
R_333047	765099.5	6639868.6	32.9	28.2	34.9	34.4	27.5	37.5	27.0	24.9	32.4	29.4	34.9	27.9	40.1	36.7	35	45	75	RR
R_332843	764644.2	6639865.0	36.9	30.2	38.9	37.9	30.2	39.9	28.8	27.5	37.9	36.2	38.9	31.9	43.2	40.4	35	45	75	RR
R_332704	765122.8	6639864.9	32.6	27.8	34.6	34.0	27.3	37.3	26.8	24.7	30.4	29.2	34.6	27.6	39.9	36.4	35	45	75	RR
R_332935	764925.3	6639857.4	34.2	29.0	36.2	35.7	28.5	38.5	27.6	25.8	34.6	30.6	36.2	29.2	41.3	38.0	35	45	75	RR
R_332816	765012.4	6639855.7	33.5	28.5	35.5	35.0	27.9	37.9	27.2	25.3	33.9	29.9	35.5	28.5	40.6	37.3	35	45	75	RR
R_332653	764660.4	6639851.5	41.5	30.0	43.5	37.6	30.0	39.8	28.6	27.4	37.7	36.0	43.5	36.5	44.7	43.0	35	45	75	RR
R_332814	765149.7	6639849.1	32.5	27.9	34.5	33.8	27.2	37.2	26.7	24.6	30.2	29.0	34.5	27.5	39.7	36.2	35	45	75	RR
R_332764	764690.7	6639832.7	36.3	29.5	38.3	37.3	29.8	39.5	28.4	27.2	36.2	31.4	38.3	31.3	42.7	39.8	35	45	75	RR
R_332670	764748.4	6639832.5	35.6	29.5	37.6	36.5	29.3	39.2	28.2	26.9	32.4	31.7	37.6	30.6	42.2	39.1	35	45	75	RR
R_332854	765207.5	6639827.5	32.1	27.5	34.1	33.3	26.8	36.8	26.3	24.3	29.9	28.0	34.1	27.1	39.3	35.8	35	45	75	RR
R_332749	764706.4	6639821.4	36.1	26.4	38.1	36.5	29.6	39.0	28.1	27.1	32.1	30.8	38.1	31.1	42.2	39.3	35	45	75	RR
R_332922	761906.9	6639817.7	54.8	35.3	56.8	49.9	45.7	47.6	34.4	41.9	48.8	43.9	56.8	49.8	56.6	56.0	35	45	75	RR
R_332845	763393.5	6639813.8	64.9	40.5	66.9	55.6	47.9	52.3	36.4											

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_333051	763418.8	6639467.0	52.8	31.6	54.8	49.6	46.2	49.1	29.8	44.3	48.5	45.0	54.8	47.8	55.6	54.5	35	45	75	RR
R_333004	764377.0	6639411.2	37.9	28.6	39.9	37.5	32.3	42.3	27.2	29.3	39.3	33.0	39.9	32.9	44.6	40.7	35	45	75	RR
R_332733	763675.0	6639401.7	50.4	30.8	52.4	47.5	42.9	48.4	28.2	35.3	46.4	40.3	52.4	45.4	53.7	52.2	35	45	75	RR
R_332657	764363.9	6639218.5	42.6	27.5	44.6	37.7	32.0	42.0	26.2	29.1	38.9	31.3	44.6	37.6	46.0	43.8	35	45	75	RR
R_333146	764211.8	6639157.3	37.7	27.7	39.7	36.8	32.0	42.0	31.9	30.0	35.8	31.0	39.7	32.7	44.2	40.3	35	45	75	RR
R_332805	763545.5	6639128.3	46.7	31.4	48.7	46.4	42.7	45.2	26.7	41.2	45.3	41.2	48.7	41.7	50.9	49.6	35	45	75	RR
R_332806	763808.5	6639123.6	44.5	30.7	46.5	41.8	34.0	39.5	26.5	33.1	42.5	33.4	46.5	39.5	47.2	46.4	35	45	75	RR
R_332786	763560.2	6639115.5	44.5	31.1	46.5	46.1	35.9	44.0	26.6	40.9	45.1	34.6	46.5	39.5	49.5	48.0	35	45	75	RR
R_333344	765091.5	6639076.1	31.5	24.5	33.5	31.9	27.6	37.6	23.8	24.6	34.3	26.9	33.5	26.5	39.4	34.7	35	45	75	RR
R_328813	760889.6	6639041.7	38.7	28.8	40.7	40.8	34.0	0.0	20.8	30.8	39.8	33.4	40.7	33.7	43.0	43.0	35	45	75	RR
R_332659	763756.1	6639036.3	43.8	28.0	45.8	38.6	34.0	39.0	26.1	33.1	42.8	32.8	45.8	38.8	45.9	44.9	35	45	75	RR
R_332643	765112.2	6639029.8	31.1	24.3	33.1	31.7	26.7	36.7	23.5	24.4	34.2	26.6	33.1	26.1	38.7	34.4	35	45	75	RR
R_332771	761615.0	6639023.3	48.2	36.6	50.2	49.9	38.0	43.0	27.9	36.4	48.8	38.0	50.2	43.2	51.3	50.6	35	45	75	RR
R_332924	761698.9	6639015.2	49.9	36.8	51.9	51.3	38.5	43.3	30.6	37.1	50.2	38.6	51.9	44.9	52.4	51.8	35	45	75	RR
R_332642	764635.9	6638865.0	38.8	28.4	40.8	33.2	27.8	37.8	24.0	26.7	35.3	28.1	40.8	33.8	42.0	39.9	35	45	75	RR
R_332739	763291.8	6638763.1	42.4	28.9	44.4	44.0	35.1	42.7	24.7	35.0	45.4	34.7	44.4	37.4	47.6	45.8	35	45	75	RR
R_332965	763519.3	6638749.9	37.6	28.0	39.6	39.3	33.7	37.2	24.7	33.3	38.2	32.3	39.6	32.6	42.7	41.2	35	45	75	RR
R_332964	763489.8	6638712.9	37.8	28.3	39.8	39.5	33.6	37.0	24.5	33.2	38.4	32.2	39.8	32.8	42.6	41.2	35	45	75	RR
R_332959	763418.4	6638602.6	38.2	34.7	40.2	39.8	33.1	36.4	23.9	32.8	38.7	31.6	40.2	33.2	42.4	41.1	35	45	75	RR
R_333431	763953.8	6638507.7	33.9	26.9	35.9	35.0	30.9	40.9	23.3	29.3	38.3	29.9	35.9	28.9	42.5	37.5	35	45	75	RR
R_333020	763843.3	6638445.3	35.9	33.3	37.9	36.7	34.0	35.4	21.8	32.6	40.4	28.9	37.9	30.9	40.2	38.5	35	45	75	RR
R_332835	762529.3	6638364.4	59.9	41.0	61.9	60.4	43.3	40.4	26.5	40.2	59.2	37.2	61.9	54.9	60.5	60.4	35	45	75	RR
R_333277	763766.6	6638315.8	34.4	28.6	36.4	36.1	29.8	34.6	21.3	29.3	35.3	28.4	36.4	29.4	39.5	37.8	35	45	75	RR
R_333038	763195.8	6638302.6	42.8	32.0	44.8	44.5	32.8	35.1	21.5	31.5	46.2	31.4	44.8	37.8	45.8	45.4	35	45	75	RR
R_332694	762975.4	6638010.2	45.0	40.4	47.0	46.5	40.5	33.9	0.0	34.4	48.5	29.7	47.0	40.0	47.1	46.9	35	45	75	RR
R_332616	762895.3	6637932.7	46.5	42.7	48.5	47.9	43.1	0.0	0.0	41.5	49.5	29.3	48.5	41.5	48.2	48.2	35	45	75	RR
R_325287	759729.4	6637592.3	34.2	32.4	36.2	35.9	32.1	0.0	0.0	25.4	34.9	0.0	36.2	29.2	36.1	36.1	35	45	75	RR
R_332615	761608.4	6637316.6	55.4	54.6	57.4	55.1	51.4	0.0	0.0	49.7	53.9	23.2	57.4	50.4	55.1	55.1	35	45	75	RR
R_332905	761236.4	6636999.1	49.2	44.1	51.2	49.6	46.1	0.0	0.0	42.8	48.5	0.0	51.2	44.2	49.6	49.6	35	45	75	RR
R_333280	763167.8	6636988.9	43.4	40.6	45.4	44.1	40.8	0.0	0.0	39.0	43.1	22.6	45.4	38.4	44.2	44.2	35	45	75	RR
R_333018	762893.0	6636986.7	47.8	45.0	49.8	48.5	45.5	0.0	0.0	43.1	47.4	22.8	49.8	42.8	48.6	48.6	35	45	75	RR
R_333443	763297.0	6636891.8	42.9	40.0	44.9	43.9	41.1	0.0	0.0	38.7	42.9	0.0	44.9	37.9	43.9	43.9	35	45	75	RR
R_332769	763734.7	6636860.7	39.1	36.2	41.1	40.2	30.6	0.0	0.0	35.1	39.2	0.0	41.1	34.1	40.2	40.2	35	45	75	RR
R_333030	763136.4	6636817.5	44.1	41.2	46.1	45.2	41.7	0.0	0.0	39.8	44.1	0.0	46.1	39.1	45.2	45.2	35	45	75	RR
R_332893	763226.2	6636737.1	41.8	38.8	43.8	42.7	39.2	0.0	0.0	37.5	42.1	0.0	43.8	36.8	42.7	42.7	35	45	75	RR
R_333043	763117.1	6636690.4	42.7	39.7	44.7	44.2	41.0	0.0	0.0	38.3	43.2	0.0	44.7	37.7	44.2	44.2	35	45	75	RR
R_332754	762857.4	6636642.3	42.5	40.1	44.5	44.0	40.2	0.0	0.0	35.3	41.7	0.0	44.5	37.5	44.0	44.0	35	45	75	RR
R_333042	763348.8	6636638.3	35.7	32.6	37.7	37.7	33.9	0.0	0.0	31.4	36.8	0.0	37.7	30.7	37.7	37.7	35	45	75	RR
R_331789	760125.9	6636616.3	35.7	28.0	37.7	37.2	28.9	34.9	0.0	30.2	36.2	0.0	37.7	30.7	39.6	37.8	35	45	75	RR
R_333281	763880.7	6636529.0	37.3	32.5	39.3	38.7	36.0	0.0	0.0	33.4	36.4	0.0	39.3	32.3	38.7	38.7	35	45	75	RR
R_332780	762761.1	6636510.1	47.3	42.2	49.3	48.8	44.7	0.0	0.0	40.9	47.7	0.0	49.3	42.3	48.8	48.8	35	45	75	RR
R_333284	763477.0	6636443.2	39.7	30.9	41.7	41.4	38.5	0.0	0.0	29.9	39.1	0.0	41.7	34.7	41.4	41.4	35	45	75	RR
R_332828	763639.4	6636362.1	33.1	29.6	35.1	34.5	30.2	0.0	0.0	28.7	33.5	0.0	35.1	28.1	34.5	34.5	35	45	75	RR
R_332910	763396.7	6636269.6	39.7	34.9	41.7	40.0	37.3	0.0	0.0	35.4	36.4	0.0	41.7	34.7	40.0	40.0	35	45	75	RR
R_333040	764161.6	6636215.7	33.7	26.2	35.7	35.7	26.9	0.0	0.0	25.5	30.1	0.0	35.7	28.7	35.7	35.7	35	45	75	RR
R_331851	759790.8	6634042.0	67.0	63.0	69.0	66.4	61.3	71.3	0.0	37.9	64.2	0.0	69.0	62.0	72.5	66.4	35	45	75	RR
R_325073	762972.3	6633433.0	42.1	0.0	44.1	33.3	0.0	0.0	0.0	0.0	32.2	0.0	44.1	37.1	44.0	44.0	35	45	75	RR
R_325045	756584.2	6633369.8	34.3	30.5	36.3	35.4	32.7	34.5	0.0	23.7	34.4	0.0	36.3	29.3	38.0	35.4	35	45	75	RR
R_332075	759399.0	6633328.4	63.9	93.0	65.9	63.7	59.7	69.7	0.0	47.9	61.7	0.0	65.9	58.9	70.7	63.7	35	45	75	RR
R_325202	757010.0	6633213.9	37.2	33.2	39.2	38.0	35.2	42.3	0.0	31.7	37.0	0.0	39.2	32.2	43.7	38.0	35	45	75	RR
R_331869	756978.4	6632958.6	37.8	33.7	39.8	38.8	36.1	42.2	0.0	31.7	37.8	0.0	39.8	32.8	43.8	38.8	35	45	75	RR
R_331852	759553.2	6632770.6	59.8	93.0	61.8	59.9	56.0	66.0	0.0	52.7	58.4	0.0	61.8	54.8	67.0	59.9	35	45	75	RR
R_331860	758657.7	6631601.4	60.1	46.5	62.1	61.2	56.1	43.0	0.0	38.3	59.7	0.0	62.1	55.1	61.3	61.2	35	45	75	RR
R_332255	758648.8	6631593.9	59.8	46.2	61.8	61.1	55.8	42.0	0.0	32.4	59.7	0.0	61.8	54.8	61.2	61.1	35	45	75	RR
R_331839	759348.1	6631474.3	46.3	39.5	48.3	48.1	45.0	45.6	0.0	38.1	47.0	0.0	48.3	41.3	50.0	48.1	35	45	75	RR
R_331977	758780.4	6631367.3	52.9	43.2	54.9	54.6	49.9	41.0	0.0	31.1	53.3	0.0	54.9	47.9	54.8	54.6	35	45	75	RR
R_331819	758771.8	6631356.9	53.0	43.1	55.0	54.7	49.8	41.0	0.0	31.0	53.5	0.0	55.0	48.0	54.9	54.7	35	45	75	RR
R_332072	759971.4	6630879.9	37.0	29.1	39.0	38.7	35.7	37.5	0.0	27.1	37.6	0.0	39.0	32.0	41.2	38.7	35	45	75	RR
R_331823	756241.6	6630810.4	41.8	37.8	43.8	43.3	38.8	46.0	35.3	0.0	42.3	0.0	43.8	36.8	48.0	43.7	35	45	75	RR
R_331859	758352.0	6630750.0	52.5	30.9	54.5	54.7	50.1	40.7	29.5	26.1	52.5	0.0	54.5	47.5	54.9	54.7	35	45	75	RR
R_332070	755526.9	6629632.7	42.9	42.3	44.9	44.5	41.8	51.8	41.7	23.8	43.4	0.0	44.9	37.9	52.7	45.4	35	45	75	RR
R_332090	757896.3	6629511.8	48.0	46.7	50.0	50.2	46.9	48.1	37.4	0.0	48.9	0.0	50.0	43.0	52.4	50.4	35	45	75	RR



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_244580	694342.0	6585131.1	30.1	25.1	32.1	31.6	28.5	38.5	0.0	23.5	28.8	0.0	32.1	25.1	39.5	32.7	35	45	75	RR
R_331843	696270.6	6584980.1	44.0	28.3	46.0	39.5	28.8	38.8	0.0	27.4	32.7	0.0	46.0	39.0	42.9	40.7	35	45	75	RR
R_244568	688698.7	6584124.4	43.5	40.5	45.5	41.9	38.9	0.0	0.0	0.0	40.9	0.0	45.5	38.5	42.3	42.3	35	45	75	RR
R_244562	692054.1	6583343.5	48.0	24.7	50.0	49.1	44.9	0.0	0.0	23.9	48.0	0.0	50.0	43.0	49.1	49.1	35	45	75	RR
R_244557	686482.8	6582937.8	40.4	36.8	42.4	38.0	37.7	0.0	0.0	32.3	37.9	0.0	42.4	35.4	38.5	38.5	35	45	75	RR
R_244554	687252.0	6582903.5	45.5	47.4	47.5	47.2	43.6	0.0	0.0	31.6	46.1	0.0	47.5	40.5	47.2	47.2	35	45	75	RR
R_244531	689350.7	6581762.0	46.3	43.3	48.3	47.4	43.5	0.0	0.0	23.4	46.1	0.0	48.3	41.3	47.6	47.6	35	45	75	RR
R_244514	687126.7	6581108.9	49.3	51.4	51.3	50.5	45.3	0.0	0.0	42.6	47.3	0.0	51.3	44.3	50.5	50.5	35	45	75	RR
R_244510	681515.6	6580646.2	43.6	40.6	45.6	44.5	40.6	0.0	0.0	31.4	43.4	0.0	45.6	38.6	45.5	45.5	35	45	75	RR
R_244502	680347.6	6580030.1	44.0	42.9	46.0	45.4	42.4	42.0	0.0	25.1	44.0	0.0	46.0	39.0	47.1	45.6	35	45	75	RR
R_244498	680524.5	6579975.1	45.6	44.5	47.6	46.8	43.8	41.7	0.0	31.7	45.7	0.0	47.6	40.6	48.1	47.0	35	45	75	RR
R_244494	679424.8	6579175.2	49.0	37.9	51.0	50.7	45.4	45.9	0.0	0.0	49.7	0.0	51.0	44.0	52.1	50.9	35	45	75	RR
R_324915	676487.7	6578240.5	29.6	0.0	31.6	31.4	27.1	35.9	0.0	0.0	30.3	0.0	31.6	24.6	37.5	32.3	35	45	75	RR
R_244492	676961.9	6578204.8	38.1	0.0	40.1	39.8	37.0	45.8	0.0	0.0	38.8	0.0	40.1	33.1	47.0	40.7	35	45	75	RR
R_244483	677195.1	6577408.1	43.2	0.0	45.2	44.8	41.4	46.7	0.0	28.3	43.8	0.0	45.2	38.2	49.0	45.2	35	45	75	RR
R_244465	679470.5	6577139.8	46.2	30.3	48.2	47.3	44.2	53.6	0.0	0.0	46.3	0.0	48.2	41.2	54.8	48.5	35	45	75	RR
R_331820	678288.9	6571346.2	35.4	0.0	37.4	37.3	33.6	36.2	0.0	30.2	29.8	0.0	37.4	30.4	39.8	37.3	35	45	75	RR
R_244437	677780.3	6570552.4	36.6	0.0	38.6	38.3	35.5	44.9	0.0	32.7	34.7	0.0	38.6	31.6	45.8	38.4	35	45	75	RR
R_244419	676131.9	6567308.7	55.1	42.3	57.1	48.3	44.3	0.0	0.0	33.8	47.1	0.0	57.1	50.1	48.6	48.6	35	45	75	RR
R_244422	677134.0	6567305.3	41.9	32.4	43.9	38.9	33.9	0.0	0.0	28.2	38.6	0.0	43.9	36.9	39.8	39.8	35	45	75	RR
R_331699	677217.4	6567182.1	40.9	35.3	42.9	37.7	33.1	0.0	0.0	27.3	38.0	0.0	42.9	35.9	38.6	38.6	35	45	75	RR
R_244394	672553.9	6564509.0	35.5	31.8	37.5	37.2	30.0	40.0	0.0	22.8	34.5	0.0	37.5	30.5	41.9	37.3	35	45	75	RR
R_244387	672410.7	6564476.3	35.9	34.6	37.9	37.6	34.9	44.9	0.0	22.2	35.2	0.0	37.9	30.9	45.7	37.7	35	45	75	RR
R_244383	672105.2	6564416.4	33.5	31.6	35.5	34.4	31.5	41.5	0.0	0.0	33.4	0.0	35.5	28.5	42.3	34.4	35	45	75	RR
R_331750	675546.5	6564246.2	51.7	42.2	53.7	53.3	46.6	56.6	0.0	45.8	52.2	0.0	53.7	46.7	58.3	53.3	35	45	75	RR
R_244376	674015.5	6562576.0	40.3	32.5	42.3	41.8	39.0	47.3	0.0	35.7	40.9	0.0	42.3	35.3	48.5	42.5	35	45	75	RR
R_244372	671673.5	6561146.2	30.4	26.9	32.4	32.2	29.3	38.7	0.0	0.0	31.2	0.0	32.4	25.4	39.7	32.9	35	45	75	RR
R_244355	671150.6	6560780.5	30.1	23.3	32.1	28.0	28.6	38.0	0.0	0.0	30.9	0.0	32.1	25.1	38.6	29.8	35	45	75	RR
R_331700	674472.0	6557799.0	34.3	38.7	36.3	35.9	37.0	46.7	0.0	25.0	38.5	0.0	36.3	29.3	47.1	36.4	35	45	75	RR
R_244329	670592.3	6555337.0	37.0	30.9	39.0	39.0	37.1	47.1	0.0	32.2	34.6	0.0	39.0	32.0	47.8	39.5	35	45	75	RR
R_244309	672386.9	6554162.3	53.9	93.0	55.9	54.9	51.9	56.1	0.0	30.0	54.3	0.0	55.9	48.9	58.7	55.2	35	45	75	RR
R_331999	673554.3	6554027.6	41.0	51.0	43.0	41.7	37.7	46.2	0.0	29.4	40.1	0.0	43.0	36.0	47.8	42.8	35	45	75	RR
R_244284	670230.2	6553620.8	39.0	32.0	41.0	38.7	35.2	45.1	0.0	27.3	37.7	0.0	41.0	34.0	46.2	39.8	35	45	75	RR
R_325361	674547.0	6551998.1	30.4	27.9	32.4	32.3	28.9	38.9	0.0	0.0	31.3	0.0	32.4	25.4	40.0	33.3	35	45	75	RR
R_244280	672512.3	6550358.4	31.9	29.6	33.9	33.7	29.6	39.6	0.0	26.7	32.6	0.0	33.9	26.9	40.6	33.7	35	45	75	RR
R_244255	672584.7	6550088.4	32.8	33.3	34.8	32.9	31.6	41.5	0.0	25.4	37.1	0.0	34.8	27.8	42.1	32.9	35	45	75	RR
R_244252	672585.1	6550079.4	31.0	27.6	33.0	32.8	28.7	38.7	0.0	25.3	31.7	0.0	33.0	26.0	39.7	32.8	35	45	75	RR
R_244234	668528.4	6549950.8	38.3	34.7	40.3	40.1	36.9	36.9	0.0	26.1	35.0	0.0	40.3	33.3	42.1	40.6	35	45	75	RR
R_244228	671697.0	6548658.0	38.0	33.8	40.0	39.8	36.6	41.1	0.0	24.2	34.7	0.0	40.0	33.0	43.6	40.1	35	45	75	RR
R_244225	667900.9	6547800.7	43.6	36.1	45.6	41.4	33.5	0.0	0.0	32.7	41.3	0.0	45.6	38.6	41.8	41.8	35	45	75	RR
R_244201	667482.4	6546006.2	46.7	43.7	48.7	46.4	43.8	0.0	0.0	36.9	46.4	0.0	48.7	41.7	47.1	47.1	35	45	75	RR
R_244173	667374.5	6544637.0	61.3	45.2	63.3	56.1	44.2	0.0	0.0	43.2	54.9	0.0	63.3	56.3	57.2	57.2	35	45	75	RR
R_325492	669231.2	6544475.8	47.1	44.3	49.1	43.1	39.1	0.0	0.0	37.9	42.0	0.0	49.1	42.1	44.2	44.2	35	45	75	RR
R_324859	669706.0	6543557.0	37.1	34.1	39.1	37.3	32.5	0.0	0.0	31.3	36.2	0.0	39.1	32.1	38.4	38.4	35	45	75	RR
R_324720	667978.1	6541349.4	41.2	24.9	43.2	42.1	38.6	0.0	0.0	34.7	42.5	0.0	43.2	36.2	42.1	42.1	35	45	75	RR
R_324718	668265.6	6540174.6	37.0	31.5	39.0	39.0	24.3	0.0	0.0	26.8	34.7	0.0	39.0	32.0	39.1	39.1	35	45	75	RR
R_325416	668175.5	6540051.6	33.3	26.3	35.3	35.2	23.8	0.0	0.0	26.4	34.0	0.0	35.3	28.3	35.4	35.4	35	45	75	RR
R_244141	664167.7	6539185.5	63.6	61.3	65.6	61.3	57.3	0.0	0.0	44.3	59.5	0.0	65.6	58.6	61.3	61.3	35	45	75	RR
R_244137	660396.4	6538195.0	38.0	24.5	40.0	36.8	35.6	42.7	0.0	32.3	40.1	0.0	40.0	33.0	43.8	37.1	35	45	75	RR
R_324715	658334.0	6537449.0	31.5	0.0	33.5	33.3	30.9	39.1	0.0	0.0	32.3	0.0	33.5	26.5	40.1	33.3	35	45	75	RR
R_244124	664411.2	6537350.7	36.7	35.4	38.7	38.7	34.9	33.3	0.0	31.9	37.9	0.0	38.7	31.7	40.6	39.8	35	45	75	RR
R_244118	662736.0	6537306.2	47.2	40.6	49.2	48.5	43.5	48.9	0.0	43.1	47.4	0.0	49.2	42.2	52.0	49.1	35	45	75	RR
R_244110	663392.3	6537080.1	35.0	32.7	37.0	36.5	32.5	38.9	0.0	31.4	35.5	0.0	37.0	30.0	41.3	37.6	35	45	75	RR
R_244093	659256.1	6533879.1	42.7	38.4	44.7	43.6	39.4	40.2	0.0	38.4	42.6	0.0	44.7	37.7	45.5	43.9	35	45	75	RR
R_244075	661602.7	6533163.8	43.7	43.4	45.7	45.1	40.6	39.1	0.0	38.8	44.1	0.0	45.7	38.7	46.4	45.5	35	45	75	RR
R_244057	659790.2	6532315.6	53.3	71.4	55.3	53.5	49.8	0.0	0.0	36.7	52.2	0.0	55.3	48.3	54.6	54.6	35	45	75	RR
R_244053	660652.6	6531452.9	54.3	56.0	56.3	54.8	50.8	0.0	0.0	49.5	53.6	0.0	56.3	49.3	55.0	55.0	35	45	75	RR
R_244038	661898.4	6531081.8	38.3	40.3	40.3	39.8	36.7	0.0	0.0	29.1	38.8	0.0	40.3	33.3	40.0	40.0	35	45	75	RR
R_324886	657584.6	6529710.0	33.2	0.0	35.2	35.3	31.4	40.1	0.0	0.0	34.0	0.0	35.2	28.2	41.4	35.6	35	45	75	RR
R_324898	657060.8	6527607.2	28.9	0.0	30.9	30.0	25.9	35.6	0.0	0.0	33.1	0.0	30.9	23.9	36.9	31.2	35	45	75	RR
R_325845	657070.7	6527603.5	28.9	0.0	30.9	30.1	26.0	35.6	0.0	0.0	33.2	0.0	30.9	23.9	37.0	31.3	35	45	75	RR
R_244019	661507.6	6527336.4	34.9	0.0	36.9	32.8	33.5	38.6	0.0	0.0	35.9	0.0	36.9	29.9	40.0	34.5	35	45	75	RR
R_244018	658210.5	6527151.6	42.7	29.8	44.7	44.1														

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_243868	650801.3	6511171.7	54.6	51.4	56.6	55.8	50.1	60.1	34.9	45.2	54.6	0.0	56.6	49.6	61.5	55.8	35	45	75	RR
R_243864	651295.3	6509752.1	42.9	38.8	44.9	44.5	39.5	49.5	29.2	35.2	44.1	0.0	44.9	37.9	50.7	44.7	35	45	75	RR
R_243860	651585.1	6509525.0	43.3	38.2	45.3	42.9	40.2	50.2	32.1	37.2	41.8	0.0	45.3	38.3	51.0	43.2	35	45	75	RR
R_243859	651607.2	6509335.6	40.5	37.0	42.5	41.2	38.9	48.9	31.9	36.0	39.0	0.0	42.5	35.5	49.7	41.9	35	45	75	RR
R_243853	650572.5	6509307.6	46.0	40.0	48.0	45.4	41.9	51.9	41.0	39.5	42.9	0.0	48.0	41.0	53.1	46.8	35	45	75	RR
R_243849	650644.0	6509262.4	45.1	37.0	47.1	44.6	41.1	51.1	40.1	33.3	42.1	0.0	47.1	40.1	52.3	46.0	35	45	75	RR
R_243844	650659.6	6509211.7	44.8	36.6	46.8	44.1	40.6	50.6	39.8	38.5	42.0	0.0	46.8	39.8	51.8	45.5	35	45	75	RR
R_243840	652020.2	6509149.5	36.8	32.7	38.8	38.6	36.0	46.0	29.0	33.0	35.0	0.0	38.8	31.8	46.8	39.3	35	45	75	RR
R_324880	652033.2	6508960.7	34.0	30.1	36.0	34.9	33.6	43.6	28.8	26.5	34.5	0.0	36.0	29.0	44.3	35.9	35	45	75	RR
R_324962	650621.1	6507761.7	36.9	29.2	38.9	35.7	31.7	41.0	31.9	28.9	34.7	0.0	38.9	31.9	42.5	37.2	35	45	75	RR
R_243829	647262.6	6507339.5	57.2	59.1	59.2	58.8	49.1	0.0	26.7	42.0	57.8	53.1	59.2	52.2	59.2	59.2	35	45	75	RR
R_243806	644129.1	6505669.6	50.1	59.4	52.1	51.9	47.7	43.7	0.0	32.1	49.9	32.1	52.1	45.1	52.6	52.0	35	45	75	RR
R_324845	641637.8	6505038.3	28.5	25.8	30.5	29.3	29.3	35.4	0.0	24.3	30.3	0.0	30.5	23.5	36.5	30.1	35	45	75	RR
R_243791	644727.0	6504573.5	52.7	78.9	54.7	53.7	51.7	53.8	0.0	38.5	54.5	22.8	54.7	47.7	56.8	53.7	35	45	75	RR
R_243783	642001.5	6503859.8	34.4	26.9	36.4	34.5	35.6	38.7	0.0	28.8	37.8	0.0	36.4	29.4	40.3	35.2	35	45	75	RR
R_324997	646029.6	6501838.2	32.2	27.8	34.2	33.8	30.8	38.7	0.0	23.0	32.8	0.0	34.2	27.2	40.1	34.6	35	45	75	RR
R_325012	644973.7	6501061.4	35.3	0.0	37.3	37.1	33.9	0.0	0.0	26.1	36.1	0.0	37.3	30.3	37.5	37.5	35	45	75	RR
R_243754	641176.9	6500952.8	36.9	0.0	38.9	38.5	32.7	0.0	0.0	23.8	41.9	0.0	38.9	31.9	38.9	38.9	35	45	75	RR
R_243732	639649.7	6497223.6	35.2	22.5	37.2	37.1	34.2	40.7	0.0	25.2	36.2	0.0	37.2	30.2	42.6	38.1	35	45	75	RR
R_243723	639077.1	6496110.0	34.6	30.0	36.6	33.4	29.9	35.0	0.0	23.4	33.4	0.0	36.6	29.6	37.9	34.7	35	45	75	RR
R_331786	642717.0	6495601.6	44.3	37.0	46.3	44.8	43.4	53.4	0.0	32.7	43.8	0.0	46.3	39.3	54.1	46.0	35	45	75	RR
R_243695	640876.3	6495486.6	50.6	42.3	52.6	49.2	46.9	56.9	0.0	39.7	48.7	0.0	52.6	45.6	57.7	50.0	35	45	75	RR
R_243690	640909.5	6495440.6	53.8	44.6	55.8	50.0	47.6	57.6	0.0	38.7	49.4	0.0	55.8	48.8	58.7	52.2	35	45	75	RR
R_325010	644161.7	6495250.4	32.9	29.8	34.9	32.7	31.0	41.0	0.0	24.1	33.6	0.0	34.9	27.9	41.9	34.5	35	45	75	RR
R_325013	644394.1	6494812.7	30.9	23.4	32.9	32.7	29.5	39.5	0.0	22.9	31.4	0.0	32.9	25.9	40.6	33.9	35	45	75	RR
R_324801	643887.1	6494142.6	28.8	25.9	30.8	30.1	25.6	35.6	0.0	24.8	29.0	0.0	30.8	23.8	36.9	31.2	35	45	75	RR
R_331830	641838.0	6492111.6	48.1	44.4	50.1	49.7	46.1	0.0	0.0	23.4	48.6	0.0	50.1	43.1	49.7	49.7	35	45	75	RR
R_331834	640416.7	6490952.6	52.5	58.3	54.5	53.6	49.9	0.0	0.0	37.4	52.5	0.0	54.5	47.5	53.6	53.6	35	45	75	RR
R_243664	639014.7	6489193.6	38.7	25.0	40.7	40.1	36.4	0.0	0.0	34.6	39.1	0.0	40.7	33.7	40.7	40.7	35	45	75	RR
R_243629	638437.4	6485646.9	34.4	31.3	36.4	36.2	33.6	43.6	0.0	28.9	35.1	0.0	36.4	29.4	44.5	37.0	35	45	75	RR
R_331901	640743.2	6485555.4	95.6	36.4	97.6	82.0	48.1	58.1	0.0	29.3	78.2	0.0	97.6	90.6	82.0	82.0	35	45	75	RR
R_243613	638037.9	6484256.0	35.3	33.0	37.3	35.2	32.1	42.1	0.0	26.0	33.9	0.0	37.3	30.3	43.2	36.5	35	45	75	RR
R_331849	642075.2	6484188.0	39.3	39.7	41.3	41.4	37.4	47.4	0.0	30.2	35.2	0.0	41.3	34.3	48.4	41.7	35	45	75	RR
R_243609	638834.6	6483881.9	35.9	33.5	37.9	36.2	34.2	44.2	0.0	29.8	33.9	0.0	37.9	30.9	45.0	37.3	35	45	75	RR
R_331635	641176.1	6478651.2	36.6	31.3	38.6	36.1	31.3	41.3	0.0	30.0	36.4	0.0	38.6	31.6	42.6	36.8	35	45	75	RR
R_243589	637893.9	6478067.7	38.5	33.3	40.5	37.1	36.2	46.2	0.0	29.2	38.6	0.0	40.5	33.5	46.8	38.0	35	45	75	RR
R_243585	637795.6	6478022.3	38.0	31.0	40.0	36.1	29.9	39.9	0.0	28.8	34.2	0.0	40.0	33.0	41.5	36.5	35	45	75	RR
R_243582	637423.2	6477903.0	35.8	28.6	37.8	32.2	27.7	37.7	0.0	26.9	31.3	0.0	37.8	30.8	38.9	32.7	35	45	75	RR
R_243579	637264.1	6476389.1	35.0	23.7	37.0	37.0	0.0	0.0	0.0	25.8	29.2	0.0	37.0	30.0	37.0	37.0	35	45	75	RR
R_331960	639964.1	6472354.1	44.4	44.2	46.4	46.0	34.7	44.1	33.9	0.0	39.9	0.0	46.4	39.4	48.4	46.4	35	45	75	RR
R_332023	638619.3	6472016.3	56.6	69.9	58.6	57.9	51.6	61.1	50.6	0.0	53.6	0.0	58.6	51.6	62.8	57.9	35	45	75	RR
R_332019	640026.5	6471982.4	44.2	47.0	46.2	45.9	40.7	50.7	40.6	0.0	43.3	0.0	46.2	39.2	52.0	46.1	35	45	75	RR
R_243487	636002.6	6465759.9	42.7	39.8	44.7	43.9	40.8	50.8	33.7	35.1	42.9	0.0	44.7	37.7	51.6	43.9	35	45	75	RR
R_331746	638486.4	6465479.0	42.4	35.9	44.4	44.2	37.1	47.1	32.4	34.1	43.2	0.0	44.4	37.4	48.9	44.2	35	45	75	RR
R_243475	635066.6	6463812.8	65.0	93.0	67.0	65.7	43.9	38.0	26.4	44.2	64.3	0.0	67.0	60.0	65.7	65.7	35	45	75	RR
R_243473	633509.0	6463796.1	57.8	55.3	59.8	55.2	51.3	0.0	0.0	44.1	54.2	0.0	59.8	52.8	56.0	56.0	35	45	75	RR
R_243471	635042.7	6463749.4	61.7	93.0	63.7	62.8	39.7	37.7	26.0	44.6	61.6	0.0	63.7	56.7	62.8	62.8	35	45	75	RR
R_243438	633781.6	6462309.1	44.6	46.8	46.6	46.3	42.2	0.0	0.0	37.4	45.3	0.0	46.6	39.6	47.0	47.0	35	45	75	RR
R_243428	629401.2	6461859.1	44.5	62.8	46.5	43.1	42.3	52.3	0.0	37.4	43.5	0.0	46.5	39.5	52.9	43.8	35	45	75	RR
R_243429	631418.4	6461834.7	52.4	57.3	54.4	50.2	38.4	48.4	0.0	41.5	48.8	0.0	54.4	47.4	52.4	50.2	35	45	75	RR
R_243401	631372.1	6459761.2	37.7	32.8	39.7	37.4	32.7	42.7	0.0	33.1	37.1	0.0	39.7	32.7	44.2	38.7	35	45	75	RR
R_243398	631375.8	6459733.9	37.6	27.8	39.6	32.4	30.0	40.0	0.0	27.3	31.4	0.0	39.6	32.6	41.3	35.6	35	45	75	RR
R_324772	631455.1	6459635.0	36.2	31.7	38.2	36.5	30.3	40.3	0.0	26.6	34.5	0.0	38.2	31.2	42.2	37.8	35	45	75	RR
R_243390	629538.6	6459108.6	46.5	41.8	48.5	48.2	28.2	35.6	0.0	38.5	41.4	0.0	48.5	41.5	48.6	48.4	35	45	75	RR
R_243378	626274.6	6457969.0	50.3	31.0	52.3	51.9	46.2	0.0	0.0	32.1	50.9	0.0	52.3	45.3	51.9	51.9	35	45	75	RR
R_243368	625088.5	6456310.4	44.3	0.0	46.3	46.0	41.8	0.0	0.0	28.1	44.9	0.0	46.3	39.3	46.1	46.1	35	45	75	RR
R_332028	628367.6	6453371.5	37.1	30.4	39.1	38.3	34.4	0.0	0.0	30.6	37.2	0.0	39.1	32.1	38.9	38.9	35	45	75	RR
R_332047	625765.9	6448528.8	56.9	53.1	58.9	58.4	51.0	0.0	0.0	35.9	57.5	0.0	58.9	51.9	58.4	58.4	35	45	75	RR
R_331932	627419.7	6448361.5	40.6	42.0	42.6	42.5	34.5	0.0	0.0	29.2	41.6	0.0	42.6	35.6	42.5	42.5	35	45	75	RR
R_331710	625426.7	6447909.5	55.8	51.6	57.8	56.9	51.3	0.0	0.0	42.2	55.8	0.0	57.8	50.8	56.9	56.9	35	45	75	RR
R_331910	624894.2	6447859.6	48.7	43.0	50.7	48.3	44.7	0.0	0.0	40.8	47.3	0.0	50.7	43.7	48.3	48.3	35	45	75	RR
R_331764	625931.4	6446218.0	50.2	47.2	52.2	51.6	48.3	0.0	0.0	37.9	50.5	0.0	52.2	45.2	51.9	51.9	35	45	75	RR
R_331728	625580.8	6446000																		



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_243040	613760.5	6435042.2	32.9	0.0	34.9	31.7	0.0	0.0	0.0	28.3	35.1	28.3	34.9	27.9	31.7	31.7	35	45	75	RR
R_243046	616447.6	6435017.5	35.0	0.0	37.0	36.8	0.0	0.0	0.0	27.7	35.8	34.8	37.0	30.0	36.8	36.8	35	45	75	RR
R_243037	616020.4	6435014.5	36.3	0.0	38.3	38.1	0.0	0.0	0.0	28.0	37.1	32.8	38.3	31.3	38.1	38.1	35	45	75	RR
R_243030	616071.7	6434985.7	36.5	0.0	38.5	38.3	0.0	0.0	0.0	27.9	37.3	33.0	38.5	31.5	38.3	38.3	35	45	75	RR
R_243029	616014.5	6434983.9	36.5	0.0	38.5	38.2	0.0	0.0	0.0	28.3	37.3	33.0	38.5	31.5	38.2	38.2	35	45	75	RR
R_243024	616465.7	6434971.1	40.5	0.0	42.5	42.5	0.0	0.0	0.0	30.6	40.0	37.5	42.5	35.5	42.5	42.5	35	45	75	RR
R_243020	616006.0	6434955.0	36.8	0.0	38.8	38.7	0.0	0.0	0.0	28.4	37.6	33.3	38.8	31.8	38.7	38.7	35	45	75	RR
R_243021	616069.5	6434954.3	36.7	0.0	38.7	38.5	0.0	0.0	0.0	28.4	37.5	33.1	38.7	31.7	38.5	38.5	35	45	75	RR
R_243017	616004.7	6434928.9	37.0	0.0	39.0	38.9	0.0	0.0	0.0	28.6	37.9	33.6	39.0	32.0	38.9	38.9	35	45	75	RR
R_243016	616065.0	6434927.3	37.1	0.0	39.1	38.9	0.0	0.0	0.0	28.6	37.8	33.5	39.1	32.1	38.9	38.9	35	45	75	RR
R_243014	616057.4	6434890.0	37.4	0.0	39.4	39.2	0.0	0.0	0.0	28.9	38.2	34.1	39.4	32.4	39.2	39.2	35	45	75	RR
R_243013	616510.6	6434884.1	41.0	0.0	43.0	43.0	0.0	0.0	0.0	28.4	42.1	38.0	43.0	36.0	43.0	43.0	35	45	75	RR
R_243009	615999.1	6434867.9	37.8	0.0	39.8	39.6	0.0	0.0	0.0	29.0	38.6	36.7	39.8	32.8	39.6	39.6	35	45	75	RR
R_243006	616253.9	6434854.8	42.2	0.0	44.2	43.8	0.0	0.0	0.0	32.0	41.6	37.4	44.2	37.2	43.8	43.8	35	45	75	RR
R_243000	616006.5	6434838.5	42.4	0.0	44.4	39.9	0.0	0.0	0.0	32.6	38.9	37.5	44.4	37.4	39.9	39.9	35	45	75	RR
R_242999	616201.5	6434835.2	37.5	0.0	39.5	39.3	0.0	0.0	0.0	29.1	38.3	34.0	39.5	32.5	39.3	39.3	35	45	75	RR
R_242997	616078.2	6434822.5	38.1	0.0	40.1	39.9	0.0	0.0	0.0	29.4	38.9	34.5	40.1	33.1	39.9	39.9	35	45	75	RR
R_242996	616172.5	6434820.4	37.7	0.0	39.7	39.5	0.0	0.0	0.0	29.3	38.5	34.2	39.7	32.7	39.5	39.5	35	45	75	RR
R_242994	616545.6	6434810.6	41.7	0.0	43.7	43.5	0.0	0.0	0.0	28.7	42.5	38.4	43.7	36.7	43.5	43.5	35	45	75	RR
R_242993	616151.3	6434804.9	37.9	0.0	39.9	39.7	0.0	0.0	0.0	29.4	38.6	34.4	39.9	32.9	39.7	39.7	35	45	75	RR
R_242992	616112.5	6434803.2	38.2	0.0	40.2	39.9	0.0	0.0	0.0	29.4	38.9	34.6	40.2	33.2	39.9	39.9	35	45	75	RR
R_242984	616210.4	6434773.7	35.7	0.0	37.7	37.4	0.0	0.0	0.0	29.2	36.3	32.7	37.7	30.7	37.4	37.4	35	45	75	RR
R_242981	616025.5	6434764.3	43.4	0.0	45.4	45.1	0.0	0.0	0.0	33.2	43.1	39.9	45.4	38.4	45.1	45.1	35	45	75	RR
R_242979	616154.1	6434751.1	38.5	0.0	40.5	40.3	0.0	0.0	0.0	29.8	39.2	35.1	40.5	33.5	40.3	40.3	35	45	75	RR
R_242975	616129.9	6434747.1	43.6	0.0	45.6	45.1	0.0	0.0	0.0	33.0	44.5	39.2	45.6	38.6	45.1	45.1	35	45	75	RR
R_242974	616181.9	6434737.9	43.8	0.0	45.8	45.1	0.0	0.0	0.0	33.0	44.5	40.0	45.8	38.8	45.1	45.1	35	45	75	RR
R_242970	616521.8	6434712.8	42.5	0.0	44.5	44.4	0.0	0.0	0.0	29.3	43.3	39.3	44.5	37.5	44.4	44.4	35	45	75	RR
R_242966	616555.8	6434656.1	42.7	0.0	44.7	44.5	0.0	0.0	0.0	29.6	43.5	39.4	44.7	37.7	44.5	44.5	35	45	75	RR
R_324678	624554.9	6434558.6	30.4	27.0	32.4	32.2	27.8	37.8	0.0	25.8	31.1	0.0	32.4	25.4	46.4	45.8	35	45	75	RR
R_242942	614547.9	6434427.5	35.4	0.0	37.4	37.4	0.0	0.0	0.0	28.3	36.4	31.9	37.4	30.4	37.4	37.4	35	45	75	RR
R_331740	624373.9	6434420.6	31.3	28.4	33.3	33.2	28.9	38.9	0.0	27.0	32.1	0.0	33.3	26.3	47.4	46.8	35	45	75	RR
R_331947	622144.3	6434381.3	59.1	48.6	61.1	60.1	56.0	66.0	22.7	48.5	58.5	0.0	61.1	54.1	67.0	60.3	65	65	-	ARA
R_242940	616585.4	6434366.4	44.9	0.0	46.9	46.7	0.0	0.0	0.0	31.5	45.6	41.5	46.9	39.9	46.7	46.7	35	45	75	RR
R_242938	616591.7	6434349.8	44.0	0.0	46.0	45.7	0.0	0.0	0.0	31.6	44.7	39.7	46.0	39.0	45.7	45.7	35	45	75	RR
R_242936	616615.7	6434324.5	45.1	0.0	47.1	46.8	0.0	0.0	0.0	31.7	45.8	41.5	47.1	40.1	46.8	46.8	35	45	75	RR
R_242919	614514.0	6434296.4	39.8	0.0	41.8	41.8	0.0	0.0	0.0	34.4	42.3	35.7	41.8	34.8	41.8	41.8	35	45	75	RR
R_242924	616633.8	6434289.5	44.0	0.0	46.0	45.7	0.0	0.0	0.0	31.9	44.6	39.8	46.0	39.0	45.7	45.7	35	45	75	RR
R_242914	616669.6	6434256.9	45.0	0.0	47.0	46.7	0.0	0.0	0.0	32.0	45.5	41.4	47.0	40.0	46.7	46.7	35	45	75	RR
R_242912	617256.3	6434240.9	35.6	0.0	37.6	37.2	0.0	0.0	0.0	29.0	36.4	32.4	37.6	30.6	37.2	37.2	35	45	75	RR
R_242901	616681.4	6434213.7	42.7	0.0	44.7	44.4	0.0	0.0	0.0	32.2	45.3	40.1	44.7	37.7	44.4	44.4	35	45	75	RR
R_242888	616698.3	6434175.0	42.0	0.0	44.0	44.0	0.0	0.0	0.0	32.4	43.3	40.0	44.0	37.0	44.0	44.0	35	45	75	RR
R_242883	617160.0	6434139.5	36.9	0.0	38.9	38.3	0.0	0.0	0.0	30.0	37.6	34.5	38.9	31.9	38.3	38.3	35	45	75	RR
R_242879	616705.8	6434125.4	44.9	0.0	46.9	45.5	0.0	0.0	0.0	32.7	41.6	41.7	46.9	39.9	45.5	45.5	35	45	75	RR
R_242868	614150.4	6434123.1	37.6	0.0	39.6	39.6	0.0	0.0	0.0	30.9	39.8	33.7	39.6	32.6	39.6	39.6	35	45	75	RR
R_242853	614089.7	6434096.3	37.3	0.0	39.3	39.3	0.0	0.0	0.0	32.8	39.4	33.4	39.3	32.3	39.3	39.3	35	45	75	RR
R_242866	616721.9	6434092.9	40.8	0.0	42.8	42.3	0.0	0.0	0.0	32.8	41.4	37.4	42.8	35.8	42.3	42.3	35	45	75	RR
R_242850	616774.7	6434054.4	42.1	0.0	44.1	43.5	0.0	0.0	0.0	32.8	42.5	39.6	44.1	37.1	43.5	43.5	35	45	75	RR
R_242844	615815.4	6434053.2	57.9	0.0	59.9	59.8	0.0	0.0	0.0	36.5	58.6	53.3	59.9	52.9	59.8	59.8	35	45	75	RR
R_242849	617303.6	6434046.1	36.2	0.0	38.2	37.6	0.0	0.0	0.0	29.5	37.0	33.0	38.2	31.2	37.6	37.6	35	45	75	RR
R_242841	615832.6	6434044.0	58.5	0.0	60.5	60.2	0.0	0.0	0.0	42.3	59.1	53.7	60.5	53.5	60.2	60.2	35	45	75	RR
R_331791	621496.3	6434031.1	47.0	46.4	49.0	48.3	38.5	48.5	31.0	43.2	47.1	0.0	49.0	42.0	51.8	49.1	35	45	75	RR
R_242833	613894.4	6434001.9	36.1	0.0	38.1	38.1	0.0	0.0	0.0	32.0	38.1	32.2	38.1	31.1	38.1	38.1	35	45	75	RR
R_242824	616851.2	6433870.4	41.7	0.0	43.7	42.9	0.0	0.0	0.0	33.4	42.3	38.3	43.7	36.7	42.9	42.9	35	45	75	RR
R_242821	616374.8	6433862.8	53.2	0.0	55.2	53.3	0.0	0.0	0.0	40.4	53.1	48.5	55.2	48.2	53.3	53.3	35	45	75	RR
R_242819	616595.0	6433851.5	46.5	0.0	48.5	47.7	0.0	0.0	0.0	35.5	45.6	44.1	48.5	41.5	47.7	47.7	35	45	75	RR
R_242816	616655.1	6433843.9	44.0	0.0	46.0	45.3	0.0	0.0	0.0	35.0	44.6	40.5	46.0	39.0	45.3	45.3	35	45	75	RR
R_242814	616680.1	6433840.3	44.0	0.0	46.0	45.2	0.0	0.0	0.0	34.9	44.5	40.5	46.0	39.0	45.2	45.2	35	45	75	RR
R_242812	616707.2	6433830.5	43.8	0.0	45.8	45.0	0.0	0.0	0.0	34.8	44.4	40.4	45.8	38.8	45.0	45.0	35	45	75	RR
R_242807	616455.2	6433825.6	52.8	0.0	54.8	54.2	0.0	0.0	0.0	39.2	53.3	48.2	54.8	47.8	54.2	54.2	35	45	75	RR
R_242808	616597.3	6433824.7	45.1	0.0	47.1	43.4	0.0	0.0	0.0	35.6	45.6	41.5	47.1	40.1	43.4	43.4	35	45	75	RR
R_242803	616654.4	6433818.0	44.6	0.0	46.6	45.7	0.0	0.0	0.0	35.3	45.1	41.1	46.6	39.6	45.7	45.7	35	45	75	RR
R_242802	616513.6	6433816.7	48.7	0.0	50.7	49.8	0.0	0.0	0.0	36.5	49.0	46.3	50.7	43.7	49.8	49.8	35	45	75	RR
R_242799	616733.5	6433811.3	43.5	0.0	45.5	44.7	0.0	0.0	0.0	34.7	44.2	40.0	45.5	38.5	44					

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_242764	616847.4	6433741.0	42.0	0.0	44.0	42.2	0.0	0.0	0.0	33.5	41.9	38.8	44.0	37.0	42.2	42.2	35	45	75	RR
R_242759	616502.0	6433737.2	48.3	0.0	50.3	48.8	0.0	0.0	0.0	37.4	48.8	44.5	50.3	43.3	48.8	48.8	35	45	75	RR
R_242761	616638.1	6433736.4	45.2	0.0	47.2	46.3	0.0	0.0	0.0	36.0	46.0	41.8	47.2	40.2	46.3	46.3	35	45	75	RR
R_242760	616716.4	6433734.8	44.6	0.0	46.6	45.5	0.0	0.0	0.0	35.3	45.2	41.1	46.6	39.6	45.5	45.5	35	45	75	RR
R_242757	616776.1	6433731.2	43.2	0.0	45.2	44.0	0.0	0.0	0.0	34.8	43.6	39.8	45.2	38.2	44.0	44.0	35	45	75	RR
R_242755	616556.5	6433728.9	47.4	0.0	49.4	49.4	0.0	0.0	0.0	36.7	47.5	44.5	49.4	42.4	49.4	49.4	35	45	75	RR
R_242750	616443.4	6433726.3	53.2	0.0	55.2	54.8	0.0	0.0	0.0	38.4	54.5	49.7	55.2	48.2	54.8	54.8	35	45	75	RR
R_242744	616636.3	6433718.5	45.6	0.0	47.6	46.5	0.0	0.0	0.0	36.1	46.3	42.1	47.6	40.6	46.5	46.5	35	45	75	RR
R_242742	616497.2	6433717.4	53.7	0.0	55.7	53.1	0.0	0.0	0.0	39.9	52.2	49.5	55.7	48.7	53.1	53.1	35	45	75	RR
R_242743	616713.2	6433717.1	44.7	0.0	46.7	44.9	0.0	0.0	0.0	35.1	44.6	41.2	46.7	39.7	44.9	44.9	35	45	75	RR
R_242741	616775.5	6433712.4	43.8	0.0	45.8	44.7	0.0	0.0	0.0	34.9	44.4	40.4	45.8	38.8	44.7	44.7	35	45	75	RR
R_242738	616563.2	6433706.7	49.0	0.0	51.0	48.4	0.0	0.0	0.0	36.9	47.7	44.2	51.0	44.0	48.4	48.4	35	45	75	RR
R_242736	616433.7	6433706.4	55.0	0.0	57.0	56.4	0.0	0.0	0.0	38.8	55.4	50.5	57.0	50.0	56.4	56.4	35	45	75	RR
R_242734	616633.0	6433697.7	46.6	0.0	48.6	47.3	0.0	0.0	0.0	36.4	47.0	43.0	48.6	41.6	47.3	47.3	35	45	75	RR
R_242730	616492.9	6433696.1	51.3	0.0	53.3	50.4	0.0	0.0	0.0	40.0	53.7	49.1	53.3	46.3	50.4	50.4	35	45	75	RR
R_242732	616703.8	6433694.4	45.1	0.0	47.1	45.9	0.0	0.0	0.0	35.8	45.7	41.6	47.1	40.1	45.9	45.9	35	45	75	RR
R_242726	616571.8	6433688.2	45.2	0.0	47.2	46.6	0.0	0.0	0.0	34.0	45.4	41.3	47.2	40.2	46.6	46.6	35	45	75	RR
R_242727	616794.5	6433686.5	43.6	0.0	45.6	44.6	0.0	0.0	0.0	34.4	44.4	40.3	45.6	38.6	44.6	44.6	35	45	75	RR
R_242728	616974.8	6433684.9	41.2	0.0	43.2	42.2	0.0	0.0	0.0	33.3	41.8	37.7	43.2	36.2	42.2	42.2	35	45	75	RR
R_242725	616991.1	6433682.9	40.0	0.0	42.0	41.7	0.0	0.0	0.0	33.2	40.4	36.9	42.0	35.0	41.7	41.7	35	45	75	RR
R_242720	616488.6	6433682.8	54.1	0.0	56.1	55.6	0.0	0.0	0.0	38.1	54.6	49.7	56.1	49.1	55.6	55.6	35	45	75	RR
R_242722	617013.1	6433680.5	39.7	0.0	41.7	39.4	0.0	0.0	0.0	31.3	40.7	36.6	41.7	34.7	39.4	39.4	35	45	75	RR
R_242719	616627.7	6433678.3	48.6	0.0	50.6	50.1	0.0	0.0	0.0	36.5	47.2	46.0	50.6	43.6	50.1	50.1	35	45	75	RR
R_242717	616432.7	6433677.2	56.3	0.0	58.3	57.1	0.0	0.0	0.0	40.6	56.5	51.6	58.3	51.3	57.1	57.1	35	45	75	RR
R_332468	620528.9	6433676.4	37.7	33.5	39.7	39.4	34.7	44.7	28.4	28.6	33.0	0.0	39.7	32.7	45.9	39.7	35	45	75	RR
R_242716	616700.3	6433672.7	45.6	0.0	47.6	46.3	0.0	0.0	0.0	35.9	46.1	42.1	47.6	40.6	46.3	46.3	35	45	75	RR
R_242710	616405.7	6433670.1	56.6	0.0	58.6	57.5	0.0	0.0	0.0	40.8	56.8	51.9	58.6	51.6	57.5	57.5	35	45	75	RR
R_242711	616564.7	6433668.7	48.0	0.0	50.0	48.7	0.0	0.0	0.0	37.2	48.4	44.4	50.0	43.0	48.7	48.7	35	45	75	RR
R_242712	616783.3	6433668.6	44.1	0.0	46.1	44.9	0.0	0.0	0.0	35.2	44.8	40.7	46.1	39.1	44.9	44.9	35	45	75	RR
R_242703	616622.8	6433658.9	50.9	0.0	52.9	50.0	0.0	0.0	0.0	36.7	47.4	46.4	52.9	45.9	50.0	50.0	35	45	75	RR
R_242701	616557.1	6433655.7	48.6	0.0	50.6	50.6	0.0	0.0	0.0	37.3	48.6	45.6	50.6	43.6	50.6	50.6	35	45	75	RR
R_242699	616511.5	6433655.5	49.3	0.0	51.3	49.8	0.0	0.0	0.0	38.1	49.6	45.6	51.3	44.3	49.8	49.8	35	45	75	RR
R_242702	616702.3	6433655.0	45.6	0.0	47.6	46.3	0.0	0.0	0.0	35.9	46.1	42.1	47.6	40.6	46.3	46.3	35	45	75	RR
R_242698	616489.0	6433653.2	53.5	0.0	55.5	54.2	0.0	0.0	0.0	38.0	53.8	48.4	55.5	48.5	54.2	54.2	35	45	75	RR
R_242667	613360.8	6433651.8	33.2	0.0	35.2	35.2	0.0	0.0	0.0	29.8	34.9	29.0	35.2	28.2	35.2	35.2	35	45	75	RR
R_242696	616765.5	6433648.6	44.2	0.0	46.2	45.1	0.0	0.0	0.0	35.4	44.9	40.7	46.2	39.2	45.1	45.1	35	45	75	RR
R_242694	617006.6	6433644.4	41.1	0.0	43.1	41.8	0.0	0.0	0.0	32.7	41.8	37.7	43.1	36.1	41.8	41.8	35	45	75	RR
R_242690	616561.3	6433639.1	51.7	0.0	53.7	52.2	0.0	0.0	0.0	37.4	52.7	48.3	53.7	46.7	52.2	52.2	35	45	75	RR
R_242689	616694.1	6433636.8	45.9	0.0	47.9	46.5	0.0	0.0	0.0	36.2	46.4	42.4	47.9	40.9	46.5	46.5	35	45	75	RR
R_242685	616621.0	6433634.3	50.7	0.0	52.7	51.6	0.0	0.0	0.0	36.9	47.9	45.5	52.7	45.7	51.6	51.6	35	45	75	RR
R_332535	621189.2	6433633.2	43.8	42.1	45.8	45.5	36.5	46.5	32.3	39.4	42.5	29.7	45.8	38.8	49.3	46.1	35	45	75	RR
R_242680	616642.0	6433628.6	49.0	0.0	51.0	50.2	0.0	0.0	0.0	36.7	47.3	43.9	51.0	44.0	50.2	50.2	35	45	75	RR
R_242675	616677.7	6433622.8	47.9	0.0	49.9	46.9	0.0	0.0	0.0	36.4	46.8	43.1	49.9	42.9	46.9	46.9	35	45	75	RR
R_332484	620890.1	6433622.4	39.4	33.3	41.4	41.2	34.9	44.9	30.0	31.1	35.9	0.0	41.4	34.4	46.6	41.7	35	45	75	RR
R_242673	616828.8	6433618.8	43.7	0.0	45.7	44.5	0.0	0.0	0.0	35.0	44.3	40.2	45.7	38.7	44.5	44.5	35	45	75	RR
R_242670	616702.1	6433617.1	47.0	0.0	49.0	47.2	0.0	0.0	0.0	36.2	47.1	43.1	49.0	42.0	47.2	47.2	35	45	75	RR
R_242672	616948.8	6433616.2	40.8	0.0	42.8	42.1	0.0	0.0	0.0	32.6	41.4	37.7	42.8	35.8	42.1	42.1	35	45	75	RR
R_242679	617399.9	6433615.9	36.7	0.0	38.7	37.9	0.0	0.0	0.0	30.3	37.5	33.5	38.7	31.7	37.9	37.9	35	45	75	RR
R_242677	617388.3	6433615.8	36.9	0.0	38.9	38.0	0.0	0.0	0.0	30.4	37.7	33.6	38.9	31.9	38.0	38.0	35	45	75	RR
R_242674	617419.5	6433612.6	36.6	0.0	38.6	37.7	0.0	0.0	0.0	30.2	37.4	33.4	38.6	31.6	37.7	37.7	35	45	75	RR
R_242661	616416.8	6433611.4	57.8	0.0	59.8	58.2	0.0	0.0	0.0	41.1	57.9	53.0	59.8	52.8	58.2	58.2	35	45	75	RR
R_242671	617449.0	6433610.2	36.3	0.0	38.3	37.6	0.0	0.0	0.0	30.0	37.1	33.0	38.3	31.3	37.6	37.6	35	45	75	RR
R_242664	616753.1	6433608.8	46.3	0.0	48.3	46.6	0.0	0.0	0.0	35.7	46.4	42.4	48.3	41.3	46.6	46.6	35	45	75	RR
R_242666	617471.3	6433604.0	35.9	0.0	37.9	37.3	0.0	0.0	0.0	29.8	36.0	32.6	37.9	30.9	37.3	37.3	35	45	75	RR
R_242656	616802.6	6433601.9	45.7	0.0	47.7	45.1	0.0	0.0	0.0	35.3	45.9	41.1	47.7	40.7	45.1	45.1	35	45	75	RR
R_242665	617531.1	6433600.9	35.6	0.0	37.6	36.8	0.0	0.0	0.0	29.4	36.4	32.3	37.6	30.6	36.8	36.8	35	45	75	RR
R_242657	616977.0	6433599.9	41.7	0.0	43.7	42.5	0.0	0.0	0.0	33.7	42.3	38.1	43.7	36.7	42.5	42.5	35	45	75	RR
R_242655	616894.2	6433599.7	42.8	0.0	44.8	43.6	0.0	0.0	0.0	34.4	43.5	39.4	44.8	37.8	43.6	43.6	35	45	75	RR
R_242654	616924.4	6433599.0	42.4	0.0	44.4	43.2	0.0	0.0	0.0	34.2	43.1	39.0	44.4	37.4	43.2	43.2	35	45	75	RR
R_242650	616481.3	6433597.0	53.6	0.0	55.6	54.5	0.0	0.0	0.0	39.4	54.6	49.2	55.6	48.6	54.5	54.5	35	45	75	RR
R_242652	616908.3	6433596.3	42.6	0.0	44.6	43.4	0.0	0.0	0.0	34.3	43.3	39.2	44.6	37.6	43.4	43.4	35	45	75	RR
R_242646	616417.5	6433594.3	58.1	0.0	60.1	58.3	0.0	0.0	0.0	41.1	58.2	53.3	60.1	53.1	58.3	58.3	35	45	75	RR
R_242639	616552.4	6433589.0	49.3	0.0	51.3	49.6	0.0	0.0	0.0	37.9	49.7	45.6	51.3	44.3						



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_242606	616745.6	6433556.2	45.5	0.0	47.5	46.0	0.0	0.0	0.0	36.1	46.0	42.0	47.5	40.5	46.0	46.0	35	45	75	RR
R_242599	616482.2	6433556.1	57.0	0.0	59.0	57.2	0.0	0.0	0.0	42.5	57.0	52.2	59.0	52.0	57.2	57.2	35	45	75	RR
R_242596	616549.4	6433554.2	51.9	0.0	53.9	52.9	0.0	0.0	0.0	38.2	50.2	46.7	53.9	46.9	52.9	52.9	35	45	75	RR
R_242593	616690.5	6433551.3	46.5	0.0	48.5	47.0	0.0	0.0	0.0	36.7	47.1	43.0	48.5	41.5	47.0	47.0	35	45	75	RR
R_242609	617669.5	6433551.2	34.5	22.2	36.5	35.8	0.0	0.0	0.0	28.6	35.4	31.4	36.5	29.5	35.8	35.8	35	45	75	RR
R_242594	616768.8	6433551.1	44.8	0.0	46.8	45.7	0.0	0.0	0.0	35.9	45.6	41.4	46.8	39.8	45.7	45.7	35	45	75	RR
R_242605	617431.9	6433548.2	35.6	0.0	37.6	37.5	0.0	0.0	0.0	30.1	36.3	32.5	37.6	30.6	37.5	37.5	35	45	75	RR
R_242612	617727.7	6433547.8	33.1	22.3	35.1	35.0	0.0	0.0	0.0	28.2	34.8	30.8	35.1	28.1	35.0	35.0	35	45	75	RR
R_242603	617607.9	6433545.8	35.0	0.0	37.0	36.2	0.0	0.0	0.0	29.0	35.8	31.8	37.0	30.0	36.2	36.2	35	45	75	RR
R_242579	616405.9	6433540.3	56.5	0.0	58.5	55.9	0.0	0.0	0.0	40.4	59.4	54.7	58.5	51.5	55.9	55.9	35	45	75	RR
R_242581	616689.1	6433539.7	46.7	0.0	48.7	47.0	0.0	0.0	0.0	36.8	47.2	43.1	48.7	41.7	47.0	47.0	35	45	75	RR
R_242578	616615.6	6433537.5	48.6	0.0	50.6	48.7	0.0	0.0	0.0	37.7	49.1	45.0	50.6	43.6	48.7	48.7	35	45	75	RR
R_242573	616475.2	6433536.3	54.4	0.0	56.4	54.2	0.0	0.0	0.0	39.2	56.6	52.0	56.4	49.4	54.2	54.2	35	45	75	RR
R_242572	616545.6	6433535.4	50.2	0.0	52.2	50.2	0.0	0.0	0.0	38.5	50.6	46.5	52.2	45.2	50.2	50.2	35	45	75	RR
R_242576	616746.8	6433534.4	45.6	0.0	47.6	46.1	0.0	0.0	0.0	36.2	46.2	42.1	47.6	40.6	46.1	46.1	35	45	75	RR
R_242574	616893.2	6433532.2	43.2	0.0	45.2	43.9	0.0	0.0	0.0	34.8	43.8	39.8	45.2	38.2	43.9	43.9	35	45	75	RR
R_326555	620240.8	6433531.6	36.2	34.8	38.2	38.0	34.0	44.0	22.4	26.6	31.3	0.0	38.2	31.2	45.0	38.2	35	45	75	RR
R_242563	616933.1	6433526.0	42.5	0.0	44.5	43.2	0.0	0.0	0.0	34.4	43.1	39.1	44.5	37.5	43.2	43.2	35	45	75	RR
R_242569	617358.7	6433525.3	37.3	0.0	39.3	38.4	0.0	0.0	0.0	30.8	38.1	34.1	39.3	32.3	38.4	38.4	35	45	75	RR
R_242558	616681.6	6433524.9	46.9	0.0	48.9	47.2	0.0	0.0	0.0	37.0	47.5	43.4	48.9	41.9	47.2	47.2	35	45	75	RR
R_242564	617383.2	6433522.4	37.0	0.0	39.0	38.2	0.0	0.0	0.0	30.7	37.8	34.6	39.0	32.0	38.2	38.2	35	45	75	RR
R_242548	616405.9	6433521.9	60.1	0.0	62.1	59.4	0.0	0.0	0.0	40.3	60.1	55.2	62.1	55.1	59.4	59.4	35	45	75	RR
R_242570	617667.5	6433521.8	34.2	22.3	36.2	35.7	0.0	0.0	0.0	28.7	35.2	31.1	36.2	29.2	35.7	35.7	35	45	75	RR
R_242566	617603.9	6433520.4	34.7	0.0	36.7	36.2	0.0	0.0	0.0	29.1	35.8	31.7	36.7	29.7	36.2	36.2	35	45	75	RR
R_242555	616990.0	6433520.1	41.6	0.0	43.6	42.5	0.0	0.0	0.0	33.9	42.4	38.3	43.6	36.6	42.5	42.5	35	45	75	RR
R_242542	616543.1	6433517.9	50.7	0.0	52.7	51.5	0.0	0.0	0.0	38.5	50.5	47.9	52.7	45.7	51.5	51.5	35	45	75	RR
R_242559	617406.0	6433517.2	36.8	0.0	38.8	37.9	0.0	0.0	0.0	30.4	37.6	33.6	38.8	31.8	37.9	37.9	35	45	75	RR
R_242541	616603.4	6433516.6	49.0	0.0	51.0	48.9	0.0	0.0	0.0	37.9	49.2	45.3	51.0	44.0	48.9	48.9	35	45	75	RR
R_242544	616738.0	6433515.8	45.8	0.0	47.8	46.2	0.0	0.0	0.0	36.4	46.4	42.4	47.8	40.8	46.2	46.2	35	45	75	RR
R_242552	617438.5	6433512.8	36.4	0.0	38.4	37.7	0.0	0.0	0.0	30.2	37.3	33.3	38.4	31.4	37.7	37.7	35	45	75	RR
R_242556	617835.4	6433510.5	33.2	22.9	35.2	34.5	0.0	0.0	0.0	27.6	34.1	30.1	35.2	28.2	34.5	34.5	35	45	75	RR
R_242546	617420.3	6433510.0	36.6	0.0	38.6	37.8	0.0	0.0	0.0	30.3	37.5	33.4	38.6	31.6	37.8	37.8	35	45	75	RR
R_242539	616888.0	6433509.9	43.2	0.0	45.2	43.9	0.0	0.0	0.0	34.9	43.9	39.9	45.2	38.2	43.9	43.9	35	45	75	RR
R_242540	616908.5	6433509.8	42.9	0.0	44.9	43.6	0.0	0.0	0.0	34.7	43.6	39.5	44.9	37.9	43.6	43.6	35	45	75	RR
R_242535	616801.3	6433508.4	44.7	0.0	46.7	45.3	0.0	0.0	0.0	35.8	45.4	41.3	46.7	39.7	45.3	45.3	35	45	75	RR
R_242549	617708.8	6433508.0	34.2	22.5	36.2	35.5	0.0	0.0	0.0	28.4	35.1	31.0	36.2	29.2	35.5	35.5	35	45	75	RR
R_242527	616683.1	6433507.5	47.0	0.0	49.0	47.3	0.0	0.0	0.0	37.0	47.6	43.5	49.0	42.0	47.3	47.3	35	45	75	RR
R_242543	617461.4	6433507.4	36.3	0.0	38.3	37.4	0.0	0.0	0.0	30.0	37.1	33.1	38.3	31.3	37.4	37.4	35	45	75	RR
R_242533	616961.3	6433505.9	42.0	0.0	44.0	42.9	0.0	0.0	0.0	34.3	42.7	38.7	44.0	37.0	42.9	42.9	35	45	75	RR
R_242519	616402.0	6433505.9	57.6	0.0	59.6	56.0	0.0	0.0	0.0	40.4	60.4	55.7	59.6	52.6	56.0	56.0	35	45	75	RR
R_242526	616944.1	6433503.5	42.4	0.0	44.4	43.1	0.0	0.0	0.0	34.4	43.1	39.1	44.4	37.4	43.1	43.1	35	45	75	RR
R_242515	616458.1	6433501.8	55.6	0.0	57.6	54.6	0.0	0.0	0.0	39.8	58.6	53.7	57.6	50.6	54.6	54.6	35	45	75	RR
R_242537	617600.3	6433500.8	34.2	0.0	36.2	36.0	0.0	0.0	0.0	27.4	33.3	31.2	36.2	29.2	36.0	36.0	35	45	75	RR
R_242534	617527.8	6433499.9	35.7	0.0	37.7	36.9	0.0	0.0	0.0	29.6	36.5	32.5	37.7	30.7	36.9	36.9	35	45	75	RR
R_242531	617514.0	6433499.5	35.8	0.0	37.8	37.0	0.0	0.0	0.0	29.7	36.6	32.6	37.8	30.8	37.0	37.0	35	45	75	RR
R_242520	616980.9	6433499.2	41.6	0.0	43.6	42.6	0.0	0.0	0.0	34.1	42.4	38.1	43.6	36.6	42.6	42.6	35	45	75	RR
R_242513	616539.8	6433499.2	52.6	0.0	54.6	51.6	0.0	0.0	0.0	38.8	54.3	49.9	54.6	47.6	51.6	51.6	35	45	75	RR
R_242528	617543.2	6433498.2	33.3	0.0	35.3	34.4	0.0	0.0	0.0	29.5	33.4	29.0	35.3	28.3	34.4	34.4	35	45	75	RR
R_242507	616489.0	6433496.0	54.6	0.0	56.6	52.4	0.0	0.0	0.0	39.4	56.3	52.0	56.6	49.6	52.4	52.4	35	45	75	RR
R_242508	616738.6	6433493.6	45.9	0.0	47.9	46.3	0.0	0.0	0.0	36.5	46.5	42.5	47.9	40.9	46.3	46.3	35	45	75	RR
R_242510	616882.2	6433493.2	42.9	0.0	44.9	43.9	0.0	0.0	0.0	35.0	43.9	39.7	44.9	37.9	43.9	43.9	35	45	75	RR
R_242521	617561.7	6433493.0	35.4	0.0	37.4	36.6	0.0	0.0	0.0	29.4	36.2	32.2	37.4	30.4	36.6	36.6	35	45	75	RR
R_242504	616625.8	6433491.1	53.2	0.0	55.2	48.4	0.0	0.0	0.0	37.8	54.6	49.6	55.2	48.2	48.4	48.4	35	45	75	RR
R_242514	617577.1	6433488.3	35.2	0.0	37.2	36.5	0.0	0.0	0.0	29.3	36.1	32.1	37.2	30.2	36.5	36.5	35	45	75	RR
R_242503	616808.2	6433486.6	45.1	0.0	47.1	45.5	0.0	0.0	0.0	36.1	45.7	41.7	47.1	40.1	45.5	45.5	35	45	75	RR
R_242499	616531.8	6433483.6	53.0	0.0	55.0	53.0	0.0	0.0	0.0	39.0	56.2	50.6	55.0	48.0	53.0	53.0	35	45	75	RR
R_242500	616673.0	6433483.6	47.3	0.0	49.3	47.5	0.0	0.0	0.0	37.3	47.8	43.8	49.3	42.3	47.5	47.5	35	45	75	RR
R_242502	617596.5	6433477.9	35.1	0.0	37.1	36.4	0.0	0.0	0.0	29.2	36.0	31.9	37.1	30.1	36.4	36.4	35	45	75	RR
R_242498	616978.2	6433477.1	41.9	0.0	43.9	42.7	0.0	0.0	0.0	34.2	42.6	38.6	43.9	36.9	42.7	42.7	35	45	75	RR
R_242493	616602.4	6433474.4	54.3	0.0	56.3	54.7	0.0	0.0	0.0	38.2	53.6	50.1	56.3	49.3	54.7	54.7	35	45	75	RR
R_242497	616876.4	6433473.9	43.5	0.0	45.5	44.1	0.0	0.0	0.0	35.1	44.2	40.1	45.5	38.5	44.1	44.1	35	45	75	RR
R_242494	616735.7	6433473.3	46.0	0.0	48.0	46.3	0.0	0.0	0.0	36.6	46.6	42.6	48.0	41.0	46.3	46.3	35	45	75	RR
R_331739	624114.7	6433468.5	34.8	30.3	36.8	33.8	34.7	44.7	23.3	28.7	32.8	0.0	36.8	29.8</						

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_242447	616506.6	6433433.8	52.2	0.0	54.2	52.7	0.0	0.0	0.0	38.7	51.0	47.0	54.2	47.2	52.7	52.7	35	45	75	RR
R_242443	616475.8	6433433.4	54.1	0.0	56.1	54.5	0.0	0.0	0.0	39.6	55.7	51.0	56.1	49.1	54.5	54.5	35	45	75	RR
R_242452	616871.9	6433433.0	46.0	0.0	48.0	44.3	0.0	0.0	0.0	35.5	47.0	42.0	48.0	41.0	44.3	44.3	35	45	75	RR
R_242461	617509.4	6433433.0	35.9	0.0	37.9	37.1	0.0	0.0	0.0	29.9	36.8	32.8	37.9	30.9	37.1	37.1	35	45	75	RR
R_242464	617786.5	6433432.0	33.5	22.9	35.5	34.8	0.0	0.0	0.0	28.0	34.4	30.4	35.5	28.5	34.8	34.8	35	45	75	RR
R_242458	617535.2	6433429.3	35.2	0.0	37.2	36.8	0.0	0.0	0.0	29.7	36.4	32.1	37.2	30.2	36.8	36.8	35	45	75	RR
R_242438	616532.5	6433428.7	51.0	0.0	53.0	50.5	0.0	0.0	0.0	39.3	51.5	47.4	53.0	46.0	50.5	50.5	35	45	75	RR
R_242446	616948.4	6433428.1	45.8	0.0	47.8	43.1	0.0	0.0	0.0	34.6	46.8	41.5	47.8	40.8	43.1	43.1	35	45	75	RR
R_242451	617550.4	6433424.1	35.4	0.0	37.4	36.7	0.0	0.0	0.0	29.6	36.3	32.2	37.4	30.4	36.7	36.7	35	45	75	RR
R_242436	616929.9	6433423.7	42.6	0.0	44.6	43.3	0.0	0.0	0.0	34.8	43.4	39.4	44.6	37.6	43.3	43.3	35	45	75	RR
R_242449	617587.0	6433422.4	35.1	22.2	37.1	36.4	0.0	0.0	0.0	29.3	36.0	31.9	37.1	30.1	36.4	36.4	35	45	75	RR
R_242450	617647.6	6433422.3	34.7	22.4	36.7	35.9	0.0	0.0	0.0	28.9	35.6	31.5	36.7	29.7	35.9	35.9	35	45	75	RR
R_242428	616591.9	6433420.9	50.4	0.0	52.4	51.5	0.0	0.0	0.0	38.6	51.1	45.8	52.4	45.4	51.5	51.5	35	45	75	RR
R_242434	616963.5	6433420.0	42.1	0.0	44.1	42.8	0.0	0.0	0.0	34.4	42.8	38.5	44.1	37.1	42.8	42.8	35	45	75	RR
R_242440	617346.6	6433419.7	37.0	0.0	39.0	38.4	0.0	0.0	0.0	31.1	38.0	33.8	39.0	32.0	38.4	38.4	35	45	75	RR
R_242431	616975.2	6433417.3	42.0	0.0	44.0	42.7	0.0	0.0	0.0	34.4	42.7	38.7	44.0	37.0	42.7	42.7	35	45	75	RR
R_242439	617567.8	6433416.9	35.3	22.1	37.3	36.6	0.0	0.0	0.0	29.5	36.2	32.2	37.3	30.3	36.6	36.6	35	45	75	RR
R_242419	616605.0	6433416.1	50.1	0.0	52.1	50.9	0.0	0.0	0.0	34.5	49.2	44.8	52.1	45.1	50.9	50.9	35	45	75	RR
R_242418	616646.2	6433415.2	49.3	0.0	51.3	50.2	0.0	0.0	0.0	38.0	48.6	44.6	51.3	44.3	50.2	50.2	35	45	75	RR
R_242417	616530.3	6433414.8	51.1	0.0	53.1	50.5	0.0	0.0	0.0	39.4	51.2	49.2	53.1	46.1	50.5	50.5	35	45	75	RR
R_242413	616385.2	6433413.1	60.0	0.0	62.0	55.3	0.0	0.0	0.0	41.6	62.6	58.0	62.0	55.0	55.3	55.3	35	45	75	RR
R_242426	617513.2	6433409.4	35.9	0.0	37.9	37.1	0.0	0.0	0.0	29.9	36.7	32.7	37.9	30.9	37.1	37.1	35	45	75	RR
R_242407	616667.9	6433406.2	46.2	0.0	48.2	46.6	0.0	0.0	0.0	37.8	47.4	43.3	48.2	41.2	46.6	46.6	35	45	75	RR
R_242405	616582.6	6433404.4	47.2	0.0	49.2	47.9	0.0	0.0	0.0	38.8	48.1	44.0	49.2	42.2	47.9	47.9	35	45	75	RR
R_242402	616453.8	6433403.6	55.8	0.0	57.8	54.3	0.0	0.0	0.0	40.6	57.7	53.3	57.8	50.8	54.3	54.3	35	45	75	RR
R_242420	617828.2	6433402.6	33.3	23.2	35.3	34.6	0.0	0.0	0.0	27.8	34.2	30.2	35.3	28.3	34.6	34.6	35	45	75	RR
R_242415	617646.8	6433399.8	34.7	22.5	36.7	35.9	0.0	0.0	0.0	28.9	35.6	31.5	36.7	29.7	35.9	35.9	35	45	75	RR
R_242383	616378.8	6433393.8	63.2	0.0	65.2	60.7	0.0	0.0	0.0	42.4	63.2	58.5	65.2	58.2	60.7	60.7	35	45	75	RR
R_242388	616608.3	6433393.6	47.4	0.0	49.4	44.6	0.0	0.0	0.0	36.1	48.7	44.1	49.4	42.4	44.6	44.6	35	45	75	RR
R_242389	616666.7	6433393.5	47.5	0.0	49.5	47.6	0.0	0.0	0.0	37.8	48.2	44.1	49.5	42.5	47.6	47.6	35	45	75	RR
R_242386	616518.3	6433393.5	51.3	0.0	53.3	49.7	0.0	0.0	0.0	39.8	50.3	47.0	53.3	46.3	49.7	49.7	35	45	75	RR
R_242404	617586.4	6433392.5	35.2	22.3	37.2	36.4	0.0	0.0	0.0	29.4	36.1	32.0	37.2	30.2	36.4	36.4	35	45	75	RR
R_242399	617342.9	6433391.1	37.5	0.0	39.5	38.6	0.0	0.0	0.0	31.2	38.4	34.3	39.5	32.5	38.6	38.6	35	45	75	RR
R_242370	616450.7	6433384.5	57.5	0.0	59.5	55.6	0.0	0.0	0.0	41.2	56.5	54.5	59.5	52.5	55.6	55.6	35	45	75	RR
R_242387	617431.8	6433383.0	36.6	0.0	38.6	37.7	0.0	0.0	0.0	30.5	37.4	33.4	38.6	31.6	37.7	37.7	35	45	75	RR
R_242368	616580.4	6433381.6	49.7	0.0	51.7	49.6	0.0	0.0	0.0	39.0	50.3	46.2	51.7	44.7	49.6	49.6	35	45	75	RR
R_242369	616718.6	6433380.6	46.6	0.0	48.6	46.6	0.0	0.0	0.0	37.3	47.1	43.1	48.6	41.6	46.6	46.6	35	45	75	RR
R_242381	617643.3	6433378.4	34.7	22.5	36.7	36.0	0.0	0.0	0.0	29.0	35.6	31.6	36.7	29.7	36.0	36.0	35	45	75	RR
R_242366	616883.9	6433375.0	46.1	0.0	48.1	43.8	0.0	0.0	0.0	35.4	44.0	41.1	48.1	41.1	43.8	43.8	35	45	75	RR
R_242355	616378.7	6433374.2	62.7	0.0	64.7	60.4	0.0	0.0	0.0	42.5	63.0	58.3	64.7	57.7	60.4	60.4	35	45	75	RR
R_242353	616516.0	6433372.0	53.5	0.0	55.5	53.6	0.0	0.0	0.0	40.0	52.5	50.5	55.5	48.5	53.6	53.6	35	45	75	RR
R_242373	617703.2	6433371.4	34.2	22.8	36.2	35.5	0.0	0.0	0.0	28.6	35.1	31.1	36.2	29.2	35.5	35.5	35	45	75	RR
R_242360	616900.9	6433370.6	41.9	0.0	43.9	39.9	0.0	0.0	0.0	34.7	39.6	37.0	43.9	36.9	39.9	39.9	35	45	75	RR
R_242367	617406.0	6433370.3	36.8	0.0	38.8	37.9	0.0	0.0	0.0	30.7	37.7	33.6	38.8	31.8	37.9	37.9	35	45	75	RR
R_242351	616653.8	6433370.0	47.8	0.0	49.8	47.9	0.0	0.0	0.0	38.1	48.4	44.4	49.8	42.8	47.9	47.9	35	45	75	RR
R_242356	616938.7	6433368.0	44.3	0.0	46.3	40.0	0.0	0.0	0.0	32.5	40.5	39.5	46.3	39.3	40.0	40.0	35	45	75	RR
R_242364	617380.8	6433367.4	37.1	0.0	39.1	38.2	0.0	0.0	0.0	30.9	38.0	33.9	39.1	32.1	38.2	38.2	35	45	75	RR
R_242350	616919.1	6433366.4	39.2	0.0	41.2	40.5	0.0	0.0	0.0	32.1	40.8	36.3	41.2	34.2	40.5	40.5	35	45	75	RR
R_242338	616444.9	6433364.3	56.3	0.0	58.3	53.1	0.0	0.0	0.0	42.2	55.8	53.7	58.3	51.3	53.1	53.1	35	45	75	RR
R_242347	616966.6	6433364.1	44.4	0.0	46.4	42.8	0.0	0.0	0.0	34.6	42.8	39.5	46.4	39.4	42.8	42.8	35	45	75	RR
R_242361	617643.6	6433362.1	34.7	22.6	36.7	36.0	0.0	0.0	0.0	29.0	35.6	31.6	36.7	29.7	36.0	36.0	35	45	75	RR
R_242329	616579.8	6433361.1	50.1	0.0	52.1	49.4	0.0	0.0	0.0	39.2	50.4	46.3	52.1	45.1	49.4	49.4	35	45	75	RR
R_242337	616715.8	6433360.9	45.6	0.0	47.6	46.1	0.0	0.0	0.0	37.3	46.9	42.7	47.6	40.6	46.1	46.1	35	45	75	RR
R_332432	621224.9	6433359.3	44.6	41.4	46.6	46.5	39.0	49.0	33.8	34.4	42.1	31.0	46.6	39.6	51.2	47.1	35	45	75	RR
R_242326	617015.9	6433354.3	41.4	0.0	43.4	42.1	0.0	0.0	0.0	34.1	42.1	38.1	43.4	36.4	42.1	42.1	35	45	75	RR
R_242318	616513.6	6433353.2	53.7	0.0	55.7	50.8	0.0	0.0	0.0	40.2	54.4	49.5	55.7	48.7	50.8	50.8	35	45	75	RR
R_242315	616650.3	6433350.5	48.2	0.0	50.2	47.8	0.0	0.0	0.0	38.2	48.4	44.3	50.2	43.2	47.8	47.8	35	45	75	RR
R_242331	617578.2	6433349.9	35.3	22.3	37.3	36.5	0.0	0.0	0.0	29.5	36.1	32.1	37.3	30.3	36.5	36.5	35	45	75	RR
R_242323	617361.7	6433349.3	41.6	0.0	43.6	38.4	0.0	0.0	0.0	31.1	38.1	36.6	43.6	36.6	38.4	38.4	35	45	75	RR
R_242321	617046.3	6433348.7	40.7	0.0	42.7	40.5	0.0	0.0	0.0	33.4	41.5	37.3	42.7	35.7	40.5	40.5	35	45	75	RR
R_242317	616949.3	6433347.4	41.4	0.0	43.4	42.7	0.0	0.0	0.0	34.8	42.7	38.4	43.4	36.4	42.7	42.7	35	45	75	RR
R_242313	616893.8	6433347.1	43.1	0.0	45.1	43.7	0.0	0.0	0.0	35.4	43.9	39.9	45.1	38.1	43.7	43.7	35	45	75	RR
R_242322	617433.5	6433345.8	36.6	0.0	38.6	37.7	0.0	0.0	0.0	30.5	37.5	33.4	38.6	3						



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_242277	616431.3	6433324.2	59.0	0.0	61.0	54.0	0.0	0.0	0.0	42.1	57.1	52.6	61.0	54.0	54.0	54.0	35	45	75	RR
R_242289	617575.8	6433322.6	35.3	22.4	37.3	36.4	0.0	0.0	0.0	29.5	36.1	32.1	37.3	30.3	36.4	36.4	35	45	75	RR
R_242290	617636.9	6433322.3	34.8	22.6	36.8	36.0	0.0	0.0	0.0	29.1	35.7	31.6	36.8	29.8	36.0	36.0	35	45	75	RR
R_242276	616573.1	6433322.1	51.0	0.0	53.0	49.2	0.0	0.0	0.0	39.6	53.7	48.5	53.0	46.0	49.2	49.2	35	45	75	RR
R_242280	617010.7	6433320.5	40.2	0.0	42.2	41.5	0.0	0.0	0.0	34.2	41.2	37.3	42.2	35.2	41.5	41.5	35	45	75	RR
R_242273	616709.8	6433317.9	46.4	0.0	48.4	46.6	0.0	0.0	0.0	37.6	47.2	43.2	48.4	41.4	46.6	46.6	35	45	75	RR
R_242268	616500.9	6433316.6	52.0	0.0	54.0	50.9	0.0	0.0	0.0	40.7	52.5	48.4	54.0	47.0	50.9	50.9	35	45	75	RR
R_242271	616952.7	6433313.7	41.5	0.0	43.5	42.8	0.0	0.0	0.0	34.8	42.7	38.6	43.5	36.5	42.8	42.8	35	45	75	RR
R_242267	617108.6	6433309.6	40.1	0.0	42.1	41.0	0.0	0.0	0.0	33.3	40.9	36.9	42.1	35.1	41.0	41.0	35	45	75	RR
R_242259	616656.4	6433309.5	47.5	0.0	49.5	47.5	0.0	0.0	0.0	38.3	48.3	44.2	49.5	42.5	47.5	47.5	35	45	75	RR
R_242260	617007.9	6433305.4	40.1	0.0	42.1	41.3	0.0	0.0	0.0	33.6	42.0	37.8	42.1	35.1	41.3	41.3	35	45	75	RR
R_242252	616566.9	6433303.5	48.1	0.0	50.1	48.0	0.0	0.0	0.0	39.5	48.0	44.3	50.1	43.1	48.0	48.0	35	45	75	RR
R_242241	615979.3	6433302.3	73.1	0.0	75.1	71.7	0.0	0.0	0.0	55.0	70.8	55.5	75.1	68.1	71.7	71.7	70	70	-	CIP
R_242248	616443.6	6433302.0	55.9	0.0	57.9	53.6	0.0	0.0	0.0	41.6	58.1	54.9	57.9	50.9	53.6	53.6	35	45	75	RR
R_242261	617326.5	6433301.8	37.7	0.0	39.7	38.7	0.0	0.0	0.0	31.4	38.5	34.4	39.7	32.7	38.7	38.7	35	45	75	RR
R_242262	617633.1	6433299.5	39.1	22.7	41.1	36.0	0.0	0.0	0.0	29.1	35.7	34.3	41.1	34.1	36.0	36.0	35	45	75	RR
R_242251	616949.6	6433298.7	41.5	0.0	43.5	42.1	0.0	0.0	0.0	34.7	42.8	38.6	43.5	36.5	42.1	42.1	35	45	75	RR
R_242240	616508.2	6433295.8	51.3	0.0	53.3	48.5	0.0	0.0	0.0	42.9	49.8	45.3	53.3	46.3	48.5	48.5	35	45	75	RR
R_242244	616652.5	6433295.7	47.6	0.0	49.6	47.5	0.0	0.0	0.0	40.1	48.3	44.3	49.6	42.6	47.5	47.5	35	45	75	RR
R_242242	617104.3	6433290.1	40.2	0.0	42.2	41.0	0.0	0.0	0.0	33.4	40.9	36.9	42.2	35.2	41.0	41.0	35	45	75	RR
R_242239	617010.4	6433289.9	40.6	0.0	42.6	41.9	0.0	0.0	0.0	34.3	41.4	37.2	42.6	35.6	41.9	41.9	35	45	75	RR
R_242247	617385.4	6433289.8	37.1	0.0	39.1	38.1	0.0	0.0	0.0	31.0	37.9	33.9	39.1	32.1	38.1	38.1	35	45	75	RR
R_242231	616945.8	6433285.2	42.3	0.0	44.3	42.9	0.0	0.0	0.0	35.0	43.1	39.0	44.3	37.3	42.9	42.9	35	45	75	RR
R_242238	617418.6	6433284.8	36.8	0.0	38.8	35.4	0.0	0.0	0.0	29.2	34.6	34.2	38.8	31.8	35.4	35.4	35	45	75	RR
R_242224	616565.0	6433283.1	49.9	0.0	51.9	47.8	0.0	0.0	0.0	39.9	48.3	43.5	51.9	44.9	47.8	47.8	35	45	75	RR
R_242223	616648.5	6433281.9	46.9	0.0	48.9	47.1	0.0	0.0	0.0	39.4	47.4	43.0	48.9	41.9	47.1	47.1	35	45	75	RR
R_242230	617627.8	6433276.2	34.9	22.7	36.9	36.0	0.0	0.0	0.0	29.2	35.7	33.1	36.9	29.9	36.0	36.0	35	45	75	RR
R_242212	616700.2	6433275.4	46.4	0.0	48.4	46.5	0.0	0.0	0.0	38.5	47.2	43.2	48.4	41.4	46.5	46.5	35	45	75	RR
R_242222	617104.1	6433275.3	40.2	0.0	42.2	41.0	0.0	0.0	0.0	33.4	40.9	36.9	42.2	35.2	41.0	41.0	35	45	75	RR
R_242227	617331.3	6433275.2	37.8	0.0	39.8	38.5	0.0	0.0	0.0	31.4	38.3	34.3	39.8	32.8	38.5	38.5	35	45	75	RR
R_242208	616502.4	6433275.1	48.7	0.0	50.7	49.2	0.0	0.0	0.0	34.3	49.0	44.8	50.7	43.7	49.2	49.2	35	45	75	RR
R_242219	617002.9	6433273.4	41.3	0.0	43.3	41.4	0.0	0.0	0.0	34.2	42.1	38.0	43.3	36.3	41.4	41.4	35	45	75	RR
R_242226	617508.4	6433272.5	36.0	22.3	38.0	37.0	0.0	0.0	0.0	30.1	36.7	34.3	38.0	31.0	37.0	37.0	35	45	75	RR
R_242205	616941.6	6433266.8	42.1	0.0	44.1	42.6	0.0	0.0	0.0	35.0	42.8	38.7	44.1	37.1	42.6	42.6	35	45	75	RR
R_242213	617545.8	6433266.2	35.6	22.4	37.6	36.6	0.0	0.0	0.0	29.7	36.3	34.2	37.6	30.6	36.6	36.6	35	45	75	RR
R_242201	616568.0	6433265.3	50.0	0.0	52.0	48.7	0.0	0.0	0.0	42.3	50.0	45.8	52.0	45.0	48.7	48.7	35	45	75	RR
R_242209	617480.2	6433264.6	36.3	22.1	38.3	37.2	0.0	0.0	0.0	30.3	36.9	32.9	38.3	31.3	37.2	37.2	35	45	75	RR
R_242206	617565.9	6433260.2	35.5	22.5	37.5	36.4	0.0	0.0	0.0	29.6	36.1	31.9	37.5	30.5	36.4	36.4	35	45	75	RR
R_242197	616637.6	6433259.4	47.1	0.0	49.1	46.0	0.0	0.0	0.0	40.1	47.0	42.3	49.1	42.1	46.0	46.0	35	45	75	RR
R_242192	616489.7	6433259.1	54.0	0.0	56.0	52.3	0.0	0.0	0.0	41.0	55.9	52.7	56.0	49.0	52.3	52.3	35	45	75	RR
R_242200	617098.6	6433258.6	40.4	0.0	42.4	41.0	0.0	0.0	0.0	33.5	41.0	37.0	42.4	35.4	41.0	41.0	35	45	75	RR
R_242199	617001.1	6433257.9	41.5	0.0	43.5	42.2	0.0	0.0	0.0	34.3	41.8	37.9	43.5	36.5	42.2	42.2	35	45	75	RR
R_242202	617404.1	6433256.3	36.8	0.0	38.8	37.8	0.0	0.0	0.0	30.8	37.4	33.4	38.8	31.8	37.8	37.8	35	45	75	RR
R_242190	616705.3	6433256.2	51.8	0.0	53.8	46.3	0.0	0.0	0.0	39.5	47.0	42.9	53.8	46.8	46.3	46.3	35	45	75	RR
R_242203	617624.4	6433255.6	39.0	22.7	41.0	36.0	0.0	0.0	0.0	29.2	35.7	33.8	41.0	34.0	36.0	36.0	35	45	75	RR
R_242185	616940.7	6433249.5	41.2	0.0	43.2	42.3	0.0	0.0	0.0	32.1	41.7	38.1	43.2	36.2	42.3	42.3	35	45	75	RR
R_242189	617333.9	6433248.9	37.8	0.0	39.8	38.6	0.0	0.0	0.0	31.5	38.4	34.4	39.8	32.8	38.6	38.6	35	45	75	RR
R_242195	617478.1	6433248.6	36.3	22.2	38.3	37.2	0.0	0.0	0.0	30.3	37.0	32.9	38.3	31.3	37.2	37.2	35	45	75	RR
R_242177	616562.4	6433245.3	50.1	0.0	52.1	48.8	0.0	0.0	0.0	40.0	49.9	46.2	52.1	45.1	48.8	48.8	35	45	75	RR
R_242182	616995.4	6433245.0	41.5	0.0	43.5	42.1	0.0	0.0	0.0	34.4	42.1	38.1	43.5	36.5	42.1	42.1	35	45	75	RR
R_242181	617411.8	6433240.0	37.0	0.0	39.0	37.8	0.0	0.0	0.0	30.8	37.6	33.5	39.0	32.0	37.8	37.8	35	45	75	RR
R_242183	617623.0	6433237.7	35.0	22.8	37.0	36.0	0.0	0.0	0.0	29.2	35.7	31.7	37.0	30.0	36.0	36.0	35	45	75	RR
R_242170	616994.1	6433237.2	41.3	0.0	43.3	41.1	0.0	0.0	0.0	34.3	40.3	36.8	43.3	36.3	41.1	41.1	35	45	75	RR
R_242171	617089.6	6433236.1	39.7	0.0	41.7	40.9	0.0	0.0	0.0	32.1	40.9	36.9	41.7	34.7	40.9	40.9	35	45	75	RR
R_242135	613827.2	6433234.9	35.9	0.0	37.9	37.6	0.0	0.0	0.0	32.8	37.2	32.0	37.9	30.9	37.6	37.6	35	45	75	RR
R_242174	617556.4	6433233.0	35.6	22.6	37.6	36.6	0.0	0.0	0.0	29.7	36.3	32.3	37.6	30.6	36.6	36.6	35	45	75	RR
R_242166	616934.3	6433232.7	40.4	0.0	42.4	41.5	0.0	0.0	0.0	34.1	41.4	37.6	42.4	35.4	41.5	41.5	35	45	75	RR
R_242178	616898.0	6433232.3	42.8	0.0	44.8	42.3	0.0	0.0	0.0	35.4	41.8	37.9	44.8	37.8	42.3	42.3	35	45	75	RR
R_242161	616636.1	6433231.8	49.8	0.0	51.8	46.8	0.0	0.0	0.0	42.2	48.2	44.1	51.8	44.8	46.8	46.8	35	45	75	RR
R_242168	617474.8	6433231.1	36.3	22.2	38.3	37.1	0.0	0.0	0.0	30.0	36.6	32.6	38.3	31.3	37.1	37.1	35	45	75	RR
R_242159	616693.4	6433229.9	50.2	0.0	52.2	46.4	0.0	0.0	0.0	39.7	47.0	43.0	52.2	45.2	46.4	46.4	35	45	75	RR
R_242167	617316.3	6433228.3	38.0	0.0	40.0	38.7	0.0	0.0	0.0	31.6	38.5	34.5	40.0	33.0	38.7	38.7	35	45	75	RR
R_242160	616992.0	6433226.9	41.5	0.0	43.5	41.4	0.0	0.0	0.0	34.5	40.6	37.0	43.5	36.5</						

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_242121	617466.2	6433180.8	36.3	22.3	38.3	37.2	0.0	0.0	0.0	30.2	36.9	32.8	38.3	31.3	37.2	37.2	35	45	75	RR
R_242112	616638.2	6433179.4	50.9	0.0	52.9	46.8	0.0	0.0	0.0	38.9	45.7	42.0	52.9	45.9	46.8	46.8	35	45	75	RR
R_242122	617664.5	6433179.2	34.2	23.1	36.2	35.6	0.0	0.0	0.0	28.5	34.5	30.7	36.2	29.2	35.6	35.6	35	45	75	RR
R_242120	617610.8	6433178.4	35.2	22.9	37.2	36.1	0.0	0.0	0.0	29.4	35.7	31.7	37.2	30.2	36.1	36.1	35	45	75	RR
R_332430	620392.2	6433171.1	36.9	36.8	38.9	38.9	29.6	38.7	24.8	27.0	32.7	22.3	38.9	31.9	41.9	39.1	35	45	75	RR
R_242111	617400.0	6433169.5	37.1	0.0	39.1	37.8	0.0	0.0	0.0	30.9	37.5	33.5	39.1	32.1	37.8	37.8	35	45	75	RR
R_242108	617465.3	6433165.1	36.5	22.3	38.5	37.2	0.0	0.0	0.0	30.4	36.9	32.9	38.5	31.5	37.2	37.2	35	45	75	RR
R_332477	620807.0	6433163.0	38.7	31.3	40.7	40.7	36.9	46.9	26.4	29.4	35.7	23.5	40.7	33.7	47.9	41.0	35	45	75	RR
R_242106	617545.8	6433162.1	35.7	22.6	37.7	36.5	0.0	0.0	0.0	29.8	36.2	32.0	37.7	30.7	36.5	36.5	35	45	75	RR
R_242102	617305.5	6433159.8	38.1	0.0	40.1	38.6	0.0	0.0	0.0	31.7	38.5	34.4	40.1	33.1	38.6	38.6	35	45	75	RR
R_242061	614551.3	6433158.5	42.3	0.0	44.3	43.2	0.0	0.0	0.0	38.2	42.2	37.9	44.3	37.3	43.2	43.2	35	45	75	RR
R_332462	620670.5	6433157.3	37.6	31.2	39.6	39.6	31.6	40.4	25.8	28.6	34.7	23.1	39.6	32.6	43.2	39.9	35	45	75	RR
R_332427	620582.2	6433155.8	37.0	31.9	39.0	39.0	35.6	45.6	25.5	28.1	34.1	22.9	39.0	32.0	46.5	39.3	35	45	75	RR
R_242051	614292.3	6433154.2	35.0	0.0	37.0	35.9	0.0	0.0	0.0	30.4	34.9	33.3	37.0	30.0	35.9	35.9	35	45	75	RR
R_242093	617461.3	6433149.2	36.5	22.3	38.5	37.2	0.0	0.0	0.0	30.4	37.0	32.9	38.5	31.5	37.2	37.2	35	45	75	RR
R_242091	617399.0	6433145.2	37.1	0.0	39.1	37.6	0.0	0.0	0.0	30.9	37.4	33.4	39.1	32.1	37.6	37.6	35	45	75	RR
R_242089	617546.4	6433142.4	35.8	22.7	37.8	36.5	0.0	0.0	0.0	29.8	36.2	32.2	37.8	30.8	36.5	36.5	35	45	75	RR
R_332435	620498.9	6433142.2	37.5	34.6	39.5	34.6	30.5	40.5	25.2	33.2	33.5	22.7	39.5	32.5	41.6	35.3	35	45	75	RR
R_326641	619457.5	6433141.0	31.2	36.7	33.2	33.0	29.5	39.5	20.1	22.2	27.3	0.0	33.2	26.2	40.4	33.3	35	45	75	RR
R_242085	617608.4	6433139.8	35.3	22.9	37.3	36.1	0.0	0.0	0.0	29.4	35.7	31.7	37.3	30.3	36.1	36.1	35	45	75	RR
R_242079	617307.7	6433138.8	38.2	0.0	40.2	38.6	0.0	0.0	0.0	31.8	38.5	34.5	40.2	33.2	38.6	38.6	35	45	75	RR
R_332431	620925.0	6433136.5	41.7	37.8	43.7	43.4	39.1	49.1	27.1	31.3	38.9	23.9	43.7	36.7	50.2	43.6	35	45	75	RR
R_242070	616890.9	6433136.1	43.7	0.0	45.7	43.1	0.0	0.0	0.0	35.8	43.3	39.3	45.7	38.7	43.1	43.1	35	45	75	RR
R_242067	616914.2	6433135.1	43.2	0.0	45.2	42.7	0.0	0.0	0.0	35.4	42.9	38.9	45.2	38.2	42.7	42.7	35	45	75	RR
R_242064	616929.4	6433133.2	42.7	0.0	44.7	42.5	0.0	0.0	0.0	35.2	42.6	38.6	44.7	37.7	42.5	42.5	35	45	75	RR
R_242074	617463.9	6433130.1	36.4	22.4	38.4	37.0	0.0	0.0	0.0	30.4	36.5	32.6	38.4	31.4	37.0	37.0	35	45	75	RR
R_242073	617645.6	6433127.9	34.2	23.1	36.2	35.6	0.0	0.0	0.0	27.8	35.3	31.3	36.2	29.2	35.6	35.6	35	45	75	RR
R_242063	617545.6	6433125.7	35.8	22.7	37.8	36.5	0.0	0.0	0.0	29.8	36.2	32.2	37.8	30.8	36.5	36.5	35	45	75	RR
R_242056	617297.3	6433121.8	38.3	0.0	40.3	38.6	0.0	0.0	0.0	31.8	38.5	34.4	40.3	33.3	38.6	38.6	35	45	75	RR
R_242049	616983.5	6433121.7	42.1	0.0	44.1	41.8	0.0	0.0	0.0	34.7	41.9	37.8	44.1	37.1	41.8	41.8	35	45	75	RR
R_242059	617608.0	6433120.8	35.2	23.1	37.2	36.0	0.0	0.0	0.0	29.4	35.6	31.6	37.2	30.2	36.0	36.0	35	45	75	RR
R_242050	617364.8	6433118.3	37.4	0.0	39.4	38.0	0.0	0.0	0.0	31.3	37.8	33.8	39.4	32.4	38.0	38.0	35	45	75	RR
R_242042	617395.8	6433111.8	37.2	22.1	39.2	37.6	0.0	0.0	0.0	31.0	37.4	33.2	39.2	32.2	37.6	37.6	35	45	75	RR
R_242043	617538.2	6433110.2	35.8	22.8	37.8	36.4	0.0	0.0	0.0	29.8	36.1	32.1	37.8	30.8	36.4	36.4	35	45	75	RR
R_242033	617459.3	6433105.2	36.6	22.4	38.6	37.2	0.0	0.0	0.0	30.5	36.8	32.7	38.6	31.6	37.2	37.2	35	45	75	RR
R_242001	614391.0	6433104.4	40.0	0.0	42.0	41.9	0.0	0.0	0.0	36.8	40.9	35.3	42.0	35.0	41.9	41.9	35	45	75	RR
R_242034	617597.5	6433104.1	34.8	23.0	36.8	36.0	0.0	0.0	0.0	28.5	34.8	31.2	36.8	29.8	36.0	36.0	35	45	75	RR
R_242028	617485.4	6433099.9	36.4	22.5	38.4	36.9	0.0	0.0	0.0	30.3	36.7	32.7	38.4	31.4	36.9	36.9	35	45	75	RR
R_242021	617600.8	6433093.6	34.0	23.0	36.0	35.7	0.0	0.0	0.0	29.4	35.0	31.2	36.0	29.0	35.7	35.7	35	45	75	RR
R_242019	617531.9	6433093.5	35.9	22.7	37.9	36.5	0.0	0.0	0.0	29.9	36.3	32.2	37.9	30.9	36.5	36.5	35	45	75	RR
R_242008	616975.3	6433083.2	42.3	0.0	44.3	41.7	0.0	0.0	0.0	34.8	41.6	37.4	44.3	37.3	41.7	41.7	35	45	75	RR
R_242011	617600.7	6433078.4	35.3	23.1	37.3	36.0	0.0	0.0	0.0	29.4	35.7	31.6	37.3	30.3	36.0	36.0	35	45	75	RR
R_242004	617297.1	6433074.6	38.3	0.0	40.3	38.6	0.0	0.0	0.0	31.6	38.4	34.4	40.3	33.3	38.6	38.6	35	45	75	RR
R_241966	614631.6	6433068.3	43.3	0.0	45.3	44.0	0.0	0.0	0.0	38.9	42.9	38.0	45.3	38.3	44.0	44.0	35	45	75	RR
R_242000	617329.1	6433068.0	37.9	0.0	39.9	38.2	0.0	0.0	0.0	31.2	38.0	34.0	39.9	32.9	38.2	38.2	35	45	75	RR
R_332463	620984.7	6433067.1	42.2	37.9	44.2	43.9	39.9	49.9	33.1	31.3	39.0	24.4	44.2	37.2	50.9	44.2	35	45	75	RR
R_241998	617348.1	6433064.9	37.0	0.0	39.0	38.0	0.0	0.0	0.0	31.3	37.8	33.8	39.0	32.0	38.0	38.0	35	45	75	RR
R_241994	617387.5	6433060.8	37.3	22.2	39.3	37.7	0.0	0.0	0.0	31.0	37.5	33.5	39.3	32.3	37.7	37.7	35	45	75	RR
R_241991	617298.2	6433059.6	38.3	0.0	40.3	38.5	0.0	0.0	0.0	31.8	38.3	34.3	40.3	33.3	38.5	38.5	35	45	75	RR
R_241992	617368.6	6433058.9	37.5	16.8	39.5	37.8	0.0	0.0	0.0	31.2	37.6	33.6	39.5	32.5	37.8	37.8	35	45	75	RR
R_241941	613769.3	6433058.9	35.5	0.0	37.5	37.4	0.0	0.0	0.0	32.4	36.6	31.6	37.5	30.5	37.4	37.4	35	45	75	RR
R_241989	617360.0	6433058.5	37.5	0.0	39.5	37.8	0.0	0.0	0.0	31.2	37.6	33.6	39.5	32.5	37.8	37.8	35	45	75	RR
R_241979	617440.2	6433049.3	36.7	22.4	38.7	37.1	0.0	0.0	0.0	30.6	36.9	32.9	38.7	31.7	37.1	37.1	35	45	75	RR
R_241974	617283.5	6433046.0	38.4	0.0	40.4	38.5	0.0	0.0	0.0	31.9	38.4	34.4	40.4	33.4	38.5	38.5	35	45	75	RR
R_241975	617459.7	6433045.3	36.5	21.8	38.5	35.3	0.0	0.0	0.0	30.4	34.3	30.0	38.5	31.5	35.3	35.3	35	45	75	RR
R_241972	617481.8	6433041.4	35.4	22.6	37.4	36.8	0.0	0.0	0.0	24.7	36.5	32.5	37.4	30.4	36.8	36.8	35	45	75	RR
R_241967	617531.0	6433036.2	34.9	22.9	36.9	36.4	0.0	0.0	0.0	29.9	36.1	32.1	36.9	29.9	36.4	36.4	35	45	75	RR
R_241947	616526.2	6433030.3	57.8	0.0	59.8	51.9	0.0	0.0	0.0	46.4	50.8	45.4	59.8	52.8	51.9	51.9	35	45	75	RR
R_241953	617277.5	6433026.4	38.5	0.0	40.5	37.8	0.0	0.0	0.0	31.9	38.4	34.3	40.5	33.5	37.8	37.8	35	45	75	RR
R_241954	617636.1	6433025.9	35.0	23.3	37.0	35.6	0.0	0.0	0.0	29.2	35.3	31.2	37.0	30.0	35.6	35.6	35	45	75	RR
R_241949	617083.2	6433024.5	40.8	0.0	42.8	40.4	0.0	0.0	0.0	33.7	40.4	36.4	42.8	35.8	40.4	40.4	35	45	75	RR
R_241950	617505.3	6433021.1	35.8	22.8	37.8	35.7	0.0	0.0	0.0	30.1	36.3	32.2	37.8	30.8	35.7	35.7	35	45	75	RR
R_241945	617288.7	6433020.9	38.3	0.0	40.3	37.1	0.0	0.0	0.0</											



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_241894	617590.2	6432979.7	35.2	23.3	37.2	35.6	0.0	0.0	0.0	29.5	35.1	30.9	37.2	30.2	35.6	35.6	35	45	75	RR
R_241886	617274.6	6432977.6	38.5	0.0	40.5	38.4	0.0	0.0	0.0	31.9	38.2	34.2	40.5	33.5	38.4	38.4	35	45	75	RR
R_241888	617378.4	6432977.1	37.3	22.3	39.3	37.4	0.0	0.0	0.0	31.1	37.2	33.2	39.3	32.3	37.4	37.4	35	45	75	RR
R_241887	617467.8	6432975.8	36.5	22.7	38.5	36.8	0.0	0.0	0.0	30.4	36.5	32.5	38.5	31.5	36.8	36.8	35	45	75	RR
R_241877	617017.2	6432969.3	41.7	0.0	43.7	40.7	0.0	0.0	0.0	34.3	40.8	36.8	43.7	36.7	40.7	40.7	35	45	75	RR
R_332478	621047.5	6432967.3	42.7	37.8	44.7	44.4	35.5	45.5	28.6	31.3	39.0	25.0	44.7	37.7	48.1	44.6	35	45	75	RR
R_241872	617271.0	6432962.8	38.6	0.0	40.6	38.4	0.0	0.0	0.0	32.0	38.3	34.3	40.6	33.6	38.4	38.4	35	45	75	RR
R_241875	617518.2	6432962.5	36.1	23.0	38.1	36.4	0.0	0.0	0.0	30.0	36.1	32.1	38.1	31.1	36.4	36.4	35	45	75	RR
R_241871	617369.6	6432961.5	37.4	22.4	39.4	37.3	0.0	0.0	0.0	31.1	37.4	33.3	39.4	32.4	37.3	37.3	35	45	75	RR
R_241873	617583.4	6432960.9	35.2	23.3	37.2	35.7	0.0	0.0	0.0	29.4	35.4	31.3	37.2	30.2	35.7	35.7	35	45	75	RR
R_241862	617431.0	6432954.4	36.8	22.6	38.8	36.9	0.0	0.0	0.0	30.6	36.6	32.6	38.8	31.8	36.9	36.9	35	45	75	RR
R_241831	614323.9	6432951.8	35.2	0.0	37.2	35.6	0.0	0.0	0.0	30.6	37.3	30.3	37.2	30.2	35.6	35.6	35	45	75	RR
R_241854	617266.9	6432948.0	38.5	0.0	40.5	38.3	0.0	0.0	0.0	32.0	38.2	34.2	40.5	33.5	38.3	38.3	35	45	75	RR
R_241852	617366.9	6432945.8	37.4	22.3	39.4	36.5	0.0	0.0	0.0	31.2	35.8	31.6	39.4	32.4	36.5	36.5	35	45	75	RR
R_241843	616510.8	6432942.7	57.7	0.0	59.7	52.4	0.0	0.0	0.0	46.4	52.2	47.2	59.7	52.7	52.4	52.4	35	45	75	RR
R_241848	617519.3	6432940.3	36.0	23.0	38.0	35.3	0.0	0.0	0.0	30.0	34.3	30.2	38.0	31.0	35.3	35.3	35	45	75	RR
R_241849	617580.7	6432940.2	35.5	23.3	37.5	35.7	0.0	0.0	0.0	29.6	34.9	30.8	37.5	30.5	35.7	35.7	35	45	75	RR
R_241847	617423.6	6432938.8	36.8	22.6	38.8	36.9	0.0	0.0	0.0	30.7	36.5	32.3	38.8	31.8	36.9	36.9	35	45	75	RR
R_332474	620364.3	6432931.8	35.8	39.6	37.8	37.0	31.3	41.3	29.0	26.2	33.3	28.4	37.8	30.8	42.8	37.3	35	45	75	RR
R_241842	617360.9	6432930.3	36.2	22.4	38.2	37.5	0.0	0.0	0.0	30.7	37.3	33.2	38.2	31.2	37.5	37.5	35	45	75	RR
R_241834	616536.3	6432928.6	51.2	0.0	53.2	51.9	0.0	0.0	0.0	40.3	50.8	45.7	53.2	46.2	51.9	51.9	35	45	75	RR
R_241839	617268.8	6432928.2	38.5	0.0	40.5	38.2	0.0	0.0	0.0	32.0	38.1	34.1	40.5	33.5	38.2	38.2	35	45	75	RR
R_241829	616562.3	6432924.8	50.5	0.0	52.5	51.2	0.0	0.0	0.0	40.1	51.4	46.3	52.5	45.5	51.2	51.2	35	45	75	RR
R_332438	620754.3	6432924.7	39.3	38.5	41.3	41.3	39.0	49.0	27.1	28.8	37.0	24.3	41.3	34.3	49.7	41.6	35	45	75	RR
R_241828	616587.9	6432924.5	55.1	0.0	57.1	47.0	0.0	0.0	0.0	40.6	48.3	44.2	57.1	50.1	47.0	47.0	35	45	75	RR
R_241830	616809.2	6432922.3	47.4	0.0	49.4	47.6	0.0	0.0	0.0	39.9	44.6	42.2	49.4	42.4	47.6	47.6	35	45	75	RR
R_241837	617415.7	6432920.6	36.9	22.6	38.9	37.0	0.0	0.0	0.0	30.7	36.8	32.8	38.9	31.9	37.0	37.0	35	45	75	RR
R_241789	613777.1	6432917.8	35.5	0.0	37.5	37.5	0.0	0.0	0.0	32.4	36.5	30.9	37.5	30.5	37.5	37.5	35	45	75	RR
R_241835	617578.2	6432917.7	35.5	23.3	37.5	34.9	0.0	0.0	0.0	29.5	35.1	30.9	37.5	30.5	34.9	34.9	35	45	75	RR
R_241825	617354.5	6432912.4	37.6	22.4	39.6	37.5	0.0	0.0	0.0	31.3	37.3	33.3	39.6	32.6	37.5	37.5	35	45	75	RR
R_332439	621124.3	6432911.9	43.4	38.0	45.4	45.1	41.8	51.8	34.8	31.4	39.9	25.5	45.4	38.4	52.8	45.7	35	45	75	RR
R_241810	616664.3	6432904.6	46.1	0.0	48.1	43.9	0.0	0.0	0.0	36.1	43.9	39.6	48.1	41.1	43.9	43.9	35	45	75	RR
R_241814	617426.0	6432902.4	36.8	22.7	38.8	36.8	0.0	0.0	0.0	30.7	36.6	32.6	38.8	31.8	36.8	36.8	35	45	75	RR
R_241812	617262.5	6432900.0	38.5	0.0	40.5	38.2	0.0	0.0	0.0	32.0	38.0	34.0	40.5	33.5	38.2	38.2	35	45	75	RR
R_241804	616638.4	6432899.7	51.1	0.0	53.1	47.3	0.0	0.0	0.0	40.2	46.6	41.5	53.1	46.1	47.3	47.3	35	45	75	RR
R_241809	617360.8	6432895.9	37.5	22.4	39.5	37.4	0.0	0.0	0.0	31.1	37.2	33.1	39.5	32.5	37.4	37.4	35	45	75	RR
R_241797	616505.2	6432894.5	57.1	0.0	59.1	52.5	0.0	0.0	0.0	46.2	51.5	46.3	59.1	52.1	52.5	52.5	35	45	75	RR
R_241808	617300.1	6432894.1	37.5	22.1	39.5	36.8	0.0	0.0	0.0	31.5	36.9	32.7	39.5	32.5	36.8	36.8	35	45	75	RR
R_241811	617572.9	6432894.1	35.5	23.3	37.5	35.7	0.0	0.0	0.0	29.5	35.4	31.4	37.5	30.5	35.7	35.7	35	45	75	RR
R_241793	616575.2	6432890.6	55.3	0.0	57.3	50.9	0.0	0.0	0.0	40.6	49.9	44.9	57.3	50.3	50.9	50.9	35	45	75	RR
R_241802	617281.7	6432890.0	38.3	0.0	40.3	38.0	0.0	0.0	0.0	31.8	37.8	33.8	40.3	33.3	38.0	38.0	35	45	75	RR
R_241801	617326.9	6432886.8	37.1	22.3	39.1	37.5	0.0	0.0	0.0	31.3	37.3	33.3	39.1	32.1	37.5	37.5	35	45	75	RR
R_241799	617422.6	6432885.4	36.7	22.7	38.7	36.8	0.0	0.0	0.0	30.7	36.5	32.4	38.7	31.7	36.8	36.8	35	45	75	RR
R_241792	617362.0	6432880.7	37.3	22.4	39.3	36.8	0.0	0.0	0.0	31.0	36.6	32.6	39.3	32.3	36.8	36.8	35	45	75	RR
R_241790	617351.5	6432877.8	36.9	22.4	38.9	36.6	0.0	0.0	0.0	31.1	35.6	31.5	38.9	31.9	36.6	36.6	35	45	75	RR
R_241785	616501.9	6432876.5	56.8	0.0	58.8	52.6	0.0	0.0	0.0	46.2	51.5	46.5	58.8	51.8	52.6	52.6	35	45	75	RR
R_241788	617418.9	6432868.9	36.9	22.7	38.9	36.8	0.0	0.0	0.0	30.7	36.6	32.6	38.9	31.9	36.8	36.8	35	45	75	RR
R_241782	616778.9	6432868.4	45.7	0.0	47.7	42.5	0.0	0.0	0.0	37.1	42.6	38.6	47.7	40.7	42.5	42.5	35	45	75	RR
R_241780	616577.5	6432868.4	49.6	0.0	51.6	51.3	0.0	0.0	0.0	40.8	50.2	42.4	51.6	44.6	51.3	51.3	35	45	75	RR
R_241779	616636.5	6432866.4	47.9	0.0	49.9	46.6	0.0	0.0	0.0	38.6	47.0	42.4	49.9	42.9	46.6	46.6	35	45	75	RR
R_241778	616786.8	6432864.6	44.9	0.0	46.9	42.4	0.0	0.0	0.0	36.5	42.5	38.5	46.9	39.9	42.4	42.4	35	45	75	RR
R_241776	616794.8	6432861.7	44.7	0.0	46.7	42.3	0.0	0.0	0.0	36.4	42.4	38.3	46.7	39.7	42.3	42.3	35	45	75	RR
R_241771	616501.8	6432857.5	56.1	0.0	58.1	51.7	0.0	0.0	0.0	40.5	50.7	45.9	58.1	51.1	51.7	51.7	35	45	75	RR
R_241766	616567.0	6432850.6	49.5	0.0	51.5	50.9	0.0	0.0	0.0	41.7	49.9	43.5	51.5	44.5	50.9	50.9	35	45	75	RR
R_241774	617566.0	6432849.2	35.5	23.2	37.5	35.7	0.0	0.0	0.0	29.6	35.4	31.4	37.5	30.5	35.7	35.7	35	45	75	RR
R_241762	616634.1	6432845.4	48.4	0.0	50.4	46.3	0.0	0.0	0.0	38.4	43.9	43.6	50.4	43.4	46.3	46.3	35	45	75	RR
R_241763	617265.5	6432838.2	38.4	0.0	40.4	37.9	0.0	0.0	0.0	31.8	37.8	33.7	40.4	33.4	37.9	37.9	35	45	75	RR
R_241761	617313.5	6432836.4	37.8	22.1	39.8	37.5	0.0	0.0	0.0	31.4	37.3	33.3	39.8	32.8	37.5	37.5	35	45	75	RR
R_241749	616498.9	6432833.9	55.8	0.0	57.8	51.8	0.0	0.0	0.0	40.5	50.9	46.1	57.8	50.8	51.8	51.8	35	45	75	RR
R_241757	617357.5	6432831.5	37.4	22.5	39.4	37.1	0.0	0.0	0.0	31.1	36.9	32.9	39.4	32.4	37.1	37.1	35	45	75	RR
R_241754	617331.5	6432828.8	37.7	22.4	39.7	37.3	0.0	0.0	0.0	31.3	37.2	33.1	39.7	32.7	37.3	37.3	35	45	75	RR
R_241745	616570.6	6432826.9	48.8	0.0	50.8	47.4	0.0	0.0	0.0	39.1	45.5	44.5	50.8	43.8	47.4	47.4	35	45	75	RR
R_241753	617564.5	6432825.0	35.5	23.5	37.5	35.6	0.0	0.0	0.0	29.6										

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_241696	616862.8	6432777.8	43.2	0.0	45.2	41.6	0.0	0.0	0.0	35.5	41.0	37.0	45.2	38.2	41.6	41.6	35	45	75	RR
R_241701	617559.4	6432777.3	35.4	23.5	37.4	35.4	0.0	0.0	0.0	29.5	35.1	31.1	37.4	30.4	35.4	35.4	35	45	75	RR
R_241694	616627.0	6432777.1	48.6	0.0	50.6	50.4	0.0	0.0	0.0	38.2	49.4	44.4	50.6	43.6	50.4	50.4	35	45	75	RR
R_241698	617317.8	6432773.6	37.6	22.4	39.6	37.2	0.0	0.0	0.0	31.3	37.0	33.0	39.6	32.6	37.2	37.2	35	45	75	RR
R_241697	617402.2	6432772.1	36.7	22.8	38.7	36.5	0.0	0.0	0.0	30.5	36.3	32.3	38.7	31.7	36.5	36.5	35	45	75	RR
R_332459	621741.8	6432771.5	48.4	40.3	50.4	49.7	45.4	55.3	39.2	33.9	48.5	34.9	50.4	43.4	56.5	50.3	35	45	75	RR
R_241692	617334.7	6432766.4	37.5	22.5	39.5	37.1	0.0	0.0	0.0	31.2	36.9	32.9	39.5	32.5	37.1	37.1	35	45	75	RR
R_241686	616668.7	6432766.3	48.0	0.0	50.0	49.9	0.0	0.0	0.0	37.6	48.8	43.9	50.0	43.0	49.9	49.9	35	45	75	RR
R_241672	614519.9	6432765.6	41.7	0.0	43.7	42.8	0.0	0.0	0.0	37.9	41.8	36.6	43.7	36.7	42.8	42.8	35	45	75	RR
R_241683	616690.9	6432763.1	47.6	0.0	49.6	49.5	0.0	0.0	0.0	37.4	48.4	43.5	49.6	42.6	49.5	49.5	35	45	75	RR
R_241689	617553.5	6432759.5	35.5	23.5	37.5	35.4	0.0	0.0	0.0	29.5	35.1	31.1	37.5	30.5	35.4	35.4	35	45	75	RR
R_241687	617488.9	6432758.0	36.0	23.2	38.0	35.8	0.0	0.0	0.0	30.0	35.5	31.5	38.0	31.0	35.8	35.8	35	45	75	RR
R_241682	616853.8	6432757.7	43.3	0.0	45.3	42.1	0.0	0.0	0.0	35.5	41.0	37.3	45.3	38.3	42.1	42.1	35	45	75	RR
R_241685	617398.7	6432757.1	36.8	22.8	38.8	36.5	0.0	0.0	0.0	30.6	36.3	32.2	38.8	31.8	36.5	36.5	35	45	75	RR
R_241678	617396.2	6432742.6	36.8	22.8	38.8	36.5	0.0	0.0	0.0	30.7	36.3	32.3	38.8	31.8	36.5	36.5	35	45	75	RR
R_241670	616475.7	6432741.1	54.2	0.0	56.2	51.8	0.0	0.0	0.0	40.6	51.2	46.5	56.2	49.2	51.8	51.8	35	45	75	RR
R_241671	616502.5	6432740.9	54.3	0.0	56.3	51.3	0.0	0.0	0.0	40.2	50.4	45.7	56.3	49.3	51.3	51.3	35	45	75	RR
R_241673	616852.5	6432739.0	43.1	0.0	45.1	42.9	0.0	0.0	0.0	35.6	41.7	38.1	45.1	38.1	42.9	42.9	35	45	75	RR
R_241676	617550.7	6432738.1	35.4	23.5	37.4	35.4	0.0	0.0	0.0	29.5	35.1	31.1	37.4	30.4	35.4	35.4	35	45	75	RR
R_241665	616550.8	6432732.5	51.7	0.0	53.7	50.4	0.0	0.0	0.0	35.4	47.0	39.0	53.7	46.7	50.4	50.4	35	45	75	RR
R_241663	616526.6	6432731.8	53.3	0.0	55.3	51.3	0.0	0.0	0.0	39.8	50.2	45.5	55.3	48.3	51.3	51.3	35	45	75	RR
R_241668	617425.6	6432726.0	36.5	23.0	38.5	36.2	0.0	0.0	0.0	30.4	35.9	31.9	38.5	31.5	36.2	36.2	35	45	75	RR
R_241660	616616.9	6432722.6	46.5	0.0	48.5	46.7	0.0	0.0	0.0	39.4	47.7	40.3	48.5	41.5	46.7	46.7	35	45	75	RR
R_241659	616661.8	6432720.6	45.7	0.0	47.7	45.7	0.0	0.0	0.0	38.0	47.0	39.1	47.7	40.7	45.7	45.7	35	45	75	RR
R_332429	621219.2	6432718.2	43.8	37.4	45.8	45.5	43.6	53.6	36.5	30.9	41.6	26.8	45.8	38.8	54.3	46.0	35	45	75	RR
R_241657	616677.9	6432717.8	47.6	0.0	49.6	48.8	0.0	0.0	0.0	37.5	47.7	38.8	49.6	42.6	48.8	48.8	35	45	75	RR
R_241654	616689.4	6432715.6	46.3	0.0	48.3	44.6	0.0	0.0	0.0	37.4	46.6	38.6	48.3	41.3	44.6	44.6	35	45	75	RR
R_241652	616478.5	6432713.1	54.2	0.0	56.2	53.1	0.0	0.0	0.0	46.2	52.0	47.0	56.2	49.2	53.1	53.1	35	45	75	RR
R_241653	616845.2	6432711.5	45.5	0.0	47.5	42.0	0.0	0.0	0.0	35.7	40.7	37.2	47.5	40.5	42.0	42.0	35	45	75	RR
R_241646	616660.0	6432706.0	42.2	0.0	44.2	43.5	0.0	0.0	0.0	34.0	41.8	38.6	44.2	37.2	43.5	43.5	35	45	75	RR
R_241647	616762.9	6432705.5	46.4	0.0	48.4	47.9	0.0	0.0	0.0	36.7	43.5	37.8	48.4	41.4	47.9	47.9	35	45	75	RR
R_241642	616612.1	6432701.0	46.3	0.0	48.3	45.2	0.0	0.0	0.0	39.6	44.2	40.6	48.3	41.3	45.2	45.2	35	45	75	RR
R_241641	616549.9	6432700.5	44.5	0.0	46.5	46.2	0.0	0.0	0.0	38.6	45.2	40.7	46.5	39.5	46.2	46.2	35	45	75	RR
R_332471	621851.5	6432699.1	54.7	38.1	56.7	55.8	50.3	57.7	40.7	32.9	55.3	35.6	56.7	49.7	60.0	56.1	35	45	75	RR
R_241638	616468.9	6432695.1	54.1	0.0	56.1	53.2	0.0	0.0	0.0	46.4	52.1	47.2	56.1	49.1	53.2	53.2	35	45	75	RR
R_241634	616656.6	6432691.7	44.0	0.0	46.0	44.1	0.0	0.0	0.0	37.8	43.0	39.1	46.0	39.0	44.1	44.1	35	45	75	RR
R_241636	616838.5	6432690.0	44.4	0.0	46.4	42.9	0.0	0.0	0.0	35.8	40.8	36.7	46.4	39.4	42.9	42.9	35	45	75	RR
R_241630	616684.4	6432686.6	44.9	0.0	46.9	43.8	0.0	0.0	0.0	37.6	42.7	38.7	46.9	39.9	43.8	43.8	35	45	75	RR
R_241623	616541.7	6432683.7	49.0	0.0	51.0	48.4	0.0	0.0	0.0	39.6	47.3	43.7	51.0	44.0	48.4	48.4	35	45	75	RR
R_241626	616768.0	6432681.6	44.0	0.0	46.0	42.9	0.0	0.0	0.0	36.8	41.8	37.9	46.0	39.0	42.9	42.9	35	45	75	RR
R_241620	616606.2	6432680.8	46.1	0.0	48.1	45.2	0.0	0.0	0.0	38.7	44.0	42.5	48.1	41.1	45.2	45.2	35	45	75	RR
R_241611	616464.8	6432674.1	53.5	0.0	55.5	53.2	0.0	0.0	0.0	46.5	52.1	47.1	55.5	48.5	53.2	53.2	35	45	75	RR
R_241614	616841.6	6432672.8	42.8	0.0	44.8	41.8	0.0	0.0	0.0	35.8	40.7	36.7	44.8	37.8	41.8	41.8	35	45	75	RR
R_241610	617127.9	6432664.2	38.8	0.0	40.8	38.6	0.0	0.0	0.0	32.8	37.9	33.9	40.8	33.8	38.6	38.6	35	45	75	RR
R_241605	616540.2	6432663.0	48.7	0.0	50.7	50.4	0.0	0.0	0.0	40.1	48.4	44.3	50.7	43.7	50.4	50.4	35	45	75	RR
R_241608	617071.8	6432661.8	39.9	0.0	41.9	39.2	0.0	0.0	0.0	33.5	38.4	34.4	41.9	34.9	39.2	39.2	35	45	75	RR
R_241599	616607.7	6432658.2	45.8	0.0	47.8	45.0	0.0	0.0	0.0	38.8	43.9	40.0	47.8	40.8	45.0	45.0	35	45	75	RR
R_241604	616760.8	6432658.0	43.7	0.0	45.7	42.9	0.0	0.0	0.0	36.8	41.7	38.5	45.7	38.7	42.9	42.9	35	45	75	RR
R_241600	616839.2	6432656.3	42.6	0.0	44.6	41.8	0.0	0.0	0.0	35.9	40.7	36.7	44.6	37.6	41.8	41.8	35	45	75	RR
R_241597	616466.8	6432654.8	52.5	0.0	54.5	51.2	0.0	0.0	0.0	41.2	51.3	46.4	54.5	47.5	51.2	51.2	35	45	75	RR
R_241596	616667.0	6432650.6	44.9	0.0	46.9	44.1	0.0	0.0	0.0	38.0	43.0	39.0	46.9	39.9	44.1	44.1	35	45	75	RR
R_326626	619320.9	6432648.3	29.6	39.9	31.6	27.8	29.0	39.0	20.3	0.0	26.8	0.0	31.6	24.6	39.4	28.6	35	45	75	RR
R_241559	613990.0	6432642.8	36.4	0.0	38.4	33.2	0.0	0.0	0.0	28.3	33.4	32.5	38.4	31.4	33.2	33.2	35	45	75	RR
R_241586	616600.6	6432640.2	46.1	0.0	48.1	46.1	0.0	0.0	0.0	42.1	47.3	40.7	48.1	41.1	46.1	46.1	35	45	75	RR
R_241590	617065.6	6432639.1	39.8	0.0	41.8	39.2	0.0	0.0	0.0	33.5	38.3	34.2	41.8	34.8	39.2	39.2	35	45	75	RR
R_241587	616839.2	6432637.7	42.5	0.0	44.5	41.8	0.0	0.0	0.0	35.9	40.7	36.7	44.5	37.5	41.8	41.8	35	45	75	RR
R_241585	616532.8	6432637.4	50.4	0.0	52.4	51.9	0.0	0.0	0.0	42.7	50.8	45.8	52.4	45.4	51.9	51.9	35	45	75	RR
R_241581	616462.4	6432635.4	52.8	0.0	54.8	53.1	0.0	0.0	0.0	46.8	52.1	47.0	54.8	47.8	53.1	53.1	35	45	75	RR
R_241584	617213.1	6432629.2	0.0	27.7	0.0	42.9	0.0	0.0	0.0	32.2	42.8	37.6	0.0	0.0	42.9	42.9	35	45	75	RR
R_241580	617064.0	6432627.4	39.7	0.0	41.7	39.2	0.0	0.0	0.0	33.5	38.2	34.1	41.7	34.7	39.2	39.2	35	45	75	RR
R_241575	617152.9	6432620.1	38.8	0.0	40.8	38.4	0.0	0.0	0.0	32.8	37.5	33.5	40.8	33.8	38.4	38.4	35	45	75	RR
R_241573	616838.4	6432619.5	42.3	0.0	44.3	41.8	0.0	0.0	0.0	36.0	40.7	36.7	44.3	37.3	41.8	41.8	35	45	75	RR
R_241566	616599.0	6432618.6	48.8	0.0	50.8	48.3	0.0	0.0	0.0	39.0	49.5	44.4	50.8							



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_241525	617227.4	6432580.1	35.7	22.3	37.7	37.6	0.0	0.0	0.0	32.1	36.6	32.6	37.7	30.7	37.6	37.6	35	45	75	RR
R_241523	617052.1	6432579.8	39.6	0.0	41.6	39.3	0.0	0.0	0.0	33.7	38.3	34.3	41.6	34.6	39.3	39.3	35	45	75	RR
R_332465	621231.6	6432578.2	41.8	35.3	43.8	43.8	42.8	52.8	32.0	30.0	40.0	27.5	43.8	36.8	53.4	44.2	35	45	75	RR
R_241512	616594.0	6432573.3	48.5	0.0	50.5	50.6	0.0	0.0	0.0	44.0	49.5	44.2	50.5	43.5	50.6	50.6	35	45	75	RR
R_241510	616613.0	6432570.8	44.4	0.0	46.4	44.7	0.0	0.0	0.0	38.9	43.6	39.7	46.4	39.4	44.7	44.7	35	45	75	RR
R_241511	617143.6	6432566.1	38.4	0.0	40.4	38.3	0.0	0.0	0.0	32.8	37.3	33.3	40.4	33.4	38.3	38.3	35	45	75	RR
R_241505	616654.0	6432565.9	47.8	0.0	49.8	49.9	0.0	0.0	0.0	41.9	48.8	43.5	49.8	42.8	49.9	49.9	35	45	75	RR
R_241509	617048.1	6432565.4	39.5	0.0	41.5	39.3	0.0	0.0	0.0	33.8	38.3	34.2	41.5	34.5	39.3	39.3	35	45	75	RR
R_241504	616738.4	6432564.0	43.1	0.0	45.1	43.3	0.0	0.0	0.0	37.2	43.7	40.3	45.1	38.1	43.3	43.3	35	45	75	RR
R_241507	617234.5	6432561.5	37.7	22.3	39.7	37.5	0.0	0.0	0.0	32.1	36.6	32.5	39.7	32.7	37.5	37.5	35	45	75	RR
R_241499	616822.9	6432550.4	41.9	0.0	43.9	41.9	0.0	0.0	0.0	36.3	40.8	36.8	43.9	36.9	41.9	41.9	35	45	75	RR
R_241497	616736.6	6432548.9	46.6	0.0	48.6	48.6	0.0	0.0	0.0	37.2	45.1	42.0	48.6	41.6	48.6	48.6	35	45	75	RR
R_241493	616788.0	6432546.2	45.8	0.0	47.8	47.9	0.0	0.0	0.0	36.6	46.8	41.3	47.8	40.8	47.9	47.9	35	45	75	RR
R_241491	616448.1	6432543.4	50.2	0.0	52.2	47.9	0.0	0.0	0.0	41.8	51.3	46.1	52.2	45.2	47.9	47.9	35	45	75	RR
R_241494	617140.0	6432543.1	38.5	0.0	40.5	38.4	0.0	0.0	0.0	33.0	37.4	33.4	40.5	33.5	38.4	38.4	35	45	75	RR
R_241492	617047.4	6432542.3	39.4	0.0	41.4	39.3	0.0	0.0	0.0	33.8	38.3	34.2	41.4	34.4	39.3	39.3	35	45	75	RR
R_241495	617238.4	6432542.0	37.6	22.4	39.6	37.5	0.0	0.0	0.0	32.1	36.4	32.4	39.6	32.6	37.5	37.5	35	45	75	RR
R_241485	616825.4	6432533.3	45.4	0.0	47.4	47.4	0.0	0.0	0.0	36.2	43.9	40.7	47.4	40.4	47.4	47.4	35	45	75	RR
R_326649	618772.6	6432532.6	27.2	36.6	29.2	28.1	0.0	0.0	0.0	22.6	27.6	23.6	29.2	22.2	28.1	28.1	35	45	75	RR
R_241475	616511.6	6432524.4	47.5	0.0	49.5	49.3	0.0	0.0	0.0	46.3	47.5	45.4	49.5	42.5	49.3	49.3	35	45	75	RR
R_241478	617041.4	6432522.4	39.3	0.0	41.3	39.3	0.0	0.0	0.0	33.8	38.3	34.2	41.3	34.3	39.3	39.3	35	45	75	RR
R_241481	617245.8	6432522.3	37.4	22.4	39.4	37.4	0.0	0.0	0.0	32.0	36.4	32.3	39.4	32.4	37.4	37.4	35	45	75	RR
R_241476	617134.6	6432517.8	38.2	0.0	40.2	38.5	0.0	0.0	0.0	33.0	37.4	33.4	40.2	33.2	38.5	38.5	35	45	75	RR
R_241471	616580.3	6432516.6	48.9	0.0	50.9	50.6	0.0	0.0	0.0	39.5	47.2	44.5	50.9	43.9	50.6	50.6	35	45	75	RR
R_241467	616449.1	6432511.2	51.3	0.0	53.3	53.2	0.0	0.0	0.0	47.4	52.0	46.6	53.3	46.3	53.2	53.2	35	45	75	RR
R_241472	617200.3	6432510.5	37.6	22.2	39.6	37.8	0.0	0.0	0.0	32.4	36.8	32.7	39.6	32.6	37.8	37.8	35	45	75	RR
R_241469	616603.1	6432509.8	45.9	0.0	47.9	47.9	0.0	0.0	0.0	39.0	43.5	42.0	47.9	40.9	47.9	47.9	35	45	75	RR
R_326540	618987.7	6432509.6	26.1	38.3	28.1	25.2	0.0	0.0	0.0	0.0	26.3	22.2	28.1	21.1	25.2	25.2	35	45	75	RR
R_241470	617071.8	6432504.6	38.8	0.0	40.8	38.9	0.0	0.0	0.0	33.5	37.9	33.9	40.8	33.8	38.9	38.9	35	45	75	RR
R_241465	616715.5	6432504.4	47.0	0.0	49.0	48.9	0.0	0.0	0.0	37.5	47.8	42.5	49.0	42.0	48.9	48.9	35	45	75	RR
R_241468	617253.5	6432502.2	37.2	22.5	39.2	37.3	0.0	0.0	0.0	31.9	36.3	32.2	39.2	32.2	37.3	37.3	35	45	75	RR
R_241462	616515.3	6432501.6	50.0	0.0	52.0	51.9	0.0	0.0	0.0	43.1	50.7	45.4	52.0	45.0	51.9	51.9	35	45	75	RR
R_332467	621985.3	6432500.1	62.4	39.7	64.4	62.8	56.8	66.8	44.0	31.5	56.0	37.0	64.4	57.4	68.4	63.4	35	45	75	RR
R_241464	617044.7	6432499.3	43.0	0.0	45.0	45.1	0.0	0.0	0.0	33.9	43.9	38.4	45.0	38.0	45.1	45.1	35	45	75	RR
R_241459	616750.9	6432497.4	42.9	0.0	44.9	42.7	0.0	0.0	0.0	37.1	42.2	41.1	44.9	37.9	42.7	42.7	35	45	75	RR
R_241457	616578.8	6432495.3	48.6	0.0	50.6	48.8	0.0	0.0	0.0	39.5	48.8	44.4	50.6	43.6	48.8	48.8	35	45	75	RR
R_241461	617131.9	6432493.8	38.3	0.0	40.3	38.5	0.0	0.0	0.0	33.0	37.4	33.4	40.3	33.3	38.5	38.5	35	45	75	RR
R_241451	616443.2	6432493.1	51.3	0.0	53.3	53.2	0.0	0.0	0.0	47.5	52.0	46.6	53.3	46.3	53.2	53.2	35	45	75	RR
R_241433	615458.3	6432491.1	51.7	0.0	53.7	53.0	0.0	0.0	0.0	48.8	51.9	48.6	53.7	46.7	53.0	53.0	35	45	75	RR
R_241455	617263.3	6432486.0	36.9	22.6	38.9	37.2	0.0	0.0	0.0	31.8	36.2	32.1	38.9	31.9	37.2	37.2	35	45	75	RR
R_241445	616721.1	6432484.4	43.7	0.0	45.7	46.3	0.0	0.0	0.0	37.5	42.9	41.5	45.7	38.7	46.3	46.3	35	45	75	RR
R_241442	616628.4	6432482.4	42.9	0.0	44.9	44.5	0.0	0.0	0.0	38.7	43.5	39.1	44.9	37.9	44.5	44.5	35	45	75	RR
R_241437	616510.4	6432480.6	49.1	0.0	51.1	46.1	0.0	0.0	0.0	43.7	45.0	40.9	51.1	44.1	46.1	46.1	35	45	75	RR
R_241441	616786.6	6432480.4	41.5	0.0	43.5	42.8	0.0	0.0	0.0	36.7	41.3	37.6	43.5	36.5	42.8	42.8	35	45	75	RR
R_241446	617191.3	6432480.0	37.6	22.2	39.6	37.9	0.0	0.0	0.0	32.5	36.8	35.8	39.6	32.6	37.9	37.9	35	45	75	RR
R_241447	617211.0	6432479.9	37.5	22.4	39.5	37.7	0.0	0.0	0.0	32.3	36.6	32.6	39.5	32.5	37.7	37.7	35	45	75	RR
R_241435	616578.0	6432479.2	46.4	0.0	48.4	48.4	0.0	0.0	0.0	42.9	47.2	42.5	48.4	41.4	48.4	48.4	35	45	75	RR
R_241439	616878.5	6432478.3	44.9	0.0	46.9	43.0	0.0	0.0	0.0	35.6	44.5	40.5	46.9	39.9	43.0	43.0	35	45	75	RR
R_241432	616815.6	6432474.9	41.2	0.0	43.2	41.8	0.0	0.0	0.0	36.3	40.7	36.7	43.2	36.2	41.8	41.8	35	45	75	RR
R_241427	616442.2	6432474.4	51.2	0.0	53.2	53.1	0.0	0.0	0.0	47.5	51.9	46.5	53.2	46.2	53.1	53.1	35	45	75	RR
R_241425	616715.3	6432468.5	46.6	0.0	48.6	48.6	0.0	0.0	0.0	37.5	47.6	42.1	48.6	41.6	48.6	48.6	35	45	75	RR
R_241430	617272.5	6432465.9	36.9	22.6	38.9	41.6	0.0	0.0	0.0	31.8	36.0	35.1	38.9	31.9	41.6	41.6	35	45	75	RR
R_241418	616507.0	6432462.8	48.3	0.0	50.3	50.3	0.0	0.0	0.0	41.4	47.9	45.1	50.3	43.3	50.3	50.3	35	45	75	RR
R_241423	616942.1	6432461.8	39.9	0.0	41.9	40.3	0.0	0.0	0.0	34.9	39.2	35.2	41.9	34.9	40.3	40.3	35	45	75	RR
R_241422	616872.6	6432460.2	40.5	0.0	42.5	41.1	0.0	0.0	0.0	35.7	40.1	36.6	42.5	35.5	41.1	41.1	35	45	75	RR
R_241420	616969.2	6432457.6	39.7	0.0	41.7	40.1	0.0	0.0	0.0	34.6	39.0	35.0	41.7	34.7	40.1	40.1	35	45	75	RR
R_241410	616633.7	6432455.6	44.2	0.0	46.2	44.4	0.0	0.0	0.0	38.7	43.4	39.2	46.2	39.2	44.4	44.4	35	45	75	RR
R_241408	616572.1	6432455.4	44.9	0.0	46.9	45.3	0.0	0.0	0.0	39.6	44.4	40.1	46.9	39.9	45.3	45.3	35	45	75	RR
R_241412	616811.6	6432454.5	41.1	0.0	43.1	43.1	0.0	0.0	0.0	36.4	40.7	37.6	43.1	36.1	43.1	43.1	35	45	75	RR
R_241404	616433.9	6432453.2	48.8	0.0	50.8	47.7	0.0	0.0	0.0	42.1	50.6	45.8	50.8	43.8	47.7	47.7	35	45	75	RR
R_241405	616715.5	6432450.8	41.9	0.0	43.9	43.1	0.0	0.0	0.0	37.6	42.0	37.8	43.9	36.9	43.1	43.1	35	45	75	RR
R_241401	616867.5	6432446.4	40.4	0.0	42.4	41.1	0.0	0.0	0.0	35.7	40.0	36.0	42.4	35.4	41.1	41.1	35	45	75	RR
R_241402	617033.6	6432445.0	41.9	0.0	43.9	39.4	0.0	0.0	0.0	34.0	38.3	37.7	43.9							

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_241357	616628.4	6432416.3	43.0	0.0	45.0	44.1	0.0	0.0	0.0	39.2	43.0	39.0	45.0	38.0	44.1	44.1	35	45	75	RR
R_241354	616566.1	6432416.2	45.5	0.0	47.5	45.2	0.0	0.0	0.0	39.7	44.4	39.9	47.5	40.5	45.2	45.2	35	45	75	RR
R_241356	617242.2	6432415.0	36.9	22.6	38.9	36.6	0.0	0.0	0.0	30.9	36.0	35.5	38.9	31.9	36.6	36.6	35	45	75	RR
R_241362	617215.4	6432413.1	37.1	22.4	39.1	37.6	0.0	0.0	0.0	32.3	36.5	36.8	39.1	32.1	37.6	37.6	35	45	75	RR
R_241355	616965.0	6432411.8	39.2	0.0	41.2	40.0	0.0	0.0	0.0	34.6	38.9	34.8	41.2	34.2	40.0	40.0	35	45	75	RR
R_241351	616866.1	6432411.7	40.1	0.0	42.1	41.0	0.0	0.0	0.0	35.7	39.9	35.9	42.1	35.1	41.0	41.0	35	45	75	RR
R_241359	617187.9	6432411.6	37.4	22.3	39.4	37.9	0.0	0.0	0.0	32.6	36.8	32.8	39.4	32.4	37.9	37.9	35	45	75	RR
R_241353	617282.2	6432407.8	36.6	22.8	38.6	37.0	0.0	0.0	0.0	30.6	40.4	35.2	38.6	31.6	37.0	37.0	35	45	75	RR
R_241335	616502.8	6432403.4	46.6	0.0	48.6	48.6	0.0	0.0	0.0	38.0	46.7	44.3	48.6	41.6	48.6	48.6	35	45	75	RR
R_241346	617224.8	6432402.1	35.1	22.5	37.1	27.1	0.0	0.0	0.0	32.1	26.0	32.0	37.1	30.1	27.1	27.1	35	45	75	RR
R_241347	617343.5	6432401.7	36.1	23.1	38.1	36.5	0.0	0.0	0.0	31.2	41.1	35.7	38.1	31.1	36.5	36.5	35	45	75	RR
R_241344	617024.2	6432401.4	38.7	0.0	40.7	39.4	0.0	0.0	0.0	34.0	38.3	34.2	40.7	33.7	39.4	39.4	35	45	75	RR
R_241339	616805.0	6432400.5	40.6	0.0	42.6	41.7	0.0	0.0	0.0	36.9	40.6	36.6	42.6	35.6	41.7	41.7	35	45	75	RR
R_241333	616958.9	6432396.4	0.0	0.0	0.0	40.0	0.0	0.0	0.0	34.7	38.9	34.9	0.0	0.0	40.0	40.0	35	45	75	RR
R_241307	615117.9	6432394.5	44.0	0.0	46.0	44.5	0.0	0.0	0.0	40.5	43.7	39.6	46.0	39.0	44.5	44.5	35	45	75	RR
R_241322	616711.2	6432394.3	41.3	0.0	43.3	42.9	0.0	0.0	0.0	37.7	41.7	37.7	43.3	36.3	42.9	42.9	35	45	75	RR
R_241320	616566.6	6432394.0	45.7	0.0	47.7	45.4	0.0	0.0	0.0	42.0	44.2	42.1	47.7	40.7	45.4	45.4	35	45	75	RR
R_241323	616863.1	6432392.5	40.0	0.0	42.0	41.0	0.0	0.0	0.0	35.7	39.9	35.9	42.0	35.0	41.0	41.0	35	45	75	RR
R_241325	617115.6	6432390.8	37.9	0.0	39.9	38.5	0.0	0.0	0.0	33.2	37.4	33.4	39.9	32.9	38.5	38.5	35	45	75	RR
R_241321	617023.7	6432390.5	38.6	0.0	40.6	39.3	0.0	0.0	0.0	34.0	38.2	34.2	40.6	33.6	39.3	39.3	35	45	75	RR
R_241315	616622.5	6432388.3	42.2	0.0	44.2	44.1	0.0	0.0	0.0	39.7	43.0	38.9	44.2	37.2	44.1	44.1	35	45	75	RR
R_241313	616802.3	6432385.0	40.4	0.0	42.4	41.7	0.0	0.0	0.0	36.5	40.6	36.6	42.4	35.4	41.7	41.7	35	45	75	RR
R_241314	617025.0	6432382.6	38.6	0.0	40.6	39.4	0.0	0.0	0.0	34.1	38.3	34.2	40.6	33.6	39.4	39.4	35	45	75	RR
R_241312	616951.1	6432381.1	39.2	0.0	41.2	40.1	0.0	0.0	0.0	34.8	39.0	35.0	41.2	34.2	40.1	40.1	35	45	75	RR
R_241295	615603.4	6432378.5	56.9	0.0	58.9	57.4	0.0	0.0	0.0	52.0	56.5	51.1	58.9	51.9	57.4	57.4	35	45	75	RR
R_241311	617177.2	6432378.0	37.3	22.3	39.3	37.9	0.0	0.0	0.0	32.6	36.8	32.8	39.3	32.3	37.9	37.9	35	45	75	RR
R_241302	616797.6	6432369.9	40.3	0.0	42.3	41.7	0.0	0.0	0.0	36.4	40.6	36.6	42.3	35.3	41.7	41.7	35	45	75	RR
R_241304	617017.7	6432369.3	38.5	0.0	40.5	39.4	0.0	0.0	0.0	34.1	38.3	34.2	40.5	33.5	39.4	39.4	35	45	75	RR
R_241305	617115.2	6432369.1	37.7	0.0	39.7	38.4	0.0	0.0	0.0	33.2	37.3	33.3	39.7	32.7	38.4	38.4	35	45	75	RR
R_241299	616704.4	6432368.7	41.0	0.0	43.0	42.9	0.0	0.0	0.0	39.2	41.8	37.6	43.0	36.0	42.9	42.9	35	45	75	RR
R_241306	617342.6	6432366.6	35.9	23.1	37.9	36.5	0.0	0.0	0.0	31.2	35.4	31.4	37.9	30.9	36.5	36.5	35	45	75	RR
R_241297	616937.9	6432364.4	39.2	0.0	41.2	40.3	0.0	0.0	0.0	35.0	39.2	35.1	41.2	34.2	40.3	40.3	35	45	75	RR
R_326724	617926.7	6432363.3	31.7	31.7	33.7	37.9	0.0	0.0	0.0	27.1	31.5	31.3	33.7	26.7	37.9	37.9	35	45	75	RR
R_241293	616860.4	6432362.6	39.8	0.0	41.8	41.0	0.0	0.0	0.0	35.8	39.9	35.9	41.8	34.8	41.0	41.0	35	45	75	RR
R_241296	617171.7	6432360.7	37.2	22.3	39.2	37.9	0.0	0.0	0.0	32.6	36.8	32.8	39.2	32.2	37.9	37.9	35	45	75	RR
R_241285	616796.9	6432354.5	40.2	0.0	42.2	41.7	0.0	0.0	0.0	36.5	40.6	36.6	42.2	35.2	41.7	41.7	35	45	75	RR
R_326639	619561.2	6432354.4	27.3	44.3	29.3	29.1	30.6	40.6	23.8	0.0	28.0	0.0	29.3	22.3	41.0	29.8	35	45	75	RR
R_241289	617103.7	6432353.8	37.8	0.0	39.8	38.6	0.0	0.0	0.0	33.3	37.5	33.4	39.8	32.8	38.6	38.6	35	45	75	RR
R_241284	616696.2	6432353.6	41.6	0.0	43.6	43.1	0.0	0.0	0.0	43.4	42.0	37.7	43.6	36.6	43.1	43.1	35	45	75	RR
R_241286	617023.0	6432352.7	38.3	0.0	40.3	39.3	0.0	0.0	0.0	34.1	38.2	34.1	40.3	33.3	39.3	39.3	35	45	75	RR
R_241288	617333.3	6432351.0	35.9	23.1	37.9	36.5	0.0	0.0	0.0	31.3	35.4	31.4	37.9	30.9	36.5	36.5	35	45	75	RR
R_241292	617430.9	6432350.9	35.2	23.6	37.2	35.8	0.0	0.0	0.0	30.6	34.7	30.7	37.2	30.2	35.8	35.8	35	45	75	RR
R_241283	617168.5	6432347.1	37.1	22.3	39.1	37.9	0.0	0.0	0.0	32.6	36.8	32.8	39.1	32.1	37.9	37.9	35	45	75	RR
R_241279	616958.3	6432346.9	38.8	0.0	40.8	39.9	0.0	0.0	0.0	34.6	38.8	34.8	40.8	33.8	39.9	39.9	35	45	75	RR
R_241274	616863.0	6432343.9	39.6	0.0	41.6	40.9	0.0	0.0	0.0	35.7	39.8	35.7	41.6	34.6	40.9	40.9	35	45	75	RR
R_241266	616438.7	6432342.3	47.2	0.0	49.2	48.0	0.0	0.0	0.0	41.8	46.9	42.3	49.2	42.2	48.0	48.0	35	45	75	RR
R_241265	616460.6	6432341.7	44.5	0.0	46.5	46.4	0.0	0.0	0.0	42.8	48.2	44.7	46.5	39.5	46.4	46.4	35	45	75	RR
R_241268	617009.9	6432337.2	38.3	0.0	40.3	39.3	0.0	0.0	0.0	34.1	38.3	34.2	40.3	33.3	39.3	39.3	35	45	75	RR
R_241257	616504.4	6432335.7	44.5	0.0	46.5	45.7	0.0	0.0	0.0	40.5	49.2	43.9	46.5	39.5	45.7	45.7	35	45	75	RR
R_241267	617108.8	6432334.6	36.4	0.0	38.4	38.4	0.0	0.0	0.0	33.2	37.3	33.3	38.4	31.4	38.4	38.4	35	45	75	RR
R_241255	616483.6	6432334.3	44.2	0.0	46.2	46.0	0.0	0.0	0.0	43.5	49.6	44.3	46.2	39.2	46.0	46.0	35	45	75	RR
R_326581	617972.7	6432333.5	31.4	26.4	33.4	37.6	0.0	0.0	0.0	26.8	36.6	31.1	33.4	26.4	37.6	37.6	35	45	75	RR
R_241261	616954.1	6432332.1	38.7	0.0	40.7	39.9	0.0	0.0	0.0	34.7	38.8	34.8	40.7	33.7	39.9	39.9	35	45	75	RR
R_241270	617658.9	6432331.2	36.4	24.7	38.4	34.1	0.0	0.0	0.0	28.8	38.5	33.2	38.4	31.4	34.1	34.1	35	45	75	RR
R_241259	617170.3	6432329.2	37.0	22.3	39.0	37.8	0.0	0.0	0.0	32.6	36.8	32.7	39.0	32.0	37.8	37.8	35	45	75	RR
R_241245	616543.2	6432326.2	45.1	0.0	47.1	45.2	0.0	0.0	0.0	39.9	48.6	43.3	47.1	40.1	45.2	45.2	35	45	75	RR
R_241248	616693.0	6432325.6	46.7	0.0	48.7	45.6	0.0	0.0	0.0	43.4	44.0	39.8	48.7	41.7	45.6	45.6	35	45	75	RR
R_241243	616563.4	6432325.2	44.1	0.0	46.1	44.8	0.0	0.0	0.0	39.6	48.3	43.0	46.1	39.1	44.8	44.8	35	45	75	RR
R_241254	616869.4	6432325.0	39.4	0.0	41.4	40.8	0.0	0.0	0.0	35.6	39.8	35.7	41.4	34.4	40.8	40.8	35	45	75	RR
R_241246	616721.3	6432324.8	44.7	0.0	46.7	43.7	0.0	0.0	0.0	43.1	42.6	37.8	46.7	39.7	43.7	43.7	35	45	75	RR
R_241264	617818.6	6432324.7	34.9	31.2	36.9	33.0	0.0	0.0	0.0	27.7	37.5	32.0	36.9	29.9	33.0	33.0	35	45	75	RR
R_241237	616582.3	6432323.2	44.4	0.0	46.4	44.5	0.0	0.0	0.0	39.3	48.0	42.6	46.4	39.4	44.5	44.5	35	45	75	RR
R_241252	617327.4	6432321.0	35.7	23.1	37.7	36.5	0.0	0.0	0.0	31.3	35.4	31.4	37.7							



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_241200	617426.3	6432293.4	34.9	23.5	36.9	35.7	0.0	0.0	0.0	30.4	34.6	30.6	36.9	29.9	35.7	35.7	35	45	75	RR
R_241191	617101.4	6432290.9	37.3	0.0	39.3	38.4	0.0	0.0	0.0	33.2	37.3	33.2	39.3	32.3	38.4	38.4	35	45	75	RR
R_241193	617323.2	6432289.4	35.6	23.1	37.6	36.5	0.0	0.0	0.0	31.3	35.4	31.4	37.6	30.6	36.5	36.5	35	45	75	RR
R_241177	616493.2	6432288.5	46.0	0.0	48.0	47.6	0.0	0.0	0.0	42.8	46.5	41.4	48.0	41.0	47.6	47.6	35	45	75	RR
R_241186	617655.1	6432281.7	33.3	24.8	35.3	34.0	0.0	0.0	0.0	28.8	32.9	28.9	35.3	28.3	34.0	34.0	35	45	75	RR
R_241174	616938.3	6432280.5	38.5	0.0	40.5	40.0	0.0	0.0	0.0	34.8	38.9	34.9	40.5	33.5	40.0	40.0	35	45	75	RR
R_241175	617158.8	6432279.0	36.8	22.3	38.8	37.8	0.0	0.0	0.0	32.6	36.7	32.6	38.8	31.8	37.8	37.8	35	45	75	RR
R_241167	617000.5	6432274.9	37.9	0.0	39.9	39.3	0.0	0.0	0.0	34.1	38.2	34.0	39.9	32.9	39.3	39.3	35	45	75	RR
R_241179	617818.8	6432273.9	35.1	31.3	37.1	33.0	0.0	0.0	0.0	27.8	32.3	31.4	37.1	30.1	33.0	33.0	35	45	75	RR
R_241154	616686.3	6432271.7	40.8	0.0	42.8	42.8	0.0	0.0	0.0	38.0	41.7	37.6	42.8	35.8	42.8	42.8	35	45	75	RR
R_241163	617095.2	6432270.8	37.2	0.0	39.2	38.3	0.0	0.0	0.0	33.2	37.2	33.0	39.2	32.2	38.3	38.3	35	45	75	RR
R_241158	617036.8	6432270.2	36.9	0.0	38.9	38.9	0.0	0.0	0.0	33.7	37.8	33.7	38.9	31.9	38.9	38.9	35	45	75	RR
R_241166	617487.6	6432268.7	34.3	23.9	36.3	35.2	0.0	0.0	0.0	30.0	34.1	30.1	36.3	29.3	35.2	35.2	35	45	75	RR
R_241155	617064.0	6432267.6	36.1	0.0	38.1	36.6	0.0	0.0	0.0	32.2	35.6	31.5	38.1	31.1	36.6	36.6	35	45	75	RR
R_241146	616489.6	6432266.9	49.2	0.0	51.2	47.7	0.0	0.0	0.0	40.7	49.0	43.7	51.2	44.2	47.7	47.7	35	45	75	RR
R_241157	617323.0	6432266.6	35.3	23.1	37.3	36.4	0.0	0.0	0.0	31.2	35.3	31.2	37.3	30.3	36.4	36.4	35	45	75	RR
R_241160	617418.3	6432266.2	33.7	23.6	35.7	35.7	0.0	0.0	0.0	30.5	34.6	30.6	35.7	28.7	35.7	35.7	35	45	75	RR
R_332437	621186.4	6432266.1	41.2	43.8	43.2	43.0	41.5	51.5	38.1	28.3	42.4	34.7	43.2	36.2	52.1	43.5	35	45	75	RR
R_241156	617580.0	6432263.1	33.8	24.4	35.8	34.6	0.0	0.0	0.0	29.4	33.5	29.5	35.8	28.8	34.6	34.6	35	45	75	RR
R_241138	616779.0	6432258.1	41.1	0.0	43.1	43.4	0.0	0.0	0.0	36.6	42.3	39.7	43.1	36.1	43.4	43.4	35	45	75	RR
R_241151	617649.4	6432257.9	33.2	24.7	35.2	34.0	0.0	0.0	0.0	28.8	32.9	28.9	35.2	28.2	34.0	34.0	35	45	75	RR
R_241139	617099.7	6432255.0	37.0	0.0	39.0	38.2	0.0	0.0	0.0	33.1	37.1	33.1	39.0	32.0	38.2	38.2	35	45	75	RR
R_241130	616680.6	6432254.0	40.8	0.0	42.8	42.7	0.0	0.0	0.0	38.4	41.6	37.3	42.8	35.8	42.7	42.7	35	45	75	RR
R_241140	617317.1	6432253.6	35.5	23.1	37.5	36.4	0.0	0.0	0.0	31.3	35.4	31.4	37.5	30.5	36.4	36.4	35	45	75	RR
R_241135	617158.8	6432253.2	36.7	22.3	38.7	37.8	0.0	0.0	0.0	32.6	36.7	32.6	38.7	31.7	37.8	37.8	35	45	75	RR
R_241128	617180.8	6432249.0	36.4	22.4	38.4	37.6	0.0	0.0	0.0	32.4	36.5	32.5	38.4	31.4	37.6	37.6	35	45	75	RR
R_241134	617485.4	6432248.7	34.3	23.9	36.3	35.2	0.0	0.0	0.0	30.0	34.1	30.1	36.3	29.3	35.2	35.2	35	45	75	RR
R_241121	616837.3	6432247.5	41.4	0.0	43.4	43.4	0.0	0.0	0.0	35.7	44.4	39.0	43.4	36.4	43.4	43.4	35	45	75	RR
R_241110	616486.3	6432244.8	43.6	0.0	45.6	45.5	0.0	0.0	0.0	40.5	48.8	43.5	45.6	38.6	45.5	45.5	35	45	75	RR
R_241131	617582.2	6432244.8	33.6	24.4	35.6	34.5	0.0	0.0	0.0	29.3	33.4	29.4	35.6	28.6	34.5	34.5	35	45	75	RR
R_241119	617196.2	6432243.0	36.2	22.5	38.2	37.4	0.0	0.0	0.0	32.2	36.3	32.3	38.2	31.2	37.4	37.4	35	45	75	RR
R_241108	616777.6	6432241.4	39.6	0.0	41.6	41.4	0.0	0.0	0.0	36.4	40.4	36.1	41.6	34.6	41.4	41.4	35	45	75	RR
R_332445	620561.4	6432237.0	34.9	44.8	36.9	36.9	36.5	46.5	29.0	25.8	34.2	26.4	36.9	29.9	47.0	37.4	35	45	75	RR
R_241116	617641.9	6432236.8	33.2	24.7	35.2	34.0	0.0	0.0	0.0	28.8	33.0	28.9	35.2	28.2	34.0	34.0	35	45	75	RR
R_241113	617415.3	6432236.7	34.7	23.6	36.7	35.7	0.0	0.0	0.0	30.5	34.6	30.6	36.7	29.7	35.7	35.7	35	45	75	RR
R_241097	616863.1	6432234.9	38.6	0.0	40.6	40.3	0.0	0.0	0.0	32.7	39.3	35.1	40.6	33.6	40.3	40.3	35	45	75	RR
R_241099	616902.4	6432234.6	43.9	0.0	45.9	45.9	0.0	0.0	0.0	35.1	44.8	39.1	45.9	38.9	45.9	45.9	35	45	75	RR
R_241093	616834.8	6432233.0	39.1	0.0	41.1	41.1	0.0	0.0	0.0	35.7	39.8	35.7	41.1	34.1	41.1	41.1	35	45	75	RR
R_241059	615405.9	6432231.5	49.6	0.0	51.6	51.3	0.0	0.0	0.0	44.5	48.1	45.0	51.6	44.6	51.3	51.3	35	45	75	RR
R_241100	617248.3	6432230.8	34.9	22.8	36.9	36.9	0.0	0.0	0.0	31.8	35.8	31.7	36.9	29.9	36.9	36.9	35	45	75	RR
R_241091	616937.1	6432230.5	38.1	0.0	40.1	39.7	0.0	0.0	0.0	34.6	38.6	34.4	40.1	33.1	39.7	39.7	35	45	75	RR
R_241078	616680.5	6432228.2	40.7	0.0	42.7	42.5	0.0	0.0	0.0	37.5	41.4	37.1	42.7	35.7	42.5	42.5	35	45	75	RR
R_241101	617573.6	6432228.0	33.6	24.4	35.6	34.5	0.0	0.0	0.0	29.3	33.4	29.4	35.6	28.6	34.5	34.5	35	45	75	RR
R_241074	616774.4	6432225.4	38.9	0.0	40.9	39.2	0.0	0.0	0.0	33.2	38.2	35.8	40.9	33.9	39.2	39.2	35	45	75	RR
R_241088	617313.7	6432223.7	35.4	23.1	37.4	36.5	0.0	0.0	0.0	31.3	35.4	31.4	37.4	30.4	36.5	36.5	35	45	75	RR
R_241065	616485.0	6432221.8	46.7	0.0	48.7	46.4	0.0	0.0	0.0	40.3	44.1	43.4	48.7	41.7	46.4	46.4	35	45	75	RR
R_241075	617345.1	6432218.9	35.1	23.2	37.1	36.2	0.0	0.0	0.0	31.0	35.1	31.1	37.1	30.1	36.2	36.2	35	45	75	RR
R_241081	617646.7	6432217.8	33.1	24.8	35.1	34.0	0.0	0.0	0.0	28.8	32.9	28.9	35.1	28.1	34.0	34.0	35	45	75	RR
R_241072	617371.1	6432216.0	34.9	23.4	36.9	35.9	0.0	0.0	0.0	30.8	34.9	30.9	36.9	29.9	35.9	35.9	35	45	75	RR
R_241063	616988.0	6432215.2	37.6	0.0	39.6	39.2	0.0	0.0	0.0	34.0	38.2	33.9	39.6	32.6	39.2	39.2	35	45	75	RR
R_241057	616836.9	6432214.8	38.9	0.0	40.9	40.8	0.0	0.0	0.0	35.7	39.7	35.7	40.9	33.9	40.8	40.8	35	45	75	RR
R_241069	617391.5	6432213.3	34.8	23.4	36.8	35.8	0.0	0.0	0.0	30.6	34.7	30.7	36.8	29.8	35.8	35.8	35	45	75	RR
R_241058	617009.3	6432213.0	37.4	0.0	39.4	38.9	0.0	0.0	0.0	33.8	37.9	33.7	39.4	32.4	38.9	38.9	35	45	75	RR
R_241046	616761.7	6432209.7	39.7	0.0	41.7	41.6	0.0	0.0	0.0	36.5	40.5	36.5	41.7	34.7	41.6	41.6	35	45	75	RR
R_241054	617028.1	6432209.3	37.3	0.0	39.3	38.8	0.0	0.0	0.0	33.7	37.8	33.7	39.3	32.3	38.8	38.8	35	45	75	RR
R_241038	616475.1	6432208.3	49.0	0.0	51.0	50.7	0.0	0.0	0.0	45.9	49.6	44.1	51.0	44.0	50.7	50.7	35	45	75	RR
R_241051	617085.0	6432208.3	40.5	0.0	42.5	38.3	0.0	0.0	0.0	33.2	37.3	33.3	42.5	35.5	38.3	38.3	35	45	75	RR
R_241062	617568.8	6432208.1	33.6	24.4	35.6	34.5	0.0	0.0	0.0	29.3	33.4	29.4	35.6	28.6	34.5	34.5	35	45	75	RR
R_241048	617050.0	6432206.9	39.5	0.0	41.5	38.6	0.0	0.0	0.0	33.5	37.5	33.5	41.5	34.5	38.6	38.6	35	45	75	RR
R_241052	617412.5	6432204.5	34.6	23.6	36.6	35.6	0.0	0.0	0.0	30.5	34.6	30.5	36.6	29.6	35.6	35.6	35	45	75	RR
R_241050	617641.4	6432201.6	33.1	24.7	35.1	34.0	0.0	0.0	0.0	28.8	32.9	28.9	35.1	28.1	34.0	34.0	35	45	75	RR
R_241044	617471.2	6432200.9	34.1	22.8	36.1	35.2	0.0	0.0	0.0	30.0	34.1	30.0	36.1	29.1	35.2	35.2	35	45	75	RR
R_241022	616677.4	6432198.7	40.6	0.0	42.6	42.5	0.0	0.0	0.0	37.5	41.4									

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_240982	616675.4	6432173.5	40.6	0.0	42.6	42.3	0.0	0.0	0.0	38.3	41.2	37.1	42.6	35.6	42.3	42.3	35	45	75	RR
R_240990	617230.5	6432169.6	35.7	22.8	37.7	37.0	0.0	0.0	0.0	32.0	35.9	31.9	37.7	30.7	37.0	37.0	35	45	75	RR
R_240977	616915.4	6432167.4	37.8	0.0	39.8	39.7	0.0	0.0	0.0	34.7	38.6	34.6	39.8	32.8	39.7	39.7	35	45	75	RR
R_240976	617145.2	6432164.3	36.1	22.3	38.1	37.6	0.0	0.0	0.0	32.6	36.6	32.6	38.1	31.1	37.6	37.6	35	45	75	RR
R_240979	617333.7	6432163.4	34.9	23.2	36.9	36.1	0.0	0.0	0.0	31.0	35.1	31.1	36.9	29.9	36.1	36.1	35	45	75	RR
R_240971	616843.4	6432162.7	38.6	0.0	40.6	40.4	0.0	0.0	0.0	35.4	39.3	35.0	40.6	33.6	40.4	40.4	35	45	75	RR
R_240957	616520.9	6432158.5	45.9	0.0	47.9	46.5	0.0	0.0	0.0	40.0	45.5	42.6	47.9	40.9	46.5	46.5	35	45	75	RR
R_240965	616983.6	6432157.8	37.2	0.0	39.2	39.1	0.0	0.0	0.0	34.0	38.0	33.7	39.2	32.2	39.1	39.1	35	45	75	RR
R_240966	617080.7	6432157.8	36.6	0.0	38.6	38.2	0.0	0.0	0.0	33.1	37.1	33.1	38.6	31.6	38.2	38.2	35	45	75	RR
R_240958	616673.3	6432157.4	40.6	0.0	42.6	42.4	0.0	0.0	0.0	40.1	41.4	37.0	42.6	35.6	42.4	42.4	35	45	75	RR
R_240970	617360.3	6432155.8	34.7	23.3	36.7	35.9	0.0	0.0	0.0	30.8	34.8	30.8	36.7	29.7	35.9	35.9	35	45	75	RR
R_240967	617299.3	6432155.7	35.1	23.0	37.1	36.3	0.0	0.0	0.0	31.2	35.3	31.1	37.1	30.1	36.3	36.3	35	45	75	RR
R_332464	621077.9	6432154.7	43.2	45.9	45.2	42.0	42.4	52.4	39.6	26.5	43.0	36.4	45.2	38.2	52.9	42.9	35	45	75	RR
R_240964	617377.9	6432153.0	34.5	23.4	36.5	35.7	0.0	0.0	0.0	30.6	34.7	30.7	36.5	29.5	35.7	35.7	35	45	75	RR
R_240962	617394.0	6432151.7	34.4	23.1	36.4	35.6	0.0	0.0	0.0	28.9	34.5	30.4	36.4	29.4	35.6	35.6	35	45	75	RR
R_240950	616762.9	6432151.6	39.4	0.0	41.4	41.2	0.0	0.0	0.0	36.3	40.1	36.1	41.4	34.4	41.2	41.2	35	45	75	RR
R_326560	619258.8	6432151.1	25.7	42.7	27.7	27.6	23.5	33.5	20.3	0.0	26.5	0.0	27.7	20.7	34.7	28.3	35	45	75	RR
R_240954	617139.1	6432150.3	36.1	22.3	38.1	37.6	0.0	0.0	0.0	32.6	36.6	32.6	38.1	31.1	37.6	37.6	35	45	75	RR
R_240956	617410.3	6432148.1	34.3	23.6	36.3	35.5	0.0	0.0	0.0	30.4	34.4	30.4	36.3	29.3	35.5	35.5	35	45	75	RR
R_240946	616821.8	6432147.7	38.7	0.0	40.7	40.6	0.0	0.0	0.0	35.6	39.5	35.5	40.7	33.7	40.6	40.6	35	45	75	RR
R_240937	616464.9	6432145.0	43.4	0.0	45.4	44.7	0.0	0.0	0.0	40.4	43.7	42.9	45.4	38.4	44.7	44.7	35	45	75	RR
R_240952	617469.2	6432144.8	34.0	23.9	36.0	35.1	0.0	0.0	0.0	30.0	34.1	30.0	36.0	29.0	35.1	35.1	35	45	75	RR
R_240944	617073.3	6432144.6	36.5	0.0	38.5	38.2	0.0	0.0	0.0	33.2	37.2	33.1	38.5	31.5	38.2	38.2	35	45	75	RR
R_240947	617227.9	6432143.6	35.5	22.7	37.5	37.0	0.0	0.0	0.0	31.9	35.9	31.9	37.5	30.5	37.0	37.0	35	45	75	RR
R_240940	616982.8	6432140.2	37.1	0.0	39.1	39.0	0.0	0.0	0.0	34.0	37.9	33.6	39.1	32.1	39.0	39.0	35	45	75	RR
R_240927	616582.4	6432139.9	43.6	0.0	45.6	43.6	0.0	0.0	0.0	41.3	42.6	41.8	45.6	38.6	43.6	43.6	35	45	75	RR
R_240939	617317.2	6432136.2	35.0	23.2	37.0	36.3	0.0	0.0	0.0	31.2	35.3	31.3	37.0	30.0	36.3	36.3	35	45	75	RR
R_240924	616906.8	6432135.0	37.9	0.0	39.9	39.8	0.0	0.0	0.0	34.8	38.7	34.7	39.9	32.9	39.8	39.8	35	45	75	RR
R_240936	617503.1	6432132.6	33.7	24.1	35.7	34.8	0.0	0.0	0.0	29.7	33.8	29.7	35.7	28.7	34.8	34.8	35	45	75	RR
R_240918	616685.1	6432131.7	42.3	0.0	44.3	43.9	0.0	0.0	0.0	39.9	42.9	37.8	44.3	37.3	43.9	43.9	35	45	75	RR
R_240933	617563.3	6432131.3	33.3	24.4	35.3	34.4	0.0	0.0	0.0	33.6	33.3	29.3	35.3	28.3	34.4	34.4	35	45	75	RR
R_240915	616835.5	6432129.2	38.5	0.0	40.5	40.4	0.0	0.0	0.0	35.4	39.3	35.3	40.5	33.5	40.4	40.4	35	45	75	RR
R_240913	616752.2	6432128.8	39.4	0.0	41.4	41.2	0.0	0.0	0.0	36.3	40.1	36.1	41.4	34.4	41.2	41.2	35	45	75	RR
R_240916	617069.3	6432127.0	36.4	0.0	38.4	38.1	0.0	0.0	0.0	33.1	37.1	33.0	38.4	31.4	38.1	38.1	35	45	75	RR
R_240911	616986.0	6432124.6	37.1	0.0	39.1	39.0	0.0	0.0	0.0	34.0	37.9	33.6	39.1	32.1	39.0	39.0	35	45	75	RR
R_240904	616514.9	6432124.3	47.9	0.0	49.9	49.5	0.0	0.0	0.0	42.6	48.5	42.9	49.9	42.9	49.5	49.5	35	45	75	RR
R_240919	617405.9	6432123.8	34.2	23.6	36.2	35.5	0.0	0.0	0.0	30.4	34.4	30.4	36.2	29.2	35.5	35.5	35	45	75	RR
R_240896	616466.9	6432121.7	48.4	0.0	50.4	50.1	0.0	0.0	0.0	45.5	49.0	43.4	50.4	43.4	50.1	50.1	35	45	75	RR
R_240903	616907.3	6432119.5	37.8	0.0	39.8	39.7	0.0	0.0	0.0	34.5	38.6	34.3	39.8	32.8	39.7	39.7	35	45	75	RR
R_240892	616535.1	6432118.8	42.8	0.0	44.8	43.4	0.0	0.0	0.0	38.7	42.3	38.3	44.8	37.8	43.4	43.4	35	45	75	RR
R_240909	617303.0	6432117.3	34.8	23.1	36.8	36.3	0.0	0.0	0.0	31.2	35.2	31.2	36.8	29.8	36.3	36.3	35	45	75	RR
R_240905	617230.6	6432116.1	35.3	22.8	37.3	36.8	0.0	0.0	0.0	31.8	35.8	31.7	37.3	30.3	36.8	36.8	35	45	75	RR
R_240893	616818.1	6432116.1	38.6	0.0	40.6	40.5	0.0	0.0	0.0	35.5	39.4	35.4	40.6	33.6	40.5	40.5	35	45	75	RR
R_240910	617562.3	6432115.7	33.2	24.4	35.2	34.3	0.0	0.0	0.0	29.2	33.3	29.3	35.2	28.2	34.3	34.3	35	45	75	RR
R_240863	615648.1	6432115.0	52.7	0.0	54.7	53.5	0.0	0.0	0.0	50.8	52.5	47.1	54.7	47.7	53.5	53.5	35	45	75	RR
R_240894	617145.8	6432113.6	35.8	22.4	37.8	37.5	0.0	0.0	0.0	32.4	36.4	32.4	37.8	30.8	37.5	37.5	35	45	75	RR
R_240886	616750.6	6432112.2	39.2	0.0	41.2	41.0	0.0	0.0	0.0	37.0	40.0	35.9	41.2	34.2	41.0	41.0	35	45	75	RR
R_240888	617070.5	6432110.2	36.3	0.0	38.3	38.1	0.0	0.0	0.0	33.1	37.1	33.0	38.3	31.3	38.1	38.1	35	45	75	RR
R_240882	616977.2	6432108.2	37.1	0.0	39.1	38.9	0.0	0.0	0.0	33.9	37.9	33.8	39.1	32.1	38.9	38.9	35	45	75	RR
R_240868	616582.1	6432106.3	43.4	0.0	45.4	44.5	0.0	0.0	0.0	40.5	43.6	38.5	45.4	38.4	44.5	44.5	35	45	75	RR
R_240866	616909.7	6432101.5	37.4	0.0	39.4	36.9	0.0	0.0	0.0	34.3	36.0	31.9	39.4	32.4	36.9	36.9	35	45	75	RR
R_240876	617474.1	6432100.2	33.7	24.0	35.7	34.9	0.0	0.0	0.0	29.8	33.9	29.9	35.7	28.7	34.9	34.9	35	45	75	RR
R_240858	616658.2	6432099.2	42.4	0.0	44.4	44.4	0.0	0.0	0.0	37.4	43.4	38.2	44.4	37.4	44.4	44.4	35	45	75	RR
R_240875	617558.2	6432098.8	33.2	24.4	35.2	34.4	0.0	0.0	0.0	29.3	33.3	29.3	35.2	28.2	34.4	34.4	35	45	75	RR
R_240865	617303.8	6432096.5	34.8	23.1	36.8	36.2	0.0	0.0	0.0	31.2	35.2	31.1	36.8	29.8	36.2	36.2	35	45	75	RR
R_240857	616820.1	6432096.4	38.5	0.0	40.5	40.4	0.0	0.0	0.0	35.4	39.3	35.0	40.5	33.5	40.4	40.4	35	45	75	RR
R_240860	617226.7	6432093.5	35.2	22.8	37.2	36.8	0.0	0.0	0.0	31.7	35.7	31.7	37.2	30.2	36.8	36.8	35	45	75	RR
R_240847	616680.2	6432092.9	42.7	0.0	44.7	44.7	0.0	0.0	0.0	36.9	43.7	40.6	44.7	37.7	44.7	44.7	35	45	75	RR
R_240855	617069.8	6432092.6	36.2	0.0	38.2	38.1	0.0	0.0	0.0	33.0	37.0	33.0	38.2	31.2	38.1	38.1	35	45	75	RR
R_240843	616692.2	6432090.7	41.0	0.0	43.0	43.1	0.0	0.0	0.0	37.1	42.0	39.7	43.0	36.0	43.1	43.1	35	45	75	RR
R_240845	616986.3	6432088.8	37.0	0.0	39.0	38.9	0.0	0.0	0.0	33.9	37.8	33.6	39.0	32.0	38.9	38.9	35	45	75	RR
R_240837	616719.9	6432087.4	41.9	0.0	43.9	44.0	0.0	0.0	0.0	37.1	42.8	39.5	43.9	36.9	44.0	44.0	35	45	75	RR
R_240814	615506.9	6432085.9	49.6	0.0	51.6	51.7	0.0	0.0	0.0	45.9	47.4	44.9								



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_240802	617141.4	6432061.6	35.5	22.0	37.5	37.4	0.0	0.0	0.0	32.3	36.3	32.0	37.5	30.5	37.4	37.4	35	45	75	RR
R_240787	616469.0	6432061.2	42.4	0.0	44.4	44.0	0.0	0.0	0.0	39.5	43.7	42.1	44.4	37.4	44.0	44.0	35	45	75	RR
R_240796	617063.8	6432060.0	36.1	0.0	38.1	38.0	0.0	0.0	0.0	33.0	36.9	32.9	38.1	31.1	38.0	38.0	35	45	75	RR
R_240789	616877.0	6432058.3	37.7	0.0	39.7	39.5	0.0	0.0	0.0	34.6	38.5	34.4	39.7	32.7	39.5	39.5	35	45	75	RR
R_240792	616962.9	6432058.3	37.0	0.0	39.0	38.8	0.0	0.0	0.0	33.9	37.8	33.7	39.0	32.0	38.8	38.8	35	45	75	RR
R_240783	616457.9	6432058.0	44.3	0.0	46.3	43.7	0.0	0.0	0.0	39.2	42.6	38.6	46.3	39.3	43.7	43.7	35	45	75	RR
R_240794	617299.6	6432056.9	34.6	23.2	36.6	36.2	0.0	0.0	0.0	31.2	35.2	31.0	36.6	29.6	36.2	36.2	35	45	75	RR
R_240782	616518.6	6432056.7	47.3	0.0	49.3	48.9	0.0	0.0	0.0	44.3	47.8	42.2	49.3	42.3	48.9	48.9	35	45	75	RR
R_240779	616540.1	6432053.0	43.5	0.0	45.5	45.2	0.0	0.0	0.0	40.4	44.3	39.1	45.5	38.5	45.2	45.2	35	45	75	RR
R_240790	617374.0	6432052.7	34.0	23.5	36.0	35.5	0.0	0.0	0.0	30.5	34.5	30.5	36.0	29.0	35.5	35.5	35	45	75	RR
R_240777	616361.2	6432051.8	48.9	0.0	50.9	50.4	0.0	0.0	0.0	46.1	49.3	43.8	50.9	43.9	50.4	50.4	35	45	75	RR
R_240786	617217.1	6432051.0	35.0	22.7	37.0	36.7	0.0	0.0	0.0	31.7	35.6	31.4	37.0	30.0	36.7	36.7	35	45	75	RR
R_240778	616579.6	6432050.6	41.0	0.0	43.0	42.6	0.0	0.0	0.0	39.3	41.5	37.7	43.0	36.0	42.6	42.6	35	45	75	RR
R_240773	616409.1	6432050.4	48.4	0.0	50.4	50.0	0.0	0.0	0.0	45.5	48.9	43.3	50.4	43.4	50.0	50.0	35	45	75	RR
R_240784	617457.4	6432046.6	33.5	23.9	35.5	34.9	0.0	0.0	0.0	29.9	33.9	29.7	35.5	28.5	34.9	34.9	35	45	75	RR
R_240781	616560.9	6432045.1	45.7	0.0	47.7	43.0	0.0	0.0	0.0	38.5	42.0	41.2	47.7	40.7	43.0	43.0	35	45	75	RR
R_240762	616468.6	6432044.3	42.0	0.0	44.0	43.5	0.0	0.0	0.0	39.7	42.4	38.4	44.0	37.0	43.5	43.5	35	45	75	RR
R_240768	616965.1	6432040.2	36.9	0.0	38.9	38.7	0.0	0.0	0.0	33.8	37.7	33.7	38.9	31.9	38.7	38.7	35	45	75	RR
R_240774	617350.2	6432039.6	34.1	23.4	36.1	35.6	0.0	0.0	0.0	30.6	34.5	30.4	36.1	29.1	35.6	35.6	35	45	75	RR
R_240754	616581.6	6432039.0	36.4	0.0	38.4	37.8	0.0	0.0	0.0	32.9	36.8	33.4	38.4	31.4	37.8	37.8	35	45	75	RR
R_240761	617000.7	6432037.3	36.5	0.0	38.5	38.4	0.0	0.0	0.0	33.4	37.3	33.3	38.5	31.5	38.4	38.4	35	45	75	RR
R_240760	617025.6	6432036.9	36.4	0.0	38.4	38.2	0.0	0.0	0.0	33.3	37.2	33.1	38.4	31.4	38.2	38.2	35	45	75	RR
R_240742	616410.5	6432035.0	46.4	0.0	48.4	45.9	0.0	0.0	0.0	45.4	44.7	42.0	48.4	41.4	45.9	45.9	35	45	75	RR
R_240743	616519.5	6432034.3	46.7	0.0	48.7	48.6	0.0	0.0	0.0	39.0	47.5	41.9	48.7	41.7	48.6	48.6	35	45	75	RR
R_240740	616357.7	6432033.9	48.8	0.0	50.8	50.2	0.0	0.0	0.0	46.0	49.1	43.6	50.8	43.8	50.2	50.2	35	45	75	RR
R_240758	617219.1	6432033.9	34.9	22.7	36.9	36.7	0.0	0.0	0.0	31.6	35.6	31.4	36.9	29.9	36.7	36.7	35	45	75	RR
R_240750	617045.7	6432032.7	36.1	0.0	38.1	38.0	0.0	0.0	0.0	33.0	36.9	32.6	38.1	31.1	38.0	38.0	35	45	75	RR
R_240751	617065.5	6432032.5	35.9	0.0	37.9	37.8	0.0	0.0	0.0	32.8	36.8	32.7	37.9	30.9	37.8	37.8	35	45	75	RR
R_240752	617122.2	6432032.2	35.5	22.3	37.5	37.4	0.0	0.0	0.0	32.4	36.3	32.1	37.5	30.5	37.4	37.4	35	45	75	RR
R_240756	617454.5	6432029.1	33.4	23.9	35.4	34.9	0.0	0.0	0.0	29.9	33.9	29.8	35.4	28.4	34.9	34.9	35	45	75	RR
R_240733	616460.7	6432027.0	44.8	0.0	46.8	46.7	0.0	0.0	0.0	44.8	45.6	40.8	46.8	39.8	46.7	46.7	35	45	75	RR
R_332455	620587.7	6432026.1	36.3	51.3	38.3	35.3	31.8	41.8	29.9	25.1	34.4	27.2	38.3	31.3	42.8	36.1	35	45	75	RR
R_240730	616567.7	6432024.2	40.7	0.0	42.7	42.4	0.0	0.0	0.0	37.8	41.3	37.3	42.7	35.7	42.4	42.4	35	45	75	RR
R_240719	616352.4	6432018.9	43.2	0.0	45.2	44.6	0.0	0.0	0.0	40.4	43.7	42.8	45.2	38.2	44.6	44.6	35	45	75	RR
R_240734	617213.6	6432018.7	34.8	22.7	36.8	36.7	0.0	0.0	0.0	31.7	35.6	31.5	36.8	29.8	36.7	36.7	35	45	75	RR
R_240717	616407.4	6432018.0	48.1	0.0	50.1	49.6	0.0	0.0	0.0	45.2	48.5	42.9	50.1	43.1	49.6	49.6	35	45	75	RR
R_240729	617117.9	6432016.9	35.4	22.2	37.4	37.3	0.0	0.0	0.0	32.4	36.3	32.0	37.4	30.4	37.3	37.3	35	45	75	RR
R_240732	617449.6	6432015.0	33.4	23.9	35.4	34.9	0.0	0.0	0.0	29.8	33.8	29.8	35.4	28.4	34.9	34.9	35	45	75	RR
R_240713	616517.7	6432014.2	43.2	0.0	45.2	44.8	0.0	0.0	0.0	38.9	43.8	39.3	45.2	38.2	44.8	44.8	35	45	75	RR
R_240725	617145.8	6432012.3	34.5	22.4	36.5	35.8	0.0	0.0	0.0	31.9	34.9	30.9	36.5	29.5	35.8	35.8	35	45	75	RR
R_240705	616464.2	6432009.0	42.8	0.0	44.8	44.8	0.0	0.0	0.0	39.2	43.1	39.3	44.8	37.8	44.8	44.8	35	45	75	RR
R_240714	617182.3	6432007.2	35.0	22.3	37.0	36.8	0.0	0.0	0.0	31.9	35.8	31.5	37.0	30.0	36.8	36.8	35	45	75	RR
R_240702	616566.9	6432005.6	46.1	0.0	48.1	48.0	0.0	0.0	0.0	37.6	46.9	41.3	48.1	41.1	48.0	48.0	35	45	75	RR
R_240711	617371.6	6432003.7	33.8	23.5	35.8	35.4	0.0	0.0	0.0	30.4	34.4	30.3	35.8	28.8	35.4	35.4	35	45	75	RR
R_240695	616402.1	6432002.4	44.9	0.0	46.9	45.7	0.0	0.0	0.0	42.0	46.0	39.8	46.9	39.9	45.7	45.7	35	45	75	RR
R_240707	617212.7	6432000.8	34.5	22.7	36.5	34.5	0.0	0.0	0.0	31.5	33.8	29.8	36.5	29.5	34.5	34.5	35	45	75	RR
R_240690	616351.8	6432000.3	48.4	0.0	50.4	49.9	0.0	0.0	0.0	45.7	48.8	43.3	50.4	43.4	49.9	49.9	35	45	75	RR
R_240671	615102.2	6431999.6	44.4	0.0	46.4	46.3	0.0	0.0	0.0	37.5	45.3	39.7	46.4	39.4	46.3	46.3	35	45	75	RR
R_240703	617443.4	6431997.1	33.3	23.8	35.3	34.9	0.0	0.0	0.0	29.8	33.8	29.8	35.3	28.3	34.9	34.9	35	45	75	RR
R_240683	616458.0	6431993.2	41.3	0.0	43.3	42.9	0.0	0.0	0.0	38.7	41.9	37.6	43.3	36.3	42.9	42.9	35	45	75	RR
R_240678	616564.5	6431987.1	40.5	0.0	42.5	42.3	0.0	0.0	0.0	37.6	41.2	37.0	42.5	35.5	42.3	42.3	35	45	75	RR
R_240672	616399.2	6431985.5	45.0	0.0	47.0	43.9	0.0	0.0	0.0	40.7	42.8	38.4	47.0	40.0	43.9	43.9	35	45	75	RR
R_240679	617000.0	6431983.4	36.3	0.0	38.3	38.2	0.0	0.0	0.0	33.2	37.1	32.8	38.3	31.3	38.2	38.2	35	45	75	RR
R_240677	616983.3	6431982.2	36.5	0.0	38.5	38.3	0.0	0.0	0.0	33.4	37.3	33.2	38.5	31.5	38.3	38.3	35	45	75	RR
R_240675	617019.1	6431980.4	36.1	0.0	38.1	38.0	0.0	0.0	0.0	33.1	36.9	32.6	38.1	31.1	38.0	38.0	35	45	75	RR
R_240680	617377.4	6431979.5	33.6	23.5	35.6	35.3	0.0	0.0	0.0	30.3	34.3	30.2	35.6	28.6	35.3	35.3	35	45	75	RR
R_240660	616456.2	6431977.4	41.3	0.0	43.3	42.9	0.0	0.0	0.0	38.5	41.8	37.5	43.3	36.3	42.9	42.9	35	45	75	RR
R_240670	617033.4	6431976.7	36.0	0.0	38.0	37.9	0.0	0.0	0.0	33.0	36.8	32.8	38.0	31.0	37.9	37.9	35	45	75	RR
R_240658	616511.4	6431975.3	40.9	0.0	42.9	42.5	0.0	0.0	0.0	38.0	41.4	37.4	42.9	35.9	42.5	42.5	35	45	75	RR
R_240667	617050.4	6431975.2	35.9	0.0	37.9	37.7	0.0	0.0	0.0	32.8	36.7	32.7	37.9	30.9	37.7	37.7	35	45	75	RR
R_240656	616558.9	6431971.7	40.3	0.0	42.3	41.9	0.0	0.0	0.0	37.5	40.9	36.6	42.3	35.3	41.9	41.9	35	45	75	RR
R_240668	617460.3	6431970.9	33.1	23.3	35.1	34.7	0.0	0.0	0.0	29.7	33.6	29.5	35.1	28.1	34.7	34.7	35	45	75	RR
R_240666	617442.5	6431970.5	33.2	23.9	35.2	34.8	0.0	0.0	0.0	29.8	33.8	29.8	35.2							

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_240600	616339.4	6431931.9	47.7	0.0	49.7	49.2	0.0	0.0	0.0	45.0	48.1	42.5	49.7	42.7	49.2	49.2	35	45	75	RR
R_240610	616969.8	6431930.7	36.4	0.0	38.4	38.2	0.0	0.0	0.0	33.3	37.1	33.1	38.4	31.4	38.2	38.2	35	45	75	RR
R_240605	616948.0	6431928.0	36.5	0.0	38.5	38.4	0.0	0.0	0.0	33.5	37.3	33.2	38.5	31.5	38.4	38.4	35	45	75	RR
R_240608	617204.8	6431926.7	34.3	22.7	36.3	36.2	0.0	0.0	0.0	31.3	35.2	31.0	36.3	29.3	36.2	36.2	35	45	75	RR
R_240609	617270.9	6431926.4	34.0	23.0	36.0	35.9	0.0	0.0	0.0	31.0	34.9	30.9	36.0	29.0	35.9	35.9	35	45	75	RR
R_240602	617059.7	6431925.2	35.6	0.0	37.6	37.5	0.0	0.0	0.0	32.6	36.4	32.3	37.6	30.6	37.5	37.5	35	45	75	RR
R_240604	617320.7	6431923.5	33.6	23.3	35.6	35.5	0.0	0.0	0.0	30.5	34.4	30.2	35.6	28.6	35.5	35.5	35	45	75	RR
R_240590	616441.3	6431922.3	41.2	0.0	43.2	42.7	0.0	0.0	0.0	38.4	41.6	37.6	43.2	36.2	42.7	42.7	35	45	75	RR
R_240591	616505.6	6431921.6	40.5	0.0	42.5	42.1	0.0	0.0	0.0	37.6	41.0	37.0	42.5	35.5	42.1	42.1	35	45	75	RR
R_240597	617116.3	6431920.7	35.1	22.3	37.1	37.0	0.0	0.0	0.0	32.1	35.9	31.6	37.1	30.1	37.0	37.0	35	45	75	RR
R_240601	617357.1	6431920.5	33.4	29.0	35.4	35.3	0.0	0.0	0.0	30.3	34.2	30.2	35.4	28.4	35.3	35.3	35	45	75	RR
R_240584	616389.0	6431918.7	47.2	0.0	49.2	48.7	0.0	0.0	0.0	44.4	47.6	42.0	49.2	42.2	48.7	48.7	35	45	75	RR
R_240598	617401.9	6431917.9	33.2	29.3	35.2	35.0	0.0	0.0	0.0	30.0	33.9	29.9	35.2	28.2	35.0	35.0	35	45	75	RR
R_240596	617381.4	6431916.8	33.3	29.2	35.3	35.1	0.0	0.0	0.0	30.1	34.1	30.0	35.3	28.3	35.1	35.1	35	45	75	RR
R_240555	615488.0	6431913.9	47.3	0.0	49.3	45.0	0.0	0.0	0.0	45.9	44.7	41.5	49.3	42.3	45.0	45.0	35	45	75	RR
R_240573	616335.8	6431913.2	42.0	0.0	44.0	43.4	0.0	0.0	0.0	40.8	42.4	41.6	44.0	37.0	43.4	43.4	35	45	75	RR
R_240576	616551.1	6431912.8	38.5	0.0	40.5	40.4	0.0	0.0	0.0	36.3	39.4	35.3	40.5	33.5	40.4	40.4	35	45	75	RR
R_240589	617202.4	6431911.9	34.5	22.7	36.5	36.4	0.0	0.0	0.0	31.4	35.3	31.3	36.5	29.5	36.4	36.4	35	45	75	RR
R_240583	617012.1	6431911.4	35.9	0.0	37.9	37.7	0.0	0.0	0.0	32.9	36.7	32.6	37.9	30.9	37.7	37.7	35	45	75	RR
R_240577	617055.5	6431907.2	35.5	0.0	37.5	37.4	0.0	0.0	0.0	32.5	36.3	32.0	37.5	30.5	37.4	37.4	35	45	75	RR
R_240559	616499.8	6431905.1	40.3	0.0	42.3	41.9	0.0	0.0	0.0	37.4	40.8	36.5	42.3	35.3	41.9	41.9	35	45	75	RR
R_240556	616387.5	6431904.3	47.0	0.0	49.0	48.5	0.0	0.0	0.0	44.3	47.5	41.9	49.0	42.0	48.5	48.5	35	45	75	RR
R_240570	617117.1	6431903.2	35.1	22.3	37.1	36.9	0.0	0.0	0.0	32.0	35.9	31.7	37.1	30.1	36.9	36.9	35	45	75	RR
R_240571	617262.7	6431901.6	34.0	23.0	36.0	35.9	0.0	0.0	0.0	30.9	34.8	30.6	36.0	29.0	35.9	35.9	35	45	75	RR
R_240553	616439.7	6431901.5	41.0	0.0	43.0	42.4	0.0	0.0	0.0	38.9	41.4	37.0	43.0	36.0	42.4	42.4	35	45	75	RR
R_332433	620955.2	6431901.2	39.2	48.8	41.2	39.7	40.2	50.2	37.2	24.9	40.6	34.1	41.2	34.2	50.6	40.6	35	45	75	RR
R_240547	616550.0	6431898.3	39.4	0.0	41.4	41.4	0.0	0.0	0.0	36.7	40.3	36.0	41.4	34.4	41.4	41.4	35	45	75	RR
R_240557	617010.6	6431897.7	35.9	0.0	37.9	37.7	0.0	0.0	0.0	32.8	36.6	32.6	37.9	30.9	37.7	37.7	35	45	75	RR
R_240542	616337.1	6431896.6	41.8	0.0	43.8	43.2	0.0	0.0	0.0	39.1	42.2	41.4	43.8	36.8	43.2	43.2	35	45	75	RR
R_240552	617054.6	6431894.2	35.5	0.0	37.5	37.3	0.0	0.0	0.0	32.4	36.3	32.2	37.5	30.5	37.3	37.3	35	45	75	RR
R_240535	616624.9	6431890.8	39.1	0.0	41.1	40.8	0.0	0.0	0.0	36.2	39.7	35.7	41.1	34.1	40.8	40.8	35	45	75	RR
R_240548	617307.6	6431890.0	33.6	23.2	35.6	35.5	0.0	0.0	0.0	30.6	34.5	30.5	35.6	28.6	35.5	35.5	35	45	75	RR
R_332448	620610.6	6431888.8	33.7	54.5	35.7	35.1	31.6	41.6	30.6	24.6	34.6	28.0	35.7	28.7	42.6	35.9	35	45	75	RR
R_240523	616498.7	6431888.2	40.2	0.0	42.2	41.8	0.0	0.0	0.0	37.4	40.7	36.7	42.2	35.2	41.8	41.8	35	45	75	RR
R_240544	617180.8	6431887.1	34.6	22.6	36.6	36.4	0.0	0.0	0.0	31.5	35.4	31.4	36.6	29.6	36.4	36.4	35	45	75	RR
R_240530	616936.1	6431886.5	36.4	0.0	38.4	38.2	0.0	0.0	0.0	33.4	37.2	33.1	38.4	31.4	38.2	38.2	35	45	75	RR
R_240515	616385.0	6431885.9	46.1	0.0	48.1	48.4	0.0	0.0	0.0	39.3	46.8	41.6	48.1	41.1	48.4	48.4	35	45	75	RR
R_240536	617253.3	6431884.9	34.0	22.9	36.0	35.9	0.0	0.0	0.0	30.9	34.8	30.8	36.0	29.0	35.9	35.9	35	45	75	RR
R_240539	617356.6	6431884.2	33.3	23.4	35.3	35.2	0.0	0.0	0.0	30.2	34.1	29.9	35.3	28.3	35.2	35.2	35	45	75	RR
R_240524	616957.7	6431883.7	36.2	0.0	38.2	38.0	0.0	0.0	0.0	33.2	37.0	33.0	38.2	31.2	38.0	38.0	35	45	75	RR
R_240508	616437.1	6431883.1	40.9	0.0	42.9	42.4	0.0	0.0	0.0	38.1	41.3	37.1	42.9	35.9	42.4	42.4	35	45	75	RR
R_240505	616546.2	6431880.2	39.6	0.0	41.6	41.2	0.0	0.0	0.0	36.7	40.1	35.8	41.6	34.6	41.2	41.2	35	45	75	RR
R_240507	616674.4	6431880.1	38.6	0.0	40.6	40.3	0.0	0.0	0.0	35.7	39.2	34.9	40.6	33.6	40.3	40.3	35	45	75	RR
R_240517	617006.3	6431879.0	35.8	0.0	37.8	37.6	0.0	0.0	0.0	32.8	36.6	32.5	37.8	30.8	37.6	37.6	35	45	75	RR
R_240483	615854.4	6431877.9	49.1	0.0	51.1	50.3	0.0	0.0	0.0	47.0	49.3	43.7	51.1	44.1	50.3	50.3	35	45	75	RR
R_240511	617103.2	6431876.3	35.0	22.2	37.0	36.9	0.0	0.0	0.0	32.0	35.8	31.8	37.0	30.0	36.9	36.9	35	45	75	RR
R_240481	616316.0	6431872.4	41.7	0.0	43.7	43.1	0.0	0.0	0.0	39.0	42.2	41.3	43.7	36.7	43.1	43.1	35	45	75	RR
R_240493	616721.8	6431872.1	38.2	0.0	40.2	39.9	0.0	0.0	0.0	35.2	38.8	34.8	40.2	33.2	39.9	39.9	35	45	75	RR
R_240485	616492.0	6431871.7	40.1	0.0	42.1	41.7	0.0	0.0	0.0	37.3	40.6	36.6	42.1	35.1	41.7	41.7	35	45	75	RR
R_240474	616332.4	6431870.8	42.8	0.0	44.8	43.7	0.0	0.0	0.0	40.4	42.7	41.2	44.8	37.8	43.7	43.7	35	45	75	RR
R_240496	617050.1	6431870.6	0.0	0.0	0.0	37.3	0.0	0.0	0.0	32.4	36.2	32.2	0.0	0.0	37.3	37.3	35	45	75	RR
R_240502	617302.7	6431870.2	33.6	23.2	35.6	35.5	0.0	0.0	0.0	30.3	34.4	30.1	35.6	28.6	35.5	35.5	35	45	75	RR
R_240480	616621.4	6431868.8	39.0	0.0	41.0	40.6	0.0	0.0	0.0	36.1	39.6	35.5	41.0	34.0	40.6	40.6	35	45	75	RR
R_240479	616991.4	6431864.3	35.9	0.0	37.9	37.7	0.0	0.0	0.0	32.8	36.6	32.6	37.9	30.9	37.7	37.7	35	45	75	RR
R_240476	616972.6	6431863.6	36.0	0.0	38.0	37.8	0.0	0.0	0.0	33.0	36.8	32.7	38.0	31.0	37.8	37.8	35	45	75	RR
R_240459	616378.4	6431862.5	41.2	0.0	43.2	42.7	0.0	0.0	0.0	38.4	41.6	37.2	43.2	36.2	42.7	42.7	35	45	75	RR
R_240488	617363.0	6431862.2	33.2	23.5	35.2	35.1	0.0	0.0	0.0	30.1	34.0	29.8	35.2	28.2	35.1	35.1	35	45	75	RR
R_240465	616665.9	6431861.3	38.4	0.0	40.4	40.2	0.0	0.0	0.0	35.5	39.1	34.8	40.4	33.4	40.2	40.2	35	45	75	RR
R_240478	617258.1	6431860.7	33.9	23.0	35.9	35.8	0.0	0.0	0.0	30.9	34.7	30.7	35.9	28.9	35.8	35.8	35	45	75	RR
R_240458	616543.3	6431860.4	39.6	0.0	41.6	41.2	0.0	0.0	0.0	36.8	40.1	36.1	41.6	34.6	41.2	41.2	35	45	75	RR
R_240464	616934.2	6431857.9	36.3	0.0	38.3	38.1	0.0	0.0	0.0	33.3	37.0	33.0	38.3	31.3	38.1	38.1	35	45	75	RR
R_240451	616398.7	6431857.1	40.7	0.0	42.7	42.2	0.0	0.0	0.0	37.9	41.1	37.1	42.7	35.7	42.2	42.2	35	45	75	RR
R_240450	616421.7	6431856.7	41.0	0.0	43.0	42.4	0.0	0.0	0.0	38.8	41.3	37.0	43.0							



Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL 10-Track connections	RAIL 11-Landscaping	RAIL 12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_240423	616932.5	6431833.8	36.2	0.0	38.2	38.0	0.0	0.0	0.0	33.2	37.0	32.9	38.2	31.2	38.0	38.0	35	45	75	RR
R_240416	616545.5	6431833.2	39.3	0.0	41.3	40.9	0.0	0.0	0.0	36.4	39.8	35.8	41.3	34.3	40.9	40.9	35	45	75	RR
R_240417	616717.8	6431832.1	37.9	0.0	39.9	39.6	0.0	0.0	0.0	35.0	38.5	34.5	39.9	32.9	39.6	39.6	35	45	75	RR
R_240415	617299.4	6431824.1	33.5	23.2	35.5	35.3	0.0	0.0	0.0	30.4	34.3	30.0	35.5	28.5	35.3	35.3	35	45	75	RR
R_240405	616622.1	6431823.8	38.6	0.0	40.6	40.3	0.0	0.0	0.0	35.7	39.2	35.2	40.6	33.6	40.3	40.3	35	45	75	RR
R_240398	616308.1	6431822.6	41.2	0.0	43.2	42.6	0.0	0.0	0.0	38.5	41.6	40.8	43.2	36.2	42.6	42.6	35	45	75	RR
R_240400	616327.5	6431822.5	41.7	0.0	43.7	42.5	0.0	0.0	0.0	38.3	41.5	40.6	43.7	36.7	42.5	42.5	35	45	75	RR
R_240411	617361.2	6431821.9	33.1	23.4	35.1	35.0	0.0	0.0	0.0	30.0	33.9	29.6	35.1	28.1	35.0	35.0	35	45	75	RR
R_240396	616346.8	6431819.4	41.6	0.0	43.6	42.3	0.0	0.0	0.0	32.2	41.2	37.8	43.6	36.6	42.3	42.3	35	45	75	RR
R_240406	617171.1	6431819.3	34.3	22.6	36.3	36.2	0.0	0.0	0.0	31.3	35.2	30.9	36.3	29.3	36.2	36.2	35	45	75	RR
R_240399	616712.0	6431817.9	0.0	0.0	0.0	39.6	0.0	0.0	0.0	35.0	38.5	34.5	0.0	0.0	39.6	39.6	35	45	75	RR
R_240404	617251.0	6431816.3	33.8	22.9	35.8	35.7	0.0	0.0	0.0	30.7	34.6	30.6	35.8	28.8	35.7	35.7	35	45	75	RR
R_240389	616362.8	6431810.7	41.7	0.0	43.7	42.5	0.0	0.0	0.0	38.2	41.4	36.9	43.7	36.7	42.5	42.5	35	45	75	RR
R_240386	616399.3	6431808.9	40.7	0.0	42.7	42.0	0.0	0.0	0.0	38.6	41.0	36.5	42.7	35.7	42.0	42.0	35	45	75	RR
R_240381	616417.6	6431807.4	40.0	0.0	42.0	41.5	0.0	0.0	0.0	37.6	40.5	36.2	42.0	35.0	41.5	41.5	35	45	75	RR
R_240392	617100.6	6431806.7	34.8	22.3	36.8	36.6	0.0	0.0	0.0	31.8	35.6	31.6	36.8	29.8	36.6	36.6	35	45	75	RR
R_240376	616380.0	6431805.5	45.7	0.0	47.7	45.3	0.0	0.0	0.0	39.6	46.6	41.0	47.7	40.7	45.3	45.3	35	45	75	RR
R_240380	616610.6	6431804.9	38.6	0.0	40.6	40.2	0.0	0.0	0.0	35.7	39.2	35.1	40.6	33.6	40.2	40.2	35	45	75	RR
R_240339	614993.6	6431801.7	37.5	0.0	39.5	39.1	0.0	0.0	0.0	34.7	38.1	36.9	39.5	32.5	39.1	39.1	35	45	75	RR
R_240390	617335.0	6431799.6	33.2	23.4	35.2	35.0	0.0	0.0	0.0	30.1	34.0	30.0	35.2	28.2	35.0	35.0	35	45	75	RR
R_240369	616712.7	6431798.1	37.7	0.0	39.7	39.4	0.0	0.0	0.0	34.7	38.3	34.1	39.7	32.7	39.4	39.4	35	45	75	RR
R_240363	616657.1	6431797.2	38.0	0.0	40.0	39.7	0.0	0.0	0.0	35.1	38.6	34.3	40.0	33.0	39.7	39.7	35	45	75	RR
R_240354	616435.6	6431797.1	39.8	0.0	41.8	41.3	0.0	0.0	0.0	37.1	40.3	36.3	41.8	34.8	41.3	41.3	35	45	75	RR
R_240353	616452.6	6431796.6	39.7	0.0	41.7	41.2	0.0	0.0	0.0	36.9	40.2	36.0	41.7	34.7	41.2	41.2	35	45	75	RR
R_240351	616471.0	6431793.9	39.5	0.0	41.5	41.1	0.0	0.0	0.0	36.7	40.0	36.0	41.5	34.5	41.1	41.1	35	45	75	RR
R_240350	616510.1	6431792.5	39.2	0.0	41.2	40.8	0.0	0.0	0.0	36.4	39.7	35.7	41.2	34.2	40.8	40.8	35	45	75	RR
R_240349	616490.1	6431791.9	39.3	0.0	41.3	40.9	0.0	0.0	0.0	36.5	39.9	35.8	41.3	34.3	40.9	40.9	35	45	75	RR
R_240348	616533.4	6431790.8	39.0	0.0	41.0	40.6	0.0	0.0	0.0	36.2	39.6	35.2	41.0	34.0	40.6	40.6	35	45	75	RR
R_240360	617243.7	6431789.9	33.8	23.0	35.8	35.6	0.0	0.0	0.0	30.7	34.6	30.5	35.8	28.8	35.6	35.6	35	45	75	RR
R_240346	617165.5	6431783.0	34.3	22.6	36.3	36.1	0.0	0.0	0.0	31.3	35.1	30.8	36.3	29.3	36.1	36.1	35	45	75	RR
R_240336	616706.3	6431778.5	37.6	0.0	39.6	39.3	0.0	0.0	0.0	34.7	38.2	33.9	39.6	32.6	39.3	39.3	35	45	75	RR
R_240331	616848.5	6431775.8	36.5	0.0	38.5	38.3	0.0	0.0	0.0	33.6	37.2	33.2	38.5	31.5	38.3	38.3	35	45	75	RR
R_240335	617272.0	6431771.8	33.4	23.0	35.4	35.3	0.0	0.0	0.0	30.4	34.2	29.9	35.4	28.4	35.3	35.3	35	45	75	RR
R_240330	617240.4	6431770.7	33.7	22.9	35.7	35.6	0.0	0.0	0.0	30.7	34.5	30.5	35.7	28.7	35.6	35.6	35	45	75	RR
R_240322	616532.5	6431768.1	38.7	0.0	40.7	40.3	0.0	0.0	0.0	35.9	39.3	35.3	40.7	33.7	40.3	40.3	35	45	75	RR
R_240316	616618.4	6431764.4	38.2	0.0	40.2	39.8	0.0	0.0	0.0	35.3	38.8	34.7	40.2	33.2	39.8	39.8	35	45	75	RR
R_240323	617325.5	6431764.4	33.1	23.3	35.1	35.0	0.0	0.0	0.0	30.1	33.9	29.9	35.1	28.1	35.0	35.0	35	45	75	RR
R_240314	616598.3	6431763.7	38.3	0.0	40.3	40.0	0.0	0.0	0.0	35.5	38.9	34.7	40.3	33.3	40.0	40.0	35	45	75	RR
R_240310	616640.6	6431758.8	38.0	0.0	40.0	39.6	0.0	0.0	0.0	35.1	38.6	34.6	40.0	33.0	39.6	39.6	35	45	75	RR
R_240311	616688.7	6431758.2	37.6	0.0	39.6	39.3	0.0	0.0	0.0	34.7	38.3	34.2	39.6	32.6	39.3	39.3	35	45	75	RR
R_240304	616659.7	6431752.2	37.7	0.0	39.7	39.3	0.0	0.0	0.0	34.9	38.3	34.0	39.7	32.7	39.3	39.3	35	45	75	RR
R_326431	619211.1	6431751.1	25.5	37.5	27.5	27.1	23.4	33.4	20.3	0.0	26.4	0.0	27.5	20.5	34.5	27.9	35	45	75	RR
R_240302	617153.3	6431745.3	34.2	22.5	36.2	36.1	0.0	0.0	0.0	31.2	35.0	31.0	36.2	29.2	36.1	36.1	35	45	75	RR
R_240285	616596.8	6431725.7	38.0	0.0	40.0	39.7	0.0	0.0	0.0	35.2	38.6	34.6	40.0	33.0	39.7	39.7	35	45	75	RR
R_240293	617253.6	6431725.6	33.4	23.0	35.4	35.3	0.0	0.0	0.0	30.4	34.2	29.9	35.4	28.4	35.3	35.3	35	45	75	RR
R_240292	617235.0	6431725.6	33.6	22.9	35.6	35.4	0.0	0.0	0.0	30.6	34.4	30.3	35.6	28.6	35.4	35.4	35	45	75	RR
R_326474	619079.4	6431724.1	0.0	35.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	35	45	75	RR
R_240290	617283.2	6431722.8	33.2	23.1	35.2	35.1	0.0	0.0	0.0	30.2	34.0	30.0	35.2	28.2	35.1	35.1	35	45	75	RR
R_240271	616601.1	6431711.3	37.8	0.0	39.8	39.4	0.0	0.0	0.0	35.1	38.4	34.1	39.8	32.8	39.4	39.4	35	45	75	RR
R_240277	617110.6	6431710.8	34.3	22.3	36.3	36.1	0.0	0.0	0.0	31.3	35.1	31.1	36.3	29.3	36.1	36.1	35	45	75	RR
R_240275	617226.1	6431707.3	33.5	22.8	35.5	35.4	0.0	0.0	0.0	30.5	34.3	30.3	35.5	28.5	35.4	35.4	35	45	75	RR
R_240263	616318.7	6431705.8	40.7	0.0	42.7	42.7	0.0	0.0	0.0	37.3	44.7	39.3	42.7	35.7	42.7	42.7	35	45	75	RR
R_240261	616756.5	6431700.6	36.6	0.0	38.6	38.4	0.0	0.0	0.0	33.8	37.3	33.0	38.6	31.6	38.4	38.4	35	45	75	RR
R_240265	617276.5	6431698.5	33.1	23.1	35.1	34.9	0.0	0.0	0.0	30.1	33.9	29.6	35.1	28.1	34.9	34.9	35	45	75	RR
R_240257	616776.1	6431697.7	36.5	0.0	38.5	38.2	0.0	0.0	0.0	33.6	37.2	33.2	38.5	31.5	38.2	38.2	35	45	75	RR
R_240248	616830.3	6431688.7	36.1	0.0	38.1	37.9	0.0	0.0	0.0	33.2	36.8	32.8	38.1	31.1	37.9	37.9	35	45	75	RR
R_240251	617230.2	6431687.6	33.4	22.8	35.4	35.3	0.0	0.0	0.0	30.4	34.2	30.2	35.4	28.4	35.3	35.3	35	45	75	RR
R_240242	616740.2	6431686.0	36.7	0.0	38.7	38.4	0.0	0.0	0.0	33.8	37.4	33.1	38.7	31.7	38.4	38.4	35	45	75	RR
R_240240	616599.7	6431686.0	37.7	0.0	39.7	39.3	0.0	0.0	0.0	34.9	38.3	34.2	39.7	32.7	39.3	39.3	35	45	75	RR
R_240244	617270.5	6431681.2	33.1	23.1	35.1	34.9	0.0	0.0	0.0	30.1	33.9	29.6	35.1	28.1	34.9	34.9	35	45	75	RR
R_240237	616848.4	6431681.1	36.0	0.0	38.0	37.7	0.0	0.0	0.0	33.0	36.6	32.6	38.0	31.0	37.7	37.7	35	45	75	RR
R_240235	616792.0	6431680.6	36.3	0.0	38.3	38.0	0.0	0.0	0.0	33.4	37.0	33.0	38.3	31.3	38.0	38.0	35	45	75	RR
R_240232	616810.8	6431677.9	36.2	0.0	38.2	37.9	0.0	0.0	0.0	33.3	36.8	32.8	38.2	31.2						

Appendix C - Rail infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	RAIL01-Site establishment	RAIL02-Utility relocations	RAIL03-Stripping topsoil	RAIL04-Main earthworks	RAIL05-Bridges and culverts	RAIL06-Bridges (piling)	RAIL07-Bridges (night work)	RAIL08-Level crossings	RAIL09-Track construction	RAIL10-Track connections	RAIL11-Landscaping	RAIL12-Decommissioning	CL01-Rail earthworks, Bridges(piling), Construction infrastructure	CL02-Rail earthworks, Road earthworks, Construction Infrastructure	evening/night criteria	day criteria	highly affected level	receiver type
R_240196	617217.5	6431631.7	33.3	22.8	35.3	35.1	0.0	0.0	0.0	30.3	34.0	30.0	35.3	28.3	35.1	35.1	35	45	75	RR
R_240182	616820.3	6431626.2	35.8	0.0	37.8	37.5	0.0	0.0	0.0	32.9	36.5	32.2	37.8	30.8	37.5	37.5	35	45	75	RR
R_240177	616763.8	6431623.4	36.1	0.0	38.1	37.8	0.0	0.0	0.0	33.3	36.8	32.8	38.1	31.1	37.8	37.8	35	45	75	RR
R_326703	618481.8	6431622.0	26.8	35.3	28.8	28.3	0.0	0.0	0.0	23.3	27.3	23.3	28.8	21.8	28.3	28.3	35	45	75	RR
R_240181	617152.8	6431621.5	33.6	22.5	35.6	35.4	0.0	0.0	0.0	30.6	34.4	30.4	35.6	28.6	35.4	35.4	35	45	75	RR
R_240175	616837.1	6431621.5	35.7	0.0	37.7	37.4	0.0	0.0	0.0	32.8	36.3	32.3	37.7	30.7	37.4	37.4	35	45	75	RR
R_240169	617215.2	6431613.3	33.2	22.7	35.2	35.0	0.0	0.0	0.0	30.2	34.0	30.0	35.2	28.2	35.0	35.0	35	45	75	RR
R_332454	619870.8	6431611.4	28.9	53.2	30.9	30.5	26.7	36.7	26.4	0.0	29.7	24.5	30.9	23.9	37.8	31.5	35	45	75	RR
R_240158	616997.5	6431605.8	34.6	0.0	36.6	36.4	0.0	0.0	0.0	31.7	35.4	31.3	36.6	29.6	36.4	36.4	35	45	75	RR
R_240157	617149.0	6431603.3	33.6	22.5	35.6	35.4	0.0	0.0	0.0	30.6	34.3	30.0	35.6	28.6	35.4	35.4	35	45	75	RR
R_240149	617209.7	6431595.4	33.1	22.7	35.1	35.0	0.0	0.0	0.0	30.2	33.9	29.6	35.1	28.1	35.0	35.0	35	45	75	RR
R_240132	616290.4	6431592.5	38.8	0.0	40.8	40.2	0.0	0.0	0.0	36.1	43.7	38.2	40.8	33.8	40.2	40.2	35	45	75	RR
R_240140	616906.2	6431589.8	35.0	0.0	37.0	36.8	0.0	0.0	0.0	32.1	35.7	31.7	37.0	30.0	36.8	36.8	35	45	75	RR
R_240130	617146.0	6431582.1	33.5	22.4	35.5	35.3	0.0	0.0	0.0	30.5	34.2	30.0	35.5	28.5	35.3	35.3	35	45	75	RR
R_332483	620744.0	6431581.4	40.6	78.2	42.6	41.9	39.8	49.8	36.9	23.0	41.4	34.4	42.6	35.6	50.6	42.8	35	45	75	RR
R_240123	617206.2	6431575.3	33.1	22.7	35.1	34.9	0.0	0.0	0.0	30.1	33.9	29.9	35.1	28.1	34.9	34.9	35	45	75	RR
R_240114	617138.2	6431564.2	33.5	22.4	35.5	35.3	0.0	0.0	0.0	30.5	34.2	30.2	35.5	28.5	35.3	35.3	35	45	75	RR
R_240100	617032.6	6431548.6	34.1	0.0	36.1	35.9	0.0	0.0	0.0	31.1	34.8	30.5	36.1	29.1	35.9	35.9	35	45	75	RR
R_240069	617070.8	6431523.6	33.7	0.0	35.7	35.5	0.0	0.0	0.0	30.8	34.4	30.4	35.7	28.7	35.5	35.5	35	45	75	RR
R_240048	617123.0	6431507.6	33.3	22.3	35.3	35.1	0.0	0.0	0.0	30.4	34.0	30.0	35.3	28.3	35.1	35.1	35	45	75	RR
R_240002	616237.7	6431476.5	43.3	0.0	45.3	44.8	0.0	0.0	0.0	40.7	43.8	38.1	45.3	38.3	44.8	44.8	35	45	75	RR
R_326554	618701.9	6431391.2	25.4	35.5	27.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.4	20.4	0.0	3.0	35	45	75	RR
R_239988	616804.4	6431343.8	34.1	0.0	36.1	35.8	0.0	0.0	0.0	31.3	34.8	30.5	36.1	29.1	35.8	35.8	35	45	75	RR
R_332585	621016.9	6431305.0	40.2	61.6	42.2	41.7	40.6	50.6	34.9	22.5	41.1	32.4	42.2	35.2	51.2	42.4	35	45	75	RR
R_326465	618791.8	6431249.4	0.0	37.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	35	45	75	RR
R_326549	618975.2	6431233.6	0.0	38.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	35	45	75	RR
R_239979	615174.5	6431054.2	38.7	0.0	40.7	40.3	0.0	0.0	0.0	36.2	39.3	33.6	40.7	33.7	40.3	40.3	35	45	75	RR
R_326725	619062.6	6431003.0	0.0	37.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	35	45	75	RR
R_326415	618750.9	6430944.5	0.0	35.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	35	45	75	RR
R_239958	615314.8	6430926.8	38.2	0.0	40.2	39.8	0.0	0.0	0.0	35.6	38.8	33.1	40.2	33.2	39.8	39.8	35	45	75	RR
R_239953	616780.8	6430895.8	37.1	0.0	39.1	33.2	0.0	0.0	0.0	34.2	32.1	28.1	39.1	32.1	33.2	33.2	35	45	75	RR
R_332434	621550.0	6430892.2	50.0	50.1	52.0	51.3	47.5	57.5	47.4	0.0	49.8	46.2	52.0	45.0	58.6	52.2	35	45	75	RR
R_239949	615233.4	6430884.5	37.7	0.0	39.7	39.3	0.0	0.0	0.0	35.1	38.3	32.6	39.7	32.7	39.3	39.3	35	45	75	RR
R_325645	625125.7	6430694.5	28.7	33.0	30.7	28.5	29.7	39.7	29.7	0.0	30.5	28.7	30.7	23.7	40.1	29.7	35	45	75	RR
R_239834	616623.2	6430391.3	33.7	0.0	35.7	36.3	0.0	0.0	0.0	31.8	35.3	29.6	35.7	28.7	36.3	36.3	35	45	75	RR
R_324811	623944.1	6430123.5	38.8	44.9	40.8	40.8	37.9	47.9	36.0	0.0	39.6	35.0	40.8	33.8	48.8	41.5	35	45	75	RR
R_324822	623513.4	6429827.4	43.6	42.8	45.6	45.3	41.4	51.4	38.1	29.9	43.6	36.8	45.6	38.6	52.5	46.1	35	45	75	RR
R_331816	619739.0	6429779.2	33.0	33.1	35.0	34.3	32.1	42.1	31.8	0.0	32.8	30.8	35.0	28.0	42.9	35.3	35	45	75	RR
R_331822	621433.5	6429366.7	43.3	44.0	45.3	44.5	42.2	52.2	36.9	29.3	45.8	35.9	45.3	38.3	52.9	44.8	35	45	75	RR
R_324819	623633.3	6428918.8	40.1	43.6	42.1	42.0	38.6	45.2	32.8	27.7	40.9	31.8	42.1	35.1	47.0	42.3	35	45	75	RR
R_324824	623563.4	6428048.8	35.8	33.7	37.8	36.9	37.9	38.3	23.4	30.9	40.3	22.4	37.8	30.8	40.8	37.1	35	45	75	RR
R_331738	621078.5	6427833.4	42.5	37.6	44.5	43.8	42.3	42.3	0.0	38.7	44.5	0.0	44.5	37.5	46.3	44.0	35	45	75	RR
R_331755	617101.4	6427581.7	33.1	32.2	35.1	34.8	30.7	0.0	0.0	29.7	28.7	0.0	35.1	28.1	35.5	35.5	35	45	75	RR
R_239781	611843.0	6427568.4	34.1	28.8	36.1	35.2	29.2	0.0	0.0	23.3	34.2	30.1	36.1	29.1	37.7	37.7	35	45	75	RR
R_331744	617475.0	6427522.9	33.4	32.1	35.4	35.1	31.0	0.0	0.0	30.0	29.0	0.0	35.4	28.4	35.7	35.7	35	45	75	RR
R_331782	617759.9	6427488.8	33.4	31.7	35.4	35.0	30.9	0.0	0.0	30.0	33.7	0.0	35.4	28.4	35.6	35.5	35	45	75	RR
R_331748	617964.5	6427479.6	33.1	31.2	35.1	34.8	30.7	0.0	0.0	29.7	29.5	0.0	35.1	28.1	35.3	35.3	35	45	75	RR
R_331712	618349.8	6427358.3	33.3	25.1	35.3	35.2	31.5	0.0	0.0	29.6	34.2	0.0	35.3	28.3	35.6	35.6	35	45	75	RR
R_239768	615006.2	6427198.0	38.0	25.1	40.0	39.4	35.8	0.0	0.0	24.6	38.4	26.4	40.0	33.0	41.8	41.8	35	45	75	RR
R_239764	614230.7	6426743.7	44.0	31.9	46.0	44.1	40.4	0.0	0.0	28.0	43.1	39.0	46.0	39.0	47.1	47.1	35	45	75	RR
R_239751	612615.4	6426442.2	57.9	36.3	59.9	57.8	38.3	0.0	0.0	29.0	56.7	54.4	59.9	52.9	60.9	60.9	35	45	75	RR
R_239748	612670.5	6426409.9	63.4	42.0	65.4	61.6	42.5	0.0	0.0	29.1	60.6	57.3	65.4	58.4	65.6	65.6	35	45	75	RR
R_325145	617102.3	6426357.7	42.3	38.2	44.3	37.6	33.3	0.0	0.0	32.1	36.4	0.0	44.3	37.3	40.5	40.5	35	45	75	RR
R_325128	610242.9	6426041.2	34.3	26.8	36.3	34.9	29.3	0.0	0.0	26.1	30.4	29.1	36.3	29.3	37.6	37.6	35	45	75	RR
R_324738	616960.3	6425578.3	53.4	59.9	55.4	53.5	48.2	0.0	0.0	46.6	49.2	0.0	55.4	48.4	54.6	54.6	35	45	75	RR
R_324734	617176.4	6425540.7	52.0	53.0	54.0	52.7	44.1	0.0	0.0	43.1	49.7	0.0	54.0	47.0	52.9	52.9	35	45	75	RR
R_239744	612150.4	6425014.8	96.0	93.0	98.0	98.0	69.5	0.0	0.0	54.3	97.0	89.9	98.0	91.0	100.1	100.1	70	70	-	CIP
R_239740	612488.8	6424538.9	52.8	57.1	54.8	53.7	43.9	0.0	0.0	48.7	52.7	47.7	54.8	47.8	56.3	56.3	35	45	75	RR
R_239733	612761.0	6424473.5	50.8	60.3	52.8	49.8	44.6	0.0	0.0	44.7	48.7	43.6	52.8	45.8	53.3	53.3	35	45	75	RR
R_239732	613220.4	6424461.1	51.1	48.2	53.1	44.8	41.6	0.0	0.0	33.9	43.7	40.6	53.1	46.1	52.0	52.0	35	45	75	RR
R_324729	614293.7	6424325.6	48.1	36.0	50.1	43.9	39.7	0.0	0.0	31.5	43.5	37.7	50.1	43.1	49.4	49.4	35	45	75	RR
R_325117	621619.0	6424005.8	38.2	0.0	40.2	39.9	36.5	0.0	0.0	0.0	38.9	0.0	40.2	33.2	40.2	40.2	35	45	75	RR
R_324740	619071.5	6423232.2	33.5	22.7	35.5	35.3	31.3	0.0	0.0	24.3	34.3</									



# TECHNICAL REPORT

# 8

## Noise and vibration assessment – construction and other operations

### **Appendix D** Construction noise impacts: road infrastructure

NARROMINE TO NARRABRI ENVIRONMENTAL IMPACT STATEMENT



Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
G901590	767704.8	6644101.1	61.9	63.9	63.9	61.9	58.9	59.9	63.9	56.9	60	60	-	PRA
G901591	767657.3	6644037.0	62.7	64.7	64.7	62.7	59.7	60.7	64.7	57.7	60	60	-	PRA
G901588	757242.2	6629743.0	60.5	62.5	62.5	60.5	57.5	58.5	62.5	55.5	60	60	-	PRA
R_246745	769949.2	6647895.2	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_246693	769711.8	6647434.1	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_246673	768928.8	6646453.6	50.5	52.5	52.5	50.5	47.5	48.5	52.5	45.5	35	45	75	RR
R_246593	765808.2	6644555.2	38.9	40.9	40.9	38.9	35.9	36.9	40.9	33.9	35	45	75	RR
R_246578	765770.7	6644362.9	40.4	42.4	42.4	40.4	37.4	38.4	42.4	35.4	35	45	75	RR
R_246577	767775.4	6644312.7	85.7	87.7	87.7	85.7	82.7	83.7	87.7	80.7	70	70	-	CIP
R_246569	765464.5	6644212.8	38.8	40.8	40.8	38.8	35.8	36.8	40.8	33.8	35	45	75	RR
R_246567	765573.2	6644194.1	39.8	41.8	41.8	39.8	36.8	37.8	41.8	34.8	35	45	75	RR
R_246536	766051.7	6643920.0	48.1	50.1	50.1	48.1	45.1	46.1	50.1	43.1	35	45	75	RR
R_246532	766126.0	6643869.3	49.9	51.9	51.9	49.9	46.9	47.9	51.9	44.9	35	45	75	RR
R_246517	766337.4	6643704.8	87.6	89.6	89.6	87.6	84.6	85.6	89.6	82.6	35	45	75	RR
R_246513	766366.3	6643690.4	76.5	78.5	78.5	76.5	73.5	74.5	78.5	71.5	70	70	-	CIP
R_246510	766384.0	6643677.7	72.9	74.9	74.9	72.9	69.9	70.9	74.9	67.9	70	70	-	CIP
R_246507	766409.3	6643666.7	70.0	72.0	72.0	70.0	67.0	68.0	72.0	65.0	70	70	-	CIP
R_246470	766452.2	6643528.0	59.4	61.4	61.4	59.4	56.4	57.4	61.4	54.4	35	45	75	RR
R_246464	766613.2	6643504.1	50.5	52.5	52.5	50.5	47.5	48.5	52.5	45.5	35	45	75	RR
R_246457	766623.1	6643489.8	46.6	48.6	48.6	46.6	43.6	44.6	48.6	41.6	35	45	75	RR
R_246451	766643.2	6643477.8	50.3	52.3	52.3	50.3	47.3	48.3	52.3	45.3	35	45	75	RR
R_246439	766665.2	6643453.4	52.7	54.7	54.7	52.7	49.7	50.7	54.7	47.7	35	45	75	RR
R_246433	766693.9	6643440.3	48.9	50.9	50.9	48.9	45.9	46.9	50.9	43.9	35	45	75	RR
R_246399	766751.1	6643387.8	51.1	53.1	53.1	51.1	48.1	49.1	53.1	46.1	35	45	75	RR
R_246387	766770.3	6643364.2	52.0	54.0	54.0	52.0	49.0	50.0	54.0	47.0	35	45	75	RR
R_246369	766830.2	6643326.8	45.2	47.2	47.2	45.2	42.2	43.2	47.2	40.2	35	45	75	RR
R_246365	766849.5	6643308.1	44.5	46.5	46.5	44.5	41.5	42.5	46.5	39.5	35	45	75	RR
R_246333	766838.3	6643231.7	43.5	45.5	45.5	43.5	40.5	41.5	45.5	38.5	35	45	75	RR
R_246328	766855.0	6643218.1	43.1	45.1	45.1	43.1	40.1	41.1	45.1	38.1	35	45	75	RR
R_246314	766890.7	6643188.3	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_246310	766906.3	6643167.7	42.2	44.2	44.2	42.2	39.2	40.2	44.2	37.2	35	45	75	RR
R_246301	767073.1	6643121.0	41.0	43.0	43.0	41.0	38.0	39.0	43.0	36.0	35	45	75	RR
R_246302	768115.7	6643097.0	38.5	40.5	40.5	38.5	35.5	36.5	40.5	33.5	35	45	75	RR
R_246259	766628.2	6642953.2	47.0	49.0	49.0	47.0	44.0	45.0	49.0	42.0	35	45	75	RR
R_246251	766374.2	6642948.5	45.4	47.4	47.4	45.4	42.4	43.4	47.4	40.4	35	45	75	RR
R_246249	766470.4	6642944.6	47.6	49.6	49.6	47.6	44.6	45.6	49.6	42.6	35	45	75	RR
R_246242	766414.4	6642935.8	45.1	47.1	47.1	45.1	42.1	43.1	47.1	40.1	35	45	75	RR
R_246238	766443.1	6642930.7	46.5	48.5	48.5	46.5	43.5	44.5	48.5	41.5	35	45	75	RR
R_246241	766608.8	6642930.4	41.5	43.5	43.5	41.5	38.5	39.5	43.5	36.5	35	45	75	RR
R_246235	766494.7	6642926.3	47.2	49.2	49.2	47.2	44.2	45.2	49.2	42.2	35	45	75	RR
R_246232	766524.8	6642920.3	46.1	48.1	48.1	46.1	43.1	44.1	48.1	41.1	35	45	75	RR
R_246228	766355.5	6642914.4	41.6	43.6	43.6	41.6	38.6	39.6	43.6	36.6	35	45	75	RR
R_246243	767799.6	6642902.4	37.6	39.6	39.6	37.6	34.6	35.6	39.6	32.6	35	45	75	RR
R_246224	766586.8	6642898.2	46.4	48.4	48.4	46.4	43.4	44.4	48.4	41.4	35	45	75	RR
R_246222	766548.1	6642897.7	45.6	47.6	47.6	45.6	42.6	43.6	47.6	40.6	35	45	75	RR
R_246237	767907.9	6642894.0	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_246214	766356.5	6642887.9	41.6	43.6	43.6	41.6	38.6	39.6	43.6	36.6	35	45	75	RR
R_246212	766525.7	6642882.4	41.5	43.5	43.5	41.5	38.5	39.5	43.5	36.5	35	45	75	RR
R_246210	766414.5	6642880.7	44.3	46.3	46.3	44.3	41.3	42.3	46.3	39.3	35	45	75	RR
R_246207	766448.5	6642877.8	42.0	44.0	44.0	42.0	39.0	40.0	44.0	37.0	35	45	75	RR
R_246206	766584.1	6642874.1	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
XR00003	766384.9	6642869.4	42.9	44.9	44.9	42.9	39.9	40.9	44.9	37.9	35	45	75	RR
R_246200	766514.4	6642863.7	40.7	42.7	42.7	40.7	37.7	38.7	42.7	35.7	35	45	75	RR
R_246196	766565.5	6642855.1	46.0	48.0	48.0	46.0	43.0	44.0	48.0	41.0	35	45	75	RR
R_246187	765646.6	6642855.1	43.8	45.8	45.8	43.8	40.8	41.8	45.8	38.8	35	45	75	RR
R_246211	767949.9	6642844.6	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_246197	767328.6	6642836.5	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_246188	766489.5	6642835.6	40.3	42.3	42.3	40.3	37.3	38.3	42.3	35.3	35	45	75	RR
R_246189	766556.8	6642834.0	40.0	42.0	42.0	40.0	37.0	38.0	42.0	35.0	35	45	75	RR
R_246182	766420.1	6642832.8	40.4	42.4	42.4	40.4	37.4	38.4	42.4	35.4	35	45	75	RR
R_246177	766536.1	6642815.0	38.9	40.9	40.9	38.9	35.9	36.9	40.9	33.9	35	45	75	RR
R_246175	766481.7	6642813.9	40.1	42.1	42.1	40.1	37.1	38.1	42.1	35.1	35	45	75	RR
R_246170	766245.6	6642811.0	45.9	47.9	47.9	45.9	42.9	43.9	47.9	40.9	35	45	75	RR
R_246169	766410.0	6642806.8	40.1	42.1	42.1	40.1	37.1	38.1	42.1	35.1	35	45	75	RR
R_246162	766526.2	6642792.5	39.5	41.5	41.5	39.5	36.5	37.5	41.5	34.5	35	45	75	RR
R_246159	766464.2	6642788.8	42.0	44.0	44.0	42.0	39.0	40.0	44.0	37.0	35	45	75	RR
R_246166	767204.4	6642785.3	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_246168	767300.7	6642784.1	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_246163	767363.6	6642772.8	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_246153	766511.1	6642770.6	38.5	40.5	40.5	38.5	35.5	36.5	40.5	33.5	35	45	75	RR
R_246149	766384.5	6642766.9	39.6	41.6	41.6	39.6	36.6	37.6	41.6	34.6	35	45	75	RR
R_246157	767309.7	6642765.3	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_246147	766440.6	6642760.4	41.0	43.0	43.0	41.0	38.0	39.0	43.0	36.0	35	45	75	RR
R_331682	767442.5	6642757.8	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_246155	767373.3	6642751.7	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_246143	766497.2	6642751.4	39.0	41.0	41.0	39.0	36.0	37.0	41.0	34.0	35	45	75	RR
R_246152	767231.7	6642749.8	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_246151	767318.4	6642747.4	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_246131	766356.6	6642737.8	41.3	43.3	43.3	41.3	38.3	39.3	43.3	36.3	35	45	75	RR
R_246128	766427.1	6642733.4	39.2	41.2	41.2	39.2	36.2	37.2	41.2	34.2	35	45	75	RR
R_246129	766482.6	6642732.5	38.9	40.9	40.9	38.9	35.9	36.9	40.9	33.9	35	45	75	RR
R_246140	767236.4	6642730.4	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_246142	767325.5	6642729.8	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_246134	767393.7	6642716.9	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_246130	767253.1	6642714.6	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR

## Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_246133	767521.8	6642713.7	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_246115	766303.1	6642713.6	44.7	46.7	46.7	44.7	41.7	42.7	46.7	39.7	35	45	75	RR
R_246113	766331.1	6642711.9	44.8	46.8	46.8	44.8	41.8	42.8	46.8	39.8	35	45	75	RR
R_246127	767331.6	6642709.7	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_246114	766461.7	6642709.4	38.8	40.8	40.8	38.8	35.8	36.8	40.8	33.8	35	45	75	RR
R_246109	766364.3	6642703.5	41.7	43.7	43.7	41.7	38.7	39.7	43.7	36.7	35	45	75	RR
R_246126	767501.7	6642703.4	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_246119	767249.4	6642696.5	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_246123	767488.8	6642695.4	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_246106	766417.7	6642694.7	38.8	40.8	40.8	38.8	35.8	36.8	40.8	33.8	35	45	75	RR
R_246122	767400.6	6642694.6	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_246104	766456.4	6642688.1	38.6	40.6	40.6	38.6	35.6	36.6	40.6	33.6	35	45	75	RR
R_246108	767265.7	6642677.6	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_246110	767563.0	6642674.6	34.7	36.7	36.7	34.7	31.7	32.7	36.7	29.7	35	45	75	RR
R_246103	767578.1	6642656.3	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_246100	767512.9	6642644.3	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_246095	767279.1	6642641.1	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_246054	765318.7	6642635.4	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_246096	767581.8	6642634.9	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_246093	767490.1	6642633.6	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_246092	767522.9	6642630.7	34.3	36.3	36.3	34.3	31.3	32.3	36.3	29.3	35	45	75	RR
R_246071	766417.4	6642627.7	38.0	40.0	40.0	38.0	35.0	36.0	40.0	33.0	35	45	75	RR
R_246083	767289.8	6642625.5	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_246084	767340.6	6642624.7	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_246086	767594.4	6642620.0	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_246077	767443.3	6642615.7	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_246081	767679.8	6642615.0	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_246074	767527.2	6642610.6	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_246051	766431.1	6642605.4	37.7	39.7	39.7	37.7	34.7	35.7	39.7	32.7	35	45	75	RR
R_246069	767292.6	6642604.7	34.7	36.7	36.7	34.7	31.7	32.7	36.7	29.7	35	45	75	RR
R_246072	767607.7	6642602.9	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_246066	767537.0	6642594.1	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_246067	767680.5	6642592.2	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_246061	767446.1	6642591.6	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_246059	767388.8	6642589.2	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_246055	767448.2	6642583.5	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_246057	767610.0	6642581.9	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_246030	766444.4	6642580.5	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_246045	767243.2	6642579.0	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_246047	767455.7	6642576.1	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_246052	767693.7	6642575.0	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_246048	767543.3	6642574.3	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_246041	767396.5	6642572.2	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_246038	767474.6	6642564.7	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_246035	767324.7	6642562.5	34.3	36.3	36.3	34.3	31.3	32.3	36.3	29.3	35	45	75	RR
R_246037	767618.0	6642559.4	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_246017	766460.4	6642556.6	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_246033	767557.3	6642556.3	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_246028	767622.0	6642548.8	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_331696	767475.0	6642546.3	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_246020	767319.0	6642543.3	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_246022	767397.4	6642541.9	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_246025	767712.9	6642541.4	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_246024	767563.0	6642538.7	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_246021	767622.3	6642536.0	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_246000	766461.7	6642534.5	37.0	39.0	39.0	37.0	34.0	35.0	39.0	32.0	35	45	75	RR
R_246015	767421.5	6642532.6	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_246012	767260.1	6642531.3	34.3	36.3	36.3	34.3	31.3	32.3	36.3	29.3	35	45	75	RR
R_246016	767495.0	6642531.2	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_246014	767631.0	6642524.3	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_245992	766478.4	6642520.5	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_246004	767332.6	6642520.1	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_246006	767422.6	6642518.3	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_246008	767572.1	6642517.7	33.4	35.4	35.4	33.4	30.4	31.4	35.4	28.4	35	45	75	RR
R_246001	767270.0	6642515.3	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_245998	767496.5	6642508.3	33.4	35.4	35.4	33.4	30.4	31.4	35.4	28.4	35	45	75	RR
R_245974	766485.7	6642502.0	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_245997	767581.7	6642501.1	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_245991	767281.1	6642499.6	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_245988	767274.6	6642496.4	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_245993	767731.0	6642490.7	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_245979	767354.3	6642486.8	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_245982	767499.0	6642486.7	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_245981	767587.0	6642484.0	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_245954	766493.5	6642482.9	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_245977	767439.4	6642481.0	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_245972	767284.2	6642480.8	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_245978	767743.2	6642475.4	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_245966	767512.0	6642469.2	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_245940	766506.0	6642468.2	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_245959	767292.7	6642467.6	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_245958	767363.1	6642465.8	33.4	35.4	35.4	33.4	30.4	31.4	35.4	28.4	35	45	75	RR
R_245965	768056.2	6642454.5	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_245924	766517.2	6642449.5	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_245939	767370.1	6642444.6	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR



Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_245936	767305.7	6642441.9	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_245945	768019.9	6642433.7	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_245923	767381.0	6642428.1	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_245898	766516.7	6642425.7	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_245934	768003.2	6642423.5	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_245914	767304.0	6642419.8	33.4	35.4	35.4	33.4	30.4	31.4	35.4	28.4	35	45	75	RR
R_245925	767987.0	6642413.6	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_245885	766537.7	6642413.2	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_245921	767965.8	6642412.5	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_245916	767920.5	6642407.5	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_245910	767951.3	6642400.1	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_245848	766548.9	6642378.6	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_245820	766556.6	6642357.4	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_245795	766569.3	6642338.6	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_245781	766585.5	6642325.9	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_245757	766592.2	6642307.1	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_245728	766602.7	6642283.2	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_245638	765805.0	6642024.8	38.0	40.0	40.0	38.0	35.0	36.0	40.0	33.0	35	45	75	RR
R_245617	765484.8	6641978.7	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_245593	766238.1	6641840.1	37.1	39.1	39.1	37.1	34.1	35.1	39.1	32.1	35	45	75	RR
R_245579	765927.6	6641771.5	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_245580	766009.5	6641770.4	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_245560	765314.9	6641723.3	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_245553	765837.1	6641675.7	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_245542	765791.5	6641637.6	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_245520	766045.8	6641456.9	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_333470	766261.6	6641352.2	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_245459	763475.3	6641248.0	37.8	39.8	39.8	37.8	34.8	35.8	39.8	32.8	35	45	75	RR
R_245454	763603.0	6641238.8	37.4	39.4	39.4	37.4	34.4	35.4	39.4	32.4	35	45	75	RR
R_245053	763996.4	6640570.2	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_245048	764027.8	6640561.9	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_245034	761224.6	6640544.2	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_245047	764062.0	6640543.3	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_332903	764103.2	6640490.3	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_333034	764074.6	6640465.3	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_245009	761526.1	6640441.9	40.2	42.2	42.2	40.2	37.2	38.2	42.2	35.2	35	45	75	RR
R_332884	764069.7	6640440.0	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_333286	764149.8	6640438.7	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_332774	764142.7	6640427.8	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_245004	760935.9	6640416.8	37.4	39.4	39.4	37.4	34.4	35.4	39.4	32.4	35	45	75	RR
R_333271	764058.5	6640412.8	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_332881	764131.6	6640412.7	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_333261	764131.1	6640394.3	33.4	35.4	35.4	33.4	30.4	31.4	35.4	28.4	35	45	75	RR
R_332945	764046.6	6640390.3	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_332883	764154.4	6640379.2	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_332824	764038.3	6640375.2	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_332636	764178.6	6640362.0	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_332773	764092.1	6640360.0	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_332635	764194.5	6640355.3	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_332944	764111.6	6640346.0	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_332946	764138.5	6640332.2	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_332985	764076.1	6640322.6	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_333263	763916.1	6640313.9	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_333120	764166.6	6640307.8	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_332666	764186.1	6640297.6	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_333276	764216.0	6640279.4	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_333424	764108.9	6640278.5	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_332741	764044.2	6640272.3	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_332942	763969.5	6640269.0	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_244983	761638.5	6640248.4	43.3	45.3	45.3	43.3	40.3	41.3	45.3	38.3	35	45	75	RR
R_332817	764025.9	6640239.5	34.7	36.7	36.7	34.7	31.7	32.7	36.7	29.7	35	45	75	RR
R_244974	761590.7	6640142.6	43.4	45.4	45.4	43.4	40.4	41.4	45.4	38.4	35	45	75	RR
R_333041	764240.4	6640117.6	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_333006	764299.7	6640089.2	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_327215	760339.1	6639938.3	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_327312	760411.7	6639926.5	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_333005	763265.5	6639886.6	50.4	52.4	52.4	50.4	47.4	48.4	52.4	45.4	35	45	75	RR
R_332922	761906.9	6639817.7	48.7	50.7	50.7	48.7	45.7	46.7	50.7	43.7	35	45	75	RR
R_332845	763393.5	6639813.8	48.8	50.8	50.8	48.8	45.8	46.8	50.8	43.8	35	45	75	RR
R_332818	763800.4	6639775.2	37.9	39.9	39.9	37.9	34.9	35.9	39.9	32.9	35	45	75	RR
R_332844	763493.9	6639724.9	47.5	49.5	49.5	47.5	44.5	45.5	49.5	42.5	35	45	75	RR
R_333400	761417.6	6639646.8	39.4	41.4	41.4	39.4	36.4	37.4	41.4	34.4	35	45	75	RR
R_332756	764024.7	6639546.5	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_333051	763418.8	6639467.0	48.3	50.3	50.3	48.3	45.3	46.3	50.3	43.3	35	45	75	RR
R_332733	763675.0	6639401.7	39.8	41.8	41.8	39.8	36.8	37.8	41.8	34.8	35	45	75	RR
R_333146	764211.8	6639157.3	33.4	35.4	35.4	33.4	30.4	31.4	35.4	28.4	35	45	75	RR
R_332805	763545.5	6639128.3	44.9	46.9	46.9	44.9	41.9	42.9	46.9	39.9	35	45	75	RR
R_332806	763808.5	6639123.6	41.8	43.8	43.8	41.8	38.8	39.8	43.8	36.8	35	45	75	RR
R_332786	763560.2	6639115.5	44.6	46.6	46.6	44.6	41.6	42.6	46.6	39.6	35	45	75	RR
R_328813	760889.6	6639041.7	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_332659	763756.1	6639036.3	41.8	43.8	43.8	41.8	38.8	39.8	43.8	36.8	35	45	75	RR
R_332771	761615.0	6639023.3	43.0	45.0	45.0	43.0	40.0	41.0	45.0	38.0	35	45	75	RR
R_332924	761698.9	6639015.2	43.7	45.7	45.7	43.7	40.7	41.7	45.7	38.7	35	45	75	RR
R_332739	763291.8	6638763.1	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_332965	763519.3	6638749.9	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR



## Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_332964	763489.8	6638712.9	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_332959	763418.4	6638602.6	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_333020	763843.3	6638445.3	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_332835	762529.3	6638364.4	43.2	45.2	45.2	43.2	40.2	41.2	45.2	38.2	35	45	75	RR
R_333038	763195.8	6638302.6	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_332694	762975.4	6638010.2	39.7	41.7	41.7	39.7	36.7	37.7	41.7	34.7	35	45	75	RR
R_332616	762895.3	6637932.7	44.7	46.7	46.7	44.7	41.7	42.7	46.7	39.7	35	45	75	RR
R_325287	759729.4	6637592.3	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_332615	761608.4	6637316.6	54.7	56.7	56.7	54.7	51.7	52.7	56.7	49.7	35	45	75	RR
R_332905	761236.4	6636999.1	49.0	51.0	51.0	49.0	46.0	47.0	51.0	44.0	35	45	75	RR
R_333280	763167.8	6636988.9	43.1	45.1	45.1	43.1	40.1	41.1	45.1	38.1	35	45	75	RR
R_333018	762893.0	6636986.7	47.5	49.5	49.5	47.5	44.5	45.5	49.5	42.5	35	45	75	RR
R_333443	763297.0	6636891.8	42.7	44.7	44.7	42.7	39.7	40.7	44.7	37.7	35	45	75	RR
R_332769	763734.7	6636860.7	38.9	40.9	40.9	38.9	35.9	36.9	40.9	33.9	35	45	75	RR
R_333030	763136.4	6636817.5	43.9	45.9	45.9	43.9	40.9	41.9	45.9	38.9	35	45	75	RR
R_332893	763226.2	6636737.1	41.6	43.6	43.6	41.6	38.6	39.6	43.6	36.6	35	45	75	RR
R_333043	763117.1	6636690.4	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_332754	762857.4	6636642.3	42.4	44.4	44.4	42.4	39.4	40.4	44.4	37.4	35	45	75	RR
R_333042	763348.8	6636638.3	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_331789	760125.9	6636616.3	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_333281	763880.7	6636529.0	37.1	39.1	39.1	37.1	34.1	35.1	39.1	32.1	35	45	75	RR
R_332780	762761.1	6636510.1	44.7	46.7	46.7	44.7	41.7	42.7	46.7	39.7	35	45	75	RR
R_333284	763477.0	6636443.2	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_332910	763396.7	6636269.6	38.6	40.6	40.6	38.6	35.6	36.6	40.6	33.6	35	45	75	RR
R_331851	759790.8	6634042.0	39.5	41.5	41.5	39.5	36.5	37.5	41.5	34.5	35	45	75	RR
R_325045	756584.2	6633369.8	34.3	36.3	36.3	34.3	31.3	32.3	36.3	29.3	35	45	75	RR
R_332075	759399.0	6633328.4	51.3	53.3	53.3	51.3	48.3	49.3	53.3	46.3	35	45	75	RR
R_325202	757010.0	6633213.9	37.1	39.1	39.1	37.1	34.1	35.1	39.1	32.1	35	45	75	RR
R_331869	756978.4	6632958.6	37.7	39.7	39.7	37.7	34.7	35.7	39.7	32.7	35	45	75	RR
R_331852	759553.2	6632770.6	58.9	60.9	60.9	58.9	55.9	56.9	60.9	53.9	35	45	75	RR
R_331860	758657.7	6631601.4	51.6	53.6	53.6	51.6	48.6	49.6	53.6	46.6	35	45	75	RR
R_332255	758648.8	6631593.9	51.9	53.9	53.9	51.9	48.9	49.9	53.9	46.9	35	45	75	RR
R_331839	759348.1	6631474.3	41.5	43.5	43.5	41.5	38.5	39.5	43.5	36.5	35	45	75	RR
R_331977	758780.4	6631367.3	45.9	47.9	47.9	45.9	42.9	43.9	47.9	40.9	35	45	75	RR
R_331819	758771.8	6631356.9	46.1	48.1	48.1	46.1	43.1	44.1	48.1	41.1	35	45	75	RR
R_331823	756241.6	6630810.4	41.5	43.5	43.5	41.5	38.5	39.5	43.5	36.5	35	45	75	RR
R_331859	758352.0	6630750.0	45.8	47.8	47.8	45.8	42.8	43.8	47.8	40.8	35	45	75	RR
R_332070	755526.9	6629632.7	36.9	38.9	38.9	36.9	33.9	34.9	38.9	31.9	35	45	75	RR
R_332090	757896.3	6629511.8	41.7	43.7	43.7	41.7	38.7	39.7	43.7	36.7	35	45	75	RR
R_332056	756485.3	6627950.1	34.7	36.7	36.7	34.7	31.7	32.7	36.7	29.7	35	45	75	RR
R_331845	754226.8	6627900.6	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_332076	756693.3	6627538.0	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_331806	756513.4	6626378.3	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_332063	754903.5	6625893.4	42.6	44.6	44.6	42.6	39.6	40.6	44.6	37.6	35	45	75	RR
R_331855	755377.9	6625817.8	43.1	45.1	45.1	43.1	40.1	41.1	45.1	38.1	35	45	75	RR
R_331978	752254.8	6625248.3	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_331844	755333.0	6625201.4	47.5	49.5	49.5	47.5	44.5	45.5	49.5	42.5	35	45	75	RR
R_331798	750473.2	6623009.6	39.8	41.8	41.8	39.8	36.8	37.8	41.8	34.8	35	45	75	RR
R_331766	700614.6	6586881.9	38.9	40.9	40.9	38.9	35.9	36.9	40.9	33.9	35	45	75	RR
R_331942	699980.8	6585644.9	49.4	51.4	51.4	49.4	46.4	47.4	51.4	44.4	35	45	75	RR
R_244568	688698.7	6584124.4	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_244562	692054.1	6583343.5	47.8	49.8	49.8	47.8	44.8	45.8	49.8	42.8	35	45	75	RR
R_244557	686482.8	6582937.8	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_244554	687252.0	6582903.5	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_244531	689350.7	6581762.0	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_244514	687126.7	6581108.9	45.9	47.9	47.9	45.9	42.9	43.9	47.9	40.9	35	45	75	RR
R_244510	681515.6	6580646.2	40.3	42.3	42.3	40.3	37.3	38.3	42.3	35.3	35	45	75	RR
R_244498	680524.5	6579975.1	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_331820	678288.9	6571346.2	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_244437	677780.3	6570552.4	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_244419	676131.9	6567308.7	55.0	57.0	57.0	55.0	52.0	53.0	57.0	50.0	35	45	75	RR
R_244422	677134.0	6567305.3	41.9	43.9	43.9	41.9	38.9	39.9	43.9	36.9	35	45	75	RR
R_331699	677217.4	6567182.1	40.9	42.9	42.9	40.9	37.9	38.9	42.9	35.9	35	45	75	RR
R_331750	675546.5	6564246.2	50.4	52.4	52.4	50.4	47.4	48.4	52.4	45.4	35	45	75	RR
R_244376	674015.5	6562576.0	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_244329	670592.3	6555337.0	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_244309	672386.9	6554162.3	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_244284	670230.2	6553620.8	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_244234	668528.4	6549950.8	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_244228	671697.0	6548658.0	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_244225	667900.9	6547800.7	40.7	42.7	42.7	40.7	37.7	38.7	42.7	35.7	35	45	75	RR
R_244201	667482.4	6546006.2	42.1	44.1	44.1	42.1	39.1	40.1	44.1	37.1	35	45	75	RR
R_244173	667374.5	6544637.0	46.9	48.9	48.9	46.9	43.9	44.9	48.9	41.9	35	45	75	RR
R_325492	669231.2	6544475.8	42.9	44.9	44.9	42.9	39.9	40.9	44.9	37.9	35	45	75	RR
R_324859	669706.0	6543557.0	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_324720	667978.1	6541349.4	40.9	42.9	42.9	40.9	37.9	38.9	42.9	35.9	35	45	75	RR
R_244141	664167.7	6539185.5	62.6	64.6	64.6	62.6	59.6	60.6	64.6	57.6	35	45	75	RR
R_244124	664411.2	6537350.7	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_244118	662736.0	6537306.2	47.1	49.1	49.1	47.1	44.1	45.1	49.1	42.1	35	45	75	RR
R_244110	663392.3	6537080.1	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_244093	659256.1	6533879.1	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_244075	661602.7	6533163.8	43.5	45.5	45.5	43.5	40.5	41.5	45.5	38.5	35	45	75	RR
R_244057	659790.2	6532315.6	40.6	42.6	42.6	40.6	37.6	38.6	42.6	35.6	35	45	75	RR
R_244053	660652.6	6531452.9	54.1	56.1	56.1	54.1	51.1	52.1	56.1	49.1	35	45	75	RR
R_244038	661898.4	6531081.8	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR

Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_243977	657911.7	6521836.7	50.1	52.1	52.1	50.1	47.1	48.1	52.1	45.1	35	45	75	RR
R_243964	659756.5	6521599.2	42.6	44.6	44.6	42.6	39.6	40.6	44.6	37.6	35	45	75	RR
R_243951	659399.7	6518906.2	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_243937	658332.1	6516495.5	42.3	44.3	44.3	42.3	39.3	40.3	44.3	37.3	35	45	75	RR
R_243927	656329.1	6515384.2	38.1	40.1	40.1	38.1	35.1	36.1	40.1	33.1	35	45	75	RR
R_243908	654947.7	6515144.6	55.6	57.6	57.6	55.6	52.6	53.6	57.6	50.6	35	45	75	RR
R_243906	654739.9	6515111.5	52.9	54.9	54.9	52.9	49.9	50.9	54.9	47.9	35	45	75	RR
R_243898	652105.1	6514526.0	38.0	40.0	40.0	38.0	35.0	36.0	40.0	33.0	35	45	75	RR
R_243895	652013.5	6514429.1	37.4	39.4	39.4	37.4	34.4	35.4	39.4	32.4	35	45	75	RR
R_243884	651765.3	6512338.0	38.0	40.0	40.0	38.0	35.0	36.0	40.0	33.0	35	45	75	RR
R_243882	651536.6	6512109.1	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_324902	647455.6	6511209.7	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_243868	650801.3	6511171.7	48.4	50.4	50.4	48.4	45.4	46.4	50.4	43.4	35	45	75	RR
R_243864	651295.3	6509752.1	42.4	44.4	44.4	42.4	39.4	40.4	44.4	37.4	35	45	75	RR
R_243860	651585.1	6509525.0	42.1	44.1	44.1	42.1	39.1	40.1	44.1	37.1	35	45	75	RR
R_243859	651607.2	6509335.6	41.7	43.7	43.7	41.7	38.7	39.7	43.7	36.7	35	45	75	RR
R_243853	650572.5	6509307.6	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_243849	650644.0	6509262.4	38.1	40.1	40.1	38.1	35.1	36.1	40.1	33.1	35	45	75	RR
R_243844	650659.6	6509211.7	38.0	40.0	40.0	38.0	35.0	36.0	40.0	33.0	35	45	75	RR
R_243840	652020.2	6509149.5	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_324962	650621.1	6507761.7	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_243829	647262.6	6507339.5	56.1	58.1	58.1	56.1	53.1	54.1	58.1	51.1	35	45	75	RR
R_243806	644129.1	6505669.6	34.7	36.7	36.7	34.7	31.7	32.7	36.7	29.7	35	45	75	RR
R_243791	644727.0	6504573.5	45.3	47.3	47.3	45.3	42.3	43.3	47.3	40.3	35	45	75	RR
R_243783	642001.5	6503859.8	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_325012	644973.7	6501061.4	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_331786	642717.0	6495601.6	41.3	43.3	43.3	41.3	38.3	39.3	43.3	36.3	35	45	75	RR
R_243695	640876.3	6495486.6	45.7	47.7	47.7	45.7	42.7	43.7	47.7	40.7	35	45	75	RR
R_243690	640909.5	6495440.6	46.8	48.8	48.8	46.8	43.8	44.8	48.8	41.8	35	45	75	RR
R_331830	641838.0	6492111.6	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_331834	640416.7	6490952.6	42.4	44.4	44.4	42.4	39.4	40.4	44.4	37.4	35	45	75	RR
R_243664	639014.7	6489193.6	38.7	40.7	40.7	38.7	35.7	36.7	40.7	33.7	35	45	75	RR
R_331901	640743.2	6485555.4	37.9	39.9	39.9	37.9	34.9	35.9	39.9	32.9	35	45	75	RR
R_243613	638037.9	6484256.0	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_331849	642075.2	6484188.0	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_243609	638834.6	6483881.9	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_243589	637893.9	6478067.7	38.3	40.3	40.3	38.3	35.3	36.3	40.3	33.3	35	45	75	RR
R_243585	637795.6	6478022.3	37.8	39.8	39.8	37.8	34.8	35.8	39.8	32.8	35	45	75	RR
R_243582	637423.2	6477903.0	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_243487	636002.6	6465759.9	41.9	43.9	43.9	41.9	38.9	39.9	43.9	36.9	35	45	75	RR
R_331746	638486.4	6465479.0	42.2	44.2	44.2	42.2	39.2	40.2	44.2	37.2	35	45	75	RR
R_243475	635066.6	6463812.8	47.3	49.3	49.3	47.3	44.3	45.3	49.3	42.3	35	45	75	RR
R_243473	633509.0	6463796.1	47.6	49.6	49.6	47.6	44.6	45.6	49.6	42.6	35	45	75	RR
R_243471	635042.7	6463749.4	43.9	45.9	45.9	43.9	40.9	41.9	45.9	38.9	35	45	75	RR
R_243438	633781.6	6462309.1	40.6	42.6	42.6	40.6	37.6	38.6	42.6	35.6	35	45	75	RR
R_243428	629401.2	6461859.1	44.0	46.0	46.0	44.0	41.0	42.0	46.0	39.0	35	45	75	RR
R_243429	631418.4	6461834.7	45.7	47.7	47.7	45.7	42.7	43.7	47.7	40.7	35	45	75	RR
R_243390	629538.6	6459108.6	44.3	46.3	46.3	44.3	41.3	42.3	46.3	39.3	35	45	75	RR
R_243378	626274.6	6457969.0	38.9	40.9	40.9	38.9	35.9	36.9	40.9	33.9	35	45	75	RR
R_332028	628367.6	6453371.5	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_332047	625765.9	6448528.8	40.9	42.9	42.9	40.9	37.9	38.9	42.9	35.9	35	45	75	RR
R_331710	625426.7	6447909.5	49.2	51.2	51.2	49.2	46.2	47.2	51.2	44.2	35	45	75	RR
R_331910	624894.2	6447859.6	48.7	50.7	50.7	48.7	45.7	46.7	50.7	43.7	35	45	75	RR
R_331764	625931.4	6446218.0	48.7	50.7	50.7	48.7	45.7	46.7	50.7	43.7	35	45	75	RR
R_331728	625580.8	6446000.0	45.9	47.9	47.9	45.9	42.9	43.9	47.9	40.9	35	45	75	RR
R_332038	625601.9	6445956.0	44.4	46.4	46.4	44.4	41.4	42.4	46.4	39.4	35	45	75	RR
R_331759	624577.9	6445854.9	45.0	47.0	47.0	45.0	42.0	43.0	47.0	40.0	35	45	75	RR
R_331718	624858.9	6443304.4	39.6	41.6	41.6	39.6	36.6	37.6	41.6	34.6	35	45	75	RR
R_331763	624772.3	6440932.6	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_331774	624551.4	6440899.7	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_331924	624680.2	6440824.0	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_331717	624130.1	6438492.2	45.1	47.1	47.1	45.1	42.1	43.1	47.1	40.1	35	45	75	RR
R_331735	623239.1	6436392.3	50.3	52.3	52.3	50.3	47.3	48.3	52.3	45.3	35	45	75	RR
R_332032	622943.0	6436031.7	64.9	66.9	66.9	64.9	61.9	62.9	66.9	59.9	52	52	-	CMU
R_331749	622931.9	6435392.0	48.9	50.9	50.9	48.9	45.9	46.9	50.9	43.9	35	45	75	RR
R_331995	621407.3	6435053.2	38.3	40.3	40.3	38.3	35.3	36.3	40.3	33.3	35	45	75	RR
R_243000	616006.5	6434838.5	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_242981	616025.5	6434764.3	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_242975	616129.9	6434747.1	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_242974	616181.9	6434737.9	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_242966	616555.8	6434656.1	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_242940	616585.4	6434366.4	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_242938	616591.7	6434349.8	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_242936	616615.7	6434324.5	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_242919	614514.0	6434296.4	37.1	39.1	39.1	37.1	34.1	35.1	39.1	32.1	35	45	75	RR
R_242924	616633.8	6434289.5	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_242914	616669.6	6434256.9	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_242912	617256.3	6434240.9	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_242901	616681.4	6434213.7	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_242888	616698.3	6434175.0	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_242883	617160.0	6434139.5	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_242879	616705.8	6434125.4	37.1	39.1	39.1	37.1	34.1	35.1	39.1	32.1	35	45	75	RR
R_242853	614089.7	6434096.3	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_242866	616721.9	6434092.9	37.4	39.4	39.4	37.4	34.4	35.4	39.4	32.4	35	45	75	RR
R_242850	616774.7	6434054.4	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR

Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_242844	615815.4	6434053.2	40.1	42.1	42.1	40.1	37.1	38.1	42.1	35.1	35	45	75	RR
R_242849	617303.6	6434046.1	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_242841	615832.6	6434044.0	45.7	47.7	47.7	45.7	42.7	43.7	47.7	40.7	35	45	75	RR
R_331791	621496.3	6434031.1	46.7	48.7	48.7	46.7	43.7	44.7	48.7	41.7	35	45	75	RR
R_242833	613894.4	6434001.9	34.7	36.7	36.7	34.7	31.7	32.7	36.7	29.7	35	45	75	RR
R_242824	616851.2	6433870.4	38.7	40.7	40.7	38.7	35.7	36.7	40.7	33.7	35	45	75	RR
R_242821	616374.8	6433862.8	43.8	45.8	45.8	43.8	40.8	41.8	45.8	38.8	35	45	75	RR
R_242819	616595.0	6433851.5	40.3	42.3	42.3	40.3	37.3	38.3	42.3	35.3	35	45	75	RR
R_242816	616655.1	6433843.9	40.1	42.1	42.1	40.1	37.1	38.1	42.1	35.1	35	45	75	RR
R_242814	616680.1	6433840.3	40.1	42.1	42.1	40.1	37.1	38.1	42.1	35.1	35	45	75	RR
R_242812	616707.2	6433830.5	40.1	42.1	42.1	40.1	37.1	38.1	42.1	35.1	35	45	75	RR
R_242807	616455.2	6433825.6	44.6	46.6	46.6	44.6	41.6	42.6	46.6	39.6	35	45	75	RR
R_242808	616597.3	6433824.7	39.1	41.1	41.1	39.1	36.1	37.1	41.1	34.1	35	45	75	RR
R_242803	616654.4	6433818.0	40.5	42.5	42.5	40.5	37.5	38.5	42.5	35.5	35	45	75	RR
R_242802	616513.6	6433816.7	41.2	43.2	43.2	41.2	38.2	39.2	43.2	36.2	35	45	75	RR
R_242799	616733.5	6433811.3	40.0	42.0	42.0	40.0	37.0	38.0	42.0	35.0	35	45	75	RR
R_242795	616451.0	6433806.5	40.9	42.9	42.9	40.9	37.9	38.9	42.9	35.9	35	45	75	RR
R_242796	616588.2	6433805.0	41.0	43.0	43.0	41.0	38.0	39.0	43.0	36.0	35	45	75	RR
R_242794	616704.4	6433802.5	40.3	42.3	42.3	40.3	37.3	38.3	42.3	35.3	35	45	75	RR
R_242790	616730.9	6433797.0	40.0	42.0	42.0	40.0	37.0	38.0	42.0	35.0	35	45	75	RR
R_242789	616650.3	6433796.1	40.8	42.8	42.8	40.8	37.8	38.8	42.8	35.8	35	45	75	RR
R_242787	616512.5	6433788.9	41.8	43.8	43.8	41.8	38.8	39.8	43.8	36.8	35	45	75	RR
R_242786	616441.2	6433788.2	44.9	46.9	46.9	44.9	41.9	42.9	46.9	39.9	35	45	75	RR
R_242785	616591.4	6433786.3	41.1	43.1	43.1	41.1	38.1	39.1	43.1	36.1	35	45	75	RR
R_242783	616668.0	6433776.7	40.8	42.8	42.8	40.8	37.8	38.8	42.8	35.8	35	45	75	RR
R_242781	616721.6	6433773.3	39.3	41.3	41.3	39.3	36.3	37.3	41.3	34.3	35	45	75	RR
R_242779	616841.1	6433770.9	39.6	41.6	41.6	39.6	36.6	37.6	41.6	34.6	35	45	75	RR
R_242777	616583.7	6433766.7	41.4	43.4	43.4	41.4	38.4	39.4	43.4	36.4	35	45	75	RR
R_242778	616802.3	6433766.7	39.0	41.0	41.0	39.0	36.0	37.0	41.0	34.0	35	45	75	RR
R_242775	616503.8	6433759.6	42.1	44.1	44.1	42.1	39.1	40.1	44.1	37.1	35	45	75	RR
R_242774	616641.7	6433757.8	41.3	43.3	43.3	41.3	38.3	39.3	43.3	36.3	35	45	75	RR
R_242773	616716.7	6433754.0	39.5	41.5	41.5	39.5	36.5	37.5	41.5	34.5	35	45	75	RR
R_242768	616439.5	6433749.5	43.5	45.5	45.5	43.5	40.5	41.5	45.5	38.5	35	45	75	RR
R_242766	616582.4	6433746.0	40.3	42.3	42.3	40.3	37.3	38.3	42.3	35.3	35	45	75	RR
R_242764	616847.4	6433741.0	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_242759	616502.0	6433737.2	43.0	45.0	45.0	43.0	40.0	41.0	45.0	38.0	35	45	75	RR
R_242761	616638.1	6433736.4	41.5	43.5	43.5	41.5	38.5	39.5	43.5	36.5	35	45	75	RR
R_242760	616716.4	6433734.8	41.0	43.0	43.0	41.0	38.0	39.0	43.0	36.0	35	45	75	RR
R_242757	616776.1	6433731.2	40.5	42.5	42.5	40.5	37.5	38.5	42.5	35.5	35	45	75	RR
R_242755	616556.5	6433728.9	42.1	44.1	44.1	42.1	39.1	40.1	44.1	37.1	35	45	75	RR
R_242750	616443.4	6433726.3	42.7	44.7	44.7	42.7	39.7	40.7	44.7	37.7	35	45	75	RR
R_242744	616636.3	6433718.5	41.7	43.7	43.7	41.7	38.7	39.7	43.7	36.7	35	45	75	RR
R_242742	616497.2	6433717.4	45.6	47.6	47.6	45.6	42.6	43.6	47.6	40.6	35	45	75	RR
R_242743	616713.2	6433717.1	39.3	41.3	41.3	39.3	36.3	37.3	41.3	34.3	35	45	75	RR
R_242741	616775.5	6433712.4	40.7	42.7	42.7	40.7	37.7	38.7	42.7	35.7	35	45	75	RR
R_242738	616563.2	6433706.7	42.2	44.2	44.2	42.2	39.2	40.2	44.2	37.2	35	45	75	RR
R_242736	616433.7	6433706.4	43.4	45.4	45.4	43.4	40.4	41.4	45.4	38.4	35	45	75	RR
R_242734	616633.0	6433697.7	42.1	44.1	44.1	42.1	39.1	40.1	44.1	37.1	35	45	75	RR
R_242730	616492.9	6433696.1	42.4	44.4	44.4	42.4	39.4	40.4	44.4	37.4	35	45	75	RR
R_242732	616703.8	6433694.4	41.3	43.3	43.3	41.3	38.3	39.3	43.3	36.3	35	45	75	RR
R_242726	616571.8	6433688.2	38.4	40.4	40.4	38.4	35.4	36.4	40.4	33.4	35	45	75	RR
R_242727	616794.5	6433686.5	39.4	41.4	41.4	39.4	36.4	37.4	41.4	34.4	35	45	75	RR
R_242728	616974.8	6433684.9	39.0	41.0	41.0	39.0	36.0	37.0	41.0	34.0	35	45	75	RR
R_242725	616991.1	6433682.9	37.6	39.6	39.6	37.6	34.6	35.6	39.6	32.6	35	45	75	RR
R_242720	616488.6	6433682.8	43.2	45.2	45.2	43.2	40.2	41.2	45.2	38.2	35	45	75	RR
R_242722	617013.1	6433680.5	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_242719	616627.7	6433678.3	42.3	44.3	44.3	42.3	39.3	40.3	44.3	37.3	35	45	75	RR
R_242717	616432.7	6433677.2	47.1	49.1	49.1	47.1	44.1	45.1	49.1	42.1	35	45	75	RR
R_242716	616700.3	6433672.7	41.8	43.8	43.8	41.8	38.8	39.8	43.8	36.8	35	45	75	RR
R_242710	616405.7	6433670.1	43.9	45.9	45.9	43.9	40.9	41.9	45.9	38.9	35	45	75	RR
R_242711	616564.7	6433668.7	43.2	45.2	45.2	43.2	40.2	41.2	45.2	38.2	35	45	75	RR
R_242712	616783.3	6433668.6	41.1	43.1	43.1	41.1	38.1	39.1	43.1	36.1	35	45	75	RR
R_242703	616622.8	6433658.9	42.6	44.6	44.6	42.6	39.6	40.6	44.6	37.6	35	45	75	RR
R_242701	616557.1	6433655.7	45.4	47.4	47.4	45.4	42.4	43.4	47.4	40.4	35	45	75	RR
R_242699	616511.5	6433655.5	43.5	45.5	45.5	43.5	40.5	41.5	45.5	38.5	35	45	75	RR
R_242702	616702.3	6433655.0	42.0	44.0	44.0	42.0	39.0	40.0	44.0	37.0	35	45	75	RR
R_242698	616489.0	6433653.2	43.9	45.9	45.9	43.9	40.9	41.9	45.9	38.9	35	45	75	RR
R_242696	616765.5	6433648.6	41.4	43.4	43.4	41.4	38.4	39.4	43.4	36.4	35	45	75	RR
R_242694	617006.6	6433644.4	38.8	40.8	40.8	38.8	35.8	36.8	40.8	33.8	35	45	75	RR
R_242690	616561.3	6433639.1	44.1	46.1	46.1	44.1	41.1	42.1	46.1	39.1	35	45	75	RR
R_242689	616694.1	6433636.8	42.2	44.2	44.2	42.2	39.2	40.2	44.2	37.2	35	45	75	RR
R_242685	616621.0	6433634.3	43.0	45.0	45.0	43.0	40.0	41.0	45.0	38.0	35	45	75	RR
R_332535	621189.2	6433633.2	42.8	44.8	44.8	42.8	39.8	40.8	44.8	37.8	35	45	75	RR
R_242680	616642.0	6433628.6	42.8	44.8	44.8	42.8	39.8	40.8	44.8	37.8	35	45	75	RR
R_242675	616677.7	6433622.8	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_332484	620890.1	6433622.4	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_242673	616828.8	6433618.8	41.1	43.1	43.1	41.1	38.1	39.1	43.1	36.1	35	45	75	RR
R_242670	616702.1	6433617.1	42.4	44.4	44.4	42.4	39.4	40.4	44.4	37.4	35	45	75	RR
R_242672	616948.8	6433616.2	37.3	39.3	39.3	37.3	34.3	35.3	39.3	32.3	35	45	75	RR
R_242679	617399.9	6433615.9	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_242677	617388.3	6433615.8	36.0	38.0	38.0	36.0	33.0	34.0	38.0	31.0	35	45	75	RR
R_242674	617419.5	6433612.6	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_242661	616416.8	6433611.4	49.7	51.7	51.7	49.7	46.7	47.7	51.7	44.7	35	45	75	RR
R_242671	617449.0	6433610.2	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_242664	616753.1	6433608.8	42.0	44.0	44.0	42.0	39.0	40.0	44.0	37.0	35	45	75	RR



## Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_242666	617471.3	6433604.0	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_242656	616802.6	6433601.9	41.6	43.6	43.6	41.6	38.6	39.6	43.6	36.6	35	45	75	RR
R_242665	617531.1	6433600.9	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_242657	616977.0	6433599.9	39.8	41.8	41.8	39.8	36.8	37.8	41.8	34.8	35	45	75	RR
R_242655	616894.2	6433599.7	40.6	42.6	42.6	40.6	37.6	38.6	42.6	35.6	35	45	75	RR
R_242654	616924.4	6433599.0	40.3	42.3	42.3	40.3	37.3	38.3	42.3	35.3	35	45	75	RR
R_242650	616481.3	6433597.0	44.7	46.7	46.7	44.7	41.7	42.7	46.7	39.7	35	45	75	RR
R_242652	616908.3	6433596.3	40.5	42.5	42.5	40.5	37.5	38.5	42.5	35.5	35	45	75	RR
R_242646	616417.5	6433594.3	47.0	49.0	49.0	47.0	44.0	45.0	49.0	42.0	35	45	75	RR
R_242639	616552.4	6433589.0	44.2	46.2	46.2	44.2	41.2	42.2	46.2	39.2	35	45	75	RR
R_242644	616990.7	6433587.1	39.2	41.2	41.2	39.2	36.2	37.2	41.2	34.2	35	45	75	RR
R_242641	616957.7	6433586.7	40.0	42.0	42.0	40.0	37.0	38.0	42.0	35.0	35	45	75	RR
R_331632	617367.1	6433584.3	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_242648	617583.7	6433582.0	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_242643	617413.0	6433581.8	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_242633	617001.1	6433580.7	39.1	41.1	41.1	39.1	36.1	37.1	41.1	34.1	35	45	75	RR
R_242629	616617.3	6433578.7	43.7	45.7	45.7	43.7	40.7	41.7	45.7	38.7	35	45	75	RR
R_242625	616475.7	6433578.6	45.1	47.1	47.1	45.1	42.1	43.1	47.1	40.1	35	45	75	RR
R_242636	617473.6	6433576.6	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_242621	616410.5	6433574.0	45.6	47.6	47.6	45.6	42.6	43.6	47.6	40.6	35	45	75	RR
R_242618	616551.7	6433570.9	44.5	46.5	46.5	44.5	41.5	42.5	46.5	39.5	35	45	75	RR
R_242613	616686.0	6433567.0	43.2	45.2	45.2	43.2	40.2	41.2	45.2	38.2	35	45	75	RR
R_242622	617526.2	6433566.0	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_242600	616403.1	6433558.0	50.7	52.7	52.7	50.7	47.7	48.7	52.7	45.7	35	45	75	RR
R_242604	616608.7	6433557.6	44.1	46.1	46.1	44.1	41.1	42.1	46.1	39.1	35	45	75	RR
R_242611	617369.0	6433556.6	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_242606	616745.6	6433556.2	42.6	44.6	44.6	42.6	39.6	40.6	44.6	37.6	35	45	75	RR
R_242599	616482.2	6433556.1	45.9	47.9	47.9	45.9	42.9	43.9	47.9	40.9	35	45	75	RR
R_242596	616549.4	6433554.2	44.7	46.7	46.7	44.7	41.7	42.7	46.7	39.7	35	45	75	RR
R_242593	616690.5	6433551.3	43.2	45.2	45.2	43.2	40.2	41.2	45.2	38.2	35	45	75	RR
R_242609	617669.5	6433551.2	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_242594	616768.8	6433551.1	42.4	44.4	44.4	42.4	39.4	40.4	44.4	37.4	35	45	75	RR
R_242605	617431.9	6433548.2	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_242612	617727.7	6433547.8	33.4	35.4	35.4	33.4	30.4	31.4	35.4	28.4	35	45	75	RR
R_242603	617607.9	6433545.8	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_242579	616405.9	6433540.3	48.6	50.6	50.6	48.6	45.6	46.6	50.6	43.6	35	45	75	RR
R_242581	616689.1	6433539.7	43.4	45.4	45.4	43.4	40.4	41.4	45.4	38.4	35	45	75	RR
R_242578	616615.6	6433537.5	44.4	46.4	46.4	44.4	41.4	42.4	46.4	39.4	35	45	75	RR
R_242573	616475.2	6433536.3	44.2	46.2	46.2	44.2	41.2	42.2	46.2	39.2	35	45	75	RR
R_242572	616545.6	6433535.4	45.1	47.1	47.1	45.1	42.1	43.1	47.1	40.1	35	45	75	RR
R_242576	616746.8	6433534.4	42.9	44.9	44.9	42.9	39.9	40.9	44.9	37.9	35	45	75	RR
R_242574	616893.2	6433532.2	41.2	43.2	43.2	41.2	38.2	39.2	43.2	36.2	35	45	75	RR
R_242563	616933.1	6433526.0	40.8	42.8	42.8	40.8	37.8	38.8	42.8	35.8	35	45	75	RR
R_242569	617358.7	6433525.3	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_242558	616681.6	6433524.9	43.7	45.7	45.7	43.7	40.7	41.7	45.7	38.7	35	45	75	RR
R_242564	617383.2	6433522.4	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_242548	616405.9	6433521.9	47.7	49.7	49.7	47.7	44.7	45.7	49.7	42.7	35	45	75	RR
R_242570	617667.5	6433521.8	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_242566	617603.9	6433520.4	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_242555	616990.0	6433520.1	40.2	42.2	42.2	40.2	37.2	38.2	42.2	35.2	35	45	75	RR
R_242565	617777.8	6433518.1	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_242542	616543.1	6433517.9	45.3	47.3	47.3	45.3	42.3	43.3	47.3	40.3	35	45	75	RR
R_242559	617406.0	6433517.2	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_242541	616603.4	6433516.6	44.7	46.7	46.7	44.7	41.7	42.7	46.7	39.7	35	45	75	RR
R_242544	616738.0	6433515.8	43.1	45.1	45.1	43.1	40.1	41.1	45.1	38.1	35	45	75	RR
R_242552	617438.5	6433512.8	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_242546	617420.3	6433510.0	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_242539	616888.0	6433509.9	41.5	43.5	43.5	41.5	38.5	39.5	43.5	36.5	35	45	75	RR
R_242540	616908.5	6433509.8	41.2	43.2	43.2	41.2	38.2	39.2	43.2	36.2	35	45	75	RR
R_242535	616801.3	6433508.4	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_242549	617708.8	6433508.0	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_242527	616683.1	6433507.5	43.9	45.9	45.9	43.9	40.9	41.9	45.9	38.9	35	45	75	RR
R_242543	617461.4	6433507.4	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_242533	616961.3	6433505.9	40.7	42.7	42.7	40.7	37.7	38.7	42.7	35.7	35	45	75	RR
R_242519	616402.0	6433505.9	47.4	49.4	49.4	47.4	44.4	45.4	49.4	42.4	35	45	75	RR
R_242526	616944.1	6433503.5	41.0	43.0	43.0	41.0	38.0	39.0	43.0	36.0	35	45	75	RR
R_242515	616458.1	6433501.8	49.5	51.5	51.5	49.5	46.5	47.5	51.5	44.5	35	45	75	RR
R_242534	617527.8	6433499.9	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_242531	617514.0	6433499.5	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_242520	616980.9	6433499.2	40.5	42.5	42.5	40.5	37.5	38.5	42.5	35.5	35	45	75	RR
R_242513	616539.8	6433499.2	44.7	46.7	46.7	44.7	41.7	42.7	46.7	39.7	35	45	75	RR
R_242528	617543.2	6433498.2	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_242507	616489.0	6433496.0	46.5	48.5	48.5	46.5	43.5	44.5	48.5	41.5	35	45	75	RR
R_242508	616738.6	6433493.6	43.3	45.3	45.3	43.3	40.3	41.3	45.3	38.3	35	45	75	RR
R_242510	616882.2	6433493.2	41.0	43.0	43.0	41.0	38.0	39.0	43.0	36.0	35	45	75	RR
R_242521	617561.7	6433493.0	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_242504	616625.8	6433491.1	44.8	46.8	46.8	44.8	41.8	42.8	46.8	39.8	35	45	75	RR
R_242514	617577.1	6433488.3	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_242503	616808.2	6433486.6	42.9	44.9	44.9	42.9	39.9	40.9	44.9	37.9	35	45	75	RR
R_242499	616531.8	6433483.6	45.7	47.7	47.7	45.7	42.7	43.7	47.7	40.7	35	45	75	RR
R_242500	616673.0	6433483.6	44.3	46.3	46.3	44.3	41.3	42.3	46.3	39.3	35	45	75	RR
R_242502	617596.5	6433477.9	34.7	36.7	36.7	34.7	31.7	32.7	36.7	29.7	35	45	75	RR
R_242498	616978.2	6433477.1	40.6	42.6	42.6	40.6	37.6	38.6	42.6	35.6	35	45	75	RR
R_242493	616602.4	6433474.4	45.4	47.4	47.4	45.4	42.4	43.4	47.4	40.4	35	45	75	RR
R_242497	616876.4	6433473.9	41.8	43.8	43.8	41.8	38.8	39.8	43.8	36.8	35	45	75	RR



## Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_242494	616735.7	6433473.3	43.6	45.6	45.6	43.6	40.6	41.6	45.6	38.6	35	45	75	RR
R_242489	616675.9	6433466.4	44.5	46.5	46.5	44.5	41.5	42.5	46.5	39.5	35	45	75	RR
R_242491	617654.0	6433460.2	34.3	36.3	36.3	34.3	31.3	32.3	36.3	29.3	35	45	75	RR
R_242487	617350.1	6433457.8	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_242478	616730.4	6433453.9	44.0	46.0	46.0	44.0	41.0	42.0	46.0	39.0	35	45	75	RR
R_242472	616370.2	6433453.2	50.7	52.7	52.7	50.7	47.7	48.7	52.7	45.7	35	45	75	RR
R_242480	616981.7	6433452.9	40.7	42.7	42.7	40.7	37.7	38.7	42.7	35.7	35	45	75	RR
R_242470	616393.7	6433452.6	46.5	48.5	48.5	46.5	43.5	44.5	48.5	41.5	35	45	75	RR
R_242482	617378.8	6433450.1	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_242477	617413.5	6433445.5	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_242475	617392.9	6433443.6	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_242474	617648.0	6433440.5	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_242465	617345.7	6433438.3	37.0	39.0	39.0	37.0	34.0	35.0	39.0	32.0	35	45	75	RR
R_242453	616451.2	6433438.1	48.0	50.0	50.0	48.0	45.0	46.0	50.0	43.0	35	45	75	RR
R_242466	617427.9	6433437.7	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_242471	617698.7	6433437.5	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_242468	617741.9	6433436.3	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_242457	616915.2	6433435.9	41.7	43.7	43.7	41.7	38.7	39.7	43.7	36.7	35	45	75	RR
R_242462	617449.0	6433434.1	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_242447	616506.6	6433433.8	47.0	49.0	49.0	47.0	44.0	45.0	49.0	42.0	35	45	75	RR
R_242443	616475.8	6433433.4	46.9	48.9	48.9	46.9	43.9	44.9	48.9	41.9	35	45	75	RR
R_242452	616871.9	6433433.0	40.9	42.9	42.9	40.9	37.9	38.9	42.9	35.9	35	45	75	RR
R_242461	617509.4	6433433.0	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_242464	617786.5	6433432.0	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_242458	617535.2	6433429.3	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_242438	616532.5	6433428.7	46.9	48.9	48.9	46.9	43.9	44.9	48.9	41.9	35	45	75	RR
R_242446	616948.4	6433428.1	41.4	43.4	43.4	41.4	38.4	39.4	43.4	36.4	35	45	75	RR
R_242451	617550.4	6433424.1	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_242436	616929.9	6433423.7	41.5	43.5	43.5	41.5	38.5	39.5	43.5	36.5	35	45	75	RR
R_242449	617587.0	6433422.4	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_242450	617647.6	6433422.3	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_242428	616591.9	6433420.9	46.1	48.1	48.1	46.1	43.1	44.1	48.1	41.1	35	45	75	RR
R_242434	616963.5	6433420.0	41.1	43.1	43.1	41.1	38.1	39.1	43.1	36.1	35	45	75	RR
R_242440	617346.6	6433419.7	37.0	39.0	39.0	37.0	34.0	35.0	39.0	32.0	35	45	75	RR
R_242431	616975.2	6433417.3	41.0	43.0	43.0	41.0	38.0	39.0	43.0	36.0	35	45	75	RR
R_242439	617567.8	6433416.9	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_242419	616605.0	6433416.1	43.0	45.0	45.0	43.0	40.0	41.0	45.0	38.0	35	45	75	RR
R_242418	616646.2	6433415.2	45.5	47.5	47.5	45.5	42.5	43.5	47.5	40.5	35	45	75	RR
R_242417	616530.3	6433414.8	47.2	49.2	49.2	47.2	44.2	45.2	49.2	42.2	35	45	75	RR
R_242413	616385.2	6433413.1	50.9	52.9	52.9	50.9	47.9	48.9	52.9	45.9	35	45	75	RR
R_242426	617513.2	6433409.4	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_242407	616667.9	6433406.2	45.3	47.3	47.3	45.3	42.3	43.3	47.3	40.3	35	45	75	RR
R_242405	616582.6	6433404.4	46.4	48.4	48.4	46.4	43.4	44.4	48.4	41.4	35	45	75	RR
R_242402	616453.8	6433403.6	50.0	52.0	52.0	50.0	47.0	48.0	52.0	45.0	35	45	75	RR
R_242420	617828.2	6433402.6	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_242415	617646.8	6433399.8	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_242383	616378.8	6433393.8	53.5	55.5	55.5	53.5	50.5	51.5	55.5	48.5	35	45	75	RR
R_242388	616608.3	6433393.6	44.6	46.6	46.6	44.6	41.6	42.6	46.6	39.6	35	45	75	RR
R_242389	616666.7	6433393.5	45.4	47.4	47.4	45.4	42.4	43.4	47.4	40.4	35	45	75	RR
R_242386	616518.3	6433393.5	47.8	49.8	49.8	47.8	44.8	45.8	49.8	42.8	35	45	75	RR
R_242404	617586.4	6433392.5	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_242399	617342.9	6433391.1	37.1	39.1	39.1	37.1	34.1	35.1	39.1	32.1	35	45	75	RR
R_242370	616450.7	6433384.5	54.3	56.3	56.3	54.3	51.3	52.3	56.3	49.3	35	45	75	RR
R_242387	617431.8	6433383.0	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_242368	616580.4	6433381.6	47.0	49.0	49.0	47.0	44.0	45.0	49.0	42.0	35	45	75	RR
R_242369	616718.6	6433380.6	44.8	46.8	46.8	44.8	41.8	42.8	46.8	39.8	35	45	75	RR
R_242381	617643.3	6433378.4	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_242366	616883.9	6433375.0	42.1	44.1	44.1	42.1	39.1	40.1	44.1	37.1	35	45	75	RR
R_242355	616378.7	6433374.2	52.8	54.8	54.8	52.8	49.8	50.8	54.8	47.8	35	45	75	RR
R_242353	616516.0	6433372.0	48.3	50.3	50.3	48.3	45.3	46.3	50.3	43.3	35	45	75	RR
R_242373	617703.2	6433371.4	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_242360	616900.9	6433370.6	38.8	40.8	40.8	38.8	35.8	36.8	40.8	33.8	35	45	75	RR
R_242367	617406.0	6433370.3	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_242351	616653.8	6433370.0	45.9	47.9	47.9	45.9	42.9	43.9	47.9	40.9	35	45	75	RR
R_242356	616938.7	6433368.0	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_242364	617380.8	6433367.4	36.9	38.9	38.9	36.9	33.9	34.9	38.9	31.9	35	45	75	RR
R_242350	616919.1	6433366.4	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_242338	616444.9	6433364.3	50.6	52.6	52.6	50.6	47.6	48.6	52.6	45.6	35	45	75	RR
R_242347	616966.6	6433364.1	41.3	43.3	43.3	41.3	38.3	39.3	43.3	36.3	35	45	75	RR
R_242361	617643.6	6433362.1	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_242329	616579.8	6433361.1	47.3	49.3	49.3	47.3	44.3	45.3	49.3	42.3	35	45	75	RR
R_242337	616715.8	6433360.9	44.2	46.2	46.2	44.2	41.2	42.2	46.2	39.2	35	45	75	RR
R_332432	621224.9	6433359.3	38.8	40.8	40.8	38.8	35.8	36.8	40.8	33.8	35	45	75	RR
R_242326	617015.9	6433354.3	40.8	42.8	42.8	40.8	37.8	38.8	42.8	35.8	35	45	75	RR
R_242318	616513.6	6433353.2	47.6	49.6	49.6	47.6	44.6	45.6	49.6	42.6	35	45	75	RR
R_242315	616650.3	6433350.5	45.7	47.7	47.7	45.7	42.7	43.7	47.7	40.7	35	45	75	RR
R_242331	617578.2	6433349.9	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_242323	617361.7	6433349.3	37.0	39.0	39.0	37.0	34.0	35.0	39.0	32.0	35	45	75	RR
R_242321	617046.3	6433348.7	38.1	40.1	40.1	38.1	35.1	36.1	40.1	33.1	35	45	75	RR
R_242317	616949.3	6433347.4	40.9	42.9	42.9	40.9	37.9	38.9	42.9	35.9	35	45	75	RR
R_242313	616893.8	6433347.1	42.0	44.0	44.0	42.0	39.0	40.0	44.0	37.0	35	45	75	RR
R_242322	617433.5	6433345.8	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_242305	616369.7	6433344.9	52.3	54.3	54.3	52.3	49.3	50.3	54.3	47.3	35	45	75	RR
R_242303	616442.5	6433343.1	50.6	52.6	52.6	50.6	47.6	48.6	52.6	45.6	35	45	75	RR
R_242320	617632.8	6433341.2	34.7	36.7	36.7	34.7	31.7	32.7	36.7	29.7	35	45	75	RR

Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_242300	616573.8	6433340.0	47.7	49.7	49.7	47.7	44.7	45.7	49.7	42.7	35	45	75	RR
R_242297	616714.7	6433337.8	45.2	47.2	47.2	45.2	42.2	43.2	47.2	40.2	35	45	75	RR
R_242311	617483.7	6433336.5	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_242302	617014.2	6433335.8	40.7	42.7	42.7	40.7	37.7	38.7	42.7	35.7	35	45	75	RR
R_242310	617502.6	6433335.6	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_242298	616957.7	6433335.3	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_242301	617112.0	6433334.5	39.7	41.7	41.7	39.7	36.7	37.7	41.7	34.7	35	45	75	RR
R_242307	617520.5	6433333.0	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_242296	617076.1	6433332.8	40.1	42.1	42.1	40.1	37.1	38.1	42.1	35.1	35	45	75	RR
R_242287	616508.2	6433332.1	49.1	51.1	51.1	49.1	46.1	47.1	51.1	44.1	35	45	75	RR
R_242294	617042.2	6433331.3	40.6	42.6	42.6	40.6	37.6	38.6	42.6	35.6	35	45	75	RR
R_242304	617535.1	6433330.7	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_242286	616650.4	6433330.3	46.2	48.2	48.2	46.2	43.2	44.2	48.2	41.2	35	45	75	RR
R_242299	617554.6	6433328.4	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_242284	616942.2	6433325.4	38.7	40.7	40.7	38.7	35.7	36.7	40.7	33.7	35	45	75	RR
R_242277	616431.3	6433324.2	56.4	58.4	58.4	56.4	53.4	54.4	58.4	51.4	35	45	75	RR
R_242289	617575.8	6433322.6	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_242290	617636.9	6433322.3	34.7	36.7	36.7	34.7	31.7	32.7	36.7	29.7	35	45	75	RR
R_242276	616573.1	6433322.1	47.8	49.8	49.8	47.8	44.8	45.8	49.8	42.8	35	45	75	RR
R_242280	617010.7	6433320.5	40.6	42.6	42.6	40.6	37.6	38.6	42.6	35.6	35	45	75	RR
R_242273	616709.8	6433317.9	45.5	47.5	47.5	45.5	42.5	43.5	47.5	40.5	35	45	75	RR
R_242268	616500.9	6433316.6	52.2	54.2	54.2	52.2	49.2	50.2	54.2	47.2	35	45	75	RR
R_242271	616952.7	6433313.7	40.3	42.3	42.3	40.3	37.3	38.3	42.3	35.3	35	45	75	RR
R_242267	617108.6	6433309.6	39.9	41.9	41.9	39.9	36.9	37.9	41.9	34.9	35	45	75	RR
R_242259	616656.4	6433309.5	46.3	48.3	48.3	46.3	43.3	44.3	48.3	41.3	35	45	75	RR
R_242260	617007.9	6433305.4	40.3	42.3	42.3	40.3	37.3	38.3	42.3	35.3	35	45	75	RR
R_242252	616566.9	6433303.5	48.4	50.4	50.4	48.4	45.4	46.4	50.4	43.4	35	45	75	RR
R_242248	616443.6	6433302.0	51.6	53.6	53.6	51.6	48.6	49.6	53.6	46.6	35	45	75	RR
R_242261	617326.5	6433301.8	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_242262	617633.1	6433299.5	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_242251	616949.6	6433298.7	40.1	42.1	42.1	40.1	37.1	38.1	42.1	35.1	35	45	75	RR
R_242240	616508.2	6433295.8	50.0	52.0	52.0	50.0	47.0	48.0	52.0	45.0	35	45	75	RR
R_242244	616652.5	6433295.7	46.6	48.6	48.6	46.6	43.6	44.6	48.6	41.6	35	45	75	RR
R_242242	617104.3	6433290.1	40.0	42.0	42.0	40.0	37.0	38.0	42.0	35.0	35	45	75	RR
R_242239	617010.4	6433289.9	40.9	42.9	42.9	40.9	37.9	38.9	42.9	35.9	35	45	75	RR
R_242247	617385.4	6433289.8	37.0	39.0	39.0	37.0	34.0	35.0	39.0	32.0	35	45	75	RR
R_242231	616945.8	6433285.2	42.1	44.1	44.1	42.1	39.1	40.1	44.1	37.1	35	45	75	RR
R_242238	617418.6	6433284.8	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_242224	616565.0	6433283.1	51.0	53.0	53.0	51.0	48.0	49.0	53.0	46.0	35	45	75	RR
R_242223	616648.5	6433281.9	46.0	48.0	48.0	46.0	43.0	44.0	48.0	41.0	35	45	75	RR
R_242230	617627.8	6433276.2	33.4	35.4	35.4	33.4	30.4	31.4	35.4	28.4	35	45	75	RR
R_242212	616700.2	6433275.4	46.1	48.1	48.1	46.1	43.1	44.1	48.1	41.1	35	45	75	RR
R_242222	617104.1	6433275.3	40.0	42.0	42.0	40.0	37.0	38.0	42.0	35.0	35	45	75	RR
R_242227	617331.3	6433275.2	37.6	39.6	39.6	37.6	34.6	35.6	39.6	32.6	35	45	75	RR
R_242208	616502.4	6433275.1	43.1	45.1	45.1	43.1	40.1	41.1	45.1	38.1	35	45	75	RR
R_242219	617002.9	6433273.4	40.9	42.9	42.9	40.9	37.9	38.9	42.9	35.9	35	45	75	RR
R_242226	617508.4	6433272.5	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_242205	616941.6	6433266.8	41.8	43.8	43.8	41.8	38.8	39.8	43.8	36.8	35	45	75	RR
R_242213	617545.8	6433266.2	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_242201	616568.0	6433265.3	50.0	52.0	52.0	50.0	47.0	48.0	52.0	45.0	35	45	75	RR
R_242209	617480.2	6433264.6	36.0	38.0	38.0	36.0	33.0	34.0	38.0	31.0	35	45	75	RR
R_242206	617565.9	6433260.2	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_242197	616637.6	6433259.4	46.5	48.5	48.5	46.5	43.5	44.5	48.5	41.5	35	45	75	RR
R_242192	616489.7	6433259.1	52.7	54.7	54.7	52.7	49.7	50.7	54.7	47.7	35	45	75	RR
R_242200	617098.6	6433258.6	40.2	42.2	42.2	40.2	37.2	38.2	42.2	35.2	35	45	75	RR
R_242199	617001.1	6433257.9	41.2	43.2	43.2	41.2	38.2	39.2	43.2	36.2	35	45	75	RR
R_242202	617404.1	6433256.3	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_242190	616705.3	6433256.2	46.6	48.6	48.6	46.6	43.6	44.6	48.6	41.6	35	45	75	RR
R_242203	617624.4	6433255.6	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_242185	616940.7	6433249.5	37.3	39.3	39.3	37.3	34.3	35.3	39.3	32.3	35	45	75	RR
R_242189	617333.9	6433248.9	37.6	39.6	39.6	37.6	34.6	35.6	39.6	32.6	35	45	75	RR
R_242195	617478.1	6433248.6	36.0	38.0	38.0	36.0	33.0	34.0	38.0	31.0	35	45	75	RR
R_242177	616562.4	6433245.3	48.0	50.0	50.0	48.0	45.0	46.0	50.0	43.0	35	45	75	RR
R_242182	616995.4	6433245.0	41.3	43.3	43.3	41.3	38.3	39.3	43.3	36.3	35	45	75	RR
R_242181	617411.8	6433240.0	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_242183	617623.0	6433237.7	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_242170	616994.1	6433237.2	41.2	43.2	43.2	41.2	38.2	39.2	43.2	36.2	35	45	75	RR
R_242171	617089.6	6433236.1	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_242135	613827.2	6433234.9	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_242174	617556.4	6433233.0	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_242166	616934.3	6433232.7	40.2	42.2	42.2	40.2	37.2	38.2	42.2	35.2	35	45	75	RR
R_242178	616898.0	6433232.3	42.6	44.6	44.6	42.6	39.6	40.6	44.6	37.6	35	45	75	RR
R_242161	616636.1	6433231.8	47.3	49.3	49.3	47.3	44.3	45.3	49.3	42.3	35	45	75	RR
R_242168	617474.8	6433231.1	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_242159	616693.4	6433229.9	46.5	48.5	48.5	46.5	43.5	44.5	48.5	41.5	35	45	75	RR
R_242167	617316.3	6433228.3	37.7	39.7	39.7	37.7	34.7	35.7	39.7	32.7	35	45	75	RR
R_242160	616992.0	6433226.9	41.4	43.4	43.4	41.4	38.4	39.4	43.4	36.4	35	45	75	RR
R_242164	617409.6	6433224.6	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_242158	617621.4	6433217.4	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_242151	616929.0	6433215.2	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_242155	617472.9	6433214.8	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_242153	617555.7	6433210.7	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_242152	617405.4	6433210.2	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_242145	617092.8	6433208.2	40.1	42.1	42.1	40.1	37.1	38.1	42.1	35.1	35	45	75	RR
R_242146	617311.2	6433206.3	37.8	39.8	39.8	37.8	34.8	35.8	39.8	32.8	35	45	75	RR

## Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_242137	617469.2	6433198.1	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_242140	617617.9	6433197.9	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_242126	616931.7	6433193.5	42.6	44.6	44.6	42.6	39.6	40.6	44.6	37.6	35	45	75	RR
R_242127	617091.3	6433192.5	40.2	42.2	42.2	40.2	37.2	38.2	42.2	35.2	35	45	75	RR
R_242099	614055.0	6433192.1	37.0	39.0	39.0	37.0	34.0	35.0	39.0	32.0	35	45	75	RR
R_242129	617406.7	6433189.7	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_242131	617550.4	6433189.6	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_242124	617319.4	6433187.2	37.7	39.7	39.7	37.7	34.7	35.7	39.7	32.7	35	45	75	RR
R_242121	617466.2	6433180.8	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_242112	616638.2	6433179.4	50.8	52.8	52.8	50.8	47.8	48.8	52.8	45.8	35	45	75	RR
R_242122	617664.5	6433179.2	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_242120	617610.8	6433178.4	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_242111	617400.0	6433169.5	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_242108	617465.3	6433165.1	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_242106	617545.8	6433162.1	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_242102	617305.5	6433159.8	37.8	39.8	39.8	37.8	34.8	35.8	39.8	32.8	35	45	75	RR
R_242061	614551.3	6433158.5	42.3	44.3	44.3	42.3	39.3	40.3	44.3	37.3	35	45	75	RR
R_242051	614292.3	6433154.2	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_242093	617461.3	6433149.2	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_242091	617399.0	6433145.2	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_242089	617546.4	6433142.4	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_332435	620498.9	6433142.2	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_242085	617608.4	6433139.8	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_242079	617307.7	6433138.8	37.9	39.9	39.9	37.9	34.9	35.9	39.9	32.9	35	45	75	RR
R_332431	620925.0	6433136.5	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_242070	616890.9	6433136.1	43.3	45.3	45.3	43.3	40.3	41.3	45.3	38.3	35	45	75	RR
R_242067	616914.2	6433135.1	42.8	44.8	44.8	42.8	39.8	40.8	44.8	37.8	35	45	75	RR
R_242064	616929.4	6433133.2	42.4	44.4	44.4	42.4	39.4	40.4	44.4	37.4	35	45	75	RR
R_242074	617463.9	6433130.1	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_242063	617545.6	6433125.7	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_242056	617297.3	6433121.8	38.0	40.0	40.0	38.0	35.0	36.0	40.0	33.0	35	45	75	RR
R_242049	616983.5	6433121.7	41.7	43.7	43.7	41.7	38.7	39.7	43.7	36.7	35	45	75	RR
R_242059	617608.0	6433120.8	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_242050	617364.8	6433118.3	37.3	39.3	39.3	37.3	34.3	35.3	39.3	32.3	35	45	75	RR
R_242042	617395.8	6433111.8	36.9	38.9	38.9	36.9	33.9	34.9	38.9	31.9	35	45	75	RR
R_242043	617538.2	6433110.2	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_242033	617459.3	6433105.2	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_242001	614391.0	6433104.4	39.4	41.4	41.4	39.4	36.4	37.4	41.4	34.4	35	45	75	RR
R_242034	617597.5	6433104.1	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_242028	617485.4	6433099.9	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_242021	617600.8	6433093.6	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_242019	617531.9	6433093.5	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_242008	616975.3	6433083.2	42.0	44.0	44.0	42.0	39.0	40.0	44.0	37.0	35	45	75	RR
R_242011	617600.7	6433078.4	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_242004	617297.1	6433074.6	38.1	40.1	40.1	38.1	35.1	36.1	40.1	33.1	35	45	75	RR
R_241966	614631.6	6433068.3	43.3	45.3	45.3	43.3	40.3	41.3	45.3	38.3	35	45	75	RR
R_242000	617329.1	6433068.0	37.7	39.7	39.7	37.7	34.7	35.7	39.7	32.7	35	45	75	RR
R_332463	620984.7	6433067.1	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_241998	617348.1	6433064.9	36.9	38.9	38.9	36.9	33.9	34.9	38.9	31.9	35	45	75	RR
R_241994	617387.5	6433060.8	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_241991	617298.2	6433059.6	38.1	40.1	40.1	38.1	35.1	36.1	40.1	33.1	35	45	75	RR
R_241992	617368.6	6433058.9	37.3	39.3	39.3	37.3	34.3	35.3	39.3	32.3	35	45	75	RR
R_241941	613769.3	6433058.9	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_241989	617360.0	6433058.5	37.4	39.4	39.4	37.4	34.4	35.4	39.4	32.4	35	45	75	RR
R_241979	617440.2	6433049.3	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_241974	617283.5	6433046.0	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_241975	617459.7	6433045.3	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_241967	617531.0	6433036.2	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_241947	616526.2	6433030.3	57.3	59.3	59.3	57.3	54.3	55.3	59.3	52.3	35	45	75	RR
R_241953	617277.5	6433026.4	38.3	40.3	40.3	38.3	35.3	36.3	40.3	33.3	35	45	75	RR
R_241954	617636.1	6433025.9	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_241949	617083.2	6433024.5	40.6	42.6	42.6	40.6	37.6	38.6	42.6	35.6	35	45	75	RR
R_241950	617505.3	6433021.1	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_241945	617288.7	6433020.9	38.1	40.1	40.1	38.1	35.1	36.1	40.1	33.1	35	45	75	RR
R_241944	617345.5	6433018.8	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_241942	617384.2	6433017.9	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_241943	617444.6	6433017.2	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_241928	617312.9	6433004.4	38.0	40.0	40.0	38.0	35.0	36.0	40.0	33.0	35	45	75	RR
R_241930	617434.9	6433004.3	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_241876	613930.8	6433003.7	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_241927	617446.6	6433002.6	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_241905	616548.2	6433000.8	56.4	58.4	58.4	56.4	53.4	54.4	58.4	51.4	35	45	75	RR
R_241923	617526.8	6432999.6	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_241899	616565.0	6432997.2	50.3	52.3	52.3	50.3	47.3	48.3	52.3	45.3	35	45	75	RR
R_241919	617591.9	6432996.9	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_241900	616674.0	6432996.2	52.9	54.9	54.9	52.9	49.9	50.9	54.9	47.9	35	45	75	RR
R_241909	617276.9	6432994.9	38.3	40.3	40.3	38.3	35.3	36.3	40.3	33.3	35	45	75	RR
R_241910	617578.5	6432991.6	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_241891	616583.7	6432988.0	49.7	51.7	51.7	49.7	46.7	47.7	51.7	44.7	35	45	75	RR
R_241884	616597.6	6432984.0	49.0	51.0	51.0	49.0	46.0	47.0	51.0	44.0	35	45	75	RR
R_241883	616651.5	6432982.5	50.5	52.5	52.5	50.5	47.5	48.5	52.5	45.5	35	45	75	RR
R_241893	617523.6	6432979.8	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_241894	617590.2	6432979.7	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_241886	617274.6	6432977.6	38.3	40.3	40.3	38.3	35.3	36.3	40.3	33.3	35	45	75	RR
R_241888	617378.4	6432977.1	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR



Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_241887	617467.8	6432975.8	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_241877	617017.2	6432969.3	41.4	43.4	43.4	41.4	38.4	39.4	43.4	36.4	35	45	75	RR
R_332478	621047.5	6432967.3	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_241872	617271.0	6432962.8	38.4	40.4	40.4	38.4	35.4	36.4	40.4	33.4	35	45	75	RR
R_241875	617518.2	6432962.5	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_241871	617369.6	6432961.5	37.3	39.3	39.3	37.3	34.3	35.3	39.3	32.3	35	45	75	RR
R_241873	617583.4	6432960.9	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_241862	617431.0	6432954.4	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_241831	614323.9	6432951.8	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_241854	617266.9	6432948.0	38.3	40.3	40.3	38.3	35.3	36.3	40.3	33.3	35	45	75	RR
R_241852	617366.9	6432945.8	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_241843	616510.8	6432942.7	57.1	59.1	59.1	57.1	54.1	55.1	59.1	52.1	35	45	75	RR
R_241848	617519.3	6432940.3	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_241849	617580.7	6432940.2	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_241847	617423.6	6432938.8	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_241842	617360.9	6432930.3	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_241834	616536.3	6432928.6	50.6	52.6	52.6	50.6	47.6	48.6	52.6	45.6	35	45	75	RR
R_241839	617268.8	6432928.2	38.3	40.3	40.3	38.3	35.3	36.3	40.3	33.3	35	45	75	RR
R_241829	616562.3	6432924.8	50.0	52.0	52.0	50.0	47.0	48.0	52.0	45.0	35	45	75	RR
R_241828	616587.9	6432924.5	54.7	56.7	56.7	54.7	51.7	52.7	56.7	49.7	35	45	75	RR
R_241830	616809.2	6432922.3	47.2	49.2	49.2	47.2	44.2	45.2	49.2	42.2	35	45	75	RR
R_241837	617415.7	6432920.6	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_241789	613777.1	6432917.8	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_241835	617578.2	6432917.7	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_241825	617354.5	6432912.4	37.4	39.4	39.4	37.4	34.4	35.4	39.4	32.4	35	45	75	RR
R_332439	621124.3	6432911.9	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_241810	616664.3	6432904.6	45.7	47.7	47.7	45.7	42.7	43.7	47.7	40.7	35	45	75	RR
R_241814	617426.0	6432902.4	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_241812	617262.5	6432900.0	38.3	40.3	40.3	38.3	35.3	36.3	40.3	33.3	35	45	75	RR
R_241804	616638.4	6432899.7	50.7	52.7	52.7	50.7	47.7	48.7	52.7	45.7	35	45	75	RR
R_241809	617360.8	6432895.9	37.3	39.3	39.3	37.3	34.3	35.3	39.3	32.3	35	45	75	RR
R_241797	616505.2	6432894.5	56.6	58.6	58.6	56.6	53.6	54.6	58.6	51.6	35	45	75	RR
R_241808	617300.1	6432894.1	37.4	39.4	39.4	37.4	34.4	35.4	39.4	32.4	35	45	75	RR
R_241811	617572.9	6432894.1	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_241793	616575.2	6432890.6	54.7	56.7	56.7	54.7	51.7	52.7	56.7	49.7	35	45	75	RR
R_241802	617281.7	6432890.0	38.1	40.1	40.1	38.1	35.1	36.1	40.1	33.1	35	45	75	RR
R_241801	617326.9	6432886.8	37.0	39.0	39.0	37.0	34.0	35.0	39.0	32.0	35	45	75	RR
R_241799	617422.6	6432885.4	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_241792	617362.0	6432880.7	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_241790	617351.5	6432877.8	37.3	39.3	39.3	37.3	34.3	35.3	39.3	32.3	35	45	75	RR
R_241785	616501.9	6432876.5	56.4	58.4	58.4	56.4	53.4	54.4	58.4	51.4	35	45	75	RR
R_241788	617418.9	6432868.9	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_241782	616778.9	6432868.4	45.3	47.3	47.3	45.3	42.3	43.3	47.3	40.3	35	45	75	RR
R_241780	616577.5	6432868.4	48.9	50.9	50.9	48.9	45.9	46.9	50.9	43.9	35	45	75	RR
R_241779	616636.5	6432866.4	47.5	49.5	49.5	47.5	44.5	45.5	49.5	42.5	35	45	75	RR
R_241778	616786.8	6432864.6	44.6	46.6	46.6	44.6	41.6	42.6	46.6	39.6	35	45	75	RR
R_241776	616794.8	6432861.7	44.4	46.4	46.4	44.4	41.4	42.4	46.4	39.4	35	45	75	RR
R_241771	616501.8	6432857.5	55.7	57.7	57.7	55.7	52.7	53.7	57.7	50.7	35	45	75	RR
R_241766	616567.0	6432850.6	49.0	51.0	51.0	49.0	46.0	47.0	51.0	44.0	35	45	75	RR
R_241774	617566.0	6432849.2	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_241762	616634.1	6432845.4	47.4	49.4	49.4	47.4	44.4	45.4	49.4	42.4	35	45	75	RR
R_241763	617265.5	6432838.2	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_241761	617313.5	6432836.4	37.6	39.6	39.6	37.6	34.6	35.6	39.6	32.6	35	45	75	RR
R_241749	616498.9	6432833.9	55.4	57.4	57.4	55.4	52.4	53.4	57.4	50.4	35	45	75	RR
R_241757	617357.5	6432831.5	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_241754	617331.5	6432828.8	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_241745	616570.6	6432826.9	48.5	50.5	50.5	48.5	45.5	46.5	50.5	43.5	35	45	75	RR
R_241753	617564.5	6432825.0	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_241739	616630.4	6432821.4	47.1	49.1	49.1	47.1	44.1	45.1	49.1	42.1	35	45	75	RR
R_241746	617411.9	6432818.9	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_332428	621151.4	6432815.3	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_241741	617442.7	6432814.6	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_241700	614204.9	6432812.2	37.9	39.9	39.9	37.9	34.9	35.9	39.9	32.9	35	45	75	RR
R_241726	616568.6	6432810.7	48.4	50.4	50.4	48.4	45.4	46.4	50.4	43.4	35	45	75	RR
R_241735	617469.0	6432807.6	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_331631	614635.9	6432807.0	42.9	44.9	44.9	42.9	39.9	40.9	44.9	37.9	35	45	75	RR
R_241730	617496.4	6432803.5	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_241731	617563.9	6432802.7	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_241716	616483.7	6432801.6	55.5	57.5	57.5	55.5	52.5	53.5	57.5	50.5	35	45	75	RR
R_241710	616508.5	6432798.8	54.1	56.1	56.1	54.1	51.1	52.1	56.1	49.1	35	45	75	RR
R_241713	616631.5	6432798.6	46.7	48.7	48.7	46.7	43.7	44.7	48.7	41.7	35	45	75	RR
R_241711	616864.6	6432795.0	43.0	45.0	45.0	43.0	40.0	41.0	45.0	38.0	35	45	75	RR
R_241712	616920.7	6432794.7	42.3	44.3	44.3	42.3	39.3	40.3	44.3	37.3	35	45	75	RR
R_241705	616557.5	6432792.7	48.0	50.0	50.0	48.0	45.0	46.0	50.0	43.0	35	45	75	RR
R_241715	617348.5	6432791.1	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_241714	617400.4	6432790.1	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_241696	616862.8	6432777.8	43.0	45.0	45.0	43.0	40.0	41.0	45.0	38.0	35	45	75	RR
R_241701	617559.4	6432777.3	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_241694	616627.0	6432777.1	46.5	48.5	48.5	46.5	43.5	44.5	48.5	41.5	35	45	75	RR
R_241698	617317.8	6432773.6	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_241697	617402.2	6432772.1	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_332459	621741.8	6432771.5	38.3	40.3	40.3	38.3	35.3	36.3	40.3	33.3	35	45	75	RR
R_241692	617334.7	6432766.4	37.3	39.3	39.3	37.3	34.3	35.3	39.3	32.3	35	45	75	RR
R_241686	616668.7	6432766.3	45.9	47.9	47.9	45.9	42.9	43.9	47.9	40.9	35	45	75	RR
R_241672	614519.9	6432765.6	41.7	43.7	43.7	41.7	38.7	39.7	43.7	36.7	35	45	75	RR



## Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_241683	616690.9	6432763.1	45.6	47.6	47.6	45.6	42.6	43.6	47.6	40.6	35	45	75	RR
R_241689	617553.5	6432759.5	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_241687	617488.9	6432758.0	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_241682	616853.8	6432757.7	43.0	45.0	45.0	43.0	40.0	41.0	45.0	38.0	35	45	75	RR
R_241685	617398.7	6432757.1	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_241678	617396.2	6432742.6	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_241670	616475.7	6432741.1	53.9	55.9	55.9	53.9	50.9	51.9	55.9	48.9	35	45	75	RR
R_241671	616502.5	6432740.9	54.0	56.0	56.0	54.0	51.0	52.0	56.0	49.0	35	45	75	RR
R_241673	616852.5	6432739.0	42.9	44.9	44.9	42.9	39.9	40.9	44.9	37.9	35	45	75	RR
R_241676	617550.7	6432738.1	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_241665	616550.8	6432732.5	51.7	53.7	53.7	51.7	48.7	49.7	53.7	46.7	35	45	75	RR
R_241663	616526.6	6432731.8	53.0	55.0	55.0	53.0	50.0	51.0	55.0	48.0	35	45	75	RR
R_241668	617425.6	6432726.0	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_241660	616616.9	6432722.6	46.2	48.2	48.2	46.2	43.2	44.2	48.2	41.2	35	45	75	RR
R_241659	616661.8	6432720.6	45.4	47.4	47.4	45.4	42.4	43.4	47.4	40.4	35	45	75	RR
R_332429	621219.2	6432718.2	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_241657	616677.9	6432717.8	45.1	47.1	47.1	45.1	42.1	43.1	47.1	40.1	35	45	75	RR
R_241654	616689.4	6432715.6	45.0	47.0	47.0	45.0	42.0	43.0	47.0	40.0	35	45	75	RR
R_241652	616478.5	6432713.1	53.9	55.9	55.9	53.9	50.9	51.9	55.9	48.9	35	45	75	RR
R_241653	616845.2	6432711.5	42.8	44.8	44.8	42.8	39.8	40.8	44.8	37.8	35	45	75	RR
R_241646	616660.0	6432706.0	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_241647	616762.9	6432705.5	44.0	46.0	46.0	44.0	41.0	42.0	46.0	39.0	35	45	75	RR
R_241642	616612.1	6432701.0	46.0	48.0	48.0	46.0	43.0	44.0	48.0	41.0	35	45	75	RR
R_241641	616549.9	6432700.5	44.3	46.3	46.3	44.3	41.3	42.3	46.3	39.3	35	45	75	RR
R_332471	621851.5	6432699.1	36.0	38.0	38.0	36.0	33.0	34.0	38.0	31.0	35	45	75	RR
R_241638	616468.9	6432695.1	53.8	55.8	55.8	53.8	50.8	51.8	55.8	48.8	35	45	75	RR
R_241634	616656.6	6432691.7	43.8	45.8	45.8	43.8	40.8	41.8	45.8	38.8	35	45	75	RR
R_241636	616838.5	6432690.0	42.7	44.7	44.7	42.7	39.7	40.7	44.7	37.7	35	45	75	RR
R_241630	616684.4	6432686.6	44.7	46.7	46.7	44.7	41.7	42.7	46.7	39.7	35	45	75	RR
R_241623	616541.7	6432683.7	46.8	48.8	48.8	46.8	43.8	44.8	48.8	41.8	35	45	75	RR
R_241626	616768.0	6432681.6	43.8	45.8	45.8	43.8	40.8	41.8	45.8	38.8	35	45	75	RR
R_241620	616606.2	6432680.8	45.8	47.8	47.8	45.8	42.8	43.8	47.8	40.8	35	45	75	RR
R_241611	616464.8	6432674.1	53.3	55.3	55.3	53.3	50.3	51.3	55.3	48.3	35	45	75	RR
R_241614	616841.6	6432672.8	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_241610	617127.9	6432664.2	38.7	40.7	40.7	38.7	35.7	36.7	40.7	33.7	35	45	75	RR
R_241605	616540.2	6432663.0	46.6	48.6	48.6	46.6	43.6	44.6	48.6	41.6	35	45	75	RR
R_241608	617071.8	6432661.8	39.7	41.7	41.7	39.7	36.7	37.7	41.7	34.7	35	45	75	RR
R_241599	616607.7	6432658.2	45.5	47.5	47.5	45.5	42.5	43.5	47.5	40.5	35	45	75	RR
R_241604	616760.8	6432658.0	43.5	45.5	45.5	43.5	40.5	41.5	45.5	38.5	35	45	75	RR
R_241600	616839.2	6432656.3	42.4	44.4	44.4	42.4	39.4	40.4	44.4	37.4	35	45	75	RR
R_241597	616466.8	6432654.8	52.3	54.3	54.3	52.3	49.3	50.3	54.3	47.3	35	45	75	RR
R_241596	616667.0	6432650.6	44.7	46.7	46.7	44.7	41.7	42.7	46.7	39.7	35	45	75	RR
R_241586	616600.6	6432640.2	45.3	47.3	47.3	45.3	42.3	43.3	47.3	40.3	35	45	75	RR
R_241590	617065.6	6432639.1	39.6	41.6	41.6	39.6	36.6	37.6	41.6	34.6	35	45	75	RR
R_241587	616839.2	6432637.7	42.3	44.3	44.3	42.3	39.3	40.3	44.3	37.3	35	45	75	RR
R_241585	616532.8	6432637.4	46.1	48.1	48.1	46.1	43.1	44.1	48.1	41.1	35	45	75	RR
R_241581	616462.4	6432635.4	52.6	54.6	54.6	52.6	49.6	50.6	54.6	47.6	35	45	75	RR
R_241584	617213.1	6432629.2	38.0	40.0	40.0	38.0	35.0	36.0	40.0	33.0	35	45	75	RR
R_241580	617064.0	6432627.4	39.5	41.5	41.5	39.5	36.5	37.5	41.5	34.5	35	45	75	RR
R_241575	617152.9	6432620.1	38.6	40.6	40.6	38.6	35.6	36.6	40.6	33.6	35	45	75	RR
R_241573	616838.4	6432619.5	42.1	44.1	44.1	42.1	39.1	40.1	44.1	37.1	35	45	75	RR
R_241566	616599.0	6432618.6	45.0	47.0	47.0	45.0	42.0	43.0	47.0	40.0	35	45	75	RR
R_241564	616742.4	6432615.2	43.2	45.2	45.2	43.2	40.2	41.2	45.2	38.2	35	45	75	RR
R_241568	617055.5	6432613.9	39.6	41.6	41.6	39.6	36.6	37.6	41.6	34.6	35	45	75	RR
R_241555	616458.0	6432613.7	52.3	54.3	54.3	52.3	49.3	50.3	54.3	47.3	35	45	75	RR
R_241557	616663.0	6432611.9	44.0	46.0	46.0	44.0	41.0	42.0	46.0	39.0	35	45	75	RR
R_241544	616834.8	6432601.2	42.0	44.0	44.0	42.0	39.0	40.0	44.0	37.0	35	45	75	RR
R_241548	617149.7	6432600.9	38.6	40.6	40.6	38.6	35.6	36.6	40.6	33.6	35	45	75	RR
R_241541	616531.7	6432600.8	47.1	49.1	49.1	47.1	44.1	45.1	49.1	42.1	35	45	75	RR
R_241542	617054.2	6432598.3	39.5	41.5	41.5	39.5	36.5	37.5	41.5	34.5	35	45	75	RR
R_241545	617212.4	6432597.6	37.9	39.9	39.9	37.9	34.9	35.9	39.9	32.9	35	45	75	RR
R_241538	616598.3	6432597.0	44.7	46.7	46.7	44.7	41.7	42.7	46.7	39.7	35	45	75	RR
R_241535	616455.3	6432595.8	52.0	54.0	54.0	52.0	49.0	50.0	54.0	47.0	35	45	75	RR
R_241539	616742.7	6432595.6	43.1	45.1	45.1	43.1	40.1	41.1	45.1	38.1	35	45	75	RR
R_241526	616834.9	6432585.1	41.8	43.8	43.8	41.8	38.8	39.8	43.8	36.8	35	45	75	RR
R_241519	616529.2	6432582.8	45.3	47.3	47.3	45.3	42.3	43.3	47.3	40.3	35	45	75	RR
R_241527	617148.0	6432582.8	38.5	40.5	40.5	38.5	35.5	36.5	40.5	33.5	35	45	75	RR
R_241520	616734.7	6432580.5	43.0	45.0	45.0	43.0	40.0	41.0	45.0	38.0	35	45	75	RR
R_241501	614619.9	6432580.4	42.4	44.4	44.4	42.4	39.4	40.4	44.4	37.4	35	45	75	RR
R_241525	617227.4	6432580.1	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_241523	617052.1	6432579.8	39.4	41.4	41.4	39.4	36.4	37.4	41.4	34.4	35	45	75	RR
R_332465	621231.6	6432578.2	34.3	36.3	36.3	34.3	31.3	32.3	36.3	29.3	35	45	75	RR
R_241512	616594.0	6432573.3	44.4	46.4	46.4	44.4	41.4	42.4	46.4	39.4	35	45	75	RR
R_241510	616613.0	6432570.8	44.2	46.2	46.2	44.2	41.2	42.2	46.2	39.2	35	45	75	RR
R_241511	617143.6	6432566.1	37.7	39.7	39.7	37.7	34.7	35.7	39.7	32.7	35	45	75	RR
R_241505	616654.0	6432565.9	43.7	45.7	45.7	43.7	40.7	41.7	45.7	38.7	35	45	75	RR
R_241509	617048.1	6432565.4	39.4	41.4	41.4	39.4	36.4	37.4	41.4	34.4	35	45	75	RR
R_241504	616738.4	6432564.0	42.7	44.7	44.7	42.7	39.7	40.7	44.7	37.7	35	45	75	RR
R_241507	617234.5	6432561.5	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_241499	616822.9	6432550.4	41.7	43.7	43.7	41.7	38.7	39.7	43.7	36.7	35	45	75	RR
R_241497	616736.6	6432548.9	42.6	44.6	44.6	42.6	39.6	40.6	44.6	37.6	35	45	75	RR
R_241493	616788.0	6432546.2	42.0	44.0	44.0	42.0	39.0	40.0	44.0	37.0	35	45	75	RR
R_241491	616448.1	6432543.4	50.3	52.3	52.3	50.3	47.3	48.3	52.3	45.3	35	45	75	RR
R_241494	617140.0	6432543.1	38.4	40.4	40.4	38.4	35.4	36.4	40.4	33.4	35	45	75	RR
R_241492	617047.4	6432542.3	39.2	41.2	41.2	39.2	36.2	37.2	41.2	34.2	35	45	75	RR

## Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_241495	617238.4	6432542.0	37.4	39.4	39.4	37.4	34.4	35.4	39.4	32.4	35	45	75	RR
R_241485	616825.4	6432533.3	41.5	43.5	43.5	41.5	38.5	39.5	43.5	36.5	35	45	75	RR
R_241475	616511.6	6432524.4	44.5	46.5	46.5	44.5	41.5	42.5	46.5	39.5	35	45	75	RR
R_241478	617041.4	6432522.4	39.2	41.2	41.2	39.2	36.2	37.2	41.2	34.2	35	45	75	RR
R_241481	617245.8	6432522.3	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_241476	617134.6	6432517.8	38.0	40.0	40.0	38.0	35.0	36.0	40.0	33.0	35	45	75	RR
R_241471	616580.3	6432516.6	43.8	45.8	45.8	43.8	40.8	41.8	45.8	38.8	35	45	75	RR
R_241467	616449.1	6432511.2	50.5	52.5	52.5	50.5	47.5	48.5	52.5	45.5	35	45	75	RR
R_241472	617200.3	6432510.5	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_241469	616603.1	6432509.8	43.4	45.4	45.4	43.4	40.4	41.4	45.4	38.4	35	45	75	RR
R_241470	617071.8	6432504.6	38.6	40.6	40.6	38.6	35.6	36.6	40.6	33.6	35	45	75	RR
R_241465	616715.5	6432504.4	42.3	44.3	44.3	42.3	39.3	40.3	44.3	37.3	35	45	75	RR
R_241468	617253.5	6432502.2	37.1	39.1	39.1	37.1	34.1	35.1	39.1	32.1	35	45	75	RR
R_241462	616515.3	6432501.6	47.9	49.9	49.9	47.9	44.9	45.9	49.9	42.9	35	45	75	RR
R_332467	621985.3	6432500.1	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_241464	617044.7	6432499.3	39.1	41.1	41.1	39.1	36.1	37.1	41.1	34.1	35	45	75	RR
R_241459	616750.9	6432497.4	41.9	43.9	43.9	41.9	38.9	39.9	43.9	36.9	35	45	75	RR
R_241457	616578.8	6432495.3	43.5	45.5	45.5	43.5	40.5	41.5	45.5	38.5	35	45	75	RR
R_241461	617131.9	6432493.8	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_241451	616443.2	6432493.1	50.3	52.3	52.3	50.3	47.3	48.3	52.3	45.3	35	45	75	RR
R_241433	615458.3	6432491.1	44.8	46.8	46.8	44.8	41.8	42.8	46.8	39.8	35	45	75	RR
R_241455	617263.3	6432486.0	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_241445	616721.1	6432484.4	42.0	44.0	44.0	42.0	39.0	40.0	44.0	37.0	35	45	75	RR
R_241442	616628.4	6432482.4	42.7	44.7	44.7	42.7	39.7	40.7	44.7	37.7	35	45	75	RR
R_241437	616510.4	6432480.6	49.1	51.1	51.1	49.1	46.1	47.1	51.1	44.1	35	45	75	RR
R_241441	616786.6	6432480.4	41.3	43.3	43.3	41.3	38.3	39.3	43.3	36.3	35	45	75	RR
R_241446	617191.3	6432480.0	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_241447	617211.0	6432479.9	37.4	39.4	39.4	37.4	34.4	35.4	39.4	32.4	35	45	75	RR
R_241435	616578.0	6432479.2	43.2	45.2	45.2	43.2	40.2	41.2	45.2	38.2	35	45	75	RR
R_241439	616878.5	6432478.3	40.5	42.5	42.5	40.5	37.5	38.5	42.5	35.5	35	45	75	RR
R_241432	616815.6	6432474.9	41.0	43.0	43.0	41.0	38.0	39.0	43.0	36.0	35	45	75	RR
R_241427	616442.2	6432474.4	49.9	51.9	51.9	49.9	46.9	47.9	51.9	44.9	35	45	75	RR
R_241425	616715.3	6432468.5	41.9	43.9	43.9	41.9	38.9	39.9	43.9	36.9	35	45	75	RR
R_241430	617272.5	6432465.9	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_241418	616507.0	6432462.8	44.0	46.0	46.0	44.0	41.0	42.0	46.0	39.0	35	45	75	RR
R_241423	616942.1	6432461.8	39.7	41.7	41.7	39.7	36.7	37.7	41.7	34.7	35	45	75	RR
R_241422	616872.6	6432460.2	40.4	42.4	42.4	40.4	37.4	38.4	42.4	35.4	35	45	75	RR
R_241420	616969.2	6432457.6	39.5	41.5	41.5	39.5	36.5	37.5	41.5	34.5	35	45	75	RR
R_241410	616633.7	6432455.6	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_241408	616572.1	6432455.4	43.1	45.1	45.1	43.1	40.1	41.1	45.1	38.1	35	45	75	RR
R_241412	616811.6	6432454.5	40.9	42.9	42.9	40.9	37.9	38.9	42.9	35.9	35	45	75	RR
R_241404	616433.9	6432453.2	48.9	50.9	50.9	48.9	45.9	46.9	50.9	43.9	35	45	75	RR
R_241405	616715.5	6432450.8	41.7	43.7	43.7	41.7	38.7	39.7	43.7	36.7	35	45	75	RR
R_241401	616867.5	6432446.4	40.3	42.3	42.3	40.3	37.3	38.3	42.3	35.3	35	45	75	RR
R_241402	617033.6	6432445.0	38.8	40.8	40.8	38.8	35.8	36.8	40.8	33.8	35	45	75	RR
R_241396	616498.1	6432444.9	43.4	45.4	45.4	43.4	40.4	41.4	45.4	38.4	35	45	75	RR
R_332461	621139.1	6432444.9	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_241393	616706.9	6432440.6	41.6	43.6	43.6	41.6	38.6	39.6	43.6	36.6	35	45	75	RR
R_241398	617063.3	6432439.4	38.5	40.5	40.5	38.5	35.5	36.5	40.5	33.5	35	45	75	RR
R_241390	616808.9	6432437.3	40.7	42.7	42.7	40.7	37.7	38.7	42.7	35.7	35	45	75	RR
R_241386	616570.4	6432435.3	42.7	44.7	44.7	42.7	39.7	40.7	44.7	37.7	35	45	75	RR
R_241391	617097.1	6432434.8	38.1	40.1	40.1	38.1	35.1	36.1	40.1	33.1	35	45	75	RR
R_241382	616632.6	6432433.3	42.3	44.3	44.3	42.3	39.3	40.3	44.3	37.3	35	45	75	RR
R_241388	617125.2	6432432.2	37.9	39.9	39.9	37.9	34.9	35.9	39.9	32.9	35	45	75	RR
R_241380	616964.8	6432428.2	39.3	41.3	41.3	39.3	36.3	37.3	41.3	34.3	35	45	75	RR
R_241377	616872.0	6432426.6	40.1	42.1	42.1	40.1	37.1	38.1	42.1	35.1	35	45	75	RR
R_241350	615782.0	6432423.7	43.4	45.4	45.4	43.4	40.4	41.4	45.4	38.4	35	45	75	RR
R_241363	616498.7	6432421.7	43.0	45.0	45.0	43.0	40.0	41.0	45.0	38.0	35	45	75	RR
R_241360	616427.7	6432421.2	49.2	51.2	51.2	49.2	46.2	47.2	51.2	44.2	35	45	75	RR
R_241366	616807.5	6432420.6	40.6	42.6	42.6	40.6	37.6	38.6	42.6	35.6	35	45	75	RR
R_241361	616707.0	6432419.0	41.4	43.4	43.4	41.4	38.4	39.4	43.4	36.4	35	45	75	RR
R_241358	616447.0	6432418.9	43.3	45.3	45.3	43.3	40.3	41.3	45.3	38.3	35	45	75	RR
R_241365	617029.4	6432417.6	38.5	40.5	40.5	38.5	35.5	36.5	40.5	33.5	35	45	75	RR
R_241357	616628.4	6432416.3	42.1	44.1	44.1	42.1	39.1	40.1	44.1	37.1	35	45	75	RR
R_241354	616566.1	6432416.2	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_241356	617242.2	6432415.0	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_241362	617215.4	6432413.1	37.0	39.0	39.0	37.0	34.0	35.0	39.0	32.0	35	45	75	RR
R_241355	616965.0	6432411.8	39.1	41.1	41.1	39.1	36.1	37.1	41.1	34.1	35	45	75	RR
R_241351	616866.1	6432411.7	40.0	42.0	42.0	40.0	37.0	38.0	42.0	35.0	35	45	75	RR
R_241359	617187.9	6432411.6	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_241353	617282.2	6432407.8	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_241335	616502.8	6432403.4	42.7	44.7	44.7	42.7	39.7	40.7	44.7	37.7	35	45	75	RR
R_241347	617343.5	6432401.7	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_241344	617024.2	6432401.4	38.5	40.5	40.5	38.5	35.5	36.5	40.5	33.5	35	45	75	RR
R_241339	616805.0	6432400.5	40.4	42.4	42.4	40.4	37.4	38.4	42.4	35.4	35	45	75	RR
R_241333	616958.9	6432396.4	39.1	41.1	41.1	39.1	36.1	37.1	41.1	34.1	35	45	75	RR
R_241307	615117.9	6432394.5	39.6	41.6	41.6	39.6	36.6	37.6	41.6	34.6	35	45	75	RR
R_241322	616711.2	6432394.3	41.1	43.1	43.1	41.1	38.1	39.1	43.1	36.1	35	45	75	RR
R_241320	616566.6	6432394.0	42.2	44.2	44.2	42.2	39.2	40.2	44.2	37.2	35	45	75	RR
R_241323	616863.1	6432392.5	39.8	41.8	41.8	39.8	36.8	37.8	41.8	34.8	35	45	75	RR
R_241325	617115.6	6432390.8	37.7	39.7	39.7	37.7	34.7	35.7	39.7	32.7	35	45	75	RR
R_241321	617023.7	6432390.5	38.4	40.4	40.4	38.4	35.4	36.4	40.4	33.4	35	45	75	RR
R_241315	616622.5	6432388.3	41.8	43.8	43.8	41.8	38.8	39.8	43.8	36.8	35	45	75	RR
R_241313	616802.3	6432385.0	40.3	42.3	42.3	40.3	37.3	38.3	42.3	35.3	35	45	75	RR
R_241314	617025.0	6432382.6	38.4	40.4	40.4	38.4	35.4	36.4	40.4	33.4	35	45	75	RR

## Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_241312	616951.1	6432381.1	39.1	41.1	41.1	39.1	36.1	37.1	41.1	34.1	35	45	75	RR
R_241295	615603.4	6432378.5	47.8	49.8	49.8	47.8	44.8	45.8	49.8	42.8	35	45	75	RR
R_241311	617177.2	6432378.0	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_241302	616797.6	6432369.9	40.2	42.2	42.2	40.2	37.2	38.2	42.2	35.2	35	45	75	RR
R_241304	617017.7	6432369.3	38.4	40.4	40.4	38.4	35.4	36.4	40.4	33.4	35	45	75	RR
R_241305	617115.2	6432369.1	37.6	39.6	39.6	37.6	34.6	35.6	39.6	32.6	35	45	75	RR
R_241299	616704.4	6432368.7	40.9	42.9	42.9	40.9	37.9	38.9	42.9	35.9	35	45	75	RR
R_241306	617342.6	6432366.6	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_241297	616937.9	6432364.4	39.1	41.1	41.1	39.1	36.1	37.1	41.1	34.1	35	45	75	RR
R_241293	616860.4	6432362.6	39.6	41.6	41.6	39.6	36.6	37.6	41.6	34.6	35	45	75	RR
R_241296	617171.7	6432360.7	37.0	39.0	39.0	37.0	34.0	35.0	39.0	32.0	35	45	75	RR
R_241285	616796.9	6432354.5	40.0	42.0	42.0	40.0	37.0	38.0	42.0	35.0	35	45	75	RR
R_241289	617103.7	6432353.8	37.6	39.6	39.6	37.6	34.6	35.6	39.6	32.6	35	45	75	RR
R_241284	616696.2	6432353.6	40.8	42.8	42.8	40.8	37.8	38.8	42.8	35.8	35	45	75	RR
R_241286	617023.0	6432352.7	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_241288	617333.3	6432351.0	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_241292	617430.9	6432350.9	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_241283	617168.5	6432347.1	37.0	39.0	39.0	37.0	34.0	35.0	39.0	32.0	35	45	75	RR
R_241279	616958.3	6432346.9	38.7	40.7	40.7	38.7	35.7	36.7	40.7	33.7	35	45	75	RR
R_241274	616863.0	6432343.9	39.4	41.4	41.4	39.4	36.4	37.4	41.4	34.4	35	45	75	RR
R_241266	616438.7	6432342.3	47.1	49.1	49.1	47.1	44.1	45.1	49.1	42.1	35	45	75	RR
R_241265	616460.6	6432341.7	43.9	45.9	45.9	43.9	40.9	41.9	45.9	38.9	35	45	75	RR
R_241268	617009.9	6432337.2	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_241257	616504.4	6432335.7	41.8	43.8	43.8	41.8	38.8	39.8	43.8	36.8	35	45	75	RR
R_241267	617108.8	6432334.6	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_241255	616483.6	6432334.3	42.0	44.0	44.0	42.0	39.0	40.0	44.0	37.0	35	45	75	RR
R_241261	616954.1	6432332.1	38.6	40.6	40.6	38.6	35.6	36.6	40.6	33.6	35	45	75	RR
R_241270	617658.9	6432331.2	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_241259	617170.3	6432329.2	36.9	38.9	38.9	36.9	33.9	34.9	38.9	31.9	35	45	75	RR
R_241245	616543.2	6432326.2	41.5	43.5	43.5	41.5	38.5	39.5	43.5	36.5	35	45	75	RR
R_241248	616693.0	6432325.6	40.5	42.5	42.5	40.5	37.5	38.5	42.5	35.5	35	45	75	RR
R_241243	616563.4	6432325.2	41.4	43.4	43.4	41.4	38.4	39.4	43.4	36.4	35	45	75	RR
R_241254	616869.4	6432325.0	39.2	41.2	41.2	39.2	36.2	37.2	41.2	34.2	35	45	75	RR
R_241246	616721.3	6432324.8	40.3	42.3	42.3	40.3	37.3	38.3	42.3	35.3	35	45	75	RR
R_241237	616582.3	6432323.2	41.2	43.2	43.2	41.2	38.2	39.2	43.2	36.2	35	45	75	RR
R_241252	617327.4	6432321.0	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_241242	617012.8	6432319.9	38.1	40.1	40.1	38.1	35.1	36.1	40.1	33.1	35	45	75	RR
R_241230	616603.0	6432318.6	41.0	43.0	43.0	41.0	38.0	39.0	43.0	36.0	35	45	75	RR
R_241233	616787.6	6432318.6	39.8	41.8	41.8	39.8	36.8	37.8	41.8	34.8	35	45	75	RR
R_241231	616758.4	6432317.8	40.0	42.0	42.0	40.0	37.0	38.0	42.0	35.0	35	45	75	RR
R_241244	617428.7	6432315.9	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_241223	616622.2	6432314.2	40.9	42.9	42.9	40.9	37.9	38.9	42.9	35.9	35	45	75	RR
R_241220	616503.5	6432313.3	38.7	40.7	40.7	38.7	35.7	36.7	40.7	33.7	35	45	75	RR
R_241228	616948.3	6432313.3	38.5	40.5	40.5	38.5	35.5	36.5	40.5	33.5	35	45	75	RR
R_241224	616847.8	6432312.1	39.2	41.2	41.2	39.2	36.2	37.2	41.2	34.2	35	45	75	RR
R_241229	617169.5	6432311.4	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_241209	617007.6	6432301.6	38.0	40.0	40.0	38.0	35.0	36.0	40.0	33.0	35	45	75	RR
R_241197	616846.5	6432296.9	39.1	41.1	41.1	39.1	36.1	37.1	41.1	34.1	35	45	75	RR
R_241195	616881.9	6432296.1	37.8	39.8	39.8	37.8	34.8	35.8	39.8	32.8	35	45	75	RR
R_241198	617173.9	6432295.9	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_241196	616941.4	6432295.5	38.4	40.4	40.4	38.4	35.4	36.4	40.4	33.4	35	45	75	RR
R_241190	616620.2	6432294.9	40.6	42.6	42.6	40.6	37.6	38.6	42.6	35.6	35	45	75	RR
R_241204	617494.6	6432294.9	34.3	36.3	36.3	34.3	31.3	32.3	36.3	29.3	35	45	75	RR
R_241200	617426.3	6432293.4	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_241191	617101.4	6432290.9	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_241193	617323.2	6432289.4	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_241177	616493.2	6432288.5	41.2	43.2	43.2	41.2	38.2	39.2	43.2	36.2	35	45	75	RR
R_241186	617655.1	6432281.7	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_241174	616938.3	6432280.5	38.3	40.3	40.3	38.3	35.3	36.3	40.3	33.3	35	45	75	RR
R_241175	617158.8	6432279.0	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_241167	617000.5	6432274.9	37.8	39.8	39.8	37.8	34.8	35.8	39.8	32.8	35	45	75	RR
R_241154	616686.3	6432271.7	40.0	42.0	42.0	40.0	37.0	38.0	42.0	35.0	35	45	75	RR
R_241163	617095.2	6432270.8	37.0	39.0	39.0	37.0	34.0	35.0	39.0	32.0	35	45	75	RR
R_241158	617036.8	6432270.2	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_241166	617487.6	6432268.7	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_241146	616489.6	6432266.9	41.0	43.0	43.0	41.0	38.0	39.0	43.0	36.0	35	45	75	RR
R_241157	617323.0	6432266.6	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_241156	617580.0	6432263.1	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_241138	616779.0	6432258.1	39.2	41.2	41.2	39.2	36.2	37.2	41.2	34.2	35	45	75	RR
R_241151	617649.4	6432257.9	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_241139	617099.7	6432255.0	36.9	38.9	38.9	36.9	33.9	34.9	38.9	31.9	35	45	75	RR
R_241130	616680.6	6432254.0	39.8	41.8	41.8	39.8	36.8	37.8	41.8	34.8	35	45	75	RR
R_241140	617317.1	6432253.6	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_241135	617158.8	6432253.2	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_241128	617180.8	6432249.0	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_241134	617485.4	6432248.7	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_241121	616837.3	6432247.5	38.7	40.7	40.7	38.7	35.7	36.7	40.7	33.7	35	45	75	RR
R_241110	616486.3	6432244.8	40.9	42.9	42.9	40.9	37.9	38.9	42.9	35.9	35	45	75	RR
R_241131	617582.2	6432244.8	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_241119	617196.2	6432243.0	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_241116	617641.9	6432236.8	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_241113	617415.3	6432236.7	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_241097	616863.1	6432234.9	38.5	40.5	40.5	38.5	35.5	36.5	40.5	33.5	35	45	75	RR
R_241099	616902.4	6432234.6	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_241093	616834.8	6432233.0	38.6	40.6	40.6	38.6	35.6	36.6	40.6	33.6	35	45	75	RR



## Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_241059	615405.9	6432231.5	45.4	47.4	47.4	45.4	42.4	43.4	47.4	40.4	35	45	75	RR
R_241100	617248.3	6432230.8	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_241091	616937.1	6432230.5	37.9	39.9	39.9	37.9	34.9	35.9	39.9	32.9	35	45	75	RR
R_241078	616680.5	6432228.2	39.6	41.6	41.6	39.6	36.6	37.6	41.6	34.6	35	45	75	RR
R_241101	617573.6	6432228.0	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_241074	616774.4	6432225.4	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_241088	617313.7	6432223.7	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_241065	616485.0	6432221.8	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_241075	617345.1	6432218.9	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_241072	617371.1	6432216.0	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_241063	616988.0	6432215.2	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_241057	616836.9	6432214.8	38.5	40.5	40.5	38.5	35.5	36.5	40.5	33.5	35	45	75	RR
R_241069	617391.5	6432213.3	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_241058	617009.3	6432213.0	37.3	39.3	39.3	37.3	34.3	35.3	39.3	32.3	35	45	75	RR
R_241046	616761.7	6432209.7	39.0	41.0	41.0	39.0	36.0	37.0	41.0	34.0	35	45	75	RR
R_241054	617028.1	6432209.3	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_241038	616475.1	6432208.3	44.6	46.6	46.6	44.6	41.6	42.6	46.6	39.6	35	45	75	RR
R_241051	617085.0	6432208.3	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_241062	617568.8	6432208.1	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_241048	617050.0	6432206.9	37.0	39.0	39.0	37.0	34.0	35.0	39.0	32.0	35	45	75	RR
R_241052	617412.5	6432204.5	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_241044	617471.2	6432200.9	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_241022	616677.4	6432198.7	39.3	41.3	41.3	39.3	36.3	37.3	41.3	34.3	35	45	75	RR
R_241030	616915.1	6432198.1	37.9	39.9	39.9	37.9	34.9	35.9	39.9	32.9	35	45	75	RR
R_241040	617491.7	6432197.6	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_241034	617149.1	6432196.8	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_241023	617076.8	6432194.2	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_240998	615597.3	6432193.6	45.4	47.4	47.4	45.4	42.4	43.4	47.4	40.4	35	45	75	RR
R_241018	616765.9	6432193.4	38.8	40.8	40.8	38.8	35.8	36.8	40.8	33.8	35	45	75	RR
R_241027	617512.1	6432190.8	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_241004	616466.4	6432188.9	43.4	45.4	45.4	43.4	40.4	41.4	45.4	38.4	35	45	75	RR
R_241012	617157.6	6432186.9	36.0	38.0	38.0	36.0	33.0	34.0	38.0	31.0	35	45	75	RR
R_241005	616828.6	6432184.8	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_241008	617149.1	6432183.4	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_241016	617570.4	6432183.2	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_240972	615188.6	6432183.1	42.3	44.3	44.3	42.3	39.3	40.3	44.3	37.3	35	45	75	RR
R_241006	617245.4	6432180.9	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_240999	616988.4	6432177.7	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_240997	617080.8	6432175.8	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_240989	616767.8	6432174.9	38.5	40.5	40.5	38.5	35.5	36.5	40.5	33.5	35	45	75	RR
R_240982	616675.4	6432173.5	39.0	41.0	41.0	39.0	36.0	37.0	41.0	34.0	35	45	75	RR
R_240990	617230.5	6432169.6	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_240977	616915.4	6432167.4	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_240976	617145.2	6432164.3	36.0	38.0	38.0	36.0	33.0	34.0	38.0	31.0	35	45	75	RR
R_240979	617333.7	6432163.4	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_240971	616843.4	6432162.7	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_240957	616520.9	6432158.5	39.6	41.6	41.6	39.6	36.6	37.6	41.6	34.6	35	45	75	RR
R_240965	616983.6	6432157.8	37.0	39.0	39.0	37.0	34.0	35.0	39.0	32.0	35	45	75	RR
R_240966	617080.7	6432157.8	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_240958	616673.3	6432157.4	38.8	40.8	40.8	38.8	35.8	36.8	40.8	33.8	35	45	75	RR
R_240970	617360.3	6432155.8	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_240967	617299.3	6432155.7	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_240964	617377.9	6432153.0	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_240962	617394.0	6432151.7	34.3	36.3	36.3	34.3	31.3	32.3	36.3	29.3	35	45	75	RR
R_240950	616762.9	6432151.6	38.3	40.3	40.3	38.3	35.3	36.3	40.3	33.3	35	45	75	RR
R_240954	617139.1	6432150.3	36.0	38.0	38.0	36.0	33.0	34.0	38.0	31.0	35	45	75	RR
R_240956	617410.3	6432148.1	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_240946	616821.8	6432147.7	37.9	39.9	39.9	37.9	34.9	35.9	39.9	32.9	35	45	75	RR
R_240937	616464.9	6432145.0	42.9	44.9	44.9	42.9	39.9	40.9	44.9	37.9	35	45	75	RR
R_240952	617469.2	6432144.8	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_240944	617073.3	6432144.6	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_240947	617227.9	6432143.6	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_240940	616982.8	6432140.2	36.9	38.9	38.9	36.9	33.9	34.9	38.9	31.9	35	45	75	RR
R_240927	616582.4	6432139.9	39.1	41.1	41.1	39.1	36.1	37.1	41.1	34.1	35	45	75	RR
R_240939	617317.2	6432136.2	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_240924	616906.8	6432135.0	37.4	39.4	39.4	37.4	34.4	35.4	39.4	32.4	35	45	75	RR
R_240936	617503.1	6432132.6	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_240918	616685.1	6432131.7	38.5	40.5	40.5	38.5	35.5	36.5	40.5	33.5	35	45	75	RR
R_240933	617563.3	6432131.3	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_240915	616835.5	6432129.2	37.7	39.7	39.7	37.7	34.7	35.7	39.7	32.7	35	45	75	RR
R_240913	616752.2	6432128.8	38.1	40.1	40.1	38.1	35.1	36.1	40.1	33.1	35	45	75	RR
R_240916	617069.3	6432127.0	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_240911	616986.0	6432124.6	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_240904	616514.9	6432124.3	39.2	41.2	41.2	39.2	36.2	37.2	41.2	34.2	35	45	75	RR
R_240919	617405.9	6432123.8	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_240896	616466.9	6432121.7	44.8	46.8	46.8	44.8	41.8	42.8	46.8	39.8	35	45	75	RR
R_240903	616907.3	6432119.5	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_240892	616535.1	6432118.8	39.1	41.1	41.1	39.1	36.1	37.1	41.1	34.1	35	45	75	RR
R_240909	617303.0	6432117.3	34.7	36.7	36.7	34.7	31.7	32.7	36.7	29.7	35	45	75	RR
R_240905	617230.6	6432116.1	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_240893	616818.1	6432116.1	37.7	39.7	39.7	37.7	34.7	35.7	39.7	32.7	35	45	75	RR
R_240910	617562.3	6432115.7	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_240863	615648.1	6432115.0	44.6	46.6	46.6	44.6	41.6	42.6	46.6	39.6	35	45	75	RR
R_240894	617145.8	6432113.6	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_240886	616750.6	6432112.2	38.0	40.0	40.0	38.0	35.0	36.0	40.0	33.0	35	45	75	RR



## Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_240888	617070.5	6432110.2	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_240882	616977.2	6432108.2	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_240868	616582.1	6432106.3	38.7	40.7	40.7	38.7	35.7	36.7	40.7	33.7	35	45	75	RR
R_240866	616909.7	6432101.5	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_240876	617474.1	6432100.2	33.6	35.6	35.6	33.6	30.6	31.6	35.6	28.6	35	45	75	RR
R_240858	616658.2	6432099.2	38.4	40.4	40.4	38.4	35.4	36.4	40.4	33.4	35	45	75	RR
R_240875	617558.2	6432098.8	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_240865	617303.8	6432096.5	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_240860	617226.7	6432093.5	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_240847	616680.2	6432092.9	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_240855	617069.8	6432092.6	36.0	38.0	38.0	36.0	33.0	34.0	38.0	31.0	35	45	75	RR
R_240843	616692.2	6432090.7	38.1	40.1	40.1	38.1	35.1	36.1	40.1	33.1	35	45	75	RR
R_240845	616986.3	6432088.8	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_240837	616719.9	6432087.4	37.9	39.9	39.9	37.9	34.9	35.9	39.9	32.9	35	45	75	RR
R_240814	615506.9	6432085.9	43.9	45.9	45.9	43.9	40.9	41.9	45.9	38.9	35	45	75	RR
R_240835	616905.2	6432084.2	36.0	38.0	38.0	36.0	33.0	34.0	38.0	31.0	35	45	75	RR
R_240841	617140.4	6432083.5	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_240833	616809.5	6432083.4	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_240829	617066.6	6432079.4	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_240816	616413.6	6432078.3	44.7	46.7	46.7	44.7	41.7	42.7	46.7	39.7	35	45	75	RR
R_240832	617294.4	6432077.2	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_240830	617398.7	6432075.9	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_240831	617460.2	6432075.2	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_240823	616976.9	6432074.6	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_240810	616433.9	6432073.1	44.6	46.6	46.6	44.6	41.6	42.6	46.6	39.6	35	45	75	RR
R_240821	617218.3	6432070.2	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_240809	616806.8	6432068.8	37.3	39.3	39.3	37.3	34.3	35.3	39.3	32.3	35	45	75	RR
R_240807	616825.2	6432068.0	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_240799	616449.8	6432067.8	44.5	46.5	46.5	44.5	41.5	42.5	46.5	39.5	35	45	75	RR
R_240805	616844.8	6432066.7	37.1	39.1	39.1	37.1	34.1	35.1	39.1	32.1	35	45	75	RR
R_240798	616908.0	6432062.2	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_240802	617141.4	6432061.6	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_240787	616469.0	6432061.2	39.2	41.2	41.2	39.2	36.2	37.2	41.2	34.2	35	45	75	RR
R_240796	617063.8	6432060.0	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_240789	616877.0	6432058.3	36.9	38.9	38.9	36.9	33.9	34.9	38.9	31.9	35	45	75	RR
R_240792	616962.9	6432058.3	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_240783	616457.9	6432058.0	44.4	46.4	46.4	44.4	41.4	42.4	46.4	39.4	35	45	75	RR
R_240794	617299.6	6432056.9	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_240782	616518.6	6432056.7	38.5	40.5	40.5	38.5	35.5	36.5	40.5	33.5	35	45	75	RR
R_240779	616540.1	6432053.0	38.4	40.4	40.4	38.4	35.4	36.4	40.4	33.4	35	45	75	RR
R_240790	617374.0	6432052.7	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_240777	616361.2	6432051.8	44.5	46.5	46.5	44.5	41.5	42.5	46.5	39.5	35	45	75	RR
R_240786	617217.1	6432051.0	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_240778	616579.6	6432050.6	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_240773	616409.1	6432050.4	44.4	46.4	46.4	44.4	41.4	42.4	46.4	39.4	35	45	75	RR
R_240784	617457.4	6432046.6	33.4	35.4	35.4	33.4	30.4	31.4	35.4	28.4	35	45	75	RR
R_240781	616560.9	6432045.1	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_240762	616468.6	6432044.3	38.5	40.5	40.5	38.5	35.5	36.5	40.5	33.5	35	45	75	RR
R_240768	616965.1	6432040.2	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_240774	617350.2	6432039.6	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_240761	617000.7	6432037.3	36.0	38.0	38.0	36.0	33.0	34.0	38.0	31.0	35	45	75	RR
R_240760	617025.6	6432036.9	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_240742	616410.5	6432035.0	44.2	46.2	46.2	44.2	41.2	42.2	46.2	39.2	35	45	75	RR
R_240743	616519.5	6432034.3	38.2	40.2	40.2	38.2	35.2	36.2	40.2	33.2	35	45	75	RR
R_240740	616357.7	6432033.9	44.3	46.3	46.3	44.3	41.3	42.3	46.3	39.3	35	45	75	RR
R_240758	617219.1	6432033.9	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_240750	617045.7	6432032.7	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_240751	617065.5	6432032.5	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_240752	617122.2	6432032.2	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_240756	617454.5	6432029.1	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_240733	616460.7	6432027.0	38.3	40.3	40.3	38.3	35.3	36.3	40.3	33.3	35	45	75	RR
R_240730	616567.7	6432024.2	37.9	39.9	39.9	37.9	34.9	35.9	39.9	32.9	35	45	75	RR
R_240719	616352.4	6432018.9	40.2	42.2	42.2	40.2	37.2	38.2	42.2	35.2	35	45	75	RR
R_240734	617213.6	6432018.7	34.7	36.7	36.7	34.7	31.7	32.7	36.7	29.7	35	45	75	RR
R_240717	616407.4	6432018.0	44.0	46.0	46.0	44.0	41.0	42.0	46.0	39.0	35	45	75	RR
R_240729	617117.9	6432016.9	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_240732	617449.6	6432015.0	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_240713	616517.7	6432014.2	38.0	40.0	40.0	38.0	35.0	36.0	40.0	33.0	35	45	75	RR
R_240725	617145.8	6432012.3	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_240705	616464.2	6432009.0	38.1	40.1	40.1	38.1	35.1	36.1	40.1	33.1	35	45	75	RR
R_240714	617182.3	6432007.2	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_240702	616566.9	6432005.6	37.8	39.8	39.8	37.8	34.8	35.8	39.8	32.8	35	45	75	RR
R_240711	617371.6	6432003.7	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_240695	616402.1	6432002.4	43.9	45.9	45.9	43.9	40.9	41.9	45.9	38.9	35	45	75	RR
R_240707	617212.7	6432000.8	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_240690	616351.8	6432000.3	43.9	45.9	45.9	43.9	40.9	41.9	45.9	38.9	35	45	75	RR
R_240671	615102.2	6431999.6	41.6	43.6	43.6	41.6	38.6	39.6	43.6	36.6	35	45	75	RR
R_240703	617443.4	6431997.1	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_240683	616458.0	6431993.2	37.9	39.9	39.9	37.9	34.9	35.9	39.9	32.9	35	45	75	RR
R_240678	616564.5	6431987.1	37.6	39.6	39.6	37.6	34.6	35.6	39.6	32.6	35	45	75	RR
R_240672	616399.2	6431985.5	43.7	45.7	45.7	43.7	40.7	41.7	45.7	38.7	35	45	75	RR
R_240679	617000.0	6431983.4	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_240677	616983.3	6431982.2	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_240675	617019.1	6431980.4	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_240680	617377.4	6431979.5	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR

## Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_240660	616456.2	6431977.4	37.7	39.7	39.7	37.7	34.7	35.7	39.7	32.7	35	45	75	RR
R_240670	617033.4	6431976.7	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_240658	616511.4	6431975.3	37.7	39.7	39.7	37.7	34.7	35.7	39.7	32.7	35	45	75	RR
R_240667	617050.4	6431975.2	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_240656	616558.9	6431971.7	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_240666	617442.5	6431970.5	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_240649	616398.3	6431969.0	43.5	45.5	45.5	43.5	40.5	41.5	45.5	38.5	35	45	75	RR
R_240651	617114.2	6431962.9	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_240646	617146.1	6431956.4	34.7	36.7	36.7	34.7	31.7	32.7	36.7	29.7	35	45	75	RR
R_240633	616446.8	6431955.1	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_240629	616399.0	6431952.5	43.3	45.3	45.3	43.3	40.3	41.3	45.3	38.3	35	45	75	RR
R_240631	616556.5	6431951.6	37.3	39.3	39.3	37.3	34.3	35.3	39.3	32.3	35	45	75	RR
R_240638	617214.1	6431951.2	34.3	36.3	36.3	34.3	31.3	32.3	36.3	29.3	35	45	75	RR
R_240635	616949.1	6431950.9	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_240634	617182.9	6431948.0	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_240616	616504.4	6431941.3	37.3	39.3	39.3	37.3	34.3	35.3	39.3	32.3	35	45	75	RR
R_240623	617062.7	6431940.6	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_240621	616986.7	6431939.5	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_240614	616450.5	6431938.9	37.4	39.4	39.4	37.4	34.4	35.4	39.4	32.4	35	45	75	RR
R_240612	616557.0	6431936.1	37.1	39.1	39.1	37.1	34.1	35.1	39.1	32.1	35	45	75	RR
R_240615	617005.1	6431935.3	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_240620	617301.6	6431935.0	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_240607	616393.8	6431934.6	37.5	39.5	39.5	37.5	34.5	35.5	39.5	32.5	35	45	75	RR
R_240600	616339.4	6431931.9	43.2	45.2	45.2	43.2	40.2	41.2	45.2	38.2	35	45	75	RR
R_240610	616969.8	6431930.7	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_240605	616948.0	6431928.0	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_240609	617270.9	6431926.4	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_240602	617059.7	6431925.2	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_240604	617320.7	6431923.5	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_240590	616441.3	6431922.3	37.3	39.3	39.3	37.3	34.3	35.3	39.3	32.3	35	45	75	RR
R_240591	616505.6	6431921.6	37.1	39.1	39.1	37.1	34.1	35.1	39.1	32.1	35	45	75	RR
R_240597	617116.3	6431920.7	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_240601	617357.1	6431920.5	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_240584	616389.0	6431918.7	37.2	39.2	39.2	37.2	34.2	35.2	39.2	32.2	35	45	75	RR
R_240598	617401.9	6431917.9	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_240596	617381.4	6431916.8	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_240555	615488.0	6431913.9	42.2	44.2	44.2	42.2	39.2	40.2	44.2	37.2	35	45	75	RR
R_240573	616335.8	6431913.2	37.9	39.9	39.9	37.9	34.9	35.9	39.9	32.9	35	45	75	RR
R_240576	616551.1	6431912.8	36.9	38.9	38.9	36.9	33.9	34.9	38.9	31.9	35	45	75	RR
R_240589	617202.4	6431911.9	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_240583	617012.1	6431911.4	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_240577	617055.5	6431907.2	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_240559	616499.8	6431905.1	36.9	38.9	38.9	36.9	33.9	34.9	38.9	31.9	35	45	75	RR
R_240556	616387.5	6431904.3	37.1	39.1	39.1	37.1	34.1	35.1	39.1	32.1	35	45	75	RR
R_240570	617117.1	6431903.2	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_240571	617262.7	6431901.6	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_240553	616439.7	6431901.5	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_240547	616550.0	6431898.3	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_240557	617010.6	6431897.7	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_240542	616337.1	6431896.6	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_240552	617054.6	6431894.2	34.7	36.7	36.7	34.7	31.7	32.7	36.7	29.7	35	45	75	RR
R_240535	616624.9	6431890.8	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_240548	617307.6	6431890.0	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_240523	616498.7	6431888.2	36.8	38.8	38.8	36.8	33.8	34.8	38.8	31.8	35	45	75	RR
R_240544	617180.8	6431887.1	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_240530	616936.1	6431886.5	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_240515	616385.0	6431885.9	41.7	43.7	43.7	41.7	38.7	39.7	43.7	36.7	35	45	75	RR
R_240536	617253.3	6431884.9	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_240539	617356.6	6431884.2	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_240524	616957.7	6431883.7	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_240508	616437.1	6431883.1	36.9	38.9	38.9	36.9	33.9	34.9	38.9	31.9	35	45	75	RR
R_240507	616674.4	6431880.1	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_240517	617006.3	6431879.0	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_240483	615854.4	6431877.9	42.2	44.2	44.2	42.2	39.2	40.2	44.2	37.2	35	45	75	RR
R_240511	617103.2	6431876.3	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_240481	616316.0	6431872.4	41.5	43.5	43.5	41.5	38.5	39.5	43.5	36.5	35	45	75	RR
R_240493	616721.8	6431872.1	36.0	38.0	38.0	36.0	33.0	34.0	38.0	31.0	35	45	75	RR
R_240485	616492.0	6431871.7	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_240474	616332.4	6431870.8	41.3	43.3	43.3	41.3	38.3	39.3	43.3	36.3	35	45	75	RR
R_240496	617050.1	6431870.6	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_240502	617302.7	6431870.2	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_240480	616621.4	6431868.8	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_240479	616991.4	6431864.3	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_240476	616972.6	6431863.6	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_240459	616378.4	6431862.5	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_240465	616665.9	6431861.3	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_240478	617258.1	6431860.7	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_240458	616543.3	6431860.4	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_240464	616934.2	6431857.9	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_240451	616398.7	6431857.1	36.7	38.7	38.7	36.7	33.7	34.7	38.7	31.7	35	45	75	RR
R_240450	616421.7	6431856.7	36.6	38.6	38.6	36.6	33.6	34.6	38.6	31.6	35	45	75	RR
R_240462	617046.7	6431855.7	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_240463	617094.1	6431855.2	34.3	36.3	36.3	34.3	31.3	32.3	36.3	29.3	35	45	75	RR
R_240453	616715.7	6431854.6	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_240456	617296.8	6431850.1	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR

## Appendix D - Road infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	ROAD01-Site establishment	ROAD02-Stripping topsoil	ROAD03-Main earthworks	ROAD04-Drainage	ROAD05-Road pavement	ROAD06-Road furniture	ROAD07-Landscaping	ROAD08-Decommissioning	evening/night criteria	day criteria	highly affected level	receiver type
R_240439	616615.4	6431850.0	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_240434	616439.8	6431849.4	36.5	38.5	38.5	36.5	33.5	34.5	38.5	31.5	35	45	75	RR
R_240442	617181.0	6431844.4	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_240429	616487.7	6431843.9	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_240428	616506.1	6431843.4	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_240441	617252.5	6431843.2	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_240431	616666.0	6431842.3	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_240401	615001.3	6431839.3	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_240422	616524.1	6431838.4	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_240430	617043.4	6431837.9	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_240427	617093.9	6431835.5	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_240423	616932.5	6431833.8	34.9	36.9	36.9	34.9	31.9	32.9	36.9	29.9	35	45	75	RR
R_240416	616545.5	6431833.2	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_240417	616717.8	6431832.1	35.7	37.7	37.7	35.7	32.7	33.7	37.7	30.7	35	45	75	RR
R_240415	617299.4	6431824.1	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_240405	616622.1	6431823.8	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_240398	616308.1	6431822.6	41.0	43.0	43.0	41.0	38.0	39.0	43.0	36.0	35	45	75	RR
R_240400	616327.5	6431822.5	41.0	43.0	43.0	41.0	38.0	39.0	43.0	36.0	35	45	75	RR
R_240396	616346.8	6431819.4	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_240406	617171.1	6431819.3	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_240399	616712.0	6431817.9	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_240404	617251.0	6431816.3	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_240389	616362.8	6431810.7	36.4	38.4	38.4	36.4	33.4	34.4	38.4	31.4	35	45	75	RR
R_240386	616399.3	6431808.9	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_240381	616417.6	6431807.4	36.2	38.2	38.2	36.2	33.2	34.2	38.2	31.2	35	45	75	RR
R_240392	617100.6	6431806.7	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_240376	616380.0	6431805.5	36.3	38.3	38.3	36.3	33.3	34.3	38.3	31.3	35	45	75	RR
R_240380	616610.6	6431804.9	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_240339	614993.6	6431801.7	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_240369	616712.7	6431798.1	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_240363	616657.1	6431797.2	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_240354	616435.6	6431797.1	36.1	38.1	38.1	36.1	33.1	34.1	38.1	31.1	35	45	75	RR
R_240353	616452.6	6431796.6	36.0	38.0	38.0	36.0	33.0	34.0	38.0	31.0	35	45	75	RR
R_240351	616471.0	6431793.9	36.0	38.0	38.0	36.0	33.0	34.0	38.0	31.0	35	45	75	RR
R_240350	616510.1	6431792.5	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_240349	616490.1	6431791.9	35.9	37.9	37.9	35.9	32.9	33.9	37.9	30.9	35	45	75	RR
R_240348	616533.4	6431790.8	35.8	37.8	37.8	35.8	32.8	33.8	37.8	30.8	35	45	75	RR
R_240360	617243.7	6431789.9	33.2	35.2	35.2	33.2	30.2	31.2	35.2	28.2	35	45	75	RR
R_240346	617165.5	6431783.0	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_240336	616706.3	6431778.5	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_240331	616848.5	6431775.8	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_240330	617240.4	6431770.7	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_240322	616532.5	6431768.1	35.6	37.6	37.6	35.6	32.6	33.6	37.6	30.6	35	45	75	RR
R_240316	616618.4	6431764.4	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_240314	616598.3	6431763.7	35.5	37.5	37.5	35.5	32.5	33.5	37.5	30.5	35	45	75	RR
R_240310	616640.6	6431758.8	35.3	37.3	37.3	35.3	32.3	33.3	37.3	30.3	35	45	75	RR
R_240311	616688.7	6431758.2	35.2	37.2	37.2	35.2	32.2	33.2	37.2	30.2	35	45	75	RR
R_240304	616659.7	6431752.2	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_240302	617153.3	6431745.3	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_240285	616596.8	6431725.7	35.1	37.1	37.1	35.1	32.1	33.1	37.1	30.1	35	45	75	RR
R_240271	616601.1	6431711.3	34.3	36.3	36.3	34.3	31.3	32.3	36.3	29.3	35	45	75	RR
R_240277	617110.6	6431710.8	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_240263	616318.7	6431705.8	35.4	37.4	37.4	35.4	32.4	33.4	37.4	30.4	35	45	75	RR
R_240261	616756.5	6431700.6	34.5	36.5	36.5	34.5	31.5	32.5	36.5	29.5	35	45	75	RR
R_240257	616776.1	6431697.7	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_240248	616830.3	6431688.7	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_240242	616740.2	6431686.0	34.4	36.4	36.4	34.4	31.4	32.4	36.4	29.4	35	45	75	RR
R_240240	616599.7	6431686.0	34.8	36.8	36.8	34.8	31.8	32.8	36.8	29.8	35	45	75	RR
R_240237	616848.4	6431681.1	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_240235	616792.0	6431680.6	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_240232	616810.8	6431677.9	34.1	36.1	36.1	34.1	31.1	32.1	36.1	29.1	35	45	75	RR
R_240223	616907.2	6431671.8	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_240212	616899.0	6431654.4	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_240186	615872.8	6431640.6	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_240190	616745.1	6431632.5	34.0	36.0	36.0	34.0	31.0	32.0	36.0	29.0	35	45	75	RR
R_240193	616924.1	6431632.2	33.5	35.5	35.5	33.5	30.5	31.5	35.5	28.5	35	45	75	RR
R_240191	616804.4	6431632.0	33.8	35.8	35.8	33.8	30.8	31.8	35.8	28.8	35	45	75	RR
R_240188	616785.1	6431631.8	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_240182	616820.3	6431626.2	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_240177	616763.8	6431623.4	33.9	35.9	35.9	33.9	30.9	31.9	35.9	28.9	35	45	75	RR
R_240175	616837.1	6431621.5	33.7	35.7	35.7	33.7	30.7	31.7	35.7	28.7	35	45	75	RR
R_240158	616997.5	6431605.8	33.1	35.1	35.1	33.1	30.1	31.1	35.1	28.1	35	45	75	RR
R_240132	616290.4	6431592.5	38.9	40.9	40.9	38.9	35.9	36.9	40.9	33.9	35	45	75	RR
R_240140	616906.2	6431589.8	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_240002	616237.7	6431476.5	38.8	40.8	40.8	38.8	35.8	36.8	40.8	33.8	35	45	75	RR
R_239979	615174.5	6431054.2	35.0	37.0	37.0	35.0	32.0	33.0	37.0	30.0	35	45	75	RR
R_239958	615314.8	6430926.8	34.6	36.6	36.6	34.6	31.6	32.6	36.6	29.6	35	45	75	RR
R_239949	615233.4	6430884.5	34.3	36.3	36.3	34.3	31.3	32.3	36.3	29.3	35	45	75	RR
R_324824	623563.4	6428048.8	34.2	36.2	36.2	34.2	31.2	32.2	36.2	29.2	35	45	75	RR
R_331738	621078.5	6427833.4	42.5	44.5	44.5	42.5	39.5	40.5	44.5	37.5	35	45	75	RR
R_331744	617475.0	6427522.9	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_331782	617759.9	6427488.8	33.3	35.3	35.3	33.3	30.3	31.3	35.3	28.3	35	45	75	RR
R_325145	617102.3	6426357.7	41.3	43.3	43.3	41.3	38.3	39.3	43.3	36.3	35	45	75	RR
R_324738	616960.3	6425578.3	50.4	52.4	52.4	50.4	47.4	48.4	52.4	45.4	35	45	75	RR
R_324734	617176.4	6425540.7	47.2	49.2	49.2	47.2	44.2	45.2	49.2	42.2	35	45	75	RR

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# TECHNICAL REPORT

# 8

## Noise and vibration assessment – construction and other operations

### **Appendix E** Construction noise impacts: construction infrastructure

NARROMINE TO NARRABRI ENVIRONMENTAL IMPACT STATEMENT



Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
G901581	696153.5	6574483.5	0.0	0.0	62.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.2	65	65	-	ARA
R_246745	769949.2	6647895.2	0.0	0.0	0.0	0.0	0.0	35.2	0.0	0.0	0.0	35.4	0.0	0.0	0.0	35	45	75	RR
R_246693	769711.8	6647434.1	0.0	0.0	0.0	0.0	0.0	45.3	0.0	0.0	0.0	47.3	0.0	0.0	0.0	35	45	75	RR
R_246673	768928.8	6646453.6	0.0	0.0	0.0	0.0	0.0	43.1	0.0	0.0	0.0	43.2	0.0	0.0	0.0	35	45	75	RR
R_246593	765808.2	6644555.2	0.0	0.0	0.0	38.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	0.0	35	45	75	RR
R_246578	765770.7	6644362.9	0.0	0.0	0.0	41.2	0.0	0.0	0.0	0.0	0.0	43.2	0.0	0.0	0.0	35	45	75	RR
R_246567	765573.2	6644194.1	0.0	0.0	0.0	39.6	0.0	0.0	0.0	0.0	0.0	41.6	0.0	0.0	0.0	35	45	75	RR
R_246536	766051.7	6643920.0	0.0	0.0	0.0	47.0	0.0	0.0	0.0	0.0	0.0	49.0	0.0	0.0	0.0	35	45	75	RR
R_246532	766126.0	6643869.3	0.0	0.0	0.0	48.3	0.0	0.0	0.0	0.0	0.0	50.3	0.0	0.0	0.0	35	45	75	RR
R_246517	766337.4	6643704.8	0.0	0.0	0.0	50.2	0.0	0.0	0.0	0.0	0.0	52.2	0.0	0.0	0.0	35	45	75	RR
R_246470	766452.2	6643528.0	0.0	0.0	0.0	46.1	0.0	0.0	0.0	0.0	0.0	47.2	0.0	0.0	0.0	35	45	75	RR
R_246464	766613.2	6643504.1	0.0	0.0	0.0	42.5	0.0	0.0	0.0	0.0	0.0	44.1	0.0	0.0	0.0	35	45	75	RR
R_246457	766623.1	6643489.8	0.0	0.0	0.0	38.2	0.0	0.0	0.0	0.0	0.0	39.8	0.0	0.0	0.0	35	45	75	RR
R_246451	766643.2	6643477.8	0.0	0.0	0.0	44.6	0.0	0.0	0.0	0.0	0.0	46.3	0.0	0.0	0.0	35	45	75	RR
R_246439	766665.2	6643453.4	0.0	0.0	0.0	46.9	0.0	0.0	0.0	0.0	0.0	48.3	0.0	0.0	0.0	35	45	75	RR
R_246433	766693.9	6643440.3	0.0	0.0	0.0	46.9	0.0	0.0	0.0	0.0	0.0	48.5	0.0	0.0	0.0	35	45	75	RR
R_246399	766751.1	6643387.8	0.0	0.0	0.0	45.5	0.0	0.0	0.0	0.0	0.0	47.1	0.0	0.0	0.0	35	45	75	RR
R_246387	766770.3	6643364.2	0.0	0.0	0.0	44.9	0.0	0.0	0.0	0.0	0.0	46.5	0.0	0.0	0.0	35	45	75	RR
R_246369	766830.2	6643326.8	0.0	0.0	0.0	39.0	0.0	0.0	0.0	0.0	0.0	40.6	0.0	0.0	0.0	35	45	75	RR
R_246365	766849.5	6643308.1	0.0	0.0	0.0	43.7	0.0	0.0	0.0	0.0	0.0	45.4	0.0	0.0	0.0	35	45	75	RR
R_246320	764617.1	6643251.2	31.6	26.6	21.6	40.3	28.9	0.0	26.6	0.0	23.0	40.5	0.0	0.0	31.6	35	45	75	RR
R_246333	766838.3	6643231.7	0.0	0.0	0.0	37.0	0.0	0.0	0.0	0.0	0.0	38.9	0.0	0.0	0.0	35	45	75	RR
R_246328	766855.0	6643218.1	0.0	0.0	0.0	38.9	0.0	0.0	0.0	0.0	0.0	40.7	0.0	0.0	0.0	35	45	75	RR
R_246314	766890.7	6643188.3	0.0	0.0	0.0	36.3	0.0	0.0	0.0	0.0	0.0	38.0	0.0	0.0	0.0	35	45	75	RR
R_246310	766906.3	6643167.7	0.0	0.0	0.0	35.8	0.0	0.0	0.0	0.0	0.0	37.6	0.0	0.0	0.0	35	45	75	RR
R_246301	767073.1	6643121.0	0.0	0.0	0.0	34.2	0.0	0.0	0.0	0.0	0.0	36.1	0.0	0.0	0.0	35	45	75	RR
R_246271	764507.5	6643036.4	33.2	28.2	23.2	45.2	30.3	0.0	28.2	0.0	24.2	47.0	0.0	0.0	33.2	35	45	75	RR
R_246233	764420.4	6642972.5	29.1	24.1	19.1	42.1	27.2	0.0	24.1	0.0	24.7	43.7	0.0	0.0	29.1	35	45	75	RR
R_246259	766628.2	6642953.2	0.0	0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	35.8	0.0	0.0	0.0	35	45	75	RR
R_246251	766374.2	6642948.5	0.0	0.0	0.0	39.0	0.0	0.0	0.0	0.0	0.0	41.0	0.0	0.0	0.0	35	45	75	RR
R_246249	766470.4	6642944.6	0.0	0.0	0.0	39.3	0.0	0.0	0.0	0.0	0.0	41.3	0.0	0.0	0.0	35	45	75	RR
R_246242	766414.4	6642935.8	0.0	0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	35.8	0.0	0.0	0.0	35	45	75	RR
R_246238	766443.1	6642930.7	0.0	0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	35.8	0.0	0.0	0.0	35	45	75	RR
R_246241	766608.8	6642930.4	0.0	0.0	0.0	33.7	0.0	0.0	0.0	0.0	0.0	35.5	0.0	0.0	0.0	35	45	75	RR
R_246235	766494.7	6642926.3	0.0	0.0	0.0	33.7	0.0	0.0	0.0	0.0	0.0	35.6	0.0	0.0	0.0	35	45	75	RR
R_246232	766524.8	6642920.3	0.0	0.0	0.0	35.1	0.0	0.0	0.0	0.0	0.0	35.5	0.0	0.0	0.0	35	45	75	RR
R_246224	766586.8	6642898.2	0.0	0.0	0.0	33.4	0.0	0.0	0.0	0.0	0.0	35.2	0.0	0.0	0.0	35	45	75	RR
R_246222	766548.1	6642897.7	0.0	0.0	0.0	33.6	0.0	0.0	0.0	0.0	0.0	35.2	0.0	0.0	0.0	35	45	75	RR
R_246212	766525.7	6642882.4	0.0	0.0	0.0	33.2	0.0	0.0	0.0	0.0	0.0	35.1	0.0	0.0	0.0	35	45	75	RR
R_246196	766565.5	6642855.1	0.0	0.0	0.0	38.7	0.0	0.0	0.0	0.0	0.0	40.5	0.0	0.0	0.0	35	45	75	RR
R_246187	765646.6	6642855.1	25.6	20.6	0.0	30.9	21.8	0.0	20.6	0.0	0.0	37.3	0.0	0.0	0.0	35	45	75	RR
R_246170	766245.6	6642811.0	0.0	0.0	0.0	37.2	0.0	0.0	0.0	0.0	0.0	33.9	0.0	0.0	0.0	35	45	75	RR
R_331682	767442.5	6642757.8	0.0	0.0	0.0	34.9	0.0	0.0	0.0	0.0	0.0	36.9	0.0	0.0	0.0	35	45	75	RR
R_246126	767501.7	6642703.4	0.0	0.0	0.0	34.3	0.0	0.0	0.0	0.0	0.0	36.3	0.0	0.0	0.0	35	45	75	RR
R_246123	767488.8	6642695.4	0.0	0.0	0.0	34.3	0.0	0.0	0.0	0.0	0.0	36.3	0.0	0.0	0.0	35	45	75	RR
R_246054	765318.7	6642635.4	27.7	22.7	16.7	33.7	24.2	0.0	22.7	0.0	23.4	35.4	0.0	0.0	26.7	35	45	75	RR
R_246045	767243.2	6642579.0	0.0	0.0	0.0	29.3	0.0	0.0	0.0	0.0	0.0	36.5	0.0	0.0	0.0	35	45	75	RR
R_245625	761840.0	6642084.5	37.2	32.2	27.2	29.0	29.3	0.0	32.2	0.0	30.5	30.9	0.0	0.0	37.2	35	45	75	RR
R_245639	765242.6	6642038.6	30.1	25.1	18.7	34.1	26.0	0.0	25.1	0.0	25.7	35.6	0.0	0.0	28.7	35	45	75	RR
R_245638	765805.0	6642024.8	28.2	23.2	16.2	34.4	22.9	0.0	23.2	0.0	23.2	36.1	0.0	0.0	26.2	35	45	75	RR
R_245578	764861.7	6641796.5	33.2	28.2	21.5	41.6	29.1	0.0	28.2	0.0	28.4	43.0	0.0	0.0	31.5	35	45	75	RR
R_245560	765314.9	6641723.3	30.8	25.8	19.1	37.2	26.0	0.0	25.8	0.0	26.2	38.7	0.0	0.0	29.1	35	45	75	RR
R_245544	763131.0	6641717.2	43.9	38.9	33.9	37.8	49.4	0.0	38.9	0.0	36.4	48.2	0.0	0.0	43.9	35	45	75	RR
R_245534	763432.2	6641553.7	48.8	43.8	38.8	39.1	58.4	0.0	43.8	0.0	41.2	56.5	0.0	0.0	48.8	35	45	75	RR
R_245524	763416.5	6641528.2	50.1	45.1	40.1	33.1	61.3	0.0	45.1	0.0	38.6	59.8	0.0	0.0	50.1	35	45	75	RR
R_245523	763701.8	6641519.7	47.3	42.3	37.3	40.8	49.2	0.0	42.3	0.0	37.5	50.0	0.0	0.0	47.3	35	45	75	RR
R_245517	763446.2	6641505.2	50.2	45.2	40.2	37.8	62.8	0.0	45.2	0.0	41.9	59.6	0.0	0.0	50.2	35	45	75	RR
R_245512	763542.5	6641447.1	50.4	45.4	40.2	39.0	59.8	0.0	45.4	0.0	41.4	56.7	0.0	0.0	50.2	35	45	75	RR
R_245497	764364.2	6641287.3	41.5	36.5	26.7	37.6	36.1	0.0	36.5	0.0	34.1	38.9	0.0	0.0	36.7	35	45	75	RR
R_245496	764982.8	6641271.6	34.3	29.3	21.8	36.3	28.5	0.0	29.3	0.0	29.3	37.9	0.0	0.0	31.8	35	45	75	RR
R_245502	765229.7	6641269.8	32.5	27.5	20.2	33.6	26.7	0.0	27.5	0.0	27.7	35.4	0.0	0.0	30.2	35	45	75	RR
R_245494	764952.4	6641265.5	34.6	29.6	22.1	35.1	28.7	0.0	29.6	0.0	29.6	36.7	0.0	0.0	32.1	35	45	75	RR
R_245491	765017.0	6641258.7	34.1	29.1	21.6	36.0	28.2	0.0	29.1	0.0	29.1	37.6	0.0	0.0	31.6	35	45	75	RR
R_245489	765044.2	6641253.4	34.0	29.0	21.5	35.8	28.1	0.0	29.0	0.0	29.0	37.4	0.0	0.0	31.5	35	45	75	RR
R_245488	765070.5	6641250.9	33.7	28.7	21.3	34.5	27.8	0.0	28.7	0.0	28.8	36.0	0.0	0.0	31.3	35	45	75	RR
R_245459	763475.3	6641248.0	55.2	50.2	44.2	37.0	60.3	0.0	50.2	0.0	48.8	57.6	0.0	0.0	54.2	35	45	75	RR
R_245484	765105.5	6641245.2	33.5	28.5	21.1	35.5	27.5	0.0	28.5	0.0	28.6	37.1	0.0	0.0	31.1	35	45	75	RR
R_245481	765160.9	6641242.7	33.0	28.0	20.7	35.2	27.1	0.0	28.0	0.0	28.2								

Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
R_245424	764346.3	6641195.9	44.6	39.6	27.1	38.2	37.2	0.0	39.6	0.0	34.7	39.3	0.0	0.0	37.1	35	45	75	RR
R_245434	764814.0	6641193.4	35.9	30.9	23.1	36.5	29.8	0.0	30.9	0.0	30.7	32.6	0.0	0.0	33.1	35	45	75	RR
R_245450	765358.8	6641191.8	31.8	26.8	19.5	33.8	25.8	0.0	26.8	0.0	27.0	35.5	0.0	0.0	29.5	35	45	75	RR
R_245429	764844.1	6641186.7	35.7	30.7	22.9	36.3	29.5	0.0	30.7	0.0	30.5	37.8	0.0	0.0	32.9	35	45	75	RR
R_245423	764881.2	6641182.4	35.4	30.4	22.6	31.6	29.2	0.0	30.4	0.0	30.2	32.6	0.0	0.0	32.6	35	45	75	RR
R_245440	764916.1	6641179.1	35.1	30.1	22.4	36.0	28.9	0.0	30.1	0.0	30.0	37.5	0.0	0.0	32.4	35	45	75	RR
R_245416	764896.1	6641176.5	35.2	30.2	22.5	30.1	28.0	0.0	30.2	0.0	30.1	31.7	0.0	0.0	32.5	35	45	75	RR
R_245412	764940.5	6641170.2	35.0	30.0	22.3	34.5	28.8	0.0	30.0	0.0	29.9	36.0	0.0	0.0	32.3	35	45	75	RR
R_245401	764973.3	6641163.2	34.7	29.7	22.0	35.5	28.5	0.0	29.7	0.0	29.6	31.8	0.0	0.0	32.0	35	45	75	RR
R_245395	764718.0	6641162.9	36.8	31.8	23.9	36.7	30.5	0.0	31.8	0.0	31.5	38.1	0.0	0.0	33.9	35	45	75	RR
R_245381	764742.2	6641153.9	36.7	31.7	23.7	36.5	30.3	0.0	31.7	0.0	31.3	37.9	0.0	0.0	33.7	35	45	75	RR
R_245377	764777.6	6641150.8	36.4	31.4	23.5	36.4	30.0	0.0	31.4	0.0	31.1	37.8	0.0	0.0	33.5	35	45	75	RR
R_245374	764710.7	6641147.0	37.0	32.0	23.9	36.6	30.5	0.0	32.0	0.0	31.6	38.0	0.0	0.0	33.9	35	45	75	RR
R_245367	764844.5	6641137.9	35.8	30.8	22.9	31.4	29.4	0.0	30.8	0.0	30.6	31.7	0.0	0.0	32.9	35	45	75	RR
R_245361	764880.6	6641131.9	35.5	30.5	22.7	35.3	29.2	0.0	30.5	0.0	30.3	36.0	0.0	0.0	32.7	35	45	75	RR
R_245358	764705.2	6641130.2	37.1	32.1	24.0	36.5	30.5	0.0	32.1	0.0	31.7	37.8	0.0	0.0	34.0	35	45	75	RR
R_245356	764837.3	6641124.9	35.9	30.9	23.0	30.1	29.4	0.0	30.9	0.0	30.6	31.6	0.0	0.0	33.0	35	45	75	RR
R_245357	764904.1	6641124.4	35.3	30.3	22.5	29.9	29.0	0.0	30.3	0.0	30.2	31.4	0.0	0.0	32.5	35	45	75	RR
R_245352	764770.0	6641123.1	36.5	31.5	23.5	34.4	30.0	0.0	31.5	0.0	31.1	31.9	0.0	0.0	33.5	35	45	75	RR
R_245353	764926.8	6641119.8	35.1	30.1	22.4	29.8	28.7	0.0	30.1	0.0	30.0	31.3	0.0	0.0	32.4	35	45	75	RR
R_245344	764697.3	6641113.5	37.2	32.2	24.1	36.4	30.6	0.0	32.2	0.0	31.8	37.7	0.0	0.0	34.1	35	45	75	RR
R_245341	764755.3	6641110.9	36.7	31.7	23.6	30.5	30.1	0.0	31.7	0.0	31.3	31.9	0.0	0.0	33.6	35	45	75	RR
R_245339	764662.1	6641110.4	37.6	32.6	24.4	36.5	30.9	0.0	32.6	0.0	32.1	37.8	0.0	0.0	34.4	35	45	75	RR
R_245340	764866.3	6641107.1	35.7	30.7	22.8	35.2	29.2	0.0	30.7	0.0	30.5	36.9	0.0	0.0	32.8	35	45	75	RR
R_245334	764681.8	6641103.0	37.7	32.7	24.2	36.3	30.7	0.0	32.7	0.0	31.9	37.7	0.0	0.0	34.2	35	45	75	RR
R_245330	764881.7	6641096.9	35.5	30.5	22.7	28.5	29.0	0.0	30.5	0.0	30.3	30.3	0.0	0.0	32.7	35	45	75	RR
R_245324	764748.4	6641094.8	36.7	31.7	23.7	30.3	30.1	0.0	31.7	0.0	31.4	31.7	0.0	0.0	33.7	35	45	75	RR
R_245321	764901.9	6641085.9	35.4	30.4	22.6	29.6	28.9	0.0	30.4	0.0	30.2	31.1	0.0	0.0	32.6	35	45	75	RR
R_245313	764735.2	6641079.9	36.9	31.9	23.8	30.2	30.2	0.0	31.9	0.0	31.5	31.6	0.0	0.0	33.8	35	45	75	RR
R_245310	764654.4	6641079.0	37.8	32.8	24.5	36.3	30.9	0.0	32.8	0.0	32.2	37.6	0.0	0.0	34.5	35	45	75	RR
R_245314	764918.1	6641076.8	35.3	30.3	22.4	28.6	28.7	0.0	30.3	0.0	30.1	30.2	0.0	0.0	32.4	35	45	75	RR
R_245311	764805.5	6641076.5	36.3	31.3	23.3	29.9	29.6	0.0	31.3	0.0	31.0	31.4	0.0	0.0	33.3	35	45	75	RR
R_245309	764935.8	6641071.6	35.1	30.1	22.3	29.4	28.6	0.0	30.1	0.0	30.0	30.9	0.0	0.0	32.3	35	45	75	RR
R_245294	764677.4	6641064.6	37.5	32.5	24.3	30.3	30.6	0.0	32.5	0.0	32.0	31.9	0.0	0.0	34.3	35	45	75	RR
R_245296	764727.7	6641063.4	37.0	32.0	23.9	30.2	30.2	0.0	32.0	0.0	31.6	31.6	0.0	0.0	33.9	35	45	75	RR
R_245295	764827.7	6641061.0	35.3	30.3	22.2	34.0	29.4	0.0	30.3	0.0	30.6	35.7	0.0	0.0	32.2	35	45	75	RR
R_245290	764689.2	6641058.7	37.4	32.4	24.2	30.2	30.5	0.0	32.4	0.0	31.9	31.8	0.0	0.0	34.2	35	45	75	RR
R_245283	764793.1	6641050.4	36.4	31.4	23.4	29.8	29.7	0.0	31.4	0.0	31.1	31.2	0.0	0.0	33.4	35	45	75	RR
R_245286	764840.9	6641050.1	36.0	31.0	23.0	35.3	29.3	0.0	31.0	0.0	30.8	31.6	0.0	0.0	33.0	35	45	75	RR
R_245279	764855.8	6641041.0	35.9	30.9	22.3	29.5	29.1	0.0	30.9	0.0	30.6	30.9	0.0	0.0	32.3	35	45	75	RR
R_245276	764712.9	6641040.8	37.4	32.4	24.0	35.7	30.3	0.0	32.4	0.0	31.8	31.6	0.0	0.0	34.0	35	45	75	RR
R_245268	764782.9	6641030.5	36.6	31.6	23.5	29.7	29.7	0.0	31.6	0.0	31.3	31.1	0.0	0.0	33.5	35	45	75	RR
R_245264	764618.5	6641030.0	38.2	33.2	24.8	35.9	31.1	0.0	33.2	0.0	32.6	37.3	0.0	0.0	34.8	35	45	75	RR
R_245265	764870.7	6641026.4	35.9	30.9	22.8	29.5	29.0	0.0	30.9	0.0	30.6	31.2	0.0	0.0	32.8	35	45	75	RR
R_245262	764886.9	6641019.0	35.6	30.6	22.7	29.2	28.4	0.0	30.6	0.0	30.4	30.7	0.0	0.0	32.7	35	45	75	RR
R_245259	764775.0	6641014.9	36.9	31.9	23.5	29.7	29.8	0.0	31.9	0.0	31.3	31.1	0.0	0.0	33.5	35	45	75	RR
R_245251	764494.8	6641014.8	42.5	37.5	25.9	36.2	32.2	0.0	37.5	0.0	33.8	37.4	0.0	0.0	35.9	35	45	75	RR
R_245255	764798.8	6641010.9	36.5	31.5	23.4	29.5	29.5	0.0	31.5	0.0	31.2	30.9	0.0	0.0	33.4	35	45	75	RR
R_245258	764900.6	6641009.9	35.6	30.6	22.6	29.2	28.8	0.0	30.6	0.0	30.4	30.6	0.0	0.0	32.6	35	45	75	RR
R_245241	764509.7	6641006.0	43.3	38.3	25.7	36.0	31.9	0.0	38.3	0.0	33.6	37.3	0.0	0.0	35.7	35	45	75	RR
R_245252	764916.9	6641005.2	35.4	30.4	22.4	28.9	27.5	0.0	30.4	0.0	30.2	30.5	0.0	0.0	32.4	35	45	75	RR
R_245246	764763.1	6641003.1	37.0	32.0	23.6	29.6	29.8	0.0	32.0	0.0	31.4	31.1	0.0	0.0	33.6	35	45	75	RR
R_245234	764528.7	6640997.4	42.4	37.4	25.5	35.9	31.7	0.0	37.4	0.0	33.5	37.2	0.0	0.0	35.5	35	45	75	RR
R_245240	764950.0	6640995.2	35.2	30.2	22.3	28.9	28.4	0.0	30.2	0.0	30.1	30.4	0.0	0.0	32.3	35	45	75	RR
R_245237	764784.5	6640993.7	36.7	31.7	23.5	27.6	29.6	0.0	31.7	0.0	31.3	30.9	0.0	0.0	33.5	35	45	75	RR
R_245235	764846.9	6640990.6	36.1	31.1	23.0	29.2	29.1	0.0	31.1	0.0	30.8	30.7	0.0	0.0	33.0	35	45	75	RR
R_245233	764804.9	6640987.5	36.4	31.4	23.3	29.3	29.4	0.0	31.4	0.0	31.1	30.8	0.0	0.0	33.3	35	45	75	RR
R_245232	764685.7	6640986.3	37.3	32.3	22.8	29.7	30.4	0.0	32.3	0.0	30.9	31.7	0.0	0.0	32.8	35	45	75	RR
R_245224	764543.4	6640983.3	39.6	34.6	25.4	30.1	31.5	0.0	34.6	0.0	33.3	32.8	0.0	0.0	35.4	35	45	75	RR
R_245225	764819.0	6640978.4	36.3	31.3	23.2	29.2	29.3	0.0	31.3	0.0	31.0	30.6	0.0	0.0	33.2	35	45	75	RR
R_245228	764945.7	6640976.3	35.2	30.2	22.3	28.7	28.3	0.0	30.2	0.0	30.1	30.2	0.0	0.0	32.3	35	45	75	RR
R_245218	764563.3	6640975.3	42.9	37.9	25.3	35.6	31.5	0.0	37.9	0.0	33.3	36.9	0.0	0.0	35.3	35	45	75	RR
R_245219	764834.8	6640969.6	36.2	31.2	23.1	29.0	29.1	0.0	31.2	0.0	30.9	30.5	0.0	0.0	33.1	35	45	75	RR
R_245216	764671.4	6640969.4	37.8	32.8	24.4	29.6	30.5	0.0	32.8	0.0	32.3	31.8	0.0	0.0	34.4	35	45	75	RR
R_245214	764583.6	6640968.0	38.7	33.7	25.1	33.6	30.0	0.0	33.7	0.0	33.0	35.6	0.0	0.0	35.1	35	45	75	RR
R_245210	764279.1	6640966.4	46.1	41.1	28.0	30.4	34.6	0.0	41.1	0.0	39.9	35.3	0.0	0.0	38.0	35	45	75	RR



Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
R_245182	764439.5	6640916.6	43.8	38.8	26.4	35.0	32.3	0.0	38.8	0.0	34.5	36.7	0.0	0.0	36.4	35	45	75	RR
R_245184	764709.1	6640914.6	37.5	32.5	24.1	29.1	30.0	0.0	32.5	0.0	32.0	31.3	0.0	0.0	34.1	35	45	75	RR
R_245185	764799.6	6640913.4	36.6	31.6	23.3	28.7	29.2	0.0	31.6	0.0	31.2	30.6	0.0	0.0	33.3	35	45	75	RR
R_245188	764908.2	6640912.9	35.6	30.6	22.5	28.4	28.5	0.0	30.6	0.0	30.4	29.9	0.0	0.0	32.5	35	45	75	RR
R_245167	763848.3	6640912.2	53.2	48.2	36.4	34.1	43.1	0.0	48.2	0.0	42.7	42.7	0.0	0.0	46.4	35	45	75	RR
R_245181	764818.2	6640905.6	36.4	31.4	23.2	28.7	29.1	0.0	31.4	0.0	31.1	30.5	0.0	0.0	33.2	35	45	75	RR
R_245175	764542.3	6640904.3	39.6	34.6	25.4	29.6	31.3	0.0	34.6	0.0	33.5	32.6	0.0	0.0	35.4	35	45	75	RR
R_245170	764422.0	6640901.1	43.5	38.5	26.5	33.2	32.3	0.0	38.5	0.0	34.7	33.6	0.0	0.0	36.5	35	45	75	RR
R_245172	764563.4	6640898.4	42.1	37.1	25.3	29.6	31.1	0.0	37.1	0.0	33.3	32.4	0.0	0.0	35.3	35	45	75	RR
R_245161	764339.1	6640897.5	45.7	40.7	27.4	35.4	33.1	0.0	40.7	0.0	35.7	36.4	0.0	0.0	37.4	35	45	75	RR
R_332902	764960.9	6640894.7	35.1	30.1	22.2	28.1	28.0	0.0	30.1	0.0	30.0	29.6	0.0	0.0	32.2	35	45	75	RR
R_245162	764582.4	6640891.9	38.8	33.8	25.0	29.4	30.9	0.0	33.8	0.0	32.2	32.2	0.0	0.0	35.0	35	45	75	RR
R_245171	764829.8	6640891.4	36.3	31.3	23.1	28.5	29.0	0.0	31.3	0.0	31.1	30.4	0.0	0.0	33.1	35	45	75	RR
R_245156	764438.2	6640890.4	44.9	39.9	26.4	29.5	32.2	0.0	39.9	0.0	34.6	33.4	0.0	0.0	36.4	35	45	75	RR
R_245164	764695.5	6640890.3	37.7	32.7	24.2	29.2	30.0	0.0	32.7	0.0	32.2	31.4	0.0	0.0	34.2	35	45	75	RR
R_245155	764595.5	6640885.0	38.7	33.7	25.0	29.3	30.8	0.0	33.7	0.0	33.0	32.1	0.0	0.0	35.0	35	45	75	RR
R_245159	764842.6	6640881.9	36.2	31.2	23.0	28.4	28.9	0.0	31.2	0.0	31.0	30.3	0.0	0.0	33.0	35	45	75	RR
R_245144	764454.1	6640877.3	43.7	38.7	26.2	29.3	31.7	0.0	38.7	0.0	34.4	33.2	0.0	0.0	36.2	35	45	75	RR
R_245150	764715.1	6640877.0	37.4	32.4	24.0	28.7	29.8	0.0	32.4	0.0	32.0	31.1	0.0	0.0	34.0	35	45	75	RR
R_245146	764601.1	6640875.1	38.6	33.6	24.8	29.1	30.7	0.0	33.6	0.0	32.8	32.0	0.0	0.0	34.8	35	45	75	RR
R_332630	764882.9	6640874.2	35.8	30.8	22.6	28.2	28.5	0.0	30.8	0.0	30.6	29.9	0.0	0.0	32.6	35	45	75	RR
R_245139	764615.4	6640870.0	38.5	33.5	24.8	29.1	30.6	0.0	33.5	0.0	32.9	31.9	0.0	0.0	34.8	35	45	75	RR
R_245142	764731.8	6640869.7	37.3	32.3	23.8	28.7	29.7	0.0	32.3	0.0	31.8	31.0	0.0	0.0	33.8	35	45	75	RR
R_245135	764472.6	6640865.1	44.5	39.5	26.0	29.3	31.8	0.0	39.5	0.0	34.2	33.1	0.0	0.0	36.0	35	45	75	RR
R_245138	764747.6	6640863.0	37.2	32.2	23.7	28.6	29.5	0.0	32.2	0.0	31.7	30.9	0.0	0.0	33.7	35	45	75	RR
R_245132	764762.9	6640855.5	37.0	32.0	23.6	28.5	29.4	0.0	32.0	0.0	31.6	30.7	0.0	0.0	33.6	35	45	75	RR
R_332678	764870.7	6640854.6	35.9	30.9	22.8	28.2	28.6	0.0	30.9	0.0	30.7	30.0	0.0	0.0	32.8	35	45	75	RR
R_245128	764491.1	6640853.8	40.4	35.4	25.9	29.2	31.6	0.0	35.4	0.0	34.1	32.9	0.0	0.0	35.9	35	45	75	RR
R_245120	764505.1	6640845.2	39.9	34.9	25.7	29.1	31.4	0.0	34.9	0.0	33.9	32.7	0.0	0.0	35.7	35	45	75	RR
R_245126	764777.8	6640844.5	36.8	31.8	23.4	28.3	29.2	0.0	31.8	0.0	31.5	30.6	0.0	0.0	33.4	35	45	75	RR
R_333415	764862.8	6640842.1	36.0	31.0	22.8	28.1	28.6	0.0	31.0	0.0	30.8	30.0	0.0	0.0	32.8	35	45	75	RR
R_245114	764385.6	6640839.2	44.1	39.1	26.9	29.2	32.4	0.0	39.1	0.0	35.2	33.7	0.0	0.0	36.9	35	45	75	RR
R_332865	764932.2	6640838.2	35.4	30.4	22.3	27.8	28.1	0.0	30.4	0.0	30.3	29.5	0.0	0.0	32.3	35	45	75	RR
R_245118	764796.8	6640837.0	36.7	31.7	23.3	28.3	29.1	0.0	31.7	0.0	31.4	30.5	0.0	0.0	33.3	35	45	75	RR
R_245113	764521.6	6640833.0	39.9	34.9	25.5	28.9	31.1	0.0	34.9	0.0	33.8	32.5	0.0	0.0	35.5	35	45	75	RR
R_245115	764655.4	6640832.8	38.1	33.1	24.4	28.7	30.1	0.0	33.1	0.0	32.6	31.5	0.0	0.0	34.4	35	45	75	RR
R_245111	764581.4	6640829.4	42.1	37.1	25.1	28.9	30.8	0.0	37.1	0.0	33.2	32.1	0.0	0.0	35.1	35	45	75	RR
R_245112	764672.4	6640828.3	37.9	32.9	24.3	28.5	30.0	0.0	32.9	0.0	32.4	31.3	0.0	0.0	34.3	35	45	75	RR
R_332696	764807.9	6640827.7	36.5	31.5	23.2	28.2	28.9	0.0	31.5	0.0	31.2	30.3	0.0	0.0	33.2	35	45	75	RR
R_332677	764852.5	6640823.8	36.1	31.1	22.9	28.0	28.6	0.0	31.1	0.0	30.9	30.1	0.0	0.0	32.9	35	45	75	RR
R_245107	764429.1	6640823.6	44.0	39.0	26.4	34.2	32.0	0.0	39.0	0.0	34.7	33.3	0.0	0.0	36.4	35	45	75	RR
R_245106	764539.0	6640820.9	41.7	36.7	25.4	28.8	31.0	0.0	36.7	0.0	33.6	32.4	0.0	0.0	35.4	35	45	75	RR
R_332794	764919.2	6640819.6	35.5	30.5	22.4	27.8	28.1	0.0	30.5	0.0	30.4	29.6	0.0	0.0	32.4	35	45	75	RR
R_333032	764960.8	6640818.5	35.2	30.2	22.2	27.6	27.9	0.0	30.2	0.0	30.1	29.3	0.0	0.0	32.2	35	45	75	RR
R_245104	764398.0	6640815.5	42.7	37.7	26.7	34.3	32.1	0.0	37.7	0.0	35.0	35.8	0.0	0.0	36.7	35	45	75	RR
R_245105	764687.7	6640814.3	37.7	32.7	24.2	28.4	29.8	0.0	32.7	0.0	32.3	31.2	0.0	0.0	34.2	35	45	75	RR
R_245103	764445.6	6640814.1	40.1	35.1	26.1	28.9	31.5	0.0	35.1	0.0	34.5	32.5	0.0	0.0	36.1	35	45	75	RR
R_332676	764821.0	6640810.2	36.4	31.4	23.1	28.0	28.8	0.0	31.4	0.0	31.1	30.2	0.0	0.0	33.1	35	45	75	RR
R_245101	764703.5	6640806.9	37.5	32.5	24.0	28.3	29.6	0.0	32.5	0.0	32.1	31.0	0.0	0.0	34.0	35	45	75	RR
R_245097	764469.5	6640801.1	40.3	35.3	26.0	28.8	31.5	0.0	35.3	0.0	34.3	32.9	0.0	0.0	36.0	35	45	75	RR
R_245096	764567.0	6640798.0	39.1	34.1	25.2	28.6	30.7	0.0	34.1	0.0	33.4	32.1	0.0	0.0	35.2	35	45	75	RR
R_333412	764838.7	6640797.2	36.2	31.2	23.0	27.8	28.6	0.0	31.2	0.0	31.0	30.0	0.0	0.0	33.0	35	45	75	RR
R_332938	764726.6	6640796.8	37.3	32.3	23.8	28.2	29.5	0.0	32.3	0.0	31.9	30.9	0.0	0.0	33.8	35	45	75	RR
R_332976	764947.8	6640796.4	35.3	30.3	22.2	27.5	27.9	0.0	30.3	0.0	30.2	29.4	0.0	0.0	32.2	35	45	75	RR
R_245093	764425.5	6640792.5	41.3	36.3	26.4	28.8	31.8	0.0	36.3	0.0	34.8	33.1	0.0	0.0	36.4	35	45	75	RR
R_332973	764740.9	6640789.2	37.2	32.2	23.7	28.1	29.3	0.0	32.2	0.0	31.8	30.7	0.0	0.0	33.7	35	45	75	RR
R_245091	764497.0	6640782.8	40.3	35.3	25.7	28.6	31.2	0.0	35.3	0.0	34.0	32.5	0.0	0.0	35.7	35	45	75	RR
R_245090	764618.7	6640778.9	38.4	33.4	24.7	28.3	30.2	0.0	33.4	0.0	32.9	31.6	0.0	0.0	34.7	35	45	75	RR
R_245088	764442.0	6640778.6	41.2	36.2	26.2	28.6	31.6	0.0	36.2	0.0	34.6	33.0	0.0	0.0	36.2	35	45	75	RR
R_332974	764759.0	6640776.8	36.1	31.1	23.3	27.9	29.1	0.0	31.1	0.0	31.4	30.5	0.0	0.0	33.3	35	45	75	RR
R_332796	764888.1	6640776.7	35.8	30.8	22.6	27.5	28.2	0.0	30.8	0.0	30.6	29.6	0.0	0.0	32.6	35	45	75	RR
R_245084	764510.2	6640773.4	40.1	35.1	25.6	28.5	31.0	0.0	35.1	0.0	33.9	32.4	0.0	0.0	35.6	35	45	75	RR
R_245083	764635.2	6640768.4	38.3	33.3	24.5	28.2	30.0	0.0	33.3	0.0	32.8	31.4	0.0	0.0	34.5	35	45	75	RR
R_332719	764774.0	6640767.6	36.8	31.8	23.4	27.8	29.0	0.0	31.8	0.0	31.5	30.4	0.0	0.0	33.4	35	45	75	RR
R_245081	764524.4	6640764.0	39.3	34.3	25.5	28.4	30.5	0.0	34.3	0.0	33.7	31.6	0.0	0.0	35.5	35	45	75	RR
R_332722	764899.4	6640760.1	35.7	30.7	22.5	27.4	28.1	0.0	30.7	0.0	30.5	29.5	0.0	0.0	32.5	35	45	75	RR



Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
R_332953	764719.4	6640711.6	37.4	32.4	23.8	27.6	29.2	0.0	32.4	0.0	32.0	30.6	0.0	0.0	33.8	35	45	75	RR
R_333318	764516.6	6640701.9	39.6	34.6	25.4	27.9	30.6	0.0	34.6	0.0	33.8	32.0	0.0	0.0	35.4	35	45	75	RR
R_333333	764578.1	6640701.5	38.8	33.8	24.9	27.8	30.2	0.0	33.8	0.0	33.2	31.5	0.0	0.0	34.9	35	45	75	RR
R_332698	764892.8	6640701.1	35.7	30.7	22.5	27.0	28.0	0.0	30.7	0.0	30.6	29.4	0.0	0.0	32.5	35	45	75	RR
R_333301	764738.2	6640701.0	37.1	32.1	23.6	27.5	29.0	0.0	32.1	0.0	31.8	30.4	0.0	0.0	33.6	35	45	75	RR
R_332914	764848.4	6640694.6	36.1	31.1	22.8	27.2	28.3	0.0	31.1	0.0	30.9	29.7	0.0	0.0	32.8	35	45	75	RR
R_333008	764640.0	6640692.1	38.2	33.2	24.4	27.7	29.7	0.0	33.2	0.0	32.7	31.1	0.0	0.0	34.4	35	45	75	RR
R_332784	764906.4	6640690.7	35.6	30.6	22.4	26.9	27.8	0.0	30.6	0.0	30.5	29.3	0.0	0.0	32.4	35	45	75	RR
R_332996	764560.5	6640687.4	39.0	34.0	25.0	27.8	30.2	0.0	34.0	0.0	33.4	31.7	0.0	0.0	35.0	35	45	75	RR
R_332897	764616.3	6640685.7	38.0	33.0	24.5	27.5	29.6	0.0	33.0	0.0	32.9	31.1	0.0	0.0	34.5	35	45	75	RR
R_333009	764663.9	6640682.5	37.9	32.9	24.2	27.5	29.5	0.0	32.9	0.0	32.5	30.9	0.0	0.0	34.2	35	45	75	RR
R_333406	764831.2	6640679.4	36.2	31.2	22.9	27.1	28.3	0.0	31.2	0.0	31.1	29.7	0.0	0.0	32.9	35	45	75	RR
R_333359	764556.0	6640677.9	39.1	34.1	25.0	27.7	30.1	0.0	34.1	0.0	33.4	31.6	0.0	0.0	35.0	35	45	75	RR
R_332700	764936.6	6640674.7	35.3	30.3	22.1	26.7	27.5	0.0	30.3	0.0	30.3	29.0	0.0	0.0	32.1	35	45	75	RR
R_333191	764673.9	6640672.3	37.7	32.7	24.1	27.4	29.3	0.0	32.7	0.0	32.4	30.7	0.0	0.0	34.1	35	45	75	RR
R_333192	764688.0	6640662.7	37.3	32.3	23.9	27.3	29.1	0.0	32.3	0.0	32.3	30.6	0.0	0.0	33.9	35	45	75	RR
R_333058	764926.8	6640658.4	35.5	30.5	22.3	26.8	27.7	0.0	30.5	0.0	30.4	29.2	0.0	0.0	32.3	35	45	75	RR
R_333338	764565.6	6640652.1	38.9	33.9	24.9	27.5	30.0	0.0	33.9	0.0	33.4	31.5	0.0	0.0	34.9	35	45	75	RR
R_332799	764707.2	6640651.9	37.4	32.4	23.8	27.2	29.0	0.0	32.4	0.0	32.1	30.5	0.0	0.0	33.8	35	45	75	RR
R_332847	764809.6	6640651.6	36.4	31.4	23.0	27.0	28.3	0.0	31.4	0.0	31.2	29.8	0.0	0.0	33.0	35	45	75	RR
R_333159	764724.9	6640648.2	37.2	32.2	23.6	27.1	28.9	0.0	32.2	0.0	31.9	30.3	0.0	0.0	33.6	35	45	75	RR
R_333465	764819.0	6640646.0	36.2	31.2	22.9	23.5	28.2	0.0	31.2	0.0	31.1	29.7	0.0	0.0	32.9	35	45	75	RR
R_332641	764579.1	6640643.7	38.7	33.7	24.8	27.4	29.9	0.0	33.7	0.0	33.2	31.3	0.0	0.0	34.8	35	45	75	RR
R_332699	764929.4	6640641.1	35.4	30.4	22.2	26.6	27.6	0.0	30.4	0.0	30.3	29.0	0.0	0.0	32.2	35	45	75	RR
R_332969	764590.3	6640638.2	38.6	33.6	24.7	27.4	29.8	0.0	33.6	0.0	33.1	31.2	0.0	0.0	34.7	35	45	75	RR
R_332917	764741.8	6640632.9	37.1	32.1	23.5	27.0	28.7	0.0	32.1	0.0	31.8	30.2	0.0	0.0	33.5	35	45	75	RR
R_333355	764847.9	6640632.8	35.9	30.9	22.6	26.7	27.9	0.0	30.9	0.0	30.9	28.8	0.0	0.0	32.6	35	45	75	RR
R_332970	764603.1	6640631.8	38.5	33.5	24.6	27.3	29.7	0.0	33.5	0.0	33.0	31.1	0.0	0.0	34.6	35	45	75	RR
R_332957	764897.7	6640629.6	35.6	30.6	22.4	26.6	27.7	0.0	30.6	0.0	30.5	29.2	0.0	0.0	32.4	35	45	75	RR
R_333185	764868.0	6640626.5	35.8	30.8	22.5	26.6	26.8	0.0	30.8	0.0	30.7	28.2	0.0	0.0	32.5	35	45	75	RR
R_332979	764512.9	6640625.2	39.5	34.5	25.3	27.4	30.4	0.0	34.5	0.0	33.9	31.7	0.0	0.0	35.3	35	45	75	RR
R_332918	764616.6	6640620.2	38.3	33.3	24.4	27.2	29.6	0.0	33.3	0.0	32.9	31.0	0.0	0.0	34.4	35	45	75	RR
R_332697	764916.4	6640616.0	35.4	30.4	22.2	26.5	27.5	0.0	30.4	0.0	30.4	29.0	0.0	0.0	32.2	35	45	75	RR
R_332988	764725.4	6640614.2	37.2	32.2	23.6	26.9	28.7	0.0	32.2	0.0	31.9	30.2	0.0	0.0	33.6	35	45	75	RR
R_332683	764786.8	6640606.4	36.6	31.6	23.1	26.7	28.3	0.0	31.6	0.0	31.4	29.8	0.0	0.0	33.1	35	45	75	RR
R_332800	764634.5	6640602.8	38.1	33.1	24.2	27.0	29.3	0.0	33.1	0.0	32.7	30.8	0.0	0.0	34.2	35	45	75	RR
R_332811	764887.5	6640602.7	35.6	30.6	22.4	26.4	27.7	0.0	30.6	0.0	30.6	29.1	0.0	0.0	32.4	35	45	75	RR
R_332915	764919.9	6640597.9	35.4	30.4	22.2	26.3	27.4	0.0	30.4	0.0	30.3	28.9	0.0	0.0	32.2	35	45	75	RR
R_333202	764506.9	6640596.2	39.5	34.5	25.3	27.2	30.2	0.0	34.5	0.0	33.9	31.6	0.0	0.0	35.3	35	45	75	RR
R_333392	764646.6	6640595.6	37.9	32.9	24.1	27.0	29.2	0.0	32.9	0.0	32.6	30.7	0.0	0.0	34.1	35	45	75	RR
R_332801	764658.9	6640592.1	37.8	32.8	24.1	26.9	29.1	0.0	32.8	0.0	32.5	30.6	0.0	0.0	34.1	35	45	75	RR
R_333329	764713.2	6640589.3	37.2	32.2	23.6	26.7	28.7	0.0	32.2	0.0	32.0	30.2	0.0	0.0	33.6	35	45	75	RR
R_332810	764910.6	6640588.0	35.4	30.4	22.2	26.3	27.5	0.0	30.4	0.0	30.4	29.0	0.0	0.0	32.2	35	45	75	RR
R_333417	764818.5	6640587.6	36.2	31.2	22.8	26.5	28.0	0.0	31.2	0.0	31.1	29.5	0.0	0.0	32.8	35	45	75	RR
R_332684	764799.4	6640586.9	36.4	31.4	23.0	26.1	28.1	0.0	31.4	0.0	31.3	29.6	0.0	0.0	33.0	35	45	75	RR
R_333304	764563.9	6640585.2	38.8	33.8	24.8	27.0	29.8	0.0	33.8	0.0	33.3	31.2	0.0	0.0	34.8	35	45	75	RR
R_332682	764772.3	6640583.8	36.7	31.7	23.2	26.6	28.3	0.0	31.7	0.0	31.5	29.8	0.0	0.0	33.2	35	45	75	RR
R_332802	764669.5	6640583.7	37.7	32.7	23.9	26.8	29.0	0.0	32.7	0.0	32.4	30.5	0.0	0.0	33.9	35	45	75	RR
R_332803	764684.5	6640579.7	37.5	32.5	23.8	26.8	28.9	0.0	32.5	0.0	32.2	30.4	0.0	0.0	33.8	35	45	75	RR
R_333367	764574.5	6640576.4	38.6	33.6	24.6	27.0	29.4	0.0	33.6	0.0	33.2	31.0	0.0	0.0	34.6	35	45	75	RR
R_333152	764506.4	6640574.2	39.5	34.5	25.2	27.0	30.2	0.0	34.5	0.0	33.9	31.5	0.0	0.0	35.2	35	45	75	RR
R_333433	764833.0	6640570.3	36.1	31.1	22.7	26.4	27.9	0.0	31.1	0.0	31.0	29.4	0.0	0.0	32.7	35	45	75	RR
R_245053	763996.4	6640570.2	53.2	48.2	33.6	27.3	35.1	0.0	48.2	0.0	45.7	35.0	0.0	0.0	43.6	35	45	75	RR
R_332804	764701.8	6640569.8	37.3	32.3	23.6	25.4	28.6	0.0	32.3	0.0	32.0	27.2	0.0	0.0	33.6	35	45	75	RR
R_332919	764587.6	6640569.2	38.5	33.5	24.5	26.9	29.3	0.0	33.5	0.0	32.9	30.9	0.0	0.0	34.5	35	45	75	RR
R_245048	764027.8	6640561.9	52.4	47.4	33.1	31.9	37.4	0.0	47.4	0.0	42.2	34.8	0.0	0.0	43.1	35	45	75	RR
R_332909	764596.5	6640560.0	38.4	33.4	24.5	26.8	29.4	0.0	33.4	0.0	33.0	30.8	0.0	0.0	34.5	35	45	75	RR
R_332948	764850.1	6640559.3	35.9	30.9	22.5	26.3	27.6	0.0	30.9	0.0	30.8	29.1	0.0	0.0	32.5	35	45	75	RR
R_333218	764553.8	6640559.3	38.8	33.8	24.8	26.9	29.7	0.0	33.8	0.0	33.3	31.0	0.0	0.0	34.8	35	45	75	RR
R_333002	764754.0	6640559.2	36.7	31.7	23.2	26.5	28.2	0.0	31.7	0.0	31.6	29.4	0.0	0.0	33.2	35	45	75	RR
R_331692	764503.6	6640555.4	39.7	34.7	25.2	26.9	30.1	0.0	34.7	0.0	33.8	31.4	0.0	0.0	35.2	35	45	75	RR
R_332775	764606.1	6640555.2	38.1	33.1	23.7	26.8	29.1	0.0	33.1	0.0	32.3	30.7	0.0	0.0	33.7	35	45	75	RR
R_332947	764872.0	6640554.0	35.7	30.7	22.4	26.2	27.6	0.0	30.7	0.0	30.7	29.0	0.0	0.0	32.4	35	45	75	RR
R_332864	764628.2	6640545.6	38.0	33.0	24.2	26.7	28.9	0.0	33.0	0.0	32.5	30.5	0.0	0.0	34.2	35	45	75	RR
R_245034	761224.6	6640544.2	42.2	37.2	32.2	0.0	26.6	0.0	37.2	0.0	31.9	26.5	0.0	0.0	42.2	35	45	75	RR
R_245047	764062.0	6640543.3	48.7	43.7	29.2	30.9	33.8	0.0	43.7	0.0	40.8	34.4	0.0	0.0	39.2	35	45	75	RR

Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
R_332651	764840.2	6640496.5	35.9	30.9	22.5	25.9	27.5	0.0	30.9	0.0	30.8	29.0	0.0	0.0	32.5	35	45	75	RR
R_333105	764708.2	6640491.3	37.1	32.1	23.4	26.2	28.4	0.0	32.1	0.0	31.9	29.8	0.0	0.0	33.4	35	45	75	RR
R_332903	764103.2	6640490.3	50.8	45.8	28.6	26.8	33.3	0.0	45.8	0.0	43.9	33.7	0.0	0.0	38.6	35	45	75	RR
R_333029	764855.4	6640488.2	35.8	30.8	22.4	25.9	27.4	0.0	30.8	0.0	30.8	28.4	0.0	0.0	32.4	35	45	75	RR
R_332760	764205.4	6640486.7	45.9	40.9	27.5	26.7	31.9	0.0	40.9	0.0	39.3	28.3	0.0	0.0	37.5	35	45	75	RR
R_332887	764577.8	6640481.1	38.5	33.5	24.4	26.3	29.3	0.0	33.5	0.0	33.0	29.3	0.0	0.0	34.4	35	45	75	RR
R_333157	764747.1	6640477.3	36.7	31.7	23.1	26.0	28.1	0.0	31.7	0.0	31.5	29.5	0.0	0.0	33.1	35	45	75	RR
R_332940	764167.7	6640476.5	44.9	39.9	27.9	26.6	32.7	0.0	39.9	0.0	38.2	32.9	0.0	0.0	37.9	35	45	75	RR
R_332888	764632.1	6640476.3	37.9	32.9	24.0	26.2	28.9	0.0	32.9	0.0	32.5	30.3	0.0	0.0	34.0	35	45	75	RR
R_332999	764596.7	6640475.2	38.7	33.7	24.2	26.3	29.2	0.0	33.7	0.0	32.8	30.5	0.0	0.0	34.2	35	45	75	RR
R_333014	764727.4	6640474.6	36.9	31.9	23.3	26.0	28.2	0.0	31.9	0.0	31.7	29.7	0.0	0.0	33.3	35	45	75	RR
R_333010	764099.7	6640471.1	49.9	44.9	28.5	26.6	33.3	0.0	44.9	0.0	40.4	33.5	0.0	0.0	38.5	35	45	75	RR
R_333111	764753.2	6640466.1	36.6	31.6	23.0	25.9	28.0	0.0	31.6	0.0	31.5	29.4	0.0	0.0	33.0	35	45	75	RR
R_333034	764074.6	6640465.3	51.1	46.1	28.9	26.6	33.6	0.0	46.1	0.0	43.9	33.8	0.0	0.0	38.9	35	45	75	RR
R_332812	764861.1	6640463.9	35.6	30.6	22.3	24.5	27.2	0.0	30.6	0.0	30.6	26.3	0.0	0.0	32.3	35	45	75	RR
R_333454	764241.3	6640463.6	42.7	37.7	27.1	26.5	32.0	0.0	37.7	0.0	36.3	32.6	0.0	0.0	37.1	35	45	75	RR
R_333436	764903.7	6640458.1	35.1	30.1	22.0	25.5	26.9	0.0	30.1	0.0	30.3	28.4	0.0	0.0	32.0	35	45	75	RR
R_332941	764160.6	6640457.8	46.2	41.2	27.9	26.5	32.6	0.0	41.2	0.0	38.0	33.1	0.0	0.0	37.9	35	45	75	RR
R_333057	764214.7	6640453.7	45.0	40.0	27.4	26.6	32.1	0.0	40.0	0.0	36.9	32.8	0.0	0.0	37.4	35	45	75	RR
R_332638	764252.6	6640453.3	42.5	37.5	27.0	26.5	31.8	0.0	37.5	0.0	36.2	31.3	0.0	0.0	37.0	35	45	75	RR
R_332813	764878.9	6640452.8	35.5	30.5	22.2	25.6	27.2	0.0	30.5	0.0	30.5	28.7	0.0	0.0	32.2	35	45	75	RR
R_333013	764762.4	6640451.2	36.6	31.6	23.0	25.8	27.9	0.0	31.6	0.0	31.4	29.4	0.0	0.0	33.0	35	45	75	RR
R_332889	764615.4	6640450.3	38.0	33.0	24.1	26.0	29.0	0.0	33.0	0.0	32.7	28.2	0.0	0.0	34.1	35	45	75	RR
R_333316	764779.9	6640445.2	36.4	31.4	22.8	25.7	27.8	0.0	31.4	0.0	31.3	29.2	0.0	0.0	32.8	35	45	75	RR
R_245022	763619.5	6640442.4	74.8	69.8	41.1	31.7	43.2	0.0	69.8	0.0	52.7	42.1	0.0	0.0	51.1	70	70	-	CIP
R_245009	761526.1	6640441.9	50.8	45.8	40.8	0.0	31.7	0.0	45.8	0.0	34.0	27.9	0.0	0.0	50.8	35	45	75	RR
R_332637	764274.4	6640440.1	41.2	36.2	26.7	26.4	31.5	0.0	36.2	0.0	34.6	32.3	0.0	0.0	36.7	35	45	75	RR
R_332884	764069.7	6640440.0	50.4	45.4	28.7	26.3	33.4	0.0	45.4	0.0	40.4	33.3	0.0	0.0	38.7	35	45	75	RR
R_333286	764149.8	6640438.7	45.6	40.6	27.9	26.4	32.5	0.0	40.6	0.0	38.2	33.0	0.0	0.0	37.9	35	45	75	RR
R_333012	764800.5	6640437.1	36.2	31.2	22.7	25.7	27.6	0.0	31.2	0.0	31.1	29.1	0.0	0.0	32.7	35	45	75	RR
R_332774	764142.7	6640427.8	49.0	44.0	27.9	26.3	32.6	0.0	44.0	0.0	39.8	32.8	0.0	0.0	37.9	35	45	75	RR
R_333011	764811.2	6640423.2	36.0	31.0	22.6	25.5	27.5	0.0	31.0	0.0	31.0	28.4	0.0	0.0	32.6	35	45	75	RR
R_332622	764305.4	6640422.0	41.6	36.6	26.4	26.2	31.2	0.0	36.6	0.0	35.5	32.0	0.0	0.0	36.4	35	45	75	RR
R_245004	760935.9	6640416.8	43.7	38.7	33.7	0.0	29.2	0.0	38.7	0.0	31.4	24.6	0.0	0.0	43.7	35	45	75	RR
R_333271	764058.5	6640412.8	50.5	45.5	28.7	26.2	33.3	0.0	45.5	0.0	40.6	33.4	0.0	0.0	38.7	35	45	75	RR
R_332881	764131.6	6640412.7	49.8	44.8	28.0	26.2	32.7	0.0	44.8	0.0	40.0	32.9	0.0	0.0	38.0	35	45	75	RR
R_333036	764828.9	6640411.8	35.7	30.7	22.4	25.4	27.4	0.0	30.7	0.0	30.8	28.8	0.0	0.0	32.4	35	45	75	RR
R_332829	764344.6	6640398.1	42.3	37.3	26.0	26.1	30.8	0.0	37.3	0.0	35.0	31.6	0.0	0.0	36.0	35	45	75	RR
R_333261	764131.1	6640394.3	47.1	42.1	27.8	25.1	32.2	0.0	42.1	0.0	39.1	32.5	0.0	0.0	37.8	35	45	75	RR
R_332945	764046.6	6640390.3	50.5	45.5	28.7	26.0	33.3	0.0	45.5	0.0	41.2	33.3	0.0	0.0	38.7	35	45	75	RR
R_332714	764364.7	6640388.4	40.8	35.8	25.8	26.0	30.6	0.0	35.8	0.0	34.8	31.5	0.0	0.0	35.8	35	45	75	RR
R_332639	764726.2	6640387.1	36.8	31.8	23.1	25.5	28.0	0.0	31.8	0.0	31.6	29.3	0.0	0.0	33.1	35	45	75	RR
R_332712	764379.4	6640380.9	40.4	35.4	25.3	25.9	30.2	0.0	35.4	0.0	34.4	31.3	0.0	0.0	35.3	35	45	75	RR
R_332883	764154.4	6640379.2	46.3	41.3	27.6	26.0	31.4	0.0	41.3	0.0	39.3	29.9	0.0	0.0	37.6	35	45	75	RR
R_332824	764038.3	6640375.2	51.4	46.4	28.8	26.0	33.2	0.0	46.4	0.0	41.6	33.2	0.0	0.0	38.8	35	45	75	RR
R_332900	764758.9	6640373.5	36.5	31.5	22.7	25.4	27.6	0.0	31.5	0.0	31.3	29.1	0.0	0.0	32.7	35	45	75	RR
R_332672	764397.5	6640369.0	40.2	35.2	25.4	25.9	30.2	0.0	35.2	0.0	34.4	31.2	0.0	0.0	35.4	35	45	75	RR
R_332636	764178.6	6640362.0	45.6	40.6	27.3	25.9	31.9	0.0	40.6	0.0	39.0	32.3	0.0	0.0	37.3	35	45	75	RR
R_332773	764092.1	6640360.0	49.0	44.0	28.1	25.9	32.7	0.0	44.0	0.0	37.8	32.8	0.0	0.0	38.1	35	45	75	RR
R_332899	764770.2	6640359.9	36.3	31.3	22.7	25.3	27.6	0.0	31.3	0.0	31.2	28.9	0.0	0.0	32.7	35	45	75	RR
R_332635	764194.5	6640355.3	43.0	38.0	27.0	25.8	31.7	0.0	38.0	0.0	37.1	32.1	0.0	0.0	37.0	35	45	75	RR
R_332791	764208.4	6640347.3	45.7	40.7	27.0	25.8	31.6	0.0	40.7	0.0	39.2	32.1	0.0	0.0	37.0	35	45	75	RR
R_332944	764111.6	6640346.0	48.0	43.0	27.9	25.8	32.4	0.0	43.0	0.0	38.2	32.6	0.0	0.0	37.9	35	45	75	RR
R_332858	764806.8	6640340.0	35.9	30.9	22.3	25.1	27.3	0.0	30.9	0.0	30.8	28.4	0.0	0.0	32.3	35	45	75	RR
R_332628	764225.7	6640339.9	45.6	40.6	26.8	25.7	31.4	0.0	40.6	0.0	38.5	31.8	0.0	0.0	36.8	35	45	75	RR
R_332946	764138.5	6640332.2	45.6	40.6	27.3	25.7	32.1	0.0	40.6	0.0	36.2	32.4	0.0	0.0	37.3	35	45	75	RR
R_332669	764244.7	6640326.3	42.8	37.8	26.4	25.6	31.2	0.0	37.8	0.0	35.6	31.7	0.0	0.0	36.4	35	45	75	RR
R_333155	764902.3	6640326.1	35.1	30.1	21.7	24.5	26.6	0.0	30.1	0.0	30.1	28.1	0.0	0.0	31.7	35	45	75	RR
R_332985	764076.1	6640322.6	48.0	43.0	28.1	25.6	32.6	0.0	43.0	0.0	40.4	32.6	0.0	0.0	38.1	35	45	75	RR
R_332954	764262.5	6640320.3	44.4	39.4	26.4	25.6	31.0	0.0	39.4	0.0	35.5	31.4	0.0	0.0	36.4	35	45	75	RR
R_332955	764277.2	6640314.8	41.4	36.4	25.7	25.6	30.2	0.0	36.4	0.0	29.4	30.2	0.0	0.0	35.7	35	45	75	RR
R_333263	763916.1	6640313.9	53.9	48.9	32.8	25.5	36.5	0.0	48.9	0.0	42.9	33.4	0.0	0.0	42.8	35	45	75	RR
R_332740	764295.6	6640310.4	40.7	35.7	26.0	25.5	30.7	0.0	35.7	0.0	34.0	31.4	0.0	0.0	36.0	35	45	75	RR
R_333120	764166.6	6640307.8	46.0	41.0	27.2	25.6	31.7	0.0	41.0	0.0	36.4	32.0	0.0	0.0	37.2	35	45	75	RR
R_333068	764415.8	6640306.9	42.2	37.2	25.2	25.5	30.0	0.0	37.2	0.0	34.2	30.6	0.0	0.0	35.2	35	45	75	RR
R_332666	764186.1	6640297.6	44.1	39.1	26.7	25.5	31.5	0.0	39.1	0.0	35.7	31.8	0.0	0.0	36.7	35	45	75	RR
R_3																			

Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
R_244979	760199.8	6640239.9	35.1	30.1	25.1	0.0	20.6	0.0	30.1	0.0	0.0	0.0	0.0	0.0	35.1	35	45	75	RR
R_332817	764025.9	6640239.5	49.4	44.4	28.2	25.1	32.4	0.0	44.4	0.0	38.2	32.3	0.0	0.0	38.2	35	45	75	RR
R_332734	764378.2	6640238.6	41.1	36.1	25.2	25.0	29.9	0.0	36.1	0.0	34.1	30.2	0.0	0.0	35.2	35	45	75	RR
R_333204	764298.8	6640231.4	43.0	38.0	25.7	25.0	30.3	0.0	38.0	0.0	34.7	30.8	0.0	0.0	35.7	35	45	75	RR
R_333048	763578.0	6640220.2	73.7	68.7	40.0	30.2	40.0	0.0	68.7	0.0	50.0	34.3	0.0	0.0	50.0	70	70	-	CIP
R_332763	764306.7	6640216.6	43.0	38.0	25.6	25.0	30.2	0.0	38.0	0.0	34.6	30.7	0.0	0.0	35.6	35	45	75	RR
R_332735	764429.6	6640208.2	41.4	36.4	24.7	24.8	29.1	0.0	36.4	0.0	33.5	29.4	0.0	0.0	34.7	35	45	75	RR
R_333216	764323.3	6640205.8	42.0	37.0	25.4	24.8	30.1	0.0	37.0	0.0	34.4	30.5	0.0	0.0	35.4	35	45	75	RR
R_332861	764339.0	6640204.1	42.6	37.6	25.2	24.8	29.9	0.0	37.6	0.0	34.2	30.5	0.0	0.0	35.2	35	45	75	RR
R_244975	760368.5	6640196.5	37.0	32.0	27.0	0.0	21.3	0.0	32.0	0.0	28.3	0.0	0.0	0.0	37.0	35	45	75	RR
R_333240	764360.9	6640195.3	42.5	37.5	25.0	24.8	29.7	0.0	37.5	0.0	33.9	30.3	0.0	0.0	35.0	35	45	75	RR
R_332830	764382.3	6640171.6	43.2	38.2	24.9	24.6	29.5	0.0	38.2	0.0	33.8	30.1	0.0	0.0	34.9	35	45	75	RR
R_332620	763626.3	6640160.2	74.3	69.3	39.6	28.9	35.0	0.0	69.3	0.0	43.5	33.7	0.0	0.0	49.6	70	70	-	CIP
R_332662	764284.0	6640159.2	47.0	42.0	25.6	24.6	30.1	0.0	42.0	0.0	34.6	30.5	0.0	0.0	35.6	35	45	75	RR
R_332838	763390.3	6640150.5	96.0	91.0	42.2	29.0	39.8	0.0	91.0	0.0	49.9	33.8	0.0	0.0	52.2	70	70	-	CIP
R_333262	764328.6	6640145.9	46.4	41.4	25.2	24.6	29.8	0.0	41.4	0.0	34.2	30.3	0.0	0.0	35.2	35	45	75	RR
R_244974	761590.7	6640142.6	54.1	49.1	44.1	0.0	31.9	0.0	49.1	0.0	35.2	27.8	0.0	0.0	54.1	35	45	75	RR
R_333055	763560.5	6640120.0	73.8	68.8	39.4	24.0	35.0	0.0	68.8	0.0	44.5	33.3	0.0	0.0	49.4	70	70	-	CIP
R_333041	764240.4	6640117.6	47.3	42.3	25.9	24.4	30.2	0.0	42.3	0.0	34.9	30.5	0.0	0.0	35.9	35	45	75	RR
R_332880	764763.5	6640094.5	35.9	30.9	22.0	23.8	26.8	0.0	30.9	0.0	30.5	27.9	0.0	0.0	32.0	35	45	75	RR
R_333006	764299.7	6640089.2	45.2	40.2	25.3	24.2	29.6	0.0	40.2	0.0	34.2	30.0	0.0	0.0	35.3	35	45	75	RR
R_333326	764609.3	6640087.9	37.4	32.4	23.0	23.1	27.7	0.0	32.4	0.0	31.6	28.6	0.0	0.0	33.0	35	45	75	RR
R_332667	764801.8	6640071.3	35.6	30.6	21.7	23.6	26.5	0.0	30.6	0.0	30.2	27.6	0.0	0.0	31.7	35	45	75	RR
R_332648	764820.8	6640060.3	35.3	30.3	21.5	23.5	26.3	0.0	30.3	0.0	30.0	27.4	0.0	0.0	31.5	35	45	75	RR
R_332650	764849.7	6640041.3	35.1	30.1	21.0	23.3	25.9	0.0	30.1	0.0	29.2	27.2	0.0	0.0	31.0	35	45	75	RR
R_331678	764349.0	6640040.0	43.3	38.3	24.7	23.9	29.1	0.0	38.3	0.0	33.5	29.5	0.0	0.0	34.7	35	45	75	RR
R_332707	764718.9	6640026.5	36.2	31.2	22.1	23.5	26.8	0.0	31.2	0.0	30.6	27.8	0.0	0.0	32.1	35	45	75	RR
R_333052	764635.3	6640017.7	37.0	32.0	22.6	23.5	27.2	0.0	32.0	0.0	31.2	28.1	0.0	0.0	32.6	35	45	75	RR
R_333298	764708.5	6640006.6	36.2	31.2	22.1	23.3	26.8	0.0	31.2	0.0	30.6	27.7	0.0	0.0	32.1	35	45	75	RR
R_333328	764417.6	6640004.5	39.2	34.2	24.0	23.6	28.4	0.0	34.2	0.0	31.9	29.0	0.0	0.0	34.0	35	45	75	RR
R_332706	764689.5	6639994.9	36.5	31.5	22.2	23.3	26.9	0.0	31.5	0.0	30.7	27.8	0.0	0.0	32.2	35	45	75	RR
R_332932	764610.0	6639987.4	37.3	32.3	22.7	23.4	27.3	0.0	32.3	0.0	31.3	28.1	0.0	0.0	32.7	35	45	75	RR
R_332618	764692.2	6639975.8	36.4	31.4	22.2	23.2	26.8	0.0	31.4	0.0	30.7	27.7	0.0	0.0	32.2	35	45	75	RR
R_332688	764597.5	6639971.7	37.3	32.3	22.7	23.3	27.3	0.0	32.3	0.0	31.3	28.1	0.0	0.0	32.7	35	45	75	RR
R_332841	764668.7	6639967.8	36.7	31.7	22.3	23.2	26.9	0.0	31.7	0.0	30.8	27.8	0.0	0.0	32.3	35	45	75	RR
R_332664	764589.6	6639957.5	37.6	32.6	22.8	23.2	27.3	0.0	32.6	0.0	31.3	28.1	0.0	0.0	32.8	35	45	75	RR
R_332840	764693.0	6639951.5	36.5	31.5	22.1	23.1	26.7	0.0	31.5	0.0	30.6	27.6	0.0	0.0	32.1	35	45	75	RR
R_332839	764664.1	6639948.2	36.8	31.8	22.2	23.1	26.8	0.0	31.8	0.0	30.7	27.7	0.0	0.0	32.2	35	45	75	RR
R_332663	764579.0	6639938.8	41.8	36.8	22.8	23.2	27.3	0.0	36.8	0.0	31.3	28.0	0.0	0.0	32.8	35	45	75	RR
R_327215	760339.1	6639938.3	38.4	33.4	28.4	0.0	22.2	0.0	33.4	0.0	22.4	0.0	0.0	0.0	38.4	35	45	75	RR
R_332781	764652.0	6639934.1	36.7	31.7	22.2	23.0	26.8	0.0	31.7	0.0	30.7	27.6	0.0	0.0	32.2	35	45	75	RR
R_333128	764527.6	6639930.2	42.1	37.1	23.0	23.1	27.4	0.0	37.1	0.0	31.6	28.1	0.0	0.0	33.0	35	45	75	RR
R_327312	760411.7	6639926.5	38.9	33.9	28.9	0.0	21.0	0.0	33.9	0.0	28.2	0.0	0.0	0.0	38.9	35	45	75	RR
R_333255	764635.4	6639922.5	36.8	31.8	22.3	23.0	26.8	0.0	31.8	0.0	30.8	27.7	0.0	0.0	32.3	35	45	75	RR
R_333079	764574.1	6639920.5	42.0	37.0	22.7	23.0	27.2	0.0	37.0	0.0	31.3	27.9	0.0	0.0	32.7	35	45	75	RR
R_332931	764560.7	6639908.1	37.6	32.6	22.7	23.0	27.1	0.0	32.6	0.0	31.3	27.9	0.0	0.0	32.7	35	45	75	RR
R_332655	764626.9	6639896.0	37.1	32.1	22.3	22.9	26.8	0.0	32.1	0.0	30.8	27.6	0.0	0.0	32.3	35	45	75	RR
R_333005	763265.5	6639886.6	69.1	64.1	42.2	22.2	37.3	0.0	64.1	0.0	45.4	31.4	0.0	0.0	52.2	35	45	75	RR
R_332689	764615.2	6639877.1	37.3	32.3	22.3	22.8	26.8	0.0	32.3	0.0	30.8	27.5	0.0	0.0	32.3	35	45	75	RR
R_332843	764644.2	6639865.0	36.9	31.9	22.1	22.7	26.6	0.0	31.9	0.0	30.6	27.4	0.0	0.0	32.1	35	45	75	RR
R_332653	764660.4	6639851.5	41.5	36.5	21.9	22.6	26.4	0.0	36.5	0.0	30.4	27.2	0.0	0.0	31.9	35	45	75	RR
R_332764	764690.7	6639832.7	36.3	31.3	21.7	22.4	26.2	0.0	31.3	0.0	30.1	26.9	0.0	0.0	31.7	35	45	75	RR
R_332670	764748.4	6639832.5	35.6	30.6	21.3	22.4	25.8	0.0	30.6	0.0	29.4	26.7	0.0	0.0	31.3	35	45	75	RR
R_332749	764706.4	6639821.4	36.1	31.1	21.5	22.3	23.9	0.0	31.1	0.0	28.4	23.9	0.0	0.0	31.5	35	45	75	RR
R_332922	761906.9	6639817.7	54.8	49.8	44.8	0.0	32.7	0.0	49.8	0.0	36.5	27.3	0.0	0.0	54.8	35	45	75	RR
R_332845	763393.5	6639813.8	64.8	59.8	38.5	22.1	36.4	0.0	59.8	0.0	44.2	30.7	0.0	0.0	48.5	35	45	75	RR
R_332671	764753.8	6639793.7	35.6	30.6	21.2	22.2	25.7	0.0	30.6	0.0	29.6	23.7	0.0	0.0	31.2	35	45	75	RR
R_332612	764811.2	6639781.9	35.1	30.1	20.9	22.1	25.4	0.0	30.1	0.0	29.2	26.3	0.0	0.0	30.9	35	45	75	RR
R_332968	764779.4	6639775.4	35.4	30.4	21.0	22.1	25.4	0.0	30.4	0.0	29.3	26.4	0.0	0.0	31.0	35	45	75	RR
R_332818	763800.4	6639775.2	54.2	49.2	32.2	28.0	30.1	0.0	49.2	0.0	36.0	29.8	0.0	0.0	42.2	35	45	75	RR
R_332844	763493.9	6639724.9	59.9	54.9	36.6	21.8	34.7	0.0	54.9	0.0	42.9	30.0	0.0	0.0	46.6	35	45	75	RR
R_333423	764943.1	6639676.9	38.8	33.8	19.8	21.4	24.4	0.0	33.8	0.0	28.1	25.4	0.0	0.0	29.8	35	45	75	RR
R_333400	761417.6	6639646.8	42.7	37.7	32.7	0.0	24.6	0.0	37.7	0.0	27.8	24.6	0.0	0.0	42.7	35	45	75	RR
R_333226	765017.3	6639628.6	38.1	33.1	19.3	21.0	23.8	0.0	33.1	0.0	27.5	24.9	0.0	0.0	29.3	35	45	75	RR
R_332756	764024.7	6639546.5	45.4	40.4	25.6	21.3	27.7	0.0	40.4	0.0	32.8	27.8	0.0	0.0	35.6	35	45	75	RR
R_333051	763418.8	6639467.0	52.8	47.8	36.5	20.5	28.6	0.0	47.8	0.0	34.4	28.3	0.0	0.0	46.5	35	45	75	RR
R_333004	764377																		



Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
R_333038	763195.8	6638302.6	38.2	33.2	21.9	0.0	21.5	0.0	33.2	0.0	25.8	0.0	0.0	0.0	31.9	35	45	75	RR
R_332694	762975.4	6638010.2	36.3	31.3	23.2	0.0	0.0	0.0	31.3	0.0	24.1	0.0	0.0	0.0	29.8	35	45	75	RR
R_332616	762895.3	6637932.7	35.7	30.7	19.8	0.0	0.0	0.0	30.7	0.0	23.8	0.0	0.0	0.0	29.8	35	45	75	RR
R_331665	765501.5	6635382.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.4	35.4	0.0	35	45	75	RR
R_331684	765800.5	6635344.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.6	37.6	0.0	35	45	75	RR
R_331685	765809.5	6635102.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.8	38.8	0.0	35	45	75	RR
R_331664	765427.5	6635080.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.9	37.9	0.0	35	45	75	RR
R_331675	765395.8	6634916.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.1	37.1	0.0	35	45	75	RR
R_331674	765355.6	6634844.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.4	39.4	0.0	35	45	75	RR
R_331688	765831.9	6634842.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.7	38.7	0.0	35	45	75	RR
R_331673	765361.7	6634774.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.4	39.4	0.0	35	45	75	RR
R_331663	765285.8	6634562.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.0	37.0	0.0	35	45	75	RR
R_331690	765903.3	6634542.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.9	37.9	0.0	35	45	75	RR
R_331669	764354.4	6634408.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.9	43.9	0.0	35	45	75	RR
R_331661	765886.4	6634345.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.2	40.2	0.0	35	45	75	RR
XR00001	766046.3	6634331.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.7	36.7	0.0	35	45	75	RR
R_331656	764536.9	6634321.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.8	44.8	0.0	35	45	75	RR
R_331659	766207.8	6634290.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.1	39.1	0.0	35	45	75	RR
R_331653	764149.4	6634214.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.8	44.8	0.0	35	45	75	RR
R_331671	764318.9	6634206.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.3	45.3	0.0	35	45	75	RR
R_331657	765485.1	6634185.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.2	39.2	0.0	35	45	75	RR
R_331650	764805.4	6634095.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.2	44.2	0.0	35	45	75	RR
R_331658	766379.2	6634063.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.8	36.8	0.0	35	45	75	RR
R_331649	764942.5	6634054.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.4	46.4	0.0	35	45	75	RR
R_331851	759790.8	6634042.0	0.0	0.0	0.0	0.0	0.0	39.8	0.0	0.0	0.0	41.5	0.0	0.0	0.0	35	45	75	RR
R_331648	765196.2	6633996.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.5	41.5	0.0	35	45	75	RR
R_331646	765764.6	6633995.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.2	42.2	0.0	35	45	75	RR
R_331644	765567.1	6633867.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.1	47.1	0.0	35	45	75	RR
R_331645	765859.2	6633729.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	44.0	0.0	35	45	75	RR
R_331641	765459.9	6633718.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.1	46.1	0.0	35	45	75	RR
R_331637	766311.2	6633458.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.7	39.7	0.0	35	45	75	RR
R_325073	762972.3	6633433.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.6	43.6	0.0	35	45	75	RR
R_331638	765428.1	6633430.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.6	48.6	0.0	35	45	75	RR
R_332075	759399.0	6633328.4	0.0	0.0	0.0	0.0	0.0	35.6	0.0	0.0	0.0	36.8	0.0	0.0	0.0	35	45	75	RR
R_332070	755526.9	6629632.7	0.0	0.0	0.0	38.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35	45	75	RR
R_332090	757896.3	6629511.8	0.0	0.0	0.0	36.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35	45	75	RR
R_332056	756485.3	6627950.1	0.0	0.0	0.0	36.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35	45	75	RR
R_332054	752948.1	6622477.6	0.0	0.0	0.0	0.0	0.0	37.6	0.0	0.0	0.0	38.3	0.0	0.0	0.0	35	45	75	RR
R_244510	681515.6	6580646.2	0.0	0.0	0.0	0.0	0.0	38.2	0.0	0.0	0.0	38.8	0.0	0.0	0.0	35	45	75	RR
R_244494	679424.8	6579175.2	0.0	0.0	0.0	35.3	0.0	20.4	0.0	0.0	0.0	37.9	0.0	0.0	0.0	35	45	75	RR
R_244465	679470.5	6577139.8	0.0	0.0	0.0	41.2	0.0	0.0	0.0	0.0	0.0	42.4	0.0	0.0	0.0	35	45	75	RR
R_331181	696952.7	6575874.9	0.0	0.0	28.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.6	35	45	75	RR
R_331178	697161.0	6575646.7	0.0	0.0	25.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.6	35	45	75	RR
R_330950	696787.0	6575630.6	0.0	0.0	32.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.8	35	45	75	RR
R_331189	695413.3	6575617.0	0.0	0.0	32.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.3	35	45	75	RR
R_330975	695560.0	6575541.3	0.0	0.0	33.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.5	35	45	75	RR
R_330963	697216.2	6575482.9	0.0	0.0	26.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.4	35	45	75	RR
R_331361	695695.7	6575448.8	0.0	0.0	36.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.1	35	45	75	RR
R_330962	696968.3	6575448.4	0.0	0.0	32.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.8	35	45	75	RR
R_331100	695733.3	6575423.0	0.0	0.0	39.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.2	35	45	75	RR
R_331003	696995.0	6575388.6	0.0	0.0	28.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.6	35	45	75	RR
R_331099	695887.9	6575323.2	0.0	0.0	41.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.2	35	45	75	RR
R_331330	696900.4	6575305.1	0.0	0.0	33.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.9	35	45	75	RR
R_331253	696842.1	6575209.4	0.0	0.0	33.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.9	35	45	75	RR
R_331242	697127.8	6575165.9	0.0	0.0	29.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.6	35	45	75	RR
G900004	695373.9	6575154.0	0.0	0.0	39.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.3	35	45	75	RR
R_331501	696514.5	6575081.8	0.0	0.0	39.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.1	35	45	75	RR
R_330984	696973.2	6575048.3	0.0	0.0	35.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.0	35	45	75	RR
R_331095	696223.0	6575044.8	0.0	0.0	46.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.9	35	45	75	RR
R_331344	697083.0	6575042.1	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.3	35	45	75	RR
R_330985	697230.4	6575004.2	0.0	0.0	31.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.2	35	45	75	RR
R_331343	696952.7	6575003.8	0.0	0.0	35.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.9	35	45	75	RR
R_331098	696430.4	6574983.4	0.0	0.0	45.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.3	35	45	75	RR
R_331199	697229.5	6574982.4	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	35	45	75	RR
R_331097	696690.3	6574951.0	0.0	0.0	42.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.1	35	45	75	RR
R_330986	697241.3	6574950.8	0.0	0.0	31.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.8	35	45	75	RR
R_330988	697178.6	6574933.8	0.0	0.0	31.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.1	35	45	75	RR
R_331053	696867.0	6574928.2	0.0	0.0	39.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.8	35	45	75	RR
R_331127	696890.1	6574927.6	0.0	0.0	40.2	0.0	0.0	0.0	0.0	0.0									



## Appendix E - Construction infrastructure construction noise levels

[illegible]

Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
R_331349	697586.2	6574588.3	0	0.0	27.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.4	35	45	75	RR
R_330960	697614.2	6574585.0	0	0.0	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.5	35	45	75	RR
R_331353	696213.2	6574576.6	0	0.0	73.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	83.0	60	60	-	PRA
R_331063	697664.6	6574575.2	0	0.0	26.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.7	35	45	75	RR
R_331356	696236.0	6574573.6	0	0.0	72.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	82.3	60	60	-	PRA
R_331068	697701.4	6574567.3	0	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.3	35	45	75	RR
R_331066	697227.7	6574567.0	0	0.0	33.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.5	35	45	75	RR
R_330979	696309.7	6574561.7	0	0.0	72.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	82.4	60	60	-	PRA
R_331088	697774.9	6574553.1	0	0.0	25.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7	35	45	75	RR
R_331347	696266.2	6574552.1	0	0.0	86.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	96.0	60	60	-	PRA
R_330999	697463.0	6574552.1	0	0.0	29.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.7	35	45	75	RR
R_330968	697834.1	6574551.8	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR
R_331265	697792.2	6574551.1	0	0.0	25.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.6	35	45	75	RR
R_331264	697811.6	6574545.2	0	0.0	25.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.4	35	45	75	RR
R_331001	697553.8	6574539.0	0	0.0	27.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.8	35	45	75	RR
R_331148	697062.8	6574537.4	0	0.0	38.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.6	35	45	75	RR
R_331201	697222.3	6574533.7	0	0.0	33.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.1	35	45	75	RR
R_331239	697516.2	6574532.3	0	0.0	28.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.3	35	45	75	RR
R_331084	697105.0	6574530.7	0	0.0	39.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.5	35	45	75	RR
R_331080	697578.5	6574528.4	0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	35	45	75	RR
R_331133	697162.3	6574522.9	0	0.0	33.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.5	35	45	75	RR
R_331082	697144.3	6574521.6	0	0.0	35.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.0	35	45	75	RR
R_330959	697613.8	6574521.5	0	0.0	27.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.2	35	45	75	RR
R_331273	697654.5	6574518.0	0	0.0	26.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	35	45	75	RR
R_331049	697684.9	6574510.6	0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	35	45	75	RR
R_330983	696979.4	6574509.5	0	0.0	41.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.1	35	45	75	RR
R_331081	697576.4	6574500.4	0	0.0	27.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.6	35	45	75	RR
R_331079	697451.4	6574493.7	0	0.0	34.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.7	35	45	75	RR
R_331058	697756.7	6574493.4	0	0.0	25.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9	35	45	75	RR
R_330977	697784.4	6574491.9	0	0.0	25.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.5	35	45	75	RR
R_331251	697824.0	6574484.0	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR
R_331284	697073.2	6574482.8	0	0.0	39.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.3	35	45	75	RR
R_331279	697097.5	6574478.0	0	0.0	36.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.8	35	45	75	RR
R_330974	697845.7	6574475.7	0	0.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.1	35	45	75	RR
R_331210	697113.6	6574474.8	0	0.0	33.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.4	35	45	75	RR
R_330989	696973.9	6574472.6	0	0.0	42.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.0	35	45	75	RR
R_331209	697137.6	6574468.1	0	0.0	33.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.5	35	45	75	RR
R_331067	697153.2	6574467.4	0	0.0	34.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.6	35	45	75	RR
R_331345	697054.7	6574466.6	0	0.0	36.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.8	35	45	75	RR
R_331119	697450.1	6574464.1	0	0.0	30.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.5	35	45	75	RR
R_331073	697194.2	6574460.8	0	0.0	32.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.3	35	45	75	RR
R_331143	697507.5	6574460.6	0	0.0	28.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.3	35	45	75	RR
R_331005	697213.1	6574457.3	0	0.0	32.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.8	35	45	75	RR
R_331089	697548.0	6574455.2	0	0.0	27.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.9	35	45	75	RR
R_331050	697674.8	6574451.4	0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	35	45	75	RR
R_330954	697584.8	6574450.5	0	0.0	27.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.6	35	45	75	RR
R_331274	697600.5	6574443.5	0	0.0	27.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.3	35	45	75	RR
R_331087	697620.9	6574439.8	0	0.0	27.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.1	35	45	75	RR
R_331280	697024.4	6574438.4	0	0.0	40.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.9	35	45	75	RR
R_331275	697644.2	6574434.9	0	0.0	26.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.9	35	45	75	RR
R_330990	697045.6	6574432.2	0	0.0	39.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.7	35	45	75	RR
R_331276	697681.5	6574425.5	0	0.0	26.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.5	35	45	75	RR
R_331051	697733.6	6574418.6	0	0.0	26.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	35	45	75	RR
R_331034	696552.3	6574416.4	0	0.0	56.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.4	35	45	75	RR
R_331195	697811.2	6574408.8	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR
R_331281	697061.4	6574400.6	0	0.0	34.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.3	35	45	75	RR
R_331027	697502.4	6574399.9	0	0.0	31.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	35	45	75	RR
R_331205	697087.0	6574396.6	0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	35	45	75	RR
R_331026	697552.5	6574392.1	0	0.0	29.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.4	35	45	75	RR
R_331017	697572.5	6574390.7	0	0.0	29.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.2	35	45	75	RR
R_331025	697591.7	6574387.2	0	0.0	27.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.4	35	45	75	RR
R_331024	697613.8	6574383.3	0	0.0	27.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.4	35	45	75	RR
R_331206	697120.3	6574383.0	0	0.0	38.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.2	35	45	75	RR
R_331207	697143.0	6574383.0	0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.3	35	45	75	RR
R_331202	697162.7	6574380.2	0	0.0	35.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.7	35	45	75	RR
R_331118	697652.7	6574380.0	0	0.0	26.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	35	45	75	RR
R_331204	697180.0	6574379.3	0	0.0	33.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.9	35	45	75	RR
R_331074	697199.4	6574377.9	0	0.0	37.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.8	35	45	75	RR
R_331150	697668.7	6574375.8	0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	35	45	75	RR
G900016	695390.6	6574370.0	0	0.0	41.5	0.0	0.0	0											

Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
R_331196	697734.4	6574328.6	0	0.0	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	35	45	75	RR
R_331269	697005.5	6574321.7	0	0.0	40.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.7	35	45	75	RR
G900018	697573.2	6574317.9	0	0.0	27.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	35	45	75	RR
G900019	697540.5	6574317.7	0	0.0	27.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.8	35	45	75	RR
R_331070	697170.3	6574317.4	0	0.0	35.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.7	35	45	75	RR
G900020	697617.4	6574302.6	0	0.0	27.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.1	35	45	75	RR
G900021	697296.0	6574301.3	0	0.0	35.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.2	35	45	75	RR
G900022	697656.6	6574293.4	0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	35	45	75	RR
G900023	697341.8	6574292.8	0	0.0	35.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.7	35	45	75	RR
G900026	697381.1	6574279.5	0	0.0	32.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.6	35	45	75	RR
G900027	697417.9	6574277.4	0	0.0	34.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.5	35	45	75	RR
G900028	697466.5	6574273.8	0	0.0	31.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.8	35	45	75	RR
G900029	697293.3	6574271.4	0	0.0	31.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.8	35	45	75	RR
G900031	697009.1	6574263.5	0	0.0	40.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.3	35	45	75	RR
G900032	697507.6	6574262.4	0	0.0	28.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.1	35	45	75	RR
G900033	696533.6	6574260.0	0	0.0	47.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.7	35	45	75	RR
G900034	697529.1	6574259.4	0	0.0	27.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.8	35	45	75	RR
G900035	697098.2	6574258.4	0	0.0	33.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.9	35	45	75	RR
G900039	697060.5	6574255.4	0	0.0	38.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.7	35	45	75	RR
G900038	697131.8	6574254.6	0	0.0	37.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.6	35	45	75	RR
G900040	697080.5	6574254.3	0	0.0	33.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.6	35	45	75	RR
G900042	697569.7	6574247.7	0	0.0	27.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.4	35	45	75	RR
G900043	697589.5	6574245.5	0	0.0	27.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.2	35	45	75	RR
G900046	697179.7	6574242.7	0	0.0	37.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.4	35	45	75	RR
G900047	697606.9	6574242.5	0	0.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	35	45	75	RR
G900049	697626.2	6574236.8	0	0.0	26.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	35	45	75	RR
G900051	697639.0	6574233.4	0	0.0	26.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.5	35	45	75	RR
G900052	697271.0	6574226.2	0	0.0	31.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.9	35	45	75	RR
G900054	697699.0	6574220.6	0	0.0	26.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	35	45	75	RR
G900055	697306.0	6574215.9	0	0.0	30.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.4	35	45	75	RR
G900056	697326.5	6574212.2	0	0.0	31.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	35	45	75	RR
G900057	696989.8	6574209.9	0	0.0	40.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.2	35	45	75	RR
G900058	697032.2	6574208.6	0	0.0	39.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.6	35	45	75	RR
G900059	697342.5	6574207.3	0	0.0	29.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.7	35	45	75	RR
G900060	697696.5	6574205.6	0	0.0	26.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	35	45	75	RR
G900061	696588.4	6574203.1	0	0.0	43.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.8	35	45	75	RR
G900062	697364.4	6574202.5	0	0.0	30.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.8	35	45	75	RR
G900065	697066.5	6574195.5	0	0.0	38.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.1	35	45	75	RR
G900066	697089.2	6574194.4	0	0.0	37.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.8	35	45	75	RR
G900069	697121.0	6574187.9	0	0.0	37.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.2	35	45	75	RR
G900077	697245.1	6574171.3	0	0.0	32.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.1	35	45	75	RR
G900078	697160.3	6574171.1	0	0.0	36.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.8	35	45	75	RR
G900083	697695.8	6574153.2	0	0.0	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	35	45	75	RR
G900086	697402.9	6574143.5	0	0.0	28.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.8	35	45	75	RR
G900087	697473.2	6574134.4	0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.0	35	45	75	RR
G900088	696566.1	6574127.3	0	0.0	44.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.6	35	45	75	RR
G900089	697399.4	6574126.1	0	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.7	35	45	75	RR
G900091	697459.6	6574120.8	0	0.0	28.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.1	35	45	75	RR
G900097	696560.0	6574108.4	0	0.0	44.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.0	35	45	75	RR
G900098	696678.4	6574106.1	0	0.0	42.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.9	35	45	75	RR
G900100	696855.9	6574096.4	0	0.0	39.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.2	35	45	75	RR
G900101	697324.3	6574095.9	0	0.0	30.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.1	35	45	75	RR
G900103	697680.4	6574087.8	0	0.0	25.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9	35	45	75	RR
G900104	696909.0	6574085.4	0	0.0	39.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.8	35	45	75	RR
G900109	697613.2	6574047.5	0	0.0	26.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.5	35	45	75	RR
G900110	696829.3	6574044.9	0	0.0	39.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.7	35	45	75	RR
G900111	697509.6	6574043.3	0	0.0	27.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.4	35	45	75	RR
G900113	696873.5	6574041.1	0	0.0	39.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.9	35	45	75	RR
G900116	696899.0	6574039.2	0	0.0	36.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.7	35	45	75	RR
G900115	697529.6	6574038.9	0	0.0	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.8	35	45	75	RR
G900118	697556.8	6574031.9	0	0.0	26.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	35	45	75	RR
G900117	697573.7	6574031.6	0	0.0	26.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.7	35	45	75	RR
G900120	697607.6	6574020.2	0	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.3	35	45	75	RR
G900122	696888.7	6574016.0	0	0.0	36.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.4	35	45	75	RR
G900123	696823.0	6574014.3	0	0.0	39.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.6	35	45	75	RR
G900126	697428.6	6573999.1	0	0.0	27.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.9	35	45	75	RR
G900127	697126.5	6573998.4	0	0.0	35.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.1	35	45	75	RR
G900128	696739.6	6573988.9	0	0.0	38.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.5	35	45	75	RR
G900129	697463.2	6573986.4	0	0.0	27.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	35	45	75	RR
G900130	697501.9	6573981.4	0	0.0	27.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.				



## Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_ CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
G900147	697592.2	6573943.2	0	0.0	26.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2	35	45	75	RR
G900150	696805.3	6573936.2	0	0.0	38.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.9	35	45	75	RR
G900152	697413.6	6573931.4	0	0.0	32.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.4	35	45	75	RR
G900153	697451.6	6573931.4	0	0.0	33.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.1	35	45	75	RR
G900156	697471.5	6573923.8	0	0.0	27.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.2	35	45	75	RR
G900157	696878.0	6573922.9	0	0.0	34.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.6	35	45	75	RR
G900158	697586.1	6573919.4	0	0.0	27.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.3	35	45	75	RR
G900159	697508.4	6573916.7	0	0.0	27.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.8	35	45	75	RR
G900164	697528.6	6573912.0	0	0.0	27.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	35	45	75	RR
G900165	697549.3	6573909.0	0	0.0	26.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	35	45	75	RR
G900167	697582.8	6573902.7	0	0.0	26.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	35	45	75	RR
G900168	697714.9	6573901.4	0	0.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.1	35	45	75	RR
G900170	697106.7	6573881.0	0	0.0	33.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.4	35	45	75	RR
G900173	697462.3	6573877.3	0	0.0	31.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.6	35	45	75	RR
G900177	696685.3	6573852.4	0	0.0	36.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.5	35	45	75	RR
G900186	695990.2	6573806.0	0	0.0	36.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.9	35	45	75	RR
G900201	696781.0	6573708.6	0	0.0	31.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	35	45	75	RR
G900205	696248.9	6573625.2	0	0.0	36.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.0	35	45	75	RR
G900214	696882.3	6573482.3	0	0.0	27.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.9	35	45	75	RR
G900215	696878.6	6573468.7	0	0.0	27.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	35	45	75	RR
G900216	697056.6	6573456.5	0	0.0	26.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.9	35	45	75	RR
G900218	696124.5	6573435.4	0	0.0	33.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.6	35	45	75	RR
G900220	696731.3	6573426.3	0	0.0	27.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.9	35	45	75	RR
G900221	695371.1	6573346.7	0	0.0	26.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.9	35	45	75	RR
G900222	696664.5	6573327.7	0	0.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	35	45	75	RR
G900223	695211.8	6573235.9	0	0.0	29.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.7	35	45	75	RR
R_244419	676131.9	6567308.7	0	0.0	0.0	26.6	0.0	36.5	0.0	0.0	0.0	34.1	0.0	0.0	0.0	35	45	75	RR
R_244309	672386.9	6554162.3	0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	0.0	43.9	0.0	0.0	0.0	35	45	75	RR
R_331999	673554.3	6554027.6	0	0.0	0.0	0.0	0.0	35.0	0.0	0.0	0.0	36.2	0.0	0.0	0.0	35	45	75	RR
R_244201	667482.4	6546006.2	0	0.0	0.0	26.7	0.0	37.9	0.0	0.0	0.0	38.9	0.0	0.0	0.0	35	45	75	RR
R_244173	667374.5	6544637.0	0	0.0	0.0	0.0	0.0	50.9	0.0	0.0	0.0	48.4	0.0	0.0	0.0	35	45	75	RR
R_325492	669231.2	6544475.8	0	0.0	0.0	0.0	0.0	35.7	0.0	0.0	0.0	37.6	0.0	0.0	0.0	35	45	75	RR
R_244141	664167.7	6539185.5	0	0.0	0.0	35.8	0.0	33.9	0.0	0.0	0.0	34.6	0.0	0.0	0.0	35	45	75	RR
R_244118	662736.0	6537306.2	0	0.0	0.0	0.0	0.0	38.5	0.0	0.0	0.0	40.4	0.0	0.0	0.0	35	45	75	RR
R_244057	659790.2	6532315.6	0	0.0	0.0	48.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35	45	75	RR
R_244053	660652.6	6531452.9	0	0.0	0.0	40.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35	45	75	RR
R_244018	658210.5	6527151.6	0	0.0	0.0	0.0	0.0	37.7	0.0	0.0	0.0	38.0	0.0	0.0	0.0	35	45	75	RR
R_243977	657911.7	6521836.7	0	0.0	0.0	41.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35	45	75	RR
R_243964	659756.5	6521599.2	0	0.0	0.0	35.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35	45	75	RR
R_243927	656329.1	6515384.2	0	0.0	0.0	21.0	0.0	39.6	0.0	0.0	0.0	39.3	0.0	0.0	0.0	35	45	75	RR
R_243908	654947.7	6515144.6	0	0.0	0.0	33.7	0.0	50.0	0.0	0.0	0.0	47.8	0.0	0.0	0.0	35	45	75	RR
R_243906	654739.9	6515111.5	0	0.0	0.0	29.6	0.0	41.9	0.0	0.0	0.0	40.5	0.0	0.0	0.0	35	45	75	RR
R_243868	650801.3	6511171.7	0	0.0	0.0	0.0	34.9	0.0	0.0	0.0	36.1	0.0	0.0	0.0	0.0	35	45	75	RR
R_243853	650572.5	6509307.6	0	0.0	0.0	0.0	41.0	0.0	0.0	0.0	41.3	0.0	0.0	0.0	0.0	35	45	75	RR
R_243849	650644.0	6509262.4	0	0.0	0.0	0.0	40.1	0.0	0.0	0.0	40.4	0.0	0.0	0.0	0.0	35	45	75	RR
R_243844	650659.6	6509211.7	0	0.0	0.0	0.0	39.8	0.0	0.0	0.0	39.9	0.0	0.0	0.0	0.0	35	45	75	RR
R_243829	647262.6	6507339.5	48.5	43.5	0.0	0.0	26.7	0.0	43.5	43.8	42.8	0.0	0.0	0.0	0.0	35	45	75	RR
R_331786	642717.0	6495601.6	0	0.0	0.0	38.0	0.0	31.8	0.0	0.0	0.0	39.9	0.0	0.0	0.0	35	45	75	RR
R_243695	640876.3	6495486.6	0	0.0	0.0	36.6	0.0	42.2	0.0	0.0	0.0	40.4	0.0	0.0	0.0	35	45	75	RR
R_243690	640909.5	6495440.6	0	0.0	0.0	36.8	0.0	48.1	0.0	0.0	0.0	44.9	0.0	0.0	0.0	35	45	75	RR
G900234	656023.0	6492718.1	0	0.0	25.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.5	35	45	75	RR
G900235	656224.9	6492666.1	0	0.0	25.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.6	35	45	75	RR
G900237	656480.0	6492637.6	0	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.3	35	45	75	RR
G900239	656122.8	6492473.5	0	0.0	27.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	35	45	75	RR
G900241	655979.7	6492429.8	0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.3	35	45	75	RR
G900242	656143.6	6492394.4	0	0.0	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.5	35	45	75	RR
G900243	656151.4	6492274.0	0	0.0	32.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.5	35	45	75	RR
G900244	656603.7	6492233.7	0	0.0	32.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.8	35	45	75	RR
G900248	656487.2	6492074.8	0	0.0	32.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.4	35	45	75	RR
G900251	656936.0	6492002.0	0	0.0	28.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.1	35	45	75	RR
G900254	657115.9	6491998.4	0	0.0	26.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	35	45	75	RR
G900255	657182.3	6491977.1	0	0.0	26.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2	35	45	75	RR
G900257	655976.5	6491923.1	0	0.0	41.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.0	35	45	75	RR
G900260	656316.4	6491879.9	0	0.0	37.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.3	35	45	75	RR
G900261	655984.3	6491841.7	0	0.0	42.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.5	35	45	75	RR
G900263	656300.1	6491816.4	0	0.0	41.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.0	35	45	75	RR
G900266	656009.9	6491770.2	0	0.0	43.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.2	35	45	75	RR
G900269	655973.4	6491720.0	0	0.0	45.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.5	35	45	75	RR
G900272	656243.4	6491689.5	0	0.0	44.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.8	35	45	75	RR
G900274	656221.7	6491600.0	0	0.0	47.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.5	35	45	75	RR



## Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
G900331	657705.1	6491257.1	0	0.0	27.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.6	35	45	75	RR
G900335	657653.2	6491243.6	0	0.0	26.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.5	35	45	75	RR
G900338	654654.9	6491221.9	0	0.0	27.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.8	35	45	75	RR
G900339	657409.3	6491214.7	0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	35	45	75	RR
G900342	654792.3	6491209.1	0	0.0	29.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.3	35	45	75	RR
G900346	654863.0	6491194.4	0	0.0	30.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.1	35	45	75	RR
G900347	654898.9	6491188.2	0	0.0	30.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.6	35	45	75	RR
G900348	654947.8	6491182.1	0	0.0	31.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.3	35	45	75	RR
G900349	655911.4	6491166.7	0	0.0	71.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.2	35	45	75	RR
G900350	654824.2	6491166.0	0	0.0	29.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.7	35	45	75	RR
G900351	654978.1	6491165.0	0	0.0	31.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.6	35	45	75	RR
G900352	655973.9	6491163.8	0	0.0	73.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	83.6	35	45	75	RR
G900353	657606.4	6491162.5	0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	35	45	75	RR
G900355	655166.1	6491158.9	0	0.0	34.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.6	35	45	75	RR
G900356	657628.2	6491158.8	0	0.0	26.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.4	35	45	75	RR
G900357	654651.5	6491157.4	0	0.0	27.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	35	45	75	RR
G900358	657654.4	6491154.2	0	0.0	26.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2	35	45	75	RR
G900359	657688.1	6491148.8	0	0.0	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	35	45	75	RR
G900361	655769.4	6491146.4	0	0.0	26.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.9	35	45	75	RR
G900360	654982.6	6491145.7	0	0.0	31.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.7	35	45	75	RR
G900362	655078.6	6491144.4	0	0.0	33.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.0	35	45	75	RR
G900363	655942.7	6491141.5	0	0.0	65.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.7	35	45	75	RR
G900364	656207.5	6491138.5	0	0.0	53.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.4	35	45	75	RR
G900365	657608.6	6491137.6	0	0.0	26.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.5	35	45	75	RR
G900366	657642.5	6491131.3	0	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.3	35	45	75	RR
G900367	656801.6	6491129.5	0	0.0	32.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.4	35	45	75	RR
G900369	655201.0	6491127.0	0	0.0	36.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.9	35	45	75	RR
G900370	655900.2	6491126.0	0	0.0	61.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.1	35	45	75	RR
G900371	655045.6	6491125.1	0	0.0	32.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.5	35	45	75	RR
G900373	657686.1	6491125.0	0	0.0	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	35	45	75	RR
G900372	655142.2	6491124.6	0	0.0	35.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.9	35	45	75	RR
G900374	656027.7	6491123.4	0	0.0	60.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.7	35	45	75	RR
G900375	655973.9	6491123.4	0	0.0	61.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.6	35	45	75	RR
G900376	655091.8	6491120.3	0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.3	35	45	75	RR
G900378	656899.2	6491114.3	0	0.0	30.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.7	35	45	75	RR
G900379	655247.4	6491114.3	0	0.0	41.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.8	35	45	75	RR
G900377	656878.5	6491114.2	0	0.0	33.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.5	35	45	75	RR
G900382	657578.9	6491113.4	0	0.0	28.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.6	35	45	75	RR
G900380	654841.3	6491112.7	0	0.0	29.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.8	35	45	75	RR
G900381	654751.7	6491112.5	0	0.0	28.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.8	35	45	75	RR
G900383	657610.6	6491108.4	0	0.0	26.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	35	45	75	RR
G900384	656823.2	6491103.9	0	0.0	32.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.1	35	45	75	RR
G900385	656232.8	6491103.8	0	0.0	51.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	61.1	35	45	75	RR
G900387	657646.4	6491102.2	0	0.0	26.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2	35	45	75	RR
G900389	657677.7	6491096.3	0	0.0	26.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	35	45	75	RR
G900390	654896.2	6491090.6	0	0.0	30.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.5	35	45	75	RR
G900391	656802.4	6491086.4	0	0.0	32.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.4	35	45	75	RR
G900393	655972.1	6491076.4	0	0.0	56.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.1	35	45	75	RR
G900394	654944.9	6491075.8	0	0.0	31.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	35	45	75	RR
G900395	656788.5	6491071.6	0	0.0	32.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.5	35	45	75	RR
G900396	655260.4	6491070.8	0	0.0	36.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.2	35	45	75	RR
G900398	656867.1	6491070.0	0	0.0	33.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.8	35	45	75	RR
G900401	654737.6	6491058.7	0	0.0	28.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.6	35	45	75	RR
G900403	657553.7	6491057.3	0	0.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	35	45	75	RR
G900404	654982.7	6491055.7	0	0.0	31.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.5	35	45	75	RR
G900406	657192.3	6491055.3	0	0.0	30.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.1	35	45	75	RR
G900407	657161.0	6491055.1	0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	35	45	75	RR
G900408	656873.6	6491055.1	0	0.0	33.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.6	35	45	75	RR
G900405	657574.1	6491054.9	0	0.0	29.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.8	35	45	75	RR
G900409	654854.0	6491054.5	0	0.0	29.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.9	35	45	75	RR
G900411	657220.6	6491051.4	0	0.0	29.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.8	35	45	75	RR
G900412	655178.4	6491050.9	0	0.0	36.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.6	35	45	75	RR
G900413	656274.9	6491049.7	0	0.0	48.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.3	35	45	75	RR
G900415	655039.8	6491048.2	0	0.0	32.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.4	35	45	75	RR
G900414	657248.4	6491047.5	0	0.0	32.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.1	35	45	75	RR
G900416	657614.0	6491045.8	0	0.0	26.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.5	35	45	75	RR
G900418	657633.8	6491041.8	0	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.3	35	45	75	RR
G900420	657274.5	6491040.4	0	0.0	32.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.0	35	45	75	RR
G900421	655084.6	6491040.0	0	0.0	32.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.9	35	45	75	RR
G900422	657674.8	6491038.5	0	0.0	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	35	45	75	RR
G900423	657350.8	6491038.																	

## Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
G900441	655273.6	6491011.6	0	0.0	41.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.7	35	45	75	RR
G900442	657149.1	6491011.0	0	0.0	30.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.7	35	45	75	RR
G900443	657374.4	6491008.3	0	0.0	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.8	35	45	75	RR
G900445	656856.9	6491003.9	0	0.0	33.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.5	35	45	75	RR
G900447	657078.6	6491000.6	0	0.0	31.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.5	35	45	75	RR
G900446	657431.0	6491000.5	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR
G900450	654838.1	6490998.9	0	0.0	29.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.5	35	45	75	RR
G900456	655935.8	6490993.5	0	0.0	50.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.8	35	45	75	RR
G900457	657374.7	6490990.9	0	0.0	25.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.5	35	45	75	RR
G900462	656023.3	6490989.4	0	0.0	50.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.8	35	45	75	RR
G900464	657419.0	6490986.1	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR
G900465	655196.1	6490984.9	0	0.0	36.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.7	35	45	75	RR
G900466	657679.6	6490984.1	0	0.0	28.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.6	35	45	75	RR
G900467	656256.4	6490981.3	0	0.0	47.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1	35	45	75	RR
G900469	655966.3	6490980.2	0	0.0	49.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.8	35	45	75	RR
G900468	656808.1	6490980.2	0	0.0	31.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.9	35	45	75	RR
G900471	657368.7	6490978.8	0	0.0	25.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7	35	45	75	RR
G900472	656324.6	6490977.1	0	0.0	45.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.4	35	45	75	RR
G900473	656850.5	6490976.1	0	0.0	33.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.2	35	45	75	RR
G900474	655111.0	6490975.5	0	0.0	33.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.0	35	45	75	RR
G900475	657745.7	6490974.9	0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.0	35	45	75	RR
G900478	655286.1	6490972.1	0	0.0	35.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.9	35	45	75	RR
G900481	656217.5	6490968.3	0	0.0	47.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1	35	45	75	RR
G900480	657422.2	6490967.6	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR
G900484	656848.3	6490963.5	0	0.0	33.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.0	35	45	75	RR
G900486	657370.7	6490960.4	0	0.0	25.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7	35	45	75	RR
G900488	656264.6	6490960.2	0	0.0	46.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.1	35	45	75	RR
G900487	656067.0	6490959.6	0	0.0	49.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.2	35	45	75	RR
G900492	656140.0	6490956.8	0	0.0	48.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.0	35	45	75	RR
G900496	656158.3	6490955.2	0	0.0	47.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.8	35	45	75	RR
G900495	656342.1	6490954.6	0	0.0	44.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.3	35	45	75	RR
G900500	656796.6	6490950.0	0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	35	45	75	RR
G900502	656851.2	6490949.3	0	0.0	34.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.1	35	45	75	RR
G900501	657931.3	6490949.3	0	0.0	25.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9	35	45	75	RR
G900503	656182.2	6490949.0	0	0.0	46.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.9	35	45	75	RR
G900506	657129.2	6490945.8	0	0.0	30.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.7	35	45	75	RR
G900505	657365.3	6490945.6	0	0.0	25.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7	35	45	75	RR
G900508	656022.8	6490942.5	0	0.0	48.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.4	35	45	75	RR
G900509	657416.9	6490942.2	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR
G900512	656278.9	6490941.3	0	0.0	44.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.4	35	45	75	RR
G900510	657105.4	6490940.5	0	0.0	30.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.8	35	45	75	RR
G900514	657179.1	6490939.6	0	0.0	31.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.1	35	45	75	RR
G900516	656356.7	6490939.5	0	0.0	43.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.8	35	45	75	RR
G900517	655621.5	6490938.7	0	0.0	46.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.8	35	45	75	RR
G900520	657199.2	6490937.1	0	0.0	27.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.6	35	45	75	RR
G900522	657221.1	6490934.1	0	0.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	35	45	75	RR
G900523	657149.8	6490933.6	0	0.0	27.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.1	35	45	75	RR
G900525	657239.8	6490933.1	0	0.0	27.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.3	35	45	75	RR
G900527	656068.6	6490932.2	0	0.0	42.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.7	35	45	75	RR
G900528	656793.8	6490929.6	0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	35	45	75	RR
G900530	657360.8	6490929.4	0	0.0	25.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7	35	45	75	RR
G900532	657260.4	6490926.5	0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	35	45	75	RR
G900534	655303.3	6490923.7	0	0.0	35.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.7	35	45	75	RR
G900536	656847.5	6490922.9	0	0.0	32.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.6	35	45	75	RR
G900538	657285.3	6490921.2	0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.0	35	45	75	RR
G900540	656021.4	6490921.2	0	0.0	42.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.7	35	45	75	RR
G900545	655834.2	6490919.3	0	0.0	47.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.6	35	45	75	RR
G900544	657414.9	6490919.0	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR
G900546	655101.8	6490918.9	0	0.0	32.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.5	35	45	75	RR
G900549	656115.8	6490915.3	0	0.0	47.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0	35	45	75	RR
G900552	656306.2	6490913.9	0	0.0	39.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.9	35	45	75	RR
G900550	657303.4	6490913.9	0	0.0	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.8	35	45	75	RR
G900551	656067.7	6490913.9	0	0.0	44.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.7	35	45	75	RR
G900557	656383.5	6490911.4	0	0.0	41.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.7	35	45	75	RR
G900556	657359.5	6490911.0	0	0.0	25.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9	35	45	75	RR
G900559	655183.6	6490909.9	0	0.0	34.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.9	35	45	75	RR
G900561	656141.2	6490909.1	0	0.0	46.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.5	35	45	75	RR
G900562	656161.1	6490909.0	0	0.0	44.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.0	35	45	75	RR
G900567	656839.5	6490903.4	0	0.0	32.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.7	35	45	75	RR
G900568	656191.1	6490903.4	0	0.0	40.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.4	35	45	75	RR
G900569	656798.9	6490902.																	

## Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
G900593	657177.0	6490879.6	0	0.0	31.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.2	35	45	75	RR
G900595	656331.9	6490879.1	0	0.0	42.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.7	35	45	75	RR
G900597	655623.4	6490877.8	0	0.0	45.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.2	35	45	75	RR
G900598	656021.5	6490877.8	0	0.0	46.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.7	35	45	75	RR
G900596	656790.1	6490877.8	0	0.0	33.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.6	35	45	75	RR
G900601	655066.7	6490875.1	0	0.0	31.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.8	35	45	75	RR
G900600	657132.0	6490874.9	0	0.0	27.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	35	45	75	RR
G900605	657224.2	6490873.2	0	0.0	30.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.9	35	45	75	RR
G900608	656402.4	6490872.2	0	0.0	41.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.1	35	45	75	RR
G900607	657206.2	6490872.2	0	0.0	30.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.9	35	45	75	RR
G900609	656065.5	6490872.0	0	0.0	40.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.8	35	45	75	RR
G900613	655672.0	6490867.5	0	0.0	45.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.4	35	45	75	RR
G900612	657242.1	6490866.9	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR
G900615	657294.0	6490866.4	0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	35	45	75	RR
G900616	657259.8	6490865.3	0	0.0	30.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.5	35	45	75	RR
G900618	656343.8	6490862.9	0	0.0	41.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.5	35	45	75	RR
G900619	657275.1	6490860.1	0	0.0	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	35	45	75	RR
G900621	656834.1	6490858.4	0	0.0	33.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.0	35	45	75	RR
G900620	657128.9	6490857.6	0	0.0	30.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.6	35	45	75	RR
G900623	657328.2	6490857.4	0	0.0	27.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.2	35	45	75	RR
G900624	656785.3	6490857.2	0	0.0	33.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.7	35	45	75	RR
G900625	656017.0	6490856.9	0	0.0	42.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.9	35	45	75	RR
G900627	657399.8	6490853.9	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR
G900630	657173.2	6490853.1	0	0.0	27.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	35	45	75	RR
G900632	656414.8	6490853.0	0	0.0	41.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.3	35	45	75	RR
G900634	656060.0	6490852.3	0	0.0	40.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.2	35	45	75	RR
G900633	657042.9	6490852.2	0	0.0	32.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.4	35	45	75	RR
G900638	656104.3	6490850.5	0	0.0	45.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.1	35	45	75	RR
G900642	656438.7	6490845.8	0	0.0	36.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.0	35	45	75	RR
G900643	656123.2	6490845.5	0	0.0	44.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.4	35	45	75	RR
G900644	655132.7	6490845.5	0	0.0	32.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.4	35	45	75	RR
G900645	656899.8	6490845.4	0	0.0	30.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.6	35	45	75	RR
G900646	656142.7	6490845.3	0	0.0	43.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.1	35	45	75	RR
G900647	657125.7	6490842.3	0	0.0	28.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.2	35	45	75	RR
G900650	656163.0	6490840.5	0	0.0	39.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.0	35	45	75	RR
G900649	657477.8	6490840.3	0	0.0	28.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.6	35	45	75	RR
G900651	655701.7	6490840.0	0	0.0	44.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.7	35	45	75	RR
G900653	657400.2	6490838.6	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR
G900654	656183.5	6490838.5	0	0.0	38.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.7	35	45	75	RR
G900656	656676.5	6490837.1	0	0.0	35.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.6	35	45	75	RR
G900655	657171.4	6490836.7	0	0.0	28.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.4	35	45	75	RR
G900657	656202.9	6490836.5	0	0.0	38.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.5	35	45	75	RR
G900660	655241.2	6490834.5	0	0.0	36.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.8	35	45	75	RR
G900662	655166.6	6490834.0	0	0.0	32.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.7	35	45	75	RR
G900663	656823.1	6490832.9	0	0.0	32.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.7	35	45	75	RR
G900666	656779.8	6490830.7	0	0.0	34.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.2	35	45	75	RR
G900665	657226.2	6490830.7	0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	35	45	75	RR
G900669	656217.2	6490830.1	0	0.0	38.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.2	35	45	75	RR
G900667	657344.5	6490829.8	0	0.0	25.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.6	35	45	75	RR
G900671	657244.8	6490828.5	0	0.0	26.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.4	35	45	75	RR
G900672	656244.2	6490827.8	0	0.0	43.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.6	35	45	75	RR
G900673	655187.7	6490827.8	0	0.0	33.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.0	35	45	75	RR
G900675	656839.9	6490826.9	0	0.0	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.5	35	45	75	RR
G900674	657102.9	6490826.6	0	0.0	27.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	35	45	75	RR
G900676	655621.4	6490826.5	0	0.0	44.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.0	35	45	75	RR
G900679	656856.7	6490824.1	0	0.0	32.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.4	35	45	75	RR
G900678	657119.8	6490824.1	0	0.0	27.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.6	35	45	75	RR
G900680	657397.0	6490823.0	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR
G900682	656264.9	6490822.1	0	0.0	43.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.2	35	45	75	RR
G900681	656916.6	6490821.5	0	0.0	30.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.7	35	45	75	RR
G900683	656436.5	6490820.7	0	0.0	41.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.3	35	45	75	RR
G900685	657168.3	6490820.2	0	0.0	27.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.2	35	45	75	RR
G900687	657204.8	6490817.6	0	0.0	28.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.4	35	45	75	RR
G900689	656304.5	6490817.4	0	0.0	42.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.8	35	45	75	RR
G900690	655945.3	6490815.7	0	0.0	44.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.5	35	45	75	RR
G900693	656323.5	6490814.3	0	0.0	36.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.8	35	45	75	RR
G900692	656341.6	6490814.2	0	0.0	42.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.2	35	45	75	RR
G900696	657258.3	6490808.6	0	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.3	35	45	75	RR
G900698	657391.1	6490807.5	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR
G900697	656962.5	6490806.5	0	0.0	29.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.2	35	45	75	RR
G900699	656363.0	6490806.																	



## Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
G900718	657391.5	6490793.4	0	0.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.1	35	45	75	RR
G900720	657049.6	6490791.6	0	0.0	27.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	35	45	75	RR
G900721	656133.5	6490790.6	0	0.0	38.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.1	35	45	75	RR
G900723	656093.7	6490790.0	0	0.0	43.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.1	35	45	75	RR
G900724	656173.2	6490787.7	0	0.0	37.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.6	35	45	75	RR
G900725	657254.8	6490787.0	0	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.3	35	45	75	RR
G900726	657067.6	6490786.9	0	0.0	27.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	35	45	75	RR
G900727	656196.2	6490786.9	0	0.0	37.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.4	35	45	75	RR
G900728	657121.1	6490785.7	0	0.0	27.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	35	45	75	RR
G900729	657164.5	6490784.5	0	0.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	35	45	75	RR
G900730	657104.3	6490784.3	0	0.0	27.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.2	35	45	75	RR
G900732	656216.3	6490782.9	0	0.0	37.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.1	35	45	75	RR
G900731	657086.2	6490782.6	0	0.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	35	45	75	RR
G900733	656820.5	6490782.5	0	0.0	33.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.0	35	45	75	RR
G900736	656234.1	6490779.1	0	0.0	36.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.9	35	45	75	RR
G900735	657203.4	6490778.6	0	0.0	26.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.7	35	45	75	RR
G900737	657391.7	6490777.4	0	0.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.1	35	45	75	RR
G900738	656251.5	6490777.0	0	0.0	36.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.4	35	45	75	RR
G900741	657250.1	6490772.7	0	0.0	26.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2	35	45	75	RR
G900743	656772.9	6490772.4	0	0.0	35.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.7	35	45	75	RR
G900747	656031.1	6490766.6	0	0.0	38.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.3	35	45	75	RR
G900749	656295.5	6490766.2	0	0.0	41.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.8	35	45	75	RR
G900750	655605.3	6490765.3	0	0.0	42.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.6	35	45	75	RR
G900753	656936.7	6490763.8	0	0.0	31.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.5	35	45	75	RR
G900752	657385.0	6490763.6	0	0.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.1	35	45	75	RR
G900754	657153.4	6490763.1	0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	35	45	75	RR
G900756	656817.1	6490762.3	0	0.0	33.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.9	35	45	75	RR
G900758	656313.9	6490761.1	0	0.0	41.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.5	35	45	75	RR
G900760	656333.5	6490757.9	0	0.0	37.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	35	45	75	RR
G900763	656374.7	6490757.3	0	0.0	35.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.2	35	45	75	RR
G900765	657332.1	6490756.4	0	0.0	25.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.5	35	45	75	RR
G900764	657187.1	6490756.1	0	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.3	35	45	75	RR
G900766	656965.2	6490755.4	0	0.0	28.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.9	35	45	75	RR
G900768	656354.5	6490755.3	0	0.0	35.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.5	35	45	75	RR
G900767	656087.6	6490755.1	0	0.0	41.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.7	35	45	75	RR
G900771	656689.4	6490751.9	0	0.0	37.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	35	45	75	RR
G900774	656769.3	6490751.1	0	0.0	33.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.8	35	45	75	RR
G900777	656410.4	6490748.1	0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.8	35	45	75	RR
G900776	657274.0	6490747.6	0	0.0	25.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7	35	45	75	RR
G900780	657028.4	6490747.4	0	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.7	35	45	75	RR
G900781	656809.4	6490747.1	0	0.0	32.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.7	35	45	75	RR
G900779	657384.1	6490746.7	0	0.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.1	35	45	75	RR
G900782	656723.6	6490745.2	0	0.0	36.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.3	35	45	75	RR
G900785	657238.9	6490744.4	0	0.0	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	35	45	75	RR
G900786	656988.4	6490743.6	0	0.0	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.5	35	45	75	RR
G900791	657255.5	6490743.4	0	0.0	26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	35	45	75	RR
G900793	657045.5	6490742.3	0	0.0	27.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.9	35	45	75	RR
G900792	657070.7	6490742.2	0	0.0	27.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	35	45	75	RR
G900796	657327.4	6490740.3	0	0.0	25.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.5	35	45	75	RR
G900797	657301.9	6490740.0	0	0.0	25.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.6	35	45	75	RR
G900798	656928.9	6490739.7	0	0.0	34.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.1	35	45	75	RR
G900805	657102.4	6490732.0	0	0.0	30.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.1	35	45	75	RR
G900806	656767.1	6490731.6	0	0.0	32.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.2	35	45	75	RR
G900808	656022.4	6490730.3	0	0.0	38.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.1	35	45	75	RR
G900811	657302.6	6490727.1	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR
G900815	656103.8	6490725.0	0	0.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.5	35	45	75	RR
G900816	656083.9	6490724.6	0	0.0	41.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.1	35	45	75	RR
G900823	656124.9	6490722.1	0	0.0	38.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.6	35	45	75	RR
G900822	656808.0	6490721.9	0	0.0	30.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.2	35	45	75	RR
G900826	656207.5	6490718.8	0	0.0	36.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.2	35	45	75	RR
G900829	656248.0	6490718.3	0	0.0	35.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.6	35	45	75	RR
G900828	656870.4	6490718.0	0	0.0	29.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.5	35	45	75	RR
G900833	657097.1	6490715.8	0	0.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	35	45	75	RR
G900834	656163.8	6490714.1	0	0.0	36.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.2	35	45	75	RR
G900836	656928.0	6490713.1	0	0.0	28.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.9	35	45	75	RR
G900837	656763.4	6490712.3	0	0.0	30.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.7	35	45	75	RR
G900839	657144.9	6490711.2	0	0.0	26.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.5	35	45	75	RR
G900838	657159.7	6490710.6	0	0.0	26.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	35	45	75	RR
G900844	656180.8	6490707.8	0	0.0	35.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.9	35	45	75	RR
G900846	657181.5	6490707.2	0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	35	45	75	RR
G900847	656222.8	6490706.																	



## Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
G900873	655805.1	6490689.0	0	0.0	41.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.6	35	45	75	RR
G900876	656303.1	6490688.1	0	0.0	34.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.7	35	45	75	RR
G900874	656021.4	6490687.6	0	0.0	40.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.3	35	45	75	RR
G900877	657303.8	6490687.4	0	0.0	25.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.5	35	45	75	RR
G900881	656800.4	6490686.4	0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	35	45	75	RR
G900880	656921.8	6490686.2	0	0.0	28.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.8	35	45	75	RR
G900885	655104.1	6490684.1	0	0.0	30.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.8	35	45	75	RR
G900886	657320.4	6490682.0	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR
G900888	656376.8	6490681.7	0	0.0	34.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.1	35	45	75	RR
G900887	657336.3	6490681.7	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR
G900889	656863.7	6490681.3	0	0.0	29.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.3	35	45	75	RR
G900890	657101.9	6490679.6	0	0.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	35	45	75	RR
G900892	657243.7	6490679.1	0	0.0	25.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9	35	45	75	RR
G900893	655883.1	6490678.7	0	0.0	38.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.5	35	45	75	RR
G900894	656401.0	6490676.4	0	0.0	33.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.8	35	45	75	RR
G900901	656757.6	6490672.4	0	0.0	35.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.2	35	45	75	RR
G900902	656421.0	6490672.0	0	0.0	33.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.6	35	45	75	RR
G900900	656919.7	6490671.6	0	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.7	35	45	75	RR
G900905	656092.3	6490669.8	0	0.0	35.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.8	35	45	75	RR
G900906	656440.0	6490668.6	0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.3	35	45	75	RR
G900909	656114.4	6490667.6	0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.8	35	45	75	RR
G900911	656799.6	6490667.3	0	0.0	29.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.9	35	45	75	RR
G900910	656870.3	6490667.0	0	0.0	29.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.2	35	45	75	RR
G900912	655213.7	6490666.1	0	0.0	31.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.7	35	45	75	RR
G900913	655138.9	6490665.1	0	0.0	31.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	35	45	75	RR
G900916	655679.8	6490664.1	0	0.0	40.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.8	35	45	75	RR
G900915	656135.1	6490663.7	0	0.0	35.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.4	35	45	75	RR
G900917	656175.9	6490662.1	0	0.0	35.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.1	35	45	75	RR
G900919	656155.5	6490658.2	0	0.0	35.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.3	35	45	75	RR
G900924	657095.7	6490653.8	0	0.0	27.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.1	35	45	75	RR
G900925	656914.0	6490653.0	0	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.7	35	45	75	RR
G900927	657144.0	6490651.8	0	0.0	26.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	35	45	75	RR
G900928	656863.2	6490651.5	0	0.0	29.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.1	35	45	75	RR
G900930	656197.2	6490651.4	0	0.0	34.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.9	35	45	75	RR
G900931	656493.0	6490649.3	0	0.0	32.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.6	35	45	75	RR
G900932	655189.4	6490649.3	0	0.0	31.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.4	35	45	75	RR
G900935	656216.9	6490647.1	0	0.0	34.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.6	35	45	75	RR
G900953	656295.4	6490646.8	0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	35	45	75	RR
G900937	656231.8	6490646.5	0	0.0	34.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.6	35	45	75	RR
G900941	656274.1	6490645.2	0	0.0	34.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.2	35	45	75	RR
G900940	656974.4	6490644.6	0	0.0	28.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.1	35	45	75	RR
G900943	656010.5	6490644.5	0	0.0	39.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.7	35	45	75	RR
G900944	656993.3	6490642.6	0	0.0	27.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.9	35	45	75	RR
G900948	657010.4	6490637.3	0	0.0	27.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	35	45	75	RR
G900950	657026.1	6490635.4	0	0.0	27.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	35	45	75	RR
G900949	657137.3	6490635.3	0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	35	45	75	RR
G900952	656334.4	6490633.9	0	0.0	33.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.5	35	45	75	RR
G900955	656065.6	6490631.6	0	0.0	36.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.4	35	45	75	RR
G900956	656354.0	6490628.7	0	0.0	33.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.5	35	45	75	RR
G900957	657064.4	6490627.6	0	0.0	30.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.5	35	45	75	RR
G900958	656392.9	6490627.5	0	0.0	33.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.1	35	45	75	RR
G900962	656371.9	6490625.0	0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.3	35	45	75	RR
G900960	657095.0	6490624.6	0	0.0	26.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.9	35	45	75	RR
G900964	656104.5	6490624.5	0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.8	35	45	75	RR
G900968	657301.9	6490620.3	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR
G900970	657179.4	6490619.5	0	0.0	25.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.6	35	45	75	RR
G900972	656415.9	6490619.3	0	0.0	32.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.9	35	45	75	RR
G900971	656863.4	6490619.2	0	0.0	28.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.9	35	45	75	RR
G900975	657134.2	6490615.4	0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	35	45	75	RR
G900977	656433.2	6490613.9	0	0.0	32.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.7	35	45	75	RR
G900976	657195.9	6490613.7	0	0.0	25.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.5	35	45	75	RR
G900979	656453.2	6490612.7	0	0.0	32.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.5	35	45	75	RR
G900981	655991.2	6490611.8	0	0.0	39.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.3	35	45	75	RR
G900983	656489.0	6490609.1	0	0.0	32.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.2	35	45	75	RR
G900984	656906.1	6490607.0	0	0.0	28.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.5	35	45	75	RR
G900985	656064.3	6490605.9	0	0.0	34.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.7	35	45	75	RR
G900988	656325.0	6490603.7	0	0.0	33.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.2	35	45	75	RR
G900990	657228.6	6490603.3	0	0.0	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.8	35	45	75	RR
G900991	656938.8	6490602.9	0	0.0	28.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.1	35	45	75	RR
G900996	656083.8	6490602.4	0	0.0	34.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.5	35	45	75	RR
G900997	656102.7	6490600.																	

## Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
G901017	656162.5	6490589.1	0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	35	45	75	RR
G901018	656908.8	6490588.4	0	0.0	28.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.1	35	45	75	RR
G901020	656139.0	6490586.0	0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	35	45	75	RR
G901023	657000.0	6490584.5	0	0.0	27.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	35	45	75	RR
G901027	656482.7	6490582.2	0	0.0	31.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.9	35	45	75	RR
G901026	656181.2	6490582.2	0	0.0	33.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.8	35	45	75	RR
G901034	655457.6	6490576.6	0	0.0	35.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.2	35	45	75	RR
G901036	656223.4	6490575.4	0	0.0	33.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.2	35	45	75	RR
G901038	656903.2	6490573.4	0	0.0	28.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.3	35	45	75	RR
G901039	656845.6	6490572.7	0	0.0	28.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.8	35	45	75	RR
G901040	656658.3	6490570.7	0	0.0	32.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.6	35	45	75	RR
G901041	656263.8	6490569.6	0	0.0	33.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.1	35	45	75	RR
G901050	655674.8	6490563.2	0	0.0	39.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.1	35	45	75	RR
G901048	656300.5	6490563.0	0	0.0	32.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.9	35	45	75	RR
G901047	657130.4	6490562.6	0	0.0	26.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.4	35	45	75	RR
G901051	656895.6	6490559.9	0	0.0	28.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.2	35	45	75	RR
G901053	656321.7	6490558.5	0	0.0	32.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.6	35	45	75	RR
G901055	657074.2	6490556.8	0	0.0	26.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	35	45	75	RR
G901056	657178.8	6490555.7	0	0.0	25.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9	35	45	75	RR
G901058	656846.3	6490554.5	0	0.0	28.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.6	35	45	75	RR
G901059	656380.6	6490553.6	0	0.0	32.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.3	35	45	75	RR
G901060	656340.8	6490553.4	0	0.0	32.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.4	35	45	75	RR
G901061	656360.3	6490553.3	0	0.0	32.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.3	35	45	75	RR
G901062	655724.9	6490552.5	0	0.0	39.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.2	35	45	75	RR
G901063	656428.3	6490552.3	0	0.0	31.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.9	35	45	75	RR
G901069	655312.6	6490550.6	0	0.0	33.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.1	35	45	75	RR
G901068	655762.6	6490550.5	0	0.0	38.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.8	35	45	75	RR
G901070	657158.6	6490550.5	0	0.0	26.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	35	45	75	RR
G901073	656399.3	6490546.5	0	0.0	32.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.1	35	45	75	RR
G901072	656894.6	6490546.1	0	0.0	28.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.1	35	45	75	RR
G901074	657242.0	6490543.8	0	0.0	25.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.4	35	45	75	RR
G901075	655805.0	6490542.5	0	0.0	38.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.9	35	45	75	RR
G901076	656438.5	6490541.7	0	0.0	31.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.7	35	45	75	RR
G901078	656416.9	6490540.9	0	0.0	31.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.8	35	45	75	RR
G901080	657277.8	6490539.2	0	0.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.1	35	45	75	RR
G901081	656455.4	6490538.3	0	0.0	31.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.5	35	45	75	RR
G901082	656840.1	6490537.3	0	0.0	28.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.6	35	45	75	RR
G901084	656483.4	6490531.6	0	0.0	31.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.3	35	45	75	RR
G901086	656468.2	6490530.2	0	0.0	31.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.3	35	45	75	RR
G901090	657068.4	6490524.5	0	0.0	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	35	45	75	RR
G901096	656888.2	6490522.6	0	0.0	28.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.0	35	45	75	RR
G901106	657120.9	6490509.1	0	0.0	26.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2	35	45	75	RR
G901133	656171.6	6490493.8	0	0.0	32.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.5	35	45	75	RR
G901143	655264.0	6490489.2	0	0.0	31.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.8	35	45	75	RR
G901148	656809.1	6490481.5	0	0.0	28.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.4	35	45	75	RR
G901146	657137.3	6490480.7	0	0.0	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.8	35	45	75	RR
G901150	656838.8	6490478.8	0	0.0	28.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.1	35	45	75	RR
G901157	657060.8	6490466.3	0	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.3	35	45	75	RR
G901160	656879.9	6490464.4	0	0.0	27.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	35	45	75	RR
G901161	656910.4	6490462.4	0	0.0	27.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.4	35	45	75	RR
G901162	656896.0	6490460.5	0	0.0	27.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	35	45	75	RR
G901166	656943.5	6490457.7	0	0.0	27.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.2	35	45	75	RR
G901168	656927.1	6490456.1	0	0.0	27.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.3	35	45	75	RR
G901173	656960.8	6490452.7	0	0.0	27.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	35	45	75	RR
G901175	656980.8	6490451.5	0	0.0	26.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	35	45	75	RR
G901179	656998.3	6490445.6	0	0.0	26.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.7	35	45	75	RR
G901182	657029.3	6490440.3	0	0.0	26.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.4	35	45	75	RR
G901183	657046.0	6490439.3	0	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.3	35	45	75	RR
G901184	656116.3	6490437.9	0	0.0	31.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.9	35	45	75	RR
G901186	657061.7	6490433.0	0	0.0	26.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2	35	45	75	RR
G901189	655396.8	6490430.6	0	0.0	33.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.2	35	45	75	RR
G901191	657106.4	6490429.8	0	0.0	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.8	35	45	75	RR
G901192	657095.1	6490429.6	0	0.0	25.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.9	35	45	75	RR
G901194	657130.9	6490425.4	0	0.0	25.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.6	35	45	75	RR
G901195	657119.4	6490424.0	0	0.0	25.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.4	35	45	75	RR
G901197	657143.0	6490420.3	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR
G901199	657192.2	6490414.6	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR
G901225	657133.9	6490361.2	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR
G901231	657047.1	6490344.5	0	0.0	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.8	35	45	75	RR
G901241	657031.2	6490333.1	0	0.0	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.8	35	45	75	RR
G901247	657015.9	6490322.																	

Appendix E - Construction infrastructure construction noise levels

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type	
G901293	657019.1	6490235.9	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR	
G901294	656902.4	6490235.0	0	0.0	30.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.4	35	45	75	RR	
G901301	657000.9	6490223.9	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR	
G901316	656983.1	6490207.8	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR	
G901323	656869.2	6490197.0	0	0.0	31.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.5	35	45	75	RR	
G901338	656956.2	6490177.8	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR	
G901352	656900.4	6490155.8	0	0.0	31.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	35	45	75	RR	
G901362	656913.3	6490135.3	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR	
G901368	656901.6	6490124.7	0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	35	45	75	RR	
G901374	656792.1	6490116.9	0	0.0	25.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7	35	45	75	RR	
G901377	656882.2	6490115.4	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR	
G901382	656869.4	6490104.4	0	0.0	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35	45	75	RR	
G901386	656950.3	6490094.2	0	0.0	30.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.3	35	45	75	RR	
G901392	656853.7	6490090.4	0	0.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.1	35	45	75	RR	
G901399	656838.0	6490077.6	0	0.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.1	35	45	75	RR	
G901401	656795.8	6490074.0	0	0.0	25.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.3	35	45	75	RR	
G901407	656826.3	6490066.0	0	0.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.1	35	45	75	RR	
G901415	656990.7	6490046.7	0	0.0	29.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.5	35	45	75	RR	
G901466	657088.3	6489933.3	0	0.0	28.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.7	35	45	75	RR	
G901487	657135.4	6489878.4	0	0.0	28.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.2	35	45	75	RR	
R_331960	639964.1	6472354.1	0	0.0	0.0	0.0	0.0	35.4	0.0	0.0	0.0	35.4	0.0	0.0	0.0	0.0	35	45	75	RR
R_243473	633509.0	6463796.1	0	0.0	0.0	48.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35	45	75	RR
R_243438	633781.6	6462309.1	0	0.0	0.0	39.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35	45	75	RR
R_243428	629401.2	6461859.1	0	0.0	0.0	0.0	0.0	35.7	0.0	0.0	0.0	35.4	0.0	0.0	0.0	0.0	35	45	75	RR
R_331764	625931.4	6446218.0	0	0.0	0.0	39.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35	45	75	RR
R_331728	625580.8	6446000.0	0	0.0	0.0	46.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35	45	75	RR
R_332038	625601.9	6445956.0	0	0.0	0.0	46.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35	45	75	RR
R_331759	624577.9	6445854.9	0	0.0	0.0	44.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35	45	75	RR
R_331718	624858.9	6443304.4	0	0.0	0.0	29.4	0.0	39.8	0.0	0.0	0.0	41.7	0.0	0.0	0.0	0.0	35	45	75	RR
R_331763	624772.3	6440932.6	0	0.0	0.0	28.9	0.0	34.5	0.0	0.0	0.0	36.4	0.0	0.0	0.0	0.0	35	45	75	RR
R_331774	624551.4	6440899.7	0	0.0	0.0	30.2	0.0	34.9	0.0	0.0	0.0	36.7	0.0	0.0	0.0	0.0	35	45	75	RR
R_331924	624680.2	6440824.0	0	0.0	0.0	30.0	0.0	34.0	0.0	0.0	0.0	35.8	0.0	0.0	0.0	0.0	35	45	75	RR
R_331788	624739.8	6437014.3	0	0.0	19.4	20.8	0.0	27.3	0.0	0.0	0.0	26.8	27.4	41.4	29.4	35	45	75	RR	
G901556	628394.6	6436928.9	0	0.0	43.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.3	35	45	75	RR	
R_324810	625766.2	6436669.3	0	0.0	26.2	0.0	0.0	21.5	0.0	0.0	0.0	0.0	19.1	33.1	36.2	35	45	75	RR	
R_331735	623239.1	6436392.3	0	0.0	0.0	0.0	0.0	53.6	0.0	0.0	0.0	48.4	29.4	43.4	0.0	35	45	75	RR	
R_332032	622943.0	6436031.7	0	0.0	0.0	0.0	0.0	59.9	0.0	0.0	0.0	58.7	35.2	49.2	0.0	52	52	-	CMU	
G901570	628370.7	6435716.8	0	0.0	31.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.4	35	45	75	RR	
R_331749	622931.9	6435392.0	0	0.0	0.0	20.8	0.0	43.4	0.0	0.0	0.0	44.5	42.3	56.3	0.0	35	45	75	RR	
R_331995	621407.3	6435053.2	0	0.0	0.0	22.1	0.0	33.0	0.0	0.0	0.0	35.2	27.6	41.6	0.0	35	45	75	RR	
R_324816	625386.2	6434879.9	0	0.0	16.5	0.0	0.0	21.1	0.0	0.0	0.0	22.7	24.6	38.6	26.5	35	45	75	RR	
R_324678	624554.9	6434558.6	0	0.0	0.0	25.8	0.0	23.7	0.0	0.0	0.0	25.5	31.6	45.6	0.0	35	45	75	RR	
R_331740	624373.9	6434420.6	0	0.0	0.0	26.9	0.0	23.9	0.0	0.0	0.0	25.7	32.6	46.6	0.0	35	45	75	RR	
R_331791	621496.3	6434031.1	0	0.0	0.0	33.8	24.1	28.1	0.0	0.0	0.0	25.1	27.5	41.5	0.0	35	45	75	RR	
R_332535	621189.2	6433633.2	0	0.0	0.0	30.9	30.9	20.9	0.0	0.0	28.8	22.5	23.0	37.0	0.0	35	45	75	RR	
R_332432	621224.9	6433359.3	0	0.0	0.0	32.7	32.7	0.0	0.0	0.0	30.2	0.0	24.3	38.3	0.0	35	45	75	RR	
R_331724	623976.3	6433225.0	0	0.0	0.0	32.7	28.1	0.0	0.0	0.0	24.4	0.0	25.5	39.5	0.0	35	45	75	RR	
R_332439	621124.3	6432911.9	0	0.0	0.0	34.8	34.8	0.0	0.0	0.0	26.4	0.0	22.7	36.7	0.0	35	45	75	RR	
R_332459	621741.8	6432771.5	0	0.0	0.0	41.2	39.2	0.0	0.0	0.0	34.6	0.0	21.9	35.9	0.0	35	45	75	RR	
R_332429	621219.2	6432718.2	0	0.0	0.0	36.5	36.5	0.0	0.0	0.0	27.8	0.0	0.0	0.0	0.0	35	45	75	RR	
R_332471	621851.5	6432699.1	0	0.0	0.0	44.0	40.7	0.0	0.0	0.0	35.5	0.0	22.0	36.0	0.0	35	45	75	RR	
R_332467	621985.3	6432500.1	0	0.0	0.0	54.4	44.0	0.0	0.0	0.0	37.3	0.0	24.1	38.1	0.0	35	45	75	RR	
R_332464	621077.9	6432154.7	0	0.0	0.0	32.9	34.4	0.0	0.0	0.0	35.6	0.0	0.0	0.0	0.0	35	45	75	RR	
R_332483	620744.0	6431581.4	0	0.0	0.0	29.3	34.2	0.0	0.0	0.0	35.4	0.0	0.0	0.0	0.0	35	45	75	RR	
R_332434	621550.0	6430892.2	0	0.0	0.0	33.7	43.1	0.0	0.0	0.0	44.7	0.0	0.0	0.0	0.0	35	45	75	RR	
R_324822	623513.4	6429827.4	0	0.0	0.0	26.6	38.1	0.0	0.0	0.0	30.7	0.0	0.0	0.0	0.0	35	45	75	RR	
R_239768	615006.2	6427198.0	38	33.0	24.5	0.0	0.0	32.2	33.0	0.0	0.0	32.8	0.0	0.0	34.5	35	45	75	RR	
R_239764	614230.7	6426743.7	44	39.0	31.7	0.0	0.0	36.5	39.0	0.0	0.0	32.1	0.0	0.0	41.7	35	45	75	RR	
R_239751	612615.4	6426442.2	57.9	52.9	29.7	0.0	0.0	25.9	52.9	0.0	0.0	26.6	0.0	0.0	39.7	35	45	75	RR	
R_239748	612670.5	6426409.9	63.4	58.4	31.5	0.0	0.0	26.5	58.4	0.0	0.0	27.1	0.0	0.0	41.5	35	45	75	RR	
R_325145	617102.3	6426357.7	37.3	32.3	0.0	0.0	0.0	22.2	32.3	0.0	0.0	23.7	0.0	0.0	0.0	35	45	75	RR	
R_324738	616960.3	6425578.3	48	43.0	0.0	0.0	0.0	29.6	43.0	0.0	0.0	29.5	0.0	0.0	0.0	35	45	75	RR	
R_324734	617176.4	6425540.7	40.1	35.1	0.0	0.0	0.0	22.8	35.1	0.0	0.0	24.1	0.0	0.0	0.0	35	45	75	RR	
R_239744	612150.4	6425014.8	96	91.0	37.4	0.0	0.0	28.6	91.0	0.0	0.0	29.6	0.0	0.0	47.4	70	70	-	CIP	
R_239740	612488.8	6424538.9	52.8	47.8	34.9	0.0	0.0	25.8	47.8	0.0	0.0	26.4	0.0	0.0	44.9	35	45	75	RR	
R_239733	612761.0	6424473.5	50.8	45.8	40.8	0.0	0.0	32.3	45.8	0.0	0.0	33.4	0.0	0.0	50.8	35	45	75	RR	
R_239732	613220.4	6424461.1	51.1	46.1	41.1	0.0	0.0	30.2	46.1	0.0	0.0	30.5	0.0	0.0	51.1	35	45	75	RR	
R_324729	614293.7	6424325.6	48	43.0	38.0	0.0	0.0	39.3	43.0	0.0	0.0	35.1	0.0	0.0	48.0	35	45	75	RR	
R_324740	619071.5	6423232.2	0	0.																

Receiver ID	Coordinate X	Coordinate Y	INFR01-(Pre-construction) MFC establishment	INFR02-(Pre-construction) Rail&sleeper deliveries	INFR03-Camp operation	INFR04-Minor compounds	INFR05-Structure compounds	INFR06-General compounds	INFR07-MFC operation	INFR08-MFC concrete yard	INFR09-Fixed batching plants	INFR10-Mobile batching plants	INFR11-Borrow pits (Outside standard hours)	INFR12-Borrow pits (Standard hours)	INFR13_CAMP Establishment	evening/night criteria	day criteria	highly affected level	Receiver type
R_331583	621789.8	6408814.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.4	50.4	0.0	35	45	75	RR
R_331582	622028.9	6408651.1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.5	43.5	0.0	35	45	75	RR
R_331577	621381.6	6408071.5	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	44.0	0.0	35	45	75	RR
R_331579	622095.9	6408011.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.1	38.1	0.0	35	45	75	RR
R_331566	621853.8	6407611.1	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.8	35.8	0.0	35	45	75	RR