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ALBION PARK RAIL BYPASS

Noise and Vibration Assessment

7 October 2015

Roads and Maritime

TH508-01F02 NV Assessment (r5)

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Executive summary

This noise impact assessment was conducted on the behalf of NSW Roads & Maritime Services (Roads and Maritime) in support of a proposal to construct a 9.8 km extension of the Princes Highway between Yallah and Oak Flats to bypass the suburb of Albion Park Rail.

This assessment considers the following impacts on nearby sensitive receivers:

- Potential impacts from road traffic noise in accordance with the NSW Road Noise Policy, Roads and Maritime's Noise Criteria Guideline, Noise Mitigation Guideline and Environmental Noise Management Manual.
- Noise impacts from construction of the project in accordance with NSW Department of Environment, Climate Change & Water guidelines for the control of construction noise impacts.
- Construction vibration from the project in accordance with NSW Department of Environmental & Conservation guidelines for assessing vibration.
- Noise impact from the reconfiguration of the Croom Sporting Complex as a result of the bypass.

Operational Traffic Noise

The assessment of current and future traffic conditions has resulted in the following conclusions:

- Traffic noise levels for the year 2030, ten years following completion of the project, are predicted to exceed the NCG criteria at 732 sensitive receivers within the project study area with no mitigation applied.

Reasonable and feasible mitigation measures were considered. Determination of which measures were reasonable and feasible included consideration of noise impact, noise mitigation benefit, cost effectiveness and community views. Options for attenuating traffic noise have been investigated in the following order:

- Provision of low noise pavement surface to the new Bypass main carriageways to provide a -2dB(A) noise reduction. The extent of low noise pavement is shown in Figure 6.
- Provision of noise barriers located where feasible, and heights designed in accordance with the methodology defined in the NMG. Section 5.6.2 details the locations and heights of the proposed barriers. Provision of low noise pavement and the recommended noise barriers reduces the number of affected receivers from 732 to 240.
- Provision of property treatments are proposed to mitigate residual impacts where the NCG criteria are not achieved after implementation of all other reasonable and feasible mitigation measures. Section 5.6.3 describes the types of property treatments that are available, and

provides the number of properties within each noise catchment area that are to be considered. APPENDIX G contains maps showing the locations of the identified properties.

Croom Regional Sporting Complex

The Croom Regional Sporting Complex (CRSC) is to be reconfigured to allow construction of the bypass. The change in noise level from the current to the future configuration has been modelled and potential impacts are discussed in Part B.

In general, for most receivers, noise impacts are unlikely to increase as a result of the project.

Construction Noise and Vibration

An assessment of construction noise was conducted, which was based upon assumed construction phases and construction plant selections. The construction noise and vibration assessment is presented in Part C of this report.

Construction works are likely to mostly comply with noise management levels during standard daytime work hours in residential areas that are not immediately adjacent to the road corridor, although some receivers may be noise affected during corridor clearing and bulk earthworks.

Receivers in Albion Park Rail alongside the East West Link and in Albion Park (NCAs 3 and 5), and receivers west of the airport (NCA 11) will be exposed to higher, potentially moderately intrusive noise levels during construction, in particular during corridor clearing and bulk earthworks. Receivers in NCAs 4, 10, 13 and 15 may be highly noise affected during the construction works. These higher noise impacts are likely to be caused by utilities relocation, corridor clearing and bulk earthworks.

Construction noise levels at other sensitive receivers are generally predicted to comply with the NMLs, with the exception of exceedances up to 4 dB at the nearest industrial premises in NCAs 3 and 12 during corridor clearing and bulk earthworks. Exceedances up to 8 dB during corridor clearing and bulk earthworks are predicted at Albion Park Rail public school.

There may be a medium risk of adverse comment from residents regarding vibration where properties are within 20 – 60m of the construction works (NCAs 4, 13, 14). There may be a high risk of adverse comment where properties are within 10 – 40m of the construction works (NCAs 10, 15, 16).

In terms of structural damage to properties, there is generally a low to negligible risk of structural damage across the project, with the exception of a commercial property in NCA 9 where the works are within 6m of the building.

Construction mitigation and management measures are provided in Section 14 to assist in reducing construction noise impacts to other sensitive receivers. A detailed Construction Noise and Vibration Management Plan should be prepared prior to construction.

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Glossary and Abbreviations

The following is a brief description of the technical terms and abbreviations used to assist in understanding the technical issues presented.

Adverse weather	Weather effects that enhance noise (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
Ambient noise	The all-encompassing noise associated within a given environment at a given time, usually composed of sound from all sources near and far.
ANZECC	Australian and New Zealand Environment Conservation Council
Assessment period	The period in a day over which assessments are made.
Assessment point	A point at which noise levels are measured or predicted.
AVATG	Assessing Vibration: A Technical Guide (DEC 2006)
Background noise	Background noise is the term used to describe the underlying level of noise present in the ambient noise, measured in the absence of the noise under investigation, when extraneous noise is removed. It is described as the average of the minimum noise levels measured on a sound level meter and is measured statistically as the A-weighted noise level exceeded for ninety percent of a sample period. This is represented as the L90 noise level (see below).
CoRTN	Calculation of Road Traffic Noise, HMSO 1988
DEC	NSW Department of Environment and Conservation, now known as the NSW Office of Environment and Heritage
DECC	NSW Department of Environment and Climate Change, now known as the NSW Office of Environment and Heritage
DECCW	NSW Department of Environment and Climate Change and Water, now known as the NSW Office of Environment and Heritage
Decibel [dB]	The unit that sound is measured in. The following are examples of the decibel readings of every day sounds: 0dB The faintest sound we can hear 30dB A quiet library or in a quiet location in the country 45dB Typical office space. Ambience in the city at night 60dB CBD mall at lunch time 70dB The sound of a car passing on the street 80dB Loud music played at home 90dB The sound of a truck passing on the street 100dBThe sound of a rock band 115dBLimit of sound permitted in industry 120dBDeafening, can cause hearing damage
dB(A)	A-weighted decibels. The A- weighting noise filter simulates the response of the human ear at relatively low levels, where the ear is not as effective in hearing low frequency sounds as it is in hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the "A" filter. A sound level measured with this filter switched on is denoted as dB(A). Practically all noise is measured using the A filter.
ECRTN	Environmental Criteria for Road Traffic Noise (EPA 1999).
ENMM	Environmental Noise Management Manual (RTA 2001).
EPA	New South Wales Environmental Protection Authority

Frequency	Frequency is synonymous to pitch. Sounds have a pitch which is peculiar to the nature of the sound generator. For example, the sound of a tiny bell has a high pitch and the sound of a bass drum has a low pitch. Frequency or pitch can be measured on a scale in units of Hertz or Hz.
ICNG	New South Wales Interim Construction Noise Guideline (DECCW 1999).
Impulsive noise	Having a high peak of short duration or a sequence of such peaks. A sequence of impulses in rapid succession is termed repetitive impulsive noise.
INP	New South Wales Industrial Noise Policy (EPA 2000).
Intermittent noise	The level suddenly drops to that of the background noise several times during the period of observation. The time during which the noise remains at levels different from that of the ambient is one second or more.
L_{Max}	The maximum sound pressure level measured over a given period.
L_{Min}	The minimum sound pressure level measured over a given period.
L_1	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L_{10}	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
L_{90}	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L90 noise level expressed in units of dB(A).
L_{eq}	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time.
NSW	New South Wales
RBL	Rating Background Level
Reflection	Sound wave changed in direction of propagation due to a solid object obscuring its path.
RNP	New South Wales Road Noise Policy (DECCW 2011).
Roads and Maritime	NSW Roads and Maritime Services
RTA	NSW Roads and Traffic Authority, now known as the NSW Department of Transport, Roads and Maritime Services
SEL	Sound Exposure Level (SEL) is the constant sound level which, if maintained for a period of 1 second would have the same acoustic energy as the measured noise event. SEL noise measurements are useful as they can be converted to obtain Leq sound levels over any period of time and can be used for predicting noise at various locations.
Sound	A fluctuation of air pressure which is propagated as a wave through air.
Sound absorption	The ability of a material to absorb sound energy through its conversion into thermal energy.
Sound level meter	An instrument consisting of a microphone, amplifier and indicating device, having a declared performance and designed to measure sound pressure levels.
Sound pressure level	The level of noise, usually expressed in decibels, as measured by a standard sound level meter with a microphone.
Sound power level	Sound power level is a measure of the sound energy emitted by a source, does not change with distance, and cannot be directly measured. Sound power level is equal to ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power.
Tonal noise	Containing a prominent frequency and characterised by a definite pitch.

1 Introduction

1.1 Background

Roads and Maritime Services is planning a future extension of the M1 Princes Motorway between Yallah and Oak Flats to bypass Albion Park Rail. The bypass would complete the 'missing link' for a high standard road between Sydney and Bomaderry.

In the mid 1990s a preferred route for the bypass was identified and to reserve land for this bypass route, a road corridor was included in the Wollongong and Shellharbour City Council local environmental plans. In 2013 Roads and Maritime reviewed the road corridor and confirmed the reserved corridor is suitable for a bypass of Albion Park Rail.

1.2 Proposal

The proposal is to construct 9.8 km extension of the Princes Motorway between Yallah & Oak Flats to bypass the suburb of Albion Park Rail. The bypass would provide easy access to Dapto, Albion Park and Oak Flats.

The project comprises of two lanes in each direction with a central median. The posted speed for the bypass is 100 km/h. To accommodate future population growth in the area, the project has the capacity for extra lanes as they become required. To accommodate the development of the motorway, the project also involves the reconfiguration of the Croom Regional Sporting Complex.

The proposal is shown in Figure 1.

1.3 Assessment objectives

The assessment objectives are to determine the levels of noise and vibration impact on sensitive receives located near to the project, and determine the levels of mitigation that will be required to enable compliance with the current NSW legislation.

This assessment considers the following policies and guidelines:

- NSW Road Noise Policy (DECCW July 2011)
- NSW Noise Criteria Guideline (Roads and Maritime 2015)
- NSW Noise Mitigation Guideline (Roads and Maritime 2015)
- NSW Environmental Noise Management Manual (RTA 2001)
- NSW Industrial Noise Policy (EPA 2000)
- Interim Construction Noise Guideline (DECC 2009)
- Assessing Vibration – A Technical Guideline (DEC 2006)

- Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC 1990)
- Australian Standard AS 2187.2-2006 ' Explosives - Storage and use - Part 2 Use of explosives'.

In undertaking the assessment, unattended noise monitoring was conducted to measure noise from the existing local road network concurrently with traffic counts. Three-dimensional noise modelling software was used to create a noise model of the existing scenario which was verified against the measured levels.

The verified model was then used to predict future road traffic noise levels and assess the need for noise mitigation.

The work documented in this report was carried out in accordance with the Renzo Tonin & Associates Quality Assurance System, which is based on Australian Standard / NZS ISO 9001.

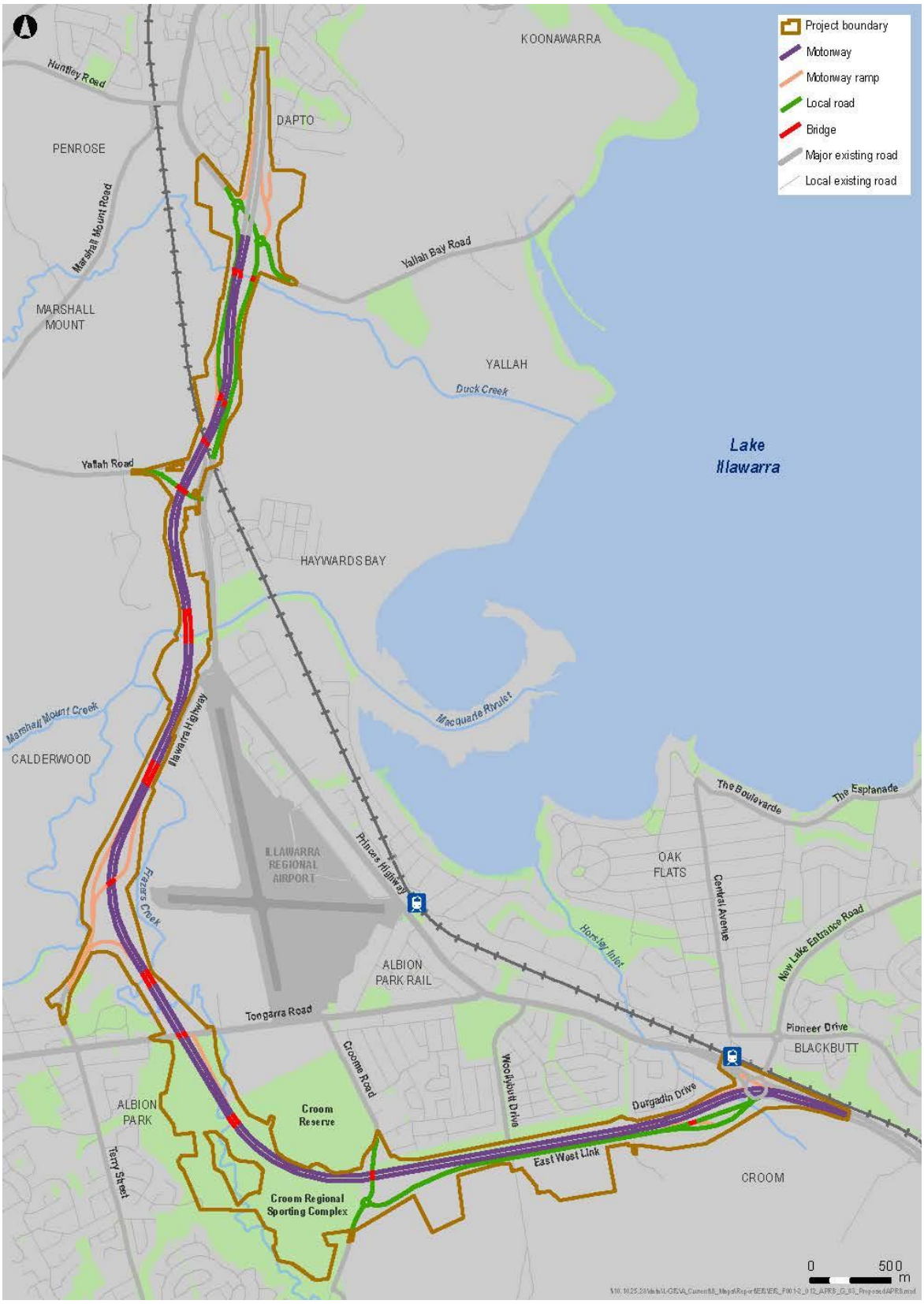
1.4 Secretary's Environmental Assessment Requirements (SEARs)

The Secretary's Environmental Assessment Requirements (SEARs) in accordance with Section 115Y of the Environmental Planning and Assessment Act 1979 as advised by the NSW Department of Planning & Environment for the project are as follows.

Table 1 Summary of Secretary's Environmental Assessment Requirement (Noise and Vibration)

Secretary's Environmental Assessment Requirement	Where addressed in this assessment
Noise and Vibration – including, but not limited to:	
An assessment of the noise impacts of the proposal during operation, consistent with the Road Noise Policy (EPA 2011) and NSW Industrial Noise Policy (EPA 2000). The assessment must include specific consideration of impacts to receivers (dwellings, child care centres, educational establishments, hospitals, motels, nursing homes, or places of worship), including specific consideration of sleep disturbance and, as relevant, the characteristics of noise (eg. low frequency noise), and identify reasonable and feasible mitigation measures	Part A (more specifically Sections 3 to 6) Part B (more specifically Section 7.3.
An assessment of construction noise and vibration impacts, consistent with the Interim Construction Noise Guideline (DECCW 2009) and Assessing Vibration: a technical guideline (DEC 2006). The assessment must have regard to the nature of construction activities (including transport, tonal or impulsive noise-generating works and the removal of operational noise barriers, as relevant), the intensity and duration of noise and vibration impacts, the nature, sensitivity and impact to potentially affected receivers, the need to balance timely conclusion of noise and vibration-generating works with periods of receiver respite, and other factors that may influence the timing and duration of construction activities (such as traffic management), and mitigation and management measures	Part C
If blasting is required, addressing the relevant requirements of Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC 1990)	Part C (more specifically Section 9.3, 12 and 14.3
If relevant, an indication of potential for works outside standard working hours, including predicted levels and exceedences, justification for the activity and discussion of available mitigation and management measures.	Part C (more specifically Section 8.3.2 and 8.3.3.

Figure 1 The Proposal



1.5 Project description

The project generally comprises of the following elements:

- Construction of a new 9.8 km bypass to become part of the Princes Highway to the west of the current highway.
- Provision of associated ramps and interchanges.
  - Northern interchange at Yallah to provide free flowing movements to and from Albion Park Rail, Dapto and Yallah to the bypass
  - Central interchange at Albion Park including a:
    - northbound entry ramp from the Illawarra Highway,
    - northbound exit ramp to the Illawarra Highway, and a
    - southbound exit ramp to the Illawarra Highway.
  - Southbound entry ramp from Tongarra Rd
  - Southern interchange at Oak Flats including a
    - northbound entry ramp from the Princes Highway,,
    - southbound exit ramp to the Princes Highway,
    - local road, one lane in each direction, connecting Croome Road and the Oak Flats Interchange. This new road separates local and through traffic and replaces the East West Link. The existing Oak Flats Interchange would be reconfigured to allow for the connection of the local road.
- Reconfiguration of the existing Croom Regional Sporting Complex.

2 Existing Noise Environment

The existing acoustic environment varies throughout the project extent. Residents located along the existing Princes Highway near the road currently experience high levels of traffic noise. Other land uses include a number of commercial and light industrial premises in this area.

The Illawarra Highway to the west of the existing Princes Highway and part of the proposed upgrade is currently located in rural and predominantly wetland areas, which are predominantly quiet. Residential areas are located to the west of this road and the proposed bypass at the northern and southern ends.

Residential and other sensitive receivers located along the East West Link and Terry Street also currently experience a reasonably high level of traffic noise from these roads.

A rail corridor runs east of the existing Princes Highway, but site measurements indicated that passenger trains have very little impact on the existing noise environmental, and whilst freight trains are audible at many locations with the assessment area, they are infrequent and not likely to substantially influence the measured statistical ambient noise levels.

The Illawarra Regional Airport (Wollongong Aerodrome) is located approximately in the centre of the project area. This is a security controlled, licensed airport that is owned and operated by Shellharbour City Council. The airport is mainly utilised by light to medium aircraft.

Noise monitoring was conducted by Cardno (NSW/ACT) Pty Ltd (Cardno) in February 2015. Supplementary noise monitoring was conducted by Renzo Tonin & Associates in July 2015.

2.1 Unattended noise monitoring (February 2015)

Unattended noise monitoring was conducted for a continuous period between the 9 and 18 February 2015 to measure road traffic and background noise levels. Calibration of the noise monitors was conducted before and after the monitoring period, with no significant calibration drift observed.

Cardno provided the following information as to the location of the noise monitors and the noise environment, summarised below. It is understood that as part of standard procedure, the noise monitoring equipment was calibrated prior to the commencement of noise monitoring.

Table 2 Noise monitoring locations (February 2015)

Noise Logger #	Location description	Observed noise environment
Logger 1	Located in the backyard of 4 Semillon Place at 1 metre from the facade of an existing shed. The microphone was located 1.4 metres above ground level and approximately 26 metres from the nearest lane of the Princes Highway.	Noise observed at the 4 Semillon Place logger included continuous traffic noise from the Princes Motorway, intermittent noise from the Princes Highway, and insect noise.

Noise Logger #	Location description	Observed noise environment
Logger 2	Located in the backyard of 42 Larkins Lane in a free field location. The microphone was located 1.4 metres above ground level and approximately 206 metres from the nearest lane of the Princes Highway.	The ambient acoustic environment at the 42 Larkins Lane logger was observed to be dominated by continuous noise from the Princes Highway. Other observed audible noise sources included insects and light aircraft.
Logger 3	Located in the front yard of 24 Terry Street in a free field location. The microphone was located 1.4 metres above ground level and approximately 20 metres from the nearest lane of Terry Street.	The ambient acoustic environment at the 24 Terry Street logger was observed to be dominated by traffic noise from Terry Street. Other observed audible noise sources included birds.
Logger 4	Located in the front yard of 52 Tongarra Road in a free field location. The microphone was located 1.4 metres above ground level and approximately 12 metres from the nearest lane of Tongarra Road.	The ambient acoustic environment at the 52 Tongarra Road logger was observed to be dominated by traffic noise from Tongarra Road.
Logger 5	Located in the front yard of 54 Oak Street in a free field location. The microphone was located 1.6 metres above ground level and approximately 27 metres from the nearest lane of Croome Road.	The acoustic environment at the 54 Oak Street logger was observed to comprise of traffic noise from Croome Road, insects, and wind in trees.
Logger 6	Located in the front yard of 152 Croome Road in a free field location. The microphone was located 1.6 metres above ground level and approximately 7 metres from the nearest lane of Croome Road.	The ambient acoustic environment at the 152 Croome Road logger was observed to be dominated by noise from Croome Road. Other observed audible noise sources included insects and a distant helicopter.
Logger 7	Located in the backyard of 78 Jarrah Way in a free field location. The microphone was located 1.4 metres above ground level and approximately 119 metres from the nearest lane of the East West Link.	Noise observed at the 78 Jarrah Way logger included faint traffic noise from the East West Link Road, bird, and insect noise.
Logger 8	Located in the backyard of 20 Westwood Drive in a free field location. The microphone was located 1.4 metres above ground level and approximately 91 metres from the rail line, and approximately 132 metres from the nearest lane of the Princes Highway (entry ramp).	The ambient acoustic environment at the 20 Westwood Drive logger was observed to be dominated by noise from the Princes Highway. Passing passenger trains were audible for a period of approximately 8 seconds, with diesel freight trains producing higher noise levels, which audible for a period of approximately 1-2 minutes. Insect noise was also quite prevalent, and light aircraft were also audible at times at the monitoring location.
Logger 9	Located in the front yard of 216 Princes Highway approximately 1 metre from the dwelling facade. The microphone was located 1.4 metres above ground level and approximately 21 metres from the nearest lane of the Princes Highway.	The noise monitoring location at 216 Princes Highway was dominated by traffic noise from the Princes Highway.
Logger 10	Located in the front yard of 305 Princes Highway approximately 1 metre from the dwelling facade. The microphone was located 1.4 metres above ground level and approximately 20 metres from the nearest lane of the Princes Highway.	The noise monitoring location at 305 Princes Highway was dominated by traffic noise from the Princes Highway.
Logger 11	Located in a free field location north of Yallah Road, approximately 220 metres west of the Larkins Lane T-section. The microphone was located 1.4 metres above ground level and approximately 11 metres from the nearest lane of Yallah Road.	The acoustic environment at the Yallah Road logger was observed to comprise of intermittent traffic noise from Yallah Road, light aircraft (landing at Illawarra Regional Airport), insects, and wind in trees.

2.2 Unattended noise monitoring (July 2015)

Additional noise monitoring was completed in July 2015 in the vicinity of Croome Road and at properties to the west of the Croom Regional Sporting Complex. The purpose of the monitoring was to confirm existing levels of traffic noise and to determine the accuracy of the noise model at residences west of the sporting complex, beyond 600m from the proposed road.

The equipment used for noise measurements was a combination of RTA Technology RTA05/06/07 noise loggers which is based on an NTi Audio Type XL2 precision sound level analyser which is a class 1 instrument having accuracy suitable for field and laboratory use. The instrument was calibrated prior and subsequent to measurements using a Bruel & Kjaer Type 4231 calibrator. No significant drift in calibration was observed. All instrumentation complies with IEC 61672 (parts 1-3) '*Electroacoustics - Sound Level Meters*' and IEC 60942 '*Electroacoustics - Sound calibrators*' and carries current NATA certification (or if less than 2 years old, manufacturers certification).

The monitoring locations are described in Table 3.

Table 3 Noise monitoring locations (July 2015)

Noise Logger #	Location description	Observed noise environment
Logger 12	Located in the front yard of 152 Croome Road in a free field location. A repeat of Logger 6 (Feb 2015).	The ambient acoustic environment was observed to be dominated by traffic noise from Croome Road.
Logger 13	59 Burdekin Drive in a free field location.	Distant traffic from Terry Street and Croome Road, local traffic and fauna.
Logger 14	25 Fraser Crescent in a free field location.	Distant traffic from Terry Street and Tongarra Road. and fauna.

The noise monitoring locations for both the February and July unattended measurements are shown below in Figure 2. Graphed noise data is shown in APPENDIX A.

2.3 Attended noise monitoring

The attended noise measurements were conducted at the commencement of unattended noise monitoring in February 2015, for each of the 11 noise monitoring locations to determine the nature and frequency content of the ambient noise at each location. The attended measurements were also compared to the noise logger results for that same time period to act as a further validation of the longer term unattended measurements.

2.4 Rating background levels

The Rating Background Level (RBL) for each site was determined in accordance with the Industrial Noise Policy (EPA, 2000) (NSW INP) and are presented in Table 4. The RBL is defined by the NSW INP as follows:

"Rating background level (RBL)—the overall single figure background level representing each assessment period (day/evening/night) over the whole monitoring period (as opposed to over each 24-hour period used for the assessment background level). The rating background level is the level used for assessment purposes. Where the rating background level is found to be less than 30 dB(A), then it is set to 30 dB(A).

Any weather affected data (due to wind or rain) was excluded from the analysis in accordance with EPA exclusion procedures detailed in the NSW Industrial Noise Policy. The measured RBLs have been used to formulate the noise objectives for the construction noise assessment (see Section 9.1).

Table 4 Measured rating background levels

Logger	Measurement Location	Rating Background Level, dB(A)		
		Day, 7am-6pm	Evening, 6pm-10pm	Night, 10pm-7am
	February 2015			
1	4 Semillon Place, Mount Brown	54	53	52
2	42 Larkins Lane, Yallah	48	46	46
3	24 Terry Street, Albion Park	47	43	39
4	52 Tongarra Road, Albion Park Rail	52	48	39
5	54 Oak Street, Albion Park Rail	43	43	38
6	152 Croome Road, Albion Park	45	44	36
7	78 Jarrah Way, Albion Park	45	47	47
8	20 Westwood Drive, Blackbutt	48	46	44
9	216 Princes Highway, Albion Park Rail	58	49	39
10	305 Princes Highway, Albion Park Rail	59	49	39
11	Yallah Road, Yallah	46	42	38
	July 2015			
12	152 Croome Road, Albion Park	44	37	29
13	59 Burdekin Drive, Albion Park	35	33	29
14	25 Fraser Crescent, Albion Park	39	38	30

2.5 Road traffic noise levels

The measured road traffic noise levels are presented in Table 5. The measured levels were determined from an average of weekly (7-day) data, which was not affected by inclement weather.

Table 5 Measured traffic noise levels

Logger	Measurement Location	Measured Noise Level, dB(A)	
		$L_{Aeq,15hour}$ 7am–10pm	$L_{Aeq,9hour}$ 10pm–7am
	February 2015		
1	4 Semillon Place, Mount Brown	61	58
2	42 Larkins Lane, Yallah	59	59
3	24 Terry Street, Albion Park	67	64
4	52 Tongarra Road, Albion Park Rail	70	63
5	54 Oak Street, Albion Park Rail	58	52
6	152 Croome Road, Albion Park	71	65
7	78 Jarrah Way, Albion Park	56	55
8	20 Westwood Drive, Blackbutt	59	59
9	216 Princes Highway, Albion Park Rail	69	64
10	305 Princes Highway, Albion Park Rail	68	65
11	Yallah Road, Yallah	61	55
	July 2015		
12	152 Croome Road, Albion Park	72	65
13	59 Burdekin Drive, Albion Park	51	45
14	25 Fraser Crescent, Albion Park	50	44

Notes:

1. The presented noise levels are 7-day results based on five weekdays and two weekend days, and are facade corrected values.

Figure 2 Noise monitoring locations



Part A Operational Traffic Noise Assessment

3 Operational Traffic Noise Criteria

Noise criteria are assigned to sensitive receivers using RMS' Noise Criteria Guideline (NCG). RMS' NCG provides guidance on how to apply the NSW Road Noise Policy. The assessment timeframe for the criteria are in the year of opening and 10 years after opening.

The project assessment area extends to where noise levels are dominated by other roads that are not being assessed as part of this project as defined in NCG. This is up to a maximum distance of 600 metres from the project works for urban areas and 800 metres for rural areas.

Residences may be assigned new, redeveloped, transition zone or relative increase criteria depending on how the project will influence noise levels. For each facade of the residence the most stringent applicable criteria will be used in the assessment.

Criteria are based on the road development type a residence is affected by due to the road project. In some instances residences may be exposed to noise from new and redeveloped roads or different functional classes. In this instance the proportion of noise from each road is used to establish transition zone criteria and provides a smooth change in noise criteria between adjacent residences. A further check is made to prevent large increases in noise level using the relative increase criteria.

The project consists of both new and redeveloped road segments, with transition zones at the following locations;

- where the Bypass meets the redeveloped Princes Highway at the southern end of the project,
- where the Bypass meets the redeveloped Illawarra Highway near Tongarra Road, and
- where the Bypass re-joins the Princes Motorway at the northern end of the project.

A road is defined as 'new' where the road is a bypass or has been substantially realigned (outside the NCG tolerance band and/or existing grade). However, consideration can be given to whether a road has been substantially realigned for distances less than six times the existing lane width using local context for guidance. This is consistent with the NCG. This situation occurs where the bypass has been built over the existing East West Link. In this context the moving of the existing link road is not a 'redevelopment' as it is not for the purpose of increasing capacity on the link road. The link road has just ceased to exist. In this instance the link road is 'new' as it has been moved significantly closer to residences, but within the tolerance band, which will associate this move with the bypass.

The project assessment areas are shown as Noise Catchment Areas (NCAs) in Figure 3. The red shaded areas in Figure 3 are those areas where traffic noise levels are dominated by roads other than project roads.

Figure 3 Noise catchment areas (NCAs)



The criteria for residences are summarised in Table 6.

Table 6 NCG criteria - residential

Road Category	Type of Project/Land Use	Assessment Criteria (dB)	
		Daytime (7 am - 10 pm)	Night-time (10 pm - 7 am)
Freeway/ arterial/ sub-arterial roads	1. Existing residences affected by noise from new freeway/arterial/sub-arterial road corridors	$L_{Aeq(15hour)}$ 55 (external)	$L_{Aeq(9hour)}$ 50 (external)
	2. Existing residences affected by noise from redevelopment of existing freeway/arterial/sub-arterial roads 3. Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	$L_{Aeq(15hour)}$ 60 (external)	$L_{Aeq(9hour)}$ 55 (external)
	4. Existing residences affected by both new roads and the redevelopment of existing freeway/arterial/sub-arterial roads in a Transition Zone1	Between $L_{Aeq(15hour)}$ 55-60 (external)	Between $L_{Aeq(9hour)}$ 50-55 (external)
	5. Existing residences affected by increases in traffic noise of 12dBA or more from new freeway/arterial/sub-arterial roads2	Between $L_{Aeq(15hour)}$ 42-55 (external)	Between $L_{Aeq(9hour)}$ 42-50 (external)
	6. Existing residences affected by increases in traffic noise of 12dBA or more from redevelopment of existing freeway/arterial/sub-arterial roads2	Between $L_{Aeq(15hour)}$ 42-60 (external)	Between $L_{Aeq(9hour)}$ 42-55 (external)

Notes

1. The criteria assigned to the entire residence depend on the proportion of noise from the new and redeveloped road. See RMS' Noise Criteria Guideline for further information.
2. The criteria at each facade are determined from the existing traffic noise level plus 12dBA.

The criteria for other sensitive receivers are presented in Table 6.

Table 7 NCG criteria – other sensitive land uses

Existing sensitive land use	Assessment criteria, dB(A)		Additional considerations
	Day (7am-10pm)	Night (10pm-7am)	
1. School classrooms	$L_{Aeq,1hour}$ 40 (internal) when in use	–	In the case of buildings used for education or health care, noise level criteria for spaces other than classrooms and wards may be obtained by interpolation from the 'maximum' levels shown in Australian Standard 2107:2000 (Standards Australia 2000).
2. Hospital wards	$L_{Aeq,1hour}$ 35 (internal)	$L_{Aeq,1hour}$ 35 (internal)	

Existing sensitive land use		Assessment criteria, dB(A)		Additional considerations
		Day (7am-10pm)	Night (10pm-7am)	
3.	Places of worship	$L_{Aeq,1hour}$ 40 (internal)	$L_{Aeq,1\ hour}$ 40 (internal)	The criteria are internal, i.e. the inside of a church. Areas outside the place of worship, such as a churchyard or cemetery, may also be a place of worship. Therefore, in determining appropriate criteria for such external areas, it should be established what in these areas may be affected by road traffic noise. For example, if there is a church car park between a church and the road, compliance with the internal criteria inside the church may be sufficient. If, however, there are areas between the church and the road where outdoor services may take place such as weddings and funerals, external criteria for these areas are appropriate. As issues such as speech intelligibility may be a consideration in these cases, the passive recreation criteria (see point 5) may be applied.
4.	Open space (active use)	$L_{Aeq,15hour}$ 60 (external) when in use		Active recreation is characterised by sporting activities and activities which generate their own noise or focus for participants, making them less sensitive to external noise intrusion. Passive recreation is characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion, e.g. playing chess, reading. In determining whether areas are used for active or passive recreation, the type of activity that occurs in that area and its sensitivity to noise intrusion should be established. For areas where there may be a mix of passive and active recreation, e.g. school playgrounds, the more stringent criteria apply. Open space may also be used as a buffer zone for more sensitive land uses.
5.	Open space (passive use)	$L_{Aeq,15hour}$ 55 (external) when in use		
6.	Childcare facilities	Sleeping rooms $L_{Aeq,1hour}$ 35 (internal) Indoor play areas $L_{Aeq,1hour}$ 40 (internal) Outdoor play areas $L_{Aeq,1hour}$ 55 (external)		Multi-purpose spaces, e.g. shared indoor play/sleeping rooms should meet the lower of the respective criteria. Measurements for sleeping rooms should be taken during designated sleeping times for the facility, or if these are not known, during the highest hourly traffic noise level during the opening hours of the facility.
7.	Aged care facilities	–	–	Residential land use noise assessment criteria should be applied to these facilities

Notes: Land use developers must meet internal noise goals in the Infrastructure SEPP (Department of Planning NSW 2007) for sensitive developments near busy roads.

It is generally accepted that most residential buildings provide a noise reduction of at least 10dB(A) when windows are left 20% open. Therefore where the noise goals are internal, a 10dB(A) reduction from external to internal noise levels has been adopted to allow an external assessment. For non-residential receivers, external to internal noise level reductions have been estimated based on each receiver type's building construction, and these reductions range from 10 to 20dB(A). Where estimation has not been possible a conservative 10 dB(A) reduction from external to internal noise levels has been adopted to allow an external assessment. The noise model predict noise levels for $L_{Aeq(15hour)}$ and $L_{Aeq(9hour)}$

periods for day and night respectively. Where receivers have been assigned with 1-hour criteria, the predicted noise levels have been converted accordingly.

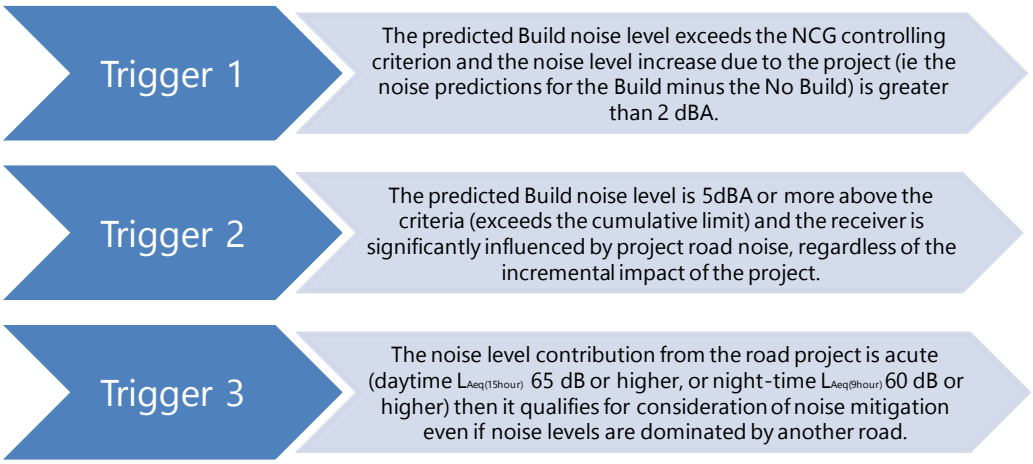
The criteria applicable to noise sensitive receivers identified in the project assessment areas are shown on the maps in APPENDIX B.

4 Guidance on the evaluation of noise mitigation measures

The Noise Mitigation Guideline (NMG) provides guidance in managing and controlling road traffic generated noise and describes the principles to be applied when reviewing noise mitigation. The NMG recognises that the criteria recommended by the NCG are not always practicable and that it is not always feasible or reasonable to expect that they should be achieved.

The NMG notes that the most effective way of minimising noise from vehicles and traffic is to control vehicle noise at the source. Where source measures are not practical, or do not provide sufficient noise reduction, additional methods are required to reduce levels to within acceptable margins. Such additional methods may include the use of noise barriers and/or consideration for architectural treatment of residences.

The NMG provides three triggers where a receiver may qualify for consideration of noise mitigation (beyond the adoption of road design and traffic management measures). These are:



The eligibility of receivers for consideration of additional noise mitigation is determined before the benefit of additional noise mitigation (quieter pavement and noise barriers) is included. The requirement for the project is to provide reasonable and feasible additional mitigation for these eligible receivers to meet the NCG controlling criterion. If the NCG criterion cannot be satisfied with quieter pavement and noise barriers, then the receiver is eligible for consideration of at-property treatment.

Further detail on the process of applying the NMG is presented in Section 5.

5 Operational Traffic Noise Assessment

This section outlines the noise modelling methodology used to predict noise levels, and the validation of the noise model. It also presents the noise mitigation measures that were considered on the project, as well as summarising the results of the assessment, before and after mitigation.

5.1 Noise modelling scenarios

To conduct the noise assessment, a number of different traffic scenarios were required to be modelled and compared. The assessment considers both the 'build' (with the project) and 'no build' (without the project) scenarios for the year of opening (2020) and ten years after opening (2030). Table 8 summarises the scenarios that were modelled.

Table 8 Modelled scenarios

Modelled Scenario	Label	Description
1a	2015 Existing - day	Day time, based on existing measured 2015 traffic and road alignment for model validation purposes
1b	2015 Existing - night	Night-time, based on existing measured 2015 traffic and road alignment for model validation purposes
2a	2020 No build - day	Day time based on 2020 'no build' scenario
2b	2020 No build - night	Night-time based on 2020 'no build' scenario
3a	2030 No build - day	Day time based on 2030 'no build' scenario
3b	2030 No build - night	Night-time based on 2030 'no build' scenario
4a	2020 Build - no mitigation - day	Day time based on 2020 'with build' scenario — no mitigation
4b	2020 Build - no mitigation -night	Night-time based on 2020 'with build' scenario — no mitigation
5a	2030 Build - no mitigation - day	Day time based on 2030 'with build' scenario — no mitigation
5b	2030 Build - no mitigation -night	Night-time based on 2030 'with build' scenario — no mitigation
6a	2020 Build - with mitigation - day	Day time based on 2020 'with build' scenario — with quieter pavement and noise barriers
6b	2020 Build - with mitigation - night	Night-time based on 2020 'with build' scenario — with quieter pavement and noise barriers
7a	2030 Build - with mitigation - day	Day time based on 2030 'with build' scenario — with quieter pavement and noise barriers
7b	2030 Build - with mitigation - night	Night-time based on 2030 'with build' scenario — with quieter pavement and noise barriers

5.2 Noise modelling methodology

Noise predictions are based on a method developed by the United Kingdom Department of Environment entitled "Calculation of Road Traffic Noise (1988)" known as the CoRTN (1988) method. This method has been adapted to Australian conditions and extensively tested by the Australian Road Research Board and as a result it is recognised and accepted by the NSW Environment Protection

Authority. The model predicts noise levels for steady flowing traffic and noise from high truck exhausts is also taken into account.

The CoRTN algorithms are contained within the 'CadnaA' noise modelling software which has been used to calculate traffic noise levels at receivers. The noise prediction model takes into account the following inputs.

Table 9 Road traffic modelling inputs and assumptions

Input Parameters	Data Acquired From
Ground elevation geometry	Lidar 2m ground level contours and proposed finished earthwork level
Road alignment	Existing: Current 2D Cadastral and aerial photo Future: Proposed design alignment
Traffic volumes	Refer to APPENDIX C
Vehicle speed	100 km/h, future speed limit on the bypass 80 km/h, existing Illawarra Highway 70 – 100 km/h, existing Princes Highway 100 km/h, existing Princes Motorway 60 km/h, Yallah Road 60 - 80 km/h, all remaining roads Validation model: Based on measured 85th percentile speeds during traffic counting or posted speed where the vehicle speed at the counting location was not representative.
Road Surface	Dense graded asphalt +0dB(A) Open Grade Asphaltic Concrete (OGAC) or Stone Mastic Asphalt (SMA) pavement surface on sections of the new bypass main carriageways -2dB(A) Chip seal on Tongarra Road and Yallah Road +4dB(A) Concrete for Princes Hwy northbound between Colden Drive and Woollybutt Drive +3dB(A)
Ground Absorption	50% soft ground absorption has been assumed for residential areas and 75% soft ground absorption for open spaces and rural areas.
Source height	0.5 metre for car exhaust, 1.5 metres for car and truck engines and 3.6 metres for truck exhaust and detailed within CORTN88
Receiver Heights	1.5 metre above ground level for ground floor and 4.5 metre above ground level for 1st floor
Existing noise barriers	As per Figure 4 and Figure 5
L_{A10} to L_{Aeq} conversion	$L_{Aeq,1hr} = L_{A10,1hr}$ - 3 dB(A)
Facade correction	+2.5dB(A)
Correction for Australian conditions	$L_{Aeq,15h}$: -1.7 dB(A) for 'at facade' conditions from Australian Road Research Board (ARRB) Transport Research (Saunders et al 1983) $L_{Aeq,9h}$: no Australian Conditions correction applied

Figure 4 Existing noise barriers (height of 3.1 m)

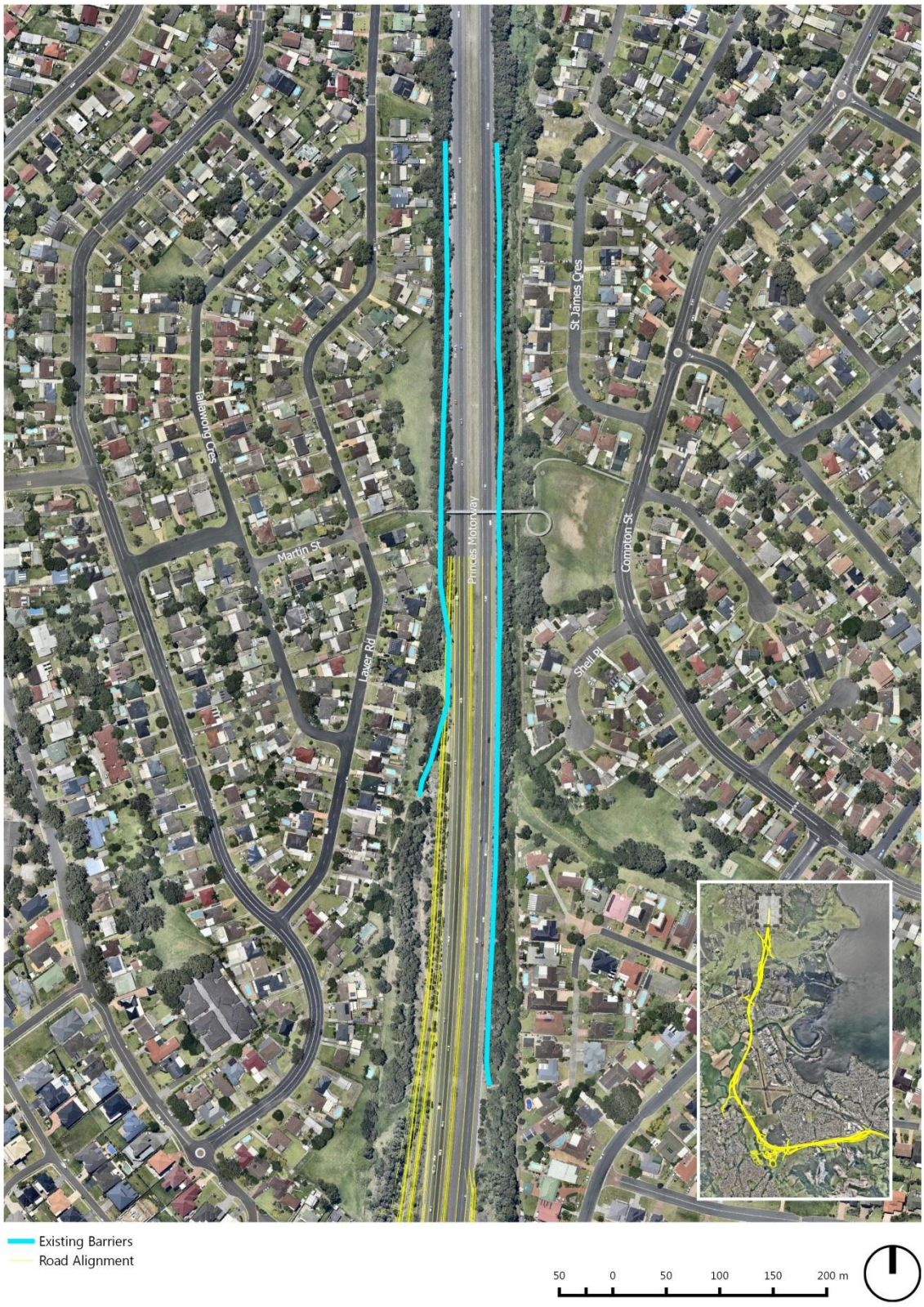


Figure 5 Existing noise mounds (height varies from 2 m to 4 m)



5.3 Traffic data

5.3.1 Existing and future "No Build" traffic volumes

Existing (2015) traffic volumes within the project area were obtained from traffic surveys conducted during the noise monitoring period of 9-18 February 2015. Traffic data obtained during weather affected periods and during times before or after the noise monitoring period was excluded from the analysis.

No build traffic volumes for the year of opening (2020) and the design year (2030) were obtained from the traffic model (TRACKS). The volumes used for noise modelling are presented in APPENDIX C. For more information on the traffic model, refer to Technical Paper 1 – Traffic and Transport Assessment (HCJV, 2015), which is appended to the environmental impact statement.

5.3.2 Future "Build" scenario traffic volumes

Design traffic volumes within the project area were obtained for the year of opening (2020) and the design year (2030). The design traffic volumes, used to determine the predicted road traffic noise levels as a result of the project are presented in APPENDIX C.

5.4 Noise model validation

Noise model validation was conducted by modelling traffic noise levels for the existing 2015 scenario using traffic count data obtained in February 2015 and July 2015 (as presented in this report) during the noise monitoring period. Modelled 2015 noise levels were compared to the noise levels measured during unattended noise monitoring. A comparison of the measured and modelled values is shown in Table 10.

Table 10 Model Validation

Monitoring Location		Measured Noise Level		Modelled Noise Level		Difference (Modelled-Measured), dB(A)	
		Day LAeq,15hour	Night LAeq,9hour	Day LAeq,15hour	Night LAeq,9hour	Day LAeq,15hour	Night LAeq,9hour
1	4 Semillon Place	60.6	58.5	62.3	57.7	-1.7	0.8
2	42 Larkins Lane	60.9	56.2	59.5	55.4	1.4	0.8
3	24 Terry Street	67.1	63.9	66.9	62.1	0.2	1.8
4	52 Tongara Road	70.0	63.3	71.6	63.9	-1.6	-0.6
5	54 Oak Street	61.0	54.0	60.8	53.9	-0.2	0.2
6	152 Croome Road	71.3	65.1	71.6	64	-0.3	1.1
7	78 Jarrah Way	56.0	55.3	57.1	50.1	-1.1	Note 1
8	20 Westwood Drive	59.0	59.1	-	-	Note 2	Note 2
9	216 Princes Highway	68.6	64.4	68.4	65	0.2	-0.6
10	305 Princes Highway	68.4	64.9	70.1	65.9	-1.7	-1.0

Monitoring Location		Measured Noise Level		Modelled Noise Level		Difference (Modelled-Measured), dB(A)	
		Day LAeq,15hour	Night LAeq,9hour	Day LAeq,15hour	Night LAeq,9hour	Day LAeq,15hour	Night LAeq,9hour
11	Yallah Road	61.9	54.4	63.2	56.3	-1.3	-1.9
	Average					**-0.3**	**+0.1**

Notes: 1. High extraneous noise at night from frogs, insects.
2. Insufficient traffic data to support noise modelling of existing situation.

The model tolerances are within ± 2 dB(A) at each validation location and the average tolerance is within ± 1dB(A). The noise model is therefore considered to be validated and may be used to assess existing and future noise levels in the study area. No calibration correction has been added to the model.

Predicted traffic noise levels for the day period ($L_{Aeq, 15hr}$) and night period ($L_{Aeq, 9hr}$) are presented for all modelled receivers in APPENDIX D (no mitigation) and APPENDIX F (with mitigation). Noise predictions in the form of noise contour maps are presented in APPENDIX G.

5.5 Results overview

Table 11 summarises the number of receivers that exceed the NCG criteria due to the traffic noise in the operational phase of the project before any road corridor treatments such as quieter pavement or noise barriers have been implemented, and qualify for consideration of noise mitigation.

Table 11 Summary of receivers that exceed NCG criteria and qualify for consideration of noise mitigation

Noise Catchment Area	Exceedance of NCG criteria			
	0 - 5dB	5 - 10dB	>10dB	Total
NCA 1	1	0	1	2
NCA 2	1	0	0	1
NCA 3	314	100	0	414
NCA 4	0	0	2	2
NCA 5	129	9	1	139
NCA 6	0	1	0	1
NCA 7	-	-	-	0
NCA 8	2	4	0	6
NCA 9	1	5	3	9
NCA 10	3	9	7	19
NCA 11	18	1	4	23
NCA 12	7	7	1	15
NCA 13	9	8	4	21
NCA 14	1	0	0	1
NCA 15	3	35	7	45

Noise Catchment Area	Exceedance of NCG criteria			
	0 - 5dB	5 - 10dB	>10dB	Total
NCA 16	7	25	2	34
Total				**732**

5.6 Noise mitigation options

The Noise Mitigation Guideline (Roads and Maritime 2014) (NMG) provides a methodology in relation to determining and recommending acoustic treatments for road projects. In accordance with the NMG, once noise has been minimised by feasible and reasonable methods during the corridor planning and road design stages, receivers with residual exceedances of the NCG criteria are assessed in accordance with the process described in Section 4 of this report to determine if receivers qualify for consideration of additional noise mitigation.

For receivers that qualify for consideration of noise mitigation measures, potential noise mitigation measures are identified, in the order of preference for application given in the RNP:

1. Quieter pavement surfaces
2. Noise mounds
3. Noise walls
4. At-property treatments

The priority of mitigation measures recognises the importance of providing protection to both outside recreational areas and internal levels and also the degree of visual impact. For it to be considered reasonable to provide quieter pavement surfaces, noise mounds and noise walls there needs to be four or more closely spaced receivers that benefit. At-property noise mitigation may replace at-road mitigation, subject to a reasonable and feasible assessment, in the following circumstances:

- Isolated single residences or isolated groups of closely spaced residences
- Where the affected community expresses a preference for at-property treatment and the cost is less than a combination of a barrier and at-property treatment
- Where noise barriers cannot achieve the level of noise mitigation (insertion loss) required
- Where the only applicable noise criteria are internal (e.g. places of worship, hospitals or schools and childcare facilities where play areas meet external criteria)
- Where other noise mitigation measures have been shown not to be feasible or reasonable.

A combination of at-road mitigation and at-property treatment can provide the most reasonable overall noise reduction for an affected community when consideration is given to cost, urban design, shadowing and engineering constraints with the maximum barrier. The process of deriving the most

effective combination of noise barrier height and at-property treatment is described in detailed in Section 8 of the NMG.

The following sections discuss the potential application of different noise mitigation measures on the project each, and where they are recommended to be implemented.

5.6.1 Quieter pavements

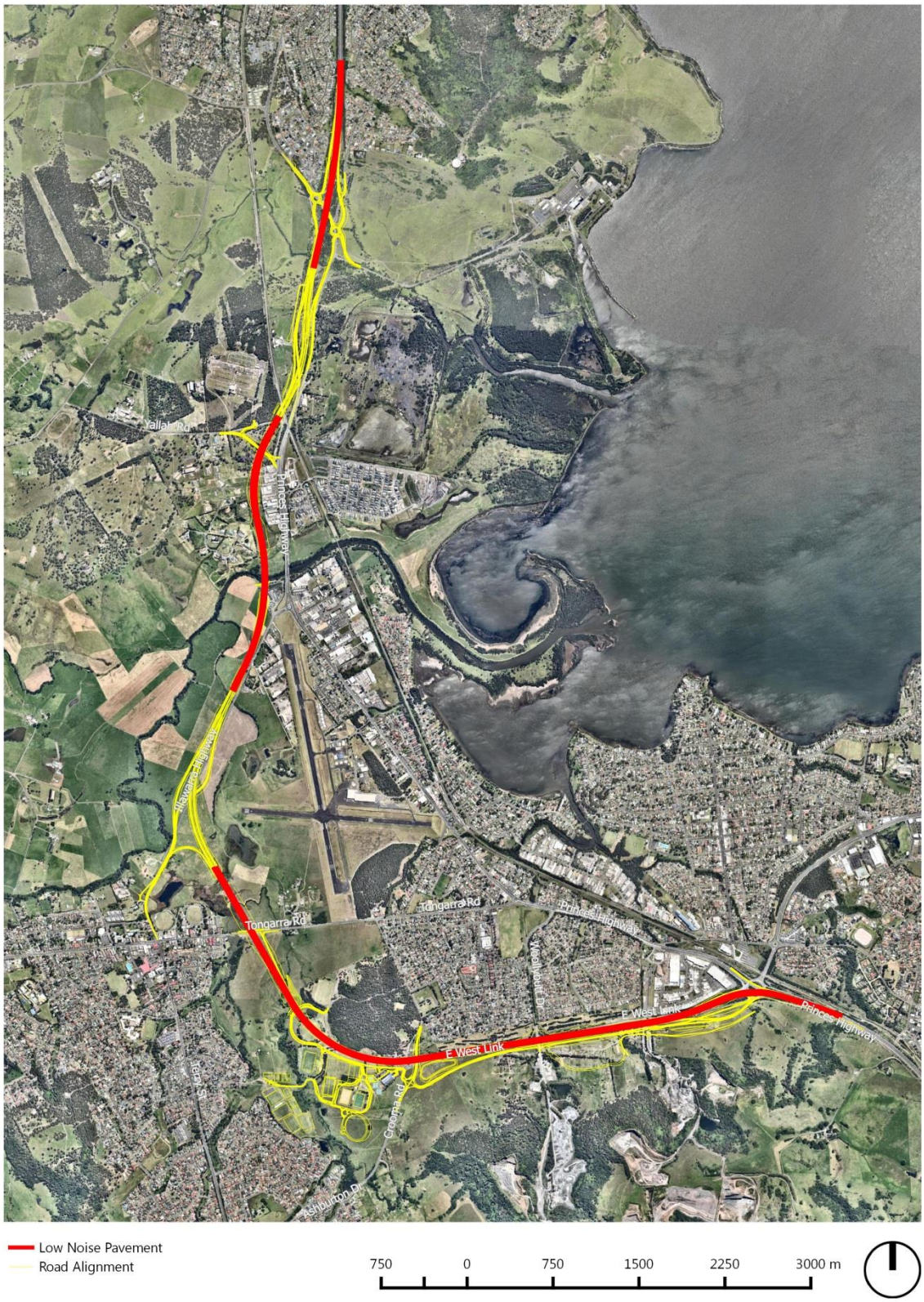
With the general exception of motorcycles, for all vehicles in a reasonable state of maintenance, tyre/road interaction represents the main source of noise at constant speeds in excess of around 30-50 km/hr for cars and 40-80 km/hr for trucks (NSW Roads & Traffic Authority 2001). The type of road surface can have a significant impact on traffic noise generated by pavement tyre/road interaction.

A low noise asphalt surface, either Open Graded Asphaltic Concrete (OGAC) or Stone Mastic Asphalt (SMA), was considered for the bypass main carriageways as the posted speeds for these road segments will exceed 70 km/h. An extract form the ENMM notes:

> *"For traffic as a whole, road tyre noise appears to dominate at speeds around 70 km/h. This means that in areas with posted speeds of 70 km/h or more, the reduction of road tyre noise can be a useful noise reduction treatment."*

The sections of road where low noise pavement have been determined to be reasonable and feasible are shown in Figure 6. A low noise pavement such as Stone Mastic Asphalt (SMA) or Open Grade Asphaltic Concrete (OGAC) can typically provide a 2 dB(A) reduction in overall traffic noise relative to Dense Graded Asphaltic Concrete. Final determination of the type of pavement surface to be applied to the different sections of the project will be decided during detailed design.

Figure 6 Proposed extent of low noise pavement



5.6.2 Noise barriers

Following adoption of quieter pavement in the noise model, there were still exceedances of the NCG criteria. As noise barriers are the next preferred form of mitigation, this option was investigated. The NSW NMG states the following key points in relation to noise barriers:

"Noise barriers should be considered where there are four or more closely spaced receivers."

AND

"Barrier heights above 8 metres will not be considered"

AND

"As a guide noise walls or mounds are considered to be a reasonable noise mitigation option where they are capable of providing an insertion loss of:

5 dB(A) at representative receivers for heights up to 5 metres high

10 dB(A) at representative receivers for heights above 5 metres and up to 8 metres high."

Table 12 and Figure 7 describe the locations where noise walls were initially considered for inclusion in the project. Where they were feasible, noise barrier effectiveness assessment was performed in accordance with the process described in Section 8 of the NMG. The outcomes of the barrier assessment determined whether the barriers were reasonable to implement, and if so, the optimum barrier height.

A summary of the barrier analysis is presented in Table 12 and the proposed barriers are shown in Figure 8. The detailed results of the barrier analysis are presented in APPENDIX E.

These proposed barriers are subject to detailed design analysis before being finalised. For example, the Albion Park SB barrier will be required to allow spillway water to pass through it and therefore further analysis as to the practicality of incorporating breaks and overlaps in the barrier will be required. Final implementation of any barrier is also subject to community consultation and urban design issues.

Table 12 Noise barrier assessment summary

Barrier name	Location	Barrier assessment outcome	Barrier height	Barrier length
Dapto NB	West side of Princes Motorway between Princes Hwy overpass in the south to meet existing noise wall in the north	Reasonable to build	5m	975m
Dapto SB	East side of Princes Motorway from southern most house in Cormack Ave to meet existing noise wall in the north	Maximum barrier does not reduce the number of non-complying properties due to elevated residences Barrier not a reasonable mitigation solution	n/a	n/a
Yallah NB	West side of new Bypass from river in the south to where Bypass goes into cutting	Barrier does not achieve required insertion loss. Barrier not a reasonable mitigation solution	n/a	n/a

Barrier name	Location	Barrier assessment outcome	Barrier height	Barrier length
Yallah SB	East side of Bypass between Bypass and Illawarra Hwy, near Croome Lane	Barrier not feasible to construct due to infringement on the Illawarra Regional Airport obstacle limitation surface (OLS), the 3-dimensional space that is kept clear of obstacles to allow the take-off and landing of aircraft. There is also flooding in this location, between Larkins Lane and the river, and a noise wall may result in adverse flood impacts.	n/a	n/a
Albion Park NB	West side of elevated section of Bypass over Tongarra Road	Barrier does not achieve required insertion loss due to traffic noise from Tongarra Road. At detailed design investigate use of "New Jersey" style kerbs to provide some noise reduction from Bypass.	n/a	n/a
Albion Park SB	North side of Bypass from Croome Road in the west to Colden Drive in the east.	Reasonable to build	5m	1820m

Figure 7 Locations where noise barriers were considered



Figure 8 Proposed noise barriers



5.6.3 Property treatments

Property treatment would be considered for dwellings that remain above the NCG criteria after all other noise mitigation measures are exhausted. Property treatment is generally limited to the acoustic treatment of building elements and the installation of acoustic screen walls close to the receiver where they also protect outdoor living spaces. Identified sensitive receivers adjacent to the road corridor that remain above the NCG criteria will be assessed against existing development consent conditions when considering property treatments.

The range of acoustic property treatments available include:

- The installation of courtyard screen walls
- Fresh air ventilation systems that draw air into a building, and meet building code of Australia requirements with the windows and doors shut
- Upgraded windows and glazing and solid core doors on the exposed facades of masonry or insulated weather board structures (not for light framed structures)
- Upgrading window and door seals and appropriate treatment of sub-floor ventilation
- Sealing wall vents
- Sealing of the underfloor below the bearers
- Sealing of eaves

The level of property treatment applied to a dwelling and the typical noise reduction achieved by the treatment is described in Table 12.

Table 13 Typical noise reductions from property treatments

Typical noise reduction	Description of property treatment
<5dB(A)	Install mechanical ventilation to affected rooms
5-10 dB(A)	As above + sealing of wall and sub floor vents
10-12dB(A)	As above + upgraded seals for windows and doors
>12 dB(A)	As above + upgraded windows, glazing and doors

Table 14 summarises the number of properties within each noise catchment that remain above the NCG criteria after implementation of low noise pavement and noise barriers, and therefore trigger for consideration of at-property treatment. This property treatment advice is in-principle only and subject to review during the detailed design phase of the project. Site inspections of individual properties should be carried out to confirm the current state of dwellings prior to implementation of any treatments, such as existing noise treatments, or constraints on the implementation of property treatment.

Table 14 Summary of predicted exceedances of NCG Criteria (with mitigation)

Noise Catchment Area	Exceedance of NCG criteria			
	0 - 5dB	5 - 10dB	>10dB	Total
NCA 1	1	0	1	2
NCA 2	1	0	0	1
NCA 3	10	2	0	12
NCA 4	0	0	2	2
NCA 5	36	6	1	43
NCA 6	0	1	0	1
NCA 7	-	-	-	0
NCA 8	4	2	0	6
NCA 9	1	6	2	9
NCA 10	3	9	7	19
NCA 11	10	0	4	14
NCA 12	9	6	0	15
NCA 13	10	7	4	21
NCA 14	1	0	0	1
NCA 15	16	19	0	35
NCA 16	21	13	0	34
Total				**218**

6 Assessment of Maximum Noise Levels

6.1 Assessment methodology

Maximum noise levels generated by road traffic noise have the potential to cause disturbance to sleep. Although noise goals are not provided in the RNP, the RNP includes a review of internal sleep arousal research. The RNP concludes that there appears to be insufficient evidence to set new indicators for potential sleep disturbance due to road traffic noise. Nevertheless, Roads and Maritime recognises the potential impacts and requires an assessment of maximum noise levels be made where impacts may occur during the night.

Guidance for assessing maximum noise levels are provided in Practice Note iii of the ENMM. The maximum noise assessment should be used as a tool to help prioritise and rank mitigation strategies, but should not be used as a decisive criterion in itself and should not be used to aid in designing the degree of mitigation required.

The assessment considers the following:

- calculation of maximum noise levels;
- the extent to which the maximum noise levels for individual vehicle pass-bys exceed the L_{Aeq} noise level for each hour of the night (i.e. L_{Amax} noise levels greater than 65dBA where $L_{Amax} - L_{Aeq(1hour)} \geq 15$ *dB(A))*.

At locations where road traffic is continuous rather than intermittent, the $L_{Aeq(9hour)}$ criteria for operational noise assessment should sufficiently account for sleep disturbance impacts. However, where the emergence of L_{Amax} over the ambient L_{Aeq} is equal to or greater than 15dBA, the $L_{Aeq(9hour)}$ criteria may not sufficiently account for sleep disturbance impacts.

6.2 Assessment of impact

The L_{max} noise level for a truck travelling at 100km/ hour, the maximum posted speed for the new road, was calculated to be approximately 85dB(A) at a distance of 20m from the FHWA traffic noise model. At 80km/hr (representing vehicle speed on ramps) the L_{max} level is calculated to be approximately 82dB(A) at 20m. These source levels were used to predict L_{max} noise levels at the facades of each assessed residence.

Table 15 Maximum Night Time Noise Levels – Road Traffic Noise, dB(A)

Nearest affected residence in NCA	Noise Levels at Receiver Location				
	Modelled L_{Amax} Trucks at posted speed	Year 2020		Year 2030	
		Typical $L_{Aeq(1hr)}$ at night*	L_{Amax} - $L_{Aeq(1hr)}$	Typical $L_{Aeq(1hr)}$ at night*	L_{Amax} - $L_{Aeq(1hr)}$
NCA 1	60	53	6	54	6
NCA 2	51	48	3	49	3

Nearest affected residence in NCA	Noise Levels at Receiver Location				
	Modelled L_{Amax} Trucks at posted speed	Year 2020		Year 2030	
		Typical $L_{Aeq(1hr)}$ at night*	L_{Amax} - $L_{Aeq(1hr)}$	Typical $L_{Aeq(1hr)}$ at night*	L_{Amax} - $L_{Aeq(1hr)}$
NCA 3	59	48	11	48	11
NCA 4	75	54	21	55	20
NCA 5	54	49	4	50	4
NCA 6	53	50	3	51	2
NCA 7	40	42	-2	43	-3
NCA 8	53	51	3	51	2
NCA 9	57	51	6	52	6
NCA 10	67	57	10	58	9
NCA 11	66	57	10	57	9
NCA 12	56	55	1	56	0
NCA 13	66	58	8	58	7
NCA 14	61	56	6	56	5
NCA 15	68	59	9	60	8
NCA 16	68	60	8	60	7

Notes: * Through analysis of the provided traffic data, the typical $L_{Aeq,1h}$ noise levels have been calculated from the predicted $L_{Aeq,9h}$ noise levels with a 4dB(A) reduction to account for lower traffic volumes during the 10pm-5am period.

Predicted maximum noise levels in NCAs 4, 10,11,13,15 & 16 are above the 65 dB(A).

In NCA 4 maximum noise levels could be as high as 75dB(A), however there is only 1 noise sensitive receiver in NCA 4 and this receiver will experience minimal change from existing maximum noise level events as a result of the project. Predicted maximum noise levels in the remaining NCAs identified above are typically between 66-68dB(A) for the majority of nearest affected receivers.

Excluding NCA 4, maximum noise level events typically emerge 8-10 dB(A) above the ambient $L_{Aeq(1hr)}$ noise level, which is below 15dBA. Therefore the $L_{Aeq(9hour)}$ NCG criteria should sufficiently account for potential sleep disturbance impacts.

Part B Reconfiguration of Croom Regional Sporting Complex

7 Reconfiguration of Croom Regional Sporting Complex

7.1 Description of Reconfiguration

The Croom Regional Sporting Complex (CRSC) will be reconfigured to enable the continuing operation of the facility once the bypass is completed. The impacts associated with this reconfiguration have been assessed in this section.

A concept plan of the reconfiguration has been prepared (drawing ref: SP143101-171, Issue A, 9/03/2015) and indicates changes to the existing operation as follows:

- A junior AFL and Cricket field will be moved from the north-western portion to the southern portion of the site.
- A new car park will be located on the north-western side of the relocated AFL and Cricket field.
- The junior rugby league fields and amenity building will be shifted approximately 20-40 metres southward.
- The netball fields will be shifted approximately 170 metres southward.
- A new car park for the netball fields will be constructed in the location of the existing netball fields.
- A new access road from Croome Road will be constructed.
- A new carpark for senior Rugby League will be constructed adjacent to the existing Rugby League field.

7.2 Receivers

The nearest receivers likely to be affected by the reconfiguration of the CRSC, and considered representative for the purposes of noise assessment are as follows:

- Residences in Fleet Crescent, Grey Street, Dudgeon Street, Badgery Street, Fraser Crescent, Cooper Place, Barcoo Circuit and Burdekin Drive, in Albion Park to the west of the complex.
- Residences in Gumnut Street, Oak Street and Croome Road in Albion Park Rail to the east of the complex.
- Rural residences Croome Road to the south of the complex.

Figure 9 Croom Regional Sporting Complex reconfiguration



Source: Albion Park Rail Bypass M1 Princes Highway | Croom Regional Sporting Complex Concept Design (CARDNO, July 2015)

7.3 Noise assessment criteria

The applicable policy for assessment of noise from the sporting complex is the NSW Industrial Noise Policy (INP).

There are two objectives in the INP, which are to preserve the amenity of the environment and to also protect against noise intrusion. To protect amenity the existing noise from industrial sources is compared against acceptable levels for a particular land use. If the current levels are close to or approaching these acceptable levels then restrictions on the level of new noise emission may apply.

Noise intrusion is controlled by limiting the amount by which noise levels can increase above the existing noise levels for each new development or significant plant item introduced during an upgrade.

During an assessment it is identified whether the intrusive criterion or the amenity criterion is more stringent. The more stringent criterion becomes the project specific criterion within each time period for the development.

Separate criteria are defined for the daytime (7am–6pm), evening (6pm–10pm) and night-time (10pm–7am) assessment periods to reflect the change in ambient noise levels within a 24 hour period.

7.3.1 Intrusiveness criteria

The intrusive criteria are established from the ambient L_{A90} background noise level (in the absence of the noise source to be assessed) at the nearest sensitive receivers. The intrusive criterion used to assess the predicted noise level associated with the project is then determined by adding 5dB(A) to the RBL level.

7.3.2 Amenity criteria

The amenity assessment is based upon the noise criteria specific to land use and associated activities, and is expressed in L_{Aeq} over specified time periods. The amenity criteria are set out in full in Table 2.1 of the NSW INP. Under the NSW INP guidelines the site would be classified as "suburban", as the acoustic environment is generally dominated by local traffic with intermittent flows and some limited commerce or industry. In the evening it is dominated by the natural environment and infrequent human activity.

Note that the land use classification may not relate to Council planning definitions of land use. These are separate definitions within the NSW INP that relate to the acoustic environment. The applicable amenity noise goals during the day, evening and night-time periods for residential receivers near the site are reproduced in Table 16.

Table 16 NSW INP Recommended Amenity Criteria

Type of Receiver	Indicative Noise Amenity Area	Time of Day	Acceptable L_{Aeq} noise level, dB(A)	Recommended Maximum L_{Aeq}, dB(A)
Residence	Rural	Day	50	55
		Evening	45	50

Type of Receiver	Indicative Noise Amenity Area	Time of Day	Acceptable L_{Aeq} noise level, dB(A)	Recommended Maximum L_{Aeq}, dB(A)
		Night	40	45
Residence	Suburban	Day	55	60
		Evening	45	50
		Night	40	45
Commercial	All	When in use	65	70

7.3.3 Project noise criteria

The noise criteria for onsite activity impacting on adjacent noise sensitive receivers are presented in Table 17. The criteria apply at the property boundary, or for large rural lots, within 30m of the residence.

Table 17 Project noise criteria

Time Period	Intrusiveness Criteria	Amenity Criteria	Controlling Noise Criteria
Albion Park (south west)			
Day, 7am–6pm	40	55	40
Evening, 6pm–10pm	38	45	38
Night, 10pm–7am	35	40	35
Albion Park (north west)			
Day, 7am–6pm	44	55	44
Evening, 6pm–10pm	43	45	43
Night, 10pm–7am	35	40	35
Albion Park Rail (east)			
Day, 7am–6pm	48	55	48
Evening, 6pm–10pm	48	45	45
Night, 10pm–7am	43	40	40
Croome Road (south)			
Day, 7am–6pm	49	55	49
Evening, 6pm–10pm	42	45	42
Night, 10pm–7am	35	40	35

7.4 Sports activity source levels

This assessment has been based upon the source sound power levels (SWL) presented in Table 18. The 'practice' source levels are without spectators and are considered representative of typical weekday usage of the sporting complex, during training and practice games. The 'game' source levels are with spectators and peak traffic movements and are considered representative of typical weekend usage of the sporting complex, when competitive games are being played and there are 1 to 2 spectators for every player on the field.

Table 18 Source Sound Power Levels

Sporting Activity	Sound power level, dB(A)
Adult soccer or hockey (practice)	90
Adult soccer or hockey (game)	102
Children soccer (practice)	80
Children soccer (game)	102
Rugby League (practice)	88
Rugby League (game)	103
AFL / cricket (practice)	89
AFL / cricket (game)	104
Netball 6 courts (practice)	101
Netball 6 courts (game)	111
Tennis 4 courts (practice)	95
Tennis 4 courts (game)	101
Athletics (100 spectators)	105
BMX (80 spectators)	104
Model cars (20 spectators)	98
AFL Grandstand (200 spectators)	108

7.5 Predicted noise impact

Based upon the source levels presented above and the estimated separation distances between activities and receivers, predicted noise impacts were determined. The results of the analysis are displayed in Table 19.

A 5 dB(A) penalty has been included in the predicted levels for the "game" scenario to account for noise characteristics that may be particularly annoying such referee whistle blows, spectator shouts and ball thuds into hockey goals.

Table 19 Predicted noise impacts from the reconfigured Croom Regional Sporting Complex

Receiver	INP Noise Criteria, dB(A)		Existing sports complex noise level, dB(A)		Reconfigured sports complex noise level, dB(A)		Difference (Reconfigured minus Existing), dB		Reconfigured complex complies with INP criteria?			
	Day	Evening							Day	Evening	Day	Evening
			Practice	Game	Practice	Game	Practice	Game	Practice		Game	
30 Fleet Crescent	40	38	33	45	38	51	5	6	Yes	Yes	**11**	**13**
39 Grey Street	40	38	36	53	39	55	3	2	Yes	**1**	**15**	**17**
44 Grey Street	40	38	34	49	39	52	5	3	Yes	**1**	**12**	**14**
2 Dudgeon Street	40	38	48	54	48	54	0	0	**8**	**10**	**14**	**16**
17 Gumnut Street	48	45	37	44	37	45	0	1	Yes	Yes	Yes	Yes
54 Oak Street	48	45	39	47	39	47	0	0	Yes	Yes	Yes	2
19 Croome Road	48	45	32	43	32	43	0	0	Yes	Yes	Yes	Yes
26 Croome Road	48	45	34	55	34	55	0	0	Yes	Yes	**7**	**10**
59 Croome Road	48	45	41	50	41	50	0	0	Yes	Yes	**2**	**5**
149 Croome Road	49	42	42	54	48	61	6	7	Yes	**6**	**12**	**19**
24 Badgery Street	44	42	31	42	32	42	1	0	Yes	Yes	Yes	Yes
25 Fraser Crescent	44	42	27	37	28	37	1	0	Yes	Yes	Yes	Yes
6-8 Cooper Place	40	38	44	60	44	60	0	0	**4**	**6**	**20**	**22**
49 Barcoo Circuit	40	38	41	59	41	59	0	0	**1**	**3**	**19**	**21**
55 Barcoo Circuit	40	38	40	59	41	60	1	1	**1**	**3**	**20**	**22**
59 Barcoo Circuit	40	38	40	59	41	60	1	1	**1**	**3**	**20**	**22**
59 Burdekin Drive	40	38	38	58	39	58	1	0	Yes	**1**	**18**	**20**
65 Burdekin Drive	40	38	40	60	41	60	1	0	**1**	**3**	**20**	**22**
71 Burdekin Drive	40	38	37	56	39	56	2	0	Yes	**1**	**16**	**18**

Notes: 'Practice' = typical weekday usage of the sporting complex, during training and practice games. 'Game' = spectators and peak traffic movements, typical weekend usage of the sporting complex.

Bold text (**black**) indicates up to 5dB exceedance of the INP criteria; Bold text (yellow) indicates exceedance of the INP criteria of more than 5 dB. Bold text (orange) indicates exceedance of the INP criteria of more than 15 dB.

7.6 Discussion and recommendations

Noise levels are expected to increase after the reconfiguration of the CRSC for residences in Fleet Crescent, Croome Road and Grey Street, with the greatest increases being 6 - 7dB(A) for the southernmost properties, mainly due to the addition/relocation of car parks, internal roads, netball courts and the AFL/cricket oval at the southern end of the complex.

In terms of compliance with the INP, exceedances of 15 - 20dB(A) are predicted during the day for residences in Grey Street, Cooper Place, Barcoo Circuit and Burdekin Drive. In the evening exceedances are up to 22dB(A). Activities would generally not occur during the night after 10pm.

The residences adjacent to the soccer fields and the Hughes Drive vehicle access currently experience high levels of noise. The soccer fields will remain in their current location, and these residences will continue to experience exceedances following the re-configuration of the Sporting Complex. Due to an increase in background traffic noise in the future due to the new Bypass, it may be that exceedances of the INP criteria reduce in the future.

As the change in noise level due to the reconfiguration of the Sporting Complex is generally 2dB(A) or less (with the exception of Fleet Crescent and Croome Road), most properties will not likely experience a noticeable increase in noise impact.

Application of mitigation for sporting facilities, other than management of matches to occur during less sensitive times of the day, is problematic due to the extended area where noise is being generated, i.e. barriers are not effective for this reason and source control is not generally practical.

7.7 Traffic noise impact onto sporting complex

Traffic noise from the Albion Park Rail Bypass onto the Croom Regional Sporting Complex has been reviewed and compared to the noise criteria for 'active recreation areas' as defined in in Section 3 of this report.

Active recreation is characterised by sporting activities and activities which generate their own noise or focus for participants, making them less sensitive to external noise intrusion. The criterion established by the NCG for traffic noise impacting on active recreation areas is $L_{Aeq,15hour}$ 60 dB(A) when in use (see Section 3 of this report).

Traffic noise from the Albion Park Rail Bypass will impact the Croom Regional Sporting Complex in the following ways:

- The northernmost of the netball courts will marginally exceed the NCG criterion by 1dB(A)
- The junior rugby league fields will exceed the NCG criterion by up to 3dB(A) on their northern halves
- The remainder of the complex will be below the NCG criterion for active recreation areas.

Part C Construction Noise and Vibration Assessment

8 Overview of Construction Works

Construction activities generate noise and vibration of varying levels depending on the activities being carried out and the proximity to sensitive receivers such as residential areas. The type of work carried out during construction often involves the use of large plant and machinery, sometimes moving along the project alignment and sometimes working in a fixed location, which can cause varying noise and vibration at nearby receivers. These aspects of construction can exacerbate noise levels from the works and their effects, causing annoyance to those affected.

This section of the report provides an outline of the key noise and vibration works that will be carried out to complete the Albion Park Rail Bypass; an explanation of relevant limits set by regulations, codes and standards; typical emission levels and most importantly an outline of noise and vibration control and management techniques that can be implemented to mitigate noise and reduce annoyance to the surrounding community.

8.1 Description of works and staging

The design of the project has carefully considered constructability with the requirement to minimise impact on the existing traffic, enable safe construction access and egress and to minimise the duration of construction. The construction staging is proposed to be split into three stages:

- **STAGE 1**: Construction of all "greenfield" areas and those areas where minor impacts to existing traffic to be commenced first
- **STAGE 2**: Switch existing traffic on the Illawarra Highway and East West Link Road onto newly completed work areas then complete the proposed works which overlay those existing roads
- **STAGE 3**: Prior to commissioning the entire new motorway, undertake a traffic detour of the southbound Princes Highway carriageway to complete the Yallah interchange and complete all remaining tie-in works.

For each stage and where the works are generally concurrent, the works are listed from the northern extent of the project towards the south.

The construction staging strategy described in this document is considered to be the most likely sequence, however it is subject to revision and additional sub-stages based on the construction Contractor's and RMS's preferences at the time of construction following detailed planning.

A description of the construction activities to be undertaken for the project and the construction staging can be found in Section 5.19 of the environmental impact statement. Figure 10 and Figure 11 show the location of the project works and the proposed ancillary facilities associated with construction.

8.1.1 Stage 1

Stage 1 would generally include construction of all greenfield areas (i.e. where there is no existing development) and those areas where construction activities would have little impact on existing traffic flows. The main construction activities in Stage 1 would be to:

- Relocate sporting fields, amenities and access for the Croom Regional Sporting Complex and realign access
- Construct all areas of the project from the northern extent to the new Frazers Creek twin bridges. This would be limited to areas where existing roads would not be impacted
- Construct bridges at Duck Creek, Macquarie Rivulet and Frazers Creek
- Construct a bridge over the South Coast Rail Line
- Construct bridges over the northbound Princes Highway, Tongarra Road and Croome Road
- Construct the entry and exit ramps which connect the Princes Highway and Illawarra Highway (Terry Street) to the motorway
- Partially complete the dual roundabouts either side of the existing underpass where the Princes Highway and Princes Motorway intersect at the interchange at Yallah
- Realign Cormack Avenue, Yallah Bay Road, Yallah Road and Croome Road as required
- Construct the proposed East West Link, new service road and associated connection to the Oak Flats Interchange.

8.1.2 Stage 2

The main construction activities in Stage 2 would be to:

- Divert traffic along the existing Illawarra Highway (Terry Street), south of the Princes Highway, onto a short section of temporary road linking to the proposed northbound carriageway of the motorway. This would allow completion of the motorway carriageway and the southbound exit ramp to Illawarra Highway (Terry Street). The detour would re-join the existing Illawarra Highway (Terry Street) about 550 metres north of Taylor Road and operate until the motorway becomes operational
- Detour the existing East West Link traffic between Croome Road and Oak Flats Interchange onto the proposed new East West Link (constructed as part of Stage 1). This would allow for construction of the motorway between the Croom Regional Sporting Complex and the Oak Flats Interchange. This would also result in the immediate closure of Woollybutt Drive and Durgadin Drive north of the motorway
- Complete the dual roundabouts either side of the existing underpass of the Princes Highway and Princes Motorway intersection

- Complete all remaining work on the existing Princes Motorway except for the interchange at Yallah southbound entry ramp and tie-in work.

8.1.3 Stage 3

The main construction activities in Stage 3 would be to:

- Detour the existing Princes Motorway southbound carriageway to complete the Princes Motorway southbound entry ramp at the interchange at Yallah. The detour would likely use the motorway exit ramp near Cormack Avenue and proposed roundabout onto the Princes Highway. This may require temporary widening of the exit ramp to maintain adequate serviceability for through traffic
- Finalise all tie-in work.

8.2 Construction Program

The construction of the Albion Park Rail bypass will be staged over four years, commencing in 2016 with the upgrade works to the Croom Regional Sporting Facilities. Construction of the main Project will be carried out in a single construction period commencing early in 2018. The construction period is anticipated to take approximately 30 months (weather permitting). Should the actual delivery arrangements differ to the above assumptions, the overall construction program may differ.

8.3 Construction hours

8.3.1 Standard construction hours

The standard hours for construction are defined in Table 20 below based on the Interim Construction Noise Guidelines (ICNG)(DECC, 2009). Whilst the standard construction hours are not mandatory, limiting construction works to within standard construction hours as much as practicable assists in managing noise or vibration impact and provides a lengthy respite period whilst people are most likely to be relaxing or sleeping.

8.3.2 Works outside standard construction hours

There are five categories of work that may be required to be undertaken outside of the standard construction hours:

- The **delivery of oversized plant or structures** that police or other authorities determine require special arrangements to transport along public roads
- **Emergency work** to avoid the loss of life or damage to property, or to prevent environmental harm
- **Maintenance and repair of public infrastructure** where disruption to essential services and/or considerations of worker safety do not allow work within standard hours

- **Public infrastructure works** that shorten the length of the project and are supported by the affected community
- Works where a proponent demonstrates and justifies **a need to operate outside the recommended standard hours**.

The above categories will apply to different stages of the construction of the Albion Park Rail bypass for different reasons. For example, the tie in works with the existing road network will need to be carried out outside of standard hours in order to limit impacts on the traffic network during peak periods and for safety.

Any out of hours work will require justification, assessment and more detailed management. This will be completed in accordance with the Construction Noise and Vibration Management Plan as part of the detailed design for the project.

8.3.3 Extended construction hours

Roads and Maritime is seeking approval for 'extended construction hours' for this public infrastructure project in the form of additional time at the start and end of each day (Monday to Friday) and on Saturday afternoon. Extended construction hours would apply across the project and would be limited to daylight hours, with potentially shorter working periods throughout winter months. Roads and Maritime would undertake targeted consultation with affected residents prior to the implementation of extended construction hours. The proposed extended construction hours are defined in Table 20.

An effort would be made to limit the activities conducted during extended construction hours to less noisy activities such as refuelling, light vehicle movements and briefing of the workforce (toolbox talks). Noisy activities, such as starting noisy machinery, would be deferred until standard working hours where possible.

Extended construction hours at the start and finish of each working day are considered to be in the public interest as they would:

- Shorten the overall construction period by 3 to 4 months or 10 per cent. This would minimise the disruption to the Princes Highway / Princes Motorway and improve access to the Illawarra region. It would also minimise any adverse impacts on local businesses that may be experienced during the construction period
- Reduce the public's exposure to a lower standard and changed traffic conditions during construction, reducing the potential for crashes
- Potentially reduce the overall cost of construction.

Consultation with affected residents would be undertaken prior to the commencement of construction, as part of the Construction Environmental Management Plan.

8.3.4 Summary of construction hours

Table 20 Construction Hours

Construction Hours	Monday to Friday	Saturday	Sunday/ Public holiday
Recommended standard construction hours			
Standard Hours	7:00 am to 6:00 pm	8:00 am to 1:00 pm	No work
Construction activities with impulsive or tonal noise emissions	8:00 am to 5:00 pm[1]	9:00 am to 1:00 pm[1]	No work
Blasting	9:00 am to 5:00 pm	9:00 am to 1:00 pm	No blasting
Outside recommended standard construction hours			
Extended Construction Hours	6:00 am to 7:00 am 6:00 pm to 7:00 pm	1:00 pm to 4:00 pm	No work
Out of Hours Work (Day)	N/A	4:00 pm to 6:00 pm	8:00 am to 6:00 pm
Out of Hours Work (Evening)	6:00 pm to 10:00 pm	6:00 pm to 10:00 pm	6:00 am to 10:00 pm
Out of Hours Work (Night)	10:00 pm to 6:00 am	10:00 pm to 8:00 am	10:00 pm to 8:00 am

Notes: 1. Works may be carried out in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block. 'Continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition.

8.4 Noise and vibration sensitive receivers

8.4.1 Residential receivers

The Project has been divided into Noise Catchment Areas (NCAs) based on each area's similar acoustic environment (as discussed in Section 3. The location of the NCAs relative to the Project construction works is shown in Figure 10 and Figure 11.

8.4.2 Other sensitive receivers

Additional to residential receivers above, indicative 'other' noise sensitive receivers such as educational institutions have been identified and are summarised in Table 21.

Table 21 Nearest 'Other' Noise Sensitive Receivers

Land use	NCA	Other Sensitive Receiver Address	Approx. distance to nearest works
Educational Facility	1	Echidna Children's Centre, 30 Pioneer Drive, Blackbutt	330 m
	9	World of Learning Child Care, 108 Tongarra Road, Albion Park	400 m
	10	Albion Public School, Tongarra Road, Albion Park	300 m
Place of Worship	-	Lighthouse Church, 4/9 Dungadin Drive, Albion Park Rail	30 m
Active Recreation	-	Croom Regional Sporting Complex	Alongside
	9	Albion Park Showground/ Des King Oval/ Keith Grey Oval, Albion Park	30-300 m
Commercial	8	Ravensthorpe Guesthouse and Restaurant, 56 Tongarra Rd, Albion Park	120 m
	10	Commercial premises on Tongarra Road, Albion Park	6-10

Land use	NCA	Other Sensitive Receiver Address	Approx. distance to nearest works
Industrial	-	Industrial premises in Durgadin Drive	25 m
	11	Airport Precinct	50 m
	12	Yallah Road industrial premises	15-60 m
Heritage	3	Albion Park Rail Cemetery, Croome Road, Albion Park Rail	60 m
	4	Swansea Dairy site, 149 Croome Road, Albion Park	100 m
	4	Swansea Farmhouse, 152 Croome Road, Albion Park	10-20 m
	8	Ravensthorpe grounds and workers cottages	175 m
	8/11	Illawarra Regional Airport	70-400 m
	9	Boles Meadows	30-300 m*
	(14)	House, Princes Hwy, Yallah	80 m
	(14)	Duck Creek Bridge	0 m#

Notes: * The homestead and some of the structures at Boles Meadows will be removed to allow for the road works. No further vibration assessment has been carried out for this property.

Duck Creek Bridge will be removed to allow for the road works. No further vibration assessment has been carried out for this item.

Figure 10 Construction compound locations (north)

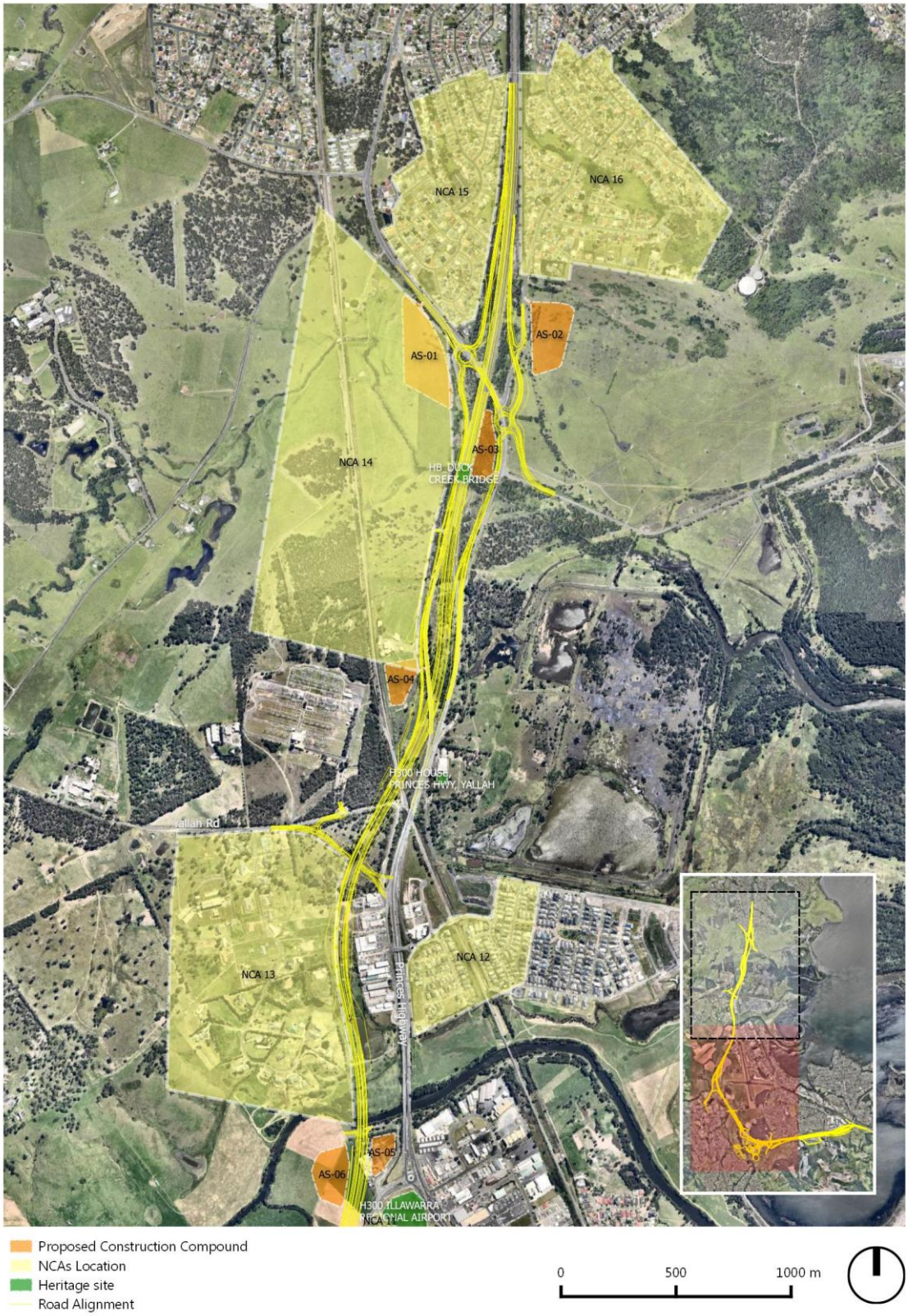


Figure 11 Construction compound locations (south)



9 Construction Noise and Vibration Objectives

9.1 Airborne construction noise management levels

9.1.1 Noise management levels (NMLs)

The NSW *Interim Construction Noise Guideline* (ICNG, 2009) provides guidelines for assessing noise generated during the construction phase of developments.

The ICNG provides two methods for assessment of construction noise, being either a quantitative or a qualitative assessment. A quantitative assessment is recommended for major construction projects of significant duration, and involves the measurement and prediction of noise levels, and assessment against set criteria. A qualitative assessment is recommended for small projects with duration of less than three weeks and focuses on minimising noise disturbance through the implementation of reasonable and feasible work practices, and community notification.

Given the scale of the construction works proposed, a quantitative assessment is carried out herein, consistent with the ICNG requirements.

Table 22 reproduced from the ICNG, sets out the airborne noise management levels and how they are to be applied for residential receivers.

Table 22 Noise management levels at residential receivers

Time of day	Management level $L_{Aeq\ (15\ min)}$ *	How to apply
Recommended standard hours: Monday to Friday 7 am to 6 pm Saturday 8 am to 1 pm No work on Sundays or public holidays	Noise affected RBL + 10dB	The noise affected level represents the point above which there may be some community reaction to noise. Where the predicted or measured LAeq (15 min) is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected 75dB(A)	The highly noise affected level represents the point above which there may be strong community reaction to noise. Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.

Time of day	Management level $L_{Aeq\ (15\ min)}$ *	How to apply
Outside recommended standard hours	Noise affected RBL + 5dB	A strong justification would typically be required for works outside the recommended standard hours. The proponent should apply all feasible and reasonable work practices to meet the noise affected level. Where all feasible and reasonable practices have been applied and noise is more than 5dB(A) above the noise affected level, the proponent should negotiate with the community. For guidance on negotiating agreements see section 7.2.2 *[of the ICNG*.

* Noise levels apply at the property boundary that is most exposed to construction noise, and at a height of 1.5 m above ground level. If the property boundary is more than 30 m from the residence, the location for measuring or predicting noise levels is at the most noise-affected point within 30 m of the residence. Noise levels may be higher at upper floors of the noise affected residence.

Table 23 presents the construction noise management levels (NMLs) established for the nearest noise sensitive residential receivers based upon the noise monitoring outlined in Section 2.4. The noise monitoring locations are marked in Figure 2. The Noise Catchment Areas, used to assess construction noise and vibration impacts are shown in Figure 3.

Shoulder periods

Shoulder periods have been defined for the proposed extended construction hours as:

- Shoulder period (night-day) between 6:00 am to 7:00 am; and
- Shoulder period (day-evening) between 6:00 pm and 7:00pm.

This is because review of the logger data found that existing background noise levels are steadily rising in the early morning and are not yet dropping off in the early evening. It would therefore be unduly stringent to apply stricter criteria during these periods.

Review of the background noise levels for each NCA during the extended hours period found that the rating background levels (RBLs) for the shoulder period (night-day) are typically higher than the RBLs for the day period. The RBL for the day period has therefore conservatively been adopted for the shoulder period. There are 3 locations where the shoulder period RBL is lower than the daytime level (Logger ID 4, 12 and 13). At these locations the shoulder period RBL has been adopted.

The RBLs for the shoulder period (day-evening) are again typically higher than during the day, with 2 exceptions at logger ID 1 and 8. The RBL for the day period has again conservatively been adopted for the shoulder period. Where the shoulder period RBL is lower than the daytime level, the shoulder period RBL has been adopted.

A review of background noise levels during the Saturday afternoon period indicates that noise levels are similar to or higher than the RBL for the day period. Therefore, it is considered appropriate (and conservative) to adopt the daytime RBL as the basis for setting the noise management level for the Saturday afternoon extended construction hours period (see 'Out of Hours Work – Day' in Table 23 below).

Table 23 Construction noise management levels at residential receivers

NCA ID	Logger ID	Receiver Type	L_{A90} rating background level (RBL)					Noise management level (NML) $L_{Aeq(15min)}$[1]						Sleep Disturbance $L_{A1(1min)}$
								Standard Hours (RBL+10dB)	Out of Hours Work (OOHW) (RBL+5dB)					
			Shoulder (N-D)	Day	Shoulder (D-E)	Evening	Night	Day	Shoulder (N-D)	Day	Shoulder (D-E)	Evening	Night	(RBL+15dB)
NCA 1	8	Residential	48	48	47	46	44	58	53	53	52	51	49	59
NCA 2	7	Residential	45	45	45	47	47	55	50	50	50	50	50	62
NCA 3	7	Residential	45	45	45	47	47	55	50	50	50	50	50	62
NCA 4	12	Residential	39	44	44	37	30[2]	54	44	49	49	42	35	45
NCA 5	13	Residential	34	35	35	33	30[2]	45	39	40	40	38	35	45
NCA 6	4	Residential	49	52	52	48	39	62	54	57	57	53	44	54
NCA 7	4	Residential	49	52	52	48	39	62	54	57	57	53	44	54
NCA 8	4	Residential	49	52	52	48	39	62	54	57	57	53	44	54
NCA 9	4	Residential	49	52	52	48	39	62	54	57	57	53	44	54
NCA 10	3	Residential	47	47	47	43	39	57	52	52	52	48	44	54
NCA 11	2	Residential	48	48	48	46	46	58	53	53	53	51	51	61
NCA 12	2	Residential	48	48	48	46	46	58	53	53	53	51	51	61
NCA 13	2	Residential	48	48	48	46	46	58	53	53	53	51	51	61
NCA 14	1	Residential	54	54	53	53	52	64	59	59	58	58	57	67
NCA 15	1	Residential	54	54	53	53	52	64	59	59	58	58	57	67
NCA 16	1	Residential	54	54	53	53	52	64	59	59	58	58	57	67

Notes: 1. Noise levels apply at the property boundary that is most exposed to construction noise, and at a height of 1.5m above ground level. If the property boundary is more than 30m from the residence, the location for measuring or predicting noise levels is at the most noise-affected point within 30m of the residence. Noise levels may be higher at upper floors of the noise affected residence.

2. The RBL at night at this location is below 30 dB(A). Where the RBL is found to be less than 30 dB(A), then it is set to 30 dB(A) in accordance with the Industrial Noise Policy (EPA, 2000)

Table 24 sets out the ICNG NMLs for other noise sensitive receiver locations. As identified for residential receivers, a 'highly affected' noise objective of $L_{Aeq(15min)}$ 75dB(A) is adopted for all receivers.

Table 24 Noise management levels (NMLs) at other noise sensitive land uses

Land use	Where objective applies	Noise management level (NML) $L_{Aeq\ (15\ min)}$
Classrooms at schools and other educational institutions	Internal noise level	45 dB(A)
Hospital wards and operating theatres	Internal noise level	45 dB(A)
Places of worship	Internal noise level	45 dB(A)
Active recreation areas	External noise level	65 dB(A)
Passive recreation areas	External noise level	60 dB(A)
Community centres	Depends on the intended use of the centre.	Refer to the 'maximum' internal levels in AS2107 for specific uses.
Commercial premises	External noise level	70 dB(A)
Industrial premises	External noise level	75 dB(A)

Notes: Noise management levels apply when receiver areas are in use only.

9.1.2 Sleep disturbance

The ICNG recommends that where construction works are planned to extend over two or more consecutive nights, the assessment should consider maximum noise levels and the extent and frequency of maximum noise level events exceeding the RBL. The ICNG takes guidance from the NSW Environmental Criteria for Road Traffic Noise (ECRTN, Environment Protection Authority 1999) for recommended night time noise goals to minimise potential impacts and preserve acoustic amenity within receivers:

- Maximum internal noise levels below 50-55dB(A) are unlikely to cause awakening reactions.
- One or two events per night with maximum internal noise levels of 65-70dB(A) are not likely to affect health and wellbeing.

The NSW EPA confirm that a sleep disturbance criterion of $L_{A1(1min)} \leq L_{A90(15min)} + 15dB(A)$, is used used for initial assessment for the purpose of this Environmental Impact Statement. It should only be used as a first step guide and where the criteria is not met, more detailed analysis is required to be incorporated into the detailed design and Construction Noise and Vibration Management Plan. The Application Notes of the NSW Industrial Noise Policy (2010) note the detailed analysis should include:

- the extent to which the maximum noise level exceeds the background level
- the number of times this happens during the night-time period, and
- the time of day (normally between 10pm and 7am).

9.2 Construction vibration objectives

9.2.1 Human exposure to vibration

Vibration potentially disturbing human occupants of buildings is managed by reference to 'Assessing Vibration; a technical guideline' (DECC, 2006). This document provides criteria which are based on the British Standard BS 6472-2008, 'Evaluation of human exposure to vibration in buildings (1-80Hz)'.

Vibration sources are defined as Continuous, Impulsive or Intermittent. Table 25 provides a definition and examples of each type of vibration.

Table 25 Types of Vibration

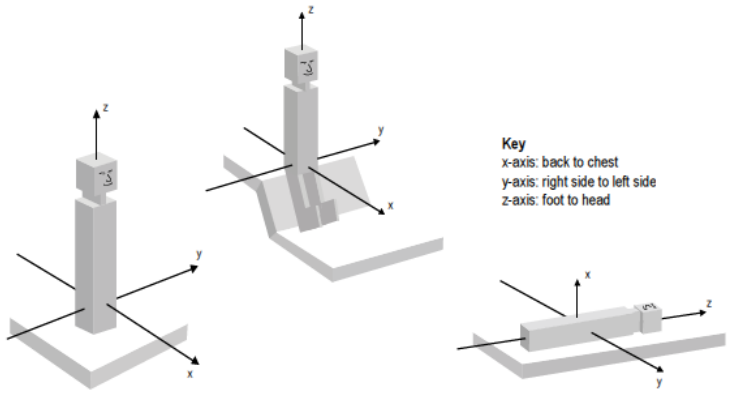
Type of Vibration	Definition	Examples
Continuous	Continues uninterrupted for a defined period (usually throughout the day-time and/or night-time)	Machinery, steady road traffic, continuous construction activity (such as tunnel boring machinery).
Impulsive	A rapid build-up to a peak followed by a damped decay that may or may not involve several cycles of vibration (depending on frequency and damping). It can also consist of a sudden application of several cycles at approximately the same amplitude, providing that the duration is short, typically less than 2 seconds	Infrequent: Activities that create up to 3 distinct vibration events in an assessment period, e.g. occasional dropping of heavy equipment, occasional loading and unloading.
Intermittent	Can be defined as interrupted periods of continuous or repeated periods of impulsive vibration that varies significantly in magnitude	Trains, nearby intermittent construction activity, passing heavy vehicles, forging machines, impact pile driving, jack hammers. Where the number of vibration events in an assessment period is three or fewer, this would be assessed against impulsive vibration criteria.

Source: Assessing Vibration; a technical guideline, Dept Environment & Climate Change 2006

The criteria are to be applied to a single weighted root mean square (rms) acceleration source level in each orthogonal axis. Section 2.3 of the guideline states: 'Evidence from research suggests that there are summation effects for vibrations at different frequencies. Therefore, for evaluation of vibration in relation to annoyance and comfort, overall weighted rms acceleration values of the vibration in each orthogonal axis are preferred (BS 6472).'

When applying the criteria, it is important to note that vibration may enter the body along different orthogonal axes, i.e. x-axis (back to chest), y-axis (right side to left side) or z-axis (foot to head). The three axes are referenced to the human body. Thus, vibration measured in the horizontal plane should be compared with x- and y-axis criteria if the concern is for people in an upright position, or with the y- and z- axis criteria if the concern is for people in the lateral position.

Table 26 Orthogonal Axes for Human Exposure to Vibration



Source: Assessing Vibration; a technical guideline, Dept Environment & Climate Change 2006 p4

Preferred and maximum values for continuous and impulsive vibration are defined in Table 2.2 of the guideline and are reproduced below.

Table 27 Preferred and Maximum Levels for Human Comfort

Location	Assessment period[1]	Preferred values		Maximum values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
Continuous vibration[3] (Weighted RMS Acceleration, m/s^2, 1-80Hz)					
Critical areas[2]	Day- or night-time	0.005	0.0036	0.010	0.0072
Residences	Daytime	0.010	0.0071	0.020	0.014
	Night-time	0.007	0.005	0.014	0.010
Offices, schools, educational institutions and places of worship	Day- or night-time	0.020	0.014	0.040	0.028
Workshops	Day- or night-time	0.04	0.029	0.080	0.058
Impulsive vibration[3] (Weighted RMS Acceleration, m/s^2, 1-80Hz)					
Critical areas[2]	Day- or night-time	0.005	0.0036	0.010	0.0072
Residences	Daytime	0.30	0.21	0.60	0.42
	Night-time	0.10	0.071	0.20	0.14
Offices, schools, educational institutions and places of worship	Day- or night-time	0.64	0.46	1.28	0.92
Workshops	Day- or night-time	0.64	0.46	1.28	0.92
Intermittent vibration[4] (Vibration Dose Values, VDV, m/s$^{1.75}$, 1-80Hz)					
Critical areas[2]	Day- or night-time	0.10	0.20	-	-
Residences	Daytime	0.20	0.40	-	-
	Night-time	0.13	0.26	-	-
Offices, schools, educational institutions and places of worship	Day- or night-time	0.40	0.80	-	-
Workshops	Day- or night-time	0.80	1.60	-	-

Location	Assessment period[1]	Preferred values		Maximum values	
		z-axis	x- and y-axis	z-axis	x- and y-axis

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

2. Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring. There may be cases where sensitive equipment or delicate tasks require more stringent criteria than the human comfort criteria specify above.

3. Stipulation of such criteria is outside the scope of their policy and other guidance documents (e.g. relevant standards) should be referred to. Source: BS 6472-2008

4. For continuous and impulsive vibration the preferred and maximum values are weighted acceleration rms values (m/s^2)

5. For intermittent vibration the preferred and maximum values are vibration dose values (VDVs), based on the weighted acceleration values ($m/s^{1.75}$)

9.2.2 Structural damage to buildings

Currently there exists no Australian Standard for assessment of structural building damage caused by vibrational energy. Therefore, with regard to the assessing structural damage reference is made to German Standard DIN 4150: Part 3.

The German Standard DIN 4150-3 : 1999-02 - 'Structural vibration - Effects of vibration on structures', provides recommended maximum levels of vibration that reduce the likelihood of building damage caused by vibration. This standard also presents recommended maximum limits over a range of frequencies measured in any direction at the foundation or in the plane of the uppermost floor.

The minimum 'safe limit' of vibration at low frequencies for commercial and industrial buildings is 20mm/s. For dwellings it is 5mm/s and for particularly sensitive structures (e.g. historical with preservation orders), it is 3mm/s. These limits increase as the frequency content of the vibration increases. These values are presented in Table 28 are generally recognised to be conservative.

Table 28 DIN 4150-3 Structural Damage Criteria

Group	Type of Structure	Vibration Velocity, mm/s			
		At Foundation at Frequency of			Plane of Floor Uppermost Storey
		1 to 10 Hz	10 to 50Hz	50 to 100Hz[1]	All frequencies
1	Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
2	Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
3	Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Group 1 or 2 and have intrinsic value (e.g. buildings under a preservation order)	3	3 to 8	8 to 10	8

Note: At frequencies above 100 Hz, the values given in this column may be used as minimum values

9.2.3 Damage to vibration sensitive equipment

Some high technology manufacturing facilities, hospitals and laboratories utilise equipment that is highly sensitive and susceptible to vibration, for example scanning electron microscopes and micro-electronic manufacturing facilities. In addition, buildings housing sensitive computer or

telecommunications equipment may require assessment against stricter criteria than those nominated for building damage.

There is no explicit guidance on acceptable vibration levels for such equipment, so recommended vibration levels should be obtained from instrument manufacturers. In the absence of equipment specific data provided by manufacturers, there are generic vibration criteria that can be used to assess the impact of vibration generating activities on buildings housing vibration sensitive equipment. For example, the Vibration Criterion (VC) curves are often referred to as they are generic and apply to all tools/ equipment types within each category. The Vibration Criterion curves are defined over the frequency range 8 to 100 Hz.

Table 29 summarises a range of suitable and conservatively stringent vibration limits that are applicable to buildings housing vibration sensitive equipment which may potentially be affected by construction works associated with the Albion Park Rail bypass Project.

Table 29 Acceptable Vibration Limits for Vibration Measured on Building Structure Housing Sensitive Equipment

Equipment Requirements	Vibration Limit[1] mm/s,		Description of Use[3]	Applicable Building for APRb Project
	RMS	Peak [4]		
Computer Areas[2]	0.7	1.0	Barely perceptible vibration. Adequate for computer equipment accommodation environments.	Preliminary review indicated none. TBC at detailed design.
Medical[2, 3]	0.1	0.14	Vibration not perceptible. Suitable in most instances for microscopes to 100X and for other equipment of low sensitivity.	Preliminary review indicated none. TBC at detailed design.
VC-A[3]	0.05	0.07	Vibration not perceptible. Adequate in most instances for optical microscopes to 400X, microbalances, optical balances, proximity and projection aligners, etc	Nil

Notes: 1. As measured in one-third octave bands of frequency over the frequency range 8 to 100 Hz. Vibration measured on the building structure near vibrating equipment or in areas containing sensitive equipment.

2. Based on AS 2834 Computer Accommodation.

3. Gordon CG Generic Vibration Criteria for Vibration Sensitive Equipment.

4. In the absence of Peak limits, RMS limits are converted to Peak by conservatively assuming the vibration signal is sinusoidal and random with a nominal crest factor of 1.414

9.3 Blast noise and vibration management levels

Guidance in relation to acceptable overpressure and vibration from blasting is provided in the ICNG, which specifies that the assessment should be based on the levels in the 'Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration' (ANZECC 1990).

9.3.1 Airblast overpressure

Airblast overpressure generated by blasting associated with the project shall not exceed the criteria specified in ANZECC 1990, reproduced in Table 30, when measured at the most affected residence or other sensitive receiver.

Table 30 Airblast overpressure criteria

Airblast overpressure (dB(Lin Peak))	Allowable Exceedance
115	5% of total number of blasts over a 12 month period
120	0%

9.3.2 Blast vibration

The blast vibration criteria identified in ANZECC 1990 are considered conservative and not practical for application to this Project. The main issue with the criteria are that they do not take into account the timeframe of the blasting in terms of annoyance. That is, a short term project, such as blasting in a cutting for road construction, is assessed using the same criteria as a long term project, such as a mine site that may operate with blasting for several years.

The approach adopted by this Environmental Impact Statement for managing ground vibration generated by blasting are based on Australian Standard AS 2187.2-2006 ' Explosives - Storage and use - Part 2 Use of explosives' and are designed to safeguard human comfort in relation to blasting. The human response to vibration from blasting is considered in terms of the likelihood of complaint, so that an appropriate community consultation program can be initiated to advise potentially affected receivers of the likely impacts from blasting. The Australian Standard suggests a limit of 10 mm/s PPV for human comfort for operations lasting less than 12 months, which would apply to this Project, as shown in Table 31.

Table 31 Ground Vibration Limits for Human Comfort (TABLE J4.5(A) AS 2670.2)

Category	Type of blasting operations	Peak component particle velocity (mm/s)
Sensitive site*	Operations lasting longer than 12 months or more than 20 blasts	5 mm/s for 95% blasts per year 10 mm/s maximum unless agreement is reached with the occupier that a higher limit may apply
Sensitive site*	Operations lasting for less than 12 months or less than 20 blasts	10 mm/s maximum unless agreement is reached with occupier that a higher limit may apply
Occupied non-sensitive sites, such as factories and commercial premises	All blasting	25 mm/s maximum unless agreement is reached with occupier that a higher limit may apply. For sites containing equipment sensitive to vibration, the vibration should be kept below manufacturer's specifications or levels that can be shown to adversely affect the equipment operation

Notes: *A sensitive site includes houses and low rise residential buildings, theatres, schools, and other similar buildings occupied by people.

The recommendations in Table J4.5(A) are intended to be informative and do not override statutory requirements with respect to human comfort limits set by various authorities. They should be read in conjunction with any such statutory requirements and with regard to their respective jurisdictions.

9.4 Construction related road traffic noise objectives

On the roads immediately adjacent to construction sites, the community may associate heavy vehicle movements with the Albion Park Rail bypass construction works. Once the heavy vehicles move further from the construction work area onto major collector or arterial roads, the noise may be perceived as part of the general road traffic.

The ICNG does not set out specific noise criteria for construction generated road traffic noise. It instead refers to the EPA's policy on road traffic noise, the Road Noise Policy. Noise impacts from additional truck movements generated by construction activity are not directly addressed by the RNP. In addition, any additional traffic noise impacts would be limited only to the period of construction works. Nonetheless, guidance is taken from the criteria for land use development with the potential to generate additional traffic on local, sub-arterial or arterial roads.

Construction traffic movements on public roads shall aim to limit any increase in existing road traffic noise levels to no more than 2 dB(A). All feasible and reasonable noise mitigation and management measures shall be implemented.

10 Construction Noise Assessment

10.1 Construction noise assessment methodology

A preliminary assessment on the potential level of construction noise impact has been carried out to determine whether mitigation will be required, and to determine appropriate management controls.

Construction equipment requirements are not yet known. The type and number of plant and equipment associated with the proposed works was assumed based upon experience with similar noise assessments. A further assessment will be required once final construction detail becomes available with progress of the detailed design.

The general construction phases for the project have been taken from Section 5.19 of the Environmental Impact Statement Albion Park Rail bypass (HCJV 2015). This has outlined the following works with the potential to generate significant noise, which are detailed below in Section 8-2.

10.2 Construction activities and noise sources

The following construction activities have been modelled:

- Mobilisation & Site Establishment (M&SE)
- Relocation & Protection of Existing Services (RPES)*
- Clearing & Grubbing of Vegetation (CCGV)
- House Demolition (CCHD)
- Corridor Clearing & rock crushing (CCRC)
- Bulk Earthworks (BEWX)
- Formation of Drainage Structures (FDRS)
- Road Surfacing Works (RSWX)
- Finishing Works (FIWX)
- Bridge Construction (BRDC)



*Included for completeness, noting utilities relocation does not form part of the project.

Noise generated by construction compounds has also been modelled and assessed. Thirteen ancillary site locations have been identified for potential use during the construction works, as shown on Figure 10and Figure 11.

At this stage of the Project, specific items of plant and equipment are not known in detail. The table below presents a list of the typical construction activities/ stages associated with the construction of a major road project such as the Albion Park Rail bypass. The plant and equipment likely to be used by the contractor to carry out the necessary construction work for this project have also been listed. To identify the potential level of impact associated with the construction works, a number of plant items area assumed to be operating concurrently for each activity, as shown by the 'Assumed No. of units'. The total noise level for each activity is then determined by adding each of these units.

Table 32 Noise modelling assumptions for road construction - activities and equipment

Activity	Description of Activity	Plant/ Equipment	Sound Power Levels, dB(A)		Assumed No. Units	Stage		
			L_{Aeq}	$L_{A1(1min)}$		1	2	3
Mobilisation & Site Establishment (M&SE)	Installing construction boundary hoardings/ fences and traffic barriers	Truck (medium rigid)	103	117	4 per hour			
		Truck (low loader)	108	117	4 per hour			
		Scissor Lift	98	101	1			
		Franna crane	98	102	1			
		Assumed activity noise level	**106**	**117**				
Utility, property, service adjustment (RPES)	Adjustment of property boundaries (where required); relocation of services	Excavator (tracked) 35t	107	115	1			
		Truck (articulated dump)	108	117	4 per hour			
		Franna crane 20t	98	102	1			
		Pneumatic hammer	115	120	-			
		Concrete saw	115	118	1			
		Vacuum truck	107	117	-			
		Backhoe	100	104	-			
		Power generator	100	106	1			
		Assumed activity noise level	**116**	**120**				
Corridor Clearing (CCBV)	General land clearing, tree and stump removal, topsoil stripping, loading	Bulldozer D9	109	116	1			
		Excavator (tracked) 35t	107	115	1			
		Chainsaw	119	124	2			
		Tub grinder/ mulcher	119	124	1			
		Truck (articulated dump) 30t	108	117	4 per hour			
		Assumed activity noise level	**122**	**124**				
(CCHD)	House/ building demolition	Excavator (tracked) 35t	107	115	1			
		As above + hydraulic hammer	122	126	1			
		Front end loader 23t	103	108	1			
		Dump trucks	101	117	4 per hour			
		Assumed activity noise level	**122**	**126**				
Bulk earthworks (BEWX)	Formation of road alignment. Excavation of soil and rock, hammering/rock breaking, drilling, loading, haulage, compaction of fill areas, grading	Bulldozer D9	109	116	1			
		Scraper 651	108	110	1			
		Excavator (tracked) 35t	107	115	1			
		As above + hydraulic hammer	122	126	1			
		Grader	113	121	1			
		Truck (articulated dump) 30t	108	117	4 per hour			
		Truck (medium rigid + trailer)	108	117	4 per hour			
		Compactor	106	116	1			
		Roller (large pad foot)	109	112	-			
		Water cart	107	111	-			
		Assumed activity noise level	**123**	**126**				

Activity	Description of Activity	Plant/ Equipment	Sound Power Levels, dB(A)		Assumed No. Units	Stage		
			L_{Aeq}	$L_{A1(1min)}$		1	2	3
(CCRC)	Rock crushing (Crushing and screening of building waste/ rock material for re-use on site)	Rock crusher	113	122	1			
		Bulldozer D9	109	116	1			
		Excavator (tracked) 35t	107	115	1			
		Truck (medium rigid)	103	117	4 per hour			
		Assumed activity noise level	**115**	**122**				
Drainage infrastructure (FDRS)	Excavation of trenches and pits; Delivery and placement of precast pipes and pits; filling and compacting.	Backhoe	100	104	-			
		Franna crane 20t	98	102	1			
		Excavator (tracked) 35t	107	115	1			
		Truck (concrete agitator)	108	117	4 per hour			
		Truck compressor	75	78	1			
		Roller (large pad foot)	109	112	1			
		Truck (medium rigid)	103	117	4 per hour			
		Assumed activity noise level	**112**	**117**				
Paving/ asphalting (inc concrete sawing) (RSWX)	Delivery of raw materials. Placement of surface material. Saw cutting.	Pavement laying machine	103	112	1			
		Truck (medium rigid)	103	117	4 per hour			
		Asphalt truck & sprayer	103	116	1			
		Truck (concrete agitator)	108	117	1			
		Smooth drum roller	112	120	1			
		Concrete saw	115	119	1			
		Assumed activity noise level	**118**	**120**				
Road furniture installation (FIWX)	Signposting and line marking	Truck (medium rigid)	103	117	4 per hour			
		Scissor lift	98	101	1			
		Franna crane 20t	98	102	1			
		Line marking truck	108	112	1			
		Assumed activity noise level	**109**	**117**				
Compounds (CMPD)	Deliveries. Plant and equipment. Maintenance. Office areas. Storage areas.	Front end loader	91	93	1			
		Excavator (tracked) 35t	107	115	-			
		Truck (medium rigid + trailer)	108	117	4 per hour			
		Compressor	109	111	1			
		Welding equipment	97	100	1			
		Light vehicles	88	93	12 per hour			
		Power generator	100	106	1			
		Assumed activity noise level	**112**	**117**				
Bridge works (BRDC)	Casting; concrete pours; Placement of pre-cast elements; Piling (mainly bored); and Demolition.	Franna crane 20t	98	102	1			
		Piling rig - driven	116	125	-			
		Piling rig - bored	112	115	1			
		Concrete pump	102	104	1			
		Truck (concrete agitator)	108	117	4 per hour			
		Compressor	109	111	1			
		Power generator	100	106	1			
		Pneumatic hammer	115	120	-			
		Welding equipment	97	100	-			
		Assumed activity noise level	**118**	**125**				

Activity	Description of Activity	Plant/ Equipment	Sound Power Levels, dB(A)		Assumed No. Units	Stage		
			L_{Aeq}	$L_{A1(1min)}$		1	2	3
Extended hours activities	Refuelling, light vehicle movements, toolbox talks etc	Mini-fuel tanker	104					
		Scissor lift	98	101	1			
		Light vehicles	88	93	12 per hour			
		Male talking loudly/ shouting	73	96	1			
		Assumed activity noise level	**105**	**117**				

Note: $L_{A1(1min)}$ levels only noted for equipment potentially used during the night period

Number of units operating at any one time may change on site. Assumptions in table are for modelling purposes, based on a conservative, but realistic estimate of the likely number of units operating concurrently for each activity.

The sound power levels for the majority of activities presented in the above table are based on maximum levels given in Table A1 of Australian Standard 2436 - 2010 'Guide to Noise Control on Construction, Demolition and Maintenance Sites', ICNG, information from past projects and information held in the Renzo Tonin & Associates library files.

10.3 Predicted noise levels

Noise emissions were determined by modelling the noise sources, receiver locations, and operating activities, based on the information presented in Section 10.2. A 5 dB(A) penalty has been factored into the noise modelling levels where applicable to allow for particularly annoying activities, such as rock breaking, saw cutting and jack hammering.

The following sections summarise predicted $L_{Aeq(15min)}$ noise levels at receivers in each NCA from the construction of the Albion Park Rail bypass. The upper end of the predicted noise level range presented in the summary tables is based on the worst affected receiver/s for that NCA and is depicted as 'up' in the tables. The lower end of the predicted noise level range is based on the least affected receiver/s and is depicted as 'low' in the tables. The worst affected receivers for each NCA are typically in the first row of houses back from the project area, with direct line of sight to the construction work area. Receivers in the next row of houses back from the Project, or receivers without direct line of sight to the construction area will typically be exposed to construction noise levels 5 to 10 dB(A) lower than the levels predicted for the worst affected receivers.

Predicted construction noise levels are presented as noise contours in Appendix H to give receivers an indication of the likely noise levels from the different stages of construction.

Table 33 Predicted construction noise levels from identified standard hours construction activities at each Noise Catchment Area (NCA)

NCA/ ID	Receiver Type	Approx. distance to nearest road works	NML, dB(A)	Predicted Construction Noise Levels, dB(A)																					
				Stage 1																					
														Stage 2											
																		Stage 3							
				M&SE		RPES		CCBV		CCHD		CCRC		BEWX		FDRS		RSWX		FIWX		CMPD		BRDC	
			Day	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up
APRb-01	Residential	130-470 m	58	37	44	47	54	53	**60**	53	**60**	46	53	54	**61**	43	50	49	56	40	47	<30	<30	44	50
APRb-02	Residential	150 m	55	42		52		**58**		**58**		51		**59**		48		54		45		31		37	
APRb-03	Residential	70-600 m	55	34	55	44	**65**	50	**71**	50	**71**	43	**64**	51	**72**	40	**61**	46	**67**	37	**58**	25	51	40	**58**
APRb-04	Residential	10-20 m	54	**65**		**75**		**81**		**81**		**74**		**82**		**71**		**77**		**68**		46		51	
APRb-05	Residential	130-875 m	45	30	**46**	40	**56**	46	**62**	46	**62**	39	**55**	**47**	**63**	36	**52**	42	**58**	33	**49**	37	**48**	41	**57**
APRb-06	Residential	200 m	62	31	39	41	49	47	55	47	55	40	48	48	56	37	45	43	51	34	42	39	44	43	50
APRb-07	Residential	750-1100 m	62	<30	<30	34	39	40	45	40	45	33	38	41	46	30	35	36	41	27	32	30	35	37	41
APRb-08	Residential	210-400 m	62	37	42	47	52	53	58	53	58	46	51	54	59	43	48	49	54	40	45	39	42	49	54
APRb-09	Residential	10-250 m	62	42	49	52	59	58	**65**	58	**65**	51	58	59	**66**	48	55	54	61	45	52	37	46	42	57
APRb-10	Residential	40-900 m	57	34	**67**	44	**77**	50	**83**	50	**83**	43	**76**	51	**84**	40	**73**	46	**79**	37	**70**	31	46	36	47
APRb-11	Residential	50-850 m	58	31	56	41	**66**	47	**72**	47	**72**	40	**65**	48	**73**	37	**62**	43	**68**	34	**59**	34	51	38	52
APRb-12	Residential	170-650 m	58	31	42	41	52	47	58	47	58	40	51	48	**59**	37	48	43	54	34	45	33	42	45	54
APRb-13	Residential	40-500 m	58	35	**61**	45	**71**	51	**77**	51	**77**	44	**70**	52	**78**	41	**67**	47	**73**	38	**64**	34	46	45	**63**
APRb-14	Residential	50-400 m	64	51		61		**67**		**67**		60		**68**		57		63		54		56		55	
APRb-15	Residential	20-410 m	64	<30	59	30	**69**	36	**75**	36	**75**	29	**68**	37	**76**	26	**65**	32	**71**	23	62	30	56	30	37
APRb-16	Residential	30-750 m	64	32	54	42	64	48	**70**	48	**70**	41	63	49	**71**	38	60	44	**66**	35	57	31	50	31	34

Notes: Bold text (black) indicates exceedance of the NML and receivers are considered 'noise affected'.

Bold text (orange) indicates construction noise levels are more than 20 dB(A) above the background noise level and may be 'moderately intrusive'.

Bold text (blue) indicates construction noise levels are more than 30 dB above the background noise level and may be 'highly intrusive'.

Bold text (red) indicates construction noise levels exceed 75 dB(A) and receivers are considered 'highly noise affected'. There may be strong community reaction to construction noise levels in excess of 75 dB(A).

Table 34 Approx. number of receivers predicted to exceed the NML/ HA during standard hours construction activities at each Noise Catchment Area (NCA)

NCA/ ID	Receiver Type	NML, dB(A)	M&SE		RPES		CCBV		CCHD		CCRC		BEWX		FDRS		RSWX		FIWX		CMPD		BRDC	
			Approx. No. receivers predicted to exceed:																					
		Day	NML	HA	NML	HA	NML	HA	NML	HA	NML	HA	NML	HA	NML	HA	NML	HA	NML	HA	NML	HA	NML	HA
APRb-01	Residential	58	0	0	0	0	46	0	46	0	0	0	46	0	0	0	0	0	0	0	0	0	0	0
APRb-02	Residential	55	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
APRb-03	Residential	55	0	0	224	12	465	63	465	63	224	12	465	63	14	0	224	12	35	0	0	0	5	0
APRb-04	Residential	54	2	0	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	0	0	0	0	0
APRb-05	Residential	45	10	0	280	2	400	6	400	6	280	2	400	6	15	0	280	2	46	0	26	0	148	0
APRb-06	Residential	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APRb-07	Residential	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APRb-08	Residential	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APRb-09	Residential	62	2	0	6	4	8	4	8	4	6	4	8	4	0	0	6	4	0	0	0	0	0	0
APRb-10	Residential	57	6	0	18	7	35	12	35	12	18	7	35	12	8	2	18	7	11	2	0	0	0	0
APRb-11	Residential	58	0	0	4	4	4	4	4	4	4	4	4	4	4	0	4	4	4	0	0	0	0	0
APRb-12	Residential	58	0	0	0	0	2	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
APRb-13	Residential	58	1	0	8	4	18	8	18	8	8	4	18	8	3	1	8	4	6	1	0	0	3	1
APRb-14	Residential	64	0	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0	0
APRb-15	Residential	64	0	0	37	34	93	90	93	90	37	34	93	90	14	14	37	34	14	12	0	0	0	0
APRb-16	Residential	64	0	0	28	26	54	52	54	52	28	26	54	52	0	0	28	26	0	0	0	0	0	0

Notes: HA = Highly affected noise level (i.e. 75 dB(A))

Note that receivers have been counted based on 'buildings' only. Apartments or units within a building have not been counted.

Table 35 Predicted construction noise levels from identified construction activities at other sensitive receivers

NCA/ ID	Receiver Type	NML, dB(A)	Predicted Construction Noise Levels, dB(A)																					
			Stage 1																					
													Stage 2											
																	Stage 3							
			M&SE		RPES		CCBV		CCHD		CCRC		BEWX		FDRS		RSWX		FIWX		CMPD		BRDC	
		Day	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up
Other Sensitive Receivers																								
APRb-01	Echidna Children's Centre	55	37		47		53		53		46		54		43		49		40				45	
APRb-03	Commercial/ Industrial	70	40	55	50	65	56	**71**	56	**71**	49	64	57	**72**	46	61	52	67	43	43			49	56
APRb-09	World of Learning Child Care	55	38		48		54		54		47		55		44		50		41				47	
APRb-10	Albion Public School	55	46		**56**		**62**		**62**		55		**63**		52		**58**		49				42	
APRb-12	Commercial/ Industrial	70	52	57	62	67	68	**73**	68	**73**	61	66	69	**74**	58	63	64	69	55	60			52	61
-	Croom Regional Sporting Complex	65	55	**67**	65	**77**	**71**	**83**	**71**	**83**	64	**76**	**72**	**84**	61	**73**	**67**	**79**	58	**70**	47	51	50	54

Notes: Bold text (black) indicates exceedance of the NML and receivers are considered 'noise affected'.

Bold text (red) indicates construction noise levels exceed 75 dB(A) and receivers are considered 'highly noise affected'. There may be strong community reaction to construction noise levels in excess of 75 dB(A).

10.3.1 Standard construction hours

Table 33 and Table 35 present the predicted noise levels from construction activities and compares them with the NMLs for standard construction hours. Table 34 presents the approximate number of residential receivers that exceed the NMLs in each NCA, and the number of receivers that are potentially highly noise affected.

Most construction activities are likely to comply with NMLs in NCAs 1, 2, 6, 7, 8, 9, 12, 14 and 16. Receivers in these catchments may be noise affected during corridor clearing and bulk earthworks. Receivers in NCAs 3, 5 and 11 will be exposed to higher, potentially moderately intrusive noise levels during construction, in particular during corridor clearing and bulk earthworks. Receivers in NCAs 4, 10, 13 and 15 may be highly noise affected during the construction works. These higher noise impacts are likely to be caused by utilities relocation, corridor clearing and bulk earthworks. Construction mitigation and management measures are provided in Section 13 to assist in reducing construction noise impacts during standard construction hours.

Construction noise levels at other sensitive receivers are generally predicted to comply with the NMLs, with the exception of exceedance by up to 4 dB of the NML at the nearest industrial premises in NCAs 3 and 12 during corridor clearing and bulk earthworks. Higher construction noise levels, up to 8 dB above the NML during corridor clearing and bulk earthworks, are predicted at Albion Park Rail public school. Construction mitigation and management measures are provided in Section 13 to assist in reducing construction noise impacts to other sensitive receivers.

10.3.2 Extended construction hours

Table 36 presents the predicted noise levels from the extended construction hours activities and compares them with the NMLs for extended construction hours. Construction works are likely to mostly comply with noise management levels in all NCAs, with the exception of NCAs 3, 5, 10 and 13. Receivers are relatively close to the alignment in these areas and this more likely to be noise affected during the extended construction hours works.

To limit the potential for impact, extended hours works could be limited in the following areas:

- Along the bypass alignment, between Colden Drive and Croome Road, adjacent to NCA 3 and 4;
- Along the new Illawarra Highway ramps, adjacent to NCA 10;
- Along the bypass alignment, south of Yallah Road, adjacent to NCA 13.

Predicted noise levels indicated that the proposed extended hours activities can be carried out within the ancillary facilities during the extended hours period with minimal impact on the nearest noise sensitive receivers.

Further analysis once more specific detail regarding construction activity is available will be carried out as part of the detailed design and development of the CNVMP to confirm extended hours impacts and identify areas where extended hours works should be limited.

Table 36 Predicted construction noise levels from identified extended hours construction activities at each Noise Catchment Area (NCA)

NCA/ ID	Receiver Type	Approx. distance to nearest road works	NML, dB(A)			Predicted Construction Noise Levels, dB(A)			
						Stage 1			
						Stage 2			
						Stage 3			
						EXTH (Road Alignment)		EXTH (Compounds)	
			Shoulder N-D	Shoulder D-E	Saturday 1pm-4pm	Low	Up	Low	Up
APRb-01	Residential	130-470 m	53	52	53	36	43	<30	<30
APRb-02	Residential	150 m	50	50	50	41		<30	
APRb-03	Residential	70-600 m	50	50	50	33	**54**	<30	44
APRb-04	Residential	10-20 m	44	49	49	**64**		39	
APRb-05	Residential	130-875 m	39	40	40	<30	**45**	30	**41**
APRb-06	Residential	200 m	54	57	57	<30	38	32	37
APRb-07	Residential	750-1100 m	54	57	57	<30	<30	<30	<30
APRb-08	Residential	210-400 m	54	57	57	36	41	32	35
APRb-09	Residential	10-250 m	54	57	57	41	48	<30	39
APRb-10	Residential	40-900 m	52	52	52	33	**66**	<30	39
APRb-11	Residential	50-850 m	53	53	53	30	**55**	<30	44
APRb-12	Residential	170-650 m	53	53	53	30	41	<30	35
APRb-13	Residential	40-500 m	53	53	53	34	**60**	<30	39
APRb-14	Residential	50-400 m	59	58	59	50		49	
APRb-15	Residential	20-410 m	59	58	59	<30	58	<30	49
APRb-16	Residential	30-750 m	59	58	59	31	53	<30	43

Notes: Bold text (black) indicates exceedance of the NML and receivers are considered 'noise affected'.
Bold text (yellow) indicates construction noise levels are more than 10 dB(A) above the background noise level and may be 'clearly audible'.
Bold text (orange) indicates construction noise levels are more than 20 dB(A) above the background noise level and may be 'moderately intrusive'.
Bold text (**blue**) indicates construction noise levels are more than 30 dB above the background noise level and may be 'highly intrusive'.

10.3.3 Out of hours work (OOHW)

Due to the nature of road construction, some works are likely to be completed outside of standard construction hours. These types of activities would need to be undertaken outside of normal and extended construction hours to minimise road safety risks, minimise disruption to regional and local traffic flows and/or for technical and timetabling reasons. Possible reasons for out-of-hours work and typical justifications would include:

- Completion of tie-ins at the extents of the proposal, and completion of temporary diversions and traffic switches. Justified because by completing or installing these items at night, traffic flows on the local road network are lower and disruption to regional and local traffic can be minimised. The risk of safety conflict between construction personnel and traffic is also less.
- Bridge activities over existing roads and the rail line or near the airport due to the presence of the obstacle limitation surface (OLS). These activities are justified as during construction demolition activities would need to occur across operating roadways/ railways. Due to the potential safety risks to road users and construction personnel associated with operating over the existing alignment, these works would need to be undertaken at night when there are lower traffic flows. Avoiding peak periods would also minimise the disruption to traffic. Note that rail possessions can only occur during very limited available periods, usually Saturdays and Sundays. Any OOHW construction would be continuous during rail possessions.
- Delivering large pre-cast components, such as bridge girders – justified because it would minimise disruption to highway and local traffic flows. In addition, some of these large loads may only be moved under a road permit during specific hours (usually at night).
- Utility relocations and adjustments - justified because utility adjustments usually need to be undertaken during out of hours work periods to minimise the impact on consumers, road traffic and to protect the safety of workers involved.
- All out-of-hours works would be undertaken in accordance with Practice Note VII 'Roadworks outside normal working hours' presented in RMS's ENMM and all reasonable and feasible measures would be undertaken to manage noise impacts.
- Where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.
- Roads and Maritime would consult with potentially affected sensitive receivers regarding any out of hours work or extended construction hours.

Noise impacts from the specific activities likely to be completed as OOHW has been assessed and summarised in. Works identified as likely to be completed as OOHW include:

- Relocation & Protection of Existing Services (RPES)
- Road Surfacing Works (RSWX)
- Finishing Works (FIWX)
- Bridge Construction (BRDC)



Noise generated by construction compounds associated with the OOHW has also been modelled and assessed. The results and assessment is presented in Table 37.

Noise levels are predicted to comply with the NMLs for the evening period (6 pm to 10 pm) in NCAs 6, 7 and 8. Receivers in other NCAs may be noise affected, with noise levels likely to be clearly audible at the most affected receivers, depending on the works being carried out at the time. Some activities may be moderately intrusive. Relocation of services and road surfacing, in particular saw cutting activities have potential to generate highly intrusive noise levels. These activities will need to be limited or, if unable to be avoided, managed if required to be carried out during the evening period.

Noise levels are predicted to be higher than the NMLs during the night period (10 pm to 7 am) in most NCAs, with the exception of NCA 7. Receivers in other NCAs may be noise affected, with noise levels likely to be clearly audible at the most affected receivers, depending on the works being carried out at the time. Relocation of services and road surfacing works may be moderately to highly intrusive. These activities will need to be limited or, if unable to be avoided, managed if required to be carried out during the night period.

Construction mitigation and management measures are provided in Section 13 to assist in reducing OOHW construction noise impacts to receivers.

Table 37 Predicted construction noise levels from identified OOHW construction activities at each Noise Catchment Area (NCA)

NCA/ ID	Receiver Type	Approx. distance to nearest road works	NML, dB(A)	Predicted Construction Noise Levels (Evening), dB(A)										NML, dB(A)	Predicted Construction Noise Levels (Night), dB(A)									
				Stage 1											Stage 1									
				Stage 2											Stage 2									
						Stage 3											Stage 3								
				RPES		RSWX		FIWX		CMPD		BRDC			RPES		RSWX		FIWX		CMPD		BRDC	
			Evening	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up	Night	Low	Up	Low	Up	Low	Up	Low	Up	Low	Up
APRb-01	Residential	130-470 m	51	47	54	49	56	40	47	20	22	44	50	49	47	**54**	49	**56**	40	47	20	22	44	50
APRb-02	Residential	150 m	50	52		54		45		31		37		50	**52**		**54**		45		31		37	
APRb-03	Residential	70-600 m	50	44	**65**	46	**67**	37	**58**	25	51	40	**58**	50	44	**65**	46	**67**	37	**58**	25	**51**	40	**58**
APRb-04	Residential	10-20 m	42	**75**		**77**		**68**		46		51		35	**75**		**77**		**68**		**46**		**51**	
APRb-05	Residential	130-875 m	38	40	**56**	42	**58**	33	**49**	37	**48**	41	**57**	35	**40**	**56**	**42**	**58**	33	**49**	37	**48**	**41**	**57**
APRb-06	Residential	200 m	53	41	49	43	51	34	42	39	44	43	50	44	41	49	43	51	34	42	39	44	43	50
APRb-07	Residential	750-1100 m	53	34	39	36	41	27	32	30	35	37	41	44	34	39	36	41	27	32	30	35	37	41
APRb-08	Residential	210-400 m	53	47	52	49	54	40	45	39	42	49	54	44	47	52	49	54	40	45	39	42	49	**54**
APRb-09	Residential	10-250 m	53	52	59	54	61	45	52	37	46	42	57	44	52	**59**	**54**	**61**	45	52	37	46	42	**57**
APRb-10	Residential	40-900 m	48	44	**77**	46	**79**	37	**70**	31	46	36	47	44	44	**77**	46	**79**	37	**70**	31	46	36	47
APRb-11	Residential	50-850 m	51	41	**66**	43	**68**	34	**59**	34	51	38	52	51	41	**66**	43	**68**	34	**59**	34	51	38	**52**
APRb-12	Residential	170-650 m	51	41	52	43	54	34	45	33	42	45	54	51	41	**52**	43	**54**	34	45	33	42	45	**54**
APRb-13	Residential	40-500 m	51	45	**71**	47	**73**	38	**64**	34	46	45	**63**	51	45	**71**	47	**73**	38	**64**	34	46	45	**63**
APRb-14	Residential	50-400 m	58	61		63		54		56		55		57	**61**		**63**		54		56		55	
APRb-15	Residential	20-410 m	58	30	**69**	32	**71**	23	62	30	56	30	37	57	30	**69**	32	**71**	23	**62**	30	56	30	37
APRb-16	Residential	30-750 m	58	42	64	44	**66**	35	57	31	50	31	34	57	42	**64**	44	**66**	35	57	31	50	31	34

Notes: Bold text (black) indicates exceedance of the NML and receivers are considered 'noise affected'.
Bold text (yellow) indicates construction noise levels are more than 10 dB(A) above the background noise level and may be 'clearly audible'.
Bold text (orange) indicates construction noise levels are more than 20 dB(A) above the background noise level and may be 'moderately intrusive'.
Bold text (**blue**) indicates construction noise levels are more than 30 dB above the background noise level and may be 'highly intrusive'.

10.3.4 Sleep disturbance

The most likely source of potential sleep disturbance from the night construction works will be from the use of pneumatic hammer/s or saw cutting during services relocation and/ or road pavement works or from truck movement on site, in particular the application of air brakes during other OOHW activities. Maximum noise levels have been predicted to the nearest affected residential receivers to allow a review of the potential for sleep disturbance from OOHW. The results are summarised in Table 38.

Table 38 Sleep (10 pm to 7 am) - Predicted L_{Amax} Noise Levels, dB(A)

NCA/ ID	Sleep NML (RBL+15), dB(A)	Predicted L_{Amax} noise levels at Noise Catchment Areas (NCAs)	
		RPES/ RSWX	FIWX/ CMPD
APRb-01	59	51-58	48-55
APRb-02	62	56	53
APRb-03	62	48-**66**	45-**63**
APRb-04	45	**79**	**76**
APRb-05	45	44-**60**	41-**57**
APRb-06	54	45-53	42-50
APRb-07	54	38-43	35-40
APRb-08	54	51-**56**	48-53
APRb-09	54	56-**63**	53-**60**
APRb-10	54	37-**72**	34-**69**
APRb-11	61	45-**70**	42-**67**
APRb-12	61	45-56	42-53
APRb-13	61	49-**75**	46-**72**
APRb-14	67	65	62
APRb-15	67	37-**73**	31-**70**
APRb-16	67	46-**68**	43-65

Notes: **Bold** text indicates exceedance of the Sleep NML. Potential for sleep disturbance.

Predicted noise levels indicate that maximum noise levels generated by construction activities are below RBL+15 dB(A) for most NCAs and therefore unlikely to cause sleep disturbance. The exception to this is for NCAs 3, 4, 10, 11, 15 and 16. The exceedance is triggered by the use of truck air brakes on the site or the use of high noise generating tools like the pneumatic hammer or concrete saw.

Where these items are not required for OOHW, predicted noise levels are more likely to be within the sleep NML. Construction mitigation and management measures are provided in Section 13 to assist in reducing OOHW construction noise impacts to receivers. Heavy vehicle movements should be limited as much as practicable during the early morning extended construction hours period, in order to limit the potential for sleep disturbance.

11 Construction Vibration

11.1 Vibration sources

The vibration generated from construction works will vary depending on the level and type of activity carried out at each site during each activity.

Table 39 below identifies the dominant vibration generating plant and their typical vibration levels based on library data and measurements from past projects. Potential vibration generated to receivers for this project will be dependent on separation distances, the intervening soil and rock strata, dominant frequencies of vibration and the receiver structure.

Table 39 Typical ranges of construction plant vibration levels

Plant Noise Source	Typical peak particle velocity (ppv) vibration (mm/s) at distance from plant							
	5m	10m	15m	20m	30m	40m	50m	100m
Compactor (852G)	5.3	2.0	2.2	1.4	<1	-		
Bulldozer with ripper (D810)	<2	-	-	-	-	-		
Bulldozer with ripper (D10 D375A-2)	1-2	-	-	-	-	-	-	-
Excavator ≤30T (travelling)	8.0	3.4	1.6	-	-	-		
Excavator ≤30T (digging)	5.8	4.0	0.0	-	-	-		
Excavator & Rock Hammer (20T)	4.5	1.3	-	0.4	0.2	0.15	0.02	-
Excavator & Rock Hammer (27T)	10.5	2.5	-	-	-	-		
Grader (20 tonne)	2.0	-	0.2	-	-	-		
Pneumatic hammer	2.0	1.0	0.2	0.1	0.0	0.1		
Piling Rig – Bored (Soilmec 60T) *	2.4	0.2	0.2	-	-	-		
Piling rig – driven (crane with vibrating pile driver)	12	6	4	3	1.5	-	1.2	<0.1
Rocksaw (Komatsu AVANCE PC300)	1.5	-	-	-	-	-	-	-
Truck traffic (over normal (smooth) road surfaces)	1	0.2		0.05	-	0.02		
Truck traffic (over irregular surfaces)	-	2.0	-	0.1	-	-		
Vibratory Roller ≤ 3T (Smooth Drum)#	8.7	5.4	-	-	-	-	-	-
Vibratory Roller ≤ 8T (Pad Footed)#	9-12	3.1						
Vibratory Roller ≤ 17T (Smooth Drum)	24.5	8.9	4.2	-	-	-		
Vibratory Roller ≤ 17T (Pad Footed)	15.1	10.3	3.2	-	-	-		

Notes: Source – Renzo Tonin & Associates database
* data based on sand/clay soil conditions
# Monitor mounted on plate in sands

Site specific buffer distances for vibration significant plant items (e.g. vibratory rollers, compactors, pile boring, pole drilling) must be measured on site. Unlike noise, vibration can't be 'predicted'. There are many variables from site to site, for example soil type and conditions; sub surface rock; building types and foundations; and actual plant on site. The data relied upon in this assessment (tabulated above) is taken from a database of vibration levels measured at various sites or obtained from other sources (e.g.

BS5228-2:2009). They are not specific to this project as final vibration levels are dependent on many factors including the actual plant used, its operation and the intervening geology between the activity and the receiver.

11.2 Potential vibration impact to sensitive receivers

Based on the vibration data presented in Section 11.1 above, vibration generated by construction plant was estimated and potential vibration impacts are summarised in Table 40 below. The assessment is relevant to residential and commercial use buildings, and other similar type structures in the proposal area.

Table 40 Potential Vibration for Residential/Commercial Properties

NCA	Approx. distance to nearest buildings from works, m	Type of Buildings	Assessment of risk of ribration Impact		
			Structural Damage	Human Disturbance	Vibration Monitoring
1	100-130	Residential	Negligible risk	Very low risk	Not required
2	120	Residential	Negligible risk	Very low risk	Not required
3	40-130	Residential	Negligible risk	Very low risk	Not required
	60 (Albion Park Rail Cemetery)	Heritage	Negligible risk	Very low risk	Not required
4	20	Residential	Very low risk	Medium risk	Shall be conducted where required.
	10-20 (Swansea Farmhouse/ Dairy)	Heritage	Medium risk	High risk	Shall be conducted.
5	120-200	Residential	Negligible risk	Very low risk	Not required
6	100	Residential	Negligible risk	Very low risk	Not required
7	600	Residential	Negligible risk	Negligible risk	Not required
8	130	Residential	Negligible risk	Very low risk	Not required
	175 (Ravensthorpe grounds)	Heritage	Negligible risk	Very low risk	Not required
9	6-10	Commercial	Medium risk	High risk	Shall be conducted.
	80-100	Residential	Negligible risk	Low risk	Not required
10	10-12	Residential	Low risk	High risk	Shall be conducted where required.
11	40-60	Residential	Negligible risk	Low risk	Not required
	70-400 (Illawarra Regional Airport)	Heritage	Very low risk	Low risk	Not required
12	10	Industrial	Negligible risk	Low risk	Not required
	200	Residential	Very low risk	High risk	Shall be conducted where required.
13	30-40	Residential	Very low risk	Medium risk	Shall be conducted where required.
14	25-60	Residential	Very low risk	Medium risk	Shall be conducted where required.

NCA	Approx. distance to nearest buildings from works, m	Type of Buildings	Assessment of risk of ribration Impact		
			Structural Damage	Human Disturbance	Vibration Monitoring
	80 (House, Princes Hwy, Yallah)	Heritage	Very low risk	Low risk	Not required
15	20-50	Residential	Low risk	High risk	Shall be conducted where required.
16	25-40	Residential	Low risk	High risk	Shall be conducted where required.

Further analysis and assessment of potential vibration impact will be carried out during the detailed design phase, when more information in relation to plant and equipment, timing and location of works is understood. Construction mitigation and management measures are provided in Section 14 and more specifically Section 14.2 to assist in reducing construction vibration impacts to receivers.

12 Blasting

12.1 Potential blasting requirements

Blasting may be required to excavate some of the deep cuts along the Project corridor, namely the:

- Main cut (cut 1) north of Macquarie Rivulet, between Chainage 17950 and 18150.
- Lower benches of the cut at the eastern extent of East-West Link.

At this stage, the feasibility of blasting is still under consideration and has not yet been confirmed for any of the above areas.

There are two main impacts from blasting – overpressure and ground vibration. Overpressure travels as an airwave and is able to cause a vibration response in structures such as buildings. Overpressure is dominated by low frequencies that are sometimes inaudible but can be felt. It is possible that a blast may be felt, due to the ground vibration and overpressure, although it is not heard. Ground vibration is transmitted through the ground that surrounds the blast as a series of waves and can rapidly travel significant distances, gradually reducing in strength over distance.

Ground vibration and overpressure have the potential to cause discomfort or annoyance to sensitive receivers near to the blast area. At high levels ground vibration and overpressure have the potential to cause structural damage.

12.2 Potential impacts from blasting

Potential vibration and air blast overpressure impacts generated through blasting will be managed primarily through a site- and blast-specific assessment. Noise and vibration predictions will be carried out once the proposed charge and blast configuration information becomes available. It is important that the actual buffer zone relevant to the blast site be identified and appropriate measures be taken to limit blast over-pressure and vibration to acceptable levels at the nearest affected receiver locations. Blast charge and blast configurations shall therefore be selected to ensure the set blasting objectives identified in Section 9.3 are not exceeded.

In view of the proximity of some buildings to the potential blast areas should blasting occur, a series of initial test blasts at reduced scale will be carried out prior to the commencement of full scale blasting. Air blast overpressure and vibration will be measured from test blasts to establish appropriate propagation characteristics for the site and increase the accuracy of blasting predictions. This information will be used to define allowable blast sizes to meet the air blast overpressure and ground vibration limits.

The following table provides general guidance for estimating the likely 'minimum distance limits' from blasting in terms of the vibration and over-pressure criteria described above, for a range of blast Maximum Instantaneous Charge (MIC) quantities.

The distance limits relating to vibration are set out in Table 4.7 and have been determined using the formula in Australian Standard 2187.2-1993, applicable to free face blasting in 'average field conditions' which states.

$$V = 1140\left(\frac{R}{Q^{1/2}}\right)^{-1.6}$$

where
V = ground vibration as peak particle velocity in mm/s
R = distance between charge and point of measurement in metres
Q = effective charge mass per delay or maximum instantaneous charge in kilograms

$$P = K_a\left(\frac{R}{Q^{1/3}}\right)^{-1.45}$$

where
P = overpressure in pascals
R = distance between charge and point of measurement in metres
Q = effective charge mass per delay or maximum instantaneous charge in kilograms
K = site constant between 10 and 100 for confined blasts

An indication of acceptable blast sizes to satisfy the overpressure and vibration limits set in Section 9.3 has been determined based on the above algorithms. It is noted that the above algorithms are considered conservative. The nominated Maximum Instantaneous Charge (MIC) may vary significantly depending on the geological conditions, local shielding and meteorological factors at the site.

Table 41 Summary of typical MIC and compliant separation distance

Blast Impact	Receiver	Blast Management Level	Charge separation distance (m) / MIC					
			1 kg	2 kg	5 kg	10 kg	20 kg	50 kg
Overpressure	Residential	115 dB(A)	182	221	287	350	425	550
	Commercial	120 dB(A)	111	135	174	212	257	333
Ground vibration	Residential	10 mm/s	20	28	44	64	87	137
	Commercial	25 mm/s	11	16	25	35	49	77

Further analysis and assessment of potential blast impact will be carried out during the detailed design phase, including the preparation of a blast management plan. Measures to mitigate and manage impacts from blasting are provided in Section 14 and more specifically Section 14.3.

13 Construction related road traffic

13.1 Traffic sources

Details of projected heavy vehicle movements associated with the construction works were obtained from Figure 5-23 (Estimated daily truck movements required on existing roads for haulage of material) of the Albion Park Rail bypass EIS (reproduced in Figure 12 below). Light vehicle movements associated with construction were not considered to be significant and have not been included in this traffic assessment.

For the purpose of this assessment, it has been assumed that all movements occur during standard construction hours. Where construction activities are required outside recommended standard hours, this will be assessed as required during the detailed design phase of works.

13.2 Predicted construction traffic noise

The potential impact of construction road traffic noise to nearby residential receivers has been estimated using the CoRTN method described in Section 5.2. To determine the increase in traffic noise as a result of additional heavy vehicle movements, traffic data from the concurrent traffic counts conducted in February 2015 were used in the relevant locations and then adjusted for the increase of construction traffic. Table 42 presents the predicted increase in road traffic noise from additional construction traffic.

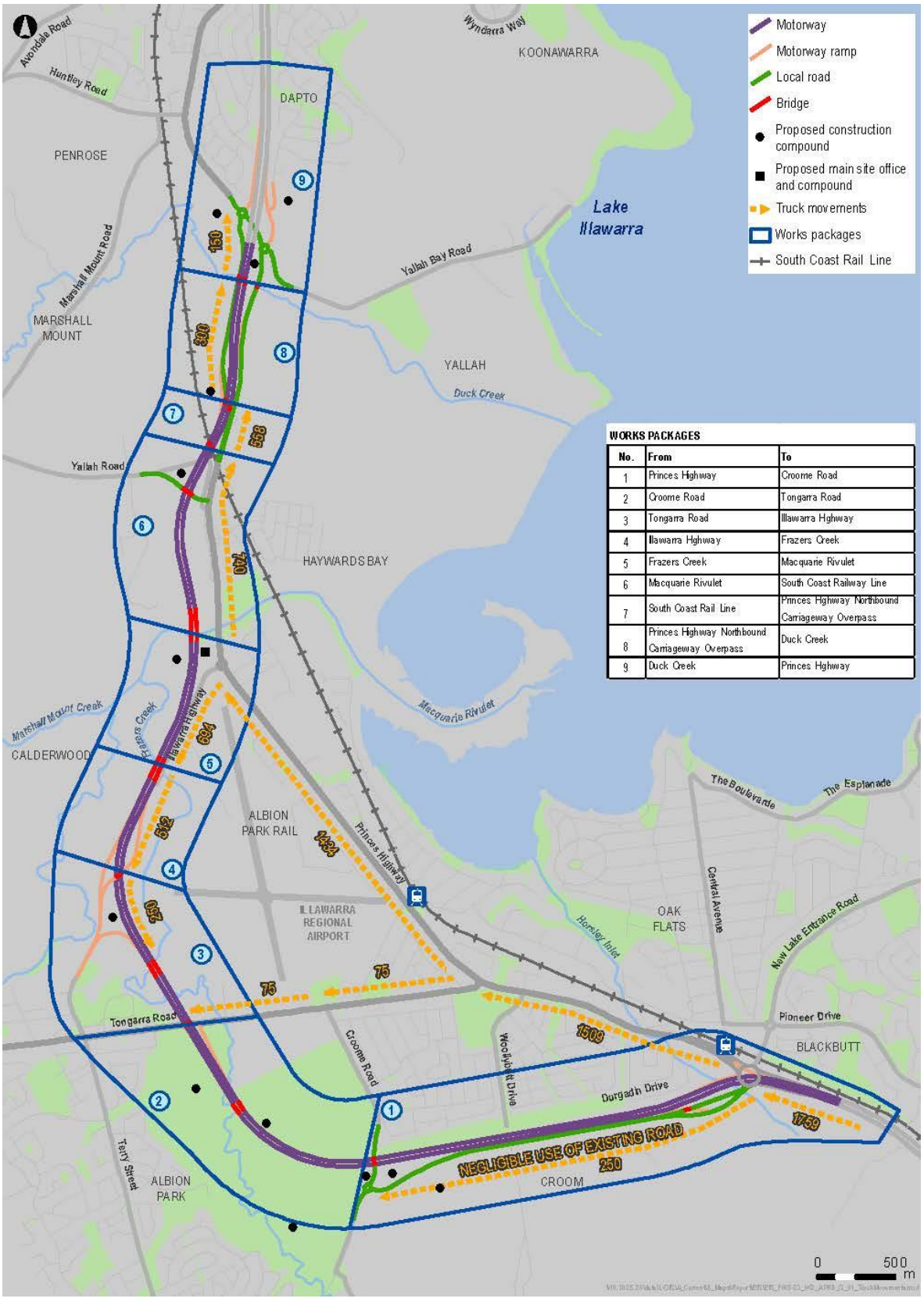
Note that for the purpose of this assessment only the 'day' period has been considered, between 7:00 am and 10:00pm, which encompasses the extended hours (evening) period between 6:00 pm and 7:00 pm. Truck movements in the extended hours (morning period between 6:00 am and 7:00 am are anticipated to be minimal and of similar impact as predicted below.

Table 42 Predicted impact of construction traffic on existing traffic noise levels

ID	Road	Without construction traffic		With construction traffic		Change in $L_{Aeq(15\ hour)}$ traffic noise level, dB
		Total	HV%	Total	HV %	
L1	Princes Motorway	7640	3.9	7940	7.5	<1
L2	Princes Highway	50263	6.9	51003	8.3	<1
L3	Illawarra Highway	14265	4.2	14959	8.6	1
L4	Tongarra Road	12047	3.8	12122	4.4	<1
L5	Princes Highway	39498	7.9	41007	11.3	<1
L6	Princes Highway	44718	6.9	46227	10.0	<1
L7	East-West Link	13155	3.1	13405	5.0	<1
L8	Princes Motorway	33872	6.7	35631	11.3	1

The predicted increase in road traffic noise levels indicate that construction traffic will have minimal impact on the road network, as all predicted increases in traffic noise are within 2 dB(A) of existing road traffic noise levels. All predicted noise levels comply with the RNP criteria identified in Section 9.4.

Figure 12 Estimated daily truck movements required on existing roads for haulage of material



Source: Reproduced from figure 5-23Albion Park Rail bypass EIS (HCJV 2015)

14 Construction Mitigation and Management Measures

14.1 Highly noise affected receivers

Some of the nearest residential receivers near the Albion Park Rail bypass works may be 'highly noise affected' [i.e. exposed to noise levels that exceed 75 dB(A)] as a result of:

- Relocation & protection of existing services and corridor clearing works in areas requiring vegetation clearing, including the use of chainsaws, tub grinders, rock breakers and pneumatic hammers during the house/ building demolition works and rock crushing;
- Bulk excavation works, including the use of chainsaws rock breakers during rock excavation;
- Road surfacing works, including saw cutting of concrete pavement, vibratory rolling.

To limit the number of highly noise affected receivers, high noise impact activities will be carried out with respite periods, such that:

- High noise impact activities will only carried out between:
  - 8:00 am and 6:00 pm Monday to Friday; and
  - 8:00 am and 1:00 pm Saturday;
- High noise impact activities will be carried out in continuous blocks of up to 3 hours. Respite from high noise impact activities will be provided between each block for at least 1 hour. No high noise impact activities will be carried out during this 1 hour respite period;

14.2 Recommended minimum buffer distances for sensitive receivers

The pattern of vibration radiation is very different to the pattern of airborne noise radiation, and is very site specific as final vibration levels are dependent on many factors including the actual plant used, its operation and the intervening geology between the activity and the receiver. Accordingly, based on a database containing vibration measurements from past projects and library information, Table 43 below presents the recommended minimum working distances for high vibration generating plant.

Table 43 Recommended minimum working distances for vibration intensive plant

Plant item	Rating / description	Minimum working distance	
		Cosmetic damage	Human response
Vibratory Roller[1]	< 50 kN (Typically 1-2 tonnes)	5 m	15m – 20 m
	< 100 kN (Typically 2-4 tonnes)	6 m	20 m
	< 200 kN (Typically 4-6 tonnes)	12 m	40 m
	< 300 kN (Typically 7-13 tonnes)	15 m	100 m
	> 300 kN (Typically 13-18 tonnes)	20 m	100 m
	> 300 kN (Typically > 18 tonnes)	25 m	100 m
Compactors[2]	-	15 m	100 m

Plant item	Rating / description	Minimum working distance	
		Cosmetic damage	Human response
Dozer[1]	(D810) with ripper	2 m (nominal)	10 m
Excavators[2]	< 30 Tonne (travelling/ digging)	10 m	15 m
Grader[1]	<= 20 tonne	2 m (nominal)	10 m
Loaders[2]	-	-	5 m
Small Hydraulic Hammer[2]	300kg (5-12 tonne excavator)	2 m	7 m
Medium Hydraulic Hammer[2]	900kg (12-18 tonne excavator)	7 m	23 m
Large Hydraulic Hammer[2]	1600kg (18-34 tonne excavator)	22 m	73 m
Jackhammer[2]	Hand held	1 m (nominal)	Avoid contact with structure
Truck Movements[2]	-	-	10 m

Notes: 1. TCA Construction Noise Strategy (Rail Projects) November 2011
2. Renzo Tonin & Associates project files, databases & library

These buffer distances should be applied conservatively. If they are proposed to be exceeded then vibration emissions from the specific plant item should be measured to confirm a site specific buffer distance.

14.3 Blast mitigation and management

Should blasting be undertaken to construct the Albion Park Rail bypass, the CNVMP prepared during the detailed design stage would incorporate a Blast Management Strategy. The Strategy, which will be prepared in consultation with the EPA, will aim to demonstrate that all blasting and associated activities will be undertaken in a manner that will not generate unacceptable noise and vibration impacts or pose a significant risk impact to residences and sensitive receivers. The Strategy will also address the principles outlined in Hazardous Industry Planning Advisory Paper No 6: Hazard Analysis (Department of Planning January 2011) and Assessment Guideline: Multi-Level Risk Assessment (Department of Planning and Infrastructure May 2011) for the handling and storage of hazardous materials.

The Blast Management Strategy will address:

- details of blasting to be performed, including location, method and justification of the need to blast;
- identification of any potentially affected noise and vibration sensitive sites including heritage buildings and utilities;
- establishment of appropriate criteria for blast overpressure and ground vibration levels at each category of noise sensitive site;
- details of the storage and handling arrangements for explosive materials and the proposed transport of those materials to the construction site;

- identification of hazardous situations that may arise from the storage and handling of explosives, the blasting process and recovery of the blast site after detonation of the explosives;
- determination of potential noise and vibration and risk impacts from blasting and appropriate best management practices; and
- community consultation procedures.

14.4 Other noise control measures

Table 44 Standard noise and vibration mitigation measures

Action Required	Applies to	Details
Construction Planning		
Building condition surveys	Vibration Blasting	Undertake building dilapidation surveys on all buildings located within the buffer zone prior to commencement of activities with the potential to cause property damage (see Table 43).
Community consultation	Airborne noise Ground-borne noise Vibration Blasting	Implement community consultation measures – inform community of construction activity & potential impacts
Site inductions	Airborne noise Ground-borne noise Vibration	All employees, contractors & subcontractors are to receive a Project induction. The environmental component may be covered in toolboxes & must include: • Relevant licence & approval conditions • Permissible hours of work • Any limitations on high noise generating activities • Location of nearest sensitive receivers • Construction employee parking areas • Relevant site specific mitigation measures • Appropriate behavioural practises
Behavioural practices	Airborne noise	No swearing or unnecessary shouting or loud stereos/radios on site. No dropping of materials from height where practicable, throwing of items & slamming of doors.
Equipment selection	Airborne noise Vibration	Use quieter & less noise/ vibration emitting construction methods where feasible & reasonable. Where vibration intensive equipment is used within is predicted to exceed vibration objectives, determine whether alternative construction methodology or less vibration intensive equipment can be used, e.g. use bored piles rather than impact or percussion piling.
Rental plant and equipment	Airborne noise	The noise levels of plant & equipment items are to be considered in rental decisions.
Plan worksites and activities to minimise noise and vibration.	Airborne noise Vibration	Plan traffic flow, parking & loading/unloading areas to minimise reversing movements within the site.
Liaise with Proponents of other construction works in the vicinity of the project		Proponents of other construction works in the vicinity of the project to be consulted and reasonable steps taken to coordinate works to minimise impacts on, and maximise respite for, affected sensitive receivers.

Action Required	Applies to	Details
Community Consultation	Airborne noise Ground-borne noise Vibration	During construction, affected educational institutions will be consulted and reasonable steps taken to ensure that noise generating construction works are not timetabled during examination periods where practicable.
Hours of Work		
Construction hours and scheduling	Airborne noise Ground-borne noise Vibration	Where feasible & reasonable, construction should be carried out during the standard construction hours identified in Section 8.3.4. Work generating high noise and/or vibration levels should be scheduled during less sensitive time periods if practicable.
Construction respite period	Airborne noise Ground-borne noise Vibration	Activities with impulsive or tonal noise emissions (such as jack hammering, rock breaking, rock hammering, and vibratory rolling) may only be undertaken as detailed in Section 8.3.4 of this report unless otherwise specified in the relevant approvals for the Project.
Out of Hours Works	Airborne noise Ground-borne noise Vibration	Out of Hours Works to be undertaken in accordance with: • any EPL granted for this Project; and • the CNVMP prepared at detailed design.
Minimise disturbance arising from delivery of goods to construction sites.	Airborne noise	Ensure all deliveries occur during standard construction hours, except where detailed in 8.3.
Source Controls.		
Maximum noise levels	Airborne noise	All plant & equipment to be appropriately maintained to ensure optimum running conditions, with periodic noise monitoring to confirm compliance.
Use and siting of plant	Airborne noise Vibration	Simultaneous operation of noisy plant within discernible range of a sensitive receiver is to be limited/ avoided where possible. The offset distance between noisy plant & adjacent sensitive receivers is to be maximised where practicable. Plant used intermittently to be throttled down or shut down when not in use where practicable. Noise-emitting plant to be directed away from sensitive receivers where possible, particularly during OOHW. NOTE: Due to limited land available for construction this may not at times be practical.
Non-tonal reversing alarms.	Airborne noise	Non-tonal reversing beepers (or an equivalent mechanism) must be fitted & used on all construction vehicles & mobile plant regularly used on site for periods of over two months where practicable.
Reduced scale blast trials	Airblast overpressure & Vibration	Carry out noise and vibration measurements on a series of smaller test blasts to establish appropriate propagation characteristics for the site. Use results to more accurately predict noise & vibration once the proposed charge & blast configuration information is determined.
Limit blast detonation	Airblast overpressure & Vibration	Where practicable, blasts will be limited to an average of one single detonation in any one day, and a maximum of six per week
Path Controls		
Shield sensitive receivers from noisy activities.	Airborne noise	Where reasonable & feasible, use structures to shield residential receivers from noise such as: • Site shed placement • Earth bunds • Hoarding Enclosures to shield fixed noise sources such as pumps, compressors, fans etc. (where practicable)

Action Required	Applies to	Details
Operational noise mitigation measures or equivalent temporary measures		Where reasonable & feasible, operational noise mitigation measures or equivalent temporary measures will be installed at the start of construction, and in areas identified as having high noise impacts (including at or adjacent to construction work sites or ancillary facilities), and where existing noise barriers are to be altered
Roadside temporary noise wall (variable height)	Airborne noise	Relocatable noise walls constructed concrete jersey barrier with plywood hoarding mounted above may be used, where practicable. Relocatable noise walls can achieve 5 to 10 dB(A) noise reduction where they break line of sight between the noise source and the receiver.
Establish buffer zones	Airblast overpressure	Establish a zone of affectation around the site, whilst taking into account adverse meteorological conditions.
Monitoring		
Monitoring	Airborne noise Ground-borne noise Vibration	Air blast overpressure, noise & vibration monitoring will be monitored during construction. Any necessary adaptive management requirements will be identified and implemented where reasonable and feasible.
Site specific attended vibration measurements	Vibration	Representative attended vibration measurements are required at the commencement of vibration generating activities to confirm that vibration is within the acceptable range to prevent cosmetic building damage.
EPL		
Implementation of any additional measures required by the EPL conditions	Airborne noise Vibration	Additional measures required by any EPL granted for this Project are to be implemented as required.

14.5 Additional Mitigation Measures

14.5.1 Additional Airborne Noise Mitigation Measures

Table 45 below should be used to advise the appropriate additional noise mitigation, based on the Transport for NSW Construction Noise Strategy (2012).

Table 45: Additional Airborne Noise Mitigation Measures

Time Period		Mitigation Measures/Predicted $L_{Aeq(15min)}$ Noise Level above RBL			
		0 to 10 dB(A) Noticeable	10 to 20 dB(A) Clearly audible	20 to 30 dB(A) Moderately intrusive	>30 dB(A) Highly intrusive
Standard	Mon-Fri (7:00 am - 6:00 pm) Sat (8:00 am – 1:00 pm) Sun/ Public Hol (Nil)	-	-	Letterbox drop Monitoring	Letterbox drop Monitoring
OOHW Period 1	Mon-Fri (6:00 pm - 10:00 pm) Sat (7:00 am - 8:00 am & 1:00 pm - 10:00 pm) Sun/ Public Hol (8:00 am 6:00 pm)	-	Letterbox Drop	Letterbox drop Monitoring	Letterbox drop Monitoring Individual Briefing Respite Offer Phone Calls Specific Notification

Time Period		Mitigation Measures/Predicted $L_{Aeq(15min)}$ Noise Level above RBL			
		0 to 10 dB(A) Noticeable	10 to 20 dB(A) Clearly audible	20 to 30 dB(A) Moderately intrusive	>30 dB(A) Highly intrusive
OOHW Period 2	Mon-Fri (10:00 pm - 7:00 am) Sat (10:00 pm - 7:00 am) Sun/ Public Hol (6:00 pm - 8:00 am)	Letterbox Drop	Letterbox drop Monitoring	Letterbox drop Monitoring Individual Briefing Phone Calls Specific Notification	Letterbox drop Monitoring Individual Briefing Phone Calls Specific Notification Alternate Accommodation

14.5.2 Additional Vibration Mitigation Measures

Table 46 below should be used to advise the appropriate additional ground-borne vibration mitigation, based on the Transport for NSW Construction Noise Strategy (2012).

Table 46: Additional Ground-borne Vibration Mitigation Measures

Time Period		Mitigation Measures/Predicted Vibration Exceeds Maximum Levels	
Standard	Mon-Fri (7:00 am - 6:00 pm) Sat (8:00 am – 1:00 pm) Sun/ Public Hol (Nil)	Letterbox drop Monitoring Respite Offer	
OOHW Period 1	Mon-Fri (6:00 pm - 10:00 pm) Sat (7:00 am - 8:00 am & 1:00 pm - 10:00 pm) Sun/ Public Hol (8:00 am -6:00 pm)	Letterbox drop Monitoring Individual Briefing	Respite Offer Phone Calls Specific Notification
OOHW Period 2	Mon-Fri (10:00 pm - 7:00 am) Sat (10:00 pm - 7:00 am) Sun/ Public Hol (6:00 pm 8:00 am)	Letterbox drop Monitoring Individual Briefing Respite Offer	Phone Calls Specific Notification Alternate Accommodation

15 Conclusion

15.1 Operational traffic noise impact

The assessment of road traffic noise was conducted in accordance with Roads and Maritime Noise Criteria Guideline and Noise Mitigation Guideline. The assessment of 'build' and 'no build' conditions has found that traffic noise levels for the year 2030, ten years following completion of the project, would potentially exceed the NCG criteria at some residences, therefore noise mitigation measures were investigated.

In considering reasonable mitigation measures a number of issues need to be considered including noise impact, noise mitigation benefit, cost effectiveness and community views. Options for attenuating traffic noise to the required levels have been investigated in the following order:

- Provision of low noise pavement on the new Bypass main carriageways.
- Provision of noise barriers where feasible and reasonable, and heights designed in accordance with the methodology defined in the NMG.
- Provision of at property treatments.

Where pavement surfaces and barriers have not provided sufficient attenuation to allow compliance with the adopted NCG criteria, properties have been recommended for consideration of property treatment.

15.2 Croom Regional Sports Complex

The Croom Regional Sporting Complex (CRSC) will be reconfigured to enable the continuing operation of the facility once the bypass is completed. The impacts associated with this reconfiguration have been assessed against the Industrial Noise Policy (EPA 2000).

As the change in noise level due to the reconfiguration of the Sporting Complex is generally 2dB(A) or less (with the exception of noise sensitive receivers in Fleet Crescent and Croome Road), most properties will not likely experience a noticeable increase in noise impact.

Application of mitigation for sporting facilities, other than management of matches to occur during less sensitive times of the day, is problematic due to the extended area where noise is being generated, i.e. barriers are not effective for this reason and source control is not generally practical.

15.3 Construction noise and vibration impact

An assessment of construction noise impact from the proposed Albion Park Rail Bypass project has been undertaken. Noise emission from the construction of the project over three stages has predicted and assessed against the relevant noise criteria set by the Interim Construction Noise Guideline (NSW EPA 2009) during the recommended standard hours for construction. Potential impact from the proposal to

extend construction hours for this public infrastructure project, in the form of additional time at the start and end of each day (Monday to Friday) and on Saturday afternoon, has also been assessed.

NCAs further away from the project alignment may be noise affected during corridor clearing and bulk earthworks, however construction noise levels are likely to comply with the NMLs for other activities. The NCAs that are located alongside the project alignment will be more noise affected by the construction works, with some potentially highly affected receivers noisier construction activities.

Potential vibration impact to residential, commercial/ industrial and heritage receivers has been completed and assessed against the relevant guidelines for structural damage from vibration and for human disturbance. The risk of structural damage to property is assessed as very low to negligible for most receivers, with the exception of two heritage properties and one commercial property, depending on the minimum distance between the construction plant and the receiver location. Further assessment of vibration impact will be required at the detailed design phase to ensure vibration impact is managed and mitigated where feasible.

A preliminary review of potential blasting impacts has been completed on the basis that there may be blasting in two of the deeper cuts along the alignment. Any blasting identified as required during the detailed design phase will be required to undergo further detailed analysis to ensure that noise and vibration impacts are managed in accordance with the criteria established in Section 9.3.

The noise impact of construction traffic on the existing road network has been predicted and assessed as within the RNP criteria.

Recommendations are provided in Section 14 to manage and/or minimise noise, vibration and blasting impacts where they occur.

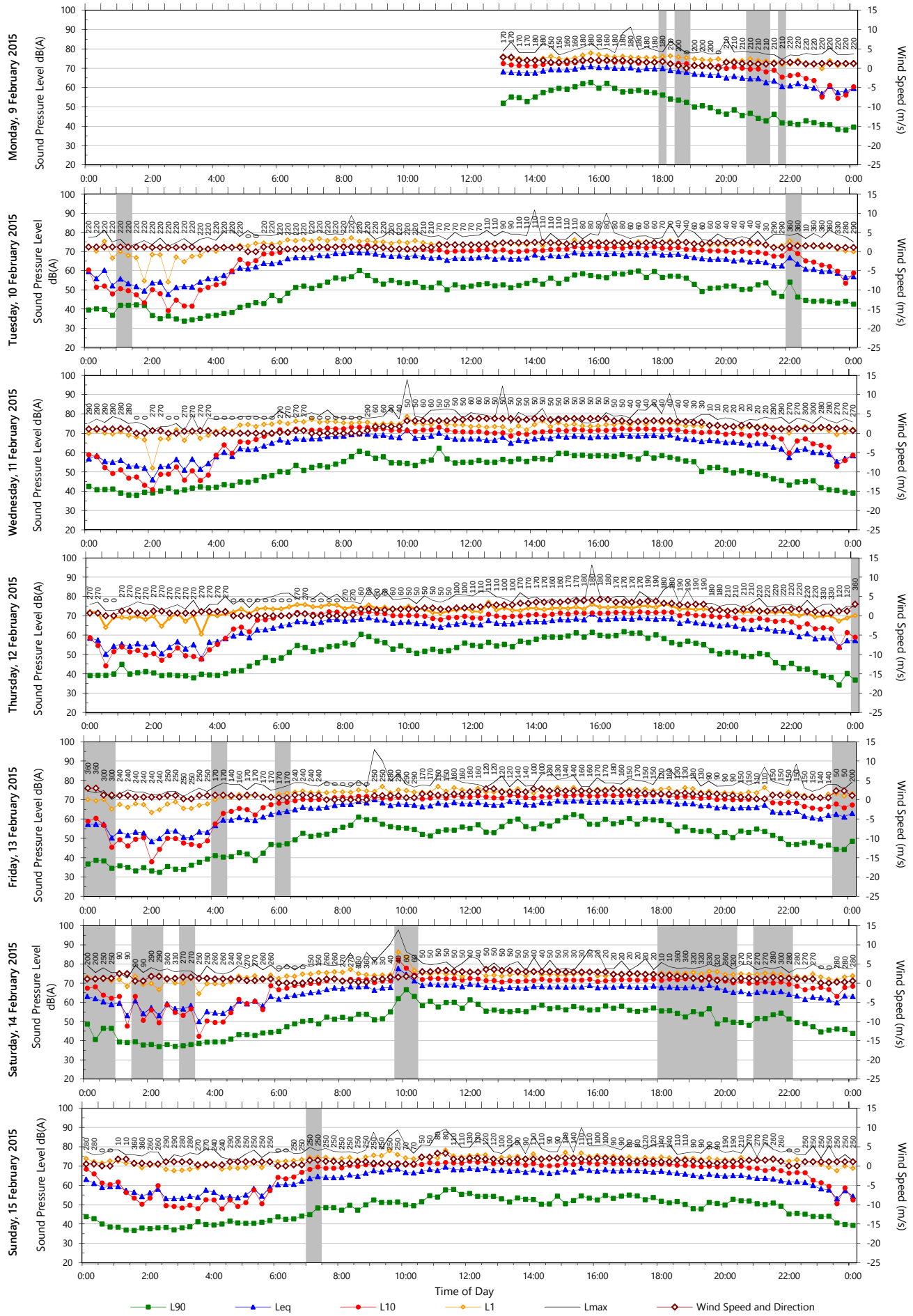
References

1. NSW Department of Environment and Climate Change 2011 Road Noise Policy (RNP)
2. NSW Roads and Maritime Services April 2015 Noise Criteria Guideline (NCG)
3. NSW Roads and Maritime Services April 2015 Noise Mitigation Guideline (NMG)
4. NSW Roads & Traffic Authority 2001 Environmental Noise Management Manual (ENMM)
5. NSW Environment Protection Authority 2000 Industrial Noise Policy (INP)
6. NSW Department of Environment and Climate Change 2009 Interim Construction Noise Guideline (ICNG)
7. NSW Department of Environment and Conservation Assessing Vibration – A Technical Guideline (AVATG)
8. NSW Transport for NSW 2012 Construction Noise Strategy 7TP-ST-157/2.0
9. British Standard BS 6472-2008, 'Evaluation of human exposure to vibration in buildings (1-80Hz)
10. German Standard DIN 4150-3 : 1999-02 - 'Structural vibration - Effects of vibration on structures'
11. Australian Standard 2834-1995 Computer Accommodation, Chapter 2.9 Vibration, p16
12. Gordon CG Generic Vibration Criteria for Vibration Sensitive Equipment *Proceedings of International Society for Optical Engineering (SPIE)*, Vol. 1619, San Jose, CA, November 4-6, 1991, pp. 71-85
13. Australian and New Zealand Environment Conservation Council (ANZECC) 1990 Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration
14. Australian Standard AS 2187.2-2006 Explosives - Storage and use - Part 2 Use of explosives
15. HCJV 2015 Albion Park Rail bypass Environmental Impact Statement (Hyder Cardno Joint Venture)

APPENDIX A Noise monitoring charts

Unattended Monitoring Results

Location: 52 Tongara Road

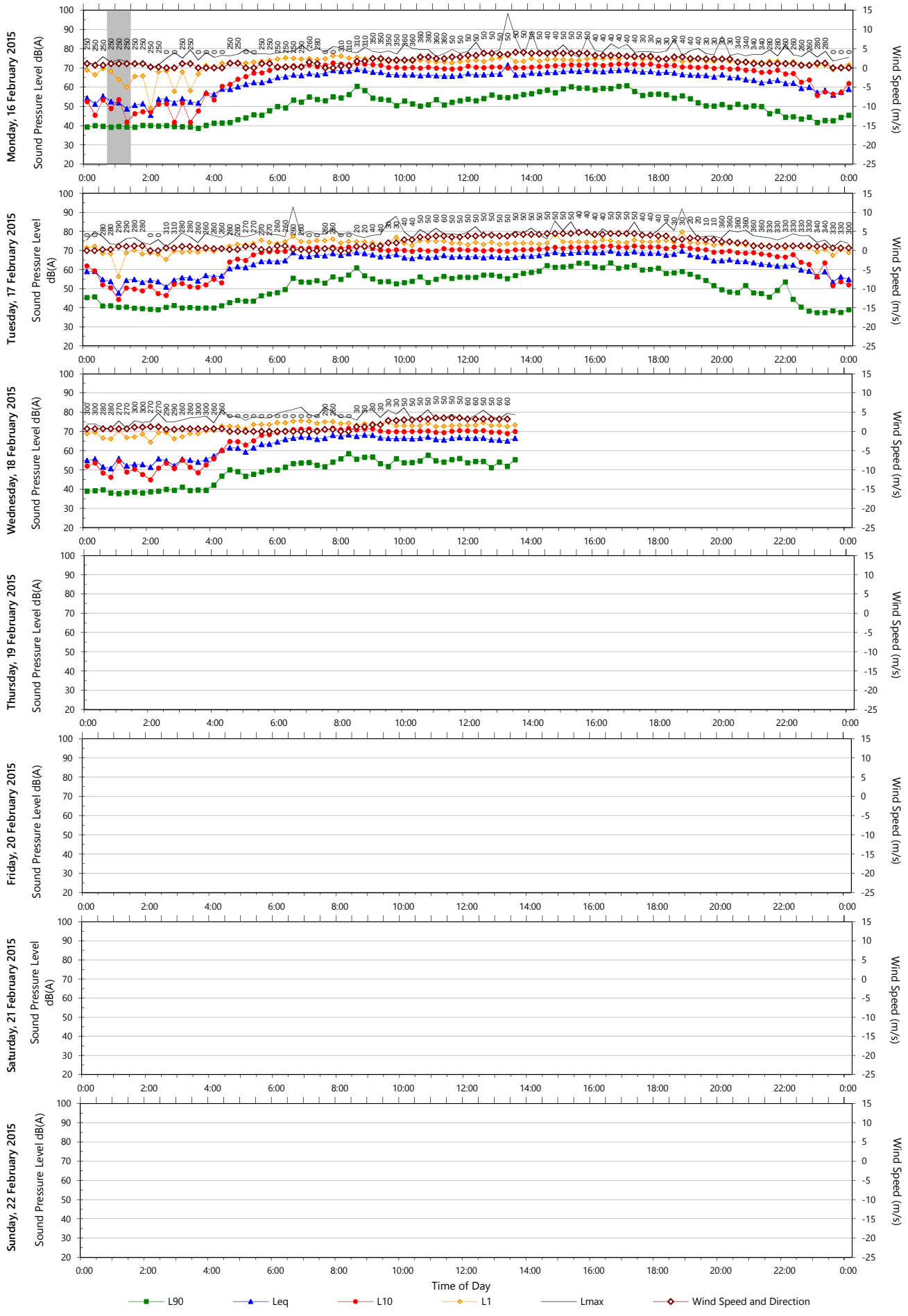


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Unattended Monitoring Results

Location: 52 Tongara Road

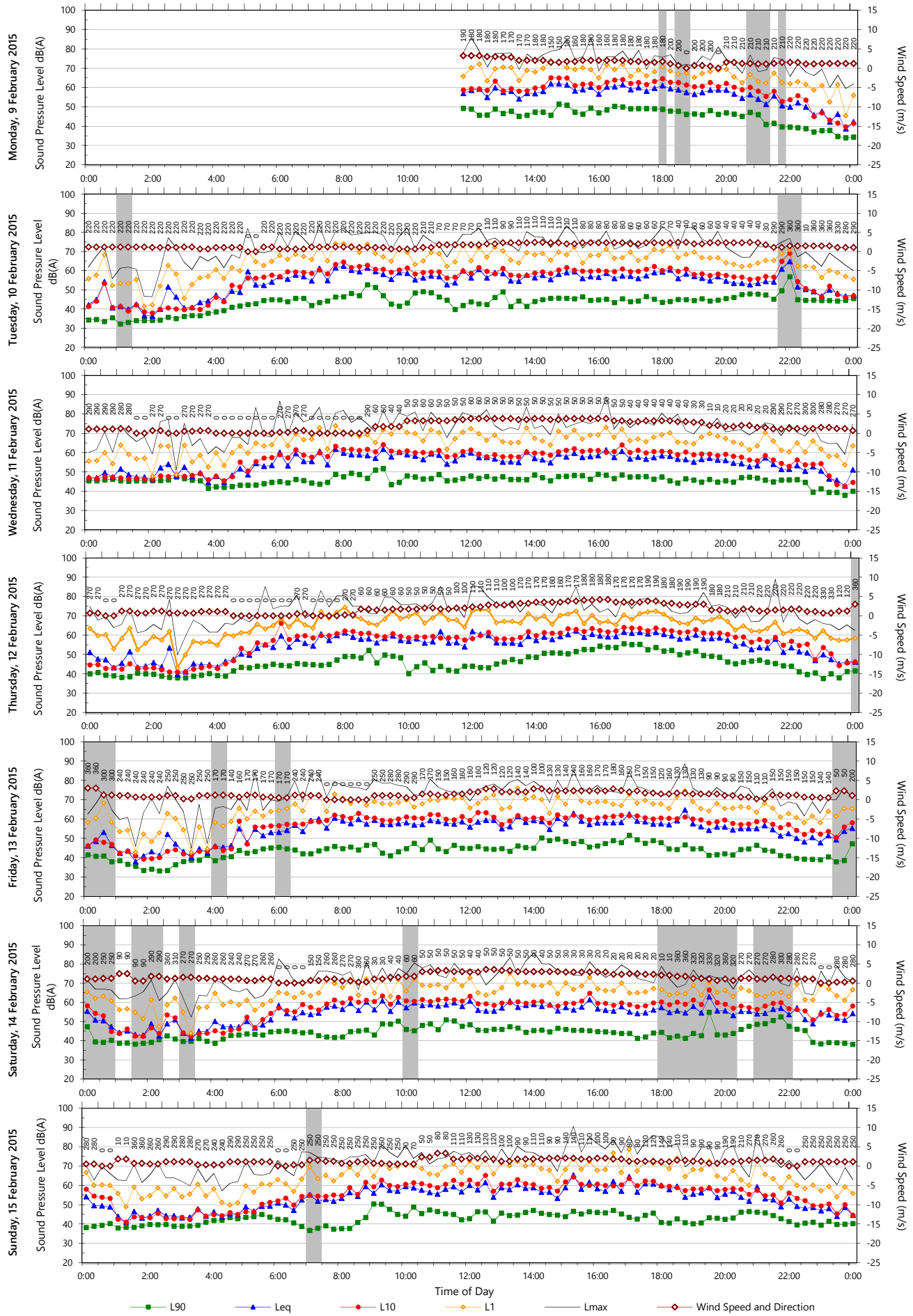


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Template: QTE-26 (rev 2) Logger Graphs Program

Unattended Monitoring Results

Location: 54 Oak Street

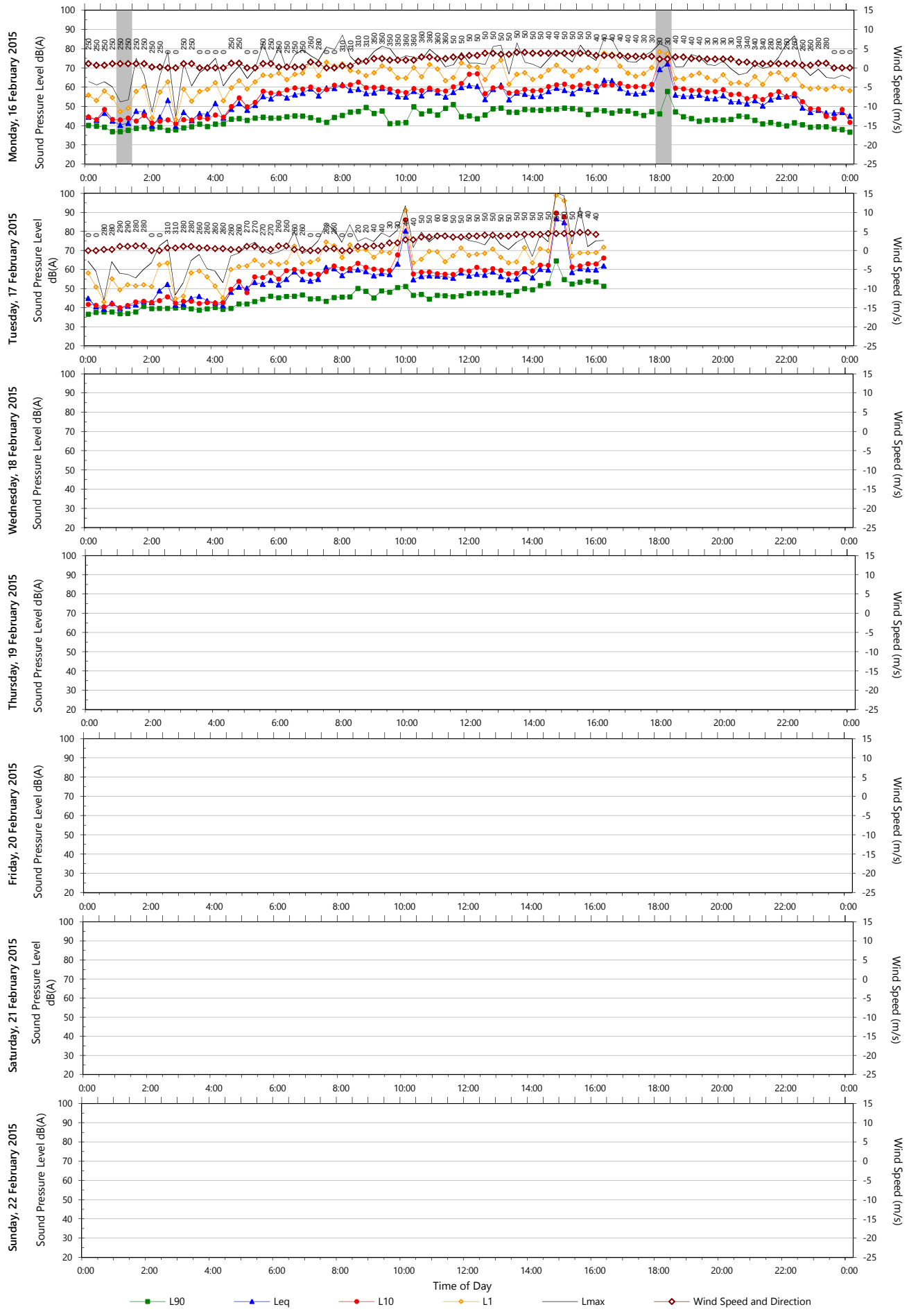


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Template: QTE-26 (rev 2) Logger Graphs Program

Unattended Monitoring Results

Location: 54 Oak Street

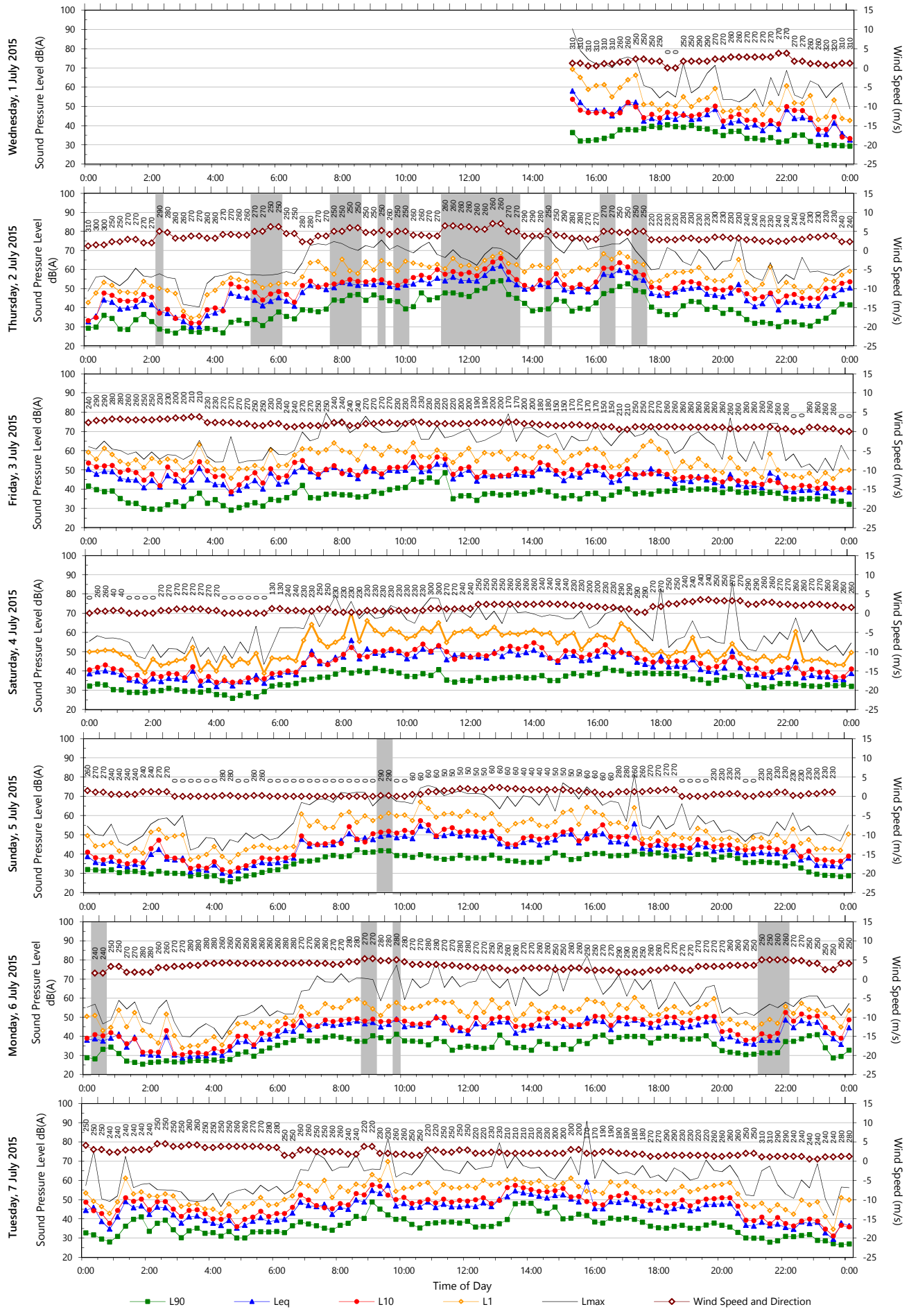


Data File: 54 Oak Street.xlsx

Template: QTE-26 (rev 2) Logger Graphs Program

Unattended Monitoring Results

Location: 59 Burdekin Drive

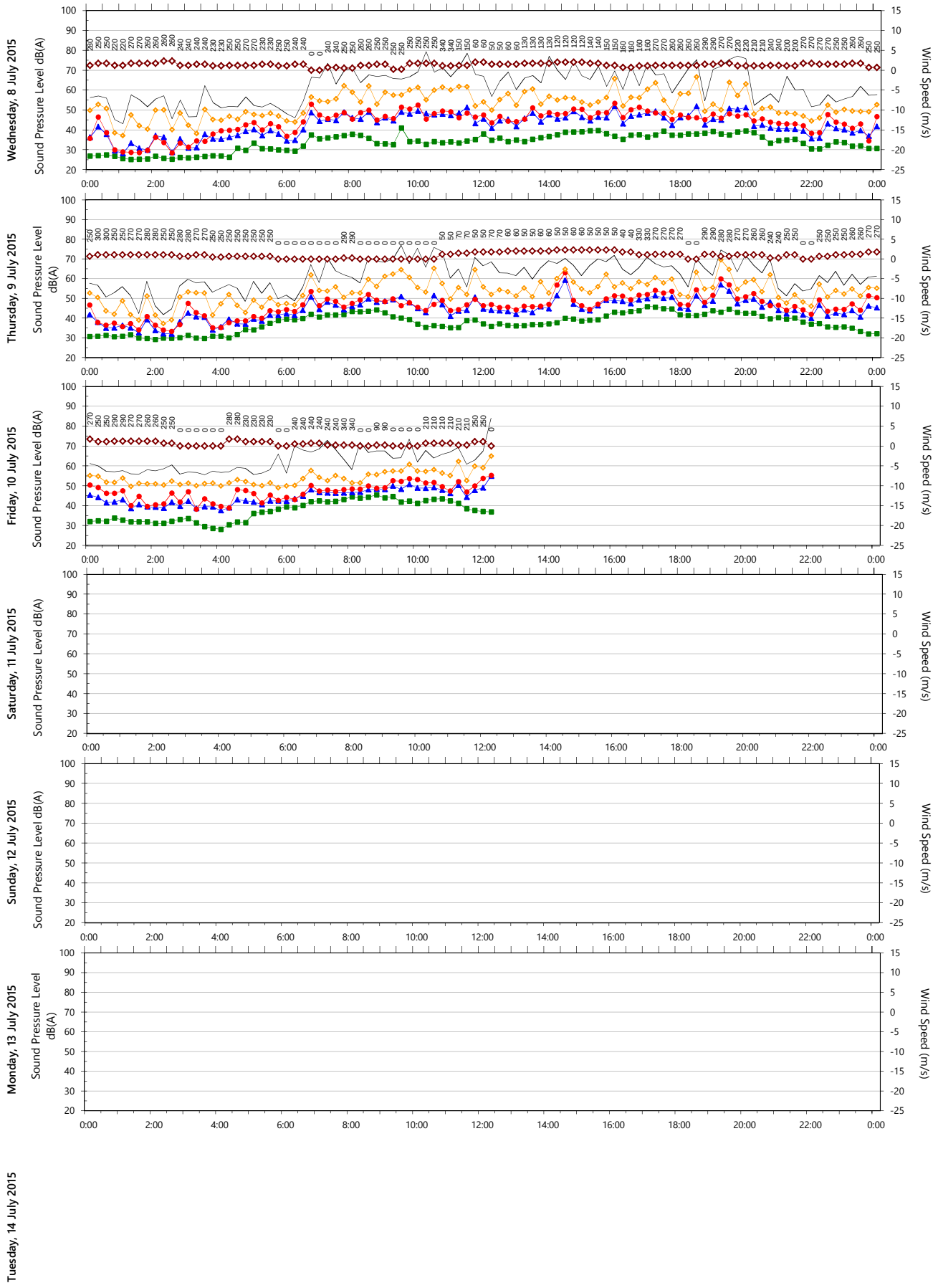


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Unattended Monitoring Results

Location: 59 Burdekin Drive

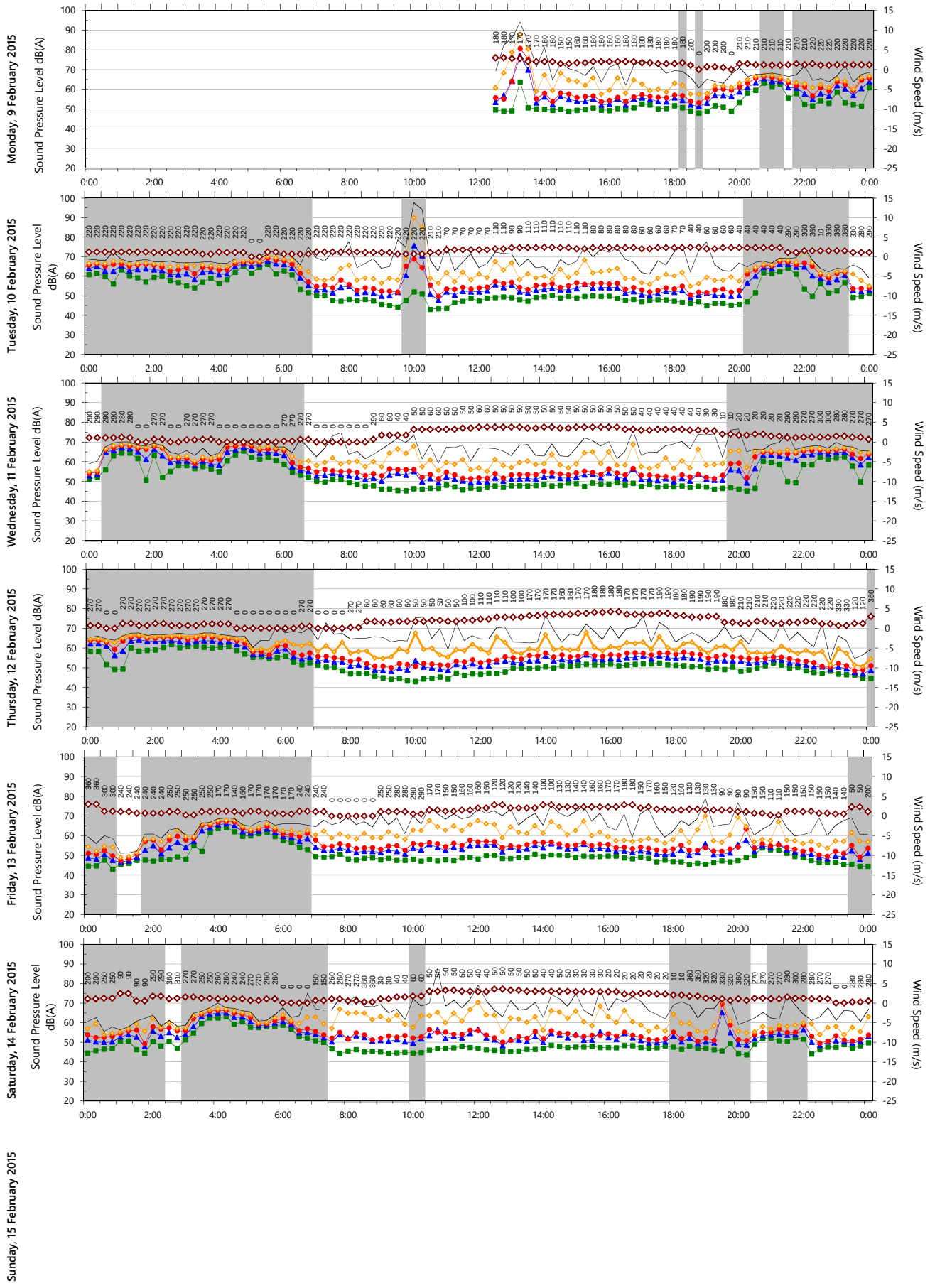


Data File: 2015-07-01_SLM_000_123_Rpt_Report.txt

Template: QTE-26 (rev 2) Logger Graphs Program

Unattended Monitoring Results

Location: 78 Jarrah Way

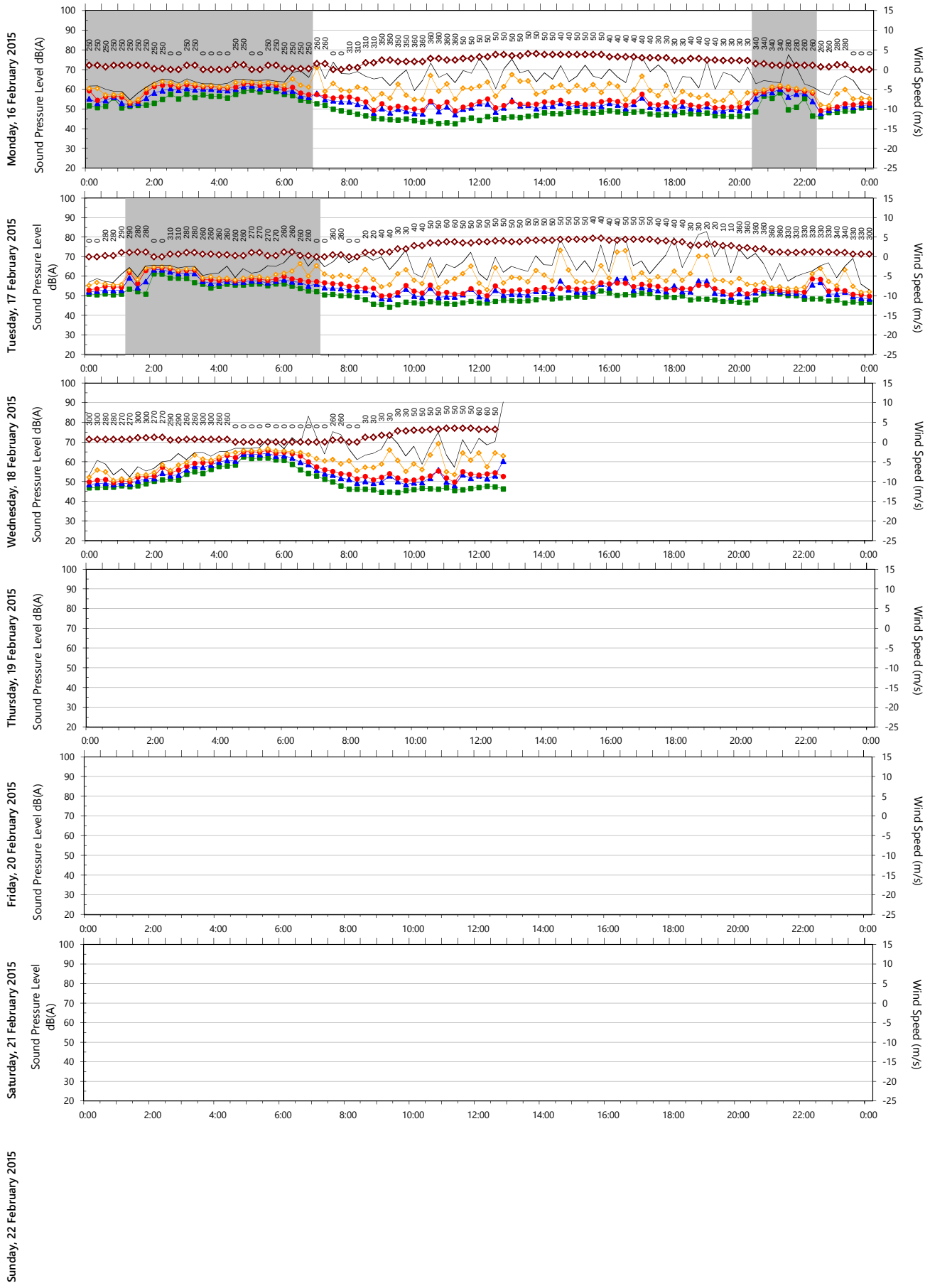


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Unattended Monitoring Results

Location: 78 Jarrah Way

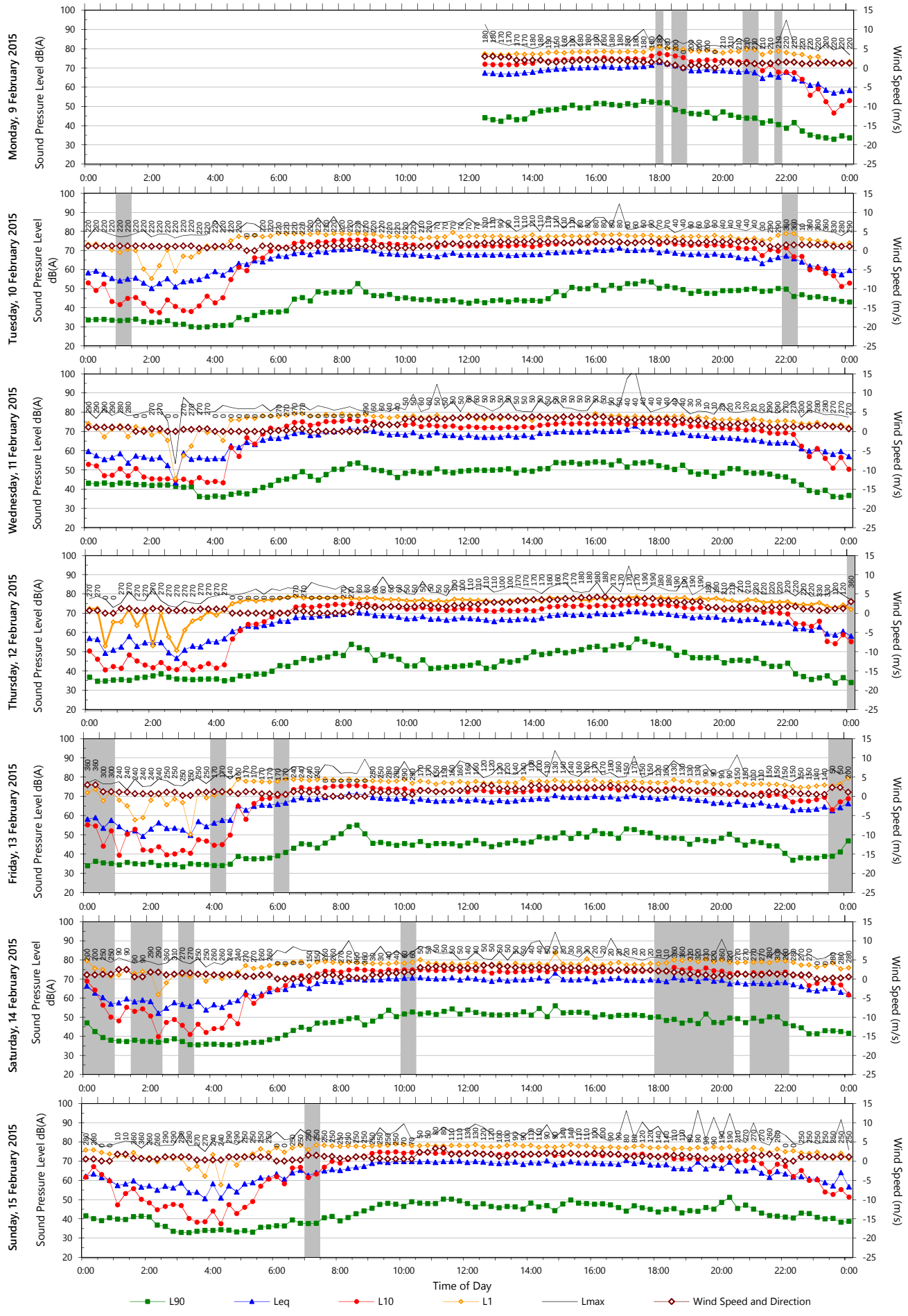


Data File: 78 Jarrah Way.xlsx

Template: QTE-26 (rev 2) Logger Graphs Program

Unattended Monitoring Results

Location: 152 Croome Road

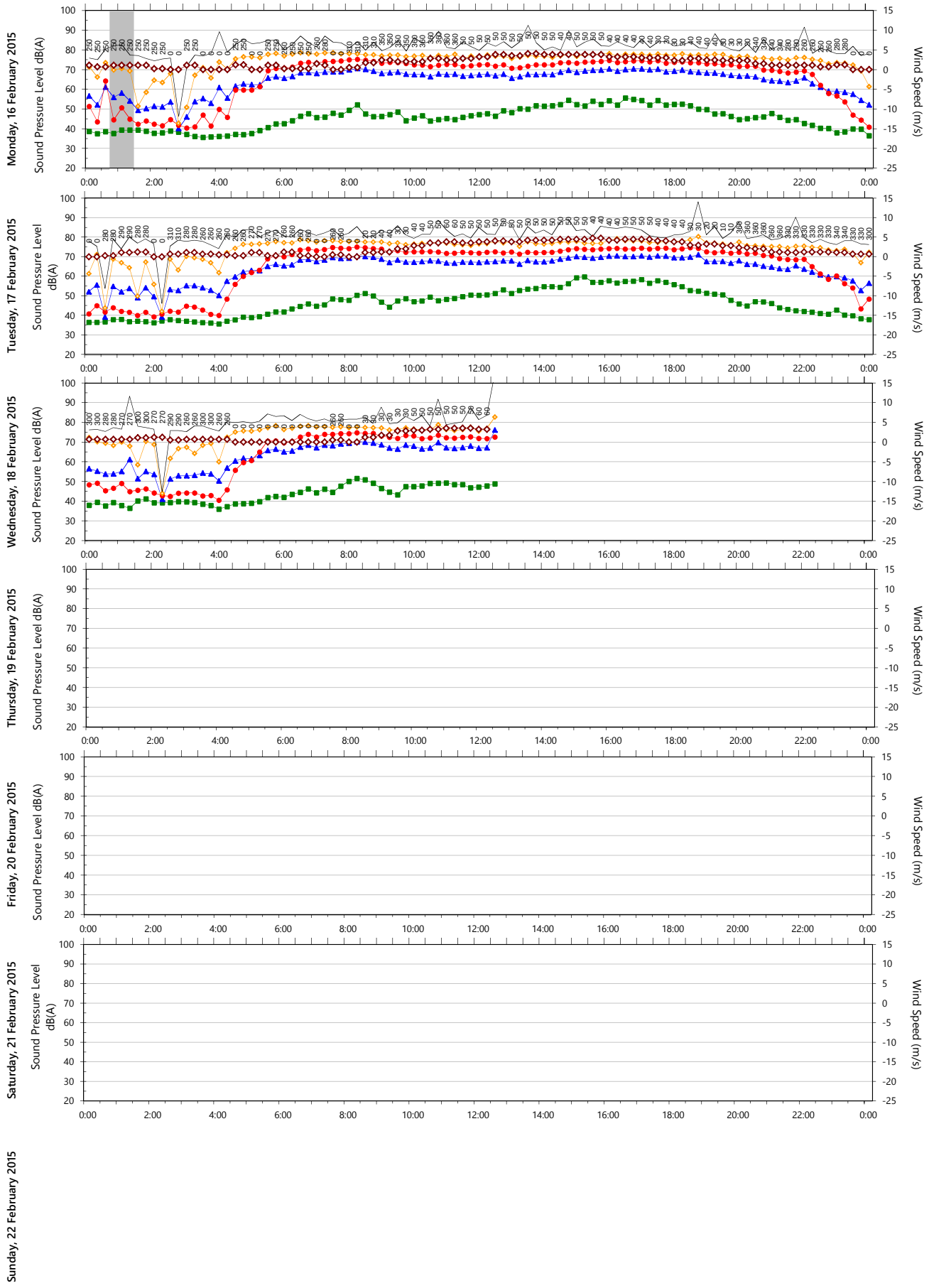


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Template: QTE-26 (rev 2) Logger Graphs Program

Unattended Monitoring Results

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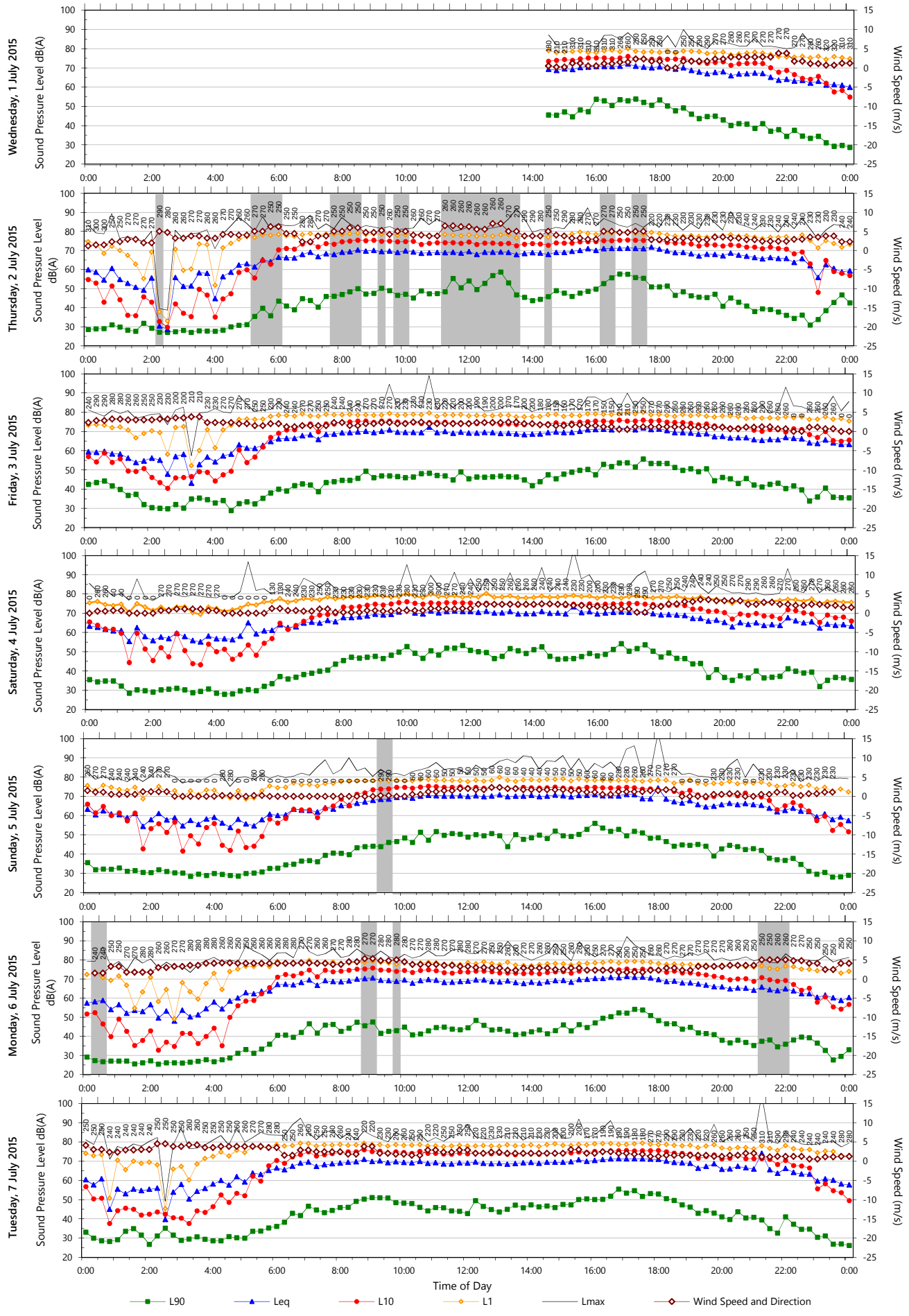


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Template: QTE-26 (rev 2) Logger Graphs Program

Unattended Monitoring Results

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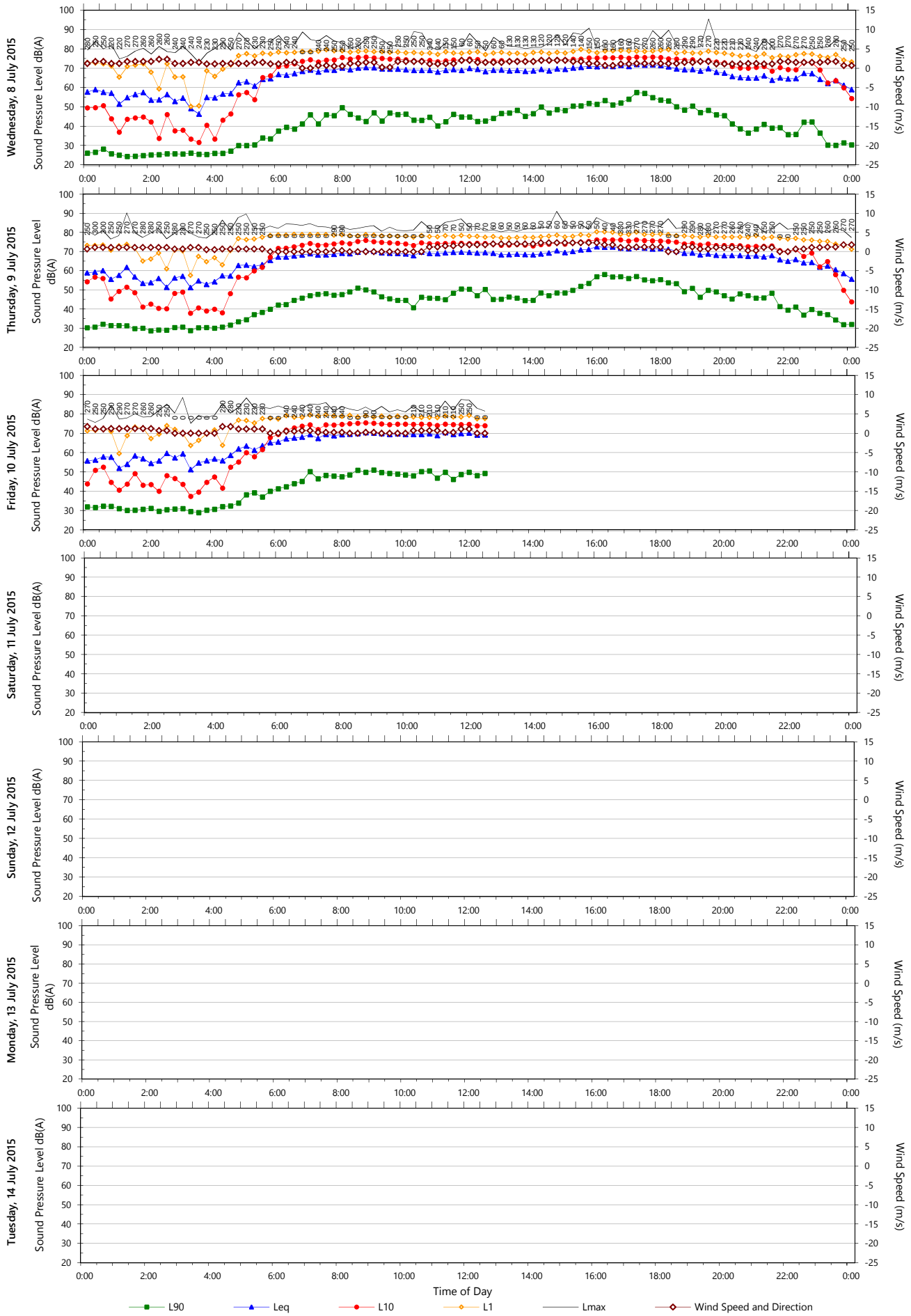


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Unattended Monitoring Results

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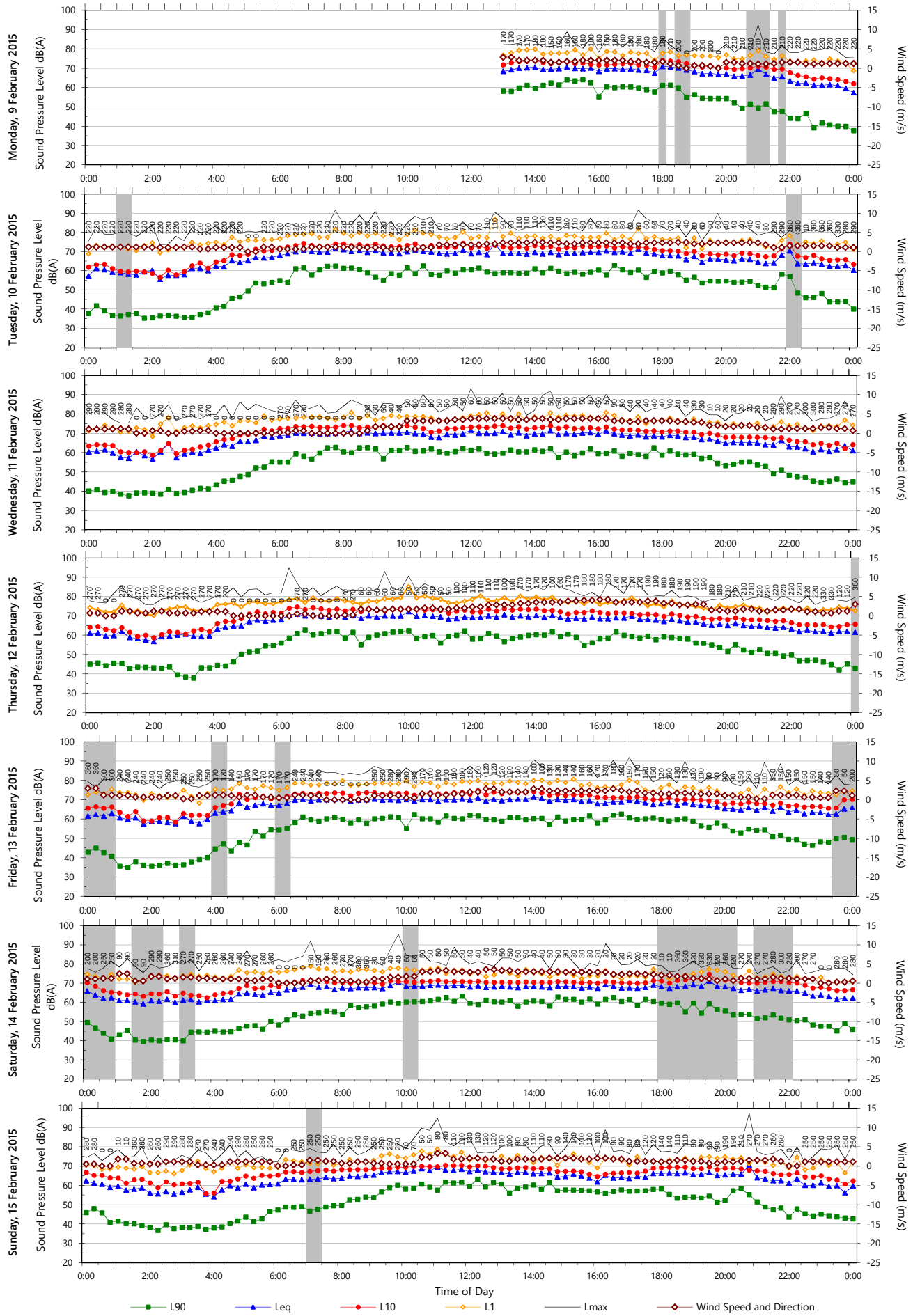


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Template: QTE-26 (rev 2) Logger Graphs Program

Unattended Monitoring Results

Location: 216 Princes Highway

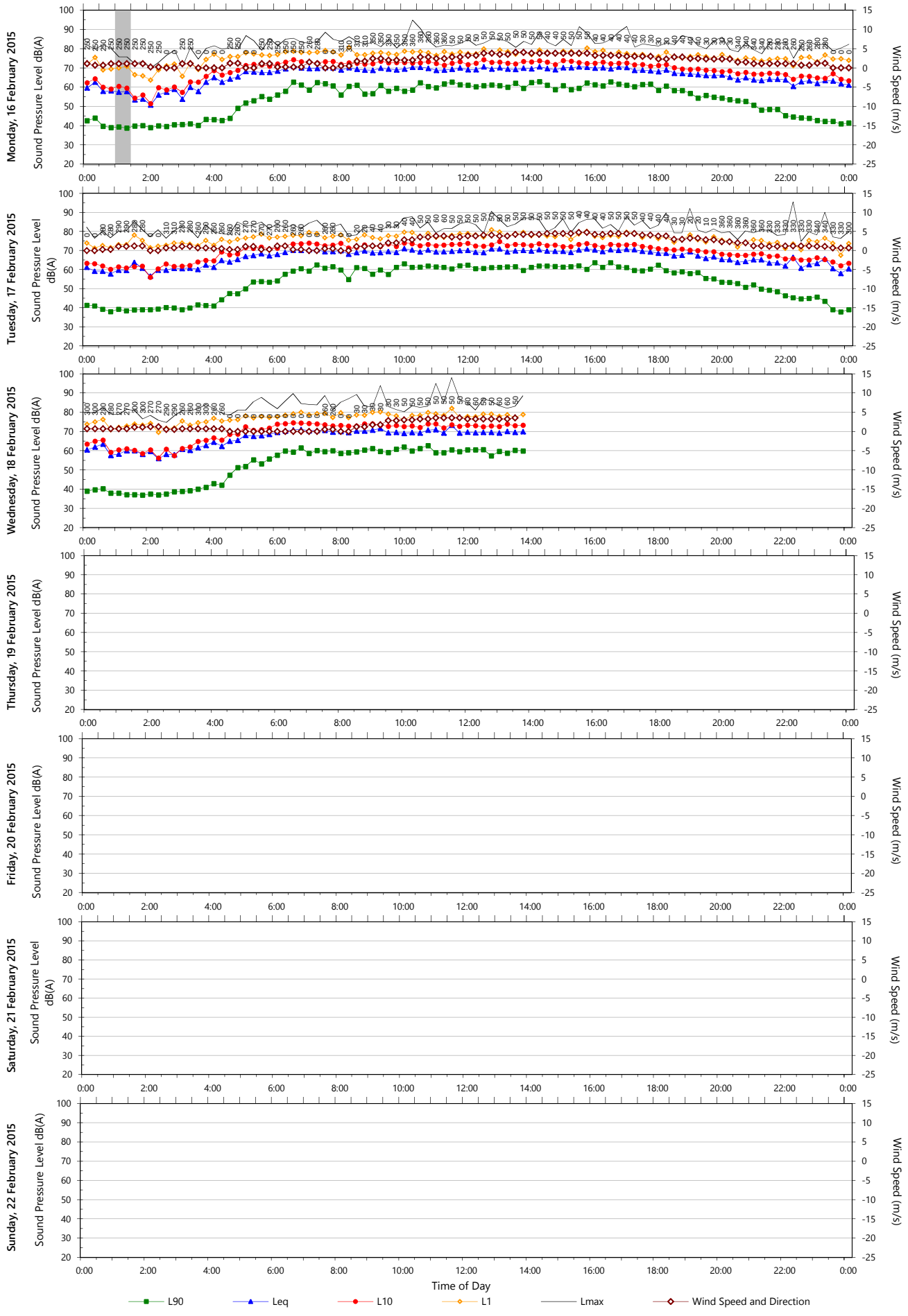


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Unattended Monitoring Results

Location: 216 Princes Highway

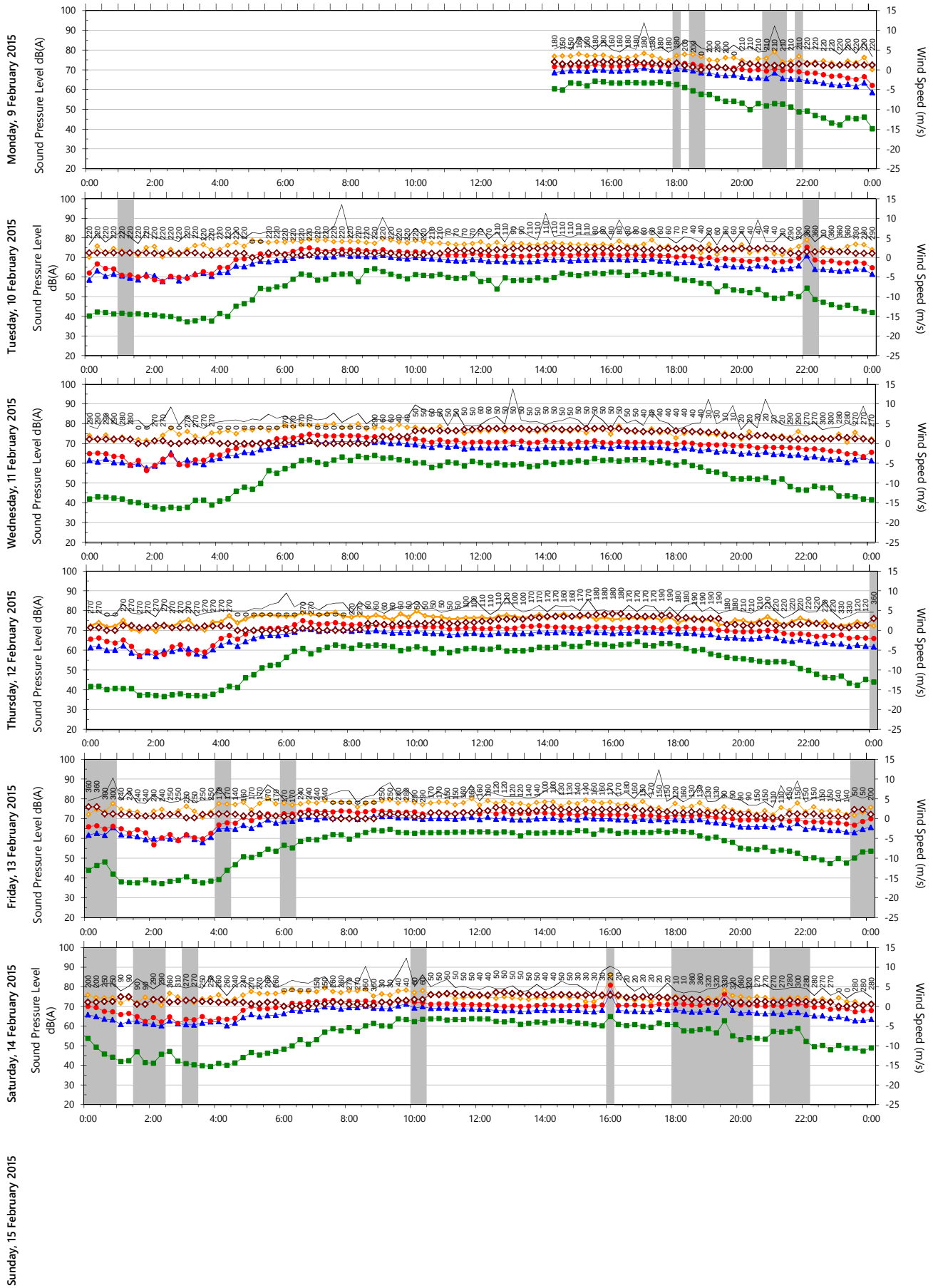


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Template: QTE-26 (rev 2) Logger Graphs Program

Unattended Monitoring Results

Location: 305 Princes Highway

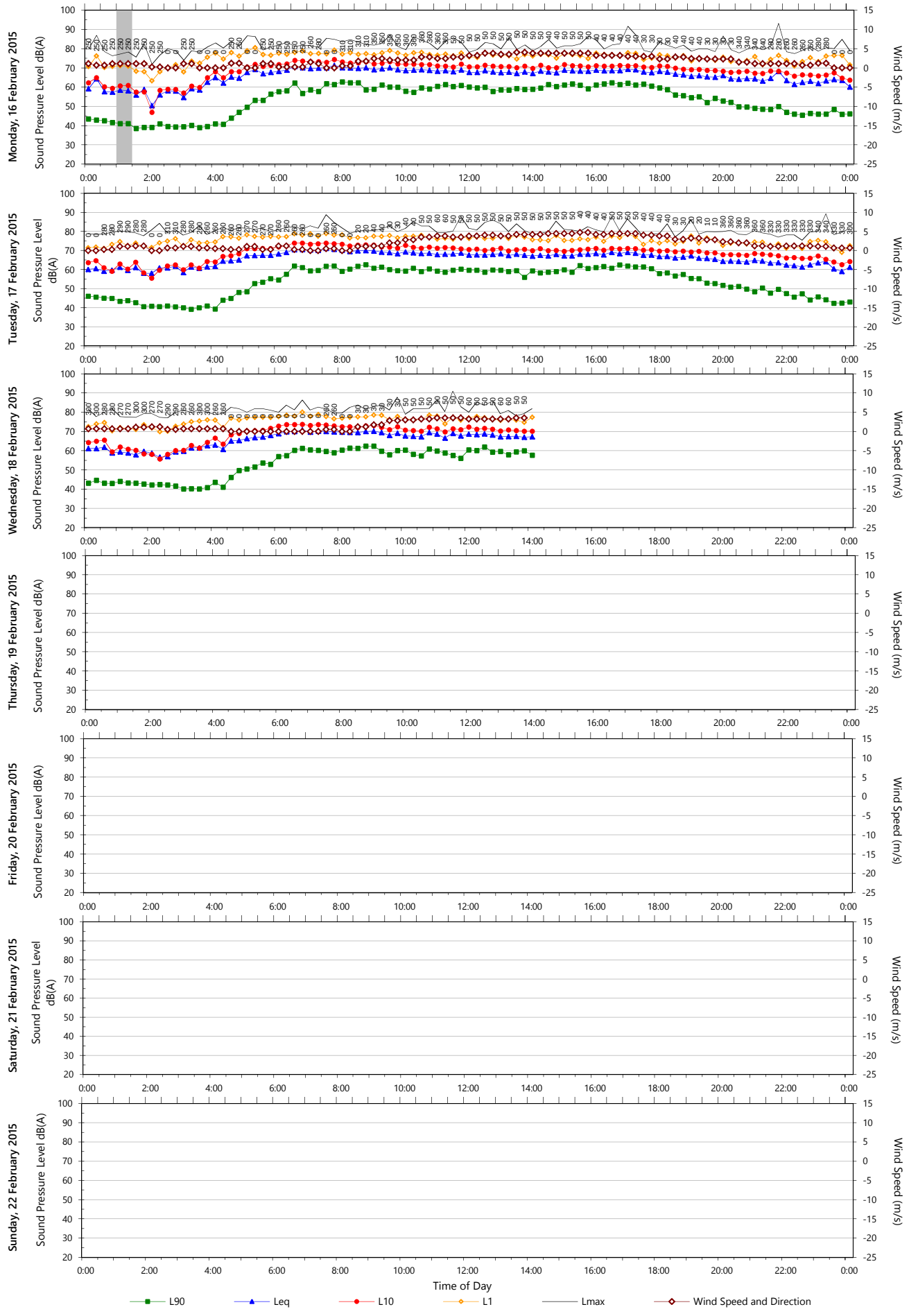


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Unattended Monitoring Results

Location: 305 Princes Highway

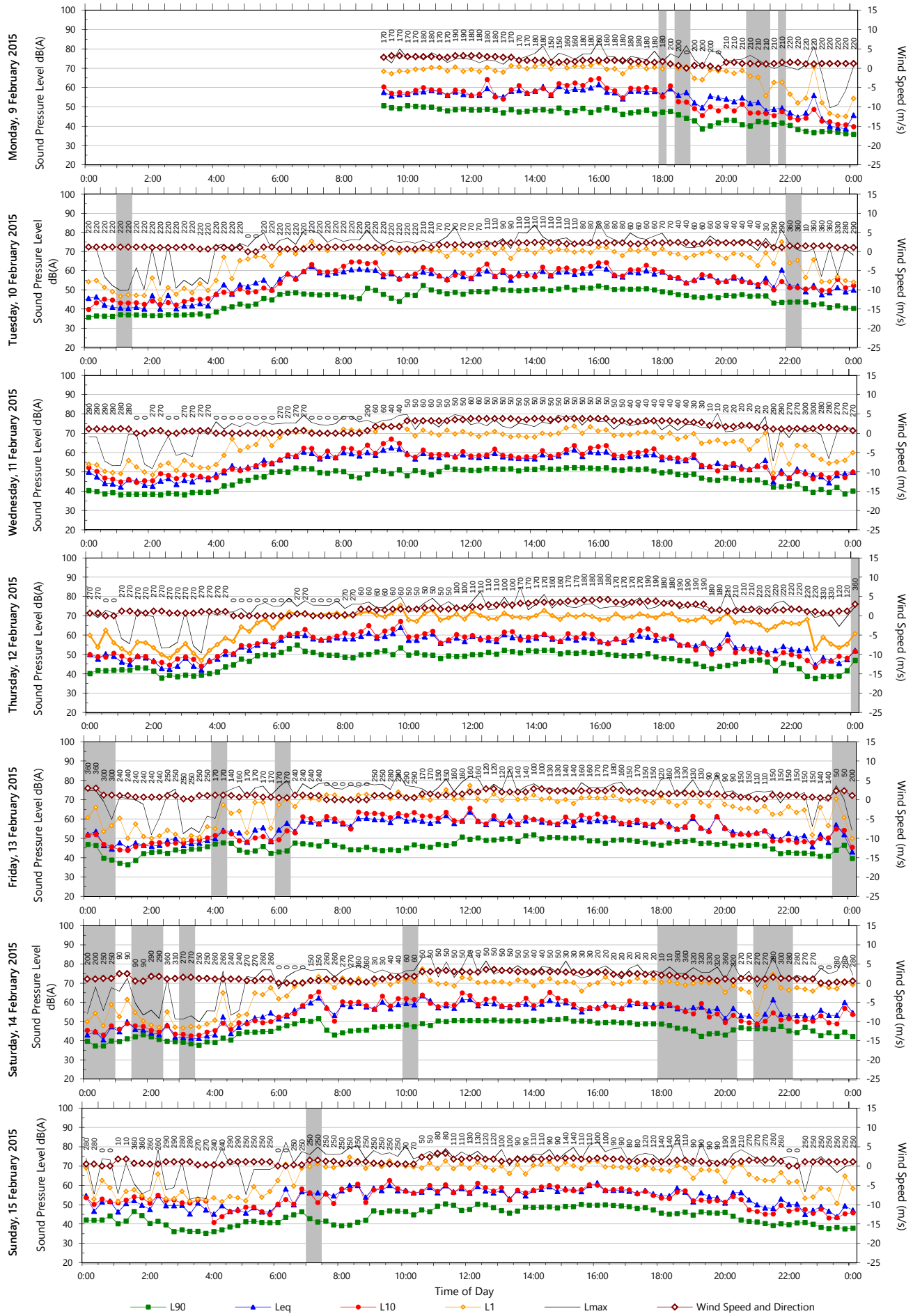


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Template: QTE-26 (rev 2) Logger Graphs Program

Unattended Monitoring Results

Location: Yallah Road

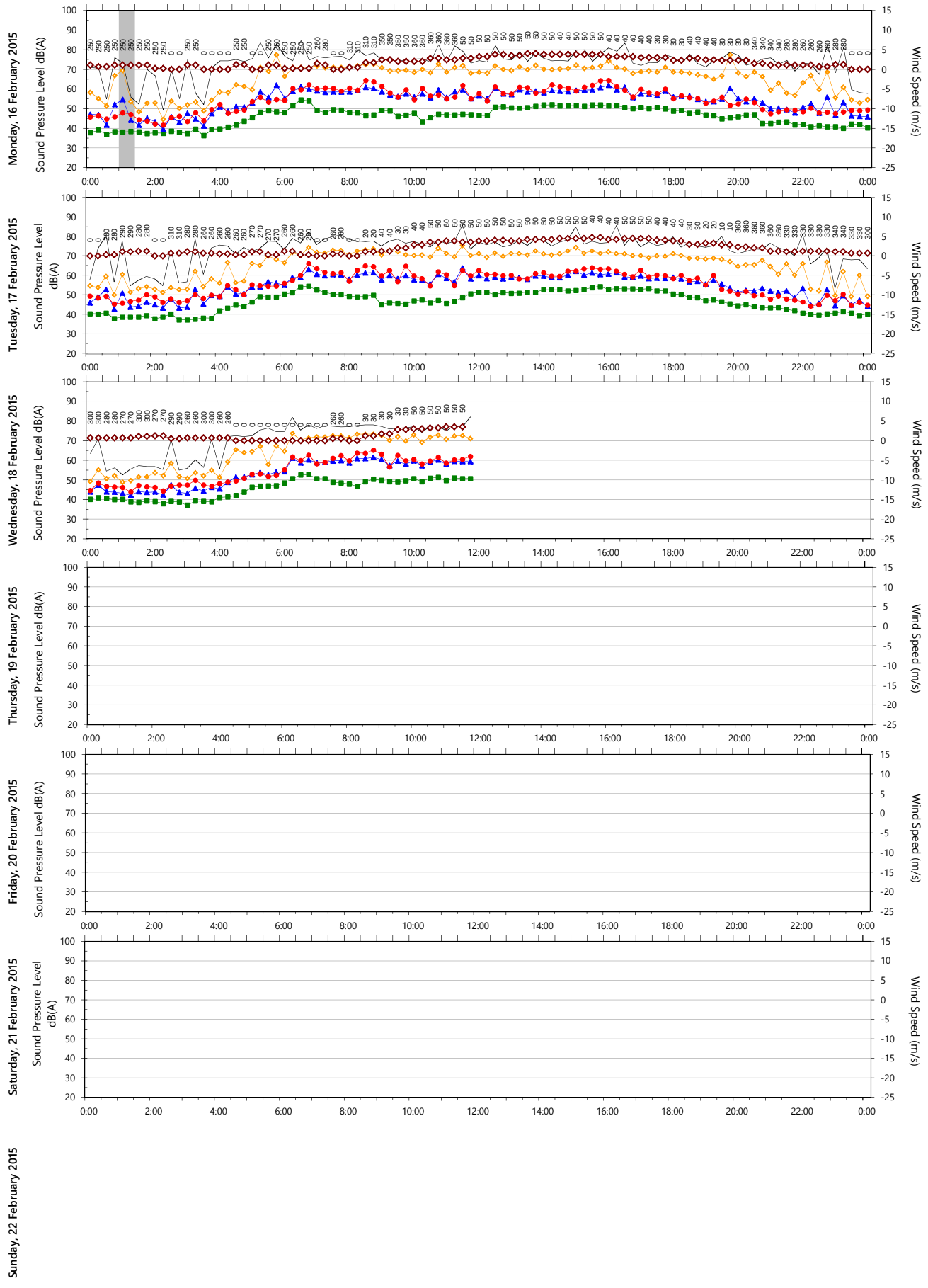


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Unattended Monitoring Results

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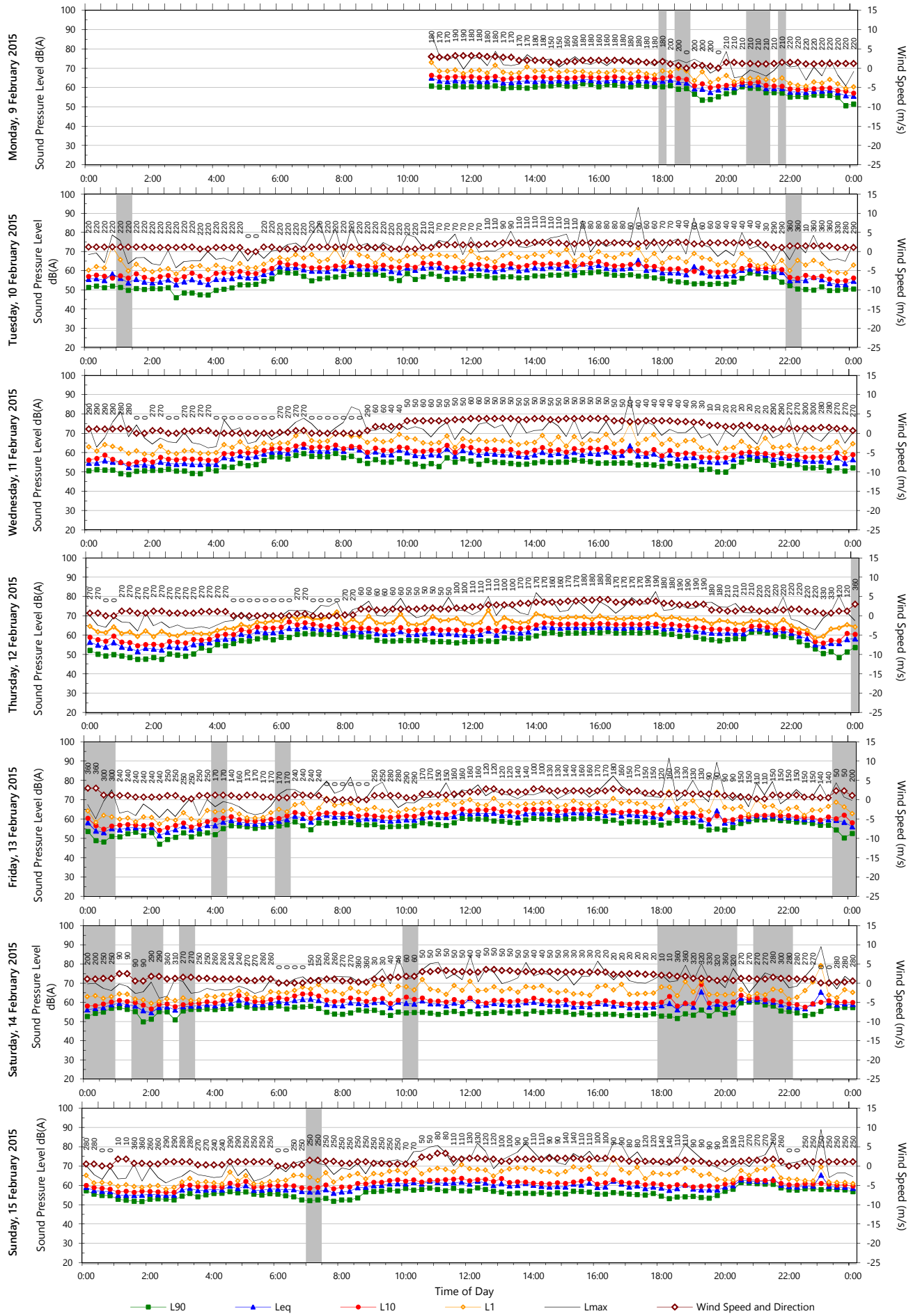


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Unattended Monitoring Results

Location: 4 Semillon Place

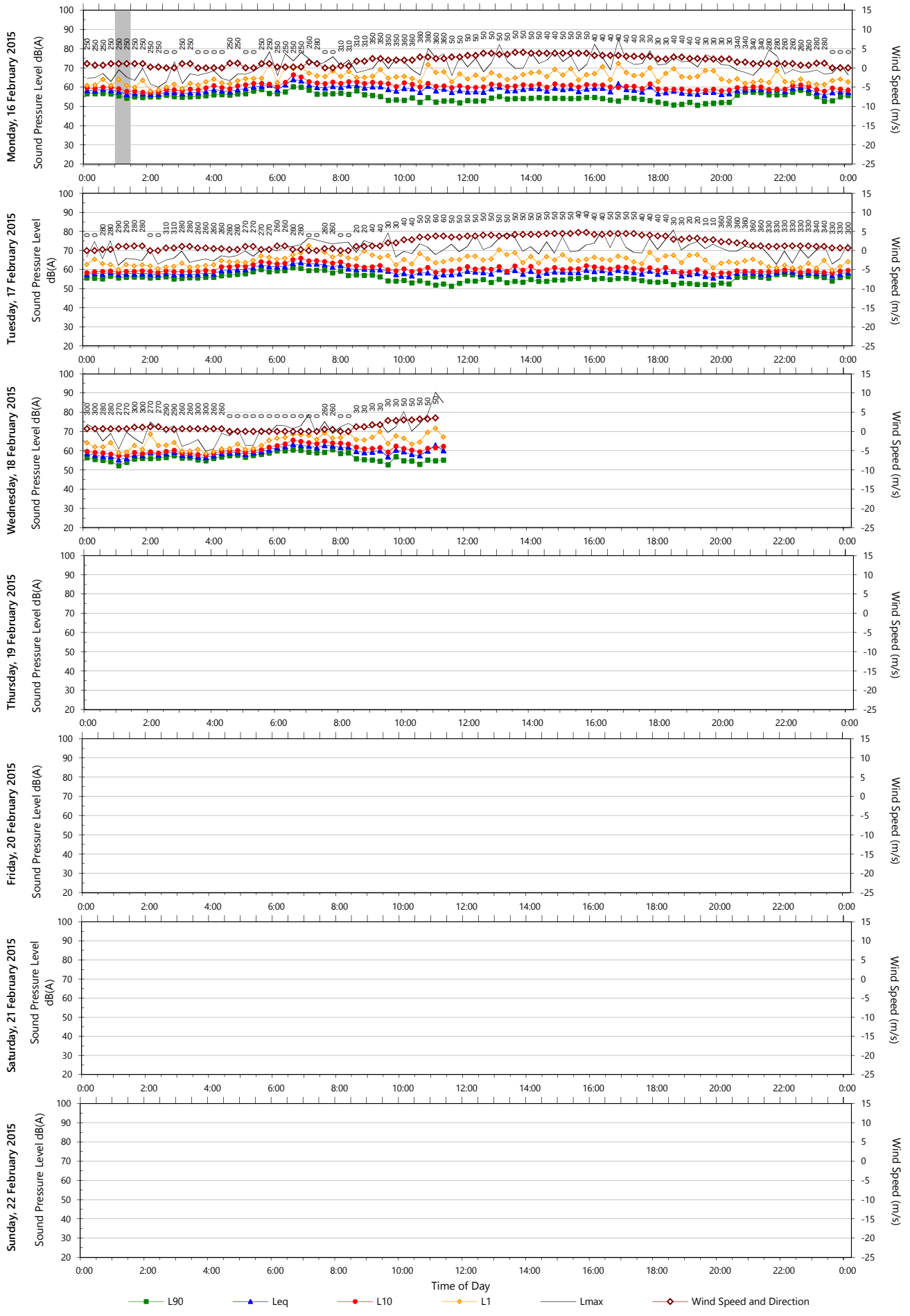


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Unattended Monitoring Results

Location: 4 Semillon Place

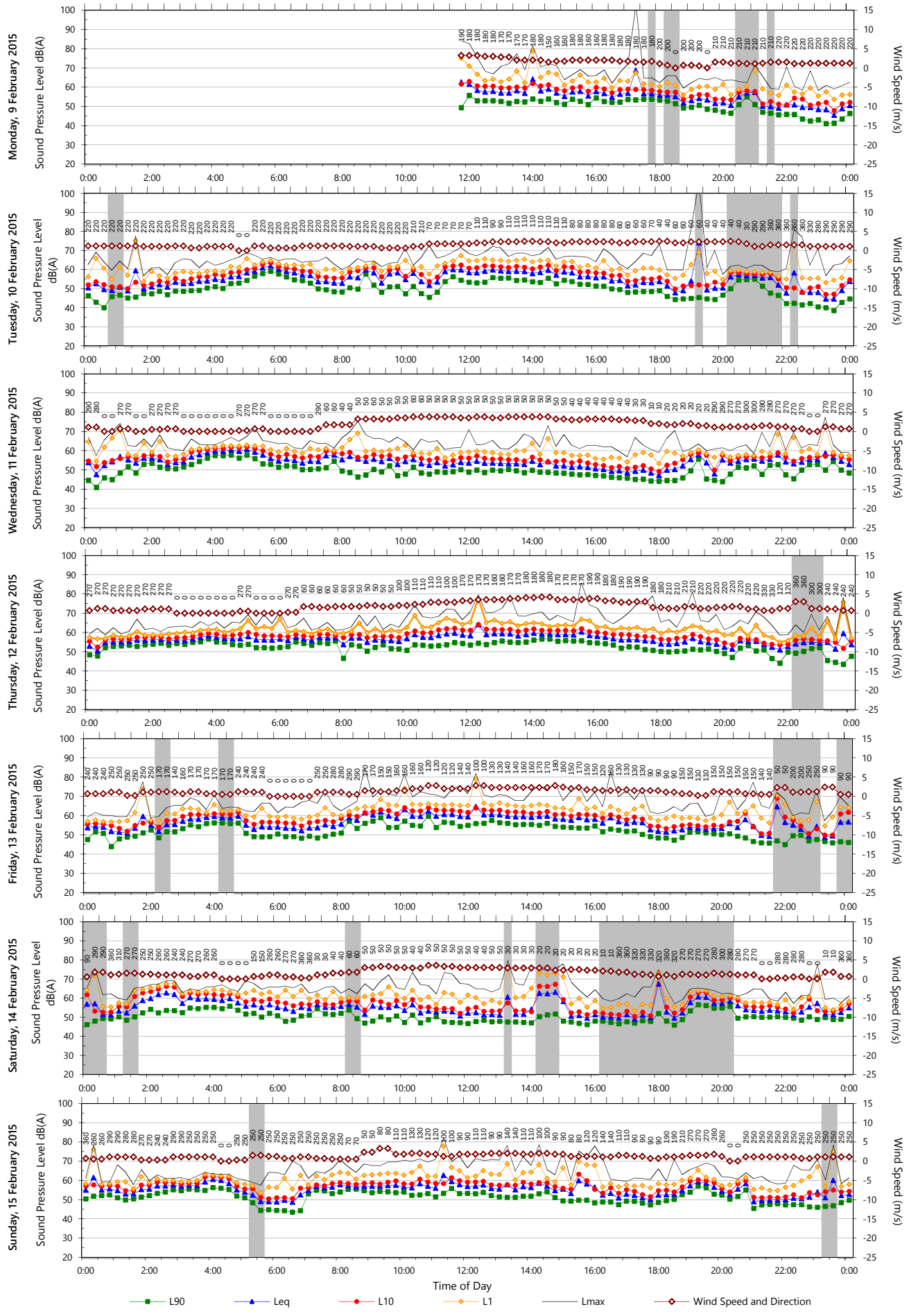


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Unattended Monitoring Results

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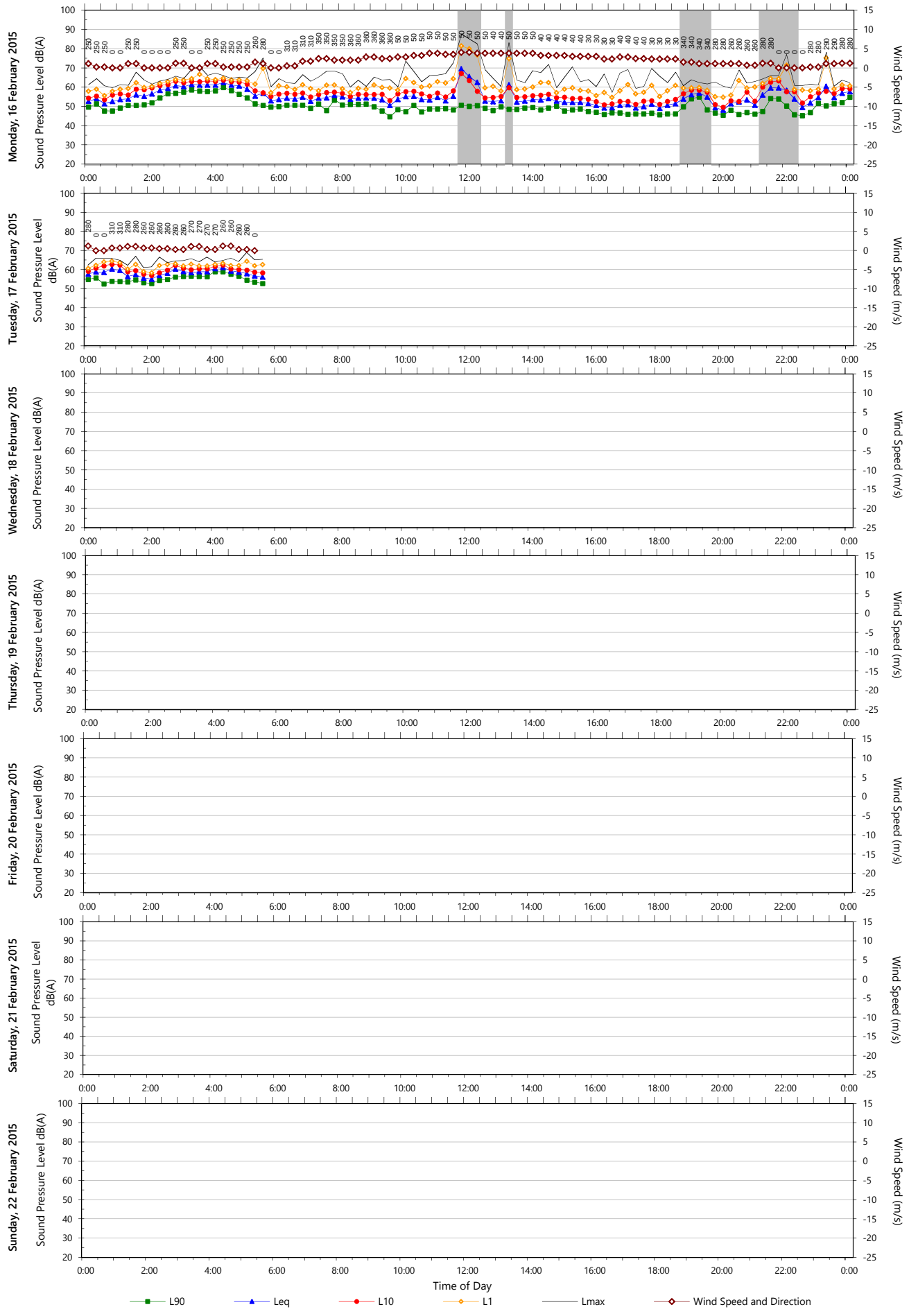


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Unattended Monitoring Results

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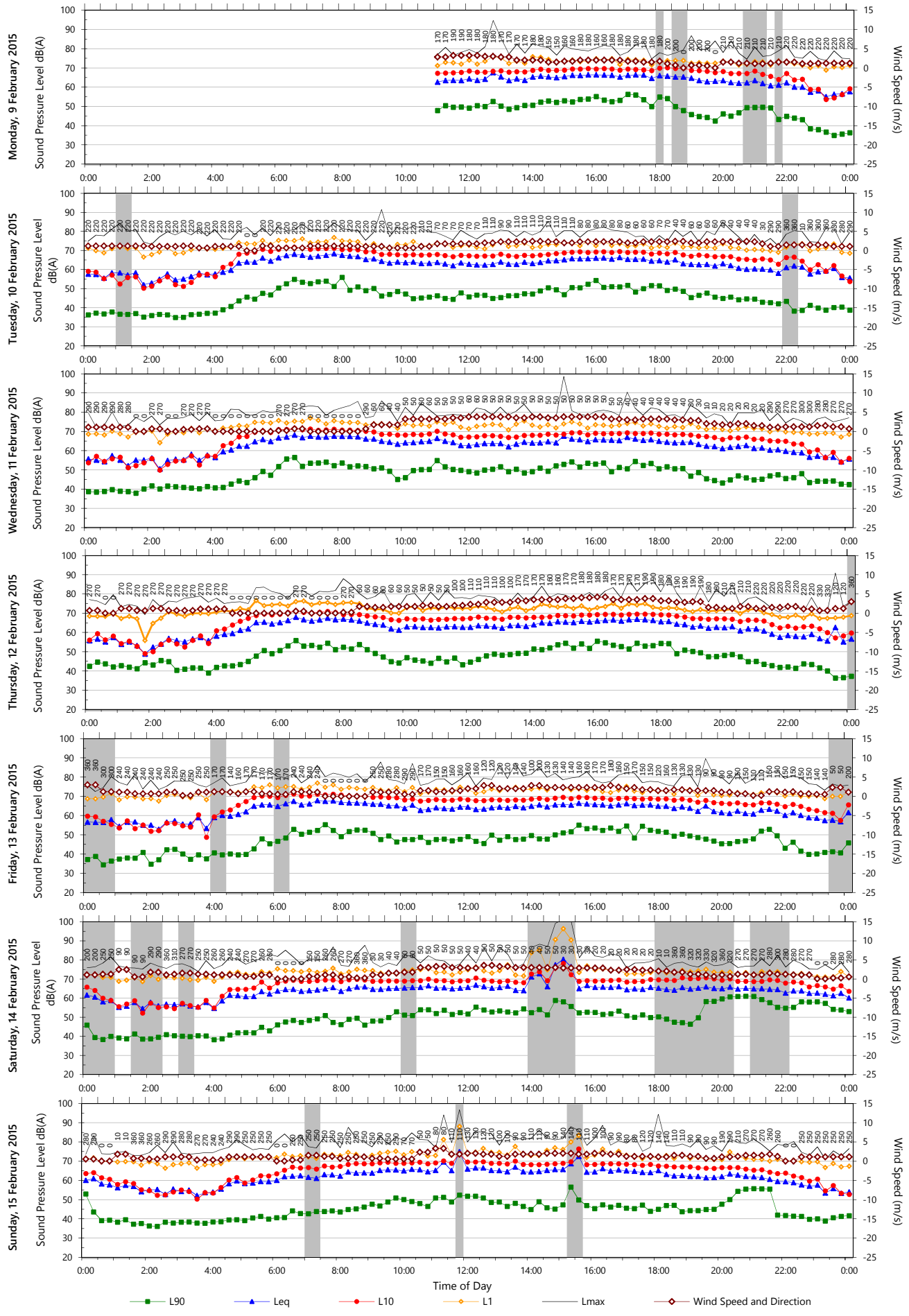


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Unattended Monitoring Results

Location: 24 Terry Street

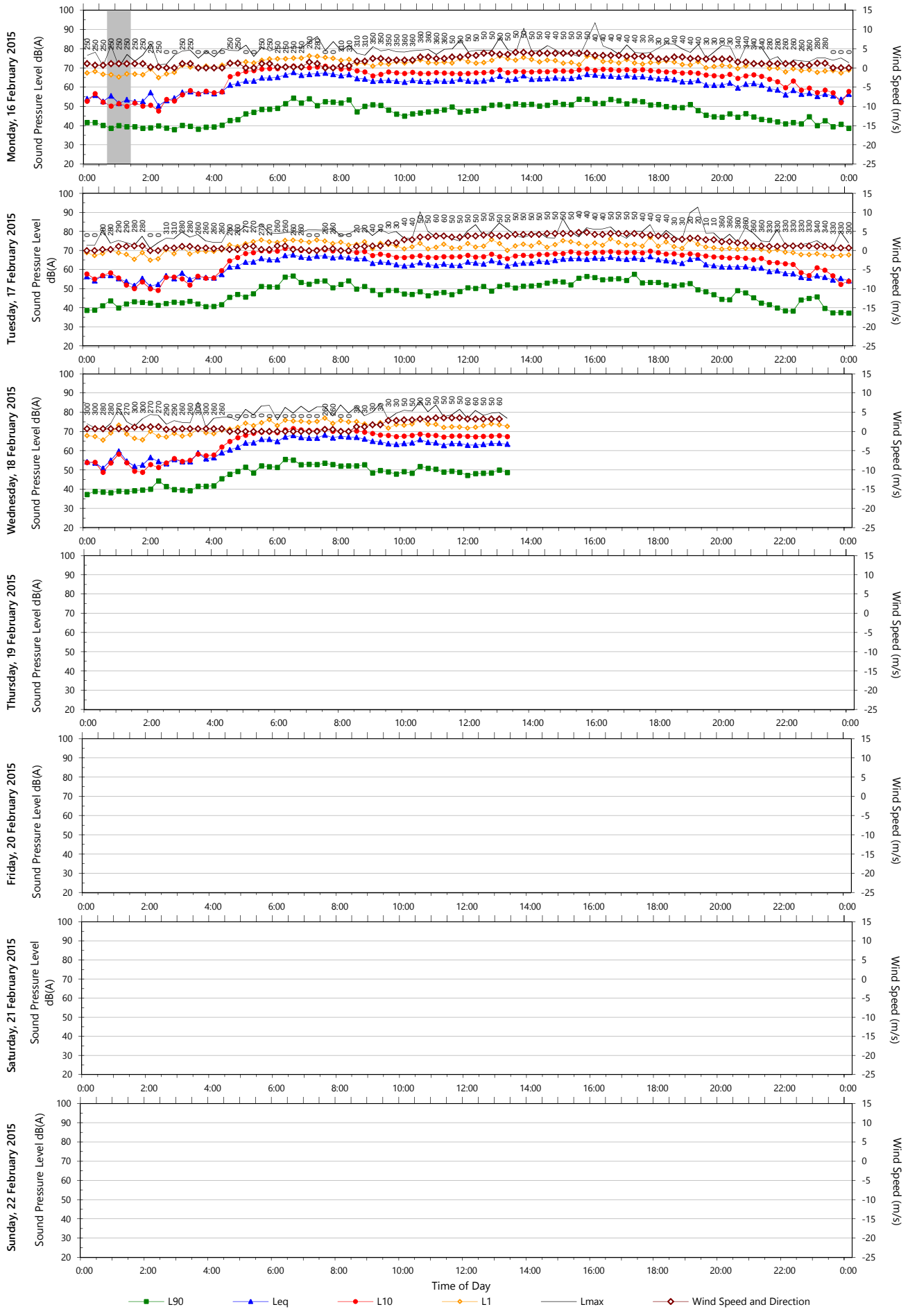


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Unattended Monitoring Results

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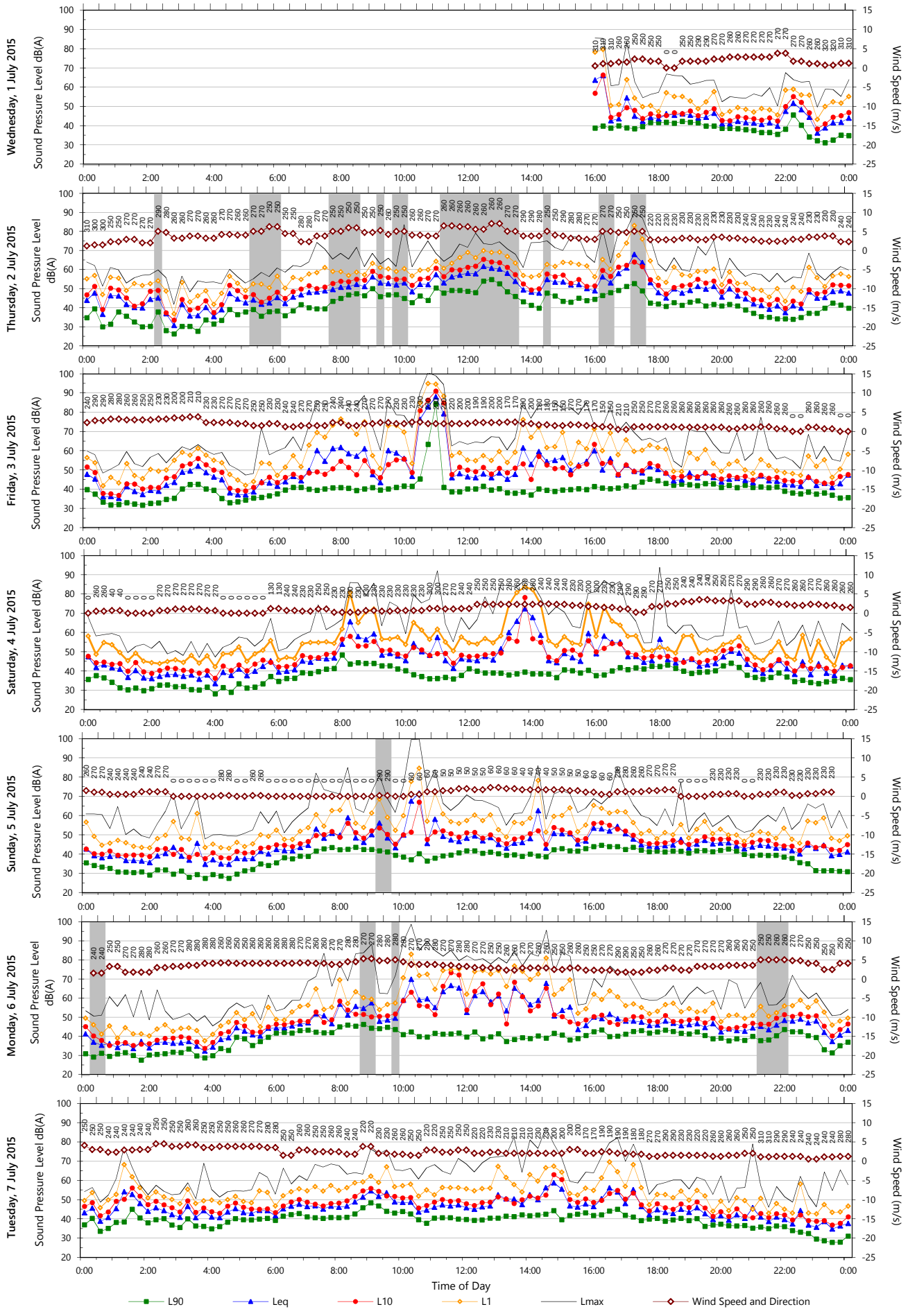


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Unattended Monitoring Results

Location: 25 Fraser Crescent

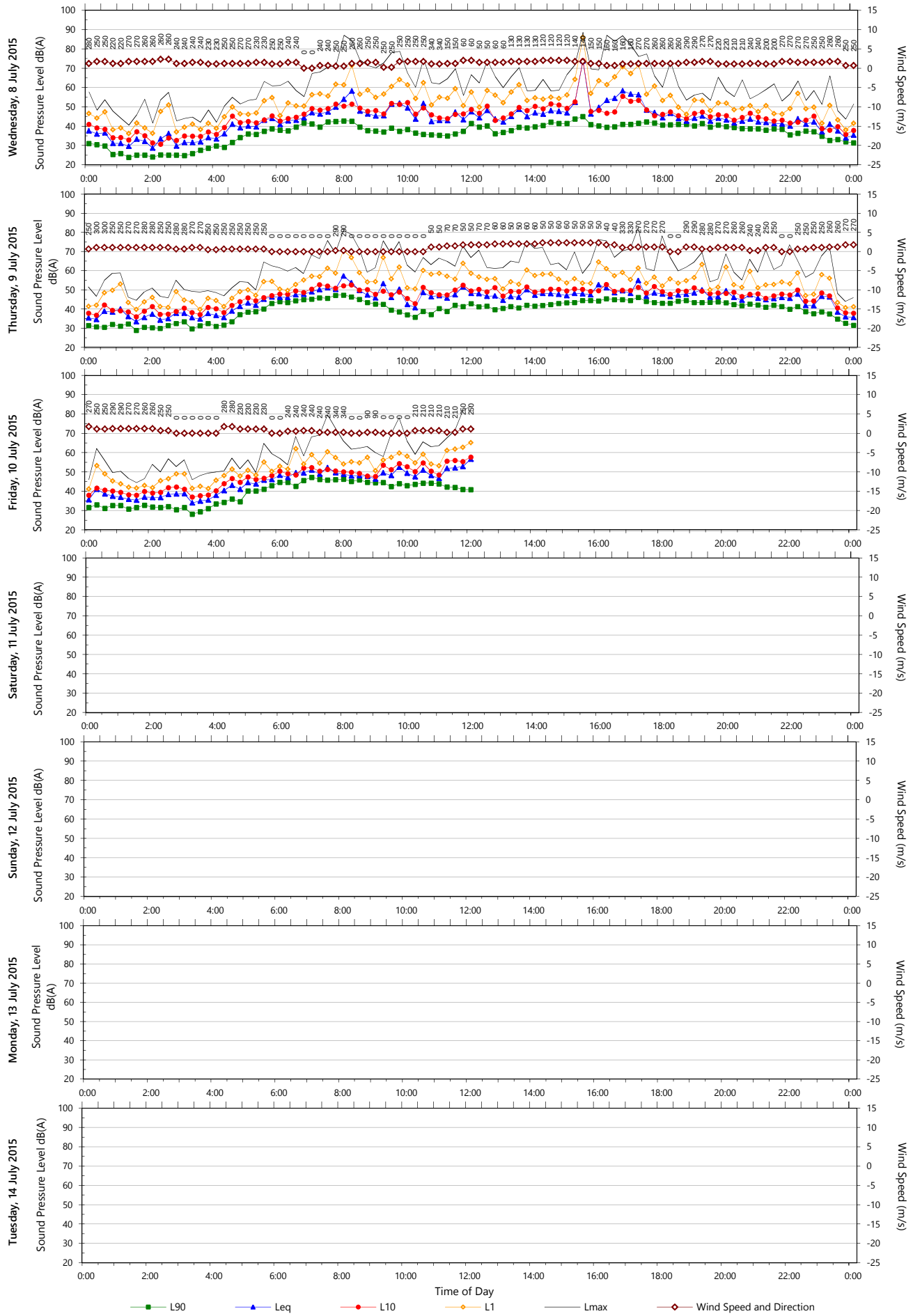


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Template: QTE-26 (rev 2) Logger Graphs Program

Unattended Monitoring Results

Location: 25 Fraser Crescent

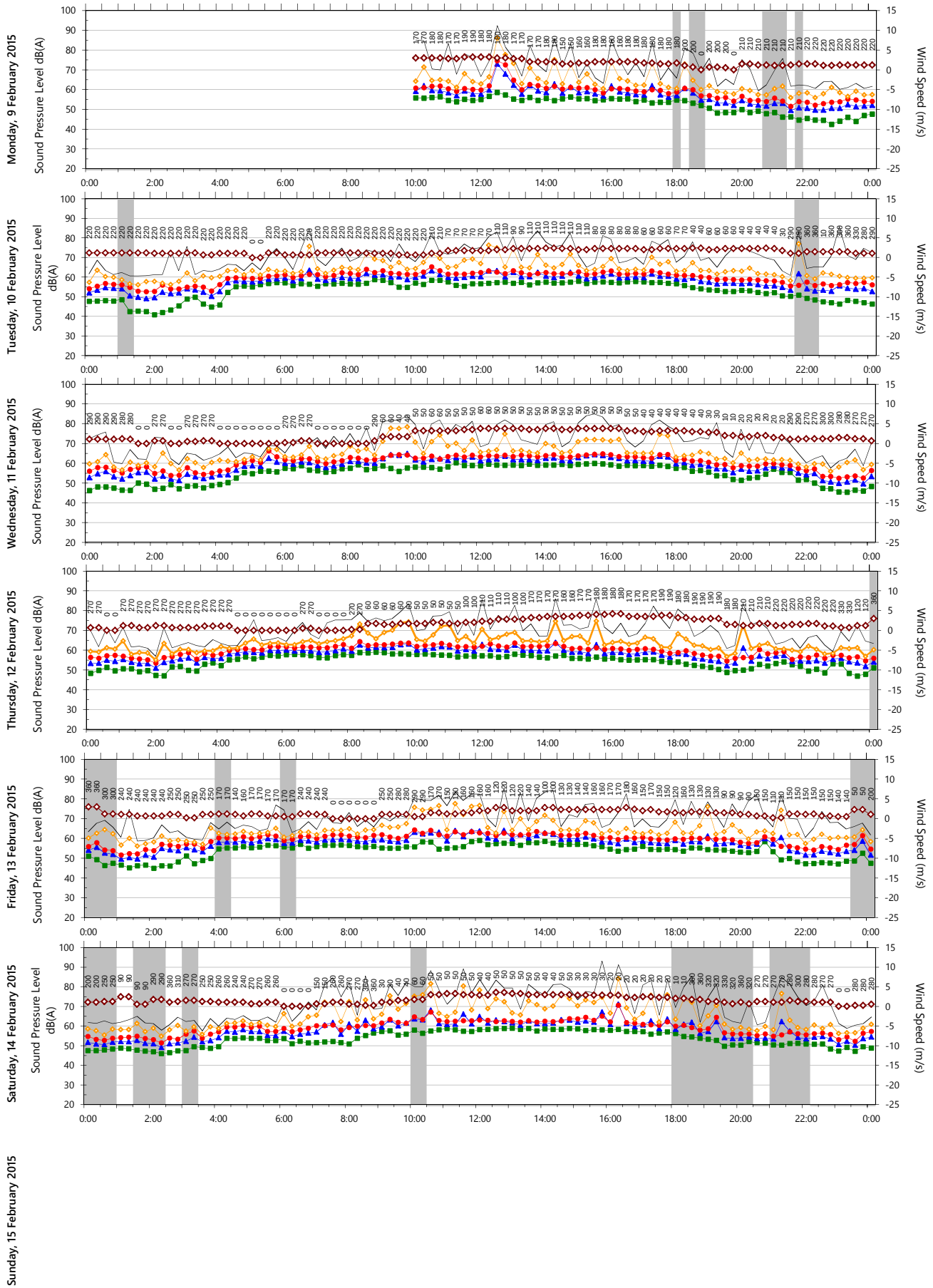


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Template: QTE-26 (rev 2) Logger Graphs Program

Unattended Monitoring Results

Location: 42 Larkins Lane

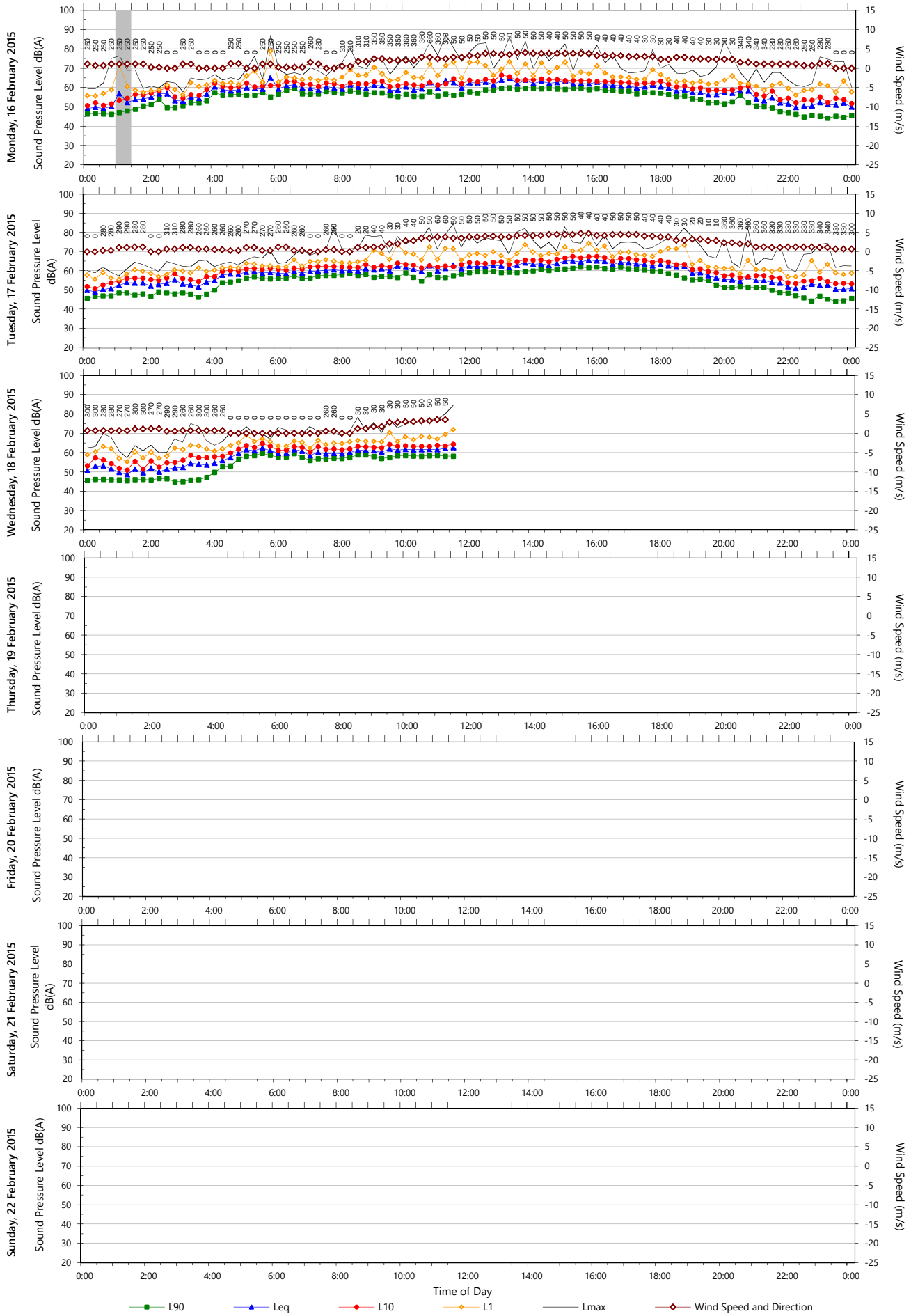


Data File: 42 Larkins Lane.xlsx

Template: QTE-26 (rev 2) Logger Graphs Program

Unattended Monitoring Results

Location: 42 Larkins Lane



Data File: 42 Larkins Lane.xlsx

Template: QTE-26 (rev 2) Logger Graphs Program

APPENDIX B NCG criteria maps



NCG Criteria

- 55dB(A) Day, 50dB(A) Night
- 56dB(A) Day, 51dB(A) Night
- 57dB(A) Day, 52dB(A) Night
- 58dB(A) Day, 53dB(A) Night
- 59dB(A) Day, 54dB(A) Night
- 60dB(A) Day, 55dB(A) Night
- Other sensitive receiver

Consultant:
RENZO TONIN & ASSOCIATES
inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:
NSW GOVERNMENT Transport Roads & Maritime Services

Project:
ALBION PARK RAIL BYPASS

Description:
NCG CRITERIA
SOUTHERN REGION

Noise levels are approximate due to interpolation of contours and should be used for reference only.
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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.08 (r0)	Grid:	-
Date:	2015.07.31	Scale:	1: 20000 A3



NCG Criteria

- 55dB(A) Day, 50dB(A) Night
- 56dB(A) Day, 51dB(A) Night
- 57dB(A) Day, 52dB(A) Night
- 58dB(A) Day, 53dB(A) Night
- 59dB(A) Day, 54dB(A) Night
- 60dB(A) Day, 55dB(A) Night
- Other sensitive receiver

Consultant:
RENZO TONIN & ASSOCIATES
inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:
NSW GOVERNMENT Transport Roads & Maritime Services

Project:
ALBION PARK RAIL BYPASS

Description:
NCG CRITERIA
NORTHERN REGION

Noise levels are approximate due to interpolation of contours and should be used for reference only.
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This information is protected by copyright.

Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.09 (r0)	Grid:	-
Date:	2015.07.31	Scale:	1: 20000 A3

APPENDIX C Traffic data

Albion Park Rail Bypass Project

Project traffic data

Existing scenario

Road label	Description	Direction	Existing year 2015			
			Day		Night	
			Volume	HV%	Volume	HV%
Site 01	Princes Highway, 100m west from the northbound exit ramp	EB	6583	4.6	629	5.7
		WB	6664	4.7	599	4.6
Site 02	Princes Highway, 100m east from the northbound exit ramp	EB	7415	4.1	711	4.9
Site 03	Princes Motorway, NB exit ramp, 50m from the Princes Highway	NB	7344	4.0	641	4.6
Site 04	Princes Motorway, south of Princes Highway overbridge	NB	19245	7.3	3385	9.1
		SB	27528	7.5	2860	12.9
Site 05	Princes Highway 70m north from the Creek Bridge	NB	26453	6.6	3997	8.7
		SB	28170	5.7	2950	11.0
Site 06	Illawarra Highway 380m north of Taylor Road	NB	6666	5.1	1260	6.0
		SB	7003	3.7	639	5.8
Site 07	Tongarra Road 580m west of Croome Road	EB	5824	4.2	404	7.4
		WB	5759	3.8	392	5.8
Site 08	Grevillea Street, 50m south of Oak Street intersection	NB	448	4.5	32	4.5
		SB	454	4.4	37	3.2
Site 09	Croome Road 60m south of the Grevillea Street intersection	NB	2096	1.5	167	2.5
		SB	1661	1.8	110	4.8
Site 10	Croome Road 280m south of the East-West Link roundabout	EB	4593	1.7	444	2.3
		WB	4983	2.1	327	3.8
Site 11	East-West Link 270m west of the Colden Drive roundabout	EB	6054	3.3	494	5.4
		WB	6687	3.2	404	6.8
Site 12	Princes Motorway before taper - Oak Flats interchange	NB	14801	7.8	1612	11.6
		SB	16792	6.7	1685	15.5
Site 13	Princes Highway 80m south of Nehme Avenue	NB	20058	8.6	2535	12.2
		SB	21559	6.4	2178	14.0
Site 14	Princes Highway 90m north of Kaylaur Crescent	NB	17512	9.5	2507	12.9
		SB	18882	7.7	2001	15.8

Road label	Description	Direction	Existing year 2015			
			Day		Night	
			Volume	HV%	Volume	HV%
Site 15	Yallah Road, before the hairpin bend in proximity to the Princes Highway	EB	459	6.8	46	8.9
		WB	466	5.8	49	4.5
NL1	New Lakes Entrance Road, 50m from Oak Flats roundabout	NB	19876	12.1	2874	15.1
		SB	22186	9.9	2366	17.8
PH11	Princes Highway at Oak Flats interchange northbound	NB	19876	12.1	2874	15.1
		SB	22186	9.9	2366	17.8
RB1	Oak Flats Interchange Princes Highway SB exit ramp	SB	22186	9.9	2366	17.8
RB2	Oak Flats Interchange Princes Highway NB entry ramp	NB	19876	12.1	2874	15.1
RB3	Oak Flats Interchange Princes Motorway SB entry ramp	SB	17055	10.6	1827	20.0
RB4	Oak Flats Interchange Princes Highway NB exit ramp	NB	15757	12.2	2100	15.1
TS1	Terry Street, 50m south of Tongarra Road	NB	6892	7.1	1529	7.0
		SB	7485	5.6	665	7.5

Albion Park Rail Bypass Project

Project traffic data

No Build scenario

Road label	Description	Direction	Opening year 2020				Design year 2030			
			Day		Night		Day		Night	
			Volume	HV%	Volume	HV%	Volume	HV%	Volume	HV%
CR1	Croome Road, 100m south of Grevillea Street	NB	2063	4.3	173	5.0	2565	4.8	218	5.6
		SB	3599	4.9	238	7.1	4030	5.2	268	7.6
CR2	Croome Road, 200m south of East-West Link	NB	6156	4.2	656	4.8	7247	4.6	770	5.2
		SB	6261	4.0	392	6.0	7036	4.4	443	6.6
EW1	East-West Link west of Woollybutt Drive	EB	7354	4.8	657	7.3	8410	5.3	755	8.0
		WB	5890	4.4	353	8.2	6698	5.0	403	9.3
EW2	East-West Link east of Woollybutt Drive	EB	9416	4.9	842	7.4	10512	5.4	945	8.1
		WB	6501	4.6	391	8.6	7366	5.2	448	9.8
EW3	East West Link EB exit ramp	EB	9156	5.1	820	7.6	9794	5.6	881	8.4
EW4	East West Link EB entry ramp	WB	6358	4.6	382	8.7	7045	5.3	428	10.0
HB1	Haywards Bay Drive exit ramp M1	SB	1464	9.2	155	14.4	2812	10.6	303	16.4
HB2	Haywards Bay Drive entry ramp M1	SB	1772	5.4	184	8.7	3284	5.1	343	8.3
IH1	Illawarra Highway, 800m from Taylor Road	NB	9321	9.9	2066	9.7	10820	10.6	2399	10.4
		SB	10033	9.9	907	12.9	11503	11.0	1045	14.3
NL1	New Lakes Entrance Road, 50m from Oak Flats roundabout	NB	17395	7.6	2482	9.5	19353	7.7	2764	9.8
		SB	17264	6.7	1789	12.4	19573	6.9	2031	12.8
PH1	Princes Highway, 100m west from the northbound exit ramp	EB	7642	6.9	747	8.1	7650	6.2	747	7.3
		WB	8289	6.8	733	5.5	7701	6.1	682	4.9
PH10	Princes Highway, 400m south of Woollybutt Drive	NB	22029	7.1	3140	8.9	24091	7.1	3435	8.9
		SB	23701	8.0	2486	14.7	24982	8.0	2621	14.7
PH11	Princes Highway at Oak Flats interchange northbound	NB	13586	6.2	1931	7.9	14885	6.0	2114	7.6
		SB	16689	7.1	1737	13.2	17550	6.9	1822	12.8
PH12	Princes Motorway, 100m south of NB exit ramp Oak Flats interchange	NB	17214	6.8	2260	8.5	20061	6.8	2632	8.5
		SB	19727	6.8	2034	13.3	20478	6.1	2096	12.1
PH2	Princes Motorway, northbound exit ramp, 50m from Princess Highway	NB	9400	6.4	797	6.1	9169	5.7	776	5.4
PH3	Princes Highway, 350m south of Yallah Bay Road	EB	9982	6.6	980	7.4	9222	5.9	903	6.6
PH4	Princes Motorway at Tallawara exit ramp	NB	26402	9.9	5550	10.3	29408	10.8	6184	11.2
PH5	Princes Motorway, 360m north of Haywards Bay Drive Bridge	NB	27198	9.8	4756	10.9	30290	10.7	5303	12.0
		SB	32495	9.9	3533	15.5	34545	10.7	3773	16.7
PH6	Princes Motorway, at Haywards Bay Drive Bridge	NB	25376	9.5	4435	10.7	26498	10.2	4636	11.4
		SB	31023	9.9	3374	15.5	31724	10.7	3468	16.7
PH7	Princes Highway, 100m north of Illawarra Highway	NB	26887	9.3	4697	10.4	29187	9.7	5103	10.9
		SB	32806	9.7	3561	15.2	35019	10.2	3813	16.0

Road label	Description	Direction	Opening year 2020				Design year 2030			
			Day		Night		Day		Night	
			Volume	HV%	Volume	HV%	Volume	HV%	Volume	HV%
PH8	Princes Highway 90m north of Kaylaur Crescent	NB	18410	8.5	3040	10.2	19107	8.5	3153	10.1
		SB	24410	9.0	2672	15.7	25335	9.1	2774	15.7
PH9	Princes Highway 80m south of Nehme Avenue	NB	21742	7.3	3102	9.2	23867	7.2	3404	9.1
		SB	24382	8.0	2561	14.7	25460	8.0	2672	14.7
RB1	Oak Flats Interchange Princes Highway SB exit ramp	SB	7373	9.8	784	17.7	8255	9.9	880	17.8
RB2	Oak Flats Interchange Princes Highway NB entry ramp	NB	8712	8.4	1243	10.6	9651	8.7	1380	11.0
RB3	Oak Flats Interchange Princes Motorway SB entry ramp	SB	3583	6.7	365	13.1	4390	5.9	447	11.7
RB4	Oak Flats Interchange Princes Highway NB exit ramp	NB	2951	7.8	385	9.7	3582	6.8	468	8.5
SF1	Princes Motorway, at Princes Highway / Tallawarra Bridge	NB	18669	11.5	3926	12.0	23046	12.7	4849	13.2
		SB	23449	11.4	2528	17.0	27662	12.2	2996	18.3
SF3	Princes Highway, 750m south of Yallah Bay Road	SB	32546	9.9	3480	15.0	34601	10.8	3718	16.2
TR1	Tongarra Road 150m west of Croome Road	EB	7619	5.6	552	9.0	8751	5.9	636	9.5
		WB	8936	5.9	630	7.7	11187	6.3	788	8.2
TR2	Tongarra Road 250m west of Terry Street	EB	7851	6.9	573	11.0	9212	7.7	679	12.2
		WB	8489	6.3	597	8.3	10572	7.2	747	9.5
TS1	Terry Street, 50m south of Tongarra Road	NB	7457	6.9	1650	6.8	7693	7.1	1705	7.0
		SB	8577	7.2	769	9.5	9444	7.7	847	10.1
WB1	Woollybutt Drive, 750m south of Princes Highway	NB	1330	4.5	113	6.8	1617	4.8	142	7.3
		SB	2012	4.3	118	8.1	2323	4.8	138	8.9
YR1	Yallah Road, west of Larkins Lane	EB	2578	11.3	251	14.2	6133	11.2	595	14.2
		WB	1879	9.6	201	6.4	4397	9.5	478	6.4
YR2	Yallah Road, 100m west of Princes Highway	NB	2431	8.4	421	9.4	4964	8.5	864	9.5
		SB	1323	6.1	137	9.7	2923	5.2	306	8.4

Albion Park Rail Bypass Project

Project traffic data

Build scenario

Road label	Description	Direction	Opening year 2020				Design year 2030			
			Day		Night		Day		Night	
			Volume	HV%	Volume	HV%	Volume	HV%	Volume	HV%
BP0	Bypass, south of Albion Park interchange SB exit ramp	NB	11915	6.4	1694	8.0	13031	6.2	1852	7.9
		SB	12998	7.5	1852	9.5	13246	7.4	1888	9.3
BP1	Bypass, south of Albion Park interchange SB entry ramp	NB	16953	7.3	2417	9.2	19119	7.3	2727	9.2
		SB	19726	8.1	2821	10.3	20736	8.2	2965	10.3
BP10	Bypass, Albion Park interchange 300m north of SB exit ramp	NB	19697	9.5	4370	9.3	21526	10.4	4775	10.2
		SB	23805	9.9	2158	12.9	25349	10.9	2307	14.2
BP11	Bypass, Albion Park interchange 300m north of NB exit ramp	NB	5797	7.1	1287	7.0	5877	6.1	1305	6.0
BP2a	Bypass 350m north of Tongarra Road Bridge	NB	16953	7.3	2417	9.2	19119	7.3	2727	9.2
		SB	13411	9.1	1923	11.4	13357	9.2	1915	11.5
BP3	Illawarra Highway, 800m from Taylor Road	NB	8308	11.3	1842	11.2	9721	13.1	2153	12.9
		SB	14749	9.3	1332	12.2	18152	10.5	1648	13.7
BP4	Bypass, Albion Park interchange NB exit ramp	NB	4457	6.2	989	6.1	6067	6.5	1345	6.4
BP5	New Terry Street, 800m north of Taylor Road	NB	8308	11.3	1842	11.2	9721	13.1	2153	12.9
		SB	9739	10.9	883	14.3	11336	12.9	1036	16.8
BP6	Bypass, Albion Park interchange NB entry ramp	NB	8308	11.3	1842	11.2	9721	13.1	2153	12.9
BP7	Bypass 550m north of Tongarra Road Bridge	NB	11382	8.1	2525	7.9	11800	8.1	2617	7.9
		SB	14064	9.1	1271	12.0	14006	9.2	1266	12.1
BP8	Bypass, Albion Park interchange SB exit ramp	SB	9739	10.9	883	14.3	11336	12.9	1036	16.8
BP9	Bypass, Albion Park interchange 100m south of SB exit ramp	NB	19697	9.5	4370	9.3	21526	10.4	4775	10.2
		SB	14064	9.1	1271	12.0	14006	9.2	1266	12.1
CO1	Cormack Avenue	NB	1710	9.0	163	10.1	2110	9.0	205	10.0
		SB	796	4.2	79	3.6	982	4.3	99	3.6
CR1	Croome Road, 100m south of Grevillea Street	NB	2669	3.6	227	4.2	3024	3.9	256	4.5
		SB	2931	3.5	193	5.1	3281	3.5	215	5.1
CR2	Croome Road, 200m south of East-West Link	NB	5423	4.0	576	4.5	6043	4.4	643	5.0
		SB	6293	3.8	394	5.7	6586	4.0	411	6.0
EW1	East-West Link west of Woollybutt Drive	EB	4525	4.5	402	6.8	5005	5.0	446	7.6
		WB	5086	4.3	304	8.1	5233	4.8	315	9.0
EW3	East West Link EB exit ramp	EB	4525	4.5	402	6.8	5005	5.0	446	7.6
EW4	East West Link EB entry ramp	WB	5086	4.3	304	8.1	5233	4.8	315	9.0
HB1	Haywards Bay Drive exit ramp M1	SB	1206	5.5	123	8.7	2044	5.6	213	9.1
HB2	Haywards Bay Drive entry ramp M1	SB	1605	5.8	166	9.2	2917	5.5	305	8.8
NL1	New Lakes Entrance Road, 50m from Oak Flats roundabout	NB	16944	7.3	2415	9.2	18853	7.4	2689	9.4
		SB	17356	6.7	1799	12.5	19559	6.9	2029	12.8

Road label	Description	Direction	Opening year 2020				Design year 2030			
			Day		Night		Day		Night	
			Volume	HV%	Volume	HV%	Volume	HV%	Volume	HV%
PH1	Princes Highway, 100m west from the northbound exit ramp	EB	9995	6.9	981	8.1	9153	6.3	897	7.5
		WB	8990	6.6	795	5.4	8077	6.0	715	4.9
PH10	Princes Highway, 400m south of Woollybutt Drive	NB	6433	6.6	916	8.4	7119	6.9	1012	8.7
		SB	6376	5.7	651	10.7	7635	5.9	784	11.1
PH11	Princes Highway at Oak Flats interchange northbound	SB	1975	5.4	199	10.2	2801	5.0	282	9.5
PH12	Princes Motorway, 100m south of NB exit ramp Oak Flats interchange	NB	16445	6.6	2157	8.3	18409	6.2	2411	7.9
		SB	18820	6.9	1940	13.5	20745	6.5	2132	12.8
PH13	Princes Highway Bridge over Princes Motorway	EB	10751	6.3	1055	7.1	11248	5.2	1101	5.8
		WB	15416	6.3	1584	5.3	15416	6.3	1584	5.3
PH14	Yallah interchange Princes Motorway exit ramp	EB	6488	12.0	639	13.4	7997	12.0	790	13.4
PH15	Yallah interchange Princes Motorway entry ramp	WB	909	12.1	62	15.6	2266	11.3	161	14.7
PH2	Princes Motorway, northbound exit ramp, 50m from Princess Highway	NB	9602	6.4	814	6.0	9563	5.6	810	5.3
PH3	Princes Highway, 350m south of Yallah Bay Road	EB	14715	9.2	1449	10.3	15447	8.9	1520	10.0
PH4	Princes Motorway at Tallawara exit ramp	NB	5813	7.1	1217	7.4	5839	6.2	1223	6.4
PH5	Princes Motorway, 360m north of Haywards Bay Drive Bridge	NB	7605	11.4	1330	12.7	9642	12.1	1690	13.5
		SB	7680	10.2	834	16.0	8856	10.1	960	15.9
PH6	Princes Motorway, at Haywards Bay Drive Bridge	NB	6094	11.6	1066	12.9	6605	12.2	1156	13.6
		SB	6470	11.1	705	17.3	6804	11.5	744	17.8
PH7	Princes Highway, 100m north of Illawarra Highway	NB	7349	10.7	1284	11.9	8774	10.7	1533	11.9
		SB	8085	10.1	877	15.7	9735	9.7	1055	15.2
PH8	Princes Highway 90m north of Kaylaur Crescent	NB	7903	9.7	1305	11.6	8778	9.5	1451	11.4
		SB	9462	8.6	1029	15.0	10746	8.1	1165	14.2
PH9	Princes Highway 80m south of Nehme Avenue	NB	5254	7.5	748	9.5	5829	7.5	830	9.4
		SB	4817	6.9	498	12.8	5997	6.7	618	12.4
RB1	Oak Flats interchange Princes Highway SB exit ramp	SB	4589	6.1	471	11.3	5032	6.7	518	12.4
RB2	Oak Flats interchange Princes Highway NB entry ramp	NB	6653	6.8	946	8.6	7356	7.0	1048	8.9
RB3	Oak Flats interchange Princes Motorway SB entry ramp	SB	3368	6.6	342	13.0	4208	5.7	426	11.4
RB4	Bypass, Oak Flats interchange SB exit ramp	NB	4407	7.2	577	9.0	5243	6.3	685	7.9
RB5	Oak Flats interchange Princes Highway NB exit ramp	SB	6793	9.3	899	11.7	7565	9.6	1002	12.0
SF1	Princes Motorway, at Princes Highway / Tallawarra Bridge	NB	19467	11.6	4094	12.1	24530	12.8	5163	13.2
		SB	21847	11.4	2354	17.1	26333	12.2	2853	18.1
SF2	Princes Motorway, at Princes Highway / Tallawarra Bridge	SB	16541	10.7	1774	16.1	18499	12.2	2004	18.1
SF3	Princes Highway, 750m south of Yallah Bay Road	SB	7693	10.3	821	15.5	8873	10.2	948	15.4
SF4	Princes Motorway NB, 450m north of Yallah Road	NB	12667	10.0	2664	10.4	12135	11.2	2553	11.7
SF5	Entry ramp from Princes Hwy to Princes Mwy, south of Yallah Bay Road	SB	6920	7.2	729	11.1	6472	6.4	679	9.9
TR1	Tongarra Road 150m west of Croome Road	EB	2878	3.8	205	6.2	3464	4.5	247	7.2
		WB	4011	4.7	279	6.2	4548	4.5	317	6.0
TR2	Tongarra Road 250m west of Terry Street	EB	8024	6.2	583	9.9	9555	5.9	696	9.4
		WB	5306	4.9	369	6.5	4729	4.5	329	6.0

Road label	Description	Direction	Opening year 2020				Design year 2030			
			Day		Night		Day		Night	
			Volume	HV%	Volume	HV%	Volume	HV%	Volume	HV%
TR3	Albion Park interchange, entry ramp M1	SB	6516	6.0	678	9.2	7622	6.2	794	9.5
TS1	Terry Street, 50m south of Tongarra Road	NB	7854	6.7	1742	6.6	8219	6.7	1821	6.6
		SB	7595	7.3	681	9.6	8464	7.4	759	9.8
WB1	Woollybutt Drive, 750m south of Princes Highway	NB	1496	4.2	132	6.4	1600	4.3	140	6.6
		SB	667	2.0	36	3.6	766	2.3	41	4.1
YR1	Yallah Road, west of Larkins Lane	EB	2105	9.6	201	12.2	5021	9.5	483	12.1
		WB	1388	7.2	150	4.8	3145	6.4	344	4.3
YR2	Yallah Road, 100m west of Princes Highway	NB	1983	6.4	342	7.2	3798	6.0	659	6.7
		SB	1202	6.5	126	10.3	2636	5.6	276	9.0
SF6	Princes Motorway overpass above Princes Highway	NB	18663	11.6	3924	12.1	22518	12.9	4739	13.4

APPENDIX D Predicted road traffic noise levels (no mitigation)

Albion Park Rail Bypass

Traffic noise assessment

Without mitigation scenario

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
1	1_0001		Residential	G	W	59	54	58	54	59	54	59	54	-0.1	0.1	-0.2	0.2	60	55	NO	NO	NO	NO	NO
1	1_0002		Residential	G	S	59	55	59	54	59	55	59	55	-0.5	-0.3	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0003		Residential	G	W	61	56	60	56	61	57	61	56	-0.5	-0.3	-0.5	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0004		Residential	G	S	59	54	58	54	59	54	58	54	-0.6	-0.4	-0.6	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0005		Residential	G	SW	60	56	60	55	61	56	60	56	-0.5	-0.3	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0006		Residential	G	SW	62	57	61	57	62	58	61	57	-0.6	-0.4	-0.6	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0007		Residential	G	SW	60	56	60	55	61	56	60	56	-0.5	-0.3	-0.5	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0008		Residential	G	SW	62	57	61	57	62	57	61	57	-0.7	-0.5	-0.7	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0009		Residential	G	NW	58	54	58	54	59	54	59	54	0.1	0.3	0.1	0.3	60	55	NO	NO	NO	NO	NO
1	1_0009		Residential	1	SW	60	56	60	56	61	56	61	56	-0.1	0.1	-0.2	0.1	60	55	NO	NO	NO	NO	NO
1	1_0010		Residential	G	SW	62	58	62	57	63	58	62	58	-0.8	-0.6	-0.7	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0010		Residential	1	SW	63	59	63	58	64	59	63	59	-0.6	-0.4	-0.6	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0011		Residential	G	W	59	54	59	55	59	55	59	55	0.1	0.3	0	0.3	60	55	NO	NO	NO	NO	NO
1	1_0012		Residential	G	SW	63	58	62	58	63	59	62	58	-0.7	-0.5	-0.7	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0013		Residential	G	W	59	54	59	54	59	54	59	55	-0.1	0.2	-0.1	0.2	60	55	NO	NO	NO	NO	NO
1	1_0013		Residential	1	S	61	56	61	56	61	57	61	57	-0.1	0.2	-0.2	0.1	60	55	NO	NO	NO	NO	NO
1	1_0014		Residential	G	SW	63	59	63	58	64	59	63	59	-0.7	-0.5	-0.6	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0014		Residential	1	SW	64	60	64	59	64	60	64	60	-0.6	-0.4	-0.5	-0.4	60	55	NO	YES	NO	NO	YES
1	1_0015		Residential	G	NW	57	53	57	53	58	53	58	53	0	0.2	-0.1	0.1	60	55	NO	NO	NO	NO	NO
1	1_0015		Residential	1	SE	60	56	59	55	61	56	60	55	-0.7	-0.5	-0.7	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0016		Residential	G	SW	64	59	63	59	64	60	64	59	-0.8	-0.6	-0.7	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0017		Residential	G	SW	62	57	61	57	62	57	62	57	-0.4	-0.2	-0.5	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0017		Residential	1	SW	63	59	63	58	64	59	63	59	-0.4	-0.2	-0.3	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0018		Residential	G	W	62	57	62	57	62	58	62	58	-0.2	-0.3	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0018		Residential	1	S	63	59	63	58	64	59	63	59	-0.4	-0.3	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0019		Residential	G	W	62	58	62	58	63	58	63	58	-0.3	-0.2	-0.3	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0020		Residential	G	S	62	57	61	57	62	58	62	57	-0.5	-0.3	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0020		Residential	1	S	63	58	62	58	63	59	63	58	-0.5	-0.4	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0021		Residential	G	S	61	57	61	56	62	57	61	57	-0.4	-0.4	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0021		Residential	1	S	62	58	62	57	63	58	62	58	-0.5	-0.4	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0022		Residential	G	S	61	56	61	56	61	57	61	56	-0.5	-0.4	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0022		Residential	1	S	62	57	62	57	62	58	62	57	-0.5	-0.4	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0023		Residential	G	S	61	57	61	56	62	57	61	57	-0.5	-0.4	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0023		Residential	1	S	62	58	62	57	63	58	62	58	-0.6	-0.4	-0.6	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0024		Residential	G	W	68	63	67	63	68	64	68	63	-0.2	-0.1	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0025		Residential	G	S	60	56	60	56	61	56	60	56	-0.4	-0.4	-0.5	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0025		Residential	1	S	61	57	61	57	62	57	61	57	-0.3	-0.2	-0.4	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0026		Residential	G	W	66	62	66	62	67	62	67	62	-0.1	0	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0027		Residential	G	S	61	56	60	56	61	56	61	56	-0.5	-0.4	-0.5	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0027		Residential	1	S	61	57	61	57	62	57	61	57	-0.4	-0.2	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0028		Residential	G	W	64	60	64	60	65	60	65	60	-0.1	-0.1	-0.1	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0029		Residential	G	S	61	56	60	56	61	56	61	56	-0.5	-0.3	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0029		Residential	1	S	62	57	61	57	62	57	62	57	-0.4	-0.2	-0.3	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0030		Residential	G	W	64	60	64	59	65	60	64	60	-0.1	-0.1	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0031		Residential	G	S	60	55	60	55	60	56	60	56	-0.3	-0.1	-0.4	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0031		Residential	1	S	62	57	61	57	62	57	62	57	-0.3	0	-0.2	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0032		Residential	G	SW	63	58	62	58	63	59	63	58	-0.3	-0.3	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0033		Residential	G	S	60	56	60	56	61	56	60	56	-0.3	-0.1	-0.4	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0033		Residential	1	S	62	57	61	57	62	57	62	57	-0.3	-0.1	-0.3	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0034		Residential	G	S	61	57	61	57	62	57	61	57	-0.5	-0.4	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0035		Residential	G	S	61	56	60	56	61	56	61	56	-0.3	-0.1	-0.2	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0035		Residential	1	S	62	57	61	57	62	57	62	57	-0.2	0	-0.2	0	60	55	NO	NO	NO	NO	NO
1	1_0036		Residential	G	S	61	57	61	56	62	57	61	57	-0.4	-0.4	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0037		Residential	G	S	60	56	60	56	61	56	60	56	-0.2	0	-0.2	0	60	55	NO	NO	NO	NO	NO
1	1_0037		Residential	1	S	61	56	61	57	62	57	61	57	-0.1	0.2	-0.1	0.1	60	55	NO	NO	NO	NO	NO
1	1_0038		Residential	G	S	62	57	61	57	62	58	62	57	-0.5	-0.5	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0039		Residential	G	S	60	55	60	55	60	56	60	56	-0.1	0.1	-0.2	0.1	60	55	NO	NO	NO	NO	NO
1	1_0039		Residential	1	S	61	56	61	56	61	56	61	57	0	0.2	-0.1	0.1	60	55	NO	NO	NO	NO	NO
1	1_0040		Residential	G	S	61	57	61	56	62	57	61	57	-0.7	-0.5	-0.6	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0041		Residential	G	S	60	55	59	55	60	55	60	55	-0.2	0	-0.2	0	60	55	NO	NO	NO	NO	NO
1	1_0041		Residential	1	S	60	56	60	56	61	56	61	56	-0.1	0.2	0	0.1	60	55	NO	NO	NO	NO	NO
1	1_0042		Residential	G	S	61	57	61	56	62	57	61	57	-0.7	-0.6	-0.7	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0043		Residential	G	S	61	57	60	56	62	57	61	56	-0.7	-0.5	-0.7	-0.6	60	55	NO	NO	NO	NO	NO
1	1_0044		Residential	G	S	61	57	61	56	62	57	61	57	-0.7	-0.6	-0.7	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0045		Residential	G	S	62	57	61	57	62	58	62	57	-0.6	-0.5	-0.6	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0046		Residential	G	S	61	56	60	56	61	57	60	56	-0.6	-0.4	-0.7	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0047		Residential	G	S	61	57	61	56	62	57	61	57	-0.6	-0.4	-0.5	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0047		Residential	1	S	62	57	62	57	62	58	62	58	-0.5	-0.2	-0.4	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0048		Residential	G	S	61	57	61	56	62	57	61	57	-0.6	-0.4	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0049		Residential	G	S	61	56	61	56	61	57	61	57	-0.3	-0.1	-0.3	-0.1	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
1	1_0050		Residential	G	S	60	55	59	55	60	55	59	55	-0.7	-0.5	-0.6	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0051		Residential	G	SW	60	56	60	56	61	56	60	56	-0.3	-0.1	-0.4	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0052		Residential	G	SW	58	53	58	53	58	54	58	54	-0.5	-0.3	-0.5	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0053		Residential	G	SE	58	53	57	53	58	54	58	53	-0.8	-0.5	-0.7	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0054		Residential	G	SE	36	31	35	31	36	32	36	31	-0.6	-0.5	-0.6	-0.4	48	44	NO	NO	NO	NO	NO
1	1_0054		Residential	1	SE	36	31	35	31	36	32	36	31	-0.6	-0.4	-0.6	-0.4	48	44	NO	NO	NO	NO	NO
1	1_0055		Residential	G	NW	55	50	56	51	55	51	56	52	0.8	1	0.7	1	60	55	NO	NO	NO	NO	NO
1	1_0056		Residential	G	W	69	64	69	64	70	65	69	65	-0.1	0	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0056		Residential	1	W	70	66	70	66	71	66	71	66	0	-0.1	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0057		Residential	G	W	70	65	70	65	71	66	71	66	-0.1	-0.1	0	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0058		Residential	G	W	64	60	64	60	65	60	65	60	0	-0.1	-0.1	0	60	55	NO	NO	NO	NO	NO
1	1_0059		Residential	G	S	59	55	59	55	60	55	60	55	-0.1	-0.1	-0.2	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0059		Residential	1	S	62	57	61	57	62	58	62	57	-0.2	-0.2	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0060		Residential	G	N	61	57	61	57	62	57	62	57	-0.1	-0.1	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0061		Residential	G	S	57	53	58	53	58	53	58	53	0.1	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
1	1_0061		Residential	1	S	60	55	60	55	60	56	60	56	-0.1	-0.1	-0.2	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0062		Residential	G	S	60	56	60	56	61	56	61	56	0	0	0	0	60	55	NO	NO	NO	NO	NO
1	1_0062		Residential	1	S	62	57	62	57	62	58	62	58	-0.2	-0.1	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0063		Residential	G	S	60	56	60	56	61	56	61	56	-0.1	-0.1	-0.2	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0063		Residential	1	S	62	57	62	57	62	58	62	57	-0.2	-0.2	-0.3	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0064		Residential	G	S	55	50	55	51	55	51	56	51	0.4	0.5	0.4	0.5	60	55	NO	NO	NO	NO	NO
1	1_0064		Residential	1	S	59	54	59	54	59	54	59	55	0	0.1	0	0.1	60	55	NO	NO	NO	NO	NO
1	1_0065		Residential	G	S	61	56	61	56	61	57	61	57	-0.1	0	-0.2	0	60	55	NO	NO	NO	NO	NO
1	1_0066		Residential	G	S	61	56	61	56	61	56	61	56	-0.2	-0.1	-0.2	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0067		Residential	G	S	58	54	59	54	59	54	59	55	0.3	0.5	0.2	0.5	60	55	NO	NO	NO	NO	NO
1	1_0068		Residential	G	S	61	56	60	56	61	56	61	56	-0.3	-0.1	-0.3	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0069		Residential	G	S	60	55	59	55	60	55	60	55	-0.4	-0.2	-0.4	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0069		Residential	1	S	62	57	61	57	62	57	62	57	-0.3	-0.1	-0.3	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0070		Residential	G	S	58	54	58	54	59	54	58	54	-0.2	0	-0.2	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0071		Residential	G	S	58	53	57	53	58	53	58	53	-0.3	-0.1	-0.3	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0071		Residential	1	S	60	56	60	56	61	56	61	56	-0.1	0.1	-0.1	0.1	60	55	NO	NO	NO	NO	NO
1	1_0072		Residential	G	E	53	48	53	48	54	49	53	48	-0.5	-0.3	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0073		Residential	G	E	54	49	53	49	54	49	54	49	-0.4	-0.3	-0.5	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0074		Residential	G	S	51	46	50	46	51	46	51	46	-0.3	-0.1	-0.3	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0074		Residential	1	W	57	53	57	53	58	53	58	53	-0.1	0.1	-0.1	0.1	60	55	NO	NO	NO	NO	NO
1	1_0075		Residential	G	W	55	50	55	50	56	51	55	51	-0.2	0	-0.2	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0076		Residential	G	W	56	52	56	51	57	52	56	52	-0.5	-0.4	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0077		Residential	G	W	49	45	49	44	50	45	49	45	-0.5	-0.5	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0077		Residential	1	W	58	53	58	53	58	53	58	54	-0.1	0	-0.1	0.1	60	55	NO	NO	NO	NO	NO
1	1_0078		Residential	G	S	57	52	57	52	57	52	57	53	0.1	0.4	0.2	0.3	60	55	NO	NO	NO	NO	NO
1	1_0079		Residential	G	S	63	58	62	58	63	59	63	58	-0.4	-0.3	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0079		Residential	1	S	63	59	63	58	64	59	63	59	-0.4	-0.3	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0080		Residential	G	S	62	57	61	57	62	57	62	57	-0.2	-0.1	-0.2	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0081		Residential	G	S	62	58	62	57	63	58	62	58	-0.5	-0.4	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0082		Residential	G	S	62	57	62	57	62	58	62	58	-0.3	-0.2	-0.4	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0082		Residential	1	S	63	58	62	58	63	58	63	58	-0.3	-0.2	-0.3	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0083		Residential	G	S	61	57	61	57	62	57	62	57	-0.2	0	-0.2	0	60	55	NO	NO	NO	NO	NO
1	1_0083		Residential	1	S	62	57	62	57	62	58	62	58	-0.3	-0.1	-0.3	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0084		Residential	G	S	61	56	61	57	62	57	62	57	0.1	0.3	0.1	0.3	60	55	NO	NO	NO	NO	NO
1	1_0085		Residential	G	S	61	56	61	56	61	56	61	57	0	0.3	0.1	0.3	60	55	NO	NO	NO	NO	NO
1	1_0085		Residential	1	S	61	57	61	57	62	57	62	57	0	0.2	0	0.2	60	55	NO	NO	NO	NO	NO
1	1_0086		Residential	G	S	61	57	61	57	62	57	62	57	0	0.1	0	0.2	60	55	NO	NO	NO	NO	NO
1	1_0087		Residential	G	S	59	54	58	54	59	54	58	54	-0.5	-0.4	-0.6	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0088		Residential	G	S	60	56	60	56	61	56	61	56	0	0.2	-0.1	0.2	60	55	NO	NO	NO	NO	NO
1	1_0089		Residential	G	S	56	51	55	50	56	51	55	51	-0.8	-0.6	-0.8	-0.6	60	55	NO	NO	NO	NO	NO
1	1_0089		Residential	1	S	59	54	58	53	59	54	58	54	-0.8	-0.6	-0.7	-0.6	60	55	NO	NO	NO	NO	NO
1	1_0090		Residential	G	SW	58	53	58	53	58	54	58	54	-0.1	0.1	-0.2	0.1	60	55	NO	NO	NO	NO	NO
1	1_0091		Residential	G	SW	58	54	58	53	59	54	58	54	-0.5	-0.3	-0.5	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0092		Residential	G	SE	58	54	58	54	59	54	58	54	-0.4	-0.2	-0.4	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0093		Residential	G	S	59	54	58	54	59	54	59	54	-0.2	0	-0.2	0	60	55	NO	NO	NO	NO	NO
1	1_0094		Residential	G	S	59	54	58	54	59	55	59	54	-0.6	-0.3	-0.6	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0095		Residential	G	S	58	54	58	53	59	54	58	54	-0.4	-0.1	-0.4	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0096		Residential	G	W	55	51	54	50	55	51	55	50	-0.7	-0.5	-0.7	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0097		Residential	G	S	57	52	56	52	57	52	56	52	-0.5	-0.2	-0.5	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0098		Residential	G	SE	56	51	55	51	56	51	55	51	-0.5	-0.4	-0.6	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0098		Residential	1	SE	58	53	57	53	58	54	58	53	-0.5	-0.3	-0.5	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0099		Residential	G	S	57	52	56	52	57	52	57	52	-0.6	-0.4	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0100		Residential	G	S	57	52	56	52	57	53	57	52	-0.5	-0.2	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0100		Residential	1	S	58	53	57	53	58	53	58	53	-0.2	0	-0.2	0	60	55	NO	NO	NO	NO	NO
1	1_0101		Residential	G	SW	57	52	56	52	57	52	57	52	-0.3	0	-0.3	0	60	55	NO	NO	NO	NO	NO
1	1_0101		Residential	1	SW	57	53	57	53	58	53	58	53	0.1	0.4	0.2	0.4	60	55	NO	NO	NO	NO	NO
1	1_0102		Residential	G	SW	56	52	56	52	57	52	57	52	0.2	0.4	0.2	0.5	60	55	NO	NO	NO	NO	NO
1	1_0102		Residential	1	SW	58	53	58	53	58	53	58	54	0.2	0.4	0.2	0.5	60	55	NO	NO	NO	NO	NO
1	1_0103		Residential	G	S	57	52	57	53	57	52	57	53	0.2	0.5	0.2	0.5	60	55	NO	NO	NO	NO	NO
1	1_0103		Residential	1	S	57	53	58	53	58	53	58	53	0.1	0.4	0.1	0.4	60	55	NO	NO	NO	NO	NO
1	1_0104		Residential	G	SW	56	52	57	52	57	52	57	53	0.4	0.8	0.5	0.7	60	55	NO	NO	NO	NO	NO
1	1_0104		Residential	1	SW	57	52	57	53	57	53	58	53	0.3	0.6	0.3	0.5	60	55	NO	NO	NO	NO	NO
1	1_0105		Residential	G	S	56	52	57	52	57	52	57	53	0.5	0.8	0.5	0.7	60	55	NO	NO	NO	NO	NO
1	1_0105		Residential	1	W	57	52	57	53	57	52	57	53	0.4	0.6	0.3	0.6	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
1	1_0106		Residential	G	S	57	53	57	53	58	53	58	53	0.1	0.4	0.2	0.4	60	55	NO	NO	NO	NO	NO
1	1_0107		Residential	G	S	55	51	55	50	56	51	55	51	-0.7	-0.4	-0.6	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0108		Residential	G	S	56	52	57	52	57	52	57	53	0.4	0.7	0.3	0.6	60	55	NO	NO	NO	NO	NO
1	1_0109		Residential	G	SE	54	49	53	49	54	50	54	49	-0.6	-0.4	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0109		Residential	1	SW	57	52	57	53	57	52	57	53	0.4	0.7	0.4	0.7	60	55	NO	NO	NO	NO	NO
1	1_0110		Residential	G	W	55	50	56	51	55	51	56	52	0.6	0.9	0.6	1	60	55	NO	NO	NO	NO	NO
1	1_0110		Residential	1	S	57	52	58	53	57	53	58	53	0.4	0.6	0.4	0.7	60	55	NO	NO	NO	NO	NO
1	1_0111		Residential	G	SW	55	51	56	52	56	51	56	52	0.8	1	0.7	1	60	55	NO	NO	NO	NO	NO
1	1_0112		Residential	G	W	57	52	57	53	57	52	57	53	0.5	0.7	0.4	0.7	60	55	NO	NO	NO	NO	NO
1	1_0113		Residential	G	W	57	52	57	53	57	53	58	53	0.4	0.6	0.4	0.6	60	55	NO	NO	NO	NO	NO
1	1_0114		Residential	G	SE	55	50	55	50	55	51	55	50	-0.5	-0.2	-0.5	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0115		Residential	G	NW	54	49	55	50	54	50	55	51	0.9	1.1	0.8	1.1	60	55	NO	NO	NO	NO	NO
1	1_0115		Residential	1	SW	57	53	58	53	58	53	58	53	0.2	0.5	0.2	0.5	60	55	NO	NO	NO	NO	NO
1	1_0116	Echidna Children's Centre	Childcare Sleeping	G	S	57	53	57	53	58	53	58	53	-0.1	0.1	-0.1	0.1	45	-	YES	YES	NO	-	YES
1	1_0117		Residential	G	S	57	53	57	52	58	53	57	53	-0.5	-0.3	-0.5	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0118		Residential	G	S	56	51	55	51	56	51	56	51	-0.3	-0.1	-0.3	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0119		Residential	G	S	56	52	56	52	57	52	56	52	-0.3	-0.1	-0.4	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0119		Residential	1	S	58	53	58	53	58	53	58	54	0.1	0.4	0.2	0.4	60	55	NO	NO	NO	NO	NO
1	1_0120		Residential	G	S	57	53	57	53	58	53	58	53	0.1	0.4	0.1	0.3	60	55	NO	NO	NO	NO	NO
1	1_0120		Residential	1	S	58	53	58	54	58	54	58	54	0	0.4	0.1	0.3	60	55	NO	NO	NO	NO	NO
1	1_0121		Residential	G	S	57	53	57	53	58	53	58	53	0.1	0.4	0.2	0.4	60	55	NO	NO	NO	NO	NO
1	1_0121		Residential	1	S	58	53	58	54	58	54	58	54	0	0.4	0.1	0.3	60	55	NO	NO	NO	NO	NO
1	1_0122		Residential	G	S	57	52	57	53	57	53	58	53	0.1	0.5	0.2	0.4	60	55	NO	NO	NO	NO	NO
1	1_0122		Residential	1	S	58	53	58	53	58	53	58	54	0.2	0.5	0.2	0.5	60	55	NO	NO	NO	NO	NO
2	2_0001		Residential	G	N	53	47	59	54	53	48	59	54	5.8	7.2	5.7	6.9	55	50	NO	NO	NO	NO	YES
3	3_0001		Residential	G	SE	54	48	59	54	55	49	59	55	4.7	6.3	4.6	6.1	55	50	NO	YES	NO	NO	YES
3	3_0001		Residential	1	SW	58	52	62	58	59	53	63	58	4.2	5.8	3.9	5.5	55	50	YES	YES	NO	NO	YES
3	3_0002		Residential	G	SE	57	51	62	57	57	51	62	58	4.8	6.7	4.6	6.3	55	50	YES	YES	NO	NO	YES
3	3_0003		Residential	G	SE	57	51	62	57	57	51	62	58	4.9	6.7	4.6	6.4	55	50	YES	YES	NO	NO	YES
3	3_0004		Residential	G	SE	57	51	62	58	58	52	62	58	4.9	6.8	4.6	6.4	55	50	YES	YES	NO	NO	YES
3	3_0005		Residential	G	SE	57	51	62	58	58	52	62	58	4.9	6.8	4.6	6.5	55	50	YES	YES	NO	NO	YES
3	3_0006		Residential	G	SE	57	50	61	57	57	51	62	57	4.7	6.6	4.5	6.3	55	50	YES	YES	NO	NO	YES
3	3_0007		Residential	G	SE	57	51	62	58	58	52	62	58	4.7	6.6	4.4	6.3	55	50	YES	YES	NO	NO	YES
3	3_0008		Residential	G	SE	57	51	62	58	58	52	62	58	4.9	6.8	4.6	6.5	55	50	YES	YES	NO	NO	YES
3	3_0009		Residential	G	SE	57	51	62	57	58	51	62	58	4.7	6.6	4.4	6.3	55	50	YES	YES	NO	NO	YES
3	3_0010		Residential	G	S	58	51	62	58	58	52	63	58	4.7	6.6	4.3	6.2	55	50	YES	YES	NO	NO	YES
3	3_0011		Residential	G	S	58	51	62	58	58	52	63	58	4.7	6.7	4.4	6.3	55	50	YES	YES	NO	NO	YES
3	3_0012		Residential	G	S	58	51	62	58	58	52	63	58	4.8	6.7	4.5	6.4	55	50	YES	YES	NO	NO	YES
3	3_0013		Residential	G	S	56	50	61	57	57	50	62	57	5.3	7.3	5.1	6.9	55	50	YES	YES	NO	NO	YES
3	3_0014		Residential	G	S	57	51	62	58	58	52	63	58	5	7	4.7	6.6	55	50	YES	YES	NO	NO	YES
3	3_0015		Residential	G	S	57	51	62	58	58	52	63	58	5.3	7.2	5	6.9	55	50	YES	YES	NO	NO	YES
3	3_0016		Residential	G	S	57	51	62	58	58	51	63	58	5.5	7.4	5.2	7	55	50	YES	YES	NO	NO	YES
3	3_0017		Residential	G	S	56	50	62	58	57	51	63	58	6	7.9	5.7	7.5	55	50	YES	YES	NO	NO	YES
3	3_0018		Residential	G	S	56	50	62	58	57	51	63	58	6.2	8.1	5.8	7.7	55	50	YES	YES	NO	NO	YES
3	3_0018		Residential	1	S	57	51	63	59	58	52	64	59	5.9	7.8	5.7	7.4	55	50	YES	YES	NO	NO	YES
3	3_0019		Residential	G	S	56	50	63	58	57	51	63	59	6.1	7.9	5.7	7.5	55	50	YES	YES	NO	NO	YES
3	3_0020		Residential	G	S	56	50	63	58	57	51	63	59	6.3	8.2	6	7.9	55	50	YES	YES	NO	NO	YES
3	3_0020		Residential	1	S	57	51	63	59	58	52	64	59	6.1	8	5.8	7.6	55	50	YES	YES	NO	NO	YES
3	3_0021		Residential	G	W	55	49	57	52	55	50	57	53	2.2	3.2	2.1	3	55	50	NO	NO	NO	NO	YES
3	3_0022		Residential	G	W	54	49	57	52	55	50	57	53	2.4	3.4	2.2	3.3	55	50	NO	NO	NO	NO	YES
3	3_0023		Residential	G	W	54	49	57	53	55	49	58	53	3.1	4.1	2.9	4	55	50	NO	NO	NO	NO	YES
3	3_0024		Residential	G	W	55	49	58	54	55	50	58	54	3.3	4.5	3	4.2	55	50	NO	NO	NO	NO	YES
3	3_0025		Residential	G	W	54	49	57	53	55	49	58	53	3.3	4.4	3	4.3	55	50	NO	NO	NO	NO	YES
3	3_0026		Residential	G	W	55	49	58	53	55	50	58	54	2.9	3.9	2.8	3.7	55	50	NO	NO	NO	NO	YES
3	3_0027		Residential	G	SW	56	50	60	56	56	50	60	56	4.4	6	4.2	5.8	55	50	YES	YES	NO	NO	YES
3	3_0028		Residential	G	S	54	48	60	55	55	49	60	56	5.4	7	5.1	6.7	55	50	YES	YES	NO	NO	YES
3	3_0029		Residential	G	S	55	49	60	56	55	49	60	56	5.5	7.2	5.2	7	55	50	YES	YES	NO	NO	YES
3	3_0030		Residential	G	S	54	48	60	56	55	49	60	56	5.5	7.3	5.3	6.9	55	50	YES	YES	NO	NO	YES
3	3_0031		Residential	G	S	54	48	60	55	55	49	60	56	5.4	7.1	5.2	6.9	55	50	YES	YES	NO	NO	YES
3	3_0032		Residential	G	S	54	47	59	55	54	48	60	55	5.8	7.7	5.5	7.4	55	50	YES	YES	NO	NO	YES
3	3_0032		Residential	1	S	57	51	62	57	57	51	62	58	4.9	6.7	4.6	6.5	55	50	YES	YES	NO	NO	YES
3	3_0033		Residential	G	S	55	49	60	56	56	50	61	56	5.3	7.2	5.1	6.8	55	50	YES	YES	NO	NO	YES
3	3_0034		Residential	G	S	55	49	61	56	56	50	61	57	5.3	7.1	5	6.8	55	50	YES	YES	NO	NO	YES
3	3_0035		Residential	G	S	55	49	60	56	56	50	61	56	5.1	6.9	4.9	6.6	55	50	YES	YES	NO	NO	YES
3	3_0036		Residential	G	S	55	49	60	56	55	49	60	56	5.2	7	5	6.6	55	50	YES	YES	NO	NO	YES
3	3_0037		Residential	G	S	55	49	60	56	55	49	60	56	5.3	7.1	5.1	6.7	55	50	YES	YES	NO	NO	YES
3	3_0038		Residential	G	S	54	48	59	55	55	49	59	55	5.2	6.9	4.9	6.6	55	50	NO	YES	NO	NO	YES
3	3_0039		Residential	G	S	54	47	59	54	54	48	59	55	5.3	7	5	6.7	55	50	NO	YES	NO	NO	YES
3	3_0040		Residential	G	S	53	47	59	54	54	48	59	54	5.2	6.9	4.9	6.6	55	50	NO	NO	NO	NO	YES
3	3_0041		Residential	G	S	53	47	58	54	54	48	59	54	5.2	6.9	4.9	6.5	55	50	NO	NO	NO	NO	YES
3	3_0042		Residential	G	S	53	47	59	54	54	48	59	55	5.4	7.1	5.1	6.7	55	50	NO	YES	NO	NO	YES
3	3_0043		Residential	G	SW	54	48	58	54	54	48	58	54	4.4	6	4.2	5.7	55	50	NO	NO	NO	NO	YES
3	3_0044		Residential	G	S	53	47	58	54	54	48	59	54	4.9	6.6	4.7	6.3	55	50	NO	NO	NO	NO	YES
3	3_0045		Residential	G	W	53	48	56	52	54	48	57	52	3.1	4.3	3	4.1	55	50	NO	NO	NO	NO	YES
3	3_0046		Residential	G	W	54	48	58	53	55	49	58	54	3.9	5.3	3.6	5.1	55	50	NO	NO	NO	NO	YES
3	3_0047		Residential	G	S	53	47	57	53	53	47	58	53	4.7	6.2	4.5	6	55	50	NO	NO	NO	NO	YES
3	3_0048		Residential	G	S	51	45	56	51	52	46	56	51	4.3	5.6	4.1	5.5	55	50	NO	NO	NO	NO	YES
3	3_0049		Residential	G	S	52	46	57	52	53	47	57	53	4.6	6	4.4	5.7	55	50	NO	NO	NO	NO	YES
3	3_0050		Residential	G	W	54	48	57	53	54	48	57	53	3.5	4.8	3.3	4.5	55	50	NO	NO	NO	NO	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0051		Residential	G	S	51	45	55	50	52	46	55	51	3.8	4.9	3.6	4.8	55	50	NO	NO	NO	NO	YES
3	3_0052		Residential	G	S	52	46	56	51	52	46	56	51	4	5.3	3.9	5.1	55	50	NO	NO	NO	NO	YES
3	3_0053		Residential	G	S	52	46	56	51	52	46	56	52	4.2	5.6	4.1	5.3	55	50	NO	NO	NO	NO	YES
3	3_0054		Residential	G	SW	53	47	57	52	53	47	57	53	4.1	5.5	4	5.3	55	50	NO	NO	NO	NO	YES
3	3_0055		Residential	G	SE	52	47	57	53	53	47	58	53	5	6.4	4.7	6.1	55	50	NO	NO	NO	NO	YES
3	3_0056		Residential	G	SE	52	46	57	52	53	47	57	53	4.7	6	4.4	5.8	55	50	NO	NO	NO	NO	YES
3	3_0057		Residential	G	S	52	46	57	53	53	47	57	53	4.9	6.4	4.7	6.1	55	50	NO	NO	NO	NO	YES
3	3_0058		Residential	G	S	52	46	57	52	53	47	57	53	4.8	6.3	4.6	6.1	55	50	NO	NO	NO	NO	YES
3	3_0059		Residential	G	S	52	46	56	52	52	46	57	52	4.6	6	4.4	5.9	55	50	NO	NO	NO	NO	YES
3	3_0060		Residential	G	S	51	46	56	51	52	46	56	51	4.2	5.6	4	5.3	55	50	NO	NO	NO	NO	YES
3	3_0061		Residential	G	S	51	46	56	51	52	46	56	51	4.1	5.4	3.8	5.2	55	50	NO	NO	NO	NO	YES
3	3_0062		Residential	G	SE	52	46	56	52	52	47	56	52	4.2	5.4	4	5.3	55	50	NO	NO	NO	NO	YES
3	3_0063		Residential	G	S	56	50	63	58	57	51	63	59	6.3	8.1	6	7.8	55	50	YES	YES	NO	NO	YES
3	3_0064		Residential	G	S	56	50	63	58	57	51	63	59	6.4	8.3	6.1	7.9	55	50	YES	YES	NO	NO	YES
3	3_0065		Residential	G	S	55	49	62	57	56	50	62	58	6.7	8.5	6.5	8.2	55	50	YES	YES	NO	NO	YES
3	3_0066		Residential	G	S	56	49	62	58	56	50	63	58	6.9	8.7	6.5	8.2	55	50	YES	YES	NO	NO	YES
3	3_0067		Residential	G	S	56	50	63	58	57	50	63	59	6.7	8.5	6.4	8.2	55	50	YES	YES	NO	NO	YES
3	3_0068		Residential	G	S	56	50	62	58	56	50	63	59	6.7	8.6	6.4	8.2	55	50	YES	YES	NO	NO	YES
3	3_0069		Residential	G	S	56	50	62	58	56	50	63	58	6.6	8.4	6.2	8	55	50	YES	YES	NO	NO	YES
3	3_0070		Residential	G	S	56	50	63	58	56	50	63	59	6.7	8.6	6.5	8.3	55	50	YES	YES	NO	NO	YES
3	3_0071		Residential	G	S	56	50	63	58	56	50	63	59	6.8	8.7	6.5	8.3	55	50	YES	YES	NO	NO	YES
3	3_0072		Residential	G	S	56	50	63	58	56	50	63	59	6.8	8.7	6.5	8.2	55	50	YES	YES	NO	NO	YES
3	3_0073		Residential	G	SE	53	47	58	54	54	48	59	54	5.2	6.8	5	6.6	55	50	NO	NO	NO	NO	YES
3	3_0074		Residential	G	S	54	48	59	55	54	48	60	55	5.5	7.2	5.2	6.8	55	50	YES	YES	NO	NO	YES
3	3_0075		Residential	G	S	54	48	59	55	54	48	60	55	5.6	7.3	5.3	6.9	55	50	YES	YES	NO	NO	YES
3	3_0076		Residential	G	S	53	47	59	55	54	48	59	55	5.5	7.2	5.3	6.9	55	50	NO	YES	NO	NO	YES
3	3_0077		Residential	G	S	53	47	59	54	54	48	59	55	5.5	7.2	5.3	6.9	55	50	NO	YES	NO	NO	YES
3	3_0078		Residential	G	S	53	47	59	54	54	48	59	55	5.6	7.3	5.3	7	55	50	NO	YES	NO	NO	YES
3	3_0079		Residential	G	S	53	47	59	54	54	48	59	55	5.7	7.5	5.4	7.2	55	50	NO	YES	NO	NO	YES
3	3_0080		Residential	G	S	53	47	58	54	54	48	59	54	5.3	7	5.1	6.8	55	50	NO	NO	NO	NO	YES
3	3_0081		Residential	G	S	55	49	62	58	56	50	62	58	6.9	8.7	6.6	8.3	55	50	YES	YES	NO	NO	YES
3	3_0082		Residential	G	S	56	50	63	58	57	50	63	59	6.9	8.7	6.5	8.3	55	50	YES	YES	NO	NO	YES
3	3_0083		Residential	G	S	55	49	62	58	56	50	63	58	7.2	9.2	6.9	8.7	55	50	YES	YES	NO	NO	YES
3	3_0083		Residential	1	S	57	51	63	59	58	52	64	60	6.5	8.5	6.2	8	55	50	YES	YES	NO	YES	YES
3	3_0084		Residential	G	S	56	50	63	58	57	51	63	59	6.6	8.5	6.3	8.2	55	50	YES	YES	NO	NO	YES
3	3_0085		Residential	G	S	56	50	63	58	57	51	63	59	6.6	8.5	6.2	8	55	50	YES	YES	NO	NO	YES
3	3_0086		Residential	G	S	56	49	62	58	56	50	63	59	6.8	8.8	6.5	8.3	55	50	YES	YES	NO	NO	YES
3	3_0087		Residential	G	S	57	50	63	58	57	51	63	59	6.2	8.1	5.8	7.7	55	50	YES	YES	NO	NO	YES
3	3_0088		Residential	G	S	57	51	63	58	58	52	63	59	5.4	7.5	5	7	55	50	YES	YES	NO	NO	YES
3	3_0089		Residential	G	S	58	51	62	58	58	52	63	58	4.6	6.8	4.2	6.3	55	50	YES	YES	NO	NO	YES
3	3_0090		Residential	G	S	56	50	59	55	57	51	60	55	2.7	4.8	2.3	4.5	55	50	YES	YES	NO	NO	YES
3	3_0091		Residential	G	S	55	49	59	54	56	49	59	55	3.8	5.9	3.5	5.4	55	50	NO	YES	NO	NO	YES
3	3_0092		Residential	G	S	55	48	59	54	55	49	59	55	4.3	6.3	4.1	5.9	55	50	NO	YES	NO	NO	YES
3	3_0093		Residential	G	S	54	48	59	54	55	49	59	55	4.6	6.5	4.3	6.1	55	50	NO	YES	NO	NO	YES
3	3_0094		Residential	G	S	54	47	59	54	54	48	59	55	5.1	7	4.9	6.6	55	50	NO	YES	NO	NO	YES
3	3_0095		Residential	G	S	53	47	59	54	54	48	59	54	5.1	6.8	4.7	6.5	55	50	NO	NO	NO	NO	YES
3	3_0096		Residential	G	S	54	47	59	54	54	48	59	55	5.1	6.9	4.9	6.5	55	50	NO	YES	NO	NO	YES
3	3_0097		Residential	G	S	54	47	59	54	54	48	59	55	5.1	6.9	4.8	6.5	55	50	NO	YES	NO	NO	YES
3	3_0098		Residential	G	S	56	50	63	58	57	51	63	59	6.6	8.5	6.3	8.2	55	50	YES	YES	NO	NO	YES
3	3_0099		Residential	G	E	59	53	57	52	60	53	57	53	-2.4	-0.3	-2.8	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0099		Residential	G	W	53	47	56	51	53	47	56	52	3.1	4.7	2.8	4.3	55	50	NO	NO	NO	NO	YES
3	3_0100		Residential	G	E	60	53	58	53	61	54	58	54	-2	0.1	-2.4	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0100		Residential	G	W	53	47	56	52	54	48	57	52	3.1	4.7	2.9	4.5	55	50	NO	NO	NO	NO	YES
3	3_0101		Residential	G	E	59	53	58	54	60	54	58	54	-1.4	0.7	-1.9	0.2	55	50	NO	NO	NO	NO	NO
3	3_0101		Residential	G	S	54	47	56	52	54	48	57	52	2.6	4.6	2.3	4.1	55	50	NO	NO	NO	NO	YES
3	3_0102		Residential	G	E	60	53	59	55	61	54	59	55	-0.6	1.5	-1.1	1	55	50	NO	YES	NO	NO	YES
3	3_0103		Residential	G	E	59	52	61	56	60	53	61	57	1.9	4.1	1.4	3.6	55	50	YES	YES	NO	NO	YES
3	3_0104		Residential	G	S	56	50	62	58	57	51	62	58	5.6	7.7	5.2	7.2	55	50	YES	YES	NO	NO	YES
3	3_0105		Residential	G	S	54	48	61	57	55	49	61	57	6.5	8.5	6.2	8.1	55	50	YES	YES	NO	NO	YES
3	3_0106		Residential	G	S	54	48	61	57	55	49	61	57	6.8	8.8	6.4	8.4	55	50	YES	YES	NO	NO	YES
3	3_0106		Residential	1	S	57	50	63	58	57	51	63	59	6.2	8.2	5.9	7.8	55	50	YES	YES	NO	NO	YES
3	3_0107		Residential	G	S	55	49	62	57	56	49	62	58	6.7	8.7	6.4	8.4	55	50	YES	YES	NO	NO	YES
3	3_0108		Residential	G	S	54	48	61	57	55	48	61	57	7.1	9.1	6.8	8.7	55	50	YES	YES	NO	NO	YES
3	3_0109		Residential	G	S	55	49	61	57	56	50	62	57	6.4	8.4	6.1	7.9	55	50	YES	YES	NO	NO	YES
3	3_0110		Residential	G	S	55	48	61	57	55	49	62	57	6.8	8.8	6.5	8.4	55	50	YES	YES	NO	NO	YES
3	3_0111		Residential	G	E	53	46	60	56	53	47	61	56	7.5	9.4	7.3	9.1	55	50	YES	YES	NO	NO	YES
3	3_0112		Residential	G	S	55	48	61	57	55	49	62	57	6.7	8.6	6.3	8.3	55	50	YES	YES	NO	NO	YES
3	3_0113		Residential	G	S	55	49	62	57	56	50	62	58	6.4	8.4	6.1	8	55	50	YES	YES	NO	NO	YES
3	3_0114		Residential	G	S	55	49	61	57	56	49	62	57	6.4	8.4	6	8	55	50	YES	YES	NO	NO	YES
3	3_0115		Residential	G	S	55	49	61	57	56	50	62	57	5.8	7.9	5.5	7.4	55	50	YES	YES	NO	NO	YES
3	3_0116		Residential	G	S	55	48	60	56	55	49	61	56	5.9	8	5.6	7.5	55	50	YES	YES	NO	NO	YES
3	3_0117		Residential	G	S	55	49	61	57	56	50	61	57	5.6	7.7	5.3	7.3	55	50	YES	YES	NO	NO	YES
3	3_0118		Residential	G	S	55	49	61	56	56	50	61	57	5.5	7.5	5.1	7	55	50	YES	YES	NO	NO	YES
3	3_0119		Residential	G	S	55	48	60	56	56	49	61	56	5.6	7.6	5.2	7.1	55	50	YES	YES	NO	NO	YES
3	3_0120		Residential	G	S	55	49	60	56	56	50	61	56	5.1	7.1	4.8	6.7	55	50	YES	YES	NO	NO	YES
3	3_0121		Residential	G	S	54	48	59	55	55	49	60	55	4.9	6.9	4.6	6.5	55	50	YES	YES	NO	NO	YES
3	3_0122		Residential	G	S	54	47	59	55	55	48	60	55	5.2	7.3	5	6.9	55	50	YES	YES	NO	NO	YES
3	3_0122		Residential	1	S	57	50	61	57	57	51	61	57	4.5	6.6	4.3	6.2	55	50	YES	YES	NO	NO	YES
3	3_0123		Residential	G	S	51	44	57	53	52	45	58	53	6.3	8.4	6	8	55	50	NO	NO	NO	NO	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
3	3_0123		Residential	1	S	56	49	60	56	57	50	61	56	4.3	6.3	4	6	55	50	YES	YES	NO	NO	YES
3	3_0124		Residential	G	S	55	48	59	55	55	49	60	55	4.9	6.7	4.5	6.4	55	50	YES	YES	NO	NO	YES
3	3_0125		Residential	G	S	50	44	55	50	51	44	55	51	4.8	6.7	4.5	6.4	55	50	NO	NO	NO	NO	YES
3	3_0125		Residential	1	S	54	47	58	54	54	48	59	54	4.5	6.4	4.3	6.1	55	50	NO	NO	NO	NO	YES
3	3_0126		Residential	G	W	52	45	53	49	53	46	54	49	1.6	3.2	1.2	2.9	55	50	NO	NO	NO	NO	NO
3	3_0127		Residential	G	W	52	45	54	49	53	46	54	50	2.2	3.8	1.8	3.4	55	50	NO	NO	NO	NO	NO
3	3_0128		Residential	G	W	52	46	54	49	53	47	54	50	1.7	3.3	1.4	3	55	50	NO	NO	NO	NO	NO
3	3_0129		Residential	G	E	54	48	57	53	55	49	58	53	2.9	4.3	2.7	4.1	55	50	NO	NO	NO	NO	YES
3	3_0130		Residential	G	E	54	48	57	53	55	49	58	53	3.3	4.6	2.9	4.3	55	50	NO	NO	NO	NO	YES
3	3_0131		Residential	G	E	54	48	57	53	54	49	57	53	3.1	4.5	2.9	4.3	55	50	NO	NO	NO	NO	YES
3	3_0132		Residential	G	S	52	46	57	53	53	46	58	53	5.2	7.2	4.9	6.8	55	50	NO	NO	NO	NO	YES
3	3_0132		Residential	1	S	55	49	61	56	56	50	61	57	5.6	7.5	5.2	7.1	55	50	YES	YES	NO	NO	YES
3	3_0133		Residential	G	S	53	47	59	54	54	48	59	55	5.8	7.7	5.5	7.3	55	50	NO	YES	NO	NO	YES
3	3_0134		Residential	G	S	53	47	59	55	54	47	59	55	6.1	7.9	5.7	7.5	55	50	NO	YES	NO	NO	YES
3	3_0135		Residential	G	S	52	46	58	54	53	47	59	54	6.1	7.9	5.8	7.6	55	50	NO	NO	NO	NO	YES
3	3_0136		Residential	G	S	53	47	59	55	54	48	59	55	5.9	7.8	5.5	7.3	55	50	NO	YES	NO	NO	YES
3	3_0137		Residential	G	S	53	47	59	55	54	48	59	55	5.8	7.7	5.6	7.4	55	50	NO	YES	NO	NO	YES
3	3_0138		Residential	G	S	53	47	59	54	54	48	59	55	5.6	7.5	5.4	7.2	55	50	NO	YES	NO	NO	YES
3	3_0139		Residential	G	S	53	46	59	54	54	47	59	55	6	7.9	5.6	7.6	55	50	NO	YES	NO	NO	YES
3	3_0139		Residential	1	S	55	49	61	57	56	50	62	57	6	7.9	5.7	7.5	55	50	YES	YES	NO	NO	YES
3	3_0140		Residential	G	S	53	47	59	55	54	48	59	55	5.8	7.6	5.4	7.3	55	50	NO	YES	NO	NO	YES
3	3_0141		Residential	G	S	53	47	59	54	54	48	59	55	5.6	7.4	5.3	7.1	55	50	NO	YES	NO	NO	YES
3	3_0142		Residential	G	S	53	47	58	54	54	47	59	54	5.4	7.2	5.1	6.9	55	50	NO	NO	NO	NO	YES
3	3_0143		Residential	G	S	53	46	58	54	53	47	58	54	5.5	7.3	5.1	6.9	55	50	NO	NO	NO	NO	YES
3	3_0144		Residential	G	S	53	46	58	53	53	47	58	54	5.3	7.1	5	6.8	55	50	NO	NO	NO	NO	YES
3	3_0145		Residential	G	W	51	45	55	50	52	45	55	50	3.7	5.4	3.4	5.1	55	50	NO	NO	NO	NO	NO
3	3_0146		Residential	G	S	52	46	57	52	53	46	57	53	4.8	6.6	4.5	6.3	55	50	NO	NO	NO	NO	YES
3	3_0147		Residential	G	W	51	44	54	50	51	45	55	50	3.6	5.4	3.3	5.1	55	50	NO	NO	NO	NO	NO
3	3_0148		Residential	G	E	51	45	55	51	51	45	56	51	4.4	6.1	4.2	5.7	55	50	NO	NO	NO	NO	YES
3	3_0149		Residential	G	W	51	45	54	49	52	46	54	49	2.1	3.7	1.9	3.4	55	50	NO	NO	NO	NO	NO
3	3_0150		Residential	G	W	51	45	53	48	52	45	54	49	2.1	3.7	1.8	3.4	55	50	NO	NO	NO	NO	NO
3	3_0151		Residential	G	E	52	46	53	49	53	47	54	49	1.2	2.4	1	2.1	55	50	NO	NO	NO	NO	NO
3	3_0152		Residential	G	S	50	44	54	49	51	45	54	50	3.7	5.4	3.3	5	55	50	NO	NO	NO	NO	NO
3	3_0153		Residential	G	S	51	45	54	50	52	45	55	50	3.4	5.1	3.1	4.8	55	50	NO	NO	NO	NO	NO
3	3_0154		Residential	G	W	53	47	56	51	54	47	56	52	2.8	4.6	2.5	4.3	55	50	NO	NO	NO	NO	YES
3	3_0155		Residential	G	S	52	46	57	53	53	46	57	53	4.9	7	4.7	6.5	55	50	NO	NO	NO	NO	YES
3	3_0156		Residential	G	S	55	49	59	55	56	50	60	55	4.2	6	3.8	5.7	55	50	YES	YES	NO	NO	YES
3	3_0157		Residential	G	S	51	45	55	50	52	45	55	51	3.9	5.8	3.7	5.4	55	50	NO	NO	NO	NO	YES
3	3_0157		Residential	1	S	54	48	58	53	55	49	58	54	3.4	5.3	3.1	5	55	50	NO	NO	NO	NO	YES
3	3_0158		Residential	G	S	51	45	55	50	52	45	55	50	3.5	5.3	3.2	5	55	50	NO	NO	NO	NO	NO
3	3_0159		Residential	G	W	52	46	55	50	53	46	55	51	2.8	4.6	2.5	4.3	55	50	NO	NO	NO	NO	YES
3	3_0160		Residential	G	S	51	45	55	50	52	46	55	51	3.6	5.3	3.3	5	55	50	NO	NO	NO	NO	YES
3	3_0161		Residential	G	SE	54	48	57	52	55	48	57	53	2.7	4.4	2.4	4.1	55	50	NO	NO	NO	NO	YES
3	3_0162		Residential	G	S	55	49	58	54	56	49	59	54	3.3	5.3	3	4.9	55	50	NO	NO	NO	NO	YES
3	3_0163		Residential	G	SW	55	49	59	54	56	50	59	54	3.4	5.3	3	4.9	55	50	NO	NO	NO	NO	YES
3	3_0164		Residential	G	SW	55	49	58	54	56	49	59	54	3.4	5.4	3.1	5	55	50	NO	NO	NO	NO	YES
3	3_0165		Residential	G	S	51	45	56	51	52	46	56	52	4.3	6.2	4	5.9	55	50	NO	NO	NO	NO	YES
3	3_0166		Residential	G	W	52	45	55	50	52	46	55	50	2.8	4.5	2.5	4.2	55	50	NO	NO	NO	NO	NO
3	3_0167		Residential	G	S	50	44	54	50	51	44	55	50	4.5	6.3	4.2	6	55	50	NO	NO	NO	NO	NO
3	3_0167		Residential	1	S	53	47	57	52	54	47	57	52	3.6	5.3	3.3	5	55	50	NO	NO	NO	NO	YES
3	3_0168		Residential	G	S	51	44	55	50	51	45	55	51	4	5.9	3.7	5.4	55	50	NO	NO	NO	NO	YES
3	3_0169		Residential	G	S	51	45	55	50	52	45	55	51	3.8	5.7	3.5	5.3	55	50	NO	NO	NO	NO	YES
3	3_0170		Residential	G	S	51	45	55	50	52	46	55	51	3.8	5.6	3.5	5.2	55	50	NO	NO	NO	NO	YES
3	3_0171		Residential	G	S	51	45	55	50	52	45	55	51	3.8	5.6	3.5	5.3	55	50	NO	NO	NO	NO	YES
3	3_0172		Residential	G	S	51	45	55	50	52	45	55	51	3.9	5.7	3.6	5.4	55	50	NO	NO	NO	NO	YES
3	3_0173		Residential	G	S	51	45	55	50	52	45	55	51	3.9	5.7	3.6	5.4	55	50	NO	NO	NO	NO	YES
3	3_0174		Residential	G	S	51	45	55	50	52	45	55	51	4	5.8	3.6	5.5	55	50	NO	NO	NO	NO	YES
3	3_0175		Residential	G	S	51	45	55	50	52	45	55	51	3.9	5.8	3.6	5.4	55	50	NO	NO	NO	NO	YES
3	3_0176		Residential	G	S	51	45	55	50	52	45	55	51	4	5.8	3.7	5.4	55	50	NO	NO	NO	NO	YES
3	3_0177		Residential	G	S	49	43	53	48	50	44	53	49	3.7	5.4	3.4	5.1	55	50	NO	NO	NO	NO	NO
3	3_0178		Residential	G	S	49	43	53	49	50	44	53	49	4	5.6	3.6	5.3	55	50	NO	NO	NO	NO	NO
3	3_0179		Residential	G	S	50	43	53	49	50	44	54	49	3.6	5.3	3.4	5	55	50	NO	NO	NO	NO	NO
3	3_0180		Residential	G	S	49	43	53	49	50	44	54	49	3.8	5.6	3.5	5.2	55	50	NO	NO	NO	NO	NO
3	3_0181		Residential	G	S	49	43	53	49	50	44	54	49	3.8	5.5	3.6	5.2	55	50	NO	NO	NO	NO	NO
3	3_0182		Residential	G	S	48	42	53	49	49	42	54	49	4.9	6.9	4.6	6.5	55	50	NO	NO	NO	NO	NO
3	3_0182		Residential	1	S	52	46	56	51	53	46	56	51	3.6	5.3	3.3	5	55	50	NO	NO	NO	NO	YES
3	3_0183		Residential	G	SW	50	43	53	49	50	44	54	49	3.6	5.4	3.2	5.1	55	50	NO	NO	NO	NO	NO
3	3_0184		Residential	G	S	50	44	54	49	51	44	54	49	3.9	5.6	3.5	5.2	55	50	NO	NO	NO	NO	NO
3	3_0185		Residential	G	S	50	44	54	49	51	44	54	50	3.8	5.5	3.6	5.2	55	50	NO	NO	NO	NO	NO
3	3_0186		Residential	G	S	50	44	54	50	51	44	55	50	4.2	5.9	3.9	5.7	55	50	NO	NO	NO	NO	NO
3	3_0187		Residential	G	S	57	50	61	56	58	51	61	57	3.9	6	3.6	5.6	55	50	YES	YES	NO	NO	YES
3	3_0188		Residential	G	S	55	49	60	55	56	50	60	56	4.4	6.5	4.1	6.1	55	50	YES	YES	NO	NO	YES
3	3_0188		Residential	1	S	58	51	62	58	59	52	62	58	4.1	6.2	3.7	5.9	55	50	YES	YES	NO	NO	YES
3	3_0189		Residential	G	S	56	50	61	56	57	51	61	57	4.3	6.4	3.9	5.9	55	50	YES	YES	NO	NO	YES
3	3_0190		Residential	G	S	55	49	60	55	56	50	60	56	4.2	6.3	3.9	5.9	55	50	YES	YES	NO	NO	YES
3	3_0191		Residential	G	S	57	50	61	57	58	51	62	57	4.3	6.4	4	6	55	50	YES	YES	NO	NO	YES
3	3_0192		Residential	G	S	56	49	61	57	57	50	61	57	5.1	7.3	4.8	6.9	55	50	YES	YES	NO	NO	YES
3	3_0193		Residential	G	S	56	50	61	57	57	50	61	57	4.9	7.1	4.6	6.6	55	50	YES	YES	NO	NO	YES
3	3_0194		Residential	G	S	57	50	62	57	57	51	62	58	5	7.1	4.7	6.7	55	50	YES	YES	NO	NO	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
3	3_0194		Residential	1	S	59	52	64	59	59	53	64	60	5.1	7.3	4.8	6.9	55	50	YES	YES	NO	YES	YES
3	3_0195		Residential	G	SE	55	49	61	57	56	50	61	57	5.6	7.7	5.2	7.2	55	50	YES	YES	NO	NO	YES
3	3_0196		Residential	G	S	51	45	56	51	52	45	56	52	4.5	6.5	4.2	6.1	55	50	NO	NO	NO	NO	YES
3	3_0196		Residential	1	S	55	48	59	54	56	49	59	55	3.9	5.9	3.6	5.6	55	50	NO	YES	NO	NO	YES
3	3_0197		Residential	G	S	52	46	57	52	53	46	57	53	4.8	6.7	4.4	6.3	55	50	NO	NO	NO	NO	YES
3	3_0198		Residential	G	S	52	46	57	52	53	46	57	53	4.8	6.7	4.5	6.4	55	50	NO	NO	NO	NO	YES
3	3_0199		Residential	G	S	52	46	57	53	53	47	58	53	4.9	6.8	4.6	6.4	55	50	NO	NO	NO	NO	YES
3	3_0200		Residential	G	E	52	46	56	51	53	47	56	52	3.4	5.1	3.1	4.8	55	50	NO	NO	NO	NO	YES
3	3_0201		Residential	G	S	53	46	57	53	54	47	58	53	4.5	6.5	4.2	6.1	55	50	NO	NO	NO	NO	YES
3	3_0202		Residential	G	S	54	47	58	54	54	48	59	54	4.5	6.5	4.2	6.1	55	50	NO	NO	NO	NO	YES
3	3_0203		Residential	G	S	54	47	59	54	55	48	59	55	4.9	6.8	4.5	6.5	55	50	NO	YES	NO	NO	YES
3	3_0204		Residential	G	SW	56	49	59	54	57	50	60	54	3.1	4.9	2.8	4.4	55	50	YES	NO	NO	NO	YES
3	3_0205		Residential	G	SW	56	49	60	55	57	50	60	55	3.6	5.5	3.2	5	55	50	YES	YES	NO	NO	YES
3	3_0206		Residential	G	SW	56	49	60	55	57	50	60	56	4.3	6.2	3.9	5.8	55	50	YES	YES	NO	NO	YES
3	3_0207		Residential	G	W	52	45	54	50	52	46	55	50	2.7	4.4	2.4	4	55	50	NO	NO	NO	NO	NO
3	3_0208		Residential	G	W	52	45	54	50	52	46	55	50	2.7	4.4	2.4	4.1	55	50	NO	NO	NO	NO	NO
3	3_0209		Residential	G	W	51	44	54	50	52	45	55	50	3.3	5.2	3	4.8	55	50	NO	NO	NO	NO	NO
3	3_0210		Residential	G	E	53	47	55	50	54	48	55	50	1.7	3	1.4	2.8	55	50	NO	NO	NO	NO	NO
3	3_0211		Residential	G	W	52	45	55	50	52	46	55	51	3.3	5	3	4.7	55	50	NO	NO	NO	NO	YES
3	3_0212		Residential	G	S	50	43	54	50	50	44	55	50	4.6	6.5	4.4	6.2	55	50	NO	NO	NO	NO	NO
3	3_0213		Residential	G	SW	51	45	55	50	52	46	55	51	3.7	5.7	3.4	5.2	55	50	NO	NO	NO	NO	YES
3	3_0214		Residential	G	SW	51	45	55	50	52	46	56	51	3.8	5.7	3.5	5.3	55	50	NO	NO	NO	NO	YES
3	3_0215		Residential	G	SE	52	45	55	51	52	46	56	51	3.6	5.2	3.3	4.8	55	50	NO	NO	NO	NO	YES
3	3_0216		Residential	G	S	51	44	55	51	51	45	56	51	4.6	6.5	4.4	6.1	55	50	NO	NO	NO	NO	YES
3	3_0217		Residential	G	S	51	44	55	51	51	45	56	51	4.8	6.6	4.5	6.3	55	50	NO	NO	NO	NO	YES
3	3_0218		Residential	G	SW	52	46	57	52	53	46	57	52	4.4	6.3	4.1	5.9	55	50	NO	NO	NO	NO	YES
3	3_0219		Residential	G	SW	52	45	56	51	53	46	56	52	4.1	6.1	3.8	5.7	55	50	NO	NO	NO	NO	YES
3	3_0220		Residential	G	SW	52	45	56	51	53	46	56	51	3.6	5.6	3.2	5.1	55	50	NO	NO	NO	NO	YES
3	3_0220		Residential	1	SW	56	49	59	54	57	50	59	54	3	4.8	2.7	4.4	55	50	NO	NO	NO	NO	YES
3	3_0221		Residential	G	S	50	44	54	50	51	45	55	50	4.2	6	4	5.7	55	50	NO	NO	NO	NO	NO
3	3_0222		Residential	G	SE	51	44	55	51	51	45	56	51	4.6	6.3	4.3	6	55	50	NO	NO	NO	NO	YES
3	3_0223		Residential	G	SE	53	46	56	52	53	47	57	52	3.9	5.7	3.6	5.3	55	50	NO	NO	NO	NO	YES
3	3_0224		Residential	G	SW	58	51	60	54	59	52	60	55	1.9	3.5	1.7	3	55	50	YES	YES	NO	NO	YES
3	3_0225		Residential	G	SE	51	45	55	50	52	46	55	50	3.5	5	3.2	4.7	55	50	NO	NO	NO	NO	NO
3	3_0226		Residential	G	SE	52	45	55	50	52	46	55	51	3.4	5	3.1	4.7	55	50	NO	NO	NO	NO	YES
3	3_0227		Residential	G	SE	51	45	55	50	52	46	55	51	3.7	5.3	3.4	5	55	50	NO	NO	NO	NO	YES
3	3_0228		Residential	G	SE	50	44	55	50	51	45	55	51	4.3	6.1	4	5.8	55	50	NO	NO	NO	NO	YES
3	3_0228		Residential	1	SW	55	48	57	52	55	49	58	53	2.5	4.3	2.2	3.9	55	50	NO	NO	NO	NO	YES
3	3_0229		Residential	G	SE	52	45	55	50	52	46	56	51	3.6	5.3	3.3	4.9	55	50	NO	NO	NO	NO	YES
3	3_0230		Residential	G	NW	55	49	56	50	56	49	56	51	0.3	1.4	0.1	1.2	55	50	NO	NO	NO	NO	NO
3	3_0230		Residential	G	SW	53	46	55	50	54	47	56	51	2.4	4.1	2.2	3.7	55	50	NO	NO	NO	NO	YES
3	3_0231		Residential	G	SE	52	46	55	51	53	47	56	51	3	4.8	2.7	4.4	55	50	NO	NO	NO	NO	YES
3	3_0232		Residential	G	SE	53	47	56	51	54	47	57	52	3	4.6	2.7	4.2	55	50	NO	NO	NO	NO	YES
3	3_0233		Residential	G	NW	57	51	57	52	58	51	58	52	0.1	0.9	-0.1	0.5	55	50	NO	NO	NO	NO	NO
3	3_0233		Residential	G	SE	54	48	57	52	55	49	57	52	2.4	4	2.1	3.6	55	50	NO	NO	NO	NO	YES
3	3_0234		Residential	G	NW	58	52	58	52	59	52	59	53	0	0.6	-0.3	0.3	55	50	NO	NO	NO	NO	NO
3	3_0234		Residential	G	SE	55	48	57	52	56	49	58	52	2	3.7	1.8	3.3	55	50	NO	NO	NO	NO	YES
3	3_0235		Residential	G	SW	62	55	63	56	63	56	63	57	0.2	1	0	0.7	55	50	NO	YES	NO	NO	YES
3	3_0236		Residential	G	W	53	46	55	50	53	47	55	50	1.9	3.6	1.6	3.1	55	50	NO	NO	NO	NO	NO
3	3_0237		Residential	G	S	51	45	55	50	52	45	55	50	3.4	5.3	3.2	4.8	55	50	NO	NO	NO	NO	NO
3	3_0238		Residential	G	S	51	44	54	50	51	45	55	50	3.5	5.1	3.2	4.8	55	50	NO	NO	NO	NO	NO
3	3_0239		Residential	G	S	51	44	54	49	51	45	54	50	3.4	5.2	3.1	4.8	55	50	NO	NO	NO	NO	NO
3	3_0240		Residential	G	W	51	45	53	48	52	46	53	48	1.3	2.8	1	2.5	55	50	NO	NO	NO	NO	NO
3	3_0241		Residential	G	W	51	44	53	48	51	45	53	48	2	3.5	1.7	3.2	55	50	NO	NO	NO	NO	NO
3	3_0242		Residential	G	W	51	45	53	48	52	46	54	49	1.7	3.3	1.4	3	55	50	NO	NO	NO	NO	NO
3	3_0243		Residential	G	S	50	43	53	49	50	44	54	49	3.8	5.6	3.6	5.2	55	50	NO	NO	NO	NO	NO
3	3_0244		Residential	G	S	50	43	53	48	50	44	54	49	3.6	5.2	3.3	4.9	55	50	NO	NO	NO	NO	NO
3	3_0245		Residential	G	S	50	43	53	49	50	44	54	49	3.7	5.3	3.4	5	55	50	NO	NO	NO	NO	NO
3	3_0246		Residential	G	SW	51	45	54	49	52	46	55	50	2.9	4.6	2.5	4.3	55	50	NO	NO	NO	NO	NO
3	3_0247		Residential	G	SW	52	45	54	49	52	46	55	50	2.4	4.2	2.1	3.7	55	50	NO	NO	NO	NO	NO
3	3_0248		Residential	G	W	52	46	54	49	53	46	55	50	2	3.5	1.6	3.2	55	50	NO	NO	NO	NO	NO
3	3_0249		Residential	G	SW	52	45	54	49	52	46	54	49	2.3	4	2	3.6	55	50	NO	NO	NO	NO	NO
3	3_0250		Residential	G	W	52	46	54	49	53	46	54	49	1.7	3.3	1.4	2.9	55	50	NO	NO	NO	NO	NO
3	3_0251		Residential	G	W	53	46	54	49	53	47	55	50	1.4	3	1.2	2.6	55	50	NO	NO	NO	NO	NO
3	3_0252		Residential	G	W	52	46	54	49	53	46	54	49	1.8	3.4	1.5	3	55	50	NO	NO	NO	NO	NO
3	3_0253		Residential	G	W	52	45	53	48	53	46	53	48	1	2.4	0.6	2.1	55	50	NO	NO	NO	NO	NO
3	3_0254		Residential	G	W	53	46	54	49	54	47	54	49	0.7	2.2	0.4	1.8	55	50	NO	NO	NO	NO	NO
3	3_0255		Residential	G	E	51	45	53	48	52	46	53	48	1.5	2.8	1.3	2.5	55	50	NO	NO	NO	NO	NO
3	3_0256		Residential	G	SW	53	46	54	49	53	47	54	49	1.5	3	1.1	2.6	55	50	NO	NO	NO	NO	NO
3	3_0257		Residential	G	SE	51	45	53	49	52	46	54	49	2.1	3.5	1.9	3.2	55	50	NO	NO	NO	NO	NO
3	3_0258		Residential	G	SW	53	47	55	49	54	47	55	50	1.4	2.9	1	2.5	55	50	NO	NO	NO	NO	NO
3	3_0259		Residential	G	SW	53	46	55	50	54	47	55	50	1.5	3.1	1.3	2.7	55	50	NO	NO	NO	NO	NO
3	3_0260		Residential	G	SW	54	47	55	50	54	48	56	50	1.3	2.8	1.1	2.4	55	50	NO	NO	NO	NO	NO
3	3_0261		Residential	G	SE	53	46	55	50	53	47	55	50	1.9	3.2	1.7	3	55	50	NO	NO	NO	NO	NO
3	3_0262		Residential	G	SW	52	46	54	49	53	46	55	49	1.8	3.4	1.6	3	55	50	NO	NO	NO	NO	NO
3	3_0263		Residential	G	SW	53	46	54	49	53	47	54	49	1.3	3	0.9	2.6	55	50	NO	NO	NO	NO	NO
3	3_0264		Residential	G	NE	54	48	53	48	55	49	54	48	-1.3	-0.4	-1.6	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0265		Residential	G	SW	53	46	53	48	53	47	54	49	0.9	2.4	0.5	2	55	50	NO	NO	NO	NO	NO
3	3_0266		Residential	G	SW	53	46	54	48	53	47	54	49	1.1	2.6	0.8	2.2	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
3	3_0267		Residential	G	SW	53	47	54	49	54	47	55	49	0.9	2.4	0.7	2	55	50	NO	NO	NO	NO	NO
3	3_0268		Residential	G	SE	52	46	54	49	53	46	54	49	2	3.3	1.8	3	55	50	NO	NO	NO	NO	NO
3	3_0269		Residential	G	SW	52	45	53	48	53	46	54	48	1.5	3	1.2	2.6	55	50	NO	NO	NO	NO	NO
3	3_0269		Residential	1	SW	55	48	56	51	56	49	57	51	0.9	2.4	0.6	1.9	55	50	NO	NO	NO	NO	YES
3	3_0270		Residential	G	SW	53	47	55	49	54	48	55	50	1.4	2.8	1.1	2.3	55	50	NO	NO	NO	NO	NO
3	3_0271		Residential	G	SW	54	47	55	50	54	48	55	50	1.3	2.7	1.1	2.3	55	50	NO	NO	NO	NO	NO
3	3_0272		Residential	G	SW	54	47	55	50	55	48	56	50	1.1	2.4	0.8	2	55	50	NO	NO	NO	NO	NO
3	3_0273		Residential	G	SW	54	47	55	50	55	48	56	50	0.9	2.3	0.7	1.8	55	50	NO	NO	NO	NO	NO
3	3_0274		Residential	G	SW	56	49	56	51	56	49	57	51	0.8	2	0.6	1.7	55	50	NO	NO	NO	NO	NO
3	3_0274		Residential	G	SE	55	48	56	51	56	49	57	51	1.2	2.5	1	2.1	55	50	NO	NO	NO	NO	YES
3	3_0275		Residential	G	E	57	53	55	51	58	53	56	51	-1.9	-1.8	-1.8	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0276		Residential	G	E	57	53	55	51	58	53	56	51	-1.9	-1.9	-1.9	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0277		Residential	G	E	57	53	56	51	58	53	56	52	-1.6	-1.5	-1.5	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0278		Residential	G	W	54	49	55	51	55	50	56	51	1.3	1.9	1.2	1.8	55	50	NO	NO	NO	NO	NO
3	3_0278		Residential	G	W	53	48	55	51	54	49	56	51	1.9	2.6	1.8	2.5	55	50	NO	NO	NO	NO	YES
3	3_0279		Residential	G	W	54	49	56	52	55	50	57	52	2.1	2.8	2	2.7	55	50	NO	NO	NO	NO	YES
3	3_0280		Residential	G	W	54	49	57	52	55	50	57	52	2.3	3.1	2.2	2.9	55	50	NO	NO	NO	NO	YES
3	3_0281		Residential	G	E	55	50	56	52	56	51	57	52	1.2	1.7	1.2	1.6	55	50	NO	NO	NO	NO	NO
3	3_0281		Residential	G	W	53	48	56	52	54	48	57	52	3	4.1	2.9	3.9	55	50	NO	NO	NO	NO	YES
3	3_0282		Residential	G	W	54	49	57	53	55	49	57	53	2.9	3.9	2.7	3.7	55	50	NO	NO	NO	NO	YES
3	3_0283		Residential	G	W	54	49	58	53	55	49	58	54	3.5	4.7	3.4	4.6	55	50	NO	NO	NO	NO	YES
3	3_0284		Residential	G	E	55	49	58	54	55	50	59	54	3.3	4.4	3.2	4.3	55	50	NO	NO	NO	NO	YES
3	3_0285		Residential	G	E	55	49	58	54	55	49	59	54	3.8	5	3.5	4.8	55	50	NO	NO	NO	NO	YES
3	3_0286		Residential	G	W	54	49	56	52	55	50	57	52	2	2.8	1.9	2.6	55	50	NO	NO	NO	NO	YES
3	3_0287		Residential	G	W	54	49	55	51	54	49	55	51	1.3	1.8	1.3	1.7	55	50	NO	NO	NO	NO	NO
3	3_0288		Residential	G	W	55	50	55	51	55	50	56	51	0.6	0.9	0.6	0.9	55	50	NO	NO	NO	NO	NO
3	3_0289		Residential	G	SE	55	50	54	49	55	51	54	50	-0.9	-0.7	-0.8	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0290		Residential	G	W	53	48	57	52	54	48	57	52	3.3	4.4	3.2	4.2	55	50	NO	NO	NO	NO	YES
3	3_0291		Residential	G	SW	53	48	57	53	54	48	58	53	3.9	5.1	3.7	4.9	55	50	NO	NO	NO	NO	YES
3	3_0292		Residential	G	SE	53	47	57	52	53	47	57	53	4.2	5.4	4	5.3	55	50	NO	NO	NO	NO	YES
3	3_0293		Residential	G	SW	54	48	57	53	54	49	57	53	3.3	4.4	3.1	4.3	55	50	NO	NO	NO	NO	YES
3	3_0294		Residential	G	S	53	47	58	53	53	47	58	54	4.8	6.2	4.7	6.1	55	50	NO	NO	NO	NO	YES
3	3_0295		Residential	G	S	52	47	57	53	53	47	58	53	4.7	6.1	4.6	5.8	55	50	NO	NO	NO	NO	YES
3	3_0296		Residential	G	S	53	47	58	53	53	48	58	54	4.7	6.1	4.6	5.9	55	50	NO	NO	NO	NO	YES
3	3_0297		Residential	G	S	53	47	58	53	53	48	58	54	4.7	6.1	4.6	6	55	50	NO	NO	NO	NO	YES
3	3_0298		Residential	G	S	53	47	58	54	54	48	58	54	4.9	6.3	4.6	6	55	50	NO	NO	NO	NO	YES
3	3_0299		Residential	G	S	53	47	58	53	53	48	58	54	4.8	6.2	4.6	6	55	50	NO	NO	NO	NO	YES
3	3_0300		Residential	G	S	52	46	57	52	53	47	57	53	4.5	5.8	4.3	5.6	55	50	NO	NO	NO	NO	YES
3	3_0301		Residential	G	S	52	46	57	53	53	47	57	53	4.7	6.1	4.5	5.9	55	50	NO	NO	NO	NO	YES
3	3_0302		Residential	G	SE	52	46	57	52	53	47	57	53	4.5	5.9	4.3	5.7	55	50	NO	NO	NO	NO	YES
3	3_0303		Residential	G	SW	54	48	57	53	54	49	57	53	3.2	4.3	3.1	4.1	55	50	NO	NO	NO	NO	YES
3	3_0304		Residential	G	S	52	46	57	52	53	47	57	52	4.4	5.8	4.3	5.5	55	50	NO	NO	NO	NO	YES
3	3_0305		Residential	G	S	52	46	57	52	53	47	57	53	4.5	5.9	4.4	5.8	55	50	NO	NO	NO	NO	YES
3	3_0306		Residential	G	S	52	46	57	52	53	47	57	53	4.6	6	4.4	5.7	55	50	NO	NO	NO	NO	YES
3	3_0307		Residential	G	S	52	46	57	53	53	47	57	53	4.8	6.3	4.5	6	55	50	NO	NO	NO	NO	YES
3	3_0308		Residential	G	S	52	46	57	53	53	47	57	53	4.8	6.3	4.5	6	55	50	NO	NO	NO	NO	YES
3	3_0309		Residential	G	S	52	46	57	53	53	47	58	53	4.8	6.3	4.7	6	55	50	NO	NO	NO	NO	YES
3	3_0310		Residential	G	S	52	46	57	53	53	47	57	53	4.9	6.4	4.6	6.1	55	50	NO	NO	NO	NO	YES
3	3_0311		Residential	G	S	51	45	56	51	52	46	56	52	4.6	6	4.4	5.8	55	50	NO	NO	NO	NO	YES
3	3_0312		Residential	G	W	53	47	55	51	53	48	56	51	2.6	3.6	2.4	3.5	55	50	NO	NO	NO	NO	YES
3	3_0313		Residential	G	S	49	43	55	50	50	44	55	51	5.4	7.2	5.2	6.8	55	50	NO	NO	NO	NO	YES
3	3_0313		Residential	1	S	53	47	59	54	54	48	59	55	5.3	6.8	5.1	6.6	55	50	NO	YES	NO	NO	YES
3	3_0314		Residential	G	S	51	45	55	50	51	46	55	51	3.9	5	3.7	4.9	55	50	NO	NO	NO	NO	YES
3	3_0315		Residential	G	S	51	46	55	51	52	46	56	51	4.1	5.3	3.9	5.2	55	50	NO	NO	NO	NO	YES
3	3_0316		Residential	G	S	51	45	55	50	51	46	55	51	3.8	4.9	3.6	4.8	55	50	NO	NO	NO	NO	YES
3	3_0317		Residential	G	S	51	45	54	50	51	45	55	50	3.6	4.7	3.5	4.6	55	50	NO	NO	NO	NO	NO
3	3_0318		Residential	G	E	52	47	54	50	52	47	54	50	2.1	2.8	2	2.6	55	50	NO	NO	NO	NO	NO
3	3_0319		Residential	G	SE	52	46	56	52	52	47	56	52	4.1	5.2	4	5.1	55	50	NO	NO	NO	NO	YES
3	3_0320		Residential	G	S	52	46	56	51	52	47	56	52	3.9	5.2	3.8	5	55	50	NO	NO	NO	NO	YES
3	3_0321		Residential	G	S	51	46	55	51	52	46	56	51	3.9	5.2	3.8	5	55	50	NO	NO	NO	NO	YES
3	3_0322		Residential	G	S	50	44	55	51	51	45	56	51	4.9	6.4	4.7	6.2	55	50	NO	NO	NO	NO	YES
3	3_0322		Residential	1	S	53	47	58	53	54	48	58	53	4.4	5.8	4.1	5.5	55	50	NO	NO	NO	NO	YES
3	3_0323		Residential	G	S	51	46	56	51	52	46	56	52	4.2	5.5	4	5.3	55	50	NO	NO	NO	NO	YES
3	3_0324		Residential	G	S	52	46	56	52	52	47	56	52	4.3	5.6	4.1	5.3	55	50	NO	NO	NO	NO	YES
3	3_0325		Residential	G	W	54	48	55	51	54	49	56	51	1.6	2.4	1.4	2.3	55	50	NO	NO	NO	NO	YES
3	3_0326	Decora Family Day Care	Childcare Sleeping	G	W	53	48	55	50	54	48	55	50	1.3	2.2	1.3	2.1	45	-	YES	YES	NO	-	YES
3	3_0327		Residential	G	S	49	43	53	49	49	43	54	49	4.7	6	4.5	5.9	55	50	NO	NO	NO	NO	NO
3	3_0327		Residential	1	S	53	47	57	52	53	47	57	53	4.3	5.6	4.1	5.3	55	50	NO	NO	NO	NO	YES
3	3_0328		Residential	G	S	50	45	53	48	51	45	53	49	2.7	3.5	2.5	3.3	55	50	NO	NO	NO	NO	NO
3	3_0329		Residential	G	S	51	45	54	49	51	46	54	50	3	4	2.9	3.8	55	50	NO	NO	NO	NO	NO
3	3_0330		Residential	G	SW	52	46	54	49	52	47	54	50	2	2.9	1.9	2.8	55	50	NO	NO	NO	NO	NO
3	3_0331		Residential	G	S	51	46	54	50	52	46	54	50	2.7	3.6	2.6	3.5	55	50	NO	NO	NO	NO	NO
3	3_0332		Residential	G	S	51	46	54	49	52	46	54	50	2.7	3.6	2.6	3.5	55	50	NO	NO	NO	NO	NO
3	3_0333		Residential	G	W	54	49	55	50	55	50	55	51	0.5	1.1	0.4	1.1	55	50	NO	NO	NO	NO	NO
3	3_0334		Residential	G	W	54	49	55	50	55	50	55	50	0.2	0.6	0.1	0.6	55	50	NO	NO	NO	NO	NO
3	3_0335		Residential	G	NE	54	50	53	49	55	50	53	49	-1.3	-1.1	-1.2	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0336		Residential	G	SW	54	48	57	52	54	49	57	52	2.7	3.7	2.5	3.5	55	50	NO	NO	NO	NO	YES
3	3_0337		Residential	G	S	52	46	57	52	53	47	57	53	4.5	5.9	4.4	5.7	55	50	NO	NO	NO	NO	YES
3	3_0338		Residential	G	S	52	46	56	52	53	47	57	52	4.3	5.4	4	5.3	55	50	NO	NO	NO	NO	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
3	3_0339		Residential	G	S	52	46	56	51	52	47	56	52	4.2	5.4	4	5.2	55	50	NO	NO	NO	NO	YES
3	3_0340		Residential	G	S	52	47	56	52	53	47	57	52	4.2	5.4	4	5.2	55	50	NO	NO	NO	NO	YES
3	3_0341		Residential	G	S	52	46	56	52	53	47	57	52	4.3	5.5	4.1	5.3	55	50	NO	NO	NO	NO	YES
3	3_0342		Residential	G	S	52	46	56	52	53	47	56	52	4.1	5.3	3.9	5.1	55	50	NO	NO	NO	NO	YES
3	3_0343		Residential	G	S	52	46	56	51	52	47	56	52	4	5.2	3.9	5	55	50	NO	NO	NO	NO	YES
3	3_0344		Residential	G	S	52	46	56	51	52	47	56	51	3.8	4.9	3.6	4.7	55	50	NO	NO	NO	NO	YES
3	3_0345		Residential	G	S	52	46	56	52	53	47	57	52	4.1	5.3	3.9	5.1	55	50	NO	NO	NO	NO	YES
3	3_0346		Residential	G	S	52	47	56	52	53	47	57	52	4.2	5.4	4	5.1	55	50	NO	NO	NO	NO	YES
3	3_0347		Residential	G	SW	53	48	57	52	54	48	57	53	3.5	4.6	3.3	4.3	55	50	NO	NO	NO	NO	YES
3	3_0348		Residential	G	S	52	46	56	51	53	47	56	52	3.9	5	3.7	4.8	55	50	NO	NO	NO	NO	YES
3	3_0349		Residential	G	W	53	48	56	51	54	48	56	52	2.8	3.8	2.7	3.6	55	50	NO	NO	NO	NO	YES
3	3_0350		Residential	G	S	50	44	55	50	51	45	55	50	4.6	5.7	4.4	5.6	55	50	NO	NO	NO	NO	NO
3	3_0350		Residential	1	S	54	49	58	53	55	49	58	54	3.7	4.6	3.4	4.5	55	50	NO	NO	NO	NO	YES
3	3_0351		Residential	G	S	51	45	56	52	52	46	56	52	4.9	6.6	4.7	6.4	55	50	NO	NO	NO	NO	YES
3	3_0351		Residential	1	S	55	49	58	53	55	49	58	54	3.3	4.6	3.1	4.4	55	50	NO	NO	NO	NO	YES
3	3_0352		Residential	G	S	53	47	57	52	53	48	57	53	4.1	5.2	4	5	55	50	NO	NO	NO	NO	YES
3	3_0353		Residential	G	S	53	47	56	52	53	48	57	52	3.9	5	3.8	4.9	55	50	NO	NO	NO	NO	YES
3	3_0354		Residential	G	S	53	47	57	52	53	48	57	53	4.3	5.4	4	5.2	55	50	NO	NO	NO	NO	YES
3	3_0355		Residential	G	S	52	47	56	52	53	47	57	52	4	5.1	3.9	4.9	55	50	NO	NO	NO	NO	YES
3	3_0356		Residential	G	S	52	47	57	52	53	47	57	53	4.4	5.6	4.2	5.4	55	50	NO	NO	NO	NO	YES
3	3_0357		Residential	G	S	52	47	56	52	53	47	57	52	4	5.1	3.8	5	55	50	NO	NO	NO	NO	YES
3	3_0358		Residential	G	S	52	47	56	52	53	47	57	52	4	5.1	3.8	4.9	55	50	NO	NO	NO	NO	YES
3	3_0359		Residential	G	S	52	47	56	52	53	47	56	52	3.8	5	3.7	4.7	55	50	NO	NO	NO	NO	YES
3	3_0360		Residential	G	S	52	46	56	51	52	47	56	52	3.9	4.9	3.6	4.8	55	50	NO	NO	NO	NO	YES
3	3_0361		Residential	G	S	52	46	56	51	52	47	56	52	3.9	4.9	3.6	4.8	55	50	NO	NO	NO	NO	YES
3	3_0362		Residential	G	S	52	46	56	52	52	47	56	52	4.1	5.3	4	5.1	55	50	NO	NO	NO	NO	YES
3	3_0363		Residential	G	SW	53	47	56	52	53	47	56	52	3.3	4.7	3	4.5	55	50	NO	NO	NO	NO	YES
3	3_0364		Residential	G	SW	54	48	56	51	54	49	56	52	2.1	3	1.9	2.9	55	50	NO	NO	NO	NO	YES
3	3_0365		Residential	G	W	53	48	54	50	54	48	55	50	1	1.8	0.9	1.8	55	50	NO	NO	NO	NO	NO
3	3_0365		Residential	1	S	53	47	57	53	54	48	58	53	4.2	5.5	4.1	5.2	55	50	NO	NO	NO	NO	YES
3	3_0366		Residential	G	S	51	46	55	51	52	46	55	51	3.6	4.6	3.5	4.4	55	50	NO	NO	NO	NO	YES
3	3_0367		Residential	G	S	51	46	54	49	51	46	54	50	3	3.8	2.9	3.7	55	50	NO	NO	NO	NO	NO
3	3_0368		Residential	G	S	51	46	54	50	52	46	54	50	3	3.9	2.8	3.8	55	50	NO	NO	NO	NO	NO
3	3_0369		Residential	G	S	51	46	54	50	52	46	55	50	2.9	3.9	2.8	3.7	55	50	NO	NO	NO	NO	NO
3	3_0370		Residential	G	S	51	46	55	50	52	46	55	51	3.8	4.9	3.6	4.8	55	50	NO	NO	NO	NO	YES
3	3_0371		Residential	G	S	50	45	55	50	51	45	55	51	4.5	5.8	4.2	5.6	55	50	NO	NO	NO	NO	YES
3	3_0371		Residential	1	S	54	48	57	53	54	49	58	53	3.9	5	3.6	4.8	55	50	NO	NO	NO	NO	YES
3	3_0372		Residential	G	S	52	46	55	50	52	47	55	51	3.1	4.1	3	3.9	55	50	NO	NO	NO	NO	YES
3	3_0373		Residential	G	W	54	48	55	50	54	49	55	51	1	1.8	0.9	1.7	55	50	NO	NO	NO	NO	NO
3	3_0374		Residential	G	SW	53	48	56	51	54	49	56	52	2.3	3.2	2.1	3.1	55	50	NO	NO	NO	NO	YES
3	3_0375		Residential	G	SW	54	48	56	52	54	49	57	52	2.9	3.9	2.6	3.6	55	50	NO	NO	NO	NO	YES
3	3_0376		Residential	G	SW	53	47	56	51	53	48	56	52	3.2	4.1	3.1	4	55	50	NO	NO	NO	NO	YES
3	3_0377		Residential	G	S	52	47	55	51	53	48	56	51	2.7	3.6	2.6	3.5	55	50	NO	NO	NO	NO	YES
3	3_0378		Residential	G	S	52	47	55	51	53	47	56	51	3.1	4	3	3.9	55	50	NO	NO	NO	NO	YES
3	3_0379		Residential	G	S	52	47	56	51	53	47	56	52	3.3	4.3	3.2	4.1	55	50	NO	NO	NO	NO	YES
3	3_0380		Residential	G	SE	53	47	56	51	53	48	56	52	3.1	3.9	2.9	3.8	55	50	NO	NO	NO	NO	YES
3	3_0381		Residential	G	S	52	47	56	51	53	48	56	52	3.4	4.2	3.2	4.2	55	50	NO	NO	NO	NO	YES
3	3_0382		Residential	G	S	52	46	55	51	52	47	56	51	3.5	4.5	3.4	4.3	55	50	NO	NO	NO	NO	YES
3	3_0383		Residential	G	SE	52	47	55	50	52	47	55	51	3	3.7	2.9	3.6	55	50	NO	NO	NO	NO	YES
3	3_0384		Residential	G	S	52	46	55	50	52	47	55	51	2.9	3.8	2.8	3.7	55	50	NO	NO	NO	NO	YES
3	3_0385		Residential	G	S	52	46	55	50	52	47	55	51	3.3	4.2	3.2	4.1	55	50	NO	NO	NO	NO	YES
3	3_0386		Residential	G	S	52	47	55	50	53	47	55	51	2.7	3.8	2.5	3.7	55	50	NO	NO	NO	NO	YES
3	3_0387		Residential	G	W	54	48	55	50	54	49	55	51	1.1	1.8	0.9	1.8	55	50	NO	NO	NO	NO	NO
3	3_0388		Residential	G	W	53	48	54	50	54	48	55	50	1.1	2	0.9	1.9	55	50	NO	NO	NO	NO	NO
3	3_0389		Residential	G	W	53	48	54	50	54	48	55	50	0.9	1.8	0.7	1.6	55	50	NO	NO	NO	NO	NO
3	3_0390		Residential	G	W	54	49	54	49	54	49	54	50	0	0.5	-0.2	0.5	55	50	NO	NO	NO	NO	NO
3	3_0391		Residential	G	S	51	46	54	49	52	47	54	50	2.5	3.3	2.4	3.2	55	50	NO	NO	NO	NO	NO
3	3_0392		Residential	G	S	52	46	54	49	52	47	54	50	2.4	3.1	2.2	2.9	55	50	NO	NO	NO	NO	NO
3	3_0393		Residential	G	S	52	47	55	50	53	47	55	50	2.3	3.2	2.1	3.1	55	50	NO	NO	NO	NO	NO
3	3_0394		Residential	G	S	52	47	54	50	53	47	55	50	2.3	3	2.2	2.9	55	50	NO	NO	NO	NO	NO
3	3_0395		Residential	G	S	52	47	55	50	53	48	55	51	2.6	3.3	2.5	3.2	55	50	NO	NO	NO	NO	YES
3	3_0396		Residential	G	S	53	48	55	51	53	48	56	51	2.6	3.2	2.5	3.2	55	50	NO	NO	NO	NO	YES
3	3_0397		Residential	G	W	55	50	55	50	55	50	55	51	-0.1	0.3	-0.2	0.3	55	50	NO	NO	NO	NO	NO
3	3_0397		Residential	G	S	52	47	55	50	53	48	55	51	2.4	3.2	2.3	3.1	55	50	NO	NO	NO	NO	YES
3	3_0398		Residential	G	S	52	47	54	49	53	48	54	50	1.7	2.2	1.6	2.2	55	50	NO	NO	NO	NO	NO
3	3_0399		Residential	G	S	53	47	54	50	53	48	55	50	1.7	2.4	1.7	2.3	55	50	NO	NO	NO	NO	NO
3	3_0400		Residential	G	S	52	47	54	50	53	48	55	50	1.8	2.5	1.8	2.4	55	50	NO	NO	NO	NO	NO
3	3_0401		Residential	G	S	53	47	54	49	53	48	54	50	1.3	2	1.3	1.9	55	50	NO	NO	NO	NO	NO
3	3_0402		Residential	G	S	53	47	54	49	53	48	54	49	1	1.6	0.9	1.5	55	50	NO	NO	NO	NO	NO
3	3_0403		Residential	G	W	54	50	53	49	55	50	54	49	-0.8	-0.7	-0.8	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0404		Residential	G	SE	54	50	53	49	55	50	54	49	-1.1	-1	-1.1	-1	55	50	NO	NO	NO	NO	NO
3	3_0405		Residential	G	NW	55	51	54	49	56	51	54	49	-1.9	-1.8	-1.9	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0406		Residential	G	NE	56	52	53	48	57	52	53	49	-3.7	-3.8	-3.6	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0407		Residential	G	W	52	47	55	51	53	47	56	51	2.9	4.2	2.7	4	55	50	NO	NO	NO	NO	YES
3	3_0408		Residential	G	S	50	44	56	51	51	45	56	52	5.3	7	5	6.7	55	50	NO	NO	NO	NO	YES
3	3_0408		Residential	1	S	54	48	60	56	55	49	61	56	6.1	7.7	5.7	7.4	55	50	YES	YES	NO	NO	YES
3	3_0409		Residential	G	S	51	45	56	51	52	46	56	52	4.9	6.3	4.6	6.1	55	50	NO	NO	NO	NO	YES
3	3_0410		Residential	G	S	51	45	56	52	52	46	56	52	4.7	6.1	4.4	5.9	55	50	NO	NO	NO	NO	YES
3	3_0411		Residential	G	S	51	45	56	51	52	46	56	52	4.6	6	4.3	5.8	55	50	NO	NO	NO	NO	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
3	3_0412		Residential	G	W	52	46	55	51	52	47	55	51	3.2	4.4	3	4.2	55	50	NO	NO	NO	NO	YES
3	3_0413		Residential	G	SE	52	46	56	52	52	47	57	52	4.5	5.9	4.4	5.7	55	50	NO	NO	NO	NO	YES
3	3_0414		Residential	G	SE	51	46	56	51	52	46	56	52	4.4	5.6	4.1	5.4	55	50	NO	NO	NO	NO	YES
3	3_0415		Residential	G	S	52	46	57	52	53	47	57	52	4.6	6	4.4	5.7	55	50	NO	NO	NO	NO	YES
3	3_0416		Residential	G	S	52	47	57	53	53	47	57	53	4.6	6.1	4.4	5.9	55	50	NO	NO	NO	NO	YES
3	3_0417		Residential	G	S	52	46	57	52	53	47	57	52	4.4	5.9	4.2	5.7	55	50	NO	NO	NO	NO	YES
3	3_0418		Residential	G	S	52	46	56	52	53	47	57	52	4.5	6	4.2	5.8	55	50	NO	NO	NO	NO	YES
3	3_0419		Residential	G	S	52	46	56	52	52	47	57	52	4.6	6	4.3	5.8	55	50	NO	NO	NO	NO	YES
3	3_0420		Residential	G	S	52	46	56	52	52	47	57	52	4.5	6	4.3	5.8	55	50	NO	NO	NO	NO	YES
3	3_0421		Residential	G	S	52	46	56	52	52	46	57	52	4.5	5.9	4.2	5.7	55	50	NO	NO	NO	NO	YES
3	3_0422		Residential	G	S	52	46	57	52	52	46	57	53	4.9	6.4	4.6	6.1	55	50	NO	NO	NO	NO	YES
3	3_0423		Residential	G	S	51	45	57	52	52	46	57	52	5.1	7	4.9	6.6	55	50	NO	NO	NO	NO	YES
3	3_0423		Residential	1	S	54	48	60	55	55	49	60	56	5.4	7.2	5.1	6.8	55	50	YES	YES	NO	NO	YES
3	3_0424		Residential	G	S	53	46	57	52	53	47	57	53	4.3	6	4	5.7	55	50	NO	NO	NO	NO	YES
3	3_0425		Residential	G	S	53	47	57	52	54	48	57	52	3.4	5.2	3.2	4.9	55	50	NO	NO	NO	NO	YES
3	3_0426		Residential	G	S	54	48	56	52	55	48	57	52	2.5	4.4	2.1	4.1	55	50	NO	NO	NO	NO	YES
3	3_0427		Residential	G	S	57	50	57	52	58	51	57	52	-0.2	2	-0.6	1.5	55	50	NO	NO	NO	NO	NO
3	3_0427		Residential	G	S	55	49	56	52	56	50	57	52	0.8	2.9	0.4	2.4	55	50	NO	NO	NO	NO	YES
3	3_0428		Residential	G	S	57	51	58	54	58	52	58	54	0.5	2.9	0	2.3	55	50	NO	NO	NO	NO	YES
3	3_0428		Residential	1	S	59	52	61	56	60	53	61	57	1.6	3.9	1.2	3.4	55	50	YES	YES	NO	NO	YES
3	3_0429		Residential	G	S	52	46	56	52	53	47	57	52	4	5.6	3.7	5.3	55	50	NO	NO	NO	NO	YES
3	3_0430		Residential	G	S	52	46	57	52	53	47	57	52	4.5	6.1	4.3	5.9	55	50	NO	NO	NO	NO	YES
3	3_0431		Residential	G	S	52	46	57	52	53	47	57	52	4.4	6.1	4.2	5.8	55	50	NO	NO	NO	NO	YES
3	3_0432		Residential	G	S	52	46	57	52	53	47	57	52	4.6	6.1	4.3	5.9	55	50	NO	NO	NO	NO	YES
3	3_0433		Residential	G	S	51	45	56	51	52	46	56	51	4.5	6	4.2	5.8	55	50	NO	NO	NO	NO	YES
3	3_0434		Residential	G	S	51	45	56	51	52	46	56	51	4.6	6.1	4.4	5.8	55	50	NO	NO	NO	NO	YES
3	3_0435		Residential	G	S	51	45	55	51	52	46	56	51	4.4	5.8	4.2	5.6	55	50	NO	NO	NO	NO	YES
3	3_0436		Residential	G	S	51	45	55	50	51	46	55	50	3.7	5	3.5	4.9	55	50	NO	NO	NO	NO	NO
3	3_0437		Residential	G	W	53	47	55	50	54	48	55	51	1.8	2.9	1.6	2.7	55	50	NO	NO	NO	NO	YES
3	3_0438		Residential	G	S	51	45	55	50	51	46	55	51	4	5.2	3.8	5.1	55	50	NO	NO	NO	NO	YES
3	3_0439		Residential	G	S	51	45	55	51	51	46	55	51	4.2	5.5	4	5.3	55	50	NO	NO	NO	NO	YES
3	3_0440		Residential	G	S	51	45	55	51	52	46	56	51	4.2	5.5	4.1	5.3	55	50	NO	NO	NO	NO	YES
3	3_0441		Residential	G	E	52	47	55	51	53	48	56	51	2.8	3.6	2.7	3.5	55	50	NO	NO	NO	NO	YES
3	3_0442		Residential	G	S	52	46	56	52	53	47	57	52	4.4	5.7	4.1	5.4	55	50	NO	NO	NO	NO	YES
3	3_0443		Residential	G	S	52	46	56	52	52	47	56	52	4.3	5.6	4	5.4	55	50	NO	NO	NO	NO	YES
3	3_0444		Residential	G	S	51	46	56	51	52	46	56	51	4.1	5.5	4	5.2	55	50	NO	NO	NO	NO	YES
3	3_0445		Residential	G	S	50	44	56	51	51	45	56	51	5.2	6.8	4.9	6.5	55	50	NO	NO	NO	NO	YES
3	3_0446		Residential	1	S	53	47	58	53	54	48	58	54	4.8	6.2	4.5	6	55	50	NO	NO	NO	NO	YES
3	3_0447		Residential	G	E	53	48	55	50	53	48	55	51	2.1	2.7	2	2.7	55	50	NO	NO	NO	NO	YES
3	3_0448		Residential	G	SE	52	46	55	51	52	47	56	51	3.6	5.1	3.4	4.8	55	50	NO	NO	NO	NO	YES
3	3_0449		Residential	G	S	52	46	55	51	52	47	56	51	3.4	4.9	3.2	4.6	55	50	NO	NO	NO	NO	YES
3	3_0450		Residential	G	S	52	46	55	51	53	47	56	51	3.3	4.7	3.1	4.5	55	50	NO	NO	NO	NO	YES
3	3_0451		Residential	G	S	53	47	56	52	53	47	56	52	3.5	5.1	3.3	4.8	55	50	NO	NO	NO	NO	YES
3	3_0452		Residential	G	S	54	48	56	52	54	48	57	52	2.4	4.1	2.1	3.8	55	50	NO	NO	NO	NO	YES
3	3_0452		Residential	G	S	57	50	56	52	58	51	57	52	-0.6	1.6	-1	1.1	55	50	NO	NO	NO	NO	NO
3	3_0452		Residential	G	S	56	49	56	52	57	50	57	52	0.5	2.5	0.1	2.1	55	50	NO	NO	NO	NO	YES
3	3_0453		Residential	G	S	56	50	56	51	57	51	56	51	-0.8	1.3	-1.2	0.8	55	50	NO	NO	NO	NO	NO
3	3_0454		Residential	G	S	51	45	54	50	51	45	54	50	3.2	4.7	3	4.5	55	50	NO	NO	NO	NO	NO
3	3_0455		Residential	G	S	51	45	54	50	52	46	55	50	3.3	4.8	3.1	4.5	55	50	NO	NO	NO	NO	NO
3	3_0456		Residential	G	S	51	45	54	49	52	46	54	50	2.9	4.3	2.7	4	55	50	NO	NO	NO	NO	NO
3	3_0457		Residential	G	S	51	45	54	50	51	45	55	50	3.5	4.9	3.3	4.7	55	50	NO	NO	NO	NO	NO
3	3_0458		Residential	G	S	51	45	55	51	52	46	56	51	4.3	5.6	4	5.4	55	50	NO	NO	NO	NO	YES
3	3_0459		Residential	G	S	51	45	55	51	52	46	56	51	4.3	5.8	4.1	5.6	55	50	NO	NO	NO	NO	YES
3	3_0460		Residential	G	E	52	47	55	50	53	47	55	51	2.4	3.3	2.3	3.1	55	50	NO	NO	NO	NO	YES
3	3_0461		Residential	G	S	51	45	56	51	52	46	56	52	4.4	5.8	4.2	5.7	55	50	NO	NO	NO	NO	YES
3	3_0462		Residential	G	W	53	48	54	49	54	48	54	50	0.4	1.4	0.3	1.2	55	50	NO	NO	NO	NO	NO
3	3_0463		Residential	G	S	51	45	55	50	52	46	55	51	3.7	4.9	3.4	4.7	55	50	NO	NO	NO	NO	YES
3	3_0464		Residential	G	S	51	45	54	50	51	46	55	50	3.4	4.6	3.3	4.4	55	50	NO	NO	NO	NO	NO
3	3_0465		Residential	G	E	53	48	55	50	54	49	55	51	1.6	2	1.5	2	55	50	NO	NO	NO	NO	NO
3	3_0465		Residential	G	S	51	46	55	50	52	46	55	51	3.5	4.6	3.4	4.5	55	50	NO	NO	NO	NO	YES
3	3_0466		Residential	G	S	51	45	54	50	51	46	55	50	3.4	4.5	3.3	4.3	55	50	NO	NO	NO	NO	NO
3	3_0467		Residential	G	S	51	45	54	50	51	46	55	50	3.6	4.6	3.3	4.4	55	50	NO	NO	NO	NO	NO
3	3_0468		Residential	G	S	51	46	55	50	52	46	55	50	3.3	4.3	3.1	4.1	55	50	NO	NO	NO	NO	NO
3	3_0469		Residential	G	SE	52	46	54	50	52	47	55	50	2.8	3.6	2.7	3.6	55	50	NO	NO	NO	NO	NO
3	3_0470		Residential	G	SE	51	46	54	50	52	47	54	50	2.7	3.6	2.6	3.4	55	50	NO	NO	NO	NO	NO
3	3_0471		Residential	G	E	53	48	54	49	53	48	54	50	1.2	1.7	1.2	1.7	55	50	NO	NO	NO	NO	NO
3	3_0472		Residential	G	S	51	45	54	50	52	46	54	50	3	4.1	2.9	3.9	55	50	NO	NO	NO	NO	NO
3	3_0473		Residential	G	S	51	45	53	49	51	46	54	49	2.5	3.7	2.4	3.5	55	50	NO	NO	NO	NO	NO
3	3_0474		Residential	G	S	51	46	54	49	52	46	54	50	2.5	3.7	2.3	3.5	55	50	NO	NO	NO	NO	NO
3	3_0475		Residential	G	S	52	46	54	49	53	47	54	50	2.1	3.4	1.9	3.2	55	50	NO	NO	NO	NO	NO
3	3_0476		Residential	G	S	52	46	54	49	53	47	54	50	2	3.3	1.6	3	55	50	NO	NO	NO	NO	NO
3	3_0477		Residential	G	S	54	48	55	50	55	48	55	50	0.6	2.4	0.3	2	55	50	NO	NO	NO	NO	NO
3	3_0478		Residential	G	S	56	49	55	50	57	50	55	51	-0.8	1.1	-1.2	0.7	55	50	NO	NO	NO	NO	NO
3	3_0479		Residential	G	W	60	53	55	50	60	54	55	50	-4.9	-3.2	-5.3	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0480		Residential	G	S	51	45	53	49	51	46	54	49	2.4	3.7	2.2	3.5	55	50	NO	NO	NO	NO	NO
3	3_0481		Residential	G	S	51	45	54	49	52	46	54	49	2.6	3.9	2.4	3.6	55	50	NO	NO	NO	NO	NO
3	3_0482		Residential	G	S	51	45	54	49	51	46	54	49	2.7	3.9	2.4	3.7	55	50	NO	NO	NO	NO	NO
3	3_0483		Residential	G	S	50	45	54	49	51	45	54	50	3.3	4.5	3.1	4.4	55	50	NO	NO	NO	NO	NO
3	3_0484		Residential	G	S	51	45	54	50	51	46	55	50	3.3	4.5	3.1	4.4	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0485		Residential	G	S	51	45	54	50	52	46	55	50	3.4	4.5	3.1	4.3	55	50	NO	NO	NO	NO	NO
3	3_0486		Residential	G	E	53	48	53	48	53	48	53	49	-0.1	0.3	0	0.3	55	50	NO	NO	NO	NO	NO
3	3_0487		Residential	G	NE	54	49	53	49	54	49	54	49	-0.7	-0.4	-0.6	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0488		Residential	G	E	54	50	54	49	55	50	54	49	-0.8	-0.5	-0.8	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0489		Residential	G	S	51	46	54	49	52	46	54	50	2.2	3.3	2	3.2	55	50	NO	NO	NO	NO	NO
3	3_0490		Residential	G	S	52	46	54	49	53	47	54	49	1.7	3.1	1.5	2.8	55	50	NO	NO	NO	NO	NO
3	3_0491		Residential	G	W	55	49	53	48	56	50	54	49	-1.9	-1	-2.2	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0492		Residential	G	W	60	53	55	50	61	54	56	51	-4.4	-3.1	-4.6	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0493		Residential	G	SW	53	48	54	49	54	48	54	50	0.6	1.6	0.4	1.5	55	50	NO	NO	NO	NO	NO
3	3_0494		Residential	G	SW	53	48	54	49	54	48	54	50	0.6	1.5	0.3	1.3	55	50	NO	NO	NO	NO	NO
3	3_0495		Residential	G	SW	54	49	54	50	55	49	55	50	0.1	1	0	0.9	55	50	NO	NO	NO	NO	NO
3	3_0496		Residential	G	E	54	49	54	50	54	49	55	50	0.6	1	0.6	1	55	50	NO	NO	NO	NO	NO
3	3_0497		Residential	G	SW	54	48	54	49	54	49	54	50	0.2	1	0	0.9	55	50	NO	NO	NO	NO	NO
3	3_0498		Residential	G	W	53	46	56	51	54	47	56	51	2.7	4.6	2.4	4.2	55	50	NO	NO	NO	NO	YES
3	3_0499		Residential	G	W	52	46	56	51	53	47	56	51	3.3	5.1	2.9	4.8	55	50	NO	NO	NO	NO	YES
3	3_0500		Residential	G	S	52	45	56	52	52	46	57	52	4.6	6.4	4.2	6	55	50	NO	NO	NO	NO	YES
3	3_0501		Residential	G	W	53	47	57	53	54	48	58	53	4	5.9	3.6	5.6	55	50	NO	NO	NO	NO	YES
3	3_0502		Residential	G	S	54	47	57	53	54	48	58	53	3.5	5.5	3.1	5.1	55	50	NO	NO	NO	NO	YES
3	3_0502		Residential	1	S	57	51	61	57	58	51	61	57	3.8	5.9	3.5	5.4	55	50	YES	YES	NO	NO	YES
3	3_0503		Residential	G	S	56	49	60	55	57	50	60	56	4	5.9	3.6	5.5	55	50	YES	YES	NO	NO	YES
3	3_0504		Residential	G	E	60	53	57	52	60	54	57	53	-2.8	-0.7	-3.2	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0504		Residential	G	W	53	46	55	51	53	47	56	51	2.6	4.1	2.3	3.9	55	50	NO	NO	NO	NO	YES
3	3_0505		Residential	G	E	60	54	56	52	61	54	57	52	-3.8	-1.6	-4.2	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0505		Residential	G	W	53	47	55	51	53	47	56	51	2.5	4	2.3	3.8	55	50	NO	NO	NO	NO	YES
3	3_0506		Residential	G	E	60	53	56	51	60	54	56	51	-4	-1.9	-4.4	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0507		Residential	G	W	53	47	55	50	53	47	55	51	2.2	3.6	1.9	3.4	55	50	NO	NO	NO	NO	YES
3	3_0508		Residential	G	S	57	51	56	51	58	52	56	52	-1.5	0.6	-1.9	0.2	55	50	NO	NO	NO	NO	NO
3	3_0509		Residential	G	E	60	54	55	50	61	54	55	51	-5.1	-3.1	-5.5	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0510		Residential	G	E	59	53	55	50	60	54	55	51	-4.7	-2.7	-5	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0511		Residential	G	E	60	53	55	50	60	54	55	50	-5	-3	-5.3	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0512		Residential	G	E	60	53	55	50	60	54	55	51	-4.9	-2.9	-5.2	-3.3	55	50	NO	NO	NO	NO	NO
3	3_0513		Residential	G	E	58	52	54	50	59	53	54	50	-4.3	-2.3	-4.7	-2.8	55	50	NO	NO	NO	NO	NO
3	3_0514		Residential	G	E	60	54	55	50	61	54	55	51	-5.3	-3.4	-5.7	-3.8	55	50	NO	NO	NO	NO	NO
3	3_0515		Residential	G	E	59	52	54	49	59	53	54	50	-4.7	-2.9	-5	-3.3	55	50	NO	NO	NO	NO	NO
3	3_0516		Residential	G	E	59	53	54	50	60	53	55	50	-4.6	-3	-5	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0516		Residential	1	S	57	50	57	52	58	51	57	53	-0.3	1.7	-0.8	1.3	55	50	NO	NO	NO	NO	NO
3	3_0517		Residential	G	E	59	53	55	50	60	54	55	51	-4.6	-2.9	-5	-3.3	55	50	NO	NO	NO	NO	NO
3	3_0518		Residential	G	W	52	46	53	48	53	47	53	48	0.1	1.4	-0.3	1.1	55	50	NO	NO	NO	NO	NO
3	3_0518		Residential	1	S	55	49	55	51	56	50	55	51	-0.2	1.7	-0.5	1.3	55	50	NO	NO	NO	NO	NO
3	3_0519		Residential	G	E	60	53	55	50	60	54	55	50	-4.6	-3.4	-4.9	-3.8	55	50	NO	NO	NO	NO	NO
3	3_0520		Residential	G	E	59	53	55	49	59	53	55	50	-4	-3.1	-4.3	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0520		Residential	1	E	61	54	57	52	61	55	58	52	-3.5	-2.4	-3.7	-2.7	55	50	NO	NO	NO	NO	NO
3	3_0521		Residential	G	E	59	53	57	51	60	54	57	52	-2.8	-2.2	-3.2	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0522		Residential	G	E	60	54	58	53	61	55	59	53	-2.1	-1.6	-2.5	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0523		Residential	G	E	54	48	53	49	54	49	54	49	-0.5	0.2	-0.6	0.1	55	50	NO	NO	NO	NO	NO
3	3_0524		Residential	G	E	53	47	52	48	53	48	53	48	-0.4	0.4	-0.5	0.3	55	50	NO	NO	NO	NO	NO
3	3_0525		Residential	G	E	54	49	54	49	54	49	54	50	-0.1	0.6	-0.3	0.5	55	50	NO	NO	NO	NO	NO
3	3_0526		Residential	G	E	53	47	53	49	53	48	53	49	0.3	1.2	0.1	1	55	50	NO	NO	NO	NO	NO
3	3_0527		Residential	G	E	53	48	54	49	54	48	54	50	0.4	1.4	0.2	1.3	55	50	NO	NO	NO	NO	NO
3	3_0528		Residential	G	E	53	47	54	49	53	48	54	50	0.9	1.7	0.8	1.6	55	50	NO	NO	NO	NO	NO
3	3_0528		Residential	1	S	53	47	56	52	53	47	57	52	3.6	5.2	3.3	4.9	55	50	NO	NO	NO	NO	YES
3	3_0529		Residential	G	E	53	47	54	50	54	48	55	50	1.4	2.4	1.2	2.2	55	50	NO	NO	NO	NO	NO
3	3_0530		Residential	G	W	52	46	53	48	53	47	53	48	0.8	1.9	0.5	1.7	55	50	NO	NO	NO	NO	NO
3	3_0531		Residential	G	E	53	47	54	50	53	48	55	50	1.6	2.6	1.4	2.5	55	50	NO	NO	NO	NO	NO
3	3_0532		Residential	G	E	54	48	55	51	54	49	56	51	1.5	2.7	1.4	2.6	55	50	NO	NO	NO	NO	YES
3	3_0533		Residential	G	E	54	48	56	51	55	49	56	52	1.8	3	1.6	2.8	55	50	NO	NO	NO	NO	YES
3	3_0534		Residential	G	E	54	48	56	51	55	49	56	52	2	3.1	1.8	2.9	55	50	NO	NO	NO	NO	YES
3	3_0535		Residential	G	E	53	48	56	51	54	48	56	52	2.3	3.6	2.1	3.4	55	50	NO	NO	NO	NO	YES
3	3_0536		Residential	G	S	52	46	56	52	53	47	57	52	4.3	6.1	4	5.8	55	50	NO	NO	NO	NO	YES
3	3_0537		Residential	G	S	52	46	57	53	53	47	57	53	4.6	6.3	4.3	6	55	50	NO	NO	NO	NO	YES
3	3_0538		Residential	G	S	52	46	57	52	53	47	57	53	4.7	6.5	4.5	6.2	55	50	NO	NO	NO	NO	YES
3	3_0539		Residential	G	S	52	46	57	52	53	47	57	53	4.8	6.4	4.6	6.1	55	50	NO	NO	NO	NO	YES
3	3_0540		Residential	G	E	53	48	56	51	54	48	56	52	2.6	3.6	2.3	3.5	55	50	NO	NO	NO	NO	YES
3	3_0541		Residential	G	E	53	48	56	52	54	48	57	52	2.9	4	2.6	3.8	55	50	NO	NO	NO	NO	YES
3	3_0542		Residential	G	S	51	45	56	51	52	46	56	52	4.3	5.9	4	5.5	55	50	NO	NO	NO	NO	YES
3	3_0543		Residential	G	E	53	48	56	51	54	48	56	52	2.2	3.2	2	3.1	55	50	NO	NO	NO	NO	YES
3	3_0544		Residential	G	E	53	48	55	50	53	48	55	50	1.7	2.5	1.6	2.4	55	50	NO	NO	NO	NO	NO
3	3_0544		Residential	1	S	53	47	57	53	53	47	58	53	4.6	6.2	4.2	5.9	55	50	NO	NO	NO	NO	YES
3	3_0545		Residential	G	E	54	48	55	50	54	49	55	50	0.8	1.8	0.7	1.6	55	50	NO	NO	NO	NO	NO
3	3_0546		Residential	G	E	52	47	54	50	53	47	54	50	1.7	2.7	1.5	2.5	55	50	NO	NO	NO	NO	NO
3	3_0547		Residential	G	E	53	48	54	50	54	48	55	50	0.8	1.6	0.6	1.5	55	50	NO	NO	NO	NO	NO
3	3_0548		Residential	G	E	53	48	53	48	54	49	53	48	-0.7	-0.1	-0.8	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0549		Residential	G	E	53	48	53	48	54	48	53	49	-0.3	0.3	-0.4	0.2	55	50	NO	NO	NO	NO	NO
3	3_0550		Residential	G	E	53	48	53	48	54	48	53	49	0	0.6	-0.1	0.6	55	50	NO	NO	NO	NO	NO
3	3_0551		Residential	G	E	53	48	53	48	54	48	53	49	-0.3	0.4	-0.4	0.3	55	50	NO	NO	NO	NO	NO
3	3_0552		Residential	G	E	53	47	52	48	53	48	53	48	-0.5	0.1	-0.6	0	55	50	NO	NO	NO	NO	NO
3	3_0553		Residential	G	E	53	48	53	48	53	48	53	49	-0.1	0.6	-0.2	0.6	55	50	NO	NO	NO	NO	NO
3	3_0554		Residential	G	W	51	45	51	47	52	46	52	47	0.1	1.3	-0.1	1	55	50	NO	NO	NO	NO	NO
3	3_0555		Residential	G	E	53	48	53	48	53	48	53	49	-0.1	0.6	-0.1	0.6	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0556		Residential	G	E	54	48	54	49	54	49	54	49	0	0.7	-0.1	0.6	55	50	NO	NO	NO	NO	NO
3	3_0557		Residential	G	E	54	48	54	49	54	49	54	50	0.3	1	0.2	0.9	55	50	NO	NO	NO	NO	NO
3	3_0558		Residential	G	E	52	47	53	48	53	48	53	48	0.1	0.9	0	0.8	55	50	NO	NO	NO	NO	NO
3	3_0559		Residential	G	E	53	48	54	49	54	49	54	50	0.4	1.2	0.3	1.1	55	50	NO	NO	NO	NO	NO
3	3_0560		Residential	G	E	54	48	54	49	54	49	54	50	0.5	1.1	0.3	1	55	50	NO	NO	NO	NO	NO
3	3_0561		Residential	G	E	52	47	54	49	53	47	54	49	1.4	2.2	1.3	2	55	50	NO	NO	NO	NO	NO
3	3_0562		Residential	G	E	53	48	55	50	54	49	55	50	1.2	2	1	1.9	55	50	NO	NO	NO	NO	NO
3	3_0563		Residential	G	E	54	48	55	51	54	49	56	51	1.8	2.8	1.7	2.6	55	50	NO	NO	NO	NO	YES
3	3_0564		Residential	G	E	53	48	55	51	54	48	56	51	1.9	3	1.8	2.8	55	50	NO	NO	NO	NO	YES
3	3_0565		Residential	G	E	53	48	56	51	54	48	56	52	2.4	3.4	2.2	3.3	55	50	NO	NO	NO	NO	YES
3	3_0566		Residential	G	E	53	48	56	52	54	48	57	52	2.9	4	2.7	3.8	55	50	NO	NO	NO	NO	YES
3	3_0567		Residential	G	E	53	48	57	52	54	48	57	52	3.2	4.4	3	4.2	55	50	NO	NO	NO	NO	YES
3	3_0568		Residential	G	E	54	48	57	53	55	49	58	53	3.3	4.6	3	4.3	55	50	NO	NO	NO	NO	YES
3	3_0569		Residential	G	E	53	47	56	51	53	48	56	52	3.2	4.4	3	4.2	55	50	NO	NO	NO	NO	YES
3	3_0570		Residential	G	E	52	47	55	50	53	47	55	50	2.5	3.5	2.3	3.3	55	50	NO	NO	NO	NO	NO
3	3_0571		Residential	G	E	53	48	55	51	54	48	56	51	2.1	3.1	1.9	2.9	55	50	NO	NO	NO	NO	YES
3	3_0572		Residential	G	E	52	47	54	49	53	47	54	49	1.5	2.4	1.3	2.3	55	50	NO	NO	NO	NO	NO
3	3_0573		Residential	G	E	53	48	55	50	54	48	55	51	1.5	2.5	1.4	2.4	55	50	NO	NO	NO	NO	YES
3	3_0574		Residential	G	E	53	47	54	49	53	48	54	50	1.2	1.9	1.1	1.8	55	50	NO	NO	NO	NO	NO
3	3_0575		Residential	G	E	53	48	55	50	54	48	55	50	1.5	2.3	1.4	2.2	55	50	NO	NO	NO	NO	NO
3	3_0576		Residential	G	E	53	48	55	50	54	48	55	50	1.4	2.2	1.3	2.1	55	50	NO	NO	NO	NO	NO
3	3_0576		Residential	1	S	52	46	57	52	53	47	57	53	4.6	6.3	4.3	5.9	55	50	NO	NO	NO	NO	YES
3	3_0577		Residential	G	E	53	48	54	50	54	49	55	50	1	1.8	0.9	1.7	55	50	NO	NO	NO	NO	NO
3	3_0577		Residential	1	E	55	50	57	52	56	50	57	52	1.4	2.5	1.3	2.3	55	50	NO	NO	NO	NO	YES
3	3_0578		Residential	G	E	54	48	54	50	54	49	55	50	0.7	1.5	0.6	1.4	55	50	NO	NO	NO	NO	NO
3	3_0579		Residential	G	E	52	47	53	48	53	47	53	49	1	1.7	0.9	1.6	55	50	NO	NO	NO	NO	NO
3	3_0580		Residential	G	S	50	45	54	49	51	45	54	50	3.5	4.7	3.2	4.6	55	50	NO	NO	NO	NO	NO
3	3_0581		Residential	G	E	54	48	54	49	54	49	54	49	-0.1	0.5	-0.3	0.5	55	50	NO	NO	NO	NO	NO
3	3_0582		Residential	G	E	54	48	54	49	54	49	54	50	0.1	0.7	-0.1	0.7	55	50	NO	NO	NO	NO	NO
3	3_0583		Residential	G	E	53	48	53	49	53	48	54	49	0.3	0.9	0.2	0.9	55	50	NO	NO	NO	NO	NO
3	3_0584		Residential	G	E	54	48	54	49	55	49	54	50	-0.1	0.7	-0.3	0.6	55	50	NO	NO	NO	NO	NO
3	3_0585		Residential	G	E	54	49	53	48	54	49	53	49	-0.9	-0.4	-1.1	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0585		Residential	1	E	56	50	55	51	56	51	56	51	-0.3	0.5	-0.4	0.4	55	50	NO	NO	NO	NO	NO
3	3_0586		Residential	G	E	53	48	53	48	54	49	53	48	-0.9	-0.3	-1.1	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0586		Residential	1	E	55	50	55	51	56	50	56	51	-0.1	0.7	-0.3	0.6	55	50	NO	NO	NO	NO	NO
3	3_0587		Residential	G	E	53	48	53	48	54	49	53	48	-0.6	0	-0.8	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0587		Residential	1	S	52	45	55	51	52	46	56	51	3.6	5.2	3.4	4.8	55	50	NO	NO	NO	NO	YES
3	3_0588		Residential	G	E	53	48	53	48	54	48	53	49	-0.4	0.3	-0.4	0.3	55	50	NO	NO	NO	NO	NO
3	3_0589		Residential	G	E	53	47	52	48	53	48	53	48	-0.4	0.2	-0.6	0.1	55	50	NO	NO	NO	NO	NO
3	3_0590		Residential	G	E	53	48	53	49	54	48	54	49	0	0.8	-0.1	0.7	55	50	NO	NO	NO	NO	NO
3	3_0591		Residential	G	E	53	47	53	49	53	48	54	49	0.7	1.5	0.5	1.4	55	50	NO	NO	NO	NO	NO
3	3_0592		Residential	G	E	53	47	54	49	53	48	54	49	0.8	1.7	0.7	1.6	55	50	NO	NO	NO	NO	NO
3	3_0593		Residential	G	E	53	47	54	49	53	48	54	49	1	2	0.8	1.8	55	50	NO	NO	NO	NO	NO
3	3_0594		Residential	G	E	52	47	54	49	53	47	54	50	1.4	2.4	1.2	2.2	55	50	NO	NO	NO	NO	NO
3	3_0594		Residential	1	S	52	46	57	52	53	47	57	53	4.7	6.4	4.4	6.1	55	50	NO	NO	NO	NO	YES
3	3_0595		Residential	G	E	53	47	54	50	53	47	55	50	1.8	2.9	1.6	2.7	55	50	NO	NO	NO	NO	NO
3	3_0596		Residential	G	E	53	47	54	50	53	47	55	50	1.8	2.9	1.6	2.7	55	50	NO	NO	NO	NO	NO
3	3_0597		Residential	G	E	52	47	54	50	53	47	55	50	1.8	3	1.6	2.8	55	50	NO	NO	NO	NO	NO
3	3_0598		Residential	G	E	52	47	54	50	53	47	55	50	2.1	3.2	1.9	3	55	50	NO	NO	NO	NO	NO
3	3_0599		Residential	G	E	53	47	55	51	53	47	56	51	2.5	3.7	2.3	3.5	55	50	NO	NO	NO	NO	YES
3	3_0600		Residential	G	S	51	45	56	51	52	46	56	52	4.5	6.2	4.2	5.9	55	50	NO	NO	NO	NO	YES
3	3_0601		Residential	G	S	52	46	57	53	53	47	58	53	5	6.8	4.7	6.4	55	50	NO	NO	NO	NO	YES
3	3_0602		Residential	G	S	52	46	57	53	53	47	57	53	5.1	6.7	4.7	6.4	55	50	NO	NO	NO	NO	YES
3	3_0603		Residential	G	S	51	45	57	52	52	46	57	53	5.2	7	5	6.7	55	50	NO	NO	NO	NO	YES
3	3_0604		Residential	G	S	52	45	57	52	52	46	57	53	5.1	6.7	4.8	6.5	55	50	NO	NO	NO	NO	YES
3	3_0605		Residential	G	S	52	46	58	53	53	47	58	53	5.4	7.1	5.2	6.8	55	50	NO	NO	NO	NO	YES
3	3_0606		Residential	G	S	52	46	57	53	53	46	57	53	5.1	6.7	4.8	6.5	55	50	NO	NO	NO	NO	YES
3	3_0607		Residential	G	S	52	45	56	52	52	46	57	52	4.8	6.5	4.5	6.1	55	50	NO	NO	NO	NO	YES
3	3_0608		Residential	G	S	51	45	56	52	52	46	56	52	4.7	6.4	4.3	6	55	50	NO	NO	NO	NO	YES
3	3_0609		Residential	G	S	51	45	56	51	52	46	56	52	4.5	6.2	4.3	5.9	55	50	NO	NO	NO	NO	YES
3	3_0610		Residential	G	S	51	45	55	51	52	45	56	51	4.5	6.1	4.2	5.8	55	50	NO	NO	NO	NO	YES
3	3_0611		Residential	G	S	50	43	55	50	50	44	55	51	5.1	7	4.9	6.7	55	50	NO	NO	NO	NO	YES
3	3_0611		Residential	1	S	53	47	58	54	54	48	59	54	4.9	6.7	4.6	6.4	55	50	NO	NO	NO	NO	YES
3	3_0612		Residential	G	S	49	42	54	49	49	43	54	50	5.2	7.2	4.9	6.9	55	50	NO	NO	NO	NO	NO
3	3_0612		Residential	1	S	52	46	57	53	53	47	58	53	4.7	6.6	4.5	6.2	55	50	NO	NO	NO	NO	YES
3	3_0613		Residential	G	S	49	43	54	50	50	43	55	50	5.3	7.3	4.9	6.8	55	50	NO	NO	NO	NO	NO
3	3_0613		Residential	1	S	53	46	57	53	53	47	58	53	4.7	6.5	4.4	6.2	55	50	NO	NO	NO	NO	YES
3	3_0614		Residential	G	S	49	42	54	50	50	43	55	50	5.2	7.2	5	6.9	55	50	NO	NO	NO	NO	NO
3	3_0614		Residential	1	S	53	46	57	53	53	47	57	53	4.6	6.4	4.2	6.1	55	50	NO	NO	NO	NO	YES
3	3_0615		Residential	G	S	49	43	54	49	50	44	54	50	4.4	6.1	4.1	5.8	55	50	NO	NO	NO	NO	NO
3	3_0616		Residential	G	SE	50	44	54	49	51	45	54	50	3.9	5.4	3.7	5.2	55	50	NO	NO	NO	NO	NO
3	3_0617		Residential	G	S	49	42	54	49	49	43	54	50	5	6.8	4.6	6.5	55	50	NO	NO	NO	NO	NO
3	3_0617		Residential	1	S	52	46	56	52	53	46	57	52	4.5	6.3	4.2	5.9	55	50	NO	NO	NO	NO	YES
3	3_0618		Residential	G	E	51	46	53	49	52	46	54	49	1.9	3.1	1.7	2.8	55	50	NO	NO	NO	NO	NO
3	3_0619		Residential	G	E	51	46	53	49	52	46	54	49	1.9	3	1.7	2.9	55	50	NO	NO	NO	NO	NO
3	3_0620		Residential	G	E	50	45	52	47	51	45	53	48	1.6	2.6	1.5	2.5	55	50	NO	NO	NO	NO	NO
3	3_0621		Residential	G	W	52	46	53	48	53	47	53	48	0.7	2	0.3	1.7	55	50	NO	NO	NO	NO	NO
3	3_0622		Residential	G	S	49	43	53	48	50	44	53	48	3.5	4.9	3.3	4.6	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
3	3_0623		Residential	G	SW	51	45	53	48	52	46	54	49	1.8	3.3	1.5	3	55	50	NO	NO	NO	NO	NO
3	3_0624		Residential	G	S	50	44	53	49	51	45	54	49	3.1	4.7	2.8	4.4	55	50	NO	NO	NO	NO	NO
3	3_0625		Residential	G	S	50	44	53	48	50	44	53	49	3.3	4.7	3	4.5	55	50	NO	NO	NO	NO	NO
3	3_0626		Residential	G	S	50	44	53	48	50	44	53	49	3.2	4.7	3	4.5	55	50	NO	NO	NO	NO	NO
3	3_0627		Residential	G	S	50	44	53	48	50	44	53	49	3.3	4.7	3	4.4	55	50	NO	NO	NO	NO	NO
3	3_0628		Residential	G	S	50	44	53	48	50	44	53	49	3.2	4.6	2.9	4.4	55	50	NO	NO	NO	NO	NO
3	3_0629		Residential	G	S	50	44	53	48	50	44	53	49	3.2	4.6	2.9	4.4	55	50	NO	NO	NO	NO	NO
3	3_0630		Residential	G	SE	50	44	53	48	51	45	53	48	2.4	3.7	2.2	3.5	55	50	NO	NO	NO	NO	NO
3	3_0631		Residential	G	SE	50	45	52	48	51	45	53	48	1.8	3	1.6	2.8	55	50	NO	NO	NO	NO	NO
3	3_0632		Residential	G	W	52	45	52	47	52	46	53	48	0.7	2.2	0.5	1.8	55	50	NO	NO	NO	NO	NO
3	3_0633		Residential	G	W	51	45	53	48	52	46	53	48	1.1	2.6	0.8	2.3	55	50	NO	NO	NO	NO	NO
3	3_0634		Residential	G	W	51	45	53	48	52	46	53	48	1.3	2.7	1	2.4	55	50	NO	NO	NO	NO	NO
3	3_0635		Residential	G	W	51	45	53	48	52	45	53	48	1.7	3.3	1.4	3	55	50	NO	NO	NO	NO	NO
3	3_0636		Residential	G	W	52	45	53	48	52	46	53	49	1.3	2.8	1	2.5	55	50	NO	NO	NO	NO	NO
3	3_0637		Residential	G	W	53	46	54	49	54	47	54	49	1	2.4	0.6	2.1	55	50	NO	NO	NO	NO	NO
3	3_0638		Residential	G	S	49	43	54	49	50	44	54	49	4.4	6.2	4.1	5.9	55	50	NO	NO	NO	NO	NO
3	3_0638		Residential	1	S	52	45	55	51	53	46	56	51	3.6	5.3	3.3	5	55	50	NO	NO	NO	NO	YES
3	3_0639		Residential	G	S	50	43	53	49	50	44	54	49	3.8	5.4	3.5	5.1	55	50	NO	NO	NO	NO	NO
3	3_0640		Residential	G	W	52	46	53	48	53	46	53	48	0.8	2.3	0.5	2	55	50	NO	NO	NO	NO	NO
3	3_0641		Residential	G	W	52	45	53	48	53	46	53	48	0.7	2.3	0.3	1.9	55	50	NO	NO	NO	NO	NO
3	3_0641		Residential	1	S	52	45	56	51	52	46	56	52	4.1	5.8	3.8	5.5	55	50	NO	NO	NO	NO	YES
3	3_0642		Residential	G	W	52	46	53	48	53	46	53	48	0.9	2.3	0.6	2	55	50	NO	NO	NO	NO	NO
3	3_0643		Residential	G	W	52	46	53	48	53	46	53	48	0.6	1.9	0.2	1.6	55	50	NO	NO	NO	NO	NO
3	3_0644		Residential	G	W	51	45	52	47	52	45	52	47	1	2.4	0.7	2.1	55	50	NO	NO	NO	NO	NO
3	3_0645		Residential	G	W	52	45	52	48	52	46	53	48	0.9	2.3	0.7	2	55	50	NO	NO	NO	NO	NO
3	3_0646		Residential	G	W	52	45	53	48	52	46	53	48	1	2.5	0.7	2.2	55	50	NO	NO	NO	NO	NO
3	3_0647		Residential	G	W	53	46	53	48	53	47	54	49	0.6	2	0.2	1.6	55	50	NO	NO	NO	NO	NO
3	3_0648		Residential	G	W	52	46	53	48	53	47	54	49	0.9	2.4	0.7	2.1	55	50	NO	NO	NO	NO	NO
3	3_0649		Residential	G	S	50	44	53	49	50	44	54	49	3.7	5.3	3.4	5	55	50	NO	NO	NO	NO	NO
3	3_0650		Residential	G	S	50	44	54	49	51	45	54	50	3.7	5.3	3.4	5	55	50	NO	NO	NO	NO	NO
3	3_0651		Residential	G	S	50	44	54	49	51	44	54	49	3.7	5.4	3.4	5	55	50	NO	NO	NO	NO	NO
3	3_0652		Residential	G	S	50	43	53	49	50	44	54	49	3.6	5.4	3.4	5.1	55	50	NO	NO	NO	NO	NO
3	3_0653		Residential	G	W	51	45	53	48	52	46	54	49	1.8	3.3	1.5	3	55	50	NO	NO	NO	NO	NO
3	3_0654		Residential	G	W	52	45	53	48	52	46	54	49	1.4	2.9	1.1	2.6	55	50	NO	NO	NO	NO	NO
3	3_0655		Residential	G	W	52	45	53	48	52	46	54	49	1.5	3.1	1.1	2.8	55	50	NO	NO	NO	NO	NO
3	3_0656		Residential	G	W	51	45	53	48	52	46	54	49	1.6	3.2	1.3	2.9	55	50	NO	NO	NO	NO	NO
3	3_0657		Residential	G	W	52	46	53	49	53	46	54	49	1.3	3	1.1	2.6	55	50	NO	NO	NO	NO	NO
3	3_0658		Residential	G	SW	51	45	53	48	52	46	54	49	1.6	3.3	1.4	2.9	55	50	NO	NO	NO	NO	NO
3	3_0659		Residential	G	W	51	45	53	48	52	46	53	48	1.5	3.2	1.2	2.7	55	50	NO	NO	NO	NO	NO
3	3_0660		Residential	G	SW	51	45	53	48	52	46	53	48	1.5	3.1	1.2	2.7	55	50	NO	NO	NO	NO	NO
3	3_0661		Residential	G	SW	52	45	53	48	52	46	54	49	1.5	3.1	1.1	2.7	55	50	NO	NO	NO	NO	NO
3	3_0662		Residential	G	SW	51	45	53	48	52	45	53	48	1.5	3.1	1.2	2.8	55	50	NO	NO	NO	NO	NO
3	3_0663		Residential	G	SW	51	45	53	48	52	46	53	48	1.3	2.9	1	2.6	55	50	NO	NO	NO	NO	NO
3	3_0664		Residential	G	SW	51	45	52	47	52	46	53	48	1.1	2.6	0.8	2.2	55	50	NO	NO	NO	NO	NO
3	3_0665		Residential	G	SW	52	46	52	47	53	46	53	48	0.3	1.7	0.1	1.5	55	50	NO	NO	NO	NO	NO
3	3_0666		Residential	G	NE	53	47	52	47	54	47	53	48	-0.7	0.3	-0.9	0.1	55	50	NO	NO	NO	NO	NO
3	3_0667		Residential	G	W	50	44	52	47	51	44	52	47	1.7	3.4	1.3	3	55	50	NO	NO	NO	NO	NO
3	3_0667		Residential	1	W	54	47	54	49	55	48	55	50	0.3	1.8	0	1.4	55	50	NO	NO	NO	NO	NO
3	3_0668		Residential	G	SW	51	45	52	47	52	45	53	48	1.2	2.8	0.9	2.4	55	50	NO	NO	NO	NO	NO
3	3_0669		Residential	G	SE	48	42	52	47	49	43	52	48	3.6	4.9	3.4	4.7	55	50	NO	NO	NO	NO	NO
3	3_0669		Residential	1	SE	52	46	54	49	52	46	54	50	2.5	3.8	2.2	3.6	55	50	NO	NO	NO	NO	NO
3	3_0670		Residential	G	SE	50	44	52	48	50	44	53	48	2.7	4	2.5	3.8	55	50	NO	NO	NO	NO	NO
3	3_0671		Residential	G	SE	50	44	52	48	51	45	53	48	2.1	3.3	1.9	3.1	55	50	NO	NO	NO	NO	NO
3	3_0672		Residential	G	SW	50	44	53	48	51	45	53	48	2.3	4	2	3.6	55	50	NO	NO	NO	NO	NO
3	3_0673		Residential	G	SW	51	44	53	48	52	45	53	48	1.9	3.4	1.5	3.1	55	50	NO	NO	NO	NO	NO
3	3_0674		Residential	G	SW	50	44	53	48	51	44	53	48	2.6	4.3	2.3	4	55	50	NO	NO	NO	NO	NO
3	3_0675		Residential	G	S	50	44	53	49	51	44	54	49	3.4	5	3.2	4.7	55	50	NO	NO	NO	NO	NO
3	3_0676		Residential	G	S	50	44	54	49	51	45	54	49	3.5	5	3.2	4.8	55	50	NO	NO	NO	NO	NO
3	3_0677		Residential	G	SW	52	45	54	49	53	46	54	49	1.8	3.6	1.6	3.2	55	50	NO	NO	NO	NO	NO
3	3_0678		Residential	G	SW	51	45	53	49	52	46	54	49	2.2	3.8	1.8	3.4	55	50	NO	NO	NO	NO	NO
3	3_0679		Residential	G	S	49	43	53	48	50	44	53	49	3.7	5.3	3.4	5	55	50	NO	NO	NO	NO	NO
3	3_0680		Residential	G	S	50	44	53	49	51	44	54	49	3.4	5	3.1	4.7	55	50	NO	NO	NO	NO	NO
3	3_0681		Residential	G	SW	50	44	53	48	51	45	53	48	2.4	4.1	2.2	3.8	55	50	NO	NO	NO	NO	NO
3	3_0682		Residential	G	SE	50	44	52	48	50	44	53	48	2.6	4	2.3	3.7	55	50	NO	NO	NO	NO	NO
3	3_0683		Residential	G	NW	54	48	53	47	55	49	53	48	-1.5	-0.6	-1.7	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0684		Residential	G	NW	54	48	53	47	55	48	53	48	-1.5	-0.6	-1.7	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0685		Residential	G	NW	54	48	52	47	55	48	53	47	-1.6	-0.7	-1.9	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0686		Residential	G	S	50	44	53	48	50	44	53	49	3.2	4.4	2.9	4.2	55	50	NO	NO	NO	NO	NO
3	3_0687		Residential	G	S	50	44	53	48	50	44	53	48	3	4.4	2.8	4.2	55	50	NO	NO	NO	NO	NO
3	3_0688		Residential	G	S	50	44	53	48	50	44	53	48	3.1	4.5	2.9	4.2	55	50	NO	NO	NO	NO	NO
3	3_0689		Residential	G	S	50	43	53	48	50	44	53	48	3.1	4.6	2.9	4.4	55	50	NO	NO	NO	NO	NO
3	3_0690		Residential	G	S	49	43	52	48	50	44	53	48	3.2	4.7	2.9	4.4	55	50	NO	NO	NO	NO	NO
3	3_0691		Residential	G	S	50	44	53	48	50	44	53	48	2.8	4.2	2.5	4	55	50	NO	NO	NO	NO	NO
3	3_0692		Residential	G	SW	51	45	52	47	52	45	53	48	1.3	2.7	1	2.4	55	50	NO	NO	NO	NO	NO
3	3_0693		Residential	G	E	52	47	52	47	53	47	53	48	-0.4	0.6	-0.6	0.4	55	50	NO	NO	NO	NO	NO
3	3_0694		Residential	G	SW	50	43	52	47	50	44	53	48	2.5	4	2.2	3.7	55	50	NO	NO	NO	NO	NO
3	3_0695		Residential	G	S	49	43	52	47	50	44	52	48	3	4.4	2.7	4.2	55	50	NO	NO	NO	NO	NO
3	3_0696		Residential	G	S	49	43	52	47	50	44	53	48	3.1	4.4	2.8	4.2	55	50	NO	NO	NO	NO	NO
3	3_0697		Residential	G	S	49	43	52	48	50	44	53	48	3	4.4	2.8	4.1	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0698		Residential	G	S	49	43	52	48	50	44	53	48	2.9	4.3	2.7	4.1	55	50	NO	NO	NO	NO	NO
3	3_0699		Residential	G	S	49	43	52	48	50	44	53	48	3.1	4.4	2.8	4.2	55	50	NO	NO	NO	NO	NO
3	3_0700		Residential	G	W	52	46	52	47	53	47	53	48	0.1	1.5	-0.1	1.1	55	50	NO	NO	NO	NO	NO
3	3_0701		Residential	G	W	52	45	52	47	52	46	53	48	0.6	1.9	0.2	1.6	55	50	NO	NO	NO	NO	NO
3	3_0702		Residential	G	W	53	46	53	48	53	47	53	48	0.1	1.5	-0.2	1.2	55	50	NO	NO	NO	NO	NO
3	3_0703		Residential	G	W	52	46	52	47	53	47	53	48	0.1	1.5	-0.1	1.2	55	50	NO	NO	NO	NO	NO
3	3_0704		Residential	G	S	49	43	52	47	50	44	52	48	2.6	4	2.4	3.7	55	50	NO	NO	NO	NO	NO
3	3_0705		Residential	G	S	49	43	52	47	50	44	53	48	3	4.4	2.7	4.1	55	50	NO	NO	NO	NO	NO
3	3_0706		Residential	G	SE	51	46	52	47	52	46	53	48	0.8	1.9	0.7	1.7	55	50	NO	NO	NO	NO	NO
3	3_0707		Residential	G	SW	50	44	52	47	51	45	53	48	1.9	3.5	1.7	3.2	55	50	NO	NO	NO	NO	NO
3	3_0708		Residential	G	SW	50	44	52	48	51	44	53	48	2.5	3.9	2.2	3.6	55	50	NO	NO	NO	NO	NO
3	3_0709		Residential	G	SW	50	44	53	48	51	44	53	48	2.6	4.1	2.3	3.8	55	50	NO	NO	NO	NO	NO
3	3_0710		Residential	G	W	51	45	52	47	52	45	52	47	0.6	2.1	0.4	1.8	55	50	NO	NO	NO	NO	NO
3	3_0711		Residential	G	SW	53	46	54	49	54	47	55	49	1.1	2.7	0.8	2.3	55	50	NO	NO	NO	NO	NO
3	3_0712		Residential	G	SW	53	46	54	49	54	47	55	50	1.5	3	1.1	2.6	55	50	NO	NO	NO	NO	NO
3	3_0713		Residential	G	SW	53	46	54	49	54	47	54	49	0.9	2.5	0.6	2.1	55	50	NO	NO	NO	NO	NO
3	3_0714		Residential	G	NW	56	50	54	48	57	51	55	49	-2.2	-1.5	-2.4	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0715		Residential	G	W	53	46	53	48	54	47	54	49	0.6	2.1	0.2	1.7	55	50	NO	NO	NO	NO	NO
3	3_0716		Residential	G	NW	56	50	54	48	57	51	54	49	-2.4	-1.7	-2.7	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0717		Residential	G	NW	57	50	54	48	58	51	55	49	-2.6	-1.9	-2.8	-2.2	55	50	NO	NO	NO	NO	NO
3	3_0718		Residential	G	NE	56	50	54	48	57	51	54	49	-2.1	-1.3	-2.4	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0719		Residential	G	NE	55	49	53	48	56	50	54	48	-2	-1.3	-2.2	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0720		Residential	G	NE	55	49	53	48	56	50	54	48	-2	-1.3	-2.3	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0721		Residential	G	SE	52	45	53	48	52	46	54	49	1.8	3	1.6	2.8	55	50	NO	NO	NO	NO	NO
3	3_0722		Residential	G	NW	55	49	53	48	56	49	54	48	-1.7	-0.7	-2	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0723		Residential	G	NW	56	50	54	48	57	50	54	48	-2.5	-1.8	-2.8	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0724		Residential	G	NE	54	48	53	47	55	49	53	48	-1.7	-0.8	-1.8	-1	55	50	NO	NO	NO	NO	NO
3	3_0725		Residential	G	SE	50	44	53	48	51	45	53	49	2.8	4.2	2.5	3.9	55	50	NO	NO	NO	NO	NO
3	3_0726		Residential	G	NE	54	48	53	47	54	48	53	48	-1.1	-0.1	-1.4	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0727		Residential	G	NW	56	50	54	48	57	51	54	48	-2.6	-2	-2.8	-2.2	55	50	NO	NO	NO	NO	NO
3	3_0728		Residential	G	NW	56	50	54	48	57	51	54	48	-2.6	-2	-2.9	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0729		Residential	G	NW	56	50	54	48	57	51	54	48	-2.6	-2	-2.9	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0730		Residential	G	NW	56	50	54	48	57	51	54	48	-2.7	-2.1	-2.9	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0731		Residential	G	NW	56	50	54	48	57	51	54	48	-2.8	-2.1	-3	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0732		Residential	G	NW	56	50	53	47	57	51	54	47	-3.3	-2.9	-3.5	-3.2	55	50	NO	NO	NO	NO	NO
3	3_0732		Residential	1	NW	57	51	54	49	58	52	55	49	-2.9	-2.2	-3.1	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0733		Residential	G	N	56	50	54	48	57	51	54	48	-2.9	-2.4	-3.1	-2.6	55	50	NO	NO	NO	NO	NO
3	3_0734		Residential	G	N	56	50	53	47	57	50	54	48	-2.8	-2.2	-3	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0735		Residential	G	E	55	49	54	49	55	50	54	49	-0.7	-0.2	-0.9	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0735		Residential	1	E	56	51	56	51	57	51	56	51	-0.6	0.1	-0.8	0	55	50	NO	NO	NO	NO	NO
3	3_0736		Residential	G	W	52	46	52	47	53	47	53	48	-0.1	1.1	-0.4	0.8	55	50	NO	NO	NO	NO	NO
3	3_0737		Residential	G	S	50	44	53	48	50	44	53	48	2.7	4.1	2.5	3.8	55	50	NO	NO	NO	NO	NO
3	3_0738		Residential	G	S	50	44	53	48	51	45	53	49	2.5	4	2.2	3.7	55	50	NO	NO	NO	NO	NO
3	3_0739		Residential	G	W	54	47	53	47	54	48	53	48	-1.1	0	-1.4	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0740		Residential	G	SW	51	45	52	47	52	46	53	48	0.9	2.2	0.7	1.9	55	50	NO	NO	NO	NO	NO
3	3_0741		Residential	G	W	52	46	52	47	53	47	52	47	-0.5	0.6	-0.7	0.4	55	50	NO	NO	NO	NO	NO
3	3_0742		Residential	G	W	52	46	51	46	53	46	51	46	-1	0.1	-1.2	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0743		Residential	G	E	55	50	54	49	56	50	55	50	-1.1	-0.5	-1.2	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0744		Residential	G	W	54	48	52	47	55	48	53	47	-1.7	-0.8	-2	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0745		Residential	G	E	56	50	54	49	56	51	55	50	-1.6	-1	-1.7	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0746		Residential	G	E	56	51	54	49	57	51	55	50	-1.8	-1.2	-1.9	-1.3	55	50	NO	NO	NO	NO	NO
3	3_0747		Residential	G	N	58	52	54	49	58	52	55	49	-3.4	-3.2	-3.6	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0748		Residential	G	NW	57	51	54	48	58	52	54	49	-3.2	-2.9	-3.3	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0749		Residential	G	N	57	51	54	48	58	52	54	49	-3.2	-3	-3.3	-3	55	50	NO	NO	NO	NO	NO
3	3_0750		Residential	G	W	54	48	52	47	55	49	53	47	-1.7	-0.8	-2	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0751		Residential	G	N	57	52	54	48	58	52	55	49	-3.5	-3.4	-3.6	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0752		Residential	G	E	55	50	54	49	56	50	54	49	-1.8	-1.4	-1.9	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0753		Residential	G	N	57	52	54	48	58	52	55	49	-3.5	-3.4	-3.6	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0754		Residential	G	N	57	52	54	48	58	52	54	49	-3.6	-3.4	-3.6	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0755		Residential	G	N	56	51	53	47	57	51	53	48	-3.5	-3.3	-3.6	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0756		Residential	G	N	58	52	54	48	58	52	55	49	-3.5	-3.4	-3.5	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0757		Residential	G	N	57	52	54	48	58	52	54	49	-3.5	-3.5	-3.6	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0758		Residential	G	N	58	52	54	48	58	52	55	49	-3.5	-3.5	-3.6	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0759		Residential	G	N	58	52	54	49	58	53	55	49	-3.5	-3.4	-3.6	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0760		Residential	G	E	56	51	54	49	57	51	55	50	-1.7	-1.3	-1.7	-1.3	55	50	NO	NO	NO	NO	NO
3	3_0761		Residential	G	NE	59	53	56	50	59	54	56	50	-3.1	-3.1	-3.3	-3.2	55	50	NO	NO	NO	NO	NO
3	3_0762		Residential	G	E	60	54	58	52	61	55	58	53	-2.2	-1.9	-2.5	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0763		Residential	G	E	53	48	53	49	54	48	54	49	0.2	0.8	0.1	0.7	55	50	NO	NO	NO	NO	NO
3	3_0764		Residential	G	E	54	49	53	49	55	49	54	49	-0.9	-0.3	-1	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0765		Residential	G	S	50	44	53	48	51	45	53	48	2.6	3.9	2.4	3.7	55	50	NO	NO	NO	NO	NO
3	3_0766		Residential	G	E	53	48	53	48	54	48	53	48	-0.4	0.1	-0.5	0.1	55	50	NO	NO	NO	NO	NO
3	3_0766		Residential	1	E	56	51	55	51	56	51	56	51	-0.5	0.1	-0.6	0.1	55	50	NO	NO	NO	NO	NO
3	3_0766		Residential	1	S	51	46	55	50	52	46	55	51	3.3	4.6	3	4.4	55	50	NO	NO	NO	NO	YES
3	3_0767		Residential	G	S	48	43	52	47	49	43	52	48	3.4	4.7	3.2	4.5	55	50	NO	NO	NO	NO	NO
3	3_0767		Residential	1	E	56	51	55	51	57	51	56	51	-0.7	-0.1	-0.8	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0768		Residential	G	S	50	45	53	48	51	45	53	48	2.2	3.3	2	3.1	55	50	NO	NO	NO	NO	NO
3	3_0769		Residential	G	S	50	44	52	48	51	45	53	48	2	3.1	1.8	2.9	55	50	NO	NO	NO	NO	NO
3	3_0770		Residential	G	E	55	49	54	49	55	50	54	49	-1.1	-0.6	-1.2	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0771		Residential	G	W	61	54	58	52	61	55	58	53	-2.8	-2.1	-3.1	-2.4	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0772		Residential	G	S	54	48	55	50	55	49	55	50	0.4	1.9	0.1	1.6	55	50	NO	NO	NO	NO	NO
3	3_0773		Residential	G	S	53	47	54	50	54	48	55	50	1.5	2.9	1.3	2.6	55	50	NO	NO	NO	NO	NO
3	3_0774		Residential	G	S	52	47	54	50	53	47	55	50	2	3.2	1.8	3	55	50	NO	NO	NO	NO	NO
3	3_0775		Residential	G	W	60	54	58	52	61	55	58	53	-2.5	-2	-2.9	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0776		Residential	G	N	59	53	55	49	59	54	56	50	-3.5	-3.5	-3.6	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0777		Residential	G	N	58	53	55	49	59	53	55	50	-3.6	-3.6	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0778		Residential	G	N	58	53	54	49	59	53	55	49	-3.7	-3.7	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0779		Residential	G	S	52	47	54	50	53	47	55	50	2.1	3.2	2	3	55	50	NO	NO	NO	NO	NO
3	3_0780		Residential	G	SE	52	47	54	49	53	48	54	50	1.4	2.1	1.3	2	55	50	NO	NO	NO	NO	NO
3	3_0781		Residential	G	SW	53	47	54	49	54	48	54	49	0.4	1.5	0.1	1.3	55	50	NO	NO	NO	NO	NO
3	3_0782		Residential	G	W	56	51	54	49	57	51	55	50	-2	-1.5	-2.2	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0783		Residential	G	SW	54	49	54	49	55	49	54	50	-0.3	0.5	-0.5	0.4	55	50	NO	NO	NO	NO	NO
3	3_0784		Residential	G	SW	54	49	54	49	55	49	54	50	-0.2	0.5	-0.4	0.4	55	50	NO	NO	NO	NO	NO
3	3_0785		Residential	G	SW	54	48	54	49	54	49	54	50	0.2	0.9	0	0.9	55	50	NO	NO	NO	NO	NO
3	3_0786		Residential	G	SW	53	47	53	49	53	48	54	49	0.7	1.6	0.5	1.4	55	50	NO	NO	NO	NO	NO
3	3_0787		Residential	G	SW	53	48	54	49	54	48	54	49	0.5	1.4	0.3	1.3	55	50	NO	NO	NO	NO	NO
3	3_0788		Residential	G	SW	54	48	54	49	55	49	54	49	-0.2	0.8	-0.5	0.6	55	50	NO	NO	NO	NO	NO
3	3_0789		Residential	G	SW	55	49	54	49	55	49	55	50	-0.5	0.5	-0.8	0.3	55	50	NO	NO	NO	NO	NO
3	3_0790		Residential	G	SW	55	49	55	49	56	50	55	50	-0.4	0.6	-0.7	0.4	55	50	NO	NO	NO	NO	NO
3	3_0791		Residential	G	SW	57	51	55	50	57	51	56	51	-1.3	-0.6	-1.4	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0792		Residential	G	SW	57	51	55	50	57	52	56	51	-1.5	-1.1	-1.7	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0793		Residential	G	SW	56	50	55	50	57	51	55	50	-1	-0.3	-1.2	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0794		Residential	G	SW	55	49	54	50	56	50	55	50	-0.5	0.4	-0.7	0.3	55	50	NO	NO	NO	NO	NO
3	3_0795		Residential	G	SE	53	48	54	49	53	48	54	50	1	1.6	1	1.5	55	50	NO	NO	NO	NO	NO
3	3_0796		Residential	G	SE	52	47	53	49	53	48	54	49	0.9	1.4	0.8	1.4	55	50	NO	NO	NO	NO	NO
3	3_0797		Residential	G	SW	57	52	55	51	58	52	56	51	-1.7	-1.4	-1.9	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0798		Residential	G	SW	57	51	55	50	57	52	56	51	-1.4	-1	-1.5	-1	55	50	NO	NO	NO	NO	NO
3	3_0799		Residential	G	SW	56	51	55	51	57	52	56	51	-1	-0.6	-1.1	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0800		Residential	G	SW	55	50	55	50	56	51	55	51	-0.6	0	-0.6	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0801		Residential	G	SW	55	50	55	50	56	51	55	50	-0.6	-0.1	-0.7	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0802		Residential	G	SW	55	50	54	50	55	50	55	50	-0.5	0	-0.6	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0803		Residential	G	SW	55	49	54	50	55	50	55	50	-0.3	0.2	-0.3	0.2	55	50	NO	NO	NO	NO	NO
3	3_0804		Residential	G	SW	55	49	55	50	55	50	55	50	0.1	0.6	0	0.6	55	50	NO	NO	NO	NO	NO
3	3_0805		Residential	G	SW	55	50	55	50	55	50	55	50	-0.4	0.1	-0.5	0	55	50	NO	NO	NO	NO	NO
3	3_0806		Residential	G	NE	59	55	56	51	60	55	56	52	-3.9	-3.9	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0807		Residential	G	SW	54	49	54	49	55	49	54	49	-0.6	0	-0.8	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0808		Residential	G	SW	57	52	55	51	57	52	56	51	-1.2	-0.9	-1.3	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0809		Residential	G	SW	52	46	53	48	52	47	54	49	1.3	2.5	1.2	2.3	55	50	NO	NO	NO	NO	NO
3	3_0809		Residential	1	SW	58	53	57	52	59	53	57	53	-1.3	-0.9	-1.3	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0810		Residential	G	SW	55	51	55	50	56	51	55	51	-0.6	-0.3	-0.6	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0811		Residential	G	SW	52	47	54	49	53	47	54	49	1.3	2.1	1.2	2	55	50	NO	NO	NO	NO	NO
3	3_0812		Residential	G	E	55	50	54	50	55	50	55	50	-0.3	0	-0.3	0	55	50	NO	NO	NO	NO	NO
3	3_0813		Residential	G	S	52	46	54	49	52	47	54	50	2.4	3.1	2.3	3	55	50	NO	NO	NO	NO	NO
3	3_0814		Residential	G	S	52	46	54	49	52	47	54	50	2.3	3.1	2.2	3	55	50	NO	NO	NO	NO	NO
3	3_0815		Residential	G	S	50	44	54	49	50	45	54	50	3.8	5	3.7	4.7	55	50	NO	NO	NO	NO	NO
3	3_0815		Residential	1	W	58	53	57	52	58	53	57	53	-1	-0.7	-0.9	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0815		Residential	1	S	53	48	56	52	53	48	56	52	3.2	4.1	3	4	55	50	NO	NO	NO	NO	YES
3	3_0816		Residential	G	S	52	47	54	50	52	47	54	50	2.1	2.8	2.1	2.7	55	50	NO	NO	NO	NO	NO
3	3_0817		Residential	G	S	52	47	54	50	52	47	54	50	2.1	2.7	2	2.5	55	50	NO	NO	NO	NO	NO
3	3_0818		Residential	G	S	52	47	54	50	52	47	55	50	2.4	3.1	2.3	3	55	50	NO	NO	NO	NO	NO
3	3_0819		Residential	G	S	52	47	55	50	53	48	55	50	2.1	2.8	2	2.7	55	50	NO	NO	NO	NO	NO
3	3_0820		Residential	G	S	53	48	55	50	53	48	55	51	2.2	2.8	2.1	2.7	55	50	NO	NO	NO	NO	YES
3	3_0821		Residential	G	S	53	48	55	50	53	48	55	51	1.9	2.5	1.9	2.5	55	50	NO	NO	NO	NO	YES
3	3_0822		Residential	G	S	53	48	55	50	53	48	55	50	1.7	2.2	1.6	2.2	55	50	NO	NO	NO	NO	NO
3	3_0823		Residential	G	W	55	50	55	50	56	51	55	51	-0.4	0	-0.4	0	55	50	NO	NO	NO	NO	NO
3	3_0824		Residential	G	W	55	50	54	50	55	50	55	50	-0.3	-0.1	-0.3	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0825		Residential	G	S	53	48	54	50	54	49	54	50	0.9	1.4	0.9	1.3	55	50	NO	NO	NO	NO	NO
3	3_0826		Residential	G	S	53	48	54	49	53	48	54	50	0.8	1.1	0.8	1.1	55	50	NO	NO	NO	NO	NO
3	3_0827		Residential	G	S	53	48	53	49	53	48	54	49	0.6	0.9	0.5	0.9	55	50	NO	NO	NO	NO	NO
3	3_0828		Residential	G	E	55	51	53	49	56	51	54	49	-2	-2	-1.9	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0829		Residential	G	SE	57	52	54	50	57	53	55	50	-2.6	-2.6	-2.5	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0830		Residential	G	NE	58	54	54	49	59	54	54	50	-4.5	-4.6	-4.4	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0831		Residential	G	N	59	54	54	50	59	55	55	50	-4.6	-4.7	-4.4	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0832		Residential	G	NE	58	54	54	49	58	54	54	50	-4.5	-4.6	-4.3	-4.4	55	50	NO	NO	NO	NO	NO
3	3_0833		Residential	G	SE	57	53	54	49	57	53	54	50	-3.2	-3.1	-3	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0834		Residential	G	NE	59	55	54	50	59	55	55	50	-4.8	-4.9	-4.5	-4.6	55	50	NO	NO	NO	NO	NO
3	3_0835		Residential	G	SE	59	54	56	51	59	55	56	52	-3.2	-3.1	-3	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0836		Residential	G	E	62	57	57	53	62	58	58	53	-4.6	-4.7	-4.4	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0837		Residential	G	N	62	58	57	53	63	58	58	53	-5.4	-5.5	-5.1	-5.2	55	50	NO	NO	NO	NO	NO
3	3_0838		Residential	G	NE	62	58	57	52	63	58	57	53	-5.3	-5.4	-5.1	-5.2	55	50	NO	NO	NO	NO	NO
3	3_0839		Residential	G	N	62	57	56	52	62	58	57	52	-5.4	-5.4	-5.1	-5.2	55	50	NO	NO	NO	NO	NO
3	3_0840		Residential	G	SE	59	55	55	50	60	55	56	51	-4.4	-4.5	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
3	3_0841		Residential	G	N	60	56	55	51	61	56	56	51	-5.1	-5.3	-5	-5	55	50	NO	NO	NO	NO	NO
3	3_0842		Residential	G	N	59	54	54	49	59	55	54	50	-4.7	-4.9	-4.6	-4.7	55	50	NO	NO	NO	NO	NO
3	3_0843		Residential	G	E	57	52	54	50	57	53	54	50	-2.9	-2.9	-2.8	-2.7	55	50	NO	NO	NO	NO	NO
3	3_0844		Residential	G	E	56	52	54	49	56	52	54	50	-2.6	-2.5	-2.4	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0845		Residential	G	SE	55	50	54	50	55	51	55	50	-0.8	-0.7	-0.8	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0846		Residential	G	W	56	52	55	51	57	52	56	51	-1.2	-1	-1.2	-1	55	50	NO	NO	NO	NO	NO
3	3_0847		Residential	G	S	53	48	55	50	54	49	55	51	1.4	1.9	1.3	1.8	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0848		Residential	G	W	54	50	55	50	55	50	55	51	0.2	0.6	0.2	0.6	55	50	NO	NO	NO	NO	NO
3	3_0849		Residential	G	W	56	51	55	50	56	51	55	51	-0.8	-0.5	-0.8	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0850		Residential	G	S	53	48	54	49	53	48	54	50	1.1	1.6	1.1	1.6	55	50	NO	NO	NO	NO	NO
3	3_0851		Residential	G	S	52	47	54	49	53	48	54	50	1.5	2	1.4	1.9	55	50	NO	NO	NO	NO	NO
3	3_0852		Residential	G	W	55	51	54	50	56	51	54	50	-1.3	-1.1	-1.3	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0853		Residential	G	S	52	47	53	49	53	47	54	49	1.4	1.9	1.3	1.9	55	50	NO	NO	NO	NO	NO
3	3_0854		Residential	G	W	55	50	54	49	55	50	54	50	-0.8	-0.4	-0.9	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0855		Residential	G	W	56	52	54	50	57	52	55	50	-1.9	-1.7	-1.8	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0856		Residential	G	S	54	49	55	50	55	50	55	51	0.5	0.9	0.5	0.9	55	50	NO	NO	NO	NO	NO
3	3_0857		Residential	G	W	58	53	55	51	58	53	56	51	-2.2	-2.1	-2.1	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0858		Residential	G	W	58	53	56	51	58	53	56	51	-2.1	-2	-2.2	-2	55	50	NO	NO	NO	NO	NO
3	3_0859		Residential	G	W	58	54	56	51	59	54	56	51	-2.7	-2.6	-2.6	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0860		Residential	G	W	57	52	55	50	58	53	55	51	-2.4	-2.4	-2.5	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0861		Residential	G	W	58	53	55	50	58	53	55	51	-2.7	-2.6	-2.7	-2.6	55	50	NO	NO	NO	NO	NO
3	3_0862		Residential	G	W	57	53	55	50	58	53	55	51	-2.7	-2.5	-2.6	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0863		Residential	G	E	56	51	53	49	56	52	54	49	-2.4	-2.4	-2.3	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0864		Residential	G	W	57	52	54	50	57	53	55	50	-2.9	-2.9	-2.8	-2.7	55	50	NO	NO	NO	NO	NO
3	3_0865		Residential	G	E	56	52	55	50	57	52	55	51	-1.8	-1.6	-1.6	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0866		Residential	G	SW	58	53	56	51	58	53	56	52	-1.7	-1.6	-1.6	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0867		Residential	G	E	58	53	55	50	58	53	55	51	-2.6	-2.6	-2.5	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0868		Residential	G	S	49	43	52	47	50	44	52	48	2.6	3.9	2.3	3.7	55	50	NO	NO	NO	NO	NO
3	3_0869		Residential	G	W	51	45	52	47	52	46	52	47	0.3	1.5	0	1.2	55	50	NO	NO	NO	NO	NO
3	3_0870		Residential	G	E	53	47	52	47	53	47	53	47	-0.8	0.2	-0.9	0	55	50	NO	NO	NO	NO	NO
3	3_0871		Residential	G	N	59	53	55	49	59	53	56	50	-3.6	-3.4	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0872		Residential	G	S	50	44	53	48	51	44	53	48	2.6	4	2.4	3.7	55	50	NO	NO	NO	NO	NO
3	3_0873		Residential	G	W	51	45	51	46	52	45	52	47	0.4	1.7	0.1	1.4	55	50	NO	NO	NO	NO	NO
3	3_0874		Residential	G	S	49	43	52	47	50	44	52	47	2.1	3.4	1.9	3.2	55	50	NO	NO	NO	NO	NO
3	3_0875		Residential	G	W	53	47	53	48	54	48	54	48	-0.3	1.1	-0.5	0.7	55	50	NO	NO	NO	NO	NO
4	4_0001		Residential	G	E	66	60	66	60	67	60	66	60	-0.1	0	-0.4	-0.3	55	50	YES	YES	NO	NO	YES
4	4_0002		Residential	G	W	65	58	65	59	66	59	66	59	0.3	0.6	-0.1	0.3	55	50	YES	YES	NO	NO	YES
5	5_0001		Residential	G	W	72	67	72	67	73	68	72	68	-0.4	-0.2	-0.5	-0.3	60	55	NO	NO	NO	NO	NO
5	5_0002		Residential	G	W	71	66	70	66	71	66	71	66	-0.4	-0.2	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
5	5_0003		Residential	G	N	72	66	69	62	73	66	69	62	-3.8	-3.8	-4.1	-4.1	60	55	NO	NO	NO	NO	NO
5	5_0004		Residential	G	N	77	70	73	66	78	71	74	67	-4	-4.1	-4.3	-4.4	59	54	NO	NO	NO	NO	NO
5	5_0004		Residential	1	N	78	71	74	67	79	72	75	67	-3.9	-4	-4.2	-4.3	59	54	NO	NO	NO	NO	NO
5	5_0005		Residential	G	N	73	66	69	62	74	67	69	62	-3.9	-3.9	-4.3	-4.3	57	52	NO	NO	NO	NO	NO
5	5_0006		Residential	G	N	74	67	70	63	75	68	71	64	-3.9	-4	-4.3	-4.3	56	51	NO	NO	NO	NO	NO
5	5_0007		Residential	G	N	74	67	70	63	75	68	70	63	-4	-4	-4.2	-4.4	56	51	NO	NO	NO	NO	NO
5	5_0008		Residential	G	N	74	67	70	63	75	68	71	64	-4	-3.9	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
5	5_0009		Residential	G	N	72	65	68	61	73	66	69	62	-4	-3.9	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
5	5_0010		Residential	G	N	75	68	71	64	76	69	72	65	-4	-4	-4.2	-4.4	55	50	NO	NO	NO	NO	NO
5	5_0011		Residential	G	N	75	68	71	64	76	69	72	65	-3.9	-3.8	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
5	5_0012		Residential	G	N	74	67	70	63	75	68	70	64	-3.8	-3.7	-4.2	-4.1	55	50	NO	NO	NO	NO	NO
5	5_0013		Residential	G	N	74	67	71	64	75	68	71	64	-3.8	-3.8	-4.2	-4.2	55	50	NO	NO	NO	NO	NO
5	5_0013		Residential	G	E	65	58	62	56	66	59	63	56	-2.9	-2.2	-3.2	-2.5	55	50	NO	YES	NO	NO	YES
5	5_0014		Residential	G	N	75	68	71	64	76	69	72	65	-3.8	-3.8	-4.2	-4.2	55	50	NO	NO	NO	NO	NO
5	5_0014		Residential	G	E	64	57	62	56	65	58	63	57	-2.2	-1	-2.5	-1.4	55	50	YES	YES	NO	NO	YES
5	5_0015		Residential	G	E	60	53	58	53	61	54	59	53	-1.3	0.1	-1.7	-0.4	55	50	NO	NO	NO	NO	NO
5	5_0015		Residential	G	S	55	48	56	51	56	49	57	52	1.4	3.1	1	2.7	55	50	NO	NO	NO	NO	YES
5	5_0016		Residential	G	E	60	53	59	54	61	54	60	54	-0.6	1	-1	0.6	55	50	YES	NO	NO	NO	YES
5	5_0017		Residential	G	N	73	66	70	63	74	67	70	64	-3.7	-3.5	-4.1	-3.9	55	50	NO	NO	NO	NO	NO
5	5_0018		Residential	G	N	72	65	69	62	73	66	69	63	-3.6	-3.4	-4	-3.8	55	50	NO	NO	NO	NO	NO
5	5_0018		Residential	G	E	68	61	65	59	69	62	66	60	-2.6	-1.7	-3.1	-2.2	55	50	NO	YES	NO	NO	YES
5	5_0019		Residential	G	N	75	68	71	64	76	69	72	65	-3.8	-3.6	-4	-3.9	55	50	NO	NO	NO	NO	NO
5	5_0019		Residential	G	E	66	59	64	58	67	60	64	59	-2	-0.5	-2.3	-1.1	55	50	YES	YES	NO	NO	YES
5	5_0020		Residential	G	N	72	65	69	62	73	66	69	63	-3.5	-3	-3.7	-3.4	55	50	NO	NO	NO	NO	NO
5	5_0020		Residential	G	S	62	55	61	56	63	56	61	56	-1.1	0.7	-1.5	0.1	55	50	YES	YES	NO	NO	YES
5	5_0021		Residential	G	E	62	55	62	57	63	56	62	57	-0.5	1.3	-0.9	0.8	55	50	YES	YES	NO	NO	YES
5	5_0022		Residential	G	N	60	54	60	54	61	55	60	55	-0.8	0.7	-1.2	0.2	55	50	YES	YES	NO	NO	YES
5	5_0023		Residential	G	N	57	51	57	52	58	52	57	53	-0.2	1.3	-0.5	1	55	50	NO	NO	NO	NO	NO
5	5_0024		Residential	G	N	58	51	57	52	59	52	57	52	-0.8	0.7	-1.2	0.2	55	50	NO	NO	NO	NO	NO
5	5_0025		Residential	G	E	55	49	56	51	56	50	57	52	0.8	2.5	0.5	2.1	55	50	NO	NO	NO	NO	YES
5	5_0026		Residential	G	N	56	49	56	51	57	50	56	51	-0.1	1.3	-0.5	0.9	55	50	NO	NO	NO	NO	NO
5	5_0026		Residential	G	S	52	46	55	50	53	47	55	51	2.9	4.4	2.5	4	55	50	NO	NO	NO	NO	YES
5	5_0027		Residential	G	N	58	51	57	53	58	52	58	53	-0.1	1.5	-0.6	1.1	55	50	NO	NO	NO	NO	NO
5	5_0027		Residential	G	E	56	49	57	52	57	50	57	52	1	2.8	0.6	2.3	55	50	NO	NO	NO	NO	YES
5	5_0028		Residential	G	N	58	51	58	53	59	52	58	53	-0.2	1.5	-0.6	1.1	55	50	NO	NO	NO	NO	NO
5	5_0028		Residential	G	S	52	46	55	51	53	47	56	51	3.1	4.6	2.7	4.2	55	50	NO	NO	NO	NO	YES
5	5_0029		Residential	G	N	58	51	58	53	59	52	58	53	0	1.8	-0.4	1.3	55	50	NO	NO	NO	NO	NO
5	5_0029		Residential	G	E	54	48	57	53	55	49	58	53	2.9	4.8	2.4	4.4	55	50	NO	NO	NO	NO	YES
5	5_0030		Residential	G	E	57	50	57	53	58	51	58	53	0.6	2.5	0.2	2	55	50	NO	NO	NO	NO	YES
5	5_0031		Residential	G	E	55	48	58	53	55	49	58	53	3	5	2.6	4.5	55	50	NO	NO	NO	NO	YES
5	5_0032		Residential	G	E	57	51	59	55	58	51	60	55	2.2	4.4	1.8	3.8	55	50	YES	YES	NO	NO	YES
5	5_0033		Residential	G	E	60	53	61	56	61	54	61	56	0.7	2.6	0.2	2.1	55	50	YES	YES	NO	NO	YES
5	5_0034		Residential	G	N	59	53	59	53	60	54	59	54	-0.8	0.8	-1.2	0.4	55	50	NO	NO	NO	NO	NO
5	5_0034		Residential	G	E	55	48	57	53	55	49	58	53	2.8	4.9	2.4	4.3	55	50	NO	NO	NO	NO	YES
5	5_0035		Residential	G	N	59	52	58	53	60	53	58	53	-0.9	0.7	-1.3	0.3	55	50	NO	NO	NO	NO	NO
5	5_0035		Residential	G	S	54	47	57	52	54	48	57	53	3.2	5	2.8	4.6	55	50	NO	NO	NO	NO	YES
5	5_0036		Residential	G	E	59	52	58	53	60	53	59	54	-0.5	1.4	-0.9	0.9	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
5	5_0036		Residential	G	S	54	47	57	52	54	48	57	52	3	4.8	2.6	4.4	55	50	NO	NO	NO	NO	YES
5	5_0037		Residential	G	N	59	52	58	53	60	53	58	53	-0.9	0.7	-1.3	0.2	55	50	NO	NO	NO	NO	NO
5	5_0037		Residential	G	S	54	47	56	52	54	48	57	52	2.8	4.6	2.4	4.2	55	50	NO	NO	NO	NO	YES
5	5_0038		Residential	G	N	59	52	58	53	60	53	58	53	-1.1	0.4	-1.5	0	55	50	NO	NO	NO	NO	NO
5	5_0038		Residential	G	S	53	47	56	51	54	48	56	51	2.1	3.9	1.8	3.5	55	50	NO	NO	NO	NO	YES
5	5_0039		Residential	G	E	59	52	58	53	60	53	58	53	-0.7	1.1	-1.2	0.6	55	50	NO	NO	NO	NO	NO
5	5_0039		Residential	G	S	53	47	56	51	54	48	56	52	2.4	4	2	3.6	55	50	NO	NO	NO	NO	YES
5	5_0040		Residential	G	N	58	52	57	52	59	53	58	53	-0.9	0.4	-1.3	0	55	50	NO	NO	NO	NO	NO
5	5_0041		Residential	G	E	58	51	58	53	59	52	58	53	0	1.6	-0.4	1.2	55	50	NO	NO	NO	NO	NO
5	5_0041		Residential	G	S	53	47	55	51	54	48	56	51	1.9	3.5	1.6	3.1	55	50	NO	NO	NO	NO	YES
5	5_0042		Residential	G	N	56	49	56	52	57	50	57	52	0.6	2.3	0.3	1.8	55	50	NO	NO	NO	NO	YES
5	5_0043		Residential	G	N	56	49	56	51	57	50	57	52	0.4	2	0	1.5	55	50	NO	NO	NO	NO	NO
5	5_0043		Residential	G	E	53	47	55	50	54	48	55	51	1.7	3.3	1.2	2.9	55	50	NO	NO	NO	NO	YES
5	5_0044		Residential	G	N	56	50	57	52	57	50	57	52	0.7	2.4	0.3	2	55	50	NO	NO	NO	NO	YES
5	5_0045		Residential	G	E	55	48	58	53	56	49	58	54	3.1	5.3	2.6	4.7	55	50	NO	NO	NO	NO	YES
5	5_0045		Residential	1	E	57	50	59	55	58	51	60	55	2.5	4.5	2	4	55	50	YES	YES	NO	NO	YES
5	5_0046		Residential	G	E	54	48	57	53	55	49	58	53	3	5.1	2.5	4.6	55	50	NO	NO	NO	NO	YES
5	5_0047		Residential	G	E	54	48	57	53	55	48	57	53	3	5	2.5	4.6	55	50	NO	NO	NO	NO	YES
5	5_0048		Residential	G	E	54	47	57	52	55	48	57	53	2.9	5	2.5	4.6	55	50	NO	NO	NO	NO	YES
5	5_0049		Residential	G	E	53	47	57	52	54	48	57	52	3.2	4.9	2.7	4.5	55	50	NO	NO	NO	NO	YES
5	5_0050		Residential	G	N	60	53	58	52	60	54	58	53	-1.7	-0.5	-2	-0.9	55	50	NO	NO	NO	NO	NO
5	5_0050		Residential	G	E	56	50	57	52	57	51	58	53	0.9	2.5	0.4	2.1	55	50	NO	NO	NO	NO	YES
5	5_0051		Residential	G	N	60	53	58	53	61	54	59	53	-1.7	-0.5	-2	-0.9	55	50	NO	NO	NO	NO	NO
5	5_0051		Residential	G	S	54	48	55	50	54	48	55	51	1.3	2.7	0.9	2.3	55	50	NO	NO	NO	NO	YES
5	5_0052		Residential	G	S	54	48	55	50	54	48	55	51	1.2	2.5	1	2.2	55	50	NO	NO	NO	NO	YES
5	5_0053		Residential	G	N	60	54	59	53	61	55	59	54	-1.7	-0.7	-2.1	-1.1	55	50	NO	NO	NO	NO	NO
5	5_0054		Residential	G	S	54	48	55	50	54	48	55	50	0.9	2.1	0.7	1.8	55	50	NO	NO	NO	NO	NO
5	5_0055		Residential	G	N	59	52	57	51	59	53	57	52	-1.7	-0.8	-2	-1.1	56	51	NO	NO	NO	NO	NO
5	5_0056		Residential	G	N	61	54	58	53	61	55	59	53	-2.3	-1.4	-2.5	-1.7	56	51	NO	NO	NO	NO	NO
5	5_0057		Residential	G	N	59	53	57	52	60	53	58	52	-1.8	-0.9	-2.1	-1.2	57	52	NO	NO	NO	NO	NO
5	5_0058		Residential	G	W	60	54	58	52	60	55	58	53	-2.1	-1.5	-2.3	-1.8	58	53	NO	NO	NO	NO	NO
5	5_0059		Residential	G	S	55	49	55	50	55	50	55	51	0.2	0.9	-0.1	0.7	58	53	NO	NO	NO	NO	NO
5	5_0060		Residential	G	N	62	55	59	54	62	56	60	55	-2.1	-1.5	-2.4	-1.7	58	53	NO	NO	NO	NO	NO
5	5_0061		Residential	G	N	60	54	58	53	61	55	59	53	-2.2	-1.4	-2.3	-1.6	59	54	NO	NO	NO	NO	NO
5	5_0062		Residential	G	W	63	58	62	57	64	59	62	57	-1.4	-1	-1.6	-1.1	60	55	NO	NO	NO	NO	NO
5	5_0063		Residential	G	N	57	51	57	52	58	52	57	52	-0.2	1.3	-0.6	0.9	55	50	NO	NO	NO	NO	NO
5	5_0063		Residential	G	E	55	49	56	51	56	49	56	51	0.6	2.1	0.2	1.6	55	50	NO	NO	NO	NO	YES
5	5_0064		Residential	G	N	56	50	56	51	57	51	57	51	-0.2	1.1	-0.6	0.6	55	50	NO	NO	NO	NO	NO
5	5_0064		Residential	1	N	59	53	59	54	60	54	59	54	-0.5	0.8	-0.9	0.4	55	50	NO	NO	NO	NO	NO
5	5_0064		Residential	1	E	57	51	58	54	58	52	59	54	1.2	3.2	0.9	2.7	55	50	NO	NO	NO	NO	YES
5	5_0065		Residential	G	N	57	51	56	51	58	51	57	52	-0.5	0.8	-0.9	0.5	55	50	NO	NO	NO	NO	NO
5	5_0066		Residential	G	E	56	49	56	51	57	50	56	51	-0.3	1.3	-0.6	0.9	55	50	NO	NO	NO	NO	NO
5	5_0067		Residential	G	N	57	51	56	51	58	52	57	52	-0.7	0.4	-1.1	0.1	55	50	NO	NO	NO	NO	NO
5	5_0068		Residential	G	E	54	48	54	49	55	49	54	49	-0.3	1	-0.7	0.6	56	51	NO	NO	NO	NO	NO
5	5_0069		Residential	G	N	57	51	57	52	58	52	57	52	-0.8	0.3	-1.1	0	56	51	NO	NO	NO	NO	NO
5	5_0070		Residential	G	N	58	52	56	51	58	52	57	52	-1.1	-0.1	-1.3	-0.5	57	52	NO	NO	NO	NO	NO
5	5_0071		Residential	G	N	58	52	57	52	59	53	58	53	-0.9	0	-1.1	-0.2	57	52	NO	NO	NO	NO	NO
5	5_0072		Residential	G	N	58	52	57	52	59	53	58	53	-0.9	-0.1	-1.2	-0.3	58	53	NO	NO	NO	NO	NO
5	5_0073		Residential	G	S	56	51	55	51	56	51	56	51	-0.1	0.5	-0.2	0.3	58	53	NO	NO	NO	NO	NO
5	5_0074		Residential	G	N	55	49	56	51	56	50	56	52	0.7	2.3	0.2	1.9	55	50	NO	NO	NO	NO	YES
5	5_0075		Residential	G	N	55	49	56	51	56	50	57	52	0.8	2.4	0.4	1.9	55	50	NO	NO	NO	NO	YES
5	5_0076		Residential	G	N	56	50	56	51	57	50	56	51	-0.1	1.3	-0.4	0.8	55	50	NO	NO	NO	NO	NO
5	5_0076		Residential	G	E	54	48	55	50	55	48	55	51	1	2.6	0.7	2.2	55	50	NO	NO	NO	NO	YES
5	5_0077		Residential	G	N	56	50	55	51	57	51	56	51	-0.4	0.9	-0.6	0.6	55	50	NO	NO	NO	NO	NO
5	5_0078		Residential	G	N	56	50	56	51	57	50	56	51	-0.2	1.1	-0.5	0.7	55	50	NO	NO	NO	NO	NO
5	5_0079		Residential	G	N	55	49	55	50	56	50	56	51	-0.2	0.9	-0.4	0.6	56	51	NO	NO	NO	NO	NO
5	5_0080		Residential	G	N	56	50	55	50	56	50	56	51	-0.4	0.7	-0.6	0.4	56	51	NO	NO	NO	NO	NO
5	5_0081		Residential	G	N	56	51	56	51	57	51	56	52	-0.5	0.3	-0.8	0.1	57	52	NO	NO	NO	NO	NO
5	5_0082		Residential	G	N	56	51	56	51	57	51	56	51	-0.6	0.1	-0.9	-0.1	57	52	NO	NO	NO	NO	NO
5	5_0082		Residential	1	N	59	53	59	54	60	54	59	54	-0.4	0.4	-0.7	0.2	57	52	NO	NO	NO	NO	NO
5	5_0082		Residential	1	E	56	50	58	53	57	51	58	53	1.4	2.7	1	2.4	57	52	NO	NO	NO	NO	YES
5	5_0083		Residential	G	W	57	52	57	52	58	53	57	53	-0.5	-0.1	-0.8	-0.3	57	52	NO	NO	NO	NO	NO
5	5_0084		Residential	G	W	56	51	56	51	57	52	56	51	-0.7	-0.3	-0.8	-0.5	57	52	NO	NO	NO	NO	NO
5	5_0085		Residential	G	N	54	48	56	51	55	49	56	51	1.3	2.7	0.9	2.3	55	50	NO	NO	NO	NO	YES
5	5_0086		Residential	G	N	55	49	56	51	56	50	57	52	1.2	2.6	0.9	2.3	55	50	NO	NO	NO	NO	YES
5	5_0087		Residential	G	N	55	49	56	51	56	50	56	52	0.9	2.3	0.6	2	55	50	NO	NO	NO	NO	YES
5	5_0088		Residential	G	S	51	46	54	50	52	46	55	50	3.1	4.2	2.8	3.9	55	50	NO	NO	NO	NO	NO
5	5_0089		Residential	G	N	55	49	55	51	56	50	56	51	0.5	1.8	0.2	1.4	55	50	NO	NO	NO	NO	NO
5	5_0090		Residential	G	N	55	49	55	50	56	50	56	51	0.4	1.7	0.1	1.3	55	50	NO	NO	NO	NO	NO
5	5_0091		Residential	G	S	51	46	53	49	52	47	54	49	1.9	2.8	1.7	2.6	55	50	NO	NO	NO	NO	NO
5	5_0092		Residential	G	N	55	49	55	50	56	50	56	51	0.3	1.3	0	1	55	50	NO	NO	NO	NO	NO
5	5_0093		Residential	G	E	54	47	57	53	55	48	58	53	3.4	5.4	2.9	4.9	55	50	NO	NO	NO	NO	YES
5	5_0094		Residential	G	E	52	46	56	51	53	47	56	52	3.6	5.4	3.1	5	55	50	NO	NO	NO	NO	YES
5	5_0095		Residential	G	E	53	47	56	52	54	48	57	52	3.2	5.2	2.7	4.7	55	50	NO	NO	NO	NO	YES
5	5_0096		Residential	G	E	53	47	57	52	54	48	57	53	3.5	5.5	3	5	55	50	NO	NO	NO	NO	YES
5	5_0097		Residential	G	E	53	46	56	52	53	47	56	52	3.5	5.5	3.1	5	55	50	NO	NO	NO	NO	YES
5	5_0098		Residential	G	NE	51	45	55	50	52	46	55	51	3.4	4.9	3	4.5	55	50	NO	NO	NO	NO	YES
5	5_0099		Residential	G	NE	52	46	56	51	53	47	56	51	3.4	5.3	3	4.8	55	50	NO	NO	NO	NO	YES
5	5_0100		Residential	G	SE	52	46	55	51	53	47	56	51	3.3	4.7	3	4.5	55	50	NO	NO	NO	NO	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
5	5_0101		Residential	G	SE	51	45	54	50	51	46	55	50	3.7	4.6	3.4	4.4	55	50	NO	NO	NO	NO	NO
5	5_0102		Residential	G	SE	50	45	54	50	51	45	55	50	4	5.1	3.7	4.9	55	50	NO	NO	NO	NO	NO
5	5_0103		Residential	G	SE	52	46	55	50	52	47	55	51	3.1	4	2.9	3.7	55	50	NO	NO	NO	NO	YES
5	5_0104		Residential	G	S	52	47	55	50	53	48	55	51	2.5	3	2.3	2.9	55	50	NO	NO	NO	NO	YES
5	5_0105		Residential	G	S	53	49	55	51	54	49	55	51	1.5	1.8	1.4	1.7	55	50	NO	NO	NO	NO	NO
5	5_0106		Residential	G	S	52	47	55	50	53	48	55	51	2.5	2.9	2.3	2.8	55	50	NO	NO	NO	NO	YES
5	5_0107		Residential	G	S	52	47	55	50	52	47	55	51	2.9	3.6	2.7	3.4	55	50	NO	NO	NO	NO	YES
5	5_0108		Residential	G	SE	50	45	54	50	51	46	54	50	3.7	4.6	3.4	4.4	55	50	NO	NO	NO	NO	NO
5	5_0108		Residential	1	NE	54	48	57	52	55	49	57	53	2.5	4	2.2	3.7	55	50	NO	NO	NO	NO	YES
5	5_0109		Residential	G	SE	51	46	54	50	52	46	55	50	3.3	4.3	3	4	55	50	NO	NO	NO	NO	NO
5	5_0110		Residential	G	SE	52	46	55	51	53	47	56	51	3	4.4	2.7	4.1	55	50	NO	NO	NO	NO	YES
5	5_0111		Residential	G	SE	53	47	56	51	53	47	56	52	3.2	4.7	2.8	4.4	55	50	NO	NO	NO	NO	YES
5	5_0112		Residential	G	E	53	46	56	51	53	47	56	52	3.4	5.1	3	4.7	55	50	NO	NO	NO	NO	YES
5	5_0113		Residential	G	E	53	47	56	52	54	47	57	52	3.3	5.1	2.9	4.7	55	50	NO	NO	NO	NO	YES
5	5_0114		Residential	G	E	53	46	56	51	53	47	56	52	3.3	5.2	2.9	4.8	55	50	NO	NO	NO	NO	YES
5	5_0115		Residential	G	E	53	47	56	52	54	48	57	52	3.2	5.1	2.8	4.6	55	50	NO	NO	NO	NO	YES
5	5_0116		Residential	G	E	53	47	56	52	54	48	57	52	3.1	4.9	2.7	4.5	55	50	NO	NO	NO	NO	YES
5	5_0117		Residential	G	N	55	49	55	50	55	50	56	51	0.6	1.5	0.3	1.2	55	50	NO	NO	NO	NO	NO
5	5_0118		Residential	G	N	54	48	54	49	54	49	55	50	0.4	1.5	0.2	1.1	55	50	NO	NO	NO	NO	NO
5	5_0119		Residential	G	N	53	47	54	49	54	48	54	49	0.4	1.5	0.2	1.1	55	50	NO	NO	NO	NO	NO
5	5_0120		Residential	G	N	54	48	55	50	55	49	55	51	1.1	2.4	0.7	2	55	50	NO	NO	NO	NO	NO
5	5_0121		Residential	G	NE	54	48	56	51	55	48	56	52	2.3	3.8	1.9	3.4	55	50	NO	NO	NO	NO	YES
5	5_0122		Residential	G	E	53	47	56	51	54	48	56	52	2.6	4.2	2.2	3.8	55	50	NO	NO	NO	NO	YES
5	5_0123		Residential	G	NE	52	46	55	51	53	47	56	51	2.8	4.4	2.4	4.1	55	50	NO	NO	NO	NO	YES
5	5_0124		Residential	G	E	53	47	55	51	54	47	56	51	2.7	4.3	2.3	3.9	55	50	NO	NO	NO	NO	YES
5	5_0125		Residential	G	E	53	47	55	51	54	48	56	51	2	3.4	1.7	3.1	55	50	NO	NO	NO	NO	YES
5	5_0126		Residential	G	E	52	46	54	50	53	47	55	50	2	3.3	1.6	2.9	55	50	NO	NO	NO	NO	NO
5	5_0127		Residential	G	E	53	47	55	51	53	47	56	51	2.8	4.2	2.5	3.9	55	50	NO	NO	NO	NO	YES
5	5_0128		Residential	G	N	53	47	55	50	54	48	55	51	1.8	3	1.4	2.6	55	50	NO	NO	NO	NO	YES
5	5_0129		Residential	G	E	53	48	54	50	54	48	55	50	1	2.2	0.8	2	57	52	NO	NO	NO	NO	NO
5	5_0130		Residential	G	W	55	50	55	50	56	51	55	51	-0.4	-0.1	-0.6	-0.2	57	52	NO	NO	NO	NO	NO
5	5_0131		Residential	G	N	55	50	55	51	56	50	56	51	0.4	1.2	0.2	1	56	51	NO	NO	NO	NO	NO
5	5_0132		Residential	G	W	55	50	55	50	56	51	55	51	-0.6	-0.3	-0.8	-0.4	56	51	NO	NO	NO	NO	NO
5	5_0132		Residential	1	N	58	53	58	54	59	53	59	54	0.1	0.8	-0.1	0.6	56	51	NO	NO	NO	NO	NO
5	5_0132		Residential	1	E	55	49	57	52	56	50	57	53	1.9	3.3	1.6	2.9	56	51	NO	NO	NO	NO	YES
5	5_0133		Residential	G	E	53	47	55	50	53	48	55	51	1.9	3.2	1.6	2.9	56	51	NO	NO	NO	NO	NO
5	5_0134		Residential	G	E	53	47	55	50	54	48	55	51	1.9	3.1	1.5	2.8	56	51	NO	NO	NO	NO	NO
5	5_0135		Residential	G	W	55	51	55	51	56	51	56	51	-0.4	0	-0.4	-0.1	56	51	NO	NO	NO	NO	NO
5	5_0136		Residential	G	W	56	51	55	51	56	51	56	51	-0.3	0.1	-0.4	-0.1	55	50	NO	NO	NO	NO	NO
5	5_0136		Residential	G	E	53	47	55	50	54	48	55	51	1.8	2.9	1.4	2.6	55	50	NO	NO	NO	NO	YES
5	5_0137		Residential	G	W	56	51	55	51	56	51	56	51	-0.2	0.1	-0.4	-0.1	55	50	NO	NO	NO	NO	NO
5	5_0137		Residential	G	E	53	47	55	50	54	48	55	51	2	3	1.6	2.7	55	50	NO	NO	NO	NO	YES
5	5_0138		Residential	G	E	52	47	54	50	53	47	55	50	2	3.2	1.6	2.8	55	50	NO	NO	NO	NO	NO
5	5_0139		Residential	G	E	52	46	55	50	52	46	55	50	3	4.4	2.6	4	55	50	NO	NO	NO	NO	NO
5	5_0139		Residential	1	W	58	53	57	53	58	53	58	53	-0.2	0	-0.3	0	55	50	NO	NO	NO	NO	NO
5	5_0139		Residential	1	E	55	49	57	53	56	50	57	53	2.2	3.2	1.9	2.9	55	50	NO	NO	NO	NO	YES
5	5_0140		Residential	G	E	52	47	55	50	53	47	55	51	2.7	3.8	2.4	3.6	55	50	NO	NO	NO	NO	YES
5	5_0141		Residential	G	SE	53	48	55	51	54	48	56	51	2.1	2.9	1.8	2.7	55	50	NO	NO	NO	NO	YES
5	5_0142		Residential	G	SE	55	50	57	52	56	51	57	53	1.4	1.8	1.3	1.7	55	50	NO	NO	NO	NO	NO
5	5_0142		Residential	G	NE	52	47	55	50	53	47	55	51	2.5	3.5	2.2	3.3	55	50	NO	NO	NO	NO	YES
5	5_0143		Residential	G	E	52	46	56	52	53	47	56	52	4.1	5.7	3.6	5.3	55	50	NO	NO	NO	NO	YES
5	5_0144		Residential	G	E	51	45	55	51	52	46	55	51	4	5.6	3.8	5.2	55	50	NO	NO	NO	NO	YES
5	5_0145		Residential	G	N	53	47	54	50	53	48	55	50	1.7	2.8	1.4	2.5	55	50	NO	NO	NO	NO	NO
5	5_0146		Residential	G	N	53	48	55	50	54	48	55	51	1.7	2.7	1.4	2.4	55	50	NO	NO	NO	NO	YES
5	5_0147		Residential	G	SE	50	45	53	49	50	45	54	49	3.5	4.3	3.3	4.2	55	50	NO	NO	NO	NO	NO
5	5_0148		Residential	G	N	53	47	54	50	53	48	54	50	1.5	2.6	1.2	2.2	55	50	NO	NO	NO	NO	NO
5	5_0149		Residential	G	NW	55	50	55	51	55	50	55	51	0.3	0.8	0.1	0.6	55	50	NO	NO	NO	NO	NO
5	5_0149		Residential	1	NW	56	51	56	52	56	52	57	52	0.4	0.8	0.3	0.8	55	50	NO	NO	NO	NO	NO
5	5_0149		Residential	1	NE	53	48	56	52	54	48	57	52	3	4	2.6	3.7	55	50	NO	NO	NO	NO	YES
5	5_0150		Residential	G	NW	55	50	56	51	56	51	56	52	0.4	0.8	0.2	0.7	55	50	NO	NO	NO	NO	NO
5	5_0151		Residential	G	N	55	50	56	52	55	50	56	52	1.2	1.8	1	1.7	55	50	NO	NO	NO	NO	NO
5	5_0151		Residential	G	S	53	48	55	50	53	49	55	51	2.1	2.3	1.9	2.3	55	50	NO	NO	NO	NO	YES
5	5_0152		Residential	G	NW	54	49	54	50	54	50	54	50	0.2	0.6	0	0.4	55	50	NO	NO	NO	NO	NO
5	5_0152		Residential	1	NE	55	49	57	53	55	50	57	53	2.4	3.2	2.1	2.9	55	50	NO	NO	NO	NO	YES
5	5_0153		Residential	G	NW	54	49	55	51	55	49	55	51	1.2	1.9	0.9	1.7	55	50	NO	NO	NO	NO	NO
5	5_0154		Residential	G	NW	54	48	55	51	54	49	55	51	1.4	2.1	1.1	1.9	55	50	NO	NO	NO	NO	YES
5	5_0155		Residential	G	N	53	47	55	50	53	48	55	51	1.7	2.7	1.5	2.5	55	50	NO	NO	NO	NO	YES
5	5_0156		Residential	G	E	52	46	56	51	53	47	56	51	3.7	5.3	3.3	4.9	55	50	NO	NO	NO	NO	YES
5	5_0157		Residential	G	E	51	45	56	51	52	46	56	52	4.4	6.1	4	5.7	55	50	NO	NO	NO	NO	YES
5	5_0158		Residential	G	E	51	45	56	51	52	46	56	52	4.5	6.1	4	5.7	55	50	NO	NO	NO	NO	YES
5	5_0159		Residential	G	E	51	45	56	51	52	46	56	52	4.6	6.3	4.2	5.9	55	50	NO	NO	NO	NO	YES
5	5_0160		Residential	G	E	51	45	56	51	52	46	56	52	4.6	6.2	4.2	5.9	55	50	NO	NO	NO	NO	YES
5	5_0161		Residential	G	E	51	45	56	51	52	46	56	52	4.7	6.2	4.2	5.9	55	50	NO	NO	NO	NO	YES
5	5_0162		Residential	G	E	51	45	55	51	52	45	56	51	4.7	6.3	4.3	5.9	55	50	NO	NO	NO	NO	YES
5	5_0163		Residential	G	N	51	45	55	50	52	46	55	51	3.9	5	3.6	4.7	55	50	NO	NO	NO	NO	YES
5	5_0164		Residential	G	N	51	45	54	50	52	46	55	50	3.5	4.6	3.2	4.3	55	50	NO	NO	NO	NO	NO
5	5_0165		Residential	G	N	53	47	56	52	53	48	56	52	3.3	4.4	3	4	55	50	NO	NO	NO	NO	YES
5	5_0166		Residential	G	N	53	47	55	50	53	48	55	51	2	3	1.7	2.7	55	50	NO	NO	NO	NO	YES
5	5_0167		Residential	G	N	53	48	55	51	54	48	56	51	2.2	3.2	1.9	2.9	55	50	NO	NO	NO	NO	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
5	5_0168		Residential	G	N	52	47	54	50	53	48	55	50	1.6	2.4	1.5	2.2	55	50	NO	NO	NO	NO	NO
5	5_0169		Residential	G	E	51	45	55	50	52	46	55	51	3.8	5	3.5	4.7	55	50	NO	NO	NO	NO	YES
5	5_0170		Residential	G	N	52	47	56	51	53	47	56	51	3.5	4.5	3.2	4.3	55	50	NO	NO	NO	NO	YES
5	5_0171		Residential	G	N	54	49	55	51	55	49	56	51	1.4	2.1	1.1	1.8	55	50	NO	NO	NO	NO	YES
5	5_0171		Residential	1	N	56	51	57	53	57	52	57	53	1.1	1.6	0.9	1.4	55	50	NO	NO	NO	NO	NO
5	5_0171		Residential	1	N	55	50	56	52	55	50	57	52	1.6	2.3	1.4	2.1	55	50	NO	NO	NO	NO	YES
5	5_0172		Residential	G	N	52	46	54	50	52	47	55	50	2.4	3.4	2.1	3.2	55	50	NO	NO	NO	NO	NO
5	5_0173		Residential	G	N	52	46	56	51	53	47	56	51	3.6	4.7	3.2	4.4	55	50	NO	NO	NO	NO	YES
5	5_0174		Residential	G	NE	52	46	55	50	52	47	55	51	3.4	4.6	3	4.3	55	50	NO	NO	NO	NO	YES
5	5_0175		Residential	G	NE	51	45	54	50	52	46	55	50	3.1	4.4	2.7	4.1	55	50	NO	NO	NO	NO	NO
5	5_0176		Residential	G	NE	51	45	54	50	51	45	55	50	3.6	5	3.3	4.6	55	50	NO	NO	NO	NO	NO
5	5_0177		Residential	G	NE	50	44	54	49	51	45	54	50	4	5.2	3.6	4.9	55	50	NO	NO	NO	NO	NO
5	5_0178		Residential	G	SE	48	43	53	48	49	44	53	49	4.2	5	3.9	4.8	55	50	NO	NO	NO	NO	NO
5	5_0179		Residential	G	NE	51	45	55	51	51	46	55	51	4.3	5.7	3.9	5.4	55	50	NO	NO	NO	NO	YES
5	5_0180		Residential	G	NE	51	45	55	51	52	46	55	51	4	5.4	3.7	5.1	55	50	NO	NO	NO	NO	YES
5	5_0181		Residential	G	SE	50	44	54	50	50	45	55	50	4.3	5.5	4.1	5.3	55	50	NO	NO	NO	NO	NO
5	5_0182		Residential	G	E	50	45	54	50	51	45	55	50	4	5.3	3.6	5	55	50	NO	NO	NO	NO	NO
5	5_0183		Residential	G	NE	51	45	54	50	51	46	55	50	3.6	4.9	3.3	4.6	55	50	NO	NO	NO	NO	NO
5	5_0184		Residential	G	N	50	45	53	48	51	45	53	49	2.3	3.4	2	3.1	55	50	NO	NO	NO	NO	NO
5	5_0185		Residential	G	N	51	45	54	49	51	46	54	50	3.2	4.3	2.9	4	55	50	NO	NO	NO	NO	NO
5	5_0186		Residential	G	E	50	44	53	49	51	45	54	49	3.6	4.8	3.2	4.5	55	50	NO	NO	NO	NO	NO
5	5_0187		Residential	G	NE	49	43	52	48	50	44	53	48	3.2	4.3	2.8	4	55	50	NO	NO	NO	NO	NO
5	5_0188		Residential	G	NE	50	44	54	49	51	45	54	50	3.8	5.3	3.4	4.9	55	50	NO	NO	NO	NO	NO
5	5_0189		Residential	G	NE	50	44	54	49	51	45	54	50	3.7	5.2	3.4	4.8	55	50	NO	NO	NO	NO	NO
5	5_0190		Residential	G	NE	50	44	54	49	51	45	54	50	3.9	5.3	3.5	5	55	50	NO	NO	NO	NO	NO
5	5_0191		Residential	G	N	50	44	53	49	51	45	54	49	3.4	4.6	3	4.3	55	50	NO	NO	NO	NO	NO
5	5_0192		Residential	G	N	49	44	53	49	50	44	54	49	3.9	5.3	3.6	5	55	50	NO	NO	NO	NO	NO
5	5_0192		Residential	1	N	51	45	56	51	52	46	56	52	4.5	5.8	4.1	5.4	55	50	NO	NO	NO	NO	YES
5	5_0193		Residential	G	SE	47	41	52	48	48	42	52	48	4.8	6.4	4.5	6	55	50	NO	NO	NO	NO	NO
5	5_0193		Residential	1	SE	50	44	55	50	51	45	55	51	4.8	6	4.6	5.7	55	50	NO	NO	NO	NO	YES
5	5_0194		Residential	G	E	48	43	52	48	49	44	53	48	3.9	5	3.6	4.7	55	50	NO	NO	NO	NO	NO
5	5_0195		Residential	G	SE	49	43	52	48	49	44	52	48	3.5	4.5	3.3	4.3	55	50	NO	NO	NO	NO	NO
5	5_0196		Residential	G	E	49	43	51	47	49	44	52	47	2.3	3.3	2.1	3.1	55	50	NO	NO	NO	NO	NO
5	5_0197		Residential	G	N	50	44	53	49	51	45	54	49	3.4	4.6	3.1	4.3	55	50	NO	NO	NO	NO	NO
5	5_0198		Residential	G	N	50	44	53	48	51	45	53	49	2.7	3.8	2.4	3.4	55	50	NO	NO	NO	NO	NO
5	5_0199		Residential	G	N	50	45	53	49	51	45	54	49	3.3	4.3	2.9	4.1	55	50	NO	NO	NO	NO	NO
5	5_0200		Residential	G	N	51	45	54	49	51	46	54	50	3.1	4.3	2.8	4	55	50	NO	NO	NO	NO	NO
5	5_0201		Residential	G	N	50	44	53	49	51	45	53	49	3.2	4.5	2.9	4.2	55	50	NO	NO	NO	NO	NO
5	5_0201		Residential	1	N	52	47	56	51	53	47	56	52	3.5	4.4	3.2	4.2	55	50	NO	NO	NO	NO	YES
5	5_0202		Residential	G	NE	50	44	54	50	51	45	55	50	4.3	5.8	3.9	5.5	55	50	NO	NO	NO	NO	NO
5	5_0202		Residential	1	NE	53	47	56	51	53	48	56	52	3.2	4.1	2.9	3.9	55	50	NO	NO	NO	NO	YES
5	5_0203		Residential	G	W	55	50	55	51	55	51	56	51	0.3	0.5	0.2	0.5	55	50	NO	NO	NO	NO	NO
5	5_0204		Residential	G	W	50	46	51	47	51	46	52	47	0.9	1.3	0.8	1.1	55	50	NO	NO	NO	NO	NO
5	5_0205		Residential	G	N	49	44	54	49	50	44	54	50	4.5	5.7	4.2	5.5	55	50	NO	NO	NO	NO	NO
5	5_0205		Residential	1	N	51	46	55	51	52	46	56	51	4.3	5.4	4	5.1	55	50	NO	NO	NO	NO	YES
5	5_0206		Residential	G	N	49	44	54	49	50	44	54	50	4.6	5.7	4.3	5.5	55	50	NO	NO	NO	NO	NO
5	5_0207		Residential	G	N	49	44	54	50	50	45	54	50	4.7	5.8	4.4	5.5	55	50	NO	NO	NO	NO	NO
5	5_0208		Residential	G	N	49	44	54	50	50	44	54	50	4.6	5.7	4.3	5.5	55	50	NO	NO	NO	NO	NO
5	5_0209		Residential	G	N	49	44	54	50	50	44	54	50	4.9	6	4.6	5.7	55	50	NO	NO	NO	NO	NO
5	5_0210		Residential	G	N	49	43	54	50	49	44	54	50	5.4	6.9	5.1	6.6	55	50	NO	NO	NO	NO	NO
5	5_0210		Residential	1	N	50	45	55	51	51	45	56	51	5.1	6.3	4.7	6.1	55	50	NO	NO	NO	NO	YES
5	5_0211		Residential	G	N	49	43	54	50	49	43	54	50	5.4	6.8	5.1	6.5	55	50	NO	NO	NO	NO	NO
5	5_0212		Residential	G	E	48	42	54	49	49	43	54	50	5.5	7.2	5.2	6.8	55	50	NO	NO	NO	NO	NO
5	5_0213		Residential	G	E	47	41	53	49	48	41	54	49	6.6	8.5	6.3	8.1	55	50	NO	NO	NO	NO	NO
5	5_0213		Residential	1	N	50	44	56	51	51	45	56	52	5.5	7	5.2	6.6	55	50	NO	NO	NO	NO	YES
5	5_0214		Residential	G	E	48	42	54	49	49	43	54	50	5.7	7.2	5.4	7	55	50	NO	NO	NO	NO	NO
5	5_0215		Residential	G	N	50	44	55	51	50	44	56	51	5.7	7.2	5.4	6.9	55	50	NO	NO	NO	NO	YES
5	5_0216		Residential	G	NE	50	44	55	50	50	44	55	51	5.4	6.9	5	6.6	55	50	NO	NO	NO	NO	YES
5	5_0217		Residential	G	NE	49	44	55	50	50	44	55	51	5.2	6.7	4.8	6.4	55	50	NO	NO	NO	NO	YES
5	5_0218		Residential	G	NE	49	43	53	49	50	44	54	49	4.2	5.6	3.8	5.3	55	50	NO	NO	NO	NO	NO
5	5_0219		Residential	G	NE	49	44	55	50	50	44	55	51	5.1	6.6	4.8	6.3	55	50	NO	NO	NO	NO	YES
5	5_0220		Residential	G	NE	49	43	54	50	50	44	55	50	5.2	6.8	4.8	6.4	55	50	NO	NO	NO	NO	NO
5	5_0221		Residential	G	N	50	44	54	49	51	45	54	50	4.1	5.3	3.7	5	55	50	NO	NO	NO	NO	NO
5	5_0222		Residential	G	N	47	41	53	49	48	42	54	49	6.4	7.8	6.1	7.6	55	50	NO	NO	NO	NO	NO
5	5_0223		Residential	G	N	49	43	55	51	50	44	56	51	6	7.7	5.6	7.2	55	50	NO	NO	NO	NO	YES
5	5_0223		Residential	1	N	51	45	56	52	51	46	57	52	5.6	7.1	5.2	6.7	55	50	NO	NO	NO	NO	YES
5	5_0224		Residential	G	NE	50	44	56	51	50	44	56	52	5.9	7.5	5.5	7.2	55	50	NO	NO	NO	NO	YES
5	5_0225		Residential	G	NE	50	44	56	51	50	44	56	52	5.9	7.5	5.5	7.1	55	50	NO	NO	NO	NO	YES
5	5_0226		Residential	G	NE	50	44	56	51	50	44	56	52	5.9	7.5	5.6	7.2	55	50	NO	NO	NO	NO	YES
5	5_0227		Residential	G	NE	49	43	55	51	50	43	56	51	6.5	8.3	6.1	7.9	55	50	NO	NO	NO	NO	YES
5	5_0228		Residential	G	NE	49	43	55	51	50	44	56	51	6.3	8	5.9	7.6	55	50	NO	NO	NO	NO	YES
5	5_0229		Residential	G	NE	49	43	56	51	50	44	56	52	6.3	8	5.9	7.6	55	50	NO	NO	NO	NO	YES
5	5_0230		Residential	G	E	49	42	55	51	49	43	55	51	6.4	8.2	6.1	7.9	55	50	NO	NO	NO	NO	YES
5	5_0231		Residential	G	E	49	43	55	50	49	43	55	51	6	7.5	5.7	7.2	55	50	NO	NO	NO	NO	YES
5	5_0232		Residential	G	NE	49	42	55	50	49	43	55	51	6.1	7.9	5.8	7.6	55	50	NO	NO	NO	NO	YES
5	5_0233		Residential	G	E	48	42	54	49	48	42	54	50	6	7.7	5.7	7.3	55	50	NO	NO	NO	NO	NO
5	5_0234		Residential	G	N	49	43	52	47	49	44	52	48	3.2	4.3	2.9	4.1	55	50	NO	NO	NO	NO	NO
5	5_0235		Residential	G	N	49	44	53	49	50	45	54	49	3.8	4.8	3.5	4.5	55	50	NO	NO	NO	NO	NO
5	5_0236		Residential	G	N	50	44	52	48	50	45	53	48	2.7	3.5	2.3	3.4	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
5	5_0237		Residential	G	N	50	44	54	49	50	45	54	50	4	5.2	3.7	4.8	55	50	NO	NO	NO	NO	NO
5	5_0238		Residential	G	N	49	43	53	48	49	44	53	49	4.1	5	3.9	4.9	55	50	NO	NO	NO	NO	NO
5	5_0239		Residential	G	N	49	43	54	50	49	44	54	50	5.2	6.7	4.9	6.4	55	50	NO	NO	NO	NO	NO
5	5_0240		Residential	G	NE	49	43	55	50	50	44	55	50	5.6	7.4	5.2	6.9	55	50	NO	NO	NO	NO	NO
5	5_0240		Residential	1	NE	50	45	56	51	51	45	56	52	5.3	6.7	4.9	6.4	55	50	NO	NO	NO	NO	YES
5	5_0241		Residential	G	NE	50	44	55	50	51	45	55	50	4.8	6.2	4.4	5.8	55	50	NO	NO	NO	NO	NO
5	5_0242		Residential	G	E	49	43	54	50	49	43	55	50	5.5	7.1	5.2	6.8	55	50	NO	NO	NO	NO	NO
5	5_0243		Residential	G	NW	50	45	53	48	51	45	53	49	2.5	3.4	2.3	3.1	55	50	NO	NO	NO	NO	NO
5	5_0244		Residential	G	SE	48	43	53	48	49	44	53	49	4.3	5.4	4.1	5.2	55	50	NO	NO	NO	NO	NO
5	5_0245		Residential	G	NE	49	44	52	48	50	44	53	48	2.9	4.1	2.6	3.8	55	50	NO	NO	NO	NO	NO
5	5_0246		Residential	G	SE	49	43	52	48	49	44	53	48	3.4	4.3	3.2	4.1	55	50	NO	NO	NO	NO	NO
5	5_0247		Residential	G	NE	49	43	52	48	49	43	53	48	3.6	5	3.2	4.6	55	50	NO	NO	NO	NO	NO
5	5_0247		Residential	1	NE	51	45	55	51	51	46	56	51	4.4	5.6	4.1	5.3	55	50	NO	NO	NO	NO	YES
5	5_0248		Residential	G	NW	51	47	53	49	52	47	53	49	1.5	2.1	1.3	1.9	55	50	NO	NO	NO	NO	NO
5	5_0249		Residential	G	NE	51	45	56	51	52	46	56	52	4.6	6	4.1	5.6	55	50	NO	NO	NO	NO	YES
5	5_0250		Residential	G	NE	50	45	55	51	51	45	56	51	4.9	6.4	4.5	6.1	55	50	NO	NO	NO	NO	YES
5	5_0251		Residential	G	NE	50	44	55	51	51	45	56	51	5.1	6.7	4.7	6.3	55	50	NO	NO	NO	NO	YES
5	5_0251		Residential	1	NE	52	46	56	52	52	46	57	52	4.6	6.1	4.3	5.7	55	50	NO	NO	NO	NO	YES
5	5_0252		Residential	G	NE	50	44	54	50	51	44	54	50	4.2	5.8	3.8	5.4	55	50	NO	NO	NO	NO	NO
5	5_0253		Residential	G	NE	51	45	55	51	51	45	56	51	4.8	6.3	4.5	6	55	50	NO	NO	NO	NO	YES
5	5_0254		Residential	G	NE	51	45	56	51	51	45	56	52	5	6.5	4.6	6.1	55	50	NO	NO	NO	NO	YES
5	5_0255		Residential	G	NE	50	45	56	51	51	45	56	52	5.2	6.7	4.8	6.2	55	50	NO	NO	NO	NO	YES
5	5_0256		Residential	G	NE	50	44	56	51	51	45	56	52	5.3	6.9	5	6.6	55	50	NO	NO	NO	NO	YES
5	5_0257		Residential	G	E	50	44	56	51	51	45	56	52	5.5	7.2	5.2	6.8	55	50	NO	NO	NO	NO	YES
5	5_0258		Residential	G	E	49	43	54	50	50	44	54	50	5	6.7	4.6	6.2	55	50	NO	NO	NO	NO	NO
5	5_0259		Residential	G	N	50	45	56	51	51	45	56	52	5.3	6.7	4.9	6.4	55	50	NO	NO	NO	NO	YES
5	5_0260		Residential	G	E	49	43	54	49	50	44	54	50	4.6	6.1	4.2	5.8	55	50	NO	NO	NO	NO	NO
5	5_0261		Residential	G	E	49	43	54	49	50	44	54	50	4.8	6.4	4.5	6	55	50	NO	NO	NO	NO	NO
5	5_0262		Residential	G	N	49	43	53	49	49	44	54	49	4.6	5.9	4.3	5.7	55	50	NO	NO	NO	NO	NO
5	5_0263		Residential	G	E	48	42	53	48	49	43	53	48	4.5	5.8	4.2	5.5	55	50	NO	NO	NO	NO	NO
5	5_0264		Residential	G	SE	49	43	53	49	49	44	53	49	4.3	5.6	4.1	5.4	55	50	NO	NO	NO	NO	NO
5	5_0265		Residential	G	SE	48	43	53	48	49	43	53	49	4.3	5.5	4.1	5.2	55	50	NO	NO	NO	NO	NO
5	5_0266		Residential	G	SE	49	43	53	49	49	43	54	49	4.8	6.1	4.6	5.9	55	50	NO	NO	NO	NO	NO
5	5_0267		Residential	G	SE	48	43	52	48	49	43	53	48	4.2	5.3	3.9	5.1	55	50	NO	NO	NO	NO	NO
5	5_0268		Residential	G	NW	50	45	52	48	51	46	52	48	1.6	2.3	1.4	2.1	55	50	NO	NO	NO	NO	NO
5	5_0269		Residential	G	NW	51	46	53	48	51	46	53	49	1.8	2.5	1.6	2.2	55	50	NO	NO	NO	NO	NO
5	5_0270		Residential	1	SE	52	46	53	47	53	47	53	47	0.6	1.1	0.3	0.8	55	50	NO	NO	NO	NO	NO
5	5_0271		Residential	G	SE	51	44	51	45	52	45	52	46	0.5	1	0.2	0.7	55	50	NO	NO	NO	NO	NO
5	5_0272		Residential	G	SE	51	44	52	45	52	45	52	46	0.5	0.9	0.1	0.6	55	50	NO	NO	NO	NO	NO
5	5_0273		Residential	G	SE	51	44	51	45	52	45	52	46	0.5	1	0.2	0.7	55	50	NO	NO	NO	NO	NO
5	5_0274		Residential	G	SE	51	44	51	45	51	45	52	46	0.5	1	0.2	0.6	55	50	NO	NO	NO	NO	NO
5	5_0275		Residential	G	SE	50	44	50	44	51	44	51	45	0.3	0.7	0	0.3	55	50	NO	NO	NO	NO	NO
5	5_0276		Residential	G	NE	50	43	52	46	51	44	52	47	1.9	3.2	1.6	2.8	55	50	NO	NO	NO	NO	NO
5	5_0276		Residential	1	NE	51	45	54	49	52	46	54	49	2.4	3.7	2.1	3.4	55	50	NO	NO	NO	NO	NO
5	5_0277		Residential	G	NE	50	44	52	47	51	45	53	48	2.1	3.4	1.8	3.1	55	50	NO	NO	NO	NO	NO
5	5_0278		Residential	G	NE	50	43	53	48	51	44	53	48	2.7	4.2	2.4	3.8	55	50	NO	NO	NO	NO	NO
5	5_0279		Residential	G	NE	49	42	52	48	50	43	53	48	3.5	5.2	3.1	4.8	55	50	NO	NO	NO	NO	NO
5	5_0280		Residential	G	E	52	45	54	48	53	46	54	49	1.9	3.2	1.6	2.8	55	50	NO	NO	NO	NO	NO
5	5_0281		Residential	G	NE	49	43	53	48	50	43	53	48	3.5	5.1	3.1	4.8	55	50	NO	NO	NO	NO	NO
5	5_0281		Residential	1	NE	51	44	54	49	52	45	54	49	2.8	4.2	2.5	3.9	55	50	NO	NO	NO	NO	NO
5	5_0282		Residential	G	NE	49	43	53	48	50	44	53	48	3.3	4.8	2.9	4.5	55	50	NO	NO	NO	NO	NO
5	5_0283		Residential	G	W	46	40	51	46	47	41	51	47	4.6	6.4	4.3	6	55	50	NO	NO	NO	NO	NO
5	5_0284		Residential	G	E	48	42	52	47	49	43	52	47	3.2	5	2.9	4.6	55	50	NO	NO	NO	NO	NO
5	5_0285		Residential	G	N	49	42	51	46	49	43	52	47	2.7	4.2	2.4	3.9	55	50	NO	NO	NO	NO	NO
5	5_0286		Residential	G	E	49	42	51	46	50	43	51	46	2	3.3	1.6	2.9	55	50	NO	NO	NO	NO	NO
5	5_0287		Residential	G	NW	46	40	50	46	47	40	51	46	4.5	6.2	4.2	5.9	55	50	NO	NO	NO	NO	NO
5	5_0288		Residential	G	NW	46	39	50	46	46	40	51	46	4.5	6.4	4.2	6.1	55	50	NO	NO	NO	NO	NO
5	5_0289		Residential	G	NW	44	38	49	44	45	38	49	45	4.8	6.5	4.5	6.2	55	50	NO	NO	NO	NO	NO
5	5_0289		Residential	1	NE	50	44	53	48	51	44	53	48	2.7	4.1	2.3	3.8	55	50	NO	NO	NO	NO	NO
5	5_0290		Residential	G	SE	49	43	50	44	50	43	51	45	1.1	1.9	0.8	1.6	55	50	NO	NO	NO	NO	NO
5	5_0291		Residential	G	SE	48	41	49	44	49	42	50	44	1.4	2.4	1.1	2.1	55	50	NO	NO	NO	NO	NO
5	5_0292		Residential	G	SE	48	41	49	43	48	42	49	44	1.1	2	0.8	1.7	55	50	NO	NO	NO	NO	NO
5	5_0293		Residential	G	E	50	43	52	47	50	44	52	47	2.6	4	2.2	3.7	55	50	NO	NO	NO	NO	NO
5	5_0294		Residential	G	E	49	43	51	46	50	44	52	47	2	3.4	1.7	3	55	50	NO	NO	NO	NO	NO
5	5_0295		Residential	G	E	50	43	53	48	51	44	53	48	3.1	4.7	2.8	4.4	55	50	NO	NO	NO	NO	NO
5	5_0296		Residential	G	E	50	43	53	48	51	44	54	49	3.3	5	3	4.6	55	50	NO	NO	NO	NO	NO
5	5_0297		Residential	G	E	49	43	52	47	50	44	53	48	2.9	4.4	2.6	4.1	55	50	NO	NO	NO	NO	NO
5	5_0298		Residential	G	E	50	43	53	48	50	44	54	49	3.5	5.3	3.2	4.9	55	50	NO	NO	NO	NO	NO
5	5_0299		Residential	G	N	49	42	53	48	50	43	53	49	4.3	6.1	3.9	5.6	55	50	NO	NO	NO	NO	NO
5	5_0300		Residential	G	SE	49	43	51	45	50	43	51	45	1.2	2.1	0.9	1.8	55	50	NO	NO	NO	NO	NO
5	5_0301		Residential	G	SE	49	42	50	45	50	43	51	45	1.2	2.1	0.9	1.8	55	50	NO	NO	NO	NO	NO
5	5_0302		Residential	G	SE	47	41	49	43	48	41	49	44	1.5	2.6	1.2	2.3	55	50	NO	NO	NO	NO	NO
5	5_0302		Residential	1	NW	47	41	51	47	48	41	52	47	4.2	5.8	3.8	5.4	55	50	NO	NO	NO	NO	NO
5	5_0303		Residential	G	SE	48	41	49	44	49	42	50	44	1.5	2.6	1.2	2.3	55	50	NO	NO	NO	NO	NO
5	5_0303		Residential	1	NE	50	43	53	48	50	44	53	48	2.8	4.3	2.4	3.9	55	50	NO	NO	NO	NO	NO
5	5_0304		Residential	G	E	49	42	50	45	50	43	51	45	1.5	2.6	1.2	2.3	55	50	NO	NO	NO	NO	NO
5	5_0305		Residential	G	E	49	42	51	46	50	43	52	46	2	3.3	1.6	2.9	55	50	NO	NO	NO	NO	NO
5	5_0305		Residential	1	E	51	44	53	47	51	45	53	48	1.9	3.1	1.6	2.8	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
5	5_0306		Residential	G	E	49	42	51	46	50	43	52	46	2.2	3.6	1.9	3.2	55	50	NO	NO	NO	NO	NO
5	5_0307		Residential	G	E	49	42	52	47	50	43	52	47	2.9	4.5	2.6	4.2	55	50	NO	NO	NO	NO	NO
5	5_0307		Residential	1	N	50	43	53	48	50	44	54	49	3.7	5.2	3.3	4.8	55	50	NO	NO	NO	NO	NO
5	5_0308		Residential	G	E	49	42	53	48	50	43	53	48	3.5	5.3	3.2	4.9	55	50	NO	NO	NO	NO	NO
5	5_0309		Residential	G	E	49	42	53	48	50	43	53	48	3.5	5.3	3.2	4.9	55	50	NO	NO	NO	NO	NO
5	5_0310		Residential	G	E	49	42	53	48	50	43	53	48	3.8	5.6	3.4	5.2	55	50	NO	NO	NO	NO	NO
5	5_0311		Residential	G	E	49	42	52	48	50	43	53	48	3.6	5.4	3.2	5	55	50	NO	NO	NO	NO	NO
5	5_0312		Residential	G	E	48	41	50	45	48	42	51	45	2.6	3.9	2.2	3.6	55	50	NO	NO	NO	NO	NO
5	5_0313		Residential	G	E	48	42	52	47	49	42	52	47	3.5	5.1	3	4.7	55	50	NO	NO	NO	NO	NO
5	5_0314		Residential	G	E	48	42	52	47	49	42	52	47	3.4	5.1	3	4.8	55	50	NO	NO	NO	NO	NO
5	5_0315		Residential	G	N	49	42	53	48	49	43	53	49	4.5	6.2	4.2	5.9	55	50	NO	NO	NO	NO	NO
5	5_0316		Residential	G	N	48	41	53	48	48	42	53	49	5.2	7	4.9	6.6	55	50	NO	NO	NO	NO	NO
5	5_0316		Residential	1	N	49	42	54	49	49	43	54	49	4.8	6.5	4.4	6.2	55	50	NO	NO	NO	NO	NO
5	5_0317		Residential	G	N	48	42	53	48	49	42	53	49	4.9	6.6	4.6	6.3	55	50	NO	NO	NO	NO	NO
5	5_0318		Residential	G	NW	47	41	52	48	47	41	53	48	5.6	7.3	5.3	7	55	50	NO	NO	NO	NO	NO
5	5_0319		Residential	G	NW	47	41	52	47	47	41	52	47	4.9	6.6	4.6	6.2	55	50	NO	NO	NO	NO	NO
5	5_0320		Residential	G	NE	48	42	53	48	49	43	53	49	4.7	6.5	4.4	6.1	55	50	NO	NO	NO	NO	NO
5	5_0321		Residential	G	SE	47	40	49	44	47	41	49	44	2.4	3.7	2.1	3.4	55	50	NO	NO	NO	NO	NO
5	5_0322		Residential	G	NE	49	42	52	47	50	43	53	48	3.2	4.8	2.9	4.5	55	50	NO	NO	NO	NO	NO
5	5_0323		Residential	G	NE	49	42	51	46	49	43	52	47	2.7	4.3	2.4	4	55	50	NO	NO	NO	NO	NO
5	5_0324		Residential	G	NE	48	42	52	47	49	42	52	47	3.6	5.4	3.3	5	55	50	NO	NO	NO	NO	NO
5	5_0325		Residential	G	E	48	42	52	47	49	42	52	47	3.3	4.9	2.9	4.6	55	50	NO	NO	NO	NO	NO
5	5_0326		Residential	G	N	49	42	52	47	49	43	53	48	3.6	5.2	3.2	4.8	55	50	NO	NO	NO	NO	NO
5	5_0327		Residential	G	W	46	40	50	45	47	41	50	45	3.5	4.9	3.1	4.6	55	50	NO	NO	NO	NO	NO
5	5_0328		Residential	G	NW	46	40	51	46	47	41	51	46	4.4	6	4.1	5.7	55	50	NO	NO	NO	NO	NO
5	5_0329		Residential	G	NW	47	40	51	47	47	41	52	47	4.5	6.2	4.2	5.9	55	50	NO	NO	NO	NO	NO
5	5_0330		Residential	G	NW	47	40	51	47	47	41	51	47	4.5	6.1	4.1	5.7	55	50	NO	NO	NO	NO	NO
5	5_0331		Residential	G	NW	46	40	51	46	47	41	51	47	4.4	6	4.1	5.7	55	50	NO	NO	NO	NO	NO
5	5_0332		Residential	G	NW	46	40	51	46	47	41	51	46	4.3	5.9	3.9	5.6	55	50	NO	NO	NO	NO	NO
5	5_0333		Residential	G	SE	47	41	50	44	48	42	50	45	2.2	3.6	2	3.2	55	50	NO	NO	NO	NO	NO
5	5_0334		Residential	G	NE	47	40	51	46	47	41	51	47	4.3	6.2	3.9	5.8	55	50	NO	NO	NO	NO	NO
5	5_0335		Residential	G	NW	46	40	50	45	47	41	50	46	3.9	5.5	3.5	5.1	55	50	NO	NO	NO	NO	NO
5	5_0336		Residential	G	NW	46	40	50	46	47	40	51	46	4.5	6.1	4.1	5.8	55	50	NO	NO	NO	NO	NO
5	5_0337		Residential	G	E	47	41	50	45	48	41	50	45	2.7	4.3	2.4	3.9	55	50	NO	NO	NO	NO	NO
5	5_0338		Residential	G	E	48	41	52	47	48	42	52	47	3.8	5.5	3.4	5.2	55	50	NO	NO	NO	NO	NO
5	5_0339		Residential	G	N	48	42	52	48	49	42	53	48	4.3	6	4	5.7	55	50	NO	NO	NO	NO	NO
5	5_0340		Residential	G	NE	47	41	51	47	48	42	52	47	4	5.8	3.7	5.5	55	50	NO	NO	NO	NO	NO
5	5_0341		Residential	G	NW	47	41	52	48	48	42	53	48	5.1	6.7	4.7	6.5	55	50	NO	NO	NO	NO	NO
5	5_0342		Residential	G	NE	48	42	53	48	49	43	53	48	4.2	6	3.8	5.5	55	50	NO	NO	NO	NO	NO
5	5_0343		Residential	G	NW	48	41	52	47	48	42	52	48	4.4	6	4.1	5.6	55	50	NO	NO	NO	NO	NO
5	5_0344		Residential	G	NW	47	41	52	48	48	42	52	48	5	6.5	4.5	6.2	55	50	NO	NO	NO	NO	NO
5	5_0345		Residential	G	NE	48	42	51	46	49	42	51	46	2.6	4.1	2.3	3.7	55	50	NO	NO	NO	NO	NO
5	5_0346		Residential	G	NE	49	42	53	49	50	43	54	49	4.4	6.2	3.9	5.7	55	50	NO	NO	NO	NO	NO
5	5_0347		Residential	G	NE	49	42	53	48	49	43	53	49	4.3	6.1	4	5.8	55	50	NO	NO	NO	NO	NO
5	5_0348		Residential	G	NE	49	42	53	48	49	43	53	48	4.1	6	3.8	5.5	55	50	NO	NO	NO	NO	NO
5	5_0349		Residential	G	NE	48	42	52	48	49	43	53	48	3.9	5.7	3.6	5.3	55	50	NO	NO	NO	NO	NO
5	5_0350		Residential	G	NE	46	40	49	45	47	40	50	45	3.4	5	3.1	4.7	55	50	NO	NO	NO	NO	NO
5	5_0351		Residential	G	NE	49	42	52	47	49	43	53	48	3.5	5.2	3.2	4.8	55	50	NO	NO	NO	NO	NO
5	5_0352		Residential	G	NE	49	42	52	47	49	43	53	48	3.7	5.4	3.4	5.1	55	50	NO	NO	NO	NO	NO
5	5_0353		Residential	G	NE	49	42	52	47	49	43	53	48	3.7	5.3	3.2	5	55	50	NO	NO	NO	NO	NO
5	5_0354		Residential	G	NE	49	42	52	47	49	43	52	48	3.5	5.2	3.1	4.7	55	50	NO	NO	NO	NO	NO
5	5_0355		Residential	G	NE	48	41	51	46	49	42	51	46	3	4.6	2.7	4.3	55	50	NO	NO	NO	NO	NO
5	5_0356		Residential	G	NE	48	41	51	46	48	42	51	46	2.8	4.4	2.5	4	55	50	NO	NO	NO	NO	NO
5	5_0357		Residential	G	NE	47	41	51	46	48	42	51	46	3.3	4.9	3	4.6	55	50	NO	NO	NO	NO	NO
5	5_0358		Residential	G	NW	46	40	50	45	47	40	50	46	3.9	5.5	3.6	5.2	55	50	NO	NO	NO	NO	NO
5	5_0359		Residential	G	NW	45	39	50	45	46	39	50	45	4.7	6.3	4.4	6	55	50	NO	NO	NO	NO	NO
5	5_0359		Residential	1	NE	49	43	53	48	50	43	53	48	3.6	5.2	3.3	4.8	55	50	NO	NO	NO	NO	NO
5	5_0360		Residential	G	SE	46	40	49	44	47	40	49	44	2.9	4.4	2.6	4.1	55	50	NO	NO	NO	NO	NO
5	5_0361		Residential	G	NW	46	40	50	45	47	40	50	45	3.9	5.4	3.5	5.1	55	50	NO	NO	NO	NO	NO
5	5_0362		Residential	G	NE	48	42	52	48	49	43	53	48	3.9	5.6	3.6	5.3	55	50	NO	NO	NO	NO	NO
5	5_0363		Residential	G	NE	48	42	52	48	49	42	53	48	4.3	6.1	3.9	5.7	55	50	NO	NO	NO	NO	NO
5	5_0364		Residential	G	NE	48	41	52	47	49	42	53	48	4.2	6	3.8	5.6	55	50	NO	NO	NO	NO	NO
5	5_0365		Residential	G	NE	48	42	52	47	49	42	53	48	4.1	5.8	3.7	5.5	55	50	NO	NO	NO	NO	NO
5	5_0366		Residential	G	NW	47	41	52	48	48	42	52	48	4.7	6.3	4.2	6	55	50	NO	NO	NO	NO	NO
5	5_0367		Residential	G	NE	48	42	52	48	49	42	53	48	4.2	6	3.9	5.7	55	50	NO	NO	NO	NO	NO
5	5_0368		Residential	G	NW	48	42	53	48	48	42	53	49	4.9	6.4	4.6	6.1	55	50	NO	NO	NO	NO	NO
5	5_0369		Residential	G	NE	49	42	53	48	49	43	53	49	4.2	5.7	3.7	5.4	55	50	NO	NO	NO	NO	NO
5	5_0370		Residential	G	NE	49	43	53	49	50	43	54	49	4.5	6.1	4.1	5.8	55	50	NO	NO	NO	NO	NO
5	5_0371		Residential	G	NE	49	42	53	49	49	43	54	49	4.7	6.4	4.4	6	55	50	NO	NO	NO	NO	NO
5	5_0372		Residential	G	NE	48	42	53	49	49	43	54	49	4.7	6.4	4.4	6.1	55	50	NO	NO	NO	NO	NO
5	5_0373		Residential	G	NE	48	42	53	48	49	43	53	49	4.5	6.2	4.1	5.8	55	50	NO	NO	NO	NO	NO
5	5_0374		Residential	G	NE	48	42	53	48	49	43	53	48	4.3	5.8	3.9	5.5	55	50	NO	NO	NO	NO	NO
5	5_0375		Residential	G	NE	48	42	53	48	49	43	53	49	4.5	6.2	4.2	5.8	55	50	NO	NO	NO	NO	NO
5	5_0376		Residential	G	NE	49	43	53	48	49	43	53	49	4.4	5.9	4	5.5	55	50	NO	NO	NO	NO	NO
5	5_0377		Residential	G	N	49	43	53	48	49	43	53	49	4	5.4	3.7	5.1	55	50	NO	NO	NO	NO	NO
5	5_0378		Residential	G	N	48	43	53	49	49	43	53	49	4.7	6.1	4.4	5.7	55	50	NO	NO	NO	NO	NO
5	5_0379		Residential	G	N	48	43	53	48	49	43	53	49	4.5	5.7	4.2	5.5	55	50	NO	NO	NO	NO	NO
5	5_0379		Residential	1	N	50	44	54	49	50	45	54	50	4.3	5.4	4	5.1	55	50	NO	NO	NO	NO	NO
5	5_0380		Residential	G	N	49	43	53	48	49	44	53	49	3.9	5	3.7	4.8	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
5	5_0381		Residential	G	N	49	44	53	49	50	45	53	49	3.6	4.5	3.4	4.4	55	50	NO	NO	NO	NO	NO
5	5_0382		Residential	G	N	49	44	53	49	50	45	53	49	3.6	4.4	3.3	4.2	55	50	NO	NO	NO	NO	NO
5	5_0383		Residential	G	N	50	45	53	49	50	45	53	49	3.3	4	3	3.8	55	50	NO	NO	NO	NO	NO
5	5_0384		Residential	G	NW	50	45	53	49	51	46	53	49	3	3.5	2.8	3.5	55	50	NO	NO	NO	NO	NO
5	5_0385		Residential	G	N	51	46	54	50	52	47	54	50	2.9	3.5	2.7	3.3	55	50	NO	NO	NO	NO	NO
5	5_0386		Residential	G	N	50	45	53	49	51	46	54	49	3	3.7	2.8	3.5	55	50	NO	NO	NO	NO	NO
5	5_0387		Residential	G	N	50	45	54	49	51	46	54	50	3.3	4	3	3.8	55	50	NO	NO	NO	NO	NO
5	5_0388		Residential	G	N	49	43	53	48	49	44	53	49	4.1	5.3	3.8	5.1	55	50	NO	NO	NO	NO	NO
5	5_0389		Residential	G	N	49	43	53	48	50	44	53	49	3.7	4.7	3.5	4.5	55	50	NO	NO	NO	NO	NO
5	5_0390		Residential	G	N	49	43	53	49	50	44	54	49	4.3	5.4	4	5.2	55	50	NO	NO	NO	NO	NO
5	5_0391		Residential	G	N	49	43	53	49	50	44	54	49	4.5	5.8	4.2	5.5	55	50	NO	NO	NO	NO	NO
5	5_0392		Residential	G	NE	49	42	53	49	49	43	54	49	4.6	6.2	4.3	5.8	55	50	NO	NO	NO	NO	NO
5	5_0393		Residential	G	NE	49	42	53	49	49	43	54	49	4.6	6.3	4.3	6	55	50	NO	NO	NO	NO	NO
5	5_0394		Residential	G	NE	48	42	53	49	49	43	54	49	4.8	6.5	4.4	6.2	55	50	NO	NO	NO	NO	NO
5	5_0395		Residential	G	NE	49	42	53	49	50	43	54	49	4.5	6.2	4.1	5.9	55	50	NO	NO	NO	NO	NO
5	5_0396		Residential	G	NW	47	41	51	47	47	41	52	47	4.8	6.2	4.5	5.9	55	50	NO	NO	NO	NO	NO
5	5_0397		Residential	G	NE	48	42	53	48	49	43	53	49	4.6	6.4	4.2	6	55	50	NO	NO	NO	NO	NO
5	5_0398		Residential	G	N	48	42	53	49	49	43	54	49	4.8	6.6	4.5	6.2	55	50	NO	NO	NO	NO	NO
5	5_0399		Residential	G	NE	48	41	53	49	49	42	53	49	5.3	7.1	4.8	6.8	55	50	NO	NO	NO	NO	NO
5	5_0400		Residential	G	NE	49	43	54	49	49	43	54	49	4.9	6.5	4.5	6.1	55	50	NO	NO	NO	NO	NO
5	5_0401		Residential	G	N	48	42	54	49	49	43	54	49	5.1	6.7	4.6	6.3	55	50	NO	NO	NO	NO	NO
5	5_0402		Residential	G	NE	48	42	53	49	49	43	54	49	5.1	6.8	4.8	6.5	55	50	NO	NO	NO	NO	NO
5	5_0403		Residential	G	NE	48	42	53	49	49	43	54	49	5.1	6.9	4.8	6.5	55	50	NO	NO	NO	NO	NO
5	5_0404		Residential	G	NE	48	42	53	49	49	42	54	49	5.3	7	4.8	6.7	55	50	NO	NO	NO	NO	NO
5	5_0405		Residential	G	NE	48	42	53	49	49	43	54	49	5.1	6.9	4.8	6.5	55	50	NO	NO	NO	NO	NO
5	5_0406		Residential	G	NE	48	42	53	49	49	42	54	49	5.3	7.2	5	6.7	55	50	NO	NO	NO	NO	NO
5	5_0407		Residential	G	NE	48	41	53	49	49	42	54	49	5.5	7.5	5.1	7.1	55	50	NO	NO	NO	NO	NO
5	5_0407		Residential	1	NE	49	43	54	49	50	44	54	50	5	6.6	4.7	6.3	55	50	NO	NO	NO	NO	NO
5	5_0408		Residential	G	NE	48	42	54	49	49	43	54	49	5.3	7	4.9	6.6	55	50	NO	NO	NO	NO	NO
5	5_0409		Residential	G	NE	48	42	54	49	49	43	54	49	5.3	7	4.9	6.7	55	50	NO	NO	NO	NO	NO
5	5_0410		Residential	G	NE	48	42	54	49	49	43	54	50	5.4	7.1	5	6.7	55	50	NO	NO	NO	NO	NO
5	5_0411		Residential	G	NE	48	42	54	49	49	43	54	49	5.3	6.9	4.9	6.5	55	50	NO	NO	NO	NO	NO
5	5_0412		Residential	G	NE	48	42	54	49	49	43	54	50	5.3	6.9	5	6.6	55	50	NO	NO	NO	NO	NO
5	5_0413		Residential	G	N	48	43	54	49	49	43	54	50	5.3	6.8	5	6.5	55	50	NO	NO	NO	NO	NO
5	5_0414		Residential	G	N	49	43	54	49	49	43	54	50	5.2	6.7	4.9	6.3	55	50	NO	NO	NO	NO	NO
5	5_0415		Residential	G	E	48	41	53	49	49	42	54	49	5.5	7.3	5.1	6.9	55	50	NO	NO	NO	NO	NO
5	5_0416		Residential	G	N	48	42	54	49	48	42	54	49	5.9	7.5	5.6	7.1	55	50	NO	NO	NO	NO	NO
5	5_0417		Residential	G	NE	48	42	54	49	49	43	54	50	5.7	7.4	5.3	7	55	50	NO	NO	NO	NO	NO
5	5_0418		Residential	G	NE	48	42	54	50	49	43	54	50	5.6	7.2	5.3	6.9	55	50	NO	NO	NO	NO	NO
5	5_0419		Residential	G	N	49	43	54	50	49	44	55	50	5.5	6.8	5.2	6.6	55	50	NO	NO	NO	NO	NO
5	5_0420		Residential	G	NW	49	43	52	48	49	44	53	48	3.9	4.7	3.7	4.6	55	50	NO	NO	NO	NO	NO
5	5_0420		Residential	1	NE	49	43	54	50	50	44	55	50	5.6	7.2	5.2	6.8	55	50	NO	NO	NO	NO	NO
5	5_0421		Residential	G	NE	48	42	53	49	49	43	53	49	5	6.6	4.6	6.3	55	50	NO	NO	NO	NO	NO
5	5_0422		Residential	G	E	48	42	54	49	49	42	54	50	5.9	7.6	5.5	7.3	55	50	NO	NO	NO	NO	NO
5	5_0423		Residential	G	NE	48	42	53	49	49	43	53	49	4.9	6.2	4.5	6	55	50	NO	NO	NO	NO	NO
5	5_0424		Residential	G	E	47	41	53	48	48	42	53	48	5.4	7.1	5.1	6.8	55	50	NO	NO	NO	NO	NO
5	5_0425		Residential	G	N	48	42	53	49	49	43	53	49	5.1	6.5	4.8	6.1	55	50	NO	NO	NO	NO	NO
5	5_0425		Residential	1	N	49	44	54	50	50	44	55	50	4.9	6.1	4.6	5.8	55	50	NO	NO	NO	NO	NO
5	5_0426		Residential	G	N	49	43	54	49	49	44	54	50	5.1	6.3	4.7	6.1	55	50	NO	NO	NO	NO	NO
5	5_0427		Residential	G	N	49	44	54	49	50	44	54	50	4.7	5.7	4.4	5.5	55	50	NO	NO	NO	NO	NO
5	5_0427		Residential	1	N	50	45	54	50	51	46	55	50	4.2	5.1	3.9	4.9	55	50	NO	NO	NO	NO	NO
5	5_0428		Residential	G	N	49	44	53	49	49	44	54	49	4.3	5.1	4.1	5	55	50	NO	NO	NO	NO	NO
5	5_0428		Residential	1	N	50	45	54	50	51	46	54	50	3.9	4.6	3.6	4.4	55	50	NO	NO	NO	NO	NO
5	5_0429		Residential	G	N	49	44	52	47	50	45	52	48	2.7	3.5	2.5	3.2	55	50	NO	NO	NO	NO	NO
5	5_0430		Residential	G	NW	50	45	53	49	50	45	53	49	3.1	3.7	2.9	3.6	55	50	NO	NO	NO	NO	NO
5	5_0431		Residential	G	NW	50	46	52	48	51	46	53	48	1.9	2.3	1.6	2.1	55	50	NO	NO	NO	NO	NO
5	5_0432		Residential	G	N	49	43	53	49	49	44	54	49	4.6	5.8	4.3	5.6	55	50	NO	NO	NO	NO	NO
5	5_0432		Residential	1	N	50	44	54	50	50	45	54	50	4.3	5.3	4	5	55	50	NO	NO	NO	NO	NO
5	5_0433		Residential	G	NW	49	44	52	47	50	45	52	48	2.4	2.9	2.2	2.8	55	50	NO	NO	NO	NO	NO
5	5_0434		Residential	G	NW	49	44	51	47	49	44	52	48	2.7	3.2	2.5	3.1	55	50	NO	NO	NO	NO	NO
5	5_0434		Residential	1	NW	51	46	54	50	51	46	54	50	3.1	3.7	2.9	3.5	55	50	NO	NO	NO	NO	NO
5	5_0435		Residential	G	N	48	43	52	48	49	44	52	48	3.6	4.4	3.4	4.2	55	50	NO	NO	NO	NO	NO
5	5_0436		Residential	G	N	48	43	53	49	49	44	53	49	4.6	5.6	4.4	5.4	55	50	NO	NO	NO	NO	NO
5	5_0437		Residential	G	N	48	43	53	48	49	43	53	49	4.5	5.6	4.3	5.3	55	50	NO	NO	NO	NO	NO
5	5_0438		Residential	G	N	48	43	53	49	49	44	53	49	4.6	5.7	4.3	5.4	55	50	NO	NO	NO	NO	NO
5	5_0439		Residential	G	N	49	43	54	49	49	44	54	50	5	6.3	4.6	6	55	50	NO	NO	NO	NO	NO
5	5_0440		Residential	G	N	49	43	54	49	49	44	54	50	4.9	6.4	4.6	6	55	50	NO	NO	NO	NO	NO
5	5_0441		Residential	G	N	48	42	54	49	49	43	54	50	5.2	6.7	4.7	6.4	55	50	NO	NO	NO	NO	NO
5	5_0442		Residential	G	NE	48	42	53	49	49	43	54	49	5.2	6.8	4.9	6.5	55	50	NO	NO	NO	NO	NO
5	5_0443		Residential	G	NE	48	42	53	49	49	42	54	49	5.6	7.3	5.1	6.9	55	50	NO	NO	NO	NO	NO
5	5_0444		Residential	G	N	49	43	54	49	49	44	54	50	5	6.3	4.6	6	55	50	NO	NO	NO	NO	NO
5	5_0445		Residential	G	N	49	43	54	49	49	44	54	50	4.9	6	4.5	5.8	55	50	NO	NO	NO	NO	NO
5	5_0446		Residential	G	N	49	43	54	49	49	44	54	50	4.8	5.9	4.5	5.7	55	50	NO	NO	NO	NO	NO
5	5_0447		Residential	G	N	49	44	53	49	50	44	54	49	4.3	5.4	4.1	5.1	55	50	NO	NO	NO	NO	NO
5	5_0448		Residential	G	N	49	43	52	48	49	44	52	48	3.3	4.2	3.1	4	55	50	NO	NO	NO	NO	NO
5	5_0449		Residential	G	N	49	43	53	48	49	44	53	49	3.9	4.8	3.6	4.6	55	50	NO	NO	NO	NO	NO
5	5_0450		Residential	G	NW	50	45	53	49	50	45	53	49	3.3	3.9	3.1	3.8	55	50	NO	NO	NO	NO	NO
5	5_0451		Residential	G	NW	49	44	51	47	50	45	52	47	1.9	2.4	1.7	2.3	55	50	NO	NO	NO	NO	NO
5	5_0452		Residential	G	NE	48	42	55	50	49	43	55	51	6.2	8.2	5.9	7.7	55	50	NO	NO	NO	NO	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
5	5_0453		Residential	G	N	70	63	66	59	71	64	67	60	-3.9	-3.8	-4.1	-4	55	50	NO	NO	NO	NO	NO
5	5_0453		Residential	G	E	63	56	61	55	64	57	61	55	-2.7	-1.8	-3	-2.3	55	50	NO	YES	NO	NO	YES
5	5_0454		Residential	G	E	60	54	58	53	61	55	59	53	-2	-0.9	-2.4	-1.3	56	51	NO	NO	NO	NO	NO
6	6_0001		Residential	G	N	72	65	68	62	73	66	69	62	-3.9	-3.9	-4.2	-4.1	55	50	NO	NO	NO	NO	NO
6	6_0001		Residential	G	S	62	55	61	56	63	56	61	56	-0.9	0.8	-1.3	0.3	55	50	YES	YES	NO	NO	YES
6	6_0002		Residential	G	N	58	52	56	51	59	52	57	51	-1.8	-1	-2.2	-1.3	55	50	NO	NO	NO	NO	NO
7	7_0001		Residential	G	SE	72	65	68	61	72	65	68	61	-4	-4	-4.1	-4.3	55	50	NO	NO	NO	NO	NO
7	7_0002		Residential	G	SE	72	65	68	61	73	66	69	62	-4.1	-4.1	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
7	7_0003		Residential	G	SE	72	65	68	61	73	66	68	61	-4.1	-4.2	-4.3	-4.4	55	50	NO	NO	NO	NO	NO
7	7_0004		Residential	G	S	59	52	56	50	60	53	57	50	-2.7	-1.8	-3	-2.2	55	50	NO	NO	NO	NO	NO
7	7_0004		Residential	1	S	60	53	57	51	61	54	58	52	-2.8	-2	-3.1	-2.4	55	50	NO	NO	NO	NO	NO
7	7_0005		Residential	G	SE	61	54	58	52	62	55	59	52	-3.4	-2.9	-3.5	-3.2	55	50	NO	NO	NO	NO	NO
7	7_0006		Residential	G	SW	57	51	55	49	58	51	56	50	-2.4	-1.6	-2.7	-1.9	55	50	NO	NO	NO	NO	NO
7	7_0007		Residential	G	SE	56	49	54	48	57	50	54	48	-2.5	-1.7	-2.8	-2	55	50	NO	NO	NO	NO	NO
7	7_0008		Residential	G	SE	60	53	57	50	61	54	57	51	-3.2	-2.6	-3.5	-3	55	50	NO	NO	NO	NO	NO
7	7_0008		Residential	1	SE	62	55	58	52	62	56	59	53	-3.2	-2.7	-3.5	-3	55	50	NO	NO	NO	NO	NO
7	7_0009		Residential	G	SE	60	53	56	50	60	54	57	51	-3.1	-2.6	-3.4	-3	55	50	NO	NO	NO	NO	NO
7	7_0010		Residential	G	SE	59	52	56	50	60	53	56	50	-3	-2.3	-3.2	-2.6	55	50	NO	NO	NO	NO	NO
7	7_0011		Residential	G	SE	58	51	55	49	58	52	56	49	-2.7	-2	-2.9	-2.3	55	50	NO	NO	NO	NO	NO
7	7_0012		Residential	G	SE	57	50	55	49	58	51	55	49	-2.5	-1.7	-2.8	-2.1	55	50	NO	NO	NO	NO	NO
7	7_0013		Residential	G	SE	56	50	54	48	57	51	55	49	-2.4	-1.7	-2.6	-1.9	55	50	NO	NO	NO	NO	NO
7	7_0014		Residential	G	SE	55	49	53	48	56	50	54	48	-2.1	-1.4	-2.4	-1.6	55	50	NO	NO	NO	NO	NO
7	7_0015		Residential	G	SE	55	49	53	47	56	49	53	48	-2.3	-1.5	-2.6	-1.8	55	50	NO	NO	NO	NO	NO
7	7_0015		Residential	1	SW	57	51	56	50	58	52	56	50	-1.9	-0.9	-2.2	-1.3	55	50	NO	NO	NO	NO	NO
7	7_0016		Residential	G	SE	56	49	53	48	56	50	54	48	-2.5	-1.9	-2.6	-2	55	50	NO	NO	NO	NO	NO
7	7_0017		Residential	G	SE	55	49	53	48	56	50	54	48	-2.3	-1.8	-2.5	-1.9	55	50	NO	NO	NO	NO	NO
7	7_0018		Residential	G	SE	55	49	53	47	55	49	53	48	-2.1	-1.5	-2.2	-1.6	55	50	NO	NO	NO	NO	NO
7	7_0019		Residential	G	SE	55	50	53	48	56	50	54	48	-2.2	-1.7	-2.4	-1.8	55	50	NO	NO	NO	NO	NO
7	7_0020		Residential	G	E	55	50	53	48	56	50	53	48	-2.2	-1.8	-2.2	-1.8	55	50	NO	NO	NO	NO	NO
7	7_0021		Residential	G	SW	58	51	56	50	59	52	56	50	-2.5	-1.6	-2.7	-1.9	55	50	NO	NO	NO	NO	NO
7	7_0022		Residential	G	SW	55	48	53	48	56	49	54	48	-1.9	-0.9	-2.1	-1.2	55	50	NO	NO	NO	NO	NO
7	7_0023		Residential	G	SW	55	48	53	47	56	49	54	48	-1.9	-0.9	-2.2	-1.2	55	50	NO	NO	NO	NO	NO
7	7_0024		Residential	G	SW	54	48	53	48	55	49	54	48	-1.4	-0.2	-1.7	-0.6	55	50	NO	NO	NO	NO	NO
7	7_0025		Residential	G	SW	54	48	53	48	55	49	53	48	-1.3	-0.3	-1.6	-0.6	55	50	NO	NO	NO	NO	NO
7	7_0026		Residential	G	SW	56	49	54	48	57	50	54	49	-1.9	-0.8	-2.1	-1.1	55	50	NO	NO	NO	NO	NO
7	7_0027		Residential	G	SW	57	50	55	49	58	51	55	50	-2	-1	-2.2	-1.3	55	50	NO	NO	NO	NO	NO
7	7_0028		Residential	G	SE	58	52	55	50	59	52	56	50	-2.8	-2.2	-3	-2.4	55	50	NO	NO	NO	NO	NO
7	7_0029		Residential	G	SE	59	52	56	50	60	53	57	51	-3	-2.3	-3.2	-2.6	55	50	NO	NO	NO	NO	NO
7	7_0030		Residential	G	SE	59	53	56	50	60	53	57	51	-3	-2.4	-3.2	-2.7	55	50	NO	NO	NO	NO	NO
7	7_0031		Residential	G	NE	55	49	52	47	56	49	53	47	-2.5	-1.8	-2.7	-2	55	50	NO	NO	NO	NO	NO
7	7_0032		Residential	G	SE	60	53	57	51	61	54	58	51	-3.2	-2.6	-3.4	-3	55	50	NO	NO	NO	NO	NO
7	7_0033		Residential	G	SW	62	55	58	52	62	56	59	53	-3.1	-2.6	-3.4	-2.9	55	50	NO	NO	NO	NO	NO
7	7_0034		Residential	G	SW	56	50	54	48	57	50	55	49	-2.3	-1.4	-2.6	-1.8	55	50	NO	NO	NO	NO	NO
7	7_0034		Residential	1	SW	60	53	58	51	61	54	58	52	-2.7	-1.9	-2.9	-2.3	55	50	NO	NO	NO	NO	NO
7	7_0035		Residential	G	SW	57	50	55	49	58	51	55	50	-2.3	-1.4	-2.6	-1.7	55	50	NO	NO	NO	NO	NO
7	7_0036		Residential	G	SE	62	55	59	52	63	56	59	53	-3.5	-3.2	-3.8	-3.5	55	50	NO	NO	NO	NO	NO
7	7_0036		Residential	1	SE	64	57	60	54	65	58	61	54	-3.5	-3.2	-3.8	-3.5	55	50	NO	NO	NO	NO	NO
7	7_0037		Residential	G	SE	63	56	59	53	64	57	60	53	-3.6	-3.4	-3.8	-3.7	55	50	NO	NO	NO	NO	NO
7	7_0038		Residential	G	SE	65	58	61	54	66	59	62	55	-3.7	-3.6	-3.9	-3.8	55	50	NO	NO	NO	NO	NO
7	7_0039		Residential	G	SE	66	59	62	55	67	60	63	56	-4	-3.9	-4.1	-4.1	55	50	NO	NO	NO	NO	NO
7	7_0040		Residential	G	SE	67	60	63	56	68	61	64	57	-4.1	-4	-4.1	-4.2	55	50	NO	NO	NO	NO	NO
7	7_0041		Residential	G	S	70	63	66	59	71	64	67	60	-4.2	-4.1	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
7	7_0042		Residential	G	S	71	64	67	60	72	65	68	61	-4.1	-4.2	-4.3	-4.4	55	50	NO	NO	NO	NO	NO
7	7_0043		Residential	G	S	72	65	68	61	73	66	69	62	-4.2	-4.3	-4.2	-4.5	55	50	NO	NO	NO	NO	NO
7	7_0044		Residential	G	S	72	65	68	61	73	66	69	62	-4.2	-4.2	-4.3	-4.4	55	50	NO	NO	NO	NO	NO
7	7_0045		Residential	G	S	71	64	67	60	72	65	67	60	-4.1	-4.2	-4.2	-4.4	55	50	NO	NO	NO	NO	NO
8	8_0001		Residential	G	S	72	65	68	61	73	66	69	62	-3.9	-3.8	-4.1	-4	55	50	NO	NO	NO	NO	NO
8	8_0002		Residential	G	S	71	64	67	61	72	65	68	61	-3.8	-3.6	-4	-4	55	50	NO	NO	NO	NO	NO
8	8_0003		Residential	G	S	72	65	68	61	73	66	69	62	-3.8	-3.6	-3.9	-3.9	55	50	NO	NO	NO	NO	NO
8	8_0003		Residential	G	W	67	60	64	58	68	61	65	58	-3	-2.4	-3.2	-2.7	55	50	NO	YES	NO	NO	YES
8	8_0004		Residential	G	S	64	57	62	56	65	58	62	56	-2.4	-1.2	-2.6	-1.6	55	50	YES	YES	NO	NO	YES
8	8_0005		Residential	G	SW	59	52	61	56	59	53	61	56	2	4.1	1.6	3.6	55	50	YES	YES	NO	NO	YES
8	8_0006		Residential	G	SW	55	49	58	53	56	50	58	53	2.3	4.1	1.9	3.7	55	50	NO	NO	NO	NO	YES
8	8_0007		Residential	G	W	54	48	57	52	55	49	57	53	3	4.3	2.6	3.9	55	50	NO	NO	NO	NO	YES
8	8_0008		Residential	G	SW	59	53	60	55	60	53	60	56	0.8	2.6	0.3	2.1	55	50	YES	YES	NO	NO	YES
9	9_0001	First floor apartments	Residential	G	S	75	68	71	64	76	69	72	65	-4.2	-4.3	-4.2	-4.4	60	55	NO	NO	NO	NO	NO
9	9_0001	First floor apartments	Residential	1	S	76	69	72	65	77	70	73	66	-3.9	-3.9	-4	-4.1	60	55	NO	NO	NO	NO	NO
9	9_0001	First floor apartments	Residential	1	W	70	64	67	62	71	65	68	63	-2.5	-2.2	-2.5	-2.2	60	55	YES	YES	NO	NO	YES
9	9_0002	First floor apartments	Residential	G	S	76	69	71	64	76	69	72	65	-4.2	-4.2	-4.2	-4.3	60	55	NO	NO	NO	NO	NO
9	9_0002	First floor apartments	Residential	1	S	77	70	73	66	77	71	73	66	-4.1	-4.1	-4.2	-4.3	60	55	NO	NO	NO	NO	NO
9	9_0003		Residential	G	E	67	60	65	59	68	61	66	60	-1.7	-0.3	-2.1	-0.7	55	50	YES	YES	NO	NO	YES
9	9_0004		Residential	G	E	64	57	63	57	65	58	63	57	-1.8	-0.5	-2.2	-1	55	50	YES	YES	NO	NO	YES
9	9_0005		Residential	G	S	73	66	69	62	74	67	70	63	-4	-3.9	-4.1	-4.1	55	50	NO	NO	NO	NO	NO
9	9_0005		Residential	G	E	69	62	66	60	70	63	66	60	-3	-2.2	-3.2	-2.6	55	50	NO	YES	NO	NO	YES
9	9_0006		Residential	G	S	75	68	71	64	76	69	72	65	-4.2	-4.3	-4.2	-4.4	55	50	NO	NO	NO	NO	NO
9	9_0006		Residential	G	N	60	53	60	54	61	54	60	55	-0.2	1.4	-0.5	1	55	50	YES	YES	NO	NO	YES
9	9_0007		Residential	G	E	63	56	62	57	64	57	62	57	-1.4	0.1	-1.7	-0.4	55	50	YES	YES	NO	NO	YES
9	9_0008		Residential	G	S	70	63	66	59	70	64	66	59	-3.9	-3.9	-4.1	-4.1	55	50	NO	NO	NO	NO	NO
9	9_0008		Residential	G	E	65	58	62	56	66	59	63	57	-2.8	-1.9	-3.1	-2.3	55	50	NO	YES	NO	NO	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
9	9_0009		Residential	G	S	75	68	71	64	76	69	71	64	-4.2	-4.3	-4.3	-4.5	55	50	NO	NO	NO	NO	NO
9	9_0010	World of Learning Child Care	Childcare Sleeping	G	S	72	65	68	61	73	66	68	61	-4.1	-4.2	-4.2	-4.4	45	-	NO	NO	NO	-	NO
9	9_0010	World of Learning Child Care	Childcare Sleeping	G	N	56	50	58	53	57	51	58	53	1.6	2.9	1.3	2.6	45	-	YES	YES	NO	-	YES
9	9_0011		Residential	G	E	69	62	65	58	69	63	65	58	-4	-3.9	-4.1	-4.1	57	52	NO	NO	NO	NO	NO
9	9_0012		Residential	G	S	73	66	69	62	74	67	70	63	-4.2	-4.3	-4.3	-4.5	58	53	NO	NO	NO	NO	NO
9	9_0013		Residential	G	S	62	55	59	53	63	56	60	54	-3	-2.3	-3.2	-2.7	55	50	NO	NO	NO	NO	NO
9	9_0013		Residential	G	E	58	51	59	54	59	52	59	55	1.1	3	0.6	2.5	55	50	NO	YES	NO	NO	YES
9	9_0013		Residential	1	E	63	57	62	57	64	57	63	57	-1.2	0.3	-1.6	-0.2	55	50	YES	YES	NO	NO	YES
10	10_0001		Residential	G	SE	66	62	65	61	67	63	66	62	-1.1	-1	-0.9	-0.8	60	55	YES	YES	YES	YES	YES
10	10_0002		Residential	G	SE	62	58	62	58	63	59	63	59	-0.3	-0.3	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
10	10_0003		Residential	G	E	60	56	60	56	61	57	61	57	0.1	0	0.1	0	60	55	NO	NO	NO	NO	NO
10	10_0003		Residential	1	E	62	57	61	57	62	58	62	58	-0.1	-0.1	0	-0.1	60	55	NO	NO	NO	NO	NO
10	10_0004		Residential	G	E	56	51	57	53	57	52	58	53	1	1.2	0.9	1.1	58	53	NO	NO	NO	NO	NO
10	10_0005		Residential	G	NE	66	62	65	60	66	62	66	61	-1	-1.2	-0.8	-1	55	50	YES	YES	YES	YES	YES
10	10_0006		Residential	G	E	54	49	55	51	55	50	56	51	1.4	1.8	1.2	1.6	57	52	NO	NO	NO	NO	NO
10	10_0007		Residential	G	N	52	47	54	49	53	48	54	50	1.8	2	1.7	1.9	59	54	NO	NO	NO	NO	NO
10	10_0008		Residential	G	S	55	50	55	50	56	51	55	50	-0.2	0.1	-0.5	-0.2	59	54	NO	NO	NO	NO	NO
10	10_0009		Residential	G	S	55	50	55	50	56	51	56	51	-0.3	0	-0.6	-0.2	59	54	NO	NO	NO	NO	NO
10	10_0010		Residential	G	S	56	51	55	51	57	51	56	51	-0.4	-0.1	-0.6	-0.3	60	55	NO	NO	NO	NO	NO
10	10_0011		Residential	G	S	56	51	56	51	57	52	56	52	-0.6	-0.3	-0.7	-0.4	60	55	NO	NO	NO	NO	NO
10	10_0012		Residential	G	E	58	54	58	54	59	54	59	55	0.2	0.3	0.2	0.3	60	55	NO	NO	NO	NO	NO
10	10_0013		Residential	G	S	53	47	53	47	54	48	53	48	-0.2	0.3	-0.7	-0.1	60	55	NO	NO	NO	NO	NO
10	10_0014		Residential	G	S	54	48	54	48	55	49	54	49	-0.3	0.1	-0.7	-0.3	60	55	NO	NO	NO	NO	NO
10	10_0015		Residential	G	S	54	49	54	49	55	50	54	49	-0.3	0	-0.7	-0.3	60	55	NO	NO	NO	NO	NO
10	10_0016		Residential	G	S	54	49	54	49	55	50	54	49	-0.4	0	-0.8	-0.3	60	55	NO	NO	NO	NO	NO
10	10_0017		Residential	G	S	54	49	54	49	55	50	54	49	-0.5	-0.2	-0.8	-0.4	60	55	NO	NO	NO	NO	NO
10	10_0018		Residential	G	S	55	49	54	49	55	50	54	49	-0.6	-0.3	-1	-0.5	60	55	NO	NO	NO	NO	NO
10	10_0019		Residential	G	N	55	51	55	51	56	51	56	52	0.5	0.4	0.5	0.5	60	55	NO	NO	NO	NO	NO
10	10_0020		Residential	G	NE	58	54	58	54	59	55	59	55	-0.4	-0.4	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
10	10_0021		Residential	G	E	53	48	54	50	54	49	55	50	1	1.4	0.8	1.2	58	53	NO	NO	NO	NO	NO
10	10_0022		Residential	G	E	53	48	53	48	54	49	54	49	0.3	0.7	0.1	0.5	59	54	NO	NO	NO	NO	NO
10	10_0023		School Classroom	G	E	55	50	55	50	55	51	56	51	0.3	0.5	0.3	0.4	50	-	YES	YES	NO	-	YES
10	10_0024		School Classroom	G	S	68	61	67	60	69	62	67	61	-1	-0.9	-1.7	-1.7	50	-	NO	NO	NO	-	NO
10	10_0024		School Classroom	1	S	69	62	68	61	70	63	68	62	-0.9	-0.9	-1.7	-1.7	50	-	NO	NO	NO	-	NO
10	10_0025		School Classroom	G	S	58	52	57	51	59	53	57	51	-0.9	-0.6	-1.6	-1.3	50	-	NO	NO	NO	-	NO
10	10_0025		School Classroom	G	N	53	49	54	50	54	50	55	51	1	0.8	1	0.8	50	-	YES	YES	NO	-	YES
10	10_0025		School Classroom	1	E	60	55	60	55	61	55	60	55	-0.2	0	-0.5	-0.1	50	-	YES	YES	NO	-	YES
10	10_0026		School Classroom	G	S	68	62	67	61	69	63	68	61	-0.9	-0.9	-1.7	-1.7	50	-	NO	NO	NO	-	NO
10	10_0026		School Classroom	G	N	55	51	56	52	56	52	57	53	0.9	1.1	0.9	1	50	-	YES	YES	NO	-	YES
10	10_0027		School Classroom	G	E	56	52	56	52	57	52	57	53	0.5	0.4	0.5	0.5	50	-	YES	YES	NO	-	YES
10	10_0028		School Classroom	G	N	58	53	57	53	58	54	58	54	-0.1	-0.2	0	-0.1	50	-	YES	YES	NO	-	YES
10	10_0029		School Classroom	G	E	61	56	60	55	61	57	61	56	-0.5	-0.5	-0.6	-0.5	50	-	YES	YES	NO	-	YES
10	10_0031		Residential	G	E	71	67	69	65	71	68	70	66	-1.3	-1.6	-1.1	-1.3	60	55	YES	YES	YES	YES	YES
10	10_0032		Residential	G	E	72	69	71	67	73	69	72	68	-1.5	-1.7	-1.2	-1.4	60	55	YES	YES	YES	YES	YES
10	10_0033		Residential	G	E	72	69	71	67	73	70	72	68	-1.5	-1.7	-1.2	-1.5	60	55	YES	YES	YES	YES	YES
10	10_0034		Residential	G	E	71	67	69	66	72	68	71	67	-1.6	-1.8	-1.3	-1.6	60	55	YES	YES	YES	YES	YES
10	10_0035		Residential	G	NW	60	56	60	55	61	57	61	56	-0.6	-0.9	-0.4	-0.6	60	55	NO	NO	NO	NO	NO
10	10_0036		Residential	G	N	62	57	61	57	62	58	62	58	-0.8	-0.9	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
10	10_0037		Residential	G	NW	63	59	62	58	63	59	63	59	-0.8	-1	-0.5	-0.8	60	55	NO	NO	NO	NO	NO
10	10_0038		Residential	G	NE	65	60	64	59	65	61	65	60	-1	-1.1	-0.7	-0.9	60	55	YES	YES	NO	YES	YES
10	10_0039		Residential	G	N	64	60	63	59	65	61	64	60	-1.1	-1.3	-0.9	-1.1	60	55	NO	YES	NO	YES	YES
10	10_0040		School Classroom	G	S	65	58	64	57	66	59	64	58	-1	-1	-1.8	-1.8	50	-	NO	NO	NO	-	NO
10	10_0040		School Classroom	G	N	54	49	54	49	55	50	55	50	0.2	0.4	0	0.2	50	-	YES	YES	NO	-	YES
10	10_0041		School Classroom	G	S	59	52	58	52	60	53	58	52	-0.9	-0.7	-1.5	-1.3	50	-	NO	NO	NO	-	NO
10	10_0041		School Classroom	G	N	55	50	55	50	56	51	56	51	-0.1	0	-0.1	0	50	-	YES	YES	NO	-	YES
10	10_0042		School Classroom	G	S	57	52	57	51	58	52	57	51	-0.9	-0.6	-1.3	-1	50	-	YES	YES	NO	-	YES
10	10_0043		School Classroom	G	E	58	54	58	53	59	54	59	54	-0.4	-0.2	-0.5	-0.3	50	-	YES	YES	NO	-	YES
10	10_0044		Residential	G	S	54	48	53	48	55	49	54	48	-0.6	-0.2	-1.2	-0.8	58	53	NO	NO	NO	NO	NO
10	10_0045		Residential	G	E	52	47	52	47	53	47	53	48	0.2	0.6	-0.3	0.2	57	52	NO	NO	NO	NO	NO
10	10_0046		Residential	G	E	54	48	54	49	55	49	55	49	-0.1	0.4	-0.6	-0.2	57	52	NO	NO	NO	NO	NO
10	10_0047		Residential	G	E	56	50	56	50	56	50	56	50	0	0.5	-0.5	0	57	52	NO	NO	NO	NO	NO
10	10_0048		Residential	G	E	52	47	53	48	53	48	53	49	0.4	0.9	0.2	0.7	59	54	NO	NO	NO	NO	NO
10	10_0049		Residential	G	E	52	47	53	48	53	48	54	49	0.8	1.3	0.5	1	58	53	NO	NO	NO	NO	NO
10	10_0050		Residential	G	S	53	47	53	47	54	48	53	48	0.1	0.6	-0.4	0.2	57	52	NO	NO	NO	NO	NO
10	10_0051		Residential	G	S	52	47	52	47	53	47	53	48	-0.1	0.5	-0.5	0.1	57	52	NO	NO	NO	NO	NO
10	10_0052		Residential	G	S	52	46	52	47	53	47	53	47	0	0.5	-0.6	0	57	52	NO	NO	NO	NO	NO
10	10_0053		Residential	G	S	52	46	52	47	53	47	53	47	-0.1	0.5	-0.6	0	56	51	NO	NO	NO	NO	NO
10	10_0054		Residential	G	S	52	46	52	47	53	47	52	47	-0.1	0.5	-0.7	0	56	51	NO	NO	NO	NO	NO
10	10_0055		Residential	G	S	52	46	52	47	53	47	52	47	0	0.5	-0.6	0	56	51	NO	NO	NO	NO	NO
10	10_0056		Residential	G	S	52	46	52	46	53	47	52	47	-0.1	0.4	-0.7	-0.1	56	51	NO	NO	NO	NO	NO
10	10_0057		Residential	G	S	52	46	52	46	53	47	52	47	-0.1	0.4	-0.7	0	56	51	NO	NO	NO	NO	NO
10	10_0058		Residential	G	S	52	46	52	47	53	47	53	47	0	0.6	-0.6	0.1	56	51	NO	NO	NO	NO	NO
10	10_0059		Residential	G	S	53	46	52	47	54	47	53	47	-0.1	0.5	-0.7	-0.1	55	50	NO	NO	NO	NO	NO
10	10_0060		Residential	G	S	53	47	53	47	54	48	53	48	-0.1	0.5	-0.6	-0.1	55	50	NO	NO	NO	NO	NO
10	10_0061		Residential	G	S	53	47	53	47	54	48	53	48	-0.2	0.4	-0.9	-0.2	55	50	NO	NO	NO	NO	NO
10	10_0062		Residential	G	S	53	47	53	47	54	48	53	48	-0.2	0.4	-0.7	-0.2	55	50	NO	NO	NO	NO	NO
10	10_0063		Residential	G	S	53	46	52	47	54	47	53	47	-0.2	0.3	-0.8	-0.3	55	50	NO	NO	NO	NO	NO
10	10_0064		Residential	G	E	52	47	53	48	53	48	53	49	0.6	1.1	0.3	0.8	59	54	NO	NO	NO	NO	NO
10	10_0065		Residential	G	E	52	47	53	48	53	48	54	49	0.8	1.2	0.4	1	58	53	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
10	10_0066		Residential	G	E	52	47	53	48	53	48	53	49	0.9	1.3	0.6	1.1	58	53	NO	NO	NO	NO	NO
10	10_0067		Residential	G	E	53	48	53	49	53	48	54	49	0.9	1.3	0.7	1.1	58	53	NO	NO	NO	NO	NO
10	10_0068		Residential	G	E	52	46	53	48	53	47	53	49	1	1.6	0.7	1.3	57	52	NO	NO	NO	NO	NO
10	10_0069		Residential	G	S	52	47	52	47	53	47	53	48	0.2	0.8	-0.3	0.3	57	52	NO	NO	NO	NO	NO
10	10_0070		Residential	G	E	51	46	52	47	52	47	53	48	0.8	1.3	0.5	1.1	56	51	NO	NO	NO	NO	NO
10	10_0070		Residential	1	E	54	48	54	50	54	49	55	50	0.8	1.4	0.6	1.1	56	51	NO	NO	NO	NO	NO
10	10_0071		Residential	G	S	52	46	52	47	53	47	53	48	0.2	0.8	-0.4	0.4	56	51	NO	NO	NO	NO	NO
10	10_0072		Residential	G	S	51	45	51	45	52	46	51	46	0	0.5	-0.6	0.1	56	51	NO	NO	NO	NO	NO
10	10_0073		Residential	G	S	52	46	52	47	53	47	52	47	0	0.7	-0.5	0.2	56	51	NO	NO	NO	NO	NO
10	10_0074		Residential	G	S	51	45	51	46	52	46	52	46	0	0.6	-0.5	0.1	56	51	NO	NO	NO	NO	NO
10	10_0075		Residential	G	S	52	46	52	47	53	47	52	47	0	0.6	-0.5	0.2	55	50	NO	NO	NO	NO	NO
10	10_0076		Residential	G	S	51	46	52	46	52	46	52	47	0.1	0.7	-0.5	0.2	55	50	NO	NO	NO	NO	NO
10	10_0077		Residential	G	S	52	46	52	47	53	47	52	47	-0.1	0.6	-0.6	0.1	55	50	NO	NO	NO	NO	NO
10	10_0078		Residential	G	S	52	46	51	46	53	46	52	46	-0.2	0.4	-0.8	-0.1	55	50	NO	NO	NO	NO	NO
10	10_0078		Residential	1	E	53	47	54	49	54	48	54	50	0.9	1.5	0.5	1.2	55	50	NO	NO	NO	NO	NO
10	10_0079		Residential	G	S	52	46	52	46	53	46	52	46	-0.1	0.5	-0.7	0	55	50	NO	NO	NO	NO	NO
10	10_0080		Residential	G	E	51	46	52	48	52	46	53	48	1.2	1.9	0.9	1.7	55	50	NO	NO	NO	NO	NO
10	10_0081		Residential	G	E	51	46	53	48	52	47	53	49	1.3	1.9	1	1.7	55	50	NO	NO	NO	NO	NO
10	10_0082		Residential	G	S	52	46	52	47	53	47	53	48	0.3	0.8	-0.3	0.5	56	51	NO	NO	NO	NO	NO
10	10_0083		Residential	G	E	53	48	54	49	54	48	54	50	1.2	1.7	0.9	1.5	56	51	NO	NO	NO	NO	NO
10	10_0084		Residential	G	E	52	47	54	50	53	48	55	50	1.7	2.2	1.5	2	56	51	NO	NO	NO	NO	NO
10	10_0085		Residential	G	E	53	48	54	50	54	49	55	50	1.6	2	1.2	1.8	56	51	NO	NO	NO	NO	NO
10	10_0086		Residential	G	E	53	48	54	50	53	48	55	50	1.6	2.1	1.3	1.8	56	51	NO	NO	NO	NO	NO
10	10_0087		Residential	G	E	52	47	54	50	53	48	55	50	1.6	2.1	1.4	1.9	56	51	NO	NO	NO	NO	NO
10	10_0088		Residential	G	E	53	48	54	50	53	48	55	50	1.5	2	1.3	1.8	56	51	NO	NO	NO	NO	NO
10	10_0089		Residential	G	E	51	47	53	49	52	47	54	49	1.7	2	1.5	1.8	55	50	NO	NO	NO	NO	NO
10	10_0090		Residential	G	E	52	48	56	51	53	48	56	52	3.6	3.8	3.4	3.6	55	50	NO	NO	NO	NO	YES
10	10_0091		Residential	G	E	53	47	53	48	54	48	54	49	0.3	0.8	-0.3	0.4	55	50	NO	NO	NO	NO	NO
10	10_0092		Residential	G	S	53	47	53	47	54	48	53	47	-0.2	0.3	-0.9	-0.3	55	50	NO	NO	NO	NO	NO
10	10_0093		Residential	G	S	53	47	52	47	54	48	53	47	-0.4	0	-1.1	-0.6	57	52	NO	NO	NO	NO	NO
10	10_0094	First floor apartments	Residential	G	S	70	63	69	62	71	64	69	63	-0.9	-0.9	-1.6	-1.6	60	55	NO	NO	NO	NO	NO
10	10_0094	First floor apartments	Residential	1	S	71	65	70	63	72	66	70	64	-1.1	-1.1	-1.8	-1.8	60	55	NO	NO	NO	NO	NO
11	11_0001		Residential	G	NW	54	50	55	51	55	50	56	52	1.2	1	1.2	1.1	55	50	NO	NO	NO	NO	NO
11	11_0002		Residential	G	NW	55	51	57	52	55	51	57	53	1.6	1.4	1.6	1.4	55	50	NO	NO	NO	NO	NO
11	11_0003		Residential	G	W	55	50	57	52	55	51	57	53	2	1.9	1.9	1.9	55	50	NO	NO	NO	NO	NO
11	11_0004		Residential	G	NW	55	50	56	52	55	51	56	52	1.2	1.1	1.3	1.2	55	50	NO	NO	NO	NO	NO
11	11_0004		Residential	G	SW	54	49	56	52	54	50	56	52	2.2	2.1	2	2.1	55	50	NO	NO	NO	NO	YES
11	11_0005		Residential	G	NW	56	52	55	51	56	52	56	51	-0.5	-0.7	-0.4	-0.5	55	50	NO	NO	NO	NO	NO
11	11_0006		Residential	G	NW	55	51	55	50	55	51	55	51	-0.1	-0.3	0	-0.1	55	50	NO	NO	NO	NO	NO
11	11_0007		Residential	G	SW	53	49	55	51	54	50	55	51	1.6	1.6	1.6	1.6	55	50	NO	NO	NO	NO	NO
11	11_0008		Residential	G	NE	57	53	54	50	57	53	55	50	-2.9	-2.9	-2.6	-2.6	55	50	NO	NO	NO	NO	NO
11	11_0009		Residential	G	NE	57	53	54	50	57	53	55	51	-2.8	-2.9	-2.6	-2.7	55	50	NO	NO	NO	NO	NO
11	11_0010		Residential	G	NE	57	53	54	50	57	53	55	51	-2.8	-2.9	-2.6	-2.7	55	50	NO	NO	NO	NO	NO
11	11_0011		Residential	G	NE	57	53	54	50	57	53	55	51	-2.8	-2.8	-2.6	-2.6	55	50	NO	NO	NO	NO	NO
11	11_0012		Residential	G	NE	57	53	54	50	57	53	55	50	-2.8	-2.8	-2.5	-2.6	55	50	NO	NO	NO	NO	NO
11	11_0013		Residential	G	SW	52	47	53	49	52	48	54	50	1.7	1.8	1.7	1.8	55	50	NO	NO	NO	NO	NO
11	11_0014		Residential	G	SW	52	48	54	50	52	48	54	50	2.1	2.1	2	2.1	55	50	NO	NO	NO	NO	NO
11	11_0015		Residential	G	SW	50	46	53	49	51	46	54	50	3.4	3.5	3.1	3.3	55	50	NO	NO	NO	NO	NO
11	11_0015		Residential	1	NW	55	51	56	52	56	52	56	52	0.6	0.5	0.7	0.6	55	50	NO	NO	NO	NO	NO
11	11_0015		Residential	1	SW	53	49	55	51	54	49	56	51	2.2	2.1	2	2.1	55	50	NO	NO	NO	NO	YES
11	11_0016		Residential	G	SW	51	47	53	49	52	48	54	50	2	2.1	2	2	55	50	NO	NO	NO	NO	NO
11	11_0017		Residential	G	NW	53	49	54	50	54	50	55	51	1.1	0.9	1.2	1	55	50	NO	NO	NO	NO	NO
11	11_0018		Residential	G	SW	52	48	54	50	53	48	55	51	2.3	2.2	2.2	2.2	55	50	NO	NO	NO	NO	YES
11	11_0019		Residential	G	SW	52	48	55	50	53	48	55	51	2.3	2.2	2.1	2.2	55	50	NO	NO	NO	NO	YES
11	11_0020		Residential	G	SW	52	48	55	50	53	49	55	51	2.3	2.3	2.3	2.3	55	50	NO	NO	NO	NO	YES
11	11_0021		Residential	G	SW	52	48	55	50	53	49	55	51	2.3	2.3	2.2	2.2	55	50	NO	NO	NO	NO	YES
11	11_0022		Residential	G	SW	53	48	55	51	53	49	55	51	2.4	2.3	2.2	2.2	55	50	NO	NO	NO	NO	YES
11	11_0023		Residential	G	SW	53	48	55	50	53	49	55	51	2.3	2.2	2.2	2.2	55	50	NO	NO	NO	NO	YES
11	11_0024		Residential	G	SW	53	49	56	51	54	49	56	52	2.4	2.4	2.4	2.3	55	50	NO	NO	NO	NO	YES
11	11_0025		Residential	G	SW	52	48	55	50	53	49	55	51	2.5	2.3	2.3	2.3	55	50	NO	NO	NO	NO	YES
11	11_0026		Residential	G	SW	53	49	56	51	54	49	56	52	2.7	2.6	2.6	2.5	55	50	NO	NO	NO	NO	YES
11	11_0027		Residential	G	SW	53	49	56	52	54	50	56	52	2.6	2.5	2.5	2.5	55	50	NO	NO	NO	NO	YES
11	11_0028		Residential	G	NW	56	52	57	53	56	52	58	54	1.3	1.1	1.3	1.2	55	50	NO	NO	NO	NO	NO
11	11_0028		Residential	G	SW	52	48	55	50	53	49	55	51	2.3	2.2	2.2	2.1	55	50	NO	NO	NO	NO	YES
11	11_0029		Residential	G	SW	51	47	53	49	52	47	54	50	2.3	2.4	2.2	2.4	55	50	NO	NO	NO	NO	NO
11	11_0029		Residential	1	NW	56	52	56	52	56	52	57	53	0.3	0.2	0.5	0.3	55	50	NO	NO	NO	NO	NO
11	11_0030		Residential	G	SW	53	48	54	50	53	49	54	50	1.3	1.4	1.3	1.4	55	50	NO	NO	NO	NO	NO
11	11_0031		Residential	G	NW	55	51	54	50	55	51	55	51	-0.3	-0.4	-0.3	-0.3	55	50	NO	NO	NO	NO	NO
11	11_0032		Residential	G	NW	55	51	55	51	56	52	56	51	-0.1	-0.2	-0.1	-0.1	55	50	NO	NO	NO	NO	NO
11	11_0033		Residential	G	NW	56	52	55	51	57	53	56	52	-1	-1.2	-0.9	-0.9	55	50	NO	NO	NO	NO	NO
11	11_0034		Residential	G	NW	55	51	57	53	56	52	58	53	1.7	1.6	1.7	1.6	55	50	NO	NO	NO	NO	NO
11	11_0034		Residential	G	SW	54	50	57	52	55	51	57	53	2.3	2.2	2.2	2.2	55	50	NO	NO	NO	NO	YES
11	11_0035		Residential	G	W	55	51	57	52	55	51	57	53	1.9	1.7	1.8	1.7	55	50	NO	NO	NO	NO	NO
11	11_0036		Residential	G	SW	55	50	57	53	55	51	57	53	2.3	2.2	2.1	2.1	55	50	NO	NO	NO	NO	YES
11	11_0037		Residential	G	SW	55	51	57	53	55	51	57	53	2.3	2.1	2.2	2.1	55	50	NO	NO	NO	NO	YES
11	11_0038		Residential	G	SW	54	50	57	52	55	51	57	53	2.1	2	2.1	1.9	55	50	NO	NO	NO	NO	YES
11	11_0039		Residential	G	NW	57	53	58	54	58	54	59	55	1.3	1.1	1.3	1.1	55	50	NO	YES	NO	NO	YES
11	11_0040		Residential	G	N	60	56	59	55	61	56	60	56	-0.9	-1.1	-0.8	-0.9	55	50	YES	YES	NO	NO	YES
11	11_0041		Residential	G	NW	73	69	67	62	74	69	67	63	-6.3	-6.4	-6.5	-6.6	55	50	YES	YES	YES	YES	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
11	11_0042		Residential	G	NW	74	69	66	62	74	70	67	62	-7.4	-7.3	-7.6	-7.6	55	50	YES	YES	YES	YES	YES
11	11_0043		Residential	G	NW	69	64	68	63	69	65	68	64	-1	-1.4	-1.4	-1.5	55	50	YES	YES	YES	YES	YES
11	11_0044		Residential	G	NW	67	63	67	62	68	64	68	63	0	-0.6	-0.2	-0.8	55	50	YES	YES	YES	YES	YES
12	12_0001		Residential	G	W	58	54	55	51	59	55	56	51	-3.2	-3.2	-3.1	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0001		Residential	1	W	59	55	56	51	59	55	56	52	-3	-3.2	-3	-3	55	50	NO	NO	NO	NO	NO
12	12_0002		Residential	G	W	58	54	55	51	59	54	56	51	-3.2	-3.2	-3.1	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0003		Residential	G	W	58	54	55	50	59	54	55	51	-3.2	-3.3	-3.2	-3.1	55	50	NO	NO	NO	NO	NO
12	12_0004		Residential	G	W	58	54	55	50	59	54	56	51	-3.2	-3.2	-3.1	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0005		Residential	G	N	56	52	54	50	57	53	55	50	-2.2	-2.2	-2.2	-2.3	55	50	NO	NO	NO	NO	NO
12	12_0006		Residential	G	N	55	51	53	49	56	52	54	50	-2	-2.1	-2.2	-2.2	55	50	NO	NO	NO	NO	NO
12	12_0006		Residential	1	W	57	53	55	50	58	54	55	51	-2.4	-2.4	-2.3	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0007		Residential	G	W	57	53	54	50	58	54	55	51	-3.2	-3.2	-3.1	-3.1	55	50	NO	NO	NO	NO	NO
12	12_0008		Residential	G	W	57	53	54	50	58	54	55	51	-3.1	-3.3	-3.1	-3.1	55	50	NO	NO	NO	NO	NO
12	12_0009		Residential	G	W	58	54	55	50	59	54	55	51	-3.2	-3.3	-3.1	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0010		Residential	G	W	57	53	54	50	58	54	55	51	-3.1	-3.1	-2.9	-3	55	50	NO	NO	NO	NO	NO
12	12_0011		Residential	G	W	56	52	54	49	57	53	54	50	-2.5	-2.5	-2.6	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0011		Residential	1	W	58	54	56	52	58	54	57	53	-1.7	-1.7	-1.7	-1.7	55	50	NO	NO	NO	NO	NO
12	12_0012		Residential	G	SW	55	51	53	48	56	52	53	49	-2.6	-2.7	-2.6	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0013		Residential	G	W	55	50	52	47	55	51	52	48	-2.9	-2.9	-2.9	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0013		Residential	1	W	58	54	55	51	59	55	56	52	-2.9	-3	-2.7	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0014		Residential	G	W	55	51	52	48	56	51	53	49	-3	-2.9	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0015		Residential	G	SW	54	50	51	47	55	50	52	48	-2.7	-2.7	-2.7	-2.7	55	50	NO	NO	NO	NO	NO
12	12_0016		Residential	G	SW	55	51	52	48	56	51	53	49	-2.7	-2.6	-2.7	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0016		Residential	1	SW	58	54	57	52	59	55	57	53	-1.7	-1.7	-1.6	-1.7	55	50	NO	NO	NO	NO	NO
12	12_0017		Residential	G	SW	55	51	52	48	55	51	53	49	-2.7	-2.7	-2.7	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0018		Residential	G	SW	55	50	52	48	55	51	53	48	-2.8	-2.7	-2.7	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0018		Residential	1	SW	58	54	56	52	59	55	57	53	-1.7	-1.8	-1.6	-1.7	55	50	NO	NO	NO	NO	NO
12	12_0019		Residential	G	W	52	48	49	45	53	48	50	46	-2.6	-2.7	-2.7	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0020		Residential	G	NW	52	47	49	45	52	48	49	45	-2.9	-2.8	-2.7	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0021		Residential	G	SW	53	49	51	46	54	50	51	47	-2.8	-2.8	-2.7	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0021		Residential	1	SW	57	53	54	50	57	53	55	50	-2.9	-2.9	-2.8	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0022		Residential	G	SE	53	48	52	48	53	49	52	48	-0.8	-0.8	-0.6	-0.7	55	50	NO	NO	NO	NO	NO
12	12_0022		Residential	1	SW	57	52	55	51	57	53	56	52	-1.5	-1.5	-1.5	-1.5	55	50	NO	NO	NO	NO	NO
12	12_0023		Residential	G	N	57	52	53	49	57	53	54	50	-3.1	-3.1	-3.1	-3.1	55	50	NO	NO	NO	NO	NO
12	12_0023		Residential	1	N	58	53	55	50	58	54	56	51	-3.1	-3.1	-2.9	-3.1	55	50	NO	NO	NO	NO	NO
12	12_0024		Residential	G	N	57	52	54	49	57	53	54	50	-3	-3.1	-3	-3	55	50	NO	NO	NO	NO	NO
12	12_0024		Residential	1	W	59	55	56	52	60	56	57	53	-3.1	-3.2	-3	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0025		Residential	G	N	56	51	53	48	56	52	53	49	-2.9	-2.9	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0026		Residential	G	W	55	50	51	47	55	51	52	48	-3.3	-3.3	-3.3	-3.3	55	50	NO	NO	NO	NO	NO
12	12_0027		Residential	G	W	55	51	52	47	56	52	53	48	-3.4	-3.3	-3.4	-3.3	55	50	NO	NO	NO	NO	NO
12	12_0028		Residential	G	SW	55	51	52	48	56	52	53	49	-3	-2.9	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0029		Residential	G	SW	55	51	52	48	56	51	53	49	-3	-3	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0030		Residential	G	SW	55	51	52	48	56	52	53	49	-3	-2.9	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0031		Residential	G	SW	56	52	53	49	56	52	54	49	-3	-3	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0032		Residential	G	W	56	52	53	49	57	52	54	50	-2.7	-2.7	-2.7	-2.7	55	50	NO	NO	NO	NO	NO
12	12_0033		Residential	G	SW	57	52	55	51	57	53	55	51	-1.7	-1.7	-1.7	-1.7	55	50	NO	NO	NO	NO	NO
12	12_0034		Residential	G	SW	57	53	55	51	57	53	56	52	-1.8	-1.7	-1.7	-1.7	55	50	NO	NO	NO	NO	NO
12	12_0035		Residential	G	SW	57	53	55	51	58	54	56	52	-2.1	-2.1	-2	-2.1	55	50	NO	NO	NO	NO	NO
12	12_0036		Residential	G	SW	57	53	55	51	58	54	56	52	-1.8	-1.9	-1.8	-1.8	55	50	NO	NO	NO	NO	NO
12	12_0037		Residential	G	SW	57	53	55	51	57	53	55	51	-2	-2	-1.9	-2	55	50	NO	NO	NO	NO	NO
12	12_0037		Residential	1	SW	58	54	56	52	59	55	57	53	-2	-2	-1.9	-2	55	50	NO	NO	NO	NO	NO
12	12_0038		Residential	G	S	56	52	54	50	56	52	55	50	-1.9	-2	-1.7	-1.8	55	50	NO	NO	NO	NO	NO
12	12_0039		Residential	G	S	54	50	53	49	54	50	53	49	-1.2	-1.3	-1.1	-1.1	55	50	NO	NO	NO	NO	NO
12	12_0040		Residential	G	NW	60	55	57	52	61	57	59	54	-2.8	-3	-2.6	-2.7	55	50	NO	NO	NO	NO	NO
12	12_0040		Residential	1	NW	63	58	60	55	64	60	62	57	-2.6	-2.9	-2.1	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0041		Residential	G	NW	59	55	56	52	61	56	58	54	-2.7	-2.9	-2.5	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0041		Residential	1	NW	63	58	60	55	64	60	62	57	-2.6	-3	-2.2	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0042		Residential	G	NW	58	54	55	51	60	55	57	52	-3.2	-3.4	-2.7	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0042		Residential	1	NW	63	59	61	56	65	60	62	58	-2.8	-3.1	-2.5	-2.7	55	50	NO	NO	NO	NO	NO
12	12_0042		Residential	1	S	62	58	58	54	63	58	59	55	-3.9	-3.9	-3.6	-3.7	55	50	NO	YES	NO	NO	YES
12	12_0043		Residential	G	SW	60	56	56	51	61	57	57	53	-4.6	-4.8	-4.1	-4.1	55	50	NO	NO	NO	NO	NO
12	12_0044		Residential	G	NW	63	59	59	54	64	60	60	56	-4.8	-4.8	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
12	12_0044		Residential	1	NW	67	63	62	57	68	63	63	59	-5.1	-5.2	-4.5	-4.6	55	50	NO	NO	NO	NO	NO
12	12_0045		Residential	G	W	66	61	60	55	66	62	61	57	-5.9	-6	-5.3	-5.4	55	50	NO	NO	NO	NO	NO
12	12_0046		Residential	G	W	66	62	60	55	66	62	61	56	-6.3	-6.3	-5.8	-5.8	55	50	NO	NO	NO	NO	NO
12	12_0046		Residential	1	W	69	65	63	59	70	66	64	60	-6.4	-6.4	-5.8	-5.9	55	50	NO	NO	NO	NO	NO
12	12_0047		Residential	G	W	68	64	62	58	69	65	63	59	-6.4	-6.4	-5.9	-5.9	55	50	NO	NO	NO	NO	NO
12	12_0047		Residential	1	W	72	68	65	61	73	68	66	62	-6.8	-6.8	-6.3	-6.4	55	50	NO	NO	NO	NO	NO
12	12_0048		Residential	G	W	67	63	61	57	68	64	62	58	-6.2	-6.2	-5.9	-5.8	55	50	NO	NO	NO	NO	NO
12	12_0048		Residential	1	W	72	67	65	61	72	68	66	62	-6.7	-6.7	-6.3	-6.2	55	50	NO	NO	NO	NO	NO
12	12_0049		Residential	G	W	72	68	66	62	72	68	67	63	-5.7	-5.7	-5.4	-5.4	55	50	NO	NO	NO	NO	NO
12	12_0049		Residential	G	W	68	64	64	60	69	64	65	61	-4.1	-4	-3.8	-3.9	55	50	YES	NO	NO	NO	YES
12	12_0050		Residential	G	S	58	54	54	50	59	54	55	51	-3.9	-4	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0051		Residential	G	W	58	54	54	50	58	54	55	51	-3.9	-3.9	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0052		Residential	G	S	59	54	54	50	59	55	55	51	-4.3	-4.2	-4.1	-4	55	50	NO	NO	NO	NO	NO
12	12_0053		Residential	G	SW	61	57	57	53	62	58	58	54	-4.1	-4.3	-3.8	-4	55	50	NO	NO	NO	NO	NO
12	12_0054		Residential	G	W	63	59	58	54	63	59	59	55	-4.3	-4.3	-4	-4.1	55	50	NO	YES	NO	NO	YES
12	12_0055		Residential	G	W	67	62	60	56	67	63	61	57	-6.2	-6.1	-5.9	-5.8	55	50	NO	NO	NO	NO	NO
12	12_0055		Residential	G	S	63	59	58	54	64	60	59	55	-5	-5	-4.8	-4.8	55	50	NO	YES	NO	NO	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
12	12_0055		Residential	1	W	68	64	63	59	69	64	63	59	-5.5	-5.5	-5.2	-5.2	55	50	YES	NO	NO	NO	YES
12	12_0056		Residential	G	W	66	62	61	57	67	63	62	57	-5.6	-5.5	-5.3	-5.3	55	50	NO	NO	NO	NO	NO
12	12_0056		Residential	G	S	63	59	59	55	63	59	60	56	-3.6	-3.6	-3.4	-3.4	55	50	YES	YES	NO	NO	YES
12	12_0056		Residential	1	W	68	64	63	59	68	64	64	60	-5	-5	-4.7	-4.7	55	50	YES	YES	NO	NO	YES
12	12_0057		Residential	G	SE	59	55	55	51	59	55	56	52	-3.6	-3.6	-3.4	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0058		Residential	G	S	59	55	55	51	60	56	56	52	-4	-4	-3.8	-3.8	55	50	NO	NO	NO	NO	NO
12	12_0059		Residential	G	SE	60	56	55	51	60	56	56	52	-4.5	-4.4	-4.2	-4.2	55	50	NO	NO	NO	NO	NO
12	12_0060		Residential	G	S	61	57	56	52	61	57	57	53	-4.4	-4.3	-4.1	-4.1	55	50	NO	NO	NO	NO	NO
12	12_0061		Residential	G	S	57	52	53	49	57	53	53	49	-4	-3.9	-3.8	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0062		Residential	G	SE	57	53	53	49	57	53	54	50	-3.6	-3.6	-3.4	-3.4	55	50	NO	NO	NO	NO	NO
12	12_0063		Residential	G	NW	58	54	53	49	58	54	54	50	-5	-5.1	-4.8	-4.7	55	50	NO	NO	NO	NO	NO
12	12_0064		Residential	G	SE	59	55	55	51	59	55	55	51	-4	-4	-3.8	-3.8	55	50	NO	NO	NO	NO	NO
12	12_0065		Residential	G	S	59	55	55	51	59	55	55	51	-4.3	-4.3	-4	-4.1	55	50	NO	NO	NO	NO	NO
12	12_0066		Residential	G	N	59	55	53	49	59	55	54	50	-5.4	-5.4	-5.1	-5	55	50	NO	NO	NO	NO	NO
12	12_0067		Residential	G	W	65	61	60	56	65	61	60	56	-5	-5	-4.7	-4.7	55	50	YES	YES	NO	NO	YES
12	12_0068		Residential	G	W	66	62	60	56	66	62	61	57	-5.9	-5.8	-5.5	-5.5	55	50	NO	NO	NO	NO	NO
12	12_0068		Residential	G	S	63	59	58	54	63	59	59	55	-4.7	-4.7	-4.5	-4.5	55	50	NO	YES	NO	NO	YES
12	12_0068		Residential	1	W	68	63	62	58	68	64	63	59	-5.3	-5.2	-5	-5	55	50	YES	YES	NO	NO	YES
12	12_0069		Residential	G	SE	62	58	57	53	62	58	58	54	-4.5	-4.6	-4.3	-4.3	55	50	NO	NO	NO	NO	NO
12	12_0070		Residential	G	SE	60	56	56	52	61	57	57	53	-4.4	-4.4	-4.1	-4.2	55	50	NO	NO	NO	NO	NO
12	12_0071		Residential	G	S	60	56	56	52	61	57	57	52	-4.4	-4.4	-4.2	-4.1	55	50	NO	NO	NO	NO	NO
12	12_0072		Residential	G	S	60	56	57	53	60	56	58	53	-3	-3.1	-2.8	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0073		Residential	G	S	57	53	55	51	57	53	56	52	-1.6	-1.6	-1.4	-1.4	55	50	NO	NO	NO	NO	NO
12	12_0073		Residential	1	W	62	58	59	55	63	58	59	55	-3.3	-3.4	-3.1	-3.2	55	50	NO	YES	NO	NO	YES
12	12_0074		Residential	G	S	59	55	57	52	59	55	57	53	-2.2	-2.3	-2	-2.1	55	50	NO	NO	NO	NO	NO
12	12_0075		Residential	G	NW	62	58	60	55	64	59	62	57	-2.3	-2.5	-2	-2.3	55	50	NO	NO	NO	NO	NO
12	12_0075		Residential	1	NW	64	59	61	56	65	61	63	58	-2.5	-2.7	-2.2	-2.4	55	50	NO	NO	NO	NO	NO
12	12_0076		Residential	G	W	61	57	58	54	62	58	60	55	-2.5	-2.6	-2.1	-2.3	55	50	YES	YES	NO	NO	YES
12	12_0076		Residential	1	W	63	58	60	56	64	60	62	57	-2.8	-2.9	-2.4	-2.6	55	50	YES	YES	NO	NO	YES
12	12_0077		Residential	G	W	59	55	56	51	60	56	57	53	-3.5	-3.5	-3.1	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0077		Residential	1	W	61	57	59	54	62	58	60	55	-2.8	-3	-2.4	-2.7	55	50	YES	YES	NO	NO	YES
12	12_0078		Residential	G	W	59	55	55	51	60	56	56	52	-3.9	-3.8	-3.5	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0078		Residential	1	W	61	57	58	54	62	58	59	55	-2.9	-3.1	-2.7	-2.8	55	50	NO	YES	NO	NO	YES
12	12_0079		Residential	G	SW	59	54	55	51	59	55	56	52	-3.6	-3.6	-3.4	-3.4	55	50	NO	NO	NO	NO	NO
12	12_0079		Residential	1	SW	61	57	58	54	62	58	59	55	-3	-3.1	-2.7	-2.8	55	50	NO	YES	NO	NO	YES
12	12_0080		Residential	G	SW	58	54	55	51	59	55	56	51	-3.6	-3.6	-3.3	-3.4	55	50	NO	NO	NO	NO	NO
12	12_0080		Residential	1	SW	61	57	58	54	62	58	59	55	-3	-3.1	-2.8	-2.9	55	50	NO	YES	NO	NO	YES
12	12_0081		Residential	G	W	59	55	56	52	60	55	57	53	-2.8	-2.9	-2.7	-2.7	55	50	NO	NO	NO	NO	NO
12	12_0081		Residential	1	W	61	57	58	54	62	58	59	55	-2.8	-2.9	-2.7	-2.8	55	50	NO	YES	NO	NO	YES
12	12_0082		Residential	G	W	58	54	54	50	58	54	55	50	-4	-4	-3.8	-3.8	55	50	NO	NO	NO	NO	NO
12	12_0083		Residential	G	W	58	54	56	51	59	55	56	52	-2.6	-2.7	-2.5	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0083		Residential	1	W	61	56	58	54	61	57	59	54	-2.8	-2.7	-2.5	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0084		Residential	G	W	57	53	54	50	58	53	55	50	-3.3	-3.2	-3	-3.1	55	50	NO	NO	NO	NO	NO
12	12_0085		Residential	G	SW	58	54	55	50	59	55	55	51	-3.8	-3.8	-3.5	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0086		Residential	G	W	54	49	51	46	54	50	51	47	-3.1	-3.1	-3.1	-3	55	50	NO	NO	NO	NO	NO
12	12_0086		Residential	1	W	56	52	53	49	57	53	54	50	-3	-3	-3	-3	55	50	NO	NO	NO	NO	NO
12	12_0087		Residential	G	SW	54	49	51	47	54	50	52	47	-2.8	-2.7	-2.6	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0088		Residential	G	W	53	48	50	46	53	49	51	47	-2.3	-2.3	-2.3	-2.2	55	50	NO	NO	NO	NO	NO
12	12_0089		Residential	G	W	52	48	50	46	53	49	50	46	-2.6	-2.6	-2.6	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0090		Residential	G	SW	52	48	50	45	53	49	50	46	-2.9	-3	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0091		Residential	G	SW	52	48	50	46	53	49	51	47	-2.2	-2.2	-2.2	-2.1	55	50	NO	NO	NO	NO	NO
12	12_0091		Residential	1	SW	55	51	53	49	56	51	54	50	-1.6	-1.6	-1.6	-1.6	55	50	NO	NO	NO	NO	NO
12	12_0092		Residential	G	N	63	59	56	52	63	59	57	53	-6.7	-6.7	-6.3	-6.2	55	50	NO	NO	NO	NO	NO
12	12_0092		Residential	1	N	65	60	58	54	65	61	59	55	-6.2	-6.1	-5.8	-5.8	55	50	NO	NO	NO	NO	NO
12	12_0093		Residential	G	S	61	57	58	54	62	57	58	54	-3.3	-3.3	-3.1	-3.1	55	50	NO	NO	NO	NO	NO
12	12_0094		Residential	G	SW	60	56	57	53	61	56	58	54	-3.1	-3.2	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0094		Residential	1	SW	61	57	58	54	62	58	59	55	-3	-3	-2.8	-2.8	55	50	NO	YES	NO	NO	YES
12	12_0095		Residential	G	S	57	53	55	51	57	53	56	52	-1.7	-1.8	-1.6	-1.7	55	50	NO	NO	NO	NO	NO
12	12_0096		Residential	G	SW	58	54	56	52	59	55	57	52	-2.4	-2.5	-2.3	-2.4	55	50	NO	NO	NO	NO	NO
12	12_0097		Residential	G	N	54	49	51	47	54	50	52	48	-2.2	-2.3	-2.1	-2.1	55	50	NO	NO	NO	NO	NO
12	12_0098		Residential	G	N	53	49	51	47	54	50	52	47	-2.5	-2.5	-2.4	-2.4	55	50	NO	NO	NO	NO	NO
12	12_0099		Residential	G	N	53	48	51	46	54	49	51	47	-2.2	-2.3	-2.3	-2.2	55	50	NO	NO	NO	NO	NO
12	12_0099		Residential	1	W	58	54	56	51	59	55	56	52	-2.7	-2.7	-2.6	-2.7	55	50	NO	NO	NO	NO	NO
12	12_0100		Residential	G	W	53	49	51	47	54	50	52	47	-2.4	-2.5	-2.5	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0100		Residential	1	W	58	54	55	51	59	54	56	52	-2.6	-2.6	-2.5	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0101		Residential	G	W	54	49	50	46	54	50	51	47	-3.2	-3.2	-3.1	-3.1	55	50	NO	NO	NO	NO	NO
12	12_0102		Residential	G	W	54	50	51	47	54	50	52	47	-2.7	-2.7	-2.7	-2.7	55	50	NO	NO	NO	NO	NO
12	12_0103		Residential	G	N	55	51	53	48	56	52	53	49	-2.9	-2.9	-2.8	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0104		Residential	G	N	53	48	50	46	54	49	51	47	-2.4	-2.3	-2.5	-2.4	55	50	NO	NO	NO	NO	NO
12	12_0105		Residential	G	W	53	48	50	46	53	49	50	46	-2.9	-2.9	-2.9	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0106		Residential	G	W	54	49	51	46	54	50	51	47	-2.9	-2.8	-2.8	-2.7	55	50	NO	NO	NO	NO	NO
12	12_0107		Residential	G	N	56	51	54	49	56	52	54	50	-2	-2	-2.1	-2.1	55	50	NO	NO	NO	NO	NO
12	12_0108		Residential	G	N	56	51	54	49	56	52	54	50	-2	-2	-2.1	-2.1	55	50	NO	NO	NO	NO	NO
12	12_0109		Residential	G	N	55	51	53	49	56	52	54	50	-2	-2.1	-2.2	-2.2	55	50	NO	NO	NO	NO	NO
12	12_0110		Residential	G	N	55	51	53	49	56	52	54	50	-2	-2	-2	-2.1	55	50	NO	NO	NO	NO	NO
12	12_0111		Residential	G	W	55	51	52	48	56	51	53	49	-2.7	-2.7	-2.7	-2.7	55	50	NO	NO	NO	NO	NO
12	12_0112		Residential	G	W	54	50	52	48	55	50	53	49	-1.9	-1.9	-1.9	-1.9	55	50	NO	NO	NO	NO	NO
12	12_0113		Residential	G	W	55	51	53	48	56	51	53	49	-2.2	-2.3	-2.3	-2.2	55	50	NO	NO	NO	NO	NO
12	12_0114		Residential	G	W	53	49	51	47	54	50	52	48	-2	-2	-2	-2	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
12	12_0115		Residential	G	W	55	50	53	48	55	51	53	49	-2	-2.1	-2.1	-2.1	55	50	NO	NO	NO	NO	NO
12	12_0116		Residential	G	W	54	50	52	48	55	50	52	48	-2.2	-2.1	-2.2	-2.2	55	50	NO	NO	NO	NO	NO
12	12_0117		Residential	G	W	54	50	52	48	55	50	53	48	-1.9	-2	-2	-2	55	50	NO	NO	NO	NO	NO
12	12_0118		Residential	G	N	54	50	52	47	55	50	52	48	-2.3	-2.3	-2.2	-2.2	55	50	NO	NO	NO	NO	NO
12	12_0119		Residential	G	N	54	50	51	47	55	50	52	48	-2.5	-2.5	-2.5	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0120		Residential	G	N	53	49	51	47	54	50	52	48	-1.9	-1.9	-2	-2	55	50	NO	NO	NO	NO	NO
12	12_0121		Residential	G	W	56	52	53	49	57	52	54	50	-2.4	-2.5	-2.4	-2.4	55	50	NO	NO	NO	NO	NO
12	12_0122		Residential	G	W	55	51	53	49	56	51	53	49	-2.1	-2.1	-2.1	-2.1	55	50	NO	NO	NO	NO	NO
12	12_0122		Residential	1	W	57	53	56	51	58	54	56	52	-1.8	-1.8	-1.7	-1.8	55	50	NO	NO	NO	NO	NO
12	12_0123		Residential	G	W	54	50	52	47	54	50	52	48	-2.2	-2.2	-2.2	-2.2	55	50	NO	NO	NO	NO	NO
12	12_0124		Residential	G	NW	53	49	51	47	54	50	51	47	-2.4	-2.5	-2.4	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0125		Residential	G	SW	53	49	50	46	54	49	51	47	-2.8	-2.7	-2.7	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0125		Residential	1	SW	56	52	54	50	57	53	55	50	-2.4	-2.4	-2.3	-2.3	55	50	NO	NO	NO	NO	NO
12	12_0126		Residential	G	W	54	50	52	48	55	51	53	48	-2.3	-2.3	-2.3	-2.3	55	50	NO	NO	NO	NO	NO
12	12_0127		Residential	G	S	52	47	49	45	52	48	50	46	-2.5	-2.5	-2.5	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0128		Residential	G	N	50	46	48	43	51	47	48	44	-2.8	-2.8	-2.7	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0129		Residential	G	W	51	47	49	45	52	47	49	45	-2.2	-2.2	-2.1	-2	55	50	NO	NO	NO	NO	NO
12	12_0129		Residential	1	W	55	50	52	48	55	51	53	49	-2.3	-2.3	-2.3	-2.3	55	50	NO	NO	NO	NO	NO
12	12_0130		Residential	G	W	51	47	49	45	51	47	49	45	-2	-2	-2	-2	55	50	NO	NO	NO	NO	NO
12	12_0131		Residential	G	W	52	48	50	46	53	48	50	46	-2.4	-2.4	-2.3	-2.3	55	50	NO	NO	NO	NO	NO
12	12_0131		Residential	1	W	55	50	52	48	55	51	53	49	-2.1	-2.2	-2.1	-2.1	55	50	NO	NO	NO	NO	NO
12	12_0132		Residential	G	W	52	48	50	46	53	49	51	47	-2.4	-2.4	-2.4	-2.3	55	50	NO	NO	NO	NO	NO
12	12_0133		Residential	G	W	52	48	50	45	53	49	50	46	-2.5	-2.6	-2.6	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0133		Residential	1	W	55	51	52	48	55	51	53	49	-2.4	-2.4	-2.3	-2.4	55	50	NO	NO	NO	NO	NO
12	12_0134		Residential	G	W	52	48	51	47	52	48	51	47	-0.8	-1	-0.9	-0.9	55	50	NO	NO	NO	NO	NO
12	12_0134		Residential	1	W	55	51	53	49	55	51	54	50	-1.3	-1.4	-1.3	-1.4	55	50	NO	NO	NO	NO	NO
12	12_0135		Residential	G	W	53	49	52	47	53	49	52	48	-1.1	-1.2	-1.1	-1.1	55	50	NO	NO	NO	NO	NO
12	12_0135		Residential	1	W	55	51	54	50	56	52	54	50	-1.5	-1.5	-1.5	-1.5	55	50	NO	NO	NO	NO	NO
13	13_0001		Residential	G	SE	52	48	56	52	53	49	56	52	3.4	3.3	3.3	3.3	55	50	NO	NO	NO	NO	YES
13	13_0002		Residential	G	E	53	49	56	52	53	49	57	53	3.6	3.6	3.5	3.5	55	50	NO	NO	NO	NO	YES
13	13_0003		Residential	G	E	56	52	60	56	57	53	60	56	3.6	3.6	3.6	3.6	55	50	YES	YES	NO	NO	YES
13	13_0003		Residential	1	E	58	54	61	57	58	54	62	58	3.5	3.6	3.6	3.6	55	50	YES	YES	NO	NO	YES
13	13_0004		Residential	G	E	57	53	61	57	58	54	62	58	4	4.2	4.2	4.2	55	50	YES	YES	NO	NO	YES
13	13_0004		Residential	1	E	58	54	62	58	58	54	62	59	4	4.1	4.1	4.2	55	50	YES	YES	NO	NO	YES
13	13_0005		Residential	G	E	61	57	65	61	61	57	66	62	4.7	4.9	4.9	5	55	50	YES	YES	YES	YES	YES
13	13_0006		Residential	G	SE	61	57	67	64	62	58	68	64	6.1	6.4	6.2	6.4	55	50	YES	YES	YES	YES	YES
13	13_0007		Residential	G	E	60	56	66	62	60	56	67	63	6.4	6.5	6.5	6.7	55	50	YES	YES	YES	YES	YES
13	13_0008		Residential	G	E	58	53	62	58	58	54	62	58	4.4	4.5	4.5	4.6	55	50	YES	YES	NO	NO	YES
13	13_0009		Residential	G	E	53	49	58	54	54	49	59	55	5.2	5.4	5.2	5.3	55	50	NO	YES	NO	NO	YES
13	13_0010		Residential	G	SE	57	53	60	56	58	54	61	57	3.1	3	3.1	3.2	55	50	YES	YES	NO	NO	YES
13	13_0011		Residential	G	E	56	51	59	54	56	52	59	55	3	2.9	2.9	2.9	55	50	NO	YES	NO	NO	YES
13	13_0012		Residential	G	E	54	50	57	53	55	51	57	53	2.4	2.4	2.4	2.3	55	50	NO	NO	NO	NO	YES
13	13_0013		Residential	G	SE	56	52	58	54	57	53	59	55	2	2	1.9	2	55	50	NO	YES	NO	NO	YES
13	13_0014		Residential	G	SE	57	53	59	55	58	53	60	56	2.2	2.3	2.2	2.2	55	50	YES	YES	NO	NO	YES
13	13_0015		Residential	G	SE	56	52	61	57	57	53	62	58	4.6	4.8	4.8	4.9	55	50	YES	YES	NO	NO	YES
13	13_0016		Residential	G	E	58	54	62	58	59	55	62	58	3.8	3.8	3.6	3.8	55	50	YES	YES	NO	NO	YES
13	13_0016		Residential	1	E	59	55	63	59	60	55	64	59	4.2	4.2	4	4.1	55	50	YES	YES	NO	NO	YES
13	13_0017		Residential	G	S	58	53	66	62	58	54	67	63	8.7	8.9	8.8	9	55	50	YES	YES	YES	YES	YES
13	13_0018		Residential	G	E	58	53	58	54	59	54	59	55	0.8	0.9	0.6	0.7	55	50	NO	YES	NO	NO	YES
13	13_0019		Residential	G	E	58	53	58	53	59	54	59	54	-0.1	-0.1	-0.4	-0.3	55	50	NO	NO	NO	NO	NO
13	13_0020		Residential	G	E	57	53	59	54	58	54	59	55	1.1	1.2	0.8	1	55	50	NO	YES	NO	NO	YES
13	13_0021		Residential	G	E	57	53	57	53	58	54	58	54	0	0.2	-0.2	-0.1	55	50	NO	NO	NO	NO	NO
13	13_0022		Residential	G	E	58	53	57	53	59	54	58	54	-0.5	-0.3	-0.7	-0.5	55	50	NO	NO	NO	NO	NO
13	13_0023		Residential	G	E	58	53	57	53	59	54	58	54	-0.6	-0.5	-0.9	-0.7	55	50	NO	NO	NO	NO	NO
13	13_0024		Residential	G	E	58	53	57	53	60	55	59	54	-0.6	-0.5	-0.9	-0.7	55	50	NO	NO	NO	NO	NO
13	13_0025		Residential	G	N	59	53	57	52	62	56	60	54	-1.5	-1.2	-1.8	-1.6	55	50	NO	NO	NO	NO	NO
13	13_0026		Residential	G	E	58	54	58	53	60	55	60	55	-0.5	-0.5	-0.9	-0.8	55	50	YES	YES	NO	NO	YES
13	13_0027		Residential	G	N	65	59	63	57	69	63	66	60	-2.1	-2	-2.3	-2.2	55	50	NO	NO	NO	NO	NO
13	13_0027		Residential	G	E	62	57	61	55	65	60	63	58	-1.5	-1.2	-1.9	-1.7	55	50	YES	YES	NO	NO	YES
13	13_0028		Residential	G	E	57	53	58	54	58	54	59	54	0.7	0.7	0.4	0.5	55	50	NO	NO	NO	NO	NO
13	13_0029		Residential	G	E	57	53	57	52	59	54	58	53	-0.4	-0.4	-0.7	-0.6	55	50	NO	NO	NO	NO	NO
13	13_0030		Residential	G	NE	58	53	57	53	59	54	58	54	-0.4	-0.4	-0.6	-0.5	55	50	NO	NO	NO	NO	NO
13	13_0031		Residential	G	NW	64	58	62	56	67	62	65	59	-2.1	-2.1	-2.3	-2.2	55	50	NO	NO	NO	NO	NO
14	14_0001		Residential	G	E	58	54	58	53	59	54	58	54	-0.6	-0.6	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
14	14_0002		Residential	G	SE	64	60	64	60	65	61	64	60	-0.2	-0.6	-0.5	-1.1	60	55	NO	YES	NO	YES	YES
15	15_0001		Residential	G	E	61	57	61	57	62	58	62	58	0	0.1	0	0.1	60	55	NO	NO	NO	NO	NO
15	15_0002		Residential	G	SE	67	63	67	63	67	64	67	63	0	0	0	-0.2	60	55	YES	YES	YES	YES	YES
15	15_0002		Residential	1	SE	68	63	68	63	68	64	68	64	-0.1	-0.1	-0.1	-0.2	60	55	YES	YES	YES	YES	YES
15	15_0003		Residential	G	SW	65	59	65	59	65	60	65	60	0	-0.1	-0.1	-0.2	60	55	YES	YES	NO	YES	YES
15	15_0004		Residential	G	SW	66	61	66	61	66	61	66	61	0	0	-0.2	-0.3	60	55	YES	YES	YES	YES	YES
15	15_0004		Residential	1	SW	69	63	68	63	69	63	68	63	-0.4	-0.3	-0.5	-0.5	60	55	YES	YES	YES	YES	YES
15	15_0005		Residential	G	SE	69	65	69	65	69	66	70	66	0.2	0.2	0.3	0.2	60	55	YES	YES	YES	YES	YES
15	15_0005		Residential	1	SE	69	66	69	66	70	67	70	67	0.2	0.1	0.3	0.1	60	55	YES	YES	YES	YES	YES
15	15_0006		Residential	G	SW	65	61	65	61	65	62	65	62	0	0	-0.1	-0.2	60	55	YES	YES	YES	YES	YES
15	15_0006		Residential	1	SW	65	62	65	62	66	63	66	62	-0.1	-0.1	-0.1	-0.2	60	55	YES	YES	YES	YES	YES
15	15_0007		Residential	G	SE	65	62	65	61	66	63	66	62	-0.1	-0.2	-0.2	-0.2	60	55	YES	YES	YES	YES	YES
15	15_0008		Residential	G	SE	65	62	65	62	66	63	66	62	0	0	-0.1	-0.2	60	55	YES	YES	YES	YES	YES
15	15_0009		Residential	G	SE	65	62	66	62	66	63	67	63	0.2	0.1	0.2	0.1	60	55	YES	YES	YES	YES	YES
15	15_0009		Residential	1	SE	67	63	67	63	68	64	68	64	0	0	0	0	60	55	YES	YES	YES	YES	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
15	15_0010		Residential	G	SE	67	63	67	63	68	64	68	64	0.1	0.1	0.2	0	60	55	YES	YES	YES	YES	YES
15	15_0010		Residential	1	SE	68	64	68	64	69	65	69	65	0.1	0	0.1	0	60	55	YES	YES	YES	YES	YES
15	15_0011		Residential	G	SE	67	64	68	64	68	65	69	65	0.2	0.2	0.3	0.1	60	55	YES	YES	YES	YES	YES
15	15_0011		Residential	1	SE	68	64	68	64	69	65	69	65	0.2	0.1	0.3	0.1	60	55	YES	YES	YES	YES	YES
15	15_0012		Residential	G	SE	68	64	68	65	69	65	69	66	0.3	0.2	0.4	0.2	60	55	YES	YES	YES	YES	YES
15	15_0013		Residential	G	E	68	64	68	65	69	65	69	66	0.5	0.4	0.6	0.4	60	55	YES	YES	YES	YES	YES
15	15_0014		Residential	G	E	68	64	68	65	69	65	69	66	0.7	0.6	0.7	0.6	60	55	YES	YES	YES	YES	YES
15	15_0015		Residential	G	E	65	61	66	62	66	62	67	63	1	0.9	1	0.9	60	55	YES	YES	YES	YES	YES
15	15_0015		Residential	1	E	67	63	68	64	68	64	69	65	0.7	0.6	0.7	0.5	60	55	YES	YES	YES	YES	YES
15	15_0016		Residential	G	E	64	60	64	61	65	61	65	62	0.4	0.4	0.5	0.4	60	55	YES	YES	YES	YES	YES
15	15_0016		Residential	1	E	66	62	67	63	67	63	67	64	0.7	0.7	0.6	0.6	60	55	YES	YES	YES	YES	YES
15	15_0017		Residential	G	S	63	59	63	60	64	60	64	60	0.4	0.4	0.5	0.3	60	55	NO	YES	NO	YES	YES
15	15_0017		Residential	1	E	66	62	66	63	67	63	67	63	0.6	0.6	0.6	0.6	60	55	YES	YES	YES	YES	YES
15	15_0018		Residential	G	SW	66	61	66	61	66	61	66	61	0	-0.1	-0.3	-0.3	60	55	YES	YES	YES	YES	YES
15	15_0018		Residential	1	SW	69	63	68	62	69	63	68	62	-0.4	-0.3	-0.6	-0.5	60	55	YES	YES	YES	YES	YES
15	15_0019		Residential	G	SW	68	62	68	62	68	62	67	62	-0.4	-0.3	-0.7	-0.7	60	55	YES	YES	YES	YES	YES
15	15_0020		Residential	G	SW	68	61	67	61	67	61	67	61	-0.4	-0.3	-0.6	-0.6	60	55	YES	YES	YES	YES	YES
15	15_0021		Residential	G	S	59	55	59	55	60	56	59	56	-0.2	-0.3	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0022		Residential	G	SW	58	52	59	53	58	53	58	52	0.1	0.1	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0022		Residential	1	SW	60	55	60	55	60	55	60	55	-0.2	-0.2	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0023		Residential	G	W	57	51	57	51	57	51	56	50	-0.3	-0.5	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0023		Residential	1	W	60	54	59	54	60	54	59	54	-0.3	-0.5	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0024		Residential	G	W	56	50	56	50	56	50	56	50	0	0	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0024		Residential	1	W	59	54	59	53	59	54	59	53	-0.2	-0.4	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0025		Residential	G	SW	61	57	60	56	61	57	61	57	-0.2	-0.2	-0.3	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0025		Residential	1	SW	63	59	63	59	64	60	64	59	-0.3	-0.4	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0026		Residential	G	SE	58	54	57	53	58	55	58	54	-0.2	-0.3	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0026		Residential	1	SE	62	58	61	57	62	58	62	58	-0.4	-0.4	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0027		Residential	G	SE	59	55	59	55	60	56	60	56	-0.2	-0.2	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0027		Residential	1	SE	62	58	61	58	63	59	62	58	-0.3	-0.3	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0028		Residential	G	SE	59	55	59	55	60	56	59	56	-0.1	-0.2	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0028		Residential	1	SE	62	58	61	58	63	59	62	58	-0.3	-0.4	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0029		Residential	G	S	59	55	59	55	60	56	59	55	-0.3	-0.5	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0029		Residential	1	E	63	59	62	58	63	60	63	59	-0.3	-0.4	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0030		Residential	G	E	58	54	58	54	59	55	58	54	-0.1	-0.1	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0031		Residential	G	E	59	55	59	55	60	56	59	55	-0.4	-0.4	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0032		Residential	G	SW	53	49	53	49	54	50	53	49	-0.2	-0.3	-0.3	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0032		Residential	1	SE	58	54	58	54	59	55	59	55	-0.3	-0.4	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0033		Residential	G	SW	49	45	49	45	50	46	50	46	-0.3	-0.3	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0033		Residential	1	SW	54	49	53	49	54	50	54	50	-0.2	-0.2	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0034		Residential	G	NW	50	45	51	45	51	45	51	45	0.5	0.4	0.3	0.2	60	55	NO	NO	NO	NO	NO
15	15_0034		Residential	1	SW	52	48	52	48	53	49	53	49	-0.1	-0.1	-0.1	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0035		Residential	G	SW	53	48	53	48	54	49	53	48	-0.1	-0.2	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0035		Residential	1	SW	57	53	57	52	58	53	57	53	-0.2	-0.4	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0036		Residential	G	SW	53	48	53	47	53	48	53	48	-0.3	-0.3	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0036		Residential	1	SW	56	51	55	51	56	51	56	51	-0.3	-0.3	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0037		Residential	G	SE	54	50	54	50	55	51	55	50	-0.4	-0.4	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0037		Residential	1	SW	59	54	59	54	59	55	59	54	-0.3	-0.3	-0.4	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0038		Residential	G	E	52	48	51	47	52	48	52	48	-0.3	-0.4	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0038		Residential	1	SW	56	52	56	52	57	53	56	52	-0.4	-0.5	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0039		Residential	G	SE	51	46	50	46	51	47	51	47	-0.1	-0.2	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0039		Residential	1	SE	53	48	53	48	53	49	53	49	0	-0.1	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0040		Residential	G	SW	53	48	52	48	53	49	53	48	-0.4	-0.4	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0040		Residential	1	SW	57	52	56	52	57	53	56	52	-0.4	-0.5	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0041		Residential	G	SW	52	48	52	48	53	49	52	48	-0.3	-0.5	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0041		Residential	1	SW	55	51	55	50	55	51	55	51	-0.4	-0.6	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0042		Residential	G	S	55	50	55	50	55	50	55	50	0.2	0	-0.1	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0042		Residential	1	S	58	53	58	53	58	53	58	53	0.1	-0.2	-0.2	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0043		Residential	G	S	56	51	56	51	57	52	56	51	-0.2	-0.3	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0043		Residential	1	S	59	54	59	53	59	54	59	54	-0.1	-0.3	-0.4	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0044		Residential	G	S	58	53	57	52	58	53	57	52	-0.2	-0.5	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0044		Residential	1	S	59	54	59	54	60	55	59	54	-0.4	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0045		Residential	G	SW	57	53	57	52	58	53	57	52	-0.5	-0.7	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0045		Residential	1	SW	59	54	58	53	59	55	58	54	-0.5	-0.6	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0046		Residential	G	SW	57	52	56	52	57	53	57	52	-0.6	-0.6	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0046		Residential	1	SW	59	54	58	53	59	54	58	53	-0.6	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0047		Residential	G	SW	58	54	57	53	58	55	58	54	-0.4	-0.4	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0047		Residential	1	SW	59	56	59	55	60	56	60	56	-0.3	-0.4	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0048		Residential	G	SW	56	52	56	52	57	53	57	53	-0.4	-0.4	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0048		Residential	1	SW	60	56	59	55	60	57	60	56	-0.4	-0.4	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0049		Residential	G	SW	53	48	52	48	53	49	53	49	-0.2	-0.2	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0049		Residential	1	SW	56	51	56	51	56	52	56	52	-0.2	-0.3	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0050		Residential	G	SE	51	47	51	47	52	48	51	47	-0.2	-0.2	-0.2	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0050		Residential	1	SW	58	54	58	53	59	55	58	54	-0.4	-0.5	-0.4	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0051		Residential	G	SE	54	50	54	50	55	51	55	51	-0.3	-0.4	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0051		Residential	1	SW	59	55	58	54	60	56	59	55	-0.4	-0.5	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0052		Residential	G	SE	55	51	54	50	55	51	55	51	-0.3	-0.5	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0052		Residential	1	SE	58	54	58	54	59	55	59	54	-0.5	-0.6	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0053		Residential	G	SW	57	53	57	53	58	54	57	53	-0.3	-0.4	-0.4	-0.6	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
15	15_0053		Residential	1	SW	61	57	60	56	61	57	61	57	-0.3	-0.4	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0054		Residential	G	SE	59	55	59	55	60	56	60	56	-0.4	-0.4	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0054		Residential	1	SW	62	59	62	58	63	59	63	59	-0.3	-0.3	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0055		Residential	G	S	64	60	64	60	65	61	64	61	-0.1	-0.2	-0.2	-0.2	60	55	NO	YES	NO	YES	YES
15	15_0055		Residential	1	E	68	64	68	64	69	65	68	64	-0.1	-0.1	-0.1	-0.2	60	55	YES	YES	YES	YES	YES
15	15_0056		Residential	G	SE	66	62	66	62	67	63	67	63	-0.1	-0.2	-0.2	-0.2	60	55	YES	YES	YES	YES	YES
15	15_0057		Residential	G	NE	64	60	64	60	65	61	65	61	0.2	0.3	0.3	0.3	60	55	YES	YES	YES	YES	YES
15	15_0058		Residential	G	NE	62	58	62	58	63	59	63	59	-0.1	-0.1	0	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0059		Residential	G	NE	61	57	60	56	62	58	61	57	-0.3	-0.2	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0060		Residential	G	NE	60	56	60	56	61	57	61	57	-0.3	-0.4	-0.2	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0061		Residential	G	SE	59	55	59	55	60	56	60	56	-0.3	-0.2	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0062		Residential	G	NE	57	52	56	52	57	53	57	53	-0.2	-0.3	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0063		Residential	G	SE	61	57	61	57	62	58	62	58	0	0	0.1	0	60	55	NO	NO	NO	NO	NO
15	15_0064		Residential	G	SE	62	58	62	58	63	59	63	59	0.1	0.2	0.2	0.2	60	55	NO	NO	NO	NO	NO
15	15_0065		Residential	G	SE	64	60	65	61	65	61	66	62	0.4	0.5	0.4	0.5	60	55	YES	YES	YES	YES	YES
15	15_0066		Residential	G	SE	65	61	65	61	66	62	66	62	0.3	0.4	0.4	0.3	60	55	YES	YES	YES	YES	YES
15	15_0067		Residential	G	E	66	62	67	63	67	63	68	64	0.4	0.4	0.3	0.3	60	55	YES	YES	YES	YES	YES
15	15_0068		Residential	G	E	66	62	66	62	67	63	67	63	0.1	0.1	0.1	0.1	60	55	YES	YES	YES	YES	YES
15	15_0069		Residential	G	E	66	62	66	62	67	63	67	63	0.1	0.1	0.1	0.1	60	55	YES	YES	YES	YES	YES
15	15_0070		Residential	G	E	67	63	67	62	68	64	68	63	-0.1	-0.1	0	-0.1	60	55	YES	YES	YES	YES	YES
15	15_0071		Residential	G	NE	64	60	64	60	65	61	65	61	-0.3	-0.3	-0.2	-0.4	60	55	YES	YES	YES	YES	YES
15	15_0072		Residential	G	NE	64	59	63	59	65	60	64	60	-0.5	-0.6	-0.5	-0.5	60	55	NO	YES	NO	YES	YES
15	15_0073		Residential	G	NE	61	57	60	56	62	58	61	57	-0.3	-0.3	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0074		Residential	G	E	63	59	62	58	64	60	63	59	-0.4	-0.4	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0075		Residential	G	E	67	63	67	63	68	64	68	64	-0.3	-0.3	-0.3	-0.3	60	55	YES	YES	YES	YES	YES
15	15_0076		Residential	G	E	65	61	65	61	66	62	66	62	-0.3	-0.3	-0.2	-0.3	60	55	YES	YES	YES	YES	YES
15	15_0076		Residential	1	E	68	63	68	63	69	64	69	64	-0.2	-0.1	-0.1	-0.1	60	55	YES	YES	YES	YES	YES
15	15_0077		Residential	G	E	66	61	65	61	67	62	66	62	-0.2	-0.2	-0.1	-0.2	60	55	YES	YES	YES	YES	YES
15	15_0078		Residential	G	E	66	62	66	62	67	63	67	63	-0.1	-0.1	-0.1	0	60	55	YES	YES	YES	YES	YES
15	15_0078		Residential	1	E	69	64	68	64	69	65	69	65	-0.2	-0.1	-0.1	-0.1	60	55	YES	YES	YES	YES	YES
15	15_0079		Residential	G	E	66	61	66	61	67	62	67	62	0	0.1	0.1	0.1	60	55	YES	YES	YES	YES	YES
15	15_0080		Residential	G	E	63	58	63	59	64	59	64	60	0.5	0.5	0.6	0.5	60	55	NO	YES	NO	NO	YES
15	15_0080		Residential	1	E	66	61	66	61	67	62	67	63	0.1	0.1	0.2	0.2	60	55	YES	YES	YES	YES	YES
15	15_0081		Residential	G	E	64	60	64	60	65	61	65	61	0.7	0.7	0.8	0.7	60	55	YES	YES	YES	YES	YES
15	15_0082		Residential	G	E	63	59	64	60	64	60	65	61	0.8	0.8	1	0.8	60	55	YES	YES	NO	YES	YES
15	15_0083		Residential	G	E	63	58	63	59	63	59	64	60	0.8	0.8	0.9	0.8	60	55	NO	YES	NO	YES	YES
15	15_0084		Residential	G	E	63	59	63	59	64	60	64	60	0.7	0.7	0.7	0.7	60	55	NO	YES	NO	YES	YES
15	15_0085		Residential	G	E	62	58	63	58	63	59	64	60	0.6	0.6	0.7	0.6	60	55	NO	YES	NO	NO	YES
15	15_0086		Residential	G	E	63	59	63	59	64	60	64	60	0.7	0.7	0.7	0.7	60	55	NO	YES	NO	NO	YES
15	15_0087		Residential	G	E	64	60	64	60	65	61	66	62	0.7	0.7	0.9	0.8	60	55	YES	YES	YES	YES	YES
15	15_0088		Residential	G	E	64	60	65	61	65	61	66	62	0.5	0.5	0.5	0.5	60	55	YES	YES	NO	NO	YES
15	15_0088		Residential	1	E	68	64	69	65	69	65	70	66	0.5	0.6	0.6	0.7	60	55	YES	YES	YES	YES	YES
15	15_0089		Residential	G	NE	66	62	67	63	67	63	68	64	0.4	0.5	0.5	0.4	60	55	YES	YES	NO	YES	YES
15	15_0090		Residential	G	E	67	63	67	63	68	64	68	64	0.3	0.3	0.3	0.3	60	55	NO	NO	NO	NO	NO
15	15_0091		Residential	G	S	61	57	62	57	62	58	63	58	0.3	0.4	0.4	0.4	60	55	NO	NO	NO	NO	NO
15	15_0092		Residential	G	NE	61	57	62	57	62	58	63	58	0.5	0.5	0.6	0.5	60	55	NO	NO	NO	NO	NO
15	15_0093		Residential	G	S	60	56	61	56	61	57	62	57	0.6	0.5	0.6	0.5	60	55	NO	NO	NO	NO	NO
15	15_0094		Residential	G	NE	60	56	60	56	61	57	62	57	0.4	0.5	0.6	0.4	60	55	NO	NO	NO	NO	NO
15	15_0095		Residential	G	E	59	55	60	55	60	56	61	56	0.3	0.4	0.4	0.4	60	55	NO	NO	NO	NO	NO
15	15_0096		Residential	G	E	58	54	58	54	59	55	60	55	0.2	0.2	0.4	0.2	60	55	NO	NO	NO	NO	NO
15	15_0097		Residential	G	E	59	55	60	56	60	56	61	57	0.3	0.4	0.4	0.4	60	55	NO	NO	NO	NO	NO
15	15_0098		Residential	G	E	58	54	58	54	59	55	60	55	0.1	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
15	15_0099		Residential	G	E	59	55	59	55	60	56	60	56	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
15	15_0100		Residential	G	N	59	54	59	54	60	55	60	55	0	0.1	0	0.1	60	55	NO	NO	NO	NO	NO
15	15_0101		Residential	G	N	59	55	59	55	60	56	60	56	0	0	0	0	60	55	NO	NO	NO	NO	NO
15	15_0102		Residential	G	E	59	55	59	55	60	56	60	56	0	0	0.1	0.1	60	55	NO	NO	NO	NO	NO
15	15_0103		Residential	G	NE	58	54	58	54	59	55	59	55	-0.2	-0.2	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0104		Residential	G	E	56	52	56	52	57	53	57	53	-0.3	-0.2	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0104		Residential	1	NE	59	55	59	55	60	56	60	56	-0.3	-0.2	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0105		Residential	G	NE	58	54	58	54	59	55	59	55	-0.2	-0.2	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0106		Residential	G	E	59	54	58	54	59	55	59	55	-0.3	-0.2	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0107		Residential	G	NE	59	55	59	55	60	56	60	56	-0.4	-0.2	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0108		Residential	G	NE	60	56	60	56	61	57	61	57	-0.3	-0.3	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0109		Residential	G	E	59	55	59	55	60	56	60	56	-0.2	-0.1	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0109		Residential	1	E	62	57	61	57	62	58	62	58	-0.1	0	-0.1	0	60	55	NO	NO	NO	NO	NO
15	15_0110		Residential	G	NE	59	55	59	55	60	56	60	56	-0.1	-0.2	0	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0110		Residential	1	NE	62	58	62	58	63	59	63	59	-0.1	-0.1	0	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0111		Residential	G	SE	57	53	57	53	58	54	58	54	-0.2	-0.2	-0.1	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0111		Residential	1	SE	60	56	60	55	61	57	60	56	-0.2	-0.2	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0112		Residential	G	SE	57	53	57	53	58	54	58	54	0	0.1	0.1	0	60	55	NO	NO	NO	NO	NO
15	15_0112		Residential	1	SE	60	56	60	56	61	57	61	56	-0.1	-0.1	-0.1	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0113		Residential	G	SE	57	53	57	53	58	54	58	53	-0.2	-0.1	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0113		Residential	1	SE	59	55	59	55	60	56	60	56	-0.2	-0.2	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0114		Residential	G	NE	55	51	55	51	56	52	56	52	-0.3	-0.3	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0114		Residential	1	NE	57	53	57	53	58	54	58	54	-0.2	-0.2	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0115		Residential	G	E	55	50	54	50	55	51	55	51	-0.3	-0.2	-0.1	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0115		Residential	1	E	57	52	56	52	57	53	57	53	-0.3	-0.2	-0.1	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0116		Residential	G	E	55	51	55	51	56	52	56	52	-0.2	-0.1	-0.1	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0117		Residential	G	N	54	50	54	50	55	51	55	51	0	0	0	0	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
15	15_0118		Residential	G	E	54	49	54	49	55	50	54	50	-0.1	-0.1	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0119		Residential	G	E	53	49	53	49	54	50	54	50	0	-0.1	0	0	60	55	NO	NO	NO	NO	NO
15	15_0120		Residential	G	E	53	49	53	49	54	50	54	50	-0.1	-0.1	0	0	60	55	NO	NO	NO	NO	NO
15	15_0121		Residential	G	NE	53	49	53	49	54	50	54	50	0	0	0.1	0	60	55	NO	NO	NO	NO	NO
15	15_0122		Residential	G	NE	54	50	54	50	55	51	55	51	0.1	0	0.1	0.1	60	55	NO	NO	NO	NO	NO
15	15_0123		Residential	G	NE	54	50	54	50	55	51	55	51	0	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
15	15_0124		Residential	G	S	53	49	53	49	54	50	54	50	0.1	0	0.1	0.1	60	55	NO	NO	NO	NO	NO
15	15_0125		Residential	G	E	54	50	54	50	55	51	55	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
15	15_0126		Residential	G	E	55	50	55	50	55	51	56	51	0.1	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
15	15_0127		Residential	G	E	54	50	54	50	55	51	55	51	0.1	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
15	15_0127		Residential	1	E	55	51	56	51	56	52	57	52	0.2	0.2	0.3	0.3	60	55	NO	NO	NO	NO	NO
15	15_0128		Residential	G	NE	55	50	55	50	55	51	56	51	0	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
15	15_0129		Residential	G	E	54	50	54	50	55	51	55	51	0	0	0.1	0	60	55	NO	NO	NO	NO	NO
15	15_0129		Residential	1	E	56	52	56	52	57	53	57	53	0	0	0.1	0.1	60	55	NO	NO	NO	NO	NO
15	15_0130		Residential	G	S	52	47	52	47	53	48	53	48	-0.1	0	0	0	60	55	NO	NO	NO	NO	NO
15	15_0131		Residential	G	E	56	51	56	51	57	52	57	52	-0.1	-0.1	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0131		Residential	1	E	58	54	58	54	59	55	59	55	0	0	0.1	0.1	60	55	NO	NO	NO	NO	NO
15	15_0132		Residential	G	NE	56	52	56	52	57	53	57	53	-0.2	-0.2	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0132		Residential	1	NE	59	55	59	55	60	56	60	56	-0.2	-0.1	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0133		Residential	G	NE	57	53	57	52	58	54	58	53	-0.2	-0.1	0	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0134		Residential	G	E	55	51	55	50	56	52	56	51	-0.1	-0.1	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0134		Residential	1	E	57	53	57	53	58	53	58	53	0	0	0	0	60	55	NO	NO	NO	NO	NO
15	15_0135		Residential	G	E	55	51	55	51	56	52	56	52	0	0	0	0	60	55	NO	NO	NO	NO	NO
15	15_0136		Residential	G	E	55	51	55	51	56	52	56	52	0	0	0.1	0.1	60	55	NO	NO	NO	NO	NO
15	15_0137		Residential	G	E	55	51	55	51	56	52	56	52	0	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
15	15_0138		Residential	G	E	55	51	55	51	56	52	56	52	0.2	0.2	0.2	0.2	60	55	NO	NO	NO	NO	NO
15	15_0139		Residential	G	E	55	51	55	51	56	52	56	52	0.1	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
15	15_0140		Residential	G	E	55	51	56	51	56	52	57	52	0.1	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
15	15_0141		Residential	G	E	55	51	56	51	56	52	57	52	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
15	15_0142		Residential	G	NE	56	52	56	52	57	53	57	53	0.3	0.3	0.3	0.3	60	55	NO	NO	NO	NO	NO
15	15_0143		Residential	G	NE	56	52	56	52	57	53	57	53	0.2	0.3	0.3	0.2	60	55	NO	NO	NO	NO	NO
15	15_0144		Residential	G	NE	56	52	56	52	57	53	57	53	0	0	0	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0145		Residential	G	E	56	52	56	51	57	52	57	52	0	-0.1	0	0	60	55	NO	NO	NO	NO	NO
15	15_0146		Residential	G	E	57	53	57	52	58	53	58	53	-0.1	-0.1	-0.2	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0146		Residential	1	E	60	55	60	55	60	56	60	56	0	0	0	0.1	60	55	NO	NO	NO	NO	NO
15	15_0147		Residential	G	S	56	52	56	52	57	53	57	53	0	0	0.1	0.1	60	55	NO	NO	NO	NO	NO
15	15_0148		Residential	G	E	58	54	58	54	59	55	59	55	-0.2	-0.2	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0148		Residential	1	E	60	56	60	56	61	57	61	57	-0.1	0	0	0.1	60	55	NO	NO	NO	NO	NO
15	15_0149		Residential	G	S	57	53	57	53	58	54	58	54	-0.1	-0.1	0	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0150		Residential	G	NE	57	53	57	53	58	54	58	54	0	0	0.1	0	60	55	NO	NO	NO	NO	NO
15	15_0151		Residential	G	E	56	52	57	52	57	53	58	53	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
15	15_0151		Residential	1	E	58	54	58	54	59	55	59	55	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
15	15_0152		Residential	G	S	55	51	56	51	56	52	57	52	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
15	15_0152		Residential	1	S	57	53	58	54	58	54	59	55	0.4	0.5	0.5	0.5	60	55	NO	NO	NO	NO	NO
15	15_0153		Residential	G	E	56	52	57	52	57	53	58	53	0.3	0.3	0.4	0.3	60	55	NO	NO	NO	NO	NO
15	15_0154		Residential	G	E	56	52	57	52	57	53	58	53	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
15	15_0155		Residential	G	E	56	52	56	52	57	53	57	53	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
15	15_0156		Residential	G	NE	56	52	56	52	57	53	57	53	0	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
15	15_0157		Residential	G	NE	56	52	57	52	57	53	58	53	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
15	15_0158		Residential	G	NE	60	55	60	56	61	56	61	57	0.4	0.5	0.5	0.5	60	55	NO	NO	NO	NO	NO
15	15_0159		Residential	G	NE	59	55	60	55	60	56	61	56	0.4	0.4	0.4	0.4	60	55	NO	NO	NO	NO	NO
15	15_0160		Residential	G	S	59	55	59	55	60	56	60	56	0.3	0.3	0.4	0.3	60	55	NO	NO	NO	NO	NO
15	15_0160		Residential	1	E	62	58	62	58	63	59	63	59	0.1	0.2	0.2	0.2	60	55	NO	NO	NO	NO	NO
15	15_0161		Residential	G	S	59	54	59	55	59	55	60	56	0.3	0.3	0.4	0.3	60	55	NO	NO	NO	NO	NO
15	15_0161		Residential	1	S	60	56	60	56	61	57	61	57	0.4	0.4	0.5	0.4	60	55	NO	NO	NO	NO	NO
15	15_0162		Residential	G	S	61	56	61	57	62	57	62	58	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
15	15_0163		Residential	G	S	57	53	57	53	58	54	58	54	-0.1	0	0	0	60	55	NO	NO	NO	NO	NO
15	15_0164		Residential	G	NE	59	55	59	54	60	55	60	55	-0.1	-0.1	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0165		Residential	G	E	60	56	60	56	61	57	61	57	0	0	0.1	0	60	55	NO	NO	NO	NO	NO
15	15_0166		Residential	G	NE	55	50	55	50	55	51	55	51	-0.2	-0.2	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0167		Residential	G	W	56	50	56	50	56	50	56	50	-0.2	-0.1	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0168		Residential	G	S	54	49	54	49	55	50	55	50	-0.1	-0.1	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0169		Residential	G	E	53	49	53	49	54	50	54	50	-0.1	0	0	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0170		Residential	G	E	54	50	54	50	55	51	55	51	0.1	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
15	15_0171		Residential	G	NE	54	49	54	49	54	50	54	50	0	0.1	0	0	60	55	NO	NO	NO	NO	NO
15	15_0172		Residential	G	E	54	50	54	50	55	51	55	51	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
15	15_0173		Residential	G	E	54	49	53	49	54	50	54	50	-0.1	0	0	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0174		Residential	G	E	53	49	53	49	54	50	54	50	-0.1	-0.1	-0.1	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0175		Residential	G	E	54	49	54	49	55	50	55	50	0.1	0.2	0.1	0.1	60	55	NO	NO	NO	NO	NO
15	15_0176		Residential	G	NE	54	49	54	49	54	50	55	50	0.1	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
15	15_0177		Residential	G	E	53	49	53	49	54	50	54	50	0	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
15	15_0178		Residential	G	E	53	49	53	49	54	50	54	50	0	0	0	0	60	55	NO	NO	NO	NO	NO
15	15_0179		Residential	G	E	53	49	53	49	54	50	54	50	-0.1	0	0	0	60	55	NO	NO	NO	NO	NO
15	15_0180		Residential	G	NE	53	49	53	49	54	50	54	50	-0.1	0	0	0.1	60	55	NO	NO	NO	NO	NO
15	15_0181		Residential	G	N	54	49	54	49	55	50	55	50	0	0	0	0	60	55	NO	NO	NO	NO	NO
15	15_0182		Residential	G	E	54	49	54	49	54	50	54	50	-0.2	-0.1	-0.1	0	60	55	NO	NO	NO	NO	NO
15	15_0183		Residential	G	NE	55	50	55	50	56	51	55	51	-0.2	-0.1	-0.1	0	60	55	NO	NO	NO	NO	NO
15	15_0184		Residential	G	E	54	50	54	50	55	51	55	51	-0.2	-0.1	-0.1	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0184		Residential	1	E	56	52	56	52	57	53	57	53	-0.2	-0.2	-0.1	-0.2	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
15	15_0185		Residential	G	NE	54	50	54	50	55	51	55	51	-0.2	-0.2	-0.1	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0185		Residential	1	NE	56	52	56	52	57	53	57	53	-0.2	-0.2	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0186		Residential	G	NE	54	50	54	49	55	50	54	50	-0.3	-0.3	-0.3	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0187		Residential	G	NE	54	49	53	49	54	50	54	50	-0.2	-0.2	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0187		Residential	1	NE	57	52	56	52	58	53	57	53	-0.3	-0.3	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0188		Residential	G	SE	56	52	55	51	56	52	56	52	-0.3	-0.4	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0188		Residential	1	SE	60	56	59	55	61	57	60	56	-0.3	-0.3	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0189		Residential	G	NE	56	52	56	52	57	53	57	53	-0.3	-0.2	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0190		Residential	G	NE	56	52	56	52	57	53	57	53	-0.2	-0.2	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0191		Residential	G	NE	58	54	58	54	59	55	59	55	-0.3	-0.2	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0192		Residential	G	NW	55	50	55	50	56	50	55	50	-0.1	-0.1	-0.3	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0193		Residential	G	NE	53	48	53	48	54	49	54	49	-0.2	-0.1	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0194		Residential	G	NE	53	49	53	49	54	49	54	49	-0.1	-0.1	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
15	15_0195		Residential	G	NE	53	48	52	48	53	49	53	49	-0.2	-0.2	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0196		Residential	G	NW	57	51	57	51	57	50	56	50	-0.2	-0.1	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0196		Residential	1	SW	58	52	58	52	58	52	58	52	-0.3	-0.2	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0197		Residential	G	NW	57	51	57	51	57	51	57	51	-0.2	-0.1	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0198		Residential	G	NW	57	51	57	51	57	51	57	51	-0.2	-0.1	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0199		Residential	G	NW	57	51	57	51	57	51	56	50	-0.2	-0.2	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0200		Residential	G	NW	57	51	56	50	56	51	56	50	-0.2	-0.2	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0201		Residential	G	NW	55	49	55	49	55	49	54	49	-0.2	-0.1	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0202		Residential	G	NW	55	49	55	49	55	49	54	49	-0.2	-0.1	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0203		Residential	G	NW	55	49	55	49	55	49	54	49	-0.3	-0.2	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0204		Residential	G	SW	55	50	54	49	55	50	54	49	-0.5	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0204		Residential	1	SW	57	52	57	52	57	53	57	52	-0.5	-0.6	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0205		Residential	G	SW	55	50	55	50	55	51	55	50	-0.4	-0.5	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0206		Residential	G	SW	55	50	54	50	55	51	55	50	-0.5	-0.6	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0206		Residential	1	SW	57	53	57	52	58	54	57	53	-0.6	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0207		Residential	G	SW	55	50	54	50	55	51	55	50	-0.4	-0.6	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0207		Residential	1	SW	57	53	57	53	58	54	57	53	-0.5	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0208		Residential	G	SW	56	52	55	51	56	52	56	51	-0.5	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0208		Residential	1	SE	58	54	57	53	58	54	58	54	-0.6	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0209		Residential	G	SW	57	53	57	52	58	54	57	53	-0.5	-0.6	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0210		Residential	G	SW	57	53	57	52	58	54	57	53	-0.6	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0210		Residential	1	SE	59	54	58	54	59	55	59	55	-0.6	-0.6	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0211		Residential	G	SW	56	52	56	52	57	53	56	52	-0.6	-0.7	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0211		Residential	1	SW	58	54	58	54	59	55	58	54	-0.5	-0.6	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0212		Residential	G	SE	56	52	56	52	57	53	57	53	-0.4	-0.4	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0212		Residential	1	SE	60	56	60	56	61	57	61	56	-0.5	-0.5	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0213		Residential	G	SW	57	53	57	53	58	54	57	53	-0.5	-0.5	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0214		Residential	G	SW	57	53	56	52	57	53	57	53	-0.3	-0.4	-0.4	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0215		Residential	G	SE	58	54	57	53	59	55	58	54	-0.5	-0.5	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0216		Residential	G	SE	57	53	57	53	58	54	57	53	-0.5	-0.5	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0216		Residential	1	SE	59	55	59	55	60	56	60	55	-0.4	-0.5	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0217		Residential	G	SE	57	53	56	52	57	53	57	53	-0.4	-0.6	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0217		Residential	1	SE	59	55	58	54	59	55	59	55	-0.5	-0.5	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0218		Residential	G	SE	56	52	56	52	57	53	56	52	-0.5	-0.5	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0218		Residential	1	S	58	54	57	53	59	55	58	54	-0.5	-0.6	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0219		Residential	G	SW	53	49	53	49	54	50	53	49	-0.3	-0.3	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0219		Residential	1	SW	58	53	57	53	58	54	58	54	-0.4	-0.5	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0220		Residential	G	SW	55	51	55	50	56	52	55	51	-0.5	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0220		Residential	1	SW	57	53	56	52	58	54	57	53	-0.6	-0.6	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0221		Residential	G	SW	52	48	52	48	53	48	52	48	-0.2	-0.2	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0221		Residential	1	SE	57	53	57	52	58	54	57	53	-0.5	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0222		Residential	G	SW	54	50	54	50	55	51	54	50	-0.6	-0.7	-0.7	-1	60	55	NO	NO	NO	NO	NO
15	15_0222		Residential	1	SW	57	52	56	52	57	53	56	52	-0.5	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0223		Residential	G	SW	54	49	53	49	54	50	54	49	-0.5	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0223		Residential	1	SW	56	52	56	51	57	53	56	52	-0.6	-0.6	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0224		Residential	G	SW	51	46	51	46	51	46	51	46	0	0	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0224		Residential	1	SW	54	49	54	49	55	50	54	50	-0.2	-0.2	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0225		Residential	G	SW	51	46	51	46	51	46	51	46	-0.2	-0.3	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0225		Residential	1	SW	54	49	54	49	55	50	54	49	-0.4	-0.4	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0226		Residential	G	SW	52	46	51	46	52	47	51	46	-0.2	-0.2	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0226		Residential	1	SW	54	49	54	49	54	50	54	49	-0.3	-0.4	-0.4	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0227		Residential	G	SE	50	46	50	45	51	46	50	46	-0.2	-0.3	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0227		Residential	1	NW	55	50	55	50	55	50	55	50	-0.2	-0.1	-0.3	-0.2	60	55	NO	NO	NO	NO	NO
15	15_0228		Residential	G	SE	53	48	52	48	53	49	53	48	-0.4	-0.6	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0228		Residential	1	SW	57	52	57	51	57	52	56	51	-0.4	-0.5	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0229		Residential	G	SW	53	47	52	47	53	48	52	47	-0.3	-0.3	-0.4	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0229		Residential	1	SW	57	52	57	52	57	52	57	51	-0.4	-0.5	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0230		Residential	G	SW	57	50	56	50	56	50	56	50	-0.3	-0.2	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0230		Residential	1	SW	58	52	58	52	58	52	58	52	-0.3	-0.4	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0231		Residential	G	SW	56	50	56	50	56	50	56	49	-0.2	-0.2	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0231		Residential	1	SW	58	52	58	52	58	52	57	52	-0.3	-0.3	-0.4	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0232		Residential	G	SW	57	51	57	50	57	50	56	50	-0.2	-0.2	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0232		Residential	1	SW	59	53	58	52	58	53	58	52	-0.3	-0.3	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0233		Residential	G	SW	55	50	55	50	55	50	55	50	-0.3	-0.4	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0234		Residential	G	SW	54	49	54	49	54	49	54	49	-0.3	-0.3	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0235		Residential	G	SW	51	46	51	46	51	46	51	46	-0.3	-0.4	-0.5	-0.6	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
15	15_0235		Residential	1	SW	56	51	55	50	56	51	55	50	-0.6	-0.7	-0.8	-1	60	55	NO	NO	NO	NO	NO
15	15_0236		Residential	G	SE	50	45	49	45	50	46	50	45	-0.3	-0.4	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0236		Residential	1	SE	54	50	54	49	55	51	54	50	-0.5	-0.7	-0.6	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0237		Residential	G	SW	53	47	52	47	53	48	52	47	-0.3	-0.3	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0237		Residential	1	SW	56	51	56	51	57	52	56	51	-0.3	-0.3	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0238		Residential	G	SW	56	50	56	50	56	50	56	50	-0.2	-0.2	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0238		Residential	1	SW	59	54	59	53	59	54	59	53	-0.3	-0.5	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0239		Residential	G	SW	57	51	56	51	57	51	56	50	-0.3	-0.2	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0240		Residential	G	W	57	51	57	50	57	50	56	50	-0.3	-0.2	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0240		Residential	1	W	59	53	59	53	59	53	58	52	-0.3	-0.3	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0241		Residential	G	W	57	50	57	50	56	50	56	50	-0.3	-0.2	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0241		Residential	1	W	59	52	58	52	58	52	58	52	-0.2	-0.2	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0242		Residential	G	W	57	50	56	50	56	50	56	50	-0.2	-0.2	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0243		Residential	G	SW	55	49	55	49	55	49	54	48	-0.3	-0.2	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0243		Residential	1	SW	57	51	57	51	57	51	57	51	-0.3	-0.2	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0244		Residential	G	SW	55	50	55	50	55	50	55	50	-0.3	-0.3	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0244		Residential	1	SW	58	53	57	52	58	53	57	53	-0.5	-0.4	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0245		Residential	G	SW	56	51	56	51	56	52	56	51	-0.5	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0245		Residential	1	SW	58	53	57	53	58	54	58	53	-0.6	-0.7	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0246		Residential	G	SW	56	52	55	51	57	52	56	51	-0.7	-0.8	-0.9	-1	60	55	NO	NO	NO	NO	NO
15	15_0246		Residential	1	SW	58	53	57	52	58	54	57	53	-0.7	-0.7	-0.9	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0247		Residential	G	SW	55	51	55	50	56	51	55	51	-0.6	-0.6	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0247		Residential	1	SW	58	53	57	52	58	54	57	53	-0.8	-0.7	-0.9	-1	60	55	NO	NO	NO	NO	NO
15	15_0248		Residential	G	SW	68	62	68	62	68	62	67	61	-0.3	-0.3	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0249		Residential	G	SW	67	61	67	60	67	61	66	60	-0.3	-0.3	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0249		Residential	1	SW	68	62	67	61	68	62	67	61	-0.3	-0.3	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0250		Residential	G	SW	66	59	65	59	65	59	65	59	-0.3	-0.3	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0250		Residential	1	SW	67	61	67	60	67	61	66	60	-0.4	-0.4	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0251		Residential	G	SW	65	59	65	59	65	59	65	59	-0.4	-0.4	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0251		Residential	1	SW	67	61	67	61	67	61	66	60	-0.5	-0.4	-0.8	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0252		Residential	G	SW	63	57	63	56	63	57	62	56	-0.6	-0.6	-0.9	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0252		Residential	1	SW	66	59	65	59	65	59	65	59	-0.4	-0.4	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0253		Residential	G	SW	65	59	65	59	65	59	64	58	-0.5	-0.4	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0253		Residential	1	SW	67	61	67	61	67	61	66	60	-0.2	-0.2	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0254		Residential	G	SW	67	61	67	61	67	61	66	60	-0.2	-0.2	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0255		Residential	G	SW	64	58	64	58	64	58	63	57	-0.3	-0.4	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0256		Residential	G	SW	61	55	61	55	61	55	60	54	-0.4	-0.4	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0256		Residential	1	SW	65	59	65	59	65	59	64	58	-0.4	-0.4	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0257		Residential	G	SW	63	57	63	57	63	57	62	56	-0.3	-0.3	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0258		Residential	G	SW	57	53	57	53	58	54	57	53	-0.4	-0.6	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0258		Residential	1	SW	59	55	59	54	60	56	59	55	-0.5	-0.5	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0259		Residential	G	SW	55	50	54	50	55	51	55	51	-0.3	-0.3	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0260		Residential	G	SE	52	48	52	48	53	49	53	48	-0.3	-0.4	-0.3	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0261		Residential	G	SE	56	52	56	52	57	53	56	52	-0.5	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0261		Residential	1	SE	58	54	58	53	59	54	58	54	-0.5	-0.5	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0262		Residential	G	SE	54	50	53	49	55	50	54	50	-0.5	-0.5	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0262		Residential	1	SW	58	54	58	53	59	55	58	54	-0.5	-0.6	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0263		Residential	G	SW	52	48	52	47	52	48	52	48	-0.3	-0.4	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0263		Residential	1	SW	58	54	57	53	58	54	58	53	-0.5	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0264		Residential	G	SW	57	53	56	52	57	53	57	52	-0.6	-0.7	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0264		Residential	1	SW	58	54	58	53	59	54	58	54	-0.4	-0.6	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0265		Residential	G	SE	57	52	56	52	57	53	56	52	-0.6	-0.7	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0265		Residential	1	SW	58	54	58	53	59	54	58	54	-0.5	-0.6	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0266		Residential	G	SW	52	48	52	47	53	49	52	48	-0.3	-0.4	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0267		Residential	G	SE	57	53	56	52	57	53	57	52	-0.6	-0.7	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0268		Residential	G	SE	57	53	56	52	57	53	57	52	-0.6	-0.7	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0269		Residential	G	SW	55	50	54	50	55	51	55	50	-0.6	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0269		Residential	1	SW	57	53	57	52	58	54	57	53	-0.6	-0.6	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0270		Residential	G	SE	56	51	55	51	56	52	56	51	-0.6	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0270		Residential	1	SE	57	53	56	52	58	53	57	53	-0.5	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0271		Residential	G	SW	56	52	56	51	57	53	56	52	-0.6	-0.7	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0272		Residential	G	SW	57	53	56	52	57	53	57	52	-0.6	-0.6	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0272		Residential	1	SW	58	54	58	53	59	55	58	54	-0.5	-0.5	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0273		Residential	G	SW	57	52	56	52	57	53	56	52	-0.6	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0274		Residential	G	SW	54	50	53	49	55	50	54	49	-0.6	-0.8	-0.8	-1.1	60	55	NO	NO	NO	NO	NO
15	15_0274		Residential	1	SW	57	53	56	52	57	53	57	52	-0.5	-0.7	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0275		Residential	G	SW	54	50	54	49	55	50	54	50	-0.4	-0.5	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0275		Residential	1	SW	58	53	57	53	58	54	57	53	-0.5	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0276		Residential	G	SW	55	50	55	50	55	51	55	50	-0.5	-0.5	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0277		Residential	G	SW	57	53	57	52	58	53	57	52	-0.6	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0278		Residential	G	SW	55	50	55	49	55	50	55	49	-0.3	-0.4	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0001		Residential	G	NW	61	57	61	57	62	58	62	58	0.1	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0001		Residential	1	NW	61	58	61	58	62	59	62	59	0	0.1	0.1	0.2	60	55	NO	NO	NO	NO	NO
16	16_0002		Residential	G	NW	61	58	61	58	62	59	62	59	0.1	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0002		Residential	1	NW	62	58	62	58	63	59	63	59	0	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0003		Residential	G	NW	62	58	62	58	63	59	63	59	0	0	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0003		Residential	1	NW	62	59	62	59	63	60	63	60	0.1	0.1	0.1	0.2	60	55	NO	NO	NO	NO	NO
16	16_0004		Residential	G	W	62	58	62	58	63	59	63	59	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0004		Residential	1	W	62	59	63	59	63	60	64	60	0.1	0	0.1	0.1	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
16	16_0005		Residential	G	SW	61	57	61	57	62	58	62	58	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0006		Residential	G	SW	60	56	60	56	61	57	61	57	0.1	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0007		Residential	G	SW	60	57	60	57	61	58	61	58	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0008		Residential	G	SW	59	56	59	56	60	57	60	57	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0009		Residential	G	SW	59	55	59	56	60	56	60	57	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0010		Residential	G	SW	58	54	58	54	59	55	59	55	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0011		Residential	G	SW	57	53	57	54	58	54	58	55	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0011		Residential	1	SW	59	55	59	55	60	56	60	56	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0012		Residential	G	SW	56	52	56	52	57	53	57	53	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0012		Residential	1	SW	58	54	58	54	59	55	59	56	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0013		Residential	G	SW	56	52	56	52	57	53	57	53	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0013		Residential	1	SW	58	54	58	54	59	55	59	55	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0014		Residential	G	SW	55	51	55	51	56	52	56	52	0.1	0	0.3	0	60	55	NO	NO	NO	NO	NO
16	16_0014		Residential	1	SW	57	53	57	53	58	54	58	54	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0015		Residential	G	SW	55	52	56	52	56	53	57	53	0.3	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0015		Residential	1	SW	57	54	57	54	58	55	58	55	0.2	0.2	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0016		Residential	G	SW	55	52	55	52	56	53	56	53	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0016		Residential	1	SW	57	53	57	54	58	54	58	55	0.1	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0017		Residential	G	W	55	52	56	52	56	53	57	53	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0017		Residential	1	W	57	54	57	54	58	55	58	55	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0018		Residential	G	W	56	52	56	52	56	53	57	53	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0018		Residential	1	W	57	54	57	54	58	55	58	55	0.2	0.2	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0019		Residential	G	W	54	51	54	51	55	52	55	52	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0019		Residential	1	W	56	53	56	53	57	54	57	54	0.1	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0020		Residential	G	NW	54	51	54	51	55	52	55	52	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0020		Residential	1	NW	56	52	56	53	57	53	57	54	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0021		Residential	G	NW	54	50	54	50	55	51	55	51	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0021		Residential	1	NW	56	52	56	53	57	53	57	54	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0022		Residential	G	NW	53	50	54	50	54	51	55	51	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0022		Residential	1	SW	56	52	56	52	57	53	57	53	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0023		Residential	G	SW	54	51	55	51	55	52	56	52	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0023		Residential	1	SW	56	53	56	53	57	54	57	54	0.2	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0024		Residential	G	W	54	51	54	51	55	52	55	52	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0025		Residential	G	SW	54	50	54	50	55	51	55	51	0.1	0	0.3	0	60	55	NO	NO	NO	NO	NO
16	16_0025		Residential	1	SW	55	52	55	52	56	53	56	53	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0026		Residential	G	W	62	58	62	58	63	59	63	59	0	0	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0027		Residential	G	W	62	59	63	59	63	60	64	60	0.1	0	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0028		Residential	G	SW	62	58	62	58	63	59	63	59	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0029		Residential	G	SW	62	58	62	58	63	59	63	59	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0030		Residential	G	NW	63	59	63	59	63	60	64	60	0.1	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0031		Residential	G	SW	62	58	62	58	63	59	63	59	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0032		Residential	G	SW	62	58	62	58	63	59	63	59	0.1	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0033		Residential	G	SW	61	57	61	58	62	58	62	59	0.1	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0034		Residential	G	SW	61	57	61	57	62	58	62	59	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0035		Residential	G	SW	61	57	61	57	62	58	62	58	0.1	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0036		Residential	G	SW	60	56	60	56	61	57	61	57	0.1	0.1	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0037		Residential	G	SW	60	56	60	56	61	57	61	57	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0038		Residential	G	SW	58	54	58	54	59	55	59	55	0.3	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0039		Residential	G	SW	59	55	59	55	60	56	60	56	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0040		Residential	G	SW	58	55	58	55	59	56	59	56	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0040		Residential	1	SW	59	56	59	56	60	57	61	57	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0041		Residential	G	SW	58	55	59	55	59	56	60	56	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0042		Residential	G	SW	58	54	58	54	59	55	59	56	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0043		Residential	G	SW	56	52	56	52	57	53	57	53	0.3	0.2	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0043		Residential	1	SW	58	54	58	54	59	55	59	55	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0044		Residential	G	SW	57	53	57	53	58	54	58	54	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0045		Residential	G	SW	57	54	57	54	58	55	58	55	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0046		Residential	G	W	57	54	57	54	58	55	58	55	0.1	0.1	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0046		Residential	1	W	58	54	58	54	59	55	59	56	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0047		Residential	G	W	58	54	58	54	59	55	59	55	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0048		Residential	G	NW	57	53	57	53	58	54	58	54	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0048		Residential	1	NW	58	54	58	54	59	55	59	56	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0049		Residential	G	NW	57	54	57	54	58	55	58	55	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0050		Residential	G	NW	57	53	57	53	58	54	58	54	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0051		Residential	G	NW	58	54	58	54	59	55	59	55	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0052		Residential	G	NW	57	53	57	53	58	54	58	54	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0053		Residential	G	NW	62	58	62	58	63	59	63	59	0.1	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0054		Residential	G	W	61	57	61	57	62	58	62	58	0.1	0.2	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0055		Residential	G	NW	62	58	62	58	63	59	63	59	0.3	0.2	0.3	0.3	60	55	NO	NO	NO	NO	NO
16	16_0056		Residential	G	W	62	58	62	59	63	60	63	60	0.2	0.2	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0057		Residential	G	SW	61	57	61	57	62	58	62	58	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0058		Residential	G	NW	62	58	62	58	63	59	63	59	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0059		Residential	G	NW	61	57	61	58	62	59	62	59	0.1	0.2	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0060		Residential	G	SW	61	57	61	57	62	58	62	58	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0061		Residential	G	SW	60	56	60	57	61	57	61	58	0.2	0.2	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0061		Residential	1	NW	61	58	62	58	62	59	63	59	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0062		Residential	G	SW	60	57	61	57	61	58	62	58	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0063		Residential	G	SW	60	57	60	57	61	58	61	58	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0064		Residential	G	SW	60	56	60	56	60	57	61	57	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
16	16_0065		Residential	G	NW	59	55	59	55	60	56	60	56	0.2	0.2	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0066		Residential	G	SW	59	56	60	56	60	57	61	57	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0067		Residential	G	W	58	54	58	54	59	55	59	55	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0068		Residential	G	W	60	56	60	57	61	57	61	58	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0069		Residential	G	SW	60	57	61	57	61	58	62	58	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0070		Residential	G	SW	60	57	61	57	61	58	62	58	0.3	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0071		Residential	G	SW	61	57	61	57	62	58	62	59	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0072		Residential	G	NW	61	58	61	58	62	59	62	59	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0073		Residential	G	SW	60	57	61	57	61	58	62	58	0.4	0.3	0.5	0.3	60	55	NO	NO	NO	NO	NO
16	16_0074		Residential	G	W	63	59	63	60	64	60	64	61	0.1	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0075		Residential	G	W	63	59	63	59	64	60	64	60	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0075		Residential	1	W	64	60	64	60	65	61	65	61	0.3	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0076		Residential	G	W	62	59	63	59	63	60	64	60	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0077		Residential	G	SW	62	58	62	58	63	59	63	60	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0078		Residential	G	SW	62	58	62	58	63	59	63	59	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0079		Residential	G	SW	61	57	61	58	62	58	62	59	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0080		Residential	G	SW	61	57	61	57	62	58	62	58	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0081		Residential	G	SW	60	57	60	57	61	58	61	58	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0082		Residential	G	SW	60	56	60	56	61	57	61	58	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0083		Residential	G	SW	60	56	60	56	61	57	61	57	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0084		Residential	G	SW	59	55	59	56	60	57	60	57	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0085		Residential	G	SW	59	55	59	55	60	56	60	56	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0086		Residential	G	SW	58	55	58	55	59	56	59	56	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0086		Residential	1	NW	60	56	60	56	61	57	61	57	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0087		Residential	G	SW	59	55	59	55	60	56	60	56	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0088		Residential	G	NW	58	54	58	54	59	55	59	55	0.3	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0088		Residential	1	NW	60	56	60	56	61	57	61	57	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0089		Residential	G	SW	58	54	58	55	59	55	59	56	0.1	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0090		Residential	G	NW	55	51	55	52	56	52	56	53	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0091		Residential	G	NW	56	52	56	52	57	53	57	53	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0091		Residential	1	SW	58	55	58	55	59	56	59	56	0.1	0	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0092		Residential	G	SW	56	52	56	52	57	53	57	53	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0092		Residential	1	SW	58	54	58	54	59	55	59	56	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0093		Residential	G	W	57	53	57	53	57	54	58	54	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0094		Residential	G	W	56	52	56	52	57	53	57	53	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0094		Residential	1	W	58	54	58	54	59	55	59	56	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0095		Residential	G	NW	56	52	56	52	57	53	57	53	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0096		Residential	G	NW	57	53	57	54	58	55	58	55	0.2	0.2	0.4	0.2	60	55	NO	NO	NO	NO	NO
16	16_0097		Residential	G	SW	57	53	57	53	58	54	58	54	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0097		Residential	1	NW	59	55	59	55	60	56	60	56	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0098		Residential	G	SW	56	53	56	53	57	54	57	54	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0099		Residential	G	SW	56	52	56	52	57	53	57	53	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0100		Residential	G	SW	56	52	56	52	57	53	57	53	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0101		Residential	G	S	54	51	55	51	55	52	56	52	0.1	0	0.2	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0102		Residential	G	NW	63	59	63	59	64	60	64	60	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0102		Residential	G	SW	62	59	63	59	63	60	64	60	0.1	0.1	0.2	0.1	60	55	NO	YES	NO	NO	YES
16	16_0103		Residential	G	SW	63	60	64	60	64	61	65	61	0.3	0.2	0.3	0.2	60	55	YES	YES	NO	NO	YES
16	16_0104		Residential	G	NW	64	60	64	61	65	61	65	62	0.1	0.1	0.2	0.1	60	55	YES	YES	NO	NO	YES
16	16_0105		Residential	G	W	64	60	64	60	65	61	65	61	0	0	0.1	-0.1	60	55	YES	YES	NO	NO	YES
16	16_0106		Residential	G	W	64	60	64	60	65	61	65	61	-0.1	-0.1	0.1	-0.1	60	55	YES	YES	NO	YES	YES
16	16_0107		Residential	G	W	64	60	64	60	65	61	65	61	-0.3	-0.3	-0.2	-0.3	60	55	YES	YES	NO	NO	YES
16	16_0108		Residential	G	W	63	59	63	59	64	60	64	60	-0.4	-0.4	-0.3	-0.4	60	55	NO	YES	NO	NO	YES
16	16_0109		Residential	G	W	63	59	63	59	64	60	64	60	-0.2	-0.3	-0.1	-0.3	60	55	NO	YES	NO	NO	YES
16	16_0110		Residential	G	W	61	58	61	58	62	59	62	59	0	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0111		Residential	G	NW	62	58	62	58	63	59	63	59	0	-0.1	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0112		Residential	G	W	62	58	62	58	63	59	63	59	0	-0.1	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0113		Residential	G	W	62	58	62	58	62	59	63	59	0	-0.1	0.1	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0114		Residential	G	W	63	59	63	59	64	60	64	60	0.1	0	0.2	0	60	55	NO	YES	NO	NO	YES
16	16_0115		Residential	G	NW	63	59	63	59	64	60	64	60	0.1	0.1	0.2	0	60	55	NO	YES	NO	NO	YES
16	16_0116		Residential	G	NW	61	58	61	58	62	59	63	59	0	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0117		Residential	G	NW	61	58	61	58	62	59	63	59	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0118		Residential	G	SW	60	56	60	57	61	57	61	58	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0119		Residential	G	SW	60	57	60	57	61	58	62	58	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0120		Residential	G	SW	60	57	60	57	61	58	61	58	0	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0121		Residential	G	SW	59	55	59	55	60	56	60	56	0.1	0	0.1	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0122		Residential	G	NW	59	55	59	55	60	56	60	56	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0123		Residential	G	SW	57	54	58	54	58	55	59	55	0.1	0	0.1	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0124		Residential	G	SW	57	54	57	53	58	55	58	55	0.1	-0.1	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0125		Residential	G	NW	58	54	58	54	59	55	59	55	0.1	0	0.1	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0126		Residential	G	NE	56	53	56	53	57	54	57	54	0.1	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0127		Residential	G	NE	56	52	56	52	57	53	57	53	0.2	0.2	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0128		Residential	G	NW	56	52	56	52	57	53	57	53	0.1	0	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0128		Residential	1	NW	58	54	58	54	59	55	59	55	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0129		Residential	G	NE	54	50	54	50	55	51	55	51	0.1	0.2	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0130		Residential	G	SW	55	52	55	52	56	53	56	53	0.2	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0131		Residential	G	NE	53	49	53	50	54	50	54	51	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0131		Residential	1	NW	56	52	56	52	57	53	57	53	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0132		Residential	G	NE	53	49	53	50	54	50	54	51	0.1	0.2	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0133		Residential	G	N	54	50	54	50	54	51	55	51	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO

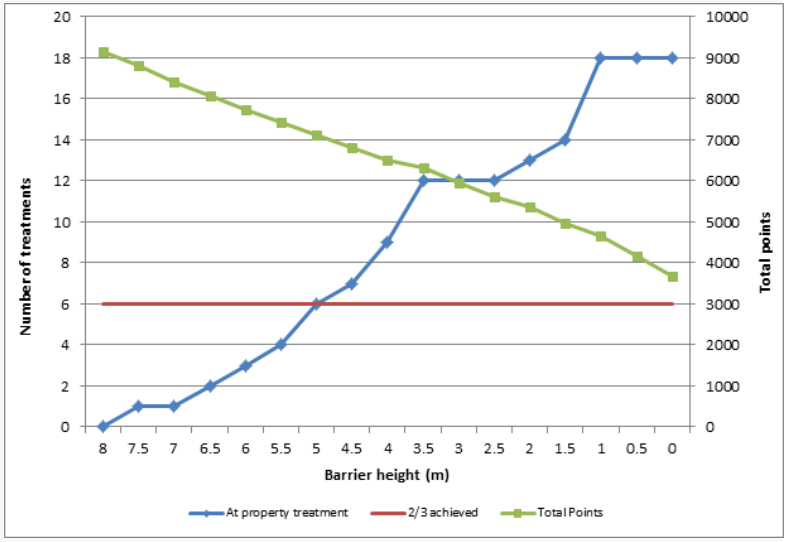
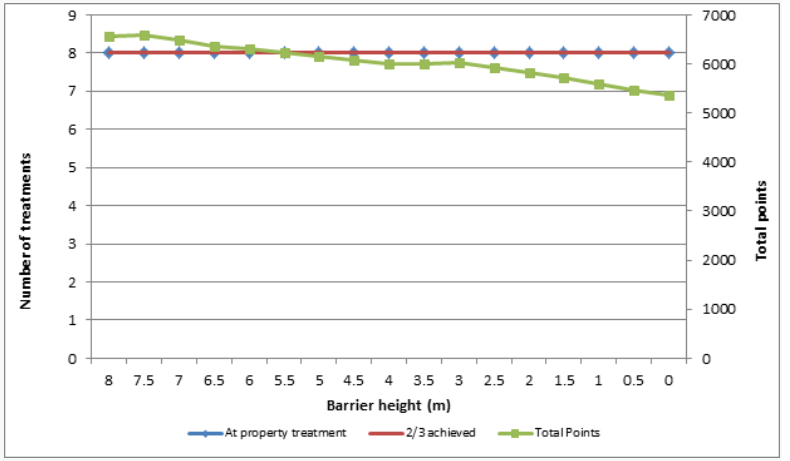
NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
16	16_0134		Residential	G	NW	54	50	54	50	55	51	55	51	0.1	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0135		Residential	G	W	54	50	54	50	55	51	55	51	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0136		Residential	G	W	54	51	54	51	55	52	55	52	0.2	0.2	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0137		Residential	G	W	55	51	55	51	56	52	56	52	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0138		Residential	G	W	55	51	55	51	56	52	56	52	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0139		Residential	G	NW	55	51	55	51	56	52	56	52	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0140		Residential	G	NW	54	50	54	50	55	51	55	51	0.2	0	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0140		Residential	1	NW	56	52	56	52	57	53	57	53	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0141		Residential	G	SW	53	49	53	49	54	50	54	50	0.2	0.1	0.3	0	60	55	NO	NO	NO	NO	NO
16	16_0141		Residential	1	SW	54	51	54	51	55	52	55	52	0.2	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0142		Residential	G	SW	51	47	51	47	52	48	52	48	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0142		Residential	1	SW	52	48	52	48	53	49	53	49	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0143		Residential	G	SW	52	48	52	49	53	49	53	50	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0143		Residential	1	SW	53	50	53	50	54	51	54	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0144		Residential	G	SW	52	48	52	48	53	49	53	49	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0144		Residential	1	SW	53	49	53	50	54	50	54	51	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0145		Residential	G	SW	53	49	53	49	53	50	54	50	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0146		Residential	G	SW	52	48	52	48	53	49	53	49	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0146		Residential	1	SW	53	49	53	49	54	50	54	50	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0147		Residential	G	W	50	46	50	46	51	47	51	47	0.1	0	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0148		Residential	G	W	52	48	52	49	53	49	53	50	0.2	0.2	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0149		Residential	G	N	53	49	53	49	54	50	54	50	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0150		Residential	G	NE	51	47	51	47	52	48	52	48	0.1	0	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0151		Residential	G	W	52	48	52	49	53	49	53	50	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0152		Residential	G	N	53	49	53	49	54	50	54	50	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0153		Residential	G	N	53	50	53	50	54	51	54	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0154		Residential	G	N	53	49	53	49	54	50	54	50	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0155		Residential	G	N	51	47	51	47	52	48	52	48	0	0	0	0.1	60	55	NO	NO	NO	NO	NO
16	16_0155		Residential	1	N	54	50	54	51	55	51	55	52	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0156		Residential	G	N	54	50	54	50	55	51	55	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0157		Residential	G	N	55	51	55	51	56	52	56	52	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0158		Residential	G	N	55	52	56	52	56	53	57	53	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0159		Residential	G	N	56	52	56	52	57	53	57	53	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0160		Residential	G	N	56	53	57	53	57	54	58	54	0.1	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0160		Residential	1	N	57	53	57	53	58	54	58	54	0.1	0	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0161		Residential	G	N	56	53	57	53	57	54	58	54	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0161		Residential	1	N	57	53	57	53	58	54	58	55	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0162		Residential	G	W	56	52	56	52	57	53	57	54	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0163		Residential	G	N	54	51	54	50	55	51	55	51	0	-0.1	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0164		Residential	G	N	57	54	57	54	58	55	58	55	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0165		Residential	G	N	58	54	58	54	59	55	59	55	0.1	0.1	0.3	0	60	55	NO	NO	NO	NO	NO
16	16_0166		Residential	G	W	59	55	59	55	60	56	60	56	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0166		Residential	1	W	60	57	61	57	61	58	62	58	0.1	0	0.3	0	60	55	NO	NO	NO	NO	NO
16	16_0167		Residential	G	NW	59	56	59	56	60	57	60	57	0	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0168		Residential	G	N	59	55	59	55	60	56	60	56	-0.1	-0.1	0	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0169		Residential	G	S	53	49	53	49	54	50	54	50	0.1	-0.1	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0169		Residential	1	NW	56	53	57	53	57	54	58	54	0.1	0.1	0.3	0	60	55	NO	NO	NO	NO	NO
16	16_0170		Residential	G	W	54	50	54	50	55	51	55	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0171		Residential	G	N	53	49	53	49	54	50	54	50	0.1	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0172		Residential	G	NW	55	52	56	52	56	53	57	53	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0173		Residential	G	SW	55	51	55	52	56	53	56	53	0.1	0.1	0.3	0	60	55	NO	NO	NO	NO	NO
16	16_0174		Residential	G	SW	54	50	54	50	55	51	55	51	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0174		Residential	1	SW	56	53	56	53	57	54	57	54	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0175		Residential	G	W	54	50	54	50	55	51	55	51	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0175		Residential	1	W	56	52	56	52	57	53	57	53	0.2	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0176		Residential	G	W	55	52	55	52	56	53	56	53	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0177		Residential	G	W	56	53	57	53	57	54	58	54	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0177		Residential	1	W	57	54	57	54	58	55	58	55	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0178		Residential	G	W	57	53	57	53	58	54	58	54	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0179		Residential	G	W	54	51	55	51	55	52	55	52	0.1	0	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0179		Residential	1	W	57	53	57	53	58	54	58	54	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0180		Residential	G	W	52	48	52	48	53	49	53	49	-0.1	0	0	0	60	55	NO	NO	NO	NO	NO
16	16_0180		Residential	1	W	56	52	56	52	56	53	57	53	0	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0181		Residential	G	NW	54	50	54	50	55	51	55	51	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0181		Residential	1	NW	57	53	57	53	58	54	58	55	0	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0182		Residential	G	SW	52	49	52	49	53	50	54	50	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0182		Residential	1	SW	54	51	54	51	55	52	55	52	0.2	0	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0183		Residential	G	SW	53	49	53	49	53	50	54	50	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0183		Residential	1	SW	55	51	55	51	55	52	56	52	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0184		Residential	G	SW	53	50	54	50	54	51	54	51	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0184		Residential	1	SW	55	51	55	52	56	52	56	53	0.1	0.2	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0185		Residential	G	SW	53	49	53	50	54	50	54	51	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0185		Residential	1	SW	55	51	55	51	56	52	56	52	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0186		Residential	G	SW	53	49	53	49	54	50	54	50	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0187		Residential	G	NW	55	51	55	51	56	52	56	52	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0188		Residential	G	SW	52	48	52	48	53	49	53	49	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0188		Residential	1	NW	53	49	53	49	54	50	54	50	0	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0189		Residential	G	SW	52	48	52	48	53	49	53	49	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0189		Residential	1	SW	52	49	52	49	53	50	53	50	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO

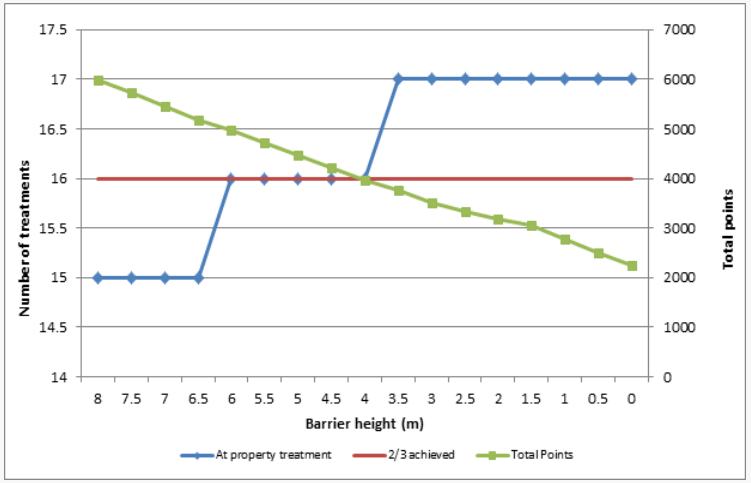
NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
16	16_0190		Residential	G	SW	47	44	47	44	48	45	48	45	0.2	0	0.3	0	60	55	NO	NO	NO	NO	NO
16	16_0190		Residential	1	SW	48	45	49	45	49	46	50	46	0.2	0.1	0.3	0	60	55	NO	NO	NO	NO	NO
16	16_0191		Residential	G	SW	51	48	52	48	52	49	53	49	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0191		Residential	1	SW	52	48	52	48	53	49	53	49	0.2	0	0.3	0	60	55	NO	NO	NO	NO	NO
16	16_0192		Residential	G	SW	47	43	47	43	48	44	48	44	-0.2	-0.4	-0.1	-0.3	60	55	NO	NO	NO	NO	NO
16	16_0192		Residential	1	NE	50	46	50	46	51	47	51	47	-0.1	-0.1	0	0	60	55	NO	NO	NO	NO	NO
16	16_0193		Residential	G	NW	55	51	55	51	55	52	56	52	0	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0193		Residential	1	NW	55	51	55	51	56	52	56	52	0	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0194		Residential	G	SW	51	47	51	47	52	48	52	48	0	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0194		Residential	1	SW	53	49	53	49	54	50	54	50	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0195		Residential	G	SW	52	48	52	49	53	49	53	50	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0195		Residential	1	NW	54	50	54	50	55	51	55	51	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0196		Residential	G	W	53	49	53	49	53	50	54	50	0.1	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0196		Residential	1	W	54	50	54	50	55	51	55	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0197		Residential	G	SW	53	49	53	49	54	50	54	50	0.2	0.2	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0197		Residential	1	NW	54	50	54	50	55	51	55	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0198		Residential	G	NW	52	48	52	48	53	49	53	49	0	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0199		Residential	G	SW	52	49	52	49	53	50	53	50	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0200		Residential	G	SW	51	47	51	47	52	48	52	48	0.2	0.1	0.4	0.1	60	55	NO	NO	NO	NO	NO
16	16_0200		Residential	1	SW	53	49	53	50	54	50	54	51	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0201		Residential	G	SW	52	48	52	49	53	49	53	50	0.3	0.2	0.4	0.2	60	55	NO	NO	NO	NO	NO
16	16_0201		Residential	1	SW	54	50	54	50	55	51	55	51	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0202		Residential	G	SW	55	51	55	51	55	52	56	52	0.2	0	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0203		Residential	G	SW	55	51	55	51	56	52	56	52	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0203		Residential	1	NW	56	52	56	52	57	53	57	53	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0204		Residential	G	SW	54	50	54	50	55	51	55	51	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0205		Residential	G	SW	55	52	56	52	56	53	57	53	0.1	0	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0206		Residential	G	N	55	52	56	52	56	53	57	53	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0206		Residential	1	W	57	53	57	53	58	54	58	54	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0207		Residential	G	N	55	51	55	51	55	52	56	52	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0207		Residential	1	W	56	53	56	53	57	54	57	54	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0208		Residential	G	NW	54	51	54	51	55	52	55	52	0.1	0.1	0.3	0	60	55	NO	NO	NO	NO	NO
16	16_0208		Residential	1	SW	56	52	56	52	57	53	57	53	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0209		Residential	G	NW	56	52	56	52	57	53	57	53	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0210		Residential	G	NW	55	51	55	51	56	52	56	52	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0210		Residential	1	NW	56	53	56	53	57	54	57	54	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0211		Residential	G	SW	52	49	52	49	53	50	53	50	0.2	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0211		Residential	1	SW	53	50	54	50	54	51	55	51	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0212		Residential	G	SW	54	50	54	51	55	51	55	52	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0213		Residential	G	SW	54	50	54	50	55	51	55	52	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0214		Residential	G	SW	54	50	54	51	55	51	55	52	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0215		Residential	G	SW	54	50	54	51	55	51	55	52	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0216		Residential	G	SW	54	50	54	50	55	51	55	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0217		Residential	G	SW	52	48	52	48	53	49	53	49	0.2	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0217		Residential	1	SW	53	49	53	49	54	50	54	50	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0218		Residential	G	NW	53	49	53	49	53	50	54	50	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0219		Residential	G	SW	52	48	52	48	52	49	53	49	0.1	0.1	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0220		Residential	G	W	51	47	51	47	52	48	52	48	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0220		Residential	1	W	52	48	52	48	53	49	53	49	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0221		Residential	G	SW	51	47	51	47	51	48	52	48	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0221		Residential	1	SW	52	48	52	48	53	49	53	49	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0222		Residential	G	W	49	46	50	46	50	47	51	47	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0222		Residential	1	W	51	48	52	48	52	49	52	49	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0223		Residential	G	W	50	46	50	46	51	47	51	47	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0223		Residential	1	W	51	47	51	48	52	48	52	49	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0224		Residential	G	NW	52	48	52	48	53	49	53	49	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0225		Residential	G	NE	47	43	47	43	48	44	48	44	0	0	0	0.1	60	55	NO	NO	NO	NO	NO
16	16_0225		Residential	1	NW	53	49	53	49	54	50	54	50	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0226		Residential	G	N	53	49	53	50	54	50	54	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0226		Residential	1	N	54	50	54	50	55	51	55	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0227		Residential	G	NW	53	49	53	49	54	50	54	50	0	0	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0227		Residential	1	NW	54	50	54	50	55	51	55	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0228		Residential	G	N	52	49	53	49	53	50	53	50	0.1	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0228		Residential	1	N	54	50	54	50	55	51	55	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0229		Residential	G	N	50	46	50	46	51	47	51	47	0	0	0	0.1	60	55	NO	NO	NO	NO	NO
16	16_0229		Residential	1	N	53	49	53	49	54	50	54	50	0.1	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0230		Residential	G	N	50	46	50	46	51	47	51	47	0	0	0	0	60	55	NO	NO	NO	NO	NO
16	16_0230		Residential	1	N	54	50	54	50	54	51	55	51	0.1	0	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0231		Residential	G	N	52	48	52	48	53	49	53	49	0	0	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0231		Residential	1	N	55	51	55	51	56	52	56	52	0	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0232		Residential	G	N	54	50	54	50	54	51	54	51	0	0	0	0	60	55	NO	NO	NO	NO	NO
16	16_0232		Residential	1	N	55	52	56	52	56	53	57	53	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0233		Residential	G	N	54	50	54	50	55	51	55	51	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0233		Residential	1	N	57	53	57	53	57	54	58	54	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0234		Residential	G	N	55	51	55	51	56	52	56	52	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0234		Residential	1	N	57	53	57	53	58	54	58	54	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0235		Residential	G	N	56	53	56	53	57	54	57	54	0.1	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0235		Residential	1	W	57	53	57	53	58	54	58	54	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0236		Residential	G	N	55	51	55	51	56	52	56	52	0	0	0.1	0	60	55	NO	NO	NO	NO	NO

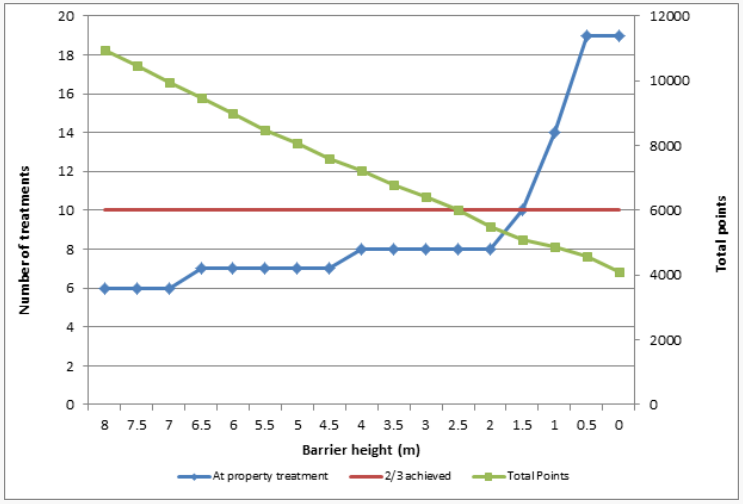
NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
16	16_0236		Residential	1	N	57	53	57	53	58	54	58	54	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0237		Residential	G	N	57	53	57	54	58	54	58	55	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0238		Residential	G	N	57	54	57	54	58	55	58	55	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0238		Residential	1	N	58	55	58	55	59	56	60	56	0	0.1	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0239		Residential	G	N	58	54	58	54	59	55	59	55	0	0	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0239		Residential	1	N	59	56	60	56	60	57	61	57	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0240		Residential	G	W	59	56	59	56	60	57	60	57	0.2	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0240		Residential	1	N	60	56	60	56	61	57	61	57	0.1	0	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0241		Residential	G	N	59	55	59	55	60	56	60	56	0.2	0.1	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0241		Residential	1	N	60	57	61	57	61	58	62	58	0.1	0.1	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0242		Residential	G	N	58	55	58	55	59	56	59	56	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0242		Residential	1	N	61	57	61	57	61	58	62	58	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0243		Residential	G	W	60	56	60	56	61	57	61	57	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0243		Residential	1	W	62	58	62	58	63	59	63	59	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0244		Residential	G	W	60	56	60	56	61	57	61	57	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0244		Residential	1	W	61	58	61	58	62	59	62	59	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0245		Residential	G	W	61	57	61	57	62	58	62	58	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0246		Residential	G	NW	61	57	61	58	62	58	62	59	0.3	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0247		Residential	G	NE	60	57	60	57	61	58	61	58	0.3	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0248		Residential	G	N	58	55	58	55	59	56	59	56	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0248		Residential	1	N	60	56	60	56	61	57	61	57	0.3	0.2	0.4	0.2	60	55	NO	NO	NO	NO	NO
16	16_0249		Residential	G	NW	58	55	58	55	59	56	59	56	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0249		Residential	1	NW	59	56	59	56	60	57	60	57	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0250		Residential	G	W	59	55	59	55	60	56	60	56	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0251		Residential	G	W	59	55	59	55	60	56	60	56	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0252		Residential	G	N	58	54	58	54	58	55	59	55	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0253		Residential	G	N	59	56	60	56	60	57	61	57	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0254		Residential	G	W	58	55	59	55	59	56	60	56	0.2	0.2	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0254		Residential	1	W	60	56	60	56	61	57	61	57	0.1	0	0.1	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0255		Residential	G	W	58	54	58	54	59	55	59	55	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0256		Residential	G	W	57	54	57	54	58	55	58	55	0.1	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0256		Residential	1	W	59	55	59	55	60	56	60	56	-0.1	-0.1	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0257		Residential	G	W	57	53	57	53	58	54	58	54	0	0	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0257		Residential	1	W	59	55	59	55	60	56	60	56	-0.1	-0.2	-0.1	-0.3	60	55	NO	NO	NO	NO	NO
16	16_0258		Residential	G	N	56	52	56	52	57	53	57	53	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0258		Residential	1	W	58	54	58	54	59	55	59	55	-0.3	-0.3	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0259		Residential	G	SW	56	52	56	52	57	53	57	53	0	-0.1	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0259		Residential	1	SW	58	54	58	54	59	55	59	55	-0.2	-0.2	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
16	16_0260		Residential	G	N	55	51	55	51	56	52	56	52	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0260		Residential	1	W	55	51	55	52	56	52	56	53	0.1	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0261		Residential	G	W	56	52	55	52	56	53	56	52	-0.1	-0.1	0	-0.2	60	55	NO	NO	NO	NO	NO
16	16_0262		Residential	G	W	56	52	55	51	56	52	56	52	-0.3	-0.3	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
16	16_0263		Residential	G	NE	57	53	57	53	58	54	58	54	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0263		Residential	1	NW	60	56	60	56	61	57	61	57	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0264		Residential	G	NW	59	55	59	55	60	56	60	56	0.3	0.1	0.4	0.1	60	55	NO	NO	NO	NO	NO
16	16_0264		Residential	1	NW	60	56	60	57	61	57	61	58	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0265		Residential	G	NW	61	57	61	57	61	58	62	58	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0265		Residential	1	NW	62	58	62	58	63	59	63	59	0	0	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0266		Residential	G	NW	52	48	52	48	53	49	53	49	-0.1	-0.2	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0266		Residential	1	NW	60	57	61	57	61	58	62	58	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0267		Residential	G	W	59	56	60	56	60	57	61	57	0.2	0.1	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0267		Residential	1	W	61	57	61	57	62	58	62	58	0.2	0.2	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0268		Residential	G	W	60	57	60	57	61	58	61	58	0.2	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0268		Residential	1	W	62	59	62	59	63	60	63	60	0.1	-0.1	0.1	-0.1	60	55	NO	YES	NO	NO	YES
16	16_0269		Residential	G	W	62	58	62	58	63	59	63	59	-0.1	-0.2	-0.1	-0.2	60	55	NO	NO	NO	NO	NO
16	16_0269		Residential	1	W	64	61	64	61	65	62	65	61	-0.1	-0.1	0	-0.2	60	55	YES	YES	YES	YES	YES
16	16_0270		Residential	G	N	58	54	58	54	59	55	59	55	0	-0.1	0	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0270		Residential	1	W	61	57	61	57	62	58	62	58	0.2	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0271		Residential	G	W	64	60	64	60	65	61	65	61	-0.2	-0.2	-0.1	-0.3	60	55	YES	YES	NO	YES	YES
16	16_0271		Residential	1	W	66	62	66	62	67	63	67	63	-0.1	-0.2	-0.1	-0.2	60	55	YES	YES	YES	YES	YES
16	16_0272		Residential	G	SW	64	60	64	60	65	61	65	61	-0.2	-0.2	-0.2	-0.3	60	55	YES	YES	YES	YES	YES
16	16_0272		Residential	1	SW	65	62	65	62	66	63	66	62	-0.2	-0.2	-0.2	-0.2	60	55	YES	YES	YES	YES	YES
16	16_0273		Residential	G	SW	61	57	61	57	62	58	62	58	-0.3	-0.3	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0274		Residential	G	W	67	64	67	64	68	65	68	65	-0.1	-0.1	0.1	-0.1	60	55	YES	YES	YES	YES	YES
16	16_0274		Residential	1	W	69	65	69	65	70	66	70	66	-0.1	-0.1	-0.1	-0.2	60	55	YES	YES	YES	YES	YES
16	16_0275		Residential	G	W	64	61	64	61	65	62	65	62	0	-0.1	0.1	-0.1	60	55	YES	YES	YES	YES	YES
16	16_0275		Residential	1	W	67	64	67	64	68	65	68	64	0.1	0	0.1	-0.1	60	55	YES	YES	YES	YES	YES
16	16_0276		Residential	G	W	67	63	67	63	68	64	68	64	0	-0.1	0	-0.1	60	55	YES	YES	YES	YES	YES
16	16_0277		Residential	G	W	67	63	67	63	68	64	68	64	-0.1	-0.1	-0.1	-0.1	60	55	YES	YES	YES	YES	YES
16	16_0278		Residential	G	W	66	63	66	63	67	64	67	64	-0.1	-0.1	0	-0.2	60	55	YES	YES	YES	YES	YES
16	16_0279		Residential	G	W	65	61	64	61	66	62	65	62	-0.2	-0.3	-0.1	-0.3	60	55	YES	YES	YES	YES	YES
16	16_0279		Residential	1	W	67	63	67	63	68	64	68	64	0	-0.1	0	-0.1	60	55	YES	YES	YES	YES	YES
16	16_0280		Residential	G	NW	65	61	64	61	66	62	66	62	-0.1	-0.2	0	-0.1	60	55	YES	YES	YES	YES	YES
16	16_0281		Residential	G	NW	63	59	63	59	64	60	64	60	-0.1	-0.2	0	-0.1	60	55	NO	YES	NO	NO	YES
16	16_0282		Residential	G	NW	61	57	61	57	62	58	62	58	0	0	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0282		Residential	1	NW	63	60	63	60	64	61	65	61	0	0	0.1	0	60	55	YES	YES	NO	YES	YES
16	16_0283		Residential	G	NW	60	56	60	56	61	57	61	58	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0284		Residential	G	NW	61	57	61	57	62	58	62	58	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0285		Residential	G	NW	60	56	60	56	61	57	61	57	0.1	0.1	0.2	0	60	55	NO	NO	NO	NO	NO

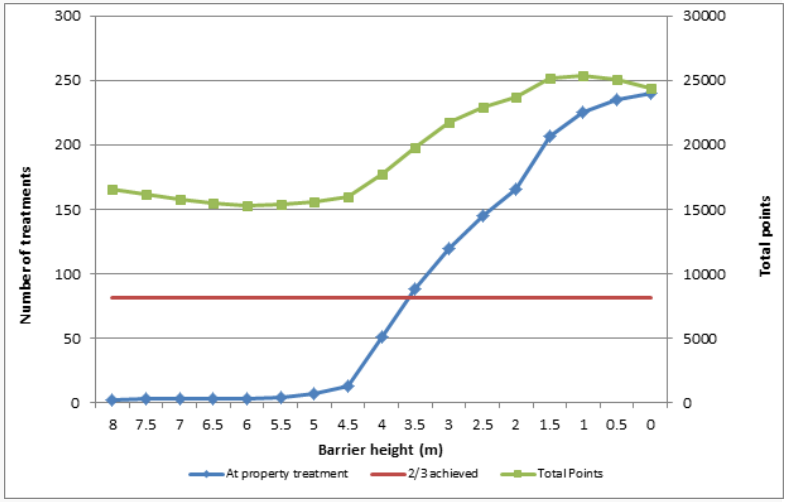
NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
16	16_0286		Residential	G	NW	58	54	58	54	59	55	59	55	0	-0.1	0.1	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0286		Residential	1	NW	60	57	60	57	61	58	61	58	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0287		Residential	G	NW	58	55	58	55	59	56	59	56	0	0	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0288		Residential	G	N	57	53	57	53	58	54	58	54	0.3	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0288		Residential	1	W	61	57	61	57	62	58	62	58	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0289		Residential	G	N	59	55	59	55	60	56	60	56	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0290		Residential	G	W	60	56	60	56	61	57	61	58	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0290		Residential	1	W	63	59	63	59	64	60	64	60	0.1	0	0.2	0	60	55	NO	YES	NO	NO	YES
16	16_0291		Residential	G	W	60	57	60	57	61	58	61	58	0.1	0	0.1	0	60	55	NO	NO	NO	NO	NO
16	16_0292		Residential	G	W	59	56	60	56	60	57	61	57	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0292		Residential	1	W	62	58	62	58	63	59	63	59	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0293		Residential	G	W	60	56	60	56	61	57	61	57	0	-0.1	0.1	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0293		Residential	1	W	62	58	62	58	63	59	63	59	0.1	-0.1	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0294		Residential	G	NW	67	63	66	62	68	64	67	63	-0.2	-0.3	-0.2	-0.3	60	55	YES	YES	YES	YES	YES
16	16_0295		Residential	G	SW	66	62	66	62	67	63	67	63	-0.3	-0.4	-0.3	-0.4	60	55	YES	YES	YES	YES	YES
16	16_0296		Residential	G	W	67	63	67	63	68	64	68	64	-0.3	-0.3	-0.2	-0.4	60	55	YES	YES	YES	YES	YES
16	16_0297		Residential	G	W	66	62	66	62	67	63	67	63	-0.3	-0.3	-0.3	-0.4	60	55	YES	YES	YES	YES	YES
16	16_0297		Residential	1	W	68	65	68	64	69	66	69	65	-0.1	-0.2	-0.1	-0.2	60	55	YES	YES	YES	YES	YES
16	16_0298		Residential	G	W	65	61	64	61	66	62	66	62	-0.3	-0.4	-0.2	-0.4	60	55	YES	YES	YES	YES	YES
16	16_0299		Residential	G	W	64	61	64	60	65	62	65	61	-0.4	-0.4	-0.2	-0.4	60	55	YES	YES	YES	YES	YES
16	16_0300		Residential	G	W	62	59	62	58	63	60	63	59	-0.1	-0.2	0	-0.2	60	55	NO	NO	NO	NO	NO
16	16_0301		Residential	G	W	64	60	64	60	65	61	65	61	-0.1	-0.1	0	-0.1	60	55	YES	YES	NO	YES	YES
16	16_0302		Residential	G	W	63	60	64	60	64	61	65	61	0.1	0.1	0.2	0.1	60	55	YES	YES	NO	YES	YES
16	16_0303		Residential	G	W	63	59	63	59	64	60	64	60	0.4	0.3	0.4	0.3	60	55	NO	YES	NO	YES	YES
16	16_0304		Residential	G	W	64	60	64	60	65	61	65	61	0.3	0.3	0.4	0.3	60	55	YES	YES	YES	YES	YES
16	16_0305		Residential	G	W	62	58	62	58	63	59	63	59	0.4	0.3	0.4	0.3	60	55	NO	NO	NO	NO	NO
16	16_0306		Residential	G	W	61	57	61	57	62	58	62	58	0.3	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0307		Residential	G	N	59	56	59	56	60	57	60	57	0	-0.1	0	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0308		Residential	G	W	59	55	59	56	60	57	60	57	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0309		Residential	G	N	59	55	59	55	60	56	60	56	0	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0310		Residential	G	W	59	55	59	56	60	57	60	57	0.1	0.1	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0311		Residential	G	N	57	53	57	54	58	54	58	55	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0312		Residential	G	NE	56	52	56	52	57	53	57	53	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0313		Residential	G	W	57	53	57	53	58	54	58	54	0.1	0.1	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0314		Residential	G	W	57	54	58	54	58	55	59	55	0.1	0.2	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0315		Residential	G	W	58	54	58	54	58	55	59	55	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0316		Residential	G	W	58	54	58	54	59	55	59	55	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0317		Residential	G	W	57	54	58	54	58	55	59	55	0.1	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0318		Residential	G	NW	57	53	57	53	58	54	58	54	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0318		Residential	1	NW	60	56	60	56	61	57	61	57	0.1	0.1	0.3	0	60	55	NO	NO	NO	NO	NO
16	16_0319		Residential	G	NW	59	55	59	55	59	56	60	56	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0319		Residential	1	NW	60	57	60	57	61	58	62	58	0.1	0.1	0.3	0	60	55	NO	NO	NO	NO	NO
16	16_0320		Residential	G	NW	59	56	59	56	60	57	61	57	0	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0321		Residential	G	NW	57	53	57	53	58	54	58	54	0.1	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0321		Residential	1	NW	59	55	59	55	60	56	60	56	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0322		Residential	G	N	57	54	57	54	58	55	59	55	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0322		Residential	1	N	58	55	59	55	59	56	60	56	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0323		Residential	G	N	56	52	56	52	57	53	57	53	0.2	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0323		Residential	1	N	58	54	58	54	59	55	59	55	0.2	0.2	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0324		Residential	G	N	54	50	54	50	55	51	55	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0324		Residential	1	W	56	53	56	53	57	54	57	54	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0325		Residential	G	N	54	50	54	50	55	51	55	51	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0325		Residential	1	N	56	52	56	52	57	53	57	53	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0326		Residential	G	N	54	50	54	50	55	51	55	51	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0327		Residential	G	N	54	50	54	50	54	51	55	51	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0327		Residential	1	W	56	52	56	52	57	53	57	53	0.1	0.1	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0328		Residential	G	N	55	51	55	51	56	52	56	52	0	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0328		Residential	1	N	56	52	56	52	57	53	57	53	0.1	0	0.3	0.1	60	55	NO	NO	NO	NO	NO
16	16_0329		Residential	G	W	48	44	48	44	49	45	49	45	-0.1	0	0	0	60	55	NO	NO	NO	NO	NO
16	16_0329		Residential	1	W	53	50	54	50	54	51	55	51	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0330		Residential	G	N	53	49	53	49	54	50	54	50	0.1	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0330		Residential	1	N	54	51	54	51	55	52	55	52	0.1	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0331		Residential	G	N	55	51	55	51	56	52	56	52	0.2	0.1	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0332		Residential	G	N	54	51	55	51	55	52	56	52	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0332		Residential	1	W	56	52	56	52	57	53	57	53	0.1	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0333		Residential	G	N	55	51	55	51	56	52	56	52	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0333		Residential	1	N	56	52	56	53	57	53	57	54	0.2	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0334		Residential	G	NW	56	52	56	52	57	53	57	53	0.1	0	0.1	0.1	60	55	NO	NO	NO	NO	NO
16	16_0334		Residential	1	NW	57	53	57	53	58	54	58	54	0.1	0	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0335		Residential	G	NW	55	51	55	52	56	52	56	53	0.1	0.1	0.2	0.2	60	55	NO	NO	NO	NO	NO
16	16_0336		Residential	G	W	55	52	56	52	56	53	57	53	0.2	0	0.2	0.1	60	55	NO	NO	NO	NO	NO
16	16_0336		Residential	1	W	56	53	57	53	57	54	58	54	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0337		Residential	G	N	56	52	56	52	57	53	57	54	0.2	0.1	0.3	0.2	60	55	NO	NO	NO	NO	NO
16	16_0337		Residential	1	W	58	54	58	54	59	55	59	55	0.1	0.1	0.2	0	60	55	NO	NO	NO	NO	NO
16	16_0338		Residential	G	W	57	53	57	53	58	54	58	54	0.1	0.1	0.1	0.1	60	55	NO	NO	NO	NO	NO

APPENDIX E Noise barrier analysis

Barrier Name / Description	Barrier Length, m	Barrier Design Steps	Barrier Height, m	Maximum insertion loss, dB	No Properties Exceeding	NMG Analysis Graph
Dapto NB West side of Princes Mwy between Princes Hwy overpass in the south to meet existing noise wall in the north	975	No Barrier	0	0	18	
		Maximum Barrier	8	14.5	0	
		Initial design barrier	5	10.9	6	
		Design barrier	5	10.9	6	
		Final barrier selection	**5**	**10.9**	**6**	
		Discussion:	Reasonable to build the Design barrier height as it achieves the required insertion loss and there is benefit in terms of number of houses requiring treatment.			
		Mitigation Outcome:	5 m is reasonable/ feasible noise barrier height Up to 6 properties eligible for consideration of at property treatment			
Dapto SB East side of Princes Mwy from southern most house in Cormack Ave to meet existing noise wall in the north	232	No Barrier	0	0	8	
		Maximum Barrier	8	7.2	8	
		Initial design barrier	N/A	-	-	
		Design barrier	N/A	-	-	
		Final barrier selection	N/A	-	-	
		Discussion:	Barriers do not achieve required insertion loss. Maximum barrier would still result in 8 of 8 houses requiring treatment.			
		Mitigation Outcome:	Barrier not a reasonable mitigation solution. Up to 8 properties eligible for consideration of at property treatment.			

Barrier Name / Description	Barrier Length, m	Barrier Design Steps	Barrier Height, m	Maximum insertion loss, dB	No Properties Exceeding	NMG Analysis Graph
Yallah NB West side of new Bypass from river in the south to where Bypass goes into cutting	550	No Barrier	0	0	17	
		Maximum Barrier	8	8.3	15	
		Initial design barrier	4	4.4	16	
		Design barrier	4	4.4	16	
		Final barrier selection	N/A	-	-	
		Discussion:	Barriers do not achieve required insertion loss.			
		Mitigation Outcome:	Barrier not a reasonable mitigation solution.			
Yallah SB East side of Bypass between Bypass and Illawarra Hwy, near Croome Lane	-	Discussion:	RMS advised barrier not feasible to construct due to flooding.			
		Mitigation Outcome:	Barrier not a feasible mitigation solution. .			Not required

Barrier Name / Description	Barrier Length, m	Barrier Design Steps	Barrier Height, m	Maximum insertion loss, dB	No Properties Exceeding	NMG Analysis Graph
Albion Park NB West side of elevated section of Bypass over Tongarra Road	1070	No Barrier	0		19	
		Maximum Barrier	8	4.3	6	
		Initial design barrier	1.5	1.7	10	
		Design barrier	1.5	1.7	10	
		Final barrier selection	N/A	-	-	
		Discussion:	Mitigation should also be considered when the mitigation measures are relatively inexpensive (NMG p11). The use of smaller, relatively inexpensive barriers such as so called "New Jersey" style kerbs can provide some noise benefit at minimal expense.			
		Mitigation Outcome:	Date detailed design investigate use of "New Jersey" style kerbs installed for road safety.			

Barrier Name / Description	Barrier Length, m	Barrier Design Steps	Barrier Height, m	Maximum insertion loss, dB	No Properties Exceeding	NMG Analysis Graph
Albion Park SB North side of Bypass from Croome Road in the west to Colden Drive in the east.	1820	No Barrier	0	0	240	
		Maximum Barrier	8	10.4	2	
		Initial design barrier	4	6.1	51	
		Design barrier	6	8.6	3	
		Final barrier selection	5	7.4	7	
		Discussion:	Not reasonable to build the Design barrier height as it does not achieve the required insertion loss and there is minimal benefit in terms of number of houses requiring treatme			
		Mitigation Outcome:	5 m is reasonable/ feasible noise barrier heig			

APPENDIX F Predicted road traffic noise levels (with mitigation)

Albion Park Rail Bypass

Traffic noise assessment

With mitigation scenario

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
1	1_0001		Residential	G	S	59	54	57	53	59	54	58	53	-1.3	-0.6	-1.2	-1	60	55	NO	NO	NO	NO	NO
1	1_0002		Residential	G	S	59	55	58	53	59	55	58	54	-1.5	-1.4	-1.4	-1.3	60	55	NO	NO	NO	NO	NO
1	1_0003		Residential	G	W	61	57	59	55	61	57	60	55	-1.6	-1.8	-1.6	-1.4	60	55	NO	NO	NO	NO	NO
1	1_0004		Residential	G	S	59	55	57	53	59	54	57	53	-1.7	-2	-1.6	-1.5	60	55	NO	NO	NO	NO	NO
1	1_0005		Residential	G	SW	60	56	59	54	61	56	59	55	-1.6	-1.3	-1.6	-1.5	60	55	NO	NO	NO	NO	NO
1	1_0006		Residential	G	SW	62	58	60	56	62	58	60	56	-1.7	-1.9	-1.6	-1.5	60	55	NO	NO	NO	NO	NO
1	1_0007		Residential	G	SW	60	56	59	54	61	56	59	55	-1.6	-1.4	-1.6	-1.4	60	55	NO	NO	NO	NO	NO
1	1_0008		Residential	G	SW	62	58	60	56	62	57	60	56	-1.8	-2	-1.8	-1.6	60	55	NO	NO	NO	NO	NO
1	1_0009		Residential	G	NW	58	54	57	53	59	54	58	53	-1.1	-0.9	-1.1	-1	60	55	NO	NO	NO	NO	NO
1	1_0009		Residential	1	SW	60	56	59	55	61	56	59	55	-1.2	-0.9	-1.3	-1	60	55	NO	NO	NO	NO	NO
1	1_0010		Residential	G	SW	62	58	61	56	63	58	61	57	-1.7	-1.2	-1.6	-1.5	60	55	NO	NO	NO	NO	NO
1	1_0010		Residential	1	SW	63	59	62	57	64	59	62	58	-1.6	-1.2	-1.5	-1.4	60	55	NO	NO	NO	NO	NO
1	1_0011		Residential	G	W	59	55	58	53	59	55	58	54	-1.1	-1.3	-1.2	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0012		Residential	G	SW	63	59	61	57	63	59	62	57	-1.7	-1.7	-1.6	-1.5	60	55	NO	NO	NO	NO	NO
1	1_0013		Residential	G	W	59	55	57	53	59	54	58	53	-1.3	-1.6	-1.3	-1	60	55	NO	NO	NO	NO	NO
1	1_0013		Residential	1	S	61	57	60	55	61	57	60	56	-1.2	-1.2	-1.2	-1	60	55	NO	NO	NO	NO	NO
1	1_0014		Residential	G	SW	63	59	62	57	64	59	62	58	-1.6	-1.2	-1.5	-1.4	60	55	NO	NO	NO	NO	NO
1	1_0014		Residential	1	SW	64	60	63	58	64	60	63	59	-1.5	-1.3	-1.5	-1.4	60	55	NO	NO	NO	NO	YES
1	1_0015		Residential	G	NW	57	53	56	52	58	53	57	52	-1.1	-0.8	-1.1	-1	60	55	NO	NO	NO	NO	NO
1	1_0015		Residential	1	SE	60	56	59	54	61	56	59	54	-1.6	-1.5	-1.6	-1.4	60	55	NO	NO	NO	NO	NO
1	1_0016		Residential	G	SW	64	60	62	58	64	60	63	58	-1.7	-1.6	-1.6	-1.5	60	55	NO	NO	NO	NO	NO
1	1_0017		Residential	G	SW	62	58	60	56	62	57	61	56	-1.4	-1.7	-1.4	-1.2	60	55	NO	NO	NO	NO	NO
1	1_0017		Residential	1	SW	63	59	62	57	64	59	62	58	-1.4	-1.1	-1.3	-1.1	60	55	NO	NO	NO	NO	NO
1	1_0018		Residential	G	W	62	58	61	57	62	58	62	57	-0.4	-0.7	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0018		Residential	1	W	63	59	63	58	64	59	63	59	-0.5	-0.6	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
1	1_0019		Residential	G	W	62	58	62	57	63	58	62	58	-0.5	-0.3	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0020		Residential	G	S	62	58	61	56	62	58	61	57	-0.9	-1.3	-0.9	-0.8	60	55	NO	NO	NO	NO	NO
1	1_0020		Residential	1	W	62	58	62	57	63	58	62	58	-0.6	-0.3	-0.6	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0021		Residential	G	S	61	57	60	56	62	57	61	56	-1	-0.7	-1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0021		Residential	1	S	62	58	61	57	63	58	62	57	-1	-0.8	-1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0022		Residential	G	S	61	57	60	55	61	57	60	56	-1.2	-1.2	-1.1	-1	60	55	NO	NO	NO	NO	NO
1	1_0022		Residential	1	S	62	58	61	56	62	58	61	57	-1.2	-1.2	-1.1	-1	60	55	NO	NO	NO	NO	NO
1	1_0023		Residential	G	S	61	57	60	56	62	57	60	56	-1.2	-1	-1.2	-1.1	60	55	NO	NO	NO	NO	NO
1	1_0023		Residential	1	S	62	58	61	56	63	58	61	57	-1.3	-1.1	-1.2	-1.2	60	55	NO	NO	NO	NO	NO
1	1_0024		Residential	G	W	68	63	67	63	68	64	68	63	-0.2	0.3	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0025		Residential	G	S	60	56	59	55	61	56	60	55	-1.2	-0.8	-1.2	-1.1	60	55	NO	NO	NO	NO	NO
1	1_0025		Residential	1	S	61	57	60	56	62	57	61	56	-1.1	-0.8	-1.1	-1	60	55	NO	NO	NO	NO	NO
1	1_0026		Residential	G	W	66	62	66	62	67	62	67	62	-0.1	0.2	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0027		Residential	G	S	61	57	59	55	61	56	60	55	-1.3	-1.7	-1.3	-1.1	60	55	NO	NO	NO	NO	NO
1	1_0027		Residential	1	S	61	57	60	56	62	57	61	56	-1.2	-0.8	-1.1	-1.1	60	55	NO	NO	NO	NO	NO
1	1_0028		Residential	G	W	64	60	64	60	65	60	65	60	-0.2	0.1	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0029		Residential	G	S	61	56	59	55	61	56	60	55	-1.4	-0.8	-1.3	-1.2	60	55	NO	NO	NO	NO	NO
1	1_0029		Residential	1	S	62	57	60	56	62	57	61	56	-1.2	-0.7	-1.1	-1	60	55	NO	NO	NO	NO	NO
1	1_0030		Residential	G	W	64	60	64	59	65	60	64	60	-0.2	-0.1	-0.1	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0031		Residential	G	S	60	56	59	54	60	56	59	55	-1.3	-1.4	-1.3	-1.1	60	55	NO	NO	NO	NO	NO
1	1_0031		Residential	1	S	62	57	60	56	62	57	61	56	-1.2	-0.6	-1.1	-1	60	55	NO	NO	NO	NO	NO
1	1_0032		Residential	G	SW	63	59	62	57	63	59	62	58	-0.7	-1.1	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0033		Residential	G	S	60	56	59	55	61	56	60	55	-1.2	-0.9	-1.2	-1	60	55	NO	NO	NO	NO	NO
1	1_0033		Residential	1	S	62	58	61	56	62	57	61	56	-1.2	-1.5	-1.2	-1	60	55	NO	NO	NO	NO	NO
1	1_0034		Residential	G	S	61	57	60	56	62	57	61	56	-1	-0.6	-0.9	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0035		Residential	G	S	61	56	59	55	61	56	60	55	-1.1	-0.7	-1	-1	60	55	NO	NO	NO	NO	NO
1	1_0035		Residential	1	S	62	57	60	56	62	57	61	56	-1.1	-0.6	-1.1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0036		Residential	G	S	61	57	60	56	62	57	61	56	-1	-0.7	-1	-1	60	55	NO	NO	NO	NO	NO
1	1_0037		Residential	G	S	60	56	59	55	61	56	60	55	-1.1	-0.9	-1.1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0037		Residential	1	S	61	57	60	56	62	57	61	56	-1	-0.9	-1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0038		Residential	G	S	62	58	60	56	62	58	61	56	-1.2	-1.6	-1.2	-1.1	60	55	NO	NO	NO	NO	NO
1	1_0039		Residential	G	S	60	56	59	54	60	56	59	55	-1.1	-1.3	-1.1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0039		Residential	1	S	61	57	60	55	61	56	60	56	-1	-1.4	-1.1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0040		Residential	G	S	61	57	60	55	62	57	60	56	-1.5	-1.2	-1.4	-1.3	60	55	NO	NO	NO	NO	NO
1	1_0041		Residential	G	S	60	55	58	54	60	55	59	54	-1.2	-0.7	-1.2	-1	60	55	NO	NO	NO	NO	NO
1	1_0041		Residential	1	S	60	56	59	55	61	56	60	55	-1.1	-0.7	-1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0042		Residential	G	S	61	57	60	55	62	57	60	56	-1.5	-1.1	-1.5	-1.3	60	55	NO	NO	NO	NO	NO
1	1_0043		Residential	G	S	61	57	60	55	62	57	60	56	-1.5	-1.3	-1.5	-1.4	60	55	NO	NO	NO	NO	NO
1	1_0044		Residential	G	S	61	57	60	55	62	57	60	56	-1.5	-1.2	-1.5	-1.4	60	55	NO	NO	NO	NO	NO
1	1_0045		Residential	G	S	62	58	60	56	62	58	61	56	-1.5	-1.7	-1.5	-1.3	60	55	NO	NO	NO	NO	NO
1	1_0046		Residential	G	S	61	57	59	55	61	57	60	55	-1.6	-1.8	-1.6	-1.4	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
1	1_0047		Residential	G	S	61	57	60	55	62	57	60	56	-1.5	-1.3	-1.4	-1.3	60	55	NO	NO	NO	NO	NO
1	1_0047		Residential	1	S	62	58	61	56	62	58	61	57	-1.4	-1.3	-1.3	-1.2	60	55	NO	NO	NO	NO	NO
1	1_0048		Residential	G	S	61	57	60	55	62	57	60	56	-1.6	-1.2	-1.5	-1.3	60	55	NO	NO	NO	NO	NO
1	1_0049		Residential	G	S	61	57	60	55	61	57	60	56	-1.3	-1.4	-1.2	-1.1	60	55	NO	NO	NO	NO	NO
1	1_0050		Residential	G	S	60	56	58	53	60	55	58	54	-1.7	-2.1	-1.6	-1.5	60	55	NO	NO	NO	NO	NO
1	1_0051		Residential	G	SW	60	56	59	54	61	56	59	55	-1.4	-1.1	-1.4	-1.2	60	55	NO	NO	NO	NO	NO
1	1_0052		Residential	G	SW	58	54	56	52	58	54	57	52	-1.7	-1.6	-1.6	-1.4	60	55	NO	NO	NO	NO	NO
1	1_0053		Residential	G	SE	58	54	56	52	58	54	56	52	-2	-1.9	-1.9	-1.7	60	55	NO	NO	NO	NO	NO
1	1_0054		Residential	G	SE	36	32	35	30	36	32	35	30	-1.5	-1.6	-1.4	-1.3	48	44	NO	NO	NO	NO	NO
1	1_0054		Residential	1	SW	36	32	34	30	36	32	35	30	-1.5	-1.6	-1.4	-1.2	48	44	NO	NO	NO	NO	NO
1	1_0055		Residential	G	NW	55	51	55	50	55	51	55	50	-0.3	-0.5	-0.3	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0056		Residential	G	W	69	65	69	64	70	65	69	65	-0.1	-0.3	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0056		Residential	1	W	70	66	70	66	71	66	71	66	-0.1	0	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0057		Residential	G	W	70	66	70	65	71	66	70	66	-0.1	-0.3	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0058		Residential	G	W	64	60	64	59	65	60	65	60	-0.1	-0.1	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0059		Residential	G	S	59	55	59	54	60	55	59	55	-0.6	-0.3	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
1	1_0059		Residential	1	S	62	58	61	56	62	58	61	57	-0.7	-1.1	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0060		Residential	G	N	61	57	61	57	62	57	62	57	-0.2	0.1	-0.3	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0061		Residential	G	S	57	53	57	53	58	53	58	53	-0.2	0.1	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
1	1_0061		Residential	1	S	60	56	59	55	60	56	60	55	-0.6	-0.8	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
1	1_0062		Residential	G	S	60	56	60	56	61	56	61	56	-0.4	0	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0062		Residential	1	S	62	58	61	57	62	58	62	57	-0.6	-0.8	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
1	1_0063		Residential	G	S	60	56	60	55	61	56	60	56	-0.6	-0.4	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
1	1_0063		Residential	1	S	62	58	61	56	62	58	61	57	-0.8	-1.2	-0.8	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0064		Residential	G	S	55	51	54	50	55	51	55	50	-0.6	-0.9	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0064		Residential	1	S	59	54	58	53	59	54	58	54	-0.6	-0.1	-0.6	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0065		Residential	G	S	61	57	60	55	61	57	60	56	-0.8	-1.2	-0.9	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0066		Residential	G	S	61	57	60	55	61	56	60	56	-0.9	-1.3	-0.9	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0067		Residential	G	S	58	54	58	53	59	54	58	54	-0.7	-0.4	-0.7	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0068		Residential	G	S	61	56	60	55	61	56	60	56	-1	-0.5	-0.9	-0.8	60	55	NO	NO	NO	NO	NO
1	1_0069		Residential	G	S	60	56	58	54	60	55	59	54	-1.3	-1.6	-1.3	-1.1	60	55	NO	NO	NO	NO	NO
1	1_0069		Residential	1	S	62	57	60	56	62	57	61	56	-1.2	-0.7	-1.1	-1	60	55	NO	NO	NO	NO	NO
1	1_0070		Residential	G	S	58	54	57	53	59	54	58	53	-1	-0.9	-1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0071		Residential	G	S	58	53	57	52	58	53	57	52	-1.1	-0.6	-1.1	-1	60	55	NO	NO	NO	NO	NO
1	1_0071		Residential	1	S	60	56	59	55	61	56	60	55	-1	-0.9	-1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0072		Residential	G	E	53	49	52	48	54	49	53	48	-0.8	-0.8	-0.7	-0.6	60	55	NO	NO	NO	NO	NO
1	1_0073		Residential	G	E	54	50	53	48	54	49	53	49	-0.9	-1.3	-1	-0.8	60	55	NO	NO	NO	NO	NO
1	1_0074		Residential	G	S	51	46	50	45	51	46	50	45	-1.1	-0.6	-1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0074		Residential	1	W	57	53	56	52	58	53	57	52	-1	-0.9	-1	-0.8	60	55	NO	NO	NO	NO	NO
1	1_0075		Residential	G	W	55	51	54	49	56	51	54	50	-1.1	-1.1	-1.1	-1	60	55	NO	NO	NO	NO	NO
1	1_0076		Residential	G	W	56	52	55	50	57	52	55	51	-1.5	-1.4	-1.4	-1.3	60	55	NO	NO	NO	NO	NO
1	1_0077		Residential	G	W	49	45	48	43	50	45	48	44	-1.3	-1.3	-1.3	-1.3	60	55	NO	NO	NO	NO	NO
1	1_0077		Residential	1	W	58	54	57	52	58	53	57	53	-0.8	-1.3	-0.9	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0078		Residential	G	S	57	52	56	51	57	52	56	52	-0.6	-0.1	-0.6	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0079		Residential	G	S	63	59	62	57	63	59	62	58	-1	-1.3	-0.9	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0079		Residential	1	S	63	59	62	58	64	59	63	58	-1	-0.7	-0.9	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0080		Residential	G	S	62	57	61	56	62	57	61	56	-1	-0.5	-0.9	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0081		Residential	G	S	62	58	61	57	63	58	62	57	-1.1	-0.9	-1.1	-1.1	60	55	NO	NO	NO	NO	NO
1	1_0082		Residential	G	S	62	58	61	56	62	58	61	57	-1.1	-1.2	-1.1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0082		Residential	1	S	63	58	61	57	63	58	62	57	-1.1	-0.6	-1	-1	60	55	NO	NO	NO	NO	NO
1	1_0083		Residential	G	S	61	57	60	56	62	57	61	56	-1	-0.8	-1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0083		Residential	1	S	62	58	61	56	62	58	61	57	-1.1	-1.3	-1.1	-1	60	55	NO	NO	NO	NO	NO
1	1_0084		Residential	G	S	61	57	60	56	62	57	61	56	-0.8	-0.8	-0.8	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0085		Residential	G	S	61	57	60	55	61	56	60	56	-0.9	-1.2	-0.8	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0085		Residential	1	S	61	57	60	56	62	57	61	56	-1	-0.6	-0.9	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0086		Residential	G	S	61	57	60	56	62	57	61	56	-0.9	-0.8	-0.9	-0.8	60	55	NO	NO	NO	NO	NO
1	1_0087		Residential	G	S	59	55	57	53	59	54	58	53	-1.4	-1.8	-1.5	-1.3	60	55	NO	NO	NO	NO	NO
1	1_0088		Residential	G	S	60	56	59	55	61	56	60	55	-1	-0.6	-1	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0089		Residential	G	S	56	51	54	49	56	51	54	50	-1.8	-1.2	-1.7	-1.6	60	55	NO	NO	NO	NO	NO
1	1_0089		Residential	1	S	59	55	57	52	59	54	57	53	-1.7	-2.1	-1.6	-1.6	60	55	NO	NO	NO	NO	NO
1	1_0090		Residential	G	SW	58	54	57	52	58	54	57	53	-1.2	-1.2	-1.2	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0091		Residential	G	SW	58	54	57	52	59	54	57	53	-1.5	-1.4	-1.5	-1.3	60	55	NO	NO	NO	NO	NO
1	1_0092		Residential	G	SE	58	54	57	52	59	54	57	53	-1.5	-1.1	-1.4	-1.2	60	55	NO	NO	NO	NO	NO
1	1_0093		Residential	G	S	59	54	57	53	59	54	58	53	-1.3	-0.7	-1.3	-1.1	60	55	NO	NO	NO	NO	NO
1	1_0094		Residential	G	S	59	55	57	53	59	55	58	53	-1.7	-1.7	-1.6	-1.5	60	55	NO	NO	NO	NO	NO
1	1_0095		Residential	G	S	58	54	57	52	59	54	57	53	-1.5	-1.3	-1.5	-1.4	60	55	NO	NO	NO	NO	NO
1	1_0096		Residential	G	W	55	51	53	49	55	51	54	49	-2	-1.7	-1.9	-1.7	60	55	NO	NO	NO	NO	NO
1	1_0097		Residential	G	S	57	52	55	51	57	52	55	51	-1.6	-1	-1.5	-1.3	60	55	NO	NO	NO	NO	NO
1	1_0098		Residential	G	SE	56	51	54	50	56	51	54	50	-1.5	-1	-1.6	-1.4	60	55	NO	NO	NO	NO	NO
1	1_0098		Residential	1	SE	58	54	56	52	58	54	57	52	-1.5	-1.7	-1.5	-1.4	60	55	NO	NO	NO	NO	NO
1	1_0099		Residential	G	S	57	53	55	51	57	52	55	51	-1.6	-1.9	-1.6	-1.5	60	55	NO	NO	NO	NO	NO
1	1_0100		Residential	G	S	57	53	55	51	57	53	56	51	-1.6	-1.8	-1.5	-1.4	60	55	NO	NO	NO	NO	NO
1	1_0100		Residential	1	S	58	53	56	52	58	53	57	52	-1.3	-0.8	-1.3	-1.1	60	55	NO	NO	NO	NO	NO
1	1_0101		Residential	G	SW	57	52	55	51	57	52	56	51	-1.5	-0.9	-1.4	-1.2	60	55	NO	NO	NO	NO	NO
1	1_0101		Residential	1	SW	57	53	56	52	58	53	57	52	-1.1	-0.8	-1	-0.8	60	55	NO	NO	NO	NO	NO
1	1_0102		Residential	G	SW	56	52	55	51	57	52	56	51	-1	-0.8	-1	-0.8	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
1	1_0102		Residential	1	SW	58	53	56	52	58	53	57	52	-1.1	-0.6	-1	-0.8	60	55	NO	NO	NO	NO	NO
1	1_0103		Residential	G	S	57	53	56	51	57	52	56	52	-1.1	-1.3	-1	-0.8	60	55	NO	NO	NO	NO	NO
1	1_0103		Residential	1	S	57	53	56	52	58	53	57	52	-1.1	-0.7	-1	-0.8	60	55	NO	NO	NO	NO	NO
1	1_0104		Residential	G	SW	56	52	56	51	57	52	56	51	-0.9	-0.5	-0.8	-0.6	60	55	NO	NO	NO	NO	NO
1	1_0104		Residential	1	SW	57	53	56	52	57	53	56	52	-0.9	-1	-0.9	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0105		Residential	G	S	56	52	56	51	57	52	56	51	-0.7	-0.5	-0.7	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0105		Residential	1	W	57	53	56	51	57	52	56	52	-0.9	-1.2	-0.9	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0106		Residential	G	S	57	53	56	52	58	53	57	52	-1.1	-0.9	-1	-0.8	60	55	NO	NO	NO	NO	NO
1	1_0107		Residential	G	S	55	51	54	49	56	51	54	50	-1.8	-1.4	-1.8	-1.6	60	55	NO	NO	NO	NO	NO
1	1_0108		Residential	G	S	56	52	55	51	57	52	56	51	-0.9	-0.5	-0.9	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0109		Residential	G	SE	54	50	52	48	54	50	53	48	-1.8	-1.8	-1.7	-1.6	60	55	NO	NO	NO	NO	NO
1	1_0109		Residential	1	SW	57	53	56	51	57	52	56	52	-0.9	-1.1	-0.8	-0.6	60	55	NO	NO	NO	NO	NO
1	1_0110		Residential	G	W	55	51	54	50	55	51	55	50	-0.6	-0.6	-0.6	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0110		Residential	1	S	57	53	56	52	57	53	57	52	-0.9	-0.7	-0.8	-0.6	60	55	NO	NO	NO	NO	NO
1	1_0111		Residential	G	SW	55	51	55	50	56	51	55	51	-0.4	-0.2	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
1	1_0112		Residential	G	W	57	52	56	51	57	52	56	52	-0.7	-0.1	-0.7	-0.5	60	55	NO	NO	NO	NO	NO
1	1_0113		Residential	G	W	57	53	56	52	57	53	57	52	-0.7	-1	-0.7	-0.6	60	55	NO	NO	NO	NO	NO
1	1_0114		Residential	G	SE	55	51	53	49	55	51	54	49	-1.8	-1.7	-1.7	-1.5	60	55	NO	NO	NO	NO	NO
1	1_0115		Residential	G	NW	54	50	54	49	54	50	54	50	-0.3	-0.4	-0.3	-0.1	60	55	NO	NO	NO	NO	NO
1	1_0115		Residential	1	SW	57	53	56	52	58	53	57	52	-1	-0.6	-0.9	-0.7	60	55	NO	NO	NO	NO	NO
1	1_0116	Echidna Children's Centre	Childcare Sleeping	G	S	57	53	56	52	58	53	57	52	-1.1	-0.7	-1	-0.9	45	-	YES	YES	NO	-	YES
1	1_0117		Residential	G	S	57	53	56	51	58	53	56	52	-1.5	-1.3	-1.4	-1.4	60	55	NO	NO	NO	NO	NO
1	1_0118		Residential	G	S	56	52	54	50	56	51	55	50	-1.3	-1.7	-1.3	-1.1	60	55	NO	NO	NO	NO	NO
1	1_0119		Residential	G	S	56	52	55	50	57	52	55	51	-1.4	-1.1	-1.4	-1.2	60	55	NO	NO	NO	NO	NO
1	1_0119		Residential	1	S	58	54	57	52	58	53	57	53	-1	-1.4	-1	-0.8	60	55	NO	NO	NO	NO	NO
1	1_0120		Residential	G	S	57	53	56	52	58	53	57	52	-1.1	-0.9	-1.1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0120		Residential	1	S	58	54	57	52	58	54	57	53	-1.1	-1.1	-1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0121		Residential	G	S	57	53	56	52	58	53	57	52	-1.1	-0.9	-1	-0.8	60	55	NO	NO	NO	NO	NO
1	1_0121		Residential	1	S	58	54	57	52	58	54	57	53	-1.1	-1.2	-1.1	-0.9	60	55	NO	NO	NO	NO	NO
1	1_0122		Residential	G	S	57	53	56	51	57	53	56	52	-1.1	-1.1	-1	-0.8	60	55	NO	NO	NO	NO	NO
1	1_0122		Residential	1	S	58	53	57	52	58	53	57	53	-1	-0.4	-1	-0.7	60	55	NO	NO	NO	NO	NO
2	2_0001		Residential	G	N	53	47	57	52	53	48	57	53	4.2	5.8	4.1	5.2	55	50	NO	NO	NO	NO	YES
3	3_0001		Residential	G	SE	54	48	52	47	55	49	52	48	-2.3	-0.9	-2.4	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0001		Residential	1	SW	58	52	54	49	59	53	55	50	-3.8	-2.6	-4	-2.8	55	50	NO	NO	NO	NO	NO
3	3_0002		Residential	G	SE	57	51	53	49	57	51	54	49	-3.5	-1.9	-3.7	-2.2	55	50	NO	NO	NO	NO	NO
3	3_0003		Residential	G	SE	57	51	53	49	57	51	54	49	-3.7	-2.1	-3.9	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0004		Residential	G	SE	57	51	53	49	58	52	54	49	-3.9	-2.3	-4.1	-2.6	55	50	NO	NO	NO	NO	NO
3	3_0005		Residential	G	SE	57	51	53	48	58	52	53	49	-4.1	-2.5	-4.3	-2.7	55	50	NO	NO	NO	NO	NO
3	3_0006		Residential	G	SE	57	50	53	48	57	51	53	49	-3.9	-2.2	-4.1	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0007		Residential	G	SE	57	51	53	49	58	52	54	49	-4.2	-2.6	-4.4	-2.8	55	50	NO	NO	NO	NO	NO
3	3_0008		Residential	G	SE	57	51	53	48	58	52	53	49	-4.2	-2.6	-4.4	-2.8	55	50	NO	NO	NO	NO	NO
3	3_0009		Residential	G	SE	57	51	53	48	58	51	53	48	-4.3	-2.6	-4.6	-3	55	50	NO	NO	NO	NO	NO
3	3_0010		Residential	G	S	58	51	53	49	58	52	54	49	-4.4	-2.8	-4.7	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0011		Residential	G	S	58	51	53	49	58	52	54	49	-4.4	-2.7	-4.6	-3	55	50	NO	NO	NO	NO	NO
3	3_0012		Residential	G	S	58	51	53	49	58	52	54	49	-4.3	-2.7	-4.6	-3	55	50	NO	NO	NO	NO	NO
3	3_0013		Residential	G	S	56	50	53	48	57	50	53	49	-3.3	-1.6	-3.5	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0014		Residential	G	S	57	51	53	49	58	52	54	49	-4.1	-2.4	-4.3	-2.7	55	50	NO	NO	NO	NO	NO
3	3_0015		Residential	G	S	57	51	53	49	58	52	54	49	-3.8	-2.2	-4.1	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0016		Residential	G	S	57	51	53	49	58	51	54	49	-3.6	-2	-3.8	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0017		Residential	G	S	56	50	53	49	57	51	54	49	-3.3	-1.7	-3.5	-2	55	50	NO	NO	NO	NO	NO
3	3_0018		Residential	G	S	56	50	53	49	57	51	53	49	-3.1	-1.4	-3.5	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0018		Residential	1	S	57	51	54	49	58	52	54	50	-3.3	-1.7	-3.5	-2	55	50	NO	NO	NO	NO	NO
3	3_0019		Residential	G	S	56	50	53	49	57	51	54	49	-3.1	-1.5	-3.4	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0020		Residential	G	S	56	50	53	49	57	51	54	49	-2.9	-1.2	-3.2	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0020		Residential	1	S	57	51	54	50	58	52	55	50	-3.1	-1.5	-3.3	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0021		Residential	G	W	55	49	52	47	55	50	52	47	-2.9	-2.3	-3	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0022		Residential	G	W	54	49	52	47	55	50	52	47	-2.8	-2.2	-2.9	-2.2	55	50	NO	NO	NO	NO	NO
3	3_0023		Residential	G	E	53	48	51	47	54	49	52	47	-1.9	-1.6	-1.9	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0024		Residential	G	W	55	49	52	47	55	50	52	47	-2.8	-2	-3	-2.2	55	50	NO	NO	NO	NO	NO
3	3_0025		Residential	G	W	54	49	52	47	55	49	52	47	-2.3	-1.5	-2.5	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0026		Residential	G	W	55	49	52	48	55	50	53	48	-2.5	-1.8	-2.6	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0027		Residential	G	SW	56	50	53	48	56	50	53	48	-2.8	-1.5	-3	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0028		Residential	G	S	54	48	52	48	55	49	53	48	-1.8	-0.4	-2	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0029		Residential	G	S	55	48	53	48	55	49	53	48	-2	-0.6	-2.2	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0030		Residential	G	S	54	48	52	48	55	49	53	48	-1.9	-0.4	-2.1	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0031		Residential	G	S	54	48	52	48	55	49	53	48	-1.9	-0.4	-2.1	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0032		Residential	G	S	54	47	52	48	54	48	53	48	-1.5	0.2	-1.7	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0032		Residential	1	S	57	51	53	48	57	51	53	49	-3.7	-2.1	-3.9	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0033		Residential	G	S	55	49	52	48	56	50	53	48	-2.8	-1.2	-3	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0034		Residential	G	S	55	49	52	48	56	50	53	48	-2.9	-1.4	-3.1	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0035		Residential	G	S	55	49	52	48	56	50	53	48	-2.7	-1.1	-2.9	-1.3	55	50	NO	NO	NO	NO	NO
3	3_0036		Residential	G	S	55	49	52	48	55	49	53	48	-2.5	-0.9	-2.7	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0037		Residential	G	S	55	49	52	48	55	49	53	48	-2.3	-0.7	-2.5	-1	55	50	NO	NO	NO	NO	NO
3	3_0038		Residential	G	S	54	48	52	48	55	49	53	48	-1.6	-0.1	-1.8	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0039		Residential	G	S	54	47	52	48	54	48	53	48	-1.2	0.2	-1.4	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0040		Residential	G	S	53	47	52	48	54	48	53	48	-1.1	0.4	-1.3	0.2	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0041		Residential	G	S	53	47	52	48	54	48	53	48	-0.9	0.6	-1.1	0.3	55	50	NO	NO	NO	NO	NO
3	3_0042		Residential	G	S	53	47	52	48	54	48	53	48	-0.9	0.6	-1.1	0.3	55	50	NO	NO	NO	NO	NO
3	3_0043		Residential	G	SW	54	48	52	47	54	48	53	48	-1.4	-0.1	-1.5	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0044		Residential	G	W	54	49	52	47	55	49	52	48	-2.4	-1.5	-2.5	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0045		Residential	G	W	53	48	52	47	54	48	52	47	-1.6	-0.6	-1.6	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0046		Residential	G	W	54	48	51	47	55	49	52	47	-2.6	-1.6	-2.8	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0047		Residential	G	W	54	48	52	47	55	49	52	47	-2.3	-1.4	-2.5	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0048		Residential	G	S	51	46	51	47	52	46	52	47	-0.2	0.9	-0.3	0.8	55	50	NO	NO	NO	NO	NO
3	3_0049		Residential	G	S	52	46	51	47	53	47	52	47	-0.7	0.5	-0.9	0.3	55	50	NO	NO	NO	NO	NO
3	3_0050		Residential	G	W	54	48	51	47	54	48	52	47	-2.2	-1.3	-2.4	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0051		Residential	G	S	51	45	51	46	52	46	51	47	-0.1	0.8	-0.2	0.7	55	50	NO	NO	NO	NO	NO
3	3_0052		Residential	G	S	52	46	51	47	52	46	52	47	-0.4	0.7	-0.5	0.6	55	50	NO	NO	NO	NO	NO
3	3_0053		Residential	G	S	52	46	51	46	52	46	51	47	-0.5	0.7	-0.6	0.5	55	50	NO	NO	NO	NO	NO
3	3_0054		Residential	G	SW	53	47	52	47	53	47	52	47	-1	0.1	-1.1	0	55	50	NO	NO	NO	NO	NO
3	3_0055		Residential	G	SW	54	48	52	47	54	49	52	48	-1.8	-0.8	-1.9	-1	55	50	NO	NO	NO	NO	NO
3	3_0056		Residential	G	SE	52	46	52	47	53	47	52	47	-0.3	0.9	-0.5	0.7	55	50	NO	NO	NO	NO	NO
3	3_0057		Residential	G	S	52	46	52	47	53	47	52	47	-0.5	0.8	-0.7	0.6	55	50	NO	NO	NO	NO	NO
3	3_0058		Residential	G	S	52	46	52	47	53	47	52	47	-0.4	0.9	-0.6	0.7	55	50	NO	NO	NO	NO	NO
3	3_0059		Residential	G	S	52	46	51	47	52	46	52	47	-0.5	0.8	-0.6	0.6	55	50	NO	NO	NO	NO	NO
3	3_0060		Residential	G	S	51	46	51	47	52	46	52	47	-0.1	1.1	-0.3	0.9	55	50	NO	NO	NO	NO	NO
3	3_0061		Residential	G	S	51	45	51	46	52	46	51	47	0	1.1	-0.2	1	55	50	NO	NO	NO	NO	NO
3	3_0062		Residential	G	SE	52	46	51	46	52	47	51	47	-0.9	0.2	-1	0.1	55	50	NO	NO	NO	NO	NO
3	3_0063		Residential	G	S	56	50	54	49	57	51	54	49	-2.8	-1.2	-3.1	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0064		Residential	G	S	56	50	54	49	57	51	54	49	-2.6	-1.1	-2.9	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0065		Residential	G	S	55	49	53	49	56	50	54	49	-1.8	-0.3	-2	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0066		Residential	G	S	56	49	53	49	56	50	54	49	-2.1	-0.5	-2.4	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0067		Residential	G	S	56	50	54	49	57	50	54	49	-2.3	-0.7	-2.6	-1	55	50	NO	NO	NO	NO	NO
3	3_0068		Residential	G	S	56	50	54	49	56	50	54	49	-2.2	-0.7	-2.5	-1	55	50	NO	NO	NO	NO	NO
3	3_0069		Residential	G	S	56	50	54	49	56	50	54	49	-2.2	-0.6	-2.5	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0070		Residential	G	S	56	50	54	49	56	50	54	49	-2.2	-0.5	-2.4	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0071		Residential	G	S	56	50	54	49	56	50	54	49	-2.1	-0.4	-2.3	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0072		Residential	G	S	56	50	54	49	56	50	54	49	-2.1	-0.4	-2.3	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0073		Residential	G	SE	53	47	52	48	54	48	53	48	-0.7	0.7	-0.9	0.5	55	50	NO	NO	NO	NO	NO
3	3_0074		Residential	G	S	54	48	53	48	54	48	53	49	-1	0.5	-1.2	0.2	55	50	NO	NO	NO	NO	NO
3	3_0075		Residential	G	S	54	48	53	48	54	48	53	49	-0.8	0.7	-1	0.3	55	50	NO	NO	NO	NO	NO
3	3_0076		Residential	G	S	53	47	53	48	54	48	53	49	-0.6	0.9	-0.8	0.6	55	50	NO	NO	NO	NO	NO
3	3_0077		Residential	G	S	53	47	53	48	54	48	53	49	-0.6	0.9	-0.8	0.6	55	50	NO	NO	NO	NO	NO
3	3_0078		Residential	G	S	53	47	53	48	54	48	53	49	-0.5	1	-0.8	0.7	55	50	NO	NO	NO	NO	NO
3	3_0079		Residential	G	S	53	47	53	48	54	48	53	49	-0.6	1	-0.8	0.8	55	50	NO	NO	NO	NO	NO
3	3_0080		Residential	G	S	53	47	52	48	54	48	53	48	-0.6	0.9	-0.8	0.7	55	50	NO	NO	NO	NO	NO
3	3_0081		Residential	G	S	55	49	53	49	56	50	54	49	-1.9	-0.3	-2.1	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0082		Residential	G	S	56	50	54	49	57	50	54	50	-2	-0.4	-2.3	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0083		Residential	G	S	55	49	54	49	56	50	54	49	-1.7	0.1	-1.9	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0083		Residential	1	S	57	51	55	50	58	52	55	51	-2.2	-0.6	-2.5	-1	55	50	NO	NO	NO	NO	YES
3	3_0084		Residential	G	S	56	50	54	49	57	51	54	50	-2.1	-0.4	-2.4	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0085		Residential	G	S	56	50	54	49	57	51	54	50	-2	-0.4	-2.3	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0086		Residential	G	S	56	49	54	49	56	50	54	50	-1.8	-0.2	-2.2	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0087		Residential	G	S	57	50	54	50	57	51	55	50	-2.4	-0.8	-2.7	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0088		Residential	G	S	57	51	54	50	58	52	55	50	-3.2	-1.3	-3.5	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0089		Residential	G	S	58	51	54	49	58	52	54	50	-3.9	-2	-4.2	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0090		Residential	G	S	56	50	53	48	57	51	53	49	-3.7	-1.8	-4.1	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0091		Residential	G	S	55	49	53	48	56	49	53	49	-2.3	-0.4	-2.6	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0092		Residential	G	S	54	48	53	48	55	49	53	49	-1.2	0.4	-1.5	0.1	55	50	NO	NO	NO	NO	NO
3	3_0093		Residential	G	S	54	48	53	48	55	49	53	49	-1.1	0.5	-1.3	0.2	55	50	NO	NO	NO	NO	NO
3	3_0094		Residential	G	S	54	47	53	48	54	48	53	49	-0.8	0.8	-1.1	0.5	55	50	NO	NO	NO	NO	NO
3	3_0095		Residential	G	S	53	47	53	48	54	48	53	49	-0.6	0.9	-0.9	0.6	55	50	NO	NO	NO	NO	NO
3	3_0096		Residential	G	S	54	47	53	48	54	48	53	49	-0.8	0.7	-1	0.4	55	50	NO	NO	NO	NO	NO
3	3_0097		Residential	G	S	54	47	53	48	54	48	53	49	-0.8	0.8	-1	0.5	55	50	NO	NO	NO	NO	NO
3	3_0098		Residential	G	S	56	50	54	49	57	51	54	50	-2.1	-0.4	-2.4	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0099		Residential	G	E	59	53	52	47	60	53	52	47	-7.6	-5.7	-7.9	-6.1	55	50	NO	NO	NO	NO	NO
3	3_0100		Residential	G	E	60	53	52	47	61	54	53	48	-7.7	-5.9	-8.1	-6.3	55	50	NO	NO	NO	NO	NO
3	3_0101		Residential	G	E	59	53	52	48	60	54	53	48	-7.3	-5.4	-7.7	-5.9	55	50	NO	NO	NO	NO	NO
3	3_0102		Residential	G	E	60	53	53	48	61	54	53	48	-7.2	-5.4	-7.6	-5.8	55	50	NO	NO	NO	NO	NO
3	3_0103		Residential	G	E	59	52	53	48	60	53	53	49	-5.9	-4	-6.3	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0104		Residential	G	S	56	50	54	49	57	51	54	50	-2.7	-0.9	-3	-1.3	55	50	NO	NO	NO	NO	NO
3	3_0105		Residential	G	S	54	48	53	48	55	49	53	49	-1.2	0.4	-1.6	0.1	55	50	NO	NO	NO	NO	NO
3	3_0106		Residential	G	S	54	48	53	49	55	49	54	49	-1.2	0.5	-1.5	0.2	55	50	NO	NO	NO	NO	NO
3	3_0106		Residential	1	S	57	50	54	50	57	51	55	50	-2.3	-0.7	-2.6	-1	55	50	NO	NO	NO	NO	NO
3	3_0107		Residential	G	S	55	49	53	49	56	49	54	49	-1.6	0.1	-1.9	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0108		Residential	G	S	54	48	53	48	55	48	53	49	-0.9	0.8	-1.2	0.4	55	50	NO	NO	NO	NO	NO
3	3_0109		Residential	G	S	55	49	54	49	56	50	54	49	-1.5	0.1	-1.8	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0110		Residential	G	S	55	48	53	49	55	49	54	49	-1.2	0.5	-1.4	0.1	55	50	NO	NO	NO	NO	NO
3	3_0111		Residential	G	E	53	46	52	48	53	47	53	48	-0.3	1.3	-0.5	1	55	50	NO	NO	NO	NO	NO
3	3_0112		Residential	G	S	55	48	53	49	55	49	54	49	-1.2	0.4	-1.5	0.1	55	50	NO	NO	NO	NO	NO
3	3_0113		Residential	G	S	55	49	54	49	56	50	54	49	-1.4	0.1	-1.7	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0114		Residential	G	S	55	49	54	49	56	49	54	49	-1.3	0.3	-1.6	-0.1	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
3	3_0115		Residential	G	S	55	49	54	49	56	50	54	50	-1.4	0.3	-1.7	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0116		Residential	G	S	55	48	53	49	55	49	54	49	-1.1	0.5	-1.4	0.1	55	50	NO	NO	NO	NO	NO
3	3_0117		Residential	G	S	55	49	54	49	56	50	54	49	-1.5	0.1	-1.8	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0118		Residential	G	S	55	49	54	49	56	50	54	49	-1.4	0.1	-1.7	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0119		Residential	G	S	55	48	54	49	56	49	54	49	-1.3	0.3	-1.6	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0120		Residential	G	S	55	49	54	49	56	50	54	49	-1.5	0	-1.8	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0121		Residential	G	S	54	48	53	48	55	49	53	49	-1.3	0.2	-1.6	0	55	50	NO	NO	NO	NO	NO
3	3_0122		Residential	G	S	54	47	53	48	55	48	53	49	-1	0.8	-1.2	0.4	55	50	NO	NO	NO	NO	NO
3	3_0122		Residential	1	S	57	50	54	49	57	51	55	50	-2.1	-0.6	-2.3	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0123		Residential	G	S	51	44	51	47	52	45	52	47	0.6	2.4	0.3	2	55	50	NO	NO	NO	NO	NO
3	3_0123		Residential	1	S	56	49	54	49	57	50	54	49	-2.2	-0.7	-2.4	-1	55	50	NO	NO	NO	NO	NO
3	3_0124		Residential	G	S	55	48	54	49	55	49	54	49	-0.9	0.6	-1.2	0.3	55	50	NO	NO	NO	NO	NO
3	3_0125		Residential	G	S	50	44	51	46	51	44	52	47	1	2.6	0.7	2.3	55	50	NO	NO	NO	NO	NO
3	3_0125		Residential	1	S	54	47	53	48	54	48	53	48	-0.7	0.8	-0.9	0.5	55	50	NO	NO	NO	NO	NO
3	3_0126		Residential	G	N	52	46	51	46	52	46	51	46	-0.7	0.2	-0.9	0	55	50	NO	NO	NO	NO	NO
3	3_0127		Residential	G	W	52	46	51	46	53	46	52	46	-0.9	0.3	-1.2	0	55	50	NO	NO	NO	NO	NO
3	3_0128		Residential	G	W	52	46	51	46	53	47	52	46	-1	0.2	-1.3	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0129		Residential	G	E	54	48	52	47	55	49	52	47	-2.6	-1.5	-2.7	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0130		Residential	G	E	54	48	52	47	55	49	52	47	-2.3	-1.2	-2.5	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0131		Residential	G	E	54	48	52	47	54	49	52	48	-2.1	-0.9	-2.3	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0132		Residential	G	S	52	46	52	47	53	46	52	48	-0.2	1.5	-0.5	1.2	55	50	NO	NO	NO	NO	NO
3	3_0132		Residential	1	S	55	49	53	48	56	50	54	49	-2	-0.5	-2.3	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0133		Residential	G	S	53	47	52	48	54	48	53	48	-0.7	0.9	-1	0.5	55	50	NO	NO	NO	NO	NO
3	3_0134		Residential	G	S	53	47	52	48	54	47	53	48	-0.4	1.1	-0.7	0.8	55	50	NO	NO	NO	NO	NO
3	3_0135		Residential	G	S	52	46	52	47	53	47	52	48	-0.2	1.3	-0.5	1	55	50	NO	NO	NO	NO	NO
3	3_0136		Residential	G	S	53	47	53	48	54	48	53	48	-0.6	1	-0.9	0.6	55	50	NO	NO	NO	NO	NO
3	3_0137		Residential	G	S	53	47	53	48	54	48	53	48	-0.7	0.8	-0.9	0.5	55	50	NO	NO	NO	NO	NO
3	3_0138		Residential	G	S	53	47	53	48	54	48	53	48	-0.5	1.1	-0.7	0.8	55	50	NO	NO	NO	NO	NO
3	3_0139		Residential	G	S	53	46	53	48	54	47	53	48	-0.2	1.5	-0.5	1.2	55	50	NO	NO	NO	NO	NO
3	3_0139		Residential	1	S	55	49	54	49	56	50	54	49	-1.3	0.1	-1.6	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0140		Residential	G	S	53	47	53	48	54	48	53	48	-0.5	1	-0.8	0.7	55	50	NO	NO	NO	NO	NO
3	3_0141		Residential	G	S	53	47	53	48	54	48	53	48	-0.3	1.2	-0.6	0.9	55	50	NO	NO	NO	NO	NO
3	3_0142		Residential	G	S	53	47	53	48	54	47	53	48	-0.1	1.4	-0.4	1.1	55	50	NO	NO	NO	NO	NO
3	3_0143		Residential	G	S	53	46	53	48	53	47	53	48	0	1.5	-0.3	1.2	55	50	NO	NO	NO	NO	NO
3	3_0144		Residential	G	S	53	46	53	48	53	47	53	48	0.1	1.5	-0.2	1.2	55	50	NO	NO	NO	NO	NO
3	3_0145		Residential	G	W	51	45	51	46	52	45	52	47	0.3	1.6	0	1.3	55	50	NO	NO	NO	NO	NO
3	3_0146		Residential	G	S	52	46	52	47	53	46	53	48	0.3	1.8	0	1.5	55	50	NO	NO	NO	NO	NO
3	3_0147		Residential	G	N	52	46	51	46	52	46	51	46	-0.7	0.3	-0.9	0.1	55	50	NO	NO	NO	NO	NO
3	3_0148		Residential	G	E	51	45	51	46	51	45	52	47	0.3	1.7	0.2	1.4	55	50	NO	NO	NO	NO	NO
3	3_0149		Residential	G	W	51	45	51	46	52	46	51	46	-0.5	0.6	-0.8	0.3	55	50	NO	NO	NO	NO	NO
3	3_0150		Residential	G	W	51	45	51	46	52	45	51	46	-0.4	0.8	-0.6	0.5	55	50	NO	NO	NO	NO	NO
3	3_0151		Residential	G	N	52	46	51	46	53	47	52	46	-1.1	-0.3	-1.4	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0152		Residential	G	S	50	44	50	45	51	45	51	46	0.1	1.5	-0.2	1.2	55	50	NO	NO	NO	NO	NO
3	3_0153		Residential	G	N	52	46	51	46	52	46	52	46	-0.7	0.1	-0.9	0	55	50	NO	NO	NO	NO	NO
3	3_0154		Residential	G	E	54	47	52	47	54	48	52	47	-1.7	-0.6	-1.9	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0155		Residential	G	W	54	47	53	48	55	48	53	48	-1.2	0.1	-1.4	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0156		Residential	G	S	55	49	54	49	56	50	54	49	-1.6	-0.1	-1.9	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0157		Residential	G	S	51	45	51	46	52	45	51	46	-0.5	1.2	-0.7	0.8	55	50	NO	NO	NO	NO	NO
3	3_0157		Residential	1	W	54	48	53	48	55	49	53	48	-1.7	-0.4	-1.9	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0158		Residential	G	N	51	45	51	46	52	46	51	46	-0.6	0.4	-0.8	0.2	55	50	NO	NO	NO	NO	NO
3	3_0159		Residential	G	W	52	46	52	46	53	46	52	47	-0.4	0.9	-0.7	0.6	55	50	NO	NO	NO	NO	NO
3	3_0160		Residential	G	N	52	46	51	46	53	47	52	47	-0.8	0.2	-1	0	55	50	NO	NO	NO	NO	NO
3	3_0161		Residential	G	NW	53	47	53	47	54	48	53	48	-0.9	0.3	-1.1	0	55	50	NO	NO	NO	NO	NO
3	3_0162		Residential	G	S	55	49	53	48	56	49	53	48	-2.3	-0.6	-2.6	-1	55	50	NO	NO	NO	NO	NO
3	3_0163		Residential	G	SE	55	49	53	48	56	49	53	48	-2.2	-0.8	-2.5	-1	55	50	NO	NO	NO	NO	NO
3	3_0164		Residential	G	SW	55	49	52	48	56	49	53	48	-2.6	-1	-2.8	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0165		Residential	G	W	52	46	52	46	53	47	52	47	-0.8	0.6	-1.1	0.2	55	50	NO	NO	NO	NO	NO
3	3_0166		Residential	G	W	52	45	51	46	52	46	52	47	-0.4	0.9	-0.7	0.6	55	50	NO	NO	NO	NO	NO
3	3_0167		Residential	G	S	50	44	51	46	51	44	51	46	0.6	2.1	0.3	1.8	55	50	NO	NO	NO	NO	NO
3	3_0167		Residential	1	S	53	47	52	47	54	47	53	48	-0.9	0.5	-1.1	0.2	55	50	NO	NO	NO	NO	NO
3	3_0168		Residential	G	S	51	44	51	46	51	45	51	46	0.2	1.7	-0.1	1.3	55	50	NO	NO	NO	NO	NO
3	3_0169		Residential	G	S	51	45	51	46	52	45	51	47	0	1.5	-0.3	1.2	55	50	NO	NO	NO	NO	NO
3	3_0170		Residential	G	S	51	45	51	46	52	46	52	47	0.1	1.5	-0.2	1.2	55	50	NO	NO	NO	NO	NO
3	3_0171		Residential	G	S	51	45	51	46	52	45	52	47	0.1	1.6	-0.2	1.3	55	50	NO	NO	NO	NO	NO
3	3_0172		Residential	G	S	51	45	51	46	52	45	52	47	0.1	1.6	-0.2	1.3	55	50	NO	NO	NO	NO	NO
3	3_0173		Residential	G	S	51	45	51	46	52	45	52	47	0.1	1.6	-0.2	1.3	55	50	NO	NO	NO	NO	NO
3	3_0174		Residential	G	N	53	46	51	46	53	47	52	47	-1.1	-0.2	-1.3	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0175		Residential	G	S	51	45	51	47	52	45	52	47	0.4	1.9	0.1	1.6	55	50	NO	NO	NO	NO	NO
3	3_0176		Residential	G	W	52	46	52	47	53	46	52	47	-0.2	1	-0.6	0.6	55	50	NO	NO	NO	NO	NO
3	3_0177		Residential	G	N	52	46	51	45	52	46	51	46	-1.1	-0.2	-1.3	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0178		Residential	G	W	51	45	51	45	52	46	51	46	-0.9	0.2	-1.1	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0179		Residential	G	N	52	46	50	45	53	47	51	46	-1.5	-0.7	-1.7	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0180		Residential	G	N	52	46	51	45	53	47	51	46	-1.5	-0.7	-1.7	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0181		Residential	G	N	52	46	50	45	53	47	51	46	-1.7	-0.9	-1.9	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0182		Residential	G	S	48	42	50	45	49	42	50	45	1.5	3.1	1.2	2.8	55	50	NO	NO	NO	NO	NO
3	3_0182		Residential	1	W	53	47	52	47	54	47	53	48	-0.8	0.4	-1.1	0.1	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0183		Residential	G	N	52	46	50	45	53	47	51	45	-1.6	-0.9	-1.8	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0184		Residential	G	N	52	46	51	46	53	47	51	46	-1.5	-0.6	-1.6	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0185		Residential	G	N	52	46	51	46	53	47	52	46	-1.2	-0.5	-1.4	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0186		Residential	G	N	52	46	51	46	53	47	52	46	-1.2	-0.4	-1.4	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0187		Residential	G	S	57	50	54	49	58	51	54	49	-3.1	-1.5	-3.4	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0188		Residential	G	S	55	49	52	48	56	50	53	48	-2.9	-1.2	-3.2	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0188		Residential	1	S	58	51	55	50	59	52	55	50	-3.2	-1.6	-3.5	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0189		Residential	G	S	56	50	54	49	57	51	54	49	-2.9	-1.2	-3.2	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0190		Residential	G	S	55	49	53	48	56	49	53	48	-2.4	-0.7	-2.7	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0191		Residential	G	S	57	50	54	49	58	51	54	50	-2.8	-1.1	-3.1	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0192		Residential	G	S	56	49	54	49	57	50	54	49	-2.3	-0.6	-2.6	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0193		Residential	G	S	56	50	53	48	57	50	54	49	-2.7	-1.1	-3	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0194		Residential	G	S	57	50	55	50	57	51	55	50	-1.8	-0.2	-2.1	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0194		Residential	1	W	57	51	57	52	58	51	57	52	-0.6	0.9	-0.8	0.5	55	50	NO	NO	NO	NO	YES
3	3_0195		Residential	G	W	56	49	56	51	57	50	56	51	-0.1	1.2	-0.5	0.8	55	50	NO	NO	NO	NO	YES
3	3_0196		Residential	G	S	51	45	52	47	52	45	52	47	0.4	2.1	0.1	1.7	55	50	NO	NO	NO	NO	NO
3	3_0196		Residential	1	W	54	48	54	49	55	49	55	49	-0.4	1.1	-0.6	0.7	55	50	NO	NO	NO	NO	NO
3	3_0197		Residential	G	S	52	46	52	48	53	46	53	48	0.5	2	0.2	1.7	55	50	NO	NO	NO	NO	NO
3	3_0198		Residential	G	N	53	47	53	47	54	47	53	48	-0.3	0.7	-0.5	0.4	55	50	NO	NO	NO	NO	NO
3	3_0199		Residential	G	S	52	46	53	48	53	47	53	48	0.7	2.1	0.4	1.7	55	50	NO	NO	NO	NO	NO
3	3_0200		Residential	G	N	53	47	53	48	54	48	54	48	0	1.1	-0.2	0.8	55	50	NO	NO	NO	NO	NO
3	3_0201		Residential	G	S	53	46	53	48	54	47	54	49	0.4	1.9	0.1	1.6	55	50	NO	NO	NO	NO	NO
3	3_0202		Residential	G	S	54	47	54	49	54	48	54	49	0.3	1.7	0	1.4	55	50	NO	NO	NO	NO	NO
3	3_0203		Residential	G	W	54	48	55	49	55	49	55	50	0.3	1.6	0	1.4	55	50	NO	NO	NO	NO	NO
3	3_0204		Residential	G	SW	56	49	57	51	57	50	57	51	0.6	1.7	0.4	1.3	55	50	NO	NO	NO	NO	YES
3	3_0205		Residential	G	SW	56	49	57	51	57	50	57	51	0.5	1.6	0.2	1.1	55	50	NO	NO	NO	NO	YES
3	3_0206		Residential	G	SW	56	49	56	51	57	50	57	51	0.5	1.6	0.1	1.2	55	50	NO	NO	NO	NO	YES
3	3_0207		Residential	G	W	52	45	52	46	52	46	52	47	0	1.2	-0.3	0.9	55	50	NO	NO	NO	NO	NO
3	3_0208		Residential	G	W	52	45	52	46	52	46	52	47	-0.1	1.2	-0.3	0.9	55	50	NO	NO	NO	NO	NO
3	3_0209		Residential	G	W	51	44	51	46	52	45	52	47	0.5	1.9	0.2	1.6	55	50	NO	NO	NO	NO	NO
3	3_0210		Residential	G	W	52	45	52	47	52	46	52	47	0.3	1.7	0.1	1.4	55	50	NO	NO	NO	NO	NO
3	3_0211		Residential	G	W	52	45	52	47	52	46	53	47	0.4	1.7	0.2	1.4	55	50	NO	NO	NO	NO	NO
3	3_0212		Residential	G	S	50	43	51	46	50	44	52	47	1.4	3	1.2	2.7	55	50	NO	NO	NO	NO	NO
3	3_0213		Residential	G	SW	51	45	52	47	52	46	53	48	1	2.4	0.7	2	55	50	NO	NO	NO	NO	NO
3	3_0214		Residential	G	SW	51	45	52	47	52	46	53	48	1.1	2.6	0.8	2.2	55	50	NO	NO	NO	NO	NO
3	3_0215		Residential	G	NW	52	46	53	47	53	47	53	48	0.3	1.5	0.1	1.2	55	50	NO	NO	NO	NO	NO
3	3_0216		Residential	G	N	52	46	52	47	53	47	52	47	-0.1	1	-0.3	0.7	55	50	NO	NO	NO	NO	NO
3	3_0217		Residential	G	W	51	45	53	48	52	46	53	48	1.3	2.7	1	2.4	55	50	NO	NO	NO	NO	NO
3	3_0218		Residential	G	SW	52	46	54	49	53	46	54	49	1.5	3	1.2	2.6	55	50	NO	NO	NO	NO	NO
3	3_0219		Residential	G	SW	52	45	53	48	53	46	54	48	1.3	2.8	1	2.4	55	50	NO	NO	NO	NO	NO
3	3_0220		Residential	G	SW	52	45	53	48	53	46	53	48	1	2.5	0.7	2	55	50	NO	NO	NO	NO	NO
3	3_0220		Residential	1	SW	56	49	56	51	57	50	57	51	0.2	1.4	0	1	55	50	NO	NO	NO	NO	YES
3	3_0221		Residential	G	N	52	46	51	46	53	47	52	46	-0.9	0	-1.1	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0222		Residential	G	NW	54	48	54	49	55	48	55	49	0.1	0.9	-0.1	0.7	55	50	NO	NO	NO	NO	NO
3	3_0223		Residential	G	NW	55	49	55	49	56	50	56	50	-0.1	0.7	-0.3	0.4	55	50	NO	NO	NO	NO	YES
3	3_0224		Residential	G	SW	58	51	58	52	59	52	59	53	0.3	1.1	0.1	0.7	55	50	NO	NO	NO	NO	YES
3	3_0225		Residential	G	NW	54	48	53	47	55	48	53	48	-1.1	-0.5	-1.4	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0226		Residential	G	NW	54	48	53	48	55	49	54	48	-1.1	-0.4	-1.3	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0227		Residential	G	NW	54	48	53	48	55	49	54	48	-1.1	-0.4	-1.3	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0228		Residential	G	NW	54	48	53	47	55	48	53	47	-1.3	-0.8	-1.6	-1	55	50	NO	NO	NO	NO	NO
3	3_0228		Residential	1	SW	55	48	55	49	55	49	55	50	0.2	1.5	0	1.1	55	50	NO	NO	NO	NO	NO
3	3_0229		Residential	G	NW	55	48	54	48	55	49	54	49	-0.9	-0.2	-1.1	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0230		Residential	G	NW	55	49	55	49	56	49	55	49	-0.6	0.1	-0.8	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0231		Residential	G	NW	55	48	54	48	56	49	55	49	-0.8	0	-0.9	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0232		Residential	G	NW	56	49	55	49	57	50	56	50	-0.6	0	-0.8	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0233		Residential	G	NW	57	51	57	51	58	51	57	51	-0.5	0	-0.7	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0234		Residential	G	NW	58	52	58	52	59	52	58	52	-0.5	-0.1	-0.8	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0234		Residential	G	SE	55	48	55	49	56	49	56	50	0.2	1.1	-0.1	0.8	55	50	NO	NO	NO	NO	YES
3	3_0235		Residential	G	SW	62	55	62	55	63	56	63	56	-0.4	-0.1	-0.6	-0.3	55	50	NO	NO	NO	NO	YES
3	3_0236		Residential	G	N	54	48	52	47	54	48	53	47	-1.5	-0.7	-1.6	-1	55	50	NO	NO	NO	NO	NO
3	3_0237		Residential	G	N	53	47	52	47	54	48	52	47	-1.5	-0.8	-1.7	-1	55	50	NO	NO	NO	NO	NO
3	3_0238		Residential	G	N	53	47	51	46	53	47	51	46	-1.8	-1.1	-2	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0239		Residential	G	N	53	47	52	46	54	48	52	47	-1.7	-1	-1.9	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0240		Residential	G	W	51	45	51	45	52	46	51	46	-0.9	0.2	-1.1	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0241		Residential	G	W	51	44	50	45	51	45	51	46	-0.4	0.7	-0.6	0.5	55	50	NO	NO	NO	NO	NO
3	3_0242		Residential	G	W	51	45	51	45	52	46	51	46	-0.7	0.4	-0.9	0.1	55	50	NO	NO	NO	NO	NO
3	3_0243		Residential	G	W	51	45	51	46	52	46	51	46	-0.5	0.7	-0.8	0.3	55	50	NO	NO	NO	NO	NO
3	3_0244		Residential	G	N	52	46	50	45	53	47	51	45	-1.7	-1	-1.9	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0245		Residential	G	W	51	44	51	46	52	45	52	46	0.4	1.6	0.1	1.3	55	50	NO	NO	NO	NO	NO
3	3_0246		Residential	G	SW	51	45	52	47	52	46	52	47	0.5	1.8	0.2	1.5	55	50	NO	NO	NO	NO	NO
3	3_0247		Residential	G	SW	52	45	52	47	52	46	52	47	0.2	1.5	0	1.1	55	50	NO	NO	NO	NO	NO
3	3_0248		Residential	G	W	52	46	52	47	53	46	53	47	0	1.1	-0.3	0.9	55	50	NO	NO	NO	NO	NO
3	3_0249		Residential	G	SW	52	45	52	47	52	46	52	47	0.3	1.5	0	1.2	55	50	NO	NO	NO	NO	NO
3	3_0250		Residential	G	W	52	46	52	47	53	46	53	47	0	1.2	-0.3	0.8	55	50	NO	NO	NO	NO	NO
3	3_0251		Residential	G	W	53	46	52	47	53	47	53	47	-0.3	0.8	-0.5	0.5	55	50	NO	NO	NO	NO	NO
3	3_0252		Residential	G	W	52	46	52	47	53	46	53	47	0	1.2	-0.3	0.8	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0253		Residential	G	W	52	45	51	46	53	46	52	46	-0.5	0.5	-0.8	0.3	55	50	NO	NO	NO	NO	NO
3	3_0254		Residential	G	W	53	46	52	47	54	47	53	47	-0.9	0.2	-1.1	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0255		Residential	G	W	53	46	51	46	54	47	52	46	-1.6	-0.7	-1.9	-1	55	50	NO	NO	NO	NO	NO
3	3_0256		Residential	G	SW	53	46	52	47	53	47	53	47	-0.2	0.9	-0.5	0.5	55	50	NO	NO	NO	NO	NO
3	3_0257		Residential	G	NW	54	48	52	46	55	49	53	47	-2.2	-1.5	-2.5	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0258		Residential	G	SW	53	47	53	47	54	47	54	48	-0.1	0.9	-0.4	0.6	55	50	NO	NO	NO	NO	NO
3	3_0259		Residential	G	SW	53	46	53	48	54	47	54	48	0.1	1.1	-0.1	0.8	55	50	NO	NO	NO	NO	NO
3	3_0260		Residential	G	SW	54	47	54	48	54	48	54	48	0	0.9	-0.3	0.6	55	50	NO	NO	NO	NO	NO
3	3_0261		Residential	G	SW	53	46	53	47	54	47	54	48	0	1	-0.2	0.6	55	50	NO	NO	NO	NO	NO
3	3_0262		Residential	G	SW	52	46	53	47	53	46	53	47	0.2	1.3	0	1	55	50	NO	NO	NO	NO	NO
3	3_0263		Residential	G	SW	53	46	52	47	53	47	53	47	-0.5	0.7	-0.8	0.4	55	50	NO	NO	NO	NO	NO
3	3_0264		Residential	G	NE	54	48	52	46	55	49	52	46	-2.8	-2.4	-3.1	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0265		Residential	G	SW	53	46	52	46	53	47	52	47	-0.9	0.2	-1.2	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0266		Residential	G	SW	53	46	52	46	53	47	53	47	-0.5	0.6	-0.7	0.2	55	50	NO	NO	NO	NO	NO
3	3_0267		Residential	G	SW	53	47	53	47	54	47	53	47	-0.7	0.3	-0.9	0	55	50	NO	NO	NO	NO	NO
3	3_0268		Residential	G	SW	52	45	52	47	53	46	53	47	0.1	1.1	-0.1	0.8	55	50	NO	NO	NO	NO	NO
3	3_0269		Residential	G	SW	52	45	52	47	53	46	53	47	0.4	1.6	0.2	1.3	55	50	NO	NO	NO	NO	NO
3	3_0269		Residential	1	SW	55	48	55	49	56	49	55	50	-0.3	0.7	-0.6	0.3	55	50	NO	NO	NO	NO	NO
3	3_0270		Residential	G	SW	53	47	54	48	54	48	54	48	0.2	1.2	-0.1	0.7	55	50	NO	NO	NO	NO	NO
3	3_0271		Residential	G	SW	54	47	54	48	54	48	54	48	0.1	1	-0.1	0.7	55	50	NO	NO	NO	NO	NO
3	3_0272		Residential	G	SW	54	47	54	48	55	48	55	49	-0.1	0.8	-0.4	0.5	55	50	NO	NO	NO	NO	NO
3	3_0273		Residential	G	SW	54	47	54	48	55	48	55	49	-0.1	0.9	-0.2	0.5	55	50	NO	NO	NO	NO	NO
3	3_0274		Residential	G	SW	56	49	55	49	56	49	56	50	-0.2	0.6	-0.3	0.3	55	50	NO	NO	NO	NO	NO
3	3_0275		Residential	G	NE	59	54	54	49	59	54	54	50	-4.8	-4.9	-4.6	-4.7	55	50	NO	NO	NO	NO	NO
3	3_0276		Residential	G	E	57	53	53	49	58	53	54	49	-4.2	-4.3	-4.1	-4	55	50	NO	NO	NO	NO	NO
3	3_0277		Residential	G	E	57	53	53	49	58	53	54	49	-4.1	-4	-3.9	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0278		Residential	G	E	56	51	52	48	56	52	53	48	-3.5	-3.5	-3.4	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0279		Residential	G	E	57	52	53	48	57	52	53	49	-3.7	-3.6	-3.6	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0280		Residential	G	E	55	50	52	47	55	50	52	48	-2.7	-2.5	-2.8	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0281		Residential	G	E	55	50	52	48	56	51	53	48	-2.8	-2.6	-2.8	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0282		Residential	G	W	54	49	52	47	55	49	52	47	-2.5	-1.7	-2.5	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0283		Residential	G	E	55	50	52	48	55	50	53	48	-2.6	-2.1	-2.6	-2.2	55	50	NO	NO	NO	NO	NO
3	3_0284		Residential	G	E	55	49	52	48	55	50	53	48	-2.6	-1.7	-2.7	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0285		Residential	G	E	55	49	52	48	55	49	53	48	-2.4	-1.4	-2.6	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0286		Residential	G	E	55	50	52	47	55	50	52	48	-3	-2.9	-2.9	-2.8	55	50	NO	NO	NO	NO	NO
3	3_0287		Residential	G	E	55	51	52	47	56	51	52	48	-3.4	-3.4	-3.3	-3.3	55	50	NO	NO	NO	NO	NO
3	3_0288		Residential	G	E	56	51	52	48	56	52	53	48	-3.6	-3.6	-3.5	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0289		Residential	G	NE	57	53	53	48	58	53	53	49	-4.5	-4.6	-4.3	-4.4	55	50	NO	NO	NO	NO	NO
3	3_0290		Residential	G	W	53	48	51	47	54	48	52	47	-2	-1.1	-2	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0291		Residential	G	SW	53	48	51	47	54	48	52	47	-2	-1.2	-2.2	-1.3	55	50	NO	NO	NO	NO	NO
3	3_0292		Residential	G	SE	53	47	51	47	53	47	52	47	-1.3	-0.2	-1.3	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0293		Residential	G	SW	54	48	51	47	54	49	52	47	-2.2	-1.4	-2.3	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0294		Residential	G	S	53	47	51	47	53	47	52	47	-1.5	-0.4	-1.6	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0295		Residential	G	S	52	47	51	46	53	47	51	47	-1.4	-0.3	-1.5	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0296		Residential	G	S	53	47	51	47	53	48	52	47	-1.5	-0.3	-1.6	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0297		Residential	G	S	53	47	51	47	53	48	52	47	-1.5	-0.4	-1.6	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0298		Residential	G	S	53	47	51	47	54	48	52	47	-1.6	-0.4	-1.7	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0299		Residential	G	S	53	47	51	47	53	48	52	47	-1.4	-0.3	-1.6	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0300		Residential	G	S	52	46	51	47	53	47	52	47	-1	0.2	-1.1	0	55	50	NO	NO	NO	NO	NO
3	3_0301		Residential	G	S	52	46	51	47	53	47	52	47	-1.1	0.1	-1.3	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0302		Residential	G	SE	52	46	51	46	53	47	51	47	-1.2	0	-1.4	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0303		Residential	G	SW	54	48	52	47	54	49	52	47	-2.1	-1.3	-2.2	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0304		Residential	G	S	52	46	51	47	53	47	52	47	-0.8	0.2	-1	0.1	55	50	NO	NO	NO	NO	NO
3	3_0305		Residential	G	S	52	46	51	47	53	47	52	47	-0.9	0.2	-1	0.1	55	50	NO	NO	NO	NO	NO
3	3_0306		Residential	G	S	52	46	51	47	53	47	52	47	-0.9	0.3	-1.1	0.1	55	50	NO	NO	NO	NO	NO
3	3_0307		Residential	G	S	52	46	51	47	53	47	52	47	-0.9	0.3	-1.1	0.2	55	50	NO	NO	NO	NO	NO
3	3_0308		Residential	G	S	52	46	51	47	53	47	52	47	-0.8	0.3	-1	0.1	55	50	NO	NO	NO	NO	NO
3	3_0309		Residential	G	S	52	46	51	47	53	47	52	47	-0.9	0.3	-1	0.1	55	50	NO	NO	NO	NO	NO
3	3_0310		Residential	G	W	53	48	51	47	54	48	52	47	-2	-1.1	-2	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0311		Residential	G	S	51	45	51	46	52	46	51	46	-0.7	0.6	-0.8	0.4	55	50	NO	NO	NO	NO	NO
3	3_0312		Residential	G	W	53	47	51	46	53	48	51	47	-1.9	-1.2	-2.1	-1.3	55	50	NO	NO	NO	NO	NO
3	3_0313		Residential	G	S	49	43	50	45	50	44	50	46	0.6	2.2	0.4	1.9	55	50	NO	NO	NO	NO	NO
3	3_0313		Residential	1	SW	55	50	52	47	56	50	53	48	-2.8	-2.1	-2.8	-2.2	55	50	NO	NO	NO	NO	NO
3	3_0314		Residential	G	S	51	45	50	46	51	46	51	46	-0.4	0.6	-0.5	0.5	55	50	NO	NO	NO	NO	NO
3	3_0315		Residential	G	S	51	46	51	46	52	46	51	46	-0.6	0.4	-0.7	0.3	55	50	NO	NO	NO	NO	NO
3	3_0316		Residential	G	S	51	45	50	46	51	46	51	46	-0.4	0.5	-0.5	0.4	55	50	NO	NO	NO	NO	NO
3	3_0317		Residential	G	S	51	45	50	46	51	45	51	46	-0.4	0.6	-0.5	0.5	55	50	NO	NO	NO	NO	NO
3	3_0318		Residential	G	E	52	47	50	45	52	47	50	46	-1.9	-1.4	-2	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0319		Residential	G	S	52	46	50	46	53	47	51	46	-1.6	-0.7	-1.7	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0320		Residential	G	S	52	46	50	46	52	47	51	46	-1.2	-0.2	-1.3	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0321		Residential	G	S	51	46	50	46	52	46	51	46	-1	0	-1.1	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0322		Residential	G	S	50	44	50	45	51	45	50	46	-0.2	1	-0.4	0.8	55	50	NO	NO	NO	NO	NO
3	3_0322		Residential	1	W	55	49	52	47	55	50	52	47	-2.7	-2.1	-2.8	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0323		Residential	G	S	51	46	50	46	52	46	51	46	-1	0	-1.1	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0324		Residential	G	W	54	48	51	46	54	49	52	47	-2.5	-1.9	-2.5	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0325		Residential	G	W	54	48	51	46	54	49	52	47	-2.6	-2.2	-2.8	-2.2	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
3	3_0326	Decora Family Day Care	Childcare Sleeping	G	W	53	48	51	46	54	48	51	46	-2.6	-2.1	-2.6	-2.2	45	-	YES	YES	NO	-	YES
3	3_0327		Residential	G	S	49	43	49	44	49	43	49	45	0.2	1.4	0	1.3	55	50	NO	NO	NO	NO	NO
3	3_0327		Residential	1	W	56	50	52	47	56	51	53	48	-3.3	-2.9	-3.4	-3	55	50	NO	NO	NO	NO	NO
3	3_0328		Residential	G	N	53	48	50	45	54	49	50	45	-3.5	-3.5	-3.5	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0329		Residential	G	N	53	48	50	45	54	49	50	45	-3.4	-3.4	-3.4	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0330		Residential	G	NE	54	49	50	46	54	49	51	46	-3.2	-3.1	-3.3	-3	55	50	NO	NO	NO	NO	NO
3	3_0331		Residential	G	W	54	48	50	46	54	49	51	46	-3.1	-2.9	-3.1	-2.9	55	50	NO	NO	NO	NO	NO
3	3_0332		Residential	G	N	55	50	51	46	55	50	51	47	-3.8	-3.8	-3.8	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0333		Residential	G	W	54	49	51	46	55	50	52	47	-3.1	-2.8	-3.1	-2.7	55	50	NO	NO	NO	NO	NO
3	3_0334		Residential	G	N	56	51	52	47	56	51	52	47	-4	-4.1	-3.9	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0335		Residential	G	NW	55	50	51	46	55	50	52	47	-3.9	-4	-3.8	-3.8	55	50	NO	NO	NO	NO	NO
3	3_0336		Residential	G	SW	54	48	52	47	54	49	52	47	-2.3	-1.6	-2.5	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0337		Residential	G	S	52	46	51	46	53	47	51	47	-1.3	-0.2	-1.4	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0338		Residential	G	S	52	46	51	46	53	47	51	47	-1	-0.1	-1.2	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0339		Residential	G	S	52	46	50	46	52	47	51	46	-1.2	-0.2	-1.4	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0340		Residential	G	S	52	47	51	46	53	47	51	47	-1.2	-0.3	-1.4	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0341		Residential	G	S	52	46	51	46	53	47	51	47	-1.1	-0.2	-1.3	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0342		Residential	G	S	52	46	51	46	53	47	51	47	-1.1	-0.2	-1.3	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0343		Residential	G	S	52	46	51	46	52	47	51	46	-1.1	-0.2	-1.2	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0344		Residential	G	S	52	46	51	46	52	47	51	47	-0.9	-0.1	-1	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0345		Residential	G	S	52	46	51	46	53	47	51	47	-1.2	-0.3	-1.4	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0346		Residential	G	S	52	47	51	46	53	47	51	47	-1.2	-0.3	-1.4	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0347		Residential	G	SW	53	48	51	47	54	48	52	47	-1.9	-1.1	-2	-1.3	55	50	NO	NO	NO	NO	NO
3	3_0348		Residential	G	S	52	46	51	46	53	47	51	47	-1.3	-0.3	-1.4	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0349		Residential	G	W	53	48	51	46	54	48	51	46	-2.5	-1.7	-2.5	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0350		Residential	G	E	54	49	50	46	54	50	51	46	-3.4	-3.4	-3.3	-3.3	55	50	NO	NO	NO	NO	NO
3	3_0350		Residential	1	N	58	54	54	49	59	54	54	50	-4.7	-4.7	-4.5	-4.6	55	50	NO	NO	NO	NO	NO
3	3_0351		Residential	G	S	51	45	50	45	52	46	51	46	-0.9	0.3	-1.1	0.1	55	50	NO	NO	NO	NO	NO
3	3_0351		Residential	1	N	57	53	53	48	58	53	53	49	-4.5	-4.6	-4.4	-4.4	55	50	NO	NO	NO	NO	NO
3	3_0352		Residential	G	W	54	49	51	46	54	49	51	47	-2.9	-2.6	-2.9	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0353		Residential	G	S	53	47	51	46	53	48	51	47	-1.6	-0.9	-1.7	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0354		Residential	G	W	54	49	51	46	54	49	51	47	-2.9	-2.4	-3	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0355		Residential	G	S	52	47	51	46	53	47	51	47	-1.6	-0.8	-1.6	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0356		Residential	G	S	52	47	51	46	53	47	51	47	-1.6	-0.8	-1.8	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0357		Residential	G	S	52	47	51	46	53	47	51	46	-1.5	-0.7	-1.7	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0358		Residential	G	S	52	47	51	46	53	47	51	46	-1.5	-0.7	-1.6	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0359		Residential	G	S	52	47	51	46	53	47	51	46	-1.5	-0.6	-1.6	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0360		Residential	G	S	52	46	51	46	52	47	51	46	-1.2	-0.4	-1.4	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0361		Residential	G	S	52	46	51	46	52	47	51	46	-1.2	-0.4	-1.3	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0362		Residential	G	S	52	46	51	46	52	47	51	46	-1.2	-0.3	-1.3	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0363		Residential	G	SW	53	47	51	46	53	47	51	46	-1.8	-0.8	-2	-1	55	50	NO	NO	NO	NO	NO
3	3_0364		Residential	G	SW	54	48	51	46	54	49	52	47	-2.5	-1.9	-2.6	-2	55	50	NO	NO	NO	NO	NO
3	3_0365		Residential	G	W	54	48	50	46	54	49	51	46	-3.2	-2.8	-3.2	-2.8	55	50	NO	NO	NO	NO	NO
3	3_0365		Residential	1	W	56	51	52	48	56	51	53	48	-3.5	-3.2	-3.5	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0366		Residential	G	W	53	48	50	46	54	48	51	46	-2.7	-2.3	-2.8	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0367		Residential	G	S	51	46	50	45	51	46	50	46	-1	-0.4	-1.1	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0368		Residential	G	S	51	46	50	45	52	46	50	46	-1.2	-0.5	-1.3	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0369		Residential	G	S	51	46	50	45	52	46	50	46	-1.3	-0.6	-1.4	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0370		Residential	G	S	51	46	50	45	52	46	50	45	-1.4	-0.6	-1.6	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0371		Residential	G	S	50	45	50	45	51	45	50	46	-0.5	0.6	-0.7	0.4	55	50	NO	NO	NO	NO	NO
3	3_0371		Residential	1	W	56	51	52	48	56	51	53	48	-3.5	-3.2	-3.6	-3.2	55	50	NO	NO	NO	NO	NO
3	3_0372		Residential	G	S	52	46	50	46	52	47	51	46	-1.5	-0.8	-1.6	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0373		Residential	G	W	54	48	51	46	54	49	51	47	-2.7	-2.3	-2.8	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0374		Residential	G	NW	55	50	51	46	55	50	51	47	-3.9	-3.8	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0375		Residential	G	NE	55	50	51	46	55	51	52	47	-3.9	-3.9	-3.7	-3.8	55	50	NO	NO	NO	NO	NO
3	3_0376		Residential	G	NE	54	50	51	46	55	50	51	47	-3.8	-3.8	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0377		Residential	G	N	54	50	50	46	55	50	51	46	-3.8	-3.8	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0378		Residential	G	N	54	49	50	45	54	50	51	46	-3.8	-3.9	-3.8	-3.8	55	50	NO	NO	NO	NO	NO
3	3_0379		Residential	G	S	52	47	50	46	53	48	51	46	-2.1	-1.5	-2.1	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0380		Residential	G	SE	53	47	50	46	53	48	51	46	-2.4	-1.8	-2.4	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0381		Residential	G	W	54	49	51	46	55	49	51	46	-3.3	-2.9	-3.3	-2.9	55	50	NO	NO	NO	NO	NO
3	3_0382		Residential	G	S	52	47	50	45	53	47	50	46	-2	-1.4	-2.1	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0383		Residential	G	SE	52	47	50	45	52	47	50	46	-2	-1.4	-2	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0384		Residential	G	W	53	48	50	45	54	49	51	46	-3.1	-3	-3.1	-3	55	50	NO	NO	NO	NO	NO
3	3_0385		Residential	G	N	55	50	51	47	56	51	52	47	-3.8	-3.8	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0386		Residential	G	N	55	50	51	46	55	50	51	47	-3.8	-3.8	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0387		Residential	G	W	54	48	51	46	54	49	51	46	-2.9	-2.6	-3	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0388		Residential	G	W	53	48	50	45	54	48	51	46	-2.7	-2.2	-2.8	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0389		Residential	G	W	54	49	51	46	55	49	51	46	-3.3	-3	-3.3	-3	55	50	NO	NO	NO	NO	NO
3	3_0390		Residential	G	W	54	49	51	46	54	49	51	46	-3.1	-2.9	-3.2	-2.8	55	50	NO	NO	NO	NO	NO
3	3_0391		Residential	G	N	54	49	50	45	54	50	51	46	-4	-4	-3.8	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0392		Residential	G	N	54	49	50	45	54	50	51	46	-3.9	-4	-3.9	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0393		Residential	G	W	55	50	51	46	55	50	52	47	-3.5	-3.4	-3.4	-3.3	55	50	NO	NO	NO	NO	NO
3	3_0394		Residential	G	N	54	50	50	46	55	50	51	46	-4	-4	-3.9	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0395		Residential	G	W	54	49	51	46	55	50	51	46	-3.5	-3.1	-3.5	-3.2	55	50	NO	NO	NO	NO	NO
3	3_0396		Residential	G	N	55	51	51	46	56	51	52	47	-4.2	-4.4	-4.2	-4.2	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0397		Residential	G	W	55	50	51	46	55	50	52	47	-3.7	-3.5	-3.7	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0398		Residential	G	N	55	50	51	46	55	50	51	46	-4.1	-4.2	-4	-4.1	55	50	NO	NO	NO	NO	NO
3	3_0399		Residential	G	N	55	51	51	46	56	51	52	47	-4.2	-4.3	-4.1	-4.1	55	50	NO	NO	NO	NO	NO
3	3_0400		Residential	G	N	56	51	51	46	56	51	52	47	-4.3	-4.4	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
3	3_0401		Residential	G	N	56	51	52	47	56	52	52	47	-4.4	-4.4	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
3	3_0402		Residential	G	N	56	52	52	47	57	52	52	48	-4.4	-4.5	-4.3	-4.3	55	50	NO	NO	NO	NO	NO
3	3_0403		Residential	G	N	56	52	52	47	57	52	53	48	-4.4	-4.5	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
3	3_0404		Residential	G	N	57	52	52	48	57	53	53	48	-4.6	-4.6	-4.3	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0405		Residential	G	NE	56	52	52	47	57	52	53	48	-4.4	-4.5	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
3	3_0406		Residential	G	NE	56	52	52	47	57	52	52	48	-4.4	-4.5	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
3	3_0407		Residential	G	W	52	47	51	46	53	47	52	47	-1.2	-0.2	-1.3	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0408		Residential	G	S	50	44	51	47	51	45	52	47	0.8	2.4	0.6	2.1	55	50	NO	NO	NO	NO	NO
3	3_0408		Residential	1	S	54	48	53	48	55	49	53	48	-1.4	-0.1	-1.7	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0409		Residential	G	S	51	45	51	47	52	46	52	47	0.2	1.6	0.1	1.4	55	50	NO	NO	NO	NO	NO
3	3_0410		Residential	G	S	51	45	52	47	52	46	52	47	0.2	1.5	0	1.3	55	50	NO	NO	NO	NO	NO
3	3_0411		Residential	G	S	51	45	51	47	52	46	52	47	0.1	1.4	-0.1	1.2	55	50	NO	NO	NO	NO	NO
3	3_0412		Residential	G	S	51	45	51	46	51	45	51	47	0.4	1.6	0.2	1.4	55	50	NO	NO	NO	NO	NO
3	3_0413		Residential	G	SE	52	46	52	47	52	47	52	47	-0.3	0.9	-0.4	0.8	55	50	NO	NO	NO	NO	NO
3	3_0414		Residential	G	SE	51	46	51	46	52	46	51	47	-0.5	0.5	-0.7	0.4	55	50	NO	NO	NO	NO	NO
3	3_0415		Residential	G	S	52	46	51	47	53	47	52	47	-0.8	0.4	-0.9	0.2	55	50	NO	NO	NO	NO	NO
3	3_0416		Residential	G	S	52	46	51	47	53	47	52	47	-0.9	0.3	-1.1	0.1	55	50	NO	NO	NO	NO	NO
3	3_0417		Residential	G	S	52	46	51	47	53	47	52	47	-0.8	0.5	-1	0.3	55	50	NO	NO	NO	NO	NO
3	3_0418		Residential	G	S	52	46	51	47	53	47	52	47	-0.7	0.6	-0.9	0.4	55	50	NO	NO	NO	NO	NO
3	3_0419		Residential	G	S	52	46	51	47	52	47	52	47	-0.5	0.7	-0.7	0.5	55	50	NO	NO	NO	NO	NO
3	3_0420		Residential	G	S	52	46	51	47	52	47	52	47	-0.5	0.7	-0.7	0.5	55	50	NO	NO	NO	NO	NO
3	3_0421		Residential	G	S	52	46	51	47	52	46	52	47	-0.5	0.8	-0.7	0.6	55	50	NO	NO	NO	NO	NO
3	3_0422		Residential	G	S	52	46	51	47	52	46	52	47	-0.5	0.8	-0.8	0.6	55	50	NO	NO	NO	NO	NO
3	3_0423		Residential	G	S	51	45	51	47	52	46	52	47	-0.2	1.5	-0.4	1.2	55	50	NO	NO	NO	NO	NO
3	3_0423		Residential	1	S	54	48	52	48	55	49	53	48	-1.8	-0.5	-2.1	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0424		Residential	G	S	53	46	51	47	53	47	52	47	-1.1	0.5	-1.3	0.2	55	50	NO	NO	NO	NO	NO
3	3_0425		Residential	G	S	53	47	51	47	54	48	52	47	-1.8	-0.1	-2	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0426		Residential	G	S	54	48	51	46	55	48	52	47	-2.7	-1.1	-3.1	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0427		Residential	G	W	60	53	51	46	61	54	52	47	-8.3	-6.7	-8.6	-7.1	55	50	NO	NO	NO	NO	NO
3	3_0428		Residential	G	S	57	51	52	47	58	52	52	47	-5.8	-3.7	-6.2	-4.2	55	50	NO	NO	NO	NO	NO
3	3_0428		Residential	1	S	59	52	53	48	60	53	53	49	-6.2	-4.2	-6.5	-4.6	55	50	NO	NO	NO	NO	NO
3	3_0429		Residential	G	S	52	46	52	47	53	47	52	48	-0.6	0.8	-0.9	0.5	55	50	NO	NO	NO	NO	NO
3	3_0430		Residential	G	S	52	46	52	47	53	47	52	48	-0.3	1.2	-0.5	1	55	50	NO	NO	NO	NO	NO
3	3_0431		Residential	G	S	52	46	52	47	53	47	52	48	-0.2	1.2	-0.4	1	55	50	NO	NO	NO	NO	NO
3	3_0432		Residential	G	S	52	46	52	47	53	47	52	48	0	1.4	-0.2	1.2	55	50	NO	NO	NO	NO	NO
3	3_0433		Residential	G	S	51	45	51	47	52	46	52	47	0.2	1.6	0	1.4	55	50	NO	NO	NO	NO	NO
3	3_0434		Residential	G	S	51	45	51	47	52	46	52	47	0.4	1.6	0.2	1.4	55	50	NO	NO	NO	NO	NO
3	3_0435		Residential	G	S	51	45	51	47	52	46	52	47	0.2	1.5	0	1.3	55	50	NO	NO	NO	NO	NO
3	3_0436		Residential	G	S	51	45	51	46	51	46	51	46	-0.1	0.9	-0.3	0.8	55	50	NO	NO	NO	NO	NO
3	3_0437		Residential	G	W	53	47	51	46	54	48	51	46	-2.1	-1.3	-2.3	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0438		Residential	G	S	51	45	51	46	51	46	51	46	-0.3	0.7	-0.5	0.6	55	50	NO	NO	NO	NO	NO
3	3_0439		Residential	G	S	51	45	50	46	51	46	51	46	-0.5	0.7	-0.5	0.5	55	50	NO	NO	NO	NO	NO
3	3_0440		Residential	G	S	51	45	51	46	52	46	51	46	-0.5	0.6	-0.6	0.4	55	50	NO	NO	NO	NO	NO
3	3_0441		Residential	G	S	51	45	51	46	52	46	51	46	-0.6	0.5	-0.7	0.3	55	50	NO	NO	NO	NO	NO
3	3_0442		Residential	G	S	52	46	51	46	53	47	51	46	-1.4	-0.4	-1.6	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0443		Residential	G	S	52	46	51	46	52	46	51	46	-1.1	0	-1.3	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0444		Residential	G	S	51	46	50	46	52	46	51	46	-1.1	0	-1.2	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0445		Residential	G	S	50	44	50	46	51	45	51	46	-0.1	1.3	-0.3	1	55	50	NO	NO	NO	NO	NO
3	3_0445		Residential	1	W	55	50	52	47	56	50	53	48	-2.9	-2.5	-3	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0446		Residential	G	E	53	48	50	46	53	48	51	46	-2.4	-1.9	-2.4	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0447		Residential	G	E	53	48	51	46	54	49	51	47	-2.6	-2.2	-2.6	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0448		Residential	G	S	52	46	51	46	52	47	51	46	-1.2	0	-1.4	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0449		Residential	G	S	52	46	51	46	53	47	51	46	-1.2	-0.1	-1.4	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0450		Residential	G	E	54	48	51	46	54	49	51	47	-2.7	-2.2	-2.7	-2.2	55	50	NO	NO	NO	NO	NO
3	3_0451		Residential	G	S	54	48	51	46	54	48	51	46	-3	-1.6	-3.3	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0452		Residential	G	W	60	53	52	47	61	54	52	47	-8.2	-6.8	-8.5	-7.1	55	50	NO	NO	NO	NO	NO
3	3_0453		Residential	G	W	59	53	51	46	60	54	52	47	-8.1	-6.5	-8.3	-7	55	50	NO	NO	NO	NO	NO
3	3_0454		Residential	G	S	53	47	50	45	54	48	51	46	-2.9	-1.4	-3.2	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0455		Residential	G	S	51	45	50	46	52	46	51	46	-0.7	0.6	-0.9	0.3	55	50	NO	NO	NO	NO	NO
3	3_0456		Residential	G	S	51	45	50	46	52	46	51	46	-0.7	0.5	-0.8	0.3	55	50	NO	NO	NO	NO	NO
3	3_0457		Residential	G	S	51	45	50	46	51	45	51	46	-0.5	0.7	-0.7	0.5	55	50	NO	NO	NO	NO	NO
3	3_0458		Residential	G	E	52	46	50	46	52	47	51	46	-1.2	-0.4	-1.4	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0459		Residential	G	S	51	45	51	46	52	46	51	46	-0.6	0.6	-0.8	0.4	55	50	NO	NO	NO	NO	NO
3	3_0460		Residential	G	E	52	47	50	46	53	47	51	46	-1.8	-1.2	-1.9	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0461		Residential	G	S	51	45	51	46	52	46	51	47	-0.3	0.9	-0.5	0.8	55	50	NO	NO	NO	NO	NO
3	3_0462		Residential	G	W	53	48	51	46	54	48	51	46	-2.6	-2.1	-2.7	-2.2	55	50	NO	NO	NO	NO	NO
3	3_0463		Residential	G	W	54	49	51	46	55	49	52	47	-2.7	-2.4	-2.8	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0464		Residential	G	N	54	49	51	46	55	50	51	46	-3.5	-3.4	-3.5	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0465		Residential	G	N	55	49	51	46	55	50	51	46	-3.6	-3.5	-3.6	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0466		Residential	G	S	51	45	50	45	51	46	50	46	-1.1	-0.2	-1.2	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0467		Residential	G	E	53	48	50	45	53	48	50	46	-2.9	-2.7	-2.9	-2.6	55	50	NO	NO	NO	NO	NO
3	3_0468		Residential	G	N	53	49	50	45	54	49	51	46	-3.4	-3.3	-3.3	-3.2	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
3	3_0469		Residential	G	NW	55	50	51	46	55	50	51	46	-3.9	-3.9	-3.9	-3.8	55	50	NO	NO	NO	NO	NO
3	3_0470		Residential	G	NW	56	51	52	47	56	51	52	47	-4	-4	-3.9	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0471		Residential	G	W	54	48	51	46	54	49	51	46	-2.7	-2.4	-2.8	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0472		Residential	G	W	54	48	51	46	54	49	51	46	-2.9	-2.4	-3	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0473		Residential	G	E	53	48	50	45	53	48	51	46	-2.8	-2.6	-2.8	-2.6	55	50	NO	NO	NO	NO	NO
3	3_0474		Residential	G	N	54	49	51	46	55	50	51	46	-3.8	-3.6	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0475		Residential	G	N	55	49	51	46	55	50	52	46	-3.8	-3.5	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0476		Residential	G	N	55	49	51	46	55	50	51	46	-3.7	-3.6	-3.8	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0477		Residential	G	N	57	51	52	46	58	52	52	47	-5.1	-4.7	-5.3	-4.8	55	50	NO	NO	NO	NO	NO
3	3_0478		Residential	G	N	59	53	53	47	60	53	54	48	-5.6	-5.2	-5.9	-5.3	55	50	NO	NO	NO	NO	NO
3	3_0479		Residential	G	W	60	53	51	46	60	54	52	47	-8.1	-6.9	-8.4	-7.2	55	50	NO	NO	NO	NO	NO
3	3_0480		Residential	G	N	55	49	50	45	55	50	50	45	-4.8	-4.1	-4.9	-4.2	55	50	NO	NO	NO	NO	NO
3	3_0481		Residential	G	N	54	49	50	45	55	49	51	46	-4.2	-3.7	-4.2	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0482		Residential	G	N	54	48	50	45	54	49	51	45	-3.7	-3.3	-3.8	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0483		Residential	G	N	54	49	50	45	54	49	51	46	-3.6	-3.4	-3.6	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0484		Residential	G	N	54	49	50	45	54	49	51	46	-3.6	-3.4	-3.6	-3.3	55	50	NO	NO	NO	NO	NO
3	3_0485		Residential	G	E	53	48	50	46	53	48	51	46	-2.8	-2.5	-2.8	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0486		Residential	G	E	53	48	50	45	53	48	50	46	-2.9	-2.7	-2.8	-2.7	55	50	NO	NO	NO	NO	NO
3	3_0487		Residential	G	NE	54	49	51	46	54	49	51	46	-3.3	-3.2	-3.2	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0488		Residential	G	E	54	50	51	46	55	50	51	47	-3.5	-3.4	-3.4	-3.3	55	50	NO	NO	NO	NO	NO
3	3_0489		Residential	G	N	54	49	51	45	55	50	51	46	-3.7	-3.6	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0490		Residential	G	N	55	49	51	46	55	50	52	46	-3.7	-3.5	-3.8	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0491		Residential	G	W	55	49	52	46	56	50	52	47	-3.4	-2.9	-3.6	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0492		Residential	G	W	60	53	54	48	61	54	54	48	-6	-5.3	-6.2	-5.6	55	50	NO	NO	NO	NO	NO
3	3_0493		Residential	G	SW	53	48	51	46	54	48	51	46	-2.5	-2	-2.6	-2	55	50	NO	NO	NO	NO	NO
3	3_0494		Residential	G	NE	54	50	51	46	55	50	51	47	-3.5	-3.4	-3.5	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0495		Residential	G	NW	56	51	52	47	56	51	52	47	-4	-4	-4	-4	55	50	NO	NO	NO	NO	NO
3	3_0496		Residential	G	N	54	49	51	46	55	50	51	46	-3.7	-3.6	-3.6	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0497		Residential	G	SW	54	48	51	46	54	49	51	46	-2.9	-2.4	-3	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0498		Residential	G	W	53	46	52	47	54	47	53	47	-0.7	0.7	-0.9	0.3	55	50	NO	NO	NO	NO	NO
3	3_0499		Residential	G	W	52	46	52	47	53	47	52	47	-0.4	0.9	-0.8	0.6	55	50	NO	NO	NO	NO	NO
3	3_0500		Residential	G	W	53	46	52	47	54	47	53	48	-0.8	0.7	-1	0.4	55	50	NO	NO	NO	NO	NO
3	3_0501		Residential	G	W	53	47	53	48	54	48	53	48	-0.5	0.9	-0.9	0.6	55	50	NO	NO	NO	NO	NO
3	3_0502		Residential	G	S	54	47	52	47	54	48	52	48	-1.7	-0.1	-2	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0502		Residential	1	S	57	51	54	49	58	51	55	50	-2.8	-1.3	-3.1	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0503		Residential	G	S	56	49	53	49	57	50	54	49	-2.4	-0.8	-2.7	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0504		Residential	G	E	60	53	51	47	60	54	52	47	-8.2	-6.3	-8.5	-6.7	55	50	NO	NO	NO	NO	NO
3	3_0505		Residential	G	E	60	54	51	47	61	54	52	47	-8.9	-6.9	-9.2	-7.4	55	50	NO	NO	NO	NO	NO
3	3_0506		Residential	G	E	60	53	51	46	60	54	51	47	-8.6	-6.8	-9	-7.2	55	50	NO	NO	NO	NO	NO
3	3_0507		Residential	G	W	53	47	51	46	53	47	51	46	-1.7	-0.7	-2	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0508		Residential	G	E	60	54	51	46	61	55	51	47	-9.3	-7.5	-9.7	-8	55	50	NO	NO	NO	NO	NO
3	3_0509		Residential	G	E	60	54	51	46	61	54	51	47	-9.2	-7.4	-9.5	-7.8	55	50	NO	NO	NO	NO	NO
3	3_0510		Residential	G	E	59	53	51	46	60	54	51	46	-8.7	-6.9	-8.9	-7.3	55	50	NO	NO	NO	NO	NO
3	3_0511		Residential	G	E	60	53	51	46	60	54	51	46	-8.9	-7.2	-9.2	-7.5	55	50	NO	NO	NO	NO	NO
3	3_0512		Residential	G	E	60	53	51	46	60	54	51	46	-9	-7.3	-9.3	-7.6	55	50	NO	NO	NO	NO	NO
3	3_0513		Residential	G	E	58	52	50	45	59	53	50	46	-8.5	-6.9	-8.9	-7.2	55	50	NO	NO	NO	NO	NO
3	3_0514		Residential	G	E	60	54	51	46	61	54	51	46	-9.4	-7.8	-9.7	-8.1	55	50	NO	NO	NO	NO	NO
3	3_0515		Residential	G	E	59	52	51	46	59	53	51	46	-8	-6.6	-8.3	-6.9	55	50	NO	NO	NO	NO	NO
3	3_0516		Residential	G	E	59	53	50	46	60	53	51	46	-8.4	-7.1	-8.8	-7.4	55	50	NO	NO	NO	NO	NO
3	3_0516		Residential	1	W	55	49	52	47	56	49	53	47	-2.8	-2.2	-3	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0517		Residential	G	E	59	53	51	46	60	54	52	47	-8.2	-6.9	-8.5	-7.2	55	50	NO	NO	NO	NO	NO
3	3_0518		Residential	G	W	52	46	50	44	53	47	50	45	-2.5	-1.9	-2.8	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0518		Residential	1	N	58	52	53	48	59	53	54	48	-5	-4.7	-5.3	-4.9	55	50	NO	NO	NO	NO	NO
3	3_0519		Residential	G	E	60	53	53	48	60	54	53	48	-6.7	-5.9	-6.9	-6.2	55	50	NO	NO	NO	NO	NO
3	3_0520		Residential	G	E	59	53	53	48	59	53	54	48	-5.3	-4.7	-5.5	-5	55	50	NO	NO	NO	NO	NO
3	3_0520		Residential	1	N	59	53	55	50	60	54	56	50	-3.6	-3.4	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0521		Residential	G	E	59	53	55	50	60	54	56	50	-4	-3.7	-4.3	-4	55	50	NO	NO	NO	NO	NO
3	3_0522		Residential	G	E	60	54	57	51	61	55	58	52	-3.1	-2.9	-3.4	-3.2	55	50	NO	NO	NO	NO	NO
3	3_0523		Residential	G	N	54	48	51	45	55	49	51	46	-3.3	-3	-3.4	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0524		Residential	G	E	53	47	50	45	53	48	50	45	-3	-2.6	-3.1	-2.6	55	50	NO	NO	NO	NO	NO
3	3_0525		Residential	G	E	54	49	50	45	54	49	51	46	-3.4	-3.1	-3.5	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0526		Residential	G	W	52	46	50	45	53	47	50	45	-2.2	-1.6	-2.4	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0527		Residential	G	W	53	47	50	45	53	47	51	45	-2.4	-1.8	-2.6	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0528		Residential	G	E	53	47	49	45	53	48	50	45	-3.3	-2.7	-3.3	-2.8	55	50	NO	NO	NO	NO	NO
3	3_0528		Residential	1	N	56	50	52	47	56	51	53	47	-3.7	-3.5	-3.7	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0529		Residential	G	E	53	47	50	45	54	48	51	46	-2.8	-2.1	-2.9	-2.2	55	50	NO	NO	NO	NO	NO
3	3_0530		Residential	G	W	52	46	50	45	53	47	51	45	-2	-1.3	-2.2	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0531		Residential	G	E	53	47	50	45	53	48	51	46	-2.8	-2	-2.9	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0532		Residential	G	E	54	48	51	46	54	49	51	46	-3.1	-2.3	-3.2	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0533		Residential	G	E	54	48	51	46	55	49	51	47	-3.1	-2.2	-3.2	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0534		Residential	G	E	54	48	51	46	55	49	51	47	-2.9	-2.1	-3.1	-2.2	55	50	NO	NO	NO	NO	NO
3	3_0535		Residential	G	E	53	48	51	46	54	48	51	46	-2.6	-1.6	-2.7	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0536		Residential	G	E	54	48	51	46	54	49	52	47	-2.6	-1.7	-2.7	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0537		Residential	G	S	52	46	51	46	53	47	52	47	-0.9	0.5	-1.1	0.2	55	50	NO	NO	NO	NO	NO
3	3_0538		Residential	G	S	52	46	51	46	53	47	52	47	-0.8	0.6	-1	0.3	55	50	NO	NO	NO	NO	NO
3	3_0539		Residential	G	S	52	46	51	47	53	47	52	47	-0.7	0.7	-0.8	0.4	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
3	3_0540		Residential	G	E	53	48	51	46	54	48	52	47	-2.3	-1.5	-2.4	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0541		Residential	G	E	53	48	51	46	54	48	51	47	-2.4	-1.6	-2.6	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0542		Residential	G	W	52	46	51	45	53	47	51	46	-1.7	-0.7	-1.9	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0543		Residential	G	E	53	48	51	46	54	48	51	46	-2.7	-2	-2.8	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0544		Residential	G	E	53	48	50	45	53	48	51	46	-2.8	-2.2	-2.8	-2.2	55	50	NO	NO	NO	NO	NO
3	3_0544		Residential	1	N	55	50	52	47	56	50	53	47	-3.4	-3.1	-3.4	-3.2	55	50	NO	NO	NO	NO	NO
3	3_0545		Residential	G	E	54	48	51	46	54	49	51	46	-3.2	-2.6	-3.2	-2.6	55	50	NO	NO	NO	NO	NO
3	3_0546		Residential	G	W	53	47	50	45	53	47	51	46	-2.3	-1.6	-2.5	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0547		Residential	G	E	53	48	51	46	54	48	51	46	-2.8	-2.3	-2.9	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0548		Residential	G	E	53	48	50	45	54	49	51	46	-3.1	-2.8	-3.1	-2.8	55	50	NO	NO	NO	NO	NO
3	3_0549		Residential	G	E	53	48	50	45	54	48	51	46	-3	-2.6	-3	-2.6	55	50	NO	NO	NO	NO	NO
3	3_0550		Residential	G	W	52	46	50	45	53	47	51	45	-2.2	-1.6	-2.5	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0551		Residential	G	E	53	48	50	45	54	48	51	46	-3.1	-2.6	-3.1	-2.7	55	50	NO	NO	NO	NO	NO
3	3_0552		Residential	G	W	52	46	50	45	53	47	51	45	-2.3	-1.6	-2.4	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0553		Residential	G	E	53	48	50	45	53	48	51	46	-2.8	-2.4	-2.8	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0554		Residential	G	W	51	45	49	44	52	46	50	44	-1.9	-1.2	-2.1	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0555		Residential	G	E	53	48	50	45	53	48	51	46	-2.8	-2.4	-2.8	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0556		Residential	G	E	54	48	51	46	54	49	51	46	-2.9	-2.5	-2.9	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0557		Residential	G	E	54	48	51	46	54	49	51	46	-2.8	-2.5	-2.9	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0558		Residential	G	W	52	46	50	45	53	46	51	45	-1.9	-1.1	-2.1	-1.3	55	50	NO	NO	NO	NO	NO
3	3_0559		Residential	G	E	53	48	51	46	54	49	51	46	-2.8	-2.3	-2.8	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0560		Residential	G	E	54	48	51	46	54	49	51	46	-2.7	-2.3	-2.8	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0561		Residential	G	E	52	47	50	45	53	47	50	46	-2.2	-1.7	-2.2	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0562		Residential	G	E	53	48	51	46	54	49	52	47	-2.4	-1.9	-2.5	-2	55	50	NO	NO	NO	NO	NO
3	3_0563		Residential	G	E	54	48	51	46	54	49	52	47	-2.4	-1.7	-2.4	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0564		Residential	G	E	53	48	51	46	54	48	52	47	-2.2	-1.5	-2.2	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0565		Residential	G	E	53	48	51	46	54	48	52	47	-2.1	-1.4	-2.2	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0566		Residential	G	E	53	48	51	46	54	48	52	47	-2	-1.3	-2.2	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0567		Residential	G	E	53	48	51	47	54	48	52	47	-1.9	-1	-2.1	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0568		Residential	G	E	54	48	52	47	55	49	52	47	-2.2	-1.3	-2.3	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0569		Residential	G	S	51	45	51	46	52	46	52	47	-0.1	1.2	-0.3	1	55	50	NO	NO	NO	NO	NO
3	3_0570		Residential	G	W	52	46	51	46	53	46	51	46	-1	0	-1.2	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0571		Residential	G	E	53	48	51	46	54	48	52	47	-2	-1.3	-2.1	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0572		Residential	G	W	52	46	51	46	53	47	51	46	-1.5	-0.5	-1.7	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0573		Residential	G	E	53	48	51	46	54	48	52	47	-2.2	-1.6	-2.2	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0574		Residential	G	E	53	47	51	46	53	48	51	46	-2.1	-1.7	-2.2	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0575		Residential	G	E	53	48	51	46	54	48	51	46	-2.3	-1.7	-2.3	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0576		Residential	G	E	53	48	50	46	54	48	51	46	-2.8	-2.2	-2.8	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0576		Residential	1	W	54	48	52	46	55	48	52	47	-2	-1.1	-2.2	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0577		Residential	G	E	53	48	50	46	54	49	51	46	-2.9	-2.5	-2.9	-2.6	55	50	NO	NO	NO	NO	NO
3	3_0577		Residential	1	N	56	50	52	47	56	50	53	47	-3.2	-2.9	-3.3	-3	55	50	NO	NO	NO	NO	NO
3	3_0578		Residential	G	E	54	48	51	46	54	49	51	46	-2.8	-2.4	-2.8	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0579		Residential	G	W	52	46	51	45	53	47	51	46	-1.7	-1	-2	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0580		Residential	G	W	53	46	51	45	53	47	51	46	-1.9	-1.3	-2.1	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0581		Residential	G	E	54	48	51	46	54	49	51	46	-2.9	-2.5	-3	-2.6	55	50	NO	NO	NO	NO	NO
3	3_0582		Residential	G	E	54	48	51	46	54	49	51	46	-2.9	-2.6	-3	-2.6	55	50	NO	NO	NO	NO	NO
3	3_0583		Residential	G	E	53	48	50	45	53	48	51	46	-2.8	-2.4	-2.8	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0584		Residential	G	E	54	48	51	46	55	49	51	46	-3	-2.7	-3.1	-2.7	55	50	NO	NO	NO	NO	NO
3	3_0585		Residential	G	E	54	49	50	45	54	49	51	46	-3.4	-3.2	-3.5	-3.2	55	50	NO	NO	NO	NO	NO
3	3_0585		Residential	1	E	56	50	52	47	56	51	53	47	-3.5	-3.3	-3.6	-3.3	55	50	NO	NO	NO	NO	NO
3	3_0586		Residential	G	E	53	48	50	45	54	49	51	46	-3.3	-3	-3.3	-3	55	50	NO	NO	NO	NO	NO
3	3_0586		Residential	1	E	55	50	52	47	56	50	52	47	-3.5	-3.2	-3.5	-3.2	55	50	NO	NO	NO	NO	NO
3	3_0587		Residential	G	E	53	48	50	45	54	49	51	46	-3.1	-2.9	-3.2	-2.9	55	50	NO	NO	NO	NO	NO
3	3_0587		Residential	1	W	54	48	52	46	55	48	53	47	-2.1	-1.3	-2.4	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0588		Residential	G	E	53	48	50	45	54	48	51	46	-2.8	-2.4	-2.8	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0589		Residential	G	E	53	47	50	45	53	48	51	46	-2.6	-2.3	-2.7	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0590		Residential	G	E	53	48	51	45	54	48	51	46	-2.7	-2.3	-2.7	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0591		Residential	G	W	52	46	50	45	53	46	51	46	-1.5	-0.5	-1.7	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0592		Residential	G	E	53	47	51	46	53	48	51	46	-2.1	-1.6	-2.2	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0593		Residential	G	E	53	47	51	45	53	48	51	46	-2.1	-1.5	-2.3	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0594		Residential	G	E	52	47	50	45	53	47	51	46	-2.1	-1.4	-2.2	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0594		Residential	1	W	54	47	52	47	55	48	53	47	-1.7	-0.8	-2	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0595		Residential	G	E	53	47	51	46	53	47	51	46	-1.7	-1	-1.8	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0596		Residential	G	E	53	47	51	46	53	47	51	46	-1.6	-0.9	-1.8	-1	55	50	NO	NO	NO	NO	NO
3	3_0597		Residential	G	E	52	47	51	46	53	47	51	46	-1.5	-0.7	-1.7	-0.9	55	50	NO	NO	NO	NO	NO
3	3_0598		Residential	G	E	52	47	51	46	53	47	51	46	-1.4	-0.6	-1.6	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0599		Residential	G	E	53	47	51	46	53	47	52	47	-1.4	-0.6	-1.6	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0600		Residential	G	S	51	45	51	47	52	46	52	47	-0.1	1.3	-0.4	1.1	55	50	NO	NO	NO	NO	NO
3	3_0601		Residential	G	S	52	46	52	47	53	47	52	47	-0.4	1	-0.7	0.7	55	50	NO	NO	NO	NO	NO
3	3_0602		Residential	G	S	52	46	52	47	53	47	52	48	-0.1	1.3	-0.4	1	55	50	NO	NO	NO	NO	NO
3	3_0603		Residential	G	S	51	45	52	47	52	46	52	47	0.2	1.6	0	1.4	55	50	NO	NO	NO	NO	NO
3	3_0604		Residential	G	S	52	45	52	47	52	46	52	47	0.1	1.4	-0.2	1.2	55	50	NO	NO	NO	NO	NO
3	3_0605		Residential	G	S	52	46	52	47	53	47	52	48	-0.3	1.2	-0.4	0.9	55	50	NO	NO	NO	NO	NO
3	3_0606		Residential	G	S	52	46	52	47	53	46	52	47	-0.1	1.2	-0.4	1	55	50	NO	NO	NO	NO	NO
3	3_0607		Residential	G	S	52	45	52	47	52	46	52	47	0	1.4	-0.2	1.1	55	50	NO	NO	NO	NO	NO
3	3_0608		Residential	G	S	51	45	51	47	52	46	52	47	0.1	1.5	-0.2	1.2	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0609		Residential	G	S	51	45	51	47	52	46	52	47	0.3	1.6	0.1	1.3	55	50	NO	NO	NO	NO	NO
3	3_0610		Residential	G	S	51	45	51	46	52	45	52	47	0.3	1.6	0.1	1.3	55	50	NO	NO	NO	NO	NO
3	3_0611		Residential	G	S	50	43	51	46	50	44	51	47	1.2	2.8	1	2.5	55	50	NO	NO	NO	NO	NO
3	3_0611		Residential	1	S	53	47	53	48	54	48	53	48	-0.7	0.7	-0.9	0.5	55	50	NO	NO	NO	NO	NO
3	3_0612		Residential	G	S	49	42	50	45	49	43	50	46	1.4	3.1	1.1	2.8	55	50	NO	NO	NO	NO	NO
3	3_0612		Residential	1	S	52	46	52	47	53	47	52	48	-0.4	1	-0.6	0.8	55	50	NO	NO	NO	NO	NO
3	3_0613		Residential	G	S	49	43	50	46	50	43	51	46	1.4	3.1	1.1	2.7	55	50	NO	NO	NO	NO	NO
3	3_0613		Residential	1	S	53	46	52	47	53	47	53	48	-0.4	0.9	-0.7	0.7	55	50	NO	NO	NO	NO	NO
3	3_0614		Residential	G	S	49	42	51	46	50	43	51	46	1.6	3.2	1.3	2.9	55	50	NO	NO	NO	NO	NO
3	3_0614		Residential	1	W	54	47	52	47	54	48	53	47	-1.3	-0.1	-1.5	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0615		Residential	G	S	49	43	50	46	50	44	51	46	1	2.5	0.7	2.2	55	50	NO	NO	NO	NO	NO
3	3_0616		Residential	G	NE	52	46	51	46	53	47	51	46	-1.4	-0.6	-1.6	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0617		Residential	G	S	49	42	50	45	49	43	51	46	1.4	3	1.1	2.7	55	50	NO	NO	NO	NO	NO
3	3_0617		Residential	1	W	53	47	52	47	54	48	53	47	-1.2	-0.3	-1.6	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0618		Residential	G	W	52	46	51	46	53	47	51	46	-1.3	-0.4	-1.6	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0619		Residential	G	W	53	46	51	46	53	47	51	46	-1.6	-0.7	-1.8	-1	55	50	NO	NO	NO	NO	NO
3	3_0620		Residential	G	E	50	45	49	44	51	45	50	45	-1.1	-0.4	-1.2	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0621		Residential	G	W	52	46	51	45	53	47	51	46	-1.3	-0.4	-1.6	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0622		Residential	G	W	52	45	51	45	52	46	51	46	-1.1	-0.1	-1.3	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0623		Residential	G	NW	53	47	51	45	53	47	51	46	-1.9	-1.4	-2	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0624		Residential	G	W	52	46	51	45	53	47	51	46	-1.7	-0.9	-1.9	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0625		Residential	G	S	50	44	50	45	50	44	50	45	0.2	1.3	0	1.1	55	50	NO	NO	NO	NO	NO
3	3_0626		Residential	G	S	50	44	50	45	50	44	50	45	0.2	1.3	0	1.1	55	50	NO	NO	NO	NO	NO
3	3_0627		Residential	G	W	51	45	50	45	52	46	51	45	-1.3	-0.3	-1.5	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0628		Residential	G	S	50	44	50	45	50	44	50	45	0.2	1.3	0	1.1	55	50	NO	NO	NO	NO	NO
3	3_0629		Residential	G	S	50	44	50	45	50	44	50	45	0.1	1.2	-0.1	1	55	50	NO	NO	NO	NO	NO
3	3_0630		Residential	G	NW	51	45	50	45	52	46	50	45	-1.6	-0.8	-1.7	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0631		Residential	G	NW	52	46	50	45	52	46	51	46	-1.4	-0.5	-1.6	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0632		Residential	G	W	52	45	50	45	52	46	51	45	-1.5	-0.4	-1.7	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0633		Residential	G	W	51	45	50	45	52	46	51	45	-1.3	-0.2	-1.5	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0634		Residential	G	W	51	45	50	45	52	46	51	45	-1.1	-0.1	-1.3	-0.4	55	50	NO	NO	NO	NO	NO
3	3_0635		Residential	G	W	51	45	50	45	52	45	51	46	-0.7	0.5	-0.9	0.2	55	50	NO	NO	NO	NO	NO
3	3_0636		Residential	G	W	52	45	51	45	52	46	51	46	-1	0.1	-1.3	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0637		Residential	G	W	53	46	51	46	54	47	52	46	-1.4	-0.4	-1.7	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0638		Residential	G	S	49	43	50	45	50	44	51	46	1	2.5	0.7	2.2	55	50	NO	NO	NO	NO	NO
3	3_0638		Residential	1	W	53	47	52	47	54	48	53	47	-1.3	-0.1	-1.5	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0639		Residential	G	S	50	43	50	45	50	44	51	46	0.5	1.8	0.3	1.5	55	50	NO	NO	NO	NO	NO
3	3_0640		Residential	G	W	52	46	51	45	53	46	51	46	-1.3	-0.3	-1.6	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0641		Residential	G	W	52	45	50	45	53	46	51	45	-1.4	-0.3	-1.7	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0641		Residential	1	W	54	47	52	47	55	48	53	47	-1.7	-0.7	-2	-1	55	50	NO	NO	NO	NO	NO
3	3_0642		Residential	G	W	52	46	51	45	53	46	51	46	-1.2	-0.2	-1.5	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0643		Residential	G	W	52	46	51	45	53	46	51	46	-1.4	-0.5	-1.7	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0644		Residential	G	W	51	45	50	44	52	45	50	45	-1.1	-0.1	-1.4	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0645		Residential	G	W	52	45	50	45	52	46	51	45	-1.2	-0.3	-1.4	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0646		Residential	G	W	52	45	50	45	52	46	51	46	-1.1	-0.1	-1.4	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0647		Residential	G	W	53	46	51	46	53	47	52	46	-1.5	-0.5	-1.8	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0648		Residential	G	W	52	46	51	46	53	47	52	46	-1.3	-0.3	-1.5	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0649		Residential	G	W	52	46	51	45	53	46	51	46	-1.3	-0.3	-1.6	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0650		Residential	G	N	52	46	51	45	53	47	51	46	-1.7	-0.9	-1.9	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0651		Residential	G	W	52	46	51	46	53	46	51	46	-1.3	-0.2	-1.5	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0652		Residential	G	W	52	45	51	46	52	46	51	46	-0.8	0.2	-1.1	-0.1	55	50	NO	NO	NO	NO	NO
3	3_0653		Residential	G	W	51	45	51	46	52	46	51	46	-0.6	0.6	-0.8	0.3	55	50	NO	NO	NO	NO	NO
3	3_0654		Residential	G	W	52	45	51	46	52	46	51	46	-0.9	0.2	-1.1	0	55	50	NO	NO	NO	NO	NO
3	3_0655		Residential	G	W	52	45	51	46	52	46	51	46	-0.8	0.3	-1.1	0.1	55	50	NO	NO	NO	NO	NO
3	3_0656		Residential	G	W	51	45	51	46	52	46	51	46	-0.6	0.5	-0.9	0.2	55	50	NO	NO	NO	NO	NO
3	3_0657		Residential	G	W	52	46	51	46	53	46	52	46	-1	0.2	-1.2	-0.2	55	50	NO	NO	NO	NO	NO
3	3_0658		Residential	G	N	53	47	51	46	54	48	52	46	-2.1	-1.4	-2.3	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0659		Residential	G	W	51	45	51	45	52	46	51	46	-0.8	0.3	-1.1	0	55	50	NO	NO	NO	NO	NO
3	3_0660		Residential	G	SW	51	45	51	45	52	46	51	46	-0.8	0.3	-1.1	0	55	50	NO	NO	NO	NO	NO
3	3_0661		Residential	G	SW	52	45	51	45	52	46	51	46	-0.8	0.3	-1.1	0	55	50	NO	NO	NO	NO	NO
3	3_0662		Residential	G	SW	51	45	50	45	52	45	51	46	-0.8	0.4	-1	0.2	55	50	NO	NO	NO	NO	NO
3	3_0663		Residential	G	NW	53	47	51	45	54	48	51	46	-2.6	-2.2	-2.8	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0664		Residential	G	NW	53	47	50	45	54	48	51	45	-2.5	-1.9	-2.6	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0665		Residential	G	SW	52	46	50	45	53	46	51	45	-1.8	-0.8	-1.9	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0666		Residential	G	SW	52	45	50	45	53	46	51	45	-1.4	-0.4	-1.7	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0667		Residential	G	NE	53	47	50	44	54	48	51	45	-3.3	-2.9	-3.4	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0667		Residential	1	NW	56	50	53	47	57	51	54	48	-2.9	-2.4	-3.1	-2.7	55	50	NO	NO	NO	NO	NO
3	3_0668		Residential	G	SW	51	45	50	45	52	45	51	46	-0.8	0.4	-1	0.1	55	50	NO	NO	NO	NO	NO
3	3_0669		Residential	G	NE	52	47	49	44	53	47	50	44	-3	-2.7	-3.2	-2.8	55	50	NO	NO	NO	NO	NO
3	3_0669		Residential	1	NW	54	48	52	47	55	49	53	47	-2.3	-1.7	-2.6	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0670		Residential	G	NW	53	47	51	45	53	47	51	46	-2	-1.4	-2.2	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0671		Residential	G	NW	53	46	51	45	53	47	51	46	-1.7	-1	-1.9	-1.1	55	50	NO	NO	NO	NO	NO
3	3_0672		Residential	G	NE	53	47	50	45	53	47	51	45	-2.2	-1.7	-2.4	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0673		Residential	G	NE	53	47	50	45	53	47	51	45	-2.3	-1.7	-2.5	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0674		Residential	G	NE	53	47	50	45	53	47	51	46	-2.3	-1.7	-2.5	-1.8	55	50	NO	NO	NO	NO	NO
3	3_0675		Residential	G	W	51	45	51	45	52	46	51	46	-0.8	0.3	-1	0.1	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0676		Residential	G	W	51	45	51	46	52	45	51	46	-0.2	0.9	-0.6	0.7	55	50	NO	NO	NO	NO	NO
3	3_0677		Residential	G	SW	52	45	51	46	53	46	52	46	-0.5	0.7	-0.8	0.4	55	50	NO	NO	NO	NO	NO
3	3_0678		Residential	G	SW	51	45	51	46	52	46	52	46	-0.1	1.1	-0.5	0.7	55	50	NO	NO	NO	NO	NO
3	3_0679		Residential	G	W	52	45	51	46	52	46	52	46	-0.6	0.6	-0.8	0.2	55	50	NO	NO	NO	NO	NO
3	3_0680		Residential	G	W	52	45	51	46	53	46	52	46	-0.7	0.4	-1	0.1	55	50	NO	NO	NO	NO	NO
3	3_0681		Residential	G	NW	52	46	51	46	53	47	52	46	-1.3	-0.4	-1.5	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0682		Residential	G	NW	53	46	51	45	53	47	51	46	-1.9	-1.2	-2.1	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0683		Residential	G	NW	54	48	52	46	55	49	53	47	-2.3	-1.7	-2.5	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0684		Residential	G	NW	54	48	52	46	55	48	52	47	-2.3	-1.7	-2.5	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0685		Residential	G	NW	54	48	52	46	55	48	52	46	-2.4	-1.8	-2.7	-2	55	50	NO	NO	NO	NO	NO
3	3_0686		Residential	G	N	52	46	50	45	53	47	51	45	-2.2	-1.5	-2.3	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0687		Residential	G	W	51	45	50	45	52	46	51	45	-1.3	-0.3	-1.5	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0688		Residential	G	S	50	44	50	45	50	44	50	45	0.2	1.2	0	1	55	50	NO	NO	NO	NO	NO
3	3_0689		Residential	G	N	52	46	50	45	53	47	50	45	-2.1	-1.5	-2.3	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0690		Residential	G	N	52	46	50	45	53	47	50	45	-2.1	-1.4	-2.3	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0691		Residential	G	N	52	46	50	44	53	47	50	45	-2.2	-1.6	-2.3	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0692		Residential	G	SW	51	45	50	45	52	45	50	45	-1	0	-1.3	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0693		Residential	G	E	52	47	50	45	53	47	51	45	-2.4	-1.9	-2.6	-2	55	50	NO	NO	NO	NO	NO
3	3_0694		Residential	G	NW	52	46	50	45	53	46	51	45	-1.8	-1.1	-2	-1.3	55	50	NO	NO	NO	NO	NO
3	3_0695		Residential	G	N	52	46	50	45	53	47	51	45	-2.3	-1.6	-2.5	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0696		Residential	G	W	51	45	50	45	52	46	51	45	-1.3	-0.3	-1.6	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0697		Residential	G	W	51	45	50	45	52	46	51	45	-1.4	-0.4	-1.6	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0698		Residential	G	N	52	46	50	45	53	47	51	45	-2.2	-1.5	-2.3	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0699		Residential	G	W	52	45	50	45	52	46	51	45	-1.4	-0.5	-1.7	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0700		Residential	G	W	52	46	50	45	53	47	51	45	-1.8	-0.9	-2	-1.3	55	50	NO	NO	NO	NO	NO
3	3_0701		Residential	G	W	52	45	50	45	52	46	51	45	-1.4	-0.5	-1.7	-0.7	55	50	NO	NO	NO	NO	NO
3	3_0702		Residential	G	W	53	46	51	45	53	47	51	46	-1.6	-0.7	-1.9	-1	55	50	NO	NO	NO	NO	NO
3	3_0703		Residential	G	N	54	48	51	45	54	48	51	46	-2.8	-2.3	-3	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0704		Residential	G	N	53	47	51	45	54	48	51	46	-2.4	-1.9	-2.6	-2	55	50	NO	NO	NO	NO	NO
3	3_0705		Residential	G	N	53	47	50	45	53	47	51	45	-2.4	-1.9	-2.6	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0706		Residential	G	NW	52	46	51	45	53	47	51	46	-1.9	-1.2	-2.1	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0707		Residential	G	NW	53	46	51	45	53	47	51	46	-2	-1.2	-2.2	-1.4	55	50	NO	NO	NO	NO	NO
3	3_0708		Residential	G	NW	52	46	50	45	53	47	51	45	-2.1	-1.5	-2.3	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0709		Residential	G	W	52	46	50	44	53	47	51	45	-2.3	-1.6	-2.4	-1.9	55	50	NO	NO	NO	NO	NO
3	3_0710		Residential	G	W	51	45	50	44	52	45	50	45	-1.3	-0.3	-1.5	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0711		Residential	G	NW	56	50	53	48	57	50	54	48	-2.6	-2.1	-2.9	-2.3	55	50	NO	NO	NO	NO	NO
3	3_0712		Residential	G	SW	53	46	53	47	54	47	53	48	0	1.1	-0.3	0.6	55	50	NO	NO	NO	NO	NO
3	3_0713		Residential	G	SW	53	46	52	47	54	47	53	47	-0.7	0.4	-0.9	0.1	55	50	NO	NO	NO	NO	NO
3	3_0714		Residential	G	NW	56	50	53	48	57	51	54	48	-2.8	-2.3	-3	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0715		Residential	G	E	55	49	52	46	56	49	52	47	-3.1	-2.6	-3.3	-2.9	55	50	NO	NO	NO	NO	NO
3	3_0716		Residential	G	NW	56	50	53	47	57	51	54	48	-3	-2.5	-3.2	-2.7	55	50	NO	NO	NO	NO	NO
3	3_0717		Residential	G	NW	57	50	54	48	58	51	54	48	-3.1	-2.7	-3.3	-2.9	55	50	NO	NO	NO	NO	NO
3	3_0718		Residential	G	NE	56	50	53	47	57	51	53	47	-3.4	-3.1	-3.6	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0719		Residential	G	NE	55	49	52	46	56	50	53	47	-3.3	-3	-3.4	-3.2	55	50	NO	NO	NO	NO	NO
3	3_0720		Residential	G	NE	55	49	52	46	56	50	53	47	-3.2	-3	-3.4	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0721		Residential	G	SW	52	46	52	46	53	47	52	46	-0.9	0	-1.2	-0.3	55	50	NO	NO	NO	NO	NO
3	3_0722		Residential	G	NW	55	49	53	47	56	49	53	47	-2.5	-1.8	-2.7	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0723		Residential	G	NW	56	50	53	47	57	50	54	48	-3.1	-2.7	-3.3	-2.9	55	50	NO	NO	NO	NO	NO
3	3_0724		Residential	G	NW	53	47	51	46	54	47	52	46	-1.9	-1	-2	-1.2	55	50	NO	NO	NO	NO	NO
3	3_0725		Residential	G	NW	53	47	51	46	54	48	52	46	-2	-1.3	-2.2	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0726		Residential	G	NW	53	47	51	45	54	48	51	46	-2.4	-1.8	-2.6	-2	55	50	NO	NO	NO	NO	NO
3	3_0727		Residential	G	NW	56	50	53	47	57	51	54	48	-3.2	-2.8	-3.3	-3	55	50	NO	NO	NO	NO	NO
3	3_0728		Residential	G	NW	56	50	53	47	57	51	54	48	-3.2	-2.8	-3.4	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0729		Residential	G	NW	56	50	53	47	57	51	54	48	-3.2	-2.8	-3.4	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0730		Residential	G	NW	56	50	53	47	57	51	54	48	-3.2	-2.9	-3.4	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0731		Residential	G	NW	56	50	53	47	57	51	54	48	-3.3	-2.9	-3.5	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0732		Residential	G	NW	56	50	53	46	57	51	53	47	-3.6	-3.4	-3.8	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0732		Residential	1	NW	57	51	54	48	58	52	55	48	-3.4	-3	-3.6	-3.2	55	50	NO	NO	NO	NO	NO
3	3_0733		Residential	G	N	56	50	53	47	57	51	54	47	-3.4	-3.1	-3.5	-3.3	55	50	NO	NO	NO	NO	NO
3	3_0734		Residential	G	N	56	50	53	47	57	50	53	47	-3.3	-3	-3.5	-3.3	55	50	NO	NO	NO	NO	NO
3	3_0735		Residential	G	E	55	49	51	46	55	50	52	46	-3.6	-3.5	-3.6	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0735		Residential	1	N	57	51	54	48	58	52	54	48	-3.8	-3.7	-3.9	-3.8	55	50	NO	NO	NO	NO	NO
3	3_0736		Residential	G	W	52	46	50	45	53	47	51	45	-1.9	-1.1	-2.2	-1.5	55	50	NO	NO	NO	NO	NO
3	3_0737		Residential	G	W	53	47	51	45	54	47	51	46	-2.1	-1.4	-2.4	-1.6	55	50	NO	NO	NO	NO	NO
3	3_0738		Residential	G	W	54	47	51	46	54	48	52	46	-2.2	-1.5	-2.4	-1.7	55	50	NO	NO	NO	NO	NO
3	3_0739		Residential	G	W	54	47	51	45	54	48	52	46	-2.4	-1.8	-2.7	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0740		Residential	G	NW	54	48	51	45	54	48	51	46	-2.8	-2.4	-2.9	-2.5	55	50	NO	NO	NO	NO	NO
3	3_0741		Residential	G	E	53	48	50	45	54	48	51	45	-3	-2.7	-3.1	-2.8	55	50	NO	NO	NO	NO	NO
3	3_0742		Residential	G	W	52	46	50	44	53	46	50	44	-2.4	-1.8	-2.6	-2	55	50	NO	NO	NO	NO	NO
3	3_0743		Residential	G	E	55	50	52	46	56	50	52	47	-3.5	-3.4	-3.6	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0744		Residential	G	W	54	48	51	45	55	48	52	46	-2.8	-2.4	-3.1	-2.6	55	50	NO	NO	NO	NO	NO
3	3_0745		Residential	G	E	56	50	52	47	56	51	53	47	-3.7	-3.6	-3.7	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0746		Residential	G	N	58	52	54	48	58	52	54	48	-3.9	-4	-4	-4	55	50	NO	NO	NO	NO	NO
3	3_0747		Residential	G	N	58	52	54	48	58	52	54	49	-3.9	-3.8	-4	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0748		Residential	G	NW	57	51	53	47	58	52	54	48	-3.7	-3.6	-3.8	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0749		Residential	G	N	57	51	53	47	58	52	54	48	-3.7	-3.7	-3.8	-3.8	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0750		Residential	G	N	55	50	52	46	56	50	52	47	-3.7	-3.7	-3.8	-3.8	55	50	NO	NO	NO	NO	NO
3	3_0751		Residential	G	N	57	52	54	48	58	52	54	48	-3.9	-3.9	-4	-4	55	50	NO	NO	NO	NO	NO
3	3_0752		Residential	G	N	57	51	53	47	57	51	53	48	-3.9	-3.9	-3.9	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0753		Residential	G	N	57	52	54	48	58	52	54	48	-3.9	-4	-4	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0754		Residential	G	N	57	52	53	48	58	52	54	48	-4	-4	-4	-4	55	50	NO	NO	NO	NO	NO
3	3_0755		Residential	G	N	56	51	52	47	57	51	53	47	-4	-4	-4.1	-4	55	50	NO	NO	NO	NO	NO
3	3_0756		Residential	G	N	58	52	54	48	58	52	54	48	-3.9	-3.9	-3.9	-4	55	50	NO	NO	NO	NO	NO
3	3_0757		Residential	G	N	57	52	53	48	58	52	54	48	-3.9	-4	-4	-4.1	55	50	NO	NO	NO	NO	NO
3	3_0758		Residential	G	N	58	52	54	48	58	52	54	48	-3.9	-4	-4	-4	55	50	NO	NO	NO	NO	NO
3	3_0759		Residential	G	N	58	52	54	48	58	53	54	49	-3.8	-4	-4	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0760		Residential	G	N	58	52	54	48	58	53	55	49	-3.8	-3.9	-3.9	-4	55	50	NO	NO	NO	NO	NO
3	3_0761		Residential	G	NE	59	53	55	49	59	54	56	50	-3.5	-3.6	-3.6	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0762		Residential	G	E	60	54	57	51	61	55	57	52	-3	-2.9	-3.2	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0763		Residential	G	E	53	48	50	45	54	48	51	46	-3	-2.7	-3	-2.7	55	50	NO	NO	NO	NO	NO
3	3_0764		Residential	G	N	55	49	51	46	55	50	52	46	-3.7	-3.6	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0765		Residential	G	N	55	49	51	46	55	50	52	46	-3.7	-3.6	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0766		Residential	G	N	54	49	50	45	55	49	51	45	-4.1	-4.1	-4.1	-4.2	55	50	NO	NO	NO	NO	NO
3	3_0766		Residential	1	N	57	52	53	48	58	52	54	48	-3.9	-3.9	-3.9	-3.8	55	50	NO	NO	NO	NO	NO
3	3_0767		Residential	G	N	55	49	51	45	55	50	51	46	-4.1	-4.1	-4.1	-4.1	55	50	NO	NO	NO	NO	NO
3	3_0767		Residential	1	N	57	52	54	48	58	52	54	48	-3.8	-3.8	-3.8	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0768		Residential	G	N	55	50	52	46	56	50	52	47	-3.7	-3.7	-3.8	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0769		Residential	G	N	55	50	52	46	56	50	52	47	-3.6	-3.6	-3.6	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0770		Residential	G	N	56	51	53	47	57	51	53	48	-3.6	-3.6	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0771		Residential	G	W	61	54	57	51	61	55	57	51	-3.7	-3.3	-4	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0772		Residential	G	N	57	51	53	48	57	52	54	48	-3.4	-3.4	-3.6	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0773		Residential	G	N	56	51	52	47	57	51	53	48	-3.7	-3.8	-3.8	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0774		Residential	G	N	56	51	52	47	57	51	53	48	-3.9	-3.9	-3.9	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0775		Residential	G	W	60	54	57	51	61	55	58	52	-3.2	-3	-3.5	-3.3	55	50	NO	NO	NO	NO	NO
3	3_0776		Residential	G	N	59	53	55	49	59	54	55	50	-3.8	-3.9	-3.9	-4	55	50	NO	NO	NO	NO	NO
3	3_0777		Residential	G	N	58	53	54	49	59	53	55	49	-4	-4.1	-4	-4.1	55	50	NO	NO	NO	NO	NO
3	3_0778		Residential	G	N	58	53	54	48	59	53	54	49	-4	-4.2	-4.1	-4.1	55	50	NO	NO	NO	NO	NO
3	3_0779		Residential	G	NE	56	51	52	47	56	51	52	47	-3.9	-3.8	-3.8	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0780		Residential	G	NE	56	51	52	47	56	51	52	47	-4	-3.9	-3.8	-3.8	55	50	NO	NO	NO	NO	NO
3	3_0781		Residential	G	NE	56	51	52	47	56	51	52	47	-4	-4.1	-4	-4	55	50	NO	NO	NO	NO	NO
3	3_0782		Residential	G	N	58	52	54	48	58	53	54	49	-4.2	-4.2	-4.1	-4.2	55	50	NO	NO	NO	NO	NO
3	3_0783		Residential	G	NW	56	50	52	46	56	51	52	47	-3.9	-3.9	-3.9	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0784		Residential	G	SW	54	49	51	46	55	49	52	47	-2.9	-2.5	-3	-2.6	55	50	NO	NO	NO	NO	NO
3	3_0785		Residential	G	NE	55	51	51	46	56	51	52	47	-4.1	-4.2	-4	-4	55	50	NO	NO	NO	NO	NO
3	3_0786		Residential	G	NE	55	50	51	46	55	50	51	47	-4	-4	-3.8	-3.8	55	50	NO	NO	NO	NO	NO
3	3_0787		Residential	G	NE	55	50	51	46	55	51	51	47	-4	-4	-3.9	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0788		Residential	G	NE	55	51	51	47	56	51	52	47	-4	-4	-3.9	-3.8	55	50	NO	NO	NO	NO	NO
3	3_0789		Residential	G	SW	55	49	52	46	55	49	52	47	-3	-2.6	-3.1	-2.7	55	50	NO	NO	NO	NO	NO
3	3_0790		Residential	G	NE	57	52	52	47	57	52	53	48	-4.4	-4.4	-4.1	-4.2	55	50	NO	NO	NO	NO	NO
3	3_0791		Residential	G	NW	58	53	54	49	59	53	55	49	-4.3	-4.4	-4.2	-4.2	55	50	NO	NO	NO	NO	NO
3	3_0792		Residential	G	NW	59	54	54	49	59	54	55	50	-4.4	-4.5	-4.4	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0793		Residential	G	NE	58	53	53	48	58	53	54	49	-4.5	-4.6	-4.4	-4.4	55	50	NO	NO	NO	NO	NO
3	3_0794		Residential	G	NE	57	53	53	48	58	53	53	49	-4.5	-4.5	-4.3	-4.4	55	50	NO	NO	NO	NO	NO
3	3_0795		Residential	G	NE	56	52	52	47	57	52	52	48	-4.4	-4.4	-4.2	-4.2	55	50	NO	NO	NO	NO	NO
3	3_0796		Residential	G	NW	56	51	52	47	56	51	52	47	-4	-4	-3.9	-4	55	50	NO	NO	NO	NO	NO
3	3_0797		Residential	G	NW	59	54	54	50	59	55	55	50	-4.5	-4.6	-4.4	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0798		Residential	G	SW	57	51	53	48	57	52	54	49	-3.5	-3.4	-3.6	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0799		Residential	G	SW	56	51	53	48	57	52	53	48	-3.6	-3.4	-3.5	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0800		Residential	G	SW	55	50	52	47	56	51	53	48	-3.2	-3	-3.2	-3	55	50	NO	NO	NO	NO	NO
3	3_0801		Residential	G	SW	55	50	52	47	56	51	53	48	-3.3	-3	-3.3	-3	55	50	NO	NO	NO	NO	NO
3	3_0802		Residential	G	SW	55	50	52	47	55	50	52	47	-3.1	-2.9	-3.1	-2.9	55	50	NO	NO	NO	NO	NO
3	3_0803		Residential	G	SW	55	49	51	47	55	50	52	47	-3.1	-2.8	-3.1	-2.8	55	50	NO	NO	NO	NO	NO
3	3_0804		Residential	G	SW	55	49	51	47	55	50	52	47	-3.1	-2.8	-3.1	-2.8	55	50	NO	NO	NO	NO	NO
3	3_0805		Residential	G	SW	55	50	52	47	55	50	52	47	-3.2	-2.9	-3.2	-2.9	55	50	NO	NO	NO	NO	NO
3	3_0806		Residential	G	NW	60	55	55	51	60	55	56	51	-4.5	-4.6	-4.3	-4.4	55	50	NO	NO	NO	NO	NO
3	3_0807		Residential	G	NE	57	52	52	47	57	53	52	48	-4.8	-4.9	-4.6	-4.7	55	50	NO	NO	NO	NO	NO
3	3_0808		Residential	G	SW	57	52	53	48	57	52	54	49	-3.6	-3.6	-3.6	-3.5	55	50	NO	NO	NO	NO	NO
3	3_0809		Residential	G	NE	56	52	51	47	57	52	52	47	-5	-5.1	-4.8	-4.9	55	50	NO	NO	NO	NO	NO
3	3_0809		Residential	1	NW	60	55	55	51	60	56	56	51	-4.6	-4.7	-4.4	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0810		Residential	G	NW	56	51	52	47	56	51	52	48	-3.9	-4	-3.8	-3.8	55	50	NO	NO	NO	NO	NO
3	3_0811		Residential	G	NE	55	50	50	46	55	50	51	46	-4.1	-4.3	-4	-4	55	50	NO	NO	NO	NO	NO
3	3_0812		Residential	G	E	55	50	51	46	55	50	51	47	-3.9	-3.8	-3.8	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0813		Residential	G	W	54	48	50	45	54	49	51	46	-3.3	-3.1	-3.2	-3.1	55	50	NO	NO	NO	NO	NO
3	3_0814		Residential	G	N	57	52	53	48	57	52	53	48	-4	-4	-3.9	-3.9	55	50	NO	NO	NO	NO	NO
3	3_0815		Residential	G	N	54	49	49	44	55	50	50	45	-4.7	-4.9	-4.6	-4.8	55	50	NO	NO	NO	NO	NO
3	3_0815		Residential	1	W	58	53	54	49	58	53	54	50	-3.8	-3.8	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0816		Residential	G	E	54	49	50	45	54	50	50	46	-3.8	-3.7	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0817		Residential	G	N	55	50	50	45	55	50	51	46	-4.2	-4.2	-4.1	-4.2	55	50	NO	NO	NO	NO	NO
3	3_0818		Residential	G	W	54	49	51	46	55	50	51	46	-3.6	-3.4	-3.6	-3.4	55	50	NO	NO	NO	NO	NO
3	3_0819		Residential	G	N	55	50	51	46	55	50	51	46	-4.2	-4.3	-4.1	-4.1	55	50	NO	NO	NO	NO	NO
3	3_0820		Residential	G	W	55	50	51	46	56	50	52	47	-3.8	-3.6	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0821		Residential	G	N	55	51	51	46	56	51	52	47	-4.3	-4.4	-4.2	-4.2	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
3	3_0822		Residential	G	E	55	50	51	46	55	50	51	47	-3.8	-3.8	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0823		Residential	G	W	55	50	52	47	56	51	52	47	-3.8	-3.8	-3.8	-3.6	55	50	NO	NO	NO	NO	NO
3	3_0824		Residential	G	N	56	52	52	47	57	52	52	48	-4.8	-4.9	-4.6	-4.6	55	50	NO	NO	NO	NO	NO
3	3_0825		Residential	G	N	56	52	51	47	57	52	52	47	-4.8	-4.8	-4.6	-4.7	55	50	NO	NO	NO	NO	NO
3	3_0826		Residential	G	N	56	52	52	47	57	52	52	48	-4.7	-4.9	-4.6	-4.7	55	50	NO	NO	NO	NO	NO
3	3_0827		Residential	G	N	56	52	52	47	57	52	52	48	-4.7	-4.8	-4.5	-4.6	55	50	NO	NO	NO	NO	NO
3	3_0828		Residential	G	N	57	53	52	48	58	53	53	48	-4.8	-5	-4.6	-4.8	55	50	NO	NO	NO	NO	NO
3	3_0829		Residential	G	N	58	54	53	49	58	54	54	49	-5	-5	-4.7	-4.9	55	50	NO	NO	NO	NO	NO
3	3_0830		Residential	G	NE	58	54	53	49	59	54	54	49	-4.9	-5	-4.8	-4.9	55	50	NO	NO	NO	NO	NO
3	3_0831		Residential	G	N	59	54	54	49	59	55	54	50	-5	-5.1	-4.8	-4.9	55	50	NO	NO	NO	NO	NO
3	3_0832		Residential	G	NE	58	54	53	49	58	54	54	49	-4.9	-5	-4.7	-4.9	55	50	NO	NO	NO	NO	NO
3	3_0833		Residential	G	NE	58	54	53	49	59	54	54	49	-5	-5	-4.7	-4.8	55	50	NO	NO	NO	NO	NO
3	3_0834		Residential	G	NE	59	55	54	49	59	55	54	50	-5.2	-5.3	-4.9	-5	55	50	NO	NO	NO	NO	NO
3	3_0835		Residential	G	NE	60	56	55	50	60	56	55	51	-5.2	-5.3	-5	-5.1	55	50	NO	NO	NO	NO	NO
3	3_0836		Residential	G	N	62	58	57	52	63	58	57	53	-5.5	-5.7	-5.3	-5.4	55	50	NO	NO	NO	NO	NO
3	3_0837		Residential	G	N	62	58	57	52	63	58	57	53	-5.5	-5.7	-5.2	-5.4	55	50	NO	NO	NO	NO	NO
3	3_0838		Residential	G	NE	62	58	57	52	63	58	57	53	-5.5	-5.6	-5.3	-5.4	55	50	NO	NO	NO	NO	NO
3	3_0839		Residential	G	N	62	57	56	52	62	58	57	52	-5.6	-5.6	-5.3	-5.4	55	50	NO	NO	NO	NO	NO
3	3_0840		Residential	G	NE	60	56	54	50	60	56	55	50	-5.5	-5.6	-5.2	-5.4	55	50	NO	NO	NO	NO	NO
3	3_0841		Residential	G	N	60	56	55	50	61	56	55	51	-5.4	-5.6	-5.2	-5.3	55	50	NO	NO	NO	NO	NO
3	3_0842		Residential	G	N	59	54	54	49	59	55	54	50	-5.1	-5.2	-4.9	-5	55	50	NO	NO	NO	NO	NO
3	3_0843		Residential	G	N	58	54	53	49	58	54	54	49	-5	-5.1	-4.8	-4.9	55	50	NO	NO	NO	NO	NO
3	3_0844		Residential	G	N	57	53	52	48	58	53	53	48	-4.7	-4.8	-4.6	-4.7	55	50	NO	NO	NO	NO	NO
3	3_0845		Residential	G	N	57	53	52	48	58	53	53	48	-4.8	-4.9	-4.6	-4.8	55	50	NO	NO	NO	NO	NO
3	3_0846		Residential	G	N	57	53	52	48	58	53	53	48	-4.8	-4.9	-4.6	-4.7	55	50	NO	NO	NO	NO	NO
3	3_0847		Residential	G	N	57	52	52	47	57	52	53	48	-4.6	-4.7	-4.5	-4.6	55	50	NO	NO	NO	NO	NO
3	3_0848		Residential	G	N	56	52	52	47	57	52	52	47	-4.6	-4.6	-4.4	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0849		Residential	G	N	56	52	52	47	57	52	52	47	-4.6	-4.7	-4.4	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0850		Residential	G	N	56	51	52	47	57	52	52	47	-4.5	-4.7	-4.5	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0851		Residential	G	N	56	51	51	47	56	52	52	47	-4.5	-4.5	-4.3	-4.4	55	50	NO	NO	NO	NO	NO
3	3_0852		Residential	G	W	56	51	52	47	56	52	52	47	-4.2	-4.3	-4.2	-4.2	55	50	NO	NO	NO	NO	NO
3	3_0853		Residential	G	N	56	51	51	47	56	52	52	47	-4.5	-4.6	-4.3	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0854		Residential	G	N	55	51	51	46	56	51	52	47	-4.4	-4.5	-4.2	-4.4	55	50	NO	NO	NO	NO	NO
3	3_0855		Residential	G	W	56	52	52	48	57	52	53	48	-3.9	-3.8	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
3	3_0856		Residential	G	N	58	54	53	49	58	54	54	49	-4.9	-5	-4.7	-4.9	55	50	NO	NO	NO	NO	NO
3	3_0857		Residential	G	N	58	54	53	49	59	54	54	49	-5.1	-5.2	-4.9	-4.9	55	50	NO	NO	NO	NO	NO
3	3_0858		Residential	G	W	58	53	53	48	58	53	54	49	-4.5	-4.6	-4.5	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0859		Residential	G	W	58	54	54	49	59	54	54	49	-4.7	-4.7	-4.6	-4.6	55	50	NO	NO	NO	NO	NO
3	3_0860		Residential	G	W	57	52	53	48	58	53	53	48	-4.4	-4.5	-4.3	-4.4	55	50	NO	NO	NO	NO	NO
3	3_0861		Residential	G	W	58	53	53	48	58	53	54	49	-4.5	-4.6	-4.5	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0862		Residential	G	W	57	53	53	48	58	53	54	49	-4.5	-4.5	-4.3	-4.5	55	50	NO	NO	NO	NO	NO
3	3_0863		Residential	G	N	57	53	52	48	58	53	53	48	-4.8	-4.9	-4.7	-4.8	55	50	NO	NO	NO	NO	NO
3	3_0864		Residential	G	N	57	53	53	48	58	53	53	48	-4.8	-5	-4.6	-4.8	55	50	NO	NO	NO	NO	NO
3	3_0865		Residential	G	N	57	53	53	48	58	53	53	49	-4.9	-5.1	-4.7	-4.8	55	50	NO	NO	NO	NO	NO
3	3_0866		Residential	G	NW	59	54	54	50	59	55	55	50	-4.4	-4.5	-4.3	-4.3	55	50	NO	NO	NO	NO	NO
3	3_0867		Residential	G	N	59	55	54	50	60	55	55	50	-5	-5	-4.7	-4.9	55	50	NO	NO	NO	NO	NO
3	3_0868		Residential	G	E	52	46	50	44	53	47	50	45	-2.5	-1.9	-2.7	-2.1	55	50	NO	NO	NO	NO	NO
3	3_0869		Residential	G	W	51	45	50	45	52	46	50	45	-1.4	-0.6	-1.7	-0.8	55	50	NO	NO	NO	NO	NO
3	3_0870		Residential	G	E	53	47	50	45	53	47	51	45	-2.8	-2.2	-2.8	-2.4	55	50	NO	NO	NO	NO	NO
3	3_0871		Residential	G	N	59	53	55	49	59	53	55	49	-3.9	-3.9	-4	-4	55	50	NO	NO	NO	NO	NO
3	3_0872		Residential	G	S	50	44	50	45	51	44	50	45	-0.2	0.8	-0.4	0.6	55	50	NO	NO	NO	NO	NO
3	3_0873		Residential	G	W	51	45	50	44	52	45	50	45	-1.3	-0.4	-1.5	-0.6	55	50	NO	NO	NO	NO	NO
3	3_0874		Residential	G	W	50	44	49	44	51	45	49	44	-1.3	-0.4	-1.5	-0.5	55	50	NO	NO	NO	NO	NO
3	3_0875		Residential	G	N	55	48	52	46	55	49	52	46	-3	-2.5	-3.1	-2.8	55	50	NO	NO	NO	NO	NO
4	4_0001		Residential	G	E	66	60	66	59	67	60	66	60	-0.1	-0.1	-0.4	-0.4	55	50	YES	YES	NO	NO	YES
4	4_0002		Residential	G	W	65	58	65	58	66	59	65	59	0.1	0.2	-0.3	-0.1	55	50	YES	YES	NO	NO	YES
5	5_0001		Residential	G	W	72	67	72	67	73	68	72	68	-0.4	-0.2	-0.5	-0.3	60	55	NO	NO	NO	NO	NO
5	5_0002		Residential	G	W	71	66	70	66	71	66	71	66	-0.4	-0.2	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
5	5_0003		Residential	G	N	72	66	69	62	73	66	69	62	-3.8	-3.8	-4.1	-4.1	60	55	NO	NO	NO	NO	NO
5	5_0004		Residential	G	N	77	70	73	66	78	71	74	66	-4	-4.1	-4.3	-4.5	59	54	NO	NO	NO	NO	NO
5	5_0004		Residential	1	N	78	71	74	67	79	72	75	67	-3.9	-4.1	-4.2	-4.3	59	54	NO	NO	NO	NO	NO
5	5_0005		Residential	G	N	73	66	69	62	74	67	69	62	-3.9	-3.9	-4.3	-4.3	57	52	NO	NO	NO	NO	NO
5	5_0006		Residential	G	N	74	67	70	63	75	68	71	64	-3.9	-4	-4.3	-4.4	56	51	NO	NO	NO	NO	NO
5	5_0007		Residential	G	N	74	67	70	63	75	68	70	63	-4	-4	-4.2	-4.4	56	51	NO	NO	NO	NO	NO
5	5_0008		Residential	G	N	74	67	70	63	75	68	71	64	-4	-4	-4.3	-4.4	55	50	NO	NO	NO	NO	NO
5	5_0009		Residential	G	N	72	65	68	61	73	66	69	62	-4	-4	-4.2	-4.4	55	50	NO	NO	NO	NO	NO
5	5_0010		Residential	G	N	75	68	71	64	76	69	72	65	-4	-4.1	-4.3	-4.5	55	50	NO	NO	NO	NO	NO
5	5_0011		Residential	G	N	75	68	71	64	76	69	72	65	-3.9	-3.9	-4.3	-4.3	55	50	NO	NO	NO	NO	NO
5	5_0012		Residential	G	N	74	67	70	63	75	68	70	63	-3.9	-3.8	-4.2	-4.2	55	50	NO	NO	NO	NO	NO
5	5_0013		Residential	G	N	74	67	71	64	75	68	71	64	-3.9	-3.9	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
5	5_0013		Residential	G	E	65	58	62	55	66	59	62	56	-3.2	-2.7	-3.5	-3	55	50	NO	NO	NO	NO	YES
5	5_0014		Residential	G	N	75	68	71	64	76	69	72	65	-3.9	-3.9	-4.3	-4.3	55	50	NO	NO	NO	NO	NO
5	5_0014		Residential	G	E	64	57	61	55	65	58	62	56	-2.7	-1.8	-3	-2.2	55	50	NO	YES	NO	NO	YES
5	5_0015		Residential	G	E	60	53	58	52	61	54	58	53	-1.9	-0.8	-2.3	-1.2	55	50	NO	NO	NO	NO	NO
5	5_0015		Residential	G	S	55	48	55	50	56	49	56	50	0.3	1.8	-0.1	1.4	55	50	NO	NO	NO	NO	YES
5	5_0016		Residential	G	E	60	53	58	53	61	54	59	53	-1.4	-0.1	-1.8	-0.5	55	50	NO	NO	NO	NO	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
5	5_0017		Residential	G	N	73	66	70	63	74	67	70	63	-3.8	-3.7	-4.2	-4.1	55	50	NO	NO	NO	NO	NO
5	5_0018		Residential	G	N	72	65	69	62	73	66	69	62	-3.7	-3.6	-4.1	-4	55	50	NO	NO	NO	NO	NO
5	5_0018		Residential	G	E	68	61	65	58	69	62	65	59	-3.1	-2.4	-3.5	-2.9	55	50	NO	NO	NO	NO	YES
5	5_0019		Residential	G	N	75	68	71	64	76	69	72	65	-3.9	-3.8	-4.1	-4.1	55	50	NO	NO	NO	NO	NO
5	5_0019		Residential	G	E	66	59	63	57	67	60	64	58	-2.7	-1.6	-3	-2.1	55	50	NO	YES	NO	NO	YES
5	5_0020		Residential	G	N	72	65	68	62	73	66	69	62	-3.7	-3.4	-3.9	-3.8	55	50	NO	NO	NO	NO	NO
5	5_0020		Residential	G	S	62	55	60	54	63	56	60	55	-2.1	-0.6	-2.5	-1.1	55	50	YES	YES	NO	NO	YES
5	5_0021		Residential	G	E	62	55	61	55	63	56	61	56	-1.5	0.1	-1.9	-0.4	55	50	YES	YES	NO	NO	YES
5	5_0022		Residential	G	N	60	54	59	53	61	55	59	54	-1.6	-0.4	-2	-0.8	55	50	NO	NO	NO	NO	YES
5	5_0023		Residential	G	N	57	51	56	51	58	52	57	52	-1	0.3	-1.3	0	55	50	NO	NO	NO	NO	NO
5	5_0024		Residential	G	N	58	51	56	51	59	52	57	51	-1.6	-0.3	-2	-0.7	55	50	NO	NO	NO	NO	NO
5	5_0025		Residential	G	E	55	49	55	50	56	50	56	51	-0.2	1.3	-0.5	1	55	50	NO	NO	NO	NO	YES
5	5_0026		Residential	G	N	56	49	55	50	57	50	55	50	-0.9	0.3	-1.3	-0.1	55	50	NO	NO	NO	NO	NO
5	5_0027		Residential	G	N	58	51	56	51	58	52	57	52	-1.1	0.4	-1.5	-0.1	55	50	NO	NO	NO	NO	NO
5	5_0027		Residential	G	E	56	49	56	51	57	50	56	51	0	1.6	-0.3	1.1	55	50	NO	NO	NO	NO	YES
5	5_0028		Residential	G	N	58	51	57	52	59	52	57	52	-1.3	0.3	-1.6	-0.1	55	50	NO	NO	NO	NO	NO
5	5_0029		Residential	G	N	58	51	57	52	59	52	57	52	-1.1	0.5	-1.5	0.1	55	50	NO	NO	NO	NO	NO
5	5_0029		Residential	G	E	54	48	56	51	55	49	56	52	1.5	3.3	1.1	2.9	55	50	NO	NO	NO	NO	YES
5	5_0030		Residential	G	E	57	50	56	51	58	51	57	52	-0.5	1.2	-0.9	0.7	55	50	NO	NO	NO	NO	YES
5	5_0031		Residential	G	E	55	48	56	52	55	49	57	52	1.7	3.6	1.4	3.1	55	50	NO	NO	NO	NO	YES
5	5_0032		Residential	G	E	57	51	58	53	58	51	59	54	0.9	2.8	0.4	2.3	55	50	NO	NO	NO	NO	YES
5	5_0033		Residential	G	E	60	53	60	55	61	54	60	55	-0.5	1.2	-0.9	0.8	55	50	YES	YES	NO	NO	YES
5	5_0034		Residential	G	N	59	53	58	52	60	54	58	53	-1.8	-0.3	-2.1	-0.8	55	50	NO	NO	NO	NO	NO
5	5_0034		Residential	G	E	55	48	56	51	55	49	57	52	1.4	3.3	1.1	2.8	55	50	NO	NO	NO	NO	YES
5	5_0035		Residential	G	N	59	52	57	52	60	53	58	52	-1.8	-0.4	-2.2	-0.8	55	50	NO	NO	NO	NO	NO
5	5_0035		Residential	G	S	54	47	55	51	54	48	56	51	1.8	3.5	1.4	3.1	55	50	NO	NO	NO	NO	YES
5	5_0036		Residential	G	E	59	52	57	52	60	53	58	53	-1.4	0.2	-1.8	-0.3	55	50	NO	NO	NO	NO	NO
5	5_0036		Residential	G	S	54	47	55	51	54	48	56	51	1.6	3.3	1.3	2.9	55	50	NO	NO	NO	NO	YES
5	5_0037		Residential	G	N	59	52	57	52	60	53	58	52	-1.6	-0.3	-2	-0.7	55	50	NO	NO	NO	NO	NO
5	5_0037		Residential	G	S	54	47	55	50	54	48	56	51	1.5	3.1	1.1	2.7	55	50	NO	NO	NO	NO	YES
5	5_0038		Residential	G	N	59	52	57	52	60	53	58	52	-1.9	-0.6	-2.2	-1	55	50	NO	NO	NO	NO	NO
5	5_0039		Residential	G	E	59	52	57	52	60	53	58	52	-1.5	0.1	-1.9	-0.4	55	50	NO	NO	NO	NO	NO
5	5_0040		Residential	G	N	58	52	57	51	59	53	57	52	-1.5	-0.5	-1.9	-0.8	55	50	NO	NO	NO	NO	NO
5	5_0041		Residential	G	N	58	52	57	52	59	53	57	52	-1.5	-0.2	-1.7	-0.6	55	50	NO	NO	NO	NO	NO
5	5_0042		Residential	G	N	56	49	55	50	57	50	56	51	-0.4	1.1	-0.7	0.7	55	50	NO	NO	NO	NO	YES
5	5_0043		Residential	G	N	56	49	55	50	57	50	56	51	-0.6	0.9	-1	0.4	55	50	NO	NO	NO	NO	NO
5	5_0044		Residential	G	N	56	50	56	51	57	50	56	51	-0.4	1.2	-0.8	0.8	55	50	NO	NO	NO	NO	YES
5	5_0045		Residential	G	E	55	48	56	52	56	49	57	52	1.6	3.7	1.1	3.2	55	50	NO	NO	NO	NO	YES
5	5_0045		Residential	1	N	58	52	58	53	59	53	58	54	-0.1	1.5	-0.5	1.1	55	50	NO	NO	NO	NO	YES
5	5_0046		Residential	G	E	54	48	56	51	55	49	56	52	1.5	3.5	1	3	55	50	NO	NO	NO	NO	YES
5	5_0047		Residential	G	E	54	48	56	51	55	48	56	51	1.5	3.4	1	3	55	50	NO	NO	NO	NO	YES
5	5_0048		Residential	G	E	54	47	55	51	55	48	56	51	1.4	3.4	1.1	3	55	50	NO	NO	NO	NO	YES
5	5_0049		Residential	G	E	54	47	55	51	54	48	56	51	1.7	3.4	1.3	3	55	50	NO	NO	NO	NO	YES
5	5_0050		Residential	G	N	60	53	57	52	60	54	58	52	-2.2	-1.2	-2.5	-1.5	55	50	NO	NO	NO	NO	NO
5	5_0050		Residential	G	E	56	50	56	51	57	51	57	52	-0.2	1.3	-0.6	0.9	55	50	NO	NO	NO	NO	YES
5	5_0051		Residential	G	N	60	53	58	52	61	54	58	53	-2.2	-1.3	-2.5	-1.6	55	50	NO	NO	NO	NO	NO
5	5_0052		Residential	G	E	55	49	54	49	56	50	55	50	-1.1	0.1	-1.4	-0.2	55	50	NO	NO	NO	NO	NO
5	5_0053		Residential	G	N	60	54	58	52	61	55	59	53	-2.2	-1.4	-2.5	-1.7	55	50	NO	NO	NO	NO	NO
5	5_0054		Residential	G	S	54	48	54	49	54	48	54	49	0.1	1.1	-0.2	0.8	55	50	NO	NO	NO	NO	NO
5	5_0055		Residential	G	N	59	52	56	51	59	53	57	52	-2.1	-1.3	-2.4	-1.6	56	51	NO	NO	NO	NO	NO
5	5_0056		Residential	G	N	61	54	58	52	61	55	59	53	-2.7	-1.9	-2.8	-2.2	56	51	NO	NO	NO	NO	NO
5	5_0057		Residential	G	N	59	53	57	51	60	53	57	52	-2.2	-1.4	-2.5	-1.6	57	52	NO	NO	NO	NO	NO
5	5_0058		Residential	G	W	60	54	57	52	60	55	58	53	-2.2	-1.6	-2.4	-1.9	58	53	NO	NO	NO	NO	NO
5	5_0059		Residential	G	N	56	50	55	49	57	51	55	50	-1.8	-1	-2	-1.2	58	53	NO	NO	NO	NO	NO
5	5_0060		Residential	G	N	62	55	59	54	62	56	60	54	-2.3	-1.7	-2.6	-1.9	58	53	NO	NO	NO	NO	NO
5	5_0061		Residential	G	N	60	54	58	52	61	55	58	53	-2.4	-1.7	-2.5	-1.8	59	54	NO	NO	NO	NO	NO
5	5_0062		Residential	G	W	63	58	62	57	64	59	62	57	-1.5	-1.1	-1.6	-1.1	60	55	NO	NO	NO	NO	NO
5	5_0063		Residential	G	N	57	51	56	51	58	52	57	51	-1	0.3	-1.4	-0.1	55	50	NO	NO	NO	NO	NO
5	5_0064		Residential	G	N	56	50	55	50	57	51	56	51	-1	0.1	-1.3	-0.3	55	50	NO	NO	NO	NO	NO
5	5_0064		Residential	1	N	59	53	58	53	60	54	59	53	-1.2	-0.1	-1.6	-0.4	55	50	NO	NO	NO	NO	NO
5	5_0064		Residential	1	E	57	51	57	53	58	52	58	53	0.1	1.9	-0.2	1.5	55	50	NO	NO	NO	NO	YES
5	5_0065		Residential	G	N	57	51	56	51	58	51	56	51	-1.3	-0.1	-1.6	-0.4	55	50	NO	NO	NO	NO	NO
5	5_0066		Residential	G	E	56	49	55	50	57	50	55	50	-1.2	0.3	-1.5	-0.1	55	50	NO	NO	NO	NO	NO
5	5_0067		Residential	G	N	57	51	56	50	58	52	56	51	-1.4	-0.4	-1.7	-0.6	55	50	NO	NO	NO	NO	NO
5	5_0068		Residential	G	E	54	48	53	48	55	49	54	49	-0.9	0.3	-1.2	0	56	51	NO	NO	NO	NO	NO
5	5_0069		Residential	G	N	57	51	56	51	58	52	57	51	-1.4	-0.4	-1.6	-0.7	56	51	NO	NO	NO	NO	NO
5	5_0070		Residential	G	N	58	52	56	51	58	52	57	51	-1.6	-0.7	-1.8	-1	57	52	NO	NO	NO	NO	NO
5	5_0071		Residential	G	N	58	52	57	52	59	53	57	52	-1.3	-0.5	-1.5	-0.7	57	52	NO	NO	NO	NO	NO
5	5_0072		Residential	G	N	58	52	57	52	59	53	57	52	-1.2	-0.5	-1.5	-0.7	58	53	NO	NO	NO	NO	NO
5	5_0073		Residential	G	S	56	51	55	51	56	51	56	51	-0.4	0.1	-0.4	0	58	53	NO	NO	NO	NO	NO
5	5_0074		Residential	G	N	55	49	55	50	56	50	56	51	-0.3	1.2	-0.7	0.7	55	50	NO	NO	NO	NO	YES
5	5_0075		Residential	G	N	55	49	55	50	56	50	56	51	-0.2	1.2	-0.6	0.8	55	50	NO	NO	NO	NO	YES
5	5_0076		Residential	G	N	56	50	55	50	57	50	55	50	-0.9	0.4	-1.1	0	55	50	NO	NO	NO	NO	NO
5	5_0077		Residential	G	N	56	50	55	50	57	51	55	50	-1	0.1	-1.3	-0.2	55	50	NO	NO	NO	NO	NO
5	5_0078		Residential	G	N	56	50	55	50	57	50	55	50	-0.9	0.2	-1.2	0	55	50	NO	NO	NO	NO	NO
5	5_0079		Residential	G	N	55	49	54	49	56	50	55	50	-0.8	0.2	-1	-0.1	56	51	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
5	5_0080		Residential	G	N	56	50	55	50	56	50	55	50	-1	0	-1.2	-0.2	56	51	NO	NO	NO	NO	NO
5	5_0081		Residential	G	N	56	51	56	51	57	51	56	51	-0.9	-0.2	-1.2	-0.4	57	52	NO	NO	NO	NO	NO
5	5_0082		Residential	G	N	56	51	55	50	57	51	56	51	-1	-0.3	-1.2	-0.5	57	52	NO	NO	NO	NO	NO
5	5_0082		Residential	1	N	59	53	58	53	60	54	59	54	-0.8	0	-1	-0.2	57	52	NO	NO	NO	NO	NO
5	5_0082		Residential	1	E	56	50	57	52	57	51	57	53	0.5	1.8	0.2	1.5	57	52	NO	NO	NO	NO	NO
5	5_0083		Residential	G	W	57	52	57	52	58	53	57	53	-0.6	-0.2	-0.9	-0.4	57	52	NO	NO	NO	NO	NO
5	5_0084		Residential	G	W	56	51	55	51	57	52	56	51	-0.8	-0.4	-0.9	-0.6	57	52	NO	NO	NO	NO	NO
5	5_0085		Residential	G	N	54	48	55	50	55	49	55	50	0.4	1.6	0	1.3	55	50	NO	NO	NO	NO	NO
5	5_0086		Residential	G	N	55	49	55	50	56	49	56	51	0.4	1.8	0.1	1.4	55	50	NO	NO	NO	NO	YES
5	5_0087		Residential	G	N	55	49	55	50	56	50	55	50	0	1.3	-0.3	0.9	55	50	NO	NO	NO	NO	NO
5	5_0088		Residential	G	S	51	46	53	49	52	46	54	49	1.9	3	1.7	2.7	55	50	NO	NO	NO	NO	NO
5	5_0089		Residential	G	N	55	49	54	50	56	50	55	50	-0.3	0.8	-0.6	0.5	55	50	NO	NO	NO	NO	NO
5	5_0090		Residential	G	N	55	49	54	50	56	50	55	50	-0.4	0.8	-0.7	0.4	55	50	NO	NO	NO	NO	NO
5	5_0091		Residential	G	S	51	46	52	48	52	47	53	48	1	1.8	0.8	1.7	55	50	NO	NO	NO	NO	NO
5	5_0092		Residential	G	N	55	49	54	50	56	50	55	50	-0.4	0.6	-0.7	0.3	55	50	NO	NO	NO	NO	NO
5	5_0093		Residential	G	E	54	47	56	51	55	48	56	51	1.9	3.8	1.4	3.3	55	50	NO	NO	NO	NO	YES
5	5_0094		Residential	G	E	52	46	54	50	53	47	55	50	2.2	3.9	1.7	3.5	55	50	NO	NO	NO	NO	NO
5	5_0095		Residential	G	E	53	47	55	50	54	48	55	51	1.7	3.6	1.3	3.1	55	50	NO	NO	NO	NO	YES
5	5_0096		Residential	G	E	53	47	55	51	54	48	56	51	2.1	3.9	1.6	3.5	55	50	NO	NO	NO	NO	YES
5	5_0097		Residential	G	E	53	46	55	50	53	47	55	50	2.1	3.9	1.7	3.5	55	50	NO	NO	NO	NO	NO
5	5_0098		Residential	G	NE	51	45	53	49	52	46	54	49	2.1	3.5	1.8	3.1	55	50	NO	NO	NO	NO	NO
5	5_0099		Residential	G	NE	52	46	54	50	53	47	55	50	2.1	3.8	1.7	3.4	55	50	NO	NO	NO	NO	NO
5	5_0100		Residential	G	SE	52	46	54	49	53	47	54	50	2	3.3	1.7	3.1	55	50	NO	NO	NO	NO	NO
5	5_0101		Residential	G	SE	51	45	53	49	51	46	53	49	2.5	3.4	2.2	3.1	55	50	NO	NO	NO	NO	NO
5	5_0102		Residential	G	SE	50	45	53	48	51	45	53	49	2.7	3.7	2.4	3.5	55	50	NO	NO	NO	NO	NO
5	5_0103		Residential	G	SE	52	46	54	49	52	47	54	50	2	2.8	1.8	2.6	55	50	NO	NO	NO	NO	NO
5	5_0104		Residential	G	S	52	47	54	49	53	48	54	50	1.6	2.1	1.4	2	55	50	NO	NO	NO	NO	NO
5	5_0105		Residential	G	S	53	49	54	50	54	49	55	50	0.9	1.1	0.8	1.1	55	50	NO	NO	NO	NO	NO
5	5_0106		Residential	G	S	52	47	54	49	53	48	54	50	1.6	2	1.4	1.9	55	50	NO	NO	NO	NO	NO
5	5_0107		Residential	G	S	52	47	54	49	52	47	54	50	1.9	2.5	1.7	2.4	55	50	NO	NO	NO	NO	NO
5	5_0108		Residential	G	SE	50	45	53	48	51	46	53	49	2.5	3.3	2.2	3.1	55	50	NO	NO	NO	NO	NO
5	5_0108		Residential	1	NE	54	48	56	51	55	49	56	52	1.3	2.8	1	2.4	55	50	NO	NO	NO	NO	YES
5	5_0109		Residential	G	SE	51	46	53	49	52	46	53	49	2.1	3	1.8	2.8	55	50	NO	NO	NO	NO	NO
5	5_0110		Residential	G	SE	52	46	54	49	53	47	54	50	1.8	3	1.5	2.7	55	50	NO	NO	NO	NO	NO
5	5_0111		Residential	G	SE	53	47	54	50	53	47	55	50	1.8	3.3	1.4	2.9	55	50	NO	NO	NO	NO	NO
5	5_0112		Residential	G	E	53	46	55	50	53	47	55	50	2	3.6	1.6	3.2	55	50	NO	NO	NO	NO	NO
5	5_0113		Residential	G	E	53	47	55	50	54	47	55	51	1.9	3.6	1.6	3.2	55	50	NO	NO	NO	NO	YES
5	5_0114		Residential	G	E	53	46	55	50	53	47	55	50	1.9	3.7	1.5	3.3	55	50	NO	NO	NO	NO	NO
5	5_0115		Residential	G	E	53	47	55	50	54	48	56	51	1.8	3.6	1.5	3.2	55	50	NO	NO	NO	NO	YES
5	5_0116		Residential	G	E	53	47	55	50	54	48	55	51	1.7	3.4	1.3	3	55	50	NO	NO	NO	NO	YES
5	5_0117		Residential	G	N	55	49	54	50	55	50	55	50	-0.1	0.8	-0.4	0.5	55	50	NO	NO	NO	NO	NO
5	5_0118		Residential	G	N	54	48	54	49	54	49	54	49	-0.2	0.8	-0.4	0.4	55	50	NO	NO	NO	NO	NO
5	5_0119		Residential	G	N	53	47	53	48	54	48	53	49	-0.3	0.8	-0.4	0.4	55	50	NO	NO	NO	NO	NO
5	5_0120		Residential	G	N	54	48	54	49	55	49	55	50	0.2	1.4	-0.1	1	55	50	NO	NO	NO	NO	NO
5	5_0121		Residential	G	NE	54	48	55	50	55	48	55	51	1.1	2.5	0.8	2.2	55	50	NO	NO	NO	NO	YES
5	5_0122		Residential	G	E	53	47	55	50	54	48	55	50	1.4	2.9	1	2.5	55	50	NO	NO	NO	NO	NO
5	5_0123		Residential	G	NE	52	46	54	49	53	47	54	50	1.6	3	1.1	2.7	55	50	NO	NO	NO	NO	NO
5	5_0124		Residential	G	E	52	46	54	50	53	47	55	50	1.8	3.2	1.4	2.8	55	50	NO	NO	NO	NO	NO
5	5_0125		Residential	G	N	54	48	54	50	55	49	55	50	0.2	1.1	-0.2	0.8	55	50	NO	NO	NO	NO	NO
5	5_0126		Residential	G	W	54	49	53	48	54	49	53	49	-0.6	-0.1	-0.7	-0.2	55	50	NO	NO	NO	NO	NO
5	5_0127		Residential	G	E	53	47	54	50	53	47	55	50	1.7	3	1.4	2.7	55	50	NO	NO	NO	NO	NO
5	5_0128		Residential	G	N	53	47	54	49	54	48	54	50	0.8	2	0.4	1.6	55	50	NO	NO	NO	NO	NO
5	5_0129		Residential	G	W	54	49	54	49	55	50	54	50	-0.5	-0.1	-0.7	-0.3	57	52	NO	NO	NO	NO	NO
5	5_0130		Residential	G	W	55	50	55	50	56	51	55	51	-0.6	-0.2	-0.7	-0.4	57	52	NO	NO	NO	NO	NO
5	5_0131		Residential	G	W	56	51	55	50	56	51	55	51	-0.6	-0.3	-0.7	-0.4	56	51	NO	NO	NO	NO	NO
5	5_0132		Residential	G	W	55	50	54	50	56	51	55	50	-0.7	-0.3	-0.8	-0.5	56	51	NO	NO	NO	NO	NO
5	5_0132		Residential	1	W	58	54	58	53	59	54	58	54	-0.6	-0.4	-0.7	-0.4	56	51	NO	NO	NO	NO	NO
5	5_0132		Residential	1	E	55	49	56	51	56	50	56	52	1	2.3	0.6	1.9	56	51	NO	NO	NO	NO	NO
5	5_0133		Residential	G	W	55	50	54	50	56	51	55	50	-0.6	-0.2	-0.7	-0.3	56	51	NO	NO	NO	NO	NO
5	5_0134		Residential	G	N	54	48	54	49	54	49	54	50	0.3	1.1	0	0.8	56	51	NO	NO	NO	NO	NO
5	5_0135		Residential	G	W	55	51	55	51	56	51	55	51	-0.5	-0.1	-0.6	-0.3	56	51	NO	NO	NO	NO	NO
5	5_0136		Residential	G	W	56	51	55	51	56	51	56	51	-0.4	0	-0.5	-0.2	55	50	NO	NO	NO	NO	NO
5	5_0137		Residential	G	W	56	51	55	51	56	51	56	51	-0.3	0	-0.5	-0.2	55	50	NO	NO	NO	NO	NO
5	5_0138		Residential	G	N	54	49	54	49	54	49	54	50	-0.1	0.6	-0.2	0.4	55	50	NO	NO	NO	NO	NO
5	5_0139		Residential	G	W	54	49	53	49	54	50	54	49	-0.3	-0.1	-0.4	-0.2	55	50	NO	NO	NO	NO	NO
5	5_0139		Residential	1	W	58	53	57	53	58	53	58	53	-0.3	-0.1	-0.4	-0.1	55	50	NO	NO	NO	NO	NO
5	5_0139		Residential	1	E	55	49	56	52	56	50	57	52	1.3	2.2	1	1.9	55	50	NO	NO	NO	NO	NO
5	5_0140		Residential	G	W	54	50	54	50	55	50	54	50	-0.3	0	-0.4	0	55	50	NO	NO	NO	NO	NO
5	5_0141		Residential	G	SE	53	48	54	50	54	48	55	50	1.1	1.9	0.9	1.7	55	50	NO	NO	NO	NO	NO
5	5_0142		Residential	G	SE	55	50	56	52	56	51	56	52	0.7	1.1	0.6	1	55	50	NO	NO	NO	NO	NO
5	5_0143		Residential	G	E	52	46	55	50	53	47	55	51	2.7	4.3	2.2	3.9	55	50	NO	NO	NO	NO	YES
5	5_0144		Residential	G	E	51	45	54	49	52	46	54	50	2.8	4.2	2.5	3.8	55	50	NO	NO	NO	NO	NO
5	5_0145		Residential	G	N	53	47	53	49	53	48	54	49	0.8	1.8	0.6	1.6	55	50	NO	NO	NO	NO	NO
5	5_0146		Residential	G	N	53	48	54	50	54	48	54	50	0.8	1.8	0.5	1.5	55	50	NO	NO	NO	NO	NO
5	5_0147		Residential	G	NW	52	47	53	48	53	48	53	49	0.6	1.2	0.4	1	55	50	NO	NO	NO	NO	NO
5	5_0148		Residential	G	N	53	47	53	49	53	48	54	49	0.7	1.7	0.4	1.3	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
5	5_0149		Residential	G	NW	55	50	55	50	55	50	55	51	0	0.4	-0.2	0.3	55	50	NO	NO	NO	NO	NO
5	5_0149		Residential	1	NW	56	51	56	52	56	52	56	52	0	0.5	-0.1	0.4	55	50	NO	NO	NO	NO	NO
5	5_0149		Residential	1	NE	53	48	55	51	54	48	56	51	1.9	2.8	1.5	2.5	55	50	NO	NO	NO	NO	NO
5	5_0150		Residential	G	NW	55	50	55	51	56	51	56	51	0.1	0.4	-0.1	0.4	55	50	NO	NO	NO	NO	NO
5	5_0151		Residential	G	N	55	50	55	51	55	50	56	51	0.5	1.1	0.3	1	55	50	NO	NO	NO	NO	NO
5	5_0152		Residential	G	NW	54	49	54	49	54	50	54	50	0	0.3	-0.2	0.2	55	50	NO	NO	NO	NO	NO
5	5_0152		Residential	1	NW	56	51	56	52	57	52	57	52	0.2	0.5	0	0.3	55	50	NO	NO	NO	NO	NO
5	5_0152		Residential	1	NE	55	49	56	52	55	50	56	52	1.4	2.2	1.2	2	55	50	NO	NO	NO	NO	NO
5	5_0153		Residential	G	NW	54	49	54	50	55	49	55	50	0.5	1.2	0.2	1	55	50	NO	NO	NO	NO	NO
5	5_0154		Residential	G	NW	54	48	54	50	54	49	55	50	0.6	1.4	0.4	1.1	55	50	NO	NO	NO	NO	NO
5	5_0155		Residential	G	N	53	47	54	49	53	48	54	50	0.9	1.8	0.7	1.6	55	50	NO	NO	NO	NO	NO
5	5_0156		Residential	G	E	52	46	54	50	53	47	55	50	2.4	3.9	2.1	3.6	55	50	NO	NO	NO	NO	NO
5	5_0157		Residential	G	E	51	45	54	50	52	46	55	50	3	4.6	2.6	4.2	55	50	NO	NO	NO	NO	NO
5	5_0158		Residential	G	E	51	45	54	50	52	46	55	50	3	4.6	2.7	4.2	55	50	NO	NO	NO	NO	NO
5	5_0159		Residential	G	E	51	45	54	50	52	46	55	50	3.2	4.8	2.8	4.3	55	50	NO	NO	NO	NO	NO
5	5_0160		Residential	G	E	51	45	54	50	52	46	55	50	3.2	4.7	2.8	4.4	55	50	NO	NO	NO	NO	NO
5	5_0161		Residential	G	E	51	45	54	50	52	46	55	50	3.3	4.7	2.9	4.4	55	50	NO	NO	NO	NO	NO
5	5_0162		Residential	G	E	51	45	54	49	52	45	54	50	3.3	4.7	2.9	4.4	55	50	NO	NO	NO	NO	NO
5	5_0163		Residential	G	N	51	45	54	49	52	46	54	50	2.6	3.7	2.3	3.4	55	50	NO	NO	NO	NO	NO
5	5_0164		Residential	G	N	51	45	53	49	52	46	54	49	2.3	3.4	2	3.1	55	50	NO	NO	NO	NO	NO
5	5_0165		Residential	G	N	53	47	55	50	53	48	55	51	2.2	3.2	1.9	2.9	55	50	NO	NO	NO	NO	NO
5	5_0166		Residential	G	N	53	47	54	49	53	48	54	50	1.1	2	0.8	1.7	55	50	NO	NO	NO	NO	NO
5	5_0167		Residential	G	N	53	48	54	50	54	48	55	50	1.3	2.2	1	1.9	55	50	NO	NO	NO	NO	NO
5	5_0168		Residential	G	W	53	49	54	49	54	49	54	50	0.3	0.7	0.3	0.6	55	50	NO	NO	NO	NO	NO
5	5_0169		Residential	G	E	51	45	54	49	52	46	54	49	2.5	3.6	2.3	3.4	55	50	NO	NO	NO	NO	NO
5	5_0170		Residential	G	N	52	47	54	50	53	47	55	50	2.3	3.3	2	3.1	55	50	NO	NO	NO	NO	NO
5	5_0171		Residential	G	N	54	49	55	50	55	49	55	51	0.7	1.3	0.4	1.1	55	50	NO	NO	NO	NO	NO
5	5_0171		Residential	1	N	56	51	56	52	57	52	57	52	0.5	1	0.3	0.9	55	50	NO	NO	NO	NO	NO
5	5_0171		Residential	1	N	55	50	56	51	55	50	56	52	0.9	1.6	0.7	1.3	55	50	NO	NO	NO	NO	NO
5	5_0172		Residential	G	N	52	46	53	49	52	47	54	49	1.4	2.3	1.1	2.1	55	50	NO	NO	NO	NO	NO
5	5_0173		Residential	G	N	52	46	54	50	53	47	55	50	2.4	3.4	2	3.2	55	50	NO	NO	NO	NO	NO
5	5_0174		Residential	G	NE	52	46	54	49	52	47	54	50	2.2	3.4	1.8	3.1	55	50	NO	NO	NO	NO	NO
5	5_0175		Residential	G	NE	51	45	53	48	52	46	53	49	1.9	3.2	1.6	2.9	55	50	NO	NO	NO	NO	NO
5	5_0176		Residential	G	NE	51	45	53	48	51	45	53	49	2.4	3.6	2.1	3.3	55	50	NO	NO	NO	NO	NO
5	5_0177		Residential	G	NE	50	44	52	48	51	45	53	48	2.7	3.8	2.4	3.5	55	50	NO	NO	NO	NO	NO
5	5_0178		Residential	G	SE	48	43	51	47	49	44	52	47	2.9	3.7	2.7	3.5	55	50	NO	NO	NO	NO	NO
5	5_0179		Residential	G	NE	51	45	54	49	51	46	54	50	3	4.3	2.6	4	55	50	NO	NO	NO	NO	NO
5	5_0180		Residential	G	NE	51	45	54	49	52	46	54	50	2.7	4	2.4	3.7	55	50	NO	NO	NO	NO	NO
5	5_0181		Residential	G	N	51	45	53	49	52	46	53	49	2.2	3.1	1.9	2.9	55	50	NO	NO	NO	NO	NO
5	5_0182		Residential	G	E	50	45	53	49	51	45	53	49	2.6	3.9	2.3	3.6	55	50	NO	NO	NO	NO	NO
5	5_0183		Residential	G	NE	51	45	53	49	51	46	54	49	2.4	3.6	2.1	3.2	55	50	NO	NO	NO	NO	NO
5	5_0184		Residential	G	N	50	45	52	47	51	45	52	48	1.3	2.3	1.1	2.1	55	50	NO	NO	NO	NO	NO
5	5_0185		Residential	G	N	51	45	53	48	51	46	53	49	2.1	3.1	1.8	2.9	55	50	NO	NO	NO	NO	NO
5	5_0186		Residential	G	N	50	45	52	48	51	45	53	48	1.9	2.9	1.6	2.6	55	50	NO	NO	NO	NO	NO
5	5_0187		Residential	G	NW	50	44	51	47	50	45	52	47	1.3	2.3	1.2	2	55	50	NO	NO	NO	NO	NO
5	5_0188		Residential	G	NE	50	44	52	48	51	45	53	48	2.5	3.8	2.1	3.5	55	50	NO	NO	NO	NO	NO
5	5_0189		Residential	G	NE	50	44	53	48	51	45	53	48	2.5	3.8	2.2	3.5	55	50	NO	NO	NO	NO	NO
5	5_0190		Residential	G	NE	50	44	52	48	51	45	53	48	2.6	3.9	2.3	3.7	55	50	NO	NO	NO	NO	NO
5	5_0191		Residential	G	N	50	44	52	48	51	45	53	48	2.3	3.4	1.9	3.1	55	50	NO	NO	NO	NO	NO
5	5_0192		Residential	G	N	49	44	52	47	50	44	52	48	2.6	3.9	2.3	3.6	55	50	NO	NO	NO	NO	NO
5	5_0192		Residential	1	N	51	45	54	50	52	46	55	50	3.1	4.4	2.9	4.1	55	50	NO	NO	NO	NO	NO
5	5_0193		Residential	G	SE	47	41	51	46	48	42	51	46	3.4	4.9	3.1	4.5	55	50	NO	NO	NO	NO	NO
5	5_0193		Residential	1	SE	50	44	53	49	51	45	54	49	3.4	4.5	3.2	4.3	55	50	NO	NO	NO	NO	NO
5	5_0194		Residential	G	NW	50	45	51	47	51	46	52	47	1	1.7	0.7	1.4	55	50	NO	NO	NO	NO	NO
5	5_0195		Residential	G	SE	49	43	51	46	49	44	51	47	2.4	3.2	2.2	3.1	55	50	NO	NO	NO	NO	NO
5	5_0196		Residential	G	E	49	43	50	46	49	44	51	46	1.3	2.2	1.1	2.1	55	50	NO	NO	NO	NO	NO
5	5_0197		Residential	G	N	50	44	52	48	51	45	53	48	2.2	3.3	1.9	3	55	50	NO	NO	NO	NO	NO
5	5_0198		Residential	G	N	50	44	52	47	51	45	52	48	1.6	2.7	1.4	2.4	55	50	NO	NO	NO	NO	NO
5	5_0199		Residential	G	N	50	45	52	48	51	45	53	48	2.2	3.1	1.8	2.9	55	50	NO	NO	NO	NO	NO
5	5_0200		Residential	G	N	51	45	53	48	51	46	53	48	2	3.1	1.7	2.8	55	50	NO	NO	NO	NO	NO
5	5_0201		Residential	G	N	50	44	52	47	51	45	52	48	2	3.2	1.7	2.9	55	50	NO	NO	NO	NO	NO
5	5_0201		Residential	1	N	52	47	54	50	53	47	55	50	2.4	3.2	2.1	3	55	50	NO	NO	NO	NO	NO
5	5_0202		Residential	G	NE	50	44	53	48	51	45	53	49	2.8	4.3	2.6	4	55	50	NO	NO	NO	NO	NO
5	5_0202		Residential	1	NW	55	50	55	51	55	50	55	51	0.4	1	0.3	0.8	55	50	NO	NO	NO	NO	NO
5	5_0202		Residential	1	NE	53	47	55	50	53	48	55	51	2.1	2.9	1.8	2.7	55	50	NO	NO	NO	NO	NO
5	5_0203		Residential	G	W	55	50	55	51	55	51	55	51	0	0.3	-0.1	0.2	55	50	NO	NO	NO	NO	NO
5	5_0204		Residential	G	W	50	46	51	46	51	46	51	47	0.4	0.8	0.3	0.7	55	50	NO	NO	NO	NO	NO
5	5_0205		Residential	G	N	49	44	52	48	50	44	53	48	3.1	4.3	2.8	4	55	50	NO	NO	NO	NO	NO
5	5_0205		Residential	1	N	51	46	54	50	52	46	54	50	3	4	2.7	3.8	55	50	NO	NO	NO	NO	NO
5	5_0206		Residential	G	N	49	44	52	48	50	44	53	48	3.2	4.3	2.9	4	55	50	NO	NO	NO	NO	NO
5	5_0207		Residential	G	N	49	44	53	48	50	45	53	49	3.3	4.3	3	4.1	55	50	NO	NO	NO	NO	NO
5	5_0208		Residential	G	N	49	44	53	48	50	44	53	49	3.2	4.3	2.9	4.1	55	50	NO	NO	NO	NO	NO
5	5_0209		Residential	G	N	49	44	52	48	50	44	53	48	3.5	4.5	3.2	4.2	55	50	NO	NO	NO	NO	NO
5	5_0210		Residential	G	N	49	43	53	48	49	44	53	49	3.9	5.3	3.6	5	55	50	NO	NO	NO	NO	NO
5	5_0210		Residential	1	N	50	45	54	50	51	45	54	50	3.7	4.9	3.4	4.6	55	50	NO	NO	NO	NO	NO
5	5_0211		Residential	G	N	49	43	52	48	49	43	53	48	3.9	5.2	3.6	4.9	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
5	5_0212		Residential	G	E	48	42	52	48	49	43	53	48	4	5.6	3.7	5.3	55	50	NO	NO	NO	NO	NO
5	5_0213		Residential	G	E	47	41	52	47	48	41	52	48	5	6.8	4.7	6.4	55	50	NO	NO	NO	NO	NO
5	5_0213		Residential	1	N	50	44	54	50	51	45	55	50	4.1	5.5	3.8	5.1	55	50	NO	NO	NO	NO	NO
5	5_0214		Residential	G	E	48	42	52	48	49	43	53	48	4.2	5.6	3.9	5.4	55	50	NO	NO	NO	NO	NO
5	5_0215		Residential	G	N	50	44	54	49	50	44	54	50	4.2	5.7	3.9	5.3	55	50	NO	NO	NO	NO	NO
5	5_0216		Residential	G	NE	50	44	53	49	50	44	54	49	3.9	5.4	3.6	5.1	55	50	NO	NO	NO	NO	NO
5	5_0217		Residential	G	NE	49	44	53	49	50	44	54	49	3.7	5.1	3.4	4.8	55	50	NO	NO	NO	NO	NO
5	5_0218		Residential	G	NE	49	43	52	47	50	44	52	48	2.9	4.2	2.6	3.9	55	50	NO	NO	NO	NO	NO
5	5_0219		Residential	G	NE	49	44	53	49	50	44	54	49	3.7	5.1	3.4	4.8	55	50	NO	NO	NO	NO	NO
5	5_0220		Residential	G	NE	49	43	53	48	50	44	53	49	3.7	5.2	3.3	4.9	55	50	NO	NO	NO	NO	NO
5	5_0221		Residential	G	N	50	44	53	48	51	45	53	49	2.9	4	2.5	3.7	55	50	NO	NO	NO	NO	NO
5	5_0222		Residential	G	N	47	41	52	47	48	42	52	48	4.8	6.1	4.5	5.9	55	50	NO	NO	NO	NO	NO
5	5_0223		Residential	G	N	49	43	54	49	50	44	54	50	4.5	6.1	4.1	5.7	55	50	NO	NO	NO	NO	NO
5	5_0223		Residential	1	N	51	45	55	50	51	46	55	51	4.1	5.6	3.8	5.2	55	50	NO	NO	NO	NO	YES
5	5_0224		Residential	G	NE	50	44	54	50	50	44	54	50	4.4	5.9	4	5.6	55	50	NO	NO	NO	NO	NO
5	5_0225		Residential	G	NE	50	44	54	50	50	44	54	50	4.4	6	4	5.5	55	50	NO	NO	NO	NO	NO
5	5_0226		Residential	G	NE	50	44	54	50	50	44	54	50	4.4	6	4.1	5.6	55	50	NO	NO	NO	NO	NO
5	5_0227		Residential	G	NE	49	43	54	49	50	43	54	50	5	6.7	4.5	6.3	55	50	NO	NO	NO	NO	NO
5	5_0228		Residential	G	NE	49	43	54	49	50	44	54	50	4.8	6.4	4.4	6	55	50	NO	NO	NO	NO	NO
5	5_0229		Residential	G	NE	49	43	54	50	50	44	54	50	4.8	6.4	4.4	6	55	50	NO	NO	NO	NO	NO
5	5_0230		Residential	G	E	49	42	53	49	49	43	54	49	4.8	6.5	4.5	6.2	55	50	NO	NO	NO	NO	NO
5	5_0231		Residential	G	E	49	43	53	49	49	43	53	49	4.5	5.9	4.2	5.6	55	50	NO	NO	NO	NO	NO
5	5_0232		Residential	G	NE	49	42	53	49	49	43	54	49	4.5	6.2	4.2	5.9	55	50	NO	NO	NO	NO	NO
5	5_0233		Residential	G	E	48	42	52	48	48	42	53	48	4.4	6	4.1	5.7	55	50	NO	NO	NO	NO	NO
5	5_0234		Residential	G	N	49	43	51	46	49	44	51	46	2.1	3.1	1.8	2.9	55	50	NO	NO	NO	NO	NO
5	5_0235		Residential	G	N	49	44	52	47	50	45	52	48	2.6	3.6	2.3	3.3	55	50	NO	NO	NO	NO	NO
5	5_0236		Residential	G	W	50	45	51	47	51	46	52	47	1	1.6	0.8	1.4	55	50	NO	NO	NO	NO	NO
5	5_0237		Residential	G	N	50	44	52	48	50	45	53	48	2.7	3.8	2.4	3.5	55	50	NO	NO	NO	NO	NO
5	5_0238		Residential	G	N	49	43	51	47	49	44	52	47	2.8	3.6	2.6	3.5	55	50	NO	NO	NO	NO	NO
5	5_0239		Residential	G	N	49	43	53	48	49	44	53	48	3.8	5.2	3.5	4.9	55	50	NO	NO	NO	NO	NO
5	5_0240		Residential	G	NE	49	43	53	49	50	44	53	49	4.1	5.8	3.7	5.4	55	50	NO	NO	NO	NO	NO
5	5_0240		Residential	1	NE	50	45	54	50	51	45	55	50	3.9	5.2	3.5	4.9	55	50	NO	NO	NO	NO	NO
5	5_0241		Residential	G	NE	50	44	53	49	51	45	54	49	3.4	4.7	3	4.4	55	50	NO	NO	NO	NO	NO
5	5_0242		Residential	G	E	49	43	53	48	49	43	53	49	4	5.6	3.7	5.2	55	50	NO	NO	NO	NO	NO
5	5_0243		Residential	G	NW	50	45	52	47	51	45	52	48	1.5	2.4	1.3	2.1	55	50	NO	NO	NO	NO	NO
5	5_0244		Residential	G	NW	50	45	52	47	51	46	52	48	1.3	1.9	1	1.7	55	50	NO	NO	NO	NO	NO
5	5_0245		Residential	G	NW	50	45	51	47	51	45	52	47	1.2	2	1	1.8	55	50	NO	NO	NO	NO	NO
5	5_0246		Residential	G	SE	49	43	51	47	49	44	51	47	2.3	3.1	2.1	2.9	55	50	NO	NO	NO	NO	NO
5	5_0247		Residential	G	NE	49	43	51	46	49	43	51	47	2.3	3.6	1.9	3.3	55	50	NO	NO	NO	NO	NO
5	5_0247		Residential	1	NE	51	45	54	49	51	46	54	50	3.1	4.2	2.8	4	55	50	NO	NO	NO	NO	NO
5	5_0248		Residential	G	NW	51	47	52	48	52	47	53	48	0.8	1.4	0.6	1.2	55	50	NO	NO	NO	NO	NO
5	5_0249		Residential	G	NE	51	45	54	50	52	46	55	50	3.2	4.6	2.8	4.2	55	50	NO	NO	NO	NO	NO
5	5_0250		Residential	G	NE	50	45	54	49	51	45	54	50	3.5	4.9	3.1	4.6	55	50	NO	NO	NO	NO	NO
5	5_0251		Residential	G	NE	50	44	54	49	51	45	54	50	3.6	5.2	3.2	4.8	55	50	NO	NO	NO	NO	NO
5	5_0251		Residential	1	NE	52	46	55	50	52	46	55	51	3.2	4.6	2.9	4.3	55	50	NO	NO	NO	NO	YES
5	5_0252		Residential	G	NE	50	44	53	48	51	44	53	49	2.9	4.4	2.5	4.1	55	50	NO	NO	NO	NO	NO
5	5_0253		Residential	G	NE	51	45	54	50	51	45	54	50	3.4	4.8	3.1	4.5	55	50	NO	NO	NO	NO	NO
5	5_0254		Residential	G	NE	51	45	54	50	51	45	55	50	3.6	5	3.2	4.6	55	50	NO	NO	NO	NO	NO
5	5_0255		Residential	G	NE	50	45	54	50	51	45	55	50	3.8	5.2	3.4	4.8	55	50	NO	NO	NO	NO	NO
5	5_0256		Residential	G	NE	50	44	54	50	51	45	55	50	3.9	5.4	3.6	5.1	55	50	NO	NO	NO	NO	NO
5	5_0257		Residential	G	E	50	44	54	50	51	45	55	50	4.1	5.7	3.8	5.3	55	50	NO	NO	NO	NO	NO
5	5_0258		Residential	G	N	50	44	53	48	50	45	53	49	2.9	4.2	2.6	3.9	55	50	NO	NO	NO	NO	NO
5	5_0259		Residential	G	N	50	45	54	50	51	45	55	50	3.8	5.2	3.5	4.9	55	50	NO	NO	NO	NO	NO
5	5_0260		Residential	G	E	49	43	52	48	50	44	53	48	3.3	4.7	2.9	4.3	55	50	NO	NO	NO	NO	NO
5	5_0261		Residential	G	E	49	43	52	48	50	44	53	48	3.3	4.8	3	4.5	55	50	NO	NO	NO	NO	NO
5	5_0262		Residential	G	N	49	43	52	47	49	44	52	48	3.2	4.4	3	4.2	55	50	NO	NO	NO	NO	NO
5	5_0263		Residential	G	NW	50	45	51	47	51	45	52	47	1.4	2.1	1.2	1.9	55	50	NO	NO	NO	NO	NO
5	5_0264		Residential	G	NE	49	43	52	47	49	43	52	48	3.1	4.5	2.9	4.2	55	50	NO	NO	NO	NO	NO
5	5_0265		Residential	G	SE	48	43	51	47	49	43	52	47	3	4.1	2.8	3.8	55	50	NO	NO	NO	NO	NO
5	5_0266		Residential	G	SE	49	43	52	47	49	43	52	48	3.4	4.6	3.2	4.4	55	50	NO	NO	NO	NO	NO
5	5_0267		Residential	G	NW	50	45	51	47	51	46	52	47	0.8	1.4	0.6	1.1	55	50	NO	NO	NO	NO	NO
5	5_0268		Residential	G	NW	50	45	51	47	51	46	52	47	0.9	1.5	0.7	1.4	55	50	NO	NO	NO	NO	NO
5	5_0269		Residential	G	NW	51	46	52	48	51	46	52	48	1.1	1.7	0.9	1.4	55	50	NO	NO	NO	NO	NO
5	5_0270		Residential	G	SE	50	44	50	44	51	44	51	44	0.1	0.3	-0.2	0	55	50	NO	NO	NO	NO	NO
5	5_0270		Residential	1	SE	52	46	53	46	53	47	53	47	0.3	0.6	-0.1	0.3	55	50	NO	NO	NO	NO	NO
5	5_0271		Residential	G	SE	51	44	51	45	52	45	51	45	0.2	0.5	-0.1	0.2	55	50	NO	NO	NO	NO	NO
5	5_0272		Residential	G	SE	51	44	51	45	52	45	52	45	0.2	0.5	-0.2	0.2	55	50	NO	NO	NO	NO	NO
5	5_0273		Residential	G	SE	51	44	51	45	52	45	51	45	0.2	0.5	-0.1	0.2	55	50	NO	NO	NO	NO	NO
5	5_0274		Residential	G	SE	51	44	51	45	51	45	51	45	0.2	0.5	-0.1	0.1	55	50	NO	NO	NO	NO	NO
5	5_0275		Residential	G	SE	50	44	50	44	51	44	51	44	0.1	0.3	-0.3	-0.1	55	50	NO	NO	NO	NO	NO
5	5_0276		Residential	G	NE	50	43	51	45	51	44	51	46	1.1	2.1	0.7	1.8	55	50	NO	NO	NO	NO	NO
5	5_0276		Residential	1	NE	51	45	53	47	52	46	53	48	1.5	2.5	1.2	2.2	55	50	NO	NO	NO	NO	NO
5	5_0277		Residential	G	NE	50	44	52	46	51	45	52	47	1.3	2.3	1	2	55	50	NO	NO	NO	NO	NO
5	5_0278		Residential	G	NE	50	43	52	46	51	44	52	47	1.8	2.9	1.4	2.6	55	50	NO	NO	NO	NO	NO
5	5_0279		Residential	G	NE	49	42	51	46	50	43	52	46	2.3	3.8	2	3.4	55	50	NO	NO	NO	NO	NO
5	5_0280		Residential	G	E	52	45	53	47	53	46	53	48	1.2	2.2	0.8	1.8	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
5	5_0281		Residential	G	NE	49	43	51	46	50	43	52	47	2.3	3.7	1.9	3.4	55	50	NO	NO	NO	NO	NO
5	5_0281		Residential	1	NE	51	44	53	47	52	45	53	48	1.8	3	1.5	2.6	55	50	NO	NO	NO	NO	NO
5	5_0282		Residential	G	NE	49	43	51	46	50	44	52	47	2.1	3.5	1.8	3.2	55	50	NO	NO	NO	NO	NO
5	5_0283		Residential	G	W	46	40	50	45	47	41	50	45	3.2	4.8	2.9	4.5	55	50	NO	NO	NO	NO	NO
5	5_0284		Residential	G	E	48	42	51	45	49	43	51	46	2.1	3.6	1.8	3.2	55	50	NO	NO	NO	NO	NO
5	5_0285		Residential	G	N	49	42	50	45	49	43	51	45	1.6	2.9	1.3	2.6	55	50	NO	NO	NO	NO	NO
5	5_0286		Residential	G	E	49	42	50	45	50	43	51	45	1.2	2.2	0.8	1.8	55	50	NO	NO	NO	NO	NO
5	5_0287		Residential	G	N	48	42	50	44	49	42	50	45	1.4	2.6	1.1	2.3	55	50	NO	NO	NO	NO	NO
5	5_0288		Residential	G	NW	46	39	49	44	46	40	49	44	3.2	4.8	2.9	4.5	55	50	NO	NO	NO	NO	NO
5	5_0289		Residential	G	NW	44	38	47	43	45	38	48	43	3.3	4.9	3	4.6	55	50	NO	NO	NO	NO	NO
5	5_0289		Residential	1	NE	50	44	52	47	51	44	52	47	1.7	2.9	1.3	2.6	55	50	NO	NO	NO	NO	NO
5	5_0290		Residential	G	SE	49	43	50	44	50	43	50	44	0.6	1.2	0.3	0.9	55	50	NO	NO	NO	NO	NO
5	5_0291		Residential	G	SE	48	41	49	43	49	42	49	43	0.8	1.5	0.5	1.2	55	50	NO	NO	NO	NO	NO
5	5_0292		Residential	G	SE	48	41	48	42	48	42	49	43	0.6	1.2	0.3	0.9	55	50	NO	NO	NO	NO	NO
5	5_0293		Residential	G	E	50	43	51	46	50	44	52	46	1.6	2.8	1.3	2.4	55	50	NO	NO	NO	NO	NO
5	5_0294		Residential	G	E	49	43	51	45	50	44	51	45	1.2	2.3	0.9	1.9	55	50	NO	NO	NO	NO	NO
5	5_0295		Residential	G	E	50	43	52	47	51	44	52	47	2.1	3.4	1.7	3	55	50	NO	NO	NO	NO	NO
5	5_0296		Residential	G	E	50	43	52	47	51	44	52	47	2.2	3.7	1.9	3.3	55	50	NO	NO	NO	NO	NO
5	5_0297		Residential	G	E	49	43	51	46	50	44	52	46	1.9	3.1	1.5	2.8	55	50	NO	NO	NO	NO	NO
5	5_0298		Residential	G	E	50	43	52	47	50	44	52	47	2.4	3.9	2.1	3.5	55	50	NO	NO	NO	NO	NO
5	5_0299		Residential	G	N	49	42	52	47	50	43	52	47	3	4.5	2.6	4.1	55	50	NO	NO	NO	NO	NO
5	5_0300		Residential	G	SE	49	43	50	44	50	43	50	44	0.6	1.3	0.3	1	55	50	NO	NO	NO	NO	NO
5	5_0301		Residential	G	SE	49	42	50	44	50	43	50	44	0.6	1.3	0.3	1	55	50	NO	NO	NO	NO	NO
5	5_0302		Residential	G	SE	47	41	48	42	48	41	49	43	0.9	1.7	0.6	1.4	55	50	NO	NO	NO	NO	NO
5	5_0302		Residential	1	SE	50	44	51	45	51	44	51	45	0.6	1.3	0.3	1	55	50	NO	NO	NO	NO	NO
5	5_0303		Residential	G	SE	48	41	49	43	49	42	49	43	0.9	1.7	0.5	1.4	55	50	NO	NO	NO	NO	NO
5	5_0303		Residential	1	NE	50	43	52	46	50	44	52	47	1.8	3	1.4	2.7	55	50	NO	NO	NO	NO	NO
5	5_0304		Residential	G	E	49	42	50	44	50	43	50	44	0.9	1.7	0.5	1.3	55	50	NO	NO	NO	NO	NO
5	5_0305		Residential	G	E	49	42	50	45	50	43	51	45	1.2	2.2	0.8	1.8	55	50	NO	NO	NO	NO	NO
5	5_0305		Residential	1	E	51	44	52	46	51	45	52	46	1.1	2	0.8	1.7	55	50	NO	NO	NO	NO	NO
5	5_0306		Residential	G	E	49	42	50	45	50	43	51	45	1.4	2.4	1.1	2.1	55	50	NO	NO	NO	NO	NO
5	5_0307		Residential	G	E	49	42	51	46	50	43	51	46	1.9	3.2	1.6	2.9	55	50	NO	NO	NO	NO	NO
5	5_0307		Residential	1	E	50	44	52	47	51	45	53	47	1.9	3.2	1.6	2.8	55	50	NO	NO	NO	NO	NO
5	5_0308		Residential	G	E	49	42	51	46	50	43	52	47	2.3	3.9	2	3.5	55	50	NO	NO	NO	NO	NO
5	5_0309		Residential	G	E	49	42	51	46	50	43	52	47	2.4	3.9	2	3.5	55	50	NO	NO	NO	NO	NO
5	5_0310		Residential	G	E	49	42	51	46	50	43	52	47	2.5	4.1	2.2	3.7	55	50	NO	NO	NO	NO	NO
5	5_0311		Residential	G	E	49	42	51	46	50	43	52	46	2.4	4	2.1	3.5	55	50	NO	NO	NO	NO	NO
5	5_0312		Residential	G	E	48	41	49	44	48	42	50	44	1.6	2.7	1.3	2.4	55	50	NO	NO	NO	NO	NO
5	5_0313		Residential	G	E	48	42	50	45	49	42	51	46	2.3	3.7	1.9	3.3	55	50	NO	NO	NO	NO	NO
5	5_0314		Residential	G	E	48	42	50	45	49	42	51	46	2.2	3.7	1.8	3.4	55	50	NO	NO	NO	NO	NO
5	5_0315		Residential	G	N	49	42	52	47	49	43	52	47	3.2	4.7	2.9	4.3	55	50	NO	NO	NO	NO	NO
5	5_0316		Residential	G	N	48	41	51	47	48	42	52	47	3.7	5.4	3.4	5	55	50	NO	NO	NO	NO	NO
5	5_0316		Residential	1	N	49	42	52	47	49	43	52	48	3.4	4.9	3	4.6	55	50	NO	NO	NO	NO	NO
5	5_0317		Residential	G	N	48	42	51	47	49	42	52	47	3.5	5.1	3.1	4.7	55	50	NO	NO	NO	NO	NO
5	5_0318		Residential	G	NW	47	41	51	46	47	41	51	47	4.1	5.7	3.7	5.4	55	50	NO	NO	NO	NO	NO
5	5_0319		Residential	G	NW	47	41	50	46	47	41	51	46	3.4	5	3.1	4.7	55	50	NO	NO	NO	NO	NO
5	5_0320		Residential	G	NE	48	42	52	47	49	43	52	47	3.3	4.9	3	4.6	55	50	NO	NO	NO	NO	NO
5	5_0321		Residential	G	SE	47	40	48	43	47	41	48	43	1.5	2.5	1.2	2.2	55	50	NO	NO	NO	NO	NO
5	5_0322		Residential	G	NE	49	42	51	46	50	43	51	46	2.1	3.5	1.8	3.1	55	50	NO	NO	NO	NO	NO
5	5_0323		Residential	G	NE	49	42	50	45	49	43	51	46	1.7	3	1.4	2.7	55	50	NO	NO	NO	NO	NO
5	5_0324		Residential	G	NE	48	42	51	45	49	42	51	46	2.4	3.9	2.1	3.6	55	50	NO	NO	NO	NO	NO
5	5_0325		Residential	G	E	48	42	50	45	49	42	51	46	2.1	3.5	1.8	3.2	55	50	NO	NO	NO	NO	NO
5	5_0326		Residential	G	N	49	42	51	46	49	43	51	46	2.3	3.8	2	3.4	55	50	NO	NO	NO	NO	NO
5	5_0327		Residential	G	E	47	41	49	44	48	42	49	44	1.7	2.8	1.3	2.4	55	50	NO	NO	NO	NO	NO
5	5_0328		Residential	G	NW	46	40	49	45	47	41	50	45	3	4.5	2.7	4.2	55	50	NO	NO	NO	NO	NO
5	5_0329		Residential	G	NW	47	40	50	45	47	41	50	45	3.1	4.6	2.8	4.4	55	50	NO	NO	NO	NO	NO
5	5_0330		Residential	G	NW	47	40	50	45	47	41	50	45	3.1	4.5	2.8	4.2	55	50	NO	NO	NO	NO	NO
5	5_0331		Residential	G	NW	46	40	49	45	47	41	50	45	3	4.5	2.7	4.1	55	50	NO	NO	NO	NO	NO
5	5_0332		Residential	G	NW	46	40	49	44	47	41	50	45	2.9	4.4	2.6	4.1	55	50	NO	NO	NO	NO	NO
5	5_0333		Residential	G	SE	47	41	49	43	48	42	49	44	1.3	2.4	1.1	2.1	55	50	NO	NO	NO	NO	NO
5	5_0334		Residential	G	NE	47	40	50	45	47	41	50	45	2.9	4.6	2.6	4.2	55	50	NO	NO	NO	NO	NO
5	5_0335		Residential	G	E	47	41	49	44	48	41	49	44	1.6	2.8	1.4	2.5	55	50	NO	NO	NO	NO	NO
5	5_0336		Residential	G	NW	46	40	49	44	47	40	49	45	3.1	4.6	2.7	4.2	55	50	NO	NO	NO	NO	NO
5	5_0337		Residential	G	E	47	41	49	44	48	41	49	44	1.7	3	1.4	2.7	55	50	NO	NO	NO	NO	NO
5	5_0338		Residential	G	E	48	41	50	45	48	42	51	46	2.5	4.1	2.2	3.7	55	50	NO	NO	NO	NO	NO
5	5_0339		Residential	G	N	48	42	51	46	49	42	51	46	2.9	4.5	2.6	4.2	55	50	NO	NO	NO	NO	NO
5	5_0340		Residential	G	NE	47	41	50	45	48	42	51	46	2.7	4.3	2.4	4	55	50	NO	NO	NO	NO	NO
5	5_0341		Residential	G	NW	47	41	51	46	48	42	51	47	3.6	5.1	3.2	4.9	55	50	NO	NO	NO	NO	NO
5	5_0342		Residential	G	NE	48	42	51	46	49	43	52	47	2.8	4.5	2.5	4	55	50	NO	NO	NO	NO	NO
5	5_0343		Residential	G	NW	48	41	51	46	48	42	51	46	3	4.5	2.7	4.1	55	50	NO	NO	NO	NO	NO
5	5_0344		Residential	G	NW	47	41	51	46	48	42	51	46	3.5	4.9	3.1	4.7	55	50	NO	NO	NO	NO	NO
5	5_0345		Residential	G	NE	48	42	50	44	49	42	50	45	1.5	2.8	1.2	2.5	55	50	NO	NO	NO	NO	NO
5	5_0346		Residential	G	NE	49	42	52	47	50	43	52	47	3	4.6	2.6	4.2	55	50	NO	NO	NO	NO	NO
5	5_0347		Residential	G	NE	49	42	52	47	49	43	52	47	3	4.6	2.7	4.3	55	50	NO	NO	NO	NO	NO
5	5_0348		Residential	G	NE	49	42	51	47	49	43	52	47	2.8	4.5	2.5	4	55	50	NO	NO	NO	NO	NO
5	5_0349		Residential	G	NE	48	42	51	46	49	43	51	46	2.6	4.3	2.3	3.8	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
5	5_0350		Residential	G	NE	46	40	48	43	47	40	49	44	2.2	3.6	1.9	3.3	55	50	NO	NO	NO	NO	NO
5	5_0351		Residential	G	NE	49	42	51	46	49	43	51	46	2.3	3.7	2	3.4	55	50	NO	NO	NO	NO	NO
5	5_0352		Residential	G	NE	49	42	51	46	49	43	51	46	2.5	4	2.2	3.6	55	50	NO	NO	NO	NO	NO
5	5_0353		Residential	G	NE	49	42	51	46	49	43	51	46	2.4	3.9	2	3.6	55	50	NO	NO	NO	NO	NO
5	5_0354		Residential	G	NE	49	42	51	46	49	43	51	46	2.3	3.7	1.9	3.3	55	50	NO	NO	NO	NO	NO
5	5_0355		Residential	G	NE	48	41	50	45	49	42	50	45	1.9	3.2	1.6	2.9	55	50	NO	NO	NO	NO	NO
5	5_0356		Residential	G	NE	48	41	49	44	48	42	50	45	1.7	3.1	1.4	2.7	55	50	NO	NO	NO	NO	NO
5	5_0357		Residential	G	NE	47	41	50	44	48	42	50	45	2.2	3.5	1.9	3.2	55	50	NO	NO	NO	NO	NO
5	5_0358		Residential	G	NW	46	40	48	44	47	40	49	44	2.6	4	2.3	3.7	55	50	NO	NO	NO	NO	NO
5	5_0359		Residential	G	NW	45	39	48	43	46	39	48	44	3.2	4.7	2.9	4.4	55	50	NO	NO	NO	NO	NO
5	5_0359		Residential	1	NE	49	43	51	46	50	43	52	47	2.4	3.8	2.1	3.4	55	50	NO	NO	NO	NO	NO
5	5_0360		Residential	G	SE	46	40	48	43	47	40	48	43	1.9	3.1	1.6	2.8	55	50	NO	NO	NO	NO	NO
5	5_0361		Residential	G	NW	46	40	48	44	47	40	49	44	2.5	3.9	2.1	3.6	55	50	NO	NO	NO	NO	NO
5	5_0362		Residential	G	NE	48	42	51	46	49	43	51	47	2.7	4.1	2.3	3.8	55	50	NO	NO	NO	NO	NO
5	5_0363		Residential	G	NE	48	42	51	46	49	42	51	46	3	4.5	2.6	4.2	55	50	NO	NO	NO	NO	NO
5	5_0364		Residential	G	NE	48	41	51	46	49	42	51	46	2.8	4.4	2.4	4.1	55	50	NO	NO	NO	NO	NO
5	5_0365		Residential	G	NE	48	42	51	46	49	42	51	46	2.7	4.3	2.4	4	55	50	NO	NO	NO	NO	NO
5	5_0366		Residential	G	NW	47	41	51	46	48	42	51	46	3.2	4.7	2.8	4.4	55	50	NO	NO	NO	NO	NO
5	5_0367		Residential	G	NE	48	42	51	46	49	42	51	47	2.9	4.4	2.5	4.1	55	50	NO	NO	NO	NO	NO
5	5_0368		Residential	G	NW	48	42	51	47	48	42	52	47	3.5	4.9	3.2	4.5	55	50	NO	NO	NO	NO	NO
5	5_0369		Residential	G	NE	49	42	52	47	49	43	52	47	2.9	4.2	2.4	3.9	55	50	NO	NO	NO	NO	NO
5	5_0370		Residential	G	NE	49	43	52	47	50	43	52	48	3.2	4.6	2.8	4.3	55	50	NO	NO	NO	NO	NO
5	5_0371		Residential	G	NE	49	42	52	47	49	43	52	47	3.3	4.8	3	4.5	55	50	NO	NO	NO	NO	NO
5	5_0372		Residential	G	NE	48	42	52	47	49	43	52	47	3.3	4.9	3	4.6	55	50	NO	NO	NO	NO	NO
5	5_0373		Residential	G	NE	48	42	52	47	49	43	52	47	3.2	4.7	2.8	4.3	55	50	NO	NO	NO	NO	NO
5	5_0374		Residential	G	NE	48	42	51	47	49	43	52	47	2.9	4.3	2.6	4	55	50	NO	NO	NO	NO	NO
5	5_0375		Residential	G	NE	48	42	51	47	49	43	52	47	3.2	4.7	2.9	4.3	55	50	NO	NO	NO	NO	NO
5	5_0376		Residential	G	NE	49	43	52	47	49	43	52	47	3.1	4.4	2.7	4.1	55	50	NO	NO	NO	NO	NO
5	5_0377		Residential	G	N	49	43	51	47	49	43	52	47	2.7	4	2.4	3.7	55	50	NO	NO	NO	NO	NO
5	5_0378		Residential	G	N	48	43	52	47	49	43	52	48	3.3	4.6	3	4.3	55	50	NO	NO	NO	NO	NO
5	5_0379		Residential	G	N	48	43	51	47	49	43	52	47	3.1	4.3	2.8	4	55	50	NO	NO	NO	NO	NO
5	5_0379		Residential	1	N	50	44	53	48	50	45	53	48	3	4	2.7	3.8	55	50	NO	NO	NO	NO	NO
5	5_0380		Residential	G	N	49	43	52	47	49	44	52	47	2.7	3.6	2.4	3.5	55	50	NO	NO	NO	NO	NO
5	5_0381		Residential	G	N	49	44	52	47	50	45	52	48	2.4	3.3	2.2	3.1	55	50	NO	NO	NO	NO	NO
5	5_0382		Residential	G	N	49	44	52	47	50	45	52	48	2.4	3.1	2.2	3	55	50	NO	NO	NO	NO	NO
5	5_0383		Residential	G	N	50	45	52	47	50	45	52	48	2.1	2.8	1.9	2.7	55	50	NO	NO	NO	NO	NO
5	5_0384		Residential	G	NW	50	45	52	48	51	46	52	48	1.9	2.5	1.8	2.4	55	50	NO	NO	NO	NO	NO
5	5_0385		Residential	G	N	51	46	53	49	52	47	53	49	1.9	2.4	1.7	2.3	55	50	NO	NO	NO	NO	NO
5	5_0386		Residential	G	N	50	45	52	48	51	46	52	48	1.9	2.6	1.7	2.4	55	50	NO	NO	NO	NO	NO
5	5_0387		Residential	G	N	50	45	52	48	51	46	53	48	2.1	2.8	1.9	2.7	55	50	NO	NO	NO	NO	NO
5	5_0388		Residential	G	N	49	43	52	47	49	44	52	47	2.8	3.9	2.5	3.7	55	50	NO	NO	NO	NO	NO
5	5_0389		Residential	G	N	49	43	51	47	50	44	52	47	2.5	3.4	2.3	3.2	55	50	NO	NO	NO	NO	NO
5	5_0390		Residential	G	N	49	43	52	47	50	44	52	48	3	4	2.7	3.8	55	50	NO	NO	NO	NO	NO
5	5_0391		Residential	G	N	49	43	52	47	50	44	52	48	3.1	4.3	2.8	4.1	55	50	NO	NO	NO	NO	NO
5	5_0392		Residential	G	NE	49	42	52	47	49	43	52	47	3.3	4.7	3	4.3	55	50	NO	NO	NO	NO	NO
5	5_0393		Residential	G	NE	49	42	52	47	49	43	52	47	3.2	4.8	2.9	4.5	55	50	NO	NO	NO	NO	NO
5	5_0394		Residential	G	NE	48	42	52	47	49	43	52	47	3.3	4.9	3	4.6	55	50	NO	NO	NO	NO	NO
5	5_0395		Residential	G	NE	49	42	52	47	50	43	52	47	3.2	4.7	2.8	4.3	55	50	NO	NO	NO	NO	NO
5	5_0396		Residential	G	NW	47	41	50	45	47	41	50	46	3.3	4.6	3	4.4	55	50	NO	NO	NO	NO	NO
5	5_0397		Residential	G	NE	48	42	52	47	49	43	52	47	3.2	4.8	2.8	4.4	55	50	NO	NO	NO	NO	NO
5	5_0398		Residential	G	N	48	42	52	47	49	43	52	48	3.4	5	3.1	4.7	55	50	NO	NO	NO	NO	NO
5	5_0399		Residential	G	NE	48	41	52	47	49	42	52	47	3.8	5.5	3.4	5.2	55	50	NO	NO	NO	NO	NO
5	5_0400		Residential	G	NE	49	43	52	47	49	43	53	48	3.5	4.9	3.2	4.6	55	50	NO	NO	NO	NO	NO
5	5_0401		Residential	G	N	48	42	52	47	49	43	52	48	3.6	5.2	3.2	4.7	55	50	NO	NO	NO	NO	NO
5	5_0402		Residential	G	NE	48	42	52	47	49	43	52	48	3.6	5.2	3.3	4.9	55	50	NO	NO	NO	NO	NO
5	5_0403		Residential	G	NE	48	42	52	47	49	43	52	48	3.7	5.3	3.4	5	55	50	NO	NO	NO	NO	NO
5	5_0404		Residential	G	NE	48	42	52	47	49	42	52	48	3.8	5.4	3.4	5.1	55	50	NO	NO	NO	NO	NO
5	5_0405		Residential	G	NE	48	42	52	47	49	43	52	48	3.7	5.3	3.4	5	55	50	NO	NO	NO	NO	NO
5	5_0406		Residential	G	NE	48	42	52	47	49	42	52	48	3.8	5.6	3.5	5.1	55	50	NO	NO	NO	NO	NO
5	5_0407		Residential	G	NE	48	41	52	47	49	42	52	48	4.1	5.9	3.7	5.5	55	50	NO	NO	NO	NO	NO
5	5_0407		Residential	1	NE	49	43	53	48	50	44	53	48	3.6	5.1	3.3	4.8	55	50	NO	NO	NO	NO	NO
5	5_0408		Residential	G	NE	48	42	52	48	49	43	53	48	3.9	5.4	3.5	5.1	55	50	NO	NO	NO	NO	NO
5	5_0409		Residential	G	NE	48	42	52	47	49	43	53	48	3.9	5.4	3.5	5.1	55	50	NO	NO	NO	NO	NO
5	5_0410		Residential	G	NE	48	42	52	48	49	43	53	48	3.9	5.5	3.6	5.2	55	50	NO	NO	NO	NO	NO
5	5_0411		Residential	G	NE	48	42	52	48	49	43	53	48	3.9	5.4	3.5	5	55	50	NO	NO	NO	NO	NO
5	5_0412		Residential	G	NE	48	42	52	48	49	43	53	48	3.9	5.4	3.6	5.1	55	50	NO	NO	NO	NO	NO
5	5_0413		Residential	G	N	48	43	52	48	49	43	53	48	3.9	5.3	3.6	4.9	55	50	NO	NO	NO	NO	NO
5	5_0414		Residential	G	N	49	43	52	48	49	43	53	48	3.8	5.2	3.5	4.8	55	50	NO	NO	NO	NO	NO
5	5_0415		Residential	G	E	48	41	52	47	49	42	52	48	4.1	5.8	3.7	5.3	55	50	NO	NO	NO	NO	NO
5	5_0416		Residential	G	N	48	42	52	48	48	42	52	48	4.4	5.9	4.1	5.6	55	50	NO	NO	NO	NO	NO
5	5_0417		Residential	G	NE	48	42	52	48	49	43	53	48	4.3	5.8	3.9	5.5	55	50	NO	NO	NO	NO	NO
5	5_0418		Residential	G	NE	48	42	53	48	49	43	53	48	4.2	5.6	3.9	5.3	55	50	NO	NO	NO	NO	NO
5	5_0419		Residential	G	N	49	43	53	48	49	44	53	49	4.1	5.3	3.8	5.1	55	50	NO	NO	NO	NO	NO
5	5_0420		Residential	G	NW	49	43	51	47	49	44	52	47	2.7	3.5	2.5	3.4	55	50	NO	NO	NO	NO	NO
5	5_0420		Residential	1	NE	49	43	53	48	50	44	53	49	4.1	5.6	3.7	5.3	55	50	NO	NO	NO	NO	NO
5	5_0421		Residential	G	NE	48	42	52	47	49	43	52	47	3.6	5.1	3.2	4.8	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
5	5_0422		Residential	G	E	48	42	52	48	49	42	53	48	4.4	6	4	5.7	55	50	NO	NO	NO	NO	NO
5	5_0423		Residential	G	NE	48	42	52	47	49	43	52	47	3.6	4.8	3.2	4.5	55	50	NO	NO	NO	NO	NO
5	5_0424		Residential	G	E	47	41	51	46	48	42	51	47	3.9	5.5	3.6	5.2	55	50	NO	NO	NO	NO	NO
5	5_0425		Residential	G	N	48	42	51	47	49	43	52	47	3.6	4.9	3.3	4.6	55	50	NO	NO	NO	NO	NO
5	5_0425		Residential	1	N	49	44	53	48	50	44	53	49	3.5	4.6	3.2	4.4	55	50	NO	NO	NO	NO	NO
5	5_0426		Residential	G	N	49	43	52	48	49	44	53	48	3.6	4.8	3.3	4.6	55	50	NO	NO	NO	NO	NO
5	5_0427		Residential	G	N	49	44	52	48	50	44	53	48	3.3	4.3	3.1	4.1	55	50	NO	NO	NO	NO	NO
5	5_0427		Residential	1	N	50	45	53	49	51	46	54	49	3	3.8	2.7	3.5	55	50	NO	NO	NO	NO	NO
5	5_0428		Residential	G	N	49	44	52	47	49	44	52	48	3	3.8	2.8	3.7	55	50	NO	NO	NO	NO	NO
5	5_0428		Residential	1	N	50	45	53	48	51	46	53	49	2.7	3.4	2.4	3.2	55	50	NO	NO	NO	NO	NO
5	5_0429		Residential	G	N	49	44	51	46	50	45	51	47	1.7	2.4	1.5	2.2	55	50	NO	NO	NO	NO	NO
5	5_0430		Residential	G	NW	50	45	52	47	50	45	52	48	2	2.6	1.9	2.5	55	50	NO	NO	NO	NO	NO
5	5_0431		Residential	G	NW	50	46	51	47	51	46	52	48	1.1	1.5	0.9	1.4	55	50	NO	NO	NO	NO	NO
5	5_0432		Residential	G	N	49	43	52	47	49	44	52	48	3.2	4.4	2.9	4.1	55	50	NO	NO	NO	NO	NO
5	5_0432		Residential	1	W	52	47	53	48	52	47	53	49	0.9	1.3	0.7	1.2	55	50	NO	NO	NO	NO	NO
5	5_0433		Residential	G	NW	49	44	51	46	50	45	51	47	1.5	2	1.3	1.9	55	50	NO	NO	NO	NO	NO
5	5_0434		Residential	G	NW	49	44	50	46	49	44	51	46	1.7	2.2	1.5	2	55	50	NO	NO	NO	NO	NO
5	5_0434		Residential	1	NW	51	46	53	48	51	46	53	49	2	2.6	1.8	2.4	55	50	NO	NO	NO	NO	NO
5	5_0435		Residential	G	N	48	43	51	46	49	44	51	47	2.4	3.1	2.2	3	55	50	NO	NO	NO	NO	NO
5	5_0436		Residential	G	N	48	43	52	47	49	44	52	48	3.3	4.1	3	4	55	50	NO	NO	NO	NO	NO
5	5_0437		Residential	G	N	48	43	51	47	49	43	52	47	3.2	4.2	3	3.9	55	50	NO	NO	NO	NO	NO
5	5_0438		Residential	G	N	48	43	52	47	49	44	52	48	3.2	4.2	2.9	4	55	50	NO	NO	NO	NO	NO
5	5_0439		Residential	G	N	49	43	52	48	49	44	53	48	3.6	4.8	3.3	4.5	55	50	NO	NO	NO	NO	NO
5	5_0440		Residential	G	N	49	43	52	48	49	44	53	48	3.5	4.9	3.2	4.5	55	50	NO	NO	NO	NO	NO
5	5_0441		Residential	G	N	48	42	52	48	49	43	53	48	3.7	5.2	3.3	4.8	55	50	NO	NO	NO	NO	NO
5	5_0442		Residential	G	NE	48	42	52	47	49	43	52	48	3.8	5.3	3.5	5	55	50	NO	NO	NO	NO	NO
5	5_0443		Residential	G	NE	48	42	52	47	49	42	52	48	4.1	5.7	3.7	5.4	55	50	NO	NO	NO	NO	NO
5	5_0444		Residential	G	N	49	43	52	48	49	44	53	48	3.6	4.8	3.3	4.5	55	50	NO	NO	NO	NO	NO
5	5_0445		Residential	G	N	49	43	52	48	49	44	53	48	3.5	4.6	3.2	4.3	55	50	NO	NO	NO	NO	NO
5	5_0446		Residential	G	N	49	43	52	48	49	44	53	48	3.4	4.5	3.1	4.2	55	50	NO	NO	NO	NO	NO
5	5_0447		Residential	G	N	49	44	52	48	50	44	52	48	3	4	2.8	3.7	55	50	NO	NO	NO	NO	NO
5	5_0448		Residential	G	N	49	43	51	46	49	44	51	47	2.2	3	2	2.8	55	50	NO	NO	NO	NO	NO
5	5_0449		Residential	G	N	49	43	51	47	49	44	52	47	2.7	3.4	2.4	3.3	55	50	NO	NO	NO	NO	NO
5	5_0450		Residential	G	NW	50	45	52	47	50	45	52	48	2.2	2.8	2	2.6	55	50	NO	NO	NO	NO	NO
5	5_0451		Residential	G	NW	49	44	50	46	50	45	51	46	1.1	1.6	0.9	1.4	55	50	NO	NO	NO	NO	NO
5	5_0452		Residential	G	NE	48	42	53	49	49	43	54	49	4.7	6.5	4.4	6.1	55	50	NO	NO	NO	NO	NO
5	5_0453		Residential	G	N	70	63	66	59	71	64	67	60	-3.9	-3.9	-4.2	-4.2	55	50	NO	NO	NO	NO	NO
5	5_0454		Residential	G	E	60	54	58	52	61	55	59	53	-2.5	-1.6	-2.8	-2	56	51	NO	NO	NO	NO	NO
6	6_0001		Residential	G	N	72	65	68	61	73	66	69	62	-4	-4	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
6	6_0001		Residential	G	S	62	55	60	54	63	56	60	55	-1.8	-0.4	-2.1	-0.8	55	50	YES	YES	NO	NO	YES
6	6_0002		Residential	G	N	58	52	56	50	59	52	56	50	-2.2	-1.7	-2.6	-1.9	55	50	NO	NO	NO	NO	NO
7	7_0001		Residential	G	SE	72	65	67	60	72	65	68	61	-4.1	-4.1	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
7	7_0002		Residential	G	SE	72	65	68	61	73	66	69	62	-4.1	-4.2	-4.2	-4.4	55	50	NO	NO	NO	NO	NO
7	7_0003		Residential	G	SE	72	65	68	60	73	66	68	61	-4.1	-4.3	-4.3	-4.5	55	50	NO	NO	NO	NO	NO
7	7_0004		Residential	G	S	59	52	55	49	60	53	56	50	-3.2	-2.7	-3.5	-3	55	50	NO	NO	NO	NO	NO
7	7_0004		Residential	1	S	60	53	57	50	61	54	58	51	-3.3	-2.9	-3.6	-3.2	55	50	NO	NO	NO	NO	NO
7	7_0005		Residential	G	SE	61	54	58	51	62	55	58	51	-3.8	-3.7	-3.9	-3.9	55	50	NO	NO	NO	NO	NO
7	7_0006		Residential	G	SW	57	51	54	48	58	51	55	49	-3	-2.4	-3.2	-2.7	55	50	NO	NO	NO	NO	NO
7	7_0007		Residential	G	SE	56	49	53	47	57	50	54	47	-3.1	-2.7	-3.4	-2.9	55	50	NO	NO	NO	NO	NO
7	7_0008		Residential	G	SE	60	53	56	49	61	54	57	50	-3.8	-3.6	-4	-3.9	55	50	NO	NO	NO	NO	NO
7	7_0008		Residential	1	SE	62	55	58	51	62	56	59	52	-3.7	-3.5	-3.9	-3.8	55	50	NO	NO	NO	NO	NO
7	7_0009		Residential	G	SE	60	53	56	49	60	54	57	50	-3.7	-3.6	-3.9	-3.9	55	50	NO	NO	NO	NO	NO
7	7_0010		Residential	G	SE	59	52	55	49	60	53	56	49	-3.7	-3.4	-3.8	-3.6	55	50	NO	NO	NO	NO	NO
7	7_0011		Residential	G	SE	58	51	54	48	58	52	55	48	-3.4	-3.1	-3.6	-3.3	55	50	NO	NO	NO	NO	NO
7	7_0012		Residential	G	SE	57	50	54	48	58	51	54	48	-3.2	-2.8	-3.5	-3.1	55	50	NO	NO	NO	NO	NO
7	7_0013		Residential	G	SE	56	50	53	47	57	51	54	48	-3.1	-2.8	-3.3	-2.9	55	50	NO	NO	NO	NO	NO
7	7_0014		Residential	G	SE	55	49	52	46	56	50	53	47	-3	-2.6	-3.2	-2.8	55	50	NO	NO	NO	NO	NO
7	7_0015		Residential	G	SE	55	49	52	46	56	49	53	46	-3.2	-2.7	-3.4	-3	55	50	NO	NO	NO	NO	NO
7	7_0015		Residential	1	SW	57	51	55	49	58	52	55	49	-2.7	-2	-2.9	-2.4	55	50	NO	NO	NO	NO	NO
7	7_0016		Residential	G	SE	56	49	52	46	56	50	53	47	-3.3	-3	-3.4	-3.1	55	50	NO	NO	NO	NO	NO
7	7_0017		Residential	G	SE	55	49	52	47	56	50	53	47	-3.1	-2.9	-3.3	-2.9	55	50	NO	NO	NO	NO	NO
7	7_0018		Residential	G	SE	55	49	52	46	55	49	52	47	-3.1	-2.8	-3.2	-2.9	55	50	NO	NO	NO	NO	NO
7	7_0019		Residential	G	W	55	49	52	48	55	50	53	48	-2.2	-1.8	-2.2	-1.8	55	50	NO	NO	NO	NO	NO
7	7_0020		Residential	G	W	54	49	52	47	54	49	52	47	-2.1	-1.7	-2.1	-1.7	55	50	NO	NO	NO	NO	NO
7	7_0021		Residential	G	SW	58	51	55	49	59	52	56	49	-3.1	-2.6	-3.3	-2.8	55	50	NO	NO	NO	NO	NO
7	7_0022		Residential	G	E	56	49	52	46	56	50	53	47	-3.3	-2.9	-3.4	-3.1	55	50	NO	NO	NO	NO	NO
7	7_0023		Residential	G	SW	55	48	52	47	56	49	53	47	-2.5	-1.7	-2.7	-2	55	50	NO	NO	NO	NO	NO
7	7_0024		Residential	G	SW	54	48	52	47	55	49	53	47	-2.3	-1.4	-2.5	-1.7	55	50	NO	NO	NO	NO	NO
7	7_0025		Residential	G	NW	54	49	52	47	55	49	53	47	-2.3	-1.9	-2.4	-1.9	55	50	NO	NO	NO	NO	NO
7	7_0026		Residential	G	SW	56	49	53	47	57	50	54	48	-2.8	-2.2	-3	-2.4	55	50	NO	NO	NO	NO	NO
7	7_0027		Residential	G	SW	57	50	54	48	58	51	54	48	-2.9	-2.4	-3.1	-2.6	55	50	NO	NO	NO	NO	NO
7	7_0028		Residential	G	SE	58	52	55	48	59	52	55	49	-3.6	-3.4	-3.8	-3.5	55	50	NO	NO	NO	NO	NO
7	7_0029		Residential	G	SE	59	52	55	49	60	53	56	49	-3.7	-3.5	-3.9	-3.7	55	50	NO	NO	NO	NO	NO
7	7_0030		Residential	G	SE	59	53	56	49	60	53	56	50	-3.7	-3.5	-3.9	-3.7	55	50	NO	NO	NO	NO	NO
7	7_0031		Residential	G	NE	55	49	52	46	56	49	52	46	-3.3	-2.9	-3.4	-3	55	50	NO	NO	NO	NO	NO
7	7_0032		Residential	G	SE	60	53	56	50	61	54	57	50	-3.8	-3.6	-3.9	-3.9	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
7	7_0033		Residential	G	SW	62	55	58	51	62	56	59	52	-3.6	-3.4	-3.9	-3.7	55	50	NO	NO	NO	NO	NO
7	7_0034		Residential	G	SW	56	50	53	47	57	50	54	48	-3	-2.5	-3.3	-2.8	55	50	NO	NO	NO	NO	NO
7	7_0034		Residential	1	SW	60	53	57	50	61	54	57	51	-3.4	-3	-3.6	-3.3	55	50	NO	NO	NO	NO	NO
7	7_0035		Residential	G	SW	57	50	54	48	58	51	55	49	-3	-2.4	-3.3	-2.7	55	50	NO	NO	NO	NO	NO
7	7_0036		Residential	G	SE	62	55	58	51	63	56	59	52	-3.9	-3.9	-4.1	-4.1	55	50	NO	NO	NO	NO	NO
7	7_0036		Residential	1	SE	64	57	60	53	65	58	60	54	-3.8	-3.8	-4.1	-4.1	55	50	NO	NO	NO	NO	NO
7	7_0037		Residential	G	SE	63	56	59	52	64	57	60	53	-3.9	-3.9	-4.1	-4.2	55	50	NO	NO	NO	NO	NO
7	7_0038		Residential	G	SE	65	58	61	54	66	59	61	54	-3.9	-4	-4.1	-4.2	55	50	NO	NO	NO	NO	NO
7	7_0039		Residential	G	SE	66	59	62	55	67	60	63	56	-4.1	-4.2	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
7	7_0040		Residential	G	SE	67	60	63	56	68	61	64	57	-4.2	-4.2	-4.2	-4.4	55	50	NO	NO	NO	NO	NO
7	7_0041		Residential	G	S	70	63	66	59	71	64	66	59	-4.2	-4.3	-4.3	-4.5	55	50	NO	NO	NO	NO	NO
7	7_0042		Residential	G	S	71	64	67	60	72	65	68	61	-4.2	-4.3	-4.3	-4.5	55	50	NO	NO	NO	NO	NO
7	7_0043		Residential	G	S	72	65	68	61	73	66	69	62	-4.2	-4.4	-4.3	-4.5	55	50	NO	NO	NO	NO	NO
7	7_0044		Residential	G	S	72	65	68	61	73	66	69	62	-4.3	-4.3	-4.3	-4.5	55	50	NO	NO	NO	NO	NO
7	7_0045		Residential	G	S	71	64	67	59	72	65	67	60	-4.1	-4.3	-4.3	-4.5	55	50	NO	NO	NO	NO	NO
8	8_0001		Residential	G	S	72	65	68	61	73	66	69	62	-4	-4	-4.2	-4.2	55	50	NO	NO	NO	NO	NO
8	8_0002		Residential	G	S	71	64	67	61	72	65	68	61	-3.9	-3.8	-4.1	-4.2	55	50	NO	NO	NO	NO	NO
8	8_0003		Residential	G	S	72	65	68	61	73	66	69	62	-4	-3.8	-4	-4.2	55	50	NO	NO	NO	NO	NO
8	8_0003		Residential	G	W	67	60	64	57	68	61	64	58	-3.3	-2.9	-3.5	-3.2	55	50	NO	NO	NO	NO	YES
8	8_0004		Residential	G	S	64	57	61	55	65	58	62	55	-3	-2.1	-3.1	-2.5	55	50	NO	YES	NO	NO	YES
8	8_0005		Residential	G	SW	59	52	59	55	59	53	60	55	0.8	2.7	0.4	2.2	55	50	YES	YES	NO	NO	YES
8	8_0006		Residential	G	SW	55	49	57	52	56	50	57	52	1.3	2.9	0.9	2.5	55	50	NO	NO	NO	NO	YES
8	8_0007		Residential	G	W	54	48	56	51	55	49	56	52	2	3.2	1.6	2.9	55	50	NO	NO	NO	NO	YES
8	8_0008		Residential	G	SW	59	53	59	54	60	53	59	54	-0.3	1.3	-0.7	0.9	55	50	NO	NO	NO	NO	YES
9	9_0001	First floor apartments	Residential	G	S	75	68	71	64	76	69	72	65	-4.2	-4.3	-4.2	-4.4	60	55	NO	NO	NO	NO	NO
9	9_0001	First floor apartments	Residential	1	S	76	69	72	65	77	70	73	66	-3.9	-3.9	-4	-4.2	60	55	NO	NO	NO	NO	NO
9	9_0001	First floor apartments	Residential	1	W	70	64	67	62	71	65	68	63	-2.5	-2.2	-2.5	-2.2	60	55	YES	YES	NO	NO	YES
9	9_0002	First floor apartments	Residential	G	S	76	69	71	64	76	69	72	65	-4.2	-4.2	-4.2	-4.3	60	55	NO	NO	NO	NO	NO
9	9_0002	First floor apartments	Residential	1	S	77	70	73	66	77	71	73	66	-4.1	-4.1	-4.2	-4.3	60	55	NO	NO	NO	NO	NO
9	9_0003		Residential	G	E	67	60	64	58	68	61	65	59	-2.5	-1.3	-2.8	-1.7	55	50	YES	YES	NO	NO	YES
9	9_0004		Residential	G	E	64	57	62	56	65	58	63	57	-2.4	-1.3	-2.7	-1.8	55	50	NO	YES	NO	NO	YES
9	9_0005		Residential	G	S	73	66	69	62	74	67	70	63	-4.1	-4.1	-4.2	-4.3	55	50	NO	NO	NO	NO	NO
9	9_0005		Residential	G	E	69	62	65	59	70	63	66	60	-3.4	-2.9	-3.6	-3.2	55	50	NO	NO	NO	NO	YES
9	9_0006		Residential	G	S	75	68	71	64	76	69	72	65	-4.2	-4.3	-4.3	-4.5	55	50	NO	NO	NO	NO	NO
9	9_0006		Residential	G	N	60	53	59	54	61	54	59	54	-1	0.5	-1.2	0.1	55	50	NO	NO	NO	NO	YES
9	9_0007		Residential	G	E	63	56	61	56	64	57	62	56	-2.1	-0.8	-2.3	-1.2	55	50	YES	YES	NO	NO	YES
9	9_0008		Residential	G	S	70	63	66	59	70	64	66	59	-4	-4	-4.2	-4.2	55	50	NO	NO	NO	NO	NO
9	9_0008		Residential	G	E	65	58	62	55	66	59	62	56	-3.2	-2.6	-3.4	-2.9	55	50	NO	NO	NO	NO	YES
9	9_0009		Residential	G	S	75	68	71	64	76	69	71	64	-4.2	-4.3	-4.3	-4.5	55	50	NO	NO	NO	NO	NO
9	9_0010	World of Learning Child Care	Childcare Sleeping	G	S	72	65	68	61	73	66	68	61	-4.2	-4.3	-4.2	-4.5	45	-	NO	NO	NO	-	NO
9	9_0010	World of Learning Child Care	Childcare Sleeping	G	N	56	50	57	52	57	51	57	53	0.9	2.1	0.6	1.9	45	-	YES	YES	NO	-	YES
9	9_0011		Residential	G	E	69	62	65	58	69	63	65	58	-4	-4	-4.2	-4.2	57	52	NO	NO	NO	NO	NO
9	9_0012		Residential	G	S	73	66	69	62	74	67	70	63	-4.2	-4.3	-4.3	-4.5	58	53	NO	NO	NO	NO	NO
9	9_0013		Residential	G	S	62	55	59	53	63	56	60	53	-3.3	-2.8	-3.5	-3.1	55	50	NO	NO	NO	NO	NO
9	9_0013		Residential	G	E	58	51	58	53	59	52	58	54	0.2	2	-0.2	1.5	55	50	NO	NO	NO	NO	YES
9	9_0013		Residential	1	E	63	57	61	56	64	57	62	56	-1.9	-0.6	-2.2	-1	55	50	YES	YES	NO	NO	YES
10	10_0001		Residential	G	SE	66	62	65	61	67	63	66	62	-1.2	-1.1	-1	-0.9	60	55	YES	YES	YES	YES	YES
10	10_0002		Residential	G	SE	62	58	62	58	63	59	63	58	-0.5	-0.5	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
10	10_0003		Residential	G	E	60	56	60	56	61	57	61	56	-0.1	-0.2	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
10	10_0003		Residential	1	E	62	57	61	57	62	58	62	58	-0.2	-0.3	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
10	10_0004		Residential	G	E	56	51	57	52	57	52	57	53	0.6	0.8	0.6	0.8	58	53	NO	NO	NO	NO	NO
10	10_0005		Residential	G	NE	66	62	64	60	66	62	66	61	-1.1	-1.3	-0.8	-1.1	55	50	YES	YES	YES	YES	YES
10	10_0006		Residential	G	E	54	49	55	50	55	50	55	51	1	1.4	0.9	1.2	57	52	NO	NO	NO	NO	NO
10	10_0007		Residential	G	N	52	47	53	49	53	48	54	50	1.6	1.7	1.5	1.6	59	54	NO	NO	NO	NO	NO
10	10_0008		Residential	G	S	55	50	54	49	56	51	55	50	-0.6	-0.3	-0.9	-0.6	59	54	NO	NO	NO	NO	NO
10	10_0009		Residential	G	N	52	48	54	50	53	49	54	50	1.4	1.6	1.3	1.6	59	54	NO	NO	NO	NO	NO
10	10_0010		Residential	G	S	56	51	55	50	57	51	56	51	-0.7	-0.5	-1	-0.6	60	55	NO	NO	NO	NO	NO
10	10_0011		Residential	G	S	56	51	55	50	57	52	56	51	-0.9	-0.7	-1	-0.7	60	55	NO	NO	NO	NO	NO
10	10_0012		Residential	G	E	58	54	58	54	59	54	59	55	-0.1	0.1	-0.1	0.1	60	55	NO	NO	NO	NO	NO
10	10_0013		Residential	G	S	53	47	52	47	54	48	53	47	-0.5	-0.2	-1	-0.5	60	55	NO	NO	NO	NO	NO
10	10_0014		Residential	G	S	54	48	53	48	55	49	54	49	-0.7	-0.4	-1.1	-0.7	60	55	NO	NO	NO	NO	NO
10	10_0015		Residential	G	S	54	49	53	48	55	50	54	49	-0.7	-0.4	-1	-0.7	60	55	NO	NO	NO	NO	NO
10	10_0016		Residential	G	S	54	49	53	48	55	50	54	49	-0.8	-0.5	-1.1	-0.7	60	55	NO	NO	NO	NO	NO
10	10_0017		Residential	G	S	54	49	53	48	55	50	54	49	-0.8	-0.6	-1.1	-0.8	60	55	NO	NO	NO	NO	NO
10	10_0018		Residential	G	S	55	49	54	48	55	50	54	49	-1	-0.7	-1.3	-0.8	60	55	NO	NO	NO	NO	NO
10	10_0019		Residential	G	N	55	51	55	51	56	51	56	52	0.3	0.2	0.3	0.3	60	55	NO	NO	NO	NO	NO
10	10_0020		Residential	G	NE	58	54	58	53	59	55	59	54	-0.6	-0.6	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
10	10_0021		Residential	G	E	53	48	54	50	54	49	55	50	0.8	1.2	0.6	0.9	58	53	NO	NO	NO	NO	NO
10	10_0022		Residential	G	E	53	48	53	48	54	49	53	49	-0.2	0.2	-0.4	0	59	54	NO	NO	NO	NO	NO
10	10_0023		School Classroom	G	E	55	50	55	50	55	51	55	51	0	0.1	0	0.1	50	-	YES	YES	NO	-	YES
10	10_0024		School Classroom	G	S	68	61	67	60	69	62	67	61	-1	-0.9	-1.7	-1.7	50	-	NO	NO	NO	-	NO
10	10_0024		School Classroom	1	S	69	62	68	61	70	63	68	62	-1	-0.9	-1.7	-1.7	50	-	NO	NO	NO	-	NO
10	10_0025		School Classroom	G	S	58	52	57	51	59	53	57	51	-0.9	-0.8	-1.7	-1.5	50	-	NO	NO	NO	-	NO
10	10_0025		School Classroom	G	N	53	49	54	50	54	50	55	50	0.7	0.6	0.7	0.6	50	-	YES	YES	NO	-	YES
10	10_0025		School Classroom	1	E	60	55	60	54	61	55	60	55	-0.3	-0.2	-0.6	-0.3	50	-	YES	YES	NO	-	YES
10	10_0026		School Classroom	G	S	68	62	67	61	69	63	68	61	-0.9	-0.9	-1.7	-1.7	50	-	NO	NO	NO	-	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
10	10_0026		School Classroom	G	N	55	51	56	52	56	52	57	52	0.7	0.9	0.8	0.8	50	-	YES	YES	NO	-	YES
10	10_0027		School Classroom	G	E	56	52	56	52	57	52	57	53	0.4	0.3	0.4	0.4	50	-	YES	YES	NO	-	YES
10	10_0028		School Classroom	G	N	58	53	57	53	58	54	58	54	-0.2	-0.4	-0.1	-0.2	50	-	YES	YES	NO	-	YES
10	10_0029		School Classroom	G	E	61	56	60	55	61	57	61	56	-0.7	-0.7	-0.8	-0.6	50	-	YES	YES	NO	-	YES
10	10_0031		Residential	G	E	71	67	69	65	71	68	70	66	-1.3	-1.6	-1.1	-1.4	60	55	YES	YES	YES	YES	YES
10	10_0032		Residential	G	E	72	69	71	67	73	69	72	68	-1.5	-1.7	-1.2	-1.4	60	55	YES	YES	YES	YES	YES
10	10_0033		Residential	G	E	72	69	71	67	73	70	72	68	-1.5	-1.7	-1.2	-1.5	60	55	YES	YES	YES	YES	YES
10	10_0034		Residential	G	E	71	67	69	66	72	68	71	67	-1.6	-1.8	-1.3	-1.6	60	55	YES	YES	YES	YES	YES
10	10_0035		Residential	G	NW	60	56	60	55	61	57	61	56	-0.7	-1	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
10	10_0036		Residential	G	N	62	57	61	56	62	58	62	57	-0.8	-1	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
10	10_0037		Residential	G	NW	63	59	62	58	63	59	63	59	-0.9	-1	-0.5	-0.8	60	55	NO	NO	NO	NO	NO
10	10_0038		Residential	G	NE	65	60	64	59	65	61	65	60	-1	-1.2	-0.8	-1	60	55	YES	YES	NO	YES	YES
10	10_0039		Residential	G	N	64	60	63	59	65	61	64	60	-1.2	-1.4	-0.9	-1.2	60	55	NO	YES	NO	YES	YES
10	10_0040		School Classroom	G	S	65	58	64	57	66	59	64	58	-1	-1	-1.8	-1.8	50	-	NO	NO	NO	-	NO
10	10_0040		School Classroom	G	N	54	49	54	49	55	50	55	50	-0.1	0	-0.3	-0.2	50	-	YES	YES	NO	-	YES
10	10_0041		School Classroom	G	S	59	52	58	52	60	53	58	52	-1	-0.9	-1.6	-1.4	50	-	NO	NO	NO	-	NO
10	10_0041		School Classroom	G	N	55	50	55	50	56	51	56	51	-0.2	-0.2	-0.3	-0.2	50	-	YES	YES	NO	-	YES
10	10_0042		School Classroom	G	S	57	52	56	51	58	52	57	51	-1	-0.9	-1.5	-1.2	50	-	NO	YES	NO	-	NO
10	10_0042		School Classroom	G	N	54	50	55	50	55	51	55	51	0.2	0.3	0.1	0.2	50	-	YES	YES	NO	-	YES
10	10_0043		School Classroom	G	E	58	54	58	53	59	54	59	54	-0.7	-0.5	-0.7	-0.6	50	-	YES	YES	NO	-	YES
10	10_0044		Residential	G	S	54	48	53	47	55	49	54	48	-0.8	-0.5	-1.3	-1	58	53	NO	NO	NO	NO	NO
10	10_0045		Residential	G	E	52	47	52	47	53	47	53	47	0	0.4	-0.5	0	57	52	NO	NO	NO	NO	NO
10	10_0046		Residential	G	E	54	48	54	49	55	49	54	49	-0.3	0.1	-0.9	-0.5	57	52	NO	NO	NO	NO	NO
10	10_0047		Residential	G	E	56	50	55	50	56	50	56	50	-0.2	0.2	-0.8	-0.3	57	52	NO	NO	NO	NO	NO
10	10_0048		Residential	G	E	52	47	52	48	53	48	53	48	0	0.4	-0.2	0.2	59	54	NO	NO	NO	NO	NO
10	10_0049		Residential	G	E	52	47	53	48	53	48	53	48	0.4	0.8	0	0.5	58	53	NO	NO	NO	NO	NO
10	10_0050		Residential	G	S	53	47	52	47	54	48	53	47	-0.3	0.1	-0.8	-0.3	57	52	NO	NO	NO	NO	NO
10	10_0051		Residential	G	S	52	47	52	47	53	47	52	47	-0.4	0	-0.9	-0.4	57	52	NO	NO	NO	NO	NO
10	10_0052		Residential	G	S	52	46	52	46	53	47	52	47	-0.4	0	-1	-0.5	57	52	NO	NO	NO	NO	NO
10	10_0053		Residential	G	S	52	46	52	46	53	47	52	47	-0.4	0	-0.9	-0.5	56	51	NO	NO	NO	NO	NO
10	10_0054		Residential	G	S	52	46	52	46	53	47	52	47	-0.4	0	-1	-0.4	56	51	NO	NO	NO	NO	NO
10	10_0055		Residential	G	S	52	46	52	46	53	47	52	47	-0.4	0	-1	-0.4	56	51	NO	NO	NO	NO	NO
10	10_0056		Residential	G	S	52	46	52	46	53	47	52	46	-0.4	0	-1	-0.6	56	51	NO	NO	NO	NO	NO
10	10_0057		Residential	G	S	52	46	52	46	53	47	52	46	-0.4	0	-1.1	-0.5	56	51	NO	NO	NO	NO	NO
10	10_0058		Residential	G	S	52	46	52	47	53	47	52	47	-0.3	0.2	-0.9	-0.4	56	51	NO	NO	NO	NO	NO
10	10_0059		Residential	G	S	53	46	52	46	54	47	52	47	-0.4	0	-1.1	-0.5	55	50	NO	NO	NO	NO	NO
10	10_0060		Residential	G	S	53	47	53	47	54	48	53	47	-0.4	0	-1	-0.5	55	50	NO	NO	NO	NO	NO
10	10_0061		Residential	G	S	53	47	52	47	54	48	53	47	-0.5	0	-1.2	-0.7	55	50	NO	NO	NO	NO	NO
10	10_0062		Residential	G	S	53	47	52	47	54	48	53	47	-0.5	0	-1	-0.6	55	50	NO	NO	NO	NO	NO
10	10_0063		Residential	G	S	53	46	52	46	54	47	52	47	-0.5	-0.1	-1.1	-0.7	55	50	NO	NO	NO	NO	NO
10	10_0064		Residential	G	E	52	47	52	47	53	48	53	48	0.1	0.5	-0.2	0.3	59	54	NO	NO	NO	NO	NO
10	10_0065		Residential	G	E	52	47	53	48	53	48	53	48	0.3	0.6	0	0.4	58	53	NO	NO	NO	NO	NO
10	10_0066		Residential	G	E	52	47	52	48	53	48	53	48	0.5	0.8	0.2	0.6	58	53	NO	NO	NO	NO	NO
10	10_0067		Residential	G	E	53	48	53	48	53	48	54	49	0.5	0.8	0.3	0.7	58	53	NO	NO	NO	NO	NO
10	10_0068		Residential	G	E	52	46	52	48	53	47	53	48	0.6	1.1	0.3	0.9	57	52	NO	NO	NO	NO	NO
10	10_0069		Residential	G	S	52	47	52	47	53	47	52	47	-0.2	0.2	-0.7	-0.2	57	52	NO	NO	NO	NO	NO
10	10_0070		Residential	G	E	51	46	52	47	52	47	52	48	0.4	0.9	0.2	0.6	56	51	NO	NO	NO	NO	NO
10	10_0070		Residential	1	E	54	48	54	49	54	49	55	50	0.4	1	0.2	0.7	56	51	NO	NO	NO	NO	NO
10	10_0071		Residential	G	S	52	46	52	47	53	47	52	47	-0.3	0.3	-0.8	-0.2	56	51	NO	NO	NO	NO	NO
10	10_0072		Residential	G	S	51	45	51	45	52	46	51	46	-0.3	0.1	-0.9	-0.3	56	51	NO	NO	NO	NO	NO
10	10_0073		Residential	G	S	52	46	52	46	53	47	52	47	-0.4	0.1	-0.9	-0.3	56	51	NO	NO	NO	NO	NO
10	10_0074		Residential	G	S	51	45	51	46	52	46	51	46	-0.3	0.2	-0.8	-0.3	56	51	NO	NO	NO	NO	NO
10	10_0075		Residential	G	S	52	46	51	46	53	47	52	47	-0.4	0.1	-0.9	-0.3	55	50	NO	NO	NO	NO	NO
10	10_0076		Residential	G	S	51	46	51	46	52	46	52	46	-0.3	0.2	-0.8	-0.3	55	50	NO	NO	NO	NO	NO
10	10_0077		Residential	G	S	52	46	51	46	53	47	52	47	-0.5	0.1	-1	-0.4	55	50	NO	NO	NO	NO	NO
10	10_0078		Residential	G	S	52	46	51	45	53	46	51	46	-0.6	-0.1	-1.2	-0.6	55	50	NO	NO	NO	NO	NO
10	10_0078		Residential	1	E	53	47	53	49	54	48	54	49	0.6	1.2	0.2	0.8	55	50	NO	NO	NO	NO	NO
10	10_0079		Residential	G	S	52	46	51	46	53	46	51	46	-0.5	0	-1.1	-0.5	55	50	NO	NO	NO	NO	NO
10	10_0080		Residential	G	E	51	46	52	47	52	46	52	48	0.9	1.6	0.6	1.3	55	50	NO	NO	NO	NO	NO
10	10_0081		Residential	G	E	51	46	52	48	52	47	53	48	0.9	1.5	0.6	1.3	55	50	NO	NO	NO	NO	NO
10	10_0082		Residential	G	S	52	46	52	47	53	47	52	47	-0.2	0.2	-0.7	-0.1	56	51	NO	NO	NO	NO	NO
10	10_0083		Residential	G	E	53	48	53	49	54	48	54	50	0.7	1.3	0.5	1.1	56	51	NO	NO	NO	NO	NO
10	10_0084		Residential	G	E	52	47	53	49	53	48	54	50	1.2	1.7	1	1.6	56	51	NO	NO	NO	NO	NO
10	10_0085		Residential	G	E	53	48	54	49	54	49	54	50	1.2	1.6	0.9	1.4	56	51	NO	NO	NO	NO	NO
10	10_0086		Residential	G	E	53	48	54	49	53	48	54	50	1.1	1.6	0.9	1.4	56	51	NO	NO	NO	NO	NO
10	10_0087		Residential	G	E	52	47	54	49	53	48	54	50	1.2	1.7	1	1.5	56	51	NO	NO	NO	NO	NO
10	10_0088		Residential	G	E	53	48	54	49	53	48	54	50	1.1	1.6	0.9	1.4	56	51	NO	NO	NO	NO	NO
10	10_0089		Residential	G	E	51	47	53	48	52	47	53	49	1.4	1.8	1.2	1.6	55	50	NO	NO	NO	NO	NO
10	10_0090		Residential	G	E	52	48	55	51	53	48	56	52	3.3	3.5	3	3.3	55	50	NO	NO	NO	NO	YES
10	10_0091		Residential	G	E	53	47	53	48	54	48	54	48	0	0.5	-0.6	0	55	50	NO	NO	NO	NO	NO
10	10_0092		Residential	G	S	53	47	52	46	54	48	53	47	-0.5	-0.1	-1.2	-0.7	55	50	NO	NO	NO	NO	NO
10	10_0093		Residential	G	S	53	47	52	46	54	48	52	47	-0.7	-0.3	-1.3	-0.9	57	52	NO	NO	NO	NO	NO
10	10_0094	First floor apartments	Residential	G	S	70	63	69	62	71	64	69	63	-0.9	-0.9	-1.6	-1.7	60	55	NO	NO	NO	NO	NO
10	10_0094	First floor apartments	Residential	1	S	71	65	70	63	72	66	70	64	-1.1	-1.2	-1.8	-1.8	60	55	NO	NO	NO	NO	NO
11	11_0001		Residential	G	NW	54	50	54	50	55	50	55	50	0	-0.1	0.1	0	55	50	NO	NO	NO	NO	NO
11	11_0002		Residential	G	NW	55	51	56	51	55	51	56	52	0.6	0.5	0.6	0.5	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
11	11_0003		Residential	G	W	55	50	56	51	55	51	56	52	1	0.8	0.9	0.8	55	50	NO	NO	NO	NO	NO
11	11_0004		Residential	G	NW	55	50	55	51	55	51	55	51	0.3	0.2	0.4	0.3	55	50	NO	NO	NO	NO	NO
11	11_0004		Residential	G	SW	54	49	55	50	54	50	55	51	1.1	1	0.9	1	55	50	NO	NO	NO	NO	YES
11	11_0005		Residential	G	NW	56	52	54	50	56	52	55	51	-1.3	-1.4	-1.1	-1.2	55	50	NO	NO	NO	NO	NO
11	11_0006		Residential	G	NW	55	51	54	50	55	51	54	50	-0.9	-1.1	-0.9	-0.9	55	50	NO	NO	NO	NO	NO
11	11_0007		Residential	G	NW	54	50	54	50	54	50	54	50	-0.2	-0.4	-0.1	-0.3	55	50	NO	NO	NO	NO	NO
11	11_0008		Residential	G	NE	57	53	54	50	57	53	54	50	-3.2	-3.2	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
11	11_0009		Residential	G	NE	57	53	54	50	57	53	54	50	-3.1	-3.2	-2.9	-3	55	50	NO	NO	NO	NO	NO
11	11_0010		Residential	G	NE	57	53	54	50	57	53	54	50	-3.1	-3.2	-2.9	-3	55	50	NO	NO	NO	NO	NO
11	11_0011		Residential	G	NE	57	53	54	50	57	53	54	50	-3.2	-3.1	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
11	11_0012		Residential	G	NE	57	53	54	50	57	53	54	50	-3.1	-3.2	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
11	11_0013		Residential	G	SW	52	47	53	48	52	48	53	49	1	1	1	1	55	50	NO	NO	NO	NO	NO
11	11_0014		Residential	G	SW	52	48	53	49	52	48	54	49	1.2	1.3	1.2	1.3	55	50	NO	NO	NO	NO	NO
11	11_0015		Residential	G	NE	55	51	52	48	56	52	53	49	-3.2	-3.1	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
11	11_0015		Residential	1	NW	55	51	55	51	56	52	56	51	-0.2	-0.3	-0.1	-0.2	55	50	NO	NO	NO	NO	NO
11	11_0016		Residential	G	SW	51	47	53	48	52	48	53	49	1.3	1.3	1.3	1.3	55	50	NO	NO	NO	NO	NO
11	11_0017		Residential	G	NW	53	49	54	49	54	50	54	50	0.3	0.2	0.4	0.3	55	50	NO	NO	NO	NO	NO
11	11_0018		Residential	G	SW	52	48	54	49	53	48	54	50	1.4	1.3	1.3	1.3	55	50	NO	NO	NO	NO	NO
11	11_0019		Residential	G	SW	52	48	54	49	53	48	54	50	1.4	1.3	1.2	1.3	55	50	NO	NO	NO	NO	NO
11	11_0020		Residential	G	SW	52	48	54	49	53	49	54	50	1.4	1.4	1.4	1.4	55	50	NO	NO	NO	NO	NO
11	11_0021		Residential	G	SW	52	48	54	50	53	49	54	50	1.4	1.4	1.3	1.3	55	50	NO	NO	NO	NO	NO
11	11_0022		Residential	G	SW	53	48	54	50	53	49	55	50	1.5	1.4	1.4	1.3	55	50	NO	NO	NO	NO	NO
11	11_0023		Residential	G	SW	53	48	54	50	53	49	54	50	1.5	1.4	1.4	1.4	55	50	NO	NO	NO	NO	NO
11	11_0024		Residential	G	SW	53	49	55	50	54	49	55	51	1.5	1.5	1.5	1.4	55	50	NO	NO	NO	NO	YES
11	11_0025		Residential	G	SW	52	48	54	50	53	49	54	50	1.7	1.6	1.6	1.6	55	50	NO	NO	NO	NO	NO
11	11_0026		Residential	G	SW	53	49	55	50	54	49	55	51	1.7	1.6	1.6	1.5	55	50	NO	NO	NO	NO	YES
11	11_0027		Residential	G	SW	53	49	55	51	54	50	55	51	1.6	1.5	1.5	1.5	55	50	NO	NO	NO	NO	YES
11	11_0028		Residential	G	NW	56	52	56	52	56	52	57	52	0.3	0.1	0.3	0.1	55	50	NO	NO	NO	NO	NO
11	11_0029		Residential	G	NE	56	52	53	49	56	52	53	49	-3.3	-3.3	-3	-3.1	55	50	NO	NO	NO	NO	NO
11	11_0029		Residential	1	NW	56	52	56	51	56	52	56	52	-0.6	-0.7	-0.4	-0.6	55	50	NO	NO	NO	NO	NO
11	11_0030		Residential	G	NE	56	52	53	49	56	52	54	50	-2.9	-2.9	-2.7	-2.7	55	50	NO	NO	NO	NO	NO
11	11_0031		Residential	G	NW	55	51	54	49	55	51	54	50	-1.1	-1.1	-1	-1	55	50	NO	NO	NO	NO	NO
11	11_0032		Residential	G	NW	55	51	54	50	56	52	55	51	-1	-1.1	-0.9	-1	55	50	NO	NO	NO	NO	NO
11	11_0033		Residential	G	NW	56	52	55	51	57	53	55	51	-1.7	-1.8	-1.5	-1.5	55	50	NO	NO	NO	NO	NO
11	11_0034		Residential	G	NW	55	51	56	52	56	52	57	52	0.7	0.5	0.7	0.5	55	50	NO	NO	NO	NO	NO
11	11_0034		Residential	G	SW	54	50	56	51	55	51	56	52	1.2	1.1	1.2	1.1	55	50	NO	NO	NO	NO	YES
11	11_0035		Residential	G	W	55	51	56	51	55	51	56	52	0.8	0.6	0.8	0.6	55	50	NO	NO	NO	NO	NO
11	11_0036		Residential	G	SW	55	50	56	51	55	51	56	52	1.1	1	1	0.9	55	50	NO	NO	NO	NO	YES
11	11_0037		Residential	G	SW	55	51	56	52	55	51	56	52	1.2	1	1.1	1	55	50	NO	NO	NO	NO	YES
11	11_0038		Residential	G	SW	54	50	55	51	55	51	56	52	1	0.9	1	0.8	55	50	NO	NO	NO	NO	YES
11	11_0039		Residential	G	NW	57	53	57	53	58	54	58	53	0.1	-0.1	0.1	-0.1	55	50	NO	NO	NO	NO	YES
11	11_0040		Residential	G	N	60	56	58	54	61	56	59	55	-1.9	-2.1	-1.8	-1.9	55	50	NO	YES	NO	NO	YES
11	11_0041		Residential	G	NW	73	69	65	60	74	69	65	61	-8.2	-8.3	-8.5	-8.5	55	50	YES	YES	YES	YES	YES
11	11_0042		Residential	G	NW	74	69	64	60	74	70	65	61	-9.3	-9.2	-9.5	-9.5	55	50	YES	YES	YES	YES	YES
11	11_0043		Residential	G	NW	69	64	66	61	69	65	66	62	-3	-3.3	-3.3	-3.5	55	50	YES	YES	YES	YES	YES
11	11_0044		Residential	G	NW	67	63	65	61	68	64	66	61	-1.8	-2.4	-2	-2.6	55	50	YES	YES	YES	YES	YES
12	12_0001		Residential	G	W	58	54	54	50	59	55	55	51	-3.8	-3.8	-3.7	-3.8	55	50	NO	NO	NO	NO	NO
12	12_0001		Residential	1	W	59	55	55	51	59	55	56	52	-3.6	-3.8	-3.5	-3.6	55	50	NO	NO	NO	NO	NO
12	12_0002		Residential	G	W	58	54	54	50	59	54	55	51	-3.8	-3.8	-3.7	-3.8	55	50	NO	NO	NO	NO	NO
12	12_0003		Residential	G	W	58	54	54	50	59	54	55	51	-3.8	-3.9	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0004		Residential	G	W	58	54	54	50	59	54	55	51	-3.8	-3.9	-3.7	-3.8	55	50	NO	NO	NO	NO	NO
12	12_0005		Residential	G	N	56	52	53	49	57	53	54	50	-2.9	-2.9	-2.9	-3	55	50	NO	NO	NO	NO	NO
12	12_0006		Residential	G	N	55	51	53	48	56	52	53	49	-2.7	-2.8	-2.8	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0006		Residential	1	W	57	53	54	50	58	54	55	50	-3	-3.1	-3	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0007		Residential	G	W	57	53	54	49	58	54	54	50	-3.8	-3.8	-3.6	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0008		Residential	G	W	57	53	54	49	58	54	55	50	-3.7	-3.9	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0009		Residential	G	W	58	54	54	50	59	54	55	50	-3.8	-3.9	-3.7	-3.8	55	50	NO	NO	NO	NO	NO
12	12_0010		Residential	G	W	57	53	53	49	58	54	54	50	-3.8	-3.8	-3.6	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0011		Residential	G	W	56	52	53	49	57	53	54	49	-3.2	-3.3	-3.3	-3.3	55	50	NO	NO	NO	NO	NO
12	12_0011		Residential	1	W	58	54	55	51	58	54	56	52	-2.5	-2.6	-2.5	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0012		Residential	G	SW	55	51	52	48	56	52	53	48	-3.3	-3.4	-3.2	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0013		Residential	G	W	55	50	51	47	55	51	52	47	-3.7	-3.7	-3.6	-3.6	55	50	NO	NO	NO	NO	NO
12	12_0013		Residential	1	W	58	54	55	50	59	55	56	51	-3.6	-3.7	-3.4	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0014		Residential	G	W	55	51	51	47	56	51	52	48	-3.8	-3.8	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0015		Residential	G	SW	54	50	50	46	55	50	51	47	-3.6	-3.5	-3.5	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0016		Residential	G	SW	55	51	51	47	56	51	52	48	-3.6	-3.5	-3.5	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0016		Residential	1	SW	58	54	56	51	59	55	56	52	-2.6	-2.7	-2.5	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0017		Residential	G	SW	55	51	51	47	55	51	52	48	-3.6	-3.6	-3.6	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0018		Residential	G	SW	55	50	51	47	55	51	52	47	-3.6	-3.6	-3.5	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0018		Residential	1	SW	58	54	56	51	59	55	56	52	-2.6	-2.7	-2.5	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0019		Residential	G	W	52	48	48	44	53	48	49	45	-3.5	-3.6	-3.5	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0020		Residential	G	NW	52	47	48	44	52	48	48	44	-3.8	-3.8	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
12	12_0021		Residential	G	SW	53	49	50	46	54	50	51	46	-3.6	-3.6	-3.5	-3.6	55	50	NO	NO	NO	NO	NO
12	12_0021		Residential	1	SW	57	53	53	49	57	53	54	50	-3.8	-3.8	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0022		Residential	G	SE	53	48	51	46	53	49	51	47	-1.9	-2	-1.8	-1.8	55	50	NO	NO	NO	NO	NO
12	12_0022		Residential	1	SW	57	52	54	50	57	53	55	51	-2.4	-2.5	-2.4	-2.5	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
12	12_0023		Residential	G	N	57	52	53	49	57	53	54	49	-3.7	-3.7	-3.6	-3.8	55	50	NO	NO	NO	NO	NO
12	12_0023		Residential	1	N	58	53	54	50	58	54	55	50	-3.7	-3.8	-3.5	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0024		Residential	G	N	57	52	53	49	57	53	54	49	-3.6	-3.7	-3.6	-3.6	55	50	NO	NO	NO	NO	NO
12	12_0024		Residential	1	W	59	55	56	51	60	56	56	52	-3.8	-3.9	-3.7	-3.8	55	50	NO	NO	NO	NO	NO
12	12_0025		Residential	G	N	56	51	52	48	56	52	53	48	-3.5	-3.6	-3.5	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0026		Residential	G	W	55	50	51	46	55	51	51	47	-4	-4	-4	-4	55	50	NO	NO	NO	NO	NO
12	12_0027		Residential	G	W	55	51	51	47	56	52	52	48	-4.1	-4.1	-4	-4	55	50	NO	NO	NO	NO	NO
12	12_0028		Residential	G	SW	55	51	52	47	56	52	52	48	-3.8	-3.7	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0029		Residential	G	SW	55	51	51	47	56	51	52	48	-3.8	-3.8	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0030		Residential	G	SW	55	51	52	47	56	52	52	48	-3.8	-3.7	-3.6	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0031		Residential	G	SW	56	52	52	48	56	52	53	48	-3.8	-3.8	-3.7	-3.8	55	50	NO	NO	NO	NO	NO
12	12_0032		Residential	G	W	56	52	52	48	57	52	53	49	-3.6	-3.6	-3.5	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0033		Residential	G	SW	57	52	54	50	57	53	54	50	-2.7	-2.7	-2.7	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0034		Residential	G	SW	57	53	54	50	57	53	55	51	-2.7	-2.7	-2.7	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0035		Residential	G	SW	57	53	54	50	58	54	55	51	-3.1	-3.1	-2.9	-3	55	50	NO	NO	NO	NO	NO
12	12_0036		Residential	G	SW	57	53	54	50	58	54	55	51	-2.8	-2.9	-2.8	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0037		Residential	G	SW	57	53	54	50	57	53	54	50	-3.1	-3	-2.9	-3	55	50	NO	NO	NO	NO	NO
12	12_0037		Residential	1	SW	58	54	55	51	59	55	56	52	-3	-3	-2.8	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0038		Residential	G	S	56	52	53	49	56	52	54	49	-3	-3.1	-2.7	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0039		Residential	G	S	54	50	52	48	54	50	52	48	-2.4	-2.4	-2.2	-2.2	55	50	NO	NO	NO	NO	NO
12	12_0040		Residential	G	NW	60	55	57	52	61	57	58	54	-3.1	-3.4	-2.8	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0040		Residential	1	NW	63	58	60	55	64	60	62	57	-2.7	-3.1	-2.2	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0041		Residential	G	NW	59	55	56	52	61	56	58	53	-3	-3.2	-2.7	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0041		Residential	1	NW	63	58	60	55	64	60	62	57	-2.8	-3.2	-2.3	-2.7	55	50	NO	NO	NO	NO	NO
12	12_0042		Residential	G	NW	58	54	55	50	60	55	57	52	-3.5	-3.7	-2.9	-3.1	55	50	NO	NO	NO	NO	NO
12	12_0042		Residential	1	NW	63	59	60	56	65	60	62	58	-3	-3.3	-2.6	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0042		Residential	1	S	62	58	57	53	63	58	58	54	-4.7	-4.6	-4.3	-4.4	55	50	NO	NO	NO	NO	YES
12	12_0043		Residential	G	SW	60	56	55	51	61	57	57	52	-4.9	-5.1	-4.3	-4.4	55	50	NO	NO	NO	NO	NO
12	12_0044		Residential	G	NW	63	59	58	54	64	60	60	55	-5.2	-5.3	-4.5	-4.6	55	50	NO	NO	NO	NO	NO
12	12_0044		Residential	1	NW	67	63	61	57	68	63	63	58	-5.5	-5.6	-4.8	-4.9	55	50	NO	NO	NO	NO	NO
12	12_0045		Residential	G	W	66	61	60	55	66	62	61	56	-6.1	-6.2	-5.5	-5.6	55	50	NO	NO	NO	NO	NO
12	12_0046		Residential	G	W	66	62	59	55	66	62	60	56	-6.6	-6.6	-6	-6	55	50	NO	NO	NO	NO	NO
12	12_0046		Residential	1	W	69	65	63	59	70	66	64	60	-6.7	-6.7	-6.1	-6.2	55	50	NO	NO	NO	NO	NO
12	12_0047		Residential	G	W	68	64	62	57	69	65	63	58	-6.7	-6.7	-6.2	-6.2	55	50	NO	NO	NO	NO	NO
12	12_0047		Residential	1	W	72	68	65	61	73	68	66	62	-7	-7	-6.6	-6.6	55	50	NO	NO	NO	NO	NO
12	12_0048		Residential	G	W	67	63	61	57	68	64	62	58	-6.6	-6.5	-6.2	-6.2	55	50	NO	NO	NO	NO	NO
12	12_0048		Residential	1	W	72	67	65	60	72	68	66	61	-7	-7	-6.5	-6.5	55	50	NO	NO	NO	NO	NO
12	12_0049		Residential	G	W	72	68	66	62	72	68	67	62	-6.1	-6.1	-5.8	-5.8	55	50	NO	NO	NO	NO	NO
12	12_0049		Residential	G	W	68	64	63	59	69	64	64	60	-4.7	-4.6	-4.4	-4.5	55	50	NO	NO	NO	NO	YES
12	12_0050		Residential	G	S	58	54	53	49	59	54	54	50	-4.8	-4.8	-4.5	-4.5	55	50	NO	NO	NO	NO	NO
12	12_0051		Residential	G	W	58	54	53	49	58	54	54	50	-4.6	-4.6	-4.4	-4.4	55	50	NO	NO	NO	NO	NO
12	12_0052		Residential	G	S	59	54	54	49	59	55	54	50	-5.1	-5	-4.8	-4.8	55	50	NO	NO	NO	NO	NO
12	12_0053		Residential	G	SW	61	57	57	52	62	58	58	53	-4.8	-4.9	-4.4	-4.6	55	50	NO	NO	NO	NO	NO
12	12_0054		Residential	G	W	63	59	58	54	63	59	59	54	-5	-5.1	-4.7	-4.8	55	50	NO	NO	NO	NO	YES
12	12_0055		Residential	G	W	67	62	60	56	67	63	61	57	-6.7	-6.6	-6.3	-6.2	55	50	NO	NO	NO	NO	NO
12	12_0055		Residential	G	S	63	59	58	54	64	60	58	54	-5.7	-5.7	-5.4	-5.4	55	50	NO	NO	NO	NO	YES
12	12_0055		Residential	1	W	68	64	62	58	69	64	63	59	-6.1	-6.1	-5.8	-5.8	55	50	NO	NO	NO	NO	YES
12	12_0056		Residential	G	W	66	62	60	56	67	63	61	57	-6.2	-6.1	-5.8	-5.8	55	50	NO	NO	NO	NO	NO
12	12_0056		Residential	G	S	63	59	58	54	63	59	59	55	-4.4	-4.4	-4.2	-4.2	55	50	NO	YES	NO	NO	YES
12	12_0056		Residential	1	W	68	64	62	58	68	64	63	59	-5.6	-5.7	-5.3	-5.3	55	50	NO	NO	NO	NO	YES
12	12_0057		Residential	G	SE	59	55	54	50	59	55	55	51	-4.5	-4.5	-4.3	-4.3	55	50	NO	NO	NO	NO	NO
12	12_0058		Residential	G	S	59	55	54	50	60	56	55	51	-4.8	-4.9	-4.6	-4.6	55	50	NO	NO	NO	NO	NO
12	12_0059		Residential	G	SE	60	56	55	51	60	56	55	51	-5.3	-5.2	-5	-5	55	50	NO	NO	NO	NO	NO
12	12_0060		Residential	G	S	61	57	56	52	61	57	56	52	-5.2	-5.1	-4.9	-4.9	55	50	NO	NO	NO	NO	NO
12	12_0061		Residential	G	NW	57	53	52	48	58	54	53	49	-5.4	-5.5	-5.1	-5.1	55	50	NO	NO	NO	NO	NO
12	12_0062		Residential	G	SE	57	53	52	48	57	53	53	49	-4.5	-4.6	-4.3	-4.3	55	50	NO	NO	NO	NO	NO
12	12_0063		Residential	G	NW	58	54	52	48	58	54	53	49	-5.6	-5.7	-5.3	-5.3	55	50	NO	NO	NO	NO	NO
12	12_0064		Residential	G	SE	59	55	54	50	59	55	55	51	-4.9	-4.8	-4.6	-4.6	55	50	NO	NO	NO	NO	NO
12	12_0065		Residential	G	S	59	55	54	50	59	55	55	50	-5.1	-5.1	-4.8	-4.9	55	50	NO	NO	NO	NO	NO
12	12_0066		Residential	G	N	59	55	53	49	59	55	54	50	-6	-6	-5.6	-5.6	55	50	NO	NO	NO	NO	NO
12	12_0067		Residential	G	W	65	61	59	55	65	61	60	56	-5.7	-5.7	-5.3	-5.3	55	50	NO	NO	NO	NO	YES
12	12_0068		Residential	G	W	66	62	60	55	66	62	60	56	-6.4	-6.3	-6	-6	55	50	NO	NO	NO	NO	NO
12	12_0068		Residential	G	S	63	59	57	53	63	59	58	54	-5.5	-5.5	-5.2	-5.2	55	50	NO	NO	NO	NO	YES
12	12_0068		Residential	1	W	68	63	62	58	68	64	62	58	-6	-5.9	-5.6	-5.6	55	50	NO	NO	NO	NO	YES
12	12_0069		Residential	G	SE	62	58	56	52	62	58	57	53	-5.4	-5.4	-5.1	-5.1	55	50	NO	NO	NO	NO	NO
12	12_0070		Residential	G	SE	60	56	55	51	61	57	56	52	-5.2	-5.2	-5	-5	55	50	NO	NO	NO	NO	NO
12	12_0071		Residential	G	S	60	56	55	51	61	57	56	52	-5.2	-5.2	-5	-4.9	55	50	NO	NO	NO	NO	NO
12	12_0072		Residential	G	S	60	56	56	52	60	56	57	52	-4	-4.1	-3.8	-3.8	55	50	NO	NO	NO	NO	NO
12	12_0073		Residential	G	S	57	53	54	50	57	53	55	51	-2.7	-2.7	-2.5	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0073		Residential	1	W	62	58	58	54	63	58	59	54	-4.2	-4.3	-4	-4	55	50	NO	NO	NO	NO	YES
12	12_0074		Residential	G	S	59	55	56	51	59	55	56	52	-3.3	-3.3	-3.1	-3.1	55	50	NO	NO	NO	NO	NO
12	12_0075		Residential	G	NW	62	58	60	55	64	59	62	57	-2.5	-2.8	-2.2	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0075		Residential	1	NW	64	59	61	56	65	61	63	58	-2.7	-3	-2.4	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0076		Residential	G	W	61	57	58	53	62	58	59	55	-3.1	-3.2	-2.6	-2.8	55	50	NO	NO	NO	NO	YES
12	12_0076		Residential	1	W	63	58	60	55	64	60	61	56	-3.3	-3.5	-2.8	-3.1	55	50	NO	YES	NO	NO	YES
12	12_0077		Residential	G	W	59	55	55	51	60	56	56	52	-4.1	-4.2	-3.7	-3.8	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
12	12_0077		Residential	1	W	61	57	58	53	62	58	59	55	-3.5	-3.7	-3	-3.3	55	50	NO	YES	NO	NO	YES
12	12_0078		Residential	G	W	59	55	55	50	60	56	56	51	-4.6	-4.6	-4.1	-4.2	55	50	NO	NO	NO	NO	NO
12	12_0078		Residential	1	W	61	57	58	53	62	58	59	54	-3.8	-3.9	-3.4	-3.5	55	50	NO	NO	NO	NO	YES
12	12_0079		Residential	G	SW	59	54	54	50	59	55	55	51	-4.5	-4.4	-4.2	-4.2	55	50	NO	NO	NO	NO	NO
12	12_0079		Residential	1	SW	61	57	57	53	62	58	58	54	-3.9	-4	-3.5	-3.7	55	50	NO	NO	NO	NO	YES
12	12_0080		Residential	G	SW	58	54	54	50	59	55	55	51	-4.4	-4.4	-4.1	-4.1	55	50	NO	NO	NO	NO	NO
12	12_0080		Residential	1	SW	61	57	57	53	62	58	58	54	-3.9	-4	-3.6	-3.8	55	50	NO	NO	NO	NO	YES
12	12_0081		Residential	G	W	59	55	55	51	60	55	56	52	-3.8	-3.9	-3.6	-3.6	55	50	NO	NO	NO	NO	NO
12	12_0081		Residential	1	W	61	57	57	53	62	58	58	54	-3.8	-3.9	-3.6	-3.7	55	50	NO	NO	NO	NO	YES
12	12_0082		Residential	G	W	58	54	53	49	58	54	54	50	-4.9	-4.8	-4.6	-4.6	55	50	NO	NO	NO	NO	NO
12	12_0083		Residential	G	W	58	54	55	51	59	55	55	51	-3.6	-3.6	-3.5	-3.4	55	50	NO	NO	NO	NO	NO
12	12_0083		Residential	1	W	61	56	57	53	61	57	58	54	-3.7	-3.7	-3.5	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0084		Residential	G	W	57	53	53	49	58	53	54	49	-4.2	-4.1	-3.9	-4	55	50	NO	NO	NO	NO	NO
12	12_0085		Residential	G	SW	58	54	54	50	59	55	55	50	-4.7	-4.7	-4.4	-4.3	55	50	NO	NO	NO	NO	NO
12	12_0086		Residential	G	W	54	49	50	46	54	50	51	46	-3.9	-3.8	-3.8	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0086		Residential	1	W	56	52	53	48	57	53	53	49	-3.7	-3.8	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0087		Residential	G	SW	54	49	50	46	54	50	51	46	-3.5	-3.5	-3.4	-3.4	55	50	NO	NO	NO	NO	NO
12	12_0088		Residential	G	W	53	48	49	45	53	49	50	46	-3.2	-3.2	-3.2	-3.1	55	50	NO	NO	NO	NO	NO
12	12_0089		Residential	G	W	52	48	49	45	53	49	49	45	-3.5	-3.5	-3.5	-3.4	55	50	NO	NO	NO	NO	NO
12	12_0090		Residential	G	SW	52	48	49	45	53	49	50	45	-3.6	-3.7	-3.5	-3.6	55	50	NO	NO	NO	NO	NO
12	12_0091		Residential	G	SW	52	48	49	45	53	49	50	46	-3.1	-3.1	-3	-3	55	50	NO	NO	NO	NO	NO
12	12_0091		Residential	1	SW	55	51	52	48	56	51	53	49	-2.5	-2.6	-2.5	-2.5	55	50	NO	NO	NO	NO	NO
12	12_0092		Residential	G	N	63	59	56	52	63	59	57	53	-7.1	-7	-6.6	-6.6	55	50	NO	NO	NO	NO	NO
12	12_0092		Residential	1	N	65	60	58	54	65	61	59	55	-6.7	-6.6	-6.2	-6.3	55	50	NO	NO	NO	NO	NO
12	12_0093		Residential	G	S	61	57	57	53	62	57	58	53	-4.2	-4.2	-3.9	-4	55	50	NO	NO	NO	NO	NO
12	12_0094		Residential	G	SW	60	56	56	52	61	56	57	53	-4.1	-4.1	-3.8	-3.8	55	50	NO	NO	NO	NO	NO
12	12_0094		Residential	1	SW	61	57	58	53	62	58	58	54	-3.9	-3.9	-3.7	-3.7	55	50	NO	NO	NO	NO	YES
12	12_0095		Residential	G	S	57	53	54	50	57	53	55	51	-2.7	-2.8	-2.6	-2.7	55	50	NO	NO	NO	NO	NO
12	12_0096		Residential	G	SW	58	54	55	51	59	55	56	52	-3.4	-3.5	-3.2	-3.3	55	50	NO	NO	NO	NO	NO
12	12_0097		Residential	G	N	54	49	51	46	54	50	52	47	-2.8	-2.9	-2.6	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0098		Residential	G	W	53	49	50	46	54	50	51	47	-3.3	-3.2	-3.4	-3.3	55	50	NO	NO	NO	NO	NO
12	12_0099		Residential	G	N	53	48	50	45	54	49	51	46	-3	-3.1	-3.1	-3	55	50	NO	NO	NO	NO	NO
12	12_0099		Residential	1	W	58	54	55	51	59	55	56	51	-3.4	-3.4	-3.3	-3.4	55	50	NO	NO	NO	NO	NO
12	12_0100		Residential	G	W	53	49	50	46	54	50	51	47	-3.2	-3.2	-3.2	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0100		Residential	1	W	58	54	55	50	59	54	56	51	-3.3	-3.4	-3.2	-3.3	55	50	NO	NO	NO	NO	NO
12	12_0101		Residential	G	W	54	49	50	45	54	50	51	46	-3.9	-4	-3.8	-3.9	55	50	NO	NO	NO	NO	NO
12	12_0102		Residential	G	W	54	50	50	46	54	50	51	47	-3.4	-3.5	-3.4	-3.4	55	50	NO	NO	NO	NO	NO
12	12_0103		Residential	G	N	55	51	52	47	56	52	53	48	-3.7	-3.7	-3.5	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0104		Residential	G	N	53	48	50	45	54	49	50	46	-3.2	-3.2	-3.3	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0105		Residential	G	W	53	48	49	45	53	49	50	45	-3.8	-3.8	-3.7	-3.7	55	50	NO	NO	NO	NO	NO
12	12_0106		Residential	G	W	54	49	50	46	54	50	50	46	-3.8	-3.7	-3.7	-3.6	55	50	NO	NO	NO	NO	NO
12	12_0107		Residential	G	N	56	51	53	49	56	52	54	49	-2.7	-2.8	-2.8	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0108		Residential	G	N	56	51	53	48	56	52	54	49	-2.7	-2.8	-2.8	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0109		Residential	G	N	55	51	53	48	56	52	53	49	-2.7	-2.8	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0110		Residential	G	N	55	51	53	48	56	52	53	49	-2.7	-2.8	-2.7	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0111		Residential	G	W	55	51	51	47	56	51	52	48	-3.5	-3.5	-3.4	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0112		Residential	G	W	54	50	52	47	55	50	52	48	-2.6	-2.6	-2.6	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0113		Residential	G	W	55	51	52	48	56	51	53	48	-3	-3.1	-3.1	-3	55	50	NO	NO	NO	NO	NO
12	12_0114		Residential	G	W	53	49	50	46	54	50	51	47	-2.7	-2.8	-2.8	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0115		Residential	G	W	55	50	52	47	55	51	52	48	-2.8	-2.9	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0116		Residential	G	W	54	50	51	47	55	50	52	47	-3	-3	-3	-3	55	50	NO	NO	NO	NO	NO
12	12_0117		Residential	G	W	54	50	51	47	55	50	52	47	-2.8	-2.9	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0118		Residential	G	N	54	50	51	47	55	50	52	47	-3	-3	-2.8	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0119		Residential	G	N	54	50	51	46	55	50	52	47	-3.2	-3.3	-3.1	-3.3	55	50	NO	NO	NO	NO	NO
12	12_0120		Residential	G	N	53	49	51	46	54	50	51	47	-2.7	-2.7	-2.8	-2.8	55	50	NO	NO	NO	NO	NO
12	12_0121		Residential	G	W	56	52	53	48	57	52	53	49	-3.2	-3.3	-3.1	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0122		Residential	G	W	55	51	52	48	56	51	53	48	-2.9	-2.9	-2.9	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0122		Residential	1	W	57	53	55	51	58	54	56	51	-2.6	-2.7	-2.5	-2.6	55	50	NO	NO	NO	NO	NO
12	12_0123		Residential	G	W	54	50	51	47	54	50	51	47	-3	-3	-3	-3	55	50	NO	NO	NO	NO	NO
12	12_0124		Residential	G	NW	53	49	50	46	54	50	51	46	-3.2	-3.3	-3.2	-3.3	55	50	NO	NO	NO	NO	NO
12	12_0125		Residential	G	SW	53	49	49	45	54	49	50	46	-3.7	-3.6	-3.6	-3.5	55	50	NO	NO	NO	NO	NO
12	12_0125		Residential	1	SW	56	52	53	49	57	53	54	50	-3.3	-3.4	-3.2	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0126		Residential	G	W	54	50	51	47	55	51	52	48	-3.2	-3.2	-3	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0127		Residential	G	S	52	47	48	44	52	48	49	45	-3.5	-3.4	-3.4	-3.4	55	50	NO	NO	NO	NO	NO
12	12_0128		Residential	G	N	50	46	47	42	51	47	47	43	-3.6	-3.7	-3.5	-3.6	55	50	NO	NO	NO	NO	NO
12	12_0129		Residential	G	W	51	47	48	43	52	47	48	44	-3.3	-3.3	-3.1	-3.1	55	50	NO	NO	NO	NO	NO
12	12_0129		Residential	1	W	55	50	51	47	55	51	52	48	-3.2	-3.3	-3.2	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0130		Residential	G	W	51	47	48	44	51	47	49	44	-3	-3	-2.9	-3	55	50	NO	NO	NO	NO	NO
12	12_0131		Residential	G	W	52	48	49	45	53	48	50	45	-3.3	-3.3	-3.1	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0131		Residential	1	W	55	50	52	47	55	51	52	48	-2.9	-3	-2.8	-2.9	55	50	NO	NO	NO	NO	NO
12	12_0132		Residential	G	W	52	48	49	45	53	49	50	46	-3.3	-3.3	-3.3	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0133		Residential	G	W	52	48	49	45	53	49	49	45	-3.4	-3.4	-3.4	-3.4	55	50	NO	NO	NO	NO	NO
12	12_0133		Residential	1	W	55	51	52	47	55	51	52	48	-3.3	-3.3	-3.2	-3.2	55	50	NO	NO	NO	NO	NO
12	12_0134		Residential	G	W	52	48	50	46	52	48	50	46	-1.8	-1.9	-1.9	-1.9	55	50	NO	NO	NO	NO	NO
12	12_0134		Residential	1	W	55	51	52	48	55	51	53	49	-2.3	-2.4	-2.3	-2.3	55	50	NO	NO	NO	NO	NO
12	12_0135		Residential	G	W	53	49	51	46	53	49	51	47	-2.2	-2.3	-2.1	-2.2	55	50	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
12	12_0135		Residential	1	W	55	51	53	49	56	52	53	49	-2.5	-2.5	-2.5	-2.5	55	50	NO	NO	NO	NO	NO
13	13_0001		Residential	G	SE	52	48	54	50	53	49	55	51	2	1.9	1.9	2	55	50	NO	NO	NO	NO	YES
13	13_0002		Residential	G	E	53	49	55	51	53	49	55	51	2.2	2.2	2.1	2.1	55	50	NO	NO	NO	NO	YES
13	13_0003		Residential	G	E	56	52	58	54	57	53	59	55	2	2	2	2.1	55	50	NO	YES	NO	NO	YES
13	13_0003		Residential	1	E	58	54	60	56	58	54	60	56	1.9	2	2	2	55	50	YES	YES	NO	NO	YES
13	13_0004		Residential	G	S	57	53	60	56	58	54	60	56	2.3	2.3	2.4	2.5	55	50	YES	YES	NO	NO	YES
13	13_0004		Residential	1	E	58	54	60	56	58	54	61	57	2.3	2.4	2.4	2.4	55	50	YES	YES	NO	NO	YES
13	13_0005		Residential	G	E	61	57	64	60	61	57	64	60	2.9	3.1	3.1	3.2	55	50	YES	YES	NO	YES	YES
13	13_0006		Residential	G	SE	61	57	66	62	62	58	66	62	4.3	4.5	4.4	4.6	55	50	YES	YES	YES	YES	YES
13	13_0007		Residential	G	E	60	56	64	60	60	56	65	61	4.6	4.7	4.7	4.8	55	50	YES	YES	NO	YES	YES
13	13_0008		Residential	G	E	58	53	60	56	58	54	61	57	2.7	2.7	2.8	2.9	55	50	YES	YES	NO	NO	YES
13	13_0009		Residential	G	E	53	49	57	52	54	49	57	53	3.5	3.6	3.4	3.5	55	50	NO	NO	NO	NO	YES
13	13_0010		Residential	G	SE	57	53	59	55	58	54	59	55	1.5	1.4	1.5	1.6	55	50	NO	YES	NO	NO	YES
13	13_0011		Residential	G	E	56	51	57	53	56	52	58	53	1.5	1.4	1.4	1.4	55	50	NO	NO	NO	NO	YES
13	13_0012		Residential	G	E	54	50	55	51	55	51	56	52	1	1	1	0.9	55	50	NO	NO	NO	NO	YES
13	13_0013		Residential	G	SE	56	52	57	53	57	53	58	53	0.8	0.7	0.6	0.7	55	50	NO	NO	NO	NO	YES
13	13_0014		Residential	G	SE	57	53	58	54	58	53	58	54	0.8	0.8	0.8	0.8	55	50	NO	NO	NO	NO	YES
13	13_0015		Residential	G	SE	56	52	59	55	57	53	60	56	2.9	3	3	3.2	55	50	YES	YES	NO	NO	YES
13	13_0016		Residential	G	E	58	54	60	56	59	55	61	57	2.2	2.2	2	2.2	55	50	YES	YES	NO	NO	YES
13	13_0016		Residential	1	E	59	55	61	57	60	55	62	58	2.6	2.6	2.4	2.5	55	50	YES	YES	NO	NO	YES
13	13_0017		Residential	G	S	58	53	64	60	58	54	65	61	6.8	7	6.9	7.1	55	50	YES	YES	YES	YES	YES
13	13_0018		Residential	G	E	58	53	57	53	59	54	58	54	-0.5	-0.5	-0.7	-0.6	55	50	NO	NO	NO	NO	YES
13	13_0019		Residential	G	E	58	53	57	52	59	54	58	53	-1.2	-1.2	-1.4	-1.3	55	50	NO	NO	NO	NO	NO
13	13_0020		Residential	G	E	57	53	57	53	58	54	58	54	-0.1	-0.1	-0.3	-0.2	55	50	NO	NO	NO	NO	YES
13	13_0021		Residential	G	E	57	53	56	52	58	54	57	53	-1	-0.9	-1.1	-1.1	55	50	NO	NO	NO	NO	NO
13	13_0022		Residential	G	E	58	53	56	52	59	54	57	53	-1.7	-1.6	-1.7	-1.6	55	50	NO	NO	NO	NO	NO
13	13_0023		Residential	G	E	58	53	56	52	59	54	57	53	-1.7	-1.7	-1.8	-1.7	55	50	NO	NO	NO	NO	NO
13	13_0024		Residential	G	E	58	53	57	52	60	55	58	53	-1.5	-1.6	-1.7	-1.6	55	50	NO	NO	NO	NO	NO
13	13_0025		Residential	G	N	59	53	57	51	62	56	60	54	-1.9	-1.7	-2	-1.9	55	50	NO	NO	NO	NO	NO
13	13_0026		Residential	G	N	59	54	57	52	61	56	59	54	-1.8	-1.9	-2	-2	55	50	NO	NO	NO	NO	YES
13	13_0027		Residential	G	N	65	59	63	57	69	63	66	60	-2.2	-2.1	-2.4	-2.3	55	50	NO	NO	NO	NO	NO
13	13_0027		Residential	G	E	62	57	60	55	65	60	63	58	-1.8	-1.7	-2	-1.9	55	50	YES	YES	NO	NO	YES
13	13_0028		Residential	G	E	57	53	57	53	58	54	58	53	-0.4	-0.4	-0.6	-0.6	55	50	NO	NO	NO	NO	NO
13	13_0029		Residential	G	E	57	53	56	51	59	54	57	52	-1.3	-1.4	-1.5	-1.5	55	50	NO	NO	NO	NO	NO
13	13_0030		Residential	G	NE	58	53	56	51	59	54	57	52	-1.6	-1.7	-1.6	-1.7	55	50	NO	NO	NO	NO	NO
13	13_0031		Residential	G	NW	64	58	62	56	67	62	65	59	-2.2	-2.2	-2.3	-2.3	55	50	NO	NO	NO	NO	NO
14	14_0001		Residential	G	E	58	54	57	52	59	54	57	53	-1.3	-1.5	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
14	14_0002		Residential	G	SE	64	60	64	60	65	61	64	60	-0.3	-0.8	-0.7	-1.3	60	55	NO	YES	NO	YES	YES
15	15_0001		Residential	G	E	61	57	60	56	62	58	61	57	-1.1	-1	-1.1	-1	60	55	NO	NO	NO	NO	NO
15	15_0002		Residential	G	SE	67	63	64	60	67	64	65	61	-2.3	-2.8	-2.5	-3.1	60	55	YES	YES	YES	YES	YES
15	15_0002		Residential	1	SW	68	63	67	62	68	63	67	62	-0.9	-1.1	-1.1	-1.3	60	55	YES	YES	YES	YES	YES
15	15_0003		Residential	G	SW	65	59	64	59	65	60	64	59	-0.4	-0.7	-0.7	-1	60	55	NO	NO	NO	NO	YES
15	15_0004		Residential	G	SW	66	61	66	60	66	61	66	60	-0.3	-0.5	-0.6	-0.9	60	55	YES	YES	YES	YES	YES
15	15_0004		Residential	1	SW	69	63	68	62	69	63	68	62	-0.7	-0.7	-0.9	-1.1	60	55	YES	YES	YES	YES	YES
15	15_0005		Residential	G	SE	69	65	62	58	69	66	63	59	-6.7	-7	-6.7	-7.1	60	55	NO	NO	NO	NO	YES
15	15_0005		Residential	1	SE	69	66	67	63	70	67	68	64	-2	-2.2	-2.1	-2.3	60	55	YES	YES	YES	YES	YES
15	15_0006		Residential	G	SW	65	61	61	57	65	62	62	58	-3.4	-3.7	-3.6	-4	60	55	NO	NO	NO	NO	YES
15	15_0006		Residential	1	SW	65	62	64	60	66	63	64	60	-1.9	-2.1	-2	-2.3	60	55	NO	YES	NO	YES	YES
15	15_0007		Residential	G	SE	65	62	64	60	66	63	64	60	-1.8	-2.1	-2	-2.2	60	55	NO	YES	NO	YES	YES
15	15_0008		Residential	G	SE	65	62	63	59	66	63	64	60	-2.1	-2.3	-2.3	-2.5	60	55	NO	YES	NO	YES	YES
15	15_0009		Residential	G	SE	65	62	62	59	66	63	63	59	-3.2	-3.4	-3.3	-3.5	60	55	NO	NO	NO	NO	YES
15	15_0009		Residential	1	SE	67	63	65	61	68	64	66	62	-2.1	-2.1	-2.1	-2.3	60	55	YES	YES	YES	YES	YES
15	15_0010		Residential	G	SE	67	63	64	60	68	64	65	61	-2.7	-2.8	-2.7	-2.9	60	55	YES	YES	YES	YES	YES
15	15_0010		Residential	1	SE	68	64	66	62	69	65	66	63	-1.9	-2.1	-2.1	-2.2	60	55	YES	YES	YES	YES	YES
15	15_0011		Residential	G	SE	67	64	65	61	68	65	66	62	-2.6	-2.7	-2.6	-2.8	60	55	YES	YES	YES	YES	YES
15	15_0011		Residential	1	SE	68	64	66	62	69	65	67	63	-1.8	-2	-1.9	-2.1	60	55	YES	YES	YES	YES	YES
15	15_0012		Residential	G	SE	68	64	65	61	69	65	66	62	-2.9	-3.1	-2.9	-3.2	60	55	YES	YES	YES	YES	YES
15	15_0013		Residential	G	S	68	64	65	61	69	65	66	62	-3.3	-3.5	-3.3	-3.6	60	55	YES	YES	YES	YES	YES
15	15_0014		Residential	G	S	67	64	65	61	68	65	66	62	-2.4	-2.6	-2.5	-2.7	60	55	YES	YES	YES	YES	YES
15	15_0015		Residential	G	E	65	61	59	55	66	62	60	56	-5.5	-5.9	-5.6	-6	60	55	NO	NO	NO	NO	YES
15	15_0015		Residential	1	E	67	63	64	60	68	64	65	61	-3	-3.3	-3.1	-3.4	60	55	YES	YES	YES	YES	YES
15	15_0016		Residential	G	E	64	60	59	55	65	61	60	56	-5.4	-5.5	-5.4	-5.6	60	55	NO	NO	NO	NO	YES
15	15_0016		Residential	1	E	66	62	62	58	67	63	63	59	-3.9	-4.1	-4.1	-4.3	60	55	NO	NO	NO	NO	YES
15	15_0017		Residential	G	S	63	59	57	53	64	60	57	54	-6.3	-6.5	-6.3	-6.6	60	55	NO	NO	NO	NO	NO
15	15_0017		Residential	1	E	66	62	61	57	67	63	62	58	-4.4	-4.6	-4.5	-4.7	60	55	NO	NO	NO	NO	YES
15	15_0018		Residential	G	SW	66	61	66	60	66	61	66	60	-0.3	-0.5	-0.6	-0.8	60	55	YES	YES	YES	YES	YES
15	15_0018		Residential	1	SW	69	63	68	62	69	63	68	62	-0.5	-0.6	-0.8	-0.9	60	55	YES	YES	YES	YES	YES
15	15_0019		Residential	G	SW	68	62	68	62	68	62	67	61	-0.5	-0.6	-0.9	-1	60	55	YES	YES	YES	YES	YES
15	15_0020		Residential	G	SW	68	61	67	61	67	61	67	61	-0.5	-0.5	-0.8	-0.9	60	55	YES	YES	YES	YES	YES
15	15_0021		Residential	G	S	59	55	57	53	60	56	58	54	-2	-2.2	-2.2	-2.4	60	55	NO	NO	NO	NO	NO
15	15_0022		Residential	G	SW	58	52	58	52	58	53	58	52	-0.1	-0.2	-0.4	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0022		Residential	1	SW	60	55	60	54	60	55	60	54	-0.5	-0.7	-0.8	-1	60	55	NO	NO	NO	NO	NO
15	15_0023		Residential	G	W	57	51	57	51	57	51	56	50	-0.4	-0.7	-0.7	-1	60	55	NO	NO	NO	NO	NO
15	15_0023		Residential	1	W	60	54	59	53	60	54	59	53	-0.5	-0.8	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0024		Residential	G	W	56	50	56	50	56	50	56	50	-0.2	-0.2	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0024		Residential	1	W	59	54	59	53	59	54	58	53	-0.4	-0.8	-0.8	-1.2	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
15	15_0025		Residential	G	SW	61	57	59	55	61	57	60	56	-1.2	-1.4	-1.4	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0025		Residential	1	SW	63	59	62	57	64	60	62	58	-1.5	-1.7	-1.7	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0026		Residential	G	SE	58	54	56	52	58	55	57	53	-1.4	-1.7	-1.7	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0026		Residential	1	SE	62	58	60	56	62	58	60	56	-1.7	-1.9	-1.9	-2	60	55	NO	NO	NO	NO	NO
15	15_0027		Residential	G	SE	59	55	57	53	60	56	58	54	-1.9	-2	-2	-2.3	60	55	NO	NO	NO	NO	NO
15	15_0027		Residential	1	SE	62	58	60	56	63	59	61	57	-1.8	-2	-1.9	-2.2	60	55	NO	NO	NO	NO	NO
15	15_0028		Residential	G	SE	59	55	57	53	60	56	58	54	-1.4	-1.6	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0028		Residential	1	SE	62	58	60	56	63	59	61	57	-1.8	-2	-2	-2.2	60	55	NO	NO	NO	NO	NO
15	15_0029		Residential	G	S	59	55	57	53	60	56	58	54	-1.5	-1.7	-1.6	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0029		Residential	1	S	63	59	61	57	64	60	62	58	-1.9	-1.9	-1.9	-2.2	60	55	NO	NO	NO	NO	NO
15	15_0030		Residential	G	E	58	54	56	52	59	55	57	53	-1.4	-1.6	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0031		Residential	G	E	59	55	57	53	60	56	58	54	-1.6	-1.8	-1.8	-2	60	55	NO	NO	NO	NO	NO
15	15_0032		Residential	G	SW	53	49	52	47	54	50	52	48	-1.2	-1.4	-1.4	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0032		Residential	1	SW	58	54	57	53	59	55	57	53	-1.5	-1.7	-1.7	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0033		Residential	G	NW	50	45	50	44	50	45	50	44	0	-0.4	-0.3	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0033		Residential	1	SW	54	49	52	48	54	50	53	48	-1.2	-1.5	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0034		Residential	G	NW	50	45	51	45	51	45	50	45	0.1	-0.3	-0.2	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0034		Residential	1	NW	53	48	52	47	53	48	52	47	-0.2	-0.7	-0.6	-1.1	60	55	NO	NO	NO	NO	NO
15	15_0035		Residential	G	SW	53	48	53	47	54	49	53	47	-0.7	-1.1	-1.1	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0035		Residential	1	SW	57	53	56	51	58	53	57	52	-0.8	-1.2	-1.1	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0036		Residential	G	SW	53	48	52	46	53	48	52	47	-0.9	-1.2	-1.1	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0036		Residential	1	SW	56	51	55	49	56	51	55	50	-1	-1.4	-1.3	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0037		Residential	G	SW	56	50	55	50	56	51	55	49	-0.5	-0.8	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0037		Residential	1	SW	59	54	58	53	59	55	58	53	-0.8	-1	-1	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0038		Residential	G	E	52	48	50	46	52	48	50	46	-1.7	-2	-1.9	-2.1	60	55	NO	NO	NO	NO	NO
15	15_0038		Residential	1	SW	56	52	55	51	57	53	56	51	-1.2	-1.4	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0039		Residential	G	SE	51	46	49	44	51	47	50	45	-1.3	-1.6	-1.5	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0039		Residential	1	SE	53	48	52	47	53	49	52	47	-1.1	-1.5	-1.4	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0040		Residential	G	SW	53	48	52	47	53	49	52	47	-1	-1.3	-1.3	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0040		Residential	1	SW	57	52	56	51	57	53	56	51	-0.9	-1.2	-1.2	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0041		Residential	G	SW	52	48	52	47	53	49	52	47	-0.8	-1.2	-1.2	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0041		Residential	1	SW	55	51	54	49	55	51	54	50	-1	-1.4	-1.3	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0042		Residential	G	S	55	50	55	49	55	50	55	49	-0.2	-0.5	-0.5	-1	60	55	NO	NO	NO	NO	NO
15	15_0042		Residential	1	S	58	53	57	52	58	53	57	52	-0.3	-0.7	-0.6	-1.1	60	55	NO	NO	NO	NO	NO
15	15_0043		Residential	G	S	56	51	56	51	57	52	56	51	-0.5	-0.8	-0.8	-1.1	60	55	NO	NO	NO	NO	NO
15	15_0043		Residential	1	S	59	54	58	53	59	54	58	53	-0.4	-0.8	-0.8	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0044		Residential	G	S	58	53	57	52	58	53	57	52	-0.4	-0.9	-0.9	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0044		Residential	1	S	59	54	59	53	60	55	59	53	-0.7	-1.1	-1.1	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0045		Residential	G	SW	57	53	56	51	58	53	56	52	-0.9	-1.3	-1.3	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0045		Residential	1	SW	59	54	58	53	59	55	58	53	-1	-1.3	-1.3	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0046		Residential	G	SW	57	52	56	51	57	53	56	51	-1.1	-1.3	-1.4	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0046		Residential	1	SW	59	54	58	52	59	54	58	53	-1	-1.3	-1.3	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0047		Residential	G	SW	58	54	56	52	58	55	57	53	-1.3	-1.4	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0047		Residential	1	SW	59	56	58	54	60	56	58	54	-1.6	-1.7	-1.8	-2	60	55	NO	NO	NO	NO	NO
15	15_0048		Residential	G	SW	56	52	55	50	57	53	55	51	-1.6	-1.8	-1.8	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0048		Residential	1	SW	60	56	58	54	60	57	59	54	-1.6	-1.8	-1.8	-2.1	60	55	NO	NO	NO	NO	NO
15	15_0049		Residential	G	SW	53	48	51	47	53	49	52	47	-1.3	-1.6	-1.5	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0049		Residential	1	SW	56	51	54	50	56	52	55	50	-1.5	-1.8	-1.8	-2.1	60	55	NO	NO	NO	NO	NO
15	15_0050		Residential	G	SW	51	47	50	45	52	47	50	45	-1.5	-1.9	-1.8	-2.2	60	55	NO	NO	NO	NO	NO
15	15_0050		Residential	1	SW	58	54	56	52	59	55	57	53	-1.5	-1.8	-1.7	-2.1	60	55	NO	NO	NO	NO	NO
15	15_0051		Residential	G	SE	54	50	52	48	55	51	53	48	-2.2	-2.5	-2.4	-2.7	60	55	NO	NO	NO	NO	NO
15	15_0051		Residential	1	SW	59	55	57	53	60	56	58	53	-1.7	-1.9	-1.9	-2.2	60	55	NO	NO	NO	NO	NO
15	15_0052		Residential	G	SW	54	50	53	48	55	51	53	49	-1.4	-1.6	-1.5	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0052		Residential	1	SW	58	54	56	52	59	55	57	53	-1.7	-1.9	-2	-2.2	60	55	NO	NO	NO	NO	NO
15	15_0053		Residential	G	SW	57	53	55	51	58	54	55	51	-2.2	-2.5	-2.4	-2.8	60	55	NO	NO	NO	NO	NO
15	15_0053		Residential	1	SW	61	57	58	54	61	57	59	54	-2.5	-2.8	-2.8	-3	60	55	NO	NO	NO	NO	NO
15	15_0054		Residential	G	SE	59	55	56	52	60	56	57	53	-2.8	-2.9	-2.9	-3.1	60	55	NO	NO	NO	NO	NO
15	15_0054		Residential	1	SW	62	59	59	55	63	59	60	56	-3.3	-3.5	-3.4	-3.7	60	55	NO	NO	NO	NO	NO
15	15_0055		Residential	G	S	64	60	58	54	65	61	59	55	-5.5	-5.8	-5.8	-6.1	60	55	NO	NO	NO	NO	NO
15	15_0055		Residential	1	S	66	62	60	56	67	63	61	57	-5.5	-5.6	-5.6	-5.9	60	55	NO	NO	NO	NO	YES
15	15_0056		Residential	G	NE	65	61	56	52	66	62	57	53	-9.4	-9.4	-9.3	-9.5	60	55	NO	NO	NO	NO	NO
15	15_0057		Residential	G	NE	64	60	56	52	65	61	57	53	-7.8	-7.9	-7.7	-7.9	60	55	NO	NO	NO	NO	NO
15	15_0058		Residential	G	NE	62	58	55	50	63	59	56	51	-7.2	-7.3	-7.1	-7.3	60	55	NO	NO	NO	NO	NO
15	15_0059		Residential	G	NE	61	57	54	49	62	58	55	50	-7.1	-7.1	-7	-7.1	60	55	NO	NO	NO	NO	NO
15	15_0060		Residential	G	NE	60	56	53	49	61	57	54	50	-6.9	-7.1	-6.9	-7.1	60	55	NO	NO	NO	NO	NO
15	15_0061		Residential	G	NE	59	55	53	49	60	56	54	49	-6.2	-6.3	-6.2	-6.4	60	55	NO	NO	NO	NO	NO
15	15_0062		Residential	G	NE	57	52	52	48	57	53	53	49	-4.3	-4.5	-4.3	-4.4	60	55	NO	NO	NO	NO	NO
15	15_0063		Residential	G	SE	61	57	54	50	62	58	55	51	-7.2	-7.3	-7.2	-7.4	60	55	NO	NO	NO	NO	NO
15	15_0064		Residential	G	SE	62	58	54	50	63	59	55	51	-7.4	-7.5	-7.3	-7.5	60	55	NO	NO	NO	NO	NO
15	15_0065		Residential	G	SE	64	60	56	52	65	61	57	53	-8.1	-8.3	-8.1	-8.3	60	55	NO	NO	NO	NO	NO
15	15_0066		Residential	G	SE	65	61	57	53	66	62	58	54	-8.1	-8.2	-8	-8.2	60	55	NO	NO	NO	NO	NO
15	15_0067		Residential	G	E	66	62	58	54	67	63	59	55	-8.4	-8.5	-8.4	-8.7	60	55	NO	NO	NO	NO	NO
15	15_0068		Residential	G	E	66	62	58	54	67	63	59	55	-8.4	-8.6	-8.4	-8.6	60	55	NO	NO	NO	NO	NO
15	15_0069		Residential	G	E	66	62	58	54	67	63	59	55	-8.4	-8.5	-8.4	-8.6	60	55	NO	NO	NO	NO	NO
15	15_0070		Residential	G	E	67	63	58	54	68	64	59	55	-8.5	-8.6	-8.4	-8.6	60	55	NO	NO	NO	NO	NO
15	15_0071		Residential	G	NE	64	60	57	52	65	61	58	53	-7.7	-7.7	-7.6	-7.7	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
15	15_0072		Residential	G	NW	59	55	56	52	60	56	57	53	-2.8	-2.7	-2.7	-2.7	60	55	NO	NO	NO	NO	NO
15	15_0073		Residential	G	NE	61	57	58	53	62	58	58	54	-3.2	-3.2	-3.2	-3.2	60	55	NO	NO	NO	NO	NO
15	15_0074		Residential	G	E	63	59	56	52	64	60	57	53	-6.9	-6.9	-6.9	-6.9	60	55	NO	NO	NO	NO	NO
15	15_0075		Residential	G	E	67	63	61	57	68	64	62	58	-6.3	-6.2	-6.2	-6.1	60	55	NO	NO	NO	NO	YES
15	15_0076		Residential	G	E	65	61	60	55	66	62	61	56	-5.5	-5.5	-5.4	-5.5	60	55	NO	NO	NO	NO	YES
15	15_0076		Residential	1	E	68	63	62	58	69	64	63	59	-5.5	-5.4	-5.4	-5.4	60	55	NO	NO	NO	NO	YES
15	15_0077		Residential	G	E	66	61	60	56	67	62	61	57	-5.3	-5.2	-5.1	-5.2	60	55	NO	NO	NO	NO	YES
15	15_0078		Residential	G	E	66	62	62	58	67	63	63	59	-3.7	-3.8	-3.7	-3.7	60	55	NO	NO	NO	NO	YES
15	15_0078		Residential	1	E	68	63	64	60	69	64	65	61	-3.5	-3.3	-3.3	-3.3	60	55	YES	YES	NO	NO	YES
15	15_0079		Residential	G	E	66	61	63	59	67	62	64	60	-2.7	-2.6	-2.6	-2.6	60	55	NO	YES	NO	NO	YES
15	15_0080		Residential	G	E	63	58	61	57	64	59	62	58	-1.6	-1.6	-1.5	-1.6	60	55	NO	NO	NO	NO	YES
15	15_0080		Residential	1	E	66	61	64	59	67	62	65	60	-2	-2	-1.9	-2	60	55	YES	YES	NO	NO	YES
15	15_0081		Residential	G	E	64	60	63	58	65	61	64	59	-1.1	-1.1	-1	-1.1	60	55	NO	NO	NO	NO	YES
15	15_0082		Residential	G	E	63	59	62	58	64	60	63	59	-0.9	-1	-0.8	-0.9	60	55	NO	NO	NO	NO	YES
15	15_0083		Residential	G	E	63	58	62	58	63	59	63	59	-1	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	YES
15	15_0084		Residential	G	E	63	59	62	58	64	60	63	59	-1	-1.1	-0.9	-1	60	55	NO	NO	NO	NO	YES
15	15_0085		Residential	G	E	62	58	61	57	63	59	62	58	-1.2	-1.1	-1	-1.2	60	55	NO	NO	NO	NO	YES
15	15_0086		Residential	G	E	63	59	62	58	64	60	63	59	-1	-1	-0.9	-1	60	55	NO	NO	NO	NO	YES
15	15_0087		Residential	G	E	64	60	63	59	65	61	64	60	-1	-1	-0.8	-1	60	55	NO	YES	NO	NO	YES
15	15_0088		Residential	G	E	64	60	64	60	65	61	65	61	-0.6	-0.5	-0.6	-0.6	60	55	YES	YES	NO	NO	YES
15	15_0088		Residential	1	E	68	64	68	63	69	65	69	65	-0.7	-0.6	-0.6	-0.5	60	55	YES	YES	YES	YES	YES
15	15_0089		Residential	G	NE	66	62	66	62	67	63	67	63	-0.5	-0.5	-0.5	-0.5	60	55	YES	YES	NO	NO	YES
15	15_0090		Residential	G	E	67	63	66	62	68	64	67	63	-0.5	-0.4	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
15	15_0091		Residential	G	S	61	57	60	56	62	58	61	57	-1.2	-1.2	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0092		Residential	G	NE	61	57	60	56	62	58	61	57	-1.1	-1.1	-1	-1	60	55	NO	NO	NO	NO	NO
15	15_0093		Residential	G	S	60	56	59	55	61	57	60	56	-1.3	-1.3	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0094		Residential	G	NE	60	56	59	55	61	57	60	56	-1.2	-1.2	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0095		Residential	G	E	59	55	58	54	60	56	59	55	-1.4	-1.3	-1.3	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0096		Residential	G	E	58	54	57	53	59	55	58	54	-1.4	-1.5	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0097		Residential	G	E	59	55	58	54	60	56	59	55	-1.3	-1.3	-1.2	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0098		Residential	G	E	58	54	57	53	59	55	58	54	-1.4	-1.3	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0099		Residential	G	N	59	54	57	53	59	55	58	54	-1.2	-1.3	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0100		Residential	G	N	59	54	57	53	60	55	58	54	-1.5	-1.4	-1.4	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0101		Residential	G	N	59	55	58	53	60	56	59	54	-1.4	-1.4	-1.4	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0102		Residential	G	E	59	55	57	53	60	56	58	54	-1.5	-1.6	-1.4	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0103		Residential	G	NE	58	54	56	52	59	55	57	53	-2.1	-2.1	-2	-2.1	60	55	NO	NO	NO	NO	NO
15	15_0104		Residential	G	E	56	52	54	50	57	53	55	51	-2	-2	-2	-2	60	55	NO	NO	NO	NO	NO
15	15_0104		Residential	1	NE	59	55	57	53	60	56	58	54	-1.9	-1.8	-1.9	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0105		Residential	G	NE	58	54	56	52	59	55	57	53	-2.2	-2.2	-2.1	-2.1	60	55	NO	NO	NO	NO	NO
15	15_0106		Residential	G	E	59	54	56	52	59	55	57	53	-2.3	-2.3	-2.3	-2.3	60	55	NO	NO	NO	NO	NO
15	15_0107		Residential	G	NE	59	55	57	52	60	56	58	53	-2.7	-2.6	-2.6	-2.6	60	55	NO	NO	NO	NO	NO
15	15_0108		Residential	G	NE	60	56	56	52	61	57	57	53	-4	-4.1	-4	-4.1	60	55	NO	NO	NO	NO	NO
15	15_0109		Residential	G	E	59	55	55	50	60	56	56	51	-4.4	-4.5	-4.3	-4.5	60	55	NO	NO	NO	NO	NO
15	15_0109		Residential	1	E	62	57	57	53	62	58	58	54	-4.7	-4.7	-4.6	-4.7	60	55	NO	NO	NO	NO	NO
15	15_0110		Residential	G	NE	59	55	54	50	60	56	55	51	-4.7	-4.9	-4.6	-5	60	55	NO	NO	NO	NO	NO
15	15_0110		Residential	1	NE	62	58	57	53	63	59	58	54	-4.6	-4.7	-4.5	-4.7	60	55	NO	NO	NO	NO	NO
15	15_0111		Residential	G	SE	57	53	53	49	58	54	54	50	-4.1	-4.2	-4	-4.3	60	55	NO	NO	NO	NO	NO
15	15_0111		Residential	1	SE	60	56	55	51	61	57	56	52	-4.5	-4.7	-4.5	-4.7	60	55	NO	NO	NO	NO	NO
15	15_0112		Residential	G	SE	57	53	53	49	58	54	54	50	-4.1	-4.2	-4.2	-4.3	60	55	NO	NO	NO	NO	NO
15	15_0112		Residential	1	SE	60	56	56	52	61	57	57	52	-4.1	-4.1	-4.2	-4.4	60	55	NO	NO	NO	NO	NO
15	15_0113		Residential	G	SE	57	53	53	48	58	54	54	49	-4.2	-4.3	-4.2	-4.4	60	55	NO	NO	NO	NO	NO
15	15_0113		Residential	1	SE	59	55	55	51	60	56	56	52	-4	-4.2	-4.2	-4.3	60	55	NO	NO	NO	NO	NO
15	15_0114		Residential	G	SE	55	51	52	47	56	52	52	48	-3.5	-3.7	-3.5	-3.7	60	55	NO	NO	NO	NO	NO
15	15_0114		Residential	1	SE	58	53	54	50	58	54	55	50	-3.8	-3.9	-3.8	-4.1	60	55	NO	NO	NO	NO	NO
15	15_0115		Residential	G	E	55	50	53	49	55	51	54	50	-1.7	-1.7	-1.6	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0115		Residential	1	E	56	52	55	51	57	53	56	52	-1.2	-1.2	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0116		Residential	G	E	55	51	54	49	56	52	55	50	-1.4	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0117		Residential	G	N	54	50	53	49	55	51	54	49	-1	-1.1	-1	-1.1	60	55	NO	NO	NO	NO	NO
15	15_0118		Residential	G	E	54	49	52	48	55	50	53	49	-1.3	-1.4	-1.3	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0119		Residential	G	E	53	49	52	48	54	50	53	49	-1.3	-1.4	-1.3	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0120		Residential	G	E	53	49	52	47	54	50	53	48	-1.3	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0121		Residential	G	NE	53	49	52	48	54	50	53	49	-1.4	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0122		Residential	G	NE	54	50	53	48	55	51	53	49	-1.4	-1.5	-1.4	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0123		Residential	G	NE	54	50	53	48	55	51	53	49	-1.4	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0124		Residential	G	S	53	49	52	47	54	50	53	48	-1.6	-1.7	-1.6	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0125		Residential	G	E	54	50	53	49	55	51	54	50	-1.4	-1.4	-1.4	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0126		Residential	G	E	55	50	53	49	55	51	54	50	-1.4	-1.4	-1.4	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0127		Residential	G	E	54	50	53	48	55	51	54	49	-1.5	-1.5	-1.4	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0127		Residential	1	E	55	51	54	50	56	52	55	51	-1.2	-1.2	-1.2	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0128		Residential	G	NE	55	50	53	49	55	51	54	50	-1.4	-1.4	-1.3	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0129		Residential	G	E	54	50	53	49	55	51	54	50	-1.4	-1.4	-1.4	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0129		Residential	1	E	56	52	55	51	57	53	56	52	-1.2	-1.2	-1.2	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0130		Residential	G	S	52	47	51	46	53	48	52	47	-0.9	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0131		Residential	G	E	56	51	55	50	57	52	56	51	-1.1	-1.1	-1.1	-1	60	55	NO	NO	NO	NO	NO
15	15_0131		Residential	1	E	58	54	57	53	59	55	58	54	-0.8	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0132		Residential	G	NE	56	52	55	50	57	53	56	51	-1.7	-1.7	-1.7	-1.7	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
15	15_0132		Residential	1	NE	59	55	57	53	60	56	58	54	-1.7	-1.6	-1.7	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0133		Residential	G	NE	57	53	55	51	58	54	56	52	-1.5	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0134		Residential	G	E	55	51	53	49	56	52	54	50	-1.4	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0134		Residential	1	E	57	53	55	51	58	53	56	52	-1.3	-1.4	-1.3	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0135		Residential	G	E	55	51	54	50	56	52	55	51	-1.3	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0136		Residential	G	E	55	51	54	49	56	52	55	50	-1.3	-1.4	-1.3	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0137		Residential	G	E	55	51	54	49	56	52	55	50	-1.4	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0138		Residential	G	E	55	51	54	49	56	52	54	50	-1.3	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0139		Residential	G	E	55	51	54	49	56	52	55	50	-1.5	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0140		Residential	G	E	55	51	54	50	56	52	55	51	-1.5	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0141		Residential	G	E	55	51	54	50	56	52	55	51	-1.4	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0142		Residential	G	NE	56	52	55	50	57	53	56	51	-1.3	-1.3	-1.3	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0143		Residential	G	NE	56	52	55	50	57	53	56	51	-1.3	-1.3	-1.3	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0144		Residential	G	NE	56	52	55	51	57	53	56	52	-1.5	-1.5	-1.4	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0145		Residential	G	E	56	52	54	50	57	52	55	51	-1.4	-1.5	-1.4	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0146		Residential	G	E	57	53	56	51	58	53	57	52	-1	-1.1	-1.1	-1	60	55	NO	NO	NO	NO	NO
15	15_0146		Residential	1	E	60	55	59	54	60	56	59	55	-0.9	-0.8	-0.9	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0147		Residential	G	N	57	52	56	52	57	53	57	53	-0.3	-0.3	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0148		Residential	G	E	58	54	57	53	59	55	58	54	-1.1	-1.1	-1	-1	60	55	NO	NO	NO	NO	NO
15	15_0148		Residential	1	E	60	56	59	55	61	57	60	56	-1	-0.9	-0.9	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0149		Residential	G	N	57	52	57	52	58	53	57	53	-0.3	-0.3	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
15	15_0150		Residential	G	NE	57	53	56	52	58	54	57	53	-1.4	-1.4	-1.4	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0151		Residential	G	E	56	52	55	51	57	53	56	52	-1.5	-1.5	-1.4	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0151		Residential	1	E	58	54	57	53	59	55	58	54	-1.3	-1.3	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0152		Residential	G	S	55	51	54	49	56	52	55	50	-1.6	-1.6	-1.5	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0152		Residential	1	S	57	53	56	52	58	54	57	53	-1.3	-1.3	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0153		Residential	G	E	56	52	55	51	57	53	56	52	-1.3	-1.4	-1.2	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0154		Residential	G	E	56	52	55	51	57	53	56	52	-1.5	-1.5	-1.4	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0155		Residential	G	E	56	52	54	50	57	53	55	51	-1.5	-1.5	-1.4	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0156		Residential	G	NE	56	52	54	50	57	53	55	51	-1.5	-1.5	-1.4	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0157		Residential	G	NE	56	52	55	51	57	53	56	52	-1.3	-1.3	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0158		Residential	G	NE	60	55	58	54	61	56	59	55	-1.2	-1.2	-1.1	-1.1	60	55	NO	NO	NO	NO	NO
15	15_0159		Residential	G	NE	59	55	58	54	60	56	59	55	-1.2	-1.3	-1.2	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0160		Residential	G	S	59	55	58	53	60	56	59	54	-1.5	-1.5	-1.4	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0160		Residential	1	E	62	58	61	57	63	59	62	58	-1.1	-1	-1	-1	60	55	NO	NO	NO	NO	NO
15	15_0161		Residential	G	S	59	54	57	53	59	55	58	54	-1.5	-1.5	-1.4	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0161		Residential	1	S	60	56	59	54	61	57	60	55	-1.3	-1.3	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0162		Residential	G	E	61	56	59	55	61	57	60	56	-1.2	-1.2	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0163		Residential	G	S	57	53	56	52	58	54	57	53	-1.2	-1.1	-1.1	-1.1	60	55	NO	NO	NO	NO	NO
15	15_0164		Residential	G	NE	59	55	58	53	60	55	58	54	-1.2	-1.3	-1.3	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0165		Residential	G	E	60	56	59	55	61	57	60	56	-1.1	-1	-1	-1	60	55	NO	NO	NO	NO	NO
15	15_0166		Residential	G	N	56	50	55	50	56	51	55	50	-0.4	-0.4	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0167		Residential	G	W	56	50	56	50	56	50	55	49	-0.4	-0.4	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0168		Residential	G	W	55	49	54	48	55	49	54	48	-0.5	-0.5	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0169		Residential	G	W	54	48	54	48	54	49	53	48	-0.5	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0170		Residential	G	E	54	50	53	49	55	51	54	49	-1.1	-1.2	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0171		Residential	G	NE	54	49	52	48	54	50	53	49	-1.2	-1.3	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0172		Residential	G	E	54	50	53	49	55	51	54	50	-1.3	-1.4	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0173		Residential	G	E	54	49	52	48	54	50	53	49	-1.3	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0174		Residential	G	E	53	49	52	47	54	50	53	48	-1.3	-1.4	-1.3	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0175		Residential	G	E	54	49	53	48	55	50	53	49	-1.2	-1.2	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0176		Residential	G	NE	54	49	52	48	54	50	53	49	-1.2	-1.3	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0177		Residential	G	E	53	49	52	48	54	50	53	49	-1.2	-1.2	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0178		Residential	G	E	53	49	52	48	54	50	53	49	-1.1	-1.2	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0179		Residential	G	E	53	49	52	48	54	50	53	49	-1.2	-1.1	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0180		Residential	G	NE	53	49	52	48	54	50	53	49	-1.1	-1.1	-1.1	-1.1	60	55	NO	NO	NO	NO	NO
15	15_0181		Residential	G	N	54	49	53	49	55	50	54	49	-0.8	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0182		Residential	G	E	54	49	53	48	54	50	53	49	-1.1	-1.2	-1.1	-1.1	60	55	NO	NO	NO	NO	NO
15	15_0183		Residential	G	N	55	50	54	49	56	51	55	50	-0.9	-1	-0.9	-1	60	55	NO	NO	NO	NO	NO
15	15_0184		Residential	G	E	54	50	53	49	55	51	54	50	-1.2	-1.2	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0184		Residential	1	E	56	52	55	51	57	53	56	52	-1.3	-1.3	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0185		Residential	G	NE	54	50	53	48	55	51	54	49	-1.3	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0185		Residential	1	NE	56	52	55	50	57	53	55	51	-1.4	-1.5	-1.5	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0186		Residential	G	NE	54	50	52	47	55	50	53	48	-2.1	-2.3	-2.2	-2.3	60	55	NO	NO	NO	NO	NO
15	15_0187		Residential	G	NE	54	49	51	47	54	50	52	48	-2.3	-2.4	-2.3	-2.5	60	55	NO	NO	NO	NO	NO
15	15_0187		Residential	1	NE	57	52	55	50	58	53	55	51	-2.2	-2.3	-2.2	-2.3	60	55	NO	NO	NO	NO	NO
15	15_0188		Residential	G	SE	56	52	53	48	56	52	53	49	-2.9	-3.1	-3	-3.2	60	55	NO	NO	NO	NO	NO
15	15_0188		Residential	1	SE	60	56	57	52	61	57	57	53	-3.2	-3.3	-3.4	-3.5	60	55	NO	NO	NO	NO	NO
15	15_0189		Residential	G	NE	56	52	54	50	57	53	55	51	-2.3	-2.3	-2.3	-2.4	60	55	NO	NO	NO	NO	NO
15	15_0190		Residential	G	NE	56	52	54	50	57	53	55	51	-1.9	-2	-1.9	-2.1	60	55	NO	NO	NO	NO	NO
15	15_0191		Residential	G	NE	58	54	56	52	59	55	57	53	-2.1	-2.1	-2.1	-2.1	60	55	NO	NO	NO	NO	NO
15	15_0192		Residential	G	NW	55	50	55	49	56	50	55	49	-0.4	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0193		Residential	G	NW	54	48	53	48	54	49	53	48	-0.5	-0.7	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0194		Residential	G	NE	53	49	52	48	54	49	53	48	-1	-1	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0195		Residential	G	NE	53	48	52	47	53	49	52	48	-1	-1.2	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0196		Residential	G	NW	57	51	57	50	57	50	56	50	-0.2	-0.2	-0.4	-0.5	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night			≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night			
15	15_0196		Residential	1	NW	58	52	58	52	58	52	58	52	-0.3	-0.2	-0.6	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0197		Residential	G	NW	57	51	57	51	57	51	57	50	-0.2	-0.3	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0198		Residential	G	NW	57	51	57	51	57	51	56	50	-0.3	-0.3	-0.6	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0199		Residential	G	NW	57	51	57	50	57	51	56	50	-0.3	-0.3	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0200		Residential	G	NW	57	51	56	50	56	51	56	50	-0.3	-0.4	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0201		Residential	G	NW	55	49	54	48	55	49	54	48	-0.5	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0202		Residential	G	NW	55	49	55	49	55	49	54	48	-0.4	-0.4	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0203		Residential	G	NW	55	49	55	49	55	49	54	48	-0.4	-0.4	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0204		Residential	G	SW	55	50	54	49	55	50	54	49	-0.9	-1.1	-1.2	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0204		Residential	1	SW	57	52	56	51	57	53	56	51	-1	-1.3	-1.2	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0205		Residential	G	SW	55	50	54	49	55	51	54	49	-0.9	-1.2	-1.2	-1.5	60	55	NO	NO	NO	NO	NO
15	15_0206		Residential	G	SW	55	50	54	49	55	51	54	49	-1.1	-1.3	-1.3	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0206		Residential	1	SW	57	53	56	51	58	54	56	52	-1.4	-1.6	-1.6	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0207		Residential	G	SW	55	50	54	49	55	51	54	49	-1	-1.3	-1.3	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0207		Residential	1	SW	57	53	56	52	58	54	56	52	-1.4	-1.5	-1.6	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0208		Residential	G	SW	56	52	55	50	56	52	55	51	-1.2	-1.4	-1.5	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0208		Residential	1	SW	58	54	56	52	58	54	57	52	-1.4	-1.6	-1.6	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0209		Residential	G	SW	57	53	56	51	58	54	56	52	-1.4	-1.6	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0210		Residential	G	SW	57	53	56	51	58	54	56	52	-1.4	-1.6	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0210		Residential	1	SW	58	54	57	52	59	55	57	53	-1.5	-1.7	-1.7	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0211		Residential	G	SW	56	52	55	51	57	53	56	51	-1.3	-1.6	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0211		Residential	1	SW	58	54	57	52	59	55	57	53	-1.6	-1.8	-1.8	-2	60	55	NO	NO	NO	NO	NO
15	15_0212		Residential	G	SE	56	52	53	49	57	53	54	50	-3	-3.3	-3.1	-3.4	60	55	NO	NO	NO	NO	NO
15	15_0212		Residential	1	SE	60	56	57	53	61	57	58	54	-2.8	-2.9	-3	-3.1	60	55	NO	NO	NO	NO	NO
15	15_0213		Residential	G	SW	57	53	56	51	58	54	56	52	-1.6	-1.8	-1.7	-2	60	55	NO	NO	NO	NO	NO
15	15_0214		Residential	G	SW	57	53	55	51	57	53	56	52	-1.4	-1.6	-1.6	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0215		Residential	G	SE	58	54	56	52	59	55	56	52	-2.1	-2.2	-2.3	-2.6	60	55	NO	NO	NO	NO	NO
15	15_0216		Residential	G	SE	57	53	55	51	58	54	56	52	-1.7	-1.8	-1.8	-2.1	60	55	NO	NO	NO	NO	NO
15	15_0216		Residential	1	SE	59	55	57	53	60	56	58	54	-2	-2.2	-2.2	-2.4	60	55	NO	NO	NO	NO	NO
15	15_0217		Residential	G	SE	57	53	55	51	57	53	56	51	-1.5	-1.7	-1.8	-2	60	55	NO	NO	NO	NO	NO
15	15_0217		Residential	1	SE	59	55	57	53	59	55	57	53	-1.8	-2	-2	-2.3	60	55	NO	NO	NO	NO	NO
15	15_0218		Residential	G	SE	56	52	55	51	57	53	55	51	-1.4	-1.6	-1.6	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0218		Residential	1	SW	58	54	56	52	59	55	57	53	-1.5	-1.6	-1.6	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0219		Residential	G	SW	53	49	52	47	54	50	52	48	-1.4	-1.6	-1.6	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0219		Residential	1	SW	58	53	56	52	58	54	57	52	-1.4	-1.7	-1.7	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0220		Residential	G	SW	55	51	54	50	56	52	54	50	-1.2	-1.4	-1.4	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0220		Residential	1	SW	57	53	56	51	58	54	56	52	-1.4	-1.6	-1.6	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0221		Residential	G	SW	52	48	51	46	53	48	51	47	-1.1	-1.4	-1.3	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0221		Residential	1	SE	57	53	56	51	58	54	56	52	-1.6	-1.8	-1.8	-2.1	60	55	NO	NO	NO	NO	NO
15	15_0222		Residential	G	SW	54	50	53	49	55	51	54	49	-1.1	-1.4	-1.3	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0222		Residential	1	SW	57	52	55	51	57	53	56	51	-1.2	-1.5	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0223		Residential	G	SW	54	49	53	48	54	50	53	48	-1.2	-1.3	-1.5	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0223		Residential	1	SW	56	52	55	50	57	53	55	51	-1.4	-1.6	-1.7	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0224		Residential	G	SW	51	46	50	45	51	46	50	45	-0.6	-0.8	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
15	15_0224		Residential	1	SW	54	49	53	48	55	50	53	49	-0.9	-1.1	-1.2	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0225		Residential	G	SW	51	46	50	45	51	46	50	45	-0.7	-1.1	-1.1	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0225		Residential	1	SW	54	49	53	48	55	50	53	49	-0.9	-1.1	-1.2	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0226		Residential	G	SW	52	46	51	45	52	47	51	45	-0.6	-0.8	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0226		Residential	1	SW	54	49	54	48	54	50	54	48	-0.7	-0.9	-0.9	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0227		Residential	G	NW	51	45	50	45	51	46	50	45	-0.6	-0.7	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0227		Residential	1	NW	55	50	55	49	55	50	55	49	-0.5	-0.6	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0228		Residential	G	SE	53	48	52	47	53	49	52	47	-1	-1.3	-1.2	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0228		Residential	1	SW	57	52	56	51	57	52	56	51	-0.7	-0.9	-1	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0229		Residential	G	SW	53	47	52	47	53	48	52	46	-0.6	-0.7	-0.8	-1.1	60	55	NO	NO	NO	NO	NO
15	15_0229		Residential	1	SW	57	52	57	51	57	52	57	51	-0.5	-0.8	-0.8	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0230		Residential	G	SW	57	50	56	50	56	50	56	50	-0.4	-0.4	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0230		Residential	1	SW	58	52	58	52	58	52	57	52	-0.4	-0.6	-0.6	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0231		Residential	G	SW	56	50	56	50	56	50	55	49	-0.3	-0.3	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0231		Residential	1	SW	58	52	58	52	58	52	57	51	-0.4	-0.4	-0.5	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0232		Residential	G	SW	57	51	57	50	57	50	56	50	-0.3	-0.3	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0232		Residential	1	SW	59	53	58	52	58	53	58	52	-0.4	-0.4	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0233		Residential	G	SW	55	50	55	49	55	50	54	49	-0.7	-0.9	-1	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0234		Residential	G	SW	54	49	53	48	54	49	53	48	-0.7	-0.9	-1	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0235		Residential	G	SW	51	46	51	45	51	46	50	45	-0.6	-0.9	-1	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0235		Residential	1	SW	56	51	55	50	56	51	55	50	-0.9	-1.2	-1.2	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0236		Residential	G	NW	51	45	50	44	50	45	50	44	-0.4	-0.5	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0236		Residential	1	SE	54	50	53	48	55	51	53	49	-1.1	-1.4	-1.4	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0237		Residential	G	SW	53	47	52	46	53	48	52	46	-0.8	-1	-1.1	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0237		Residential	1	SW	56	51	56	50	57	52	56	51	-0.8	-1	-1.1	-1.3	60	55	NO	NO	NO	NO	NO
15	15_0238		Residential	G	SW	56	50	56	50	56	50	55	50	-0.4	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0238		Residential	1	SW	59	54	59	53	59	54	58	53	-0.6	-0.8	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
15	15_0239		Residential	G	SW	57	51	56	50	57	51	56	50	-0.5	-0.5	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0240		Residential	G	W	57	51	57	50	57	50	56	50	-0.3	-0.3	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0240		Residential	1	W	59	53	59	52	59	53	58	52	-0.4	-0.4	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0241		Residential	G	W	57	50	57	50	56	50	56	50	-0.3	-0.2	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
15	15_0241		Residential	1	W	59	52	58	52	58	52	58	52	-0.3	-0.3	-0.6	-0.6	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
15	15_0242		Residential	G	W	57	50	56	50	56	50	56	50	-0.3	-0.3	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0243		Residential	G	SW	55	49	55	48	55	49	54	48	-0.4	-0.4	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0243		Residential	1	SW	57	51	57	51	57	51	56	51	-0.5	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0244		Residential	G	SW	55	50	54	49	55	50	54	49	-0.8	-1.1	-1.1	-1.4	60	55	NO	NO	NO	NO	NO
15	15_0244		Residential	1	SW	58	53	57	52	58	53	57	52	-1	-1.2	-1.3	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0245		Residential	G	SW	56	51	55	50	56	52	55	50	-1.1	-1.4	-1.4	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0245		Residential	1	SW	58	53	57	52	58	54	57	52	-1.2	-1.4	-1.4	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0246		Residential	G	SW	56	52	55	50	57	52	55	50	-1.3	-1.6	-1.6	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0246		Residential	1	SW	58	53	56	52	58	54	57	52	-1.3	-1.6	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0247		Residential	G	SW	55	51	54	49	56	51	54	50	-1.4	-1.6	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0247		Residential	1	SW	58	53	56	52	58	54	56	52	-1.4	-1.6	-1.7	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0248		Residential	G	SW	68	62	68	61	68	62	67	61	-0.4	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0249		Residential	G	SW	67	61	66	60	67	61	66	60	-0.4	-0.4	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0249		Residential	1	SW	68	62	67	61	68	62	67	61	-0.4	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0250		Residential	G	SW	66	59	65	59	65	59	65	59	-0.4	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0250		Residential	1	SW	67	61	66	60	67	61	66	60	-0.5	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0251		Residential	G	SW	65	59	65	59	65	59	64	58	-0.5	-0.5	-0.8	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0251		Residential	1	SW	67	61	67	60	67	61	66	60	-0.6	-0.6	-0.9	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0252		Residential	G	SW	63	57	63	56	63	57	62	56	-0.6	-0.6	-0.9	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0252		Residential	1	SW	66	59	65	59	65	59	65	59	-0.5	-0.6	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0253		Residential	G	SW	65	59	64	58	65	59	64	58	-0.6	-0.6	-0.8	-1	60	55	NO	NO	NO	NO	NO
15	15_0253		Residential	1	SW	67	61	67	60	67	61	66	60	-0.3	-0.4	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0254		Residential	G	SW	67	61	67	60	67	61	66	60	-0.3	-0.4	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
15	15_0255		Residential	G	SW	64	58	64	57	64	58	63	57	-0.4	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0256		Residential	G	SW	61	55	60	54	61	55	60	54	-0.5	-0.6	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
15	15_0256		Residential	1	SW	65	59	65	59	65	59	64	58	-0.5	-0.5	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
15	15_0257		Residential	G	SW	63	57	63	57	63	57	62	56	-0.4	-0.4	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
15	15_0258		Residential	G	SW	57	53	56	52	58	54	57	52	-1.1	-1.4	-1.4	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0258		Residential	1	SW	59	55	58	53	60	56	58	54	-1.3	-1.6	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0259		Residential	G	SE	55	51	54	50	55	51	54	50	-0.9	-1.2	-1.2	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0260		Residential	G	SE	52	48	51	46	53	49	51	47	-1.5	-1.9	-1.7	-2.1	60	55	NO	NO	NO	NO	NO
15	15_0261		Residential	G	SE	56	52	55	51	57	53	55	51	-1.2	-1.4	-1.5	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0261		Residential	1	SE	58	54	57	52	59	54	57	53	-1.3	-1.5	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0262		Residential	G	SE	54	50	52	48	55	50	53	48	-1.7	-1.9	-1.9	-2.1	60	55	NO	NO	NO	NO	NO
15	15_0262		Residential	1	SW	58	54	57	52	59	55	57	53	-1.4	-1.6	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0263		Residential	G	SW	52	48	50	46	52	48	51	46	-1.4	-1.6	-1.6	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0263		Residential	1	SW	58	54	56	52	58	54	57	52	-1.3	-1.6	-1.7	-1.9	60	55	NO	NO	NO	NO	NO
15	15_0264		Residential	G	SW	57	53	56	51	57	53	56	51	-1.2	-1.4	-1.4	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0264		Residential	1	SW	58	54	57	52	59	54	57	53	-1.1	-1.5	-1.5	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0265		Residential	G	SE	57	52	55	51	57	53	56	51	-1.2	-1.4	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0265		Residential	1	SW	58	54	57	52	59	54	57	53	-1.1	-1.4	-1.4	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0266		Residential	G	SW	52	48	51	46	53	49	52	47	-1.1	-1.5	-1.4	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0267		Residential	G	SE	57	53	56	51	57	53	56	51	-1.3	-1.5	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0268		Residential	G	SE	57	53	56	51	57	53	56	51	-1.3	-1.5	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0269		Residential	G	SW	55	50	54	49	55	51	54	49	-1.3	-1.5	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0269		Residential	1	SW	57	53	56	51	58	54	56	52	-1.3	-1.5	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0270		Residential	G	SE	56	51	54	50	56	52	55	50	-1.2	-1.4	-1.5	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0270		Residential	1	SE	57	53	56	51	58	53	56	52	-1.3	-1.4	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0271		Residential	G	SW	56	52	55	50	57	53	55	51	-1.3	-1.5	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0272		Residential	G	SW	57	53	56	51	57	53	56	52	-1.2	-1.5	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0272		Residential	1	SW	58	54	57	52	59	55	57	53	-1.3	-1.5	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0273		Residential	G	SW	57	52	55	51	57	53	56	51	-1.3	-1.5	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0274		Residential	G	SW	54	50	53	48	55	50	53	49	-1.1	-1.5	-1.4	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0274		Residential	1	SW	57	53	56	51	57	53	56	51	-1.2	-1.5	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
15	15_0275		Residential	G	SW	54	50	53	48	55	50	54	49	-1	-1.3	-1.2	-1.6	60	55	NO	NO	NO	NO	NO
15	15_0275		Residential	1	SW	58	53	57	52	58	54	57	52	-1.2	-1.4	-1.4	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0276		Residential	G	SW	55	50	54	49	55	51	54	49	-1.1	-1.4	-1.4	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0277		Residential	G	SW	57	53	56	51	58	53	56	51	-1.2	-1.4	-1.4	-1.7	60	55	NO	NO	NO	NO	NO
15	15_0278		Residential	G	SW	55	50	54	49	55	50	54	49	-0.6	-0.8	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0001		Residential	G	NW	61	57	61	57	62	58	62	58	-0.2	-0.1	0	0	60	55	NO	NO	NO	NO	NO
16	16_0001		Residential	1	NW	61	58	61	57	62	59	62	59	-0.2	-0.2	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0002		Residential	G	NW	61	58	61	57	62	59	62	58	-0.2	-0.2	-0.1	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0002		Residential	1	NW	62	58	62	58	63	59	63	59	-0.2	-0.3	-0.1	-0.2	60	55	NO	NO	NO	NO	NO
16	16_0003		Residential	G	NW	62	58	62	58	63	59	63	59	-0.3	-0.3	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
16	16_0003		Residential	1	NW	62	59	62	58	63	60	63	59	-0.3	-0.3	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
16	16_0004		Residential	G	W	62	58	62	58	63	59	63	59	-0.3	-0.4	-0.2	-0.3	60	55	NO	NO	NO	NO	NO
16	16_0004		Residential	1	W	62	59	62	58	63	60	63	59	-0.3	-0.4	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0005		Residential	G	SW	61	57	60	57	62	58	61	58	-0.4	-0.5	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0006		Residential	G	SW	60	56	59	56	61	57	60	57	-0.6	-0.6	-0.4	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0007		Residential	G	SW	60	57	60	56	61	58	61	57	-0.5	-0.6	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0008		Residential	G	SW	59	56	59	55	60	57	60	56	-0.6	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0009		Residential	G	SW	59	55	58	55	60	56	60	56	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0010		Residential	G	SW	58	54	57	53	59	55	58	54	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0011		Residential	G	SW	57	53	56	53	58	54	57	54	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0011		Residential	1	SW	59	55	58	55	60	56	59	56	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0012		Residential	G	SW	56	52	55	51	57	53	56	52	-0.7	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
16	16_0012		Residential	1	SW	58	54	57	54	59	55	58	55	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0013		Residential	G	SW	56	52	55	51	57	53	56	52	-0.8	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0013		Residential	1	SW	58	54	57	53	59	55	58	54	-0.7	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0014		Residential	G	SW	55	51	54	50	56	52	55	51	-1.2	-1.3	-1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0014		Residential	1	SW	57	53	56	52	58	54	57	53	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0015		Residential	G	SW	55	52	55	51	56	53	56	52	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0015		Residential	1	SW	57	54	57	53	58	55	58	54	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0016		Residential	G	SW	55	52	55	51	56	53	56	52	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0016		Residential	1	SW	57	53	56	53	58	54	57	54	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0017		Residential	G	W	55	52	55	51	56	53	56	52	-0.8	-1	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0017		Residential	1	W	57	54	57	53	58	55	58	54	-0.6	-0.7	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0018		Residential	G	W	56	52	55	51	56	53	56	52	-0.7	-0.9	-0.6	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0018		Residential	1	W	57	54	57	53	58	55	58	54	-0.6	-0.7	-0.5	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0019		Residential	G	W	54	51	53	50	55	52	54	51	-0.9	-1	-0.9	-1	60	55	NO	NO	NO	NO	NO
16	16_0019		Residential	1	W	56	53	56	52	57	54	57	53	-0.6	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0020		Residential	G	NW	54	51	53	49	55	52	54	51	-0.9	-1.1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0020		Residential	1	NW	56	52	55	51	57	53	56	53	-0.8	-1	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0021		Residential	G	NW	54	50	53	49	55	51	54	50	-1	-1.2	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0021		Residential	1	NW	56	52	55	52	57	53	56	53	-0.7	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0022		Residential	G	NW	53	50	52	48	54	51	53	49	-1.2	-1.4	-1.1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0022		Residential	1	SW	56	52	55	51	57	53	56	52	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0023		Residential	G	SW	54	51	53	49	55	52	54	50	-1.1	-1.2	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0023		Residential	1	SW	56	53	55	52	57	54	56	53	-0.9	-1.1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0024		Residential	G	W	54	51	53	49	55	52	54	50	-1.1	-1.3	-1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0025		Residential	G	SW	54	50	52	49	55	51	54	50	-1.4	-1.6	-1.2	-1.5	60	55	NO	NO	NO	NO	NO
16	16_0025		Residential	1	NW	55	52	54	50	56	53	55	52	-1	-1.2	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0026		Residential	G	W	62	58	62	58	63	59	63	59	-0.3	-0.3	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
16	16_0027		Residential	G	W	62	59	62	58	63	60	63	59	-0.3	-0.3	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
16	16_0028		Residential	G	SW	62	58	61	58	63	59	62	59	-0.3	-0.4	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0029		Residential	G	SW	62	58	61	58	63	59	62	59	-0.4	-0.4	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0030		Residential	G	NW	63	59	62	59	63	60	63	60	-0.3	-0.3	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
16	16_0031		Residential	G	SW	62	58	61	57	63	59	62	59	-0.4	-0.5	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0032		Residential	G	SW	62	58	61	58	63	59	62	59	-0.4	-0.5	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0033		Residential	G	SW	61	57	61	57	62	58	62	58	-0.5	-0.5	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0034		Residential	G	SW	61	57	61	57	62	58	62	58	-0.4	-0.5	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0035		Residential	G	SW	61	57	60	57	62	58	61	58	-0.4	-0.5	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0036		Residential	G	SW	60	56	59	56	61	57	60	57	-0.6	-0.6	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0037		Residential	G	SW	60	56	59	55	61	57	60	56	-0.7	-0.8	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0038		Residential	G	SW	58	54	57	53	59	55	58	54	-0.9	-1.1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0039		Residential	G	SW	59	55	58	55	60	56	59	56	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0040		Residential	G	SW	58	55	57	54	59	56	59	55	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0040		Residential	1	SW	59	56	59	55	60	57	60	56	-0.6	-0.7	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0041		Residential	G	SW	58	55	58	54	59	56	59	55	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0042		Residential	G	SW	58	54	57	54	59	55	58	55	-0.8	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0043		Residential	G	SW	56	52	55	51	57	53	56	52	-1	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0043		Residential	1	SW	58	54	57	53	59	55	58	54	-0.8	-0.9	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0044		Residential	G	SW	57	53	56	52	58	54	57	53	-0.8	-0.9	-0.7	-1	60	55	NO	NO	NO	NO	NO
16	16_0045		Residential	G	SW	57	54	56	53	58	55	57	54	-0.8	-1	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0046		Residential	G	W	57	54	56	53	58	55	57	54	-0.8	-0.8	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0046		Residential	1	W	58	54	57	54	59	55	58	55	-0.6	-0.7	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0047		Residential	G	W	58	54	57	53	59	55	58	54	-0.7	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0048		Residential	G	NW	57	53	56	52	58	54	57	53	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0048		Residential	1	NW	58	54	57	54	59	55	58	55	-0.7	-0.7	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0049		Residential	G	NW	57	54	56	53	58	55	57	54	-0.8	-1	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0050		Residential	G	NW	57	53	56	52	58	54	57	53	-0.9	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0051		Residential	G	NW	58	54	57	53	59	55	58	54	-0.7	-0.8	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0052		Residential	G	W	57	53	56	52	58	54	57	53	-0.9	-0.9	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0053		Residential	G	NW	62	58	61	58	63	59	62	59	-0.3	-0.4	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
16	16_0054		Residential	G	W	61	57	61	57	62	58	62	58	-0.5	-0.5	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0055		Residential	G	NW	62	58	61	58	63	59	62	59	-0.4	-0.5	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0056		Residential	G	W	62	58	62	58	63	60	63	59	-0.4	-0.4	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0057		Residential	G	SW	61	57	60	57	62	58	61	58	-0.5	-0.6	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0058		Residential	G	NW	62	58	61	58	63	59	62	59	-0.4	-0.5	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0059		Residential	G	NW	61	57	61	57	62	59	62	58	-0.5	-0.5	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0060		Residential	G	SW	61	57	60	57	62	58	61	58	-0.5	-0.6	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0061		Residential	G	SW	60	56	59	56	61	57	60	57	-0.6	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0061		Residential	1	NW	61	58	61	57	62	59	62	58	-0.5	-0.5	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0062		Residential	G	SW	60	57	60	56	61	58	61	57	-0.6	-0.6	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0063		Residential	G	SW	60	57	60	56	61	58	61	57	-0.7	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0064		Residential	G	SW	60	56	59	55	60	57	60	56	-0.8	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0065		Residential	G	NW	59	55	58	54	60	56	59	55	-0.7	-0.7	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0066		Residential	G	SW	59	56	59	55	60	57	60	56	-0.7	-0.9	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0067		Residential	G	W	58	54	57	53	59	55	58	54	-0.9	-1	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0068		Residential	G	W	60	56	59	56	61	57	60	57	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0069		Residential	G	SW	60	57	60	56	61	58	61	57	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0070		Residential	G	SW	60	57	60	56	61	58	61	57	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
16	16_0071		Residential	G	SW	61	57	60	57	62	58	61	58	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0072		Residential	G	NW	61	58	61	57	62	59	62	58	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0073		Residential	G	NW	61	57	60	56	61	58	61	57	-0.8	-0.9	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0074		Residential	G	W	63	59	63	59	64	60	64	60	-0.5	-0.4	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0075		Residential	G	W	63	59	62	58	64	60	63	59	-0.5	-0.6	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0075		Residential	1	W	64	60	63	60	65	61	64	61	-0.4	-0.4	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0076		Residential	G	W	62	59	62	58	63	60	63	59	-0.5	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0077		Residential	G	W	62	58	61	58	63	59	62	59	-0.7	-0.7	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0078		Residential	G	SW	62	58	61	57	63	59	62	58	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0079		Residential	G	SW	61	57	60	57	62	58	61	58	-0.7	-0.8	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0080		Residential	G	SW	61	57	60	56	62	58	61	57	-0.7	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0081		Residential	G	SW	60	57	59	56	61	58	60	57	-0.8	-0.9	-0.8	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0082		Residential	G	SW	60	56	59	55	61	57	60	57	-0.8	-0.9	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0083		Residential	G	SW	60	56	59	55	61	57	60	56	-0.8	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0084		Residential	G	SW	59	55	58	55	60	57	59	56	-0.9	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0085		Residential	G	SW	59	55	58	54	60	56	59	55	-1	-1.1	-0.9	-1	60	55	NO	NO	NO	NO	NO
16	16_0086		Residential	G	SW	58	55	57	53	59	56	58	55	-1	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0086		Residential	1	NW	60	56	59	55	61	57	60	57	-0.8	-0.9	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0087		Residential	G	SW	59	55	58	54	60	56	59	56	-0.8	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0088		Residential	G	NW	58	54	57	53	59	55	58	54	-0.7	-0.9	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0088		Residential	1	NW	60	56	59	55	61	57	60	56	-0.6	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0089		Residential	G	SW	58	54	57	54	59	55	58	55	-0.8	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0090		Residential	G	NW	55	51	54	50	56	52	55	52	-0.9	-1	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0091		Residential	G	SW	56	52	55	51	57	53	56	52	-1	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0091		Residential	1	NW	58	55	58	54	59	56	59	55	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0092		Residential	G	SW	56	52	55	51	57	53	56	52	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0092		Residential	1	SW	58	54	57	54	59	55	58	55	-0.8	-0.8	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0093		Residential	G	W	57	53	56	52	57	54	57	53	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0094		Residential	G	W	56	52	55	51	57	53	56	52	-0.9	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0094		Residential	1	W	58	54	57	54	59	55	58	55	-0.8	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0095		Residential	G	NW	56	52	55	51	57	53	56	52	-1.1	-1.3	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0096		Residential	G	NW	57	53	56	53	58	55	57	54	-0.8	-0.8	-0.6	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0097		Residential	G	SW	57	53	56	52	58	54	57	53	-1.3	-1.4	-1.2	-1.4	60	55	NO	NO	NO	NO	NO
16	16_0097		Residential	1	NW	59	55	58	54	60	56	59	55	-0.8	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0098		Residential	G	SW	56	53	55	51	57	54	56	52	-1.3	-1.4	-1.2	-1.4	60	55	NO	NO	NO	NO	NO
16	16_0099		Residential	G	SW	56	52	54	50	57	53	55	52	-1.5	-1.7	-1.4	-1.6	60	55	NO	NO	NO	NO	NO
16	16_0100		Residential	G	SW	56	52	54	51	57	53	56	52	-1.3	-1.4	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0101		Residential	G	N	54	50	53	49	55	51	54	50	-0.7	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0102		Residential	G	NW	63	59	62	58	64	60	63	59	-0.6	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0102		Residential	G	SW	62	59	62	58	63	60	63	59	-0.7	-0.7	-0.6	-0.6	60	55	NO	NO	NO	NO	YES
16	16_0103		Residential	G	NW	63	60	63	59	64	61	64	60	-0.8	-0.7	-0.6	-0.6	60	55	NO	YES	NO	NO	YES
16	16_0104		Residential	G	NW	64	60	63	60	65	61	64	61	-0.9	-0.9	-0.8	-0.9	60	55	NO	YES	NO	NO	YES
16	16_0105		Residential	G	W	64	60	63	59	65	61	64	60	-1.4	-1.3	-1.2	-1.4	60	55	NO	YES	NO	NO	YES
16	16_0106		Residential	G	W	64	60	63	59	65	61	64	60	-1.4	-1.4	-1.2	-1.4	60	55	NO	YES	NO	NO	YES
16	16_0107		Residential	G	W	64	60	62	58	65	61	63	59	-1.8	-1.7	-1.6	-1.8	60	55	NO	NO	NO	NO	YES
16	16_0108		Residential	G	W	63	59	61	57	64	60	62	58	-2	-2.1	-2	-2.1	60	55	NO	NO	NO	NO	YES
16	16_0109		Residential	G	W	63	59	61	57	64	60	62	58	-1.8	-1.8	-1.6	-1.8	60	55	NO	NO	NO	NO	YES
16	16_0110		Residential	G	W	61	58	60	56	62	59	61	57	-1.3	-1.4	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0111		Residential	G	NW	62	58	61	57	63	59	62	58	-1.3	-1.3	-1.2	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0112		Residential	G	W	62	58	60	57	63	59	61	58	-1.3	-1.4	-1.3	-1.4	60	55	NO	NO	NO	NO	NO
16	16_0113		Residential	G	W	62	58	60	56	62	59	61	57	-1.4	-1.6	-1.3	-1.5	60	55	NO	NO	NO	NO	NO
16	16_0114		Residential	G	W	63	59	61	58	64	60	63	59	-1.1	-1.2	-1	-1.2	60	55	NO	NO	NO	NO	YES
16	16_0115		Residential	G	NW	63	59	62	58	64	60	63	59	-1	-1	-0.9	-1	60	55	NO	NO	NO	NO	YES
16	16_0116		Residential	G	NW	61	58	61	57	62	59	62	58	-0.9	-1	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0117		Residential	G	NW	61	58	60	57	62	59	62	58	-0.9	-1	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0118		Residential	G	SW	60	56	59	55	61	57	60	56	-1	-1.1	-0.9	-1	60	55	NO	NO	NO	NO	NO
16	16_0119		Residential	G	SW	60	57	59	56	61	58	60	57	-1	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0120		Residential	G	SW	60	57	59	55	61	58	60	56	-1.2	-1.2	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0121		Residential	G	SW	59	55	57	54	60	56	59	55	-1.5	-1.6	-1.4	-1.6	60	55	NO	NO	NO	NO	NO
16	16_0122		Residential	G	NW	59	55	58	54	60	56	59	55	-0.9	-1	-0.9	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0123		Residential	G	NE	57	53	57	53	58	54	58	54	-0.6	-0.6	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0124		Residential	G	NE	57	53	56	53	58	54	57	54	-0.5	-0.5	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0125		Residential	G	NW	58	54	56	53	59	55	57	54	-1.3	-1.4	-1.2	-1.5	60	55	NO	NO	NO	NO	NO
16	16_0126		Residential	G	NE	56	53	56	52	57	54	57	53	-0.5	-0.5	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0127		Residential	G	NE	56	52	55	52	57	53	56	53	-0.5	-0.5	-0.5	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0128		Residential	G	NW	56	52	55	51	57	53	56	52	-1.2	-1.3	-1.1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0128		Residential	1	NW	58	54	57	53	59	55	58	54	-0.8	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0129		Residential	G	NE	54	50	54	50	55	51	55	51	-0.5	-0.4	-0.4	-0.3	60	55	NO	NO	NO	NO	NO
16	16_0130		Residential	G	SW	55	52	54	50	56	53	55	51	-1.3	-1.5	-1.3	-1.5	60	55	NO	NO	NO	NO	NO
16	16_0131		Residential	G	NE	53	49	53	49	54	50	54	50	-0.4	-0.5	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0131		Residential	1	NW	56	52	55	51	57	53	56	52	-1	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0132		Residential	G	NE	53	49	53	49	54	50	54	50	-0.5	-0.5	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0133		Residential	G	N	54	50	53	49	54	51	54	50	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0134		Residential	G	NW	54	50	53	49	55	51	54	50	-0.8	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0135		Residential	G	W	54	50	53	49	55	51	54	50	-0.9	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0136		Residential	G	W	54	51	53	50	55	52	54	51	-0.9	-1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
16	16_0137		Residential	G	W	55	51	54	50	56	52	55	51	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0138		Residential	G	W	55	51	54	50	56	52	55	51	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0139		Residential	G	NW	55	51	54	50	56	52	55	51	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0140		Residential	G	NW	54	50	53	49	55	51	54	50	-0.8	-0.9	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0140		Residential	1	NW	56	52	55	51	57	53	56	52	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0141		Residential	G	SW	53	49	52	48	54	50	53	49	-1.1	-1.3	-1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0141		Residential	1	SW	54	51	53	50	55	52	54	51	-0.8	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0142		Residential	G	SW	51	47	49	46	52	48	51	47	-1.5	-1.7	-1.4	-1.7	60	55	NO	NO	NO	NO	NO
16	16_0142		Residential	1	SW	52	48	51	47	53	49	52	48	-1.3	-1.5	-1.2	-1.5	60	55	NO	NO	NO	NO	NO
16	16_0143		Residential	G	SW	52	48	51	47	53	49	52	48	-1	-1.3	-1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0143		Residential	1	SW	53	50	52	49	54	51	53	50	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0144		Residential	G	SW	52	48	51	47	53	49	52	48	-1	-1.2	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0144		Residential	1	SW	53	49	52	49	54	50	53	50	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0145		Residential	G	SW	53	49	52	48	53	50	53	49	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0146		Residential	G	SW	52	48	51	47	53	49	52	48	-0.9	-1	-0.7	-1	60	55	NO	NO	NO	NO	NO
16	16_0146		Residential	1	SW	53	49	52	48	54	50	53	49	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0147		Residential	G	W	50	46	49	45	51	47	50	46	-1	-1.2	-1	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0148		Residential	G	W	52	48	51	48	53	49	52	49	-0.8	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0149		Residential	G	N	53	49	52	49	54	50	53	50	-0.7	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0150		Residential	G	NE	51	47	51	47	52	48	51	48	-0.6	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0151		Residential	G	W	52	48	52	48	53	49	53	49	-0.7	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0152		Residential	G	W	53	49	52	49	54	50	53	50	-0.6	-0.6	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0153		Residential	G	N	53	50	53	49	54	51	54	50	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0154		Residential	G	N	53	49	52	49	54	50	53	50	-0.5	-0.5	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0155		Residential	G	N	51	47	50	46	52	48	51	47	-0.8	-0.8	-0.8	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0155		Residential	1	N	54	50	54	50	55	51	55	51	-0.6	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0156		Residential	G	N	54	50	53	50	55	51	54	51	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0157		Residential	G	N	55	51	54	50	56	52	55	51	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0158		Residential	G	N	55	52	55	51	56	53	56	52	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0159		Residential	G	N	56	52	55	52	57	53	56	53	-0.7	-0.7	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0160		Residential	G	N	56	53	56	52	57	54	57	53	-0.7	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0160		Residential	1	N	57	53	56	53	58	54	57	54	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0161		Residential	G	N	56	53	56	52	57	54	57	53	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0161		Residential	1	W	57	53	56	53	58	54	57	54	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0162		Residential	G	W	56	52	55	52	57	53	56	53	-0.7	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0163		Residential	G	N	54	51	53	49	55	51	54	50	-1.2	-1.4	-1.1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0164		Residential	G	N	57	54	56	53	58	55	57	54	-0.9	-1	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0165		Residential	G	N	58	54	57	53	59	55	58	54	-1	-1	-0.8	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0166		Residential	G	W	59	55	58	54	60	56	59	55	-1.1	-1.2	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0166		Residential	1	W	60	57	59	56	61	58	60	57	-1.1	-1.3	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0167		Residential	G	NW	59	56	58	54	60	57	59	55	-1.3	-1.3	-1.1	-1.4	60	55	NO	NO	NO	NO	NO
16	16_0168		Residential	G	N	59	55	58	54	60	56	59	55	-1.2	-1.3	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0169		Residential	G	S	53	49	51	47	54	50	52	48	-1.7	-1.9	-1.6	-1.8	60	55	NO	NO	NO	NO	NO
16	16_0169		Residential	1	NW	56	53	56	52	57	54	57	53	-0.9	-0.9	-0.7	-1	60	55	NO	NO	NO	NO	NO
16	16_0170		Residential	G	W	54	50	53	49	55	51	54	50	-0.7	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0171		Residential	G	N	53	49	53	49	54	50	54	50	-0.6	-0.6	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0172		Residential	G	SW	55	52	55	51	56	53	56	52	-0.9	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0173		Residential	G	SW	55	51	54	50	56	53	55	51	-0.9	-1	-0.8	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0174		Residential	G	SW	54	50	53	49	55	51	54	50	-0.9	-1.1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0174		Residential	1	SW	56	53	56	52	57	54	57	53	-0.7	-0.9	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0175		Residential	G	W	54	50	53	49	55	51	54	50	-1	-1.2	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0175		Residential	1	W	56	52	55	51	57	53	56	52	-0.8	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0176		Residential	G	W	55	52	55	51	56	53	56	52	-0.7	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0177		Residential	G	W	56	53	56	52	57	54	57	53	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0177		Residential	1	W	57	54	57	53	58	55	58	54	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0178		Residential	G	N	57	53	56	52	58	54	57	53	-0.6	-0.6	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0179		Residential	G	W	54	51	54	50	55	52	55	51	-0.6	-0.8	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0179		Residential	1	W	57	53	56	53	58	54	57	54	-0.6	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0180		Residential	G	W	52	48	52	48	53	49	53	49	-0.4	-0.4	-0.3	-0.3	60	55	NO	NO	NO	NO	NO
16	16_0180		Residential	1	W	56	52	55	51	56	53	56	52	-0.5	-0.4	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0181		Residential	G	NW	54	50	53	50	55	51	54	51	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0181		Residential	1	NW	57	53	57	53	58	54	58	54	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0182		Residential	G	SW	52	49	51	47	53	50	52	48	-1.2	-1.4	-1.2	-1.4	60	55	NO	NO	NO	NO	NO
16	16_0182		Residential	1	SW	54	51	53	49	55	52	54	50	-1	-1.2	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0183		Residential	G	SW	53	49	52	48	53	50	53	49	-1	-1.2	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0183		Residential	1	SW	55	51	54	50	55	52	55	51	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0184		Residential	G	SW	53	50	53	49	54	51	54	50	-0.8	-0.8	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0184		Residential	1	SW	55	51	54	51	56	52	55	52	-0.7	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0185		Residential	G	SW	53	49	52	49	54	50	53	50	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0185		Residential	1	SW	55	51	54	51	56	52	55	52	-0.6	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0186		Residential	G	SW	53	49	52	48	54	50	53	49	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0187		Residential	G	NW	55	51	54	50	56	52	55	51	-0.6	-0.7	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0188		Residential	G	NW	52	48	52	48	53	49	52	49	-0.6	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0188		Residential	1	NW	53	49	53	49	54	50	54	50	-0.6	-0.7	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0189		Residential	G	SW	52	48	51	47	53	49	52	48	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0189		Residential	1	SW	52	49	52	48	53	50	53	49	-0.8	-0.9	-0.7	-0.8	60	55	NO	NO	NO	NO	NO

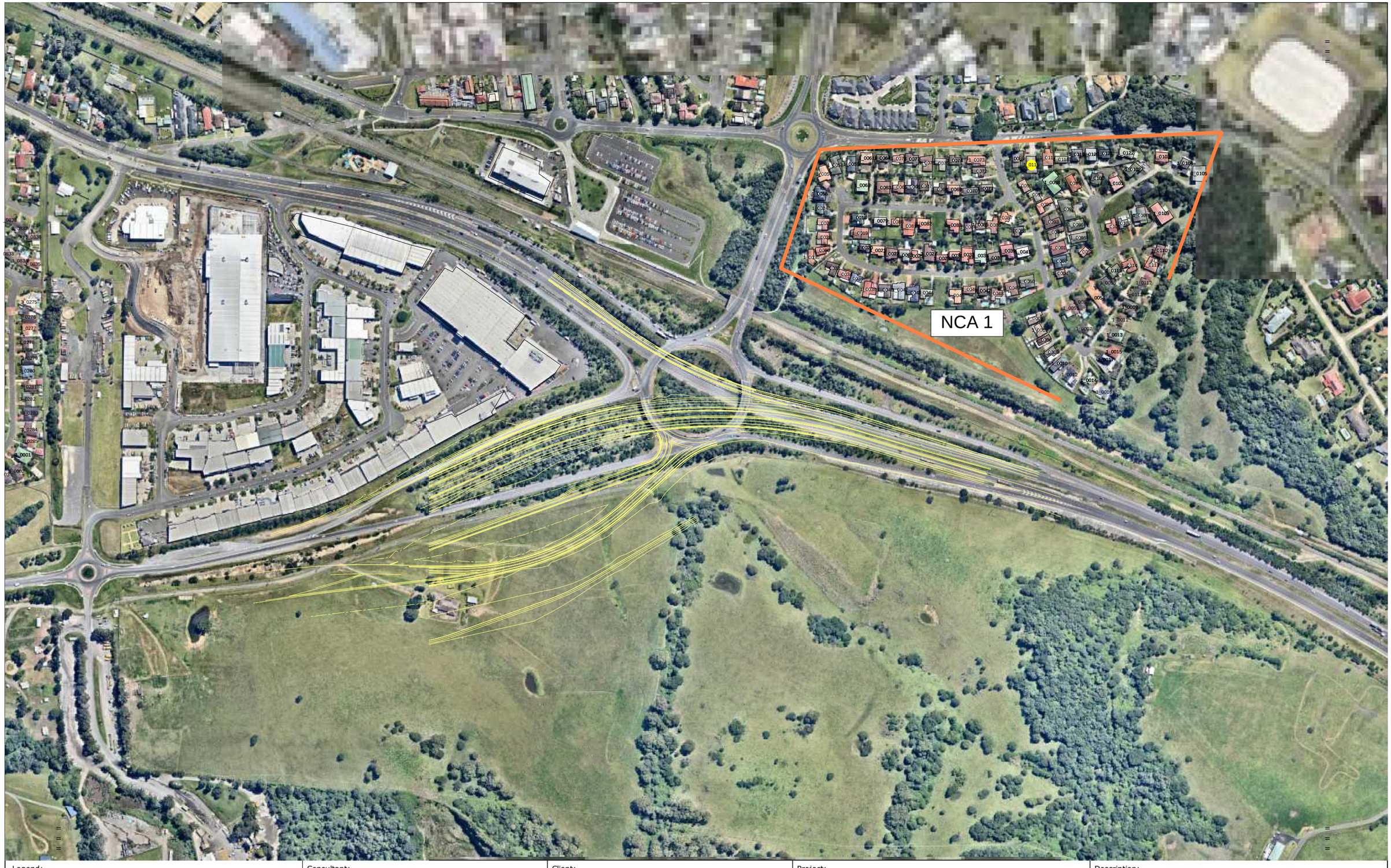
NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
16	16_0190		Residential	G	SW	47	44	46	42	48	45	47	43	-1.4	-1.7	-1.2	-1.7	60	55	NO	NO	NO	NO	NO
16	16_0190		Residential	1	NE	48	44	47	43	49	45	48	44	-0.4	-0.3	-0.3	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0191		Residential	G	SW	51	48	50	47	52	49	51	48	-1	-1.2	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0191		Residential	1	SW	52	48	51	47	53	49	52	48	-0.9	-1.1	-0.8	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0192		Residential	G	SW	47	43	45	41	48	44	46	42	-1.6	-1.9	-1.5	-1.8	60	55	NO	NO	NO	NO	NO
16	16_0192		Residential	1	NE	50	46	50	46	51	47	51	47	-0.3	-0.3	-0.2	-0.2	60	55	NO	NO	NO	NO	NO
16	16_0193		Residential	G	NW	55	51	54	50	55	52	55	51	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0193		Residential	1	NW	55	51	54	51	56	52	55	52	-0.6	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0194		Residential	G	SW	51	47	50	46	52	48	51	47	-1	-1.1	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0194		Residential	1	SW	53	49	52	48	54	50	53	49	-0.8	-1	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0195		Residential	G	SW	52	48	51	48	53	49	52	49	-0.8	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0195		Residential	1	NW	54	50	53	49	55	51	54	50	-0.7	-0.9	-0.6	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0196		Residential	G	W	53	49	52	48	53	50	53	49	-0.8	-1	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0196		Residential	1	W	54	50	53	49	55	51	54	50	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0197		Residential	G	SW	53	49	52	48	54	50	53	49	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0197		Residential	1	SW	54	50	53	49	55	51	54	50	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0198		Residential	G	NW	52	48	51	47	53	49	52	48	-0.8	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0199		Residential	G	SW	52	49	51	47	53	50	52	48	-1.1	-1.3	-1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0200		Residential	G	SW	51	47	50	46	52	48	51	47	-1.3	-1.5	-1.1	-1.5	60	55	NO	NO	NO	NO	NO
16	16_0200		Residential	1	SW	53	49	52	48	54	50	53	49	-0.9	-1.1	-0.8	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0201		Residential	G	SW	52	48	51	47	53	49	52	48	-0.9	-1.1	-0.8	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0201		Residential	1	SW	54	50	53	49	55	51	54	50	-0.8	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0202		Residential	G	SW	55	51	54	50	55	52	55	51	-0.7	-0.9	-0.6	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0203		Residential	G	SW	55	51	54	50	56	52	55	51	-0.8	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0203		Residential	1	NW	56	52	55	52	57	53	56	53	-0.6	-0.7	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0204		Residential	G	NW	54	50	53	49	55	51	54	50	-0.7	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0205		Residential	G	SW	55	52	55	51	56	53	56	52	-0.7	-0.9	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0206		Residential	G	N	55	52	55	51	56	53	56	52	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0206		Residential	1	W	57	53	56	52	58	54	57	53	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0207		Residential	G	W	55	51	54	50	56	52	55	51	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0207		Residential	1	W	56	53	56	52	57	54	57	53	-0.7	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0208		Residential	G	NW	54	51	53	49	55	52	54	50	-1	-1.1	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0208		Residential	1	SW	56	52	55	51	57	53	56	52	-0.8	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0209		Residential	G	NW	56	52	55	51	57	53	56	52	-0.8	-0.9	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0210		Residential	G	NW	55	51	54	50	56	52	55	51	-0.9	-1.1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0210		Residential	1	NW	56	53	56	52	57	54	57	53	-0.7	-0.7	-0.5	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0211		Residential	G	SW	52	49	51	47	53	50	52	48	-1.5	-1.7	-1.4	-1.7	60	55	NO	NO	NO	NO	NO
16	16_0211		Residential	1	SW	53	50	52	48	54	51	53	49	-1.1	-1.3	-1.1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0212		Residential	G	SW	54	50	53	49	55	51	54	50	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0213		Residential	G	SW	54	50	53	50	55	51	54	51	-0.8	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0214		Residential	G	SW	54	50	53	50	55	51	54	51	-0.8	-0.9	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0215		Residential	G	SW	54	50	53	50	55	51	54	51	-0.6	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0216		Residential	G	SW	54	50	53	49	55	51	54	50	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0217		Residential	G	SW	52	48	51	47	53	49	52	48	-0.9	-1.2	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0217		Residential	1	SW	53	49	52	48	54	50	53	49	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0218		Residential	G	NW	53	49	52	48	53	50	53	49	-0.8	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0219		Residential	G	SW	52	48	51	47	52	49	52	48	-0.9	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0220		Residential	G	W	51	47	50	46	52	48	51	47	-0.9	-1.1	-0.9	-1	60	55	NO	NO	NO	NO	NO
16	16_0220		Residential	1	W	52	48	51	47	53	49	52	48	-0.8	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0221		Residential	G	SW	51	47	50	46	51	48	51	47	-1	-1	-0.8	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0221		Residential	1	SW	52	48	51	47	53	49	52	48	-0.8	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0222		Residential	G	W	49	46	48	44	50	47	49	45	-1.1	-1.2	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0222		Residential	1	W	51	48	51	47	52	49	51	48	-0.8	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0223		Residential	G	W	50	46	49	45	51	47	50	46	-0.9	-1.1	-0.9	-1	60	55	NO	NO	NO	NO	NO
16	16_0223		Residential	1	W	51	47	50	47	52	48	51	48	-0.9	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0224		Residential	G	NW	52	48	51	48	53	49	52	49	-0.7	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0225		Residential	G	NE	47	43	47	43	48	44	48	44	-0.2	-0.2	-0.2	-0.1	60	55	NO	NO	NO	NO	NO
16	16_0225		Residential	1	NW	53	49	52	48	54	50	53	49	-0.6	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0226		Residential	G	N	53	49	53	49	54	50	54	50	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0226		Residential	1	N	54	50	53	49	55	51	54	50	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0227		Residential	G	NW	53	49	53	49	54	50	54	50	-0.5	-0.6	-0.4	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0227		Residential	1	NW	54	50	53	50	55	51	54	51	-0.6	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0228		Residential	G	N	52	49	52	48	53	50	53	49	-0.5	-0.5	-0.4	-0.4	60	55	NO	NO	NO	NO	NO
16	16_0228		Residential	1	N	54	50	53	49	55	51	54	50	-0.6	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0229		Residential	G	N	50	46	49	46	51	47	50	47	-0.7	-0.7	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0229		Residential	1	N	53	49	52	48	54	50	53	49	-0.5	-0.5	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0230		Residential	G	N	50	46	49	45	51	47	50	46	-0.8	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0230		Residential	1	N	54	50	53	49	54	51	54	50	-0.5	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0231		Residential	G	N	52	48	51	47	53	49	52	48	-0.8	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0231		Residential	1	N	55	51	54	51	56	52	55	52	-0.6	-0.6	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0232		Residential	G	N	54	50	53	49	54	51	54	50	-0.7	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0232		Residential	1	N	55	52	55	51	56	53	56	52	-0.6	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0233		Residential	G	N	54	50	53	49	55	51	54	50	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0233		Residential	1	N	57	53	56	52	57	54	57	53	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0234		Residential	G	N	55	51	54	50	56	52	55	51	-0.8	-1	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0234		Residential	1	N	57	53	56	52	58	54	57	53	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
16	16_0235		Residential	G	W	56	52	56	52	57	54	57	53	-0.6	-0.6	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0235		Residential	1	W	57	53	56	52	58	54	57	54	-0.8	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0236		Residential	G	N	55	51	54	50	56	52	55	51	-0.7	-0.7	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0236		Residential	1	N	57	53	56	52	58	54	57	54	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0237		Residential	G	N	57	53	56	53	58	54	57	54	-0.8	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0238		Residential	G	N	57	54	57	53	58	55	58	54	-0.8	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0238		Residential	1	N	58	55	58	54	59	56	59	55	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0239		Residential	G	N	58	54	57	53	59	55	58	54	-1	-1.1	-0.9	-1	60	55	NO	NO	NO	NO	NO
16	16_0239		Residential	1	N	59	56	58	55	60	57	59	56	-1	-1.2	-1	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0240		Residential	G	W	59	56	58	54	60	57	59	55	-1	-1.2	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0240		Residential	1	W	60	56	59	55	61	57	60	56	-1	-1.2	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0241		Residential	G	N	59	55	58	54	60	56	59	55	-1	-1.1	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0241		Residential	1	N	60	57	59	56	61	58	60	57	-1.2	-1.2	-1.1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0242		Residential	G	N	58	55	57	53	59	56	58	54	-1.2	-1.3	-1.1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0242		Residential	1	N	61	57	59	56	61	58	60	57	-1.2	-1.2	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0243		Residential	G	W	60	56	59	55	61	57	60	56	-1.1	-1.2	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0243		Residential	1	W	62	58	60	57	63	59	61	58	-1.2	-1.3	-1.1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0244		Residential	G	W	60	56	59	55	61	57	60	56	-1.1	-1.2	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0244		Residential	1	W	61	58	60	56	62	59	61	57	-1.2	-1.4	-1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0245		Residential	G	W	61	57	60	56	62	58	61	57	-1.2	-1.3	-1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0246		Residential	G	NW	61	57	60	56	62	58	61	57	-1.1	-1.3	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0247		Residential	G	NE	60	57	59	55	61	58	60	56	-1	-1.2	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0248		Residential	G	N	58	55	58	54	59	56	59	55	-0.7	-0.9	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0248		Residential	1	N	60	56	59	55	61	57	60	56	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0249		Residential	G	NW	58	55	57	54	59	56	58	55	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0249		Residential	1	NW	59	56	58	55	60	57	59	56	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0250		Residential	G	W	59	55	58	54	60	56	59	55	-1	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0251		Residential	G	W	59	55	58	54	60	56	59	55	-1	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0252		Residential	G	N	58	54	57	53	58	55	58	54	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0253		Residential	G	N	59	56	59	55	60	57	60	56	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0254		Residential	G	W	58	55	58	54	59	56	59	55	-0.8	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0254		Residential	1	W	60	56	59	55	61	57	60	56	-0.8	-1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0255		Residential	G	W	58	54	57	54	59	55	58	55	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0256		Residential	G	W	57	54	57	53	58	55	58	54	-0.8	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0256		Residential	1	W	59	55	58	54	60	56	59	55	-0.9	-1	-0.9	-1	60	55	NO	NO	NO	NO	NO
16	16_0257		Residential	G	W	57	53	56	53	58	54	57	53	-0.8	-0.8	-0.6	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0257		Residential	1	W	59	55	58	54	60	56	59	55	-0.9	-1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0258		Residential	G	N	56	52	55	51	57	53	56	52	-0.6	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0258		Residential	1	W	58	54	57	53	59	55	58	54	-0.8	-0.9	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0259		Residential	G	SW	56	52	55	52	57	53	56	52	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0259		Residential	1	SW	58	54	57	53	59	55	58	54	-0.9	-1.1	-1	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0260		Residential	G	N	55	51	54	50	56	52	55	51	-0.6	-0.7	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0260		Residential	1	W	55	51	55	51	56	52	56	52	-0.6	-0.7	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0261		Residential	G	W	56	52	55	51	56	53	56	52	-0.7	-0.7	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0262		Residential	G	W	56	52	55	51	56	52	56	52	-0.7	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0263		Residential	G	NE	57	53	56	52	58	54	57	53	-1.1	-1.2	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0263		Residential	1	NW	60	56	59	55	61	57	60	56	-1	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0264		Residential	G	NW	59	55	58	54	60	56	59	55	-0.8	-1	-0.7	-1	60	55	NO	NO	NO	NO	NO
16	16_0264		Residential	1	NW	60	56	59	55	61	57	60	56	-1	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0265		Residential	G	NW	61	57	59	56	61	58	60	57	-1.1	-1.2	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0265		Residential	1	NW	62	58	61	57	63	59	62	58	-1.3	-1.5	-1.2	-1.5	60	55	NO	NO	NO	NO	NO
16	16_0266		Residential	G	NW	52	48	50	46	53	49	51	47	-1.5	-1.7	-1.5	-1.7	60	55	NO	NO	NO	NO	NO
16	16_0266		Residential	1	NW	60	57	59	56	61	58	60	57	-1.1	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0267		Residential	G	W	59	56	58	55	60	57	59	56	-1	-1.1	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0267		Residential	1	W	61	57	60	56	62	58	61	57	-1.1	-1.2	-1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0268		Residential	G	W	60	57	59	55	61	58	60	56	-1	-1.2	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0268		Residential	1	W	62	59	61	57	63	60	62	58	-1.2	-1.4	-1.1	-1.5	60	55	NO	NO	NO	NO	YES
16	16_0269		Residential	G	W	62	58	60	56	63	59	61	57	-1.4	-1.6	-1.4	-1.6	60	55	NO	NO	NO	NO	NO
16	16_0269		Residential	1	W	64	61	63	59	65	62	64	60	-1.5	-1.6	-1.4	-1.7	60	55	NO	YES	NO	NO	YES
16	16_0270		Residential	G	N	58	54	57	53	59	55	58	54	-0.9	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0270		Residential	1	W	61	57	60	56	62	58	61	57	-1.2	-1.3	-1.1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0271		Residential	G	W	64	60	63	59	65	61	63	60	-1.6	-1.7	-1.5	-1.8	60	55	NO	YES	NO	NO	YES
16	16_0271		Residential	1	W	66	62	64	60	67	63	65	61	-1.6	-1.8	-1.6	-1.8	60	55	YES	YES	YES	YES	YES
16	16_0272		Residential	G	SW	64	60	62	58	65	61	63	59	-1.7	-1.8	-1.7	-2	60	55	NO	NO	NO	NO	YES
16	16_0272		Residential	1	SW	65	62	64	60	66	63	65	61	-1.8	-1.9	-1.8	-1.9	60	55	YES	YES	NO	YES	YES
16	16_0273		Residential	G	SW	61	57	60	56	62	58	61	56	-1.6	-1.7	-1.7	-1.9	60	55	NO	NO	NO	NO	NO
16	16_0274		Residential	G	W	67	64	66	62	68	65	67	63	-1.8	-1.9	-1.6	-1.9	60	55	YES	YES	YES	YES	YES
16	16_0274		Residential	1	W	69	65	67	64	70	66	68	64	-1.8	-1.9	-1.8	-2	60	55	YES	YES	YES	YES	YES
16	16_0275		Residential	G	W	64	61	63	59	65	62	64	60	-1.7	-1.9	-1.5	-1.9	60	55	NO	YES	NO	NO	YES
16	16_0275		Residential	1	W	67	64	66	62	68	65	67	63	-1.6	-1.8	-1.6	-1.8	60	55	YES	YES	YES	YES	YES
16	16_0276		Residential	G	W	67	63	65	61	68	64	66	62	-1.7	-1.9	-1.6	-1.9	60	55	YES	YES	YES	YES	YES
16	16_0277		Residential	G	W	67	63	65	61	68	64	66	62	-1.8	-1.9	-1.7	-1.9	60	55	YES	YES	YES	YES	YES
16	16_0278		Residential	G	W	66	63	65	61	67	64	66	62	-1.8	-1.9	-1.7	-2	60	55	YES	YES	YES	YES	YES
16	16_0279		Residential	G	W	65	61	63	59	66	62	64	60	-2	-2.1	-1.9	-2.1	60	55	NO	YES	NO	YES	YES
16	16_0279		Residential	1	W	67	63	65	61	68	64	66	62	-1.7	-1.9	-1.7	-1.9	60	55	YES	YES	YES	YES	YES
16	16_0280		Residential	G	NW	65	61	63	59	66	62	64	60	-1.7	-1.9	-1.6	-1.8	60	55	NO	YES	NO	NO	YES

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
16	16_0281		Residential	G	NW	63	59	61	58	64	60	62	59	-1.6	-1.7	-1.5	-1.7	60	55	NO	NO	NO	NO	YES
16	16_0282		Residential	G	NW	61	57	60	56	62	58	61	57	-1.4	-1.5	-1.3	-1.5	60	55	NO	NO	NO	NO	NO
16	16_0282		Residential	1	NW	63	60	62	58	64	61	63	59	-1.5	-1.5	-1.4	-1.6	60	55	NO	NO	NO	NO	YES
16	16_0283		Residential	G	NW	60	56	59	55	61	57	60	56	-1	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0284		Residential	G	NW	61	57	60	56	62	58	61	57	-1.2	-1.3	-1.1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0285		Residential	G	NW	60	56	59	55	61	57	60	56	-1.3	-1.4	-1.2	-1.4	60	55	NO	NO	NO	NO	NO
16	16_0286		Residential	G	NW	58	54	56	52	59	55	57	53	-1.4	-1.6	-1.3	-1.5	60	55	NO	NO	NO	NO	NO
16	16_0286		Residential	1	NW	60	57	59	55	61	58	60	57	-1.1	-1.2	-1	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0287		Residential	G	NW	58	55	57	54	59	56	58	55	-1	-1	-0.9	-1	60	55	NO	NO	NO	NO	NO
16	16_0288		Residential	G	N	57	53	56	52	58	54	57	53	-1	-1.1	-1	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0288		Residential	1	W	61	57	60	56	62	58	61	57	-1.2	-1.4	-1.1	-1.3	60	55	NO	NO	NO	NO	NO
16	16_0289		Residential	G	N	59	55	58	54	60	56	59	55	-1.1	-1.2	-1	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0290		Residential	G	W	60	56	59	55	61	57	60	56	-1.6	-1.6	-1.4	-1.6	60	55	NO	NO	NO	NO	NO
16	16_0290		Residential	1	W	63	59	61	57	64	60	62	59	-1.4	-1.5	-1.2	-1.4	60	55	NO	NO	NO	NO	YES
16	16_0291		Residential	G	W	60	57	59	55	61	58	60	56	-1.5	-1.6	-1.4	-1.6	60	55	NO	NO	NO	NO	NO
16	16_0292		Residential	G	W	59	56	58	54	60	57	59	55	-1.4	-1.6	-1.3	-1.5	60	55	NO	NO	NO	NO	NO
16	16_0292		Residential	1	W	62	58	60	57	63	59	62	58	-1.4	-1.5	-1.3	-1.5	60	55	NO	NO	NO	NO	NO
16	16_0293		Residential	G	W	60	56	58	55	61	57	59	56	-1.4	-1.5	-1.3	-1.5	60	55	NO	NO	NO	NO	NO
16	16_0293		Residential	1	W	62	58	61	57	63	59	62	58	-1.4	-1.5	-1.3	-1.5	60	55	NO	NO	NO	NO	NO
16	16_0294		Residential	G	NW	67	63	64	61	68	64	65	62	-2.1	-2.2	-2.1	-2.2	60	55	YES	YES	YES	YES	YES
16	16_0295		Residential	G	SW	66	62	64	60	67	63	65	61	-2.3	-2.4	-2.2	-2.3	60	55	YES	YES	YES	YES	YES
16	16_0296		Residential	G	W	67	63	65	61	68	64	66	62	-2.1	-2.1	-2	-2.2	60	55	YES	YES	YES	YES	YES
16	16_0297		Residential	G	W	66	62	64	60	67	63	65	61	-2.2	-2.2	-2.1	-2.2	60	55	YES	YES	YES	YES	YES
16	16_0297		Residential	1	W	68	65	66	63	69	66	67	64	-1.9	-2	-1.9	-2	60	55	YES	YES	YES	YES	YES
16	16_0298		Residential	G	W	65	61	63	59	66	62	64	60	-2.1	-2.3	-2.1	-2.3	60	55	NO	YES	NO	NO	YES
16	16_0299		Residential	G	W	64	61	62	58	65	62	63	59	-2.1	-2.2	-2	-2.2	60	55	NO	NO	NO	NO	YES
16	16_0300		Residential	G	W	62	59	60	56	63	60	61	57	-2	-2.1	-1.9	-2.1	60	55	NO	NO	NO	NO	NO
16	16_0301		Residential	G	W	64	60	62	58	65	61	63	59	-1.8	-1.9	-1.7	-1.8	60	55	NO	NO	NO	NO	YES
16	16_0302		Residential	G	W	63	60	62	58	64	61	63	59	-1.6	-1.7	-1.6	-1.7	60	55	NO	NO	NO	NO	YES
16	16_0303		Residential	G	W	63	59	61	57	64	60	62	58	-1.5	-1.5	-1.4	-1.5	60	55	NO	NO	NO	NO	YES
16	16_0304		Residential	G	W	64	60	63	59	65	61	64	60	-1.4	-1.4	-1.4	-1.5	60	55	NO	YES	NO	NO	YES
16	16_0305		Residential	G	W	62	58	61	57	63	59	62	58	-1.1	-1.2	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0306		Residential	G	W	61	57	60	56	62	58	61	57	-1.2	-1.3	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0307		Residential	G	N	59	56	58	54	60	57	59	55	-1.2	-1.3	-1.1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0308		Residential	G	N	59	56	58	54	60	57	59	55	-1	-1.2	-1	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0309		Residential	G	N	59	55	58	54	60	56	59	55	-1.1	-1.1	-0.9	-1	60	55	NO	NO	NO	NO	NO
16	16_0310		Residential	G	W	59	55	58	54	60	57	59	55	-1.1	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0311		Residential	G	N	57	53	56	53	58	54	57	54	-0.7	-0.8	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0312		Residential	G	NE	56	52	55	52	57	53	56	53	-0.7	-0.6	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0313		Residential	G	W	57	53	56	52	58	54	57	53	-0.9	-0.9	-0.9	-1	60	55	NO	NO	NO	NO	NO
16	16_0314		Residential	G	W	57	54	57	53	58	55	58	54	-0.9	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0315		Residential	G	W	58	54	57	53	58	55	58	54	-0.9	-1	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0316		Residential	G	W	58	54	57	53	59	55	58	54	-0.8	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0317		Residential	G	W	57	54	57	53	58	55	58	54	-0.9	-0.9	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0318		Residential	G	NW	57	53	56	52	58	54	57	53	-1.1	-1.2	-1	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0318		Residential	1	NW	60	56	59	55	61	57	60	56	-1.1	-1.1	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0319		Residential	G	NW	59	55	57	54	59	56	58	55	-1.1	-1.2	-1	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0319		Residential	1	NW	60	57	59	55	61	58	60	57	-1.1	-1.2	-0.9	-1.2	60	55	NO	NO	NO	NO	NO
16	16_0320		Residential	G	NW	59	56	58	55	60	57	59	56	-1.1	-1.2	-1	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0321		Residential	G	NW	57	53	56	52	58	54	57	53	-0.9	-0.9	-0.8	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0321		Residential	1	NW	59	55	58	54	60	56	59	55	-0.8	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0322		Residential	G	N	57	54	57	53	58	55	58	54	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0322		Residential	1	N	58	55	58	54	59	56	59	55	-0.8	-0.9	-0.8	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0323		Residential	G	N	56	52	55	52	57	53	56	53	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0323		Residential	1	N	58	54	57	53	59	55	58	54	-0.7	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0324		Residential	G	W	54	50	53	49	55	51	54	50	-1	-1	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0324		Residential	1	W	56	53	55	52	57	54	56	53	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0325		Residential	G	N	54	50	53	49	55	51	54	50	-0.9	-1	-0.9	-1	60	55	NO	NO	NO	NO	NO
16	16_0325		Residential	1	N	56	52	55	51	57	53	56	53	-0.8	-0.9	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0326		Residential	G	N	54	50	53	49	55	51	54	50	-1	-1.1	-0.9	-1.1	60	55	NO	NO	NO	NO	NO
16	16_0327		Residential	G	N	54	50	53	49	54	51	54	50	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0327		Residential	1	N	56	52	55	51	57	53	56	53	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0328		Residential	G	N	55	51	54	50	56	52	55	51	-0.7	-0.6	-0.6	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0328		Residential	1	N	56	52	55	51	57	53	56	52	-0.7	-0.8	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0329		Residential	G	W	48	44	47	43	49	45	48	44	-0.8	-0.7	-0.7	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0329		Residential	1	W	53	50	53	49	54	51	54	50	-0.8	-0.9	-0.7	-0.9	60	55	NO	NO	NO	NO	NO
16	16_0330		Residential	G	N	53	49	52	48	54	50	53	49	-0.6	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0330		Residential	1	N	54	51	54	50	55	52	55	51	-0.6	-0.6	-0.5	-0.6	60	55	NO	NO	NO	NO	NO
16	16_0331		Residential	G	N	55	51	54	50	56	52	55	51	-0.6	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0332		Residential	G	N	54	51	54	50	55	52	55	51	-0.5	-0.6	-0.5	-0.5	60	55	NO	NO	NO	NO	NO
16	16_0332		Residential	1	W	56	52	55	51	57	53	56	52	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0333		Residential	G	N	55	51	54	50	56	52	55	51	-0.6	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0333		Residential	1	N	56	52	55	52	57	53	56	53	-0.6	-0.7	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0334		Residential	G	NW	56	52	55	51	57	53	56	52	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0334		Residential	1	NW	57	53	56	52	58	54	57	53	-0.8	-0.9	-0.6	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0335		Residential	G	NW	55	51	54	51	56	52	55	52	-0.8	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO

NCA	NCA ID	Receiver description	Receiver type	Facade		Opening year 2020				Design Year 2030				Increase (Build - No Build)				NCG poject road noise criteria		Do noise levels exceed the cumlative limit with project roads controlling noise levels?		Is the contribution from the road project Acute?		Consider further treatment?
						No Build		Build		No Build		Build		Opening year 2020		Design year 2030						DAY	NIGHT	
				Floor	Orientation	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night					
						dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	Day	Night	≥ 65dB LAeq,15h	≥ 60dB LAeq,9h	
16	16_0336		Residential	G	W	55	52	55	51	56	53	56	52	-0.7	-0.9	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0336		Residential	1	W	56	53	56	52	57	54	57	53	-0.7	-0.8	-0.7	-0.8	60	55	NO	NO	NO	NO	NO
16	16_0337		Residential	G	N	56	52	55	52	57	53	56	53	-0.7	-0.8	-0.6	-0.7	60	55	NO	NO	NO	NO	NO
16	16_0337		Residential	1	W	58	54	57	53	59	55	58	54	-0.8	-0.9	-0.8	-1	60	55	NO	NO	NO	NO	NO
16	16_0338		Residential	G	W	57	53	56	52	58	54	57	53	-0.8	-0.9	-0.8	-0.8	60	55	NO	NO	NO	NO	NO

APPENDIX G Properties to be considered for treatment



Legend:

- Existing noise wall
- Proposed noise wall
- Considered for treatment (single storey dwelling)
- Considered for treatment (double storey dwelling)
- Considered for treatment (other sensitive receiver)

Consultant:

RENZO TONIN & ASSOCIATES
inspired to achieve
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1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

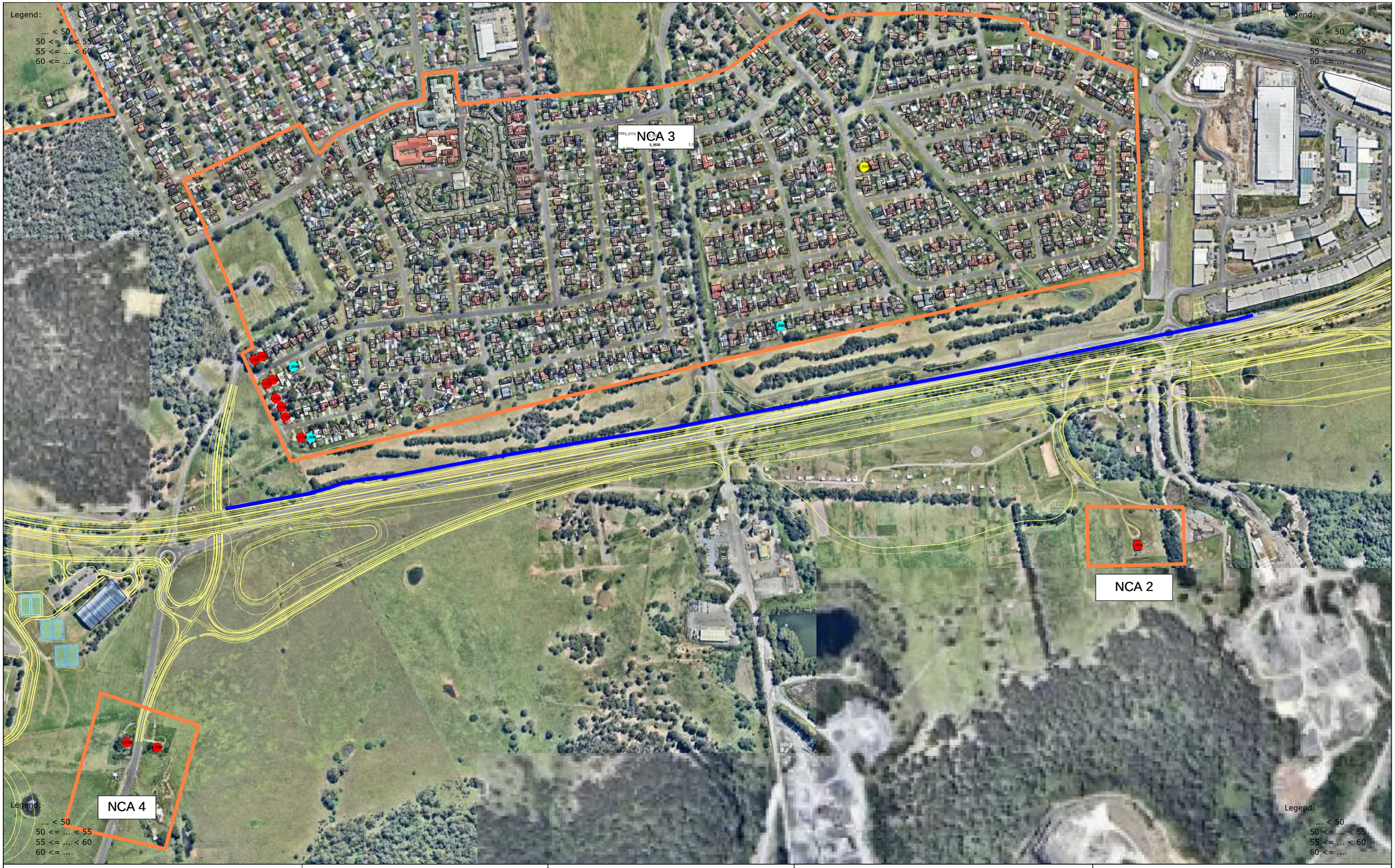
ALBION PARK RAIL BYPASS

Description:

RECEIVERS CONSIDERED FOR TREATMENT
WITH MITIGATION
NCA 1

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.01 (r1)	Grid:	-
Date:	2015.08.04	Scale:	1: 4500 A3



Legend:

- Existing noise wall
- Proposed noise wall
- Considered for treatment (single storey dwelling)
- Considered for treatment (double storey dwelling)
- Considered for treatment (other sensitive receiver)

Consultant:
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P: 02 8218 0500 F: 02 8218 0501

Client:
NSW GOVERNMENT Transport Roads & Maritime Services

Project:
ALBION PARK RAIL BYPASS

Description:
RECEIVERS CONSIDERED FOR TREATMENT WITH MITIGATION
NCA 2-4

Noise levels are approximate due to interpolation of contours and should be used for reference only.
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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.02 (r1)	Grid:	-
Date:	2015.08.04	Scale:	1: 6200 A3



Legend:

- Existing noise wall
- Proposed noise wall
- Considered for treatment (single storey dwelling)
- Considered for treatment (double storey dwelling)
- Considered for treatment (other sensitive receiver)

Consultant:

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inspired to achieve
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1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

ALBION PARK RAIL BYPASS

Description:

RECEIVERS CONSIDERED FOR TREATMENT
WITH MITIGATION
NCA 5-6

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.03 (r1)	Grid:	-
Date:	2015.08.04	Scale:	1: 4500 A3



Legend:

- Existing noise wall
- Proposed noise wall
- Considered for treatment (single storey dwelling)
- Considered for treatment (double storey dwelling)
- Considered for treatment (other sensitive receiver)

Consultant:
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inspired to achieve
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1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:
NSW GOVERNMENT Transport Roads & Maritime Services

Project:
ALBION PARK RAIL BYPASS

Description:
RECEIVERS CONSIDERED FOR TREATMENT
WITH MITIGATION
NCA 8-10

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.04 (r1)	Grid:	-
Date:	2015.08.04	Scale:	1: 4500 A3



Legend:

- Existing noise wall
- Proposed noise wall
- Considered for treatment (single storey dwelling)
- Considered for treatment (double storey dwelling)
- Considered for treatment (other sensitive receiver)

Consultant:

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1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

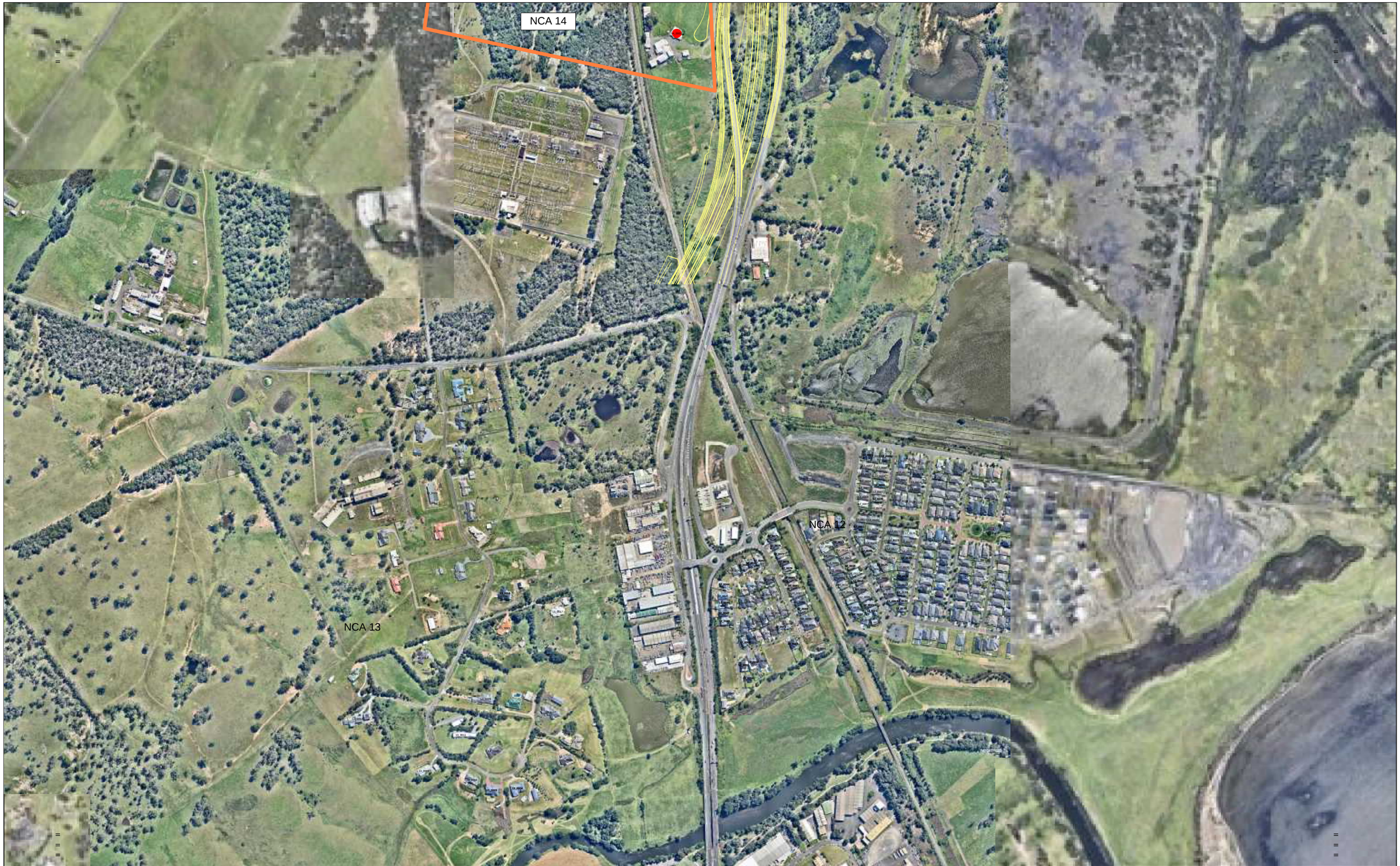
ALBION PARK RAIL BYPASS

Description:

RECEIVERS CONSIDERED FOR TREATMENT WITH MITIGATION
NCA 11

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.05 (r1)	Grid:	-
Date:	2015.08.04	Scale:	1: 4800 A3



Legend:

- Existing noise wall
- Proposed noise wall
- Considered for treatment (single storey dwelling)
- Considered for treatment (double storey dwelling)
- Considered for treatment (other sensitive receiver)

Consultant:
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1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

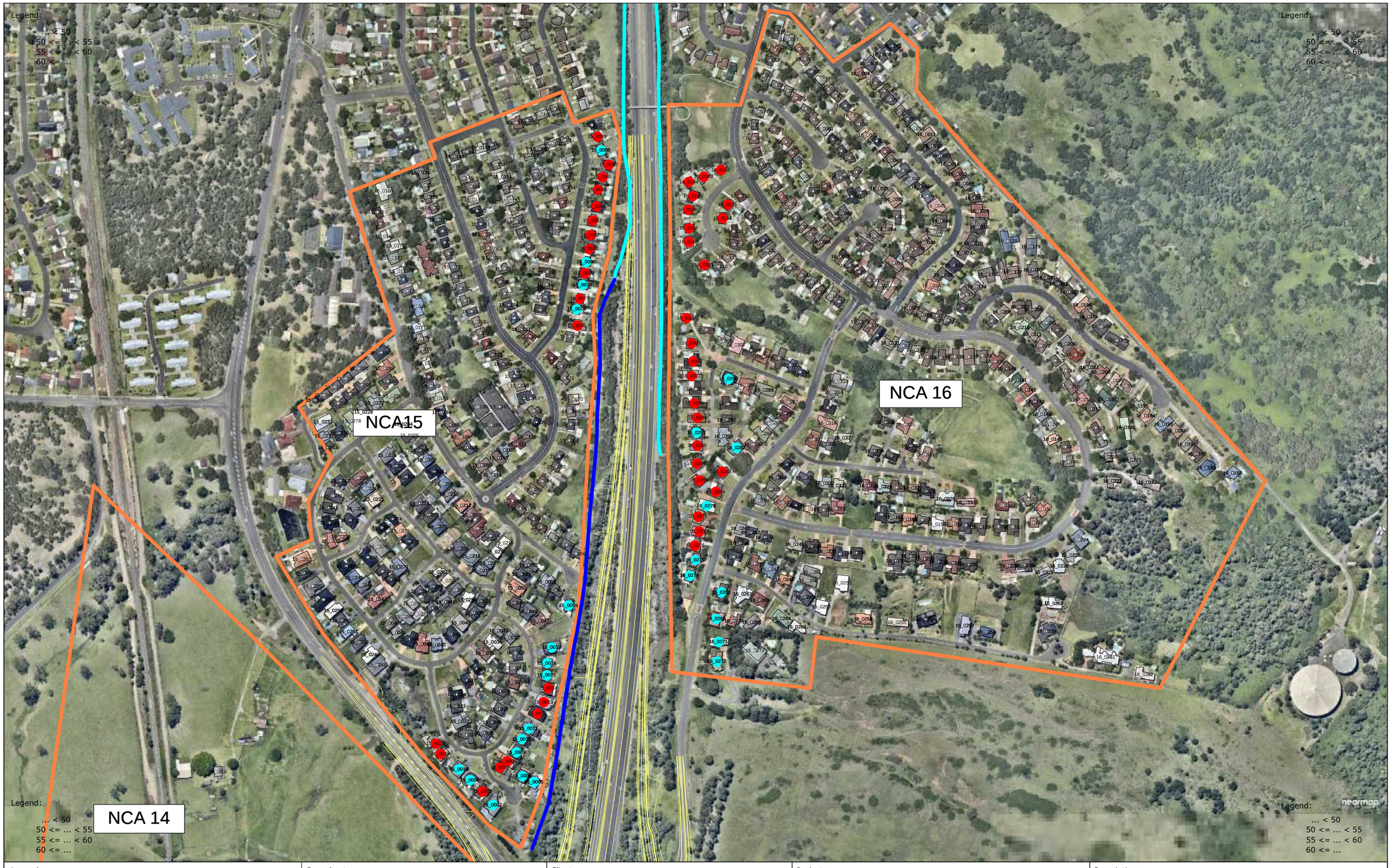
Client:
NSW GOVERNMENT Transport Roads & Maritime Services

Project:
ALBION PARK RAIL BYPASS

Description:
RECEIVERS CONSIDERED FOR TREATMENT WITH MITIGATION
NCA 12-14

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.06 (r1)	Grid:	-
Date:	2015.08.04	Scale:	1: 7500 A3



Legend:

- Existing noise wall
- Proposed noise wall
- Considered for treatment (single storey dwelling)
- Considered for treatment (double storey dwelling)
- Considered for treatment (other sensitive receiver)

Consultant:
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1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:
NSW GOVERNMENT Transport Roads & Maritime Services

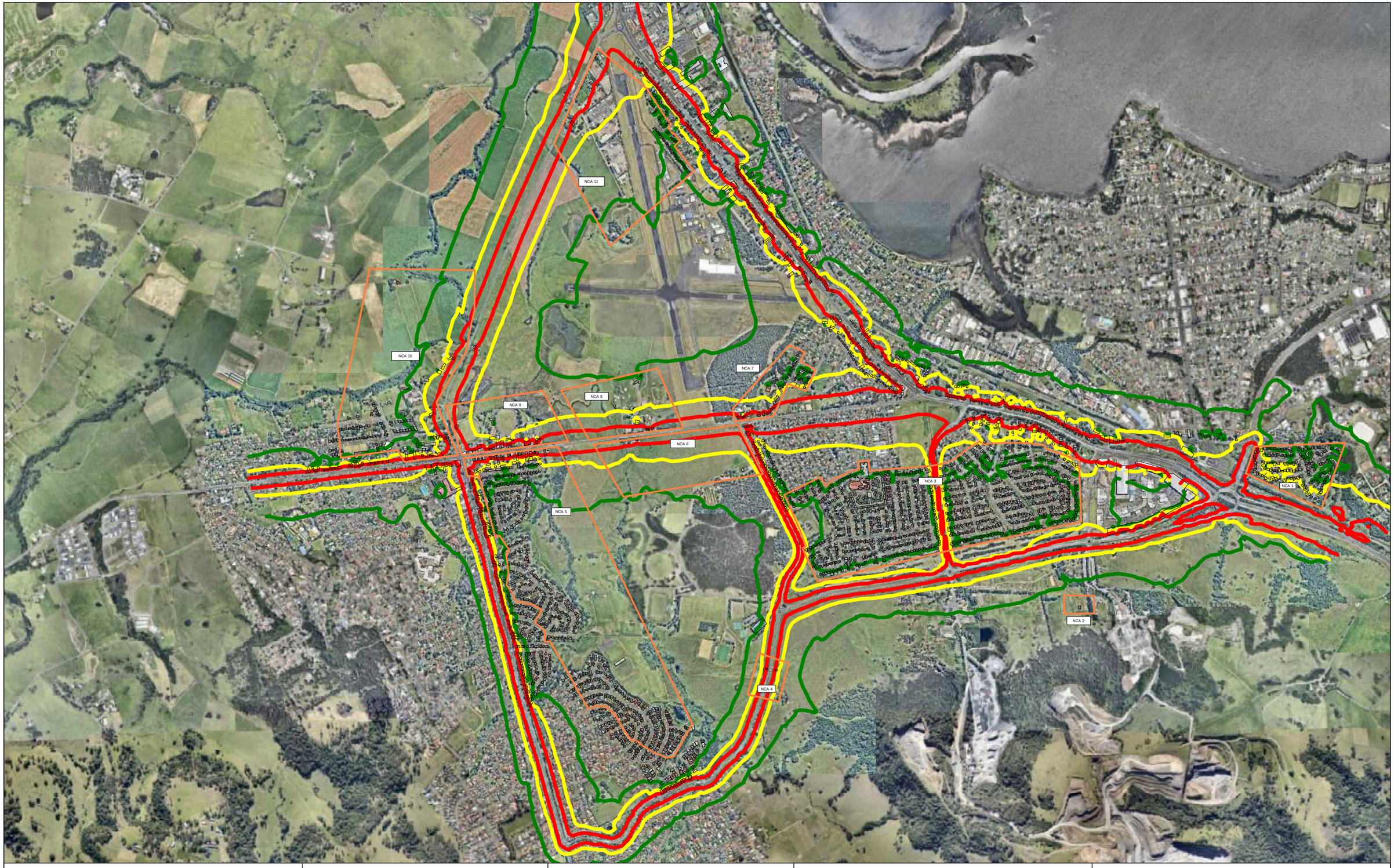
Project:
ALBION PARK RAIL BYPASS

Description:
RECEIVERS CONSIDERED FOR TREATMENT WITH MITIGATION
NCA 15-16

Noise levels are approximate due to interpolation of contours and should be used for reference only.
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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.07 (r1)	Grid:	-
Date:	2015.08.04	Scale:	1: 4500 A3

APPENDIX H Road traffic noise contour maps



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 55
- 60
- 65

Consultant:

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1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

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Project:

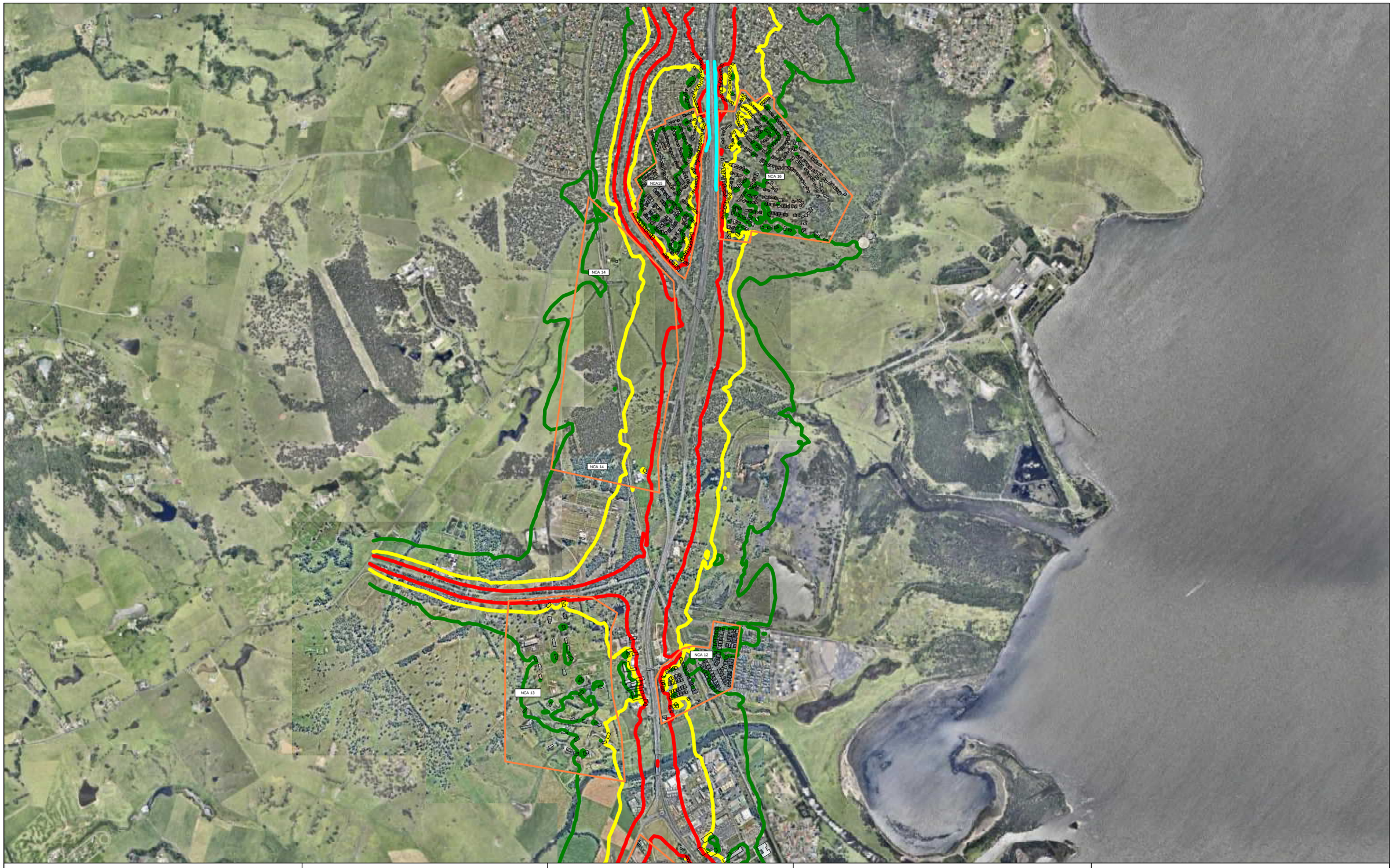
ALBION PARK RAIL BYPASS

Description:

OPENING YEAR 2020 NO BUILD SCENARIO
LAEQ,15H DAYTIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
SOUTHERN REGION

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.11 (r0)	Grid:	01C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 55
- 60
- 65

Consultant:

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inspired to achieve
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1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

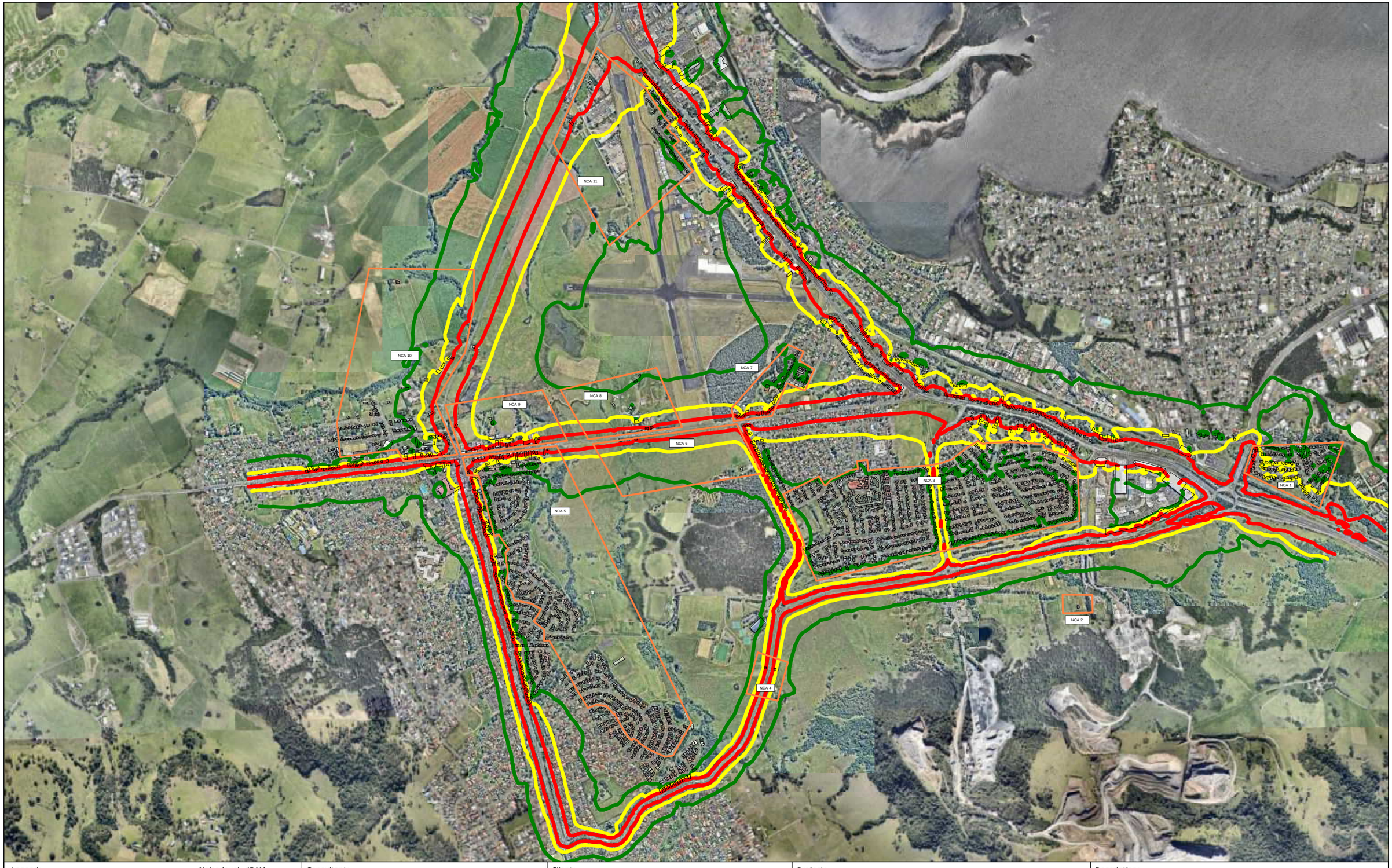
ALBION PARK RAIL BYPASS

Description:

OPENING YEAR 2020 NO BUILD SCENARIO
LAEQ,15H DAYTIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
NORTHERN REGION

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.12 (r0)	Grid:	01C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 50
- 55
- 60

Consultant:

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1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

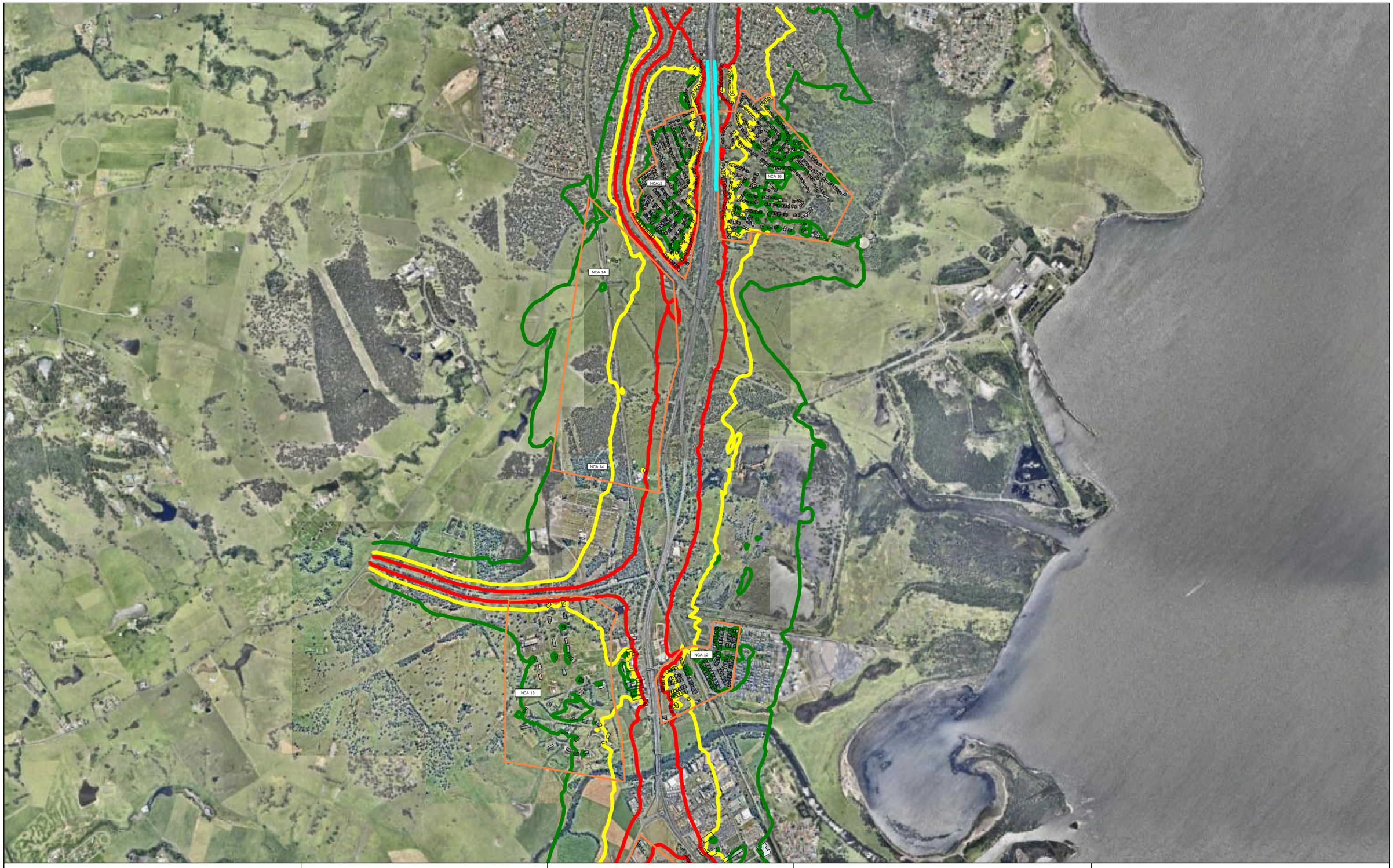
ALBION PARK RAIL BYPASS

Description:

OPENING YEAR 2020 NO BUILD SCENARIO
LAEQ,9H NIGHT TIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
SOUTHERN REGION

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.13 (r0)	Grid:	02C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 50
- 55
- 60

Consultant:

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Client:

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Project:

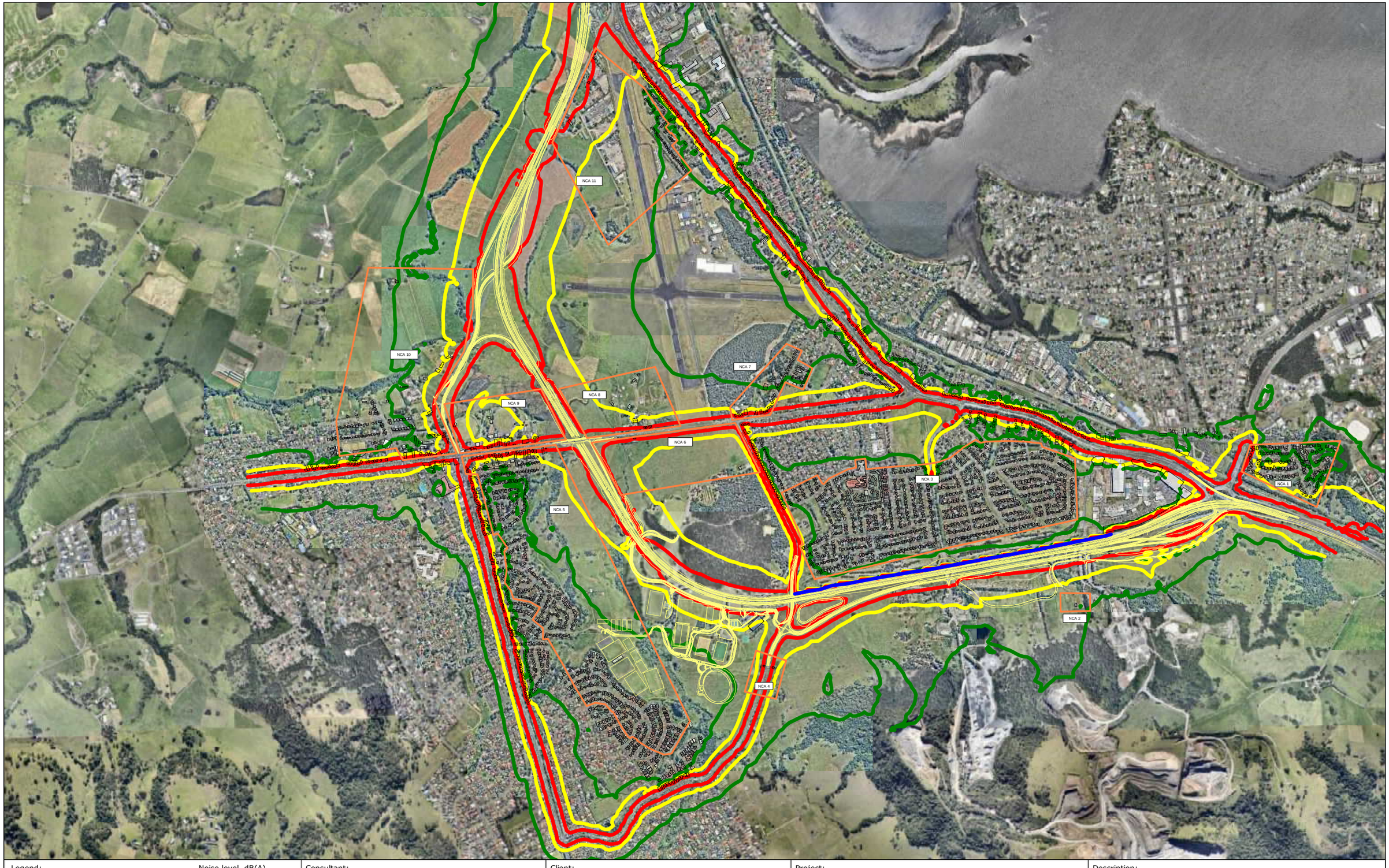
ALBION PARK RAIL BYPASS

Description:

OPENING YEAR 2020 NO BUILD SCENARIO
LAEQ,9H NIGHT TIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
NORTHERN REGION

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.14 (r0)	Grid:	02C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 55
- 60
- 65

Consultant:

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P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

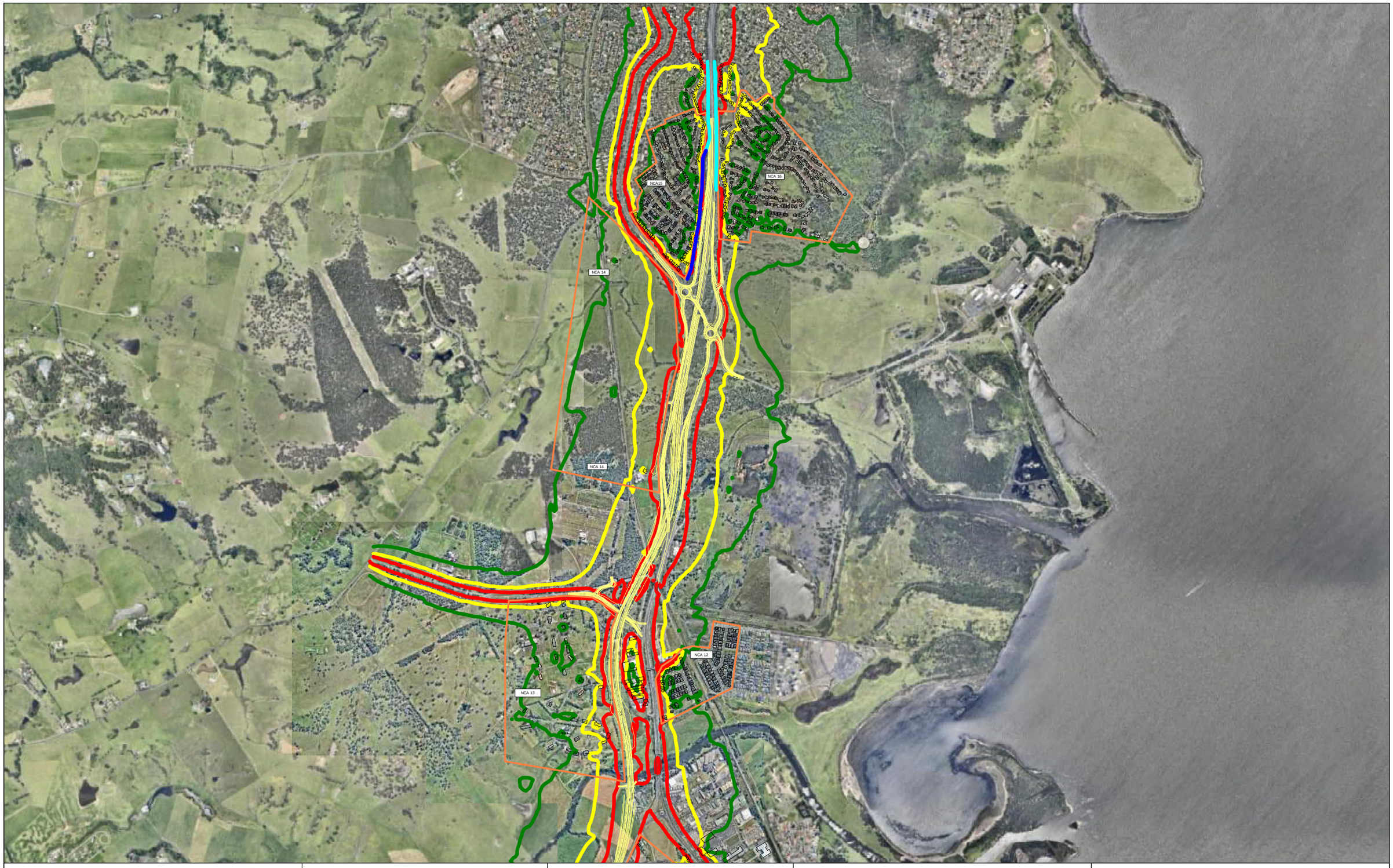
ALBION PARK RAIL BYPASS

Description:

OPENING YEAR 2020 BUILD SCENARIO
LAEQ,15H DAYTIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
SOUTHERN REGION

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.15 (r0)	Grid:	03C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 55
- 60
- 65

Consultant:

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Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

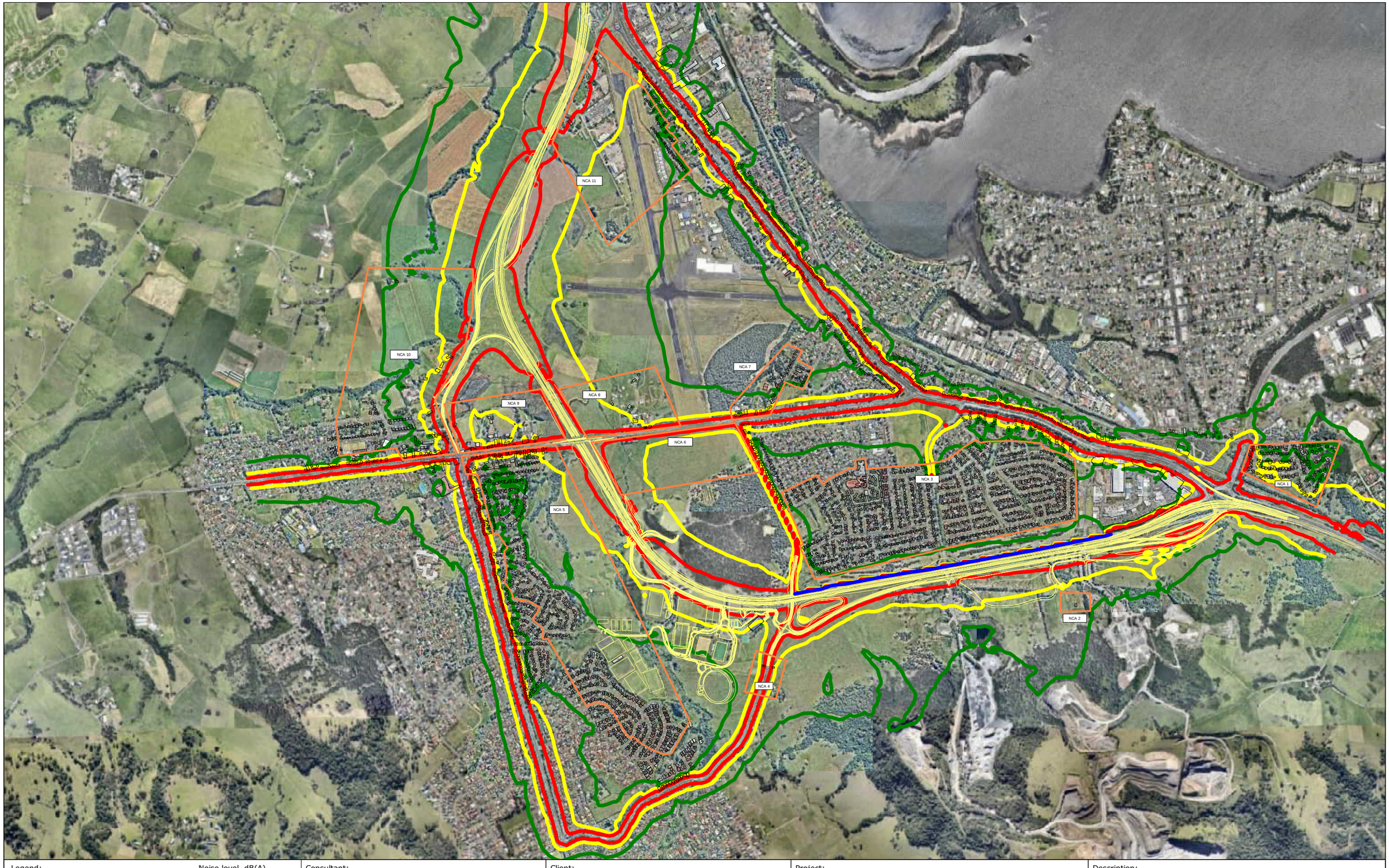
ALBION PARK RAIL BYPASS

Description:

OPENING YEAR 2020 BUILD SCENARIO
LAEQ,15H DAYTIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
NORTHERN REGION

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.16 (r0)	Grid:	03C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 50
- 55
- 60

Consultant:

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P: 02 8218 0500 F: 02 8218 0501

Client:

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Project:

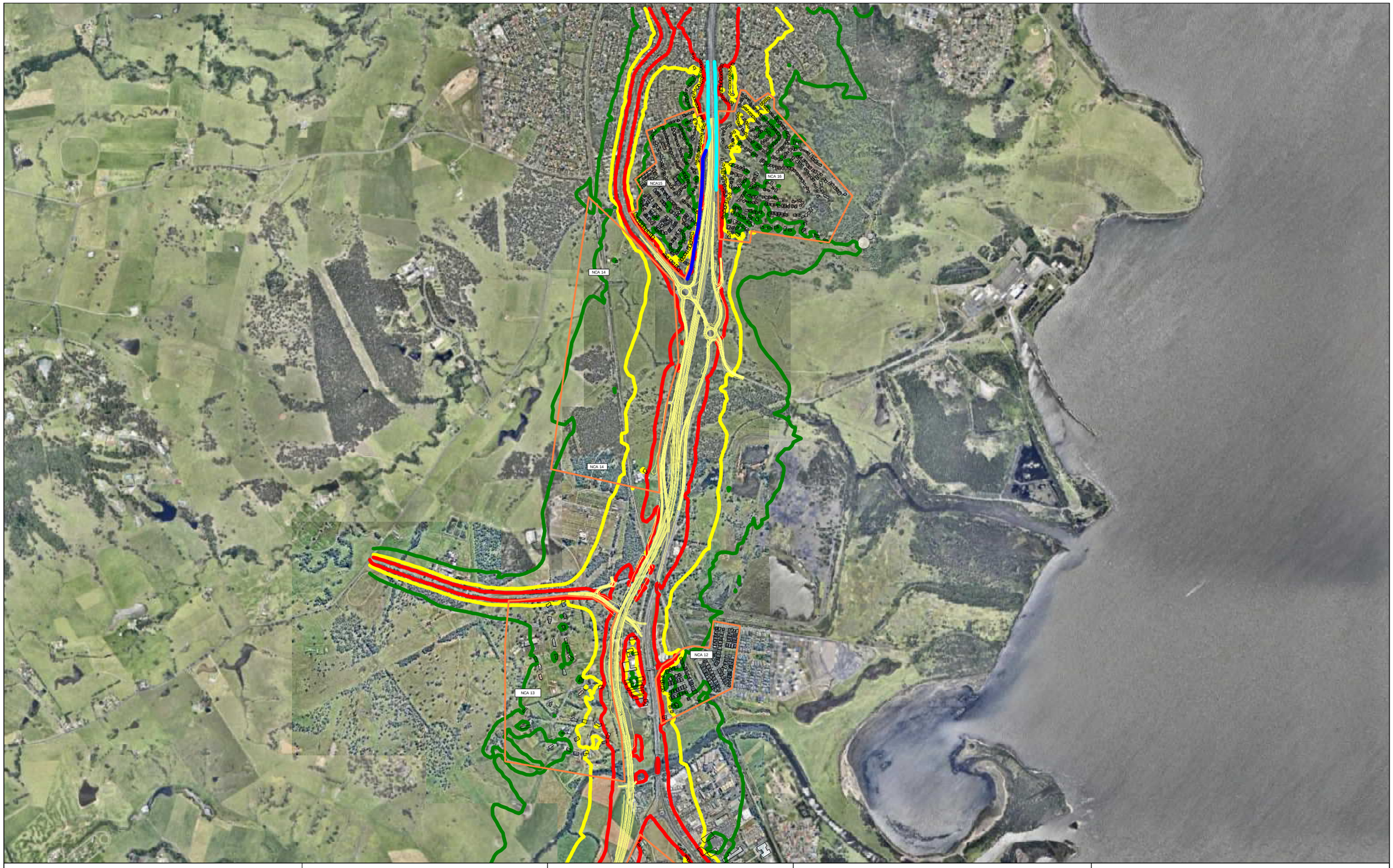
ALBION PARK RAIL BYPASS

Description:

OPENING YEAR 2020 BUILD SCENARIO
LAEQ,9H NIGHT TIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
SOUTHERN REGION

Noise levels are approximate due to interpolation of contours and should be used for reference only.
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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.17 (r0)	Grid:	04C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 50
- 55
- 60

Consultant:

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inspired to achieve
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1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

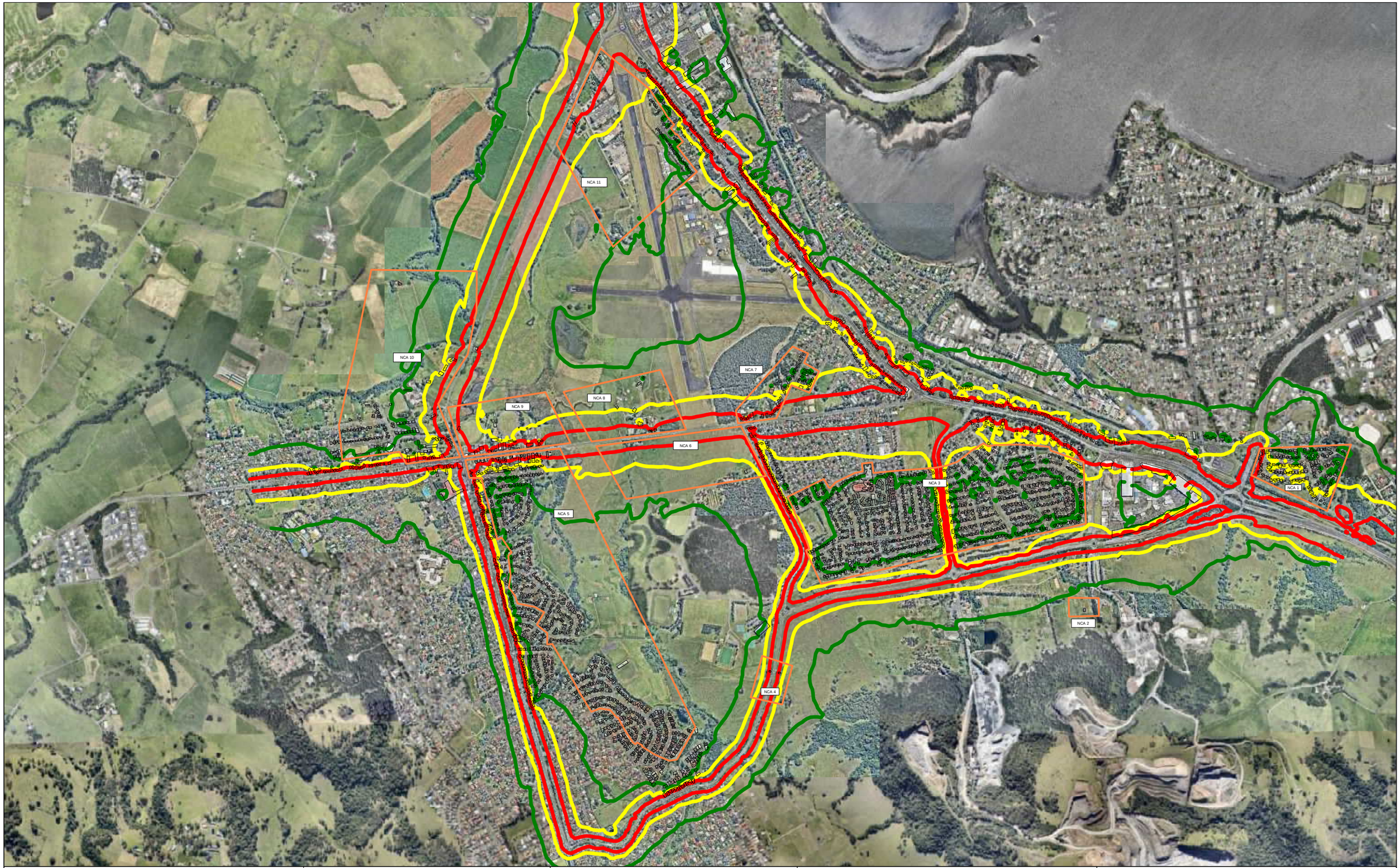
ALBION PARK RAIL BYPASS

Description:

OPENING YEAR 2020 BUILD SCENARIO
LAEQ,9H NIGHT TIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
NORTHERN REGION

Noise levels are approximate due to interpolation of contours and should be used for reference only.
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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.18 (r0)	Grid:	04C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 55
- 60
- 65

Consultant:

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1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

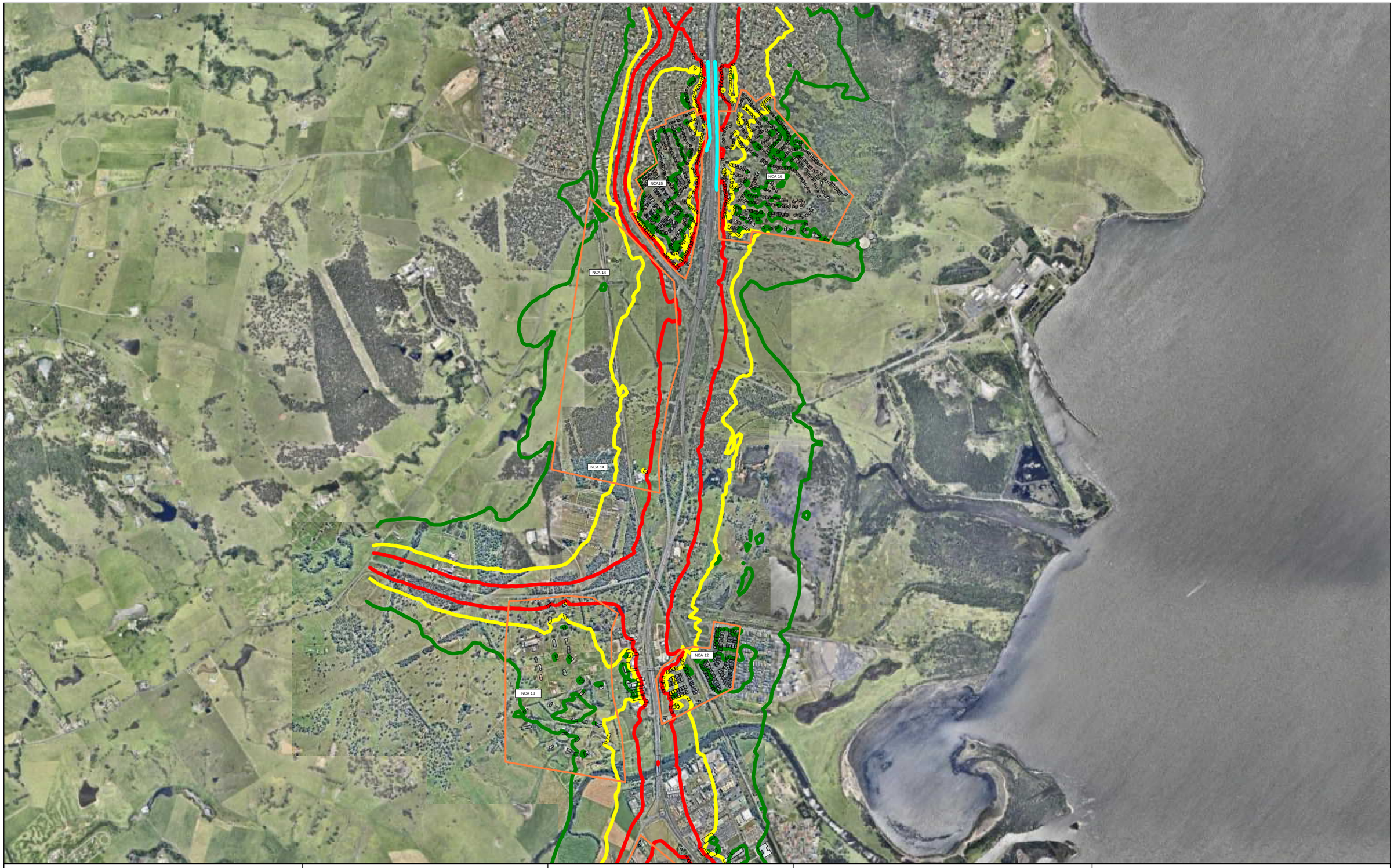
ALBION PARK RAIL BYPASS

Description:

DESIGN YEAR 2030 NO BUILD SCENARIO
LAEQ,15H DAYTIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
SOUTHERN REGION

Noise levels are approximate due to interpolation of contours and should be used for reference only.
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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.19 (r0)	Grid:	05C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 55
- 60
- 65

Consultant:

RENZO TONIN & ASSOCIATES
inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

ALBION PARK RAIL BYPASS

Description:

DESIGN YEAR 2030 NO BUILD SCENARIO
LAEQ,15H DAYTIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
NORTHERN REGION

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.20 (r0)	Grid:	05C1
Date:	2015.08.05	Scale:	1: 20000 A3

NCA 11
NCA 10
NCA 9
NCA 8
NCA 7
NCA 6
NCA 5
NCA 4
NCA 3
NCA 2
NCA 1

Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 50
- 55
- 60

Consultant:

RENZO TONIN & ASSOCIATES
inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

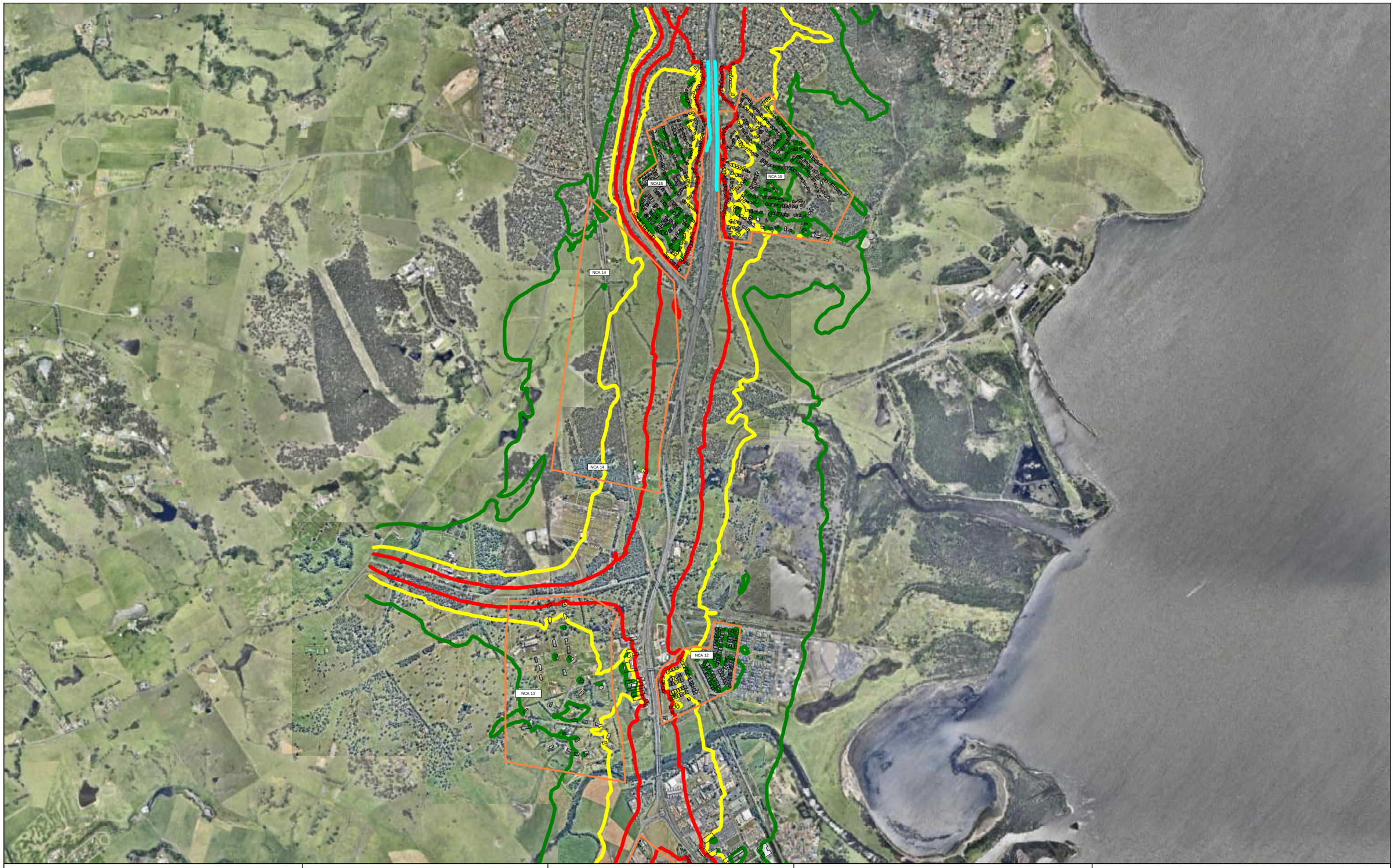
ALBION PARK RAIL BYPASS

Description:

DESIGN YEAR 2030 NO BUILD SCENARIO
LAEQ,9H NIGHT TIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
SOUTHERN REGION

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.21 (r0)	Grid:	06C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 50
- 55
- 60

Consultant:

RENZO TONIN & ASSOCIATES
inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

ALBION PARK RAIL BYPASS

Description:

DESIGN YEAR 2030 NO BUILD SCENARIO
LAEQ,9H NIGHT TIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
NORTHERN REGION

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.22 (r0)	Grid:	06C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 55
- 60
- 65

Consultant:

RENZO TONIN & ASSOCIATES
inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

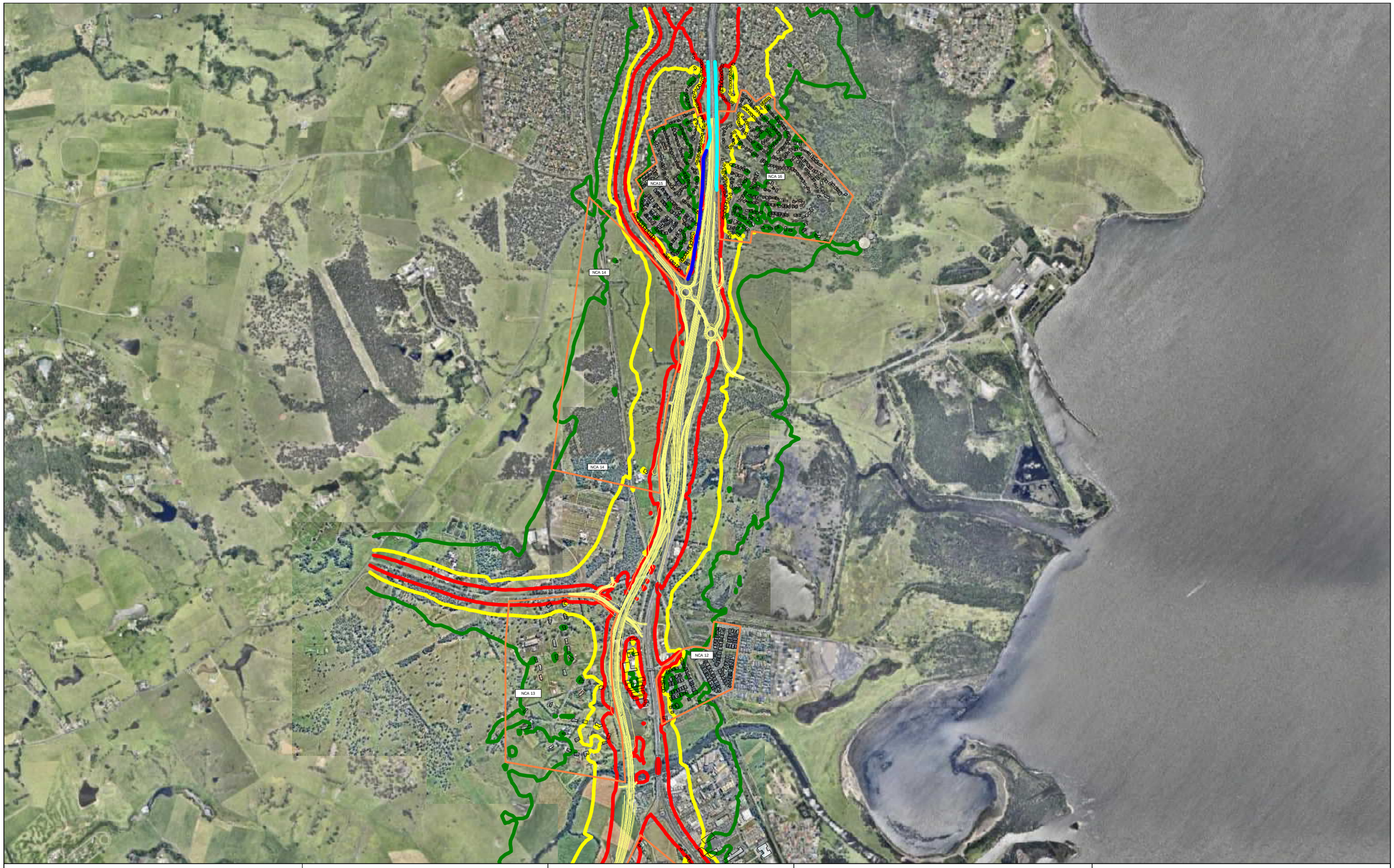
ALBION PARK RAIL BYPASS

Description:

DESIGN YEAR 2030 BUILD SCENARIO
LAEQ,15H DAYTIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
SOUTHERN REGION

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.23 (r0)	Grid:	07C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 55
- 60
- 65

Consultant:

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Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

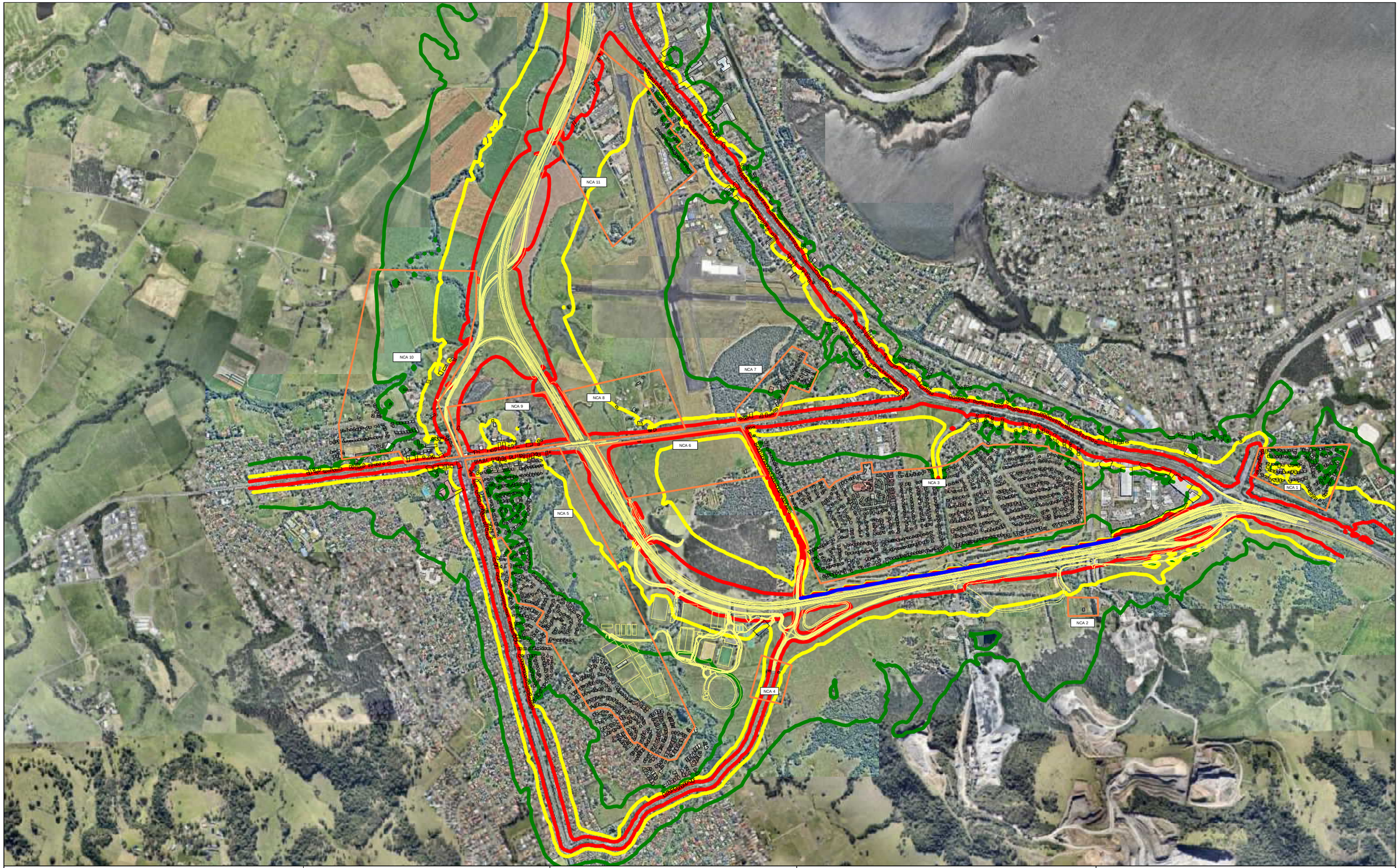
ALBION PARK RAIL BYPASS

Description:

DESIGN YEAR 2030 BUILD SCENARIO
LAEQ,15H DAYTIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
NORTHERN REGION

Noise levels are approximate due to interpolation of contours and should be used for reference only.
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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.24 (r0)	Grid:	07C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 50
- 55
- 60

Consultant:

RENZO TONIN & ASSOCIATES
inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

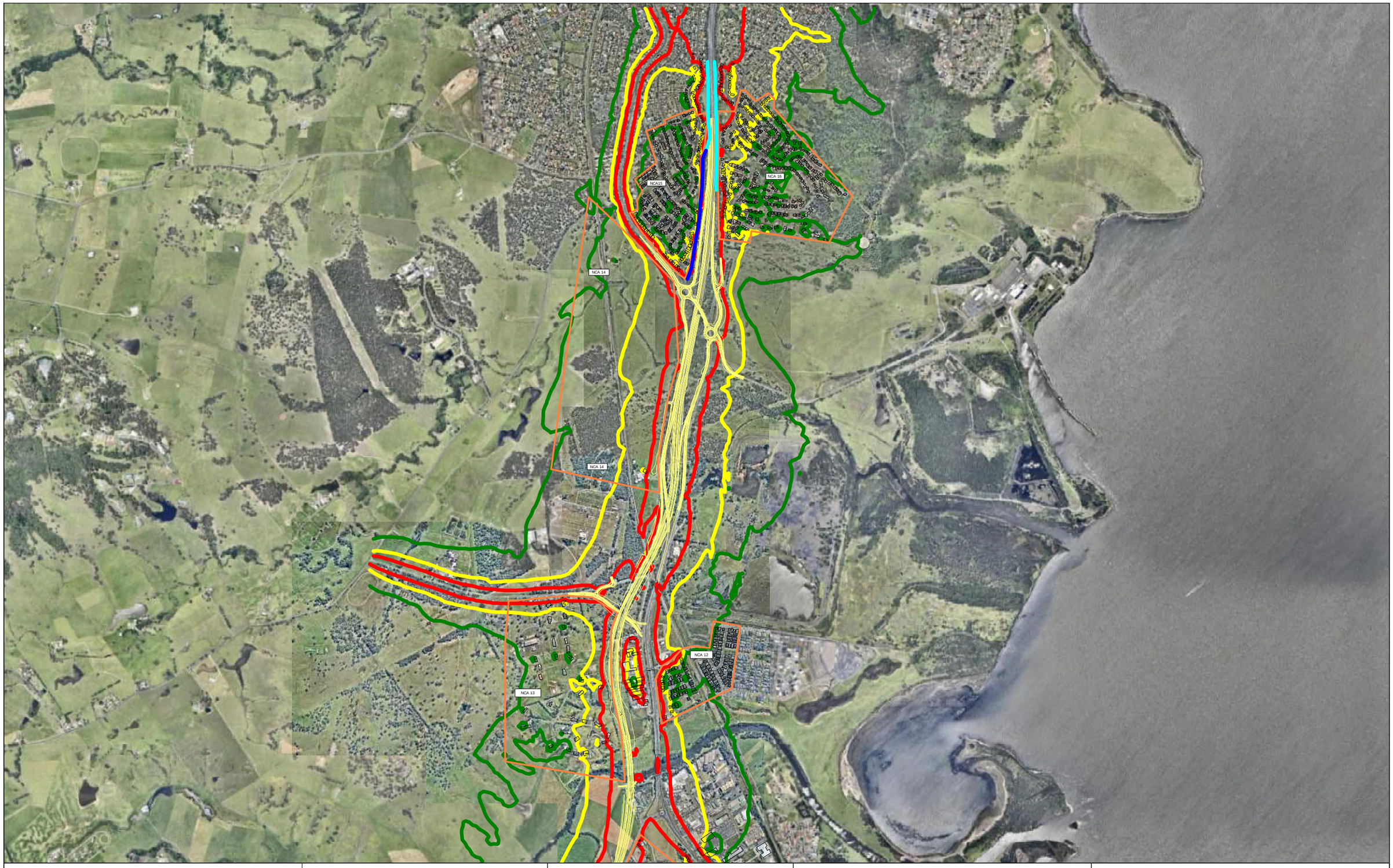
ALBION PARK RAIL BYPASS

Description:

DESIGN YEAR 2030 BUILD SCENARIO
LAEQ,9H NIGHT TIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
SOUTHERN REGION

Noise levels are approximate due to interpolation of contours and should be used for reference only.
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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.25 (r0)	Grid:	08C1
Date:	2015.08.05	Scale:	1: 20000 A3



Legend:

- Existing noise wall
- Proposed nosie wall
- Building

Noise level, dB(A)

- 50
- 55
- 60

Consultant:

RENZO TONIN & ASSOCIATES
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Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

ALBION PARK RAIL BYPASS

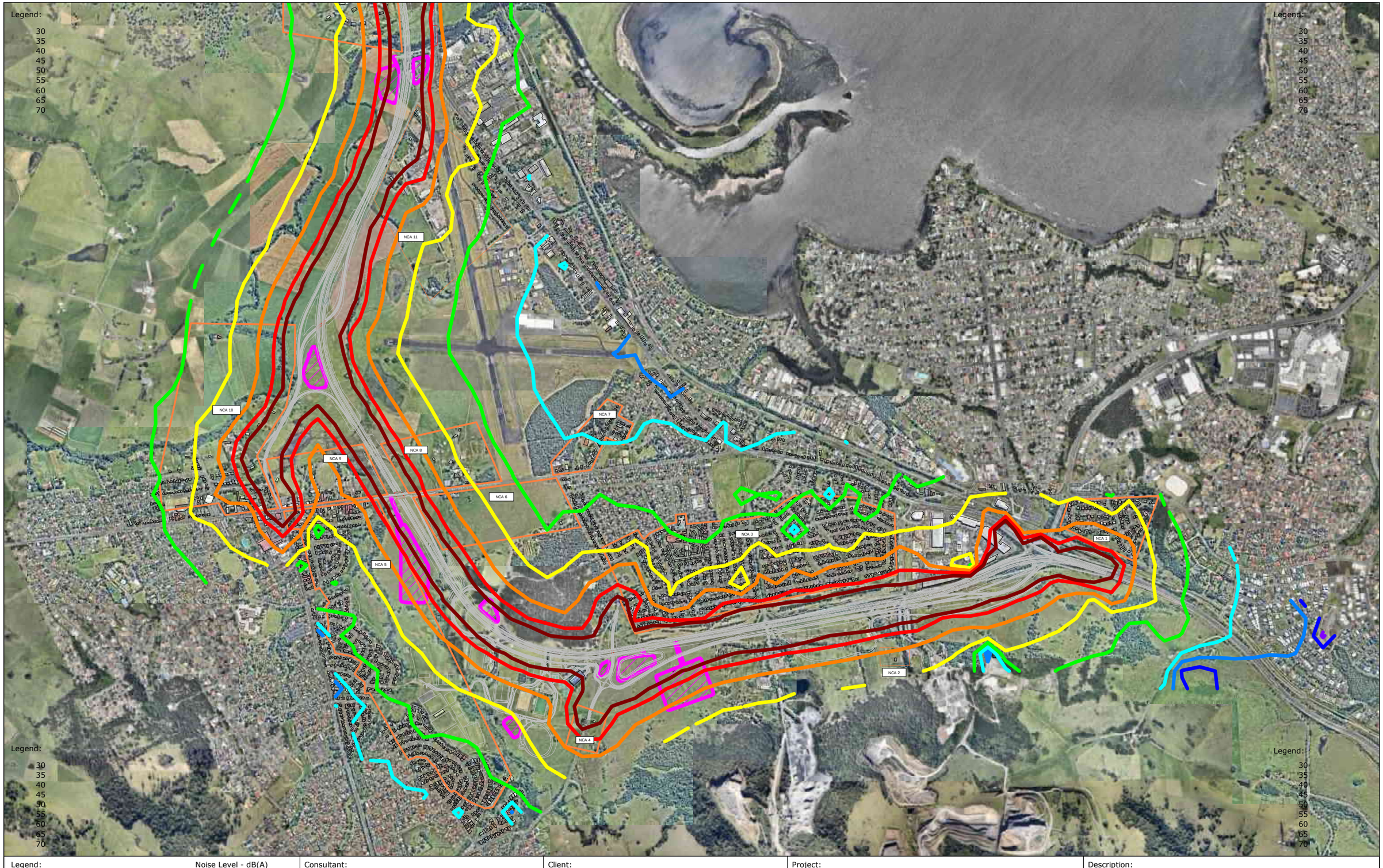
Description:

DESIGN YEAR 2030 BUILD SCENARIO
LAEQ,9H NIGHT TIME NOISE CONTOURS
1.5M ABOVE LOCAL GROUND
NORTHERN REGION

Noise levels are approximate due to interpolation of contours and should be used for reference only.
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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.3.2.4.26 (r0)	Grid:	08C1
Date:	2015.08.05	Scale:	1: 20000 A3

APPENDIX I Construction noise contour maps



Legend:
- Construction compound
- Noise Catchment Area
- Building

Noise Level - dB(A)
30
35
40
45
50
55
60
65
70

Consultant:
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inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

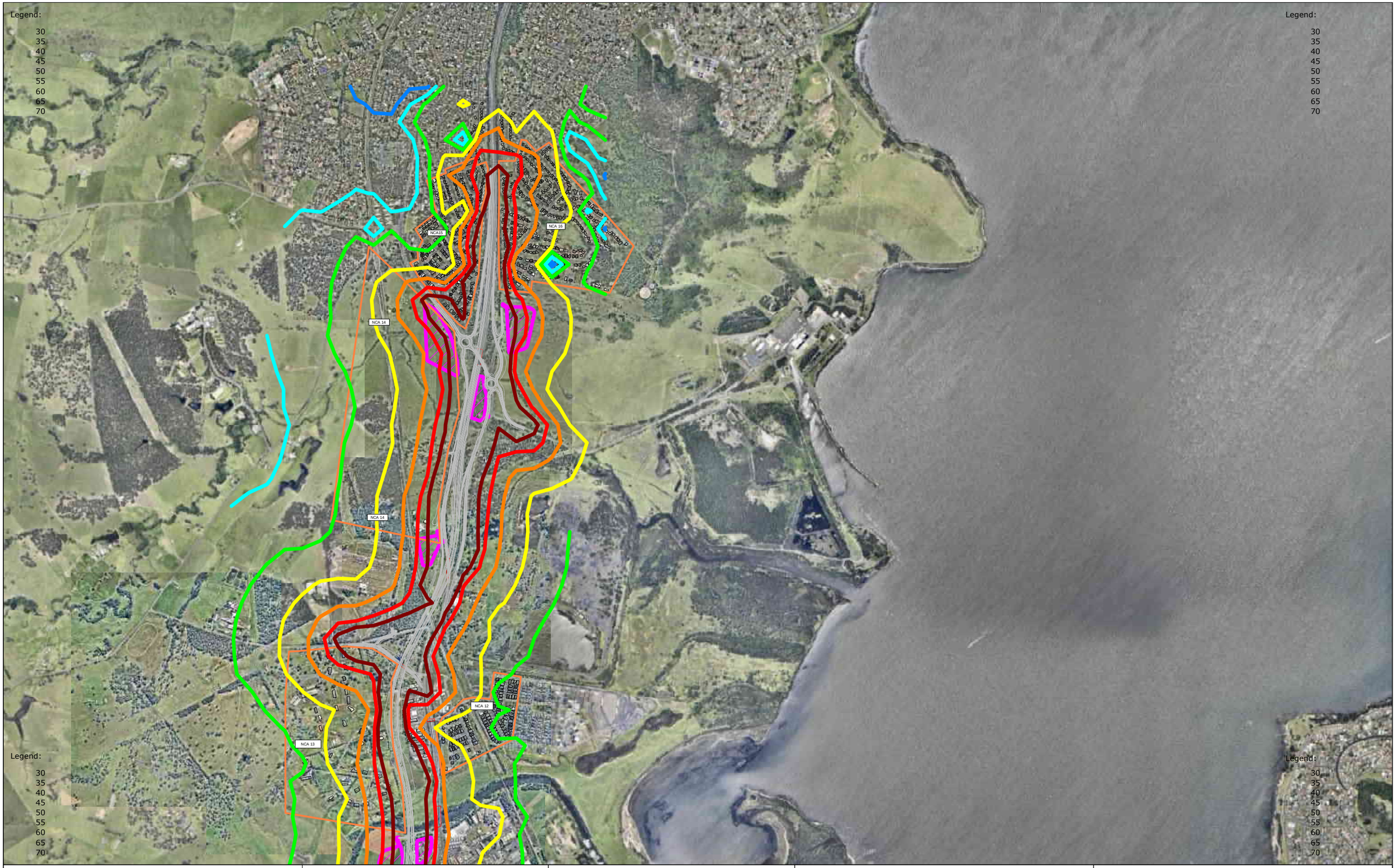
Client:
NSW GOVERNMENT Transport Roads & Maritime Services

Project:
ALBION PARK RAIL BYPASS

Description:
CONSTRUCTION NOISE ASSESSMENT
BULK EARTHWORKS
SOUTHERN REGION
LAEQ NOISE CONTOURS

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.C2.P01 (r0)	Grid:	02C1
Date:	2015.07.30	Scale:	1: 20000 A3



Legend:

- Construction compound
- Noise Catchment Area
- Building

Noise Level - dB(A)

30
35
40
45
50
55
60
65
70

Consultant:

RENZO TONIN & ASSOCIATES
Inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

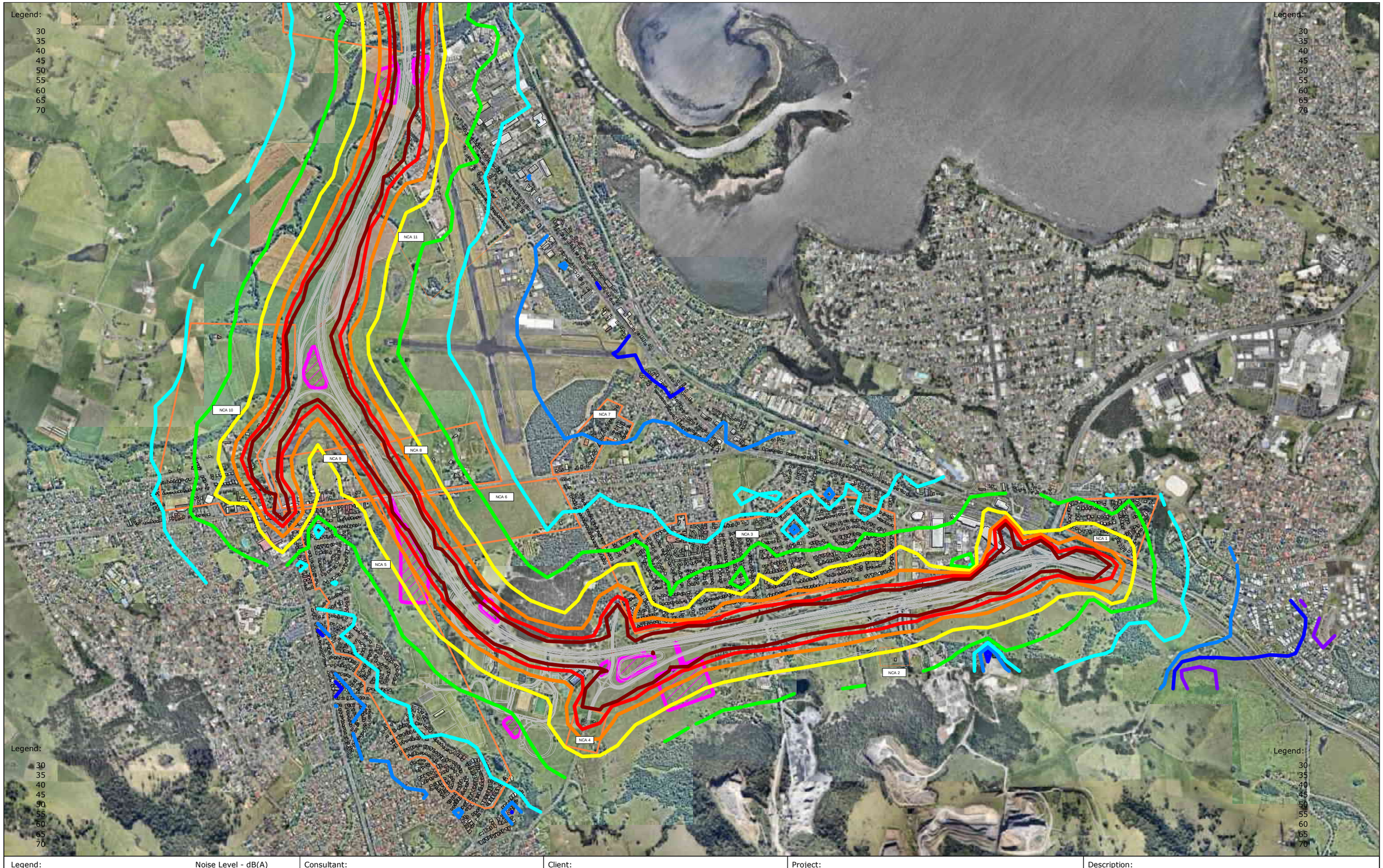
ALBION PARK RAIL BYPASS

Description:

CONSTRUCTION NOISE ASSESSMENT
BULK EARTHWORKS
NORTHERN REGION
LAEQ NOISE CONTOURS

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.C2.P02 (r0)	Grid:	02C1
Date:	2015.07.30	Scale:	1: 20000 A3



Legend:
- Construction compound
- Noise Catchment Area
- Building

Noise Level - dB(A)
30
35
40
45
50
55
60
65
70

Consultant:
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inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

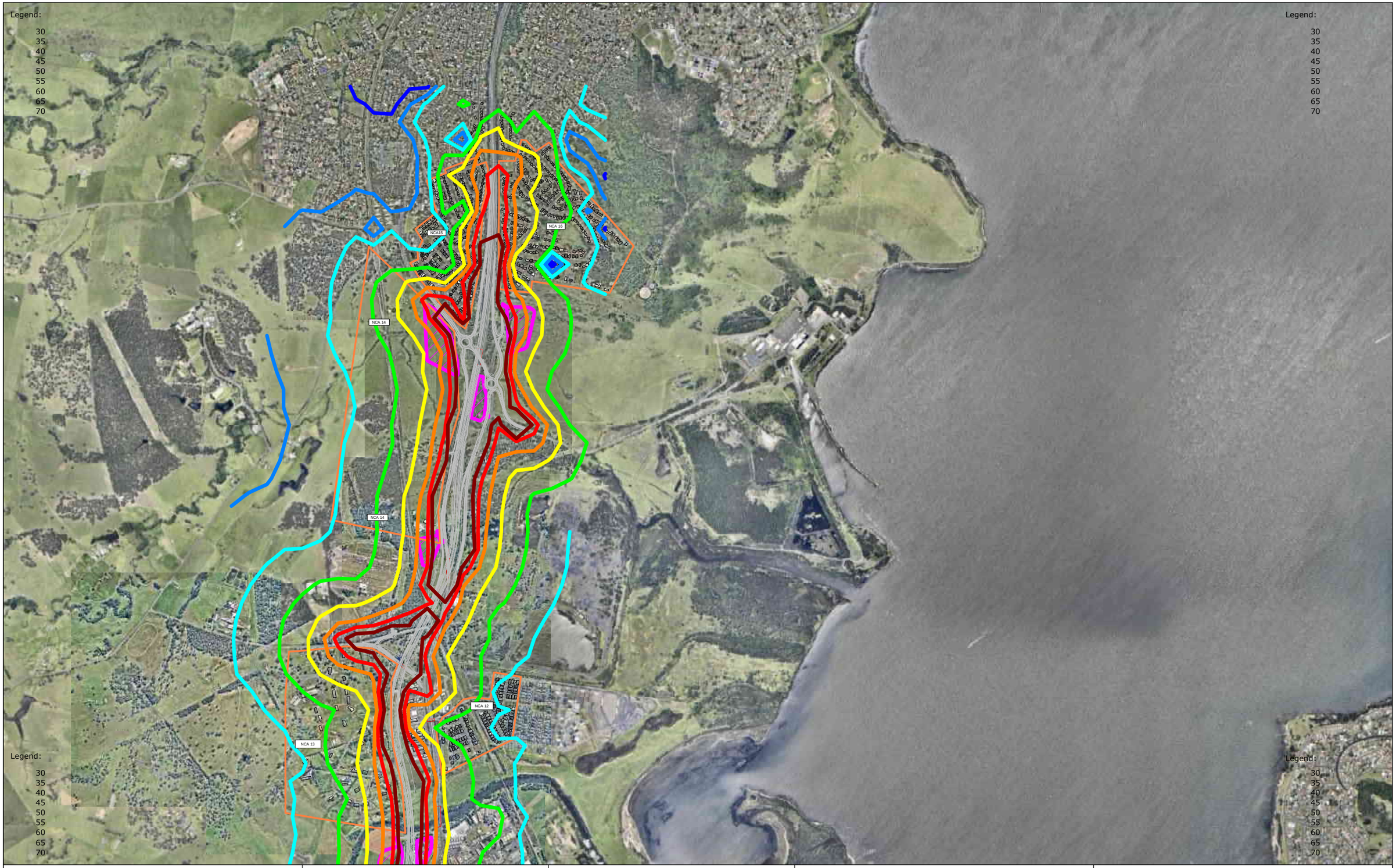
Client:
NSW GOVERNMENT Transport Roads & Maritime Services

Project:
ALBION PARK RAIL BYPASS

Description:
CONSTRUCTION NOISE ASSESSMENT
ROAD SURFACING
SOUTHERN REGION
LAEQ NOISE CONTOURS

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.C2.P03 (r0)	Grid:	02C2
Date:	2015.07.30	Scale:	1: 20000 A3



Legend:

- Construction compound
- Noise Catchment Area
- Building

Noise Level - dB(A)

30
35
40
45
50
55
60
65
70

Consultant:

RENZO TONIN & ASSOCIATES
Inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

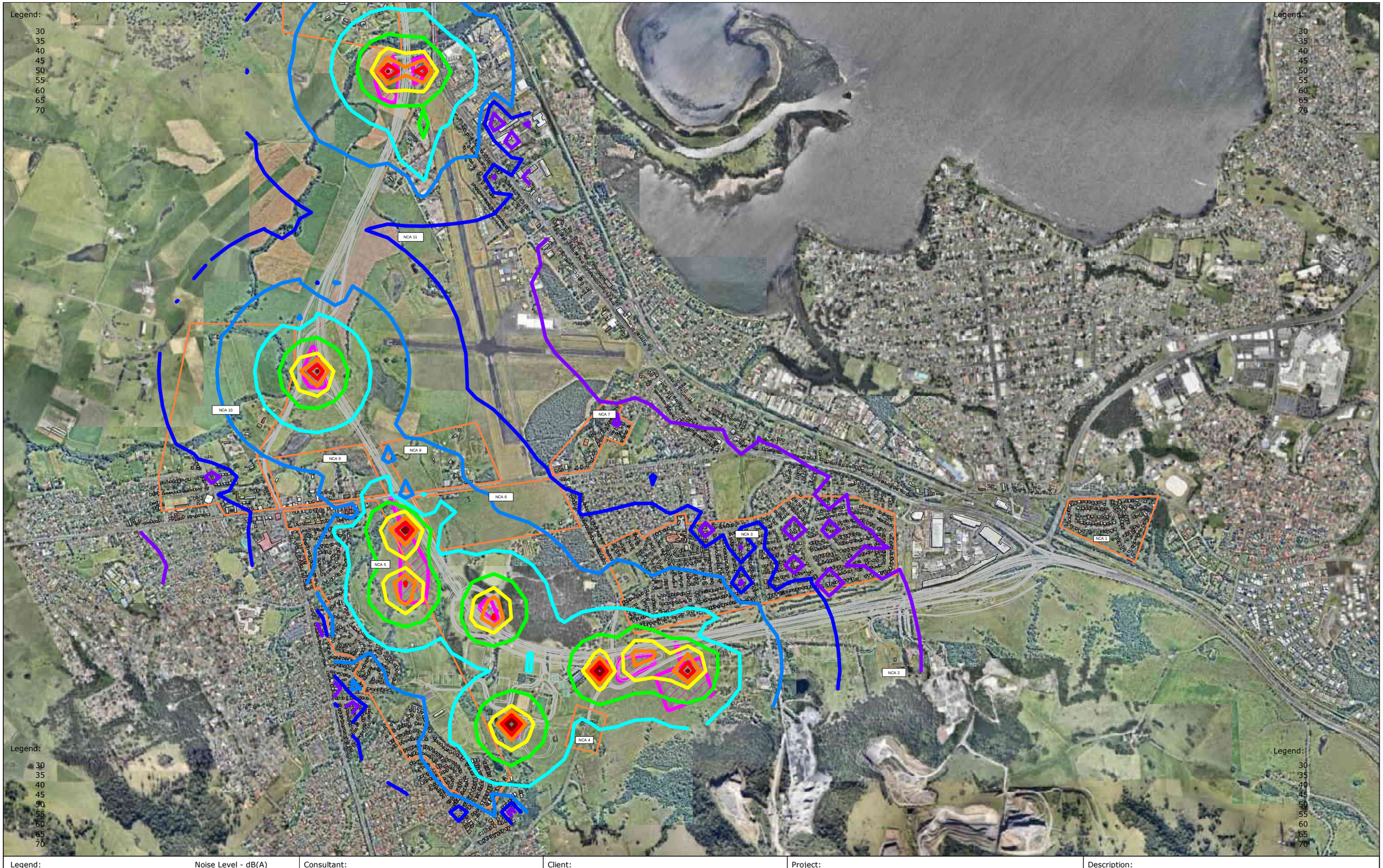
ALBION PARK RAIL BYPASS

Description:

CONSTRUCTION NOISE ASSESSMENT
ROAD SURFACING
NORTHERN REGION
LAEQ NOISE CONTOURS

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.C2.P04 (r0)	Grid:	02C2
Date:	2015.07.30	Scale:	1: 20000 A3



Legend:
- Construction compound
- Noise Catchment Area
- Building

Noise Level - dB(A)
30
35
40
45
50
55
60
65
70

Consultant:
RENZO TONIN & ASSOCIATES
inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:
NSW GOVERNMENT Transport Roads & Maritime Services

Project:
ALBION PARK RAIL BYPASS

Description:
CONSTRUCTION NOISE ASSESSMENT
CONSTRUCTION COMPOUNDS
SOUTHERN REGION
LAEQ NOISE CONTOURS

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.C2.P05 (r0)	Grid:	03C1
Date:	2015.07.30	Scale:	1: 20000 A3



Legend:
- Construction compound
- Noise Catchment Area
- Building

Noise Level - dB(A)
30
35
40
45
50
55
60
65
70

Consultant:
RENZO TONIN & ASSOCIATES
Inspired to achieve
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Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

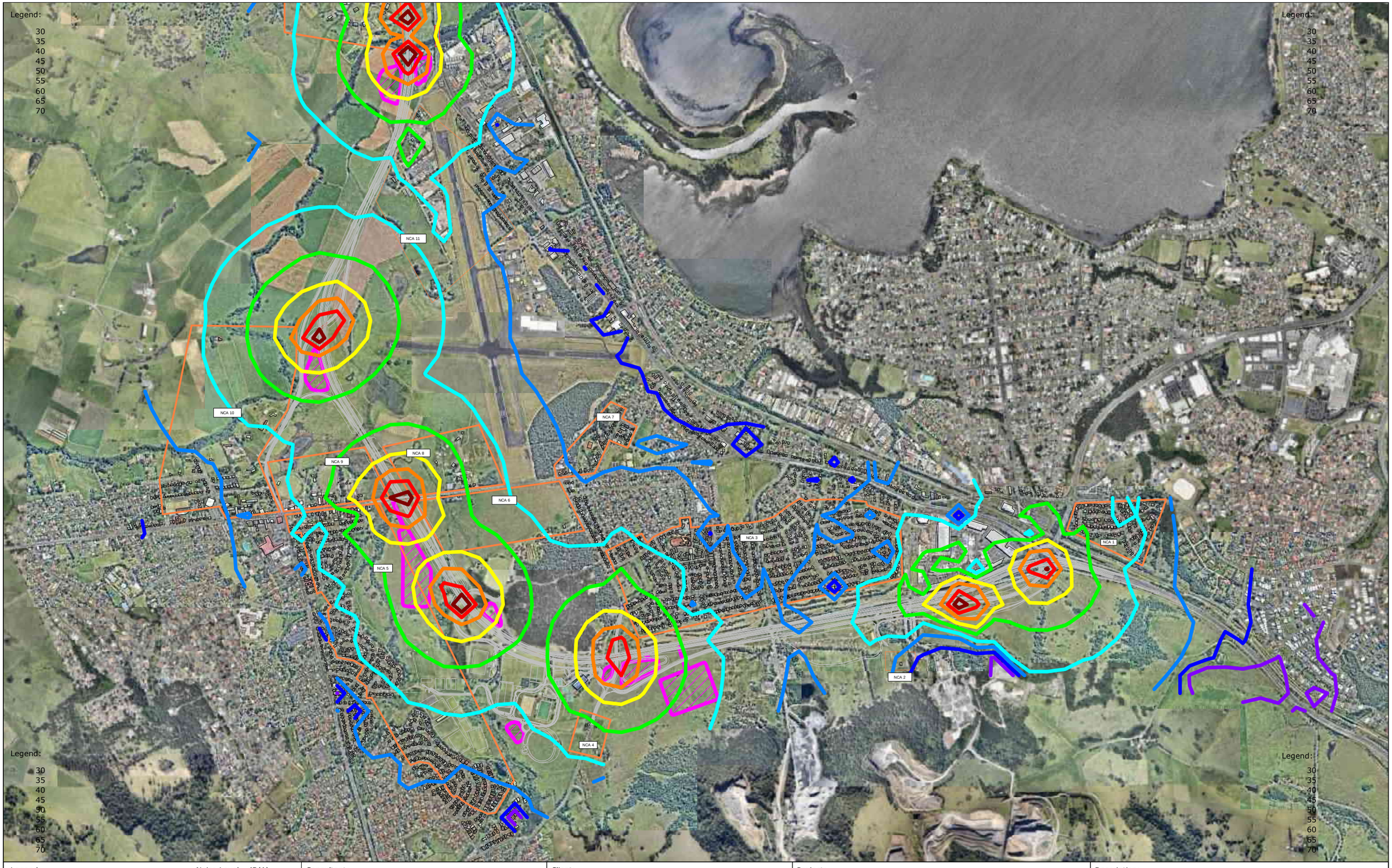
Client:
NSW GOVERNMENT Transport Roads & Maritime Services

Project:
ALBION PARK RAIL BYPASS

Description:
CONSTRUCTION NOISE ASSESSMENT
CONSTRUCTION COMPOUNDS
NORTHERN REGION
LAEQ NOISE CONTOURS

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.C2.P06 (r0)	Grid:	03C1
Date:	2015.07.30	Scale:	1: 20000 A3



Legend:

- Construction compound
- Noise Catchment Area
- Building

Noise Level - dB(A)

30
35
40
45
50
55
60
65
70

Consultant:

RENZO TONIN & ASSOCIATES
Inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:

NSW GOVERNMENT Transport Roads & Maritime Services

Project:

ALBION PARK RAIL BYPASS

Description:

CONSTRUCTION NOISE ASSESSMENT
BRIDGE WORKS
SOUTHERN REGION
LAEQ NOISE CONTOURS

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.C2.P07 (r0)	Grid:	01C1
Date:	2015.07.30	Scale:	1: 20000 A3

Legend:
30
35
40
45
50
55
60
65
70

NCA15
NCA 16
NCA 14
NCA 12
NCA 13

Legend:
30
35
40
45
50
55
60
65
70

Legend:
30
35
40
45
50
55
60
65
70

Legend:
30
35
40
45
50
55
60
65
70

Legend:
Construction compound
Noise Catchment Area
Building

Noise Level - dB(A)
30
35
40
45
50
55
60
65
70

Consultant:
RENZO TONIN & ASSOCIATES
Inspired to achieve
Acoustics, Vibration & Structural Dynamics
Sydney Melbourne Brisbane Gold Coast Kuwait
1/418A Elizabeth Street, SURRY HILLS NSW 2010
P: 02 8218 0500 F: 02 8218 0501

Client:
NSW GOVERNMENT Transport Roads & Maritime Services

Project:
ALBION PARK RAIL BYPASS

Description:
CONSTRUCTION NOISE ASSESSMENT
BRIDGE WORKS
NORTHERN REGION
LAEQ NOISE CONTOURS

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Project No.:	TH508-01	Created by:	RP
Fig Ref:	TH508-01.5.C2.P08 (r0)	Grid:	01C1
Date:	2015.07.30	Scale:	1: 20000 A3