

Flemington Station Footbridge and Concourse Upgrade Works

Noise and Vibration Impact Assessment



AECOM

Flemington Station Upgrade
Flemington Station Footbridge and Concourse Upgrade Works – Noise and Vibration
Impact Assessment
Commercial-in-Confidence

Flemington Station Footbridge and Concourse Upgrade Works

Noise and Vibration Impact Assessment

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1.0 Introduction

1.1 Background information

The Transport Access Program (TAP) is a government initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure where it is needed most.

AECOM Australia Pty Ltd (AECOM) has been commissioned by Transport for New South Wales (TfNSW) to undertake a Noise and Vibration Impact Assessment of the construction of the proposed upgrade to Flemington Station. This report will assess the footbridge and concourse works associated with the station upgrade. The footbridge and concourse works are scheduled for early 2015 and will be undertaken during both standard construction hours and weekend construction out-of-hours.

The following policies and guidelines are relevant for this assessment:

- Interim Construction Noise Guideline (ICNG), Department of Environment and Climate Change (DECC), 2009.
- Assessing Vibration: A Technical Guideline (AVATG), Department of Environment and Conservation (DEC), 2006.
- NSW Road Noise Policy (RNP), Department of Environment, Climate Change and Water (DECCW), 2011.
- NSW Industrial Noise Policy (INP), Environment Protection Authority (EPA), 2000.
- Construction Noise Strategy (CNS) Transport Construction Authority (TCA), 2011.
- DIN Standard 4150: Part 3 1999 Structural Vibration in Buildings - Effects on Structures, 1999.
- British Standard 7385: Part 2 1993 Evaluation and Measurement of Vibration in Buildings, 1993.
- British Standard 6472: Part 1 2008 Evaluation of Human Exposure to Vibration in Buildings, 2008

Definitions for acoustic terminology used within this report can be found within Appendix A.

1.2 Scope

The scope of this construction noise and vibration impact assessment is to:

- Establish the existing background noise levels in the vicinity of Flemington Station;
- Establish the construction noise management levels and vibration limits that would apply to the Flemington Station footbridge and concourse works;
- Predict environmental noise and vibration levels at nearby residential receivers due to the upgrade works;
- Predict noise levels from additional traffic generated by the Flemington Station footbridge and concourse works; and
- Provide mitigation measures where necessary to reduce noise and vibration impacts from the footbridge and concourse works to comply with established noise management levels and vibration limits.

When completed, the proposed upgraded footbridge and concourse will be used identically to the existing footbridge and concourse. The difference in distance to the nearest receiver is insignificant and therefore no difference in noise is expected to be perceived. As such, no operational noise assessment is required for these upgrade works.

1.3 Site description

Figure 1 shows the location of Flemington Station and its surrounding environment. The station is located within a mixed use environment which comprises residential, commercial, industrial, retail uses. In addition a school, community centre and places of worship are located close to the station.

Centenary Drive is located to the east of the site and is considered to be an arterial road. The Crescent is adjacent to the work site and is considered to be sub-arterial road as per categories within the Environment Protection Authority (EPA) NSW Road Noise Policy (RNP).

2.0 Existing acoustic environment

2.1 Noise sensitive receivers

Residential receivers potentially to be affected by the project works are scattered around the work area. Figure 1 shows the receivers which were assessed within this report. Unattended noise monitoring was completed to quantify and qualify the existing noise environment in the vicinity of the works. The noise logger locations are described in Table 2 and shown in Figure 1. Three noise catchment areas (NCA) were identified as representing the residential receivers potentially to be affected by the works. One logger was placed within each NCA at a representative location. A description of the receivers within each NCA is described in Table 1.

Table 1 Noise catchment area descriptions

NCA	Description
1	Residential receivers – Three and four storey residential houses
2	Comprises of three setbacks of receivers. From closest to furthest of the works area, these layers are described as: a) Mixed-used residential and retail receivers b) Multi-storey residential apartments receivers c) Single storey residential apartments receivers
3	Residential receivers - Single storey residential houses

2.2 Instrumentation

Attended noise measurements were conducted using a Bruel and Kjaer 2270 sound level analyser (serial no. 3000860). The Bruel and Kjaer 2270 sound level analyser is designated as having Type 1 accuracy. The meter was calibrated before and after measurements with a drift in calibration not exceeding ± 0.5 dB.

The noise loggers used for long term monitoring are shown in Table 2. Similarly to the above mentioned sound level meter, the noise loggers were calibrated prior and after the monitoring session with a drift in calibration not exceeding ± 0.5 dB. All instruments used were within their current National Association of Testing Authorities, Australia (NATA) certified in-calibration period (i.e. calibration in the last 2 years).

Table 2 Noise monitoring details

NCA	Location	Model	Serial number
1	3 Mandemar Avenue, Homebush West	Rion NL21	865768
2	109 The Crescent, Homebush West	Rion NL21	409174
3	26 Smallwood Avenue, Homebush	Rion NL21	765701

Figure 1 Receivers and logger locations (Diagrammatic only, not to scale)



2.3 Operator attended noise measurements

Attended measurements were made by AECOM personnel on Tuesday, 22 July 2014 during the daytime standard working hours. The noise measurements were taken within each NCA. The measurements were taken with the purpose of qualifying and quantifying the noise environment in the vicinity of the nearest and potentially worst affected receivers. The descriptors L_{Aeq} and L_{A90} are used to quantify the acoustic environment. The L_{A90} level is the level exceeded 90% of the time. The L_{A90} is taken as the background noise level. Noise sources contributing to the background noise are constant in nature such as mechanical plant or steady streams of traffic. The L_{Aeq} level is the equivalent continuous sound level and has the same sound energy over the sample period as the actual noise environment has fluctuating sound levels. The L_{Aeq} is taken as the ambient noise level.

Observations made during the attended measurements are detailed in Table 3.

Table 3 Operator attended noise monitoring results

NCA	Address	Time	Measured noise level, dB(A)			Comments
			L_{Aeq}	L_{A10}	L_{A90}	
1	3 Mandemar Avenue, Homebush West	10:17 am	56	58	51	Road traffic on Marlborough Road and Centenary Drive (dominant noise source) – 58-65 dB(A) Local road traffic on Mandemar Avenue – 53 dB(A)
2	109 The Crescent, Homebush West	10:52 am	59	62	48	Road traffic (dominant) – 61-64 dB(A) Train – 59-61 dB(A) People pass-by – 60-63 dB(A)
3	26 Smallwood Avenue, Homebush	11:21 am	53	56	42	Local road traffic (dominant) – 53-58 dB(A) Birds chirping – 50-52 dB(A)

2.4 Unattended noise measurements

Noise monitoring was conducted to determine existing background noise levels at sensitive receivers. Noise loggers were placed at the locations indicated in Table 2 and Figure 1. The noise loggers monitored noise levels continuously from 15 to 22 July 2014.

The loggers measured the noise levels over the sample period and then determined L_{A10} , L_{A90} , L_{Amax} , and L_{Aeq} levels of the noise environment. The L_{A10} and L_{A90} noise levels are the levels exceeded for 10% and 90% of the measurement period respectively. The L_{A90} is taken as the background level. The L_{Amax} is indicative of the maximum noise levels due to individual noise events such as the pass-by of a heavy vehicle. The L_{Aeq} level is the equivalent continuous sound level and has the same sound energy over the sample period as the actual noise environment with fluctuating sound levels.

The L_{A90} noise levels were analysed to determine a single assessment background level (ABL) for each day, evening and night period in accordance with the EPA's NSW Industrial Noise Policy (INP), for each monitoring location. The ABL is established by determining the lowest ten-percentile level of the L_{A90} noise data acquired over each period of interest. Table 4 presents individual ABLs for each day's assessment periods. The background noise level or rating background level (RBL) representing the day, evening and night-time assessment periods is based on the median of individual ABLs determined over the entire monitoring period.

Table 4 also presents the existing L_{Aeq} ambient noise level selected for each day, evening and night-time period, in accordance with the INP. An overall representative L_{Aeq} noise level is determined by logarithmically averaging each assessment period for the entire monitoring period.

In accordance with the INP, any noise monitoring conducted during periods of extraneous weather conditions should be excluded from the data set. The INP advises that data may be affected where adverse weather, such as wind speeds higher than 5 m/s or rain, occurs. During the measurement period for this assessment, periods of adverse weather occurred during three daytime periods. Weather data was acquired from the Bureau of Meteorology's (BOM) Sydney Olympic Park weather station which is more prone to higher wind speeds compared

to the noise logging location, due to its largely planar topography. As such the wind affected criteria was raised slightly to 6.5 m/s.

Graphical noise logging results are presented in Appendix b and periods where data has been omitted are indicated.

Table 4 Existing background (L_{A90}) and ambient (L_{Aeq}) noise levels

Measurement date	L _{A90} Background noise levels, dB(A)			L _{Aeq} Ambient noise levels, dB(A)		
	Day	Evening	Night	Day	Evening	Night
3 Mandemar Avenue, Homebush West – NCA 1						
Tuesday 15 July, 2014	-	47	42	-	56	54
Wednesday 16 July, 2014	50	49	46	57	56	54
Thursday 17 July, 2014	50	48	44	57	55	54
Friday 18 July, 2014	50	48	43	57	54	52
Saturday 19 July, 2014	49	47	41	56	54	51
Sunday 20 July, 2014	47	47	42	55	54	53
Monday 21 July, 2014	49	47	41	57	54	53
Rating background level	49	47	42	-	-	-
Log Average L_{Aeq}	-	-	-	57	55	53
109 The Crescent, Homebush West – NCA 2						
Tuesday 15 July, 2014	-	48	47	-	61	57
Wednesday 16 July, 2014	50	50	51	61	61	59
Thursday 17 July, 2014	54	49	50	62	61	58
Friday 18 July, 2014	50	47	46	60	60	57
Saturday 19 July, 2014	47	46	44	59	60	57
Sunday 20 July, 2014	47	46	47	0	58	58
Monday 21 July, 2014	47	47		60	60	
Rating background level	49	47	47	-	-	-
Log Average L_{Aeq}	-	-	-	61	60	58
26 Smallwood Avenue, Homebush – NCA 3						
Tuesday 15 July, 2014	-	-	42	-	-	50
Wednesday 16 July, 2014	46	48	49	55	54	53
Thursday 17 July, 2014	51	46	44	57	54	52
Friday 18 July, 2014	48	45	43	56	52	50
Saturday 19 July, 2014	44	42	42	53	48	48
Sunday 20 July, 2014	40	41	44	51	50	51
Monday 21 July, 2014	40	40	41	54	50	50
Rating background level	45	44	43	-	-	-
Log Average L_{Aeq}	-	-	-	55	52	51

Day is defined as 7:00 am to 6:00 pm, Monday to Saturday and 8:00 am to 6:00 pm Sundays & Public Holidays.

Evening is defined as 6:00 pm to 10:00 pm, Monday to Sunday & Public Holidays.

Night is defined as 10:00 pm to 7:00 am, Monday to Saturday and 10:00 pm to 8:00 am Sundays & Public Holidays.

2.5 Existing noise environment summary

The ambient noise environment for NCA 1, north-west of Flemington Station and the works area is considered to be urban. The attended measurements indicate that the acoustic environment is dominated by fast-moving traffic travelling along Centenary Drive and Marlborough Road, with a minor contribution from vehicle pass-bys along local roads. The NCA is described as an urban environment as per the INP's definition of having heavy and continuous traffic especially during peak periods.

NCA 2 is characterised by road traffic moving along The Crescent and people activity from the nearby retail and commercial centre. Rail noise and PA announcements from platform speakers can be heard at receivers close to the works area. The NCA 2 is considered to be suburban as it is characterised by local traffic flows with some limited commerce or industry. The results of the unattended noise monitoring show low evening and lower night-time noise levels. These characteristics are typical of a suburban environment.

NCA 3 is also a suburban environment. The acoustic environment is relatively quiet compared to NCA 1 and 2. It is influenced by a small volume of through traffic and fauna noises.

All NCAs exhibit acoustic environments that decrease from day to night.

3.0 Construction noise and vibration criteria

3.1 Construction activity noise criteria

3.1.1 Interim Construction Noise Guideline

The EPA's Interim Construction Noise Guidelines (ICNG) is the principal guidance for the assessment and management of construction noise in NSW. This document replaces the previous publication the Environmental Noise Control Manual and is used as the basis for establishing construction noise management levels.

The ICNG recommends that a quantitative assessment is carried out for all 'major construction projects that are typically subject to the EIA process'. Noise levels due to construction activities are predicted at nearby receivers using environmental noise modelling software and compared to the levels provided in Section 4 of the ICNG.

Where an exceedance of the management levels is predicted the ICNG advises that receivers can be considered 'noise affected' and the proponent should apply all feasible and reasonable work practises to minimise the noise impact. The proponent should also inform all potentially impacted residents of the nature of the works to be carried out, the expected noise level and duration, as well as contact details.

Where construction noise levels reach 75 dB(A) residential receivers can be considered as 'highly noise affected' and the proponent should, in consultation with the community, consider restricting hours to provide respite periods.

The Interim Construction Noise Guidelines defines what is considered to be feasible and reasonable as follows:

- *Feasible*
A work practice or abatement measure is feasible if it is capable of being put into practice or of being engineered and is practical to build given project constraints such as safety and maintenance requirements.
- *Reasonable*
Selecting reasonable measures from those that are feasible involves making a judgment to determine whether the overall noise benefits outweigh the overall adverse social, economic and environmental effects, including the cost of the measure."

The construction noise management levels for the residential and other sensitive land uses are detailed in Table 5 and Table 7.

Table 5 ICNG Residential noise management levels

Time of day	NML, $L_{Aeq,15min}$, dB(A) ¹	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 + 10 dB	The noise affected level represents the point above which there may be some community reaction to noise. <ul style="list-style-type: none"> - Where the predicted or measured $L_{Aeq,15min}$ 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 75 dB(A)	The highly noise affected level represents the point above which there may be strong community reaction to noise. <ul style="list-style-type: none"> - 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: <ol style="list-style-type: none"> 1. 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) 2. If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside recommended standard hours	Noise affected RBL + 5 dB	<ul style="list-style-type: none"> - 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 5 dB(A) above the noise affected level, the proponent should negotiate with the community. - For guidance on negotiating agreements see section 7.2.2 (ICNG).

Notes:

1. 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 6 presents the NMLs applicable to residential receivers nearby to this development.

Table 6 Construction noise management levels – Residential receivers

Noise catchment area	Period	RBL, L _{A90} dB(A)	Standard hours noise management levels, L _{Aeq,15min} , dB(A)	Out of hours noise management levels, L _{Aeq,15min} , dB(A)
1	Day	49	59	54
	Evening	47	N/A	52
	Night	42	N/A	47
2	Day	49	59	54
	Evening	47	N/A	52
	Night	47	N/A	52
3	Day	45	55	50
	Evening	44	N/A	49
	Night	43	N/A	48

Table 7 presents the NMLs applicable to other noise sensitive receivers such as educational facilities and places of worship and to commercial and industrial receivers

Table 7 Construction noise management levels – Other sensitive receivers

Land use	Noise management levels, L _{Aeq,15min} (applies when properties are in use)
Classrooms at schools and other educational institutions	55 dB(A) ¹
Places of worship	55 dB(A) ¹
Community centre	55 dB(A) ¹
Commercial premises (including offices, retail outlets)	70 dB(A)
Industrial premises	75 dB(A)

Notes:

1. These management levels are based upon a 45 dB(A) internal noise management level and a 10 dB reduction through an open window.

3.1.2 TfNSW Construction Noise Strategy - Additional noise mitigation measures

TfNSW's Construction Noise Strategy (CNS) provides practical guidance on how to minimise, to the fullest extent practicable, the impacts on the community from airborne noise, ground-borne noise and vibration generated during the construction of TfNSW projects. This is done through the application of all feasible and reasonable mitigation measures. Where exceedances are still expected to occur after standard mitigation measures have been applied, the CNS recommends the implementation of additional mitigation measures. These mitigation measures are specified within TfNSW's CNS and presented in Table 8 below.

The provision of additional mitigation is based on the predicted exceedances above RBLs and when the exceedances occur. The RBLs can be found in Table 6.

Table 8 Additional mitigation measures matrix

Time period		Mitigation measures			
		L _{Aeq,15min} noise level above background noise level (RBL)			
		Qualitative assessment of noise levels			
		0 – 10 dB(A) Noticeable	10 – 20 dB(A) Clearly Audible	20 – 30 dB(A) Moderately Intrusive	>30 dB(A) Highly Intrusive
Standard	Weekday (7am-6pm)	-	-	LB, M	LB, M
	Saturday (8am-1pm)				
	Sun/Pub Hol (Nil)				
OOHW Period 1	Weekday (6pm-10pm)	-	LB	LB, M	LB, M, IB, RO, PC, SN
	Saturday (7-8am) & (1-10pm)				
	Sun/Pub Hol (8am-6pm)				
OOHW Period 2	Weekday (10pm-7am)	LB	LB, M	LB, M, IB, PC, SN	LB, M, IB, PC, SN, AA
	Saturday (10pm-8am)				
	Sun/Pub Hol (6pm-7am)				

Table 9 outlines the additional mitigation measures.

Table 9 Description of additional mitigation measures

Abbreviation	Mitigation measure	Explanation
LB	Letter Box Drops	All residences should be notified as a minimum by letterbox drop 7 days ahead of construction activities.
M	Monitoring	Attended noise monitoring is to be undertaken as follows: At the commencement of out of hours works (within the first two nights), where out of hours works activities change; and Noise measurements shall be undertaken in accordance with the procedure documented in AS1055.1-1997 Acoustics - Description and Measurement of Environmental Noise - General Procedures.
IB	Individual Briefings	Individual briefings are used to inform stakeholders about the impacts of high noise activities and mitigation measures that will be implemented. Communications representatives from the contractor would visit identified stakeholders at least 48 hours ahead of potentially disturbing construction activities. Individual briefings provide affected stakeholders with personalised contact and tailored advice, with the opportunity to comment on the project.
RO	Project Specific Respite Offer	Residents subjected to lengthy periods of noise or vibration may be eligible for a project specific respite offer. The purpose of such an offer is to provide residents with respite from an ongoing impact. The offer could comprise pre-purchased movie tickets or similar offer. This measure is determined on a project-by-project basis.
PC	Phone Calls	Phone calls detailing relevant information would be made to identified/affected stakeholders within seven days of proposed work. Phone calls provide affected stakeholders with personalised contact and tailored advice, with the opportunity to provide comments on the proposed work and specific needs etc.
SN	Specific Notifications	Specific notifications are letterbox dropped or hand distributed to identified stakeholders no later than seven days ahead of construction activities that are likely to exceed the noise management levels. This form of communication is used to support periodic notifications, or to advertise unscheduled works.
AA	Alternative Accommodation	Alternative accommodation options should be provided for residents living in close proximity to construction works that are likely to incur noise levels significantly above the applicable level.

3.1.3 Sleep disturbance criteria

The ICNG requires a sleep disturbance analysis where construction works are planned to extend over more than two consecutive nights. On the basis of the ambient noise environment during the night-time period, the predicted L_{A1} noise levels and number of expected L_{A1} noise events should be predicted in order to determine the likelihood of potential sleep disturbance.

The ICNG makes reference to the NSW Environment Criteria for Road Traffic Noise' (ECRTN) (EPA, 1999), now superseded by the Road Noise Policy (RNP), for guidance in assessing the potential for sleep disturbance.

The guidance provided in the RNP for assessing the potential for sleep disturbance recommends that to minimise the risk of sleep disturbance during the night-time period (10.00 pm to 7.00 am), the $L_{A1(1 \text{ min})}$ noise level outside a bedroom window should not exceed the $L_{A90(15 \text{ minute})}$ background noise level by more than 15 dB. The EPA considers it appropriate to use this metric as a screening criterion to assess the likelihood of sleep disturbance. If this screening criterion is found to be exceeded then a more detailed analysis must be undertaken and include the extent that the maximum noise level exceeds the background noise level and the number of times this is likely to happen during the night-time period.

The RNP contains a review of research into sleep disturbance which represents NSW EPA advice on the subject of sleep disturbance due to noise events. It concludes that having considered the results of research to date that, 'Maximum internal noise levels below 50-55 dB(A) are unlikely to cause awakening reactions'. Therefore, given that an open window provides approximately 10 dB in noise attenuation from outside to inside, external noise levels of 60-65 dB(A) are unlikely to result in awakening reactions.

Based on the measured background noise levels during the night, the sleep disturbance criteria for the nearest noise sensitive residential receivers are presented in Table 10.

Table 10 Sleep disturbance criteria

Noise catchment area	Background noise level (L_{A90}), dB(A)	Sleep disturbance criteria, $L_{A1}(1 \text{ minute})$, dB(A)	
		Screening level	Awakening reaction
1	42	57	60 – 65
2	47	62	60 – 65
3	43	58	60 – 65

3.2 Construction traffic noise criteria

The Interim Construction Noise Guideline (ICNG) does not provide direct reference to an appropriate criterion to assess the noise arising from construction traffic on public roads. However, as RNP is the current state policy document for assessing road traffic noise and in absence of any alternative guidance it has been used to assess the noise arising from construction traffic movements generated by the proposed development. The RNP does not require assessment of noise impact to commercial or industrial receivers.

Centenary Drive, the Crescent and Smallwood Avenue will provide the only access roads to the site. These roads would be classified as arterial, sub-arterial and local roads respectively in accordance with the RNP. Table 11 presents the road traffic noise criteria from the RNP. The external noise criteria are applied 1 m from the external facade of the affected building.

Table 11 Road traffic noise criteria

Road category	Type of project/land use	Assessment criteria, dB(A)	
		Day (7 am to 10 pm)	Night (10 pm to 7 am)
Arterial/sub-arterial roads	Existing residences affected by additional traffic on existing roads generated by land use developments	$L_{Aeq,15hr}$ 60	$L_{Aeq,9hr}$ 55
Local roads	Existing residences affected by additional traffic on existing roads generated by land use developments	$L_{Aeq,1hr}$ 55	$L_{Aeq,1hr}$ 50

In cases where existing traffic noise levels are above the noise assessment criteria, the primary objective is to reduce these through feasible and reasonable measures to meet the assessment criteria. In assessing feasible and reasonable mitigation measures, an increase of up to 2 dB represents a minor impact that is considered barely perceptible to the average person.

3.3 Construction vibration criteria

The relevant standards/guidelines for the assessment of construction vibration are summarised in Table 12.

Table 12 Standards/guidelines used for assessing construction vibration

Item	Standard/guideline
Structural damage	German Standard DIN 4150 – Part 3 – Structural Vibration in Buildings – Effects on Structures (DIN 4150)
Human comfort (tactile vibration) ¹	Assessing Vibration: A Technical Guideline (AVATG)

Note 1: This document is based upon the guidelines contained in British Standard 6472:1992, "Evaluation of human exposure to vibration in buildings (1-80 Hz)". This British Standard was superseded in 2008 with BS 6472-1:2008 "Guide to evaluation of human exposure to vibration in buildings – Part 1: Vibration sources other than blasting" and the 1992 version of the Standard was withdrawn. Although a new version of BS 6472 has been published, the Environment Protection Authority still requires vibration to be assessed in accordance with the 1992 version of the Standard at this point in time.

Vibration, at levels high enough, has the potential to cause damage to structures and disrupt human comfort. Vibration and its associated effects are usually classified as continuous, impulsive or intermittent as follows:

- Continuous vibration continues uninterrupted for a defined period and includes sources such as machinery and continuous construction activities for example, a tunnel boring machine.
- Impulsive vibration is a rapid build up to a peak followed by a damped decay. It may consist of several cycles at around the same amplitude, with durations of typically less than two seconds and no more than three occurrences in an assessment period. This may include occasional dropping of heavy equipment or loading activities.
- Intermittent vibration occurs where there are interrupted periods of continuous vibration, repeated periods of impulsive vibration or continuous vibration that varies significantly in magnitude. This may include intermittent construction activity, impact pile driving, jack hammers.

3.3.1 Structural damage

At present, no Australian Standards exist for the assessment of building damage caused by vibration.

DIN 4150 provides recommended maximum levels of vibration that reduce the likelihood of building damage caused by vibration and are presented in Table 13. DIN 4150 states that buildings exposed to higher levels of vibration than recommended limits would not necessarily result in damage.

Table 13 DIN 4150: Structural damage safe limits for building vibration

Group	Type of structure	Vibration velocity in mm/s			
		At foundation at a frequency of			Vibration at the horizontal plane of the highest floor
		Less than 10 Hz	10 Hz to 50 Hz	50 Hz to 100 Hz	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 Lines 1 or 2 and have intrinsic value (eg buildings that are under a preservation order)	3	3 to 8	8 to 10	8

3.3.2 Human comfort

The assessment of intermittent vibration outlined in the NSW EPA guideline Assessing Vibration: A Technical Guideline is based on Vibration Dose Values (VDVs). The VDV accumulates the vibration energy received over the daytime and night-time periods.

Maximum and preferred VDVs for intermittent vibration arising from construction activities are listed in Table 14. The VDV criteria are based on the likelihood that a person would be annoyed by the level of vibration over the entire assessment period.

Table 14 Preferred and maximum vibration dose values for intermittent vibration ($m/s^{1.75}$)

Location	Daytime (7 am – 10 pm)		Night-time (10 pm – 7 am)	
	Preferred	Max	Preferred	Max
Critical areas	0.1	0.2	0.1	0.2
Residences	0.2	0.4	0.13	0.26
Offices, schools, educational institutions and places of worship	0.4	0.8	0.4	0.8
Workshops	0.8	1.6	0.8	1.6

4.0 Construction noise assessment

4.1 Construction phases and scheduling

In consultation with TfNSW, six distinct stages of construction have been assumed to occur for the footbridge and concourse upgrade works. These stages are defined as follows:

- 1) Relocation of services and preparation of structure
- 2) Relocation of services and preparation of structure – Piling works
 - a) Daytime – weekday and weekend possession
 - b) Evening and night-time – weekend possessions
- 3) Relocation of services and preparation of structure – Preparation of structural works
 - a) Daytime – weekday and weekend possession
 - b) Evening and night-time – weekend possessions
- 4) Construction access bridge, deck support system, lift shafts and stairs
 - a) Daytime – weekday and weekend possession
 - b) Evening and night-time – weekend possessions
- 5) Construction of external cladding
- 6) Demolition of existing structure and site clearing (existing footbridge and concourse)
 - a) Daytime – weekend possessions
 - b) Evening and night-time – weekend possessions

Table 15 below presents the construction stages schedules.

Table 15 Indicative construction stages schedule

Period	Weekdays	Weekend possessions	
		Saturday	Sunday
Day	1, 2a, 3a, 6a (Standard)	1, 2a, 3a, 4a, 5, 6a (OOHW 1)	1, 2a, 3a, 4a, 5, 6a (OOHW 1)
Evening	-	2b, 3b, 4b, 6b (OOHW 1)	2b, 3b, 4b, 6b (OOHW 2)
Night	-	2b, 3b, 4b, 6b (OOHW 2)	2b, 3b, 4b, 6b (OOHW 2)

It should be noted that demolition of the existing footbridge and concourse will occur after the new footbridge and concourse have been constructed.

4.2 Construction sources

Noise sources and their respective sound power levels for each stage of works are shown in Table 16. These sound power levels are typical values taken from data provided in Australian Standard AS2436-2010, "Guide to noise and vibration control on construction, demolition and maintenance sites" and the UK Department for Environment, Food and Rural Affairs (DEFRA) "Update of noise database for prediction of noise on construction and open sites" noise database and assume equipment is modern and in good working order.

Table 16 Indicative construction activities

Activities	Construction periods	Equipment	Sound power level per unit, dB(A)	Total sound power level, dB(A)
1) Relocation of services and preparation of structure	Daytime only	20T Excavator	99	99
		10T Truck	98	98
		Wacker packer	108	108
		Hand tools	94	94
2) Relocation of services and preparation of structure – Piling works	a) Daytime – weekend possessions	Piling rig	107	107
		Generator	101	101
		10T Truck	98	98
		Concrete pump	106	106
		2 x 20T Franna crane	93	96
	b) Evening and night time – weekend possessions	Piling rig	107	107
		Day maker	77	77
		Generator	101	101
		10T Truck	98	98
		2 x 20T Franna crane	93	96
3) Relocation of services and preparation of structure – Preparation of Structure works	a) Daytime – weekend possessions	Mobile crane	100	100
		Generator	101	101
		Hand tools	94	94
		Concrete pump	106	106
		2 x 20T Franna crane	93	96
		2 x 10T Truck	98	101
	b) Evening and night time – weekend possessions	Mobile crane	100	100
		Generator	101	101
		Day maker	77	77
		Hand tools	94	94
		2 x 20T Franna crane	93	96
		2 x 10T Truck	98	101
4) Construction of Access Bridge, Deck Support System, Lift Shafts and	a) Daytime – weekend possessions	Jackhammer	108	108
		Generator	101	101
		Piling rig	107	107

Activities	Construction periods	Equipment	Sound power level per unit, dB(A)	Total sound power level, dB(A)
Stairs		10T Truck	98	98
		Concrete pump	106	106
		Concrete truck	106	106
		Mobile crane	100	100
		Hand tools	94	94
		Jackhammer	108	108
		2 x 20T Franna crane	93	96
		2 x EWP	87	90
	b) Evening and night time – weekend possessions	Generator	101	101
		Piling rig	107	107
		10T Truck	98	98
		Concrete truck	106	106
		Mobile crane	100	100
		Hand tools	94	94
		Jackhammer	108	108
		2 x 20T Franna crane	93	96
		6 x Day maker	77	85
		2 x EWP	87	90
		5) Construction of external cladding	Daytime only	Hand tools
2 x EWP	87			90
6) Demolition of existing structure and site clearing (Existing footbridge and concourse)	a) Daytime – weekend possessions	Bobcat	104	104
		Jackhammer	108	108
		Excavator with hammer	121	121
		2 x 10T truck	98	101
		Concrete saw	115	115
		20T Excavator	99	99
		300T Crane	106	106
		3 x Oxygen and acetylene cutting equipment	93	98
		3 x Grinder	108	113
		2 x EWP	87	90
		2 x Generator	101	104

Activities	Construction periods	Equipment	Sound power level per unit, dB(A)	Total sound power level, dB(A)
	b) Evening and night time – weekend possessions	2 x 10T Truck	98	101
		20T Excavator	99	99
		300T Crane	106	106
		3 x Oxygen and acetylene cutting equipment	93	98
		3 x Grinder	108	113
		6 x Day maker	77	85
		2 x EWP	87	90
		2 x Generator	101	104

4.3 Modelling and conditions

In order to assess noise impact from the site during construction, a noise model was created to represent 'reasonable' worst periods of upgrade works.

The upgrade works have been modelled in SoundPLAN Version 7.3. The following features were included in the noise model:

- Ground topography;
- Ground absorption and reflection;
- Buildings (residential and commercial);
- Receivers (shown in Figure 1); and
- Construction noise sources (listed in Table 16).

Noise emissions from the construction sites have been modelled using an implementation of the CONCAWE propagation algorithm with neutral metrological conditions.

It can be expected that there may be differences between predicted and measured noise levels due to variations in instantaneous operating conditions, plant in operation during the measurement and also the location of the plant equipment. The acoustic shielding calculated in the model due to fixed building structures will also vary as the construction equipment moves around the site.

4.4 Construction noise assessment

Predicted construction noise levels have been grouped into ranges which indicate the level of intrusiveness experienced. Each range has been assigned a colour and the colouring scheme is presented in Table 17.

A summary of the construction noise results is shown in Table 18. Full tables of results including all assessed receivers are provided in Appendix C. Results in red indicate where the predicted noise levels at residential receivers are predicted to exceed the highly noise affected level of 75 dB(A). The highly affected noise level only applies to residential receivers. Residential receivers have been assessed against the day, evening and night-time criteria as the works are likely to be undertaken during both standard working hours and out-of-hours, on weekdays and weekends.

The results show that exceedances are expected for both residential receivers and 'other sensitive receivers', such as commercial, retail, school and church receivers, during the works. A number of highly affected noise receivers were identified. Exceedances at receivers are the worst during the demolition scenario – the highest exceedances during this stage of works for the daytime, evening and night time respectively is 41, 35 and 35 dB(A) at 96 The Crescent, Homebush, a mixed-use receiver directly opposite the works. The demolition plant for the daytime works comprise higher sound power levels such as from concrete saws and excavators with

hammers which justifies the higher predicted noise levels. The sound power levels are not as high as the demolition phase for other scenarios.

Very few of the other sensitive receivers will be operating during the evening time and therefore the predicted number of receivers is a worst case. During the evening and night time construction periods many of the buildings will not be occupied and therefore will not be affected.

The exceedances are predominantly for receivers located opposite the station. These receivers are located within NCA 2. For receivers close to noisy equipment it is reasonable to expect that they will be highly noise affected. The noise assessment considers a reasonable worst-case scenario with all equipment operational. During construction not all equipment will be operating at all times which will result in a slight reduction in measured noise levels. Mitigation measures for receivers have been specified in Section 4.7 which reasonably and feasibly reduces the impact of these exceedances.

Table 17 Results colouring scheme

Application	Description	Exceedance above background noise level (RBL), dB(A)	Predicted noise level, dB(A)	Scheme
Predicted noise level	Highly noise affected	-	> 75 dB(A)	RED
Exceedances	Noticeable	0 - 10 dB(A)	-	GREEN
	Clearly audible	10 - 20 dB(A)	-	BLUE
	Moderately intrusive	20 - 30 dB(A)	-	ORANGE
	Highly intrusive	> 30 dB(A)	-	PURPLE

Table 18 Predicted construction noise results for nearest receivers - daytime

Work package	Number of residential building receivers				Number of other sensitive receivers exceeding the NMLs
	Exceeding 75 dB(A)	Exceeding the background noise level (RBL) by dB			
	> 75 dB(A)	10 - 20 dB(A)	20 - 30 dB(A)	> 30 dB(A)	
1	2	9	3	0	11
2A	1	11	2	0	13
3A	1	7	2	0	12
4A	2	26	6	1	17
5	0	1	0	0	1
6A	8	98	25	6	30

Table 19 Predicted construction noise results for nearest receivers - evening

Work package	Number of residential building receivers				Number of other sensitive receivers exceeding the NMLs
	Exceeding 75 dB(A)	Exceeding the background noise level (RBL) by dB			
	> 75 dB(A)	10 - 20 dB(A)	20 - 30 dB(A)	> 30 dB(A)	
2B	1	11	2	0	11
3B	0	9	2	0	9
4B	1	26	6	1	16
6B	3	55	5	3	18

Table 20 Predicted construction noise results for nearest receivers - night

Work package	Number of residential building receivers				Number of other sensitive receivers exceeding the NMLs
	Exceeding 75 dB(A)	Exceeding the background noise level (RBL) by dB			
	> 75 dB(A)	10 - 20 dB(A)	20 - 30 dB(A)	> 30 dB(A)	
2B	1	11	2	0	11
3B	0	9	2	0	9
4B	1	26	6	1	16
6B	3	55	5	3	18

4.5 Sleep disturbance assessment

As works will be undertaken during the night-time period sleep disturbance is required to be assessed.

Appendix F presents the predicted maximum $L_{A1(1min)}$ noise level contours. The awakening reaction criterion is predicted to be exceeded at residences in NCA 2 for the demolition, relocation of services and construction stages. The majority of exceedances are predicted for the construction and demolition stage. The awakening criterion is not expected to be exceeded for any receiver in NCA 1 or 3.

As noted above the predicted $L_{A1(1min)}$ noise level contours indicate that in some instances the awakening reaction criterion may be exceeded at some locations during the construction, demolition and services relocation stages. The predicted construction noise levels presented in Appendix F are external noise levels. The typical outdoor to indoor noise reductions provided by most standard dwellings (i.e. without acoustical treatment) is generally accepted as being 10 dB with windows open and a minimum of 20 dB with windows closed. Therefore, by closing their windows during noisy activities residents can potentially attenuate external noise levels by 20 dB.

In addition, the predicted construction noise levels are typically the worst case noise levels, therefore the majority of the actual L_{A1} noise levels are likely to be less than those predicted.

4.6 Construction traffic assessment

No traffic counts have been conducted for this project; however the proposed construction vehicles have been estimated by TfNSW as being 2-3 heavy vehicles per day. From on-site observations during the deployment of unattended noise measurement equipment, the existing traffic flow is appreciably greater. Therefore, the construction vehicles will have an insignificant impact on existing road traffic noise in the area. The traffic generated by these works is therefore deemed to comply with the RNP criteria.

4.7 Construction noise mitigation measures

4.7.1 Construction Noise and Vibration Management Plan (CNVMP)

Due to the exceedances presented in Table 18, AECOM recommends that a Construction Noise and Vibration Management Plan (CNVMP) is devised and implemented.

The CNVMP would include all reasonable and feasible mitigation options to manage the noise emissions from the site and also any complaints which may occur due to the construction activity noise. The CNVMP would include the following:

- Identification of nearby residences and other sensitive land uses.
- Description of approved hours of work.
- Description and identification of all construction activities, including work areas, equipment and duration.
- Description of what work practices (generic and specific) would be applied to minimise noise and vibration.
- A complaints handling process.
- Noise and vibration monitoring procedures.
- Overview of community consultation required for identified high impact works.

4.7.2 Community consultation and complaints handling

All residents and sensitive receivers impacted by noise from the proposed works which are expected to exceed the NML should be consulted about the project prior to the commencement of the particular activity, with the highest consideration given to those that are predicted to be most affected as a result of the works.

The information provided to the residents should include:

- Programmed times and locations of construction work.
- The hours of proposed works.
- Construction noise and vibration impact predictions.
- Construction noise and vibration mitigation measures being implemented on site.

Community consultation regarding construction noise and vibration would be detailed in the Community Involvement Plan for the construction of the project and would include a 24 hour hotline and complaints management process.

4.7.3 Work practices

Induction and training would be provided to relevant staff and sub-contractors outlining their responsibilities with regard to noise.

4.7.4 Construction hours and work scheduling

Details of any necessary out-of-hours work required would form part of the CNVMP.

Noisy work would be scheduled to be undertaken during the standard hours as far as possible. Noisy activities that cannot be undertaken during standard construction hours are to be scheduled as early as possible during the evening and / or night-time periods. Should out-of-hours works be required, an out-of-hours works application form would need to be submitted to TfNSW for approval on a case-by-case basis.

Particularly noisy activities such as the use of concrete saws and excavators with hammers should be scheduled where feasible and reasonable around times of high background noise to provide masking.

4.7.5 Plant and equipment selection and location

The selection of plant and equipment can have a significant impact on construction noise levels. Appropriate plant would be selected for each task to minimise the noise contributions.

Alternative works methods such as use of hydraulic or electric-controlled units in place of diesel units would be considered and implemented where feasible and reasonable. The use of alternative machines that perform the same function (such as rubber wheeler plant) would be considered in place of steel tracked plant.

Equipment would be regularly inspected and maintained to ensure it is in good working order.

Plant should be located on site with as much distance as possible between the plant and noise sensitive receivers. Noisy equipment would be orientated away from residential receivers where feasible and reasonable.

4.7.6 Construction traffic

Truck drivers would be advised of designated vehicle routes, parking locations, acceptable delivery hours or other relevant practices (i.e. minimising the use of engine brakes, and no extended periods of engine idling). Site access and egress points would be located away from residences and other sensitive land uses, where feasible and reasonable. Construction sites would be arranged to limit the need for reversing associated with regular / repeatable movements (e.g. trucks transporting spoil) to minimise the use of reversing alarms. Where feasible and reasonable, non-tonal reversing alarms would be used, taking into account the requirements of the Workplace Health and Safety legislation.

4.7.7 Noise monitoring

A noise monitoring program would be presented in the CNVMP.

The noise monitoring program would be implemented to assist in confirming and controlling the site specific potential for disturbance at particularly sensitive localities at the commencement of activities and periodically during the construction program as the works progress. The results would be reviewed to determine if additional mitigation measures are required. All measurements would be undertaken in accordance with Australian Standard 1055.1-1997 – Acoustics – Description and measurement of environmental noise, Part 1: General procedures.

4.7.8 TfNSW Construction Noise Strategy - Additional mitigation measures

TfNSW provides additional mitigation measures which have been detailed within Section 3.1.2.

The maps showing exceedances above the background level are provided within Appendix C. Mitigation measures applicable to each assessed receiver for each construction stage can be determined from these maps.

4.8 Construction vibration assessment

Vibration intensive works are proposed to occur as part of the Flemington Station footbridge and concourse upgrade works. It is acknowledged that heritage structures exist on the Flemington Station platforms, approximately 15 metres from the nearest point of the construction area.

The works may include the use of the following items of equipment:

- Excavator with hammer
- Jackhammer
- Wacker packer

The safe working distances of these items of equipment from heritage, residential and industrial buildings are shown in Table 21. The wacker plates generate similar or less vibration than small vibratory rollers, therefore the safe working distances of small vibration rollers have been used in lieu of quantitative safe working distances.

If the safe working distances are complied with no adverse impact from the vibration intensive works are likely in terms of human response or cosmetic damage.

Mitigation measures to control excessive vibration have been discussed within section 4.9.

Table 21 Safe working distances of vibration intensive equipment to be used during the footbridge and concourse upgrade works

Plant	Rating/Description	Safe Working Distance				Human Response
		Cosmetic Damage				
		Heritage	Residential	Industrial		
Small hydraulic hammer	(300 kg - 5 to 12 T excavator)	4 m	2 m	< 1 m	7 m	
Medium hydraulic hammer	(900 kg – 12 to 18 T excavator)	12 m	7 m	2 m	23 m	
Large hydraulic hammer	(1600 kg – 18 to 34 T excavator)	34 m	22 m	7 m	73 m	
Vibratory Roller	< 50 kN (Typically 1-2 T)	8 m	5 m	2 m	15-20 m	
Jackhammer	Handheld	1 m nominal	1 m nominal	< 1 m	Avoid contact with structure	

4.9 Construction vibration mitigation measures

For vibration intensive activities that occur within the safe working distances, management methods to mitigate should include:

4.9.1 Dilapidation studies

Prior to commencement of the demolition work, dilapidation surveys are recommended for sensitive historical structures within 40 m of the Flemington Station concourse and footbridge upgrade works area. The dilapidation survey would document the current structural condition of these buildings/structures. It is also recommended that the dilapidation surveys are repeated after the project is complete. The post completion dilapidation surveys will identify any impact on the receiver buildings as a result of the construction work. Critical buildings to be surveyed should include:

- Flemington station buildings on platforms 1-4

4.9.2 Equipment selection and maintenance

At the time of writing this report the size of the breaker has not been confirmed. If a breaker with a weight of less than 12T is used, then the activities are unlikely to give rise to vibration levels which may cause human discomfort or any cosmetic or structural damage to nearby buildings if used within the rail corridor or at the perimeter of the works area.

The use of less vibration intensive methods of construction or equipment is preferred where possible to reduce annoyance and potential for cosmetic damage. All equipment would be maintained and operated in an efficient manner, in accordance with manufacturer's specifications, to reduce the potential for adverse vibration impacts.

4.9.3 Works scheduling and respite periods

Works scheduling can often be adopted to effectively manage construction vibration impacts and in particular to limit potential impacts. Wherever possible, vibration intensive works would be limited to the least sensitive times of the day.

Respite periods would be negotiated with the community for construction activities expected to generate high levels of vibration.

4.9.4 Supplementary vibration monitoring

If vibration intensive equipment is to be used within the safe working distances for cosmetic damage, then it is recommended that attended vibration measurements are undertaken when work commences, to determine site specific safe working distances. Vibration intensive work should not proceed within the safe working distances unless a permanent vibration monitoring system is installed approximately a metre from the building footprint, to warn operators (via flashing light, audible alarm, SMS etc.) when vibration levels are approaching the peak particle velocity objective. It is also advisable to carry out dilapidation surveys of sensitive historical structures before construction works begins.

For work scheduled to occur near a building, within the safe working distance for human response but outside the safe working distance for cosmetic damage, it is considered that the additional measures highlighted in Section 4.7 will be sufficient to mitigate the vibration impact at nearby residential receivers. Therefore vibration monitoring will not be required at these properties.

5.0 Conclusions

A noise and vibration impact assessment has been completed for the proposed footbridge and concourse works at Flemington Station. Nearby noise and vibration sensitive receivers were identified and attended and unattended noise measurements were completed to characterise the existing noise environment. The measured levels were used to establish construction noise management levels.

5.1 Construction activity noise

Construction scenarios have been developed in consultation with Transport for New South Wales and the proposed equipment has been detailed within this assessment. Six construction stages were assessed, a total of ten equipment packages were assessed against various time periods.

The predicted construction noise levels exceed the construction noise management levels for all scenarios at residential and commercial receivers. Noise exceedances are similar to that expected for such works and are generally unavoidable within the capacity of being reasonable and feasible. However, implementation of mitigation measures would minimise noise impacts where possible.

Mitigation measures have been recommended in line with the Construction Noise Strategy in order to minimise the impact of construction noise on nearby noise sensitive receivers.

5.2 Construction traffic

The road traffic noise associated with construction activities was assessed in accordance with EPA's NSW Road Noise Policy guidelines. The road traffic noise assessment associated with construction indicates compliance with the NSW RNP acoustic criteria as the noise increase on construction routes is predicted to be negligible.

5.3 Construction vibration

Safe working distances to nearby structures have been recommended. If the safe working distances are maintained then no adverse impact from the vibration intensive works is likely in terms of human response or cosmetic damage.

It is understood that heritage buildings exist approximately 15 metres from the nearest point of the construction works therefore mitigation measures to control excessive vibration have been recommended which includes dilapidation studies and vibration monitoring with warnings associated.

Appendix A

Acoustic Terminology

Appendix A Acoustic Terminology

The following is a brief description of acoustic terminology used in this report.

<i>Sound power level</i>	The total sound emitted by a source
<i>Sound pressure level</i>	The amount of sound at a specified point
<i>Decibel [dB]</i>	The measurement unit of sound
<i>A Weighted decibels [dB(A)]</i>	The A weighting is a frequency filter applied to measured noise levels to represent how humans hear sounds. The A-weighting filter emphasises frequencies in the speech range (between 1kHz and 4 kHz) which the human ear is most sensitive to, and places less emphasis on low frequencies at which the human ear is not so sensitive. When an overall sound level is A-weighted it is expressed in units of dB(A).
<i>Decibel scale</i>	The decibel scale is logarithmic in order to produce a better representation of the response of the human ear. A 3 dB increase in the sound pressure level corresponds to a doubling in the sound energy. A 10 dB increase in the sound pressure level corresponds to a perceived doubling in volume. Examples of decibel levels of common sounds are as follows:
	0dB(A) Threshold of human hearing
	30dB(A) A quiet country park
	40dB(A) Whisper in a library
	50dB(A) Open office space
	70dB(A) Inside a car on a freeway
	80dB(A) Outboard motor
	90dB(A) Heavy truck pass-by
	100dB(A) Jackhammer/Subway train
	110 dB(A) Rock Concert
	115dB(A) Limit of sound permitted in industry
	120dB(A) 747 take off at 250 metres
<i>Frequency [f]</i>	The repetition rate of the cycle measured in Hertz (Hz). The frequency corresponds to the pitch of the sound. A high frequency corresponds to a high pitched sound and a low frequency to a low pitched sound.
<i>Equivalent continuous sound level [L_{eq}]</i>	The constant sound level which, when occurring over the same period of time, would result in the receiver experiencing the same amount of sound energy.
<i>L_{max}</i>	The maximum sound pressure level measured over the measurement period
<i>L_{min}</i>	The minimum sound pressure level measured over the measurement period
<i>L₁₀</i>	The sound pressure level exceeded for 10% of the measurement period. For 10% of the measurement period it was louder than the L ₁₀ .
<i>L₉₀</i>	The sound pressure level exceeded for 90% of the measurement period. For 90% of the measurement period it was louder than the L ₉₀ .
<i>Ambient noise</i>	The all-encompassing noise at a point composed of sound from all sources near and far.

<i>Background noise</i>	The underlying level of noise present in the ambient noise when extraneous noise (such as transient traffic and dogs barking) is removed. The L_{90} sound pressure level is used to quantify background noise.
<i>Traffic noise</i>	The total noise resulting from road traffic. The L_{eq} sound pressure level is used to quantify traffic noise.
<i>Day</i>	The period from 0700 to 1800 h Monday to Saturday and 0800 to 1800 h Sundays and Public Holidays.
<i>Evening</i>	The period from 1800 to 2200 h Monday to Sunday and Public Holidays.
<i>Night</i>	The period from 2200 to 0700 h Monday to Saturday and 2200 to 0800 h Sundays and Public Holidays.
<i>Assessment background level [ABL]</i>	The overall background level for each day, evening and night period for each day of the noise monitoring.
<i>Rating background level [RBL]</i>	The overall background level for each day, evening and night period for the entire length of noise monitoring.

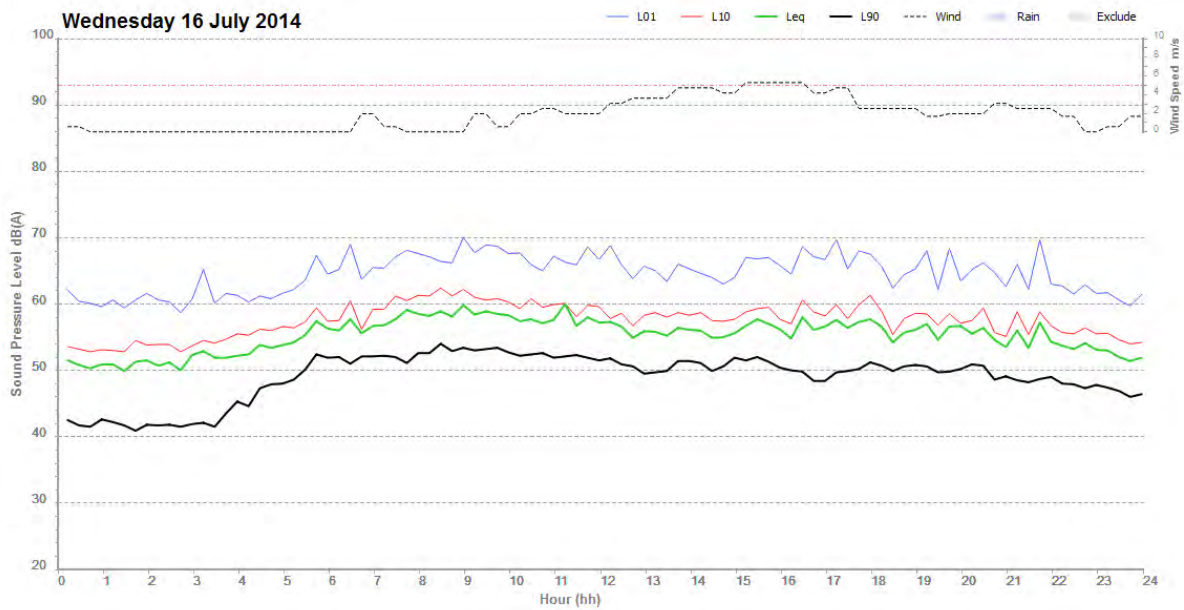
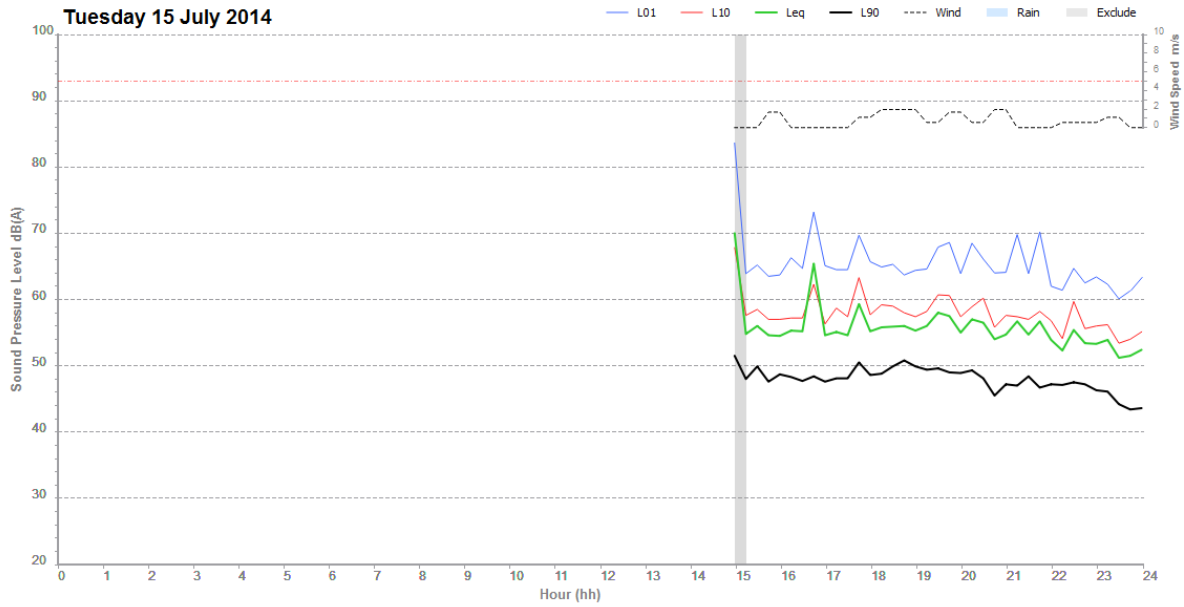
*Definitions of a number of terms have been adapted from Australian Standard AS1633:1985 “Acoustics – Glossary of terms and related symbols”, the EPA’s NSW Industrial Noise Policy and the EPA’s Road Noise Policy.

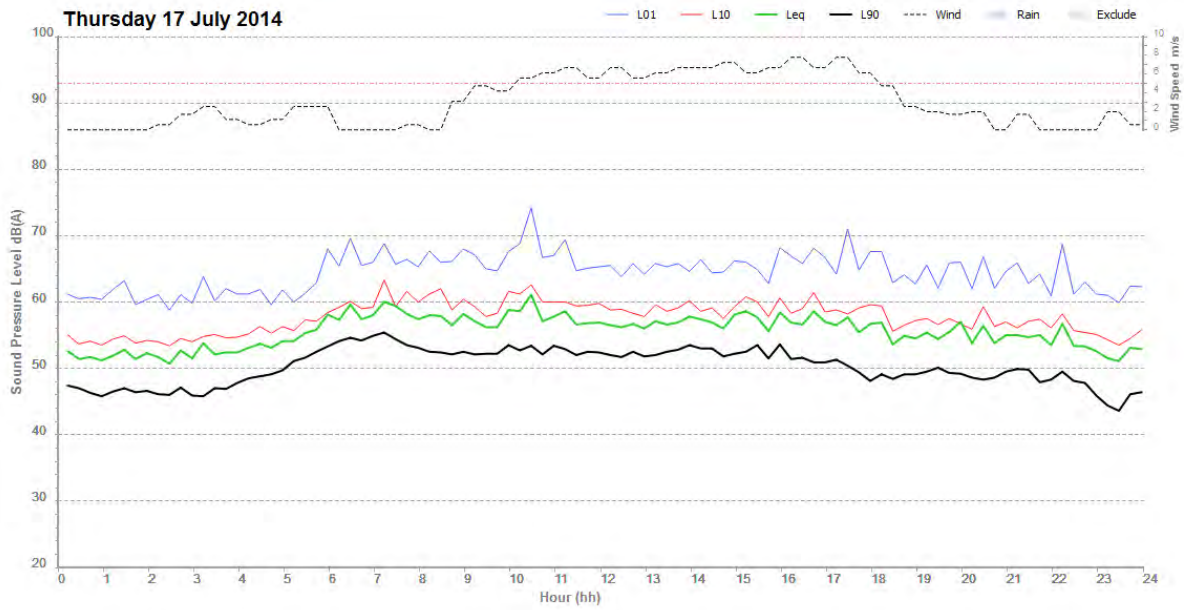
Appendix B

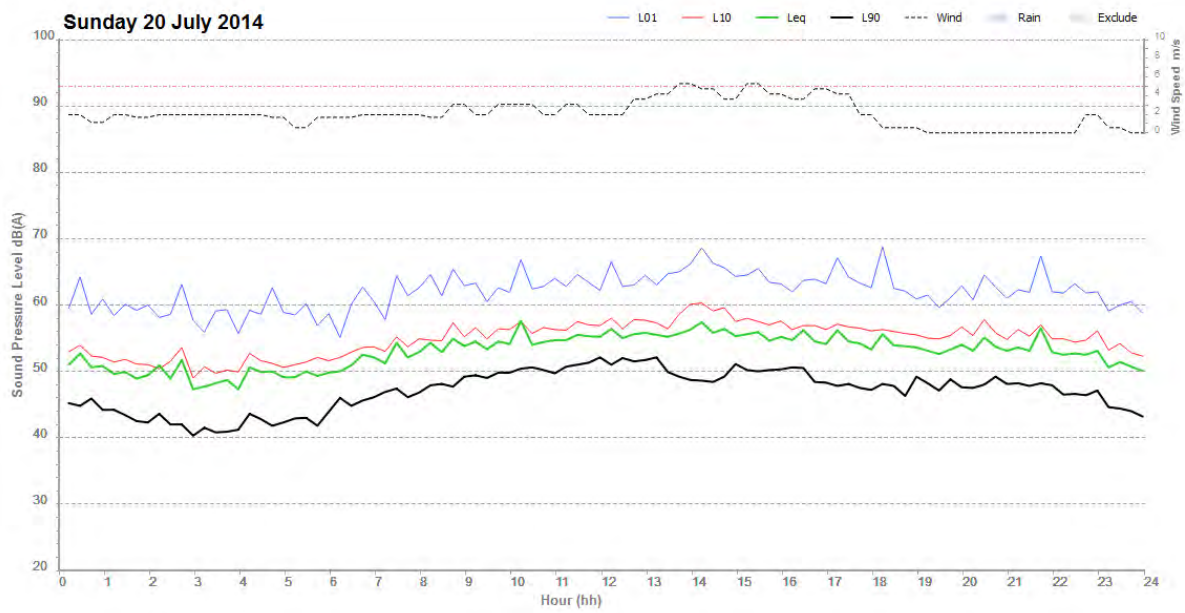
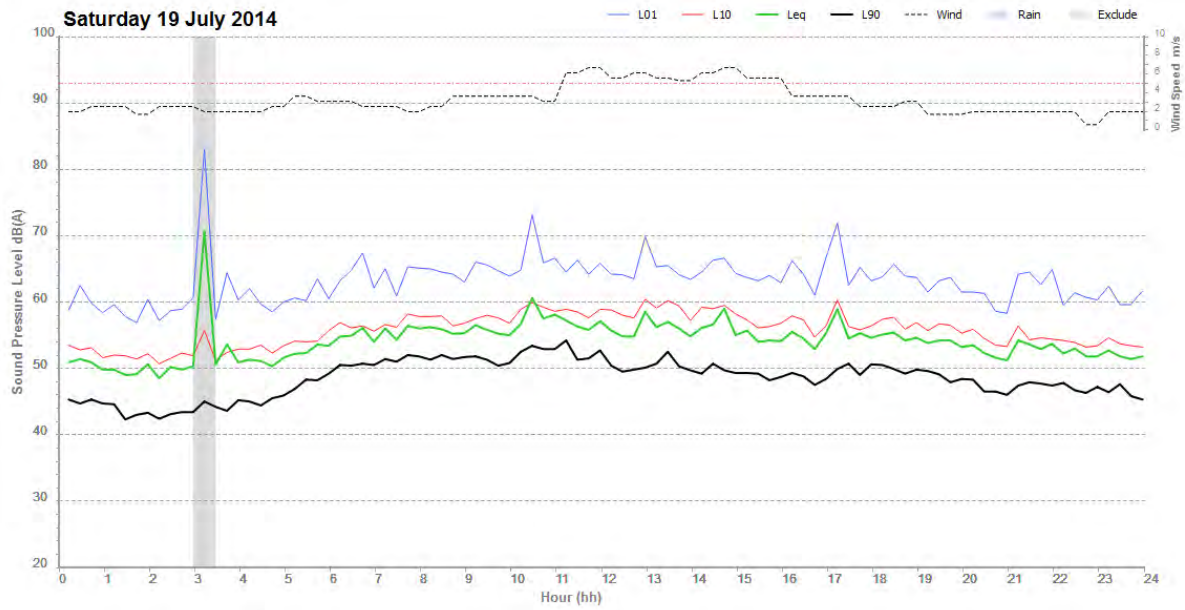
Noise Logging

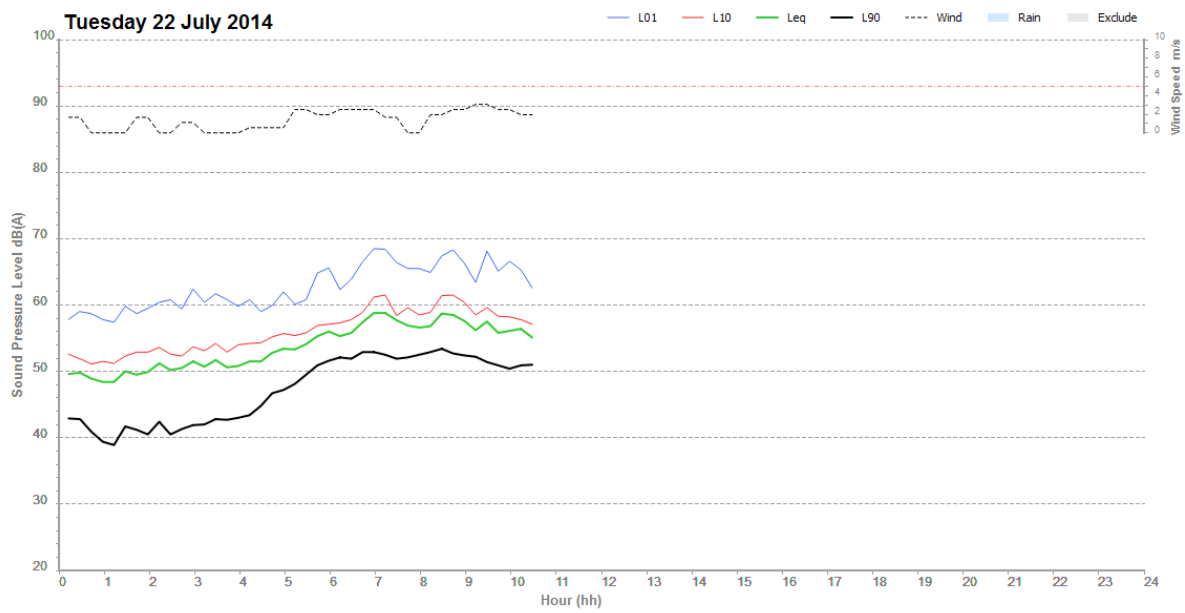
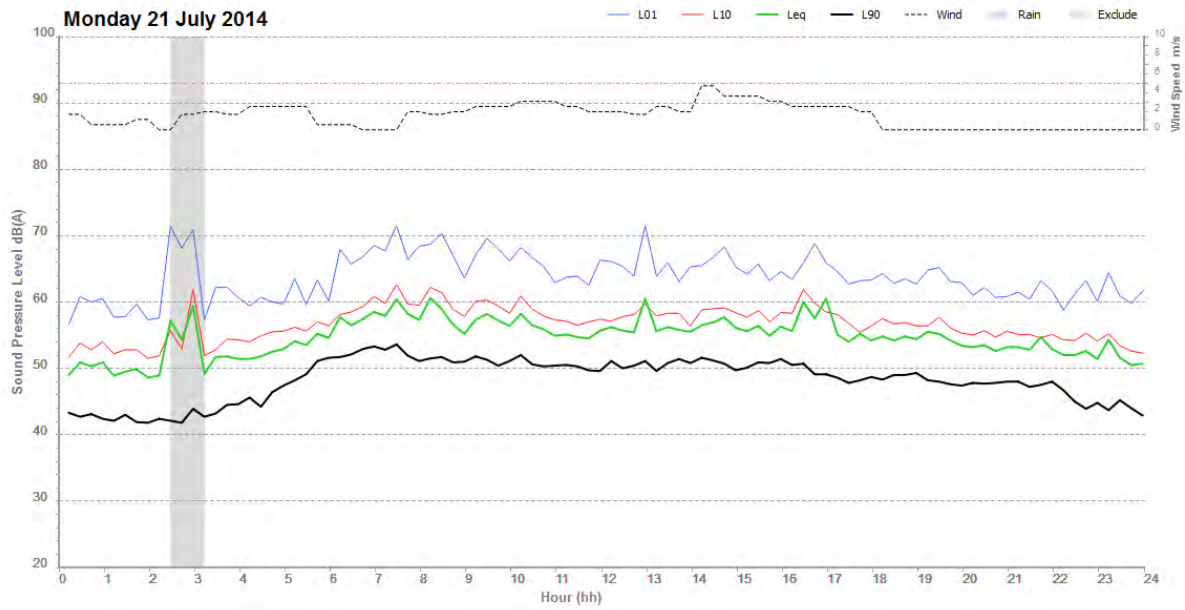
Appendix B Noise Logging

3 Mandemar Avenue, Homebush West

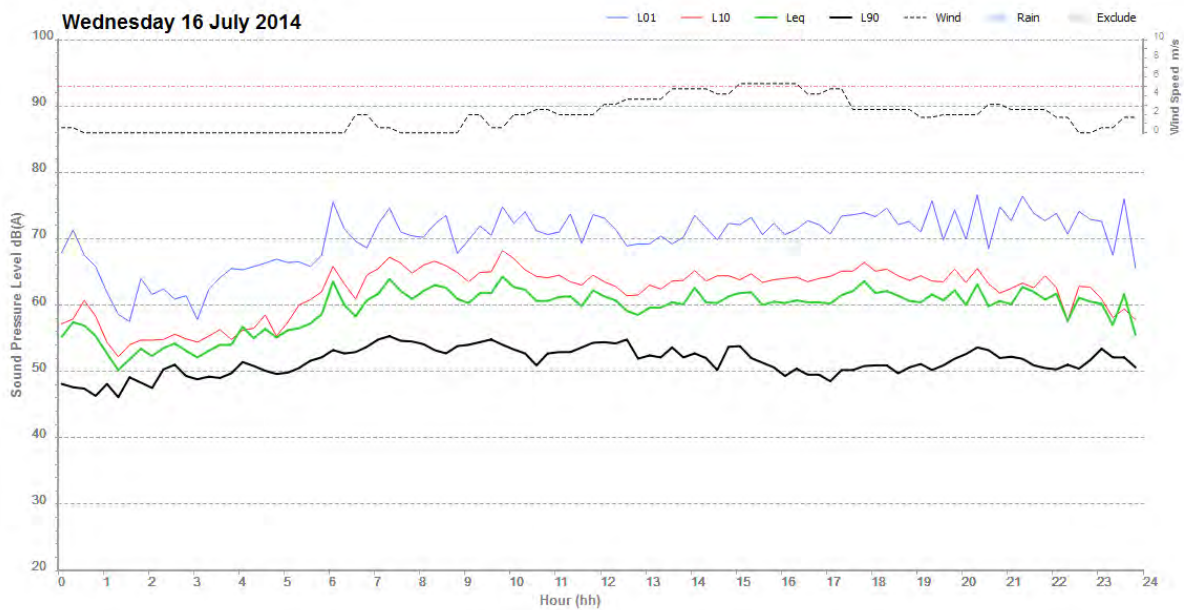


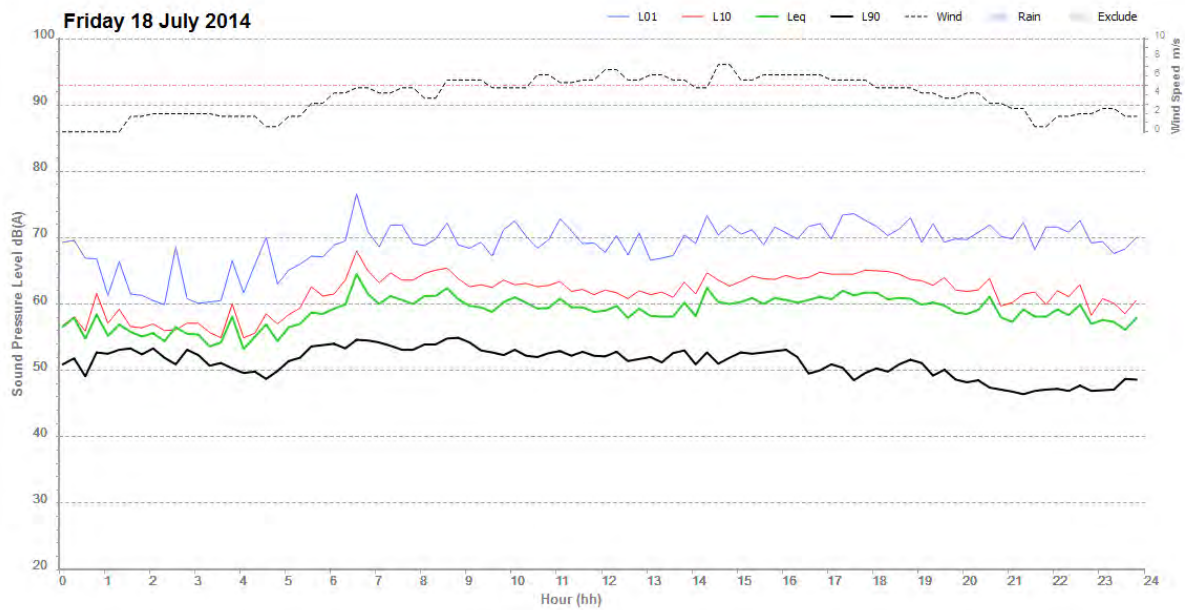
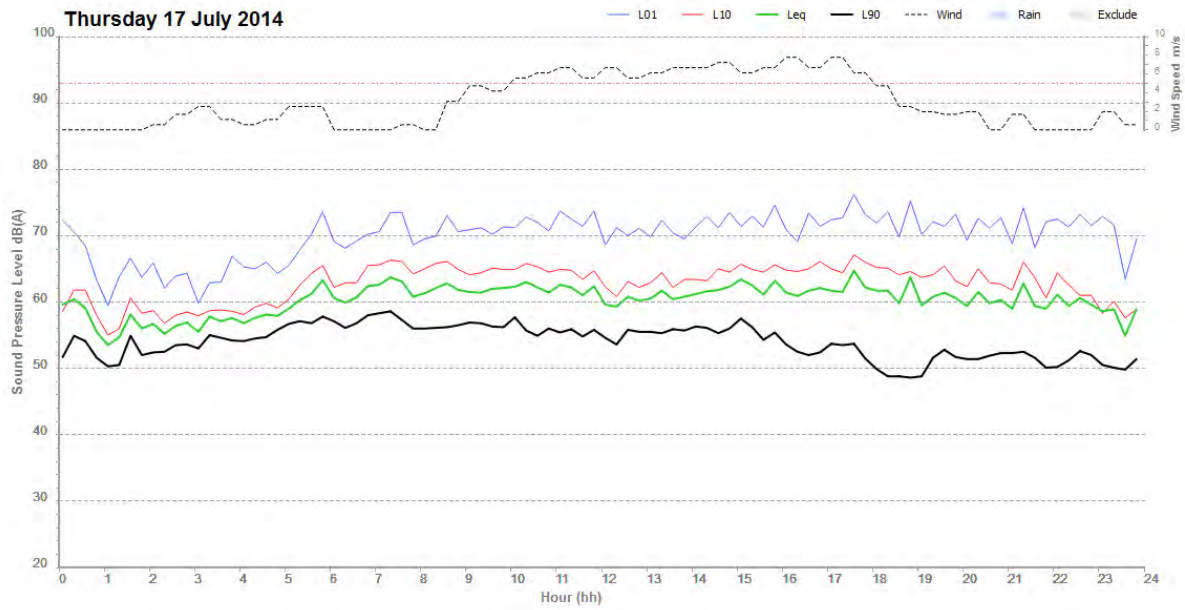


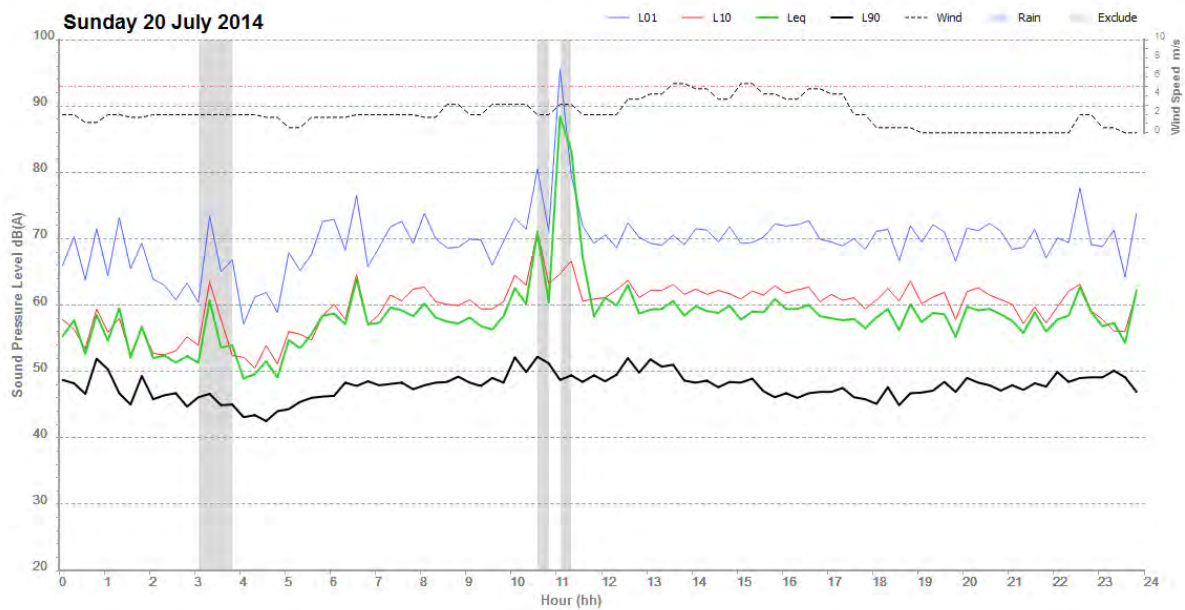
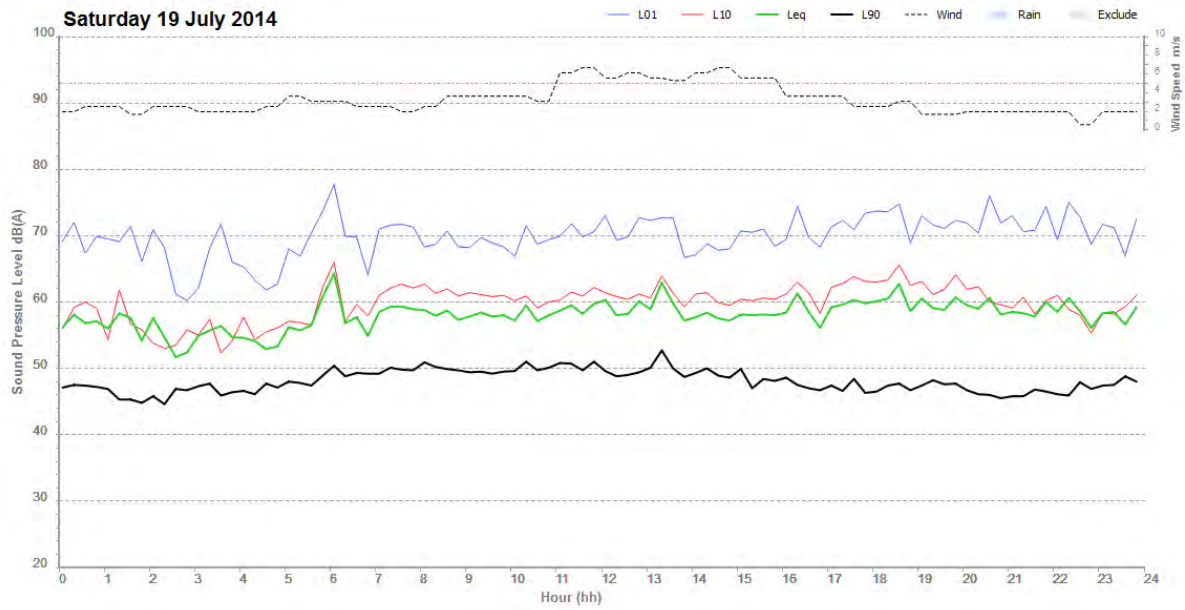


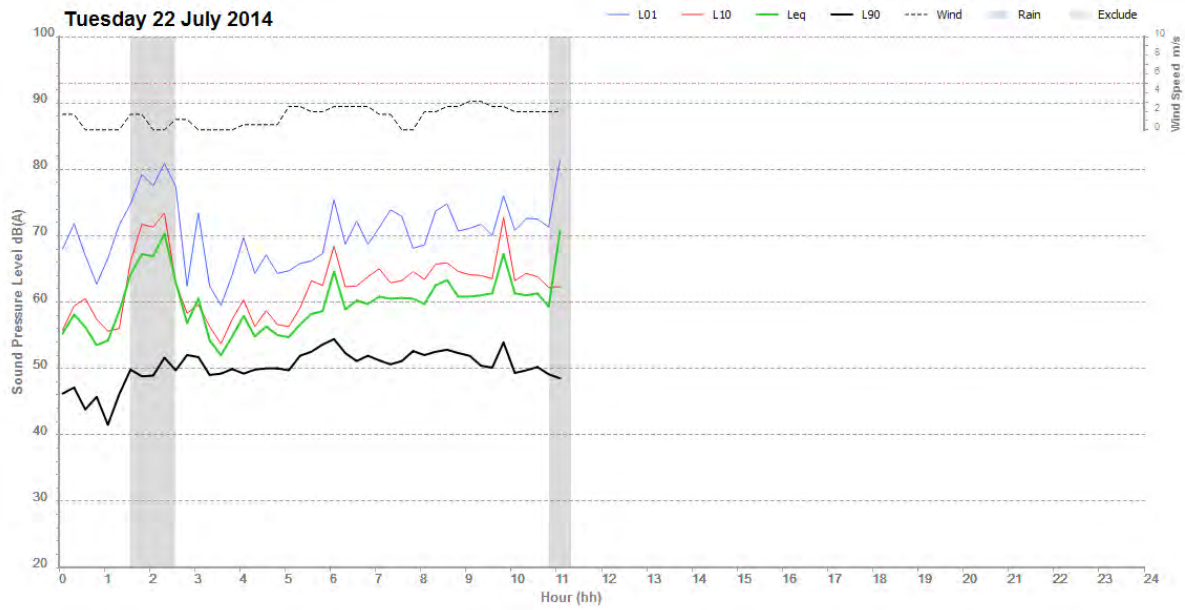


109 The Crescent, Homebush West



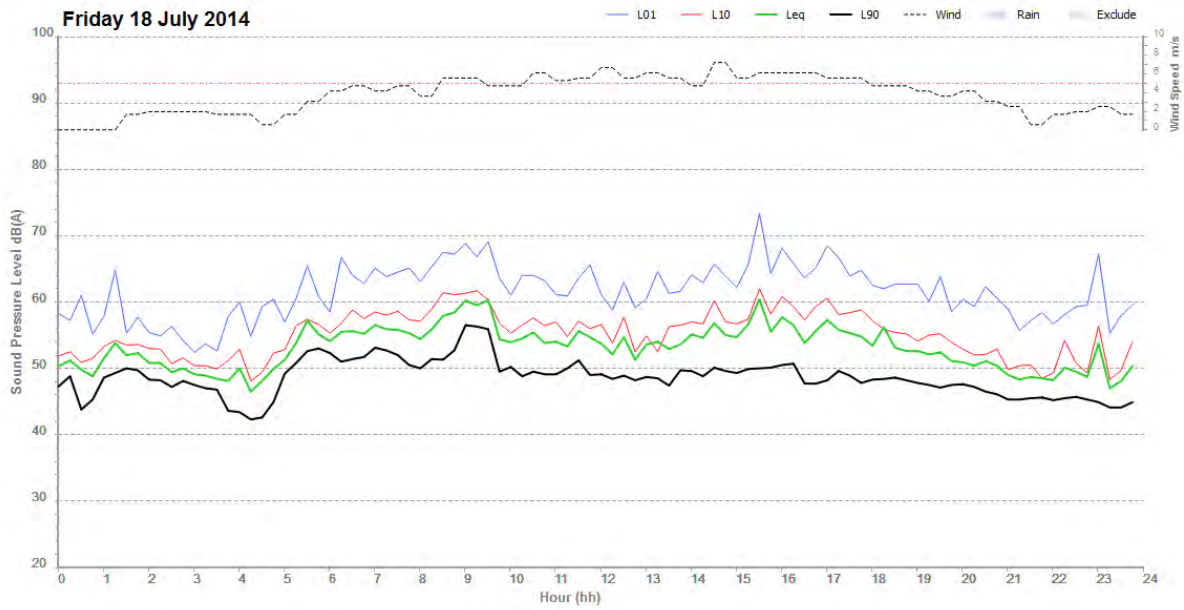
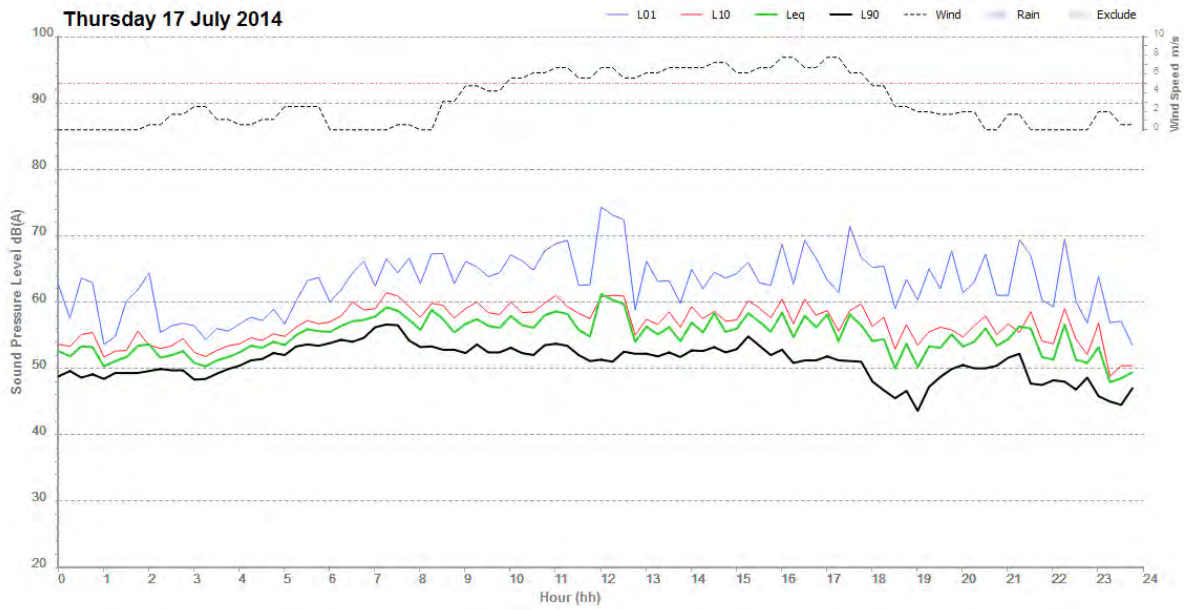


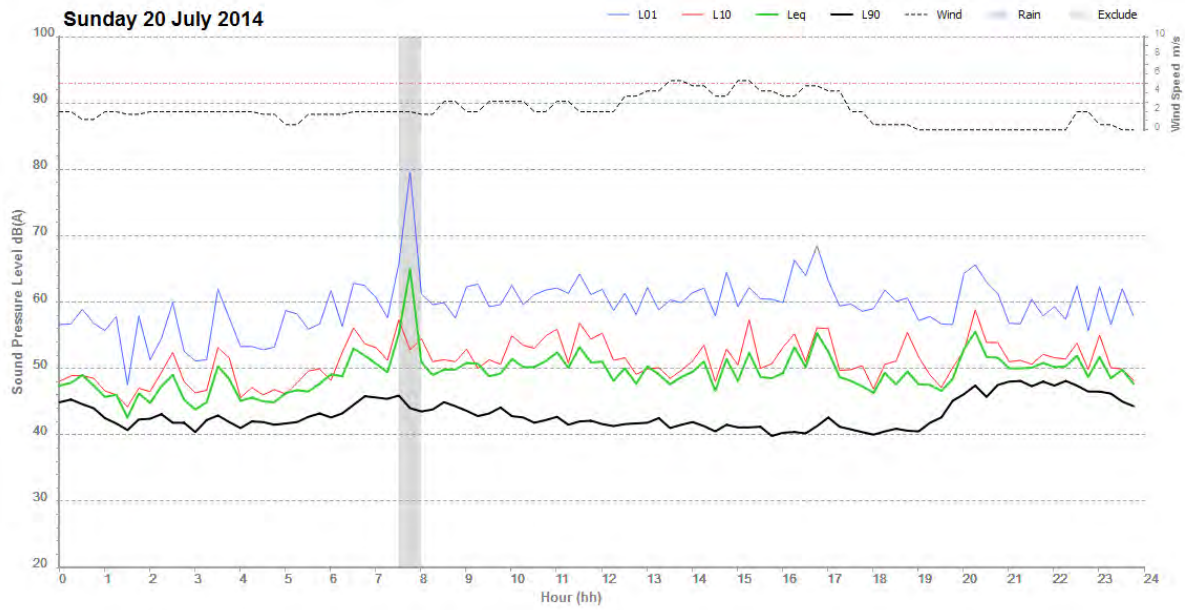
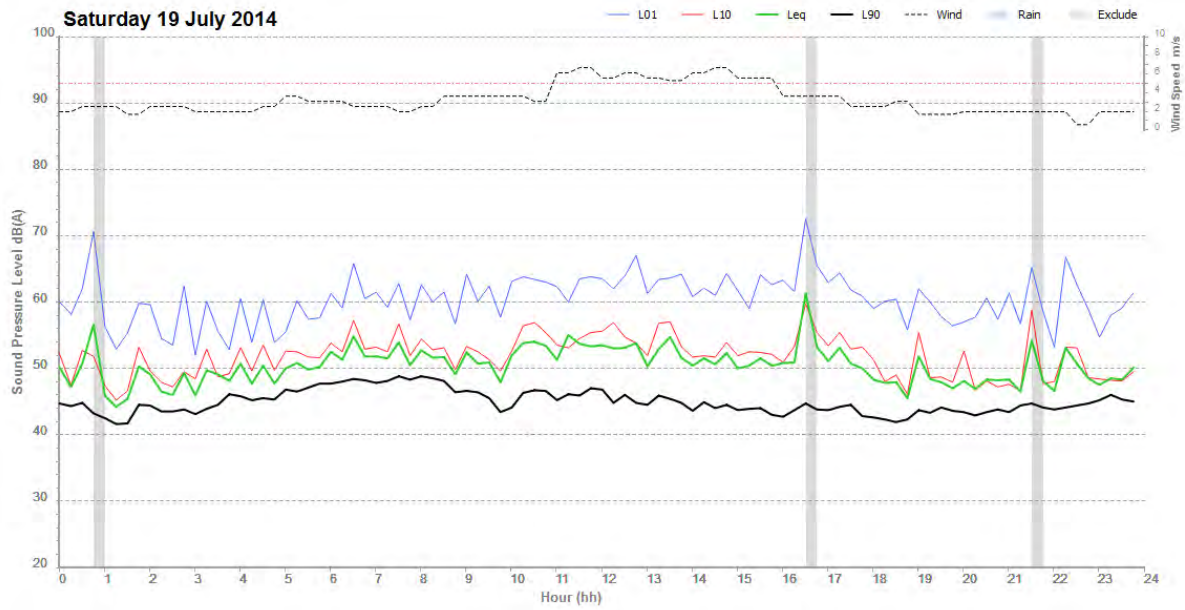


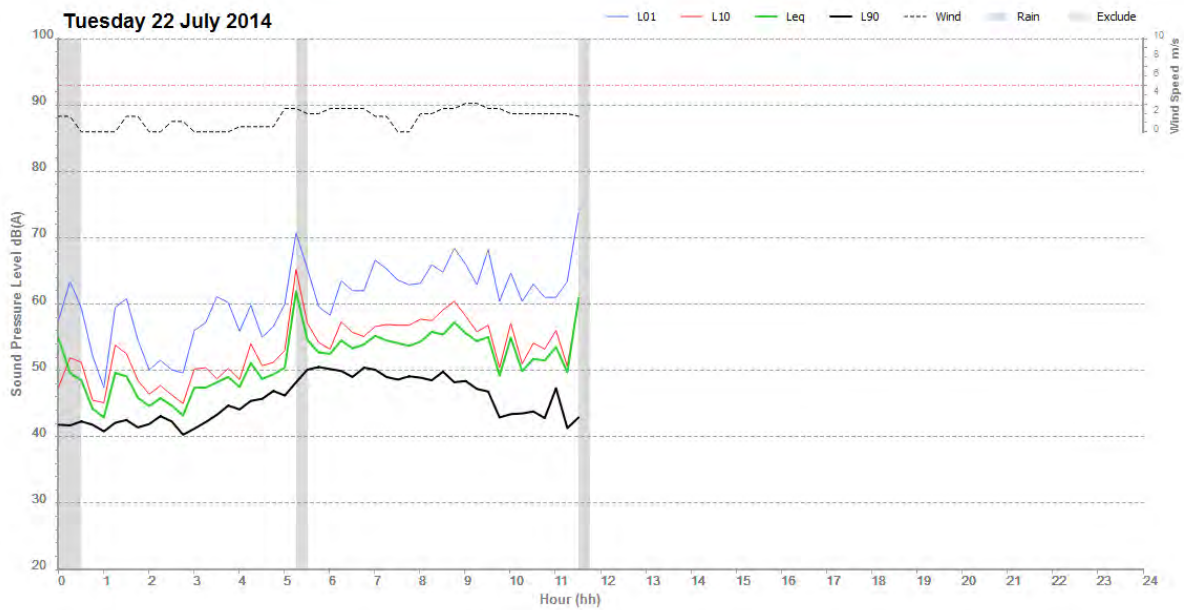
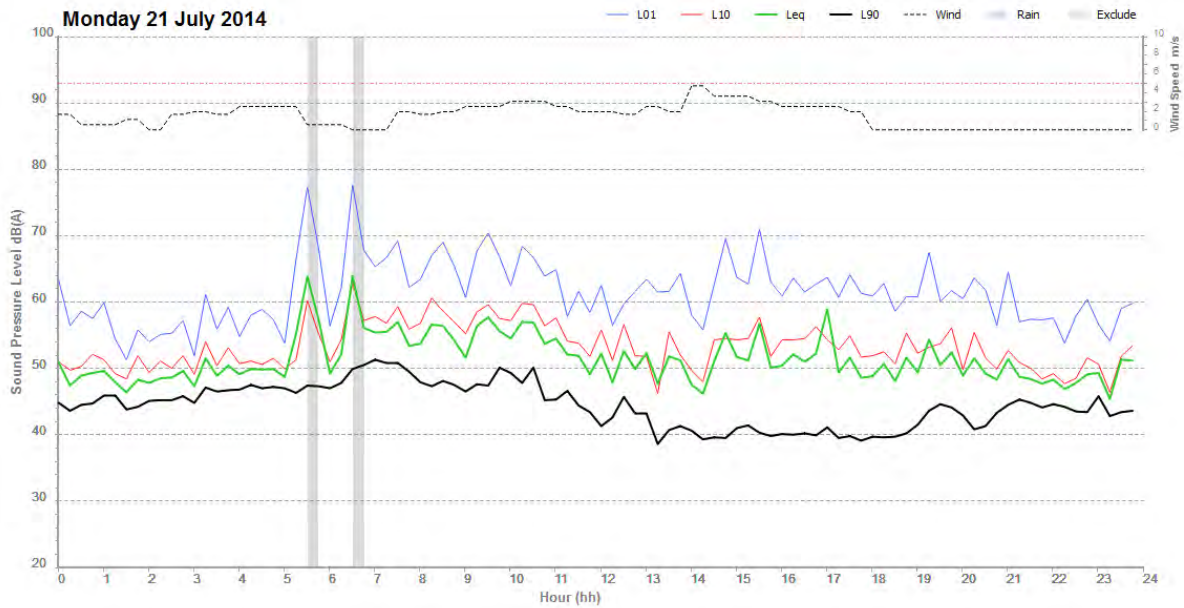


26 Smallwood Avenue, Homebush









Appendix C

Predicted Noise Levels - Construction

Appendix C Predicted Noise Levels

Results colouring scheme

Application	Description	Exceedance above background noise level (RBL), dB(A)	Predicted noise level, dB(A)	Scheme
Predicted noise level	Highly noise affected	-	> 75 dB(A)	RED
Exceedances	Noticeable	0 - 10 dB(A)	-	GREEN
	Clearly audible	10 - 20 dB(A)	-	BLUE
	Moderately intrusive	20 - 30 dB(A)	-	ORANGE
	Highly intrusive	> 30 dB(A)	-	PURPLE

Daytime works - Residential receivers

Address	Background noise levels (RBL), dB(A)	Predicted noise level, dB(A)	Exceedance above background noise levels, dB(A)
1 – Relocation of services			
96 The Crescent, Homebush West NSW 2140, Australia	49	76	27
97A The Crescent, Homebush West NSW 2140, Australia	49	76	27
104 The Crescent, Homebush West NSW 2140, Australia	49	72	23
99 The Crescent, Homebush West NSW 2140, Australia	49	69	20
88 The Crescent, Homebush West NSW 2140, Australia	49	68	19
89 The Crescent, Homebush West NSW 2140, Australia	49	67	18
10 Henley Road, Homebush West NSW 2140, Australia	49	64	15
10 Henley Road, Homebush West NSW 2140, Australia	49	64	15
4 Hampstead Road, Homebush West NSW 2140, Australia	49	61	12
2 Hampstead Road, Homebush West NSW 2140, Australia	49	60	11
14A Henley Road, Homebush West NSW 2140, Australia	49	60	11
16-20 Henley Road, Homebush West NSW 2140, Australia	49	60	11
17-19 Henley Road, Homebush West NSW 2140, Australia	49	60	11
2a – Relocation of services			
104 The Crescent, Homebush West NSW 2140, Australia	49	79	30
99 The Crescent, Homebush West NSW 2140, Australia	49	73	24
97A The Crescent, Homebush West NSW 2140, Australia	49	71	22
96 The Crescent, Homebush West NSW 2140, Australia	49	68	19
10 Henley Road, Homebush West NSW 2140, Australia	49	67	18
10 Henley Road, Homebush West NSW 2140, Australia	49	65	16
88 The Crescent, Homebush West NSW 2140, Australia	49	64	15
14A Henley Road, Homebush West NSW 2140, Australia	49	64	15
16-20 Henley Road, Homebush West NSW 2140, Australia	49	63	14
17-19 Henley Road, Homebush West NSW 2140, Australia	49	63	14
16-20 Henley Road, Homebush West NSW 2140, Australia	49	62	13
89 The Crescent, Homebush West NSW 2140, Australia	49	61	12
114-116 The Crescent, Homebush West NSW 2140, Australia	49	61	12
6 Hornsey Road, Homebush West NSW 2140, Australia	49	60	11
3a – Relocation of services			
104 The Crescent, Homebush West NSW 2140, Australia	49	76	27
99 The Crescent, Homebush West NSW 2140, Australia	49	70	21

97A The Crescent, Homebush West NSW 2140, Australia	49	68	19
10 Henley Road, Homebush West NSW 2140, Australia	49	66	17
96 The Crescent, Homebush West NSW 2140, Australia	49	65	16
10 Henley Road, Homebush West NSW 2140, Australia	49	64	15
14A Henley Road, Homebush West NSW 2140, Australia	49	64	15
88 The Crescent, Homebush West NSW 2140, Australia	49	61	12
16-20 Henley Road, Homebush West NSW 2140, Australia	49	60	11
4a – Construction			
Centenary Drive, Homebush West NSW 2140, Australia	49	83	34
99 The Crescent, Homebush West NSW 2140, Australia	49	77	28
97A The Crescent, Homebush West NSW 2140, Australia	49	75	26
10 Henley Road, Homebush West NSW 2140, Australia	49	73	24
96 The Crescent, Homebush West NSW 2140, Australia	49	72	23
10 Henley Road, Homebush West NSW 2140, Australia	49	71	22
14A Henley Road, Homebush West NSW 2140, Australia	49	71	22
88 The Crescent, Homebush West NSW 2140, Australia	49	68	19
16-20 Henley Road, Homebush West NSW 2140, Australia	49	67	18
89 The Crescent, Homebush West NSW 2140, Australia	49	66	17
16-20 Henley Road, Homebush West NSW 2140, Australia	49	66	17
17-19 Henley Road, Homebush West NSW 2140, Australia	49	66	17
114-116 The Crescent, Homebush West NSW 2140, Australia	49	65	16
6 Hornsey Road, Homebush West NSW 2140, Australia	49	64	15
22-24 Henley Road, Homebush West NSW 2140, Australia	49	63	14
117 The Crescent, Homebush West NSW 2140, Australia	49	63	14
8-12 Hornsey Road, Homebush West NSW 2140, Australia	49	63	14
2 Hampstead Road, Homebush West NSW 2140, Australia	49	62	13
4 Hampstead Road, Homebush West NSW 2140, Australia	49	62	13
88 The Crescent, Homebush West NSW 2140, Australia	49	61	12
6 Hampstead Road, Homebush West NSW 2140, Australia	49	61	12
120 The Crescent, Homebush West NSW 2140, Australia	49	61	12
1-3 Hornsey Road, Homebush West NSW 2140, Australia	49	61	12
7 Hornsey Road, Homebush West NSW 2140, Australia	49	61	12
26 Henley Road, Homebush West NSW 2140, Australia	49	60	11
119 The Crescent, Homebush West NSW 2140, Australia	49	60	11
121 The Crescent, Homebush West NSW 2140, Australia	49	60	11
122 The Crescent, Homebush West NSW 2140, Australia	49	60	11
2 Eastbourne Road, Homebush West NSW 2140, Australia	49	60	11
5 Hornsey Road, Homebush West NSW 2140, Australia	49	60	11
9 Hornsey Road, Homebush West NSW 2140, Australia	49	60	11
8-12 Hornsey Road, Homebush West NSW 2140, Australia	49	60	11
8-12 Hornsey Road, Homebush West NSW 2140, Australia	49	60	11
5 - Cladding			
104 The Crescent, Homebush West NSW 2140, Australia	49	63	14
6a - Demolition			
96 The Crescent, Homebush West NSW 2140, Australia	49	90	41
97A The Crescent, Homebush West NSW 2140, Australia	49	90	41
104 The Crescent, Homebush West NSW 2140, Australia	49	86	37
99 The Crescent, Homebush West NSW 2140, Australia	49	83	34
88 The Crescent, Homebush West NSW 2140, Australia	49	82	33
89 The Crescent, Homebush West NSW 2140, Australia	49	81	32
10 Henley Road, Homebush West NSW 2140, Australia	49	78	29
10 Henley Road, Homebush West NSW 2140, Australia	49	78	29
4 Hampstead Road, Homebush West NSW 2140, Australia	49	75	26

14A Henley Road, Homebush West NSW 2140, Australia	49	75	26
2 Hampstead Road, Homebush West NSW 2140, Australia	49	74	25
16-20 Henley Road, Homebush West NSW 2140, Australia	49	74	25
17-19 Henley Road, Homebush West NSW 2140, Australia	49	74	25
88 The Crescent, Homebush West NSW 2140, Australia	49	73	24
6 Hampstead Road, Homebush West NSW 2140, Australia	49	73	24
114-116 The Crescent, Homebush West NSW 2140, Australia	49	73	24
16-20 Henley Road, Homebush West NSW 2140, Australia	49	72	23
6 Hornsey Road, Homebush West NSW 2140, Australia	49	72	23
87 The Crescent, Homebush West NSW 2140, Australia	49	71	22
86 The Crescent, Homebush West NSW 2140, Australia	49	71	22
3 Hampstead Road, Homebush West NSW 2140, Australia	49	71	22
5 Hampstead Road, Homebush West NSW 2140, Australia	49	71	22
7 Hampstead Road, Homebush West NSW 2140, Australia	49	71	22
9 Hampstead Road, Homebush West NSW 2140, Australia	49	71	22
8 Hampstead Road, Homebush West NSW 2140, Australia	49	70	21
85 The Crescent, Homebush West NSW 2140, Australia	49	70	21
22-24 Henley Road, Homebush West NSW 2140, Australia	49	70	21
117 The Crescent, Homebush West NSW 2140, Australia	49	70	21
8-12 Hornsey Road, Homebush West NSW 2140, Australia	49	70	21
11 Hampstead Road, Homebush West NSW 2140, Australia	49	70	21
13-15 Hampstead Road, Homebush West NSW 2140, Australia	49	70	21
120 The Crescent, Homebush West NSW 2140, Australia	49	69	20
8-12 Hornsey Road, Homebush West NSW 2140, Australia	49	69	20
23-25 Henley Road, Homebush West NSW 2140, Australia	49	69	20
84 The Crescent, Homebush West NSW 2140, Australia	49	69	20
10 Hampstead Road, Homebush West NSW 2140, Australia	49	68	19
1-3 Hornsey Road, Homebush West NSW 2140, Australia	49	68	19
8-12 Hornsey Road, Homebush West NSW 2140, Australia	49	68	19
1 Exeter Road, Homebush West NSW 2140, Australia	49	68	19
83 The Crescent, Homebush West NSW 2140, Australia	49	68	19
82 The Crescent, Homebush West NSW 2140, Australia	49	68	19
5 Kessell Avenue, Homebush West NSW 2140, Australia	49	68	19
26 Henley Road, Homebush West NSW 2140, Australia	49	67	18
119 The Crescent, Homebush West NSW 2140, Australia	49	67	18
121 The Crescent, Homebush West NSW 2140, Australia	49	67	18
5 Hornsey Road, Homebush West NSW 2140, Australia	49	67	18
7 Hornsey Road, Homebush West NSW 2140, Australia	49	67	18
14 Hornsey Road, Homebush West NSW 2140, Australia	49	67	18
17-21 Hampstead Road, Homebush West NSW 2140, Australia	49	67	18
14 Hampstead Road, Homebush West NSW 2140, Australia	49	67	18
16 Hampstead Road, Homebush West NSW 2140, Australia	49	67	18
1 Kessell Avenue, Homebush West NSW 2140, Australia	49	67	18
3 Kessell Avenue, Homebush West NSW 2140, Australia	49	67	18
7 Kessell Avenue, Homebush West NSW 2140, Australia	49	67	18
122 The Crescent, Homebush West NSW 2140, Australia	49	66	17
2 Eastbourne Road, Homebush West NSW 2140, Australia	49	66	17
9 Hornsey Road, Homebush West NSW 2140, Australia	49	66	17
124 The Crescent, Homebush West NSW 2140, Australia	49	66	17
5-7 Exeter Road, Homebush West NSW 2140, Australia	49	66	17
12 Hampstead Road, Homebush West NSW 2140, Australia	49	66	17
29 Henley Road, Homebush West NSW 2140, Australia	49	66	17
12 Exeter Road, Homebush West NSW 2140, Australia	49	66	17

6 Kessell Avenue, Homebush NSW 2140, Australia	49	66	17
4 Kessell Avenue, Homebush NSW 2140, Australia	49	66	17
81 The Crescent, Homebush West NSW 2140, Australia	49	66	17
125 The Crescent, Homebush West NSW 2140, Australia	49	65	16
9 Exeter Road, Homebush West NSW 2140, Australia	49	65	16
12 Kessell Avenue, Homebush NSW 2140, Australia	49	65	16
2 Kessell Avenue, Homebush NSW 2140, Australia	49	65	16
79 The Crescent, Homebush NSW 2140, Australia	49	65	16
78 The Crescent, Homebush NSW 2140, Australia	49	65	16
127 The Crescent, Homebush West NSW 2140, Australia	49	64	15
1 Eastbourne Road, Homebush West NSW 2140, Australia	49	64	15
16-18 Hornsey Road, Homebush West NSW 2140, Australia	49	64	15
8 Exeter Road, Homebush West NSW 2140, Australia	49	64	15
13 Kessell Avenue, Homebush West NSW 2140, Australia	49	64	15
10A Kessell Avenue, Homebush NSW 2140, Australia	49	64	15
80 The Crescent, Homebush West NSW 2140, Australia	49	64	15
2 Exeter Road, Homebush West NSW 2140, Australia	49	64	15
3 Eastbourne Road, Homebush West NSW 2140, Australia	49	63	14
13 Hornsey Road, Homebush West NSW 2140, Australia	49	63	14
9 Kessell Avenue, Homebush West NSW 2140, Australia	49	63	14
8 Kessell Avenue, Homebush NSW 2140, Australia	49	63	14
25-27 Hampstead Road, Homebush West NSW 2140, Australia	49	63	14
124 The Crescent, Homebush West NSW 2140, Australia	49	62	13
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	49	62	13
17-21 Hampstead Road, Homebush West NSW 2140, Australia	49	62	13
14 Kessell Avenue, Homebush NSW 2140, Australia	49	62	13
36 Henley Road, Homebush West NSW 2140, Australia	49	62	13
4 Eastbourne Road, Homebush West NSW 2140, Australia	49	61	12
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	49	61	12
18 Hampstead Road, Homebush West NSW 2140, Australia	49	61	12
11 Kessell Avenue, Homebush West NSW 2140, Australia	49	61	12
38 Henley Road, Homebush West NSW 2140, Australia	49	61	12
14 Tavistock Road, Homebush West NSW 2140, Australia	49	61	12
12 Tavistock Road, Homebush West NSW 2140, Australia	49	61	12
20 Bates Street, Homebush NSW 2140, Australia	45	60	15
24 Bates Street, Homebush NSW 2140, Australia	45	60	15
28A Bates Street, Homebush NSW 2140, Australia	45	60	15
30 Bates Street, Homebush NSW 2140, Australia	45	60	15
123 The Crescent, Homebush West NSW 2140, Australia	49	60	11
12-14 Exeter Road, Homebush West NSW 2140, Australia	49	60	11
32 Henley Road, Homebush West NSW 2140, Australia	49	60	11
77 The Crescent, Homebush NSW 2140, Australia	45	59	14
2 Bates Street, Homebush NSW 2140, Australia	45	59	14
4 Bates Street, Homebush NSW 2140, Australia	45	59	14
6 Bates Street, Homebush NSW 2140, Australia	45	59	14
8 Bates Street, Homebush NSW 2140, Australia	45	59	14
76 The Crescent, Homebush NSW 2140, Australia	45	58	13
75 The Crescent, Homebush NSW 2140, Australia	45	58	13
1 Mackenzie Street, Homebush NSW 2140, Australia	45	58	13
3 Mackenzie Street, Homebush NSW 2140, Australia	45	58	13
10 Bates Street, Homebush NSW 2140, Australia	45	58	13
12 Bates Street, Homebush NSW 2140, Australia	45	58	13
14 Bates Street, Homebush NSW 2140, Australia	45	58	13

16 Bates Street, Homebush NSW 2140, Australia	45	58	13
18 Bates Street, Homebush NSW 2140, Australia	45	58	13
22 Bates Street, Homebush NSW 2140, Australia	45	58	13
28A Bates Street, Homebush NSW 2140, Australia	45	58	13
74 The Crescent, Homebush NSW 2140, Australia	45	57	12
32 Bates Street, Homebush NSW 2140, Australia	45	57	12
7 Mackenzie Street, Homebush NSW 2140, Australia	45	57	12
9 Mackenzie Street, Homebush NSW 2140, Australia	45	57	12
11 Mackenzie Street, Homebush NSW 2140, Australia	45	57	12
13 Mackenzie Street, Homebush NSW 2140, Australia	45	57	12
28B Bates Street, Homebush NSW 2140, Australia	45	57	12
15 Mackenzie Street, Homebush NSW 2140, Australia	45	56	11
17 Mackenzie Street, Homebush NSW 2140, Australia	45	56	11
19 Mackenzie Street, Homebush NSW 2140, Australia	45	56	11
21 Mackenzie Street, Homebush NSW 2140, Australia	45	56	11
23 Mackenzie Street, Homebush NSW 2140, Australia	45	56	11
24-26 Mackenzie Street, Homebush NSW 2140, Australia	45	56	11
70 The Crescent, Homebush NSW 2140, Australia	45	56	11

Daytime works - Other receivers

Address	Use	Noise management levels (NML), dB(A)	Predicted noise level, dB(A)	Exceedance above NML, dB(A)
1 - Relocation of services				
90-92 The Crescent, Homebush West NSW 2140, Australia	Retail	70	76	6
The Crescent Near Flemington Station, Homebush West NSW 2140, Australia	Commercial	70	76	6
98 The Crescent, Homebush West NSW 2140, Australia	Retail	70	76	6
101 The Crescent, Homebush West NSW 2140, Australia	Retail	70	75	5
89 The Crescent, Homebush West NSW 2140, Australia	Retail	70	72	2
102 The Crescent, Homebush West NSW 2140, Australia	Retail	70	72	2
106 The Crescent, Homebush West NSW 2140, Australia	Retail	70	71	1
108 The Crescent, Homebush West NSW 2140, Australia	School	55	66	11
109-113 The Crescent, Homebush West NSW 2140, Australia	School	55	64	9
6 Hornsey Road, Homebush West NSW 2140, Australia	Church	55	61	6
17-19 Henley Road, Homebush West NSW 2140, Australia	School	55	58	3
2a - Relocation of services				
102 The Crescent, Homebush West NSW 2140, Australia	Retail	70	79	9
101 The Crescent, Homebush West NSW 2140, Australia	Retail	70	78	8
106 The Crescent, Homebush West NSW 2140, Australia	Retail	70	78	8

The Crescent Near Flemington Station, Homebush West NSW 2140, Australia	Commercial	70	78	8
98 The Crescent, Homebush West NSW 2140, Australia	Retail	70	77	7
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	73	3
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	73	3
90-92 The Crescent, Homebush West NSW 2140, Australia	Retail	70	72	2
108 The Crescent, Homebush West NSW 2140, Australia	School	55	71	16
109-113 The Crescent, Homebush West NSW 2140, Australia	School	55	69	14
6 Hornsey Road, Homebush West NSW 2140, Australia	Church	55	64	9
17-19 Henley Road, Homebush West NSW 2140, Australia	School	55	61	6
2 Hornsey Road, Homebush West NSW 2140, Australia	School	55	56	1
3a - Relocation of services				
The Crescent Near Flemington Station, Homebush West NSW 2140, Australia	Commercial	70	78	8
102 The Crescent, Homebush West NSW 2140, Australia	Retail	70	76	6
101 The Crescent, Homebush West NSW 2140, Australia	Retail	70	75	5
106 The Crescent, Homebush West NSW 2140, Australia	Retail	70	75	5
98 The Crescent, Homebush West NSW 2140, Australia	Retail	70	74	4
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	71	1
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	71	1
108 The Crescent, Homebush West NSW 2140, Australia	School	55	69	14
109-113 The Crescent, Homebush West NSW 2140, Australia	School	55	66	11
6 Hornsey Road, Homebush West NSW 2140, Australia	Church	55	61	6
17-19 Henley Road, Homebush West NSW 2140, Australia	School	55	59	4
2 Hornsey Road, Homebush West NSW 2140, Australia	School	55	56	1
4a - Construction				
The Crescent Near Flemington Station, Homebush West NSW 2140, Australia	Commercial	70	85	15
102 The Crescent, Homebush West NSW 2140, Australia	Retail	70	83	13
101 The Crescent, Homebush West NSW 2140, Australia	Retail	70	82	12
106 The Crescent, Homebush West NSW 2140, Australia	Retail	70	82	12
98 The Crescent, Homebush West NSW 2140, Australia	Retail	70	81	11
South Road, Sydneys Paddys Markets, Homebush	Commercial	70	78	8

West NSW 2140, Australia				
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	78	8
90-92 The Crescent, Homebush West NSW 2140, Australia	Retail	70	76	6
108 The Crescent, Homebush West NSW 2140, Australia	School	55	76	21
11 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	74	4
11 Henley Rd, Homebush West NSW 2140				
7 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	74	4
109-113 The Crescent, Homebush West NSW 2140, Australia	School	55	73	18
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	73	3
9 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	72	2
6 Hornsey Road, Homebush West NSW 2140, Australia	Church	55	68	13
17-19 Henley Road, Homebush West NSW 2140, Australia	School	55	66	11
2 Hornsey Road, Homebush West NSW 2140, Australia	School	55	63	8
5 -Cladding				
108 The Crescent, Homebush West NSW 2140, Australia	School	55	56	1
6a – Demolition works				
The Crescent Near Flemington Station, Homebush West NSW 2140, Australia	Commercial	70	93	23
90-92 The Crescent, Homebush West NSW 2140, Australia	Retail	70	90	20
98 The Crescent, Homebush West NSW 2140, Australia	Retail	70	90	20
101 The Crescent, Homebush West NSW 2140, Australia	Retail	70	89	19
89 The Crescent, Homebush West NSW 2140, Australia	Retail	70	86	16
102 The Crescent, Homebush West NSW 2140, Australia	Retail	70	86	16
106 The Crescent, Homebush West NSW 2140, Australia	Retail	70	85	15
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	85	15
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	85	15
108 The Crescent, Homebush West NSW 2140, Australia	School	55	81	26
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	80	10
11 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	80	10
9 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	80	10
7 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	80	10
109-113 The Crescent, Homebush West NSW 2140, Australia	School	55	78	23
17 Kerruish Avenue, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	76	6

11 Henley Road, Homebush West NSW 2140, Australia	Commercial	70	75	5
6 Hornsey Road, Homebush West NSW 2140, Australia	Church	55	75	20
17-19 Henley Road, Homebush West NSW 2140, Australia	School	55	74	19
2 Hornsey Road, Homebush West NSW 2140, Australia	School	55	68	13
1B Bates Street, Homebush NSW 2140, Australia	Community Centre	55	60	5
LOT 2 The Crescent, Homebush NSW 2140, Australia	School	55	60	5
29-31 Eastbourne Road, Homebush West NSW 2140, Australia	School	55	59	4
17 Hornsey Road, Homebush West NSW 2140, Australia	School	55	59	4
9 Exeter Road, Homebush West NSW 2140, Australia	School	55	59	4
29 Bridge Road, Homebush NSW 2140, Australia	School	55	58	3
21 Hornsey Road, Homebush West NSW 2140, Australia	School	55	57	2
20 Exeter Road, Homebush West NSW 2140, Australia	School	55	57	2
68 The Crescent, Homebush NSW 2140, Australia	School	55	57	2
24 Mackenzie Street, Homebush NSW 2140, Australia	School	55	56	1

Table 22 Evening works – Residential receivers

Address	Background noise levels (RBL), dB(A)	Predicted noise level, dB(A)	Exceedance above background noise levels, dB(A)
2b - Relocation of services			
104 The Crescent, Homebush West NSW 2140, Australia	47	77	30
99 The Crescent, Homebush West NSW 2140, Australia	47	71	24
97A The Crescent, Homebush West NSW 2140, Australia	47	69	22
96 The Crescent, Homebush West NSW 2140, Australia	47	66	19
10 Henley Road, Homebush West NSW 2140, Australia	47	65	18
10 Henley Road, Homebush West NSW 2140, Australia	47	63	16
88 The Crescent, Homebush West NSW 2140, Australia	47	62	15
14A Henley Road, Homebush West NSW 2140, Australia	47	62	15
16-20 Henley Road, Homebush West NSW 2140, Australia	47	61	14
17-19 Henley Road, Homebush West NSW 2140, Australia	47	61	14
16-20 Henley Road, Homebush West NSW 2140, Australia	47	60	13
89 The Crescent, Homebush West NSW 2140, Australia	47	59	12
114-116 The Crescent, Homebush West NSW 2140, Australia	47	59	12
6 Hornsey Road, Homebush West NSW 2140, Australia	47	58	11
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	57	10
2 Hampstead Road, Homebush West NSW 2140, Australia	47	56	9
4 Hampstead Road, Homebush West NSW 2140, Australia	47	56	9
22-24 Henley Road, Homebush West NSW 2140, Australia	47	56	9
6 Hampstead Road, Homebush West NSW 2140, Australia	47	55	8
120 The Crescent, Homebush West NSW 2140, Australia	47	55	8
5 Hornsey Road, Homebush West NSW 2140, Australia	47	55	8
88 The Crescent, Homebush West NSW 2140, Australia	47	54	7
26 Henley Road, Homebush West NSW 2140, Australia	47	54	7
117 The Crescent, Homebush West NSW 2140, Australia	47	54	7
1-3 Hornsey Road, Homebush West NSW 2140, Australia	47	54	7
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	54	7
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	54	7
86 The Crescent, Homebush West NSW 2140, Australia	47	53	6
85 The Crescent, Homebush West NSW 2140, Australia	47	53	6
3 Hampstead Road, Homebush West NSW 2140, Australia	47	53	6
119 The Crescent, Homebush West NSW 2140, Australia	47	53	6
121 The Crescent, Homebush West NSW 2140, Australia	47	53	6
5 Hampstead Road, Homebush West NSW 2140, Australia	47	52	5
122 The Crescent, Homebush West NSW 2140, Australia	47	52	5
2 Eastbourne Road, Homebush West NSW 2140, Australia	47	52	5
9 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
7 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
14 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
9 Hampstead Road, Homebush West NSW 2140, Australia	47	52	5
84 The Crescent, Homebush West NSW 2140, Australia	47	52	5
8 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
10 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
87 The Crescent, Homebush West NSW 2140, Australia	47	51	4
124 The Crescent, Homebush West NSW 2140, Australia	47	51	4
125 The Crescent, Homebush West NSW 2140, Australia	47	51	4
9 Exeter Road, Homebush West NSW 2140, Australia	47	51	4

23-25 Henley Road, Homebush West NSW 2140, Australia	47	51	4
7 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
11 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
12 Exeter Road, Homebush West NSW 2140, Australia	47	51	4
83 The Crescent, Homebush West NSW 2140, Australia	47	51	4
82 The Crescent, Homebush West NSW 2140, Australia	47	51	4
127 The Crescent, Homebush West NSW 2140, Australia	47	50	3
1 Eastbourne Road, Homebush West NSW 2140, Australia	47	50	3
13 Hornsey Road, Homebush West NSW 2140, Australia	47	50	3
5-7 Exeter Road, Homebush West NSW 2140, Australia	47	50	3
14 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
1 Kessell Avenue, Homebush West NSW 2140, Australia	47	50	3
3 Kessell Avenue, Homebush West NSW 2140, Australia	47	50	3
5 Kessell Avenue, Homebush West NSW 2140, Australia	47	50	3
6 Kessell Avenue, Homebush NSW 2140, Australia	47	50	3
4 Kessell Avenue, Homebush NSW 2140, Australia	47	50	3
81 The Crescent, Homebush West NSW 2140, Australia	47	50	3
3 Eastbourne Road, Homebush West NSW 2140, Australia	47	49	2
16-18 Hornsey Road, Homebush West NSW 2140, Australia	47	49	2
8 Exeter Road, Homebush West NSW 2140, Australia	47	49	2
2 Kessell Avenue, Homebush NSW 2140, Australia	47	49	2
79 The Crescent, Homebush NSW 2140, Australia	47	49	2
124 The Crescent, Homebush West NSW 2140, Australia	47	48	1
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	48	1
12 Hampstead Road, Homebush West NSW 2140, Australia	47	48	1
12 Kessell Avenue, Homebush NSW 2140, Australia	47	48	1
8 Kessell Avenue, Homebush NSW 2140, Australia	47	48	1
80 The Crescent, Homebush West NSW 2140, Australia	47	48	1
78 The Crescent, Homebush NSW 2140, Australia	47	48	1
20 Bates Street, Homebush NSW 2140, Australia	44	45	1
24 Bates Street, Homebush NSW 2140, Australia	44	45	1
28A Bates Street, Homebush NSW 2140, Australia	44	45	1
3b - Relocation of services			
104 The Crescent, Homebush West NSW 2140, Australia	47	75	28
99 The Crescent, Homebush West NSW 2140, Australia	47	69	22
97A The Crescent, Homebush West NSW 2140, Australia	47	67	20
10 Henley Road, Homebush West NSW 2140, Australia	47	65	18
96 The Crescent, Homebush West NSW 2140, Australia	47	64	17
10 Henley Road, Homebush West NSW 2140, Australia	47	63	16
14A Henley Road, Homebush West NSW 2140, Australia	47	63	16
88 The Crescent, Homebush West NSW 2140, Australia	47	60	13
16-20 Henley Road, Homebush West NSW 2140, Australia	47	59	12
89 The Crescent, Homebush West NSW 2140, Australia	47	58	11
16-20 Henley Road, Homebush West NSW 2140, Australia	47	58	11
17-19 Henley Road, Homebush West NSW 2140, Australia	47	58	11
114-116 The Crescent, Homebush West NSW 2140, Australia	47	57	10
6 Hornsey Road, Homebush West NSW 2140, Australia	47	56	9
22-24 Henley Road, Homebush West NSW 2140, Australia	47	55	8
117 The Crescent, Homebush West NSW 2140, Australia	47	55	8
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	55	8
2 Hampstead Road, Homebush West NSW 2140, Australia	47	54	7
4 Hampstead Road, Homebush West NSW 2140, Australia	47	54	7
88 The Crescent, Homebush West NSW 2140, Australia	47	53	6

6 Hampstead Road, Homebush West NSW 2140, Australia	47	53	6
120 The Crescent, Homebush West NSW 2140, Australia	47	53	6
1-3 Hornsey Road, Homebush West NSW 2140, Australia	47	53	6
7 Hornsey Road, Homebush West NSW 2140, Australia	47	53	6
26 Henley Road, Homebush West NSW 2140, Australia	47	52	5
119 The Crescent, Homebush West NSW 2140, Australia	47	52	5
121 The Crescent, Homebush West NSW 2140, Australia	47	52	5
122 The Crescent, Homebush West NSW 2140, Australia	47	52	5
2 Eastbourne Road, Homebush West NSW 2140, Australia	47	52	5
5 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
9 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
87 The Crescent, Homebush West NSW 2140, Australia	47	51	4
86 The Crescent, Homebush West NSW 2140, Australia	47	51	4
85 The Crescent, Homebush West NSW 2140, Australia	47	51	4
3 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
5 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
14 Hornsey Road, Homebush West NSW 2140, Australia	47	51	4
8 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
124 The Crescent, Homebush West NSW 2140, Australia	47	50	3
125 The Crescent, Homebush West NSW 2140, Australia	47	50	3
9 Exeter Road, Homebush West NSW 2140, Australia	47	50	3
5-7 Exeter Road, Homebush West NSW 2140, Australia	47	50	3
7 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
9 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
84 The Crescent, Homebush West NSW 2140, Australia	47	50	3
10 Hampstead Road, Homebush West NSW 2140, Australia	47	49	2
127 The Crescent, Homebush West NSW 2140, Australia	47	49	2
23-25 Henley Road, Homebush West NSW 2140, Australia	47	49	2
16-18 Hornsey Road, Homebush West NSW 2140, Australia	47	49	2
12 Exeter Road, Homebush West NSW 2140, Australia	47	49	2
83 The Crescent, Homebush West NSW 2140, Australia	47	49	2
82 The Crescent, Homebush West NSW 2140, Australia	47	49	2
3 Kessell Avenue, Homebush West NSW 2140, Australia	47	49	2
5 Kessell Avenue, Homebush West NSW 2140, Australia	47	49	2
1 Eastbourne Road, Homebush West NSW 2140, Australia	47	48	1
13 Hornsey Road, Homebush West NSW 2140, Australia	47	48	1
14 Hampstead Road, Homebush West NSW 2140, Australia	47	48	1
1 Kessell Avenue, Homebush West NSW 2140, Australia	47	48	1
6 Kessell Avenue, Homebush NSW 2140, Australia	47	48	1
4 Kessell Avenue, Homebush NSW 2140, Australia	47	48	1
81 The Crescent, Homebush West NSW 2140, Australia	47	48	1
4b - Construction			
104 The Crescent, Homebush West NSW 2140, Australia	47	81	34
99 The Crescent, Homebush West NSW 2140, Australia	47	75	28
97A The Crescent, Homebush West NSW 2140, Australia	47	73	26
10 Henley Road, Homebush West NSW 2140, Australia	47	71	24
96 The Crescent, Homebush West NSW 2140, Australia	47	70	23
10 Henley Road, Homebush West NSW 2140, Australia	47	69	22
14A Henley Road, Homebush West NSW 2140, Australia	47	69	22
88 The Crescent, Homebush West NSW 2140, Australia	47	66	19
16-20 Henley Road, Homebush West NSW 2140, Australia	47	65	18

89 The Crescent, Homebush West NSW 2140, Australia	47	64	17
16-20 Henley Road, Homebush West NSW 2140, Australia	47	64	17
17-19 Henley Road, Homebush West NSW 2140, Australia	47	64	17
114-116 The Crescent, Homebush West NSW 2140, Australia	47	63	16
6 Hornsey Road, Homebush West NSW 2140, Australia	47	62	15
22-24 Henley Road, Homebush West NSW 2140, Australia	47	61	14
117 The Crescent, Homebush West NSW 2140, Australia	47	61	14
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	61	14
2 Hampstead Road, Homebush West NSW 2140, Australia	47	60	13
4 Hampstead Road, Homebush West NSW 2140, Australia	47	60	13
88 The Crescent, Homebush West NSW 2140, Australia	47	59	12
6 Hampstead Road, Homebush West NSW 2140, Australia	47	59	12
120 The Crescent, Homebush West NSW 2140, Australia	47	59	12
1-3 Hornsey Road, Homebush West NSW 2140, Australia	47	59	12
7 Hornsey Road, Homebush West NSW 2140, Australia	47	59	12
26 Henley Road, Homebush West NSW 2140, Australia	47	58	11
119 The Crescent, Homebush West NSW 2140, Australia	47	58	11
121 The Crescent, Homebush West NSW 2140, Australia	47	58	11
122 The Crescent, Homebush West NSW 2140, Australia	47	58	11
2 Eastbourne Road, Homebush West NSW 2140, Australia	47	58	11
5 Hornsey Road, Homebush West NSW 2140, Australia	47	58	11
9 Hornsey Road, Homebush West NSW 2140, Australia	47	58	11
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	58	11
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	58	11
87 The Crescent, Homebush West NSW 2140, Australia	47	57	10
86 The Crescent, Homebush West NSW 2140, Australia	47	57	10
85 The Crescent, Homebush West NSW 2140, Australia	47	57	10
3 Hampstead Road, Homebush West NSW 2140, Australia	47	57	10
5 Hampstead Road, Homebush West NSW 2140, Australia	47	57	10
14 Hornsey Road, Homebush West NSW 2140, Australia	47	57	10
8 Hampstead Road, Homebush West NSW 2140, Australia	47	56	9
124 The Crescent, Homebush West NSW 2140, Australia	47	56	9
125 The Crescent, Homebush West NSW 2140, Australia	47	56	9
9 Exeter Road, Homebush West NSW 2140, Australia	47	56	9
5-7 Exeter Road, Homebush West NSW 2140, Australia	47	56	9
7 Hampstead Road, Homebush West NSW 2140, Australia	47	56	9
9 Hampstead Road, Homebush West NSW 2140, Australia	47	56	9
84 The Crescent, Homebush West NSW 2140, Australia	47	56	9
10 Hampstead Road, Homebush West NSW 2140, Australia	47	55	8
127 The Crescent, Homebush West NSW 2140, Australia	47	55	8
23-25 Henley Road, Homebush West NSW 2140, Australia	47	55	8
16-18 Hornsey Road, Homebush West NSW 2140, Australia	47	55	8
12 Exeter Road, Homebush West NSW 2140, Australia	47	55	8
83 The Crescent, Homebush West NSW 2140, Australia	47	55	8
82 The Crescent, Homebush West NSW 2140, Australia	47	55	8
3 Kessell Avenue, Homebush West NSW 2140, Australia	47	55	8
5 Kessell Avenue, Homebush West NSW 2140, Australia	47	55	8
1 Eastbourne Road, Homebush West NSW 2140, Australia	47	54	7
13 Hornsey Road, Homebush West NSW 2140, Australia	47	54	7
14 Hampstead Road, Homebush West NSW 2140, Australia	47	54	7
1 Kessell Avenue, Homebush West NSW 2140, Australia	47	54	7
6 Kessell Avenue, Homebush NSW 2140, Australia	47	54	7
4 Kessell Avenue, Homebush NSW 2140, Australia	47	54	7

81 The Crescent, Homebush West NSW 2140, Australia	47	54	7
3 Eastbourne Road, Homebush West NSW 2140, Australia	47	53	6
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	53	6
12 Hampstead Road, Homebush West NSW 2140, Australia	47	53	6
15 Hornsey Road, Homebush West NSW 2140, Australia	47	53	6
8 Exeter Road, Homebush West NSW 2140, Australia	47	53	6
7 Kessell Avenue, Homebush West NSW 2140, Australia	47	53	6
2 Kessell Avenue, Homebush NSW 2140, Australia	47	53	6
79 The Crescent, Homebush NSW 2140, Australia	47	53	6
78 The Crescent, Homebush NSW 2140, Australia	47	53	6
123 The Crescent, Homebush West NSW 2140, Australia	47	52	5
4 Eastbourne Road, Homebush West NSW 2140, Australia	47	52	5
124 The Crescent, Homebush West NSW 2140, Australia	47	52	5
12 Kessell Avenue, Homebush NSW 2140, Australia	47	52	5
10A Kessell Avenue, Homebush NSW 2140, Australia	47	52	5
8 Kessell Avenue, Homebush NSW 2140, Australia	47	52	5
80 The Crescent, Homebush West NSW 2140, Australia	47	52	5
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	51	4
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	51	4
36 Henley Road, Homebush West NSW 2140, Australia	47	51	4
11 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
16 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
24 Hornsey Road, Homebush West NSW 2140, Australia	47	50	3
26 Hornsey Road, Homebush West NSW 2140, Australia	47	50	3
12-14 Exeter Road, Homebush West NSW 2140, Australia	47	50	3
29 Henley Road, Homebush West NSW 2140, Australia	47	50	3
11 Kessell Avenue, Homebush West NSW 2140, Australia	47	50	3
13 Kessell Avenue, Homebush West NSW 2140, Australia	47	50	3
18 Kessell Avenue, Homebush NSW 2140, Australia	47	50	3
30 Henley Road, Homebush West NSW 2140, Australia	47	50	3
32 Henley Road, Homebush West NSW 2140, Australia	47	50	3
38 Henley Road, Homebush West NSW 2140, Australia	47	50	3
12 Tavistock Road, Homebush West NSW 2140, Australia	47	50	3
10 Tavistock Road, Homebush West NSW 2140, Australia	47	50	3
9-17 Eastbourne Road, Homebush West NSW 2140, Australia	47	49	2
13-15 Hampstead Road, Homebush West NSW 2140, Australia	47	49	2
22 Hornsey Road, Homebush West NSW 2140, Australia	47	49	2
14 Kessell Avenue, Homebush NSW 2140, Australia	47	49	2
20 Bates Street, Homebush NSW 2140, Australia	44	49	5
24 Bates Street, Homebush NSW 2140, Australia	44	49	5
28A Bates Street, Homebush NSW 2140, Australia	44	49	5
30 Bates Street, Homebush NSW 2140, Australia	44	49	5
28 Henley Road, Homebush West NSW 2140, Australia	47	49	2
15 Hornsey Road, Homebush West NSW 2140, Australia	47	48	1
9 Kessell Avenue, Homebush West NSW 2140, Australia	47	48	1
4 Bates Street, Homebush NSW 2140, Australia	44	48	4
14 Bates Street, Homebush NSW 2140, Australia	44	48	4
77 The Crescent, Homebush NSW 2140, Australia	44	47	3
76 The Crescent, Homebush NSW 2140, Australia	44	47	3
2 Bates Street, Homebush NSW 2140, Australia	44	47	3
1 Mackenzie Street, Homebush NSW 2140, Australia	44	47	3
3 Mackenzie Street, Homebush NSW 2140, Australia	44	47	3
6 Bates Street, Homebush NSW 2140, Australia	44	47	3

8 Bates Street, Homebush NSW 2140, Australia	44	47	3
10 Bates Street, Homebush NSW 2140, Australia	44	47	3
12 Bates Street, Homebush NSW 2140, Australia	44	47	3
16 Bates Street, Homebush NSW 2140, Australia	44	47	3
18 Bates Street, Homebush NSW 2140, Australia	44	47	3
22 Bates Street, Homebush NSW 2140, Australia	44	47	3
28A Bates Street, Homebush NSW 2140, Australia	44	47	3
32 Bates Street, Homebush NSW 2140, Australia	44	47	3
75 The Crescent, Homebush NSW 2140, Australia	44	46	2
74 The Crescent, Homebush NSW 2140, Australia	44	46	2
7 Mackenzie Street, Homebush NSW 2140, Australia	44	46	2
9 Mackenzie Street, Homebush NSW 2140, Australia	44	46	2
11 Mackenzie Street, Homebush NSW 2140, Australia	44	46	2
13 Mackenzie Street, Homebush NSW 2140, Australia	44	46	2
15 Mackenzie Street, Homebush NSW 2140, Australia	44	46	2
24-26 Mackenzie Street, Homebush NSW 2140, Australia	44	46	2
28B Bates Street, Homebush NSW 2140, Australia	44	46	2
17 Mackenzie Street, Homebush NSW 2140, Australia	44	45	1
19 Mackenzie Street, Homebush NSW 2140, Australia	44	45	1
21 Mackenzie Street, Homebush NSW 2140, Australia	44	45	1
23 Mackenzie Street, Homebush NSW 2140, Australia	44	45	1
27 Mackenzie Street, Homebush NSW 2140, Australia	44	45	1
70 The Crescent, Homebush NSW 2140, Australia	44	45	1
6b - Demolition			
96 The Crescent, Homebush West NSW 2140, Australia	47	82	35
97A The Crescent, Homebush West NSW 2140, Australia	47	82	35
104 The Crescent, Homebush West NSW 2140, Australia	47	78	31
99 The Crescent, Homebush West NSW 2140, Australia	47	75	28
88 The Crescent, Homebush West NSW 2140, Australia	47	74	27
89 The Crescent, Homebush West NSW 2140, Australia	47	73	26
10 Henley Road, Homebush West NSW 2140, Australia	47	70	23
10 Henley Road, Homebush West NSW 2140, Australia	47	70	23
4 Hampstead Road, Homebush West NSW 2140, Australia	47	67	20
14A Henley Road, Homebush West NSW 2140, Australia	47	67	20
2 Hampstead Road, Homebush West NSW 2140, Australia	47	66	19
16-20 Henley Road, Homebush West NSW 2140, Australia	47	66	19
17-19 Henley Road, Homebush West NSW 2140, Australia	47	66	19
88 The Crescent, Homebush West NSW 2140, Australia	47	65	18
6 Hampstead Road, Homebush West NSW 2140, Australia	47	65	18
114-116 The Crescent, Homebush West NSW 2140, Australia	47	65	18
16-20 Henley Road, Homebush West NSW 2140, Australia	47	64	17
6 Hornsey Road, Homebush West NSW 2140, Australia	47	64	17
87 The Crescent, Homebush West NSW 2140, Australia	47	63	16
86 The Crescent, Homebush West NSW 2140, Australia	47	63	16
3 Hampstead Road, Homebush West NSW 2140, Australia	47	63	16
5 Hampstead Road, Homebush West NSW 2140, Australia	47	63	16
7 Hampstead Road, Homebush West NSW 2140, Australia	47	63	16
9 Hampstead Road, Homebush West NSW 2140, Australia	47	63	16
8 Hampstead Road, Homebush West NSW 2140, Australia	47	62	15
85 The Crescent, Homebush West NSW 2140, Australia	47	62	15
22-24 Henley Road, Homebush West NSW 2140, Australia	47	62	15
117 The Crescent, Homebush West NSW 2140, Australia	47	62	15
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	62	15

11 Hampstead Road, Homebush West NSW 2140, Australia	47	62	15
13-15 Hampstead Road, Homebush West NSW 2140, Australia	47	62	15
120 The Crescent, Homebush West NSW 2140, Australia	47	61	14
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	61	14
23-25 Henley Road, Homebush West NSW 2140, Australia	47	61	14
84 The Crescent, Homebush West NSW 2140, Australia	47	61	14
10 Hampstead Road, Homebush West NSW 2140, Australia	47	60	13
1-3 Hornsey Road, Homebush West NSW 2140, Australia	47	60	13
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	60	13
1 Exeter Road, Homebush West NSW 2140, Australia	47	60	13
83 The Crescent, Homebush West NSW 2140, Australia	47	60	13
82 The Crescent, Homebush West NSW 2140, Australia	47	60	13
5 Kessell Avenue, Homebush West NSW 2140, Australia	47	60	13
26 Henley Road, Homebush West NSW 2140, Australia	47	59	12
119 The Crescent, Homebush West NSW 2140, Australia	47	59	12
121 The Crescent, Homebush West NSW 2140, Australia	47	59	12
5 Hornsey Road, Homebush West NSW 2140, Australia	47	59	12
7 Hornsey Road, Homebush West NSW 2140, Australia	47	59	12
14 Hornsey Road, Homebush West NSW 2140, Australia	47	59	12
17-21 Hampstead Road, Homebush West NSW 2140, Australia	47	59	12
14 Hampstead Road, Homebush West NSW 2140, Australia	47	59	12
16 Hampstead Road, Homebush West NSW 2140, Australia	47	59	12
1 Kessell Avenue, Homebush West NSW 2140, Australia	47	59	12
3 Kessell Avenue, Homebush West NSW 2140, Australia	47	59	12
7 Kessell Avenue, Homebush West NSW 2140, Australia	47	59	12
122 The Crescent, Homebush West NSW 2140, Australia	47	58	11
2 Eastbourne Road, Homebush West NSW 2140, Australia	47	58	11
9 Hornsey Road, Homebush West NSW 2140, Australia	47	58	11
124 The Crescent, Homebush West NSW 2140, Australia	47	58	11
5-7 Exeter Road, Homebush West NSW 2140, Australia	47	58	11
12 Hampstead Road, Homebush West NSW 2140, Australia	47	58	11
29 Henley Road, Homebush West NSW 2140, Australia	47	58	11
12 Exeter Road, Homebush West NSW 2140, Australia	47	58	11
6 Kessell Avenue, Homebush NSW 2140, Australia	47	58	11
4 Kessell Avenue, Homebush NSW 2140, Australia	47	58	11
81 The Crescent, Homebush West NSW 2140, Australia	47	58	11
125 The Crescent, Homebush West NSW 2140, Australia	47	57	10
9 Exeter Road, Homebush West NSW 2140, Australia	47	57	10
12 Kessell Avenue, Homebush NSW 2140, Australia	47	57	10
2 Kessell Avenue, Homebush NSW 2140, Australia	47	57	10
79 The Crescent, Homebush NSW 2140, Australia	47	57	10
78 The Crescent, Homebush NSW 2140, Australia	47	57	10
127 The Crescent, Homebush West NSW 2140, Australia	47	56	9
1 Eastbourne Road, Homebush West NSW 2140, Australia	47	56	9
16-18 Hornsey Road, Homebush West NSW 2140, Australia	47	56	9
8 Exeter Road, Homebush West NSW 2140, Australia	47	56	9
13 Kessell Avenue, Homebush West NSW 2140, Australia	47	56	9
10A Kessell Avenue, Homebush NSW 2140, Australia	47	56	9
80 The Crescent, Homebush West NSW 2140, Australia	47	56	9
2 Exeter Road, Homebush West NSW 2140, Australia	47	56	9
3 Eastbourne Road, Homebush West NSW 2140, Australia	47	55	8
13 Hornsey Road, Homebush West NSW 2140, Australia	47	55	8
9 Kessell Avenue, Homebush West NSW 2140, Australia	47	55	8

8 Kessell Avenue, Homebush NSW 2140, Australia	47	55	8
25-27 Hampstead Road, Homebush West NSW 2140, Australia	47	55	8
124 The Crescent, Homebush West NSW 2140, Australia	47	54	7
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	54	7
17-21 Hampstead Road, Homebush West NSW 2140, Australia	47	54	7
14 Kessell Avenue, Homebush NSW 2140, Australia	47	54	7
36 Henley Road, Homebush West NSW 2140, Australia	47	54	7
4 Eastbourne Road, Homebush West NSW 2140, Australia	47	53	6
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	53	6
18 Hampstead Road, Homebush West NSW 2140, Australia	47	53	6
11 Kessell Avenue, Homebush West NSW 2140, Australia	47	53	6
38 Henley Road, Homebush West NSW 2140, Australia	47	53	6
14 Tavistock Road, Homebush West NSW 2140, Australia	47	53	6
12 Tavistock Road, Homebush West NSW 2140, Australia	47	53	6
123 The Crescent, Homebush West NSW 2140, Australia	47	52	5
12-14 Exeter Road, Homebush West NSW 2140, Australia	47	52	5
20 Bates Street, Homebush NSW 2140, Australia	44	52	8
24 Bates Street, Homebush NSW 2140, Australia	44	52	8
28A Bates Street, Homebush NSW 2140, Australia	44	52	8
30 Bates Street, Homebush NSW 2140, Australia	44	52	8
32 Henley Road, Homebush West NSW 2140, Australia	47	52	5
41 Henley Road, Homebush West NSW 2140, Australia	47	51	4
77 The Crescent, Homebush NSW 2140, Australia	44	51	7
2 Bates Street, Homebush NSW 2140, Australia	44	51	7
4 Bates Street, Homebush NSW 2140, Australia	44	51	7
6 Bates Street, Homebush NSW 2140, Australia	44	51	7
8 Bates Street, Homebush NSW 2140, Australia	44	51	7
31-33 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
30 Henley Road, Homebush West NSW 2140, Australia	47	51	4
28 Henley Road, Homebush West NSW 2140, Australia	47	51	4
10 Tavistock Road, Homebush West NSW 2140, Australia	47	51	4
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	50	3
29-31 Eastbourne Road, Homebush West NSW 2140, Australia	47	50	3
15 Hornsey Road, Homebush West NSW 2140, Australia	47	50	3
31 Henley Road, Homebush West NSW 2140, Australia	47	50	3
16 Kessell Avenue, Homebush NSW 2140, Australia	47	50	3
76 The Crescent, Homebush NSW 2140, Australia	44	50	6
75 The Crescent, Homebush NSW 2140, Australia	44	50	6
1 Mackenzie Street, Homebush NSW 2140, Australia	44	50	6
3 Mackenzie Street, Homebush NSW 2140, Australia	44	50	6
10 Bates Street, Homebush NSW 2140, Australia	44	50	6
12 Bates Street, Homebush NSW 2140, Australia	44	50	6
14 Bates Street, Homebush NSW 2140, Australia	44	50	6
16 Bates Street, Homebush NSW 2140, Australia	44	50	6
18 Bates Street, Homebush NSW 2140, Australia	44	50	6
22 Bates Street, Homebush NSW 2140, Australia	44	50	6
28A Bates Street, Homebush NSW 2140, Australia	44	50	6
31-33 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
1-3 Tavistock Road, Homebush West NSW 2140, Australia	47	50	3
43 Henley Road, Homebush West NSW 2140, Australia	47	50	3
9-17 Eastbourne Road, Homebush West NSW 2140, Australia	47	49	2
19-27 Eastbourne Road, Homebush West NSW 2140, Australia	47	49	2
39 Henley Road, Homebush West NSW 2140, Australia	47	49	2

15 Kessell Avenue, Homebush West NSW 2140, Australia	47	49	2
20 Kessell Avenue, Homebush NSW 2140, Australia	47	49	2
18 Kessell Avenue, Homebush NSW 2140, Australia	47	49	2
74 The Crescent, Homebush NSW 2140, Australia	44	49	5
32 Bates Street, Homebush NSW 2140, Australia	44	49	5
7 Mackenzie Street, Homebush NSW 2140, Australia	44	49	5
9 Mackenzie Street, Homebush NSW 2140, Australia	44	49	5
11 Mackenzie Street, Homebush NSW 2140, Australia	44	49	5
13 Mackenzie Street, Homebush NSW 2140, Australia	44	49	5
28B Bates Street, Homebush NSW 2140, Australia	44	49	5
1-3 Tavistock Road, Homebush West NSW 2140, Australia	47	49	2
5 Hornsey Road, Homebush West NSW 2140, Australia	47	48	1
20-22 Hampstead Road, Homebush West NSW 2140, Australia	47	48	1
24 Hampstead Road, Homebush West NSW 2140, Australia	47	48	1
19-27 Eastbourne Road, Homebush West NSW 2140, Australia	47	48	1
17 Kessell Avenue, Homebush West NSW 2140, Australia	47	48	1
15 Mackenzie Street, Homebush NSW 2140, Australia	44	48	4
17 Mackenzie Street, Homebush NSW 2140, Australia	44	48	4
19 Mackenzie Street, Homebush NSW 2140, Australia	44	48	4
21 Mackenzie Street, Homebush NSW 2140, Australia	44	48	4
23 Mackenzie Street, Homebush NSW 2140, Australia	44	48	4
24-26 Mackenzie Street, Homebush NSW 2140, Australia	44	48	4
70 The Crescent, Homebush NSW 2140, Australia	44	48	4
35-37 Hampstead Road, Homebush West NSW 2140, Australia	47	48	1
29 Hampstead Road, Homebush West NSW 2140, Australia	47	48	1
5 Mackenzie Street, Homebush NSW 2140, Australia	44	47	3
27 Mackenzie Street, Homebush NSW 2140, Australia	44	47	3
67 The Crescent, Homebush NSW 2140, Australia	44	47	3
15 Bridge Road, Homebush NSW 2140, Australia	44	47	3
71 The Crescent, Homebush NSW 2140, Australia	44	46	2
66 The Crescent, Homebush NSW 2140, Australia	44	46	2
65 The Crescent, Homebush NSW 2140, Australia	44	46	2
25 Bridge Road, Homebush NSW 2140, Australia	44	46	2
27 Bridge Road, Homebush NSW 2140, Australia	44	46	2
13 Bridge Road, Homebush NSW 2140, Australia	44	46	2
7-11 Bridge Road, Homebush NSW 2140, Australia	44	46	2
65 The Crescent, Homebush NSW 2140, Australia	44	45	1
21 Bridge Road, Homebush NSW 2140, Australia	44	45	1
23 Bridge Road, Homebush NSW 2140, Australia	44	45	1
101 Abbotsford Road, Homebush NSW 2140, Australia	44	45	1
101 Abbotsford Road, Homebush NSW 2140, Australia	44	45	1
97 Burlington Road, Homebush NSW 2140, Australia	44	45	1
99 Burlington Road, Homebush NSW 2140, Australia	44	45	1
64A The Crescent, Homebush NSW 2140, Australia	44	45	1
95 Burlington Road, Homebush NSW 2140, Australia	44	45	1
17 Bridge Road, Homebush NSW 2140, Australia	44	45	1
18 Bridge Road, Homebush NSW 2140, Australia	44	45	1
48 Loftus Crescent, Homebush NSW 2140, Australia	44	45	1

Evening works - Other receivers

Address	Use	Noise management levels (NML), dB(A)	Predicted noise level, dB(A)	Exceedance above NML, dB(A)
2b – Relocation of services				
102 The Crescent, Homebush West NSW 2140, Australia	Retail	70	77	7
101 The Crescent, Homebush West NSW 2140, Australia	Retail	70	76	6
106 The Crescent, Homebush West NSW 2140, Australia	Retail	70	76	6
The Crescent Near Flemington Station, Homebush West NSW 2140, Australia	Commercial	70	76	6
98 The Crescent, Homebush West NSW 2140, Australia	Retail	70	75	5
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	71	1
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	71	1
108 The Crescent, Homebush West NSW 2140, Australia	School	55	69	14
109-113 The Crescent, Homebush West NSW 2140, Australia	School	55	67	12
6 Hornsey Road, Homebush West NSW 2140, Australia	Church	55	62	7
17-19 Henley Road, Homebush West NSW 2140, Australia	School	55	59	4
3b - Relocation of services				
The Crescent Near Flemington Station, Homebush West NSW 2140, Australia	Commercial	70	77	7
102 The Crescent, Homebush West NSW 2140, Australia	Retail	70	75	5
101 The Crescent, Homebush West NSW 2140, Australia	Retail	70	74	4
106 The Crescent, Homebush West NSW 2140, Australia	Retail	70	74	4
98 The Crescent, Homebush West NSW 2140, Australia	Retail	70	73	3
108 The Crescent, Homebush West NSW 2140, Australia	School	55	68	13
109-113 The Crescent, Homebush West NSW 2140, Australia	School	55	65	10
6 Hornsey Road, Homebush West NSW 2140, Australia	Church	55	60	5
17-19 Henley Road, Homebush West NSW 2140, Australia	School	55	58	3
4b - Construction				
The Crescent Near Flemington Station, Homebush West NSW 2140, Australia	Commercial	70	83	13
102 The Crescent, Homebush West NSW 2140, Australia	Retail	70	81	11
101 The Crescent, Homebush West NSW 2140, Australia	Retail	70	80	10
106 The Crescent, Homebush West NSW 2140, Australia	Retail	70	80	10

98 The Crescent, Homebush West NSW 2140, Australia	Retail	70	79	9
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	76	6
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	76	6
90-92 The Crescent, Homebush West NSW 2140, Australia	Retail	70	74	4
108 The Crescent, Homebush West NSW 2140, Australia	School	55	74	19
11 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	72	2
7 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	72	2
109-113 The Crescent, Homebush West NSW 2140, Australia	School	55	71	16
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	71	1
6 Hornsey Road, Homebush West NSW 2140, Australia	Church	55	66	11
17-19 Henley Road, Homebush West NSW 2140, Australia	School	55	64	9
2 Hornsey Road, Homebush West NSW 2140, Australia	School	55	61	6
6b – Demolition works				
The Crescent Near Flemington Station, Homebush West NSW 2140, Australia	Commercial	70	85	15
90-92 The Crescent, Homebush West NSW 2140, Australia	Retail	70	82	12
98 The Crescent, Homebush West NSW 2140, Australia	Retail	70	82	12
101 The Crescent, Homebush West NSW 2140, Australia	Retail	70	81	11
89 The Crescent, Homebush West NSW 2140, Australia	Retail	70	78	8
102 The Crescent, Homebush West NSW 2140, Australia	Retail	70	78	8
106 The Crescent, Homebush West NSW 2140, Australia	Retail	70	77	7
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	77	7
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	77	7
108 The Crescent, Homebush West NSW 2140, Australia	School	55	73	18
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	72	2
11 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	72	2
9 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	72	2
7 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	72	2
109-113 The Crescent, Homebush West NSW 2140, Australia	School	55	70	15
6 Hornsey Road, Homebush West NSW 2140, Australia	Church	55	67	12
17-19 Henley Road, Homebush West NSW 2140, Australia	School	55	66	11
2 Hornsey Road, Homebush West NSW 2140, Australia	School	55	60	5

Table 23 Night-time works – Residential receivers

Address	Background noise levels (RBL), dB(A)	Predicted noise level, dB(A)	Exceedance above background noise levels, dB(A)
2b - Relocation of services			
104 The Crescent, Homebush West NSW 2140, Australia	47	77	30
99 The Crescent, Homebush West NSW 2140, Australia	47	71	24
97A The Crescent, Homebush West NSW 2140, Australia	47	69	22
96 The Crescent, Homebush West NSW 2140, Australia	47	66	19
10 Henley Road, Homebush West NSW 2140, Australia	47	65	18
10 Henley Road, Homebush West NSW 2140, Australia	47	63	16
88 The Crescent, Homebush West NSW 2140, Australia	47	62	15
14A Henley Road, Homebush West NSW 2140, Australia	47	62	15
16-20 Henley Road, Homebush West NSW 2140, Australia	47	61	14
17-19 Henley Road, Homebush West NSW 2140, Australia	47	61	14
16-20 Henley Road, Homebush West NSW 2140, Australia	47	60	13
89 The Crescent, Homebush West NSW 2140, Australia	47	59	12
114-116 The Crescent, Homebush West NSW 2140, Australia	47	59	12
6 Hornsey Road, Homebush West NSW 2140, Australia	47	58	11
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	57	10
2 Hampstead Road, Homebush West NSW 2140, Australia	47	56	9
4 Hampstead Road, Homebush West NSW 2140, Australia	47	56	9
22-24 Henley Road, Homebush West NSW 2140, Australia	47	56	9
6 Hampstead Road, Homebush West NSW 2140, Australia	47	55	8
120 The Crescent, Homebush West NSW 2140, Australia	47	55	8
5 Hornsey Road, Homebush West NSW 2140, Australia	47	55	8
88 The Crescent, Homebush West NSW 2140, Australia	47	54	7
26 Henley Road, Homebush West NSW 2140, Australia	47	54	7
117 The Crescent, Homebush West NSW 2140, Australia	47	54	7
1-3 Hornsey Road, Homebush West NSW 2140, Australia	47	54	7
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	54	7
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	54	7
86 The Crescent, Homebush West NSW 2140, Australia	47	53	6
85 The Crescent, Homebush West NSW 2140, Australia	47	53	6
3 Hampstead Road, Homebush West NSW 2140, Australia	47	53	6
119 The Crescent, Homebush West NSW 2140, Australia	47	53	6
121 The Crescent, Homebush West NSW 2140, Australia	47	53	6
5 Hampstead Road, Homebush West NSW 2140, Australia	47	52	5
122 The Crescent, Homebush West NSW 2140, Australia	47	52	5
2 Eastbourne Road, Homebush West NSW 2140, Australia	47	52	5
9 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
7 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
14 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
9 Hampstead Road, Homebush West NSW 2140, Australia	47	52	5
84 The Crescent, Homebush West NSW 2140, Australia	47	52	5
8 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
10 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
87 The Crescent, Homebush West NSW 2140, Australia	47	51	4
124 The Crescent, Homebush West NSW 2140, Australia	47	51	4
125 The Crescent, Homebush West NSW 2140, Australia	47	51	4
9 Exeter Road, Homebush West NSW 2140, Australia	47	51	4

23-25 Henley Road, Homebush West NSW 2140, Australia	47	51	4
7 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
11 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
12 Exeter Road, Homebush West NSW 2140, Australia	47	51	4
83 The Crescent, Homebush West NSW 2140, Australia	47	51	4
82 The Crescent, Homebush West NSW 2140, Australia	47	51	4
127 The Crescent, Homebush West NSW 2140, Australia	47	50	3
1 Eastbourne Road, Homebush West NSW 2140, Australia	47	50	3
13 Hornsey Road, Homebush West NSW 2140, Australia	47	50	3
5-7 Exeter Road, Homebush West NSW 2140, Australia	47	50	3
14 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
1 Kessell Avenue, Homebush West NSW 2140, Australia	47	50	3
3 Kessell Avenue, Homebush West NSW 2140, Australia	47	50	3
5 Kessell Avenue, Homebush West NSW 2140, Australia	47	50	3
6 Kessell Avenue, Homebush NSW 2140, Australia	47	50	3
4 Kessell Avenue, Homebush NSW 2140, Australia	47	50	3
81 The Crescent, Homebush West NSW 2140, Australia	47	50	3
3 Eastbourne Road, Homebush West NSW 2140, Australia	47	49	2
16-18 Hornsey Road, Homebush West NSW 2140, Australia	47	49	2
8 Exeter Road, Homebush West NSW 2140, Australia	47	49	2
2 Kessell Avenue, Homebush NSW 2140, Australia	47	49	2
79 The Crescent, Homebush NSW 2140, Australia	47	49	2
124 The Crescent, Homebush West NSW 2140, Australia	47	48	1
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	48	1
12 Hampstead Road, Homebush West NSW 2140, Australia	47	48	1
12 Kessell Avenue, Homebush NSW 2140, Australia	47	48	1
8 Kessell Avenue, Homebush NSW 2140, Australia	47	48	1
80 The Crescent, Homebush West NSW 2140, Australia	47	48	1
78 The Crescent, Homebush NSW 2140, Australia	47	48	1
20 Bates Street, Homebush NSW 2140, Australia	43	45	2
24 Bates Street, Homebush NSW 2140, Australia	43	45	2
28A Bates Street, Homebush NSW 2140, Australia	43	45	2
77 The Crescent, Homebush NSW 2140, Australia	43	44	1
4 Bates Street, Homebush NSW 2140, Australia	43	44	1
14 Bates Street, Homebush NSW 2140, Australia	43	44	1
30 Bates Street, Homebush NSW 2140, Australia	43	44	1
3b - Relocation of services			
104 The Crescent, Homebush West NSW 2140, Australia	47	75	28
99 The Crescent, Homebush West NSW 2140, Australia	47	69	22
97A The Crescent, Homebush West NSW 2140, Australia	47	67	20
10 Henley Road, Homebush West NSW 2140, Australia	47	65	18
96 The Crescent, Homebush West NSW 2140, Australia	47	64	17
10 Henley Road, Homebush West NSW 2140, Australia	47	63	16
14A Henley Road, Homebush West NSW 2140, Australia	47	63	16
88 The Crescent, Homebush West NSW 2140, Australia	47	60	13
16-20 Henley Road, Homebush West NSW 2140, Australia	47	59	12
89 The Crescent, Homebush West NSW 2140, Australia	47	58	11
16-20 Henley Road, Homebush West NSW 2140, Australia	47	58	11
17-19 Henley Road, Homebush West NSW 2140, Australia	47	58	11
114-116 The Crescent, Homebush West NSW 2140, Australia	47	57	10
6 Hornsey Road, Homebush West NSW 2140, Australia	47	56	9
22-24 Henley Road, Homebush West NSW 2140, Australia	47	55	8
117 The Crescent, Homebush West NSW 2140, Australia	47	55	8

8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	55	8
2 Hampstead Road, Homebush West NSW 2140, Australia	47	54	7
4 Hampstead Road, Homebush West NSW 2140, Australia	47	54	7
88 The Crescent, Homebush West NSW 2140, Australia	47	53	6
6 Hampstead Road, Homebush West NSW 2140, Australia	47	53	6
120 The Crescent, Homebush West NSW 2140, Australia	47	53	6
1-3 Hornsey Road, Homebush West NSW 2140, Australia	47	53	6
7 Hornsey Road, Homebush West NSW 2140, Australia	47	53	6
26 Henley Road, Homebush West NSW 2140, Australia	47	52	5
119 The Crescent, Homebush West NSW 2140, Australia	47	52	5
121 The Crescent, Homebush West NSW 2140, Australia	47	52	5
122 The Crescent, Homebush West NSW 2140, Australia	47	52	5
2 Eastbourne Road, Homebush West NSW 2140, Australia	47	52	5
5 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
9 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	52	5
87 The Crescent, Homebush West NSW 2140, Australia	47	51	4
86 The Crescent, Homebush West NSW 2140, Australia	47	51	4
85 The Crescent, Homebush West NSW 2140, Australia	47	51	4
3 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
5 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
14 Hornsey Road, Homebush West NSW 2140, Australia	47	51	4
8 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
124 The Crescent, Homebush West NSW 2140, Australia	47	50	3
125 The Crescent, Homebush West NSW 2140, Australia	47	50	3
9 Exeter Road, Homebush West NSW 2140, Australia	47	50	3
5-7 Exeter Road, Homebush West NSW 2140, Australia	47	50	3
7 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
9 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
84 The Crescent, Homebush West NSW 2140, Australia	47	50	3
10 Hampstead Road, Homebush West NSW 2140, Australia	47	49	2
127 The Crescent, Homebush West NSW 2140, Australia	47	49	2
23-25 Henley Road, Homebush West NSW 2140, Australia	47	49	2
16-18 Hornsey Road, Homebush West NSW 2140, Australia	47	49	2
12 Exeter Road, Homebush West NSW 2140, Australia	47	49	2
83 The Crescent, Homebush West NSW 2140, Australia	47	49	2
82 The Crescent, Homebush West NSW 2140, Australia	47	49	2
3 Kessell Avenue, Homebush West NSW 2140, Australia	47	49	2
5 Kessell Avenue, Homebush West NSW 2140, Australia	47	49	2
1 Eastbourne Road, Homebush West NSW 2140, Australia	47	48	1
13 Hornsey Road, Homebush West NSW 2140, Australia	47	48	1
14 Hampstead Road, Homebush West NSW 2140, Australia	47	48	1
1 Kessell Avenue, Homebush West NSW 2140, Australia	47	48	1
6 Kessell Avenue, Homebush NSW 2140, Australia	47	48	1
4 Kessell Avenue, Homebush NSW 2140, Australia	47	48	1
81 The Crescent, Homebush West NSW 2140, Australia	47	48	1
4b - Construction			
104 The Crescent, Homebush West NSW 2140, Australia	47	81	34
99 The Crescent, Homebush West NSW 2140, Australia	47	75	28
97A The Crescent, Homebush West NSW 2140, Australia	47	73	26
10 Henley Road, Homebush West NSW 2140, Australia	47	71	24
96 The Crescent, Homebush West NSW 2140, Australia	47	70	23

10 Henley Road, Homebush West NSW 2140, Australia	47	69	22
14A Henley Road, Homebush West NSW 2140, Australia	47	69	22
88 The Crescent, Homebush West NSW 2140, Australia	47	66	19
16-20 Henley Road, Homebush West NSW 2140, Australia	47	65	18
89 The Crescent, Homebush West NSW 2140, Australia	47	64	17
16-20 Henley Road, Homebush West NSW 2140, Australia	47	64	17
17-19 Henley Road, Homebush West NSW 2140, Australia	47	64	17
114-116 The Crescent, Homebush West NSW 2140, Australia	47	63	16
6 Hornsey Road, Homebush West NSW 2140, Australia	47	62	15
22-24 Henley Road, Homebush West NSW 2140, Australia	47	61	14
117 The Crescent, Homebush West NSW 2140, Australia	47	61	14
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	61	14
2 Hampstead Road, Homebush West NSW 2140, Australia	47	60	13
4 Hampstead Road, Homebush West NSW 2140, Australia	47	60	13
88 The Crescent, Homebush West NSW 2140, Australia	47	59	12
6 Hampstead Road, Homebush West NSW 2140, Australia	47	59	12
120 The Crescent, Homebush West NSW 2140, Australia	47	59	12
1-3 Hornsey Road, Homebush West NSW 2140, Australia	47	59	12
7 Hornsey Road, Homebush West NSW 2140, Australia	47	59	12
26 Henley Road, Homebush West NSW 2140, Australia	47	58	11
119 The Crescent, Homebush West NSW 2140, Australia	47	58	11
121 The Crescent, Homebush West NSW 2140, Australia	47	58	11
122 The Crescent, Homebush West NSW 2140, Australia	47	58	11
2 Eastbourne Road, Homebush West NSW 2140, Australia	47	58	11
5 Hornsey Road, Homebush West NSW 2140, Australia	47	58	11
9 Hornsey Road, Homebush West NSW 2140, Australia	47	58	11
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	58	11
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	58	11
87 The Crescent, Homebush West NSW 2140, Australia	47	57	10
86 The Crescent, Homebush West NSW 2140, Australia	47	57	10
85 The Crescent, Homebush West NSW 2140, Australia	47	57	10
3 Hampstead Road, Homebush West NSW 2140, Australia	47	57	10
5 Hampstead Road, Homebush West NSW 2140, Australia	47	57	10
14 Hornsey Road, Homebush West NSW 2140, Australia	47	57	10
8 Hampstead Road, Homebush West NSW 2140, Australia	47	56	9
124 The Crescent, Homebush West NSW 2140, Australia	47	56	9
125 The Crescent, Homebush West NSW 2140, Australia	47	56	9
9 Exeter Road, Homebush West NSW 2140, Australia	47	56	9
5-7 Exeter Road, Homebush West NSW 2140, Australia	47	56	9
7 Hampstead Road, Homebush West NSW 2140, Australia	47	56	9
9 Hampstead Road, Homebush West NSW 2140, Australia	47	56	9
84 The Crescent, Homebush West NSW 2140, Australia	47	56	9
10 Hampstead Road, Homebush West NSW 2140, Australia	47	55	8
127 The Crescent, Homebush West NSW 2140, Australia	47	55	8
23-25 Henley Road, Homebush West NSW 2140, Australia	47	55	8
16-18 Hornsey Road, Homebush West NSW 2140, Australia	47	55	8
12 Exeter Road, Homebush West NSW 2140, Australia	47	55	8
83 The Crescent, Homebush West NSW 2140, Australia	47	55	8
82 The Crescent, Homebush West NSW 2140, Australia	47	55	8
3 Kessell Avenue, Homebush West NSW 2140, Australia	47	55	8
5 Kessell Avenue, Homebush West NSW 2140, Australia	47	55	8
1 Eastbourne Road, Homebush West NSW 2140, Australia	47	54	7
13 Hornsey Road, Homebush West NSW 2140, Australia	47	54	7

14 Hampstead Road, Homebush West NSW 2140, Australia	47	54	7
1 Kessell Avenue, Homebush West NSW 2140, Australia	47	54	7
6 Kessell Avenue, Homebush NSW 2140, Australia	47	54	7
4 Kessell Avenue, Homebush NSW 2140, Australia	47	54	7
81 The Crescent, Homebush West NSW 2140, Australia	47	54	7
3 Eastbourne Road, Homebush West NSW 2140, Australia	47	53	6
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	53	6
12 Hampstead Road, Homebush West NSW 2140, Australia	47	53	6
15 Hornsey Road, Homebush West NSW 2140, Australia	47	53	6
8 Exeter Road, Homebush West NSW 2140, Australia	47	53	6
7 Kessell Avenue, Homebush West NSW 2140, Australia	47	53	6
2 Kessell Avenue, Homebush NSW 2140, Australia	47	53	6
79 The Crescent, Homebush NSW 2140, Australia	47	53	6
78 The Crescent, Homebush NSW 2140, Australia	47	53	6
123 The Crescent, Homebush West NSW 2140, Australia	47	52	5
4 Eastbourne Road, Homebush West NSW 2140, Australia	47	52	5
124 The Crescent, Homebush West NSW 2140, Australia	47	52	5
12 Kessell Avenue, Homebush NSW 2140, Australia	47	52	5
10A Kessell Avenue, Homebush NSW 2140, Australia	47	52	5
8 Kessell Avenue, Homebush NSW 2140, Australia	47	52	5
80 The Crescent, Homebush West NSW 2140, Australia	47	52	5
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	51	4
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	51	4
36 Henley Road, Homebush West NSW 2140, Australia	47	51	4
11 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
16 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
24 Hornsey Road, Homebush West NSW 2140, Australia	47	50	3
26 Hornsey Road, Homebush West NSW 2140, Australia	47	50	3
12-14 Exeter Road, Homebush West NSW 2140, Australia	47	50	3
29 Henley Road, Homebush West NSW 2140, Australia	47	50	3
11 Kessell Avenue, Homebush West NSW 2140, Australia	47	50	3
13 Kessell Avenue, Homebush West NSW 2140, Australia	47	50	3
18 Kessell Avenue, Homebush NSW 2140, Australia	47	50	3
30 Henley Road, Homebush West NSW 2140, Australia	47	50	3
32 Henley Road, Homebush West NSW 2140, Australia	47	50	3
38 Henley Road, Homebush West NSW 2140, Australia	47	50	3
12 Tavistock Road, Homebush West NSW 2140, Australia	47	50	3
10 Tavistock Road, Homebush West NSW 2140, Australia	47	50	3
9-17 Eastbourne Road, Homebush West NSW 2140, Australia	47	49	2
13-15 Hampstead Road, Homebush West NSW 2140, Australia	47	49	2
22 Hornsey Road, Homebush West NSW 2140, Australia	47	49	2
14 Kessell Avenue, Homebush NSW 2140, Australia	47	49	2
20 Bates Street, Homebush NSW 2140, Australia	43	49	6
24 Bates Street, Homebush NSW 2140, Australia	43	49	6
28A Bates Street, Homebush NSW 2140, Australia	43	49	6
30 Bates Street, Homebush NSW 2140, Australia	43	49	6
28 Henley Road, Homebush West NSW 2140, Australia	47	49	2
15 Hornsey Road, Homebush West NSW 2140, Australia	47	48	1
9 Kessell Avenue, Homebush West NSW 2140, Australia	47	48	1
4 Bates Street, Homebush NSW 2140, Australia	43	48	5
14 Bates Street, Homebush NSW 2140, Australia	43	48	5
77 The Crescent, Homebush NSW 2140, Australia	43	47	4
76 The Crescent, Homebush NSW 2140, Australia	43	47	4

2 Bates Street, Homebush NSW 2140, Australia	43	47	4
1 Mackenzie Street, Homebush NSW 2140, Australia	43	47	4
3 Mackenzie Street, Homebush NSW 2140, Australia	43	47	4
6 Bates Street, Homebush NSW 2140, Australia	43	47	4
8 Bates Street, Homebush NSW 2140, Australia	43	47	4
10 Bates Street, Homebush NSW 2140, Australia	43	47	4
12 Bates Street, Homebush NSW 2140, Australia	43	47	4
16 Bates Street, Homebush NSW 2140, Australia	43	47	4
18 Bates Street, Homebush NSW 2140, Australia	43	47	4
22 Bates Street, Homebush NSW 2140, Australia	43	47	4
28A Bates Street, Homebush NSW 2140, Australia	43	47	4
32 Bates Street, Homebush NSW 2140, Australia	43	47	4
86 Courallie Avenue, Homebush West NSW 2140, Australia	42	47	5
75 The Crescent, Homebush NSW 2140, Australia	43	46	3
74 The Crescent, Homebush NSW 2140, Australia	43	46	3
7 Mackenzie Street, Homebush NSW 2140, Australia	43	46	3
9 Mackenzie Street, Homebush NSW 2140, Australia	43	46	3
11 Mackenzie Street, Homebush NSW 2140, Australia	43	46	3
13 Mackenzie Street, Homebush NSW 2140, Australia	43	46	3
15 Mackenzie Street, Homebush NSW 2140, Australia	43	46	3
24-26 Mackenzie Street, Homebush NSW 2140, Australia	43	46	3
28B Bates Street, Homebush NSW 2140, Australia	43	46	3
17 Mackenzie Street, Homebush NSW 2140, Australia	43	45	2
19 Mackenzie Street, Homebush NSW 2140, Australia	43	45	2
21 Mackenzie Street, Homebush NSW 2140, Australia	43	45	2
23 Mackenzie Street, Homebush NSW 2140, Australia	43	45	2
27 Mackenzie Street, Homebush NSW 2140, Australia	43	45	2
70 The Crescent, Homebush NSW 2140, Australia	43	45	2
5 Mackenzie Street, Homebush NSW 2140, Australia	43	44	1
15 Bridge Road, Homebush NSW 2140, Australia	43	44	1
13 Bridge Road, Homebush NSW 2140, Australia	43	44	1
66-72 Marlborough Road, Homebush West NSW 2140, Australia	42	44	2
6b - Demolition			
96 The Crescent, Homebush West NSW 2140, Australia	47	82	35
97A The Crescent, Homebush West NSW 2140, Australia	47	82	35
104 The Crescent, Homebush West NSW 2140, Australia	47	78	31
99 The Crescent, Homebush West NSW 2140, Australia	47	75	28
88 The Crescent, Homebush West NSW 2140, Australia	47	74	27
89 The Crescent, Homebush West NSW 2140, Australia	47	73	26
10 Henley Road, Homebush West NSW 2140, Australia	47	70	23
10 Henley Road, Homebush West NSW 2140, Australia	47	70	23
4 Hampstead Road, Homebush West NSW 2140, Australia	47	67	20
14A Henley Road, Homebush West NSW 2140, Australia	47	67	20
2 Hampstead Road, Homebush West NSW 2140, Australia	47	66	19
16-20 Henley Road, Homebush West NSW 2140, Australia	47	66	19
17-19 Henley Road, Homebush West NSW 2140, Australia	47	66	19
88 The Crescent, Homebush West NSW 2140, Australia	47	65	18
6 Hampstead Road, Homebush West NSW 2140, Australia	47	65	18
114-116 The Crescent, Homebush West NSW 2140, Australia	47	65	18
16-20 Henley Road, Homebush West NSW 2140, Australia	47	64	17
6 Hornsey Road, Homebush West NSW 2140, Australia	47	64	17
87 The Crescent, Homebush West NSW 2140, Australia	47	63	16
86 The Crescent, Homebush West NSW 2140, Australia	47	63	16

3 Hampstead Road, Homebush West NSW 2140, Australia	47	63	16
5 Hampstead Road, Homebush West NSW 2140, Australia	47	63	16
7 Hampstead Road, Homebush West NSW 2140, Australia	47	63	16
9 Hampstead Road, Homebush West NSW 2140, Australia	47	63	16
8 Hampstead Road, Homebush West NSW 2140, Australia	47	62	15
85 The Crescent, Homebush West NSW 2140, Australia	47	62	15
22-24 Henley Road, Homebush West NSW 2140, Australia	47	62	15
117 The Crescent, Homebush West NSW 2140, Australia	47	62	15
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	62	15
11 Hampstead Road, Homebush West NSW 2140, Australia	47	62	15
13-15 Hampstead Road, Homebush West NSW 2140, Australia	47	62	15
120 The Crescent, Homebush West NSW 2140, Australia	47	61	14
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	61	14
23-25 Henley Road, Homebush West NSW 2140, Australia	47	61	14
84 The Crescent, Homebush West NSW 2140, Australia	47	61	14
10 Hampstead Road, Homebush West NSW 2140, Australia	47	60	13
1-3 Hornsey Road, Homebush West NSW 2140, Australia	47	60	13
8-12 Hornsey Road, Homebush West NSW 2140, Australia	47	60	13
1 Exeter Road, Homebush West NSW 2140, Australia	47	60	13
83 The Crescent, Homebush West NSW 2140, Australia	47	60	13
82 The Crescent, Homebush West NSW 2140, Australia	47	60	13
5 Kessell Avenue, Homebush West NSW 2140, Australia	47	60	13
26 Henley Road, Homebush West NSW 2140, Australia	47	59	12
119 The Crescent, Homebush West NSW 2140, Australia	47	59	12
121 The Crescent, Homebush West NSW 2140, Australia	47	59	12
5 Hornsey Road, Homebush West NSW 2140, Australia	47	59	12
7 Hornsey Road, Homebush West NSW 2140, Australia	47	59	12
14 Hornsey Road, Homebush West NSW 2140, Australia	47	59	12
17-21 Hampstead Road, Homebush West NSW 2140, Australia	47	59	12
14 Hampstead Road, Homebush West NSW 2140, Australia	47	59	12
16 Hampstead Road, Homebush West NSW 2140, Australia	47	59	12
1 Kessell Avenue, Homebush West NSW 2140, Australia	47	59	12
3 Kessell Avenue, Homebush West NSW 2140, Australia	47	59	12
7 Kessell Avenue, Homebush West NSW 2140, Australia	47	59	12
122 The Crescent, Homebush West NSW 2140, Australia	47	58	11
2 Eastbourne Road, Homebush West NSW 2140, Australia	47	58	11
9 Hornsey Road, Homebush West NSW 2140, Australia	47	58	11
124 The Crescent, Homebush West NSW 2140, Australia	47	58	11
5-7 Exeter Road, Homebush West NSW 2140, Australia	47	58	11
12 Hampstead Road, Homebush West NSW 2140, Australia	47	58	11
29 Henley Road, Homebush West NSW 2140, Australia	47	58	11
12 Exeter Road, Homebush West NSW 2140, Australia	47	58	11
6 Kessell Avenue, Homebush NSW 2140, Australia	47	58	11
4 Kessell Avenue, Homebush NSW 2140, Australia	47	58	11
81 The Crescent, Homebush West NSW 2140, Australia	47	58	11
125 The Crescent, Homebush West NSW 2140, Australia	47	57	10
9 Exeter Road, Homebush West NSW 2140, Australia	47	57	10
12 Kessell Avenue, Homebush NSW 2140, Australia	47	57	10
2 Kessell Avenue, Homebush NSW 2140, Australia	47	57	10
79 The Crescent, Homebush NSW 2140, Australia	47	57	10
78 The Crescent, Homebush NSW 2140, Australia	47	57	10
127 The Crescent, Homebush West NSW 2140, Australia	47	56	9
1 Eastbourne Road, Homebush West NSW 2140, Australia	47	56	9

16-18 Hornsey Road, Homebush West NSW 2140, Australia	47	56	9
8 Exeter Road, Homebush West NSW 2140, Australia	47	56	9
13 Kessell Avenue, Homebush West NSW 2140, Australia	47	56	9
10A Kessell Avenue, Homebush NSW 2140, Australia	47	56	9
80 The Crescent, Homebush West NSW 2140, Australia	47	56	9
2 Exeter Road, Homebush West NSW 2140, Australia	47	56	9
3 Eastbourne Road, Homebush West NSW 2140, Australia	47	55	8
13 Hornsey Road, Homebush West NSW 2140, Australia	47	55	8
9 Kessell Avenue, Homebush West NSW 2140, Australia	47	55	8
8 Kessell Avenue, Homebush NSW 2140, Australia	47	55	8
25-27 Hampstead Road, Homebush West NSW 2140, Australia	47	55	8
124 The Crescent, Homebush West NSW 2140, Australia	47	54	7
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	54	7
17-21 Hampstead Road, Homebush West NSW 2140, Australia	47	54	7
14 Kessell Avenue, Homebush NSW 2140, Australia	47	54	7
36 Henley Road, Homebush West NSW 2140, Australia	47	54	7
4 Eastbourne Road, Homebush West NSW 2140, Australia	47	53	6
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	53	6
18 Hampstead Road, Homebush West NSW 2140, Australia	47	53	6
11 Kessell Avenue, Homebush West NSW 2140, Australia	47	53	6
38 Henley Road, Homebush West NSW 2140, Australia	47	53	6
14 Tavistock Road, Homebush West NSW 2140, Australia	47	53	6
12 Tavistock Road, Homebush West NSW 2140, Australia	47	53	6
123 The Crescent, Homebush West NSW 2140, Australia	47	52	5
12-14 Exeter Road, Homebush West NSW 2140, Australia	47	52	5
20 Bates Street, Homebush NSW 2140, Australia	43	52	9
24 Bates Street, Homebush NSW 2140, Australia	43	52	9
28A Bates Street, Homebush NSW 2140, Australia	43	52	9
30 Bates Street, Homebush NSW 2140, Australia	43	52	9
32 Henley Road, Homebush West NSW 2140, Australia	47	52	5
41 Henley Road, Homebush West NSW 2140, Australia	47	51	4
77 The Crescent, Homebush NSW 2140, Australia	43	51	8
2 Bates Street, Homebush NSW 2140, Australia	43	51	8
4 Bates Street, Homebush NSW 2140, Australia	43	51	8
6 Bates Street, Homebush NSW 2140, Australia	43	51	8
8 Bates Street, Homebush NSW 2140, Australia	43	51	8
31-33 Hampstead Road, Homebush West NSW 2140, Australia	47	51	4
30 Henley Road, Homebush West NSW 2140, Australia	47	51	4
28 Henley Road, Homebush West NSW 2140, Australia	47	51	4
10 Tavistock Road, Homebush West NSW 2140, Australia	47	51	4
5-7 Eastbourne Road, Homebush West NSW 2140, Australia	47	50	3
29-31 Eastbourne Road, Homebush West NSW 2140, Australia	47	50	3
15 Hornsey Road, Homebush West NSW 2140, Australia	47	50	3
31 Henley Road, Homebush West NSW 2140, Australia	47	50	3
16 Kessell Avenue, Homebush NSW 2140, Australia	47	50	3
76 The Crescent, Homebush NSW 2140, Australia	43	50	7
75 The Crescent, Homebush NSW 2140, Australia	43	50	7
1 Mackenzie Street, Homebush NSW 2140, Australia	43	50	7
3 Mackenzie Street, Homebush NSW 2140, Australia	43	50	7
10 Bates Street, Homebush NSW 2140, Australia	43	50	7
12 Bates Street, Homebush NSW 2140, Australia	43	50	7
14 Bates Street, Homebush NSW 2140, Australia	43	50	7
16 Bates Street, Homebush NSW 2140, Australia	43	50	7

18 Bates Street, Homebush NSW 2140, Australia	43	50	7
22 Bates Street, Homebush NSW 2140, Australia	43	50	7
28A Bates Street, Homebush NSW 2140, Australia	43	50	7
31-33 Hampstead Road, Homebush West NSW 2140, Australia	47	50	3
1-3 Tavistock Road, Homebush West NSW 2140, Australia	47	50	3
43 Henley Road, Homebush West NSW 2140, Australia	47	50	3
9-17 Eastbourne Road, Homebush West NSW 2140, Australia	47	49	2
19-27 Eastbourne Road, Homebush West NSW 2140, Australia	47	49	2
39 Henley Road, Homebush West NSW 2140, Australia	47	49	2
15 Kessell Avenue, Homebush West NSW 2140, Australia	47	49	2
20 Kessell Avenue, Homebush NSW 2140, Australia	47	49	2
18 Kessell Avenue, Homebush NSW 2140, Australia	47	49	2
74 The Crescent, Homebush NSW 2140, Australia	43	49	6
32 Bates Street, Homebush NSW 2140, Australia	43	49	6
7 Mackenzie Street, Homebush NSW 2140, Australia	43	49	6
9 Mackenzie Street, Homebush NSW 2140, Australia	43	49	6
11 Mackenzie Street, Homebush NSW 2140, Australia	43	49	6
13 Mackenzie Street, Homebush NSW 2140, Australia	43	49	6
28B Bates Street, Homebush NSW 2140, Australia	43	49	6
1-3 Tavistock Road, Homebush West NSW 2140, Australia	47	49	2
5 Hornsey Road, Homebush West NSW 2140, Australia	47	48	1
20-22 Hampstead Road, Homebush West NSW 2140, Australia	47	48	1
24 Hampstead Road, Homebush West NSW 2140, Australia	47	48	1
19-27 Eastbourne Road, Homebush West NSW 2140, Australia	47	48	1
17 Kessell Avenue, Homebush West NSW 2140, Australia	47	48	1
15 Mackenzie Street, Homebush NSW 2140, Australia	43	48	5
17 Mackenzie Street, Homebush NSW 2140, Australia	43	48	5
19 Mackenzie Street, Homebush NSW 2140, Australia	43	48	5
21 Mackenzie Street, Homebush NSW 2140, Australia	43	48	5
23 Mackenzie Street, Homebush NSW 2140, Australia	43	48	5
24-26 Mackenzie Street, Homebush NSW 2140, Australia	43	48	5
70 The Crescent, Homebush NSW 2140, Australia	43	48	5
35-37 Hampstead Road, Homebush West NSW 2140, Australia	47	48	1
29 Hampstead Road, Homebush West NSW 2140, Australia	47	48	1
5 Mackenzie Street, Homebush NSW 2140, Australia	43	47	4
27 Mackenzie Street, Homebush NSW 2140, Australia	43	47	4
67 The Crescent, Homebush NSW 2140, Australia	43	47	4
15 Bridge Road, Homebush NSW 2140, Australia	43	47	4
86 Courallie Avenue, Homebush West NSW 2140, Australia	42	47	5
71 The Crescent, Homebush NSW 2140, Australia	43	46	3
66 The Crescent, Homebush NSW 2140, Australia	43	46	3
65 The Crescent, Homebush NSW 2140, Australia	43	46	3
25 Bridge Road, Homebush NSW 2140, Australia	43	46	3
27 Bridge Road, Homebush NSW 2140, Australia	43	46	3
13 Bridge Road, Homebush NSW 2140, Australia	43	46	3
7-11 Bridge Road, Homebush NSW 2140, Australia	43	46	3
65 The Crescent, Homebush NSW 2140, Australia	43	45	2
21 Bridge Road, Homebush NSW 2140, Australia	43	45	2
23 Bridge Road, Homebush NSW 2140, Australia	43	45	2
101 Abbotsford Road, Homebush NSW 2140, Australia	43	45	2
101 Abbotsford Road, Homebush NSW 2140, Australia	43	45	2
97 Burlington Road, Homebush NSW 2140, Australia	43	45	2
99 Burlington Road, Homebush NSW 2140, Australia	43	45	2

64A The Crescent, Homebush NSW 2140, Australia	43	45	2
95 Burlington Road, Homebush NSW 2140, Australia	43	45	2
17 Bridge Road, Homebush NSW 2140, Australia	43	45	2
18 Bridge Road, Homebush NSW 2140, Australia	43	45	2

Night-time works - Other Receivers

Address	Use	Noise management levels (NML), dB(A)	Predicted noise level, dB(A)	Exceedance above NML, dB(A)
2b – Relocation of services				
102 The Crescent, Homebush West NSW 2140, Australia	Retail	70	77	7
101 The Crescent, Homebush West NSW 2140, Australia	Retail	70	76	6
106 The Crescent, Homebush West NSW 2140, Australia	Retail	70	76	6
The Crescent Near Flemington Station, Homebush West NSW 2140, Australia	Commercial	70	76	6
98 The Crescent, Homebush West NSW 2140, Australia	Retail	70	75	5
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	71	1
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	71	1
108 The Crescent, Homebush West NSW 2140, Australia	School	55	69	14
109-113 The Crescent, Homebush West NSW 2140, Australia	School	55	67	12
6 Hornsey Road, Homebush West NSW 2140, Australia	Church	55	62	7
17-19 Henley Road, Homebush West NSW 2140, Australia	School	55	59	4
3b - Relocation of Services				
The Crescent Near Flemington Station, Homebush West NSW 2140, Australia	Commercial	70	77	7
102 The Crescent, Homebush West NSW 2140, Australia	Retail	70	75	5
101 The Crescent, Homebush West NSW 2140, Australia	Retail	70	74	4
106 The Crescent, Homebush West NSW 2140, Australia	Retail	70	74	4
98 The Crescent, Homebush West NSW 2140, Australia	Retail	70	73	3
108 The Crescent, Homebush West NSW 2140, Australia	School	55	68	13
109-113 The Crescent, Homebush West NSW 2140, Australia	School	55	65	10
6 Hornsey Road, Homebush West NSW 2140, Australia	Church	55	60	5
17-19 Henley Road, Homebush West NSW 2140, Australia	School	55	58	3
4b - Construction				
The Crescent Near Flemington Station, Homebush West NSW 2140, Australia	Commercial	70	83	13

102 The Crescent, Homebush West NSW 2140, Australia	Retail	70	81	11
101 The Crescent, Homebush West NSW 2140, Australia	Retail	70	80	10
106 The Crescent, Homebush West NSW 2140, Australia	Retail	70	80	10
98 The Crescent, Homebush West NSW 2140, Australia	Retail	70	79	9
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	76	6
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	76	6
90-92 The Crescent, Homebush West NSW 2140, Australia	Retail	70	74	4
108 The Crescent, Homebush West NSW 2140, Australia	School	55	74	19
11 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	72	2
7 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	72	2
109-113 The Crescent, Homebush West NSW 2140, Australia	School	55	71	16
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	71	1
6 Hornsey Road, Homebush West NSW 2140, Australia	Church	55	66	11
17-19 Henley Road, Homebush West NSW 2140, Australia	School	55	64	9
2 Hornsey Road, Homebush West NSW 2140, Australia	School	55	61	6
6b – Demolition works				
The Crescent Near Flemington Station, Homebush West NSW 2140, Australia	Commercial	70	85	15
90-92 The Crescent, Homebush West NSW 2140, Australia	Retail	70	82	12
98 The Crescent, Homebush West NSW 2140, Australia	Retail	70	82	12
101 The Crescent, Homebush West NSW 2140, Australia	Retail	70	81	11
89 The Crescent, Homebush West NSW 2140, Australia	Retail	70	78	8
102 The Crescent, Homebush West NSW 2140, Australia	Retail	70	78	8
106 The Crescent, Homebush West NSW 2140, Australia	Retail	70	77	7
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	77	7
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	77	7
108 The Crescent, Homebush West NSW 2140, Australia	School	55	73	18
South Road, Sydneys Paddys Markets, Homebush West NSW 2140, Australia	Commercial	70	72	2
11 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	72	2
9 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	72	2
7 Henley Rd, Homebush West NSW 2140, Australia	Retail	70	72	2
109-113 The Crescent, Homebush West NSW 2140, Australia	School	55	70	15

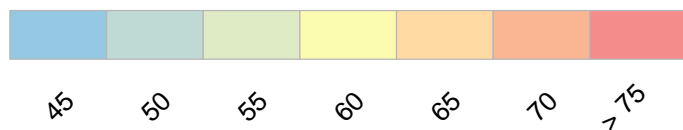
6 Hornsey Road, Homebush West NSW 2140, Australia	Church	55	67	12
17-19 Henley Road, Homebush West NSW 2140, Australia	School	55	66	11
2 Hornsey Road, Homebush West NSW 2140, Australia	School	55	60	5

Appendix D

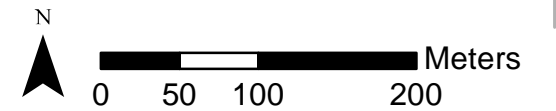
Predicted Noise Contours - Construction



Sound Pressure Level, $L_{Aeq,15 \text{ min}}$ dB(A)



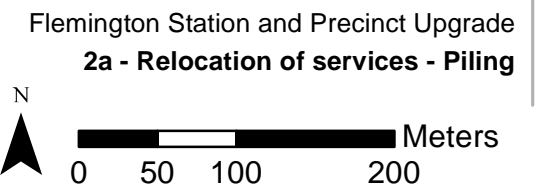
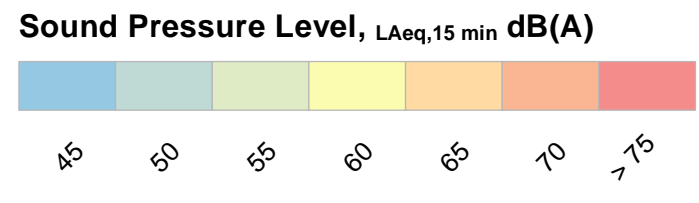
Flemington Station and Precinct Upgrade
1 - Relocation of services



OCT 2014
60327214

Fig. 1

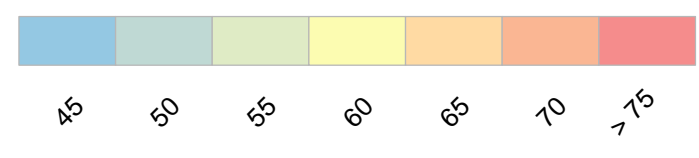
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AECOM P:\60327214\Tech work_area41_Acoustics\GIS Drawing\Flemington Stage 2\Works.mxd Updated: 16/10/2014

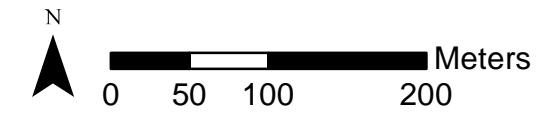


Sound Pressure Level, $L_{Aeq,15 \text{ min}} \text{ dB(A)}$



Flemington Station and Precinct Upgrade
 2b - Relocation of services - Piling

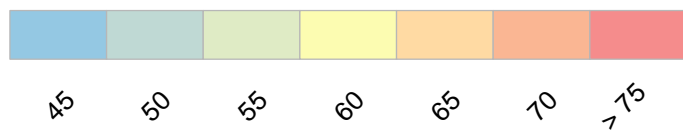
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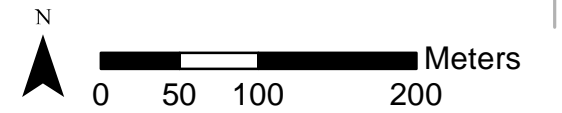


Sound Pressure Level, $L_{Aeq,15 \text{ min}}$ dB(A)



Flemington Station and Precinct Upgrade
3a - Relocation of services - Structural

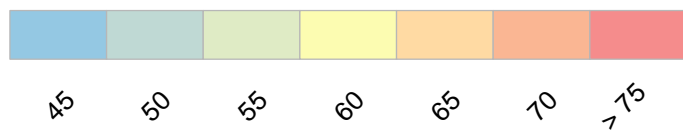
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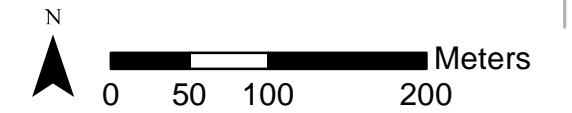
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Sound Pressure Level, $L_{Aeq,15 \text{ min}}$ dB(A)



Flemington Station and Precinct Upgrade
3b - Relocation of services - Structural



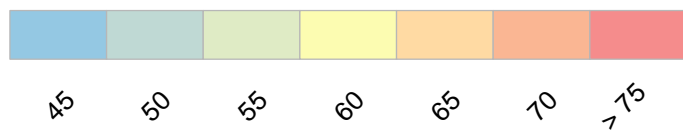
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Fig 5

AECOM P:\60327214\Tech work_area41_Acoustics\GIS Drawing\Flemington Stage 2\Works.mxd Updated: 16/10/2014



Sound Pressure Level, $L_{Aeq,15 \text{ min}}$ dB(A)



Flemington Station and Precinct Upgrade
4a - Construction

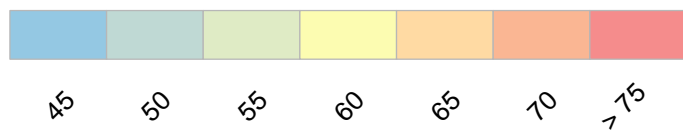


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Sound Pressure Level, $L_{Aeq,15 \text{ min}}$ dB(A)



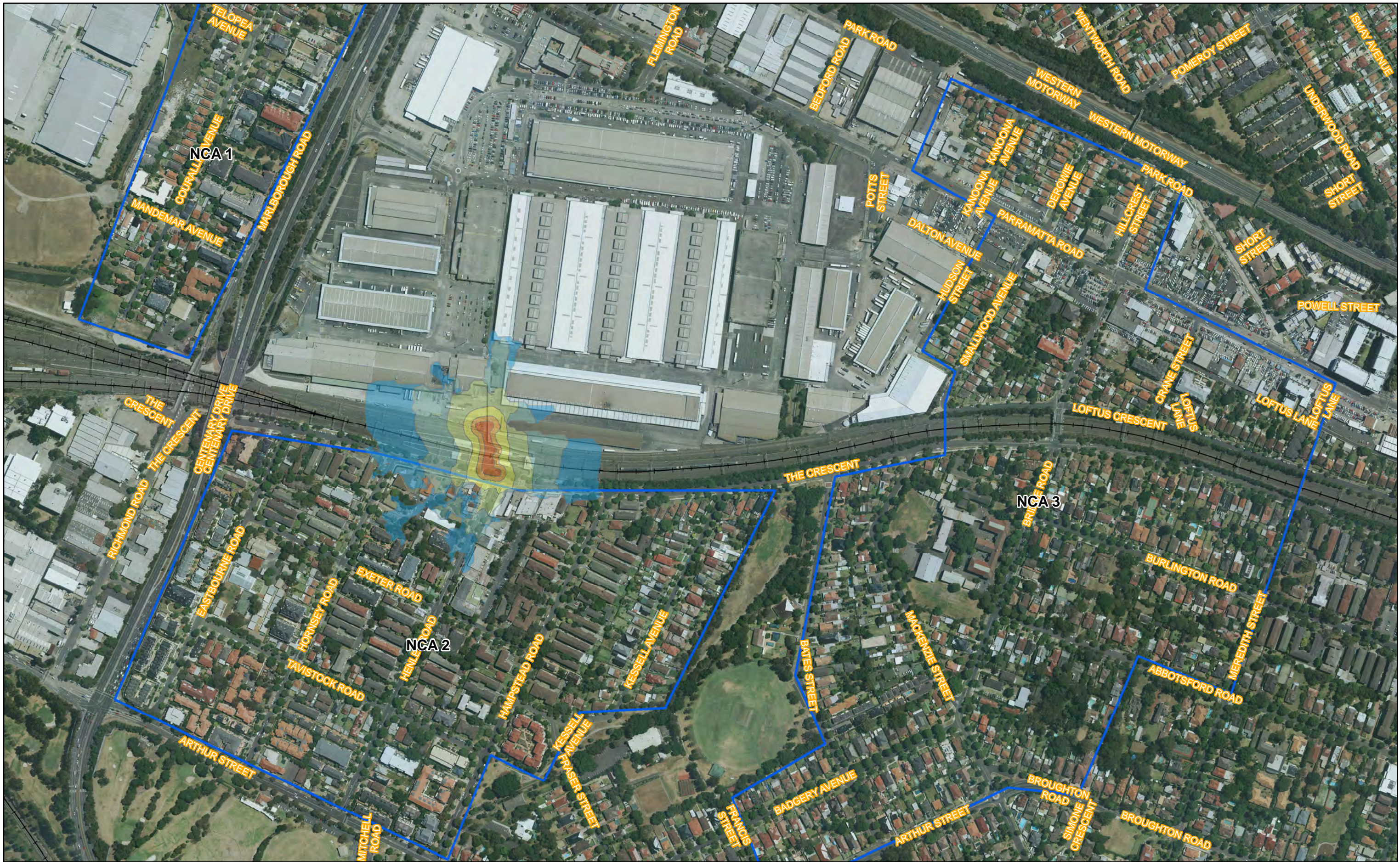
Flemington Station and Precinct Upgrade
4b - Construction



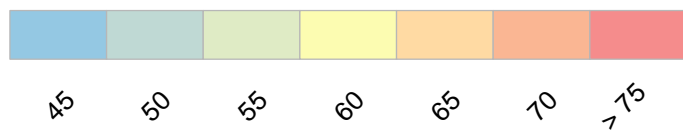
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Fig. 7

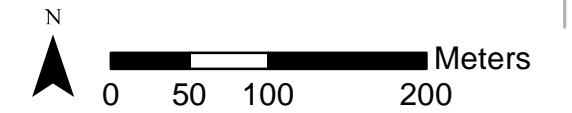
AECOM P:\60327214\Tech work_area41_Acoustics\GIS Drawing\Flemington Stage 2\Works.mxd Updated 16/10/2014



Sound Pressure Level, $L_{Aeq,15 \text{ min}}$ dB(A)

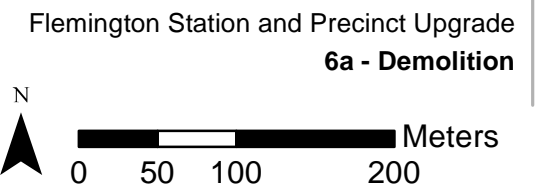
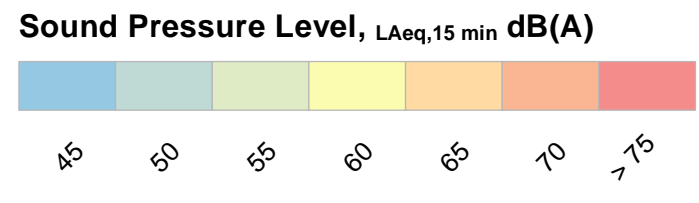
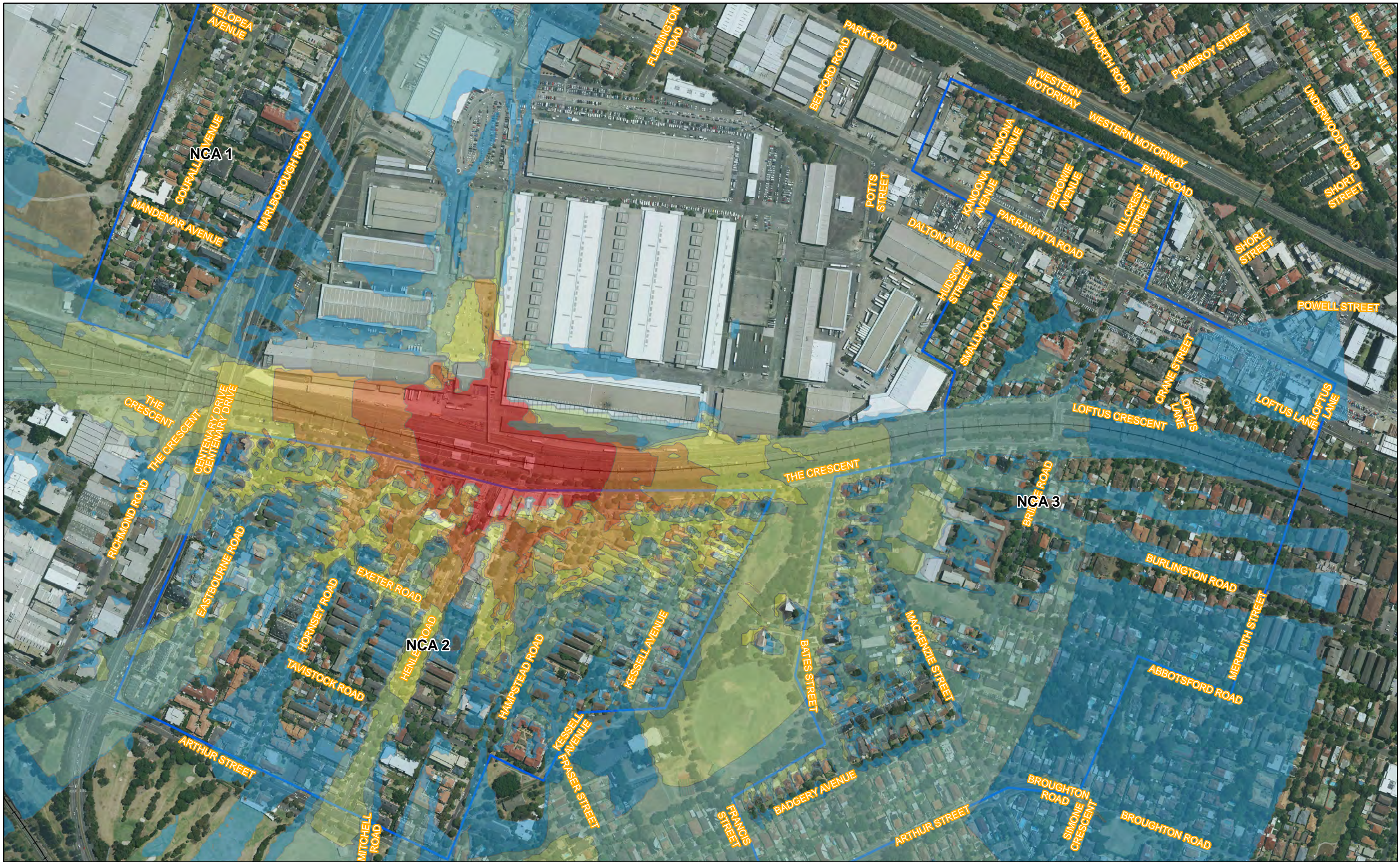


Flemington Station and Precinct Upgrade
5 - Cladding



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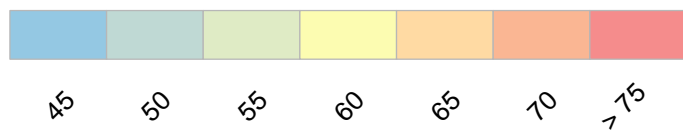
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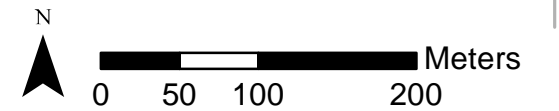


Sound Pressure Level, $L_{Aeq,15 \text{ min}}$ dB(A)



Flemington Station and Precinct Upgrade
6b - Demolition

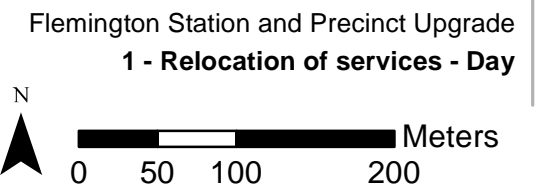
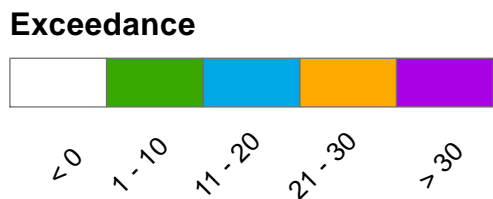
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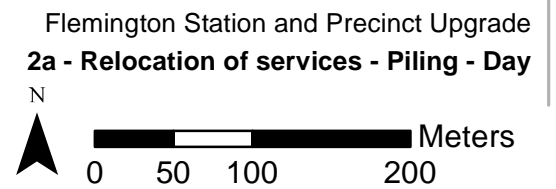
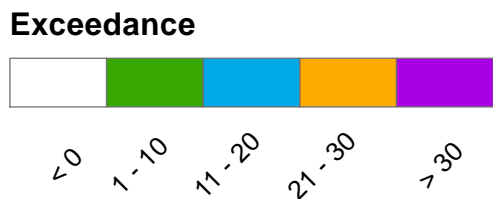
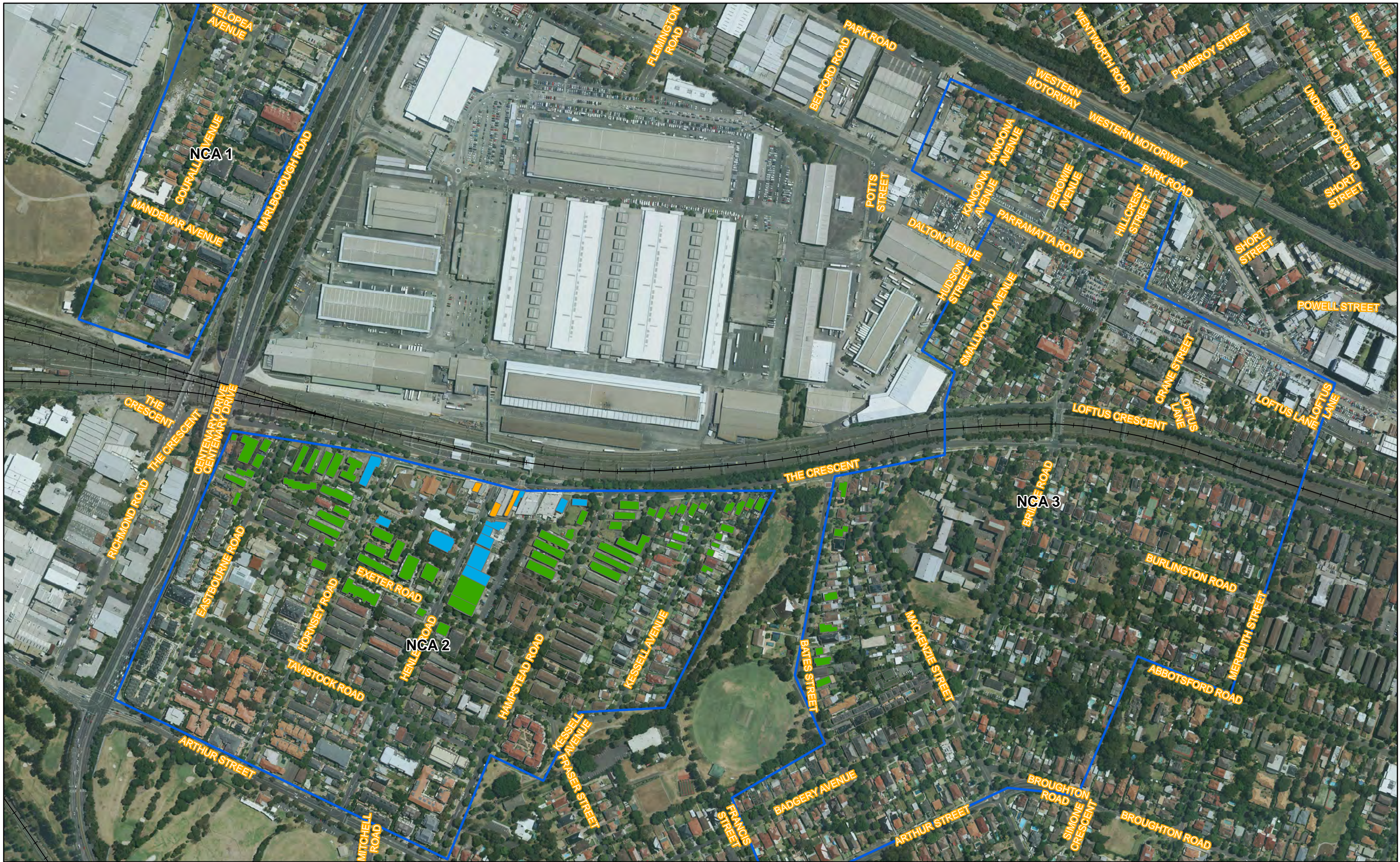
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Appendix E

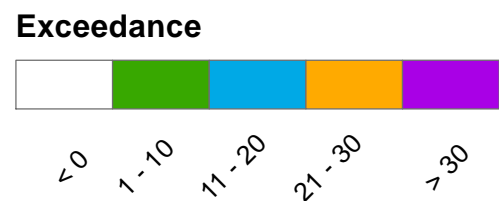
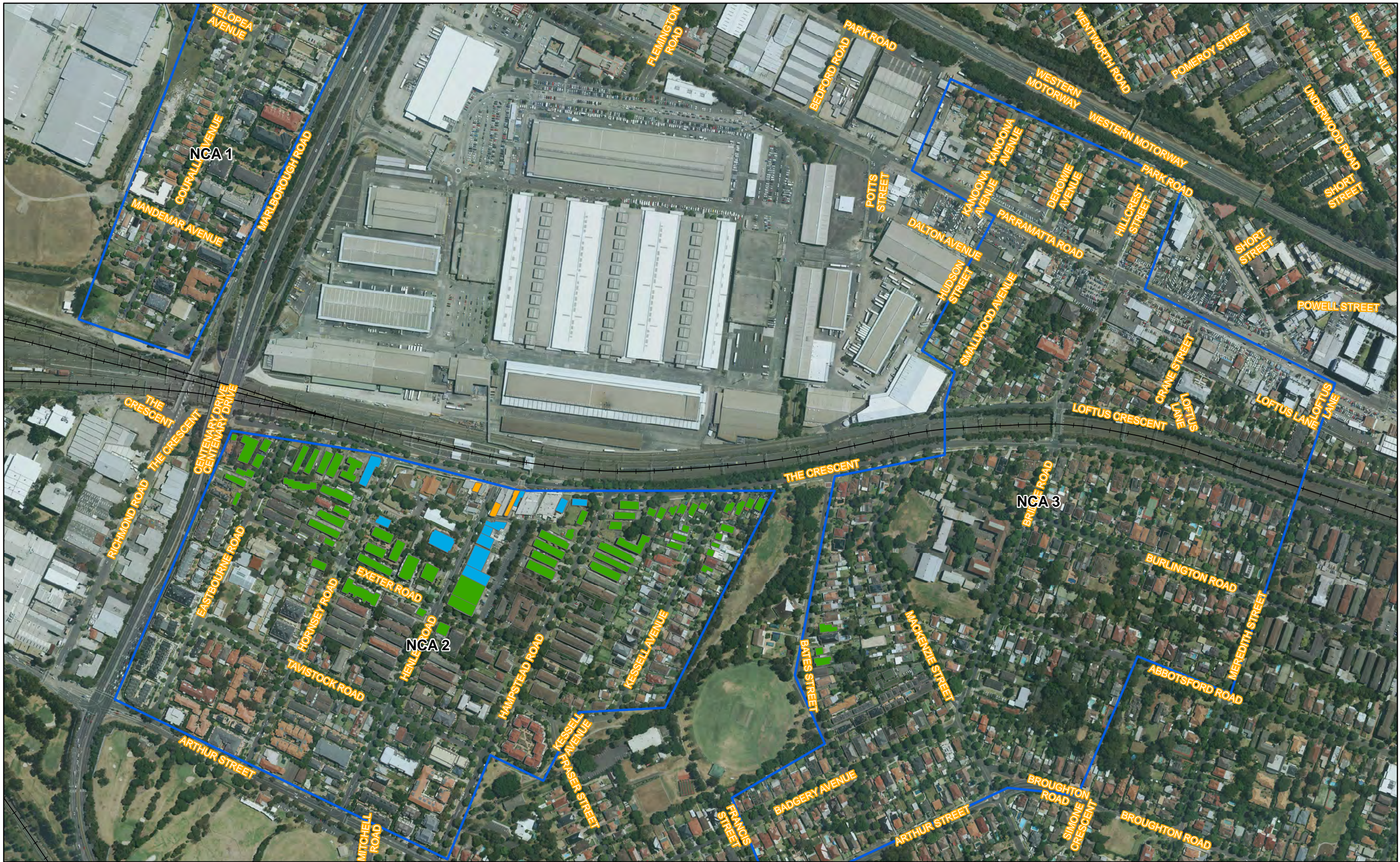
Affected Residential Receivers



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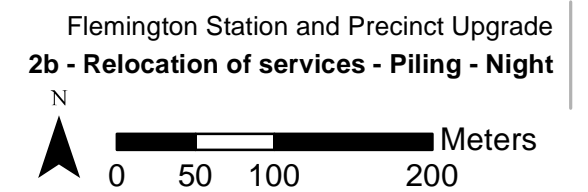
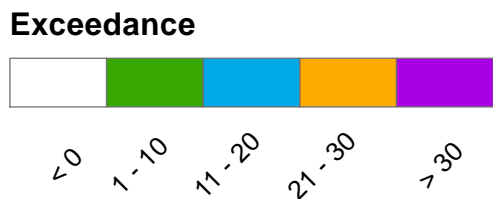
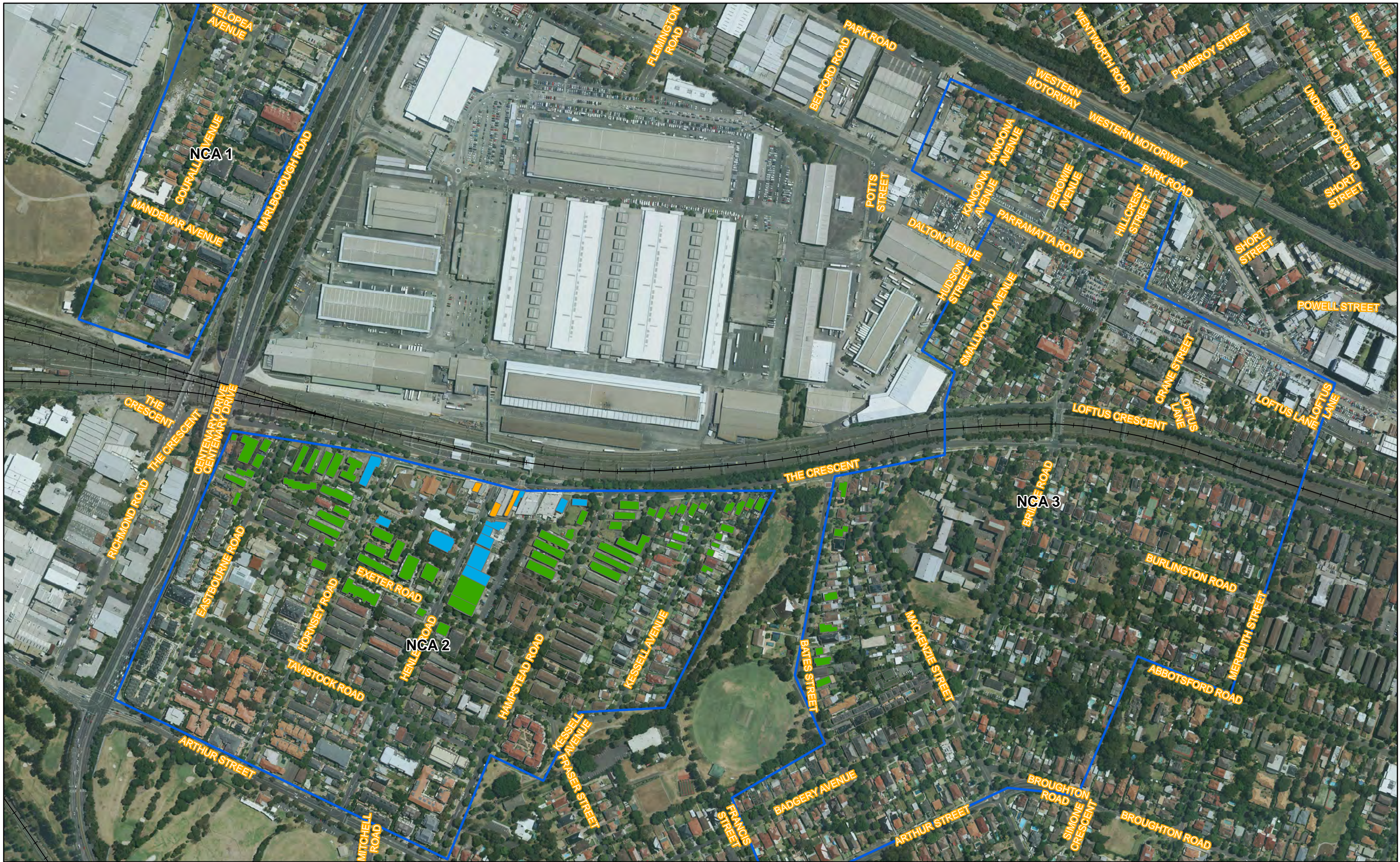
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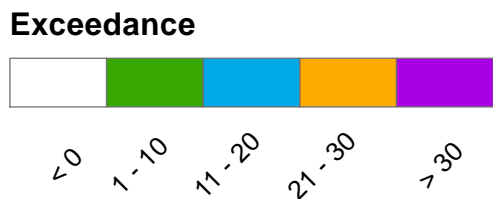
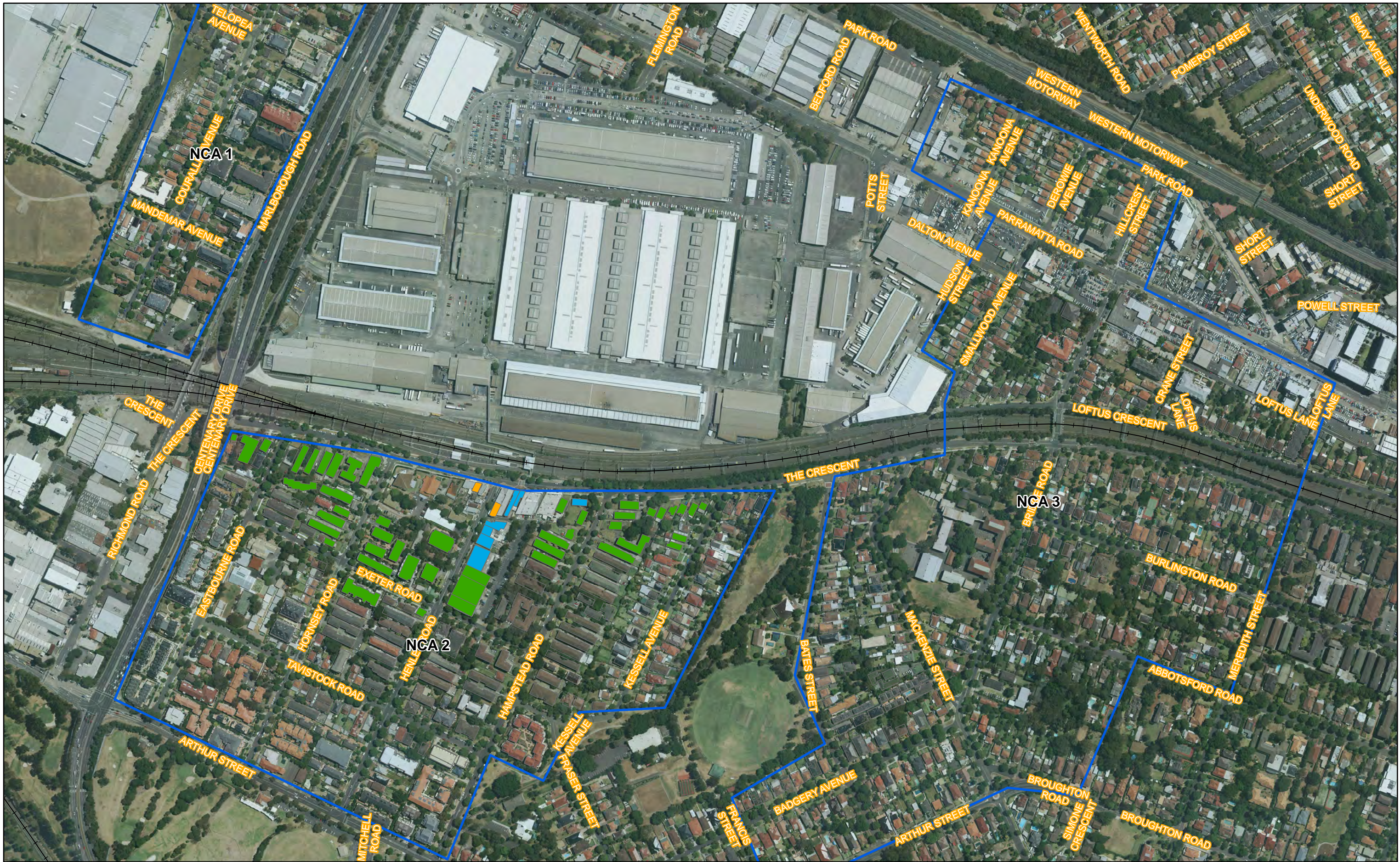
Flemington Station and Precinct Upgrade
2b - Relocation of services - Piling - Evening



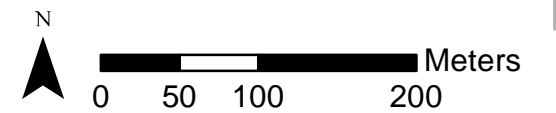
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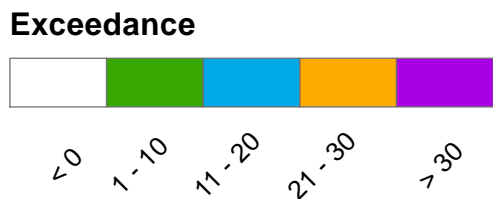
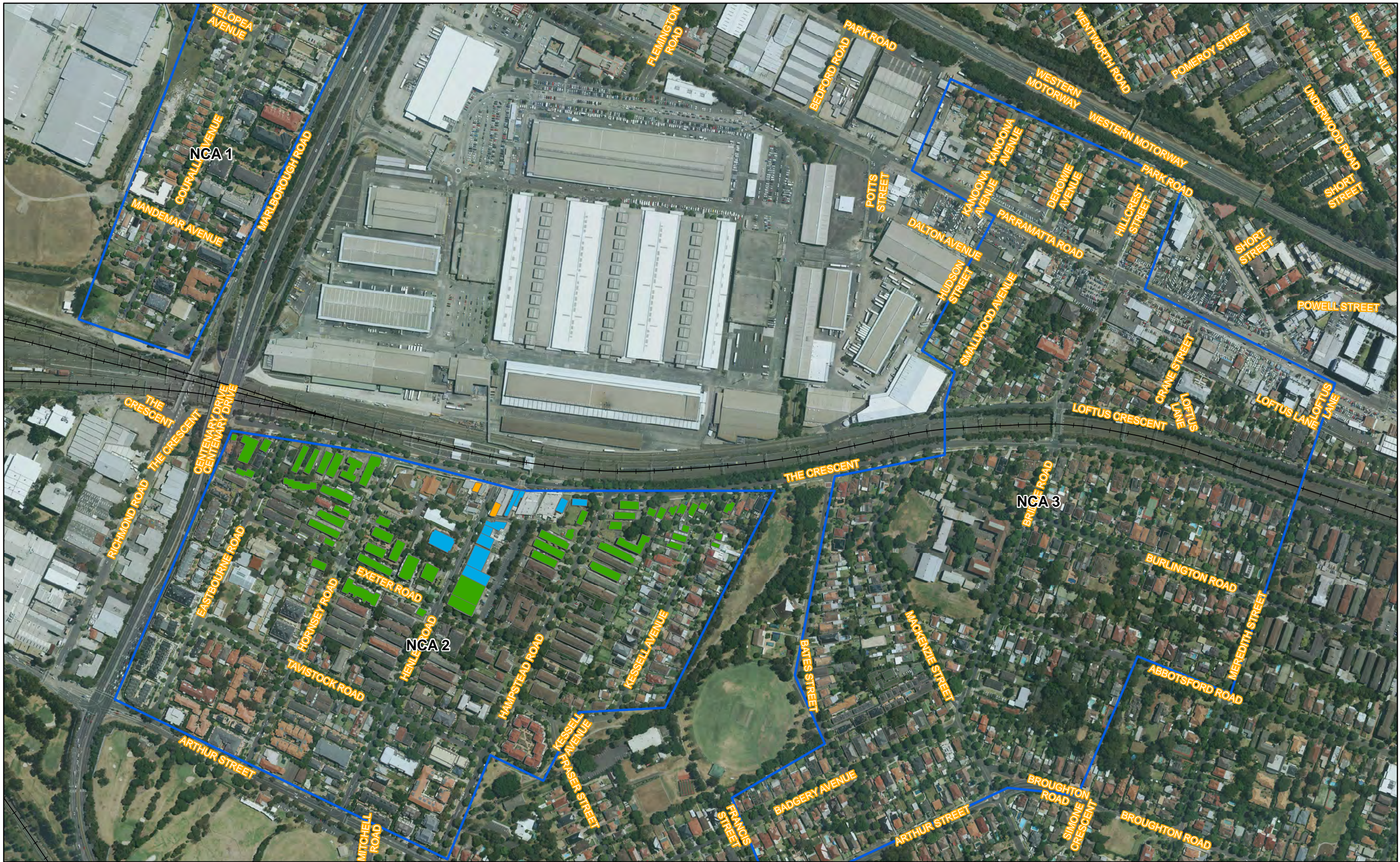
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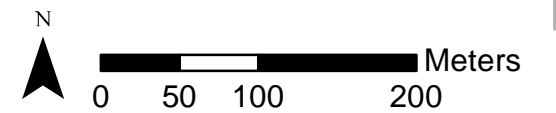
Flemington Station and Precinct Upgrade
 3a - Relocation of services - Structural - Day



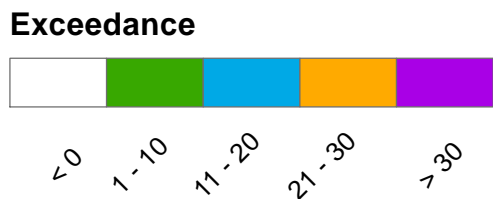
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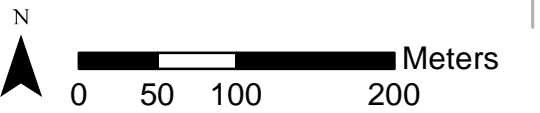
Flemington Station and Precinct Upgrade
3b - Relocation of services - Structural - Evening



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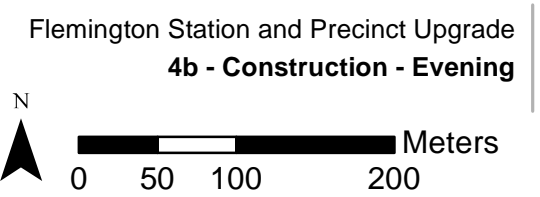
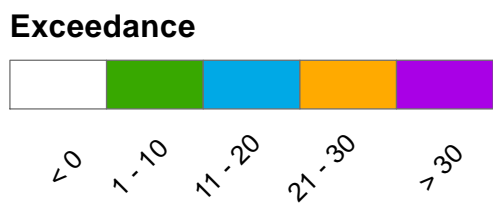


Flemington Station and Precinct Upgrade
4a - Construction - Day

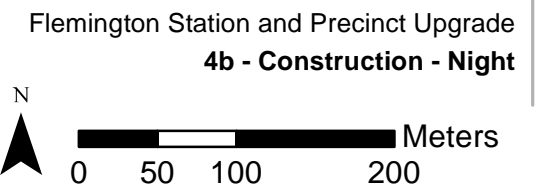
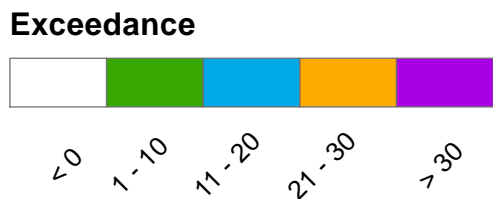


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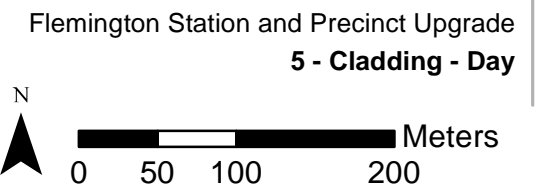
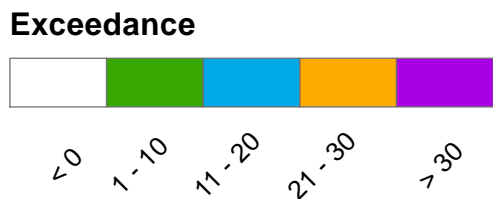
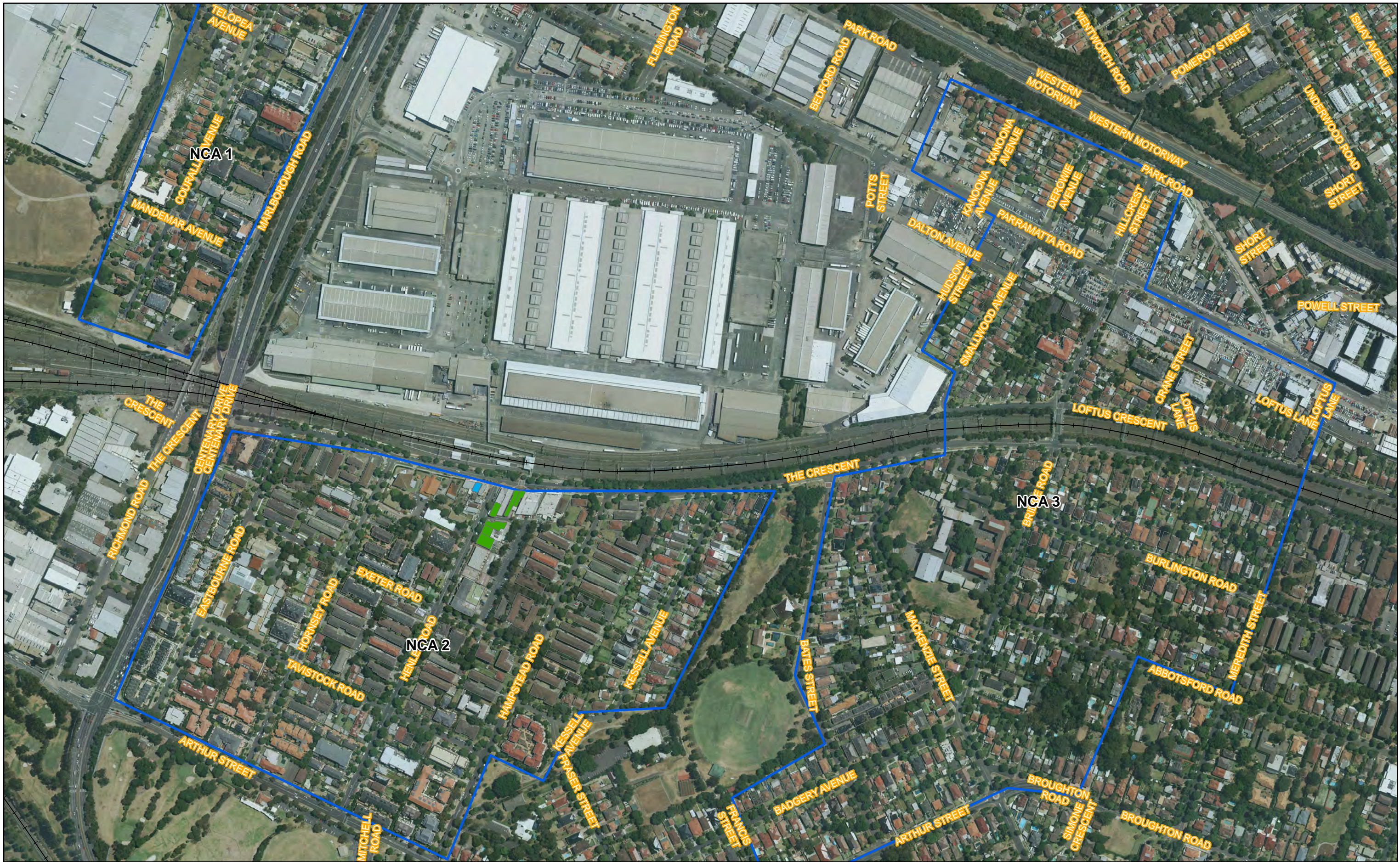
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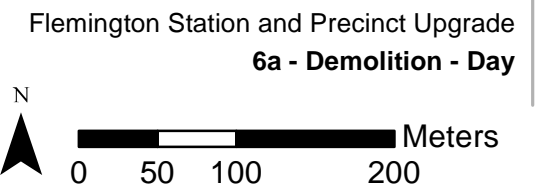
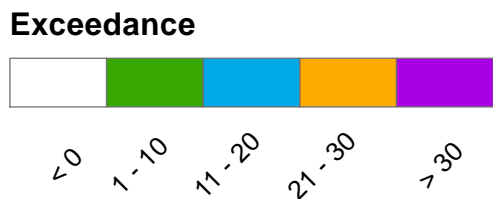
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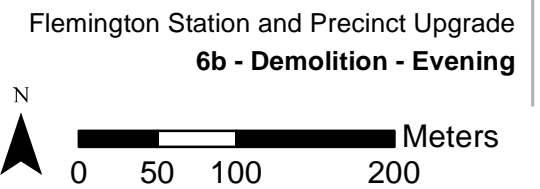
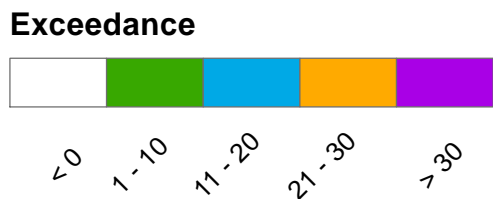
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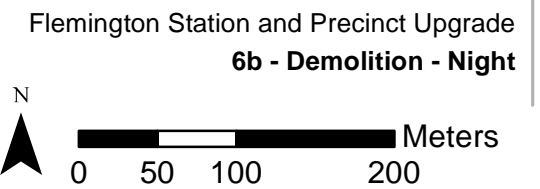
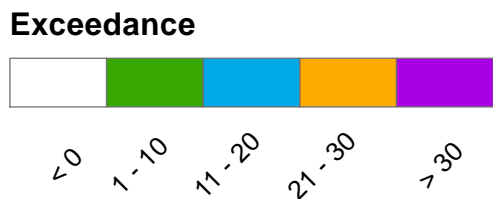
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AECOM P:\60327214\Tech work_area41_Acoustics\05 Drawing\Flemington Stage 2\Works.mxd Updated: 16/10/2014

Appendix F

Sleep Disturbance L_{A1} Noise Contours



Flemington Station and Precinct Upgrade
 2b - Relocation of services - Piling - Sleep disturbance



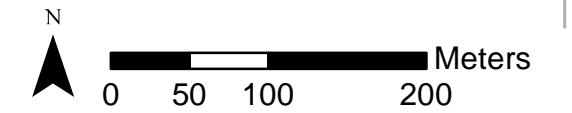
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Fig. 1



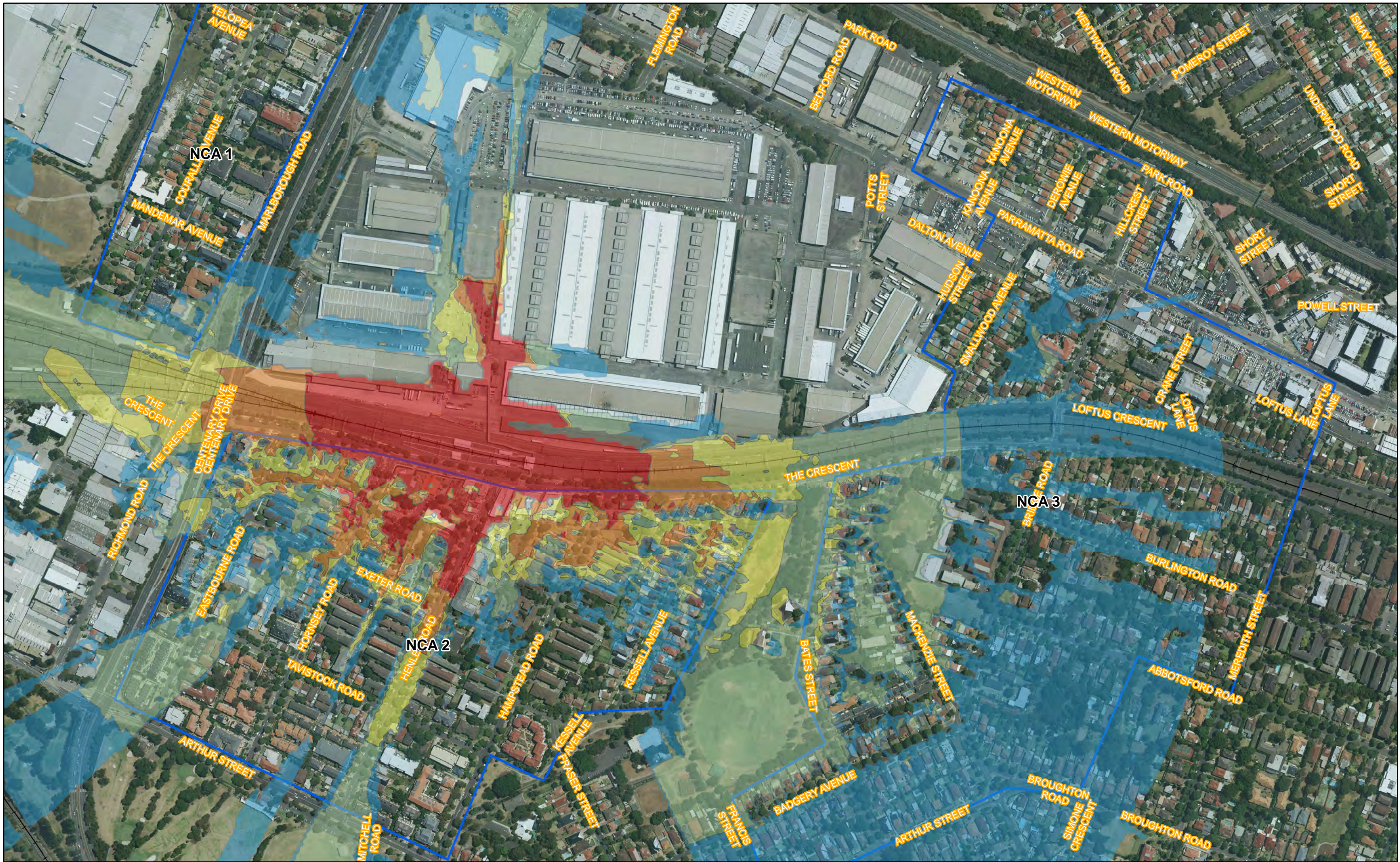
Flemington Station and Precinct Upgrade
 3b - Relocation of services - Structural - Sleep disturbance



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Fig 2

AECOM P:\60327214\Tech work_area41_Acoustics\GIS Drawing\Flemington Stage 2\Works.mxd Updated 16/10/2014



Flemington Station and Precinct Upgrade
4b - Construction - Sleep disturbance

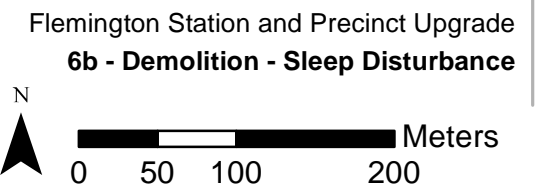
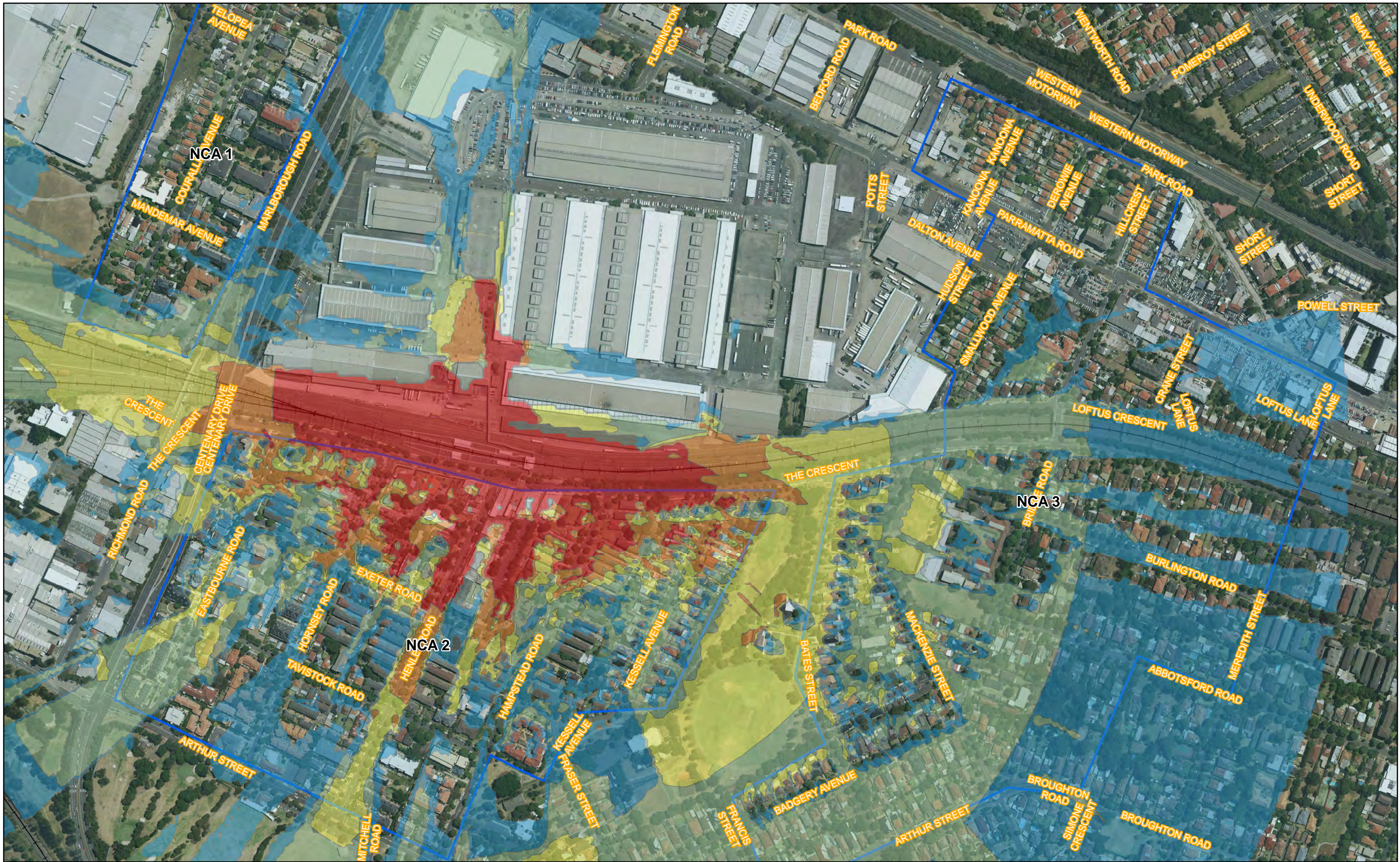
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Fig 3

N

0 50 100 200 Meters

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AECOM P:\60327214\Tech work_area41_Acoustics\GIS Drawing\Flemington_Slap_2\Works.mxd, Updated: 16/10/2014