2-18 STATION STREET, MARRICKVILLE DEVELOPMENT APPLICATION ACOUSTIC REPORT
FOR
EMAG APARTMENTS PTY LTD

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2-18 STATION STREET, MARRICKVILLE DEVELOPMENT APPLICATION ACOUSTIC REPORT FOR EMAG APARTMENTS PTY LTD

1.PROJECT DESCRIPTION

1.1.REPORT TO SUPPORT DEVELOPMENT APPLICATION

This Acoustic Report has been prepared for submission with the Development Application for the proposed residential and mixed use development to be built on the property at 2-18 Station Street Marrickville on the land currently used as mixed residential and commercial properties. The existing building is to be removed and site fully used for the proposed development.

1.2.REFERENCE DOCUMENTATION

The report is based on the details given in the following set of documents:

1. Invitation email from Emag Apartments Pty Ltd dated 18/02/2020
2. Tier Architects Drawings titled 2-18 Station Street, Marrickville Drawings dated 23/01/2020.

1.3.DESCRIPTION OF THE SITE

The proposed site is located on Station Street approximately 25 meters from Illawarra Road which is one of the main thoroughfare roads for the immediate area and 12 meters from Marrickville train station.

Photo of site where proposed Residential/Mixed Use development is to be constructed

The existing site and surrounding area can be seen in the Google Aerial Photo below:

Google Aerial Photograph

The site is adjacent to another mixed residential and commercial building to the South and opposite to Marrickville Station to the North. The property has residential receivers to the South and East.

The Architectural Drawings indicate the building is laid out as follows:

- 3 Basement levels of car parking
- Ground floor of commercial lots
- Level 1 consists of private residences and common areas
- Level 2 - 9 consists of a smaller communal open space and private residences
- Roof area consists of communal area.

1.4.CLOSEST SENSITIVE RECEIVERS

The closest sensitive receivers are as follows:

- Residential property at 1 Leofrene Ave
- Residential property at 22 Station Street

The closest sensitive receivers are shown marked up on the Google Arial photo above.

1.5.TRAFFIC NOISE AT PROJECT LOCATON

The dominant background noise for this project is road traffic noise from Illawarra Road on the Eastern facade of the property and train operation noise from Marrickville Station operation.

1.6.COMMERCIAL AREA NOISE AT PROJECT LOCATION

The site is located north of 22 - 24 Station St Marrickville which has commercial properties on the ground floor.

1.7.AIRCRAFT NOISE

The side lies within the 20 to 25 ANEF takeoff and landing contour as defined in AS2021 and so subject to aircraft noise.

1.8.STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

The project site of 2-18 Station Street is located approximately 7 meters from the Marrickville train line.

1.9.PROPOSED HOURS OF OPERATION

The project is a combined retail shop on the ground floor and the remaining building residential so the hours of operation of the buildings traffic movement and apartment mechanical services will be trading hours for retail, continuous for the car park and residential and restricted for after hours use of domestic air conditioning if installed.

2.EXTERNAL NOISE CRITERIA

2.1.NOISE GUIDE TO LOCAL GOVERNMENT

2.1.1.Project Specific Noise Level Determination

The Noise Guide for Local Government 2010 **(NG)** cross references the Industrial Noise Policy **(INP)** and both documents are used in the acoustic industry to interpret and administer the main legal framework in Australia as set out in the Protection of the Environment Operations Act 1997.

Both the NG and INP recommend the use of 1 week unattended monitoring of noise at a site to determine district background noise levels for the project when determining the background noise for a particular site.

The INP sets out the following method to determine single numbers background noise levels for a site:

- The Assessment Background Levels **(ABL)** are defined as the lower 1/10 percentile $L_{A\ 90\ t=15}$ descriptor background noise measurements of each period of the day.
- The Rating Background Level **(RBL)** is the median of the ABL for the respective day (7am-5pm), evening (5pm-10 pm) and night periods (10pm-7 am).
- Background noise monitored must not have any contribution of noise produced from the site being assessed.
- The Intrusiveness Criteria is defined as the single figure RBL for each particular period of the day +5 dB.
- The Amenity Criteria is determined by an assessment of existing noise levels and types of noise at site which is typically caused by road traffic noise for the various periods of the day and compared with an acceptable noise level nominated in the INP for the particular usage modified according to the level of site noise (road traffic noise in this case).
- The Project Specific Noise Level **(PSNL)** for the project is equal to the lesser of the Intrusiveness Criteria and the Amenity Criteria for each period of the day.

We have used this method to determine the external noise criteria from noise produced by this site. Environment Operations (Noise Control) Regulations

The Protection of the Environment Operations (Noise Control) Regulations 2008 **[POEO Regulations]** , Clause 52 requires that the noise from domestic air conditioners shall not be heard in a habitable room in an adjoining premises:

- Before 8 AM or after 8 PM Sunday and Public Holidays
- Before 7 AM or after 8 PM any other day

The POEO Regulations requirements have been applied to the domestic AC plant noise requirements in the night period in this report

2.2.AS2021-2000 REQUIREMENTS

As stated in the Marrickville DCP 2011 aircraft noise must also comply to Australian Standards AS2021-2000 which documents the acceptability of houses, home units, flats and caravan parks.

As 2-18 Station Street Marrickville is located within the ANEF 2033 Contours aircraft noise has been assessed.

Using the ANEF 2033 Contours we have determined that 2-18 Station Street falls between 20 to 25 ANEF. In AS2021-2000 units that fall between 20 - 25 ANEF are Conditionally acceptable with the condition of incorporating noise control features in the construction.

2.3.MARRICKVILLE DCP 2011

The Marrickville DCP 2011 (incorporating Amendment No.1) states that new dwellings close to high noise sources such as busy roads must comply with the following:

- State Environmental Planning Policy (Infrastructure) 2007 SEPP
- Australian Standard AS2107 - Acoustics
- Australian Standard AS3671 Roads traffic noise intrusion

2.4.STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

The State Environmental Planning Policy (Infrastructure) 2007, Clause 87 'Impact of Rail Noise or Vibration on non-rail developments' item 3 states that the noise from Road Noise shall not exceed 35 dB(A) LEq in a bedroom between 10PM and 7 AM and 40 dB(A) LEq in any other habitable room(other than garage, kitchen, bathroom or hallway) at any time of the day. The policy does not give internal noise design limitations for wet areas. For these areas, we have adopted the recommendations given in AS 2107.

2.5.INTERIOR NOISE CRITERIA FOR MECHANICAL SERVICES NOISE

We have used the requirements of the Code AS 2107, 2000, titled 'Acoustics, Recommended design sound levels and reverberation times for building interiors' for the following areas:

Table 1; Recommended internal design sound levels L_{Aeq}-dB(A)

Type of Occupancy; *#7; Residential Building, Apartments near major roads*	**AS 2107 Satisfactory ❶**	**AS 2107 Maximum ❷**	**Selected Req.**
- Toilets & Bathrooms, Hallways	45	55	**55**
- Car park	55	65	**65**

❶ *AS 2107 Satisfactory; regarded as appropriate in quiet environments or luxury accommodation*

❷ *AS 2107 Maximum; regarded as level where most people become dissatisfied*

2.6.CODE AS 3671 USED TO DETERMINE PERIMETER SOUND INSULATION REQUIREMENTS

The code; AS 3671-1989 'Acoustics-Road traffic noise intrusion-building siting and construction' is used for this project to determine the level airborne sound insulation required for the construction of perimeter building elements so as the intrusive road traffic noise is sufficiently attenuated to result in a internal noise level that complies with the relevant road traffic noise criteria.

2.7.SLEEP AROUSAL DETERMINATION

The NG states that "*there is no definite guidelines to indicate that a noise level that causes sleep disturbance*" but suggests Sleep Arousal can occur when the L_{A1} level of an intrusion noise exceeds the Ambient L_{A90} noise by 15 dB. The $L_{A1\ t=15\ min}$ descriptor is the noise level that is exceeded only 1% of the time in the 15 minute integrating period and is used to represent the maximum level and typically assessed in the night period when occupants are normally sleeping. The $L_{A90\ t=15\ min}$ descriptor is the noise level that is exceeded 90% of the time in the same15 minute integrating period.

The NSW Road Noise Policy 2011, Clause 5.4; Sleep Disturbance also confirm that *"the triggers for and effects of sleep disturbance have not yet been conclusively determined"*. and cross references an earlier edition of the policy in Appendix B5 of the Environmental Criteria for Road Traffic Noise **-**1999 which repeats the recommendations given in the NG with the additional comment that these recommendations do not take into consideration the number of events required to trigger sleep disturbance.

Sleep arousal assessment has been made in this report for each night period over the monitoring period in our report by analysing the noise results, allowing for a 10 dB attenuation of an open window.

2.8. CODE AS 1670.4-1998, INTERIOR DESIGN SOUND LEVELS

The Code AS 1670.4,-2004, titled 'Fire detection, warning, control and intercom systems - System design, installation and commissioning ' states in Clause 2.1.1(b) that the ambient noise at the indicating panel shall not exceed the following:

- 70 dB(A) adjacent to the Fire Indicating Panel

2.9.BCA PART F5 REQUIREMENTS

Compliance with the Building Code of Australia **(BCA)** is a statutory requirements of new residential multi occupancy buildings. Part F5 of the BCA titled details the "Sound Transmission and Insulation Requirements" for residential developments.

West and Associates Pty Ltd were not commissioned to detail the internal building construction elements of the proposed building that would be required to insulate the air borne and impact noise transmission requirements.

3.NOISE MEASUREMENTS

3.1.BACKGROUND NOISE MONITORING LOCATION AND TIME

The fifteen minute, unattended, continuous L_{AEq} and L_{A90} descriptor background noise monitoring was carried out at the front boundary of the property at 2-18 Station Street Marrickville, 2.2 metres above ground level on the front awning facing Station Street representing the North boundary of the proposed site from 11:30 AM on 08/03/2020 to 9:30 AM on 16/03/2020.

The noise monitoring location was chosen to assess the impact of Marrickville Train Station noise on the North facade of the proposed development.

The log of the results of background noise monitoring for 2-18 Station Street site are shown in Appendix 1. Raw data is available upon request.

3.1.1.Monitoring Instrumentation

Noise measurement instrumentation used to log continuous district background noise in this report is an ARL, Model EL 316 (Type 1) environmental noise logger Serial No. 16-203-500. Attended site analysis of district noise was taken using a SVAN 945A sound analyser, Serial No 9418. Field calibration checks for the instruments were carried out using a Acoustic Calibrator Type Rion NC 73 Serial No. 11127967. All instruments hold current NATA calibration certificates and measurement instruments are in accordance with the requirements of AS 1259.2, Sound Level Metres, Integrating Averaging.

3.1.2.Monitoring, Calibration and Calculation Procedures

In accordance with the procedures laid out in AS 1055.1 field calibration check of the environmental noise logger was carried out immediately prior to and at completion of monitoring sessions and instrument was found to be within the specified limits.

A microphone wind-guard was in place for the full duration of the monitoring and so no correction factor required.

The 15 minute L_{A1} , L_{Aeq} and L_{A90}, log results were down loaded and single figure L_{A90} representative values calculated using Microsoft Excel software in accordance with the procedures given in the INP for the day(7AM to 6 PM), the evening period, (6 PM to 10 PM) and the night time period, (10PM to 7 AM) and single figure L_{Aeq} over the days monitored.

3.1.3.Environmental Conditions During Monitoring

Temperatures on site were between 10 to 30^{o}C for the logging period. No rain fell in the period being monitored. Metrological data including temperature, barometric pressure, wind speed at site were not outside the recommendations of AS 1055 and INP and so the L_{A90} measurements are considered valid for Location 1.

Wind Speed at was monitored using a Vortex In-speed monitor and data collected using a Wind-tracker Logger. The results of the log indicated that at no time during the logging period did the local wind speed exceed the maximum level of 5 M/S.

The resulting $L_{A Eq}$ log averages over the 7 day period monitored was then calculated and used to determine the Project Specific Noise Level for the site Amenity Criteria.

3.1.4.Logger Settings

The settings of the environmental noise logger is shown in the Table below:

Table 2; Noise Logger Settings

Acoustic Research Laboratories Pty Ltd - Type 1 Environmental Noise Logger	**Logger Settings at 124 Station Street Petersham**
Logger Serial Number	386744
Measurement Title	2-18 Station Street
Frequency Weighting	A
Time Averaging	Fast
Statistical Interval	15 minute

Engineering Units	dB SPL

3.2.BACKGROUND NOISE RESULTS

3.2.1.Background Noise Single Figure Results

Analysis of the 15 minute L_{A90} and L_{AEq} results were carried out using Microsoft EXCEL according to the requirements of the INP and the single figure RBL and the site noise from road traffic results for each period are shown in the table below:

Table 3 Single Figure RBL's and Site Noise for Project

NOISE DETAILS/Period times	Day (0700 to 1800)	Evening (1800 to 2200)	Night (2200 to 0700)
RBL $L_{A90\ 15\ min}$	48.7	45.6	36.9
Leq period log average Road Traffic Noise	59.8	58.8	55.5

4.PROJECT SPECIFIC NOISE LEVEL DETERMINATION

4.1.EXTERNAL NOISE LEVEL DETERMINATION

4.1.1.Single Figure Results

The INP requires the external noise criteria for the project to be determined as the lesser of the Intrusiveness and Amenity Criteria for the site for each period of the day which are derived from the 7 days of 15 minute noise logging at site.

The single figure day, evening and night period Rated Background Levels **(RBL)** results are given in the following table along with the single figure Intrusiveness Criteria being the RBL +5 rounded to the nearest integer. The Acceptable Noise Level specified by the INP are also given in the following table along with the site Leq noise levels, Amenity Criteria and modification factor calculated according to site noise levels. The final Project Specific Noise Level **(PSNL)** for the site for each period is then shown in the which is the lesser of the Intrusiveness and Amenity Criteria.

Table 4; Noise Monitoring results

Period times	Day	Evening	Night
NOISE DETAILS	**0700 to 1800**	**1800 to 2200**	**2200 to 0700**
Location- Station Street			
RBL $L_{A90\ 15\ min}$-	48.7	45.6	36.9
Intrusiveness Criteria $L_{AEq\ 15\ min}$ Northern boundary(RBL+5)	54	51	42

5.ROAD TRAFFIC NOISE LEVELS AT DIFFERENT FACADES

5.1.COMPARISON OF NOISE PREDICTIONS AND CRITERIA

5.1.1.Rail Traffic Intrusion Noise with Open Windows

Under SEPP 2007 the noise from Road Noise shall not exceed 35 dB(A) LEq in a bedroom between 10PM and 7 AM and 40 dB(A) LAEq in any other habitable room(other than garage, kitchen, bathroom or hallway) at any time of the day due to this we have determined the maximum repeatable 15 minute LAEq measured at the boundary for the below noise intrusion calculations. We have set out below a table of predicted resulting noise levels with windows open using a standard 10 dB(A) attenuation for an open window.

Table 5: Summary of Traffic Noise For Each Facade

Road Traffic Noise Monitored	**Max $L_{Aeq,}$**
Rail Traffic Noise $L_{Aeq,}$ -Residences facing North of site	67 dB(A)
Rail Traffic Noise $L_{Aeq,}$ - Residences facing East/West of site	~59 dB(A)
Rail Traffic Noise $L_{Aeq,}$ -Roof of site	<45 dB(A)

Table 6: Summary of Traffic Noise Intrusion for Open Windows on each facade

Location	**Day/ Evening/ Night $LAEQ_{15min}$ Noise Level**	**Window Attenuation**	**Resulting Internal Road Traffic Noise Levels**	**Criteria**	**Compliance with Criteria**
Bedrooms, Station Street North Face L's 1-9	NA / NA / 65 dB(A)	10	NA / NA / 55 dB(A)	35	**No**
Bedrooms, Station Street East/West Face L's 1-9	NA / NA / 57 dB(A)	10	NA / NA / 47 dB(A)	35	**No**
Habitable Rooms Station Street East/West Face L's 1 Common rooms	59 / 58 / 57 dB(A)	10	49 / 48 / 47 dB(A)	40	**No / No / No**

5.2.VENTILATION TO BEDROOMS AND HABITABLE

As the assessment of the Rail Traffic Intrusion Requirements resulted in the requirement for all windows to be closed the occupied residences will require mechanical ventilation.

5.3.SLEEP AROUSAL CRITERIA CALCULATION

As the open window requirements for the bedrooms are not met the required window attenuation is to be addressed.

6.BCA ACOUSTIC REQUIREMENTS BETWEEN SEPARATE OCCUPANCIES

Acoustic requirements of the Building Code of Australia- 2014 **(BCA)** are listed in Part F5; 'Sound transmission and Insulation'. This section deals with building construction methods to provide a satisfactory level of airborne and impulsive sound isolation between apartments and separating apartments from common areas and plant areas.

Compliance with the BCA Part F5 is a statutory requirements and comments regarding construction for appropriate areas has been summarised in the Recommendations Section of this report.

7.MECHANICAL SERVICES NOISE

Because no mechanical services equipment design has been detailed at the DA Application stage, we can only lists the required noise levels that would be required to be achieved to satisfy the nominated external and internal noise criteria listed for the project

8.DETERMINATION OF CONSTRUCTION REQUIREMENTS

8.1.1.Calculations of Building Attenuation Works Using AS 3671

The calculation method to determine the attenuation of facade elements is given in AS 3671;1989 which uses 9 hour log average for the night period as the basis for design.

Table 7: Summary of Traffic Noise For Each Facade

Road Traffic Noise Monitored	**Night Max L $_{Aeq,}$**
Rail Traffic Noise L $_{Aeq,}$ -Residences facing North of site	55.5 dB(A)
Rail Traffic Noise L $_{Aeq,}$ -Roof of site	<45 dB(A)

8.2.REQUIRED TRAFFIC NOISE REDUCTION

8.2.1.Construction Category

Code AS 3671 defines Road Traffic Noise Reduction(TNR) as the difference between the appropriate $L_{Aeq, T}$ monitored and the appropriate internal or "receiving" room background level L_{Arec} and values for this site are shown in the Table below however as this site falls within SEPP rail requirements the maximum LAEq has been used:

Table 8; Recommended background design sound levels L $_{Aeq}$-dB(A)

Face, Location & Use of Space in the Building	$L_{Aeq, T}$❶	L_{Arec} ❷	**TNR (❶-❷)**	**Construction Category ❸**
Rail Traffic Noise L $_{Aeq,}$ - Residences facing North of site Level 1 & 2	55.5 dB(A)	35	**20.5**	Category 2
Rail Traffic Noise L $_{Aeq,}$ - Residences facing North of site Level 3 -4	51.5 dB(A)	35	**16.5**	Category 2
Rail Traffic Noise L $_{Aeq,}$ - Residences facing North of site Level 5 - 6	48.9 dB(A)	35	**13.9**	Category 2
Rail Traffic Noise L $_{Aeq,}$ - Residences facing North of site Level 7 - 9	46.4 dB(A)	35	**11.4**	Category 2
Rail Traffic Noise L $_{Aeq,}$ - Residences facing East/West of site	46 dB(A)	35	**11**	Category 2
Rail Traffic Noise L $_{Aeq,}$ -Roof of	45 dB(A)	35	**10**	Category 1

site				

❶ *Night period 15 min repeatable of the maximum LAeq value*

❷ *Recommended internal level from AS 2107, Table 1. Maximum levels are 5 dB(A) above Recommended levels. This value also corresponds to the recommended internal value required by The State Environmental Planning Policy (Infrastructure) 2007.*

❸ *Construction 1, 2, & 3 Categories defined in AS 3671 as, Category 1 is TRN=< 10, Category 2 is TRN>10 ,<=25 and Category 3 TNR >25, <=35, Category 4 > 36*

9.DETERMINATION OF CONSTRUCTION REQUIREMENTS FOR AIRCRAFT NOISE

9.1.CALCULATIONS OF BUILDING ATTENUATION WORKS USING AS 3671

The calculation method to determine the attenuation of facade elements is given in AS 3671; 1989 which uses the 9 hour log average for the night period as the basis for design.

9.2.RELEVANT AIRCRAFT TO THIS SITE

We have reviewed the Sydney ANEF 2033 runway usage chart to determine the relevant aircraft to assess the site with the requirements set by ANEF 2033.

9.3.DISTANCE & RELEVANT AIRCRAFT NOISE LEVELS TO SITE

The difference of height of top floor compared with the runway is calculated to be 12 metres and the distance corrections for the site as nominated in Table 3.2 of AS 2021 are shown in the table below:

Table 9: Land Height Correction for of Receiving Location

Difference in Elevation	**Landing (Corr. To DL)**	**Takeoff (Corr. To DT-)**
+10 M	-380 M	-150 M

Sydney Airport Master Plan, 2033 ANEF Map shows the relative location of the site to Sydney Airport runways ad from this chart we have determined the relevant distance for take off (DT), for landing(DL) and sideline from flight path (DS) for this site and distances, incorporating the nominated land height corrections are shown in the table below:

We have also included is this table, the nominated noise levels of the loudest relevant planes for each of the runways affecting this site based on information given in AS 2021 Tables 3.4(A) to 3.58(B).

Table 10: Relevant Aircraft to this site

Runway	**Landing/ Takeoff**	**DS**	**DL**	**DT**	**Table No._ Aircraft**	**Max Noise level dB(A)**
16	L	1328	1812-380=1432	5645-150=5495	747-400	75

The code requires the selection of the loudest predicted maximum aircraft noise level, being **75** dB(A) on departures.

9.4.COMPONENT AIRCRAFT NOISE ATTENUATION

9.4.1.Aircraft Noise Reduction for this Site

In accordance with Code AS 2021, the overall building Aircraft Noise Reduction (ANR) is the difference between the loudest predicted aircraft noise and indoor aircraft design sound level. In each of the various locations, the results are as follows:

Table 11; Recommended background Aircraft design sound levels L_{Aeq}-dB(A)

Building Type	**Room Type**	***Aircraft Noise -Criteria Requirement***	***ANA Requirement***
Residential Bld	Bedrooms	75-50	25 dB(A)
	Habitable Areas	75-55	20 dB(A)
	Bath Rm	75-60	15 dB(A)
	Hall/Stairway	75-60	15 dB(A)

10.EXTERNAL BUILDING DESIGN REQUIREMENTS

The sleep arousal assessment as detailed above concluded that the level of the incident noise and occurrence of likely trigger noise events would cause sleep arousal with windows open so closed windows are required to eliminate the occurrence of sleep arousal.

The greater of the TNR and ANR has been nominated in the below table as NR.

This construction minimum requirements to satisfy the Acoustic Criteria, determined according to the methods set out in AS 3671 are shown in the following table:

Table 12; Calculated Noise Wall Attenuation for each Facade

Face, Location all levels & Use of Space in the Building	**NR**	***NAc Requirement***	***Rw equivalent***
North Facade Residences L1-2, North Facade	**25❶**	***24***	***27***
North Facade Residences L3-4, North Facade	**25❶**	***20***	***23***
North Facade Residences L5-9, North Facade	**25❶**	***19***	***22***
North Facade Residences, East/West Facade	**25❶**	***34***	***37***
East/West Facade	**25❶**	***24***	***27***
Level 1 Commercial	**20**	***18***	***21***

❶ *The greater ANA has been nominated*

Table 13; Calculated Noise Window Attenuation for each Facade

Face, Location all levels & Use of Space in the Building	**TNR**	***TNAc Requirement***	***Rw equivalent***

North Facade Residences L1-2, North Facade	**25❶**	***21***	***24***
North Facade Residences L3-4, North Facade	**25❶**	***21***	***24***
North Facade Residences L5-9, North Facade	**25❶**	***21***	***24***
North Facade Residences, East/West Window	**25❶**	***17***	***20***
East/West Bedroom Widow	**25❶**	***21***	***24***
Level 1 Commercial	**20**	***16***	***19***

❶ *The greater ANA has been nominated*

10.1.REQUIREMENTS FOR VENTILATION IN UNITS

As the assessment of the Rail Traffic Intrusion Requirements resulted in the requirement for all windows to be closed the occupied residences will require mechanical ventilation of outdoor air.

10.2.SITE VEHICLE ACOUSTIC REQUIREMENTS

10.2.1.Vehicles Using the Driveway

The logging and subsequent assessment of local Station Street traffic noise verified that the required road traffic noise levels complied with the internal room requirements with windows of all facade residences closed. Local road traffic entering and leaving the car park must drive slower that on the public street so noise from that source must be quieter. The windows and walls of the development have been designed to attenuate road traffic noise so car park usage noise will therefore will not required any additional attenuation.

11.CONSTRUCTION RECOMMENDATIONS

11.1.EXTERNAL WALL AND GLAZING CONSTRUCTION REQUIREMENTS

The assessment of local road traffic noise confirmed that the external walls, windows and roof of the development are required to have the airborne sound insulation requirement as given in Tables 12 & 14.

11.2.SUPPLY VENTILATION REQUIREMENTS FOR UNITS

As the assessment of the Rail Traffic Intrusion Requirements resulted in the requirement for all windows to be closed the occupied residences will require mechanical ventilation of outdoor air.

11.3.INTERNAL BUILDING CONSTRUCTION REQUIREMENTS

The Development Application architectural drawings do not detail specific construction details of the dwellings in order to determine the BCA Part F5 requirements at this stage. However, BCA compliance is required and internal wall, floor and ceiling details would need to be fully developed prior to construction.

11.4.SITE VEHICLE NOISE REQUIREMENTS

We have determined that there is no acoustic attenuation requirement for any vehicles using the car park areas of this site.

Report prepared by Joel West

End of Report

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2-18 STATION STREET, MARRICKVILLE

Background Noise Monitoring Front of Site