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20101139.1/2411A/R0/BW

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ATTN: MR ANTHONY RICE

Stamford Grand North Ryde - Additional Acoustic Information

This letter details the additional acoustic information regarding the assessment conducted into the proposed 110-114 Herring Road, Macquarie Park development and the recommended acoustic treatments and controls to ensure a suitable acoustic amenity.

The letter responds to the information requested from the

The additional information has been provided in response to the NSW Government, Planning and Infrastructure and the Sydney Regional Development Advisory Committee (SRDAC) queries as raised in their letter with project Ref: MP10_0112 and MP10_0113.

1. **Potential for a series of high rise buildings to impact on the privacy of dwellings in SP 9577-**
   The proposed architectural design of the future residential buildings will provide for an acceptable acoustic privacy between tenancies within the proposed future development. The proposed scheme includes suitable acoustic separation between the proposed residential tenancies within the proposed buildings, and it is therefore in our opinion acoustically acceptable.

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Currently there are no acoustic criteria for noise transfer between residential tenancies externally within any guidelines or criteria including the BCA, Department of Planning or local council.

The proposed architectural design of the buildings is similar to common occurrences within high density residential living within similar developments which includes the following;

a. Location of balconies within multi level residential living between levels, ie 3m vertical separation.

b. Separation between units within neighbouring apartments within residential units, ie less than 3m horizontally.

c. Separation between gardens of typical neighbouring properties, ie no separation.

2. **SRDAC – The SRDAC comments within their letter indicate that the development should be designed in such that internal noise levels within the future residential tenancies comply with the requirements of Clause 102 subdivision 3 of the State Environmental Planning Policy (Infrastructure) 2007-**

The acoustic assessment conducted as part of he EAR application and detailed within the Acoustic Logic Consultancy (ALC) Noise Impact Assessment (Ref: 20101139.1/0212A/R2/BW) has been conducted in conjunction with the minimum requirements of the State Environmental Planning Policy (Infrastructure) 2007 requirements. Section 6 of the ALC report details the minimum acoustic requirements of the policy and Section 6.4 of the report presents typically acoustic treatments to the future development to ensure minimum internal noise level criteria are achieved.

Condition 102 of the NSW State Environmental Planning Infrastructure policy states:

"(1) This clause applies to development for any of the following purposes that is on land in or adjacent to the road corridor for a freeway, a tollway or a transit way or any other road with an annual average daily traffic volume of more than 40,000 vehicles (based on the traffic volume data published on the website of the RTA) and that the consent authority considers is likely to be adversely affected by road noise or vibration:

(a) a building for residential use,

(b) a place of public worship,

(c) a hospital,

(d) an educational establishment or child care centre.

(2) Before determining a development application for development to which this clause applies, the consent authority must take into consideration any guidelines that are issued by the Director-General for the purposes of this clause and published in the Gazette.

(3) If the development is for the purposes of a building for residential use, the consent authority must not grant consent to the development unless it is satisfied that appropriate measures will be taken to ensure that the following LAeq levels are not exceeded:

(a) in any bedroom in the building--35 dB(A) at any time between 10 pm and 7 am,

(b) anywhere else in the building (other than a garage, kitchen, bathroom or hallway)--40 dB(A) at any time"

Based on the NSW State Environmental Planning Policy Infrastructure requirements detailed above the suitable internal noise level criteria for the residential elements of the development are detailed in the table below.

Table 1 – Internal Traffic Noise Level Objectives with Residential Areas

Room Type	Time Period	Internal Noise Level criteria
Bedroom	10pm to 7am	35 dB(A) $L_{Aeq\ (9\ hour)}$
Living Area	Any time	40 dB(A) $L_{Aeq\ (24\ hour)}$

The proposed acoustic treatments for the development include architectural and building fabric constructions to achieve internal noise levels and does not depend on any noise walls/screens, planting or the like between the development site and surrounding road ways.

Based on the above discussion it is our opinion that the requirements of the State Environmental Planning Policy (Infrastructure) 2007 have been addressed on the provided acoustic treatment and controls within the ALC Noise Impact Assessment addresses the concerns of the SRDAC.

3. Indicate how the proposed development will be designed to mitigate noise (traffic and other) from Epping Road-

Similar to the discussion within the point above noise from Epping Road has been assessed within the Noise Impact Assessment (Ref: 20101139.1/0212A/R2/BW). The assessment included noise measurements both attended and unattended at the site.

Internal noise levels have been specified in compliance with the relevant Australian Standards (including the Australian Standards AS2107:2000 and AS3671-1989) as well as the State Environmental Planning Policy (Infrastructure) 2007 requirements.

Section 6 of the ALC Noise Impact Assessment details the minimum acoustic requirements of the policy and Section 6.4 of the report presents typically acoustic treatments to the future development to ensure minimum internal noise level criteria are achieved.

The projects suitable internal noise levels have been based on the relevant sections of the NSW State Environmental Planning Policy Infrastructure requirements and are summaries in table 1 above.

The recommended acoustic treatments and controls to the proposed building fabric as detailed within the ALC Noise Impact Assessment are summarised in the table below.

Table 2 – Typical Glazing Requirements

Location	Room	Glazing Requirements	Acoustic Seals
Epping Road Façade	Bedrooms	10.38mm laminated	Yes
	Living rooms	10.38mm laminated	Yes
Herring Road Façade	Bedrooms	10.38mm laminated	Yes
	Living rooms	10.38mm laminated	Yes
Northwest Façade	Bedrooms	10.38mm laminated	Yes
	Living rooms	6.38mm laminated	Yes
All Other Facades	Bedrooms	6.38mm laminated	Yes
	Living rooms	6.38mm laminated	Yes

4. Increase setback on the corner of Epping and Herring Roads to allow appropriate separation between Building L and the RTA's future slip road.

The acoustic assessment conducted as part of he EAR application and detailed within the Noise Impact Assessment (Ref: 20101139.1/0212A/R2/BW) has been conducted in conjunction with the minimum requirements of the State Environmental Planning Policy (Infrastructure) 2007 requirements which would be required for the future RTA slip Road.

The measured noise levels conducted at the site indicate the existing noise levels at the site which are resulting from the busy road way. For an increase in the noise levels are the future building façade to result traffic numbers and movement would need to increase significantly, that is for a 3 dB(A) increase in noise levels traffic numbers would need to double. As Epping road currently carries over 40,000 vehicles it would not be practical for the roadway to increase significantly. Similarly the proposed changes to the RTA slip way will not result in a significant (if any) noise difference impacting on the proposed development.

As such the proposed treatments to the development with Section 6 of the Noise Impact Assessment (Ref: 20101139.1/0212A/R2/BW) will be acoustically acceptable to ensure internal noise levels from the existing and future conditions will comply with the relevant Australian Standards and the State Environmental Planning Policy (Infrastructure) 2007 requirements.

5. Privacy of adjoining residential dwellings, in particular 116-118 Herring Road. Further information on the following is required:

- **Impact on acoustic and visual privacy (given that a number of backyards will front onto the proposed new road);**

The acoustic assessment conducted as part of he EAR application and detailed within the ALC Noise Impact Assessment (Ref: 20101139.1/0212A/R2/BW) included an assessment of potential noise impact from the proposed perimeter roadways to neighbouring properties.

Section 5 of the Noise Impact Assessment details the acoustic investigation including the suitable noise level criteria. For land use developments with the potential to create additional traffic on local roads the development should comply with the requirements detailed in the Department of Environment and Climate Change's (DECC) Environmental Criteria for Road Traffic Noise ECRTN as detailed in the report.

Potential noise impacts from traffic movements generated by the development on the proposed perimeter roadways have been assessed for all residents surrounding the site, including 116-118 Herring Road.

The investigation into noise associated with additional traffic movements revealed that any increased traffic flows will comply with Industrial Noise Policy criteria for increased traffic volumes on surrounding roadways and would not adversely impact on the acoustic amenity of surrounding residential receivers.

The relevant noise levels criteria fir land use developments with the potential to create additional traffic on local roads the development should comply with the requirements detailed in the DECC ECRTN. Criteria applicable to the development are detailed below. If existing noise levels exceed those in Table 8 a 2 dB increase in noise is allowed.

The proposed development includes the use of a carpark and future roadways to the north east and northwest of the site which have also been assessed against the criteria detailed in the table below.

Table 3 - Criteria for Traffic Noise for New Developments

Time of day	Criteria for Acceptable Traffic Noise Level dB(A)
Day (7am to 10pm)	60 $L_{Aeq(1hr)}$ – Collector Road 55 $L_{Aeq(1hr)}$ – Local Road
Night (10pm to 7am)	55 $L_{Aeq(1hr)}$ – Collector Road 50 $L_{Aeq(1hr)}$ – Local Road

The ALC Noise Impact Assessment includes a detailed assessment into the potential for noise generation from the proposed internal roadways to neighbouring receivers.

Potential noise impacts from traffic movements generated by the developments proposed internal roadways have been assessed for residents surrounding the site. The assessment is based on the maximum traffic flow periods using FHWA and CORTN traffic noise prediction models and noise level measurements conducted at the site and presented in the ALC Noise Impact Assessment report. The results of the assessment are detailed below.

Traffic noise generated by the proposed development was assessed using current and predicted traffic flows provided by Traffix.

The predicted worst case noise increases on each of the streets surrounding the development are summarised in the following table. The assessment was conducted assuming up to a 75% renewal of car spaces during a worst case 1 hour during a peak morning or evening period within the future carpark area.

The provided traffic movements of the future perimeter roadways from Traffix include the following:

1. Up to 180 vehicle movements per hour during a worst case period, which has been used as the basis for day and night time periods and:

2. 1800 vehicle movements per day and any section of the future roadways.

The table below details the results of the potential noise impact from traffic movements on the internal roadways impacting on neighboring properties including 116-118 Herring Road.

Table 4 – Calculated Noise Associated with Traffic Generation

Roadway	Time Period	Criteria for Acceptable Traffic Noise Level dB(A) $L_{eq\ (1hr)}$	Calculated Future Traffic Noise $L_{eq\ (1\ hr)}$	Compliance
Future Perimeter Roadways	Day (7am to 10pm)	55	Up to 49	Yes
	Night (10pm to 7am)	50	Up to 49	Yes

Note: All calculations were conducted using FHWA traffic modelling and traffic movement numbers provided by Traffix.

The investigation into noise associated with additional traffic movements revealed that any increased traffic flows will generate noise levels which comply with DECC criteria for increased traffic volumes on surrounding roadways and would not adversely impact on the acoustic amenity of surrounding residential receivers.

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,

B.G.White.

Acoustic Logic Consultancy Pty Ltd
Ben White