



ANAVS-ACOUSTIC NOISE & VIBRATION SOLUTIONS P/L

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Acoustic Report
- Aircraft Noise -

For the proposed development at
No. 9 Ashcroft Street, Georges Hall

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1.0 INTRODUCTION

The aim of this report is to determine the building materials to be used and the construction methods to be adopted such that the proposed development at No. 9 Ashcroft Street, Georges Hall is built to achieve the internal noise and vibration levels as specified in AS 2021-2015 “Acoustics-Aircraft Noise Intrusion –Building Siting and Construction” and Canterbury Bankstown Council Conditions/Requirements.

As the acoustical study below shows, we certify that the internal noise attenuation levels for the proposed development at the above address will satisfy the requirements of AS 2021:2015 and Canterbury Bankstown Council Conditions and Requirements, provided that the materials and method of building adopted in the construction comply with the specifications presented in section 3 of this report.

The site is situated on Ashcroft St in the suburb of Georges Hall (Figure 1 – Site Location). The architectural plans by Masterton dated the March 15th , 2023 are for the proposed construction of a two storey dwelling (Figure 2 – Proposed Site Plan).

2.0 ACOUSTICAL STUDY

The site is located west of Bankstown Airport, between the NEF 25 and NEF 30 contours (Figure 3 – ANEF Bankstown Airport Map). According to Table 2.1 of the above code, any home unit development is not usually permitted. Note 4 under Table 2.1 states that 'This Standard does not recommend development in unacceptable areas. However, where the relevant planning authority determines that any development may be necessary, it is recommended that such development should achieve the required ANR determined according to Clause 3.2'. The noise attenuation proposed in this report and the building components treatments described below will result in a residence that is more acoustically sound than surrounding houses and existing residence.

- All aircraft noise attenuation to be expected from the proposed additions and alteration is determined in accordance with Clause 3.2. Maximum allowable indoor noise level as determined from Table 3.3 is 50dB(A) for relaxing and sleeping areas, 55dB(A) for other habitable areas and 60dB(A) for toilets and kitchen.
- DT, DL, DS for the critical runway (Figure 4 – Critical Runway) are determined as per Figure 3.1 page 15 of the above code and presented in the table below:

Critical Runway (metres)	
DS	138
DL	565
DT	2042



The maximum aircraft noise level from planes using Bankstown airport is determined from Tables **3.10** through **3.53** of the above code as **83 dB (A)**.- Typical General Aviation Fixed Wing Aircrafts BAE 146, CNA 750, CAN 510, BEC58P, CNA404,, and CNA182 -.

- The Aircraft Noise Reduction, in sleeping areas and dedicated lounges is **83-50= 33 dB(A)**
- The Aircraft Noise Reduction in any other habitable spaces is **83 -55= 28 dB(A)**
- The Aircraft Noise Reduction in bathrooms, toilets and laundries **83-60= 23 dB(A)**

3.0 FAÇADE & ROOF WEIGHTED SOUND REDUCTION INDICES R_w

The building façade and roof weighted sound reduction indices R_w are determined in accordance with Appendix C and Appendix G, Section G3.1 of AS 2021:2015. The most practical façade and roof material specifications and building components to suit the required noise reduction indices for the above project are provided in Table 3.1 below:

Table 3.1 Windows/Sliders, Doors, Walls & Roof Specifications

Building Component	R_w Rating Achieved
Windows, Sliding Doors on All Bedroom Areas are to be 10.5 VLam Hash with full perimeter Fin Mohair woven brush acoustic seals ⁽¹⁾⁽²⁾⁽³⁾ .	37
Windows, Sliding Doors in Living/Dining/ Kitchen Area, and Theater Room are to be 10.38mm laminated with full perimeter Fin Mohair woven brush acoustic seals ⁽¹⁾⁽²⁾⁽³⁾ .	35
Windows and Slider in all other non-habitable areas are to be 6mm in accordance with Australian Standard AS 2047 (Windows in Buildings) ⁽¹⁾⁽²⁾⁽³⁾ .	25
External Doors are to be Solid Core with acoustic seals fitted around the parameter of the external doors. A drop seal is required at the base of the external doors ⁽²⁾ .	30-33
External Walls are to be <ul style="list-style-type: none"> - 250/240 Standard brick veneer construction with R2 insulation in the timber frame cavity OR - Convectional 90mm timber-stud framed walls, clad externally with Selected Cladding on and internally lined with 13mm soundchek plasterboard plus cavity filled with 75mm thick, 11kg/m³ insulation batts ⁽²⁾⁽³⁾ 	50 43
Roof is to be Tiled Roof with sarking, 13mm thick plasterboard ceiling and ceiling cavity filled with 75mm thick, 11kg/m ³ insulation ⁽³⁾ .	38-43

NB: This report is to be read in conjunction with the BASIX certificate and any other related building specification.

⁽¹⁾ No through weep holes in windows/sliders. ⁽²⁾ All gaps between window & door frames and the masonry walls are to be sealed using acoustic foam Hilti CP620 or similar. Glass wool batts should be applied prior to the application of the foam to seal larger gaps. ⁽³⁾ All gaps are to be acoustically sealed.'



4.0 CONCLUSION

As the acoustical study above shows, the proposed development at No. 9 Ashcroft St, Georges Hall will satisfy the requirements of the AS 2021-2015 “Acoustics-Aircraft Noise Intrusion – Building Siting and Construction” and Canterbury Bankstown Council Conditions/Requirements, provided that the above recommended materials are used in construction. The internal noise levels in the proposed units will enable reasonable amenity for the occupants.

We hope this report meets your requirements. Should you require further explanations, please do not hesitate to contact us.

Yours sincerely,

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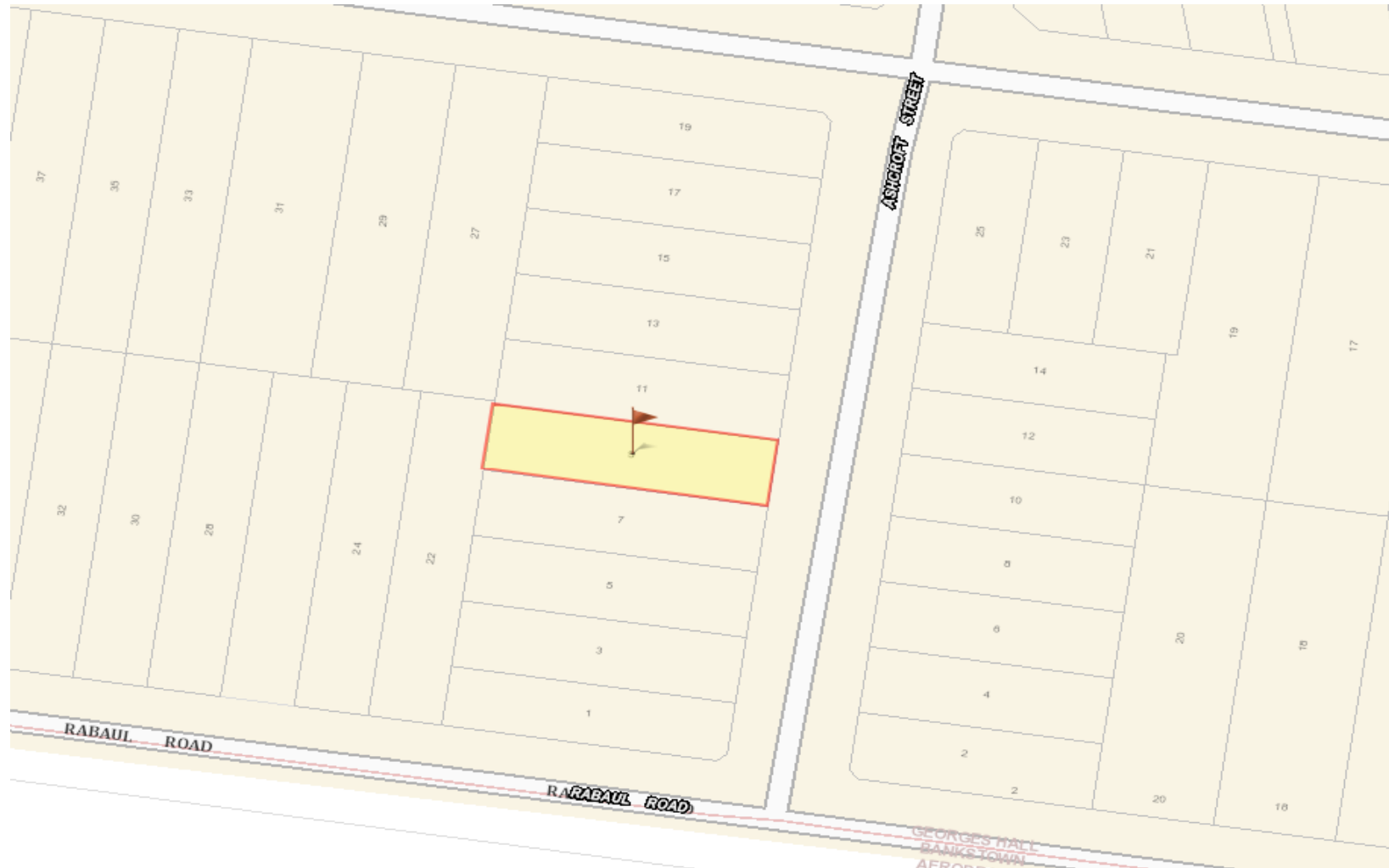


Figure 1 - Site Location

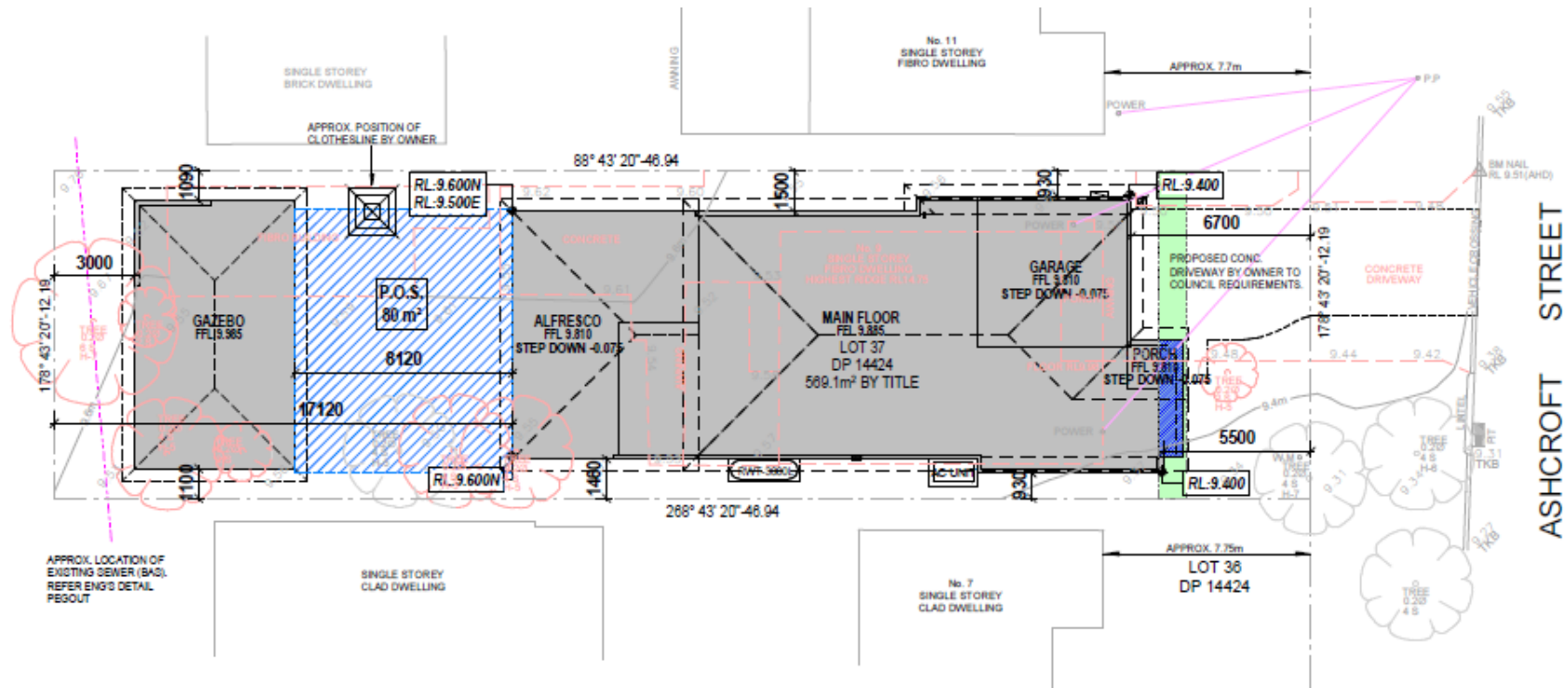


Figure 2 - Proposed Site Plan

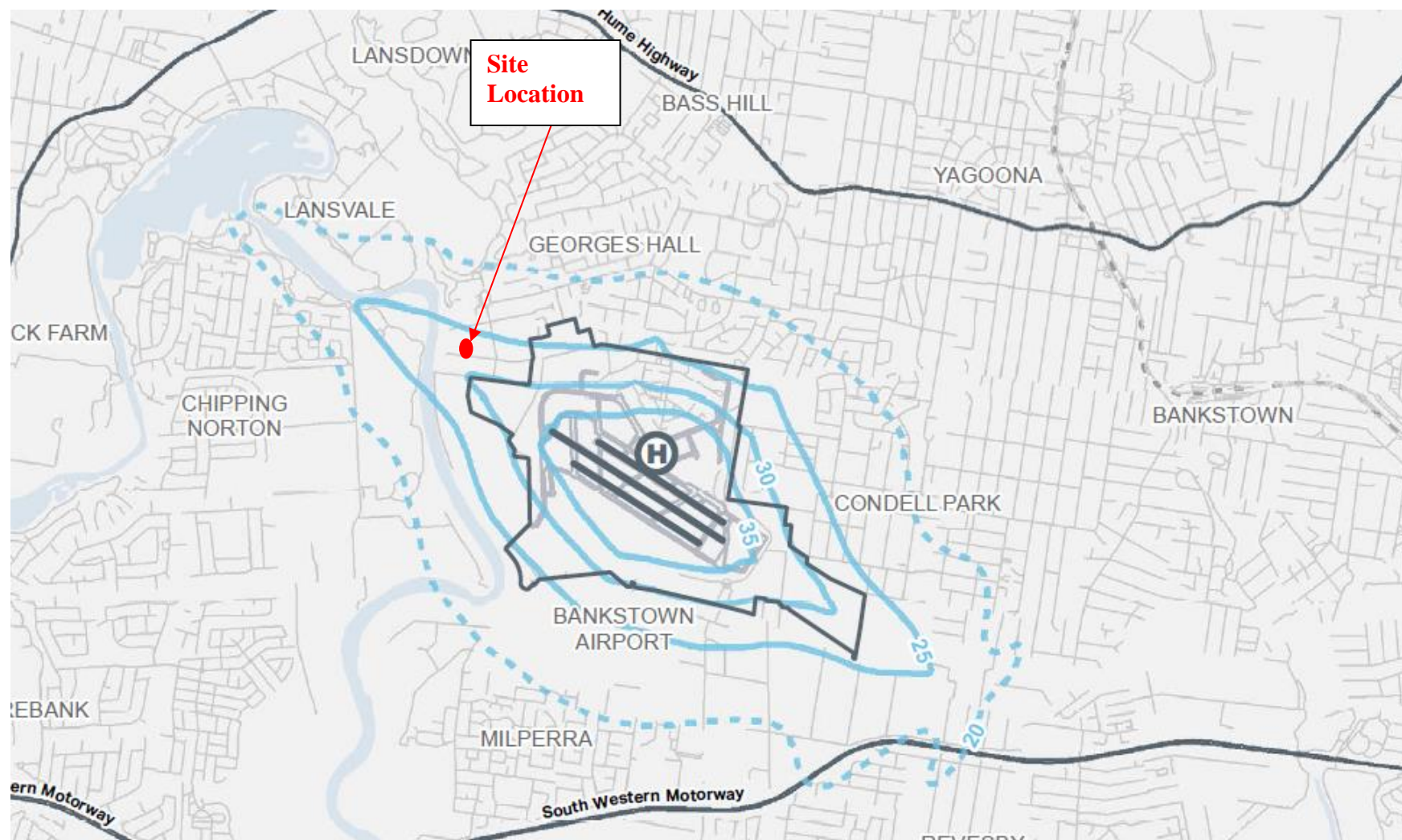


Figure 3 - ANEF Bankstown Airport Map



Figure 4 - Critical Runway