

SUITE 17, 808 FOREST ROAD, PEAKHURST 2210 ABN 73 107 291 494 ACOUSTICS@DAYDESIGN.COM.AU WWW.DAYDESIGN.COM.AU P. 02 9046 3800

Road Traffic Noise Intrusion Report

Co-Living Development 67 Pacific Parade, Dee Why

REPORT NUMBER **7066-1.1R**

DATE ISSUED

30 November 2020

Prepared For:

BL 2093 Pty Ltd C/- Benson McCormack Studio 5, 505 Balmain Road Lilyfield NSW 2040

Attention: Mr Damien Bechon







BL 2093 Pty Ltd Page 2 of 15

Road Traffic Noise Intrusion Report

Revision History

Status	Date	Prepared	Checked	Comment
Draft	22/10/2020	Ricky Thom	Adam Shearer	By email, for client review
Draft 2	30/11/2020	Adam Shearer	-	Revised floor plan

Document 7066-1.1R, 15 pages plus attachments

Disclaimer

The work presented in this document was carried out in accordance with the Day Design Pty Ltd Quality Management System. Day Design is certified to ISO9001.

Day Design Pty Ltd is a member company of the Association of Australasian Acoustical Consultants, and the work herein reported has been performed in accordance with the terms of membership.

Day Design Pty Ltd reserves all copyright of intellectual property in any or all of Day Design's documents. No permission, license or authority is granted by Day Design to any person or organisation to use any of Day Design's documents for any purpose without written consent of Day Design.

This report has been prepared for the client identified in Section 2.0 only and cannot be relied or used by any third party. Any representation, statement, opinion or advice, expressed or implied in this report is made in good faith but on the basis that Day Design is not liable (whether by reason of negligence, lack of care or otherwise) to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in any respect of any representation, statement, or advice referred to above.

Recommendations made in this report are intended to resolve acoustical problems only. No claims of expertise in other areas are made and no liability is accepted in respect of design or construction for issues falling outside the specialist field of acoustical engineering including but not limited to structural, fire, thermal, architectural buildability, fit for purpose, waterproofing or other aspects of building construction. Supplementary professional advice should be sought in respect of these issues.

The information in this document should not be reproduced, presented or reviewed except in full. Prior to passing onto a third party, the Client is to fully inform the third party of the specific brief and limitations associated with the commission. The only exception to this is for the Regulatory Authority in its use of this report to make a Determination.



Road Traffic Noise Intrusion Report

TABLE OF CONTENTS

EXECUTIVE SUMMARY	4
CONSULTING BRIEF	5
SITE AND PROJECT DESCRIPTION	6
ACCEPTABLE TRAFFIC NOISE INTRUSION LEVELS	7
Northern Beaches Council	7
NSW State Environmental Planning Policy (Infrastructure) 2007 2007	8
Project Specific Internal Noise Criteria	8
ROAD TRAFFIC NOISE LEVELS	9
Instrumentation	9
Required Road Traffic Noise Reduction	11
Walls	12
Ceiling and Roof System	13
Mechanical Ventilation	13
Construction Disclaimer and Copyright	14
NOISE IMPACT STATEMENT	15
	CONSULTING BRIEF

TABLES

Table 1	Required Indoor Noise Levels – Residential Buildings	7
Table 2	Measured Long Term Road Traffic Sound Pressure Levels	.10
Table 3	Measured Leg Road Traffic Noise Levels – Pacific Parade	.10

-20

REF: 7066-1.1R

BL 2093 Pty Ltd Page 4 of 15

1.0 EXECUTIVE SUMMARY

A multi storey co-living development is proposed to be constructed at 67 Pacific Parade, Dee Why, NSW.

The new co-living development will consist of a multi-storey building with manager's residence, 25 micro apartments, two internal communal areas, two outdoor communal open space areas, and a two level basement car park with the provision for 13 vehicles.

Residential rooms located along the northern side of the building fronting Pacific Parade will be affected by noise from road traffic on Pacific Parade.

Traffic noise levels from Pacific Parade have been measured at the location of the proposed northern, eastern and southern facades. The measured noise levels have been used to model the outside noise intrusion into the habitable rooms of the proposed co-living development.

The road traffic noise intrusion assessment was based on drawings provided by Benson McCormack Architecture, dated 24 November 2020, attached as Appendix B.

Acceptable intrusive noise levels from road traffic noise are based on the requirements of the Northern Beaches Council's *Warringah Development Control Plan (DCP) 2011*, the *State Environmental Planning Policy (Infrastructure)* 2007 and the NSW Department of Planning "Development Near Rail Corridors and Busy Roads – Interim Guidelines" (2008).

Noise controls are provided to reduce the road traffic noise level to within acceptable indoor noise levels, and are detailed in Section 6.0 of this report.

Once the noise controls in Section 6.0 of this report have been implemented, the noise levels from road traffic in the indoor areas of co-living development will be within acceptable limits as specified by Northern Beaches Council, the State Environmental Planning Policy (SEPP) (Infrastructure) 2007 and by the NSW Department of Planning, and be considered acceptable.



BL 2093 Pty Ltd Page 5 of 15

2.0 CONSULTING BRIEF

Day Design Pty Ltd was engaged by Benson McCormack Architecture on behalf of BL 2093 Pty Ltd to assess the traffic noise impact from Pacific Parade on the proposed co-living development at 67 Pacific Parade, Dee Why, NSW, as required by Northern Beaches Council.

This commission involves the following:

Scope of Work:

- Measure road traffic noise levels at the site;
- Prepare a location plan showing the position of the site to Pacific Parade;
- Determine acceptable noise levels in accordance with the appropriate planning guide lines;
- Carry out a traffic noise intrusion computer analysis using the client's architectural drawings;
- Provide noise controls; and,
- Prepare a Road Traffic Noise Intrusion Report.



3.0 SITE AND PROJECT DESCRIPTION

A proposed co-living development is to be constructed at 67 Pacific Parade, Dee Why, NSW, as shown in Figure 1 below.

The new co-living development will consist of a multi-storey building with manager's residence, 25 micro apartments, two internal communal areas, two outdoor communal open space areas, and a two level basement car park with the provision for 13 vehicles.

The proposed development site is located on land zoned *R3 – Medium Density Residential* under the Warringah Local Environment Plan 2011. The development site is located on land within the Northern Beaches Council's jurisdiction.

Pacific Parade carries moderate traffic volumes, and is used by the 159 and 177X Sydney Bus Services. The accommodation rooms overlooking Pacific Parade will therefore be exposed to moderate amounts of road traffic noise levels. Northern Beaches Council requires a road traffic noise assessment be conducted to investigate potential noise impacts on the proposed development.

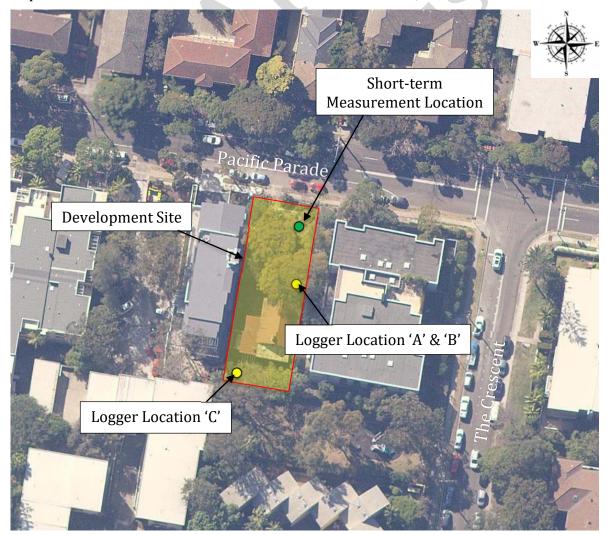


Figure 1. Proposed Co-Living Development - 67 Pacific Parade, Dee Why



BL 2093 Pty Ltd Page 7 of 15

4.0 ACCEPTABLE TRAFFIC NOISE INTRUSION LEVELS

4.1 Northern Beaches Council

With regard to traffic noise, Section D3 – *Noise* of the Warringah DCP 2011 states the following:

'Objectives

- To encourage innovative design solutions to improve the urban environment.
- To ensure that noise emission does not unreasonably diminish the amenity of the area or result in noise intrusion which would be unreasonable for occupants, users or visitors.

Requirements

2. Development near existing noise generating activities, such as industry and roads, is to be designed to mitigate the effect of that noise.

4.2 NSW Department of Planning (DoP)

The NSW Department of Planning (DoP) document "Development Near Rail Corridors and Busy Roads – Interim Guidelines" (2008) recommends internal noise criteria, which are extracted below in Table 1.

Table 1 Required Indoor Noise Levels - Residential Buildings

Type of Occupancy	Noise Level, dBA	Applicable Time Period
Sleeping areas (bedrooms)	35	Night 10 pm to 7 am
Other habitable rooms (excl. garages, kitchens, bathrooms & hallways)	40	At any time

Note: airborne noise is calculated as L_{eq} (9h)(night) and L_{eq} (15hr)(day).

In addition, it also states that:

"if internal noise levels with windows or doors open exceed the criteria by more than 10 dBA, the design of the ventilation for these rooms should be such that occupants can leave windows closed, if they so desire, and also to meet the ventilation requirements of the Building Code of Australia".



BL 2093 Pty Ltd Page 8 of 15

4.3 NSW State Environmental Planning Policy (Infrastructure) 2007

The NSW State Environmental Planning Policy (Infrastructure) 2007 details the following in Clause 102 with regards to road noise and vibration:

102 Impact of road noise or vibration on non-road development

- (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 L_{Aeq} levels are not exceeded:
 - (a) in any bedroom in the building—35 dB(A) at any time between 10.00 pm and 7.00 am,
 - (b) anywhere else in the building (other than a garage, kitchen, bathroom or hallway)— 40 dB(A) at any time.
- (4) In this clause, **freeway**, **tollway** and **transitway** have the same meanings as they have in the Roads Act 1993.

4.4 Project Specific Internal Noise Criteria

Taking into consideration the above documents and policies, we recommend that the acceptable internal noise criteria for this development be as follows:

With Windows Closed:

- Leq, 9 hr 35 dBA inside bedrooms at night (10 pm to 7 am); and
- $L_{eq, 15 hr} 40 dBA$ inside other habitable rooms during the day (7 am to 10 pm).

With Windows Open:

- Leq, 9 hr 45 dBA inside bedrooms at night (10 pm to 7 am); and
- $L_{eq, 15 hr}$ 50 dBA inside other habitable rooms during the day (7 am to 10 pm).



BL 2093 Pty Ltd Page 9 of 15

5.0 ROAD TRAFFIC NOISE LEVELS

5.1 Instrumentation

Noise survey instrumentation used in this assessment is listed in the attached **Appendix A**.

5.2 Measured Road Traffic Noise Levels

The proposed development is affected by road traffic noise from Pacific Parade, which carries moderate traffic volumes.

Three environmental noise monitors were placed at the subject site at 67 Pacific Parade, Dee Why, shown as Logger Location 'A', 'B' and 'C' in Figure 1. These monitors collected data over a period of eight days, from Tuesday 22 September to Wednesday 30 September, 2020, to determine the road traffic noise level at different locations across the site.

The noise monitors at Logger Locations 'A' and 'B' were located approximately 30 metres from the centre line of Pacific Parade, and were installed at heights of 1.5 and 4.5 metres above ground level respectively. The monitors at these locations are considered representative of the traffic noise level likely to be experienced along the eastern façade of the proposed development.

The noise monitor at Location 'C' was located approximately 55 metres from the centre line of Pacific Parade, and was installed at a height of 1.5 metres above ground level. This noise monitor was partially screened from traffic noise along Pacific Parade by the existing dwelling located at 67 Pacific Parade, Dee Why. The monitor at Location 'C' is considered representative of the traffic noise level likely to be experienced along the southern façade of the proposed development.

It is also noted that the terrain of the subject site sloped upward from the northern boundary of the site, adjoining Pacific Parade, to the southern boundary of the site, with an eight-metre increase in elevation recorded from the front (north) to the rear (south) of the site. The current elevations of the site can be seen within the architectural drawings prepared by Benson McCormack Architecture, dated 24 November 2020, attached as Appendix B.

The following noise levels were measured at the three noise monitor locations during the day time and night time periods.



Table 2 Measured Long Term Road Traffic Sound Pressure Levels

Location	Daytime L _{Aeq, 15 hour} Noise Level	Night Time L _{Aeq} , 9 hour Noise Level
Location 'A' – Ground Floor Level Front Yard, 67 Pacific Parade, Dee Why	52 dBA	47 dBA
Location 'B' – First Floor Level Front Yard, 67 Pacific Parade, Dee Why	54 dBA	50 dBA
Location 'C' – Ground Floor Level Rear Yard, 67 Pacific Parade, Dee Why	50 dBA	48 dBA

Short-term attended noise measurements were also conducted on Tuesday 22 September, 2020 to ascertain a representative traffic noise spectrum at Logger Location 'A' and 'B', and at the ground (1.5 m) and first floor (4.5 m) heights at Logger Location 'C'.

A further attended measurement was also conducted at the approximate location of the proposed northern façade of the development (facing Pacific Parade), on Wednesday 30 September, 2020, at heights of 1.5 and 4.5 metres above ground level to measure the octave band centre frequencies of the road traffic on Pacific Parade to be used in noise intrusion calculations. This location is shown as 'Short Term Measurement Location' in Figure 1, and is approximately 15 metres from the centre line of Pacific Parade.

The measured noise levels at each location are shown in Table 3 below.

Table 3 Measured Leq Road Traffic Noise Levels - Pacific Parade

Description	Measured Sound Pressure Levels (dB) at Octave Band Centre Frequencies (Hz)								
•	dBA	63	125	250	500	1k	2k	4k	8k
Logger Location 'A' – Ground Floor, Front	55	62	55	50	49	49	46	47	46
Logger Location 'B' – First Floor, Front	55	61	55	52	51	51	46	40	32
Logger Location 'C' – Ground Floor, Rear	54	64	58	51	47	45	45	48	47
Logger Location 'C' – First Floor, Rear	53	57	52	50	49	48	46	45	37
Short Term Measurement Location – Ground Floor, Front	55	64	56	51	51	51	48	43	39
Short Term Measurement Location – First Floor, Front	59	63	60	56	55	54	51	47	44



BL 2093 Pty Ltd Page 11 of 15

Road Traffic Noise Intrusion Report

5.3 Required Road Traffic Noise Reduction

The proposed location of the northern façade will be set back 6.5 metres from the northern site boundary. Therefore, using the formula below, the road traffic noise levels at the nearest façade can be calculated.

$$L_{p2} = L_{p1} - 10 \times log(D_2/D_1)$$

Where: L_{p1} = Measured Sound Pressure Level;

 L_{p2} = Calculated Sound Pressure Level at nearest façade;

 D_1 = Distance from noise source (road) during measurement; and

 D_2 = Distance from noise source (road) of nearest façade.

The calculated road traffic noise levels at the nearest façade to Pacific Parade, based upon the long-term measurements shown in Table 2 at Logger Locations 'A' and 'B', are:

- **55 dBA** Laeq, 15 hour during the day and **50 dBA** Laeq, 9 hour during the night at the ground floor level; and,
- 57 dBA LAeq, 15 hour during the day and 53 dBA LAeq, 9 hour during the night at the first floor level and above.

Based on the acceptable noise levels established in Section 4.4 of this report and the measured noise levels in Section 5.2, the calculated required noise reduction at the closest façade of the proposed development from road traffic on the Pacific Parade is as follows:

Ground Floor Level

Windows Closed

- (55 40 =) 15 dB for habitable rooms during the day (7 am to 10 pm); and
- (50 35 =) 15 dB for bedrooms at night (10 pm to 7 am).

Windows Open

- (55 50 =) 5 dB for habitable rooms during the day (7 am to 10 pm); and
- (50 45 =) 5 dB for bedrooms at night (10 pm to 7 am).

First to Third Floor Levels

Windows Closed

- (57 40 =) 17 dB for habitable rooms during the day (7 am to 10 pm); and
- (53 35 =) 18 dB for bedrooms at night (10 pm to 7 am).

Windows Open

- (57 50 =) 7 dB for habitable rooms during the day (7 am to 10 pm); and
- (53 45 =) 8 dB for bedrooms at night (10 pm to 7 am).



BL 2093 Pty Ltd Page 12 of 15

6.0 NOISE CONTROL RECOMMENDATIONS - STANDARD CONSTRUCTION

We have modelled the northern façade of the co-living development and calculated the level of road traffic noise intrusion through the roof, walls, windows and doors. As the northern façade of the proposed development is the closest to Pacific Parade, compliance with the criteria shown in Section 4.4 for the habitable rooms along the northern façade will ensure compliance for all other habitable rooms throughout the development.

All calculations are based on the architectural drawings prepared by Benson McCormack Architecture, dated 24 November, 2020, attached as Appendix B.

The necessary noise reduction for habitable rooms can be achieved if the following noise control recommendations are complied with, and there are no gaps at construction joints, around plumbing penetrations in external walls, at window sills, door frames, etc., through which sound may penetrate.

6.1 Walls

In order to reduce the traffic noise level into the habitable rooms along the northern façade of the development, the following standard constructions are recommended throughout the development.

If Brick veneer walls are proposed, the following construction should be implemented:

- 110 mm bricks,
- 90 mm stud frame with cavity insulation 75 mm thick,
- 13 mm standard plasterboard lining on the 90 mm studs.

If light weight walls are proposed, the following construction should be implemented:

- 16 mm fibre cement clad sheeting such as James Hardie Stria or equivalent or 9 mm fibre cement sheeting, fixed to the external side of,
- 90 mm timber studs.
- 1 layer of 13 mm fire rated plasterboard fixed to the internal side of the studs, with
- 75 mm bulk insulation (min 14 kg/m³ density) installed between the studs.

Normal cavity-brick walls make an excellent sound barrier, reducing outside noise intrusion by as much as 50 dBA. Brick veneer walls also make good sound barriers. However, care must be exercised with brick-veneer walls to minimise sound penetration near the eaves as shown in the attached Figure AC806-J. Bricklayers should be instructed to ensure the perp-ends are filled and suitable cement-mortar used to eliminate shrinkage gaps during curing.



BL 2093 Pty Ltd Page 13 of 15

6.2 Ceiling and Roof System

Roof and celling systems may consist of *concrete slab construction*, alternatively the construction below may be incorporated into the design:-

- All roofs may be concrete tile or metal deck construction.
- Thermal insulation and a heavy Duty Sarking vapour barrier laid below the roof.
- Ceilings under the roof are to comprise a single layer of 13 mm fire rated plasterboard construction.
- 100 mm thick bulk insulation batts (min 14 kg/m³ density) are to be placed between the ceiling joists.

6.3 Glazed Windows & Doors

Standard (5 mm monolithic glass) windows and doors will reduce outside noise intrusion by approximately 15 to 18 dB.

Window and door frames may be either sliding or casement style and be of robust sound-barrier construction having interlocking stiles and Schlegel (or similar) Q-lon or vinyl finned seals to minimise sound leakage.

It is most important that any sound leakage paths around the windows be sealed off. We recommend that prior to the fitting of architraves around the windows, the space between the frames and the wall structure be sealed off with polystyrene rod packers and silicone mastic, as shown in the attached datasheet AC809-4C. The window architraves can then be fitted.

6.4 Mechanical Ventilation

The highest external noise levels at the northern façade of the proposed development are 57 dBA during the day and 53 dBA at night.

With windows and doors left partially open (20% of the window area) the resultant internal noise levels are typically 10 dB less than the corresponding external noise levels.

In this instance, this equates to 47 dBA during the day and 43 dBA at night.

It can be seen that the acceptable day time noise limit of (40 + 10 =) 50 dBA and night time noise limit of (35 + 10 =) 45 dBA (with windows and doors partially open) is met for habitable rooms along the northern façade of the development. As such, mechanical ventilation will not be required for this development.



BL 2093 Pty Ltd Page 14 of 15

6.5 Construction Disclaimer and Copyright

The recommendations in this report have been prepared for the client whose name appears on the first page, and may be copied and distributed as required for this project. However, the principles and recommendations in this report and/or attachments may not be used by a third person without the written permission of Day Design Pty Ltd.

Recommendations made in this report are intended to resolve acoustical problems only. We make no claim of expertise in other areas and draw your attention to the possibility that our recommendations may not meet the structural, fire, thermal or other aspects of building construction.

We encourage clients to check with us before using materials or equipment that are alternative to those specified in our Acoustical Report.

The integrity of acoustic structures is very dependent on installation techniques. For example, a small crack between the top of a wall and a ceiling can reduce the effective sound transmission loss of a wall from $R_{\rm w}$ 50 to $R_{\rm w}$ 40. Therefore, the use of contractors that are experienced in acoustic construction is encouraged.

Furthermore, two insulation products may have the same thermal R rating but the sound absorption of one may be entirely deficient. As such, the use of materials and equipment that are supported by acoustic laboratory test data is encouraged.



BL 2093 Pty Ltd Page 15 of 15

Road Traffic Noise Intrusion Report

7.0 NOISE IMPACT STATEMENT

Day Design Pty Ltd was engaged by Benson McCormack Architecture on behalf of BL 2093 Pty Ltd to assess the traffic noise impact from Pacific Parade on the proposed co-living development at 67 Pacific Parade, Dee Why, NSW.

Existing levels of road traffic noise have been measured at multiple locations of the development site. We are confident that the noise levels used in our assessment are typical of the average maximum noise levels in this area.

Provided the recommendations in Section 6.0 of this report are implemented, the intrusive road traffic noise levels will comply with the internal noise levels specified in Northern Beaches Council's *Warringah Development Control Plan 2011*, the *State Environmental Planning Policy (Infrastructure)* 2007 and the NSW Department of Planning document "Development Near Rail Corridors and Busy Roads – Interim Guidelines" (2008), and will be considered acceptable.

Ricky Thom, BA, BE(Hons)(Mech), GradIEAust

Acoustical Engineer

for and on behalf of Day Design Pty Ltd

AAAC MEMBERSHIP

Day Design Pty Ltd is a member company of the Association of Australasian Acoustical Consultants, and the work herein reported has been performed in accordance with the terms of membership.

APPENDICES

- Appendix A Instrumentation
- Appendix B Architectural Drawings
- AC806-J Reduction of Noise Intrusion by Wall Cavity Sealing
- AC809-4C Frame Sealing Methods for Sound Rated Windows



NOISE SURVEY INSTRUMENTATION

Noise level measurements and analysis in this report were made with instrumentation as follows.

Table A Noise Survey Instrumentation

Description	Model No	Serial No
Infobyte Noise Logger (Type 2) Condenser Microphone 0.5" diameter	iM4 MK 250	107 107
Infobyte Noise Logger (Type 2) Condenser Microphone 0.5" diameter	iM4 MK 250	117 117
Infobyte Noise Logger (Type 2) Condenser Microphone 0.5" diameter	iM4 MK 250	118 118
Modular Precision Sound Analyser	B&K 2270G4	301 0781
Condenser Microphone 0.5" diameter	B&K 4189	304 4649
Condenser Microphone 0.5" diameter	B&K 4189	279 1662
Acoustical Calibrator	B&K 4231	272 1949

An environmental noise logger is used to continuously monitor ambient noise levels and provide information on the statistical distribution of noise during an extended period of time. The Infobyte Noise Monitor iM4 is a Type 2 precision environmental noise monitor meeting all the applicable requirements of AS1259 for an integrating-averaging sound level meter.

The B&K 2270 Sound Analyser is a real-time precision integrating sound level meter with octave and third octave filters, that sample noise at a rate of 8 samples per second and provides L_{eq} , L_{10} and L_{90} noise levels using both Fast and Slow response and L_{peak} noise levels on Impulse response time settings. The meter is frequency weighted to provide dBA, dBC or Linear sound pressure level readings as required. Results are normally downloaded to computer for rapid processing.

All instrument systems had been laboratory calibrated using instrumentation traceable to Australian National Standards and certified within the last two years thus conforming to Australian Standards. The measurement system was also field calibrated prior to and after noise surveys. Calibration drift was found to be less than 1 dB during attended and unattended measurements. No adjustments for instrument drift during the measurement period were warranted.





67 PP

DACLIENT BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS
67-PP
67 Pacific Parade DEE WHY NSW 2099

STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285 RN: 7536

P. +61 2 9818-0777
F. +61 2 9818-0778
E. enquiries@bensonmccormack.com
W. www.bensonmccack.com

BENSON McCORMACK ARCHITECTURE

7066-1.1R Appendix B

THE SITE 67 Pacific Parade DEE WHY NSW 2099

THE CRESCENT RESERVE/PLAYGROUND



THE SITE (CIRCA 1943) 67 Pacific Parade DEE WHY NSW 2099

Architecture.

ALL WORKS TO COMPLY WITH THE BUILDING
CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN
STANDARDS (AS) ** DIAL BEFORE YOU DIG**
www.1100.com.au

Description

Private Open Space
Robe
Rainwater Tank
Screen
Sewer
Storage
Study
Stormwater Pit
Stormwater
Stormwater

BL 2093 PTY LTD PO BOX 1231

PROJECT DETAILS 67 PP 67 Pacific Parade MANLY NSW 2095 DEE WHY NSW 2099

DRAWING TITLE SITE CONTEXT PLANS @A3

SCALE STATUS DA

APPROVED GM

PROJECT No

2004A

DRAWN BY DRAWING No

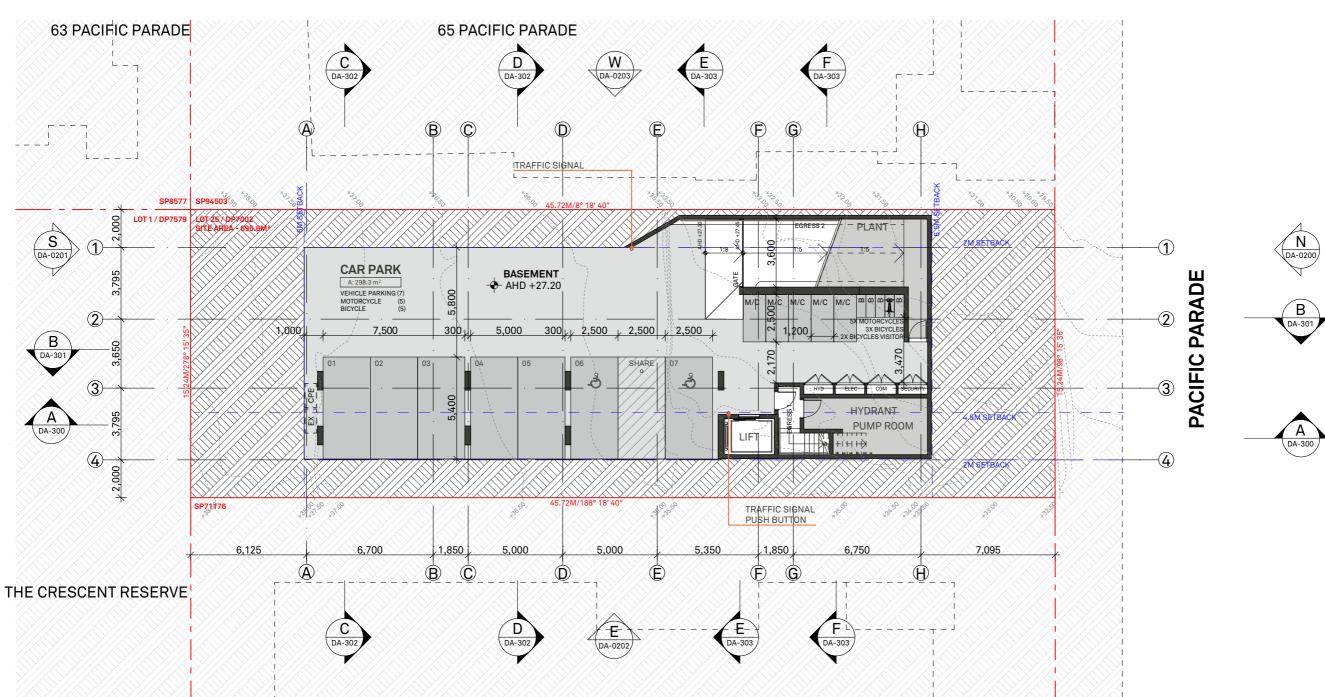
DA-0003

STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285

P. +61 2 9818 0777 **F.** +61 2 9818 0778 E. enquiries@bensonmccorn
W. www.bensonmccack.com

BENSON McCORMACK ARCHITECTURE

7066-1.1R Appendix B



NORTHERN BEACHES COUNCIL

WARRINGAH LEP 2011	
LAND ZONING	R3
MIN. LOT SIZE	NA
FSR	NA
HEIGHT OF BUILDING	11M (ZONE L)
LAND RESERVATION	NA
HERITAGE	NA
FLOOD	NA
ACID SULFATE	NA
KEY SITE	NA
BIODIVERSITY	NA
LANDSLIP RISK	AREA B

PARKING RATE

ARHSEPP RATE APPLIED: BOARDING HOUSE

0,5 SPACE PER MICRO APPARTMENT DWELLING

CAR PARK

RESIDENTIAL: 25 ROOMS + 1 MANAGER REQUIRED PROPOSED

	Residential	13	13
VEHICLE	Visitor	-	-
MOTORCYCL	.E	5	5
BICYCLE	Residential	3	3
	Vicitor	2	2

TOTAL CARPARK PROVIDED



Architecture.
ALL WORKS TO COMPLY WITH THE BUILDING
CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN
STANDARDS (AS) ** DIAL BEFORE YOU DIG**
www.1100.com.au

Description Date

LEGEND

COS CEX D DRY DP DW F FEX FFL FS FSR GBA

1-5 THE CRESCENT

Private Open Space CLIENT Robe
Rainwater Tank
Screen
Sewer
Storage
Study
Stormwater
Stormwater
Structural floor level
Top of Fence
Top of Wall
Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade ARRANGEMENT -DEE WHY NSW 2099 BASEMENT PLAN

DRAWING TITLE GENERAL

SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DB DA PROJECT No DRAWING No

DA-0100

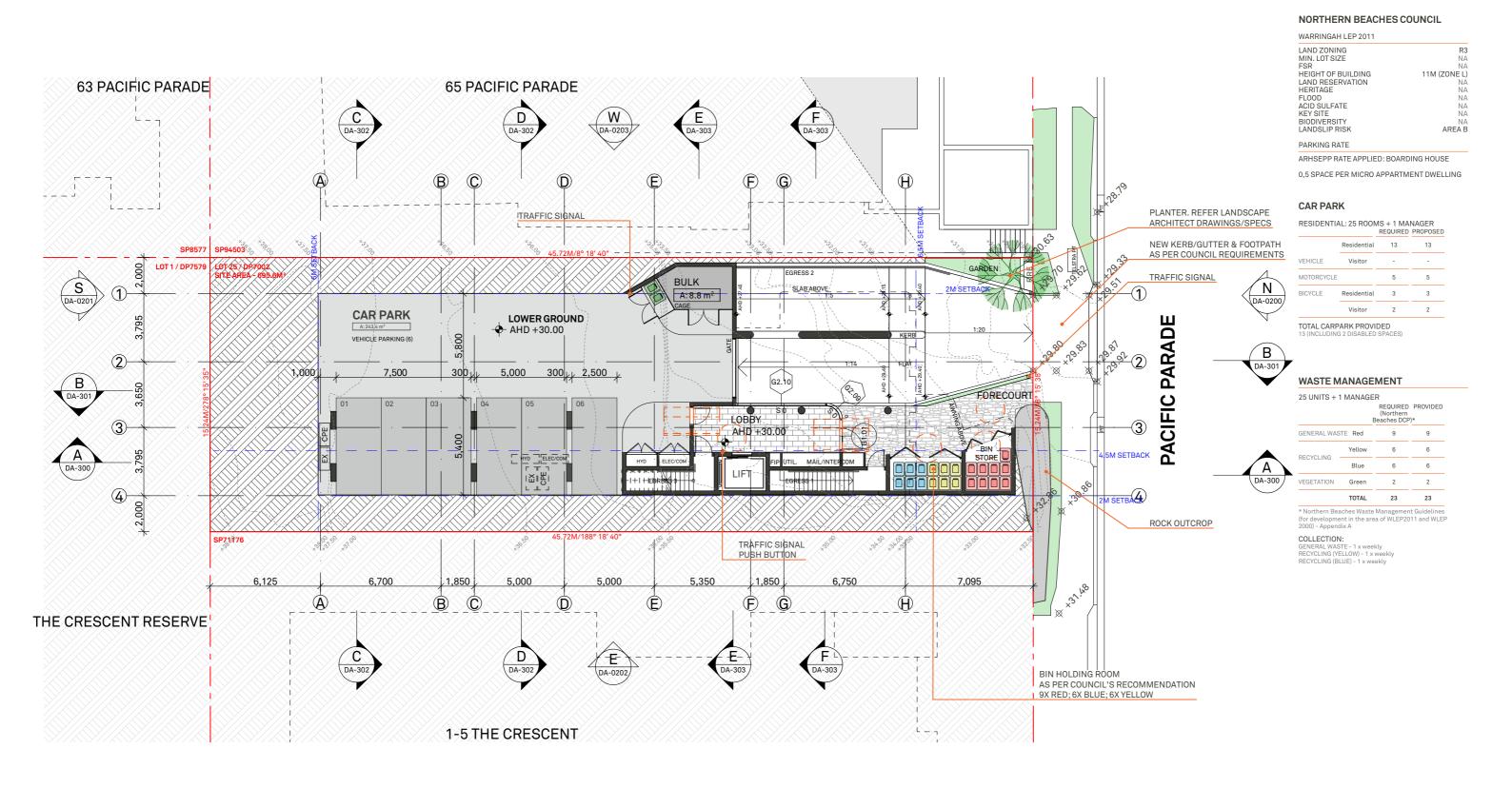
01

2004A

STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285

P. +61 2 9818 0777 F. +61 2 9818 0778 E. enquiries@bensonmccorn
W. www.bensonmccack.com





Architecture.
ALL WORKS TO COMPLY WITH THE BUILDING
CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN
STANDARDS (AS) ** DIAL BEFORE YOU DIG**
www.1100.com.au

Description Date

LEGEND

COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Private Open Space CLIENT Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

PROJECT DETAILS BL 2093 PTY LTD 67 PP PO BOX 1231 MANLY NSW 2095

GENERAL 67 Pacific Parade DEE WHY NSW 2099 LOWER GROUND PLAN

DRAWING TITLE ARRANGEMENT - SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DA DB PROJECT No DRAWING No

DA-0101

2004A

P. +61 2 9818 0777 F. +61 2 9818 0778

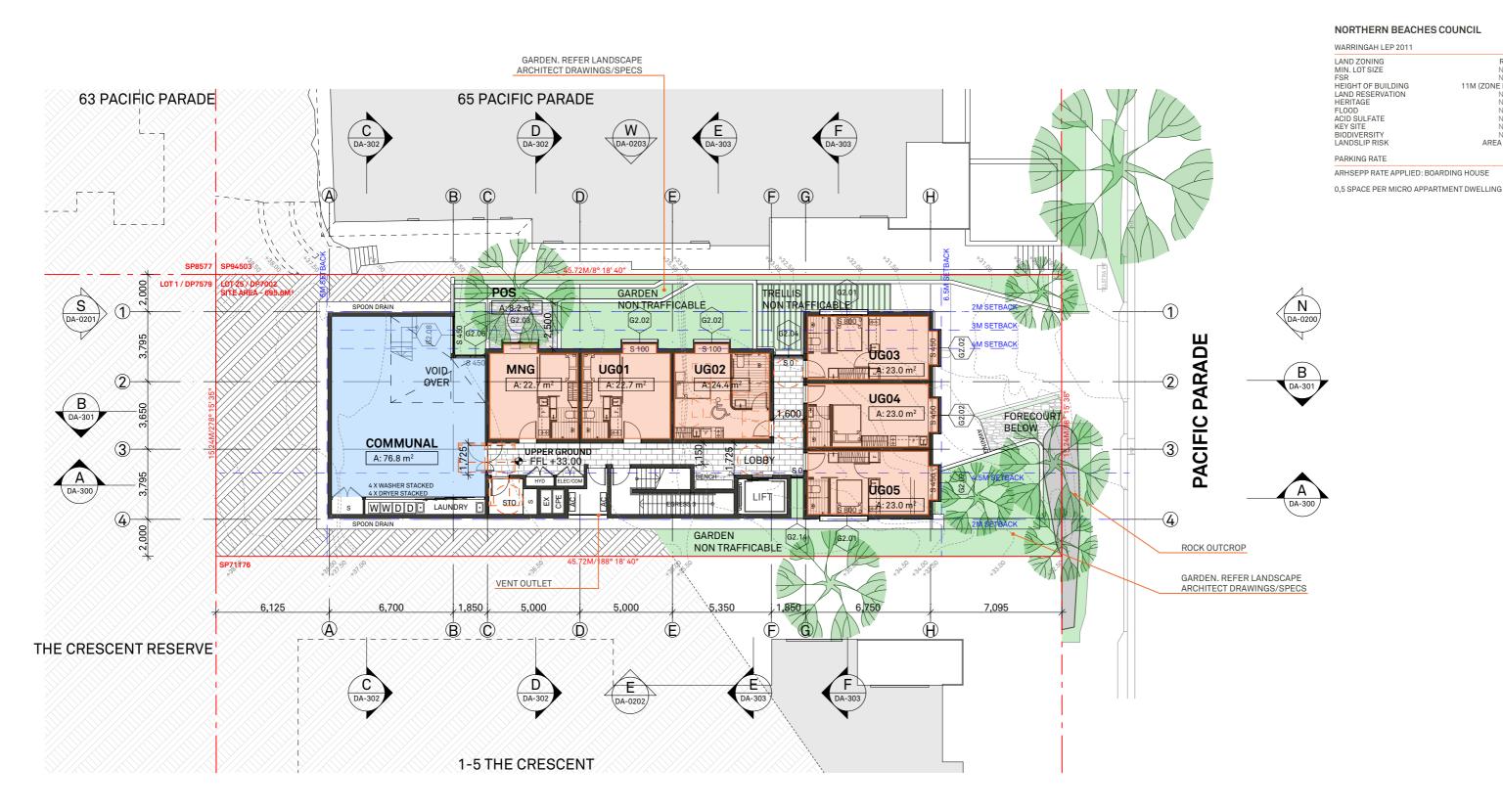
STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285

enquiries@bensor

McCORMACK ARCHITECTURE W. www.bensonmccack.com

BENSON

NA 11M (ZONE L) NA NA NA NA NA AREA B



Architecture.
ALL WORKS TO COMPLY WITH THE BUILDING
CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN
STANDARDS (AS) ** DIAL BEFORE YOU DIG**
www.1100.com.au

Description Date

LEGEND

COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Private Open Space CLIENT Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099 UPPER GROUND

DRAWING TITLE GENERAL ARRANGEMENT -PLAN

SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DA DB PROJECT No DRAWING No

DA-0102

01

2004A

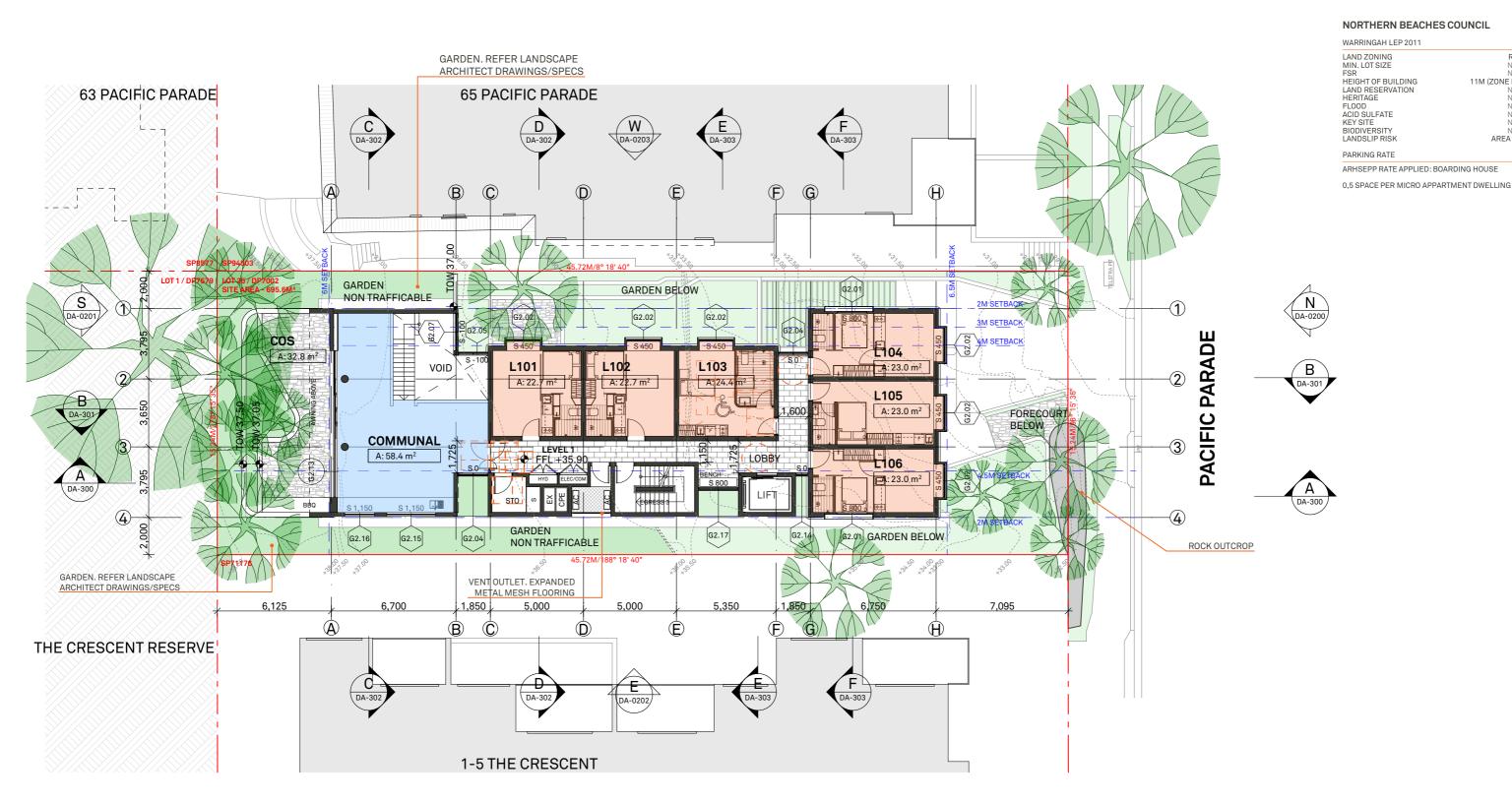
STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285

P. +61 2 9818 0777 F. +61 2 9818 0778 enquiries@bensor

W. www.bensonmccack.com



NA 11M (ZONE L) NA NA NA NA NA AREA B



Architecture.
ALL WORKS TO COMPLY WITH THE BUILDING
CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN
STANDARDS (AS) ** DIAL BEFORE YOU DIG**
www.1100.com.au

Date

Description

LEGEND COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Private Open Space CLIENT Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099 LEVEL 1 PLAN

DRAWING TITLE GENERAL ARRANGEMENT - SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DA DB PROJECT No DRAWING No

DA-0103

01

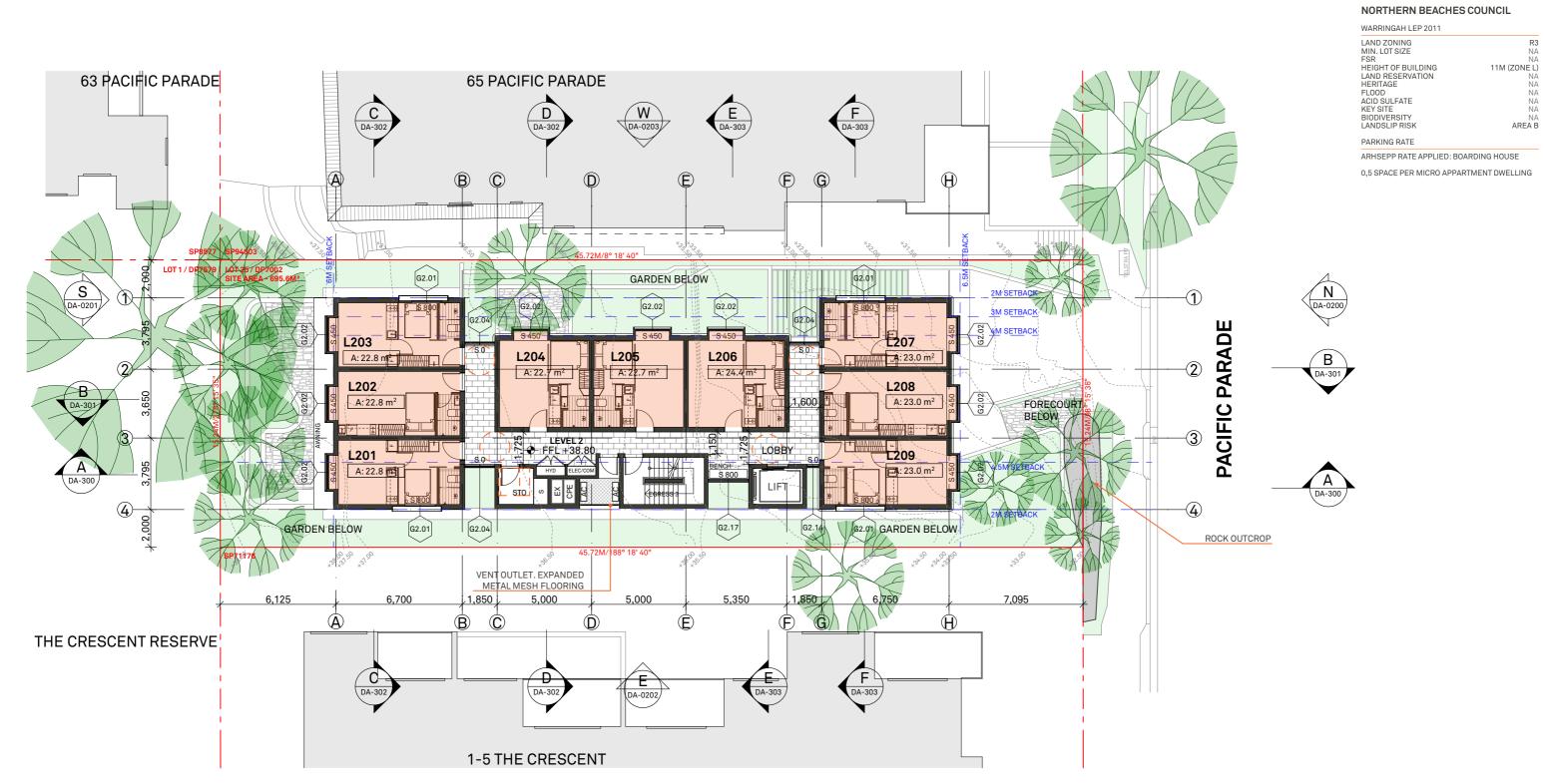
2004A

STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285

P. +61 2 9818 0777 F. +61 2 9818 0778 E. enquiries@bensonmccorn
W. www.bensonmccack.com



7066-1.1R Appendix B



Architecture.
ALL WORKS TO COMPLY WITH THE BUILDING
CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN
STANDARDS (AS) ** DIAL BEFORE YOU DIG**
www.1100.com.au

Description Date

LEGEND

COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Private Open Space CLIENT Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099 LEVEL 2 PLAN

DRAWING TITLE GENERAL ARRANGEMENT - SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DA DB PROJECT No DRAWING No

DA-0104

2004A

01

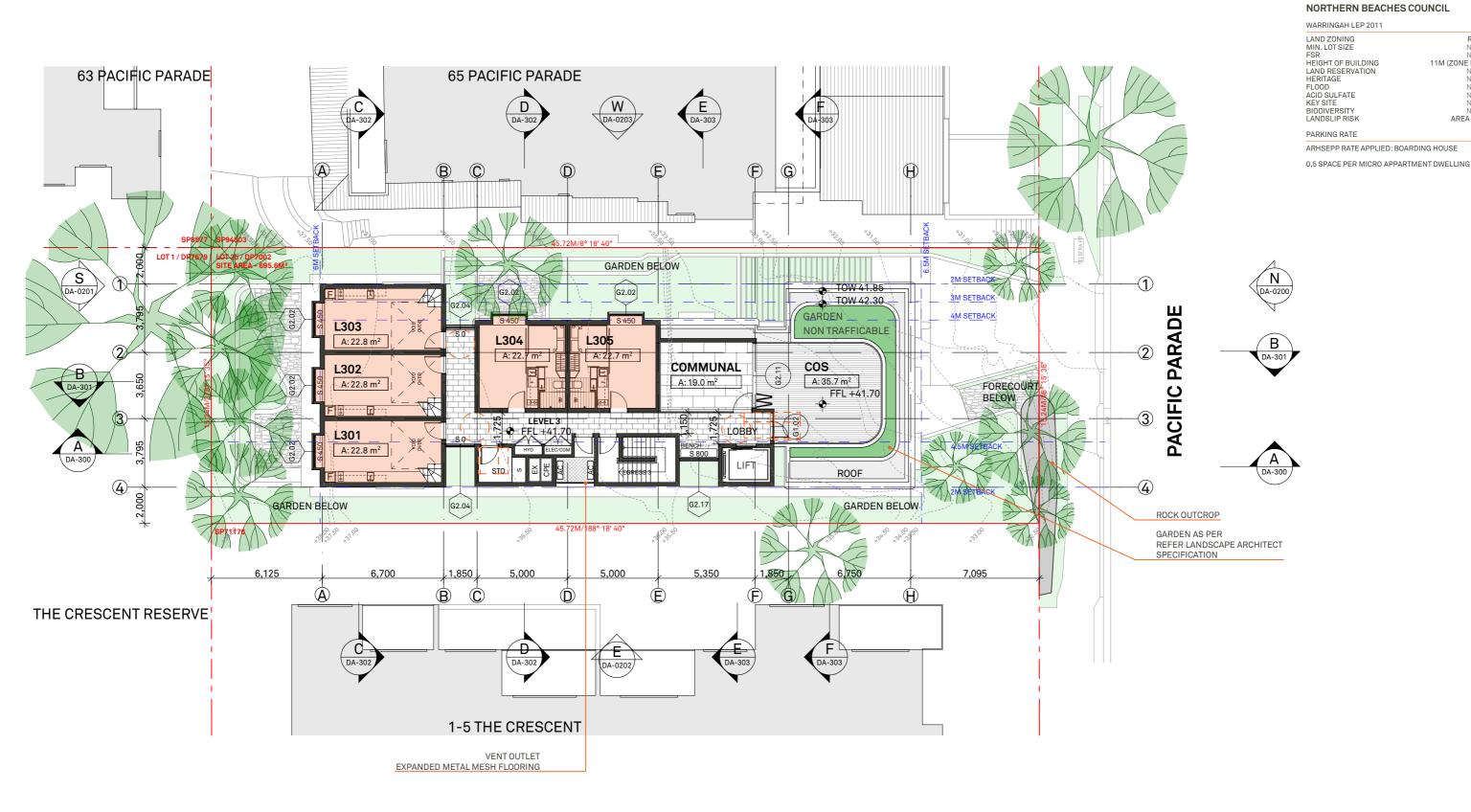
STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285

P. +61 2 9818 0777 **F.** +61 2 9818 0778 E. enquiries@bensonmccorn
W. www.bensonmccack.com



7066-1.1R Appendix B

NA 11M (ZONE L) NA NA NA NA NA AREA B



Architecture.
ALL WORKS TO COMPLY WITH THE BUILDING
CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN
STANDARDS (AS) ** DIAL BEFORE YOU DIG**
www.1100.com.au

Description Date

LEGEND COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Private Open Space CLIENT Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099 LEVEL 3 PLAN

DRAWING TITLE GENERAL ARRANGEMENT - SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DA DB PROJECT No DRAWING No

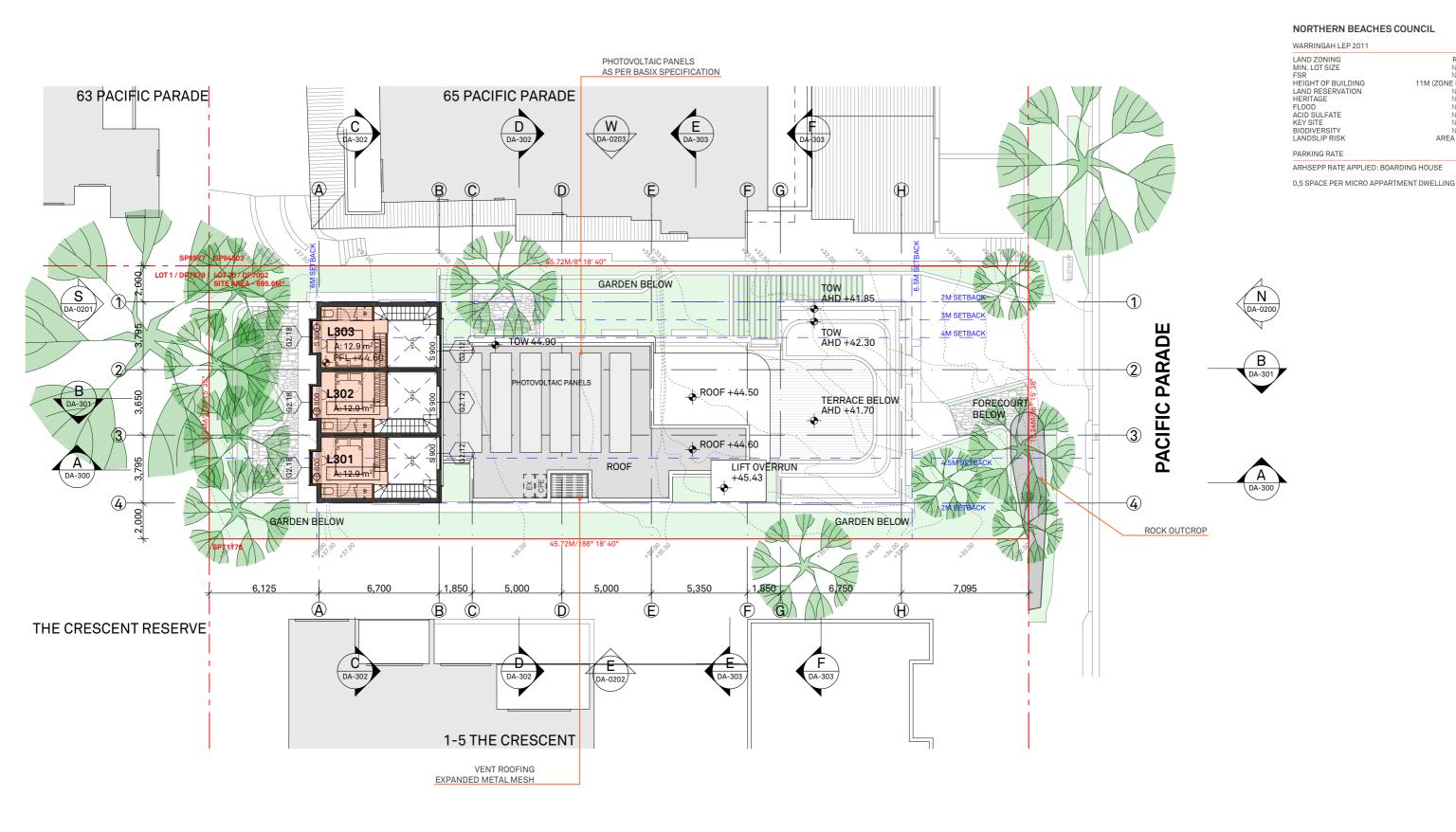
DA-0105

2004A

STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285 **P.** +61 2 9818 0777 **F.** +61 2 9818 0778 E. enquiries@bensonmccorn
W. www.bensonmccack.com



NA 11M (ZONE L) NA NA NA NA NA AREA B



ALL WORKS TO COMPLY WITH THE BUILDING CODE OF AUSTRALIA (BCA) 2014 + AUSTRALIAN STANDARDS (AS) ** DIAL BEFORE YOU DIG** www.1100.com.au

Description Date

LEGEND COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Private Open Space CLIENT Stormwater
Structural floor level
Top of Fence
Top of Wall
Visitor Parking

PO BOX 1231

BL 2093 PTY LTD 67 PP MANLY NSW 2095

PROJECT DETAILS DRAWING TITLE GENERAL ARRANGEMENT -67 Pacific Parade DEE WHY NSW 2099 LEVEL 4 PLAN (MEZZ)

STATUS

2004A

SCALE APPROVED 1:200@A3 GM DRAWN BY DB PROJECT No DRAWING No

DA-0106

STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285

P. +61 2 9818 0777 **F.** +61 2 9818 0778 E. enquiries@bensonmccorn
W. www.bensonmccack.com



NORTHERN BEACHES COUNCIL

NA 11M (ZONE L) NA NA NA NA NA AREA B

WARRINGAH LEP 2011 LAND ZONING MIN. LOT SIZE FSR SOLAR COLLECTOR PANELS AS PER BASIX SPECIFICATION PHOTOVOLTAIC PANELS AS PER BASIX SPECIFICATION HEIGHT OF BUILDING LAND RESERVATION HERITAGE 63 PACIFIC PARADE 65 PACIFIC PARADE **ROOF RIDGE** AHD +40.98 FLOOD ACID SULFATE KEY SITE BIODIVERSITY LANDSLIP RISK C DA-302 ROOF RIDGE D AHD +44.24 \ DA-302 ROOF RIDGE PARKING RATE ROOF RIDGE AHD +43.72 AHD +43.10 ARHSEPP RATE APPLIED: BOARDING HOUSE TOW AHD +47.95 65 0,5 SPACE PER MICRO APPARTMENT DWELLING $\widehat{\mathbb{H}}$ **G** TOW AHD +41.20 LIFT OVERRUN AHD +44.37 GARDEN BELOW TOW AHD +41.85 SOLAR COLLECTOR PACIFIC PARADE OT WATER SYSTEM TOW AHD +42.30 PHOTOVOLTAIC PANELS ROOF ROOF BELOW AHD +44.50 AHD +47.50 TERRACE BELOW FORECOURT BELOW AHD +41.70 AHQ +30.00 TERRACE BELOW AHD +35.90 LIFT OVERRUN AHD +45.43 ROOF BELOW AHD +44.60 GARDEN BELOW GARDEN BELOW ROCK OUTCROP 6,700 1,850 5,000 5,000 5,350 7,095 (G) (B) (D) (E) $\widehat{\mathbb{H}}$ THE CRESCENT RESERVE TOW AHD +49.94 AHD +45.78 D E TOW AHD +49.55 DA-0202/ 1-5 THE CRESCENT VENT ROOFING EXPANDED METAL MESH

Architecture.
ALL WORKS TO COMPLY WITH THE BUILDING
CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN
STANDARDS (AS) ** DIAL BEFORE YOU DIG**
www.1100.com.au

Description Date DA ISSUE 01

LEGEND COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Private Open Space CLIENT Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099 ROOF PLAN

DRAWING TITLE GENERAL ARRANGEMENT - SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DB PROJECT No DRAWING No

DA-0107

01

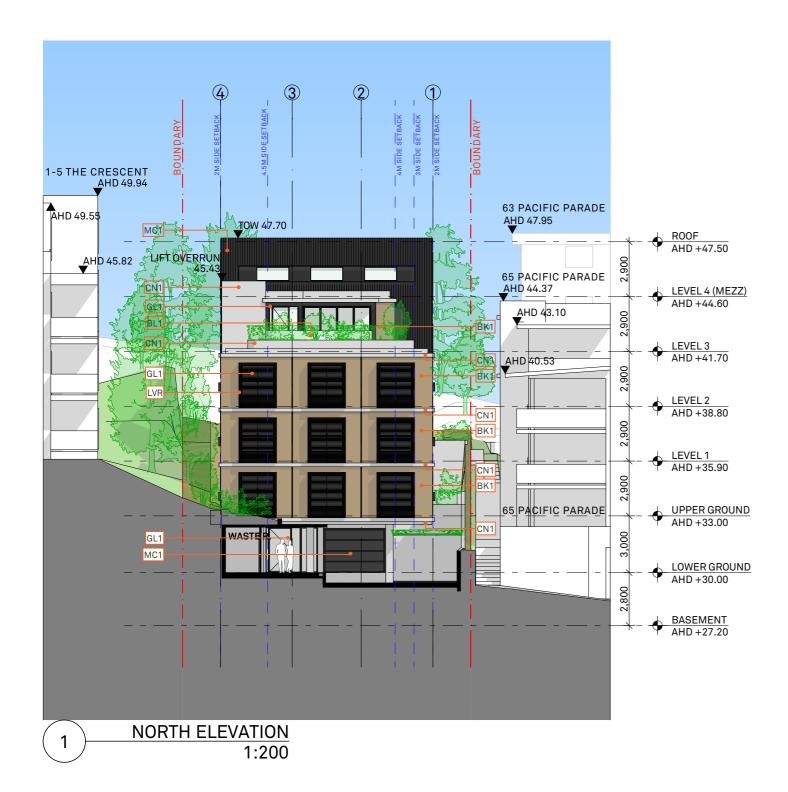
DA

2004A

STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285

P. +61 2 9818 0777 **F.** +61 2 9818 0778 enquiries@bensor W. www.bensonmccack.com







FINISHES LEGEND:

CN1 - OFF FORM CONCRETE NATURAL LIGHT COLOUR

BK1 - BRICK VENEER - LIGHT BEIGE COLOUR MC1 - ANODISED ALUMINIUM CLADDING - DARK COLOUR

LVR - ANODISED ALUMINIUM BLINDS - DARK COLOUR STN - STONE CLADDING SAND STONE

GL1 - POWDERCOATED ALUM. FRAME & CLEAR GLAZING

GL2 - POWDERCOATED ALUM. FRAME & OBSCURE GLAZING BL1 - BALUSTRADE CLEAR GLAZING FRAMELESS

Architecture.
ALL WORKS TO COMPLY WITH THE BUILDING
CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN
STANDARDS (AS) ** DIAL BEFORE YOU DIG**
www.1100.com.au

LEGEND COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Private Open Space CLIENT Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099

DRAWING TITLE ELEVATIONS - NORTH 1:200@A3 ELEVATION

SCALE STATUS DA

2004A

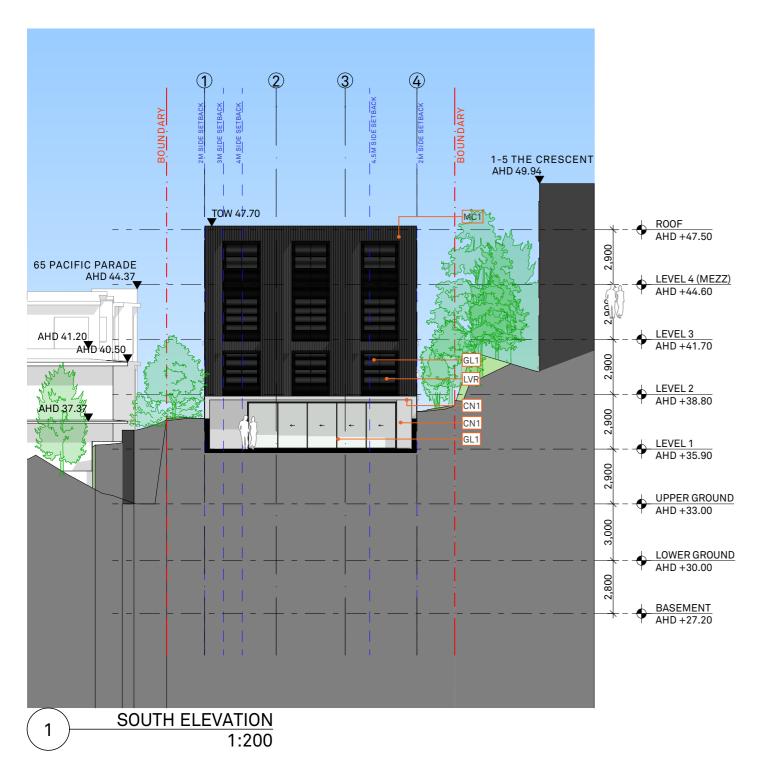
APPROVED GM DRAWN BY DB PROJECT No DRAWING No

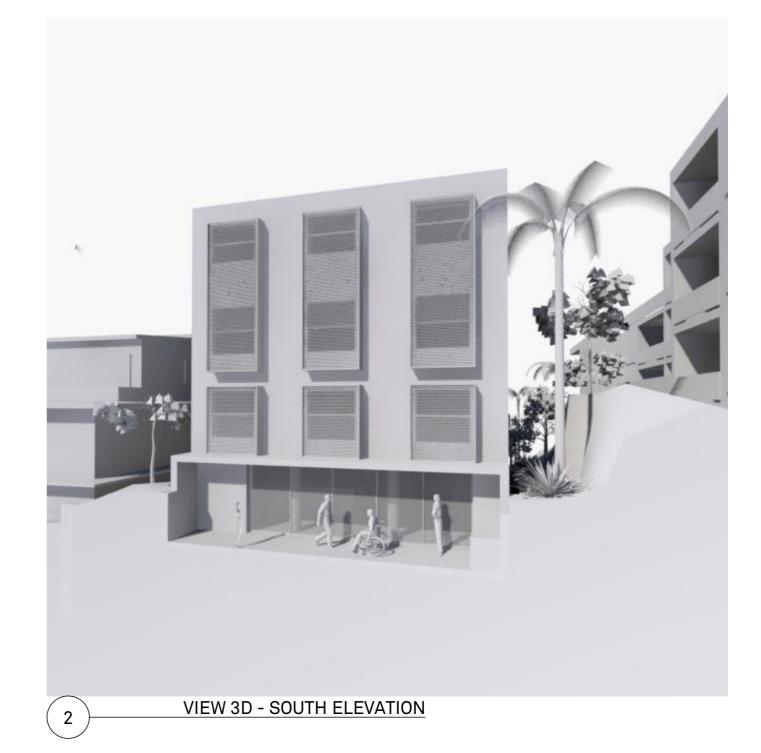
DA-0200

STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285

P. +61 2 9818 0777 F. +61 2 9818 0778 E. enquiries@bensonmccorn
W. www.bensonmccack.com







FINISHES LEGEND:

CN1 - OFF FORM CONCRETE NATURAL LIGHT COLOUR

BK1 - BRICK VENEER - LIGHT BEIGE COLOUR MC1 - ANODISED ALUMINIUM CLADDING - DARK COLOUR

LVR - ANODISED ALUMINIUM BLINDS - DARK COLOUR STN - STONE CLADDING SAND STONE

GL1 - POWDERCOATED ALUM. FRAME & CLEAR GLAZING

GL2 - POWDERCOATED ALUM. FRAME & OBSCURE GLAZING BL1 - BALUSTRADE CLEAR GLAZING FRAMELESS

This drawing is not to be copied, reproduced, retained or disclosed to any unauthorised person either wholly or in part without the writen consent of benson mccormack architects. Drawings show design intent only. Do not scale drawings. Check dimensions

Architecture.
ALL WORKS TO COMPLY WITH THE BUILDING
CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN
STANDARDS (AS) ** DIAL BEFORE YOU DIG**
www.1100.com.au

Date

Description 24/11/2020 DA ISSUE 01

LEGEND

COS CEX D DRY DP DW F FEX FFL FN FS GBA

Robe
Rainwater Tank
Screen
Sewer
Storage
Study
Stormwater Pit
Stormwater
Structural floor level
Top of Fence
Top of Wall
Visitor Parking

Private Open Space CLIENT

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099

DRAWING TITLE ELEVATIONS - SOUTH 1:200@A3 ELEVATION

SCALE APPROVED GM STATUS DRAWN BY DB DA PROJECT No DRAWING No

DA-0201

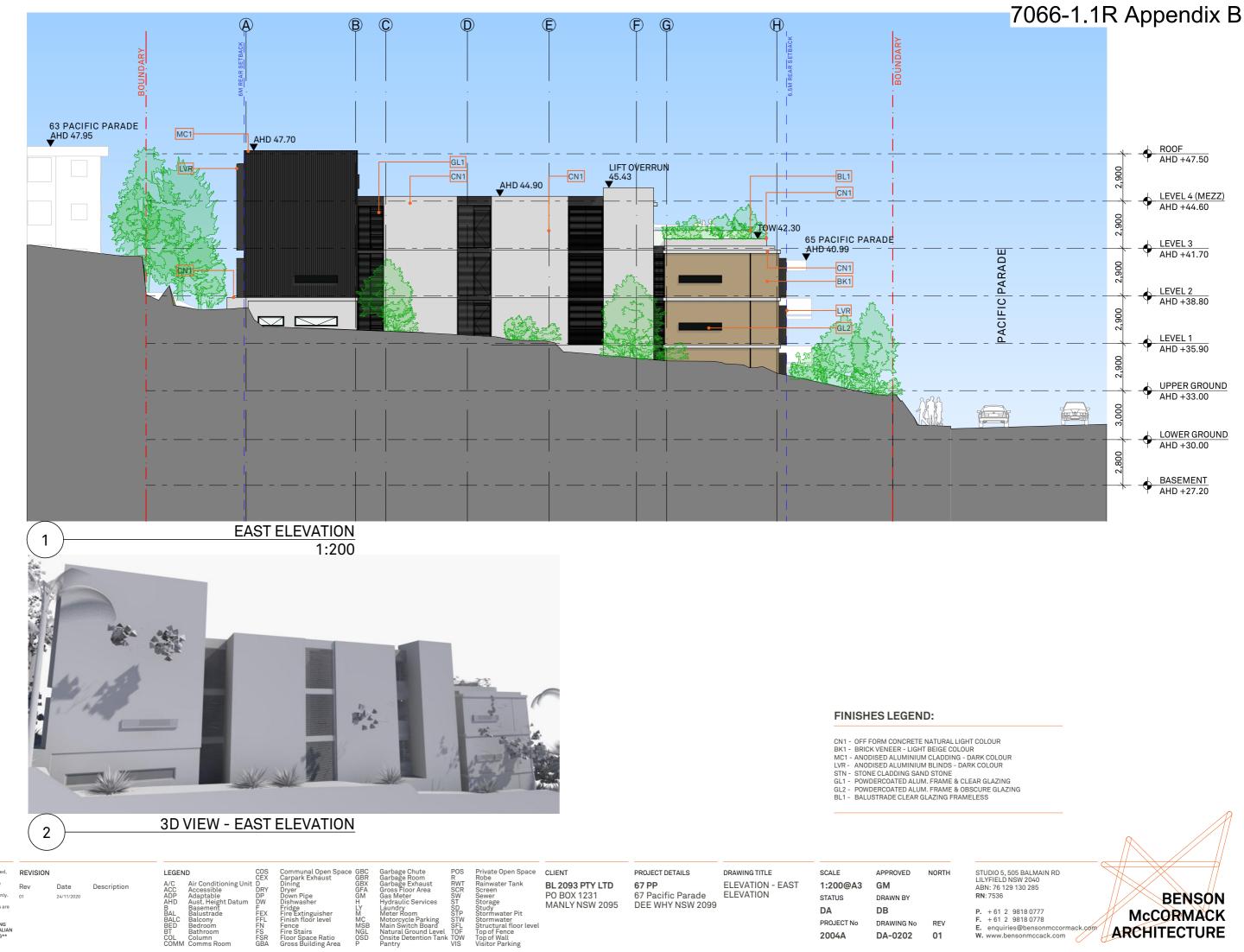
2004A

01

STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285

P. +61 2 9818 0777 F. +61 2 9818 0778 E. enquiries@bensonmccorm
W. www.bensonmccack.com





This drawing is not to be copied, reproduced, retained or disclosed to any unauthorised person either wholly or in part without the writen consent of benson mccormack architects. Drawings show design intent only. Do not scale drawings. Check dimensions

Architecture.
ALL WORKS TO COMPLY WITH THE BUILDING
CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN
STANDARDS (AS) ** DIAL BEFORE YOU DIG**
www.1100.com.au

Robe
Rainwater Tank
Screen
Sewer
Storage
Study
Stormwater
Stormwater
Structural floor level
Top of Fence
Top of Wall
Visitor Parking

PO BOX 1231 MANLY NSW 2095

67 Pacific Parade DEE WHY NSW 2099

ELEVATION

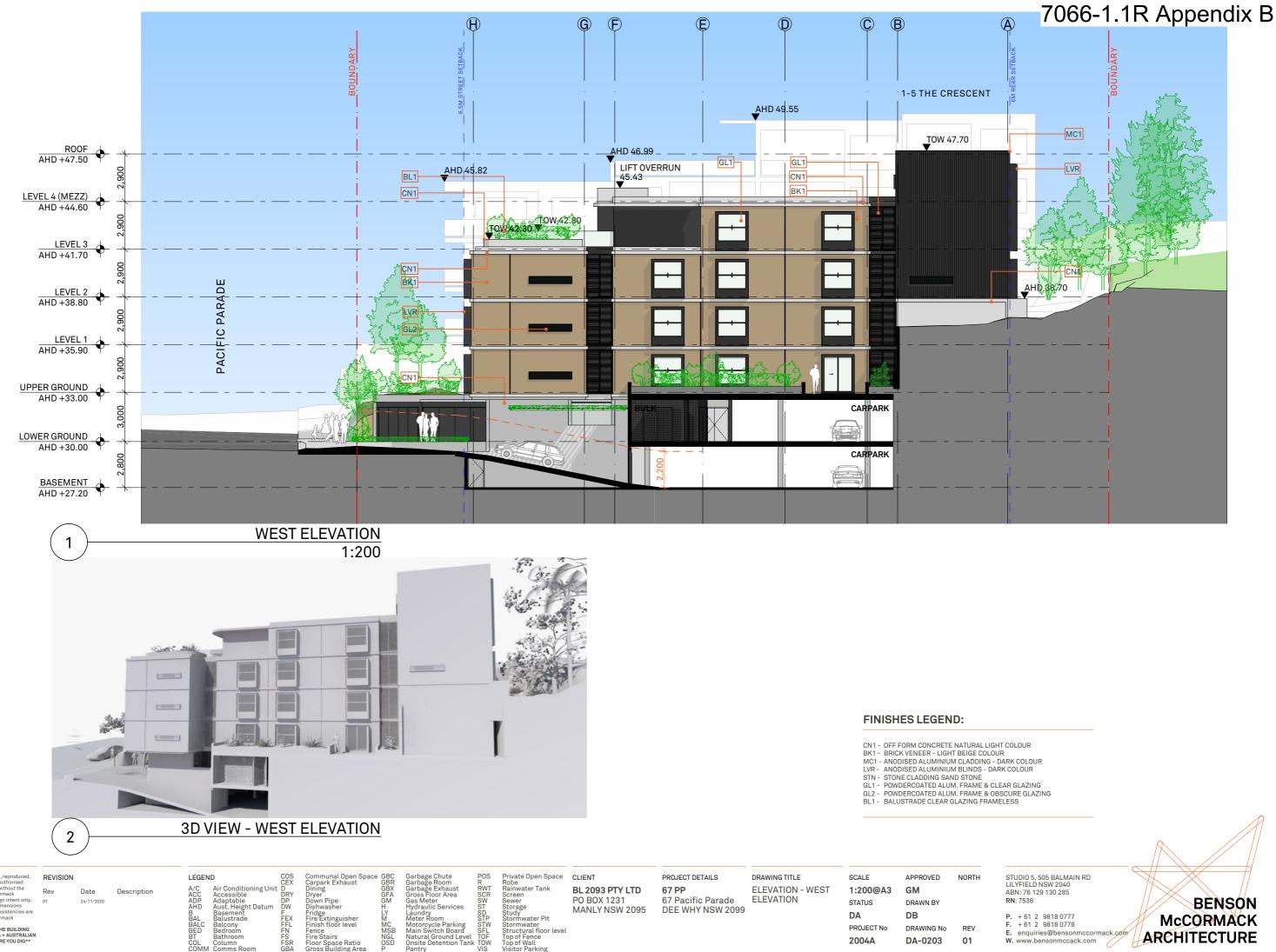
STATUS DRAWN BY DA DB PROJECT No DRAWING No

DA-0202

2004A

F. +61 2 9818 0778 enquiries@benson W. www.bensonmccack.com





This drawing is not to be copied, reproduced, retained or disclosed to any unauthorised person either wholly or in part without the writen consent of benson mccormack architects. Drawings show design intent only. Do not scale drawings. Check dimensions

Architecture.
ALL WORKS TO COMPLY WITH THE BUILDING
CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN
STANDARDS (AS) ** DIAL BEFORE YOU DIG**
www.1100.com.au

Robe
Rainwater Tank
Screen
Sewer
Storage
Study
Stormwater Pit
Stormwater
Structural floor level
Top of Fence
Top of Wall
Visitor Parking

enquiries@bensor W. www.bensonmccack.com

2004A

DA-0203

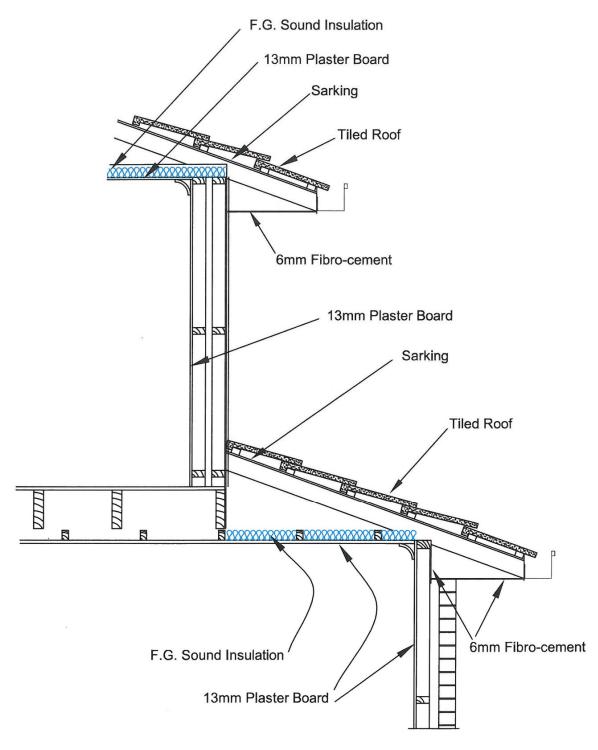
01



REDUCTION OF NOISE INTRUSION BY WALL CAVITY SEALING

AC806-J

BB 4/9/2006



BRICK VENEER



BB 6/8/2003

