PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2020/1158

Date: 13 APRIL 2021

Queensland Government

acousticworks

Proposed Aged Care Facility
532 Beams Road
Carseldine

ACOUSTIC REPORT




Client:
McNab

Reference:
2020398 R01D Rockpool 532 Beams Road Carseldine RAIL ENV.docx

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Document Information

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10/11/20	R01B	Matthew Bechara	Greg Pearce	GP
27/11/20	R01C	Matthew Bechara	Greg Pearce	GP
29/01/21	R01D	Matthew Bechara	Greg Pearce	GP

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1. Introduction

This report is in response to a request by McNab for a rail noise assessment of the proposed aged care facility located at 532 Beams Road, Carseldine. This noise assessment is based on calculations and analysis by Acoustic Works and utilises rail measurements conducted in the approved acoustic report for Stage 1 of the project by TTM (ref: 16BRA0109 R02_0 – Stage 1, dated 29/07/2019, council record no. DEV2019/1074).

2. Site Description

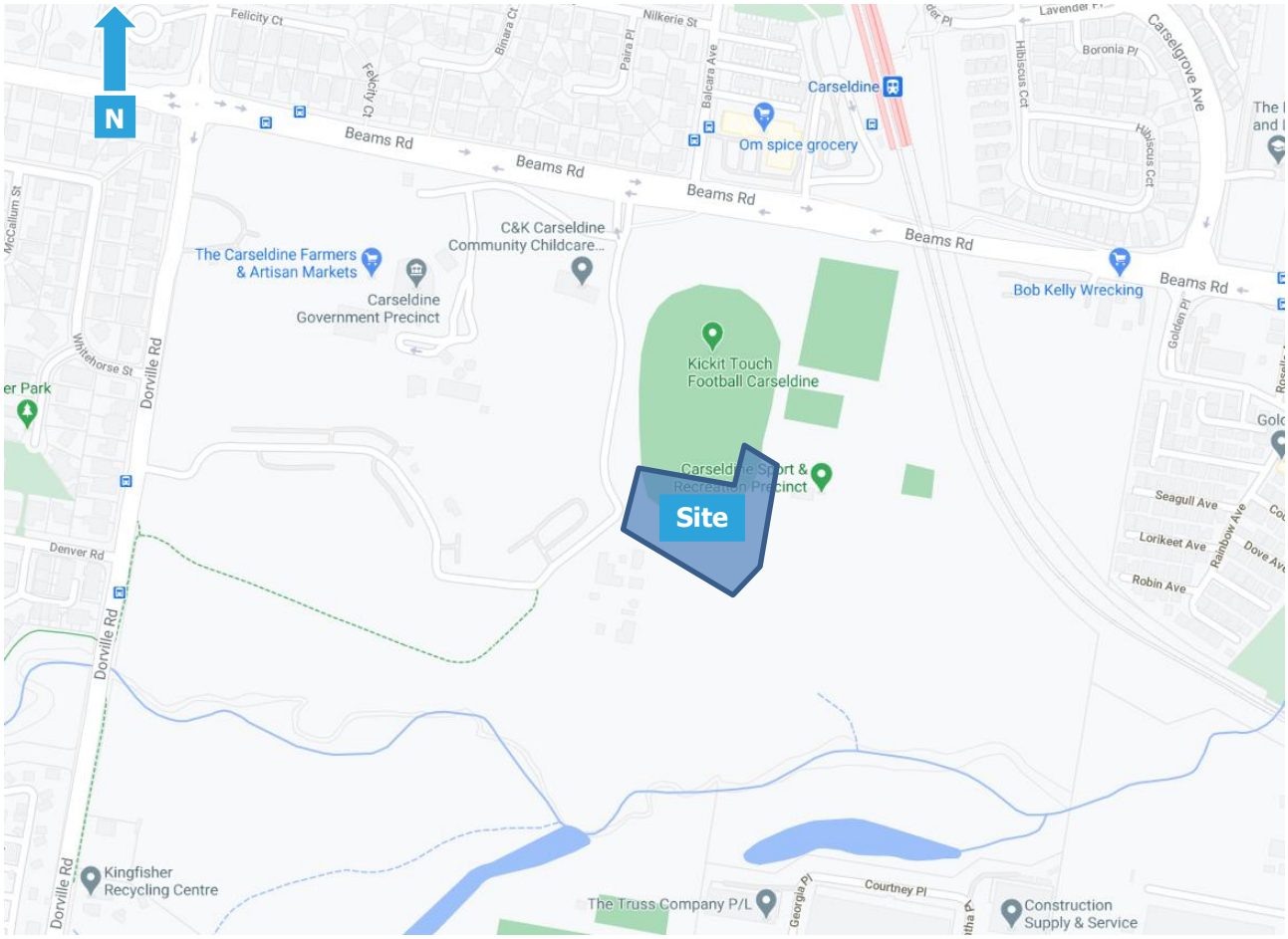
2.1 Site Location

The site is described by the following:

Lot 3, Carseldine Village, 520 Beams Road, Carseldine
Lot 1 on SP311781

Refer to Figure 1 for site location.

Figure 1: Site Location (Not to Scale)



A comprehensive site survey was conducted on 6 November 2020 and identified the following:

a) The site is located adjacent park and bushland.
b) Beams Road separates the development from residential dwellings to the north.
c) The Redcliffe Peninsula railway corridor is located approximately 220m east of the site.

2.2 Proposal

The proposal is to develop a six storey aged care facility comprised of the following:

- Site area of approximately 5,568m^2.
- Ground floor – Theatre, café, function, physio, wellness, offices, hair dresser, private dining, foyer, kitchen, staff, lockers, comms, training, laundry and outdoor function area/alfresco dining.
- First floor – Aged care rooms, lounges, suites, foyer, dining, BOH, Cleaner, pan, AWC, nurse/treat and 2 wanders patios.
- Levels 2 to 5 – Aged care rooms, lounges, dining, foyer, nurse, treat, BOH, pan and bathrooms.
- Ground floor parking with 25 car spaces.

Refer to the Appendices for development plans.

2.3 Acoustic Environment

The surrounding area is primarily affected by noise from rail passbys from the nearby railway corridor and road traffic from Beams Road.

3. Approved Acoustic Report Noise Measurements

3.1 Measurement location

As stated in the approved acoustic report by TTM (ref: 16BRA0109 R02_0 – Stage 1, dated 29/07/2019, council record no. DEV2019/1074), the rail noise monitor was installed 17 metres from the centre of the nearest railway line. Refer to Figure 2 for the approximate noise monitor location.

Figure 2: Rail Measurement Location

3.2 Rail Noise Levels

The highest 15 free-field LAmax and LAeq rail noise levels presented in the approved acoustic report are shown in Table 1 below.

Table 1: Attended measurements of rail noise levels

Train Type	Lmax dB(A)	Leq dB(A)
Passenger	89.4	67.0
Passenger	89.3	71.2
Passenger	88.3	66.9
Passenger	87.8	64.7
Passenger	87.5	66.3
Passenger	87.2	68.7
Passenger	85.8	64.5
Passenger	84.8	65.0
Passenger	83.9	63.2

Train Type	Lmax dB(A)	Leq dB(A)
Passenger	83.8	62.7
Freight	83.3	63.0
Passenger	83.3	63.5
Passenger	82.7	66.5
Passenger	82.2	63.3
Passenger	82.0	64.2
Single event maximum noise level dB(A)	85.4	
Leq, 24 hour dB(A)		58.6

*Single event maximum sound pressure level (L_{Amax}) is the arithmetic average of maximum levels from the highest 15 single events over a given 24 hour period.

The number of trains as stated in the acoustic report was approximately 250 passenger and 15 freight trains per day.

4. Noise Criteria

4.1 Rail Noise Criteria

As the development is located near a railway corridor, the criteria detailed in Section 4.1.1 applies.

4.1.1 State Development Assessment Provisions (SDAP)

The criteria applied are in accordance with the SDAP Version 2.6 dated 7 February 2020 by the Department of State Development, Manufacturing, Infrastructure and Planning. The SDAP *State Code 2: Development in a railway environment* sets out matters of interest for the assessment of developments near rail corridors. The applicable criteria for the development requires rail noise to be assessed in accordance with Table 2.2.2 of the policy;

Table 2: SDAP Rail Noise Criteria

Performance Outcome	Acceptable Outcome
PO25 Development involving: 1. an accommodation activity; or 2. land for a future accommodation activity minimises noise intrusion from a railway or type 2 multi-modal corridor in habitable rooms.	**AO25.1** A noise barrier or earth mound is provided which is designed, sited and constructed: 1. to meet the following external noise criteria at all facades of the building envelope: a. ≤65 dB(A) Leq (24 hour) façade corrected b. ≤87 dB(A) (single event maximum sound pressure level) façade corrected 2. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011. Note: To demonstrate compliance with the acceptable outcome, it is recommended a RPEQ certified noise assessment report be provided. If the building envelope is unknown, the deemed-to-comply setback distances for buildings stipulated by the local planning instrument or relevant building regulations should be used. In some instances, the design of noise barriers and mounds to achieve the noise criteria above the ground floor may not be reasonable or practicable. In these instances, any relaxation of the criteria is at the discretion of the Department of Transport and Main Road. OR all of the following acceptable outcomes apply: **AO25.2** Buildings which include a habitable room are setback the maximum distance possible from a railway or type 2 multi-modal corridor. AND **AO25.3** Buildings are designed and oriented so that habitable rooms are located furthest from a railway or type 2 multi-modal corridor. AND **AO25.4** Buildings (other than a relevant residential building or relocated building) are designed and constructed using materials which ensure that habitable rooms meet the following internal noise criteria: 1. ≤45 dB(A) single event maximum sound pressure level.

Performance Outcome	Acceptable Outcome
	Note: Noise levels from railways or type 2 multi-modal corridors are to be measured in accordance with AS1055.1-1997 Acoustics – Description and measurement of environmental noise. Note: To demonstrate compliance with the acceptable outcome, it is recommended that a RPEQ certified noise assessment report be provided. Habitable rooms of relevant residential buildings located within a transport noise corridor must comply with the Queensland Development Code MP4.4 Buildings in a transport noise corridor, Queensland Government, 2015. Transport noise corridors are mapped on the State Planning Policy interactive mapping system.
PO26 Development involving an accommodation activity minimises noise intrusion from a railway or type 2 multi-modal corridor in outdoor spaces for passive recreation.	**AO26.1** A noise barrier or earth mound is provided which is designed, sited and constructed: 1. to meet the following external noise criteria in outdoor spaces for passive recreation: a. ≤62 dB(A) Leq (24 hour) free field b. ≤84 dB(A) (single event maximum sound pressure level) free field 2. in accordance with the Civil Engineering Technical Requirement – CIVIL-SR-014 Design of noise barriers adjacent to railways, Queensland Rail, 2011. OR **AO26.2** Each dwelling has access to an outdoor space for passive recreation which is shielded from a railway or type 2 multi-modal corridor by a building, solid gap-free fence, or other solid gap-free structure. AND **AO26.3** Each dwelling with a balcony directly exposed to noise from a railway or type 2 multi-modal corridor has a continuous solid gap-free balustrade (other than gaps required for drainage purposes to comply with the Building Code of Australia).

5. Rail Noise Assessment

5.1 Predicted Rail Noise Levels

Rail noise modelling for the proposed development was based on the following information:

- Site layout provided by GJG Architects, Drawings 20-15-AR-1, 20-15-DA-1.0 to 1.1, 20-15-DA-2.1 to 2.3 and 20-15-DA-3.1 to 3.5, dated 26/11/20.
- Receiver heights were based on 1.5m above finished floor level.
- All calculations include +2.5dB façade correction.

Predicted rail noise impacts for the development are presented in Table 3.

Table 3: Predicted rail noise impacts

Level	Room	Single event maximum noise (LAmax) dBA	LAeq (24 hour) (dBA)
GF	Café & Café/Seating	70.9	42
GF	Function	70.9	42
GF	DT	70.9	42
GF	Physio	70.9	42
GF	Wellness	70.9	42
GF	Hair	70.9	42
GF	Private Dining/Interview	70.9	42
GF	Training	70.9	42
GF	Staff	70.9	42
GF	Kitchen	59.9	31
GF	Administration	59.9	31
GF	Foyer	59.9	31
GF	FM	59.9	31
GF	Off.	59.9	31
GF	CM	59.9	31
GF	ACFI	59.9	31
GF	Theatre	59.9	31
1	Room 1	70.9	42
1	Room 2	70.9	42
1	Room 3	70.9	42
1	Room 4	70.9	42
1	Room 5	70.9	42
1	Room 6	70.9	42
1	Room 7	70.9	42
1	Room 8	70.9	42
1	Room 9	70.9	42
1	Room 10	70.9	42
1	Room 11	70.9	42
1	Room 12	70.9	42
1	Room 13	70.9	42
1	Room 14	70.9	42
1	Room 15	70.9	42
1	Room 16	70.9	42
1	Room 17	70.9	42
1	Room 18	59.9	31
1	Room 19	59.9	31
1	Room 20	59.9	31
1	Room 21	59.9	31
1	Room 22	59.9	31
1	Room 23	59.9	31

Level	Room	Single event maximum noise (LAmax) dBA	LAeq (24 hour) (dBA)
1	Room 24	59.9	31
1	Room 25	59.9	31
1	Room 26	59.9	31
1	Room 27	59.9	31
1	Room 28	59.9	31
1	Room 29	59.9	31
1	Room 30	59.9	31
1	Lounge 1	70.9	42
1	Lounge 2	59.9	31
1	Dining	70.9	42
2 to 5	Room 1	70.9	42
2 to 5	Room 2	70.9	42
2 to 5	Room 3	70.9	42
2 to 5	Room 4	70.9	42
2 to 5	Room 5	70.9	42
2 to 5	Room 6	70.9	42
2 to 5	Room 7	70.9	42
2 to 5	Room 8	70.9	42
2 to 5	Room 9	70.9	42
2 to 5	Room 10	70.9	42
2 to 5	Room 11	70.9	42
2 to 5	Room 12	70.9	42
2 to 5	Room 13	70.9	42
2 to 5	Room 14	70.9	42
2 to 5	Room 15	70.9	42
2 to 5	Room 16	70.9	42
2 to 5	Room 17	70.9	42
2 to 5	Room 18	59.9	31
2 to 5	Room 19	59.9	31
2 to 5	Room 20	59.9	31
2 to 5	Room 21	59.9	31
2 to 5	Room 22	59.9	31
2 to 5	Room 23	59.9	31
2 to 5	Room 24	59.9	31
2 to 5	Room 25	59.9	31
2 to 5	Room 26	59.9	31
2 to 5	Room 27	59.9	31
2 to 5	Room 28	59.9	31
2 to 5	Room 29	59.9	31
2 to 5	Room 30	59.9	31
2 to 5	Lounge 1	70.9	42
2 to 5	Lounge 2	59.9	31
2 to 5	Dining	70.9	42

Based on the predicted rail noise impacts, compliance is predicted with the internal noise criteria stated in AO25.4 on the condition the construction recommendations in Section 6 are implemented.

Refer to appendix for unit numbering.

An assessment of outdoor recreation areas was conducted, with the results presented in Table 4.

Table 4: Private Recreation Areas

Location		SDAP Criteria dB(A) (Free Field)		Predicted dB(A) (Free Field)	
Level	Area	LMax	LAeq(24hr)	LMax	LAeq(24hr)
GF	Function Terrace/Alfresco	≤84	≤62	70.9	42
GF	Patio	≤84	≤62	70.9	42
1	Wanderers Patio (N)	≤84	≤62	70.9	42
1	Wanderers Patio (W)	≤84	≤62	70.9	42
1	Dining Deck	≤84	≤62	70.9	42

Compliance is predicted with SDAP external criteria AO26.1 regarding outdoor recreation areas.

6. Recommendations

6.1 Rail Noise

Compliance is predicted with SDAP AO25.1 (external façade criteria) and AO26.1 (outdoor recreation criteria). To ensure compliance with *Green Star – Design & As Built v1.2*, building treatments for rail passbys were calculated using Australian Standard *AS3671:1989 'Road Traffic Noise Intrusion – Building Siting and Construction'.*

6.1.1 Façade Treatments

The minimum glazing treatments are presented in Table 5 with the installed glazing systems to comply with the following:

- The minimum glass thickness specified shall not be reduced regardless of the R_w performance of the glazing system.
- If compliance cannot be achieved with the minimum R_w ratings, the glazing system shall be upgraded until compliance is achieved.
- Glazing specified with acoustic seals requires a Q-lon seal or an equivalent product, mohair seals are not acceptable.
- The glazier shall provide NATA test reports on request to verify compliance with the minimum R_w ratings. Generic reports are not acceptable.

Table 5: Glazing Treatments

Level	Room	Rw Ratings					Glazing	Acoustic seals
		Wall	Roof	Glazing*	Entry door	Sliding door	Glazing	
GF	Café & Café/Seating	40		22	-	28	4mm float	yes
GF	Function	40		22	-	-	4mm float	no
GF	DT	40		30	-	-	6mm float	yes
GF	Physio	40		27	-	-	4mm float	yes
GF	Wellness	40		22	-	-	4mm float	no
GF	Hair	40		27	-	-	4mm float	yes
GF	Private Dining/Interview	40		35	-	-	10.38 lam	yes
GF	Training	40		31	-	-	6.38 lam	yes
GF	Staff	40		27	-	-	4mm float	yes
GF	Kitchen	40		22	-	-	4mm float	no
GF	Administration	40		22	-	-	4mm float	no
GF	Foyer	40		22	-	28	4mm float	no
GF	FM	40		22	-	-	4mm float	no
GF	Off.	40		22	-	-	4mm float	no
GF	CM	40		22	-	-	4mm float	no
GF	ACFI	40		22	-	-	4mm float	no
GF	Theatre	40		22	-	-		no
1	Room 1	40		31	-	-	6.38 lam	yes
1	Room 2	40		31	-	-	6.38 lam	yes
1	Room 3	40		31	-	-	6.38 lam	yes
1	Room 4	40		31	-	-	6.38 lam	yes
1	Room 5	40		31	-	-	6.38 lam	yes
1	Room 6	40		31	-	-	6.38 lam	yes
1	Room 7	40		31	-	-	6.38 lam	yes

Level	Room	Rw Ratings					Glazing	Acoustic seals
		Wall	Roof	Glazing*	Entry door	Sliding door	Glazing	
1	Room 8	40		31	-	-	6.38 lam	yes
1	Room 9	40		31	-	-	6.38 lam	yes
1	Room 10	40		31	-	-	6.38 lam	yes
1	Room 11	40		31	-	-	6.38 lam	yes
1	Room 12	40		31	-	-	6.38 lam	yes
1	Room 13	40		31	-	-	6.38 lam	yes
1	Room 14	40		31	-	-	6.38 lam	yes
1	Room 15	40		31	-	-	6.38 lam	yes
1	Room 16	40		31	-	-	6.38 lam	yes
1	Room 17	40		31	-	-	6.38 lam	yes
1	Room 18	40		22	-	-	4mm float	no
1	Room 19	40		22	-	-	4mm float	no
1	Room 20	40		22	-	-	4mm float	no
1	Room 21	40		22	-	-	4mm float	no
1	Room 22	40		22	-	-	4mm float	no
1	Room 23	40		22	-	-	4mm float	no
1	Room 24	40		22	-	-	4mm float	no
1	Room 25	40		22	-	-	4mm float	no
1	Room 26	40		22	-	-	4mm float	no
1	Room 27	40		22	-	-	4mm float	no
1	Room 28	40		22	-	-	4mm float	no
1	Room 29	40		22	-	-	4mm float	no
1	Room 30	40		22	-	-	4mm float	no
1	Lounge 1	40		27	-	-	4mm float	yes
1	Lounge 2	40		22	-	-	4mm float	no
1	Dining	40		22	-	-	4mm float	no
2 to 4	Room 1	40		31	-	-	6.38 lam	yes
2 to 4	Room 2	40		31	-	-	6.38 lam	yes
2 to 4	Room 3	40		31	-	-	6.38 lam	yes
2 to 4	Room 4	40		31	-	-	6.38 lam	yes
2 to 4	Room 5	40		31	-	-	6.38 lam	yes
2 to 4	Room 6	40		31	-	-	6.38 lam	yes
2 to 4	Room 7	40		31	-	-	6.38 lam	yes
2 to 4	Room 8	40		31	-	-	6.38 lam	yes
2 to 4	Room 9	40		31	-	-	6.38 lam	yes
2 to 4	Room 10	40		31	-	-	6.38 lam	yes
2 to 4	Room 11	40		31	-	-	6.38 lam	yes
2 to 4	Room 12	40		31	-	-	6.38 lam	yes
2 to 4	Room 13	40		31	-	-	6.38 lam	yes
2 to 4	Room 14	40		31	-	-	6.38 lam	yes
2 to 4	Room 15	40		31	-	-	6.38 lam	yes
2 to 4	Room 16	40		31	-	-	6.38 lam	yes
2 to 4	Room 17	40		31	-	-	6.38 lam	yes
2 to 4	Room 18	40		22	-	-	4mm float	no
2 to 4	Room 19	40		22	-	-	4mm float	no
2 to 4	Room 20	40		22	-	-	4mm float	no
2 to 4	Room 21	40		22	-	-	4mm float	no
2 to 4	Room 22	40		22	-	-	4mm float	no
2 to 4	Room 23	40		22	-	-	4mm float	no
2 to 4	Room 24	40		22	-	-	4mm float	no
2 to 4	Room 25	40		22	-	-	4mm float	no
2 to 4	Room 26	40		22	-	-	4mm float	no
2 to 4	Room 27	40		22	-	-	4mm float	no

Level	Room	Rw Ratings					Glazing	Acoustic seals
		Wall	Roof	Glazing*	Entry door	Sliding door	Glazing	
2 to 4	Room 28	40		22	-	-	4mm float	no
2 to 4	Room 29	40		22	-	-	4mm float	no
2 to 4	Room 30	40		22	-	-	4mm float	no
2 to 4	Lounge 1	40		27	-	-	4mm float	yes
2 to 4	Lounge 2	40		22	-	-	4mm float	no
2 to 4	Dining	40		22	-	-	4mm float	no
5	Room 1	40	40	31	-	-	6.38 lam	yes
5	Room 2	40	40	31	-	-	6.38 lam	yes
5	Room 3	40	40	31	-	-	6.38 lam	yes
5	Room 4	40	40	31	-	-	6.38 lam	yes
5	Room 5	40	40	31	-	-	6.38 lam	yes
5	Room 6	40	40	31	-	-	6.38 lam	yes
5	Room 7	40	40	31	-	-	6.38 lam	yes
5	Room 8	40	40	31	-	-	6.38 lam	yes
5	Room 9	40	40	31	-	-	6.38 lam	yes
5	Room 10	40	40	31	-	-	6.38 lam	yes
5	Room 11	40	40	31	-	-	6.38 lam	yes
5	Room 12	40	40	31	-	-	6.38 lam	yes
5	Room 13	40	40	31	-	-	6.38 lam	yes
5	Room 14	40	40	31	-	-	6.38 lam	yes
5	Room 15	40	40	31	-	-	6.38 lam	yes
5	Room 16	40	40	31	-	-	6.38 lam	yes
5	Room 17	40	40	31	-	-	6.38 lam	yes
5	Room 18	40	40	27	-	-	4mm float	yes
5	Room 19	40	40	27	-	-	4mm float	yes
5	Room 20	40	40	27	-	-	4mm float	yes
5	Room 21	40	40	27	-	-	4mm float	yes
5	Room 22	40	40	27	-	-	4mm float	yes
5	Room 23	40	40	27	-	-	4mm float	yes
5	Room 24	40	40	27	-	-	4mm float	yes
5	Room 25	40	40	27	-	-	4mm float	yes
5	Room 26	40	40	27	-	-	4mm float	yes
5	Room 27	40	40	27	-	-	4mm float	yes
5	Room 28	40	40	27	-	-	4mm float	yes
5	Room 29	40	40	27	-	-	4mm float	yes
5	Room 30	40	40	27	-	-	4mm float	yes
5	Lounge 1	40	40	27	-	-	4mm float	yes
5	Lounge 2	40	40	27	-	-	4mm float	yes
5	Dining	40	40	27	-	-	4mm float	yes

Any locations not identified in Table 5 shall require standard construction, with minimum 4mm float for windows (minimum Rw 22) and 4mm toughened for sliding doors (minimum Rw 22).

Refer to Section 8.2 for sample calculations to determine minimum façade treatments.

6.1.2 Wall construction

The minimum required acoustic rating of the external wall is Rw 40. A 110mm brick veneer system will comply with an internal timber stud and 50mm thick 11kg/m3 insulation within the resulting cavity. For lightweight wall system the following construction would be required:

Table 6: Typical lightweight construction

Description	Cavity insulation	R_W Rating
9mm Fibre Cement external, sarking, 90mm timber studs at 600mm maximum centres, cavity with infill, 13mm Plasterboard internal	75mm glasswool batts (11kg/m^3)	40

Note that the construction systems listed in the table are not the only possible types of construction. Other similar systems achieving at least minimum Rw 40 would also be suitable.

More detailed information for external wall systems may be provided on request.

6.1.3 Roofing construction

The required roof/ceiling acoustic rating is Rw 40, with a 150mm slab complying with the minimum requirements. Note if an alternative system is proposed, it must achieve a minimum Rw 40.

Table 7: Typical roof construction

Description	Cavity insulation	R_W Rating
Sheet metal roof external, 60mm Anticon, 150mm timber or steel purlins, cavity with infill, furring channel at 600mm maximum centres, 10mm plasterboard internal	165mm glasswool batts (11kg/m^3)	40

Note that the construction systems listed in the table are not the only possible types of construction. Other similar systems achieving at least minimum Rw 40 would also be suitable.

More detailed information for roof systems may be provided on request.

6.1.4 Alternative Ventilation

To achieve the required noise reductions, we recommend that all locations required to have acoustic seals in Table 5 have the provision for an alternative ventilation system similar to air-conditioning or mechanical ventilation to allow windows and doors to be closed.

7. Conclusion

A rail noise assessment was conducted for the proposed aged care facility located 532 Beams Road, Carseldine. On the condition the recommendations detailed in Section 6 are implemented, compliance is predicted with the SDAP assessment criteria.

If you should have any queries please do not hesitate to contact us.

Report Prepared By

Matthew Bechara
Acoustic Consultant
acousticworks

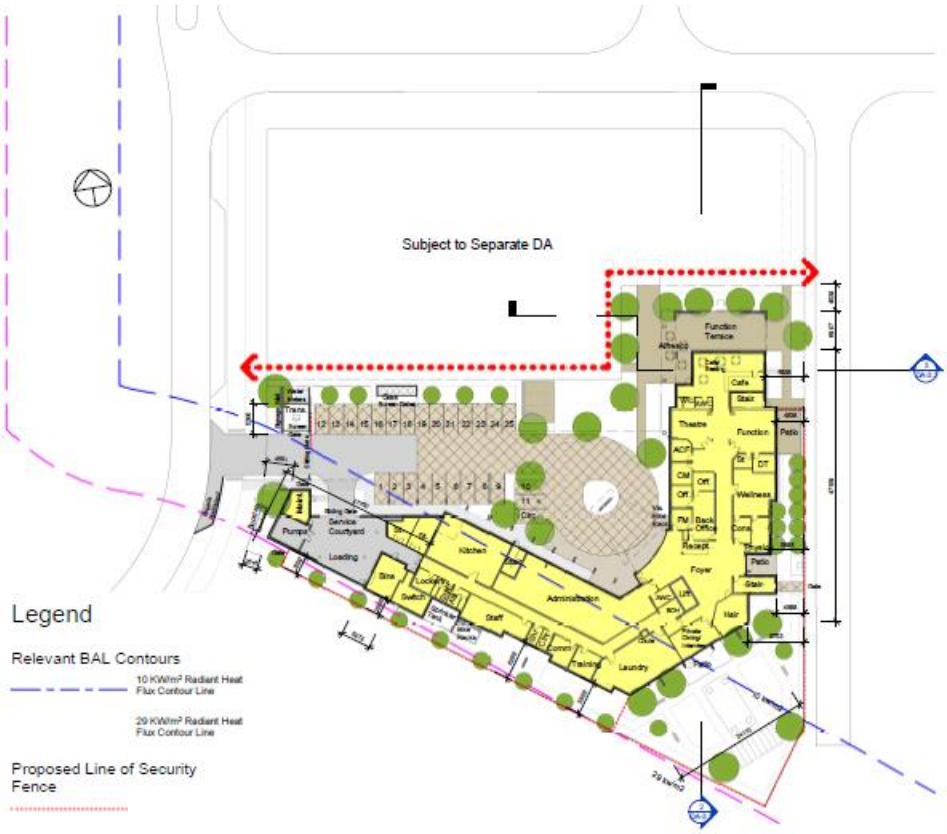
8. Appendices

8.1 Development Plans

Aged Care Facility

Residents	150
Carparks	25
GFA	8485
Proposed Site Area	5569 Shared + ACF
Plot Ratio	1.52
Approx. Site Cover	2200 40%

GJG Architects



GJG Architects

Carseldine CUV- Scheme 23

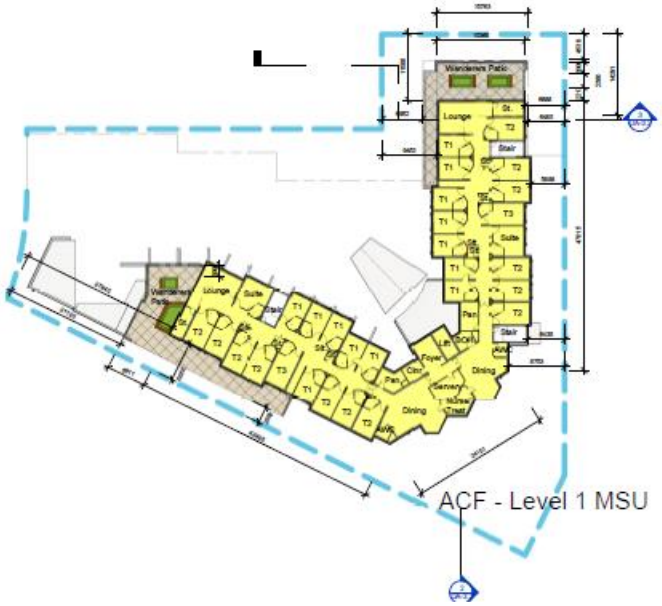
Rockpool

10	26.11.20	DA Issue
9	9.11.20	Second Preledge Issue
8	30.10.20	Prelim Issue 2
7	22.10.20	Client Inst Minor Adjustments
6	20.10.20	GF Layout Change and Effects
5	20.9.20	1st Client Req. Layout Changes

Ground Floor — Scale 1 : 500 @ A3 original — 2C-15-DA-2.1

Aged Care Facility

Residents	150	
Carparks	25	
GFA	8485	
Proposed Site Area	5569	Shared + ACF
Plot Ratio	1.52	
Approx. Site Cover	2200	40%



GJG Architects

Carseldine CUV- Scheme 23

Rockpool

10	26.11.20	DA Issue
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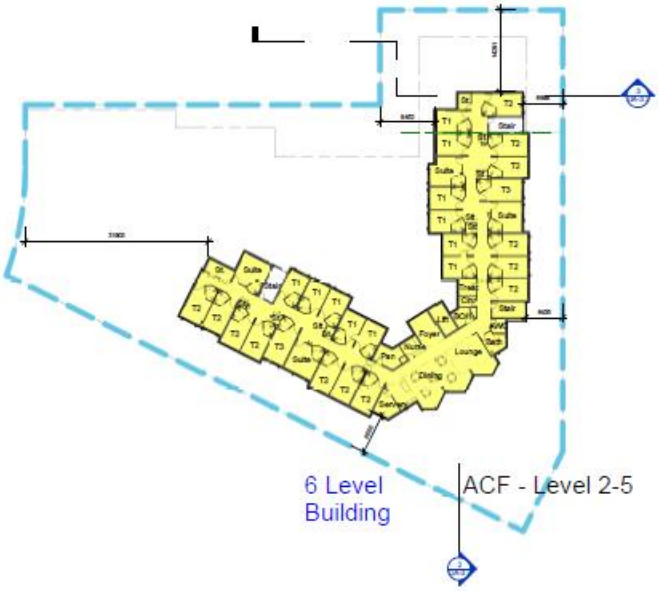
7	22.10.20	Client Inst Minor Adjustments
6	20.10.20	GF Layout Change and Effects
5	20.9.20	1st Client Req. Layout Changes

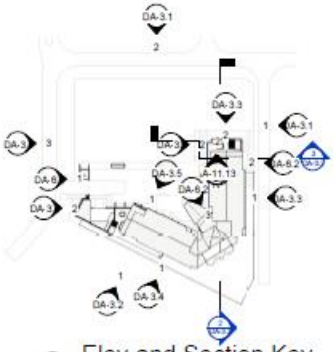
L1 — Scale 1 : 500 @ A3 original — 2C-15-DA-2.2



1 East Elevation
1 : 500

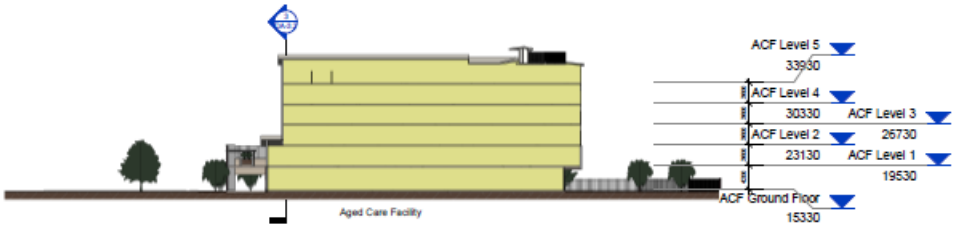
2 North Elevation
1 : 500

3 West Elevation
1 : 500

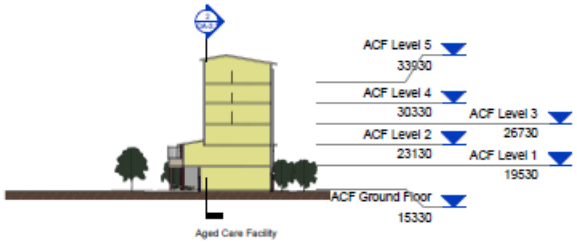


4 Elev and Section Key
1 : 1500

1 Southern Elevation
1 : 500



2 Section A
1 : 500



3 Section B
1 : 500

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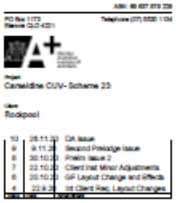
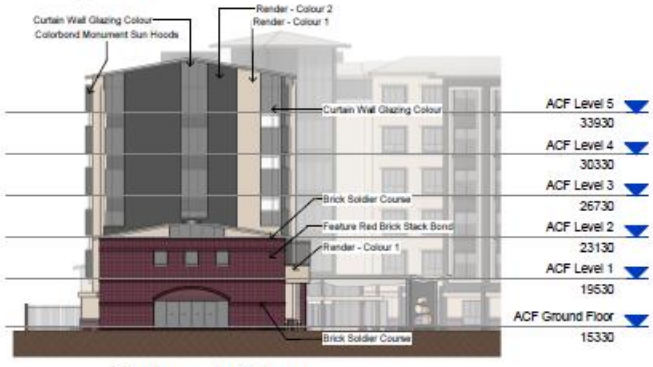


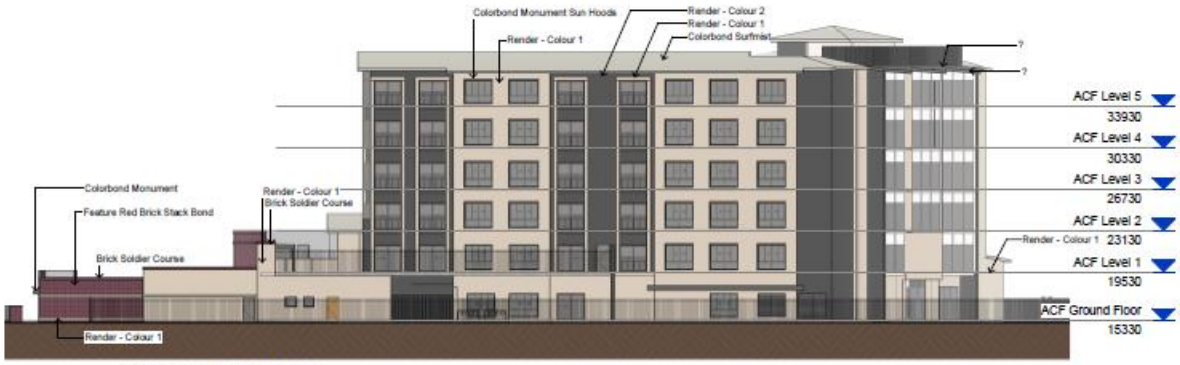
1 Eastern Building
1 : 250



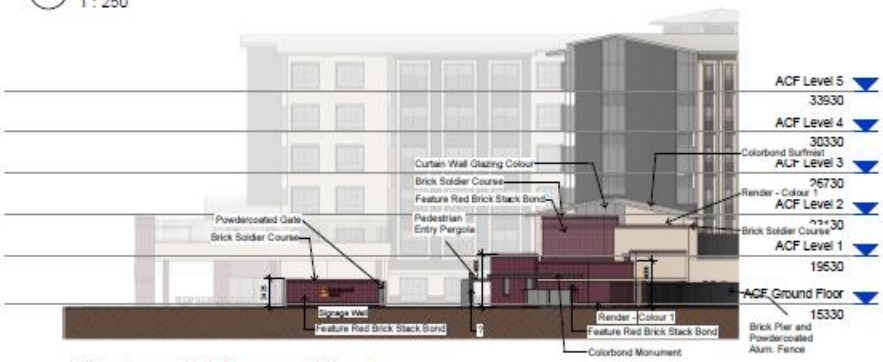
External Materials

2 Northern Building
1 : 250

GJG Architects

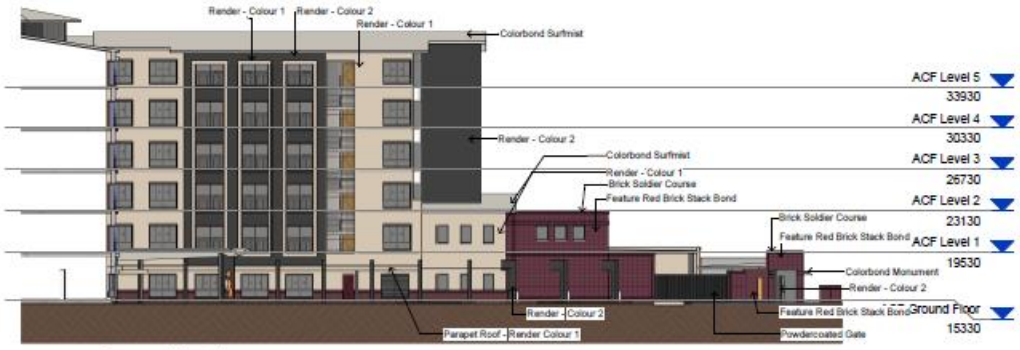


1 Southern Building
1 : 250



2 Western Building and Street
1 : 250

GJG Architects



1 Inner North
1 : 250

2 Inner West
1 : 250

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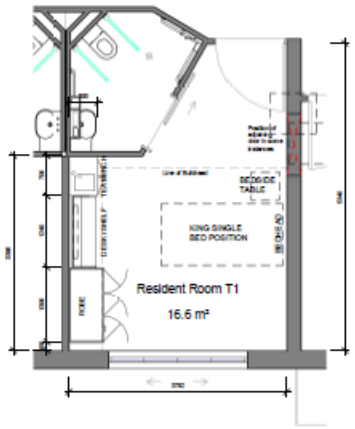
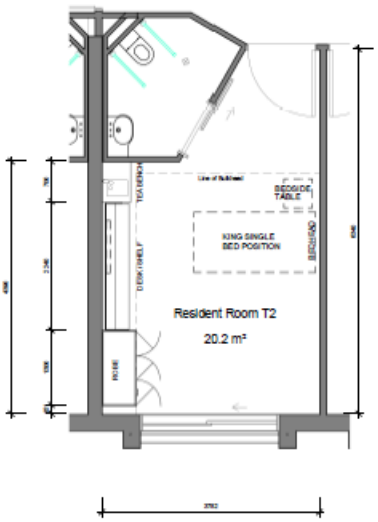
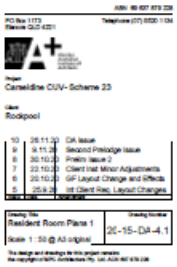


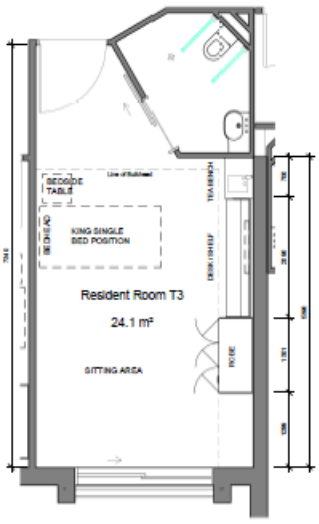
1 T1 Room Plan
1 : 50



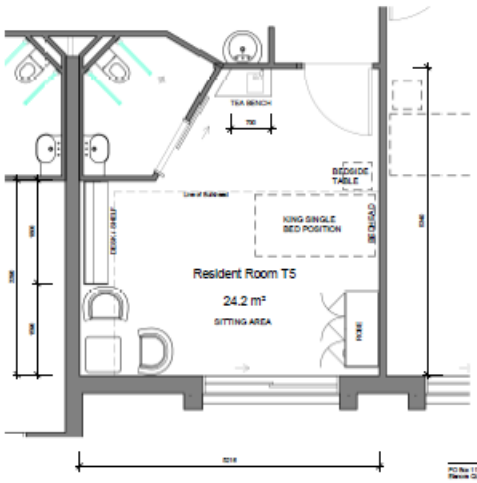
2 T2 Room Plan
1 : 50

GJG Architects





1 T3 Room Plan
1 : 50



2 Suite Plan (T4 &T5)
1 : 50

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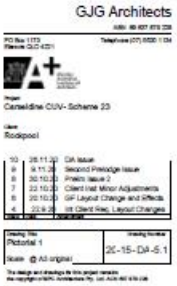
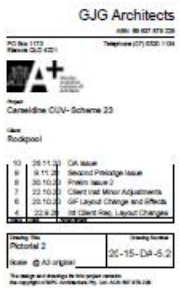
1 Ground Level from Main Street

2 Entrance Area



1 SE Axo

2 NW Axo



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Carseldine CUV- Scheme 23

Rockpool

10	26.11.20	DA Issue
9	9.11.20	Second Prelodge Issue
8	30.10.20	Prelim Issue 2
7	22.10.20	Client Iss! Minor Adjustments
6	20.10.20	GF Layout Change and Effects
5	22.9.20	1E Client Rev. Layout Changes

Pictorial 3

Scale @ A3 original

2E-15-DA-5.3

2 NW High View

1 Street Entrance

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Carseldine CUV- Scheme 23

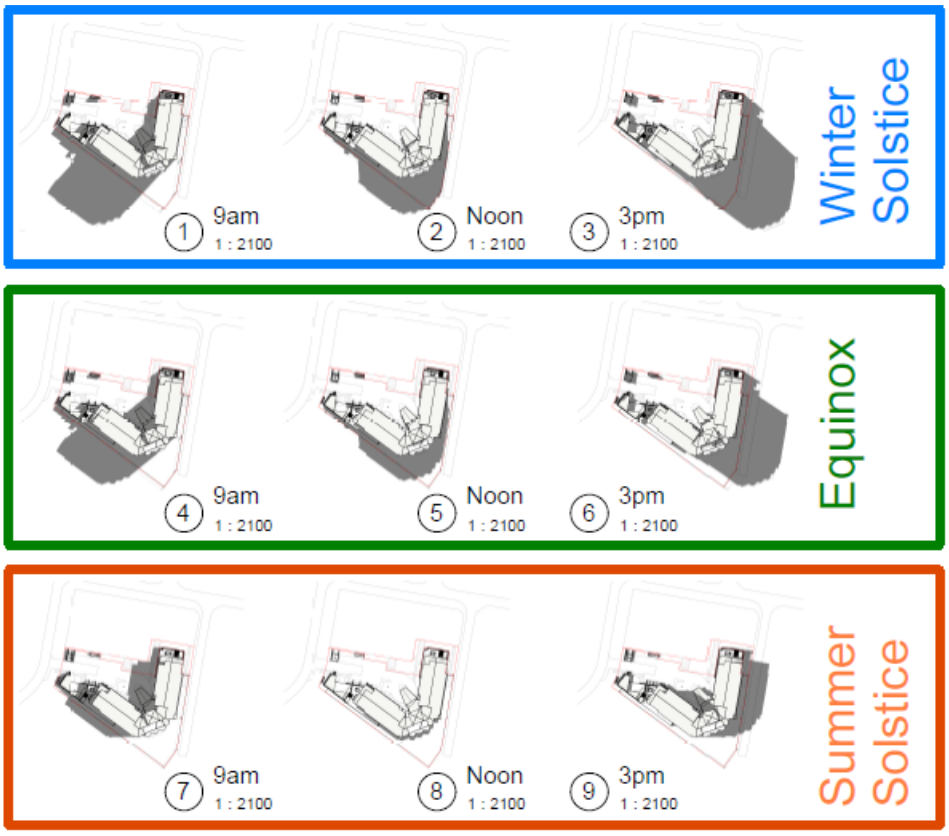
Rockpool

10	26.11.20	DA Issue

Pictorial 4

Scale @ A3 original

2E-15-DA-5.4



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8.2 Sample calculations

Floor	Location	Lmax dB(A) Rail	Leq24hr Day dB(A)	Lmax	Use d or n?	Use s or m?	AS2107 Category	Rm length 1 (m)	Rm length 2 (m)	Height (m)	RT60 (s)	Level dB(A)	Satis dB(A)	Max dB(A)	Crit dB(A)	Total dB(A)	No. Wall	No. Roof	No. Entry door	No. Exposed floor	Areas Windows 1	Areas Windows 2	Areas Sliding door	Areas Other	Level correction dB Wall	Level correction dB Roof	Level correction dB Windows 1	Level correction dB Windows 2	Level correction dB Sliding door	Level correction dB Other	Rw Ratings Wall	Rw Ratings Roof	Rw Ratings Windows 1	Rw Ratings Windows 2	Rw Ratings Sliding door	Rw Ratings Other	Glazing Windows 1	Glazing Windows 2	Glazing Sliding door	Glazing Other	Acoustic seals
GF	Café &	70.9	41	71	n	m	Cafeterias	11	6.3	3.2	1	71	45	50	50	49	2				7.2		6.3								40		22		28		4mm float		5mm tough		yes
GF	Function	70.9	41	71	n	m	Restaurants and cafeterias	7	7.7	3.2	1	71	45	55	55	49	1				7.2										40		22				4mm float				no
GF	DT	70.9	41	71	n	m	Public spaces	3.5	3	3.2	1	71	40	50	50	47	1				4.8										40		30				6mm float				yes
GF	Physio	70.9	41	71	n	m	Public spaces	4.2	3.7	3.2	1	71	40	50	50	48	1				4.8										40		27				4mm float				yes
GF	Wellness	70.9	41	71	n	m	Public spaces	9.3	6.4	3.2	1	71	40	50	50	47	1				4.8										40		22				4mm float				no
GF	Hair	70.9	41	71	n	m	Public spaces	7.4	2.5	3.2	1	71	40	50	50	48	1				4.8										40		27				4mm float				yes
GF	Private	70.9	41	71	n	m	Private offices	8	4.4	3.2	1	71	35	40	40	40	1				4.8										40		35				10.38 lam				yes
GF	Training	70.9	41	71	n	m	Public spaces	4.4	4.3	3.2	1	71	40	50	50	44	1				4.8										40		31				6.38 lam				yes
GF	Staff	70.9	41	71	n	m	General office areas	11	4.1	3.2	1	71	40	45	45	44	1				4.8										40		27				4mm float				yes
GF	Kitchen	59.9	30	60	n	m	Kitchens, sterilizing and ser	12	8	3.2	1	60	50	55	55	34	1				4.8										40		22				4mm float				no
GF	Administration	59.9	30	60	n	m	General office areas	23	5.3	3.2	1	60	40	45	45	35	1				7.2										40		22				4mm float				no
GF	Foyer	59.9	30	60	n	m	Public spaces	11	6	3.2	1	60	40	50	50	36	1				4.8										40		22				4mm float				no
GF	FM	59.9	30	60	n	m	General office areas	3.6	3.4	3.2	1	60	40	45	45	43	1				4.8										40		22				4mm float				no
GF	Off.	59.9	30	60	n	m	General office areas	3.6	3.4	3.2	1	60	40	45	45	43	1				4.8										40		22				4mm float				no
GF	CM	59.9	30	60	n	m	General office areas	3.7	3.5	3.2	1	60	40	45	45	43	1				4.8										40		22				4mm float				no
GF	ACFI	59.9	30	60	n	m	General office areas	3.8	3.7	3.2	1	60	40	45	45	42	1				4.8										40		22				4mm float				no
GF	Theatre	59.9	30	60	n	m	Cinemas (see Notes 5 and	6.8	4.8	3.2	1	60	30	35	35	27	1														40		22								no
1	Room 1	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 2	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 3	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 4	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 5	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 6	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 7	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 8	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 9	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 10	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 11	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 12	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 13	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 14	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 15	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 16	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 17	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
1	Room 18	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
1	Room 19	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
1	Room 20	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
1	Room 21	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
1	Room 22	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
1	Room 23	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
1	Room 24	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
1	Room 25	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
1	Room 26	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
1	Room 27	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
1	Room 28	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
1	Room 29	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
1	Room 30	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
1	Lounge 1	70.9	41	71	n	m	Major-living	8.8	5.3	3.2	1	71	35	45	45	44	1				4.8										40		27				4mm float				yes
1	Lounge 2	59.9	30	60	n	m	Major-living	8.8	5.3	3.2	1	60	35	45	45	37	1				4.8										40		22				4mm float				no
1	Dining	70.9	41	71	n	m	Major-living	21	8	3.2	1	71	35	45	45	43	1				4.8										40		22				4mm float				no
2 to 4	Room 1	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 2	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 3	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 4	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 5	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 6	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 7	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 8	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 9	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 10	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 11	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 12	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 13	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 14	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 15	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 16	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 17	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	43	1				4.8										40		31				6.38 lam				yes
2 to 4	Room 18	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
2 to 4	Room 19	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
2 to 4	Room 20	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
2 to 4	Room 21	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
2 to 4	Room 22	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
2 to 4	Room 23	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
2 to 4	Room 24	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
2 to 4	Room 25	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
2 to 4	Room 26	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
2 to 4	Room 27	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
2 to 4	Room 28	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
2 to 4	Room 29	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
2 to 4	Room 30	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	40	1				4.8										40		22				4mm float				no
2 to 4	Lounge 1	70.9	41	71	n	m	Major-living	8.8	5.3	3.2	1	71	35	45	45	44	1				4.8										40		27				4mm float				yes
2 to 4	Lounge 2	59.9	30	60	n	m	Major-living	8.8	5.3	3.2	1	60	35	45	45	37	1				4.8										40		22				4mm float				no
2 to 4	Dining	70.9	41	71	n	m	Major-living	21	8	3.2	1	71	35	45	45	43	1				4.8										40		22				4mm float				no
5	Room 1	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 2	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 3	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 4	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 5	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 6	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 7	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 8	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 9	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 10	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 11	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 12	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 13	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 14	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 15	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 16	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 17	70.9	41	71	n	m	Major-living	6	3.8	3.2	1	71	35	45	45	45	1	1			4.8										40	40	31				6.38 lam				yes
5	Room 18	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	36	1	1			4.8										40	40	27				4mm float				yes
5	Room 19	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	36	1	1			4.8										40	40	27				4mm float				yes
5	Room 20	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	36	1	1			4.8										40	40	27				4mm float				yes
5	Room 21	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	36	1	1			4.8										40	40	27				4mm float				yes
5	Room 22	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	36	1	1			4.8										40	40	27				4mm float				yes
5	Room 23	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	36	1	1			4.8										40	40	27				4mm float				yes
5	Room 24	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	36	1	1			4.8										40	40	27				4mm float				yes
5	Room 25	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	36	1	1			4.8										40	40	27				4mm float				yes
5	Room 26	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	36	1	1			4.8										40	40	27				4mm float				yes
5	Room 27	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	36	1	1			4.8										40	40	27				4mm float				yes
5	Room 28	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	36	1	1			4.8										40	40	27				4mm float				yes
5	Room 29	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	36	1	1			4.8										40	40	27				4mm float				yes
5	Room 30	59.9	30	60	n	m	Major-living	6	3.8	3.2	1	60	35	45	45	36	1	1			4.8										40	40	27				4mm float				yes
5	Lounge 1	70.9	41	71	n	m	Major-living	8.8	5.3	3.2	1	71	35	45	45	45	1	1			4.8										40	40	27				4mm float				yes
5	Lounge 2	59.9	30	60	n	m	Major-living	8.8	5.3	3.2	1	60	35	45	45	34	1	1			4.8										40	40	27				4mm float				yes
5	Dining	70.9	41	71	n	m	Major-living	21	8	3.2	1	71	35	45	45	43	1	1			4.8										40	40	27				4mm float				yes

8.3 Aged care room numbering

8.3.1 Level 1

Aged Care Facility

Residents	150
Carparks	25
GFA	8493
Proposed Site Area	5569 Shared + ACF
Plot Ratio	1.52
Approx. Site Cover	2200 40%

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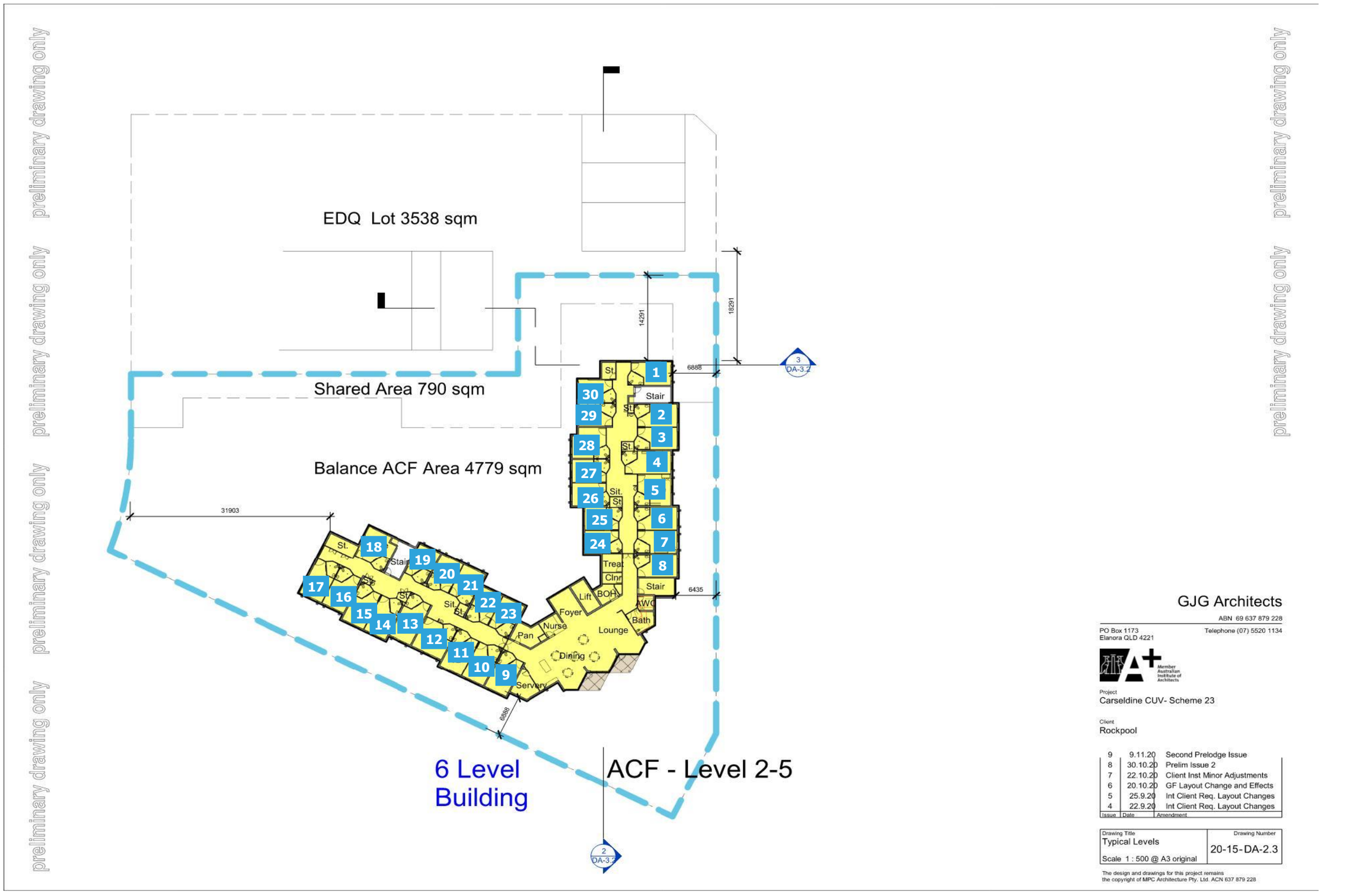
Project
Carseldine CUV- Scheme 23

Client
Rockpool

Issue	Date	Amendment
9	9.11.20	Second Prelodge Issue
8	30.10.20	Prelim Issue 2
7	22.10.20	Client Inst Minor Adjustments
6	20.10.20	GF Layout Change and Effects
5	25.9.20	Int Client Req. Layout Changes
4	22.9.20	Int Client Req. Layout Changes

Drawing Title	Drawing Number
L1 Scale 1 : 500 @ A3 original	20-15-DA-2.2

8.3.2 Levels 2 to 5



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Drawing Title: Typical Levels
Scale 1 : 500 @ A3 original

Drawing Number: 20-15-DA-2.3