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ENGINEERING SERVICES  
Civil & Stormwater Engineering Services Pty Ltd

## **Flood Management Report**

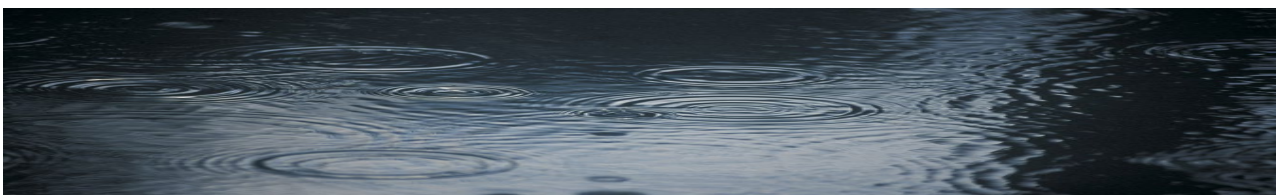
Proposed Development at 1-3 Careel Head Road  
Avalon Beach, NSW 2107

Prepared For  
**Northern Beaches Council**

Client  
**CD Architects**

Project No.  
**CSES240157**

**Issue C**  
**June 2025**



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Client	Comments
CD Architects	Nil

## Disclaimer

The advice and information contained within this report relies on the quality of the records and other data provided by the Client and obtained from Council along with the time and budgetary constraints imposed.

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# 1 INTRODUCTION

Civil & Stormwater Engineering Services Pty Ltd have been commissioned to prepare a Flood Management Report for Proposed Development at 1-3 Careel Head Road, Avalon Beach NSW 2107.

This report will:

1. Determine the existing Flood characteristics;
2. Define the flood risk for the proposed development in accordance with Council's flood risk management;
3. Provide flood risk management procedures for the proposed development in accordance with Council's Flood Risk Management Plan;
4. Establish a development control plan in accordance with Council's guidelines.

This report has been prepared generally in accordance with Pittwater 21 DCP (2014).

## 2 SITE DETAILS

### 2.1 Existing Setting

The proposed development site, identified as Lot 1 SP 32656 (1 Careel Head Rd), Lot B DP 385973 (3 Careel Head Rd), is located within the municipality of Northern Beaches Council. It is bounded by Careel Head Road to the north, Barrenjoey Road to the west and by built-up allotments to the south and east. Careel Creek is located approximately 170 m west of the site, flowing from south to northwest and discharging into the bay. **Figure 2-1** and **Figure 2-2** below shows the site location outlined in red.



**Figure 2-1: Site Location (bounded in red) and Surrounding Area**



Figure 2-2: Site

## 2.2 Proposed Development

The proposal is to construct a mixed-use development that includes both retail and a childcare facility. This will be a two-story building, with the ground floor housing Dan Murphy's and other retail shops, and the second storey (Level 01) containing the childcare facility. To address parking needs efficiently, the development includes both basement and ground-level parking facilities. **Figure 2-3** shows the ground-level plan of the proposed development. All other architectural plans are attached in **Appendix A**.

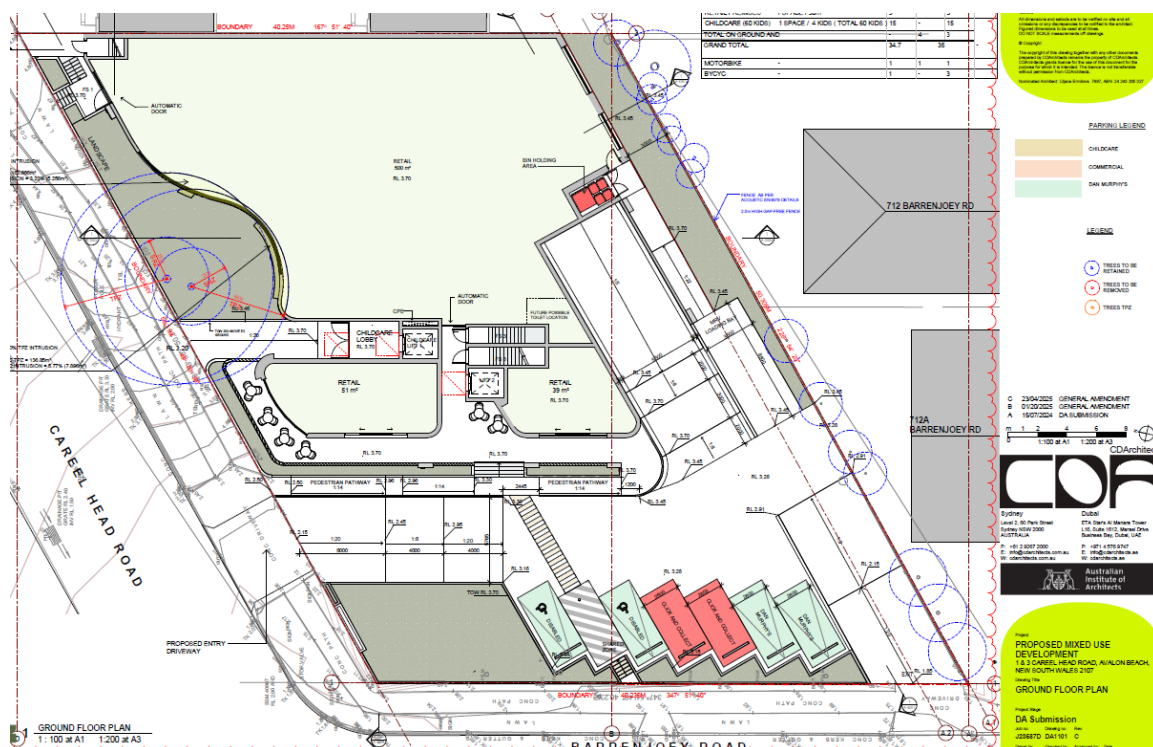


Figure 2-3: Ground Level Plan



## 3 REVIEW OF INFORMATION

### 3.1 Pittwater 21 DCP

Pittwater 21 Development Control Plan 2014 (Pittwater 21 DCP) is to provide best practice standards for development. Section B3.11 Flood Prone Land of the Pittwater 21 DCP describes development control in a land identified as being affected by flooding by Council. This report was compiled based on Pittwater 21 DCP, specifically Section B3.11.

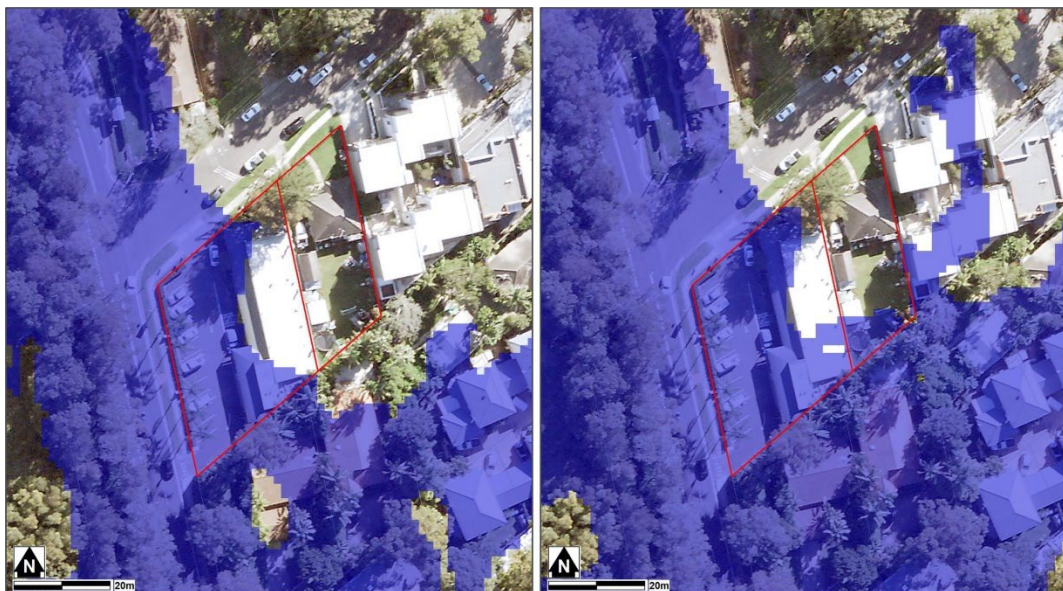
### 3.2 Flood Risk Management Policy, 2017

The Flood Risk Management Policy (the Policy) establishes the flood risk management approach within the Northern Beaches Council. The policy was reviewed to prepare risk management for the site.

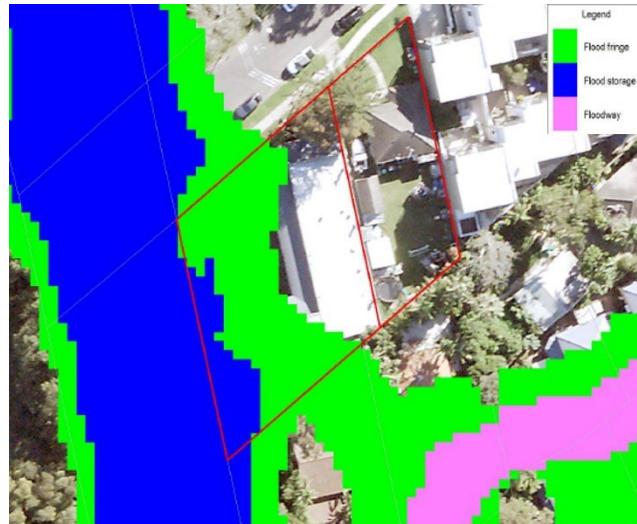
## 4 FLOOD ASSESSMENT

### 4.1 Flood Information

According to the Flood Information Report issued by the Council, the development site located at 1 Careel Head Rd is partially affected by both the 1% AEP design event with climate change and PMF floods (**Figure 4-1**). However, the development site located at 3 Careel Head Rd is flood-free. The flood hazard category of the development site at 1 Careel Head Rd is predominantly classified as flood fringe, except for the western part next to Barrenjoey Rd, which is classified as flood storage (**Figure 4-2**).

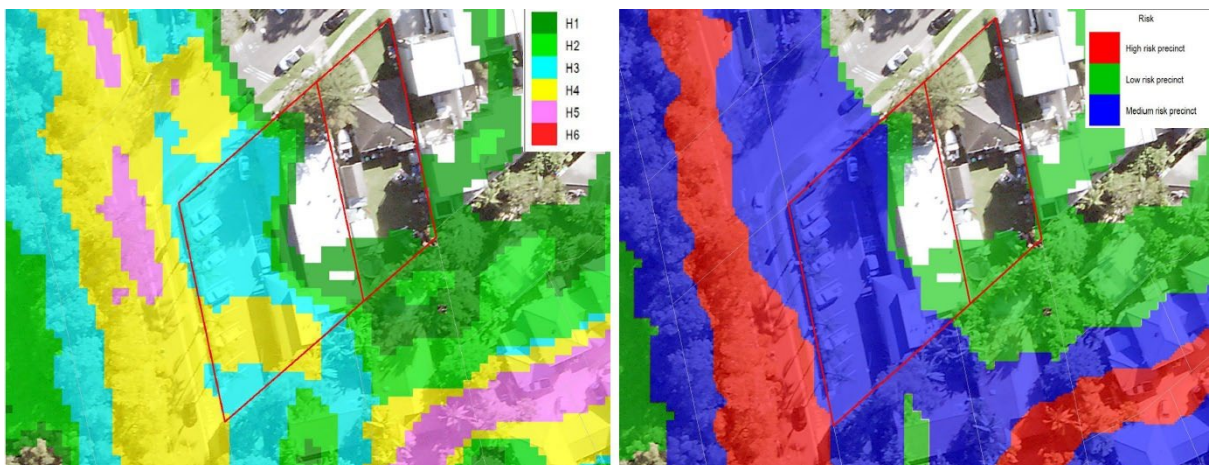


**Figure 4-1: 1% AEP Extent plus Climate Change (Left) and PMF Extent (Right) Maps**



**Figure 4-2: 1% AEP Hydraulic Category Extent Map**

Flood hazard category of the site located at 1 Careel Head Rd is predominantly H3 and H4 (**Figure 4-3**). However, the front portion of the proposed building footprint falls under categories H1 and H2, whereas the southwest corner of the development footprint is classified as H3. A major portion of the proposed building footprint is outside the flood-prone land. The Flood Risk Precinct within the property is mostly “Medium”.



**Figure 4-3: Flood Life Hazard Category in PMF (Left) and Flood Risk Precinct (Right)**

The site is within the former Pittwater Local Government area. As per Pittwater 21 DCP, the impact of climate change must be considered for the intensification of development. **Table 4-1** provides flood level for the 1% AEP design event with climate change, flood planning level (FPL), and probable maximum flood level for the site. This information is important to assess compliance with flood-related development.

**Table 4-1: Flood Levels (m AHD)**

1% AEP Level (Climate change + Sea level rise)	FPL
3.20	3.70



## 4.2 Flood Risk Assessment

The finished floor level of the proposed retail spaces is at the FPL, and the proposed childcare facility is at 7.90 m AHD, which is well above the PMF level. Safe refuge is possible above the PMF level in the outdoor area of the childcare facility. The existing entry to the driveway, which will be used to access the site, is affected by a 1% AEP flood, with an expected depth of approximately 0.8 m. This flood depth is not safe for vehicle evacuation during a 1% AEP flood. Early evacuation is required to avoid being isolated at the time of the flood and this is discussed in **Section 7**. However, occupants would still be able to evacuate the site on foot.

The crest level for the entry to the basement car park is at 3.7 m AHD, which is PMF level, therefore, the basement parking is safe up to and including PMF design event. The flood depth of the outdoor parking area in the proposed condition is up to 0.1 m AHD during a 1% flood, which is generally safe for people and vehicles (Australian Institute for Disaster Resilience, 2017).

## 5 DEVELOPMENT CONTROL PLANS REQUIREMENTS

In accordance with section B3.11: Flood Prone Land of Pittwater 21 Development Control Plan (DCP), the proposed development was reviewed against development controls listed in the Development Control Matrix (**Figure 5-1**). Refer to **Table 5-1** below for detailed development controls which are relevant to the site.

The flood-related development controls were identified based on the flood risk precinct of the proposed development. The car park and driveways are located within the Medium Flood Risk Precinct, while other facilities are located either within the Low Flood Risk Precinct or outside the extent of the 1% AEP and PMF flood.

The land use category for the proposed Dan Murphy's and other retail spaces is "Business & Industrial Use," whereas the proposed childcare facility is categorized as "Vulnerable & Critical Use".

		Medium Flood Risk Precinct				
		Vulnerable & Critical Use	Residential Use	Business & Industrial Use	Recreational & Environmental Use	Subdivision & Civil Works
A	Flood effects caused by Development	A1 A2	A1 A2	A1 A2	A1 A2	A1 A2
B	Building Components & Structural	B1 B2 B3	B1 B2 B3	B1 B2 B3	B1 B2 B3	
C	Floor Levels	C2 C3	C1 C3 C4 C6	C1 C3 C4 C6 C7	C3	C5
D	Car Parking	D1 D2 D3 D4 D7	D1 D2 D3 D4 D5 D6	D1 D2 D3 D4 D5 D6	D1 D2 D3 D4 D5 D6	D1
E	Emergency Response	E1 E2	E1	E1	E1	E3
F	Fencing	F1	F1	F1	F1	F1
G	Storage of Goods	G1	G1	G1	G1	
H	Pools	H1	H1	H1	H1	H1

Figure 5-1: Development Control Matrix

Table 5-1: Development Controls

Requirements			Complying
A. Flood effects caused by development	A1	<p>Development shall not be approved unless it can be demonstrated in a Flood Management Report that it has been designed and can be constructed so that in all events up to the 1% AEP event:</p> <p>(a) There are no adverse impacts on flood levels or velocities caused by alterations to the flood conveyance; and</p> <p>(b) There are no adverse impacts on surrounding properties; and</p> <p>(c) It is sited to minimise exposure to flood hazard.</p> <p>Major developments and developments likely to have a significant impact on the PMF flood regime will need to demonstrate that there are no adverse impacts in the Probable Maximum Flood.</p>	✓ N/A
	A2	Development shall not be approved unless it can be demonstrated in a Flood Management Report that in all events up to the 1% AEP event there is no net loss of flood storage.	✓ This is complied, storage is proposed to compensate loss of storage ( <b>Section 6</b> )
B. Building components and structural soundness	B1	All buildings shall be designed and constructed with flood compatible materials in accordance with "Reducing Vulnerability of Buildings to Flood Damage: Guidance on Building in Flood Prone	✓ This can be complied with. Architect to confirm.

Requirements			Complying
		Areas", Hawkesbury-Nepean Floodplain Management Steering Committee (2006).	
	B2	All new development must be designed and constructed to ensure structural integrity up to the Flood Planning Level, taking into account the forces of floodwater, wave action, flowing water with debris, buoyancy and immersion. Where shelter-in-place refuge is required, the structural integrity for the refuge is to be up to the Probable Maximum Flood level. Structural certification shall be provided confirming the above.	✓ This can be complied. Structural engineer certification will be provided.
	B3	All new electrical equipment, power points, wiring, fuel lines, sewerage systems or any other service pipes and connections must be waterproofed and/or located above the Flood Planning Level. All existing electrical equipment and power points located below the Flood Planning Level within the subject structure must have residual current devices installed that turn off all electricity supply to the property when flood waters are detected.	<ul style="list-style-type: none"> <li>✓ Architect to confirm.</li> <li>✓ All electric installation at will be above the FPL which is 3.7m AHD.</li> <li>✓ Electrical installations located in the basement car parking will be isolated in the event of a flood when flood waters are detected.</li> </ul>
<b>C. Floor levels</b>	C1	New floor levels within the development shall be at or above the Flood Planning Level.	<ul style="list-style-type: none"> <li>✓ This applies for the proposed retails.</li> <li>✓ As per the architectural plan, the finished floor level of all shops located on the ground floor is 3.7m AHD, which is the FPL.</li> </ul>
	C2	All floor levels within the development shall be at or above the Probable Maximum Flood level or Flood Planning Level, whichever is higher.	<ul style="list-style-type: none"> <li>✓ This applies for the proposed childcare.</li> <li>✓ As per the architectural plan, the finished floor level of the proposed childcare facility is well above the PMF level.</li> </ul>
	C3	<p>All new development must be designed and constructed so as not to impede the floodway or flood conveyance on the site, as well as ensuring no net loss of flood storage in all events up to the 1% AEP event.</p> <p>For suspended pier/pile footings:</p> <p>(a) The underfloor area of the dwelling below the 1% AEP flood level is to be designed and constructed to allow clear passage of floodwaters, taking into account the potential for small openings to block; and</p> <p>(b) At least 50% of the perimeter of the underfloor area is of an open design from the natural ground level up to the 1% AEP flood level; and</p> <p>(c) No solid areas of the perimeter of the underfloor area would be permitted in a floodway</p>	<ul style="list-style-type: none"> <li>✓ NA. The proposed building footprint is located partially within the flood fringe area.</li> </ul>
	C4	<p>A one-off addition or alteration below the Flood Planning Level of less than 30 square metres (in total, including walls) may be considered only where:</p> <p>(a) it is an extension to an existing room; and</p> <p>(b) the Flood Planning Level is incompatible with the floor levels of the existing room; and</p> <p>(c) out of the 30 square metres, not more than 10 square metres is below the 1% AEP flood level.</p>	<ul style="list-style-type: none"> <li>✓ NA</li> </ul>

Requirements			Complying
		<p>This control will not be permitted if this provision has previously been utilised since the making of this Plan.</p> <p>The structure must be floodproofed to the Flood Planning Level, and the Flood Management Report must demonstrate that there is no net loss of flood storage in all events up to the 1% AEP event.</p>	
	C6	<p>Consideration may be given to the retention of an existing floor level below the Flood Planning Level when undertaking a first floor addition provided that:</p> <p>(a) it is not located within a floodway; and</p> <p>(b) the original foundations are sufficient to support the proposed final structure above them. The Flood Management Report must include photos and the structural certification required as per Control B2 must consider whether the existing foundations are adequate or should be replaced; and</p> <p>(c) none of the structural supports/framing of existing external walls of are to be removed unless the building is to be extended in that location; and</p> <p>(d) the ground floor is floodproofed.</p>	✓ NA
	C7	<p>Consideration may be given to a floor level below the Flood Planning Level within the first 5 metres from the street front in an existing business zone provided it can be demonstrated that:</p> <p>(a) The minimum floor level is no lower than the adjacent footpath level, and</p> <p>(b) The maximum internal distance from the front of the building is 5 metres, which can only apply to one side of an individual premises, and</p> <p>(c) The maximum area for the floor area to be below the Flood Planning Level for an individual premises is 30 square metres, and</p> <p>(d) There is direct internal access between areas above and below the Flood Planning Level for each individual premises</p>	✓ NA
<b>D. Car parking &amp; driveway access</b>	D1	Open carpark areas and carports shall not be located within a floodway.	✓ This complies. The outside parking area is not located within a floodway.
	D2	The lowest floor level of open carparks and carports shall be constructed no lower than the natural ground levels, unless it can be shown that the carpark or carport is free draining with a grade greater than 1% and that flood depths are not increased.	✓ This complies. The proposed outside car park will be situated at an elevation higher than the natural ground level.
	D3	<p>Carports must be of open design, with at least 2 sides completely open such that flow is not obstructed up to the 1% AEP flood level. Otherwise it will be considered to be closed.</p> <p>When undertaking a like-for-like replacement and the existing garage/carport is located on the street boundary and ramping is infeasible, consideration may be given for dry flood proofing up to the 1% AEP flood level.</p>	✓ This complies. The proposed outside car park is open planned.
	D4	Where there is more than 300mm depth of flooding in a car park or carport during a 1%AEP flood event, vehicle barriers or restraints are to be provided to prevent floating vehicles leaving the site. Protection must be provided for all events up to the 1% AEP flood event	✓ This complies. The proposed design level of the outside carpark is between 2.98 m AHD and 3.16 m AHD , whereas the 1% AEP flood level is 3.06 m AHD to 3.08 mAHD.
	D5	Enclosed Garages must be located at or above the 1% AEP level.	✓ NA



Requirements			Complying
	D6	All enclosed car parks (including basement car parks) must be protected from inundation up to the Flood Planning Level. All access, ventilation, driveway crests and any other potential water entry points to any enclosed car parking shall be above the Flood Planning Level.	<ul style="list-style-type: none"> <li>✓ Architect to confirm no ventilation is provided below FPL 3.7m AHD.</li> <li>✓ The crest level for the entry to the basement car park is at PMF level.</li> </ul>
	D7	All enclosed car parks must be protected from inundation up to the Probable Maximum Flood level or Flood Planning Level whichever is higher. For example, basement carpark driveways must be provided with a crest at or above the relevant Probable Maximum Flood level or Flood Planning Level whichever is higher. All access, ventilation and any other potential water entry points to any enclosed car parking shall be at or above the relevant Probable Maximum Flood level or Flood Planning Level whichever is higher.	<ul style="list-style-type: none"> <li>✓ Enclosed parking (basement parking) is protected up to the PMF level.</li> </ul>
<b>E. Emergency response</b>	E1	If the property is affected by a Flood Life Hazard Category of H3 or higher, then Control E1 applies and a Flood Emergency Assessment must be included in the Flood Management Report.	<ul style="list-style-type: none"> <li>✓ Flood Emergency Response Plan is included in Section 7.</li> </ul>
<b>F. Fencing</b>	F1	Fencing, (including pool fencing, boundary fencing, balcony balustrades and accessway balustrades) shall be designed so as not to impede the flow of flood waters and not to increase flood affectation on surrounding land. At least 50% of the fence must be of an open design from the natural ground level up to the 1% AEP flood level. Less than 50% of the perimeter fence would be permitted to be solid. Openings should be a minimum of 75 mm x 75mm.	<ul style="list-style-type: none"> <li>✓ It is proposed to install a 'free flow' fences.</li> <li>✓ Architect to confirm.</li> </ul>
<b>G. Storage of goods</b>	G1	Hazardous or potentially polluting materials shall not be stored below the Flood Planning Level unless adequately protected from floodwaters in accordance with industry standards.	<ul style="list-style-type: none"> <li>✓ Architect to confirm.</li> </ul>
<b>H. Pools</b>	HI		<ul style="list-style-type: none"> <li>✓ NA</li> </ul>

## 6 FLOOD MITIGATION MEASURES

A small volume loss of approximately 90.9 m<sup>3</sup> is expected due to the proposed development. To compensate for this, a flood storage area with a volume of approximately 93.3 m<sup>3</sup> is proposed. For detailed calculations and drawings, please refer to the stormwater concept plans (*ESG240157.SW.DA - 1 Careel Head Road, Avalon Beach - Rev D.pdf, dated 22/05/2025*).

## 7 FLOOD EMERGENCY RESPONSE PLAN

As mentioned in Section 4.2: Flood Risk Assessment, the evacuation route via Careel Head Road will be cutoff both at PMF and 1% AEP flood event. To avoid isolation, early evacuation is required. The main form of flood emergency response is:

- Evacuation: Movement out of the floodplain before the property becomes flood affected; and

## 7.1 Flood Evacuation

Careel Head Road is expected to remain flood-free up to and including the PMF event, allowing for evacuation by foot or vehicle. In contrast, Barrenjoey Road is expected to be affected during a PMF event, with a flood hazard classification of H4. Therefore, occupants are advised not to use Barrenjoey Road during a flood event.

Early evacuation by vehicle is recommended before the driveway exit onto Careel Head Road becomes inaccessible. During periods of heavy rainfall, and in anticipation of possible flooding and the cutoff of Barrenjoey Road, the site warden should instruct occupants to evacuate both the retail area and the childcare centre.

Flood warning signage should be installed at strategic locations near Barrenjoey Road to provide early warning and ensure visibility. These signs will help alert residents to rising water levels and promote timely evacuation.

## 7.2 Preparing for a Flood

The SES is responsible for dealing with floods in NSW. During floods, SES volunteers have the responsibility for issuing flood safety advice, evacuation, rescue and providing essentials to people cut off by floodwaters.

The Bureau of Meteorology (BOM) is provide warnings of heavy rainfall and hail when they are aware of such event, however this does not translate to a flood warning.

Being prepared will allow for occupants to respond quickly when evacuation is required. Occupants can prepare for evacuation by:

- The building occupants must ensure that no movable objects are kept in front of the retail shops. This is to prevent these objects from being carried away during flooding.
- Occupants should locate important papers, valuables, and mementos and place them in an emergency kit.
- Before evacuating, occupants should turn off electricity and gas at the mains. Additionally, they should turn off and secure any gas bottles.
- Waste containers, chemicals, and poisons should be relocated well above predicted flood levels and kept away from the flood hazard area.
- Occupants should familiarize themselves with the flood hazard area to understand the potential risks and safe zones.

## 7.3 Responding During a Flood

During a flood, occupants are advised to:

- Never drive, ride or walk through floodwater;

- Keep listening to local radio station for further information, updates and advice;
- Keep in contact with neighbours and prepare to evacuate if advised;
- Stay with friends or relatives away from the flood;
- Take emergency kit with them;
- Take your pets with them;

Act early and head to high ground before roads are closed by floodwater. Monitoring relevant NSW SES and Bureau of Meteorology updates and information regarding safety advice.

## **7.4 Recovery after a Flood**

It is recommended by the SES that residents should not return to flood affected areas until emergency services advise it is to do so.

When cleaning up after flood events, ensure that safety advice is followed including discarding all food that has come into contact with floodwater and cleaning and sanitising belongings.

## **8 CONCLUSION**

This Flood Management Report has been prepared to support the proposed development at 1-3 Careel Head Road AVALON BEACH NSW 2107.

This report concluded that

- The proposed development complies with all the relevant flood related development control plans of Pittwater 21 DCP (Section 5).
- Appropriate flood storage is provided to compensate for the loss of volume resulting from the proposed development (Section 6).
- The flood emergency response plan needs to be followed at the time of flooding (Section 7).

## **9 REFERENCES**

1. Australia Government, Bureau of Meteorology Website  
<http://www.bom.gov.au/>
2. Pittwater 21 Development Control Plan, Northern Beaches Council, 2021
3. New South Wales Government – Floodplain Development Manual – The management of flood liable land, April 2005
4. Flood Risk Management Policy, Northern Beaches Council, 2017

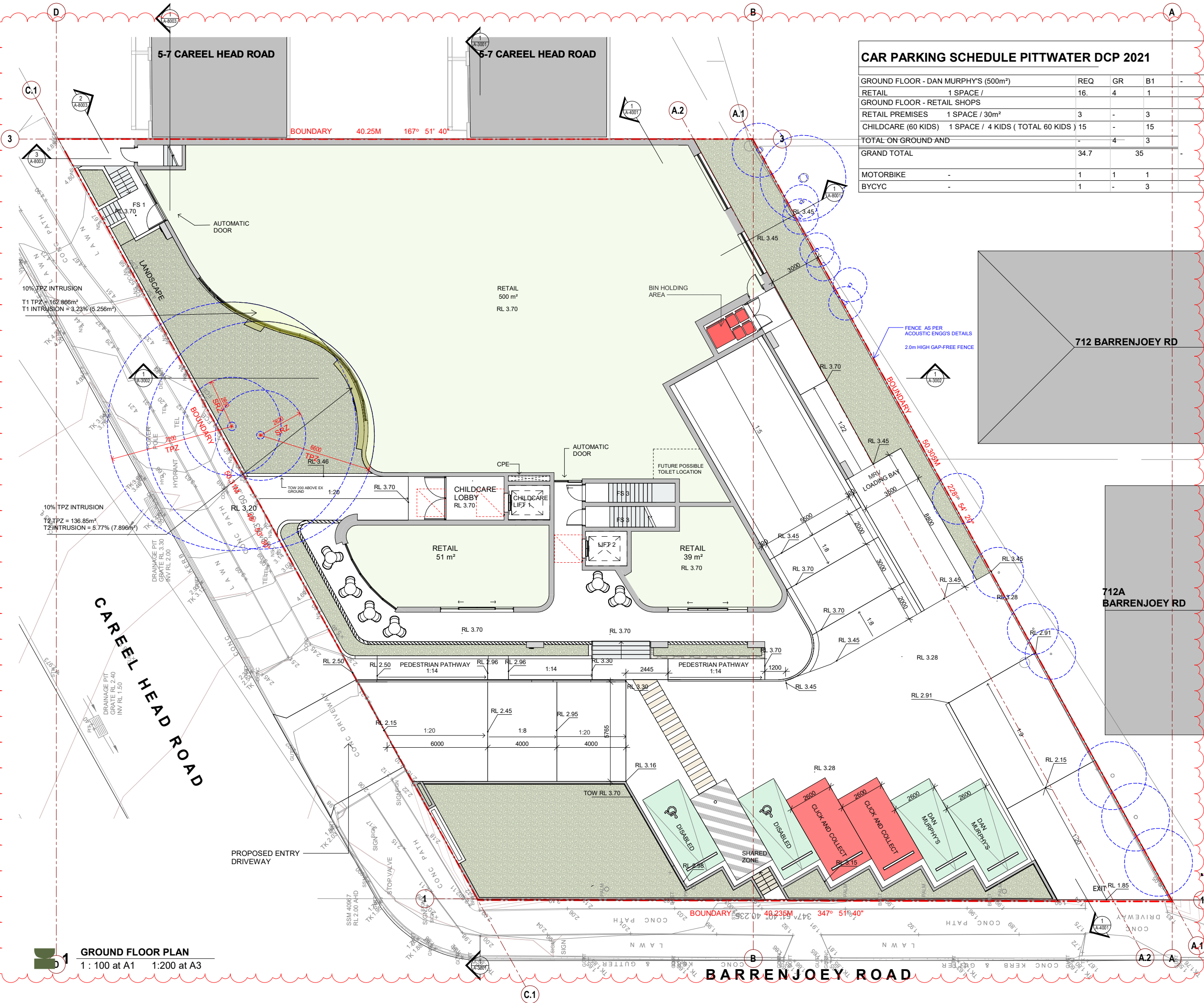
## 10 APPENDICES



## Appendix A: Architectural Plan







### CAR PARKING SCHEDULE PITTWATER DCP 2021

GROUND FLOOR - DAN MURPHY'S (500m²)		REQ	GR	B1	-
RETAIL	1 SPACE /	16.	4	1	
GROUND FLOOR - RETAIL SHOPS					
RETAIL PREMISES	1 SPACE / 30m²	3	-	3	
CHILDCARE (60 KIDS)	1 SPACE / 4 KIDS ( TOTAL 60 KIDS )	15	-	15	
TOTAL ON GROUND AND		-	4	3	
GRAND TOTAL		34.7	35	-	
MOTORBIKE	-	1	1	1	
BYCYC	-	1	-	3	

**References**  
Any variations or deviations from approved construction drawings must be reviewed and approved by PCA or nominated certifying authority.

Drawings to be read in conjunction with, but not limited to, all structural engineers, stormwater engineers, landscape architects, fire protection, essential electrical services and mechanical services plans & other associated plans & reports.

Refer to current Basix report for additional requirements to ones noted on plans.

#### Notes

All dimensions and setbacks are to be verified on site and all omissions or any discrepancies to be notified to the architect. Figured dimensions to be used at all times. DO NOT SCALE measurements off drawings.

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Nominated Architect: Liljana Emilova 7887, ABN 24 243 205 327

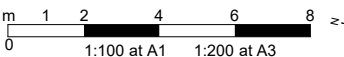
#### PARKING LEGEND

	CHILDCARE
	COMMERCIAL
	DAN MURPHY'S

#### LEGEND

- TREES TO BE RETAINED
- TREES TO BE REMOVED
- TREES TPZ

C	23/04/2025	GENERAL AMENDMENT
B	01/20/2025	GENERAL AMENDMENT
A	15/07/2024	DA SUBMISSION



CDArchitects



**Sydney**  
Level 2, 60 Park Street  
Sydney NSW 2000  
AUSTRALIA

**Dubai**  
ETA Star's Al Manara Tower  
L16, Suite 1612, Marasi Drive  
Business Bay, Dubai, UAE

P: +61 2 9267 2000  
E: info@cdarchitects.com.au  
W: cdarchitects.com.au

P: +971 4 576 9747  
E: info@cdarchitects.ae  
W: cdarchitects.ae



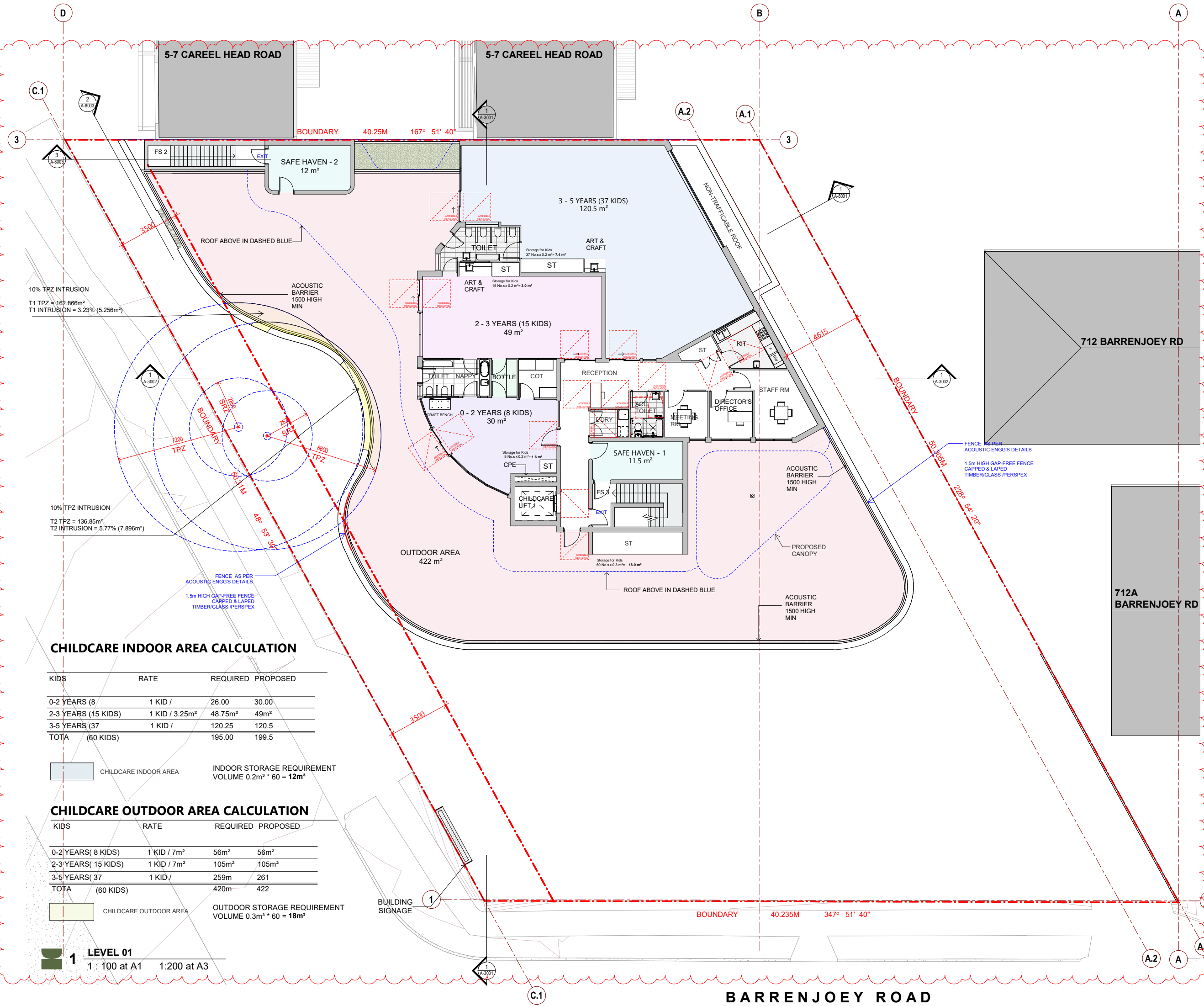
Project  
**PROPOSED MIXED USE DEVELOPMENT**  
1 & 3 CAREEL HEAD ROAD, AVALON BEACH,  
NEW SOUTH WALES 2107

Drawing Title  
**GROUND FLOOR PLAN**

Project Stage  
**DA Submission**

Job no.	Drawing no.	Rev.
J23587D	DA1101	C

Drawn by: GH  
Checked by: RJ  
Approved by: ZC  
Date: JULY, 2024



### CHILDCARE INDOOR AREA CALCULATION

KIDS	RATE	REQUIRED	PROPOSED
0-2 YEARS (8)	1 KID /	26.00	30.00
2-3 YEARS (15 KIDS)	1 KID / 3.25m²	48.75m²	49m²
3-5 YEARS (37)	1 KID /	120.25	120.5
TOTAL (60 KIDS)		195.00	199.5

CHILDCARE INDOOR AREA INDOOR STORAGE REQUIREMENT  
VOLUME 0.2m³ \* 60 = 12m³

### CHILDCARE OUTDOOR AREA CALCULATION

KIDS	RATE	REQUIRED	PROPOSED
0-2 YEARS (8 KIDS)	1 KID / 7m²	56m²	56m²
2-3 YEARS (15 KIDS)	1 KID / 7m²	105m²	105m²
3-5 YEARS (37)	1 KID /	259m	261
TOTAL (60 KIDS)		420m	422

CHILDCARE OUTDOOR AREA OUTDOOR STORAGE REQUIREMENT  
VOLUME 0.3m³ \* 60 = 18m³

1 LEVEL 01  
1:100 at A1 1:200 at A3

**References**  
Any variations or deviations from approved construction drawings must be reviewed and approved by PCA or nominated certifying authority.  
Drawings to be read in conjunction with, but not limited to, all structural engineers, stormwater engineers, landscape architects, fire protection, essential electrical services and mechanical services plans & other associated plans & reports.  
Refer to current Basix report for additional requirements to ones noted on plans.  
**Notes**  
All dimensions and setbacks are to be verified on site and all omissions or any discrepancies to be notified to the architect. Figured dimensions to be used at all times. DO NOT SCALE measurements off drawings.  
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Nominated Architect: Liljana Ermilova 7887, ABN 24 243 205 327

C 23/04/2025 GENERAL AMENDMENT  
B 01/20/2025 GENERAL AMENDMENT  
A 15/07/2024 DA SUBMISSION

m 1 2 4 6 8  
0 1:100 at A1 1:200 at A3



**Sydney**  
Level 2, 60 Park Street  
Sydney NSW 2000  
AUSTRALIA  
**Dubai**  
ETA Star's Al Manara Tower  
L16, Suite 1612, Marasi Drive  
Business Bay, Dubai, UAE

P: +61 2 9267 2000  
E: info@cdarchitects.com.au  
W: cdarchitects.com.au  
P: +971 4 576 9747  
E: info@cdarchitects.ae  
W: cdarchitects.ae

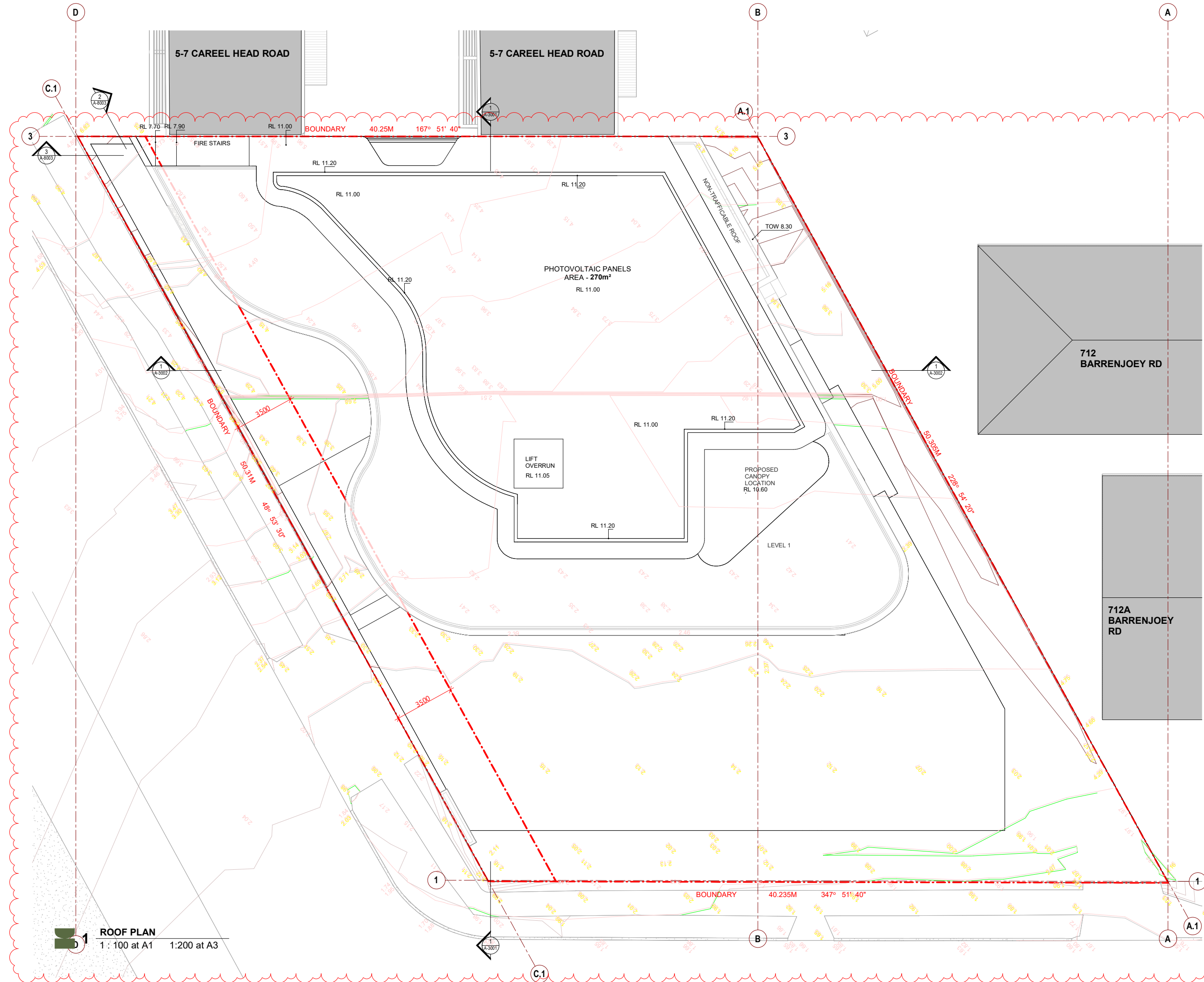


Project  
**PROPOSED MIXED USE DEVELOPMENT**  
1 & 3 CAREEL HEAD ROAD, AVALON BEACH,  
NEW SOUTH WALES 2107

Drawing Title  
**LEVEL 01 FLOOR PLAN**

Project Stage  
**DA Submission**  
Job no. Drawing no. Rev.  
J23587D DA1102 C  
Drawn by Checked by Approved by Date  
GH RJ ZC JULY, 2024





**References**  
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Nominated Architect: Liljana Ermilova 7887, ABN 24 243 205 327

C	23/04/2025	GENERAL AMENDMENT
B	01/20/2025	GENERAL AMENDMENT
A	15/07/2024	DA SUBMISSION

m 1 2 4 6 8 0  
1:100 at A1 1:200 at A3

**CDArchitects**

**Sydney**  
Level 2, 60 Park Street  
Sydney NSW 2000  
AUSTRALIA  
P: +61 2 9267 2000  
E: info@cdarchitects.com.au  
W: cdarchitects.com.au

**Dubai**  
ETA Star's Al Manara Tower  
L16, Suite 1612, Marasi Drive  
Business Bay, Dubai, UAE  
P: +971 4 576 9747  
E: info@cdarchitects.ae  
W: cdarchitects.ae

**Australian Institute of Architects**

Project  
**PROPOSED MIXED USE DEVELOPMENT**  
1 & 3 CAREEL HEAD ROAD, AVALON BEACH,  
NEW SOUTH WALES 2107

Drawing Title  
**ROOF PLAN**

Project Stage  
**DA Submission**

Job no.	Drawing no.	Rev.
J23587D	DA1103	C

Drawn by	Checked by	Approved by	Date
GH	RJ	ZC	JULY, 2024