



FLOOD RISK MANAGEMENT PLAN

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**691 PITTWATER ROAD
DEE WHY**

11 MARCH 2020

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1. INTRODUCTION

691 Pittwater Road, Dee Why is identified by Council as being flood affected for the 1 in 100 year storm event. This document details the measures to be taken to ensure that the risks to both the site buildings and occupants are managed and minimised as much as is practicable and in accordance with Council requirements.

It is the intention of the author that copies of this Flood Risk Management Plan are kept on site by The Strata & Tenants where it can be produced for action in case of a significant flood event.

It is also the intention that the emergency response plan and associated signage be fixed to a wall in a clearly visible location. The Strata will ultimately be responsible for the implementation of this plan. The Strata will be responsible for ensuring tasks are undertaken or delegating those tasks.

2. SITE

The site is located in Dee Why and is situated in the Dee Why Lagoon catchment. A site locality map is included in Appendix A.

The site covers 650m² of area with the frontage on Pittwater Road. The site is located in the Dee Why C.B.D. and currently hosts an existing commercial premises. An existing site survey is attached in Appendix B.

2.1 EXISTING SITE DRAINAGE

The existing site drainage discharges runoff to the kerb and gutter at the front of the site in Pittwater Road. Note that the site is almost entirely covered by roofed and other hard surface areas.

2.2 PROPOSED

DEVELOPMENT

The development application seeks to obtain approval to develop multi-story residential apartment building with commercial tenancies on the ground floor. Architectural Plans for the proposed development of the site are also included in Appendix C. Note that it is proposed to retain the existing street facade due to heritage considerations.

3. FLOOD EVENTS

The site is identified as being flood affected by all floods up to 1 in 100 year storm event and flood data Council is attached within Appendix D.

3.1 FORECASTS & WARNINGS

There are usually no specific warnings issued by the Bureau of Meteorology for Dee Why and as such the monitoring of general warnings for Sydney metropolitan areas with respect to severe weather warnings will be critical in the process of managing risks to the site.

The Bureau of Meteorology website (www.bom.gov.au) has rainfall forecast maps and also any warnings for predicted severe weather events.

The Strata and Body Corporate Representative should have their mobile phone number added to the SES contact list for the issue of SMS alerts for severe weather warnings.



3.2 FLOOD DATA FOR THE SITE

The site is defined by the Dee Why South Catchment Flood Study (2013) as being affected by the 1 in 100 year flood event. A summary of flood information is as follows:

- | | |
|--------------------------------|----------------|
| • Flood Risk Planning Precinct | Medium |
| • 1% A.E.P. (100 Year A.R.I.) | 19.4m (A.H.D.) |
| • Flood Planning Level | 19.9m (A.H.D.) |
| • Probable Maximum Flood | T.B.A. |

3.3 FLOOD BEHAVIOUR

The site is regarded by the Dee Why South Flood Study (2013) as being medium for Flood Risk Planning Precinct classification.

The street flows from the catchment to the site originate from western side of Pittwater Road in the upper catchment.

Excessive flows in Pittwater Road are prevented from entering the existing site by the impervious walls of the buildings which are located along the Pittwater Road frontage which act to keep flood flows contained essentially within the road reserve.

3.4 EMERGENCY RESPONSE

This Flood Risk Management Plan recognises that protection of life is of primary importance, followed by a secondary philosophy of attempting to minimise damage and disruption to the building.

The emergency response to a potential flood event will be initiated upon the occurrence of certain 'trigger' threshold, upon which the emergency response plan will be actioned. The notice informing the occupants of the building the

procedures to be followed once the 'trigger' event has occurred is attached in Appendix E.

Upon the trigger threshold being reached, the emergency response will be to stay-in-place or otherwise seek shelter in the upper levels of the building.

3.5 THE EMERGENCY RESPONSE TRIGGER

The initial trigger for commencement of the emergency response plan when any street drainage flows are observed overtopping the Pittwater Road kerb and onto the footpath following extremely heavy and intense rainfall.

The flood action checklist (attached in Appendix F) is also to be provided with the list of emergency contacts attached in Appendix G.

Upon the visual confirmation of this trigger event, the emergency responses described in Section 3.7 are to be actioned.

3.6 TIME NEEDED TO RESPOND

It is considered that a total period of 10 minutes would be required for the Strata nominated person(s) to send a text message to all occupants to stay in place, inform all occupants via the building P.A. system that the emergency response procedure has been enacted, turn off the relevant mains, vents and services and ensure that all persons are notified to stay-in-place.

3.7 THE EMERGENCY ASSEMBLY POINT

As the emergency evacuation response is to be a stay-in-place strategy, for each occupant is within their residence or commercial unit. Otherwise commercial tenants and occupants



generally are to seek shelter in the upper levels of the building.

It is recommended that the buildings P.A. system be utilised to inform the commercial tenants and occupants regarding the emergency response and how to react in the emergency response situation.

4 FLOOD PROOFING

It is proposed to develop the site such that the objectives of Council's Flood Risk Management Policy are met, specifically Clause 6.3 of the Northern Beaches Local Environmental Plan 2011 (LEP) and Section E11 of the Northern Beaches Development Control Plan 2011 (DCP).

4.1 GENERAL CONDITIONS

The site is defined by Northern Beaches Council's LEP as being located in the medium flood risk planning precinct.

From Section E11 of the Council's Development Control Plan for medium hazard residential developments:

- *Floor levels are to be equal to or higher than the Flood Planning Level*

Complies - The new and existing floor areas adjacent to Pittwater Road are above the Flood Planning Level.

- *Floor levels of balconies are to be set at a minimum of the Flood Planning Level*

Complies - All new balconies and terraces will be above the Flood Planning Level.

- *If the land use is changing to residential, all floor levels must be raised to the Flood Planning Level*

Complies - All residential floor levels will be well above the Flood Planning Level

- *No net loss of flood storage is to occur. Compensation works may be permitted.*

Complies - The existing site effectively provides no flood storage and this will continue to be the case.

- *All structures to have flood compatible building components up to the Probable Maximum Flood Level to withstand the hydraulic forces and impact of debris, buoyancy effects etc. of the Probable Maximum Flood at the site.*

Complies - Any new building elements will be designed to be structurally adequate to the level of the Probable Maximum Flood.

- *All services must be located above the Probable Maximum Flood level.*

Complies - The electrical equipment, wiring, telecommunications, fuel lines or any other service pipes and connections are to be waterproofed to the Probable Maximum Flood level.

- *A Flood Risk Assessment from a suitably qualified person is required to certify that any structure can withstand the forces of floodwater, debris and buoyancy up to and including the Probable Maximum Flood Level plus a suitable freeboard specific to the site.*

Complies - New building elements are to be designed to be structurally adequate to the level of the Probable Maximum Flood.

- *A Flood Risk Assessment from a suitably qualified person is required to certify that the development will not increase flooding or negatively impact on the velocities of the flood*



waters upstream or downstream in a 100 year flood event.

Complies - There is minimal change to the footprint of the existing site buildings at the site frontage. The minimal reduction in flood storage volume will not reduce the mainstream flood conveyance. Hence adjacent properties both upstream and downstream will not be adversely affected.

- *The applicant must demonstrate that area is available to store goods above the Probable Maximum Flood Level plus a suitable freeboard specific to the site.*

Complies - Storage of hazardous goods and pollutants are required to be protected to the Probable Maximum Flood level.

- *There is to be no external storage of materials below the Probable Maximum Flood which may cause pollution or be potentially hazardous during a flood.*

Complies - The proposed development does not contain external storage areas.

- *The basement car park area must have a ramp set with a crest at the Flood Planning Level to prevent floodwaters entering the car park. All potential water entry points are to be set at or above the Flood Planning Level .*

Complies - No basement carpark is proposed.

5 SUMMARY

This report is a plan for the site for major flood events which is to be incorporated by The Strata into the documents critical for ensuring safety of occupants and also the on-going integrity of the building.

The flood risk management provisions have designed/incorporated to ensure:

- Minimised risk to building occupants;
- Minimised risk to building elements;
- An emergency response strategy;
- The flood storage has not been significantly reduced; and
- Neighbouring properties are not adversely affected.

As such, providing that the items described in this report are incorporated into the new building usage and maintained over the life of the development then the requirements and general intention of Council's Local Environmental Plan 2011 (LEP) - Clause 6.3 and Development Control Plan 2011 (DCP) - Section E11 can be considered to have been achieved.

Should you have any questions or queries then please do not hesitate to contact me.

TAYLOR CONSULTING

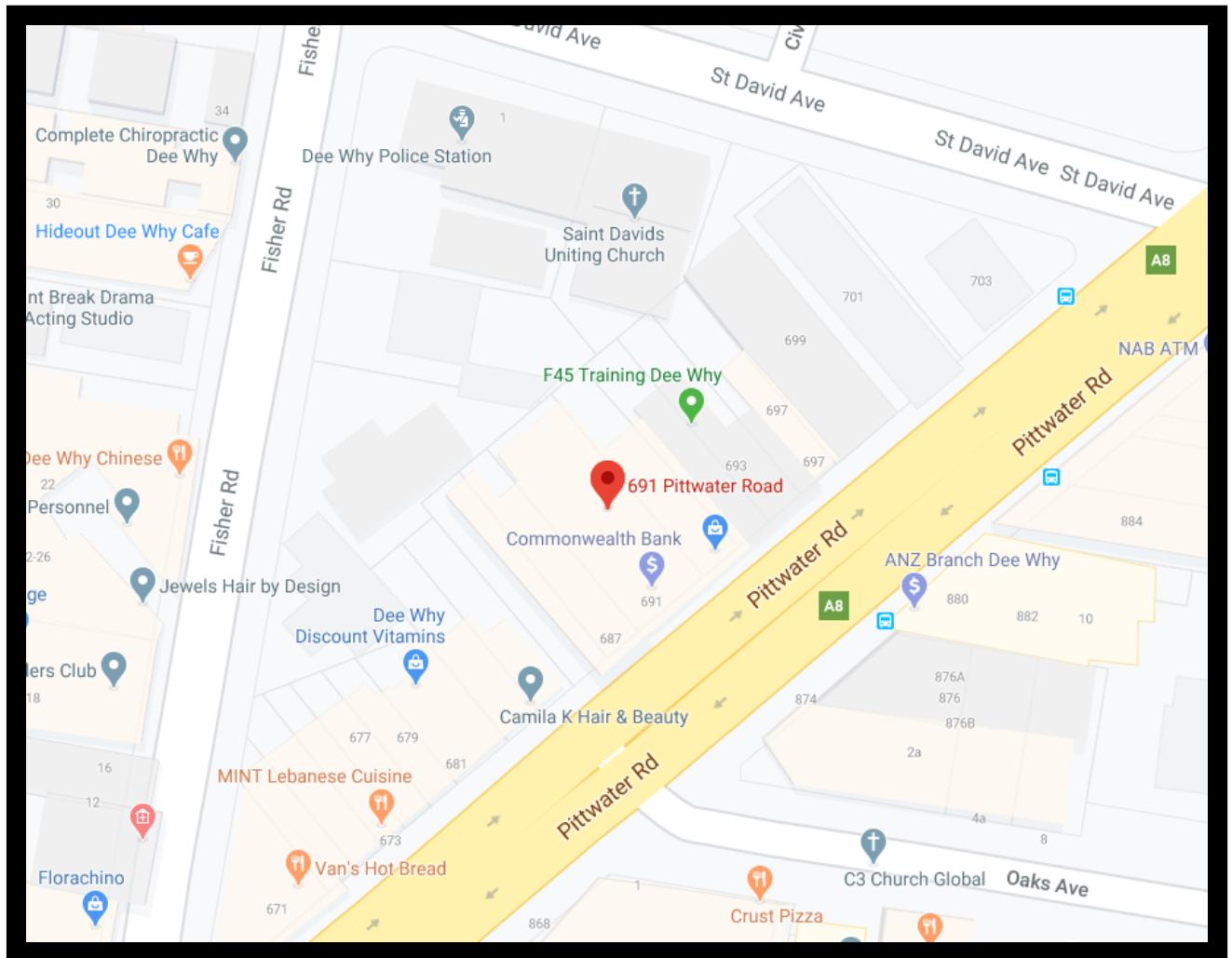


D M SCHAEFER - Director
B.E. Civil (Hons) M.I.E. Aust.



Appendix A





Locality Map – 691 Pittwater Road, Dee Why

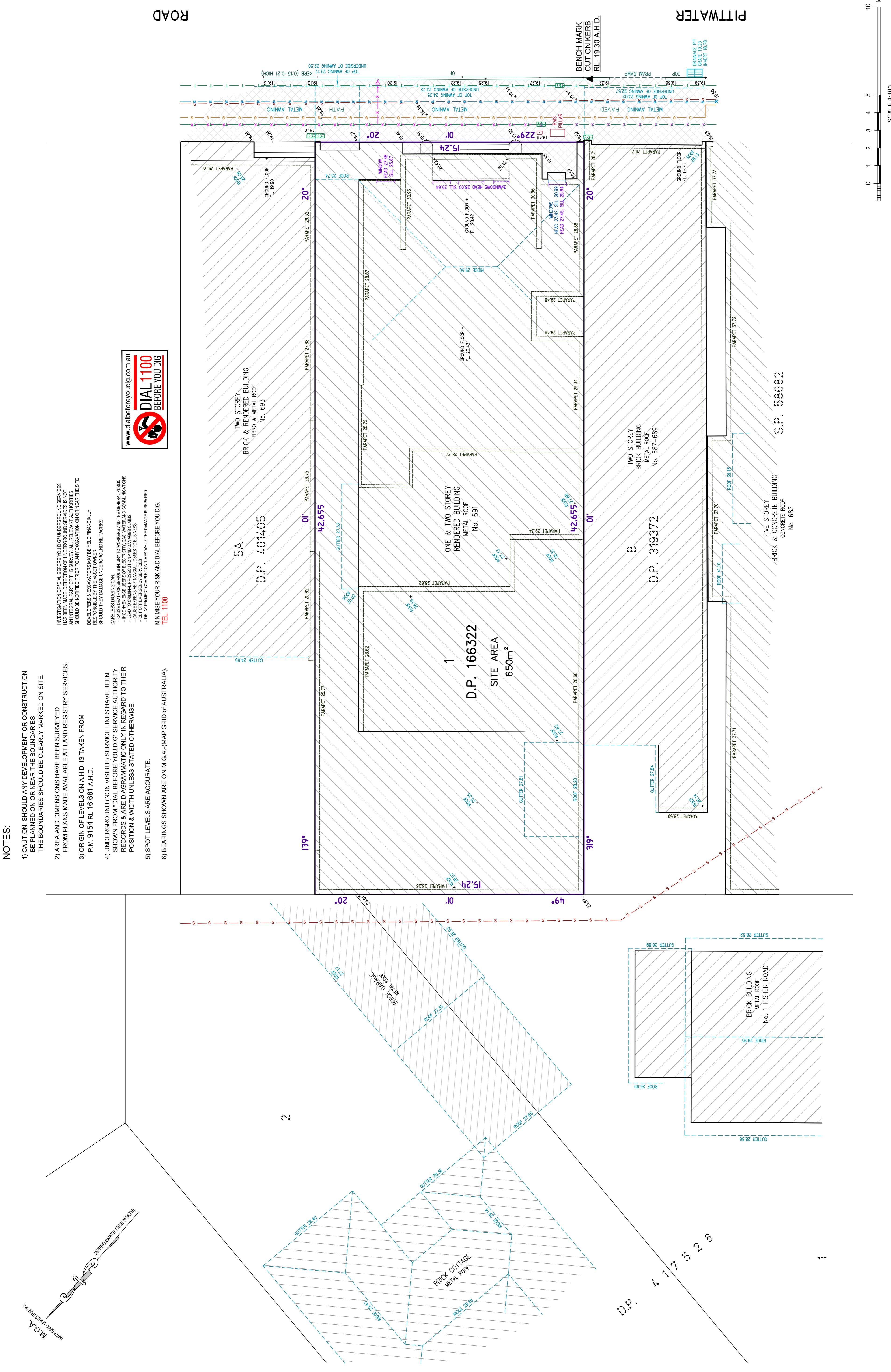


Appendix B



ROAD

PITTWATER



CLIENT	GANNET DEVELOPMENTS		
PROPERTY	No. 691 Pittwater Road, Dee Why		
DATUM	A.H.D.	SCALE	1:100 @ A1
SURVEYED	M.R.	DRAWN	R.M.
DATE 10/08/2018			
DWG No. 21084 REV No. 00			

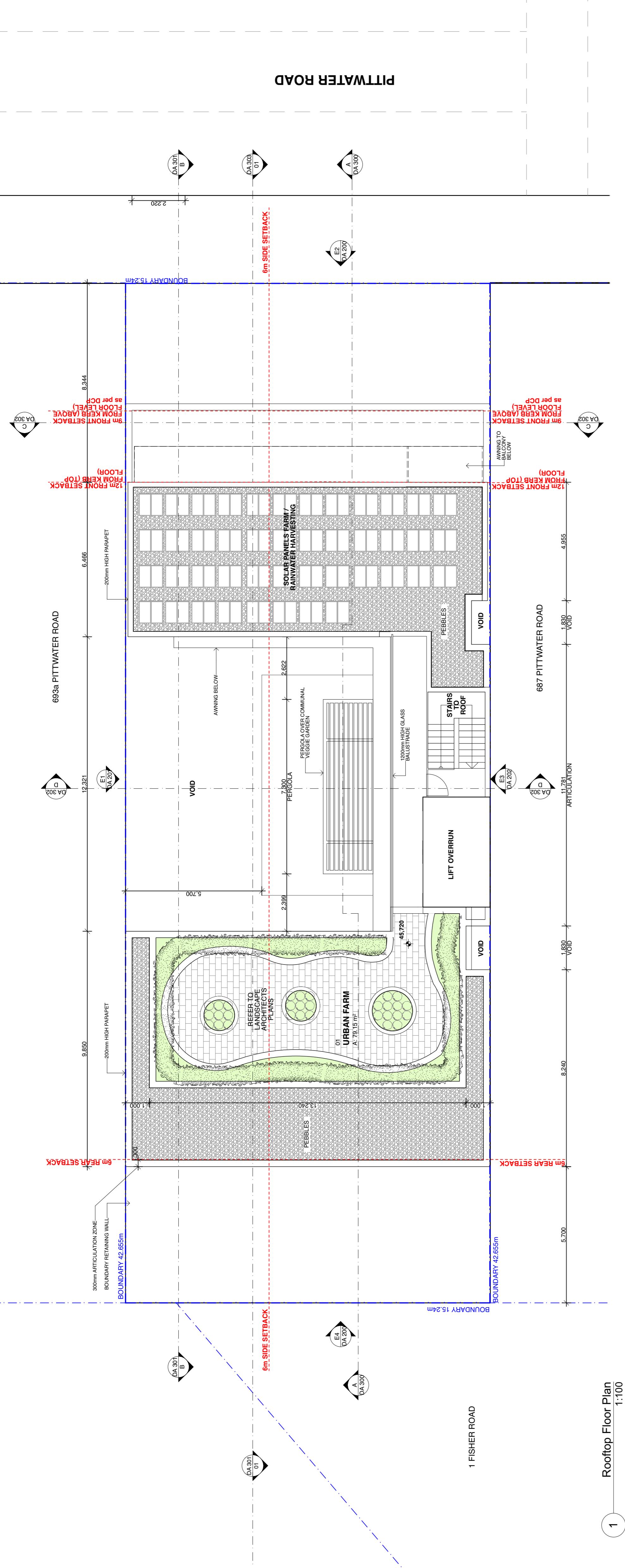
CLIENT	PLAN SHOWING BOUNDARIES, RELATIVE HEIGHTS & PHYSICAL FEATURES OVER LOT 1 IN D.P. 166322 KNOWN AS No. 691 Pittwater Road, Dee Why.		
PROPERTY	No. 691 Pittwater Road, Dee Why		
DATUM	A.H.D.	SCALE	1:100 @ A1
SURVEYED	M.R.	DRAWN	R.M.
DATE 10/08/2018			
DWG No. 21084 REV No. 00			

Bee & Lethbridge Pty Ltd	Suite 2, 14 Stanley Street, PO Box 330, Forestville, NSW 20875 Email: survey@beelth.com.au ABN: 13 003 19447 www.beelth.com.au
Bee & Lethbridge	Quality Surveying & Development Solutions

Appendix C







0	1	2	5	10
0	1	2	5	10

FOR DA PURPOSES	FOR DA ONLY NOT FOR CONSTRUCTION	BKA architecture	BKA
		Project: Mixed Use Boarding House Development	Project # 19049 SCALE @ A1
		Address: 69 Pittwater Road Dee Why NSW	Attn: JK Checked
		Client: Gannet Developments	Date: 6/3/20 Drawing No:
		Drawing: T: +61 2 8026 5663 M: +61 2 8026 5663 E: info@gannet.com.au	North: DA 104 Drawing: Roof Top Floor Plan Rev: 01

**FOR DA ONLY
NOT FOR CONSTRUCTION**

All dimensions are in millimetres unless stated otherwise.
All architectural drawings are prepared without reference to site boundaries and levels are to be checked and verified on site prior to commencement of works.

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DO NOT SCALE FROM DRAWING, USE FIGURED DIMENSIONS ONLY. CHECK

ALL DIMENSIONS ON SITE BEFORE ANY MANUFACTURE OR

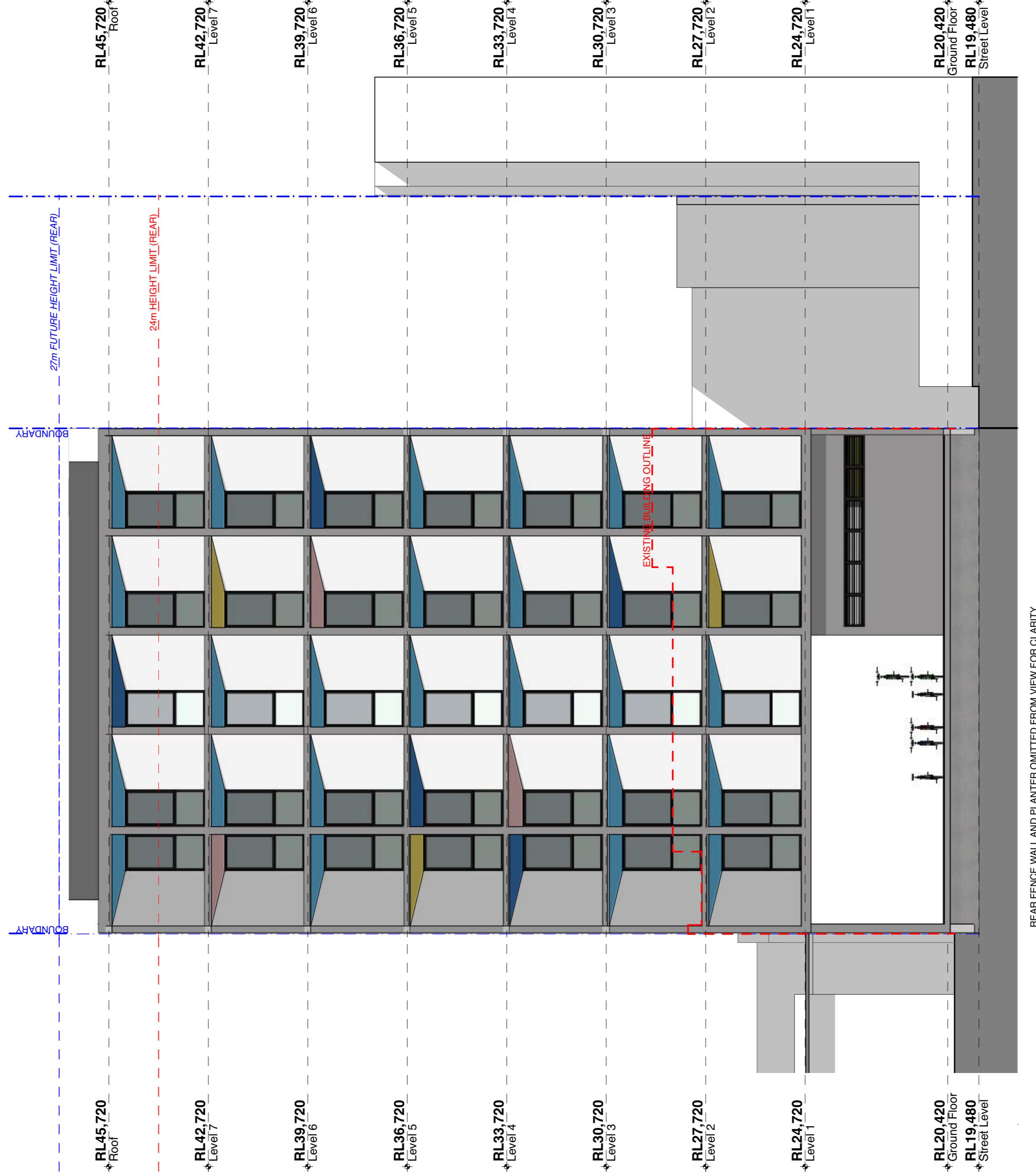
CONSTRUCTION ON SITE.

687 PITTWATER RD 685 PITTWATER RD 691 PITTWATER RD

693a PITTWATER RD

691 PITTWATER RD

687 PITTWATER RD



REAR FENCE WALL AND PLANTER OMITTED FROM VIEW FOR CLARITY

2 Northwest Elevation 1:100



REFER TO DA-400 FOR HERITAGE COMPONENT

1 Southeast Elevation - Pittwater Rd Street Frontage 1:100

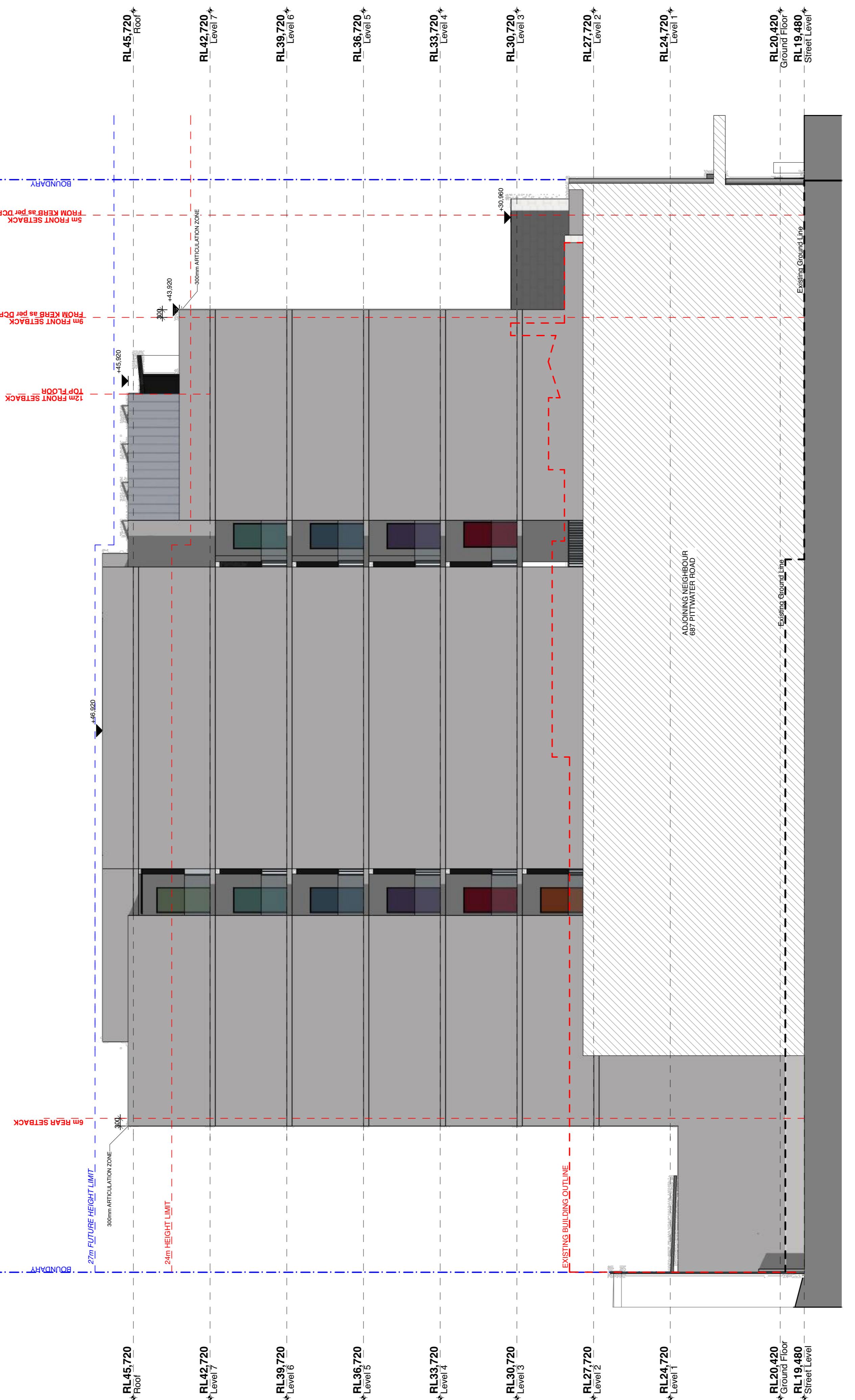
NOTE:
Colours are indicative only. Refer to DA620 Schedule of External Finishes for specification.

FOR DA PURPOSES		FOR DA ONLY NOT FOR CONSTRUCTION		BKA architecture		BKA developments	
ISSUE	DATE	REVISION	ISSUE	DATE	REVISION	PROJECT #	SCALE @ A1
A	6/3/20	01	A	6/3/20	01	19049	1:100
AT&G DRAWN	JK CHECKED	AT&G DRAWN	JK CHECKED	AT&G DRAWN	JK CHECKED	AT&G DRAWN	JK CHECKED
ADDRESS	691 PITTWATER RD	ADDRESS	691 PITTWATER RD	ADDRESS	691 PITTWATER RD	ADDRESS	691 PITTWATER RD
SITE	Unit 1, 19 Station St,	SITE	Unit 1, 19 Station St,	SITE	Unit 1, 19 Station St,	SITE	Unit 1, 19 Station St,
SYDNEY	77 Dunning Ave,	SYDNEY	77 Dunning Ave,	SYDNEY	77 Dunning Ave,	SYDNEY	77 Dunning Ave,
NSW 2108	NSW 2108	NSW 2108	NSW 2108	NSW 2108	NSW 2108	NSW 2108	NSW 2108
CLIENT	Gannet Developments	CLIENT	Gannet Developments	CLIENT	Gannet Developments	CLIENT	Gannet Developments
DRAWING NO.	T+61 2 8310 8200	DRAWING NO.	T+61 2 8310 8200	DRAWING NO.	T+61 2 8310 8200	DRAWING NO.	T+61 2 8310 8200
REV	W	REV	W	REV	W	REV	W

FISHER RD

691 PITTWATER RD

PITTWATER RD



NOTE:
Colours are indicative only. Refer to DA620 Schedule of External Finishes for specification.

Southwest Elevation 1:100

1 FISHER RD

691 PITTWATER RD

PITTWATER RD

Section A
1:100

FOR DA PURPOSES

FOR DA ONLY
NOT FOR CONSTRUCTION

PROJECT	Mixed Use Boarding House Development	PROJECT #	19049	SCALE @ A1
DRAWN	BYRON BAY	AT/LG	CHEKED	JK
DATE	Unit 1 Suite 4 77 Duxton Ave, 1 Station St, NSW 2479	DRAWING NO.	6/3/20	DRAWING NO.
CLIENT	Gannet Developments	DRAWING NO.	T+61 2 4028 5663	DRAWING NO.
REV	01	SECTION	Sections 01	REV

BKA architecture

GANNET DEVELOPMENTS

DA 300

REV 01

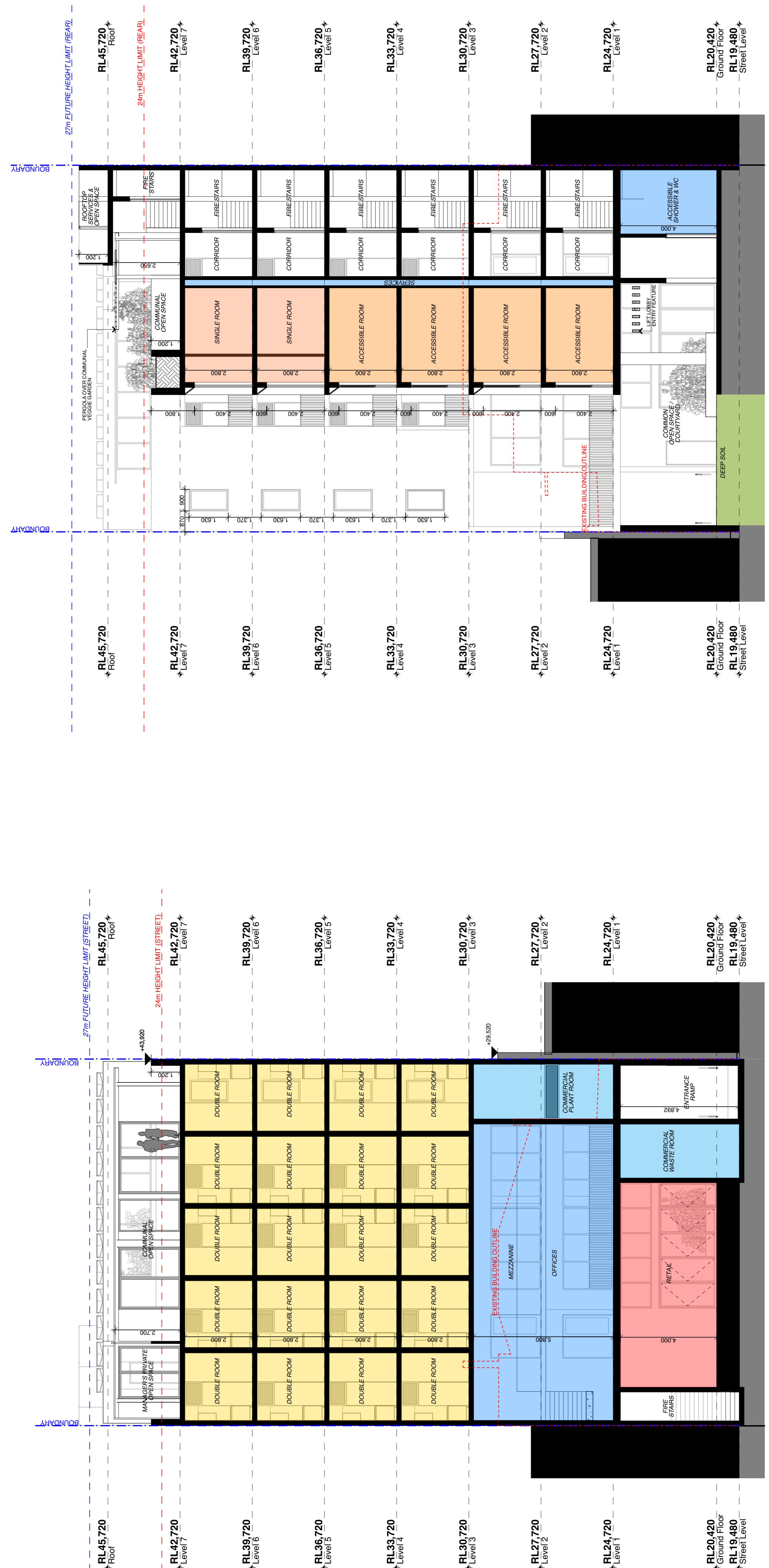
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 All dimensions and levels are to be checked and certified on site prior to construction and must be submitted with the relevant consent documents.
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687 Pittwater Rd

691 Pittwater Rd

693a Pittwater Rd

687 Pittwater Rd

1 Section C
1:1002 Section D
1:100

FOR DA PURPOSES

FOR DA ONLY
NOT FOR CONSTRUCTION**GANNET DEVELOPMENTS****DA 302**

PROJECT	Mixed Use Boarding House Development	PROJECT #	19049	SCALE @ A1
DRAWN	A	AT AG	CHECKED	JK
DATE	6/3/20	DRAWING NO.		
CLIENT	691 Pittwater Road Dee Why NSW	ADDRESS		
BKA Architecture	Unit 1 1 Station St, 77 Dunning Ave, NSW 2106 T: +61 2 8318 9200 E: info@bka.com.au	SITE	Site 1 1 Station St, 77 Dunning Ave, NSW 2106 T: +61 2 8318 9200 E: info@bka.com.au	
Gannet Developments		DRAWING	T: +61 2 8208 5663	
		SECTION	Sections 03	
		REV	01	

Appendix D



Proposed development did not include any vehicular crossing and has a deficiency of 45 car parking spaces and alternative option with car ownership is to be reviewed and commented from the Traffic and/or the appointed Planner.

Flood Engineer

Council's Flood Engineer has provided the following comments which you will be required to satisfactorily address:

The property at 691 Pittwater Road, Dee Why is identified at being subject to the risk of flooding. It is located in the medium flood risk precinct as shown in the Dee Why South Catchment Flood Study, 2013. The proposed development is supported and raises minimal objections in relation to flood risk management. The following must be complied with in any future Development Application:

- Any future Development Application must be accompanied by a Flood Management Report, guidelines to undertake this are available on Council's website.
- All ground floor levels must be set at or above the relevant Flood Planning Level of 19.9m AHD.
- If a basement car park is subsequently proposed it would require a crest level set at or above the Flood Planning Level of 19.9m AHD.

Appendix E



EMERGENCY FLOOD EVACUATION PROCEDURE

Flood waters can rise very rapidly on this site

Once a warning is received for a possible flood or flood waters start to overtop the kerb and gutter in Pittwater Road:

1. All tenants and employees should be at the assembly point by the time the flood waters reach the front boundary of the site.
2. The Owner (or tenant) is to close the front doors and turn off all power, water and other ground floor level services.
3. All tenants and employees to retreat to the emergency assembly area on the upper levels of the building.
4. Nominated representative of the body corporate to sweep the existing basement and ground floor level following evacuation to ensure that all occupants have sought refuge at the emergency assembly point.
5. Emergency services to be notified by The Owner of the situation at site.

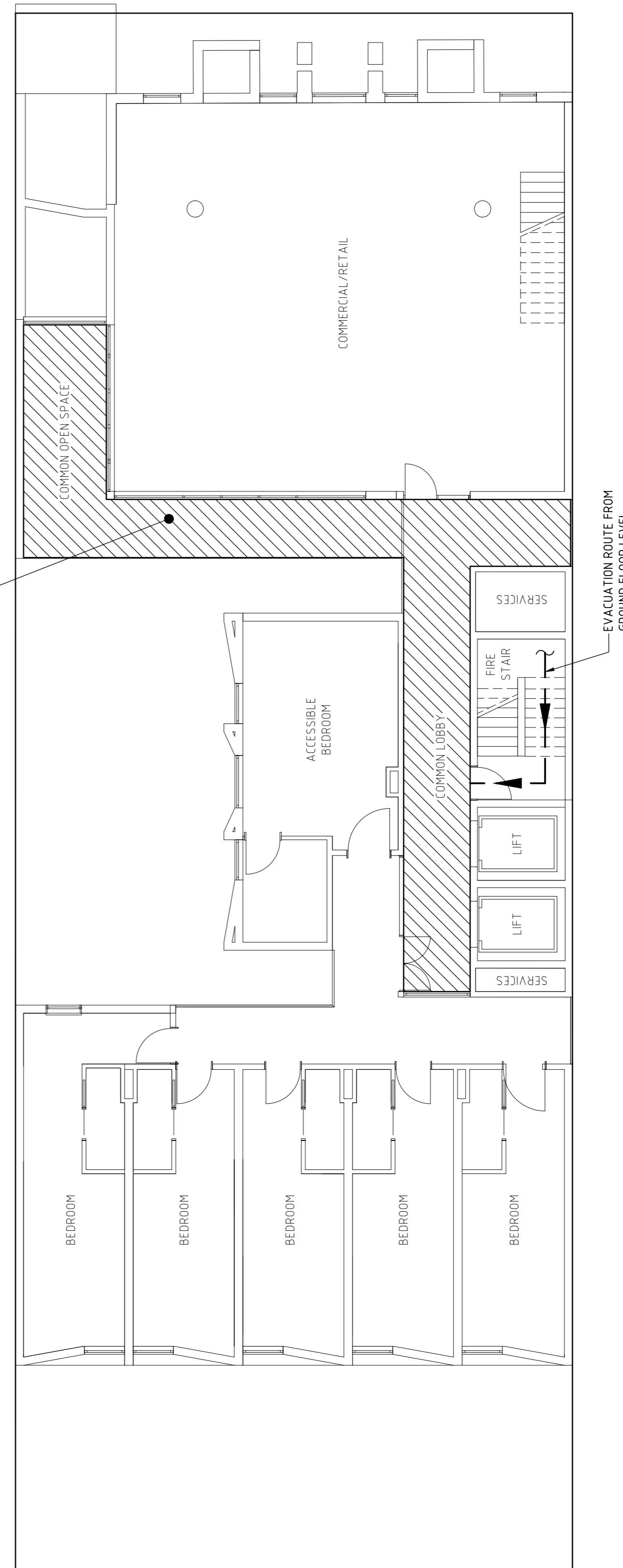
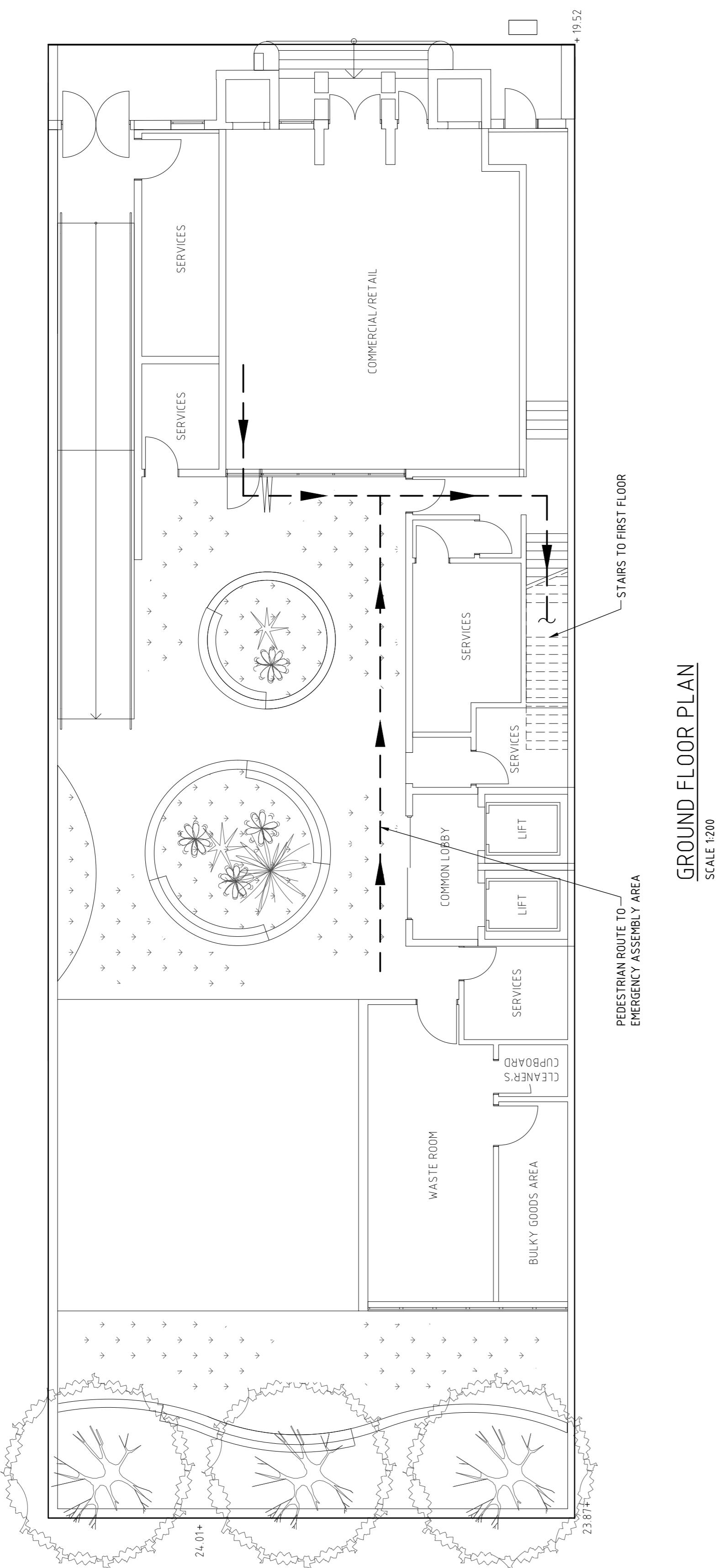
**THIS SITE CAN FLOOD
NEVER DRIVE, WALK OR RIDE THROUGH FLOODWATERS**

When emergency services give the all clear to return:

The site will only be opened for tenants and employees to leave once floodwaters have subsided and the emergency services have given the all clear to return.



P I T T W A T E R R O A D



EMERGENCY RESPONSE PLAN
691 PITTWATER ROAD, DEE WHY

TITLE		ISSUE DATE	REVISION	SCALE @ A1	DATE	CHECKED
691 Pittwater Rd, Dee Why NSW 2099		11 MARCH 2020		1:100	JB	BE Civil (Bens) MIF Aust

Appendix F



Flood Checklists

BEFORE A FLOOD

Trigger for action: Always

Action	Status
● All occupants to be made aware of site flooding potential	
● Develop detailed emergency procedures, responsibilities and resources	
● Provide all tenants and employees with a flood emergency response plan and advise of their responsibilities and delegations	
● Maintain an emergency contacts list	
● Update evacuation procedures annually	

WHEN A FLOOD IS LIKELY

Trigger for action: When the forecasts predict severe weather or significant amounts of rainfall are observed:

Action	Status
● Monitor the severe weather forecasts and predictions	
● The Owner (or tenant) to close the front and garage door & prepare for subsequent evacuation to the upper levels of the dwelling.	
● Tenants and employees should stay-in-place' until the flood event has ceased.	
● The Owner to advise the SES.	



DURING A FLOOD

Trigger for action: When water is sighted ponding across the footpath in Pittwater Road:

Action	Status
● Evacuation will be undertaken in an orderly fashion	
● The phases of the evacuation shall be:	
➤ The Owner to request all tenants and employees to proceed to the emergency assembly point.	
➤ All Tenants and employees should be at the assembly point by the time the flood waters reach the front boundary of the site.	
➤ The Owner to close the front entry and turn off all power and water, close off vents and other ground floor level facilities.	
➤ The Owner to retreat to the emergency assembly area.	
➤ Nominated occupants to sweep the existing premises following evacuation to ensure that all occupants have sought refuge in the emergency assembly point.	
● Emergency services to be notified by The Owner of the situation at site.	



Appendix G



Emergency Contacts

To be completed by The Owner

Organisation	Role	Contact
Emergency Services	Fire/ambulance/police	000
Northern Beaches Council	Disaster Co-ordination Centre	
State Emergency Service	SES Local Controller	132 500
Northern Beaches Hospital	Medical	9105 5000

