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Councils Planning officer
Northern Beaches Council,
725 Pittwater Road
Dee Why

20th November 2023

APPROVED DEVELOPMENT APPLICATION ----DA no. 2023/1210 – Proposed alts and adds at 33 John Street - Lot 11 DP251931

Dear Planning officer

Re: section 4.55 for approved DA2023/1210's flood report.

The proposed modification to DA2023/1210 includes changes to four windows, all above the flood planning level, as well as no changes to the approved driveway crossover works on councils' land. These minor changes will not affect the flood report.

A Flood Management Report was prepared by Northern Beaches Consulting Engineers P/L for the proposed development at 33 John Street, Avalon Beach in August 2023, which was submitted and approved by Northern Beaches council (DA 2023/1210). The proposed modifications to this DA remain relevant to the recommendations made within the flood report. It would be greatly appreciated that this be considered that an amended flood report is not required.

Yours Sincerely
Jitka Jankovec
(Director) JJDrafting Australia Pty Ltd.

Consulting Engineers

STRUCTURAL - CIVIL - STORMWATER - REMEDIAL

... STRUCTURALLY SOUND

Flood Management Report

33 John Street, Avalon

Issue A

08 August 2023

Prepared for: Ian Brooks

Prepared by: Hannah Stubley

Flood Management Report

Project no: 2307018

Issue: A

Date: 07.08.2023

Client: Ian Brooks

Engineer: Hannah Stubley

Principal review: Michael Wachjo

Council: Northern Beaches Council (Region 1)

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Issue	Engineer	Peer Review	Principal Review	Description	Date
A	H.Stubley		M.Wachjo	Report for DA submission	07.08.2023

Contents

1. Introduction

At the request of Ian Brooks, Northern Beaches Consulting Engineers have undertaken a hydrologic and hydraulic investigation at 33 John Street, Avalon to determine the effect of the proposed development on the existing floodplain.

For the undertaking of this report, Northern Beaches Consulting Engineers (NBCE) has analysed the general drainage patterns of the catchment and has considered the effects of mainstream flooding as determined in the Council Supplied Flood information with respect to the proposed development. This report has been prepared in accordance with:

- *Australian Rainfall and Runoff Guidelines 2019*
- *Northern Beaches Council (Pittwater Area)*
- *Pittwater Local Environmental Plan 2013 (LEP)*
- *Pittwater Development Control Plan (DCP)*
- *NSW Government Floodplain Management Manual (2005)*
- *Council supplied flood information*

1.1 Aim

This study explores the impact of overland flow within the subject site up to the 1% AEP storm event. The development under consideration is located at 33 John Street in Avalon. This area is predicted to experience mainstream flooding during heavy rainfall events. The anticipated flood behaviour within the contributing catchment for the 1% Annual Exceedance Probability (AEP) has been assessed in relation to the proposed development at the subject site.

1.2 Description of Development

The proposed development at the residential property at 33 John Street, Avalon consists of ground floor alterations and additions and a first-floor addition. (Refer Appendix B).

1.3 Site Conditions

The subject site is approximately 680m^2 and located within the Northern Beaches Council (Pittwater Area) LGA. The subject site is relatively flat and mildly sloping towards the North of the property.

1.4 Flood Behaviour

The development lies in the floodplain of Avalon to Palm Beach Floodplain which is drains to Careel bay. The flood affected area has possible flooding impacts from two potential sources, as follows:

a. Overland flow from upstream runoff
b. Mainstream flooding from Careel Creek.

2. Flood Analysis

2.1 Site Flooding Extent

The site flooding extent has been determined using Council's available flood information. All relevant flood information is shown below:

Predicted 1% AEP flood level:	1.94 m AHD
Predicted 1% AEP flood depth:	0.20 m
1% AEP Maximum Velocity	0.27 m/s
Highest Flood Planning Level (FPL):	2.44 m AHD
Probable Maximum Flood (PMF) level:	2.77 m AHD
Probable Maximum Flood (PMF) depth:	0.93 m
Probable Maximum Flood (PMF) velocity:	1.48 m/s
Flood Risk Precinct:	Medium
Flood Life Hazard Category:	H3-H5
Mapping of relevant extents:	Refer Appendix B
Existing Ground Floor Level (FFL) Level:	2.13 m AHD (refer Appendix C)
Proposed Ground Floor Extension Level (FFL) Level:	2.13 m AHD (refer Appendix C)
Existing First Floor (FFL) Level:	7.35m AHD (refer Appendix C)

3. Assessment of Impacts

3.1 Development Matrix

The subject site is classified under the residential category in figure 2 below.

		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 1 - Development Matrix. Source: Northern Beaches Council Website Information

Table 1 - Assessment of Impacts Table

		Compliance	
	Not Applicable	Yes	No
A Flood effects caused by the development		x*	
B Building Components & Structural		X*	
C Floor Levels		x*	
D Carparking		x*	
E Flood Emergency Response		x*	
F Fencing		x*	
G Storage of Goods		x*	
H Pools		x*	

*Note – Compliance achievable should the recommendations outline in this report be adopted

4. Assessment and Recommendations

4.1 Flood Planning Level

The proposed extension to the existing ground floor laundry (FFL 2.13m AHD) is below the Flood Planning Level (FPL 2.44m AHD) but is above the predicted 1% AEP flood level (1.94m AHD) and will result in an increase in building footprint of no more than 30m^2. Further, the proposed extension to the existing enclosed garage (FFL 2.01m AHD) is located outside the extent and above the 1% AEP flood level (1.94m AHD).

4.2 Flood Storage

The proposed development is located outside the predicted 1% AEP Flood extent and outside a flood storage area, therefore there is not anticipated loss in flood storage as a result of the development.

4.3 Pool

The existing pool is to remain. All electrical equipment and chemicals associated with the pool are to be stored at or above the FPL (2.44m AHD).

4.4 Building Components and Structural Soundness

All buildings are to be designed and constructed in accordance with Reducing Vulnerability of Buildings to Flood Damage – Guidance on Building in Flood Prone Areas, Hawkesbury-Nepean Floodplain Management Steering Committee (2006). Below are key areas to be considered in the architectural and structural design of the development:

Structural component and key risks	Provision for protecting structural performance
Existing Timber Floors: Timber flooring at potential risk of being weakened during and/or after flooring causing temporary or permanent deformation.	- To reduce the weakening of the timber floors caused by moisture during flooding a brick wall vent (minimum opening area 0.2 m^2) in both external and internal walls is to be provided every 1 m. To maintain the thermal integrity of the house and to stop vermin entry these vents will need to have a protective mesh and/or flaps which does not impede water flow. - Provide cavity access to double brick walls to facilitate removal of silt from cavity. - To reduce the risk of ponding in subfloor areas after flooding has occurred, the sub-floor area is to be filled and levelled to ensure that it is highest at the centre and drains to the edges. - Provide a minimum 450mm clearance required between underside of timber structure and ground as per BCA. - Timber used in sub-floor structural members and in flooring should be minimum H3.
Existing Double Brick walls: A difference of less than 1 metre water level each side of a brick wall could cause extensive bowing, cracking and possibly even collapse of the wall.	- To reduce hydrostatic forces caused by unbalanced water levels between internal and external areas, brick wall vents as per above are to be installed so as to allow even distribution of flood waters between internal and external areas. - Side-fixed brick ties are recommended particularly in houses with water velocities greater than 0.5 m/s (refer section 5.3.2 of Reducing Vulnerability of Buildings to Flood Damage for further details).
Non-structural components (Joinery, built-in furniture):	- Avoid false floors in cupboards and wardrobes - Build units on legs to allow for cleaning and free flowing air underneath - Provide holes for drainage and ventilation to closed-off areas and hollow components - Construct joints so they shed water

	- Use supports at closer centres with structural ply panelling to limit permanent distortion (position supports at less than 500mm centres). - Refer section 6 of Reducing Vulnerability of Buildings to Flood Damage for further details of non-structural component design.

Any new structures are to be constructed of fit for purpose building materials in accordance with "Reducing vulnerability of buildings to flood damage". Timber framed construction for any new structures below the PMF (2.77m AHD) and any construction which result in voids that are difficult to clean out after a flooding event are not to be used. New structures are to be designed and constructed to ensure structural integrity up to the FPL (2.44m AHD), taking into account the forces of floodwater, wave action, flowing water with debris and buoyancy and immersion. Refer the Structural Certificate in appendix D for further details.

The required onsite refuge (see: *"Evacuation Strategy and Onsite Response Plan")* is proposed to be located within the existing first floor. The on-site refuge is to be designed and constructed to ensure structural integrity up to the PMF (2.77m AHD), taking into account the forces of floodwater, wave action, flowing water with debris and buoyancy and immersion. Refer the Structural Certificate in appendix D for the location of the proposed walls to be strengthened.

For any existing timber frame structure clad in Gyprock an allowance must be made to immediately strip Gyprock after a flooding event to ensure all wall voids can be cleaned of any mud/debris to allow the timber structure to dry before it starts to rot.

Furthermore, the switchboard and main circuit unit must be fitted above the FPL (2.44m AHD). 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 FPL (5.86m AHD) and conduits must be laid such that they are free draining. All existing electrical equipment and power points located below the FPL (2.44m AHD) within the subject structure must have residual current devices installed that turn off all supply of electricity to the property when flood waters are detected.

4.5 Fences

Any proposed fencing along the boundaries, alternative to pool type fencing, are to be certified and/or designed by a civil engineer to withstand hydrostatic forces up to and including the 1% AEP storm event. Openings are to be provided, excluding the property frontage, to ensure the 1% AEP floodwater is able to flow through the property unimpeded.

4.6 Emergency Flood Response

The proposed first floor level (FFL 4.79m AHD) recommended to provide an on-site refuge above the PMF (2.77m AHD). The on-site refuge must have appropriate access installed to enable access points from all areas within the development and is to be designed and constructed in accordance with the Structural Certificate (refer Appendix D) and Section 4.4 of this report to ensure structural integrity up to the PMF (2.77m AHD). Refer figure 3 for the proposed on-site refuge location.

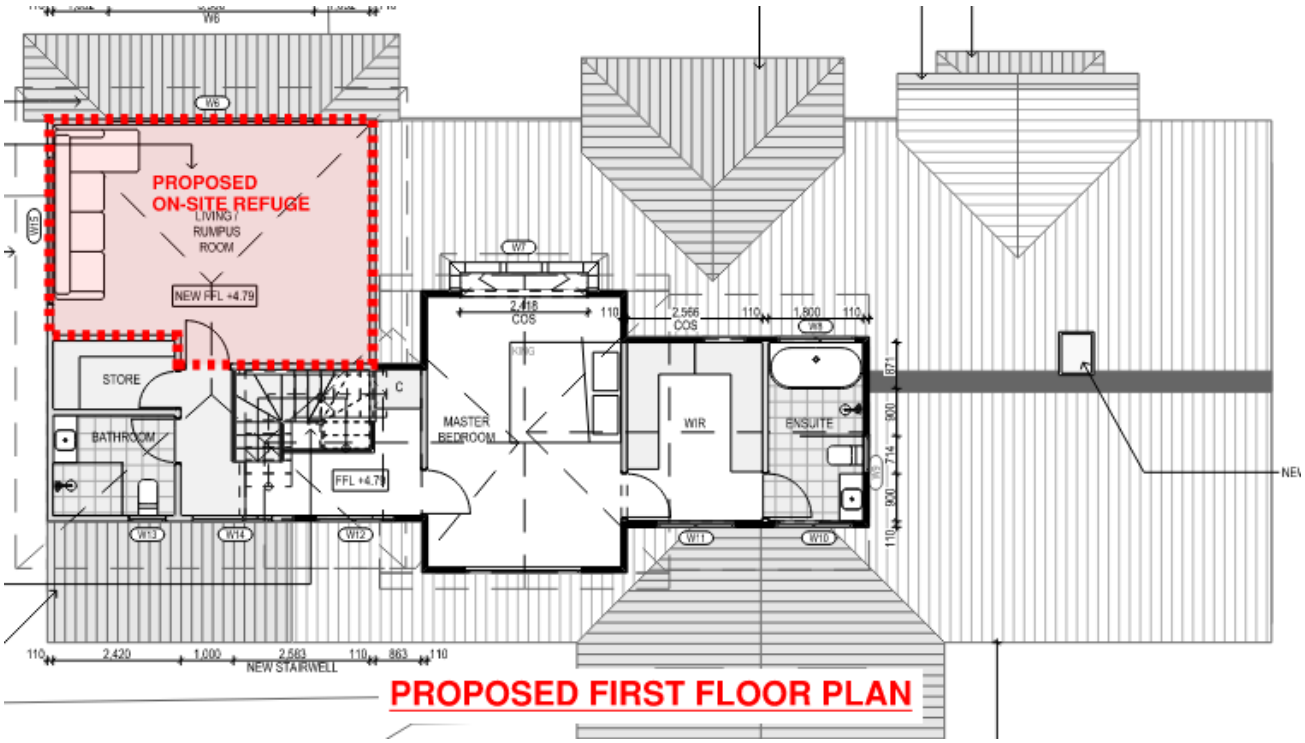

Figure 3 – On-site refuge location plan

The on-site refuge must provide:

- Sufficient clean water for all occupants
- Portable radio with spare batteries
- Torch with spare batteries
- First aid kit

5. Conclusion

In accordance with accepted engineering practice, NBCE have undertaken a flood study at the above-mentioned site. No anticipated increased flooding is envisaged to occur at the subject site due to the proposed development should the recommendations of this report be carried out. The flood information provided by Northern Beaches Council has been used for this assessment. The recommendations of this report should be adopted for the development to meet the requirements of *Northern Development Control Plan (DCP).* Please contact the author if further clarification is required.

NORTHERN BEACHES CONSULTING ENGINEERS P/L

Author:

Hannah Stubley
Engineer 2, StudIEAust

Reviewed By:

Michael Wachjo
Director | B.E.(Civil), MIEAust.

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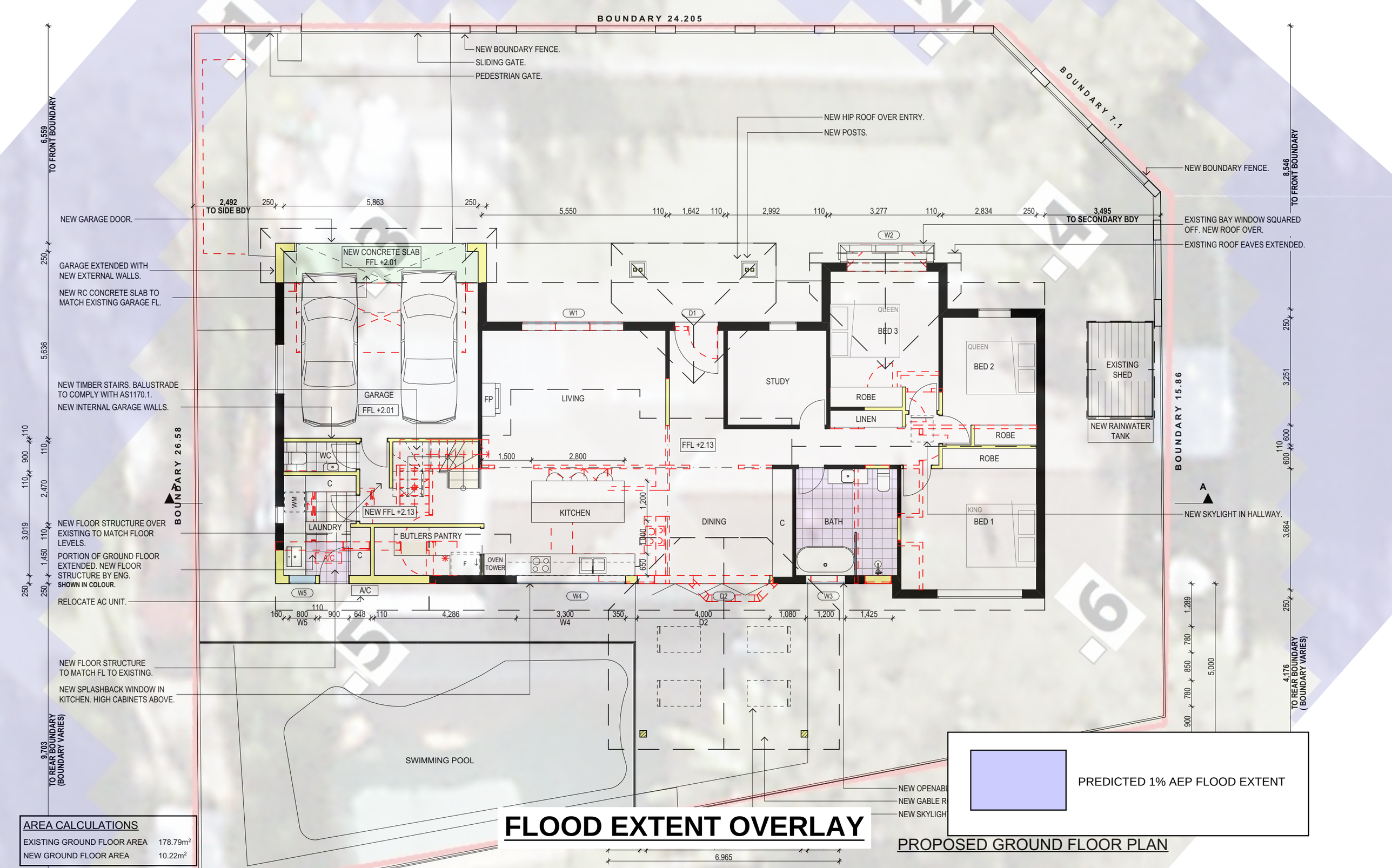
APPENDIX A

Flood Extent Overlay



FLOOD EXTENT OVERLAY

PREDICTED 1% AEP FLOOD EXTENT

PROPOSED GROUND FLOOR PLAN

AREA CALCULATIONS

EXISTING GROUND FLOOR AREA	178.79m²
NEW GROUND FLOOR AREA	10.22m²

TRUE NORTH:

NOTES (E & OE)

- All structures including stormwater & drainage to engineer's details.
- Do not obtain dimensions by scaling drawings.
- All dimensions are to be checked on site prior to starting work.
- These drawings are to be read in conjunction with all other consultant's drawings and specifications.
- All workmanship & materials shall be in accordance with the requirements of current editions including amendments of the National Construction Code, relevant Australian Standards & local council requirements.
- New materials are to be used throughout unless otherwise noted.
- Concrete footings, slab, structural beams or any other structural members are to be designed by a practicing engineer.

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REV:	DATE:	DESCRIPTION:
A	22/06/23	PRELIM OPTIONS 1 & 2 SENT
B	29/06/23	REVISED PRELIM DRAWINGS
C	10/07/23	DEVELOPMENT APPLICATION RELEASED

PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT: BROOKS

DRAWING TITLE: GROUND FLOOR PLAN

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:100 @ A3
JOB No: 1162/23	CHECKED BY: JJ	DRAWING No: **DA.06**

APPENDIX B

Council Flood Information

FLOOD INFORMATION REPORT – COMPREHENSIVE

Property: 33 John Street AVALON BEACH NSW 2107
Lot DP: Lot 11 DP 251931
Issue Date: 27/04/2023
Flood Study Reference: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory

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Flood Information for lot [1,2,3,4]:

Flood Risk Precinct – See Map A

Flood Planning Area – See Map A

Maximum Flood Planning Level (FPL) [2, 3, 4]: 2.44 m AHD

1% AEP Flood – See Flood Map B

1% AEP Maximum Water Level [2, 3]: 1.94 m AHD

1% AEP Maximum Depth from natural ground level[3]: 0.20 m

1% AEP Maximum Velocity: 0.27 m/s

1% AEP Hydraulic Categorisation: See Flood Map D

Probable Maximum Flood (PMF) – See Flood Map C

PMF Maximum Water Level [4]: 2.77 m AHD

PMF Maximum Depth from natural ground level: 0.93 m

PMF Maximum Velocity: 1.48 m/s

Flooding with Climate Change (See Flood Map E)

The following is for the 30% Rainfall intensity increase and 0.9m Sea Level Rise Scenario:

1% AEP Maximum Water Level with Climate change [3]: 2.40 m AHD

1% AEP Maximum Depth with Climate Change[3]: 0.71 m

Flood Life Hazard Category – See Map F

Indicative Ground Surface Spot Heights – See Map G

[1] The flood information does not take into account any local overland flow issues nor private stormwater drainage systems.
[2] Overland flow/mainstream water levels may vary across a sloping site, resulting in variable minimum floor/ flood planning levels across the site. The maximum Flood Planning Level may be in a different location to the maximum 1% AEP flood level.
[3] Intensification of development in the former Pittwater LGA requires the consideration of climate change impacts which may result in higher minimum floor levels.
[4] Vulnerable/critical developments require higher minimum floor levels using the higher of the PMF or FPL.

General Notes:

- All levels are based on Australian Height Datum (AHD) unless otherwise noted.
- This is currently the best available information on flooding; it may be subject to change in the future.
- Council recommends that you obtain a detailed survey of the above property and surrounds to AHD by a registered surveyor to determine any features that may influence the predicted extent or frequency of flooding. It is recommended you compare the flood level to the ground and floor levels to determine the level of risk the property may experience should flooding occur.
- Development approval is dependent on a range of issues, including compliance with all relevant provisions of Northern Beaches Council's Local Environmental Plans and Development Control Plans.
- Please note that the information contained within this letter is general advice only as a detail survey of the property as well as other information is not available. Council recommends that you engage a suitably experienced consultant to provide site specific flooding advice prior to making any decisions relating to the purchase or development of this property.
- The Flood Studies on which Council's flood information is based are available on Council's website.

Property Notes

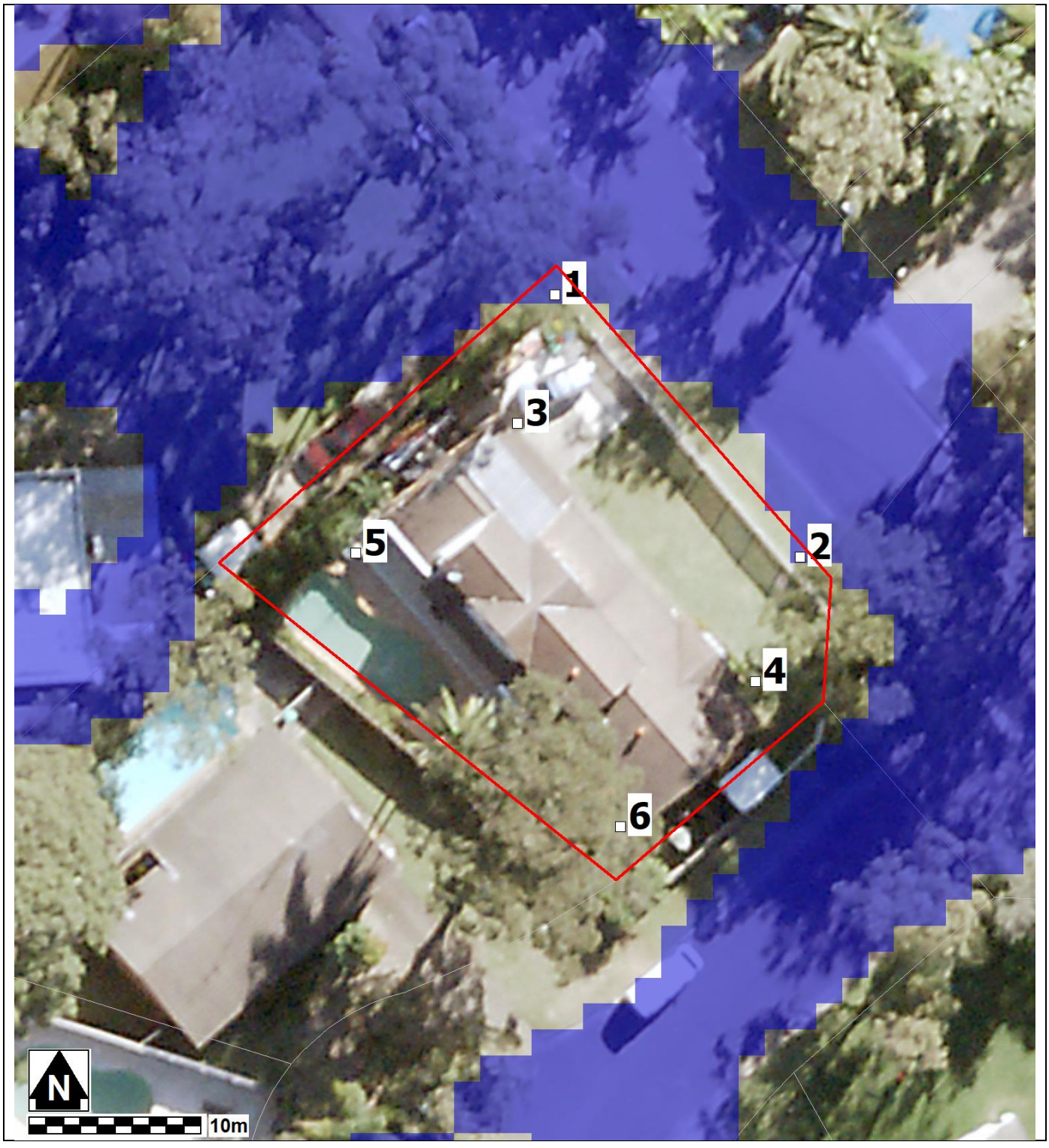
- A variable Flood Planning Level might apply. Freeboard is generally 0.5m above the maximum 1% AEP water level. However, for overland flow with a depth less than 0.3m and a Velocity x Depth product less than 0.3m2/s, a freeboard of 0.3m may be able to be justified.

FLOOD MAP A: FLOOD RISK PRECINCT MAP

Notes:

- **Low Flood Risk precinct** means all flood prone land not identified within the High or Medium flood risk precincts.
- **Medium Flood Risk precinct** means all flood prone land that is (a) within the 1% AEP Flood Planning Area; and (b) is not within the high flood risk precinct.
- **High Flood Risk precinct** means all flood prone land (a) within the 1% AEP Flood Planning Area; and (b) is either subject to a high hydraulic hazard, within the floodway or subject to significant evacuation difficulties (H5 or H6 Life Hazard Classification).
- The **Flood Planning Area** extent is equivalent to the Medium Flood Risk Precinct extent, and includes the High Flood Risk Precinct within it. The mapped extent represents the 1% annual Exceedance Probability (AEP) flood event + freeboard.
- None of these mapped extents include climate change.

FLOOD LEVEL POINTS



Note: Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory) and aerial photography (Source: NearMap 2014) are indicative only.

Flood Levels

ID	5% AEP Max WL (m AHD)	5% AEP Max Depth (m)	1% AEP Max WL (m AHD)	1% AEP Max Depth (m)	1% AEP Max Velocity (m/s)	Flood Planning Level (m)	PMF Max WL (m AHD)	PMF Max Depth (m)	PMF Max Velocity (m/s)
1	N/A	N/A	1.88	0.19	0.11	2.38	2.61	0.92	0.89
2	N/A	N/A	1.94	0.13	0.21	2.44	2.72	0.92	1.36
3	N/A	N/A	N/A	N/A	N/A	2.44	2.62	0.71	0.92
4	N/A	N/A	N/A	N/A	N/A	2.44	2.75	0.84	0.89
5	N/A	N/A	N/A	N/A	N/A	2.44	2.63	0.71	0.87
6	N/A	N/A	N/A	N/A	N/A	2.44	2.76	0.72	0.74

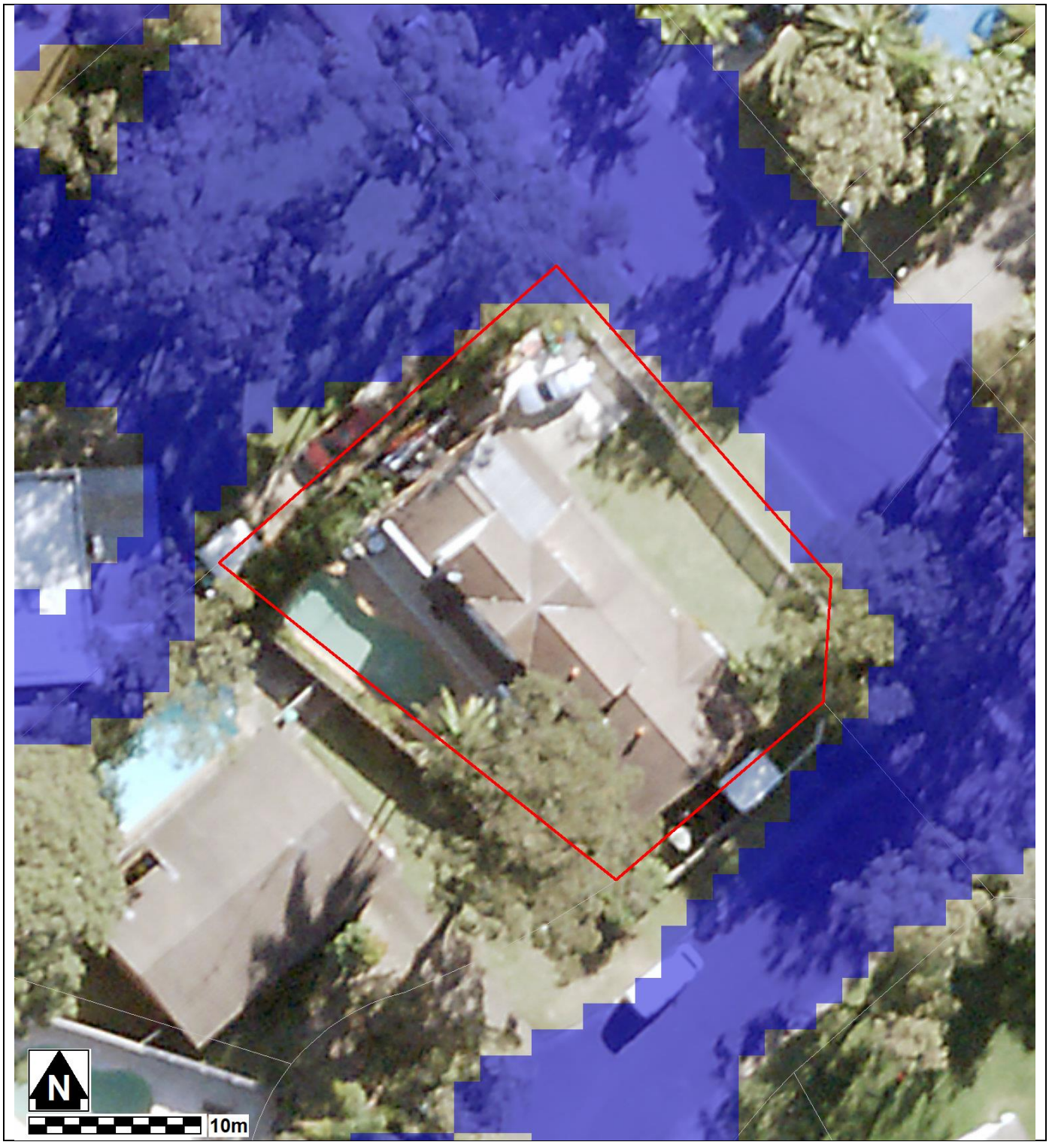
WL – Water Level
PMF – Probable Maximum Flood
N/A = no peak water level/depth/velocity available in flood event

Climate Change Flood Levels (30% Rainfall intensity and 0.9m Sea Level Rise)

ID	CC 1% AEP Max WL (m AHD)	CC1 % AEP Max Depth (m)
1	2.38	0.69
2	2.40	0.59
3	2.38	0.48
4	2.40	0.48
5	2.38	0.46
6	2.40	0.35

WL – Water Level
PMF – Probable Maximum Flood
N/A = no peak water level/depth/velocity available in flood event.

FLOOD MAP B: FLOODING - 1% AEP EXTENT



Notes:

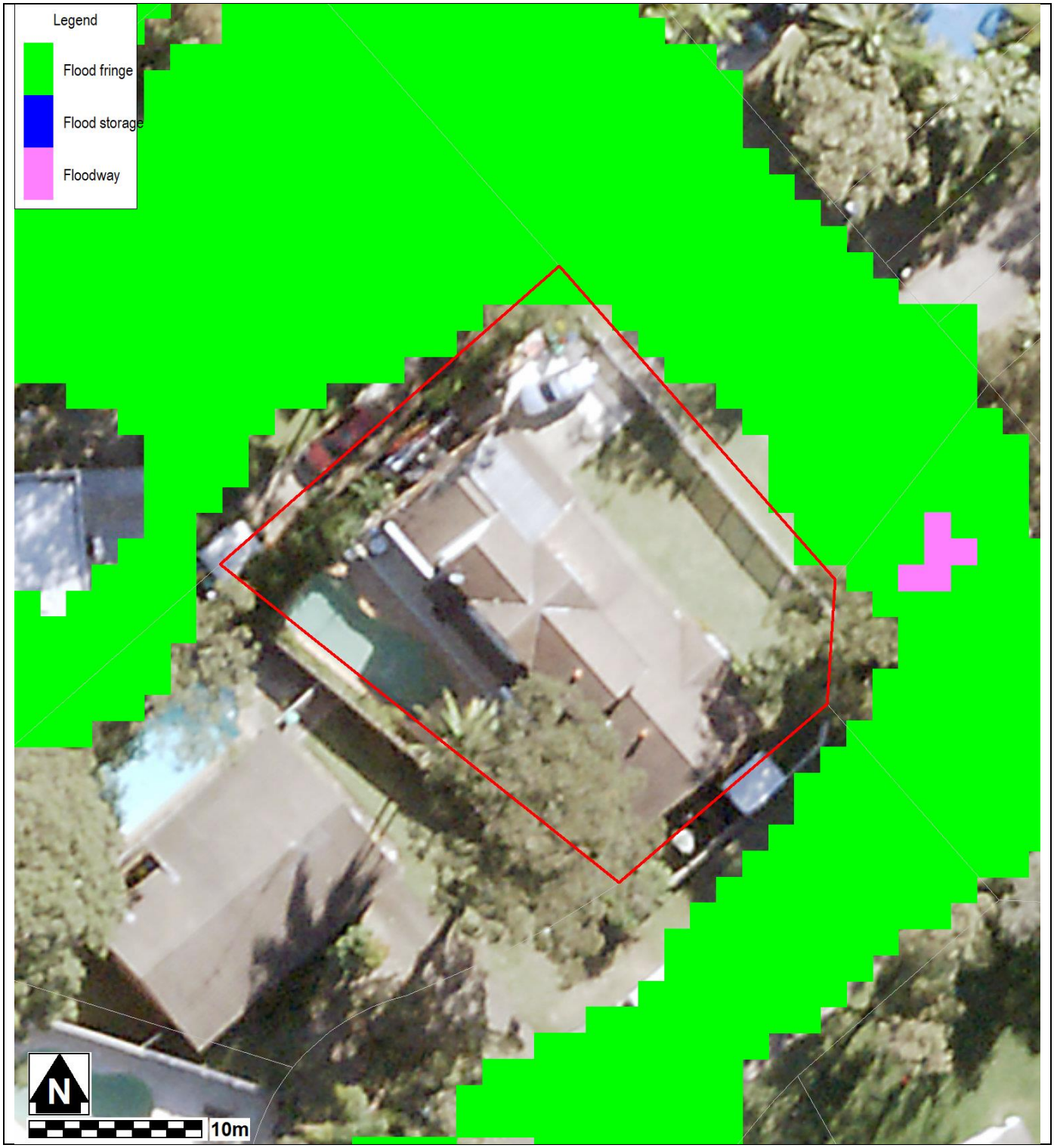
- Extent represents the 1% annual Exceedance Probability (AEP) flood event.
- Flood events exceeding the 1% AEP can occur on this site.
- Extent does not include climate change.
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory) and aerial photography (Source Near Map 2014) are indicative only.

FLOOD MAP C: PMF EXTENT MAP

Notes:

- Extent represents the Probable Maximum Flood (PMF) flood event
- Extent does not include climate change
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory) and aerial photography (Source: NearMap 2014) are indicative only

FLOOD MAP D: 1% AEP FLOOD HYDRAULIC CATEGORY EXTENT MAP



Notes:

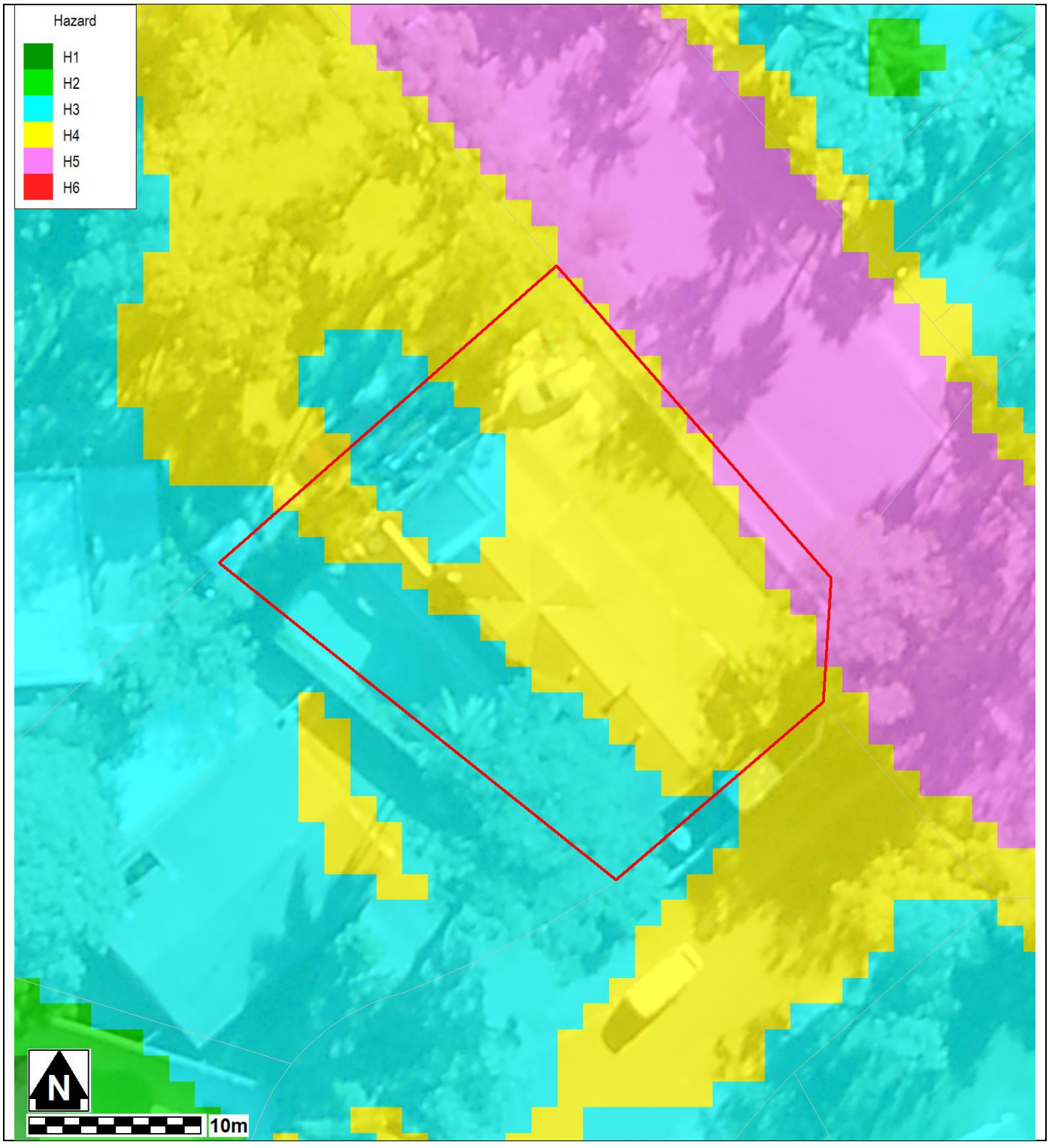
- Extent represents the 1% annual Exceedance Probability (AEP) flood event
- Extent does not include climate change
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory) and aerial photography (Source: NearMap 2014) are indicative only

FLOOD MAP E: FLOODING – 1% AEP EXTENT PLUS CLIMATE CHANGE

Note:

- Extent represents the 1% annual Exceedance Probability (AEP) flood event including 30% rainfall intensity and 0.9m Sea Level Rise climate change scenario
- Flood events exceeding the 1% AEP can occur on this site.
- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory) and aerial photography (Source: NearMap 2014) are indicative only

FLOOD MAP F: FLOOD LIFE HAZARD CATEGORY



Notes:

- Cadastre Lines (Source: NSW Government Land and Property Information), flood levels/extents (Source: Avalon to Palm Beach Floodplain Risk Management Study and Plan 2017, Manly Hydraulics Laboratory) and aerial photography (Source Near Map 2014) are indicative only.

MAP G: INDICATIVE GROUND SURFACE SPOT HEIGHTS

Notes:

- The surface spot heights shown on this map were derived from Airborne Laser Survey and are indicative only.
- Accuracy is generally within ± 0.2m vertically and ± 0.15m horizontally, and Northern Beaches Council does not warrant that the data does not contain errors.
- If accuracy is required, then survey should be undertaken by a registered surveyor.

Preparation of a Flood Management Report

Introduction

These guidelines are intended to provide advice to applicants on how to determine what rules apply on flood prone land, and how to prepare a Flood Management Report. The purpose of a Flood Management Report is to demonstrate how a proposed development will comply with flood related planning requirements.

Planning Requirements for Flood Prone Land

Development must comply with the requirements for developing flood prone land set out in the relevant Local Environment Plan (LEP) and Development Control Plan (DCP). There are separate LEPs and DCPs for each of the former Local Government Areas (LGAs), although preparation of a LGA-wide LEP and DCP is currently under way.

The clauses specific to flooding in the LEPs and DCPs are as follows:

LEP Clauses	**DCP Clauses**
Manly LEP (2013) – 6.3 Flood Planning	Manly DCP (2013) – 5.4.3 Flood Prone Land
Warringah LEP (2011) – 6.3 Flood Planning Warringah LEP (2000) – 47 Flood Affected Land *	Warringah DCP (2011) – E11 Flood Prone Land
Pittwater LEP (2014) – 7.3 Flood Planning Pittwater LEP (2014) – 7.4 Flood Risk Management	Pittwater 21 DCP (2014) – B3.11 Flood Prone Land Pittwater 21 DCP (2014) – B3.12 Climate Change

* The Warringah LEP (2000) is relevant only for the “deferred lands” which affects only a very small number of properties, mostly in the Oxford Falls area.

Development on flood prone land must also comply with Council’s Water Management for Development Policy, and if it is in the Warriewood Release Area, with the Warriewood Valley Water Management Specification. Guidelines for Flood Emergency Response Planning are available for addressing emergency response requirements in the DCP. These documents can be found on Council’s website on the Flooding page.

Note that if the property is affected by estuarine flooding or other coastal issues, these need to be addressed separately under the relevant DCP clauses.

When is a Flood Management Report required?

A Flood Management Report must be submitted with any Development Application on flood prone land (with exceptions noted below), for Council to consider the potential flood impacts and applicable controls. For Residential or Commercial development, it is required for development on land identified within the Medium or High Flood Risk Precinct. For Vulnerable or Critical development, it is required if it is within any Flood Risk Precinct.

There are some circumstances where a formal Flood Management Report undertaken by a professional engineer may not be required. However the relevant parts of the DCP and LEP would still need to be addressed, so as to demonstrate compliance. Examples where this may apply include:

- If all proposed works are located outside the relevant Flood Risk Precinct extent
- First floor addition only, where the floor level is above the Probable Maximum Flood level
- Internal works only, where habitable floor areas below the FPL are not being increased

Note that development on flood prone land will still be assessed for compliance with the relevant DCP and LEP, and may still be subject to flood related development controls.

What is the purpose of a Flood Management Report?

The purpose of a Flood Management Report is to demonstrate how a proposed development will comply with flood planning requirements, particularly the development controls outlined in the relevant LEP and DCP clauses. The report must detail the design, measures and controls needed to achieve compliance, following the steps outlined below.

A Flood Management Report should reflect the size, type and location of the development, proportionate to the scope of the works proposed, and considering its relationship to surrounding development. The report should also assess the flood risk to life and property.

Preparation of a Flood Management Report

The technical requirements for a Flood Management Report include (where relevant):

1. Description of development
   - Outline of the proposed development, with plans if necessary for clarity
   - Use of the building, hours of operation, proposed traffic usage or movement
   - Type of use, eg vulnerable, critical, residential, business, industrial, subdivision, etc

2. Flood analysis
   - 1% AEP flood level
   - Flood Planning Level (FPL)
   - Probable Maximum Flood (PMF) level
   - Flood Risk Precinct, ie High, Medium or Low
   - Flood Life Hazard Category
   - Mapping of relevant extents
   - Flood characteristics for the site, eg depth, velocity, hazard and hydraulic category, and the relevance to the proposed development

   If the property is affected by an Estuarine Planning Level (EPL) which is higher than the FPL, then the EPL should be used as the FPL. If the FPL is higher than the PMF level, then the FPL should still be used as the FPL, as it includes freeboard which the PMF does not.

3. Assessment of impacts
- Summary of compliance for each category of the DCP, as per the table below.

	Compliance		
	N/A	Yes	No
A) Flood effects caused by Development			
B) Building Components & Structural Soundness			
C) Floor Levels			
D) Car parking			
E) Emergency Response			
F) Fencing			
G) Storage of Goods			
H) Pools			

- Demonstration of how the development complies with any relevant flood planning requirements from the DCP, LEP, Water Management for Development Policy, and if it is in the Warriewood Valley Urban Land Release Area, with the Warriewood Valley Water Management Specification (2001)
- For any non-compliance, a justification for why the development should still be considered.
- Calculations of available flood storage if compensatory flood storage is proposed
- Plan of the proposed development site showing the predicted 1% AEP and PMF flood extents, as well as any high hazard or floodway affectation
- Development recommendations and construction methodologies
- Qualifications of author - Council requires that the Flood Management Report be prepared by a suitably qualified Engineer with experience in flood design / management who has, or is eligible for, membership to the Institution of Engineers Australia
- Any flood advice provided by Council
- Any other details which may be relevant

Further information and guidelines for development are available on Council's website at:

https://www.northernbeaches.nsw.gov.au/planning-and-development/building-and-renovations/development-applications/guidelines-development-flood-prone-land

Council's Flood Team may be contacted on 1300 434 434 or at floodplain@northernbeaches.nsw.gov.au .

APPENDIX C

Proposed Development Plans & Survey

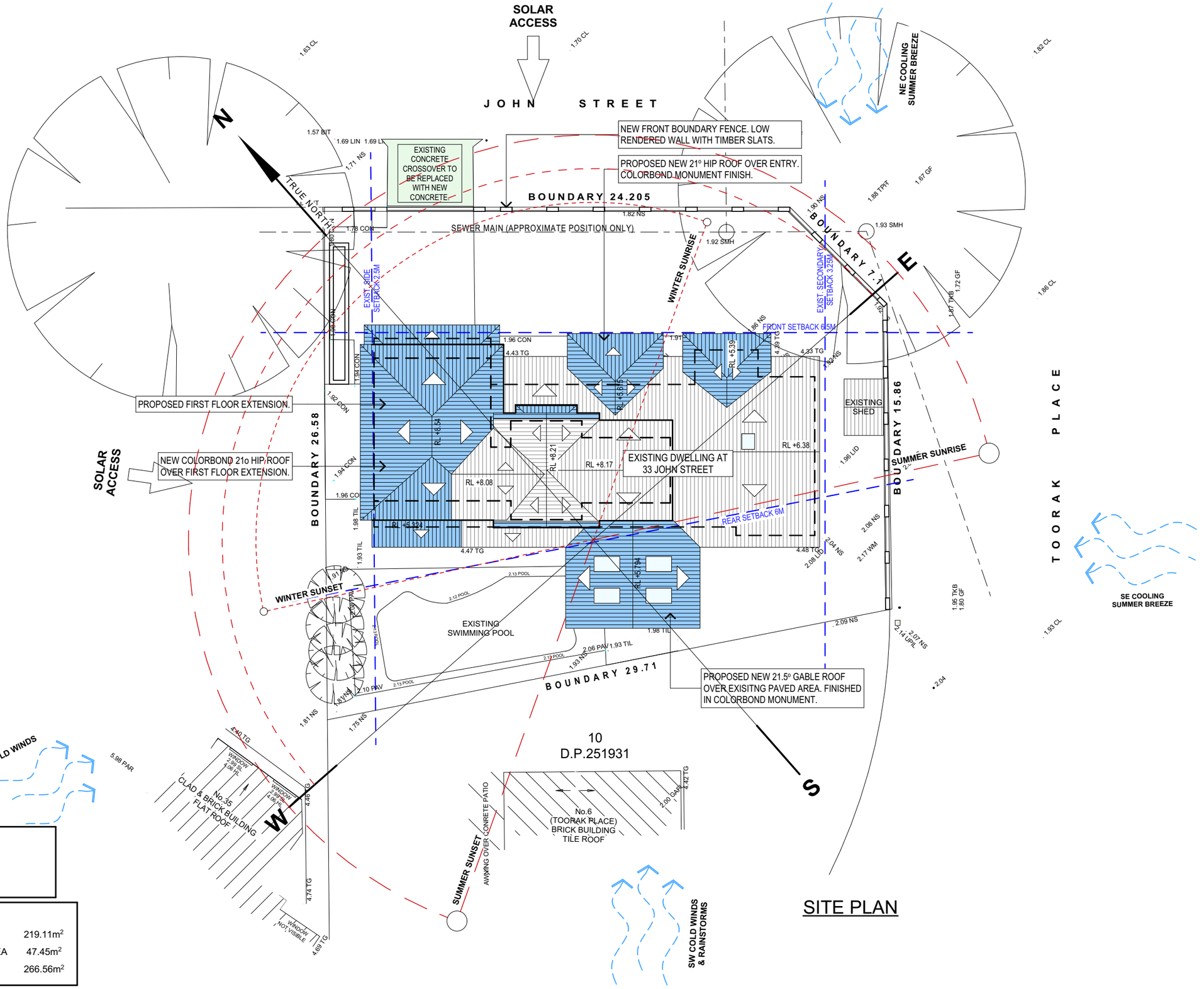
DEVELOPMENT APPLICATION

33 JOHN STREET, AVALON 2107

SHEET INDEX

Layout ID	Layout Name
DA.00	COVER PAGE
DA.01	SITE ANALYSIS PLAN
DA.02	EXISITNG GROUND FLOOR PLAN
DA.03	EXISTING FIRST FLOOR PLAN
DA.04	EXISTING ELEVATIONS SHEET 1
DA.05	EXISTING ELEVATIONS SHEET 2
DA.06	GROUND FLOOR PLAN
DA.07	FIRST FLOOR PLAN
DA.08	NORTH EAST & SOUTH WEST ELEVATIONS
DA.09	SOUTH EAST & NORTH WEST ELEVATIONS
DA.10	SECTION A
DA.11	SPECS / BASIX
DA.12	LANDSCAPED AREA CALCULATION PLAN
DA.13	ROOF & STORMWATER CONCEPT PLAN
DA.14	EROSION & SEDIMENT CONTROL / WASTE MANAGEMENT PLAN
DA.15	SHADOW DIAGRAM JUNE 21 9:00 am
DA.16	SHADOW DIAGRAM JUNE 21 12 noon
DA.17	SHADOW DIAGRAM JUNE 21 3:00 pm

Prepared by **JJ DRAFTING PTY LTD**
1300 977 804
www.jjdrafting.com.au



SITE PLAN

SITE AREA	**680.2 SQM**
LOT	**11**
DP	**251931**

AREA CALCULATIONS

EXISTING GROSS FLOOR AREA	219.11m²
PROPOSED NEW GROSS FLOOR AREA	47.45m²
TOTAL GROSS FLOOR AREA	266.56m²

TRUE NORTH:

NOTES (E & OE)
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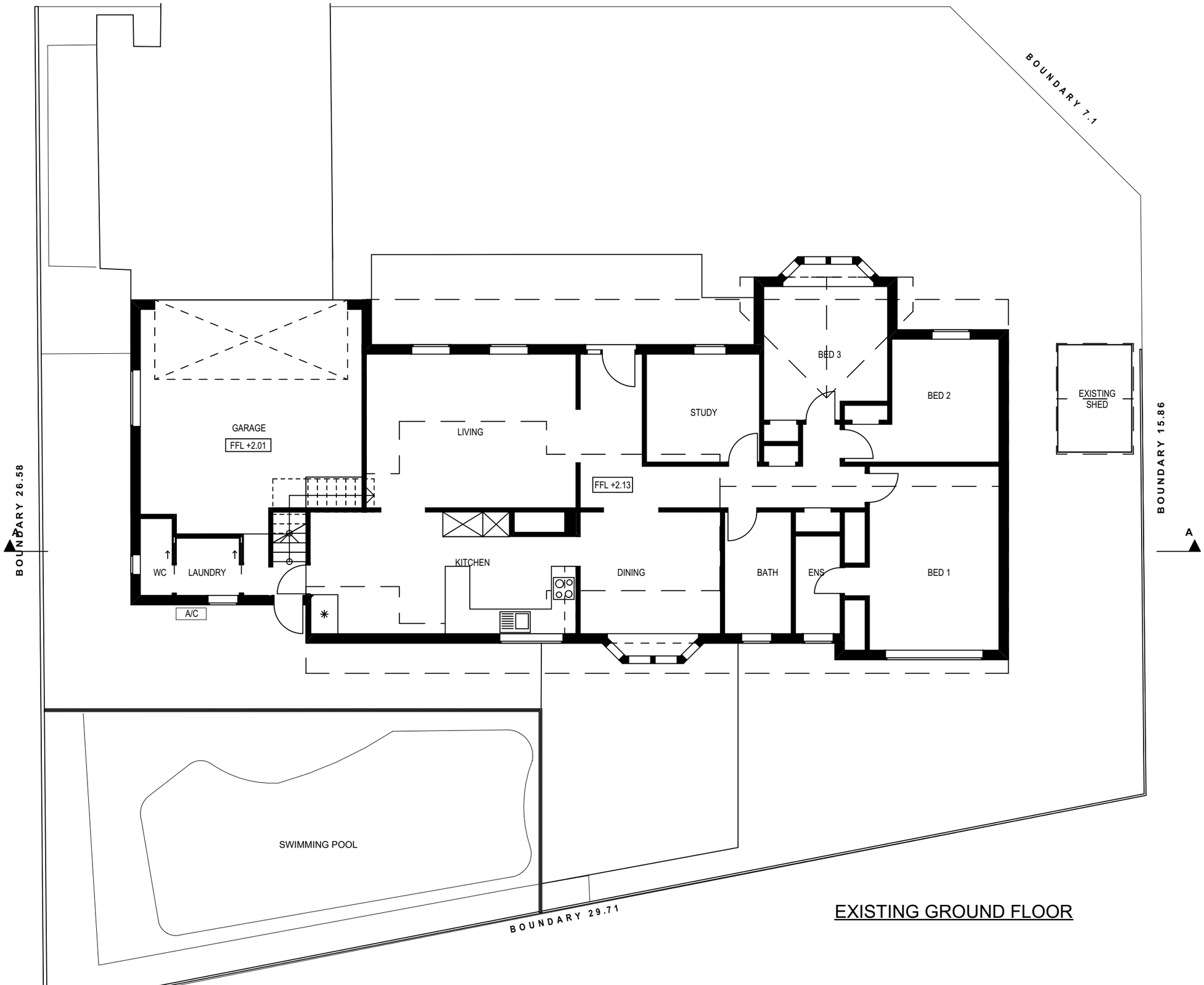
PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT:
BROOKS

DRAWING TITLE:
SITE ANALYSIS PLAN

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:200 @ A3
JOB No:	CHECKED BY:	DRAWING No:
1162/23	JJ	**DA.01**



EXISTING GROUND FLOOR

TRUE NORTH:

NOTES (E & OE)
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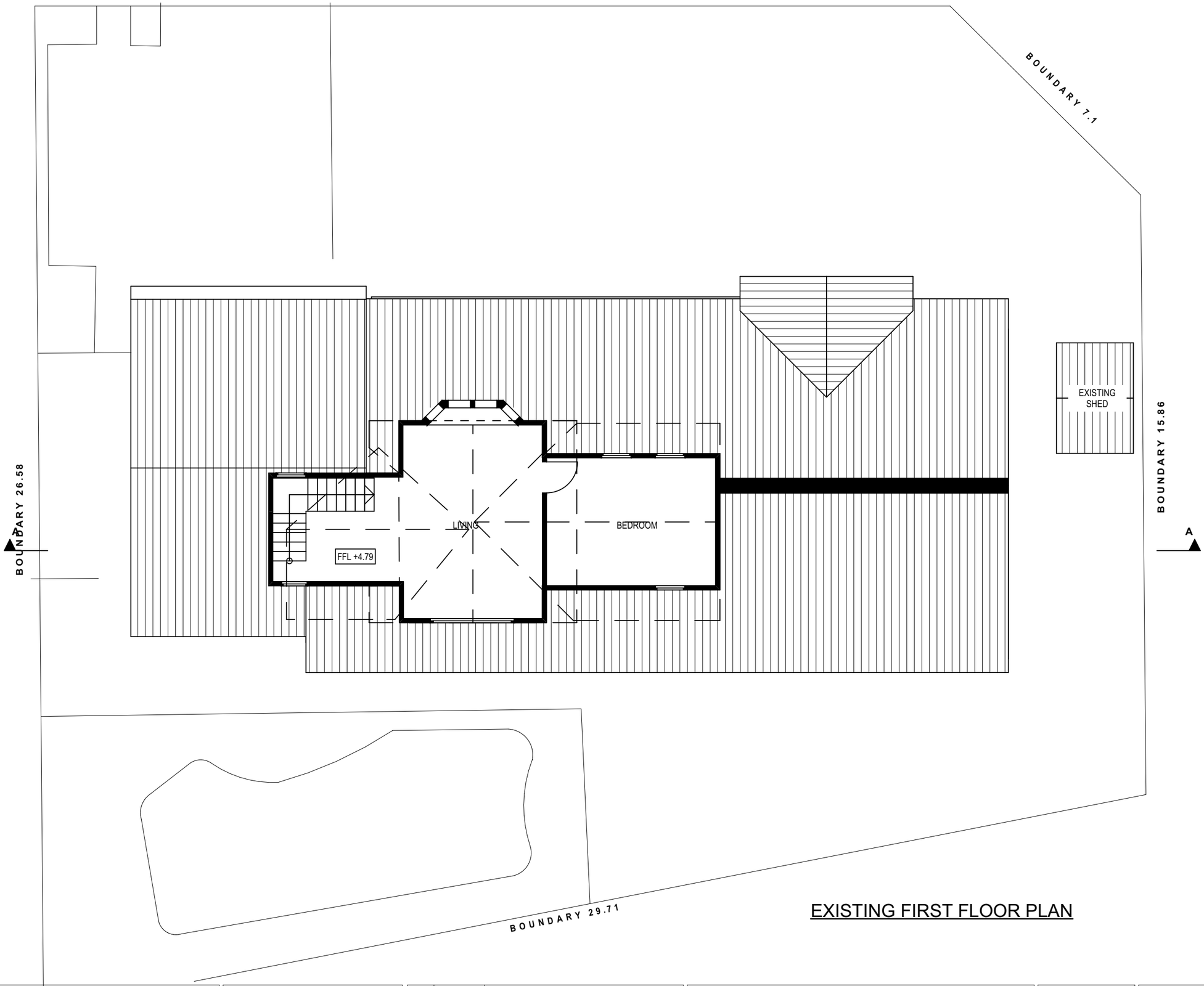
33 JOHN STREET AVALON NSW 2107
CLIENT:
BROOKS

DRAWING TITLE:
EXISITNG GROUND FLOOR PLAN

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:100 @ A3
JOB No:	CHECKED BY:	DRAWING No:
1162/23	JJ	**DA.02**



EXISTING FIRST FLOOR PLAN

TRUE NORTH:

NOTES (E & OE)
- All structures including stormwater & drainage to engineer's details.
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PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT:
BROOKS

DRAWING TITLE:
EXISTING FIRST FLOOR PLAN

DATE:	DRAWN BY:	SCALE:
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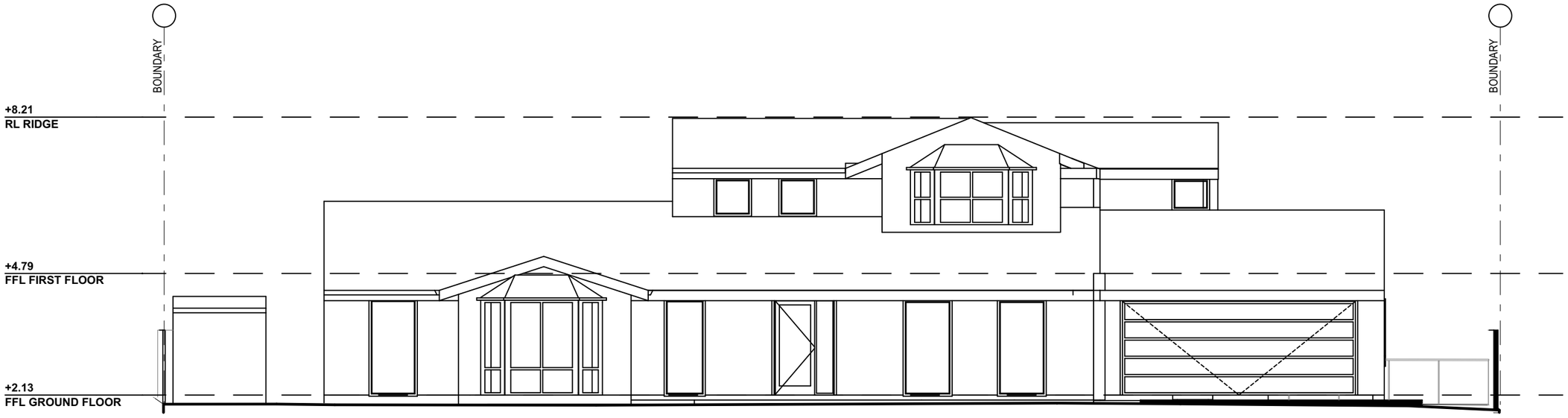
JOB No: 1162/23	CHECKED BY: JJ	DRAWING No: **DA.03**



EXISTING NORTH EAST ELEVATION

EXISITNG SOUTH WEST ELEVATION

NOTES (E & OE)
- All structures including stormwater & drainage to engineer's details.
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33 JOHN STREET AVALON NSW 2107
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DRAWING TITLE:
EXISTING ELEVATIONS SHEET 1

DATE:	DRAWN BY:	SCALE:
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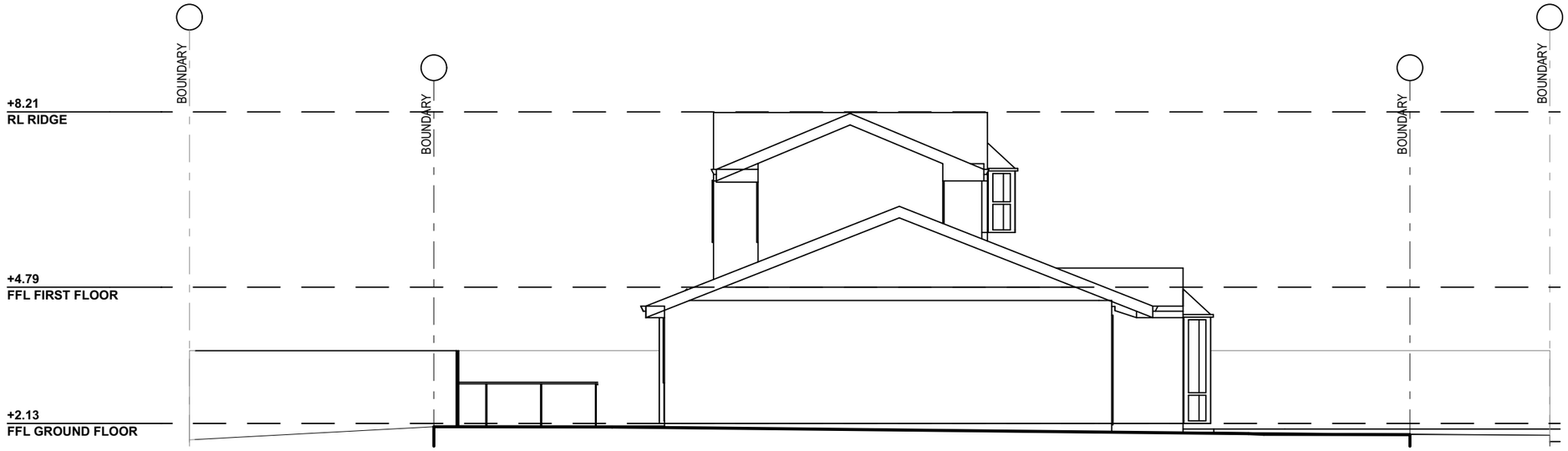
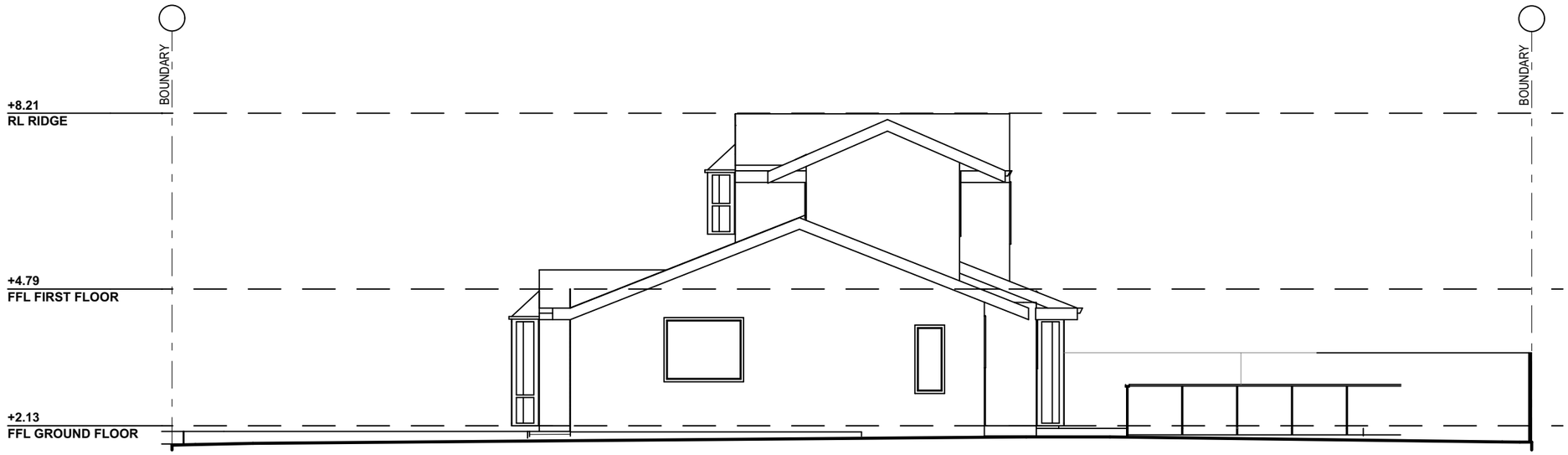


EXISITNG SOUTH EAST ELEVATION



EXISTING NORTH WEST ELEVATION

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PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT:
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DRAWING TITLE:
EXISTING ELEVATIONS SHEET 2

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:100 @ A3
JOB No:	CHECKED BY:	DRAWING No:
1162/23	JJ	**DA.05**

BOUNDARY 24.205

NEW BOUNDARY FENCE.
SLIDING GATE.
EXISTING CONCRETE CROSSOVER TO BE REPLACED WITH NEW CONCRETE.
NEW PEDESTRIAN GATE.
NEW GARDEN BED.
NEW HIP ROOF OVER ENTRY.
NEW POSTS.
NEW BOUNDARY FENCE.
NEW GARAGE DOOR.
GARAGE EXTENDED WITH NEW EXTERNAL WALLS.
NEW RC CONCRETE SLAB TO MATCH EXISTING GARAGE FL.
NEW TIMBER STAIRS. BALUSTRADE TO COMPLY WITH AS1170.1.
NEW INTERNAL GARAGE WALLS.
NEW FLOOR STRUCTURE OVER EXISTING TO MATCH FLOOR LEVELS.
PORTION OF GROUND FLOOR EXTENDED. NEW FLOOR STRUCTURE BY ENG. **SHOWN IN COLOUR.**
RELOCATE AC UNIT.
NEW FLOOR STRUCTURE TO MATCH FL TO EXISTING.
NEW SPLASHBACK WINDOW IN KITCHEN. HIGH CABINETS ABOVE.
EXISTING BAY WINDOW SQUARED OFF. NEW ROOF OVER.
EXISTING ROOF EAVES EXTENDED.
NEW SKYLIGHT IN HALLWAY.
NEW OPENABLE WINDOW (LOUVRE) IN BATHROOM.
NEW GABLE ROOF BY ENG. OVER EXISTING PAVED AREA.
NEW SKYLIGHTS IN ROOF.

BOUNDARY 7.1
BOUNDARY 26.58
BOUNDARY 15.86
BOUNDARY 29.71

6,509 TO FRONT BOUNDARY
8,546 TO FRONT BOUNDARY
9,703 TO REAR BOUNDARY (BOUNDARY VARIES)
4,176 TO REAR BOUNDARY (BOUNDARY VARIES)
2,492 TO SIDE BDY
3,495 TO SECONDARY BDY
1,144 TO REAR BDY

NEW CONCRETE SLAB FFL +2.01
GARAGE FFL +2.01
NEW FFL +2.13
FFL +2.13
GARAGE
LIVING
STUDY
KITCHEN
DINING
LAUNDRY
BUTLERS PANTRY
BED 3
BED 2
BED 1
ROBE
LINEN
BATH
WC
EXISTING SHED
NEW RAINWATER TANK
SWIMMING POOL
OVEN TOWER
A/C
W1 W2 W3 W4 W5 D1 D2 S09 A

AREA CALCULATIONS

EXISTING GROUND FLOOR AREA	178.79m²
NEW GROUND FLOOR AREA	10.22m²

PROPOSED GROUND FLOOR PLAN

TRUE NORTH:

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PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT: BROOKS

DRAWING TITLE: GROUND FLOOR PLAN

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:100 @ A3
JOB No: 1162/23	CHECKED BY: JJ	DRAWING No: **DA.06**

BOUNDARY 24.205

BOUNDARY 7.1

BOUNDARY 15.86

BOUNDARY 26.58

BOUNDARY 29.71

7,716
TO FRONT BOUNDARY

11,018
TO REAR BOUNDARY
(BOUNDARY VARIES)

2,495
TO SIDE BDY

110 | 6,003 | 110

110 | 1,052 | 3,900 W6 | 1,052 | 110

S09

NEW HIP ROOF OVER ENTRY. DESIGNED BY ENG. MONUMENT COLORBOND FINISH.

EXTEND PORTION OF EXISTING ROOF. TO MATCH.

NEW ROOF OVER SQUARE BAY WINDOW BELOW. ROOF TO MATCH REST OF THE HOUSE.

NEW 22.5º HIP ROOF OVER GARAGE EXTENSION.

NEW FLOOR STRUCTURE BY ENG.

NEW 21º HIP ROOF BY ENG. COLORBOND MONUMENT FINISH.

110 | 590 | 110 | 2,800 W15 | 590 | 110 | 1,300 | 110 | 1,900 | 110

W6 | W15 | W7 | W8 | W9 | W10 | W11 | W12 | W13 | W14

LIVING / RUMPUS ROOM

NEW FFL +4.79

STORE

BATHROOM

C

FFL +4.79

MASTER BEDROOM

KING

2,418 COS | 110 | 2,566 COS | 110 | 1,800 | 110

WIR

ENSUITE

871 | 900 | 714 | 900 | 110

EXISTING SHED

NEW SKYLIGHT.

A

NEW TIMBER STAIRS. 1M BALUSTRADE TO COMPLY WITH AS1170.1.

NEW 21.5º COLORBOND ROOF. FINISHED IN MONUMENT.

110 | 2,420 | 1,000 | 2,583 NEW STAIRWELL | 110 | 863 | 110

4,200

NEW 21.5º COLORBOND GABLE ROOF BY ENG OVER EXISTING PAVED AREA.

NEW SKYLIGHTS.

6,965

PROPOSED FIRST FLOOR PLAN

AREA CALCULATIONS

EXISTING FIRST FLOOR AREA	40.32m²
NEW FIRST FLOOR AREA	37.23m²

TRUE NORTH:

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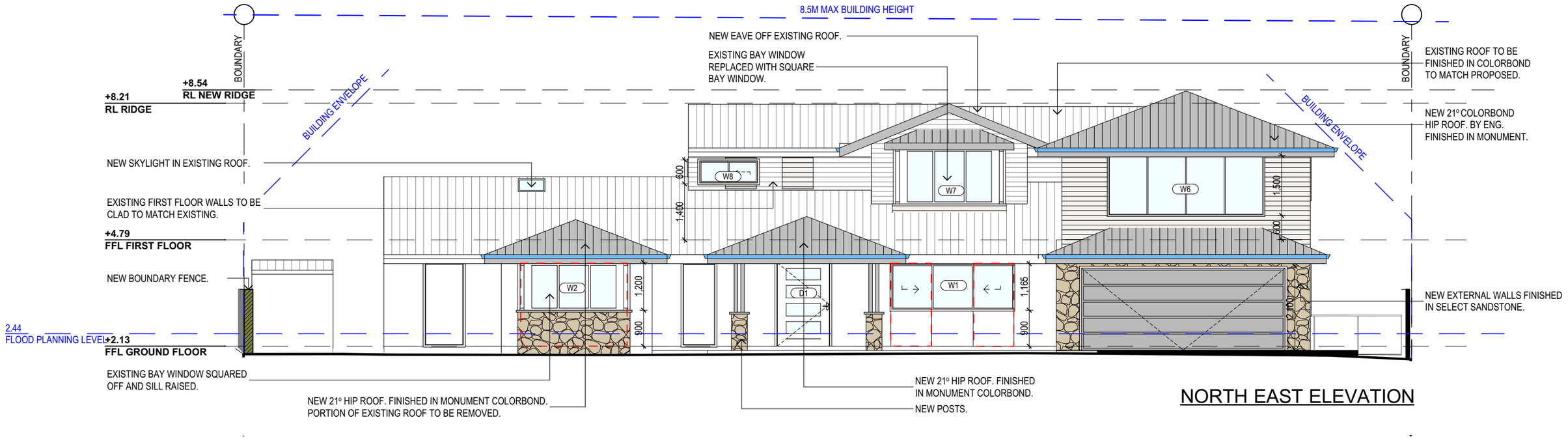
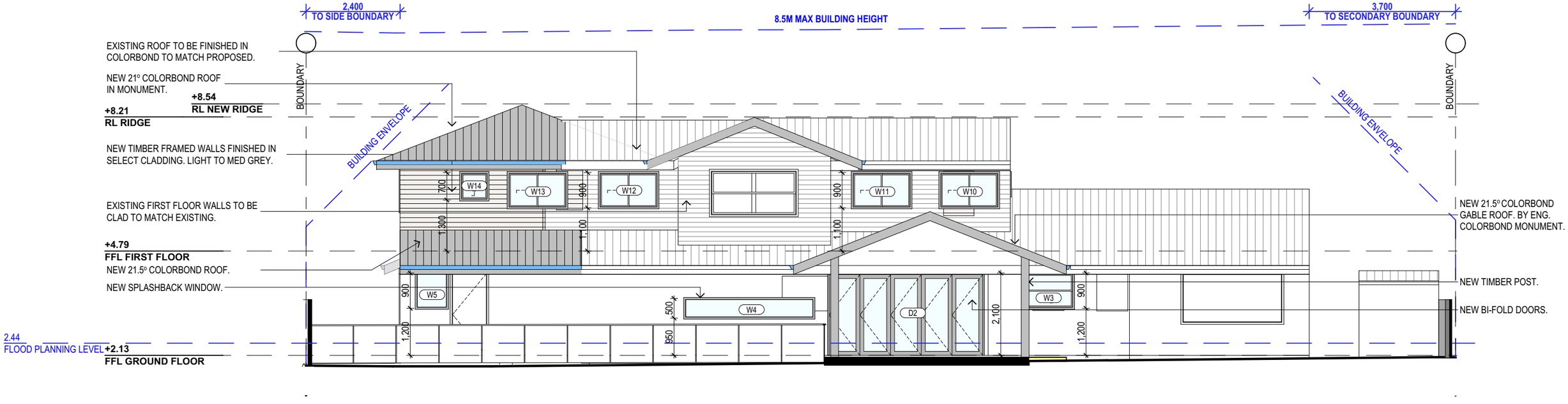
PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT:
BROOKS

DRAWING TITLE:
FIRST FLOOR PLAN

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:100 @ A3
JOB No: 1162/23	CHECKED BY: JJ	DRAWING No: **DA.07**



NORTH EAST ELEVATION



SOUTH WEST ELEVATION

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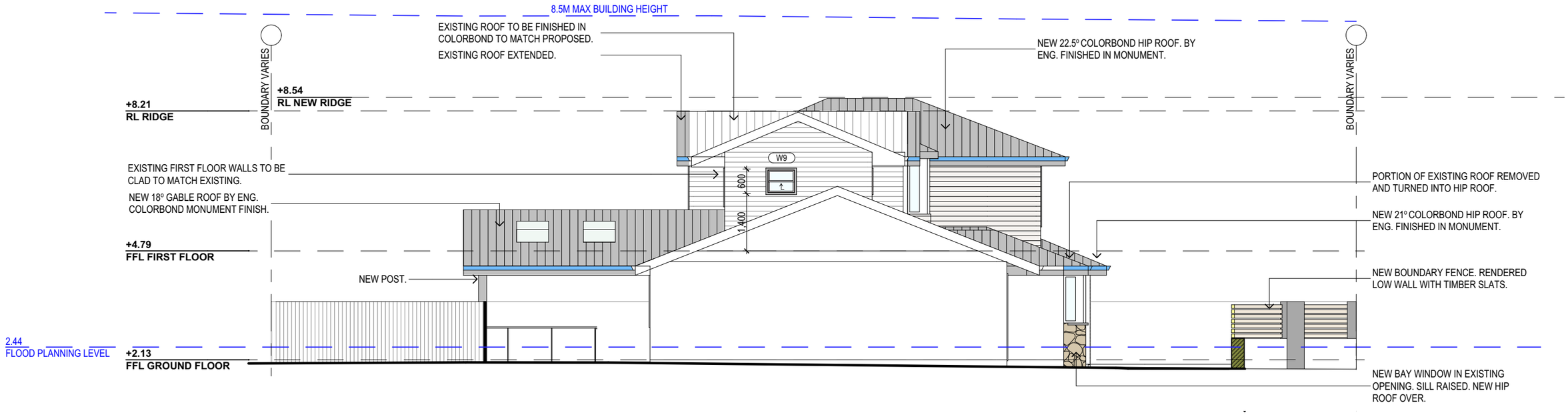
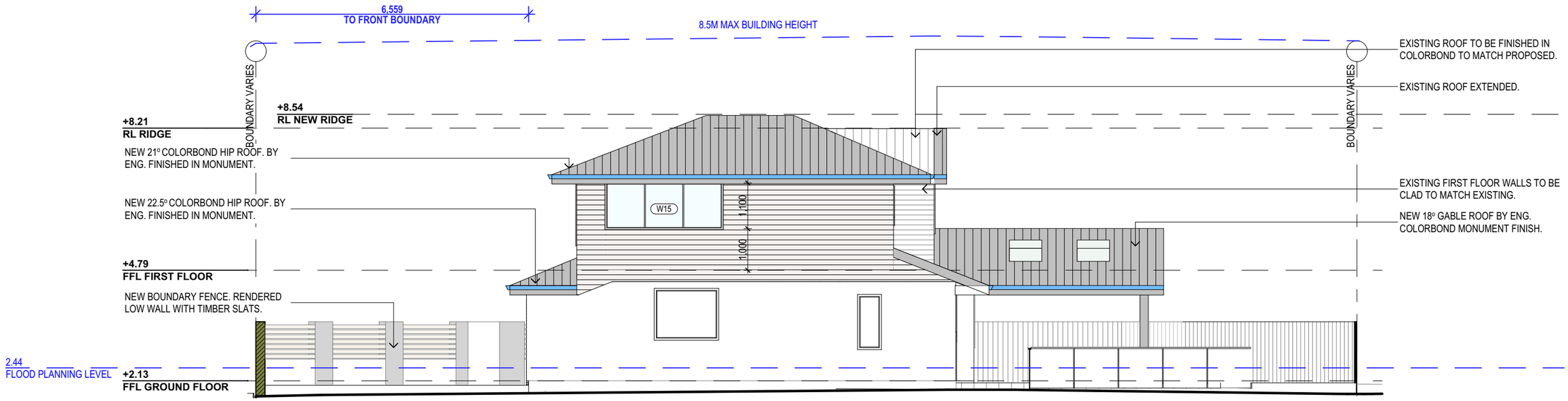
PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT:
BROOKS

DRAWING TITLE:
NORTH EAST & SOUTH WEST ELEVATIONS

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:100 @ A3
JOB No: 1162/23	CHECKED BY: JJ	DRAWING No: **DA.08**



SOUTH EAST ELEVATION



NORTH WEST ELEVATION

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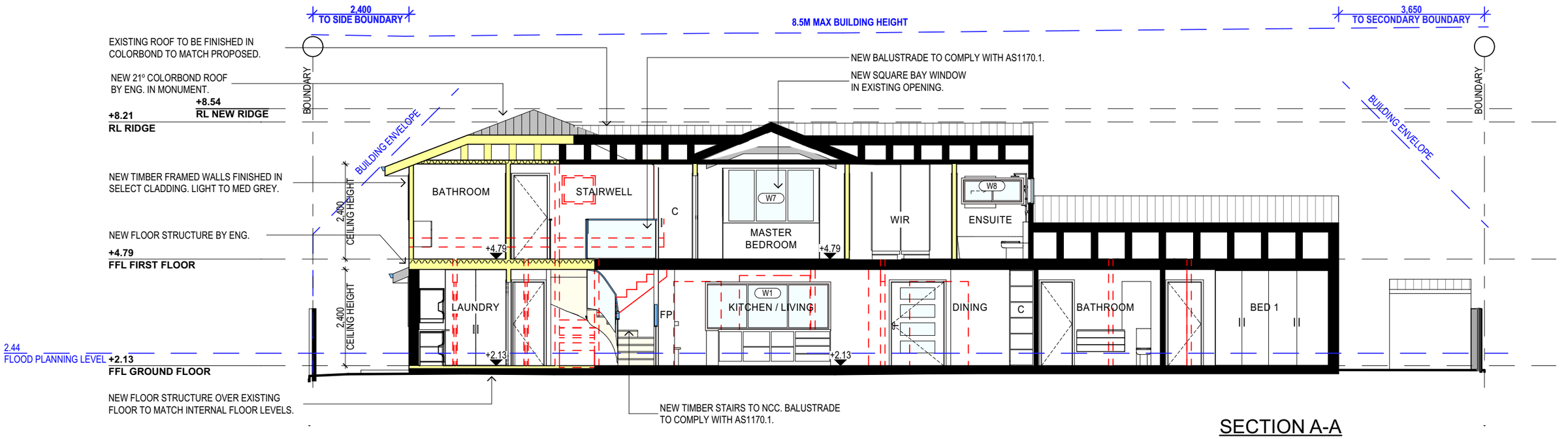
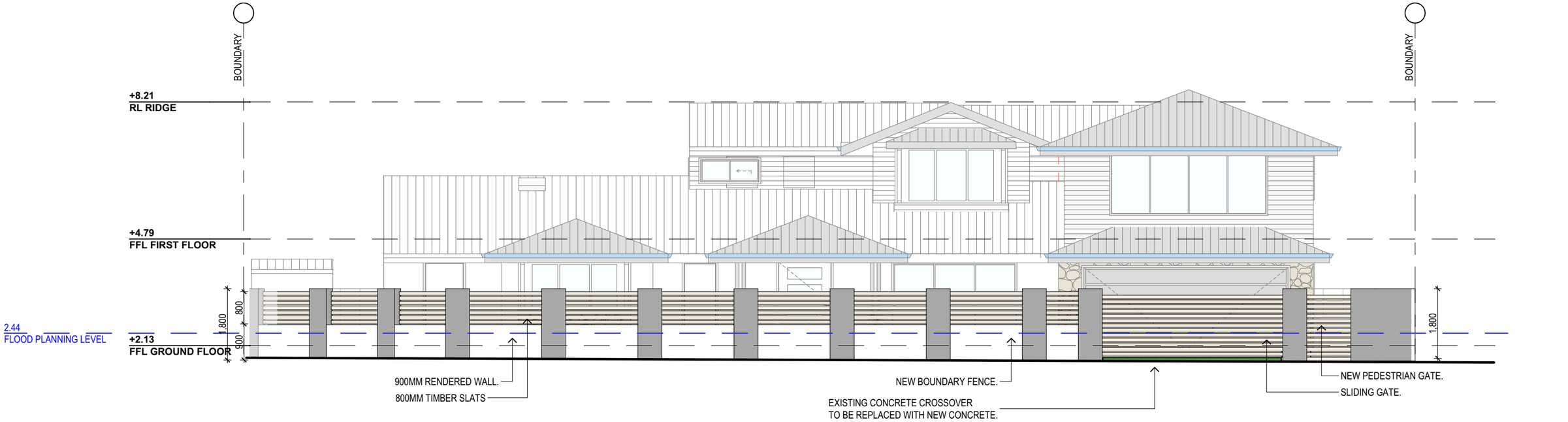
PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT:
BROOKS

DRAWING TITLE:
SOUTH EAST & NORTH WEST ELEVATIONS

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:100 @ A3
JOB No: 1162/23	CHECKED BY: JJ	DRAWING No: **DA.09**



SECTION A-A



NORTH EAST FENCE ELEVATION

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PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT:
BROOKS

DRAWING TITLE:
SECTION A

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:100 @ A3
JOB No: 1162/23	CHECKED BY: JJ	DRAWING No: **DA.10**

BASIX REQUIREMENTS

BASIX INCLUSIONS FOR 33 JOHN STREET AVALON 2107

LIGHTING

40% OF NEW OR ALTERED LIGHT FIXTURES TO BE FITTED WITH FLUORESCENT, COMPACT FLUORESCENT, OR LIGHT-EMITTING-DIODE (LED) LAMPS.

WATER

SHOWER RATING	MIN. 3 STARS
TAP RATING	MIN. 3 STARS
WC RATING	MIN. 3 STARS

INSULATION REQUIREMENTS

Construction	Additional insulation requirement (R-value)
suspended floor above garage: framed (R0.7).	nil
floor above existing dwelling or building.	nil
external wall: framed (weatherboard, fibro, metal clad) (R0.40)	R1.30 (or R1.70 including construction)
external wall: other/undecided	R1.70 (including construction)
internal wall shared with garage: other/undecided	nil
flat ceiling, pitched roof	ceiling:R1.45 (up), roof: foil backed blanket (55 mm)

GLAZING - DOORS & WINDOWS

Standard aluminium, single clear, (or U-value: 7.63, SHGC: 0.75)

W1, W2, W3, W7, W8, W9, W10, W11, W12, W13, W14

Standard aluminium, single pyrolytic low-e, (or U-value: 5.7, SHGC: 0.47)

W4, W5, W6

FLOOD REQUIREMENTS:

ELECTRICAL AND WATERPROOFING:

- 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 MUST HAVE RESIDUAL CURRENT DEVICES INSTALLED CUT ELECTRICITY SUPPLY DURING FLOOD EVENTS. NOTES REGARDING THIS SHALL ALSO INCLUDE IN THE SPECIFICATIONS.

BUILDING COMPONENTS AND STRUCTURAL SOUNDNESS - C1:

- ALL NEW DEVELOPMENT SHALL BE DESIGNED AND CONSTRUCTED AS FLOOD COMPATIBLE BUILDINGS IN ACCORDANCE WITH REDUCING VULNERABILITY OF BUILDINGS TO FLOOD DAMAGE: GUIDANCE ON BUILDING IN FLOOD PRONE AREAS, HAWKESBURY-NEPEAN FLOODPLAIN MANAGEMENT STEERING COMMITEE (2006).

SPECIFICATION NOTES

INTERNAL LINING
- PROVIDE PLASTERBOARD LINING.
- INSTALL TO MANUFACTURERS SPECIFICATIONS & AS 2589

EXTERNAL WALLS:
- BRICK VENEER WALLS WITH SELECTED BRICKS TO DWELLING.
- ALL EXTERNAL WALL CLADDINGS MUST BE COMPLIANT WITH THE REQUIREMENTS OF NCC 2022 – ABCB HOUSING PROVISIONS PART 7, AS1684 AND ALL RELEVANT CODEMARK CERTIFICATES.
- ROOF AND WALL CLADDING INSTALLATION TO NCC 2022 - ABCB HOUSING PROVISIONS PART 7 & AS 1562 DESIGN AND INSTALLATION OF SHEET ROOF AND WALL CLADDING.

CONDENSATION MANAGEMENT:
- CONDENSATION MANAGEMENT MUST BE ADHERED TO IN ACCORDANCE WITH NCC 2022 – HOUSING PROVISIONS PART 10.8.

FLOOR:
- GROUND FLOOR TO BE REINFORCED CONCRETE SLAB IN ACCORDANCE WITH AS2870.
- FIRST FLOOR TO BE TIMBER FRAMED FINISHED WITH T&G HARDWOOD FLOORING.

WET AREAS:
- ALL WATERPROOFING TO NCC 2022 – ABCB HOUSING PROVISIONS PART 10, AS3740 AND PROVIDE A GUARANTEED FLEXIBLE WATERPROOF MEMBRANE TO ALL WET AREA FLOORS & SHOWER WALLS TO MANUFACTURED SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
- WATERPROOF INSTALLATION NCC (2022): HOUSING PROVISIONS PART 10, AS 3740 WATERPROOFING OF DOMESTIC WET AREAS (INTERNAL) & AS 4654 WATERPROOF MEMBRANES FOR EXTERNAL USE.

BEARERS AND JOISTS:
- SHALL BE INSTALLED TO COMPLY WITH AS1684 AS AMENDED FOR TIMBER COMPONENTS OR AS3620 FOR LIGHTWEIGHT STEEL FRAMING SECTIONS OR AS PER THE NASH ALTERNATIVES TO AS 3623.

ANT CAPS:
- SHALL BE INSTALLED IN ACCORDANCE WITH AS3660.

PROFILED STEEL ROOF:
- COLORBOND ROOF CLADDING
- METAL ROOF DESIGN AND INSTALLATION SHALL BE IN ACCORDANCE WITH NCC 2022 – ABCB HOUSING PROVISIONS PART 7, AS 1562.

ROOF TILES OR SHINGLES:
- NCC VOL.2 PART 3.5.2.

CONCRETE:
- SHALL BE IN ACCORDANCE WITH NCC VOL.1 PART B1.4 OR VOL.2 PART 3.2.3.
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT EDITIONS OF THE AS3600.

BRICK AND BLOCKWORK:
- MASONRY STRUCTURES TO NCC 2022 - ABCB HOUSING PROVISIONS PART 5 & AS 3700 MASONRY STRUCTURES.

FOOTINGS:
- FOOTINGS TO BE IN ACCORDANCE WITH AS1480.
- FOOTINGS TO BE IN ACCORDANCE WITH NCC VOL.2 PARTS 3.2.3, 3.2.4 AND 3.2.5
- ALL REINFORCEMENTS SHALL CONFORM TO AS1302, AS1303 AND AS1304.
- RESIDENTIAL SLABS, FOOTINGS AND CONCRETE STRUCTURES TO NCC 2022 – ABCB HOUSING PROVISIONS PART 3 & 4, AS 2870 RESIDENTIAL SLABS AND FOOTING & AS 3600 CONCRETE STRUCTURES.

CARPENTRY:
- TIMBER TO COMPLY WITH AS1170.2 OR AS4055.
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS1684 AND 1720 AS APPLICABLE.
-TERMITE MANAGEMENT INSTALLATION OF PERIMETER & COLLARS TO NCC 2022 - ABCB HOUSING PROVISIONS PART 3.4 & AS 3660.1 TERMITE MANAGEMENT - NEW BUILDING WORK.

TIMBER FRAMING:
-ALL EXTERNAL TIMBER FRAMED WALLS TO BE WRAPPED IN A BREATHABLE VAPOUR PERMEABLE MEMBRANE THAT COMPLIES, INSTALLED WITH AS/NZS 4200.1 & AS/NZS 4200.2.- TO COMPLY WITH NCC VOL.2 PART 3.4
-TIMBER FRAMING INSTALLATION TO NCC 2022 - ABCB HOUSING PROVISIONS PART 6, AS 1684 RESIDENTIAL TIMBER FRAMED CONSTRUCTION & AS/NZS 1170 STRUCTURAL DESIGN ACTIONS.
- GROUND FLOOR TIMBERS SHALL BE ONLY OF HARDWOOD, CYPRESS PINE OR PRESSURE TREATED RADIATA OR CANADA PINE BELOW A HEIGHT OF 300mm ABOVE FINISHED GROUND LEVEL AND MUST NOT BE BUILT INTO BRICKWORK.
- SUBFLOOR VENTILATION SHALL CONFORM TO NCC VOL.2 PART 3.4.1.
- IN BUSHFIRE PRONE AREAS SPECIAL CONDITIONS APPLY.
- WHERE TERMITE BARRIERS NEED TO BE INSPECTED, 400mm CLEARANCE IS REQUIRED BETWEEN THE UNDERSIDE OF BEARER AND GROUND SURFACE.
- USE TREATED TIMBER WHERE REQUIRED FOR DURABILITY.
- DO NOT USE TIMBER UNSUITABLE FOR EXPOSURE TO MOISTURE IN EXPOSED LOCATION.
- PROVIDE STRUCTURE BRACING IN ACCORDANCE WITH AS1684
- PROVIDE STRUCTURE TIEDOWN IN ACCORDANCE WITH AS1684
- USE GALVANISED FIXINGS WHERE EXPOSED TO WEATHER.

STEEL FRAMING:
-ALL STEEL FRAMING TO NCC 2022 - ABCB HOUSING PROVISIONS PART 6, AS 4100 STEEL STRUCTURES, AS/NZS 4600 COLD-FORMED STEEL STRUCTURES & NASH STANDARD.

TERMITE CONTROL:
- TO BE IN ACCORDANCE WITH TO AS3660.1
- SHALL BE IN ACCORDANCE WITH NCC VOL.2 PART 3.1.4 OR VOL.1 PART B1.4.

FLASHING AND CAPPINGS:
- SELECTION AND INSTALLATION OF METAL RAINWATER GOODS REFER TO AS2180
- FLASH PROJECTIONS ABOVE THE ROOF WITH TWO PART FLASHINGS CONSISTING OF AN APRON FLASHING AND OVER FLASHING, WITH AT LEAST 100mm OVERLAP.
- PROVIDE FOR INDEPENDENT MOVEMENT BETWEEN ROOF AND PROJECTION.
- DAMP PROOF COURSE AND FLASHINGS TO NCC 2022 - ABCB HOUSING PROVISIONS PART 5, 7 & 12 & AS/NZS 2904 DAMP-PROOF COURSES AND FLASHINGS.

CONCRETE BLOCKS OR BRICKS:
- TO COMPLY WITH TO AS4455 MASONRY BUILDING BLOCKS/PAVER.

LIGHTING:
- 40% OF NEW OR ALTERED LIGHT FIXTURES TO BE FITTED WITH FLUORESCENT, COMPACT FLUORESCENT, OR LIGHT-EMITTING-DIODE (LED) LAMPS

DOORS & WINDOWS:
- ALL FRAMED WINDOWS SHALL BE INSTALLED IN ACCORDANCE WITH AS2047-48 FOR ALUMINIUM WINDOWS AND AS2047 FOR TIMBER WINDOWS.
- ALUMINIUM FRAMED WINDOWS AND DOORS.
- WEATHER STRIPPING IS TO BE PROVIDED TO ALL EXTERNAL WINDOWS AND DOORS.
- ALL WINDOWS ARE TO BE RESTRICTED IN ACCORDANCE WITH NCC 2022 – ABCB HOUSING PROVISIONS PART 11.3.7 & PART 11.3.8 PROTECTION OF OPENABLE WINDOWS WHERE SURFACE BELOW IS MORE THAN 2M.
- PROVIDE LIFT-OFF HINGES WHERE THE TOILET PAN IS WITHIN 1.2 METRES OF THE HINGED SIDE OF THE DOOR IN ACCORDANCE WITH NCC 2022 – ABCB HOUSING PROVISIONS PART 10.4.

STAIRS, HANDRAILS AND BALUSTRADES:
- RELATIONSHIP OF RISER TO GOING SHALL BE BETWEEN 1:2 AND 1:1.35 UNLESS OTHERWISE DIRECTED TO GOING SHALL BE BETWEEN 1:2 AND 1:1.35 UNLESS OTHERWISE DIRECTED OR AS PERMITTED IN AS1657.
- BALUSTRADES SHALL BE PROVIDED TO ALL LANDINGS, RAMPS, DECKS, ROOFS AND OTHER ELEVATED PLATFORMS WHERE THE VERTICAL DISTANCE FROM THAT LEVEL IS MORE THAN 1m ABOVE THE ADJOINING FLOOR OR FINISHED GROUND LEVEL.
- THE HEIGHT OF BALUSTRADE MUST BE A MINIMUM OF 1m HIGH ABOVE LANDING AND NOT LESS THAN 865mm ABOVE THE NOSINGS OF ANY STAIR TREADS OR FLOOR RAMP AND HAVE NO OPENING GREATER THAN 125mm.
- THE HEIGHT OF BALUSTRADE TO THE NEW STAIRCASES IS TO BE MEASURED A MINIMUM 865mm ABOVE THE NOSING LINE AND HAVE NO OPENING GREATER NO OPENING GREATER THAN 125mm.
- ALL BALUSTRADES & PRIVACY SCREENS TO COMPLY WITH NCC 2022 – ABCB HOUSING PROVISIONS PART 11, AS 1684, AS 1170, AS 1288 & AS/NZS 2208

SLIP RESISTANCE:
- MATERIALS TO BE USED FOR SURFACES OF FLOORS, STAIR LANDING, STEPS AND NOSINGS SHALL BE IN ACCORDANCE WITH THE CLASSIFICATIONS FOR SLIP RESISTANCE AS APPLY IN AS4586 AND HB198.
- ALL STAIRS PROVIDING ACCESS TO COMPLY WITH NCC 2022 – ABCB HOUSING PROVISIONS PART 11, AS 4586 INCLUDING SLIP RESISTANCE P3 / R10 FOR DRY OR P4 / R11 FOR WET.

STORMWATER:
EAVES GUTTERS, VALLEY GUTTERS AND DOWPIPES
- TO COMPLY WITH AS/NZS 2179 FOR METAL AND AS1273 FOR UPVC COMPONENTS.
- IN ACCORDANCE WITH NCC VOL 2 PART 3.5.3
- NEW DOWNPIPES TO BE CONNECTED INTO EXISTING STORMWATER LINE
- COLORBOND GUTTERS AND DOWNPIPES
- MINIMUM SLOPE OF EAVES AND GUTTERS 1:200

GLAZING:
- NCC VOL.1 PARTS B 1.4, D 3.12, F1.13 OR NCC VOL.2 PART 3.6
-ALL WINDOW GLAZING AND DOOR GLAZING TO BE INSTALLED IN ACCORDANCE TO NCC 2022 - ABCB HOUSING PROVISIONS PART 8, AS 1288 GLASS IN BUILDINGS, AS/NZS 2208 SAFETY GLAZING MATERIALS IN BUILDINGS & AS 2047 WINDOWS AND EXTERNAL DOORS IN BUILDINGS.
- SHOWER SCREEN/MIRRORS / WARDROBE GLASS INSTALLATION TO NCC 2022 - HOUSING PROVISIONS PART 8, AS 1288 & AS/NZS 2208.
- GLASS BALUSTRADE INSTALLATION TO NCC 2022 - HOUSING PROVISIONS PART 11, AS 1288 GLASS IN BUILDINGS, AS/NZS 2208 SAFETY GLAZING MATERIALS IN BUILDINGS & AS 1170 STRUCTURAL DESIGN ACTIONS.

WATERPROOFING FOR EXTERNAL TILED BALCONIES:
- WATERPROOFING TO COMPLY WITH AS4654

FIRE SAFETY, SMOKE DETECTORS/ALARMS:
- PROVIDE HARDWIRED & INTERCONNECTED SMOKE ALARM DEVICES COMPLYING WITH THE REQUIREMENTS OF THE LOCAL GOVERNMENT ACT AND/OR STATE OR TERRITORY REGULATIONS MUST BE FITTED IN THE LOCATIONS REQUIRED AND APPROVED BY THE AUTHORITY. SMOKE ALARMS TO BE INSTALLED TO NCC 2022 – ABCB HOUSING PROVISIONS PART 9.5, NSW 9.5.1 & AS 3786.
- INSTALLATIONS IN BUILDINGS OTHER THAN CLASS 1 AND 10 MUST BE INSTALLED AND MANAGED TO COMPLY WITH NCC SPEC. E2.2a.
- FIRE SEPARATING WALL, A WALL WITHIN 900MM OF BOUNDARY INSTALLATION CERTIFICATE (FRL60/60/60) INCL ACOUSTIC SOUND (RW) + CTR50 TO NCC 2022 - ABCB HOUSING PROVISIONS PART 9 & PART 10.7, AS 1530 ALL PARTS.
- BUSHFIRE-PRONE AREAS CERTIFICATE FOR BUILDING - NCC 2022 - VOL. 2 PART NSW H7D4 CONSTRUCTION IN BUSHFIRE PRONE AREAS - AS 3959 CONSTRUCTION OF BUILDING IN BUSHFIRE-PRONE AREAS & PLANNING FOR BUSHFIRE PROTECTION 2019.

WASTE MANAGEMENT:
- ALL WASTE SHALL BE TAKEN AWAY BY TRUCKS TO A SUITABLE LANDFILL OR RECYCLE DEPOT.
- ALL WASTE SHALL BE COVERED DURING TRANSPORTATION.
- WASTE GENERATED DURING CONSTRUCTION SHALL BE PLACED IN STEEL BINS AND TAKEN AWAY BY AN APPROVED CONTRACTOR TO A APPROVED LANDFILL SITE.

SEDIMENT CONTROL:
- A FILTER CLOTH SYSTEM SHALL BE INSTALLED TO STOP ANY SEDIMENT ENTERING COUNCILS STORMWATER SYSTEM.

SWIMMING POOLS & SAFETY:
-POOL PLUMBING/CIRCULATION TO COMPLY WITH NCC 2022 PART NSW H7D2, AS 1926.3 SWIMMING POOL SAFETY - WATER RECIRCULATION SYSTEMS
- ALL POOL FENCING TO BE INSTALLED TO: NCC 2022 NSW H7D2, AS 1926.1 – 2012 - SAFETY BARRIERS FOR SWIMMING POOLS, AS 1926.2 – 20007 – LOCATION OF SAFETY BARRIERS FOR SWIMMING POOLS, AS 1170 STRUCTURAL DESIGN ACTIONS AND IF GLASS POOL FENCING TO ADDITIONALLY COMPLY WITH AS 1288 – 2021 GLASS IN BUILDINGS, AS/NZS 2208 – SAFETY GLASS,
- AS 2783 USE OF REINFORCED CONCRETE FOR SMALL SWIMMING POOLS

MISCELLANEOUS ITEMS:
- ALLOW FOR SEPARATE TAPS FOR THE WASHING MACHINE AND KEEP THEM SEPARATE FROM THOSE OF THE LAUNDRY TUB. A DEDICATED LAUNDRY SPACE COMPRISING OF ONE WASHTUB AND A SPACE FOR A WASHING MACHINE MUST BE PROVIDED IN ACCORDANCE WITH NCC 2022 – ABCB HOUSING PROVISIONS PART 10.4.
- GAS FIRE SUPPLY AND INSTALLATION TO COMPLY WITH NCC 2022 - ABCB HOUSING PROVISIONS PART 12.4, AS/NZS 5601 GAS INSTALLATIONS.

NOTE:
ALL PLANS ARE TO BE READ IN CONJUNCTION AND COMPLY WITH THE BASIX CERTIFICATE, BUSHFIRE AND GEOTECH REPORTS.

NOTES (E & OE)
- All structures including stormwater & drainage to engineer's details.
- Do not obtain dimensions by scaling drawings.
- All dimensions are to be checked on site prior to starting work.
- These drawings are to be read in conjunction with all other consultant's drawings and specifications.
- All workmanship & materials shall be in accordance with the requirements of current editions including amendments of the National Construction Code, relevant Australian Standards & local council requirements.
- New materials are to be used throughout unless otherwise noted.
- Concrete footings, slab, structural beams or any other structural members are to be designed by a practicing engineer.

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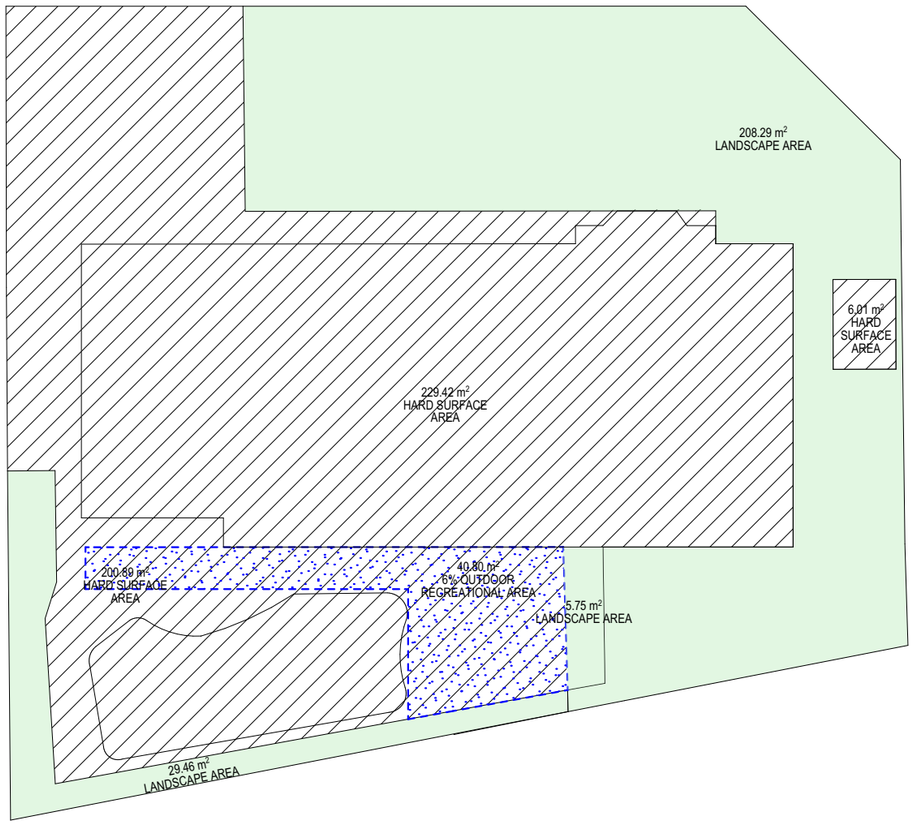
REV:	DATE:	DESCRIPTION:
A	22/06/23	PRELIM OPTIONS 1 & 2 SENT
B	29/06/23	REVISED PRELIM DRAWINGS
C	10/07/23	DEVELOPMENT APPLICATION RELEASED

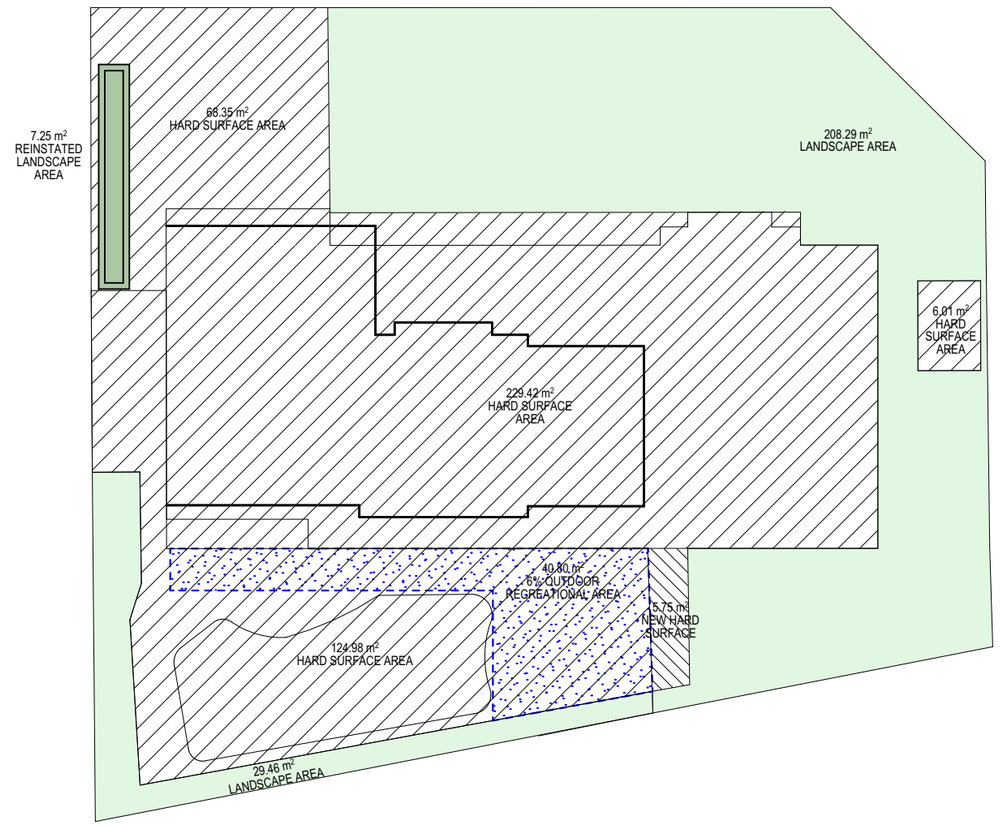
PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT:
BROOKS

DRAWING TITLE:
SPECS / BASIX

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	@ A3
JOB No: 1162/23	CHECKED BY: JJ	DRAWING No: **DA.11**



EXISTING LANDSCAPING CALCULATIONS



PROPOSED LANDSCAPING CALCULATIONS

CALCULATIONS			
SITE AREA			680.2m²
LANDSCAPE CONTROL		60%	408.12m²
EXISTING LANDSCAPED AREA		36%	243.5m²
REINSTATED LANDSCAPING AREA			7.25m²
TOTAL LANDSCAPED AREA		36%	245m²
EXISTING HARD SURFACE AREA		64%	436.32m²
HARD SURFACE AREA TO BE RETAINED			428.76m²
NEW HARD SURFACE AREA			5.75m²
TOTAL HARD SURFACE AREA		64%	434.51m²
PRIVATE OPEN SPACE		6%	40.8m²

TRUE NORTH:

NOTES (E & OE)
- All structures including stormwater & drainage to engineer's details.
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- New materials are to be used throughout unless otherwise noted.
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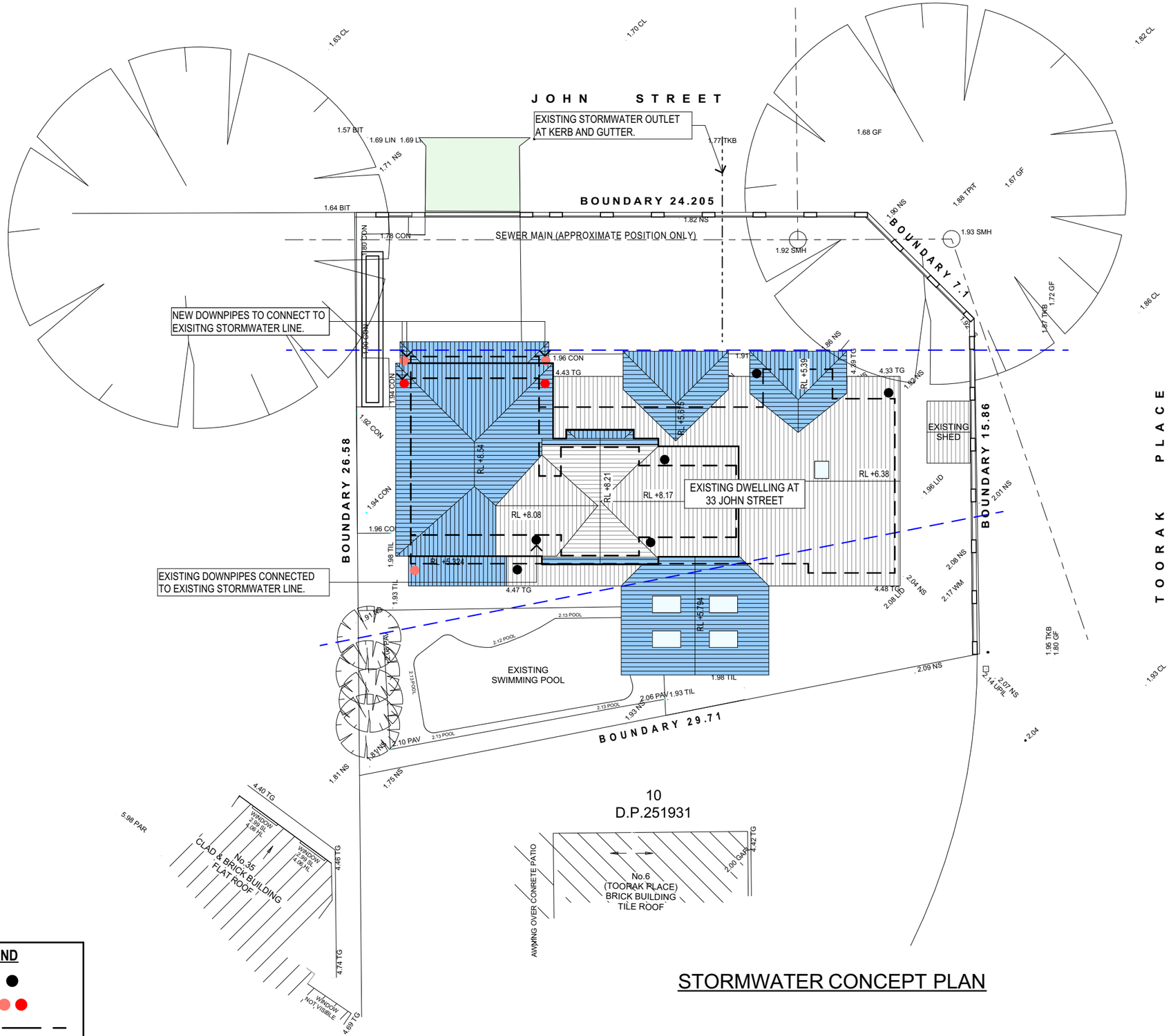
PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT:
BROOKS

DRAWING TITLE:
LANDSCAPED AREA CALCULATION PLAN

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:1, 1:200 @ A3
JOB No: 1162/23	CHECKED BY: JJ	DRAWING No: **DA.12**



STORMWATER CONCEPT LEGEND

- EXISTING DOWNPIPES
- NEW DOWNPIPES
- EXISTING STORWATER LINE
- NEW STORMWATER LINE

STORMWATER CONCEPT PLAN

TRUE NORTH:

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- New materials are to be used throughout unless otherwise noted.
- Concrete footings, slab, structural beams or any other structural members are to be designed by a practicing engineer.

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C	10/07/23	DEVELOPMENT APPLICATION RELEASED

PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT: BROOKS

DRAWING TITLE: ROOF & STORMWATER CONCEPT PLAN

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:200 @ A3
JOB No: 1162/23	CHECKED BY: JJ	DRAWING No: **DA.13**

NOTES

DESIGNATED SITE MANAGER/BUILDER

PRIOR TO COMMENCEMENT OF WORK A SITE MANAGER OR BUILDER MUST BE NOMINATED. THE SITE MANAGER OR BUILDER WILL BE RESPONSIBLE AND LIABLE FOR ALL WORKS CARRIED OUT ON THE SITE. THIS ASSUMES THE RESPONSIBILITY FOR THE ACTIONS OF ALL SUBCONTRACTED PARTIES AS WELL AS ADVISING THEM OF COUNCIL'S REQUIREMENTS WHEN CARRYING OUT WORKS.

TOPSOIL MANAGEMENT

PRIOR TO THE STRIPPING OF TOPSOIL, THE VEGETATIVE COVER MUST BE REDUCED BY EITHER SLASHING OR MOWING. ALL TOPSOIL IS TO BE RETAINED AND PROTECTED FOR REUSE ON SITE. SOIL STOCKPILES MUST NOT BE LOCATED ON NATURE STRIPS, FOOTPATHS, ROADWAYS, KERBS, ACCESSWAYS, WITHIN DRAINAGE LINES/FLOWS/PATHS OR AROUND OR AGAINST TREE SHRUBS. SEDIMENT CONTROL MEASURES MUST BE INCORPORATED WITH ANY RESULTING STOCKPILE. THE STOCKPILE CAN BE PROTECTED FROM EROSION BY COVERING IT WITH AN IMPERVIOUS MATERIAL, IN CONJUNCTION WITH THE INSTALLATION OF A SEDIMENT FENCE AROUND IT. IF STOCKPILES ARE TO REMAIN FOR MORE THAN ONE MONTH THEY ARE TO BE GRASSED IMMEDIATELY AND STABILISED WITHIN FOURTEEN DAYS. SURPLUS TOPSOIL MUST BE REASONABLY REMOVED FROM SITE.

BUILDING MATERIAL STOCKPILING

SUFFICIENT AREA MUST BE ALLOCATED WITHIN THE SITE FOR SUCH STORAGE OF BUILDING MATERIALS, DEMOLITION WASTE, WASTE CONTAINERS, ETC. AS WILL BE REQUIRED.

SEDIMENT FENCES

A SEDIMENT FENCE SHOULD BE LOCATED ALONG THE DOWNSLOPE BOUNDARY(S) OF THE SITE, ON THE CONSTRUCTION SIDE OF THE TURF FILTER STRIP OR NATIVE VEGETATION, AND AROUND ALL STOCKPILES OF MATERIAL ON THE SITE.

DUST CONTROL

ALL TRUCKS/UTES MUST COVER THEIR LOADS AT ALL TIMES. APPROPRIATE METHODS ARE TO BE EMPLOYED TO PREVENT BLOWING DUST CREATING AN UNACCEPTABLE HAZARD OR NUISANCE ON THE SITE OR DOWN WIND. PRODUCTION OF DUST CAN BE MINIMISED BY LIMITING AREA OF EARTHWORKS, WATERING AND PROGRESSIVE VEGETATION. WHERE DUST IS CREATED AS A RESULT WORKS AND/OR SOIL EXPOSURE, THE BARE SOIL AREAS MUST BE WATERED, DURING AND/OR AT THE END OF EACH DAY TO LAY THE DUST. EARTH MOVING ACTIVITIES SHOULD BE AVOIDED WHERE WINDS ARE SUFFICIENTLY STRONG ENOUGH TO RAISE VISIBLE DUST.

EROSION & SEDIMENT CONTROLS

APPROPRIATE EROSION AND SEDIMENT CONTROLS MUST BE IMPLEMENTED ON ALL SITES THAT INVOLVE SOIL DISTURBANCE. THE MEASURES MUST BE IN PLACE PRIOR TO THE COMMENCEMENT OF WORK. THOSE CONTROLS ARE TO BE MONITORED AND MAINTAINED IN ORDER TO SERVE THEIR INTENDED FUNCTION FOR THE DURATION OF THE WORKS OR UNTIL SUCH TIME AS THE SITE IS FULLY STABILISED. IF ANY CONTROLS ARE DAMAGED OR BECOME INEFFECTIVE DURING THE COURSE OF THE WORKS THEY ARE TO BE REINSTATED OR REPLACED IMMEDIATELY. SUFFICIENT ACCESS TO THESE CONTROLS MUST BE PROVIDED IN CASE OF THE NEED TO REPAIR.

SEDIMENT TRAPS

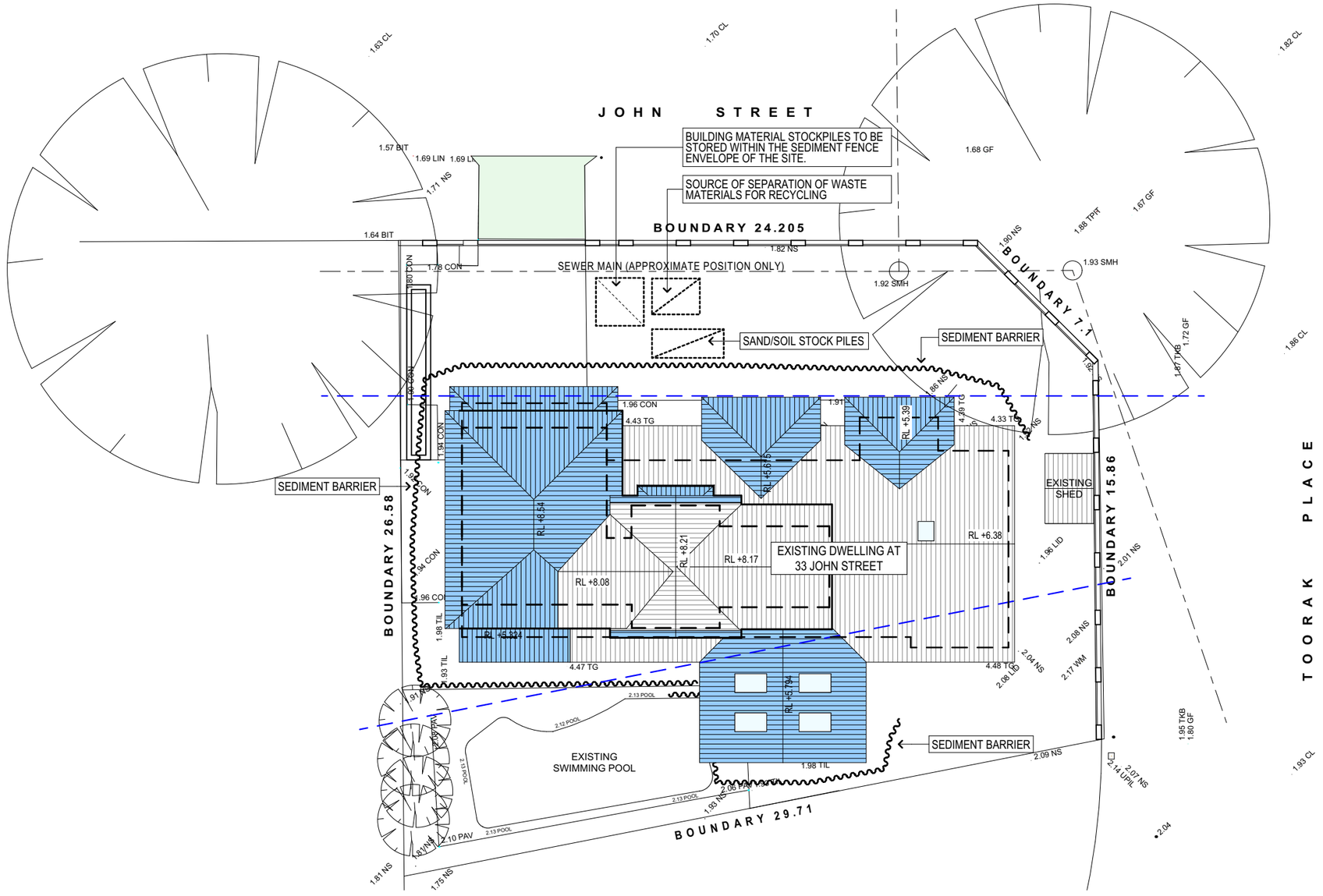
WHERE A SEDIMENT FENCE IS NOT USED APPROPRIATE SEDIMENT TRAPS SHOULD BE LOCATED AT ALL POINTS WHERE STORMWATER LEAVES THE CONSTRUCTION SITE OR LEAVES THE GUTTER AND ENTERS THE DRAINAGE SYSTEM. A COMMON TECHNIQUE IS THE GRAVEL SAUSAGE.

DIVERSION CHANNELS

A DIVERSION CHANNEL IS AN EXCAVATED EARTH DITCH OR PATH. THESE STRUCTURES ARE USED TO INTERCEPT AND DIRECT RUN-OFF TO A DESIRED LOCATION WHERE POSSIBLE. ALL STORMWATER RUN-OFF FLOWING ONTO DISTURBED AREAS, INCLUDING STOCKPILES, MUST BE INTERCEPTED, DIVERTED AND/OR SAFELY DISPOSED OF. THIS CAN BE ACHIEVED BY CONSTRUCTING A TEMPORARY EARTH BANK AROUND THE UPSLOPE EXTENT OF THE CONSTRUCTION SITE WHERE THE DIVERSION DOES NOT AFFECT THE NEIGHBOURING PROPERTIES.

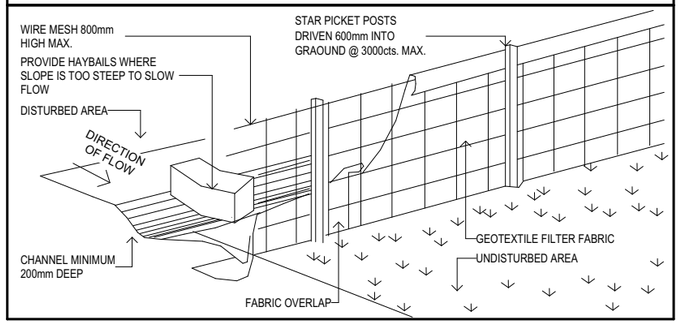
VEHICLE MOVEMENTS

TO LIMIT DISTURBANCE TO THE SITE AND TRACKING OF MATERIAL ONTO THE STREET ALL VEHICLES AND PLANT EQUIPMENT ARE TO USE A SINGLE ENTRY/EXIT POINT UNLESS COUNCIL HAS APPROVED ALTERNATIVE ARRANGEMENTS. ACCESS POINTS AND PARKING AREAS ARE TO BE STABILISED WITH COMPACTED SUB-GRADE ASAP AFTER THEIR FORMATION. IF SPILLAGE DOES OCCUR IT IS TO BE CONTAINED IMMEDIATELY AND CAREFULLY REMOVED. THE AREA AFFECTED IS TO BE RESTORED TO A STANDARD EQUAL TO OR BETTER THAN ITS PREVIOUS CONDITION. ALL VEHICLES ARE TO BE WASHED PRIOR TO EXISTING THE SITE. THIS SERVES THE PURPOSE OF REMOVING SITE MATERIAL ON THE VEHICLE AND PREVENTS IT FROM BEING DEPOSITED ON THE ROAD NETWORK ADJACENT TO THE SITE AND THUS, THE STORMWATER SYSTEM. NO VEHICLE ASSOCIATED WITH THE WORK IS TO BE PARKED ON A FOOTPATH OR PUBLIC RESERVE. ALL VEHICLES VISITING THE SITE DURING DEMOLITION, EXCAVATION AND/OR CONSTRUCTION WORKS, ARE TO COMPLY WITH THE PARKING REQUIREMENTS IN THAT AREA.

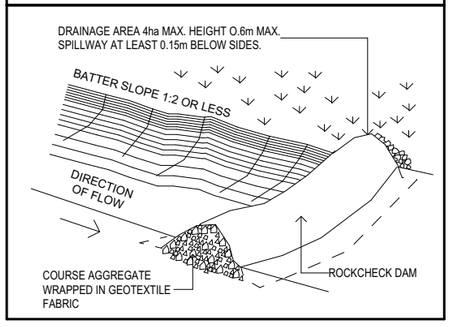


EROSION & SEDIMENT CONTROL PLAN

TYPICAL SEDIMENT FENCE - nts



TYPICAL DIVERSION CHANNEL - nts



TRUE NORTH:

NOTES (E & OE)
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- These drawings are to be read in conjunction with all other consultant's drawings and specifications.
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- Concrete footings, slab, structural beams or any other structural members are to be designed by a practicing engineer.

JJ Drafting Australia P/L.
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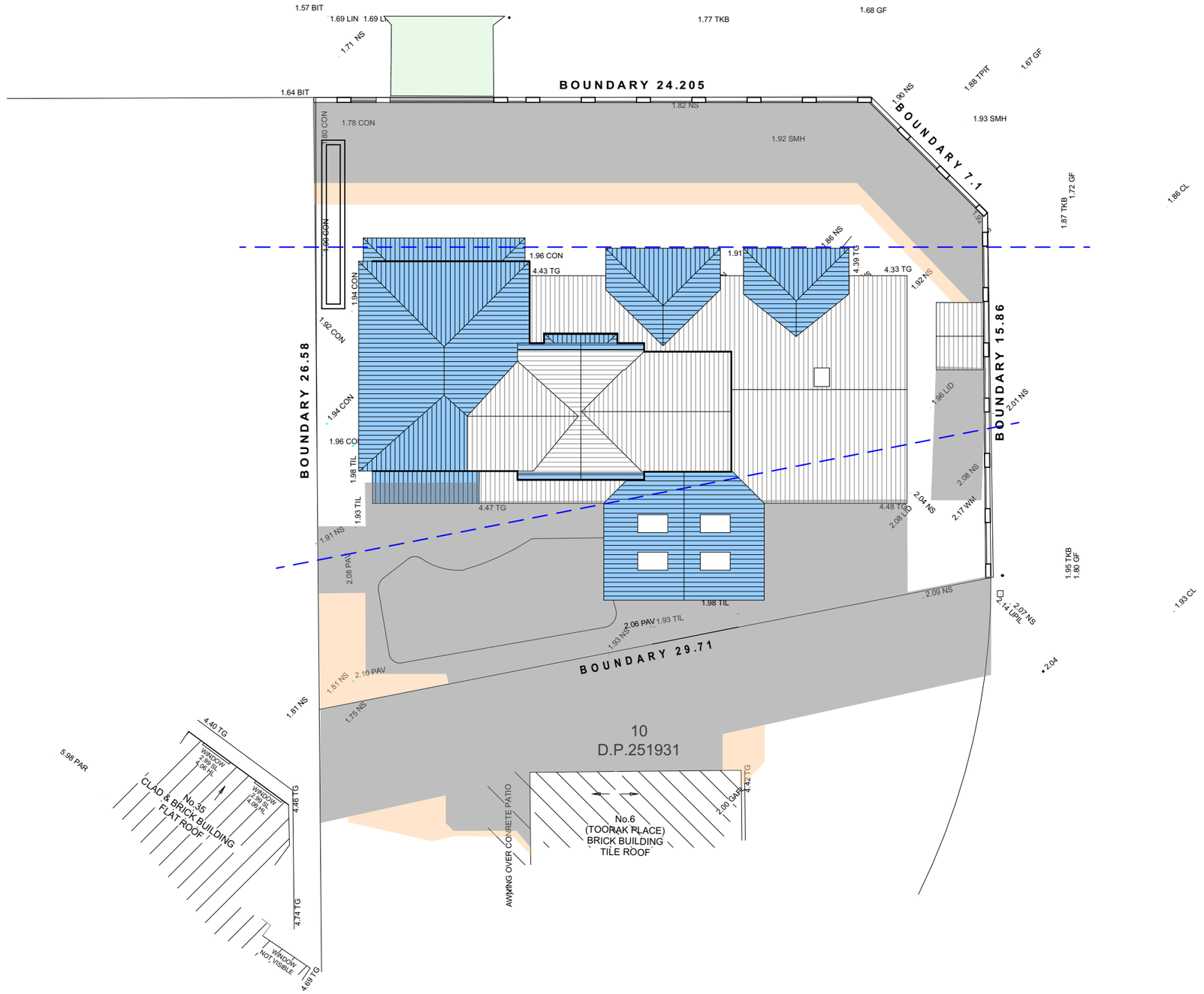
PO Box 687, Dee Why, NSW, 2099
Mob. 0414 717 541 | Email. jjdraft@tpg.com.au
www.jjdrafting.com.au
ACN 651 693 346

REV:	DATE:	DESCRIPTION:
A	22/06/23	PRELIM OPTIONS 1 & 2 SENT
B	29/06/23	REVISED PRELIM DRAWINGS
C	10/07/23	DEVELOPMENT APPLICATION RELEASED

PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT:
BROOKS

DRAWING TITLE:
EROSION & SEDIMENT CONTROL / WASTE MANAGEMENT PLAN

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:200 @ A3
JOB No:	CHECKED BY:	DRAWING No:
1162/23	JJ	**DA.14**



21 JUNE SHADOW DIAGRAM LEGEND

EXISTING SHADOWS

NEW SHADOWS

JUNE 21 SHADOWS 9AM

TRUE NORTH:

NOTES (E & OE)
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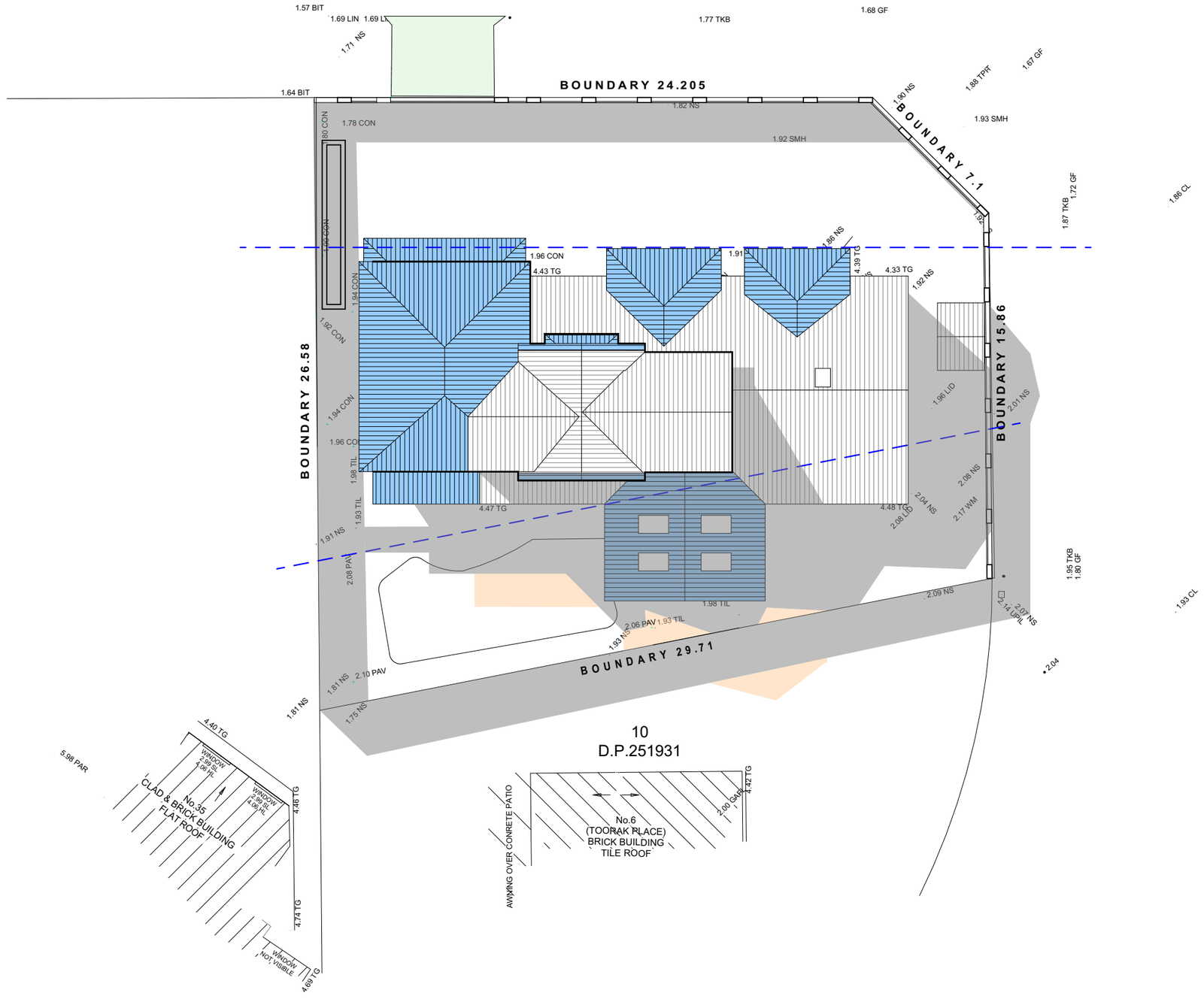
PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT:
BROOKS

DRAWING TITLE:
SHADOW DIAGRAM JUNE 21 9:00 am

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:200 @ A3
JOB No:	CHECKED BY:	DRAWING No:
1162/23	JJ	**DA.15**



21 JUNE SHADOW DIAGRAM LEGEND

EXISTING SHADOWS

NEW SHADOWS

JUNE 21 SHADOWS 12PM

TRUE NORTH:

NOTES (E & OE)

- All structures including stormwater & drainage to engineer's details.
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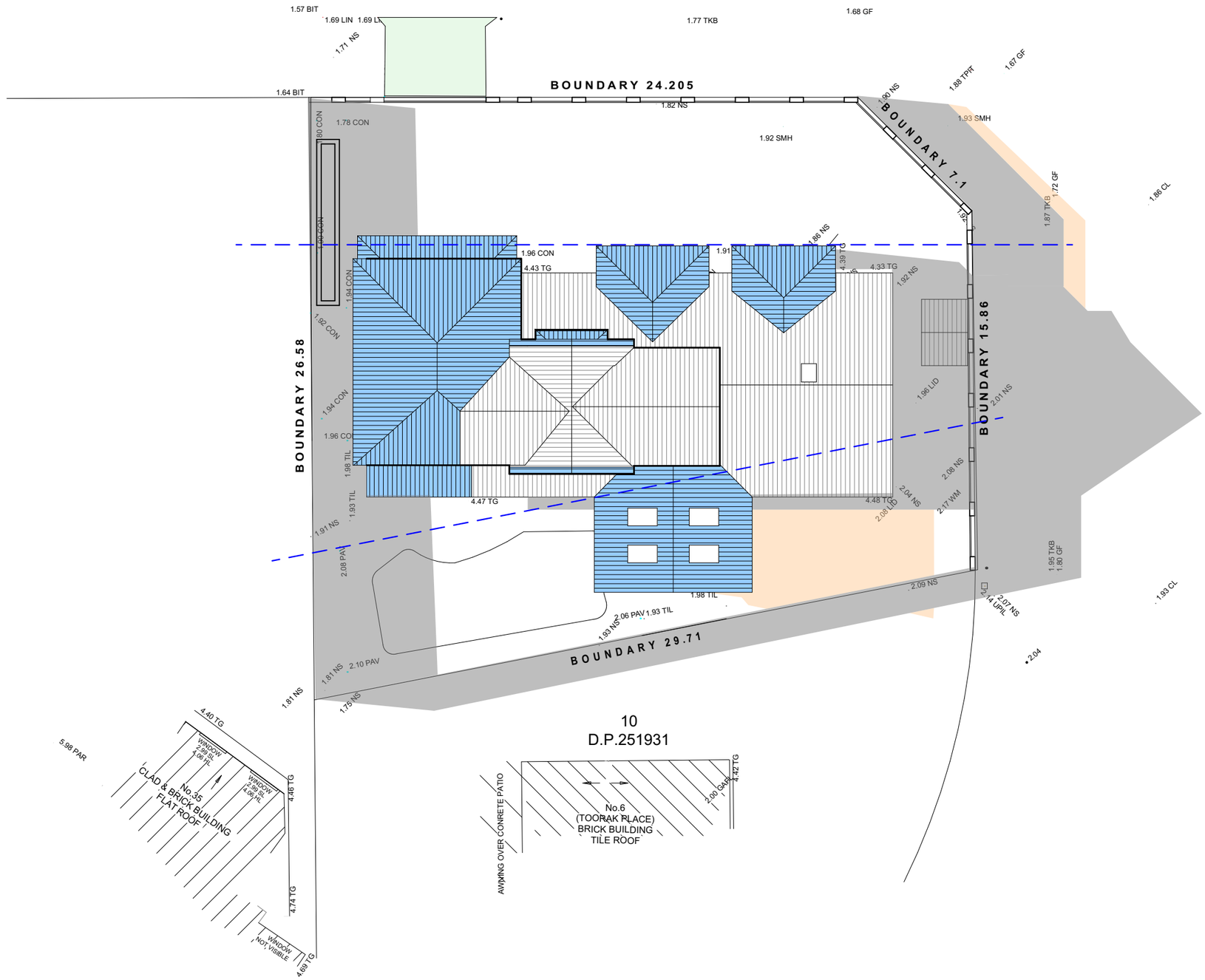
PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT:
BROOKS

DRAWING TITLE:
SHADOW DIAGRAM JUNE 21 12 noon

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:200 @ A3
JOB No:	CHECKED BY:	DRAWING No:
1162/23	JJ	**DA.16**



21 JUNE SHADOW DIAGRAM LEGEND

EXISTING SHADOWS

NEW SHADOWS

JUNE 21 SHADOWS 3PM

TRUE NORTH:

NOTES (E & OE)
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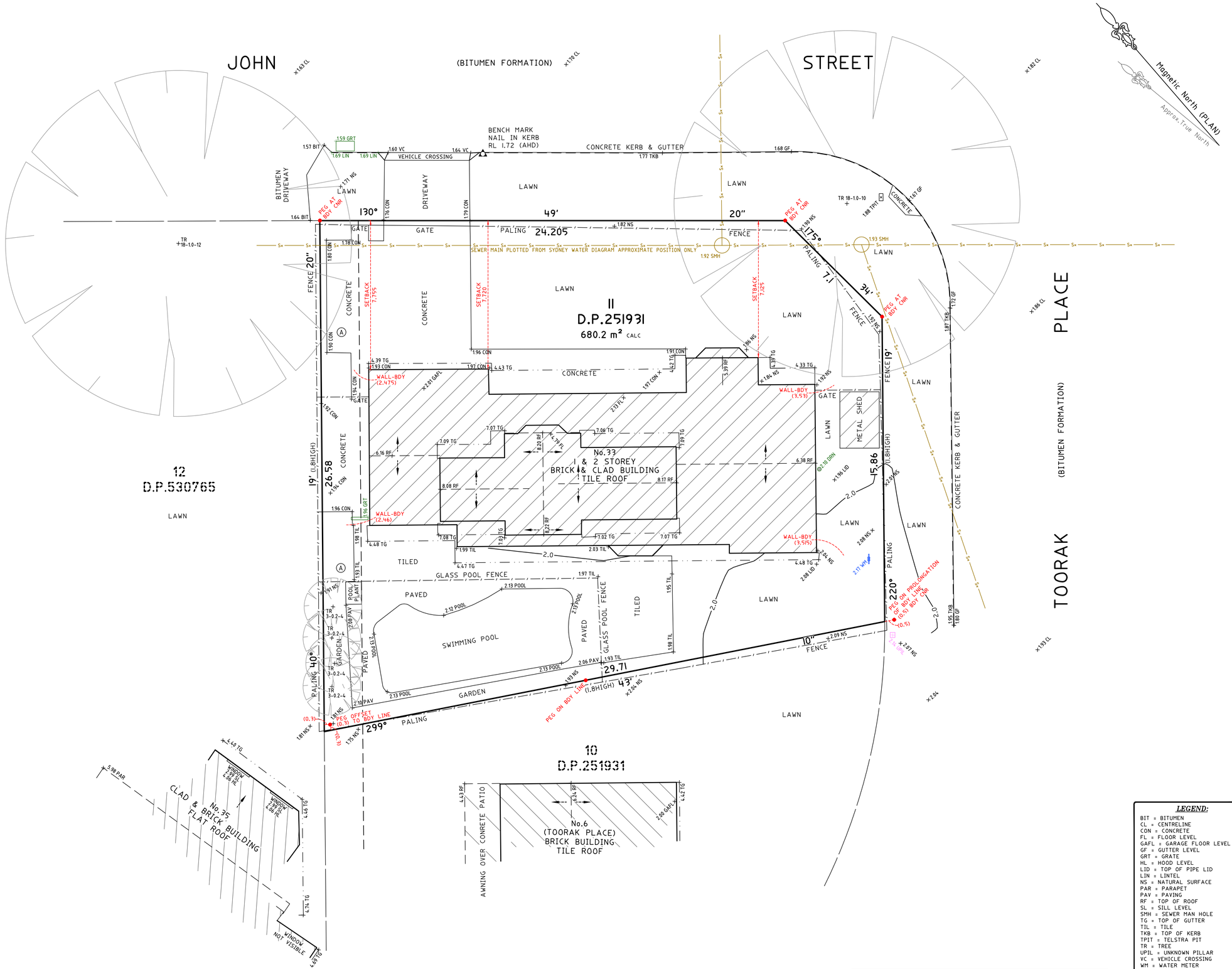
PROPOSED ALTERATIONS AND ADDITIONS
33 JOHN STREET AVALON NSW 2107
CLIENT:
BROOKS

DRAWING TITLE:
SHADOW DIAGRAM JUNE 21 3:00 pm

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:200 @ A3
JOB No:	CHECKED BY:	DRAWING No:
1162/23	JJ	**DA.17**

A1



NOTES:

- **BOUNDARY IDENTIFICATION HAS BEEN UNDERTAKEN.**
- **WALL TO BOUNDARY DIMENSIONS SHOWN HEREON MUST NOT BE USED FOR CONSTRUCTION.**
- **IF CONSTRUCTION IS INTENDED TO BE UNDERTAKEN ON OR ADJACENT TO PROPERTY BOUNDARIES THE BOUNDARIES OF THE LAND MUST BE MARKED OR THE BUILDING SETOUT.**
- **THIS SURVEY IS FOR DESIGN PURPOSES OF THE SUBJECT LAND ONLY. THIS PLAN MUST NOT BE USED FOR ANY OTHER MATTER, PURPOSE OR CONSTRUCTION SETOUT.**
- TREE SIZES ARE ESTIMATES ONLY.
- THIS PLAN HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF IAN BROOKS.
- RELATIONSHIP OF IMPROVEMENTS TO BOUNDARIES IS DIAGRAMMATIC ONLY. WHERE OFFSETS ARE CRITICAL THEY SHOULD BE CONFIRMED BY FURTHER SURVEY.
- EXCEPT WHERE SHOWN BY DIMENSION LOCATION OF DETAIL WITH RESPECT TO BOUNDARIES IS INDICATIVE ONLY.
- ONLY VISIBLE SERVICES HAVE BEEN LOCATED. UNDERGROUND SERVICES HAVE NOT BEEN LOCATED. BEFORE YOU DIG AUSTRALIA (www.byda.com.au) SHOULD BE USED AND A FULL UTILITY INVESTIGATION, INCLUDING A UTILITY LOCATION SURVEY, SHOULD BE UNDERTAKEN BEFORE CARRYING OUT ANY CONSTRUCTION ACTIVITY IN OR NEAR THE SURVEYED AREA.
- SEWER MAIN PLOTTED FROM SYDNEY WATER SEWER DIAGRAM. LOCATION SHOULD BE MARKED ON SITE IF CRITICAL.
- CRITICAL SPOT LEVELS SHOULD BE CONFIRMED WITH SURVEYOR.
- CONTOURS SHOWN DEPICT THE TOPOGRAPHY. THEY DO NOT REPRESENT THE EXACT LEVEL AT ANY PARTICULAR POINT. ONLY SPOT LEVELS SHOULD BE USED FOR CALCULATIONS OF QUANTITIES WITH CAUTION.
- CONTOUR INTERVAL – 0.5 metre. – SPOT LEVELS SHOULD BE ADOPTED.
- POSITION OF RIDGE LINES ARE DIAGRAMMATIC ONLY (NOT TO SCALE).
- THE INFORMATION IS ONLY TO BE USED AT A SCALE ACCURACY OF 1:100.
- DO NOT SCALE OFF THIS PLAN / FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED READINGS.

- THIS NOTICE MUST NOT BE ERASED.

KARL ROBERTSON
REGISTERED SURVEYOR BOSSI NUMBER 7835

TITLE INDICATES THAT LOT II IN D.P.251931 IS SUBJECT TO:

- RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- DP251931 RESTRICTION(S) ON THE USE OF LAND (NOT INVESTIGATED)
- (A) - DP251931 EASEMENT TO DRAIN WATER AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM

LEGEND:

BIT = BITUMEN
CL = CENTRELINE
CON = CONCRETE
FL = FLOOR LEVEL
GAFL = GARAGE FLOOR LEVEL
GF = GUTTER LEVEL
GRT = GRATE
HL = HOOD LEVEL
LID = TOP OF PIPE LID
LIN = LINTEL
NS = NATURAL SURFACE
PAR = PARAPET
PAV = PAVING
RF = TOP OF ROOF
SL = SILL LEVEL
SMH = SEWER MAN HOLE
TG = TOP OF GUTTER
TIL = TILE
TKB = TOP OF KERB
TPIT = TELSTRA PIT
TR = TREE
UPIL = UNKNOWN PILLAR
VC = VEHICLE CROSSING
WM = WATER METER
—— Sx —— = SEWER UNDERGROUND

TREE
SPREAD-DIAMETER-HEIGHT

1	FIRST ISSUE	19/05/2023

BEFORE YOU DIG www.byda.com.au Zero Damage - Zero Harm

0 1 2 3 4 5
SCALE 1:100

HORIZONTAL DATUM:
CO-ORDINATE SYSTEM: ASSUMED
MARKS ADOPTED: N/A

VERTICAL DATUM:
DATUM: AUSTRALIAN HEIGHT DATUM (AHD)
B.M. ADOPTED: PM 250
R.L. 10.257 (CLASS LC)
SOURCE: S.C.I.M.S. (28/04/2023)

CLIENT:

IAN BROOKS

LGA: NORTHERN BEACHES

BOUNDARY IDENTIFICATION AND DETAIL & LEVEL SURVEY OVER LOT 11 IN DP251931 No.33 JOHN STREET AVALON BEACH, NSW, 2107

CMS SURVEYORS PTY LTD
ACN 096 240 201
PO Box 463 Dee Why, NSW, 2099
2/99A South Creek Road, Dee Why, NSW, 2099
☎ (02) 9971 4802
✉ info@cmssurveyors.com.au
www.cmssurveyors.com.au

SURVEYED	DRAWN	CHECKED	APPROVED
NS	GP	NS	PB

SURVEY INSTRUCTION	SCALE	DATE OF SURVEY
22416	1:100@A1	15/05/2023

DRAWING NAME **22416detail** SHEET 1 OF 1 ISSUE **1**

CAD FILE 22416detail 1.dwg

APPENDIX D

Certificate of Existing Structural Adequacy

Certificate of Existing Structural Adequacy

Date: 24/07/2023 Job No. 2307018

Client: Ian Brooks Engineer: HS/CJ

Site: 33 John Street, Avalon Beach

Hannah Stubley & Cameron Jones of Northern Beaches Consulting Engineers P/L carried out a site inspection at the above property on 20 July 2023. The purpose of the visit was to inspect and comment on the capacity of the existing structure to support the proposed first floor addition as detailed in the approved architectural plans prepared by JJ Drafting. The plans generally detail alterations and additions to the ground floor and first floor.

The assessment consisted of a walk over style inspection of the building. The existing ground floor consists of external brick veneer walls and internal lightweight timber framed walls on a concrete slab floor. The existing first floor appears to be of lightweight construction. The existing ground floor level is 2.13m AHD and the existing first floor level is 4.79 AHD. The Flood Planning Level (FPL 2.44m AHD) is approximately 310mm above the existing ground floor level.

In summary, the existing foundations are generally considered sound and provide an adequate structure for the proposed works, provided that the recommendations within this certificate and the flood risk report (refer Flood Risk Report by NBCE) are complied with and that all structural works are certified during construction. Some minor cracking may occur as the building adjusts to the new load distribution, however, this is not expected to adversely affect the buildings overall structural integrity.

Note: This certification does not cover any defects to the structure that were not accessible at the time of inspection. If in the event that defects are uncovered during construction or become apparent after construction is complete, then the engineer should inspect the areas of concern and prepare a specification for remedial works. (These works will be carried out at hourly rates.)

Recommendations:

- The proposed ground floor addition and alterations must be designed and constructed to ensure structural integrity up to the Flood Planning Level (2.44m AHD), taking into account the forces of floodwater, wave action, flowing water with debris, buoyancy and immersion

- The proposed walls highlighted in Appendix A are to be designed and constructed to withstand hydrostatic forces and debris loading up to the PMF level (2.77m AHD). If the whole dwelling is not able to withstand flood forces from a PMF event, the shelter in place and existing structure below is to be designed as an independent structure to prevent the shelter in place being dragged with the structure around. This includes expansion joints around the shelter in place and existing structure below. Any beams supporting the structure around are not to run through the shelter in place.
- Should evidence of scour around the existing foundation be uncovered during construction, a geotechnical engineer is to inspect and confirm if the foundations need to be replaced.

Structural design of the proposed alterations has not been undertaken at this stage. The structural engineer responsible for those works must assess the existing structure and provide a suitable design in accordance with the architectural plans, the NCC BCA and Australian Standards.

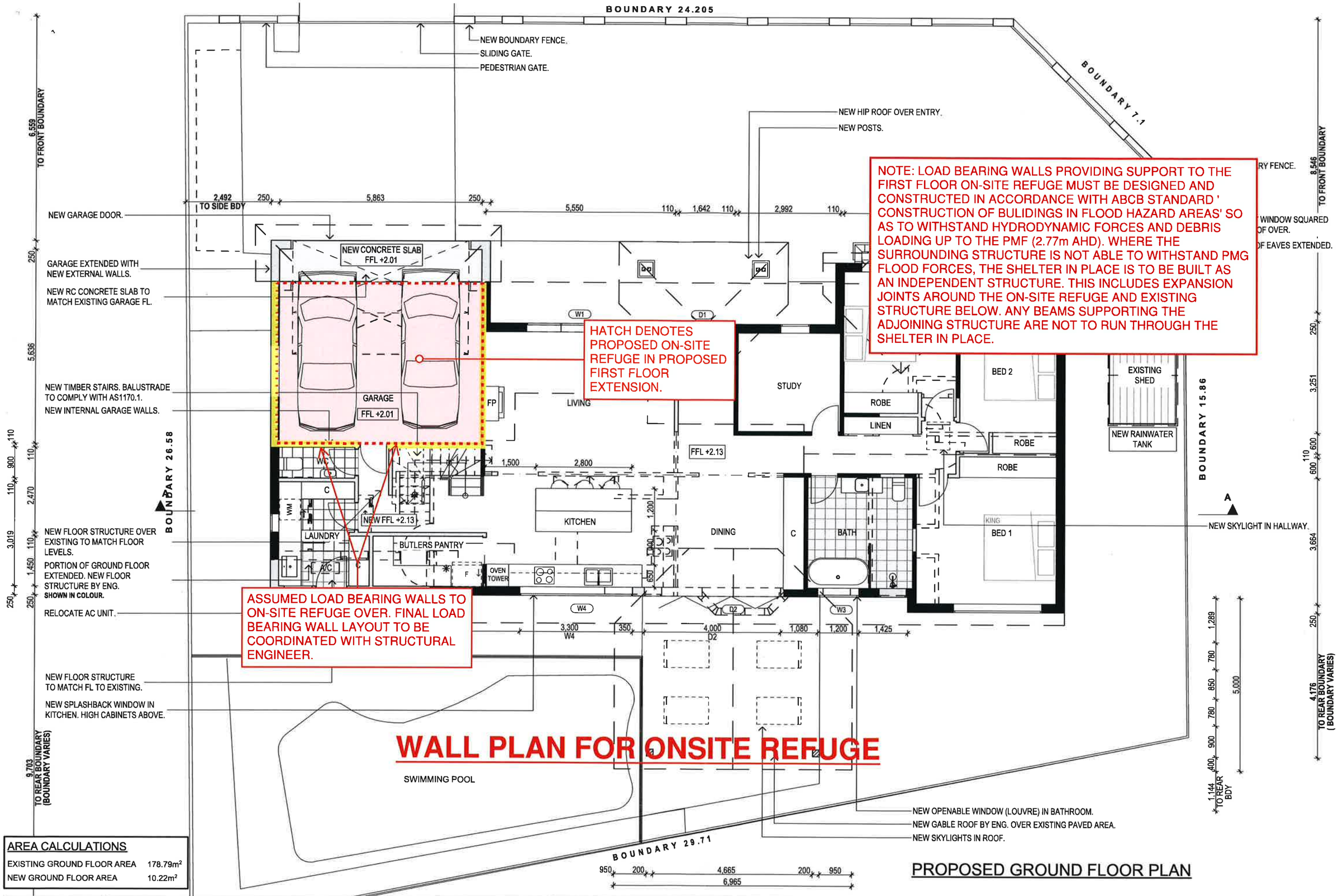
We trust that this certificate meets with your requirements. Please contact the author if further clarification is required.

NORTHERN BEACHES CONSULTING ENGINEERS P/L

Brad Seghers
B.E. (Hons), MIEAust, CPEng, NER.
(Director NB Consulting Engineers)

Y:\NBC PROJECTS\2307018 33 JOHN STREET, AVALON BEACH\ENG Design\SA001.docx

Appendix A – Wall plan for On-Site Refuge



WALL PLAN FOR ONSITE REFUGE

PROPOSED GROUND FLOOR PLAN

AREA CALCULATIONS

EXISTING GROUND FLOOR AREA	178.79m²
NEW GROUND FLOOR AREA	10.22m²

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CLIENT:
BROOKS

DRAWING TITLE:
GROUND FLOOR PLAN

DATE:	DRAWN BY:	SCALE:
JUNE/23	HR	1:100 @ A3
JOB No: 1162/23	CHECKED BY: JJ	DRAWING No: DA.06