FLOOD RISK MANAGEMENT PLAN

10 Lido Avenue
North Narrabeen

17 September 2020

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APPENDICES

1.0 INTRODUCTION

10 Lido Avenue, North Narrabeen is identified by Northern Beaches Council as being flood affected for the 1 in 100 year and Probable Maximum Precipitation (PMP) storm events. This document details the measures to be taken to ensure that the risks to both the proposed dwelling and occupants are managed and minimised in accordance with Section B3.11 of the Pittwater 21 Development Control Plan.

It is the intention of the author that copies of this plan are kept on site by The Owner where it can be produced for action in case of a significant storm event.

It is also intended that the emergency response signage be fixed to a wall in a clearly visible location. The Owner will ultimately be responsible for the implementation of this plan. The Owner will also be responsible for ensuring tasks are undertaken (or the delegation of those tasks) for major flood events.

The technical data referred to in this Section is drawn from the 2013 Narrabeen Lagoon Flood Study by BMT WBM.

2.0 Site Description

The site is located in the suburb of North Narrabeen and is situated approximately 200m to the west of the Narrabeen Lagoon foreshore. A site locality map is included in Appendix A as is a detail survey plan of the site.

The corner site covers 464m^2 in area which grades very slightly from the (rear) eastern to the (front) western boundaries. The site currently contains an existing single storey bungalow style dwelling which sits towards the front of the site.

The original section of the existing dwelling is constructed in timber and is thought to be approximately 50 years.

2.1 Proposed Works

The proposed works could be summarised as:

- Alterations to the ground floor layout
- A first floor addition
- A new open carport
- A new secondary dwelling

Architectural plans for the proposed works are attached in Appendix B.

3.0 FLOOD EVENTS

The site is identified as being flood affected for the 1 in 100 year and Probable Maximum Precipitation (PMP) storm events and maps illustrating subsequent flood hazard extents for the site are contained within Appendix C.

3.1 Forecasts and warnings

There are usually no specific warnings issued by the Bureau of Meteorology for North Narrabeen and as such the monitoring of general warnings for the Sydney metropolitan area 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 Owner 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 categorised by the 2013 Narrabeen Lagoon Flood Study as being affected by the 1 in 100 year and Probable Maximum Flood (PMF) events. A summary of Council flood information for the site is as follows:

- Flood Risk Precinct: High
- 1 in 100 year Flood Level: 3.03 m A.H.D.
- 1 in 100 year Flood level with climate change: 3.77m A.H.D.
- 1 in 100 year Flood Planning Level (FPL): 3.53m A.H.D.
- Existing dwelling ground floor level: 2.50m A.H.D.
- Probable Maximum Flood level (PMF): 4.9m A.H.D.

Note that the Council issued flood data for the site is contained within Appendix C.

3.3 Flood Behaviour

The site sits within the Narrabeen Lagoon catchment. The Narrabeen Lagoon Flood Study has determined that the site is at risk of significant inundation for major flood events.

The study has determined that during major storm events, the water level in Narrabeen Lagoon rises to such a level that tributaries to the lagoon 'back-up' and this will result in flooded roadways and watercourses which would otherwise drain flows away from around the subject.

To the west of the site is Lido Avenue and to the east is the main open waterway which drains a large proportion of the surrounding area to the lagoon; as such the site is vulnerable to inundation style flood events.

It is expected that a major flood event would typically be an event where flood waters of relatively low velocity would rise and fall over durations of typically less than 6 hours.

Note that a typical 1 in 100 year flood depth in the central portion of the relatively level site would be approximately 1.0m, albeit at relatively low velocity.

4.0 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 to the proposed dwellings on the site.

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.

4.1 The emergency trigger

It is critical to the success of this plan that during extremely heavy and intense rainfall events The Owner are able to closely monitor the drainage conditions in Lido Avenue and also the eastern portion of the site.

The initial trigger for commencement of the emergency response plan follows the observation of stormwater beginning to inundate the Lido Avenue roadway following extremely heavy and intense rainfall events.

Upon the visual confirmation of this trigger event the emergency responses described in Section 5 are to be enacted.

4.2 Time needed to respond

It is considered that a total period of 15 minutes would be required for The Owner to turn off the relevant mains and services and ensure that all persons within the premises have been notified and are located to the nominated emergency assembly point.

4.3 The emergency assembly point.

The emergency response to a flood event is to 'shelter-in-place' in the upper levels of the primary dwelling.

An emergency response plan showing that the upper levels of the primary dwelling is easily accessible and adequate to act as a refuge in a significant flood event is provided in Appendix D.

5.0 Owner RESPONSIBILITIES

The following section describes the on-going responsibilities of The Owner with respect to flood risk management.

5.1 Before the Flood

Trigger for action: Always

- The Owner will ultimately be responsible for the implementation of this plan. The Owner will be responsible for ensuring tasks are undertaken or delegating those tasks;
- Through a systematic induction process, all occupants are to be made aware of the possibility of flooding and the procedures to be followed if a flood were to occur;
- A copy of this plan is to be provided to all occupants, together with an Actions Checklist (Appendix E) and a single page notice (Appendix D);
- The Owner should continue to develop detailed procedures to support the actions required by this plan. Procedures will include clear responsibilities in the event of a flood, and back up resources should key persons not be present;
- The emergency response sign is to be permanently affixed to a wall in a highly visible external location.
- Check the facilities within the primary dwelling for use in a flood emergency, should occupants need to take shelter there. As a minimum these facilities comprise drinking water, toilets, blankets and emergency lighting.

5.2 When a Flood is Likely

Trigger for action: When the forecasts predict severe weather or significant amounts of rainfall (land is saturated) are observed

- The Owner will monitor weather forecasts and warnings; and
- The Owner to enact the emergency response plan
- The Owner should prepare for the emergency assembly to the nominated point.

5.3 During A Flood

Trigger for action: When floodwater has inundated the Lido Avenue roadway &/or the eastern portion of the site:

- The phases of the emergency response shall be:

➢ The Owner are to request all occupants to evacuate to the emergency assembly area in the upper levels of the primary dwelling.

➢ All occupants should be at the emergency assembly area by the time the flood waters start to significantly inundate the site.

➢ The Owner is to sweep the premises following emergency response to ensure

that all occupants have sought refuge to the emergency assembly area.

- The Owner is to turn off all power and water and other relevant services.
- The Owner is to retreat to the emergency assembly area.
- Emergency services to be notified by The Owner of the situation at the site (Appendix F).

5.4 After a Flood

Trigger for action: When emergency services give the all clear to return:

- No occupants should be allowed to leave the site while flooding is occurring or has recently occurred;
- Occupants can enter the site only after the all clear has been given by emergency services or Council;
- Where necessary, the site is to be checked by professionals before any re-use of the site;
- Where possible the Owner are to organise the safe removal of any flood debris from the site;
- The Owner are to arrange an inspection of the sub-floor area under the building and remove any flood debris if required.
- A de-brief is to be held between the occupants and The Owner and may involve emergency services and/or council staff. The flood event and response procedures, including the use of this plan, are to be reviewed; and
- Changes may be made to the plan and the requirements for future emergency evacuations should be reviewed and identify any improvements which may be necessary.

6.0 FLOOD COMPLIANCE

It is proposed to develop the site such that the objectives of Council's Flood Risk Management Policy are met.

6.1 Specific Controls

Section B3.11 of the Pittwater 21 DCP controls are to be applied to the proposed development:

<u>High Flood Risk Matrix – Residential Category</u>

		High Flood Risk						
		Critical Uses	Vulnerable Uses	Subdivision	Residential	Business & Industrial	Recreational & Environmental	Concessional
A	**Flood effects caused by Development**	A1 A3 A4	A1 A3 A4	A1 A3	A1 A3	A1 A3	A2 A3	A2 A3
B	**Drainage Infrastructure & Creek Works**	B1 B2	B1 B2	B1 B2	B1 B2	B1 B2	B1 B2	
C	**Building Components & Structural**	C1 C2 C3	C1 C2 C3		C1 C2 C3	C1 C2 C3	C1 C2 C3	C1 C2 C3
D	**Storage of Goods**	D1 D2	D1 D2		D1 D2	D1 D2	D1 D2	D1 D2
E	**Flood Emergency Response**	E1 E2 E3	E1 E2 E3	E1 E4	E1 E2	E1 E2 E3	E1	E1
F	**Floor Levels**	F2 F3 F7	F2 F3 F7	F5	F1 F2 F3 F6 F8	F2 F2 F3 F6 F8 F10	F2	F2 F3 F6
G	**Car Parking**	G1 G4 G6 G7 G9 G10	G1 G4 G6 G7 G9 G10	G1	G1 G2 G3 G4 G5 G6 G7	G1 G2 G3 G4 G5 G6 G7	G1 G2 G3 G4 G5 G6 G7	G1 G2 G3 G4 G5 G6 G7
H	**Fencing**	H1	H1	H1	H1	H1	H1	H1
I	**Pools**	I1	I1	I1	I1	I1	I1	I1

<u>Flood Effects Caused By Development</u>

A1 – *Development shall not be approved unless it can be demonstrated in a Flood Risk Management Report that it complies with the Flood Prone Lane Design Standard found on Council's webpage.*

Outcome – The provisions of this Flood Risk Management Report demonstrate that the flood risks have been adequately addressed in accordance with the provisions of the *Flood Prone Land Design Standard.*

A3 – *The applicant shall include in their submission calculations to illustrate that any fill or other structures that reduce the total flood storage are replaced by compensatory works*

Outcome – There are no significant ground level works external to the existing dwelling that will reduce the site's flood storage.

The proposed secondary dwelling is to be constructed on an open pier/footing system that will be above the 1 in 100 year flood level.

The proposed carport will be constructed with posts with open sides and at the existing ground level and will not reduce the site's flood storage.

Similarly the proposed pool is to be constructed in-ground and as such the site's available flood storage will not be significantly reduced.

<u>Drainage Infrastructure and Creek Works</u>

B1 - *Flood mitigation works or stormwater devices that modify a major drainage system, stormwater system, natural water course, floodway or flood behaviour within or outside the development site may be permitted subject to demonstration through a Flood Management Report that they comply with the Flood Prone Land Design Standard found on Council's webpage.*

Outcome – There are no significant works proposed for the existing site that will modify the existing flood behaviour and as such this requirement is satisfied.

B2 – *A Section 88B notation under the Conveyancing Act 1919 may be required to be placed on the title describing the location and type of flood mitigation works with a requirement for their retention and maintenance.*

Outcome – There are no significant works proposed for the existing site that will modify the existing flood behaviour and as such this requirement is not applicable.

Building Components and Structural Soundness

C1 – *All buildings 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 Committee (2006).*

Outcome – All new building elements below the Flood Planning Level of R.L. 3.53 m A.H.D. shall be constructed from flood compatible materials.

A table of equivalent flood compatible materials is contained within Appendix G.

C2 – *All structures must be designed and constructed to ensure structural integrity up to the Flood Planning Level, taking into account the forces of floodwater, wave action, flowing water with debris, buoyancy and immersion. Structural certification shall be provided confirming the above. Where shelter-in-place refuge is to be provided the structural integrity is to be to the Probable Maximum Flood level.*

Outcome – All new building elements are to be designed, constructed and/or modified to ensure structural integrity or immersion and impact of velocity and debris up to the level of the Probable Maximum Flood Level of R.L. 4.90 m A.H.D.

C3 – *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 that turn off all electricity supply to the property when flood waters are detected.

Outcome – All new electrical equipment, wiring, fuel lines and any other service pipes and connections are to be waterproofed to the Flood Planning Level.

All existing electrical equipment and power points located below the Flood Planning Level will have residual current devices installed that turn off all electricity supply to the property when flood waters are detected.

Storage of Goods

D1 – *Hazardous or potentially polluting materials shall not be stored below the Flood Planning Level unless adequately protected from floodwaters in accordance with industry standards.*

Outcome – The Owner is to ensure storage of toxic or potentially polluting goods, materials or other products, which may be hazardous or pollute floodwaters, will not be permitted below the Flood Planning Level.

D2 – *Goods, materials or other products which may be highly susceptible to water damage are to be located/stored above the Flood Planning Level.*

Outcome – The Owner is to ensure that storage of goods susceptible to water damage will not be permitted below the Flood Planning Level.

Flood Emergency Response

E1 – *Development shall comply with Council's Flood Emergency Response Planning for Development in Pittwater Policy and the outcomes of any Flood Risk Emergency Assessment Report where it applies to the land*.

Outcome – The emergency response as detailed in this report is to 'shelter-in-place' for significant flood events.

E2 – *New development must provide an appropriately sized area to safely shelter in place above the Probable Maximum Flood level and appropriate access to this area should be available from all areas within the development.*

Outcome – The emergency response is to shelter-in-place in the upper level of the primary dwelling which is easily accessible from all areas within the development.

Floor Levels

F1 – *New floor levels within the development shall be at or above, the Flood Planning Level. A reduced Flood Planning Level may be considered only where it is permitted in this Development Control Plan. The structure must be flood proofed (wet or dry) to the Flood Planning Level. This control cannot be applied to critical or vulnerable uses.*

Outcome – Complies as all proposed habitable floors will be constructed above the Flood Planning Level.

All works associated with the proposed alterations will be in accordance with Council's requirements for 'Building Components and Structural Soundness' as previously described in this report.

F2 – *All development structures must be designed and constructed so as not to impede the floodway or flood conveyance on the site, as well as ensuring no loss of flood storage in a 1% AEP Event.*

Outcome – The proposed works are not situated in an existing flood conveyance area and hence the existing flow regime will not be affected.

F3 – *Where the lowest floor has been elevated to allow the passage of flood waters, a restriction shall be imposed on the title of the land, pursuant to S88B of the Conveyancing Act confirming that the undercroft area is not to be enclosed.*

Outcome – This requirement is not applicable.

F6 – *Any existing floor level may be retained below the Flood Planning Level when undertaking a first floor addition provided that:*

(a) it is not located within a floodway;

(b) there is no increase to the building footprint below the Flood Planning Level

(c) it is flood proofed to the Flood Planning Level;

Outcome – The proposed works will not be located within a floodway. There will be no increase in building footprint below the flood planning level. The existing dwelling is to be flood proofed to the Flood Planning Level.

F8 – *The minimum floor level of any first floor additions shall be at or above the Probable Maximum Flood Level.*

Outcome – The proposed upper level addition will be constructed with a floor level of R.L. 5.80 which is above the PMF level of R.L. 4.8 m.

Car Parking

G1 - *Open carpark areas and carports shall not be located within a floodway.*

Outcome – Complies as the new carport is to be located in an area which is not considered to be a floodway.

G2 - *The lowest floor level of open carparks and carports (unroofed or with open sides) shall be constructed no lower than the natural ground levels.*

Outcome – Complies as the new carport is to be constructed at the existing ground level.

G3 - *All enclosed car parks must be protected from inundation up to the relevant flood planning level.*

Outcome – No enclosed carpark area is proposed.

G4 - *Vehicle barriers or restraints are to be provided to prevent floating vehicles leaving the site where there is more than 300mm depth of flooding in a 1% AEP flood events.*

Outcome – Restraints are to be provided to prevent vehicles floating away as the 1 in 100 year flood depth at the carport is expected to be approximately 1000mm.

G5 - *Enclosed Garages must be located at or above the 1% AEP level*

Outcome – No enclosed garage area is proposed.

G6 - *Enclosed Garages must be located at or above the 1% AEP level*

Outcome – No enclosed garage area is proposed.

G7 - *Where a driveway is required to be raised it must be demonstrated that there is no loss to flood stage in the 1% AEP flood event and no impact on flood conveyance through the site.*

Outcome – No new driveway is proposed.

Fencing

H1 - *Fencing, including pool fencing, shall be designed so as not to impede the flow of flood waters and not to increase flood affectation on surrounding land. Appropriate fencing must comply with the Flood Prone Land Design Standard in addition to other regulatory requirements of pool fencing.*

Outcome – No new fence elements are proposed.

Pools

I1 - *Pools located within the 1% AEP flood extent are to be in-ground, with coping flush with natural ground level.*

Outcome – The proposed pool coping is to be situated as close to the existing ground surface level as possible. Note that the pool is not located within an existing floodway area and any loss of flood storage associated with the provision of the pool is not expected to be significant.

7.0 SUMMARY

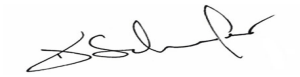
This report is a plan for the site for major flood events to be incorporated by The Owner into the on-going management protocols for the site to manage the flood risks.

The report contains procedural information to ensure the safety of occupants during flood events and also to ensure the satisfactory performance of any new building elements.

The recommendations and strategies within this report ensure compliance with Pittwater 21 DCP Section B3.11 Flood Prone Land.

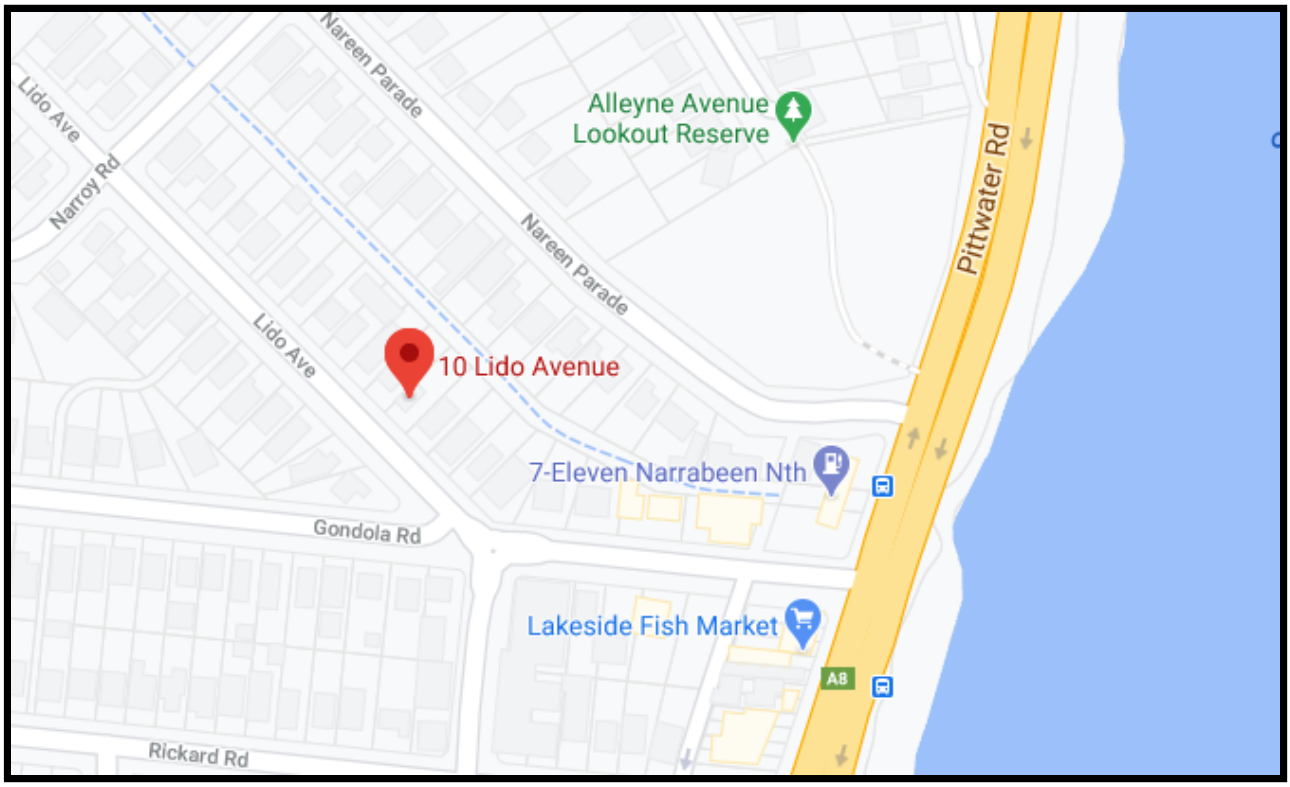
Should you have any questions or queries please do not hesitate to contact the undersigned.

TAYLOR CONSULTING



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

Appendix A



Locality Map - 10 Lido Avenue, North Narrabeen

Appendix B

LEGEND

EB - EDGE OF BITUMEN
EC - EDGE OF CONCRETE
TB - TOP OF BANK
BB - BOTTOM OF BANK
TW - TOP OF WINDOW
BW - BOTTOM OF WINDOW
TG - TOP OF GUTTER
RR - ROOF RIDGE
FL - FLOOR LEVEL
INV - INVERT LEVEL
ELEC - ELECTRICAL PIT
Ø.4/S10/H16 - TREE DIAMETER/SPREAD/HEIGHT

BOUNDARIES HAVE NOT BEEN LOCATED BY SURVEY. THE BOUNDARIES SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM THE TITLE DEPOSITED PLAN AND ARE APPROXIMATE RELATIVE TO THE DETAIL SURVEY.

LIDO AVENUE

LOT 328
DP 16719

TWO STOREY
RENDERED RESIDENCE
No.12
METAL ROOF

BRICK STRUCTURE

LOT 329
DP 16719
461.6m² By Title
464.5m² By Survey

SINGLE STOREY
WEATHERBOARD & RENDERED RESIDENCE
No.10
TILE ROOF

DECK R.L. 2.44

TIMBER SHED

METAL SHED

LOT 330
DP 16719

SINGLE STOREY
WEATHERBOARD RESIDENCE
No.08
METAL ROOF

DRAINAGE RESERVE

LOT 2
DP 235522

BENCHMARK
NAIL IN DWY
RL 1.87 AHD

Ø.6/S10/H12

Ø.8/S6/H15

LEGEND

BENCH MARK	▲
TELSTRA PIT	TEL
ELECTRIC LIGHT POLE	LP
POWER POLE	PP
SIGN POST	SP
SEWER INSPECTION PIT	SIP
SEWER VENT	SEWER
MANHOLE	MH
SEWER MANHOLE	SMH
STOP VALVE	SV
WATER HYDRANT	HYD
WATER METER	WM
GAS METER	G
STATE SURVEY MARK	SSM

NOTE:

THE BOUNDARY INFORMATION SHOWN ON THIS PLAN REGARDING THE LOCATION OF THE PROPERTY BOUNDARIES HAS BEEN TAKEN FROM THE TITLE DEPOSITED PLAN. IT HAS BEEN PLOTTED AS REQUIRED UNDER *DIVISION 1, SECTION 9.(1)* OF THE "*SURVEYING AND SPATIAL INFORMATION REGULATION 2017*" AND IS ACCURATE TO ABOUT ±0.05m. IT HAS NOT BEEN DETERMINED BY AN ACCURATE BOUNDARY SURVEY.

A DETAIL & LEVEL SURVEY IS NOT A "LAND SURVEY" AS DEFINED BY THE SURVEYING AND SPATIAL INFORMATION ACT, 2002. IF ANY CONSTRUCTION OR DESIGN WORK, WHICH RELIES ON CRITICAL SETBACKS FROM THE STREET OR BOUNDARIES IS PLANNED, IT WOULD BE IMPERATIVE TO CARRY OUT FURTHER SURVEY WORK TO DETERMINE THE BOUNDARY DIMENSIONS.

PRIOR TO ANY CONSTRUCTION WORK, SURVEY MARKS SHOULD BE PLACE TO DEFINE THE PROPERTY BOUNDARIES.

SERVICES SHOWN ARE INDICATIVE ONLY. POSITIONS ARE BASED ON SURFACE INDICATOR(S) LOCATED DURING FIELD SURVEY. CONFIRMATION OF THE EXACT POSITION SHOULD BE MADE PRIOR TO ANY EXCAVATION WORK. OTHER SERVICES MAY EXIST WHICH ARE NOT SHOWN.

LEVELS ARE BASED ON AUSTRALIAN HEIGHT DATUM (AHD) USING PM 5315 WITH RL 1.631 (AHD).

RIDGE & GUTTER HEIGHTS HAVE BEEN OBTAINED BY INDIRECT METHOD AND ARE ACCURATE TO ± 0.05m.

CONTOURS SHOWN DEPICT THE TOPOGRAPHY. EXCEPT AT SPOT LEVELS SHOWN THEY DO NOT REPRESENT THE EXACT LEVEL AT ANY PARTICULAR POINT. THE SPOT LEVELS ARE TRUE FOR THEIR POSITION, AND ARE INTENDED TO BE USEFUL TO REPRESENT THE GENERAL TERRAIN. CARE SHOULD BE TAKEN IF EXTRAPOLATING.

RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
D374110 COVENANT

0 1 2 3 4 5 10m
BAR SCALE
PLOTTED SCALE 1:100 (A2 SIZE SHEET)

TSS TOTAL SURVEYING SOLUTIONS
LANE COVE | CAMDEN | MANLY VALE | CENTRAL COAST

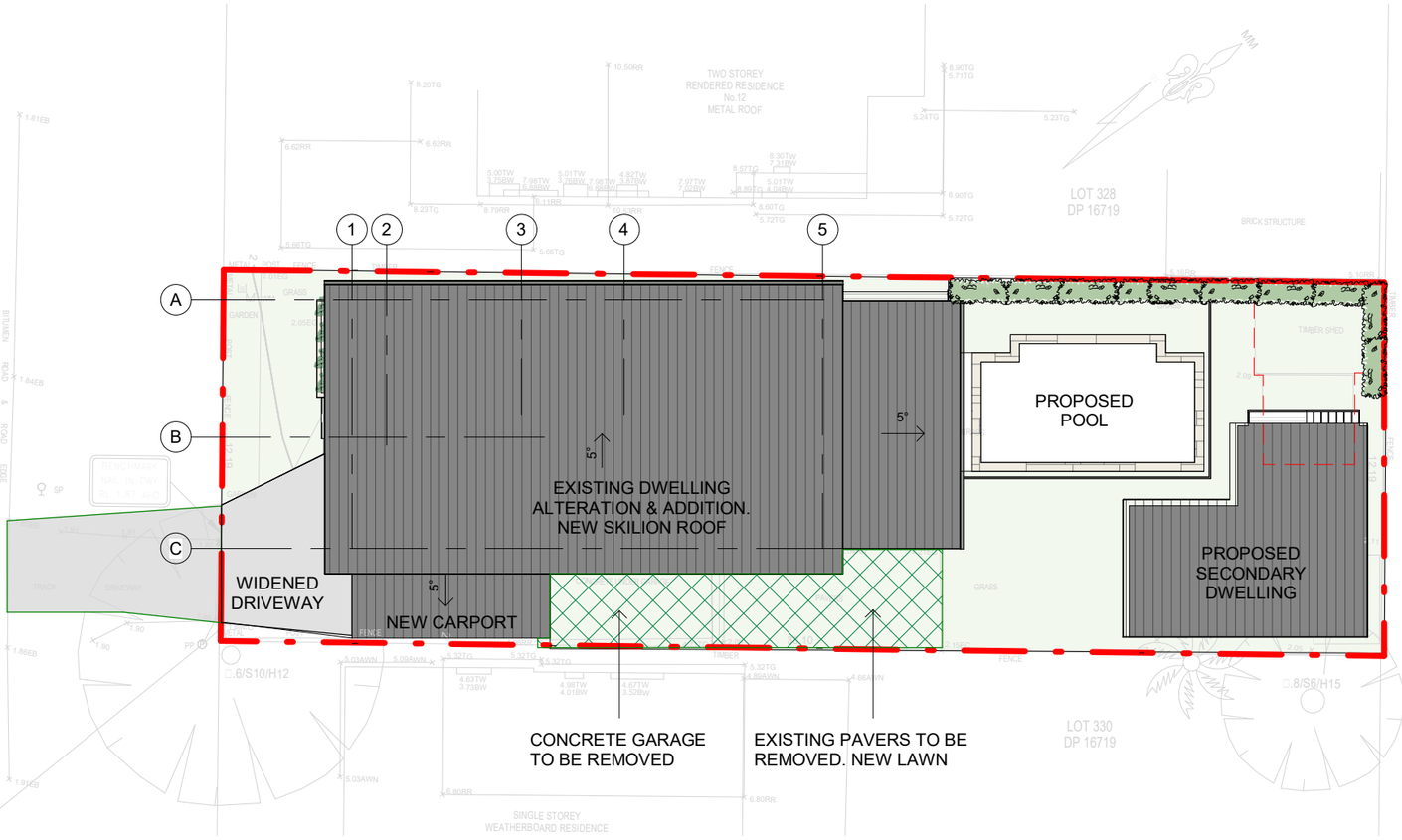
REVISION No.	REVISION DATE:	COMMENT:

PLAN SHOWING DETAIL & LEVELS
OVER LOT 329 IN DP 16719

CLIENT:	BUILD PLUS CONSTRUCTIONS
PROJECT:	NORTH NARRABEEN
ADDRESS:	10 LIDO AVENUE, NORTH NARRABEEN

JOB No.: 191901	LGA: NORTHERN BEACHES
PLAN No.: 191901_A	DATUM: AHD
DATE: 15/08/2019	SCALE: 1:100@A2
DRAWN: RC	CONT. INTERVAL: 0.25m
CHK: GS	SHEET 1 OF 1

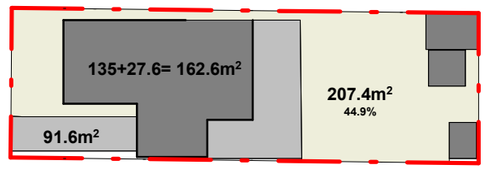
10 LIDO AVE
NORTH NARRABEEN



1 SITE PLAN

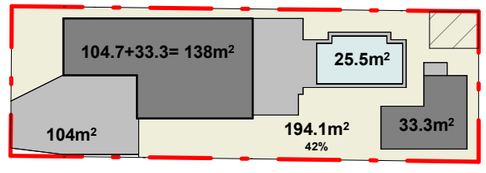
A100 | 1 : 200

CALCULATION TABLE			
ZONE	R2 - LOW DENSITY RESIDENTIAL		
HAZARDS	high flood risk		
SITE AREA	461.6 m²		
LANDSCAPE	50%		
MAX. BUILDING HEIGHT	Hmax = 8.5 m OR Hmax = 8.0m ABOVE FPL		
BUILDING ENVELOPE	3.5m - SIDE BOUNDARY ENVELOPES		
	EXISTING	DEMOLISHED	PROPOSED
GROSS FLOOR AREA	102.3m²	13.2m²	98m² + 105.7m² = 203.7m²
SITE COVERAGE (pool incl.)	162.6 m² / 35.2%	30.3m²	104.7m² + 33.3m² + 25.5m²= 163.5m² / 35.4%
HARD SURFACE	91.6 m²	27m² (pavers)	104m²
SHED(s) backyard	28m²	28m²	-
SEC. DWELLING	-		33.3m²
POOL WATER SURFACE	-		25.5m²
SOFT LANDSCAPING	207.4m² / 44.9%	-	194.1m² / 42% (+6% viariation = 48%)
FLOOR SPACE RATIO	0.28:1	-	0.51:1



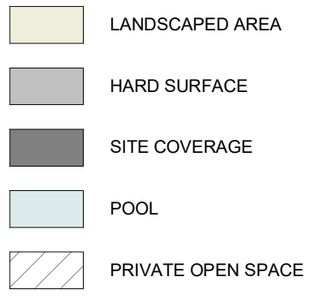
3 SITE PLAN CALC. - EXISTING

A100 | 1 : 500



4 SITE PLAN CALC. - PROPOSED

A100 | 1 : 500



Site Plan Calc. Legend

1 : 500

NOTES:

1. Demolition works to be carried out in accordance with the requirements of A2601-2001 The Demolition of Structures. Also in compliance with work cover authority of NSW requirements, including but not limited to:
   - Protection of site workers and the general public
   - Asbestos handling and disposal where applicable
2. Termite protection to be in accordance with AS 3600.1
3. All construction to comply with current BCA codes and Australian Standards.
4. Stormwater system to be connected to existing.
5. All timber framing shall comply with AS1684
6. These documents must be read in conjunction with all the sub-consultants reports and recommendations. The architectural documents form part of the total construction set and are not to be taken as exclusively being the building construction documents
7. Eaves within 900mm of allotment boundries are to be constructed of non-combustible materials. eaves must not be within 450mm of allotment boundaries as required by part 3.7.1 of BCA
8. Smoke alarms to be installed in accordance with BCA 3.7.5 vol.2 2019
9. Sediment & Erosion control are to be installed and maintained during the life of the project

POOL NOTES:

1. Pool overflow to be connected to existing Sewer System
2. Pool fencing to be designed, located and maintained in accordance with the swimming pools act 1992, Regulation Pools Act 1992, Regulation and Australian Standard 1926.1 & comply with BCA Vol.2, Housing Provisions, Part 3.9.3 and AS1926.1. The min H of pool fence balustrade is 1200mm and openings not grater than 105mm

ALL BUILDING WORKS MUST BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING CODE OF AUSTRALIA (BCA) AND AUSTRALIAN STANDARDS

Do not scale from plans. All dimensions and levels shown on plan are subject to confirmation on site.

ISSUE	DATE	DESCRIPTION	DRWN	CHKD
-	25.09.2019	EXISTING	MN	-
	17.12.2019	PRE-DA PLANS	MW	KM
1	27.08.2020	DA ISSUE	MN	KM

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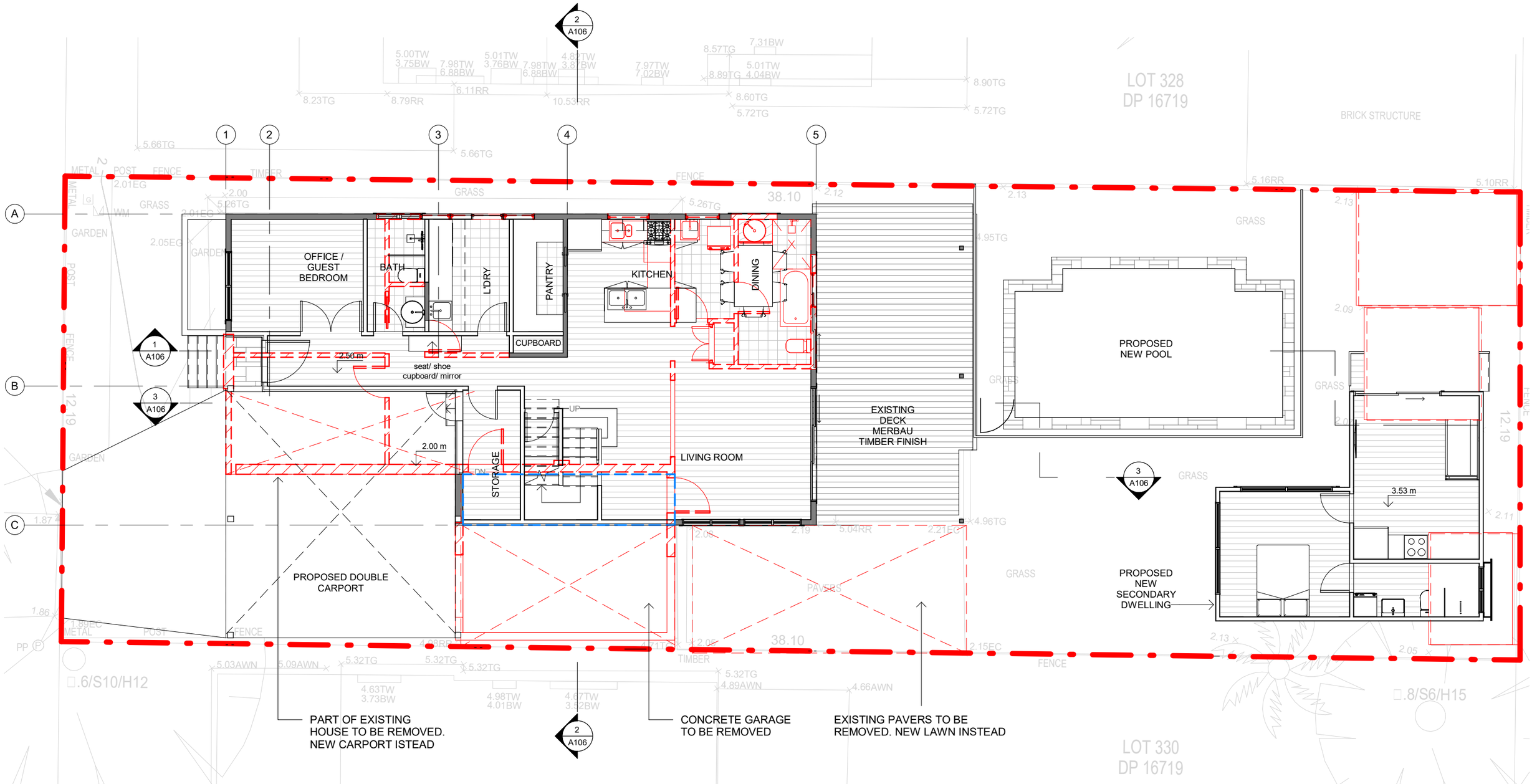
www.blueskybuildingdesigns.com.au

PROJECT TITLE:	Alteration & Addition; Pool; Sec. dwell.
PROJECT NO.:	2019044
AT:	10 LIDO AVE NORTH NARRABEEN
FOR:	Katie & Kelvin King
SHEET TITLE:	SITE PLAN
SHEET NO:	A100
SCALE A3:	As indicated



1 GFL_DEMOLITION

A101 | 1 : 100

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-	25.09.2019	EXISTING	MN	-
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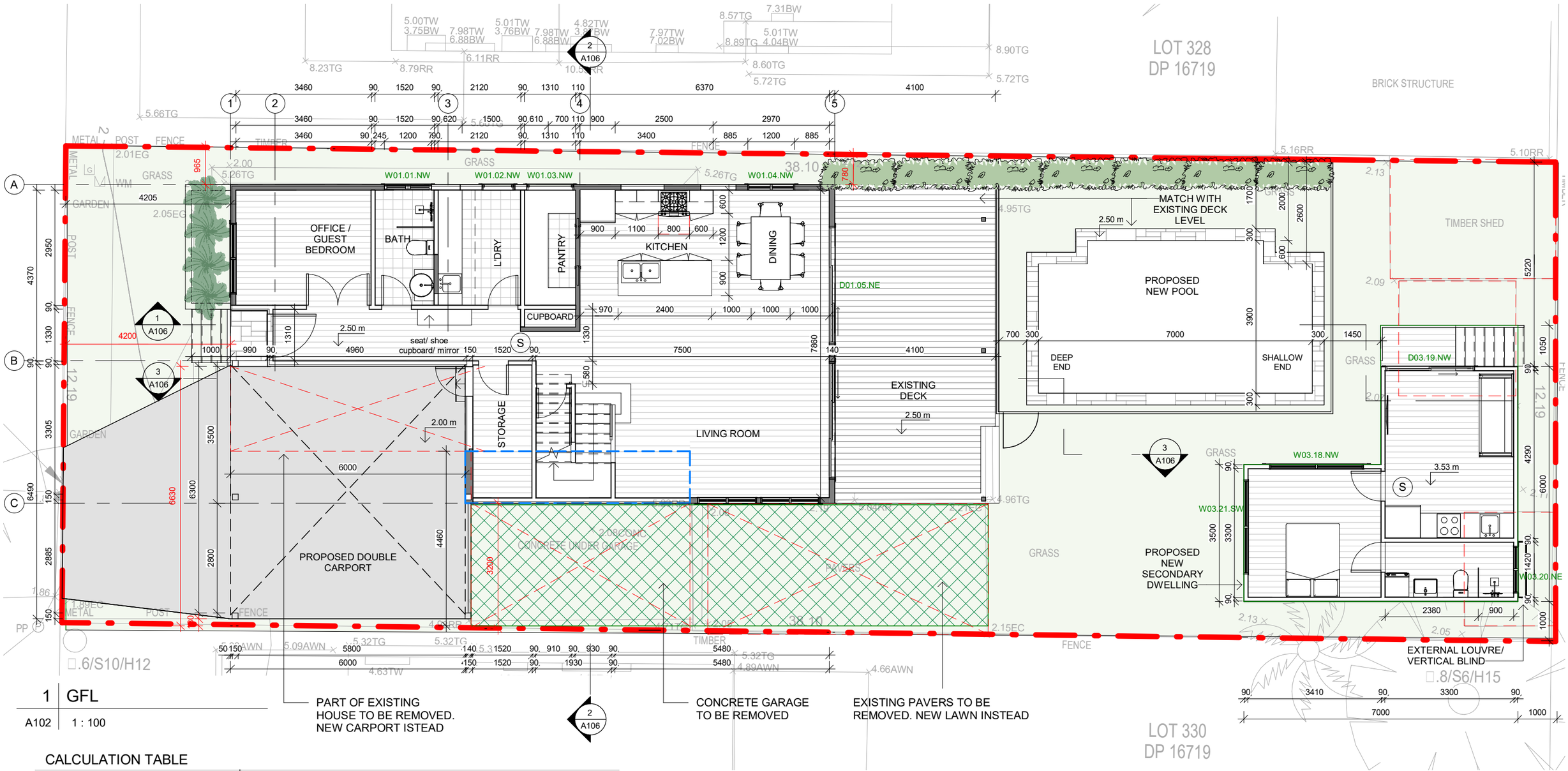
PROJECT NO.:	2019044
AT:	10 LIDO AVE NORTH NARRABEEN
FOR:	Katie & Kelvin King
SHEET TITLE:	DEMOLITION PLAN
SHEET NO:	A101
SCALE A3:	1 : 100



1 | GFL
A102 | 1 : 100

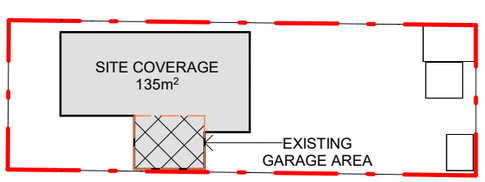
PART OF EXISTING HOUSE TO BE REMOVED. NEW CARPORT ISTEAD

CONCRETE GARAGE TO BE REMOVED

EXISTING PAVERS TO BE REMOVED. NEW LAWN INSTEAD

CALCULATION TABLE

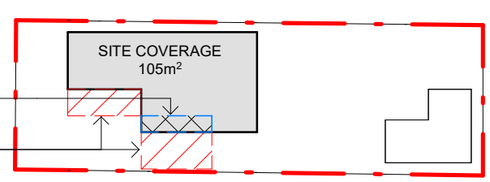
	EXISTING	DEMOLISHED	PROPOSED
GFL GROSS FLOOR AREA	102.3m²	13.2m²	98m²
TOTAL GROSS FLOOR AREA	102.3m²	13.2m²	98m² + 105.7m² = 203.7m²
SITE COVERAGE (MAIN DWELLING)	135 m² / 29.2%	30.3m²	104.7m² / 22.7%
TOTAL SITE COVERAGE (pool incl.)	162.6 m² / 35.2%	58.3m²	104.7m² + 33.3m² +25.5m²= 163.5m² / 35.4%
MAIN DWELLING EXTENSION	-	-	8m² (within footprint of existing garage)
HARD SURFACE	91.6 m² / 19.8%	27m² (pavers)	104m² / 22.5%



2 | _FLOOD HAZZARD - GFL CALC._EXISTING
A102 | 1 : 500

EXTENDING HOUSE INTO EXISTING GARAGE AREA 8m²

DEMOLITION 30m²



3 | _FLOOD HAZZARD- GFL CALC._PROPOSED
A102 | 1 : 500

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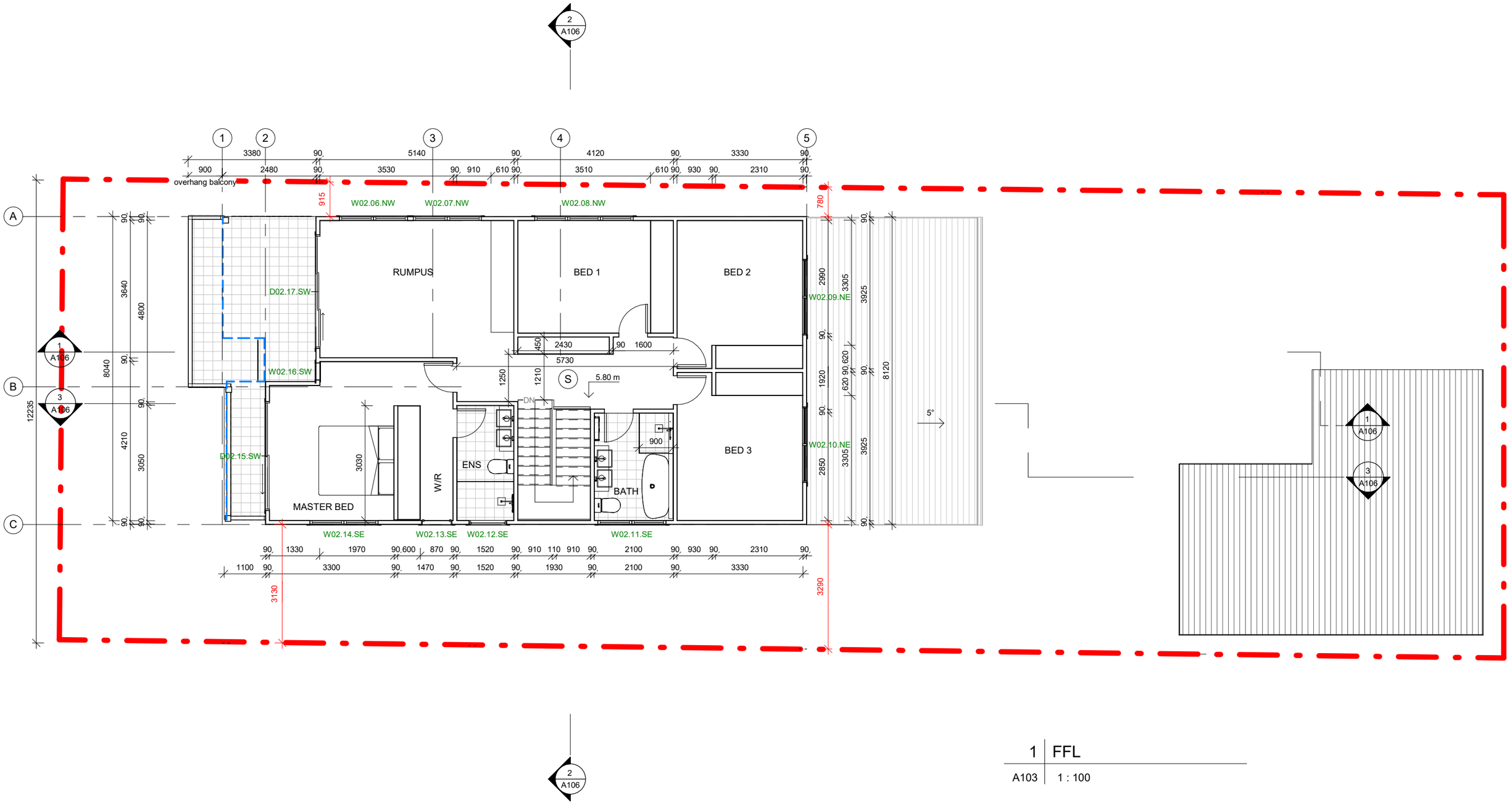
PROJECT TITLE:	Alteration & Addition; Pool; Sec. dwell.
PROJECT NO.:	2019044
AT:	10 LIDO AVE NORTH NARRABEEN
FOR:	Katie & Kelvin King
SHEET TITLE:	GROUND FLOOR PLAN
SHEET NO:	A102
SCALE A3:	As indicated



1 | FFL

A103 | 1 : 100

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-	25.09.2019	EXISTING	MN	-
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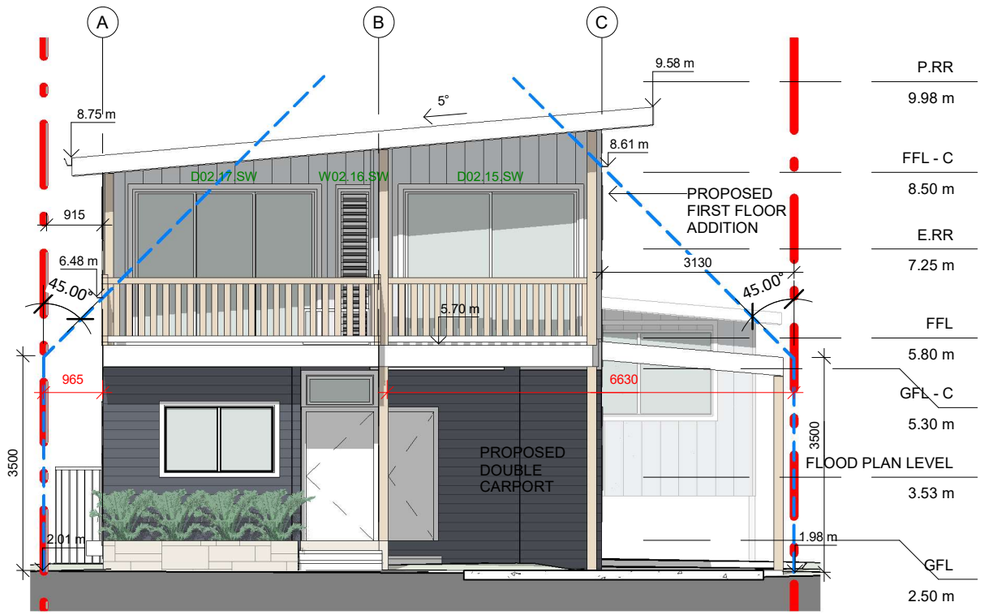
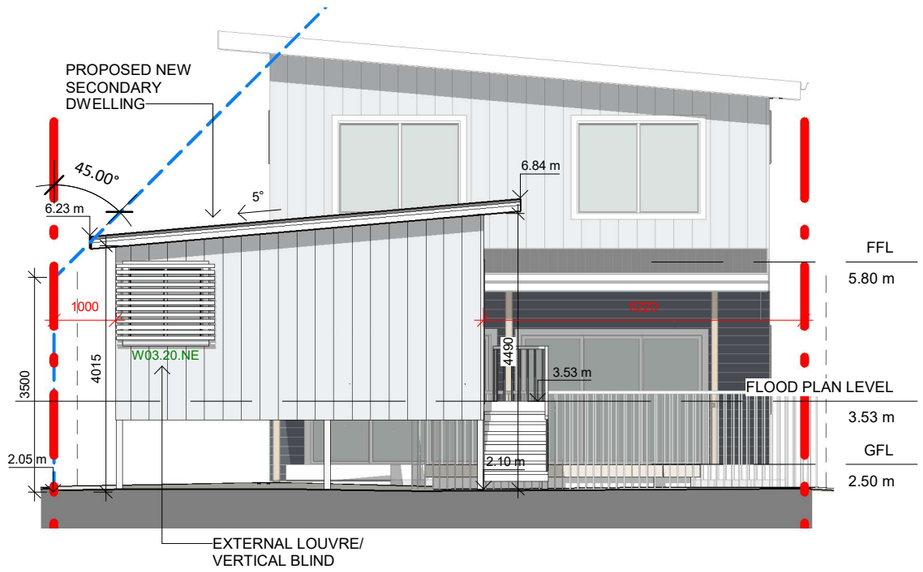
PROJECT TITLE:	Alteration & Addition; Pool; Sec. dwell.
PROJECT NO.:	2019044
AT:	10 LIDO AVE NORTH NARRABEEN
FOR:	Katie & Kelvin King
SHEET TITLE:	FIRST FLOOR PLAN
SHEET NO:	A103
SCALE A3:	1 : 100

N



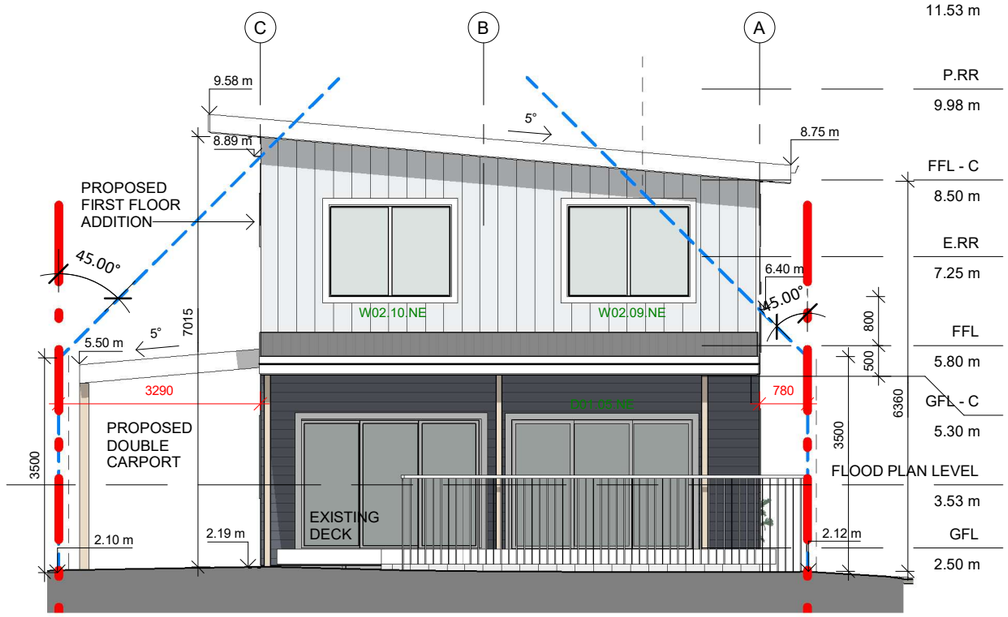
1 | SW ELEVATION - FRONT

A104 | 1 : 100



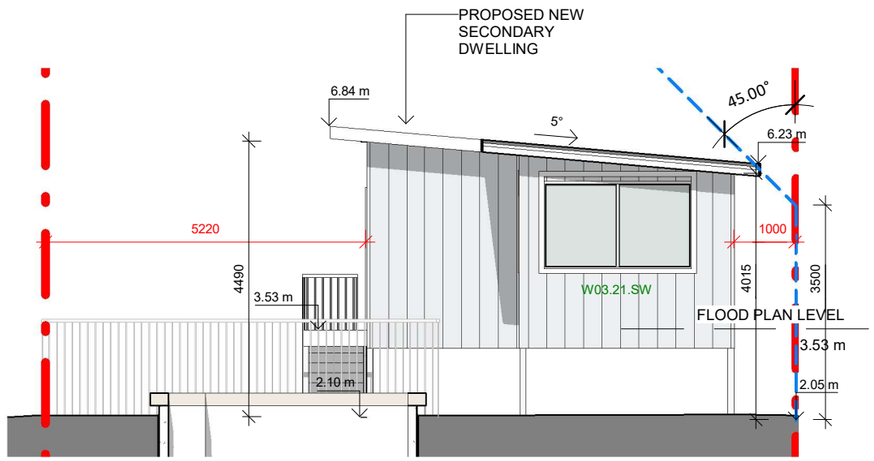
5 | _SEC. DW._NE ELEVATION

A104 | 1 : 100



2 | NE ELEVATION

A104 | 1 : 100



6 | _SEC. DW._SW ELEVATION

A104 | 1 : 100

Basalt®

A powerful, modern grey with a neutral cast, Basalt® deliberately lacks the green tones that would soften its impact when used in ultra-modern designs. Exuding the strength and solidity of the rock after which it is named, the use of Basalt® lends buildings a feeling of being anchored to the earth.

Order swatch for Basalt®

Desktop Colour Visualiser

ROOF FINNISH

WINDOW SCHEDULE

Mark	Width	Height	Comments	area
W01.01.NW	1200	700		0.84 m²
W01.02.NW	820	2200		1.80 m²
W01.03.NW	1200	600		0.72 m²
W01.04.NW	1200	1200		1.44 m²
W02.06.NW	1800	700		1.26 m²
W02.07.NW	1800	700		1.26 m²
W02.08.NW	2600	700		1.82 m²
W02.09.NE	2000	1500		3.00 m²
W02.10.NE	2000	1500		3.00 m²
W02.11.SE	1800	700		1.26 m²
W02.12.SE	1000	700		0.70 m²
W02.13.SE	800	700		0.56 m²
W02.14.SE	1800	700		1.26 m²
W02.16.SW	450	2400		1.08 m²
W03.18.NW	2400	1400	SEC. DWELLING	3.36 m²
W03.20.NE	1200	1200	SEC. DWELLING	1.44 m²
W03.21.SW	2400	1400	SEC. DWELLING	3.36 m²

DOOR SCHEDULE

Mark	Width	Height	Comments	Area
D01.05.NE	2920	2100		6.13 m²
D02.15.SW	2800	2400		6.72 m²
D02.17.SW	2920	2400		7.01 m²
D03.19.NW	2200	2200	SEC. DWELLING	4.84 m²

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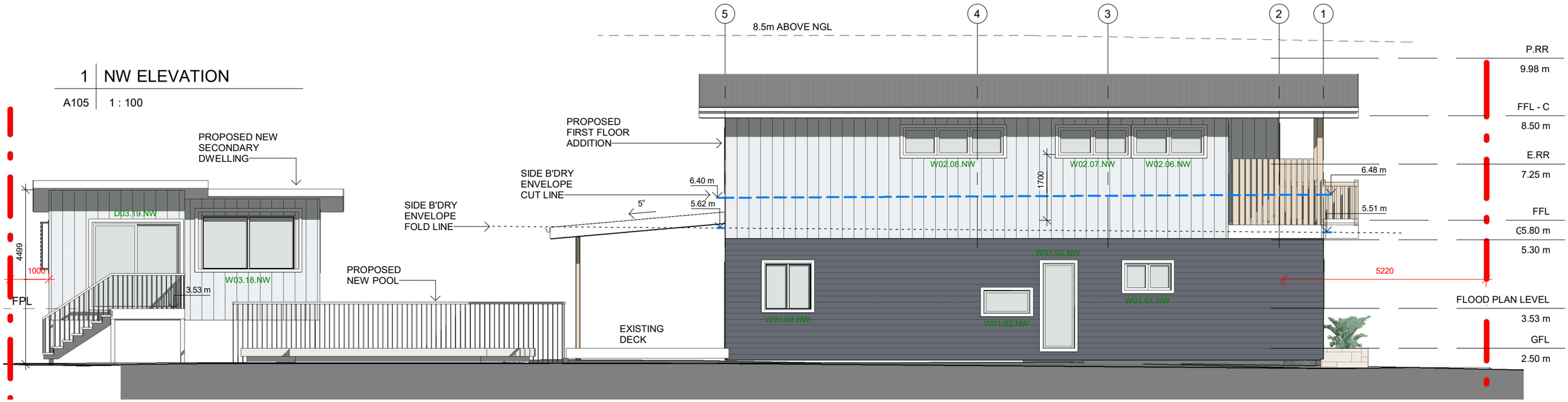
PROJECT NO.:	2019044
AT:	10 LIDO AVE NORTH NARRABEEN
FOR:	Katie & Kelvin King
SHEET TITLE:	ELEVATIONS
SHEET NO:	A104
SCALE A3:	1 : 100

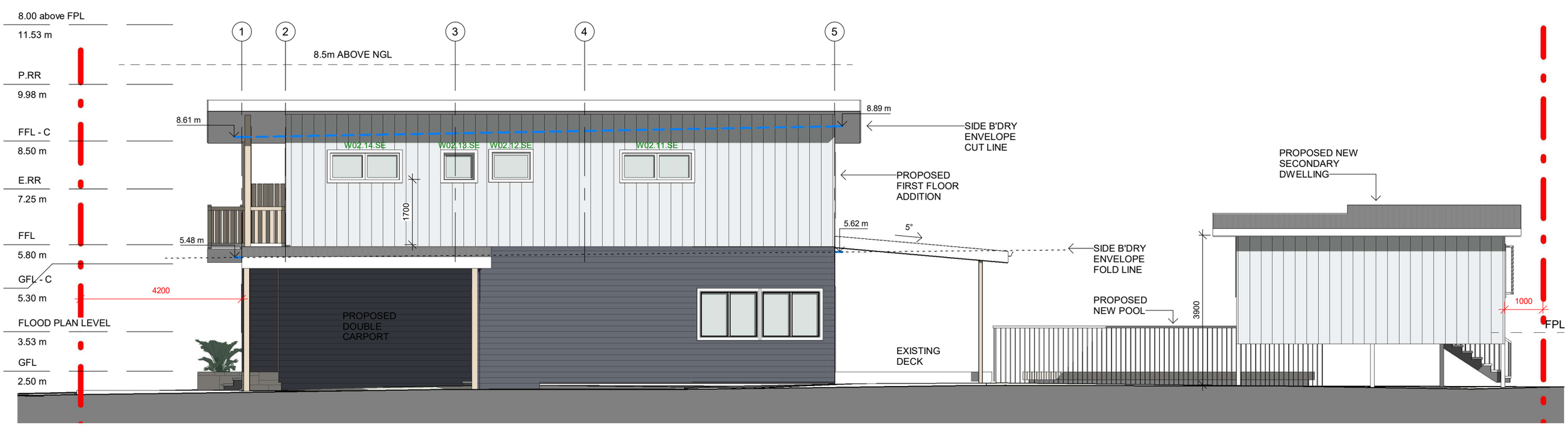
1 NW ELEVATION

A105 | 1 : 100



2 SE ELEVATION

A105 | 1 : 100



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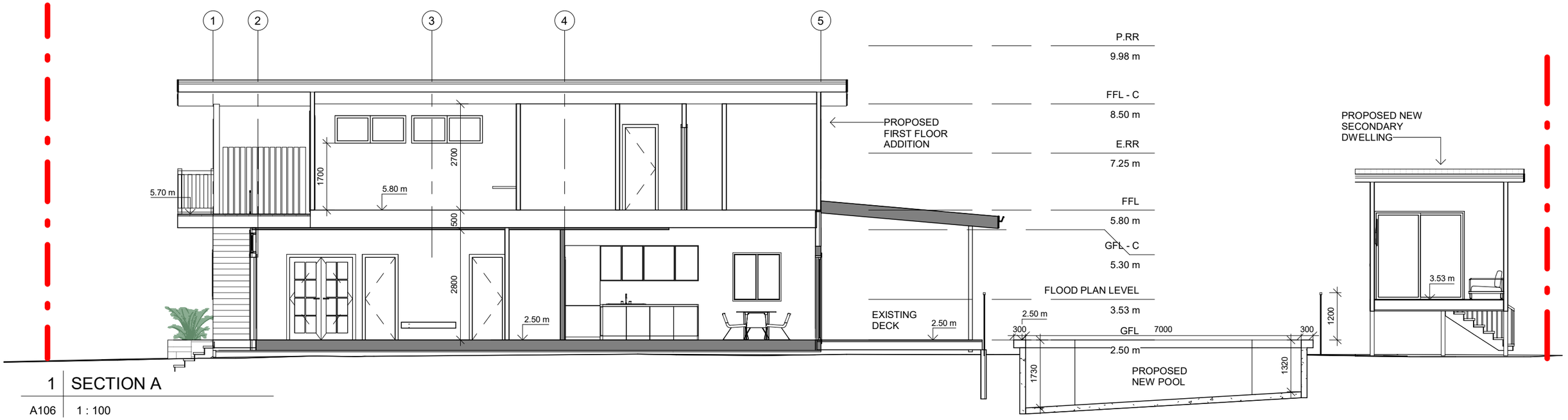
AT:	10 LIDO AVE NORTH NARRABEEN
FOR:	Katie & Kelvin King
SHEET TITLE:	ELEVATIONS
SHEET NO:	A105
SCALE A3:	1 : 100

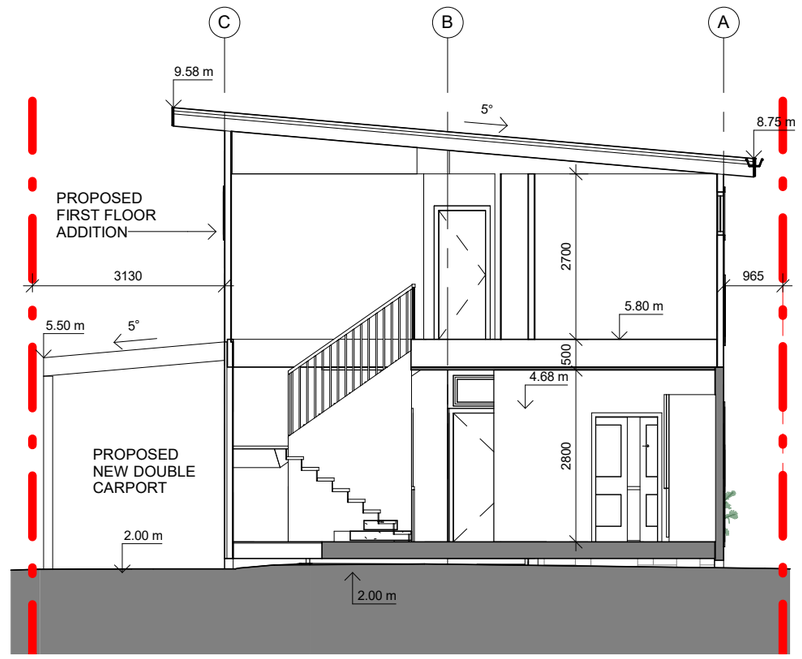


1 | SECTION A

A106 | 1 : 100

3 | SECTION A1

A106 | 1 : 100



2 | SECTION B

A106 | 1 : 100

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ISSUE	DATE	DESCRIPTION	DRWN	CHKD
-	25.09.2019	EXISTING	MN	-
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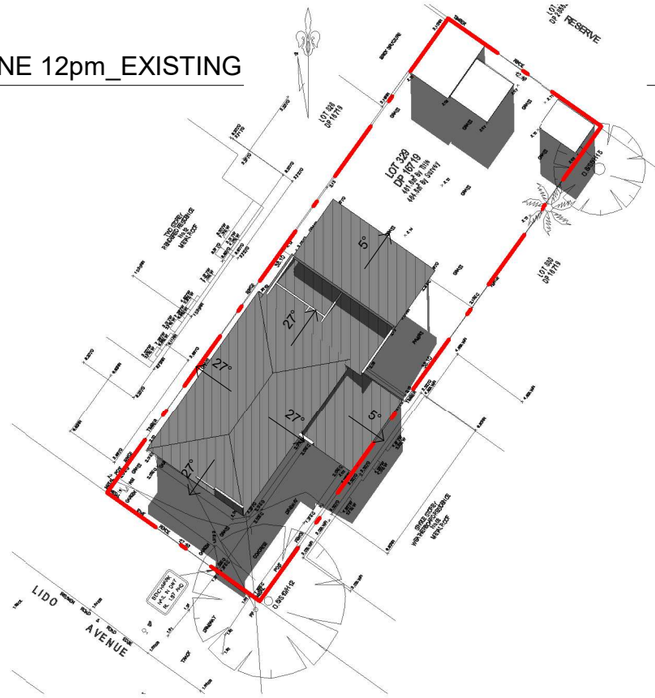
PROJECT TITLE:	Alteration & Addition; Pool; Sec. dwell.
PROJECT NO.:	2019044
AT:	10 LIDO AVE NORTH NARRABEEN
FOR:	Katie & Kelvin King
SHEET TITLE:	SECTIONS
SHEET NO:	A106
SCALE A3:	1 : 100

1 | 21 JUNE 9am_EXISTING

A107 | 1 : 400

2 | 21 JUNE 12pm_EXISTING

A107 | 1 : 400

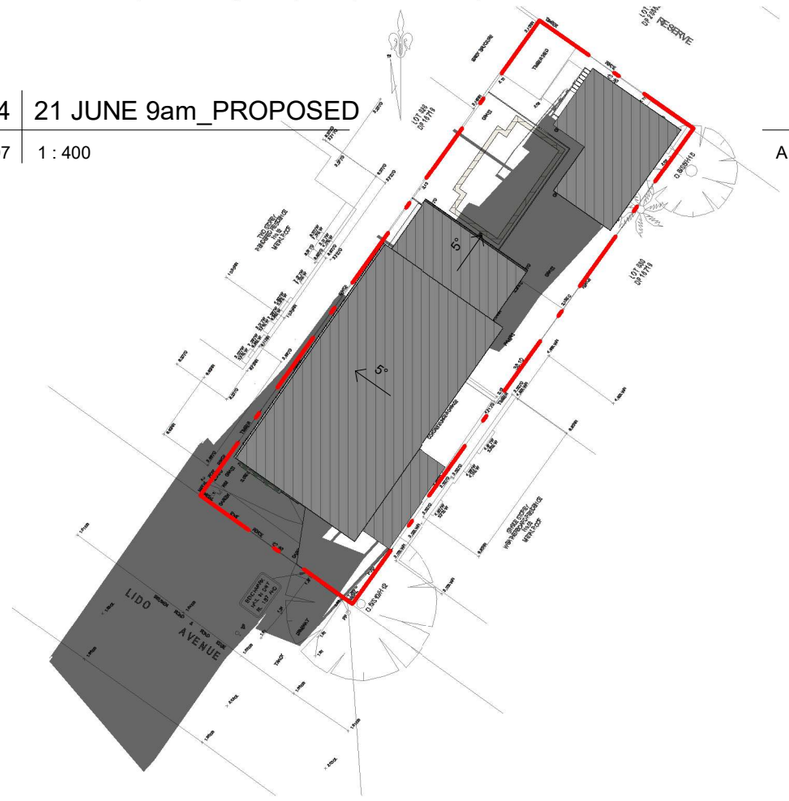


3 | 21 JUNE 3pm_EXISTING

A107 | 1 : 400

4 | 21 JUNE 9am_PROPOSED

A107 | 1 : 400



5 | 21 JUNE 12pm_PROPOSED

A107 | 1 : 400

6 | 21 JUNE 3pm_PROPOSED

A107 | 1 : 400

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PROJECT TITLE:	Alteration & Addition; Pool; Sec. dwell.
PROJECT NO.:	2019044
AT:	10 LIDO AVE NORTH NARRABEEN
FOR:	Katie & Kelvin King
SHEET TITLE:	SHADOW DIAGRAMS
SHEET NO:	A107
SCALE A3:	1 : 400

N

1 | 21 JUNE 9am_PROPOSED_1
A108

2 | 21 JUNE 9am_PROPOSED_2
A108

3 | 21 JUNE 9am_PROPOSED_3
A108

4 | 21 JUNE 12pm_PROPOSED_1
A108

5 | 21 JUNE 12pm_PROPOSED_2
A108

6 | 21 JUNE 12pm_PROPOSED_3
A108

7 | 21 JUNE 3pm_PROPOSED_1
A108

8 | 21 JUNE 3pm_PROPOSED_2
A108

9 | 21 JUNE 3pm_PROPOSED_3
A108

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ISSUE	DATE	DESCRIPTION	DRWN	CHKD
-	25.09.2019	EXISTING	MN	-
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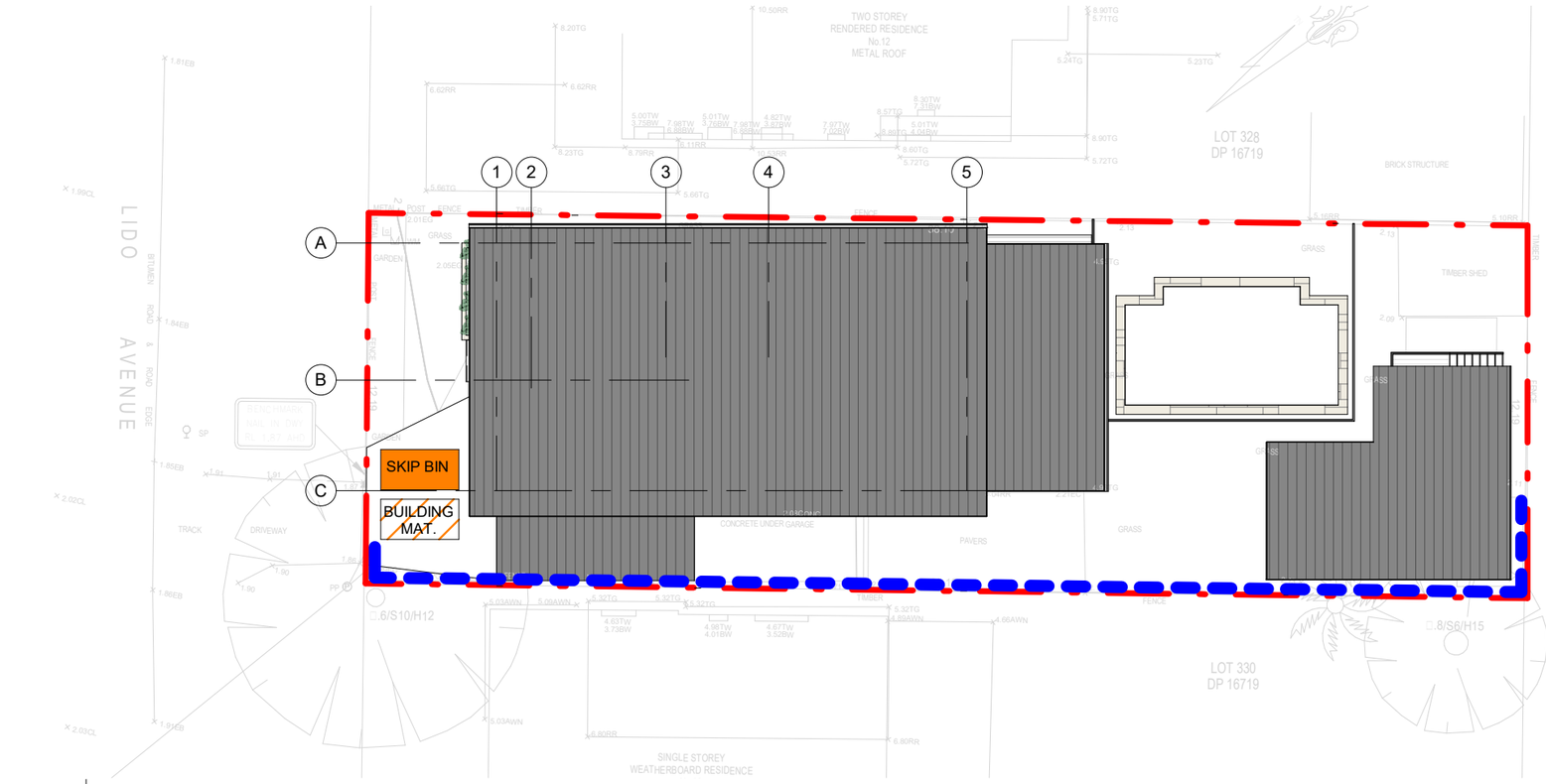
PROJECT TITLE:	Alteration & Addition; Pool; Sec. dwell.
PROJECT NO.:	2019044
AT:	10 LIDO AVE NORTH NARRABEEN
FOR:	Katie & Kelvin King
SHEET TITLE:	SHADOW DIAGRAM VIEWS
SHEET NO:	A108
SCALE A3:	



4 SEDIMENT CTRL & WASTE MANAG. PLAN

A109 | 1 : 200

WASTE MANAGEMENT PLAN

CONTRACTORS WILL BE RESPONSIBLE FOR ENSURING:

1. Dedicated safe pedestrian access is, at all times, to be provided in front of the site.
2. Demolition and construction will be minimised and separation, reuse and recycling of materials will be maximised.
3. Demolition will be managed to ensure air and water borne pollutants such as, dust, odour, liquids and the like are minimised.
4. Demolition will be managed to minimise site disturbance to the surrounding area.

KEY ACTIONS :

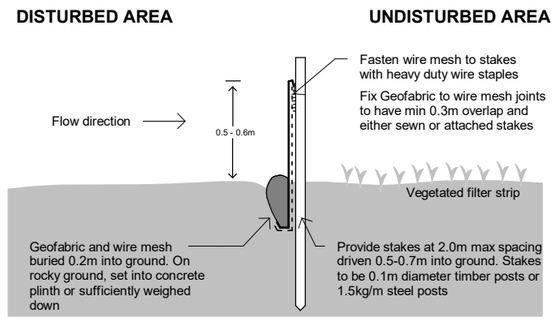
1. Install Sediment Barrier on downslope side of property
2. Stock pile demolition materials on level sections at rear and front of existing dwelling .Separate waste, from reuse and recycle materials.
3. Clean and Clear footpath and roadway as required
4. Limit Disturbance when clearing
5. Wash Equipment in Designated area
6. Store all hard waste & litter in a designed area
7. Restrict vehicle movements and use the driveway only when possible.
8. Preserve as much grassed area as possible.

WASTE MANAGEMENT PLAN

MATERIAL ON SITE			DESTINATION		
TYPE OF MATERIAL	ESTIMATED VOLUME		REUSE OR RECYCLING		DISPOSAL
	DEMOLITION	CONSTRUCTION	ON-SITE	OFF-SITE	
EXCAVATION MATERIAL	10m³	40m³		SOIL & CRASHED ROCK TO KIMBRICKI	
GREEN WASTE	3m³		DISPOSED ON SITE		
BRICKS	6m³		REUSED FOR FILL INS		
CONCRETE				KIMBRIKI RECYCLE	
TIMBER	20m³	2m³		KIMBRIKI RECYCLE	
PLASTER BOARDS	5m³	0.2m³			KIMBRIKI BY BUILDER
ASBESTOS	TBC PRIOR DEMOLITION				ASBESTOS REMOVALIST
ROOF TILES	15m³	0.5m³			
METALS	1m³	0.1m³		KIMBRIKI RECYCLE	
GLASS	1m³			KIMBRIKI RECYCLE	
PLASTIC					
OTHERS	1m³	1m³			KIMBRIKI BY BUILDER

SILT FENCE DETAIL & NOTES:

1. Silt fences should be installed on a site as early as possible, ideally before excavation or other soil disturbance begins
2. Install a silt fence down-slope from the construction area, always along the contour (curve) of the slope you are protecting – don't install in straight lines
3. Significant downward slopes should use the curved installation method
4. Stockpiles of soil and building materials must be contained by a silt fence
5. Leave the silt fence in place until vegetation is established, or sediment is stabilised
6. Silt fencing requires frequent inspections, particularly after each runoff event (storm, rainfall etc.), to check for damage or clogging of the fence by silt and debris
7. Silt fences are best used for sites where the soil disturbance area is up to 0.5 of a hectare



2 SEDIMENT CONTROL FENCE

A109 | 1 : 25

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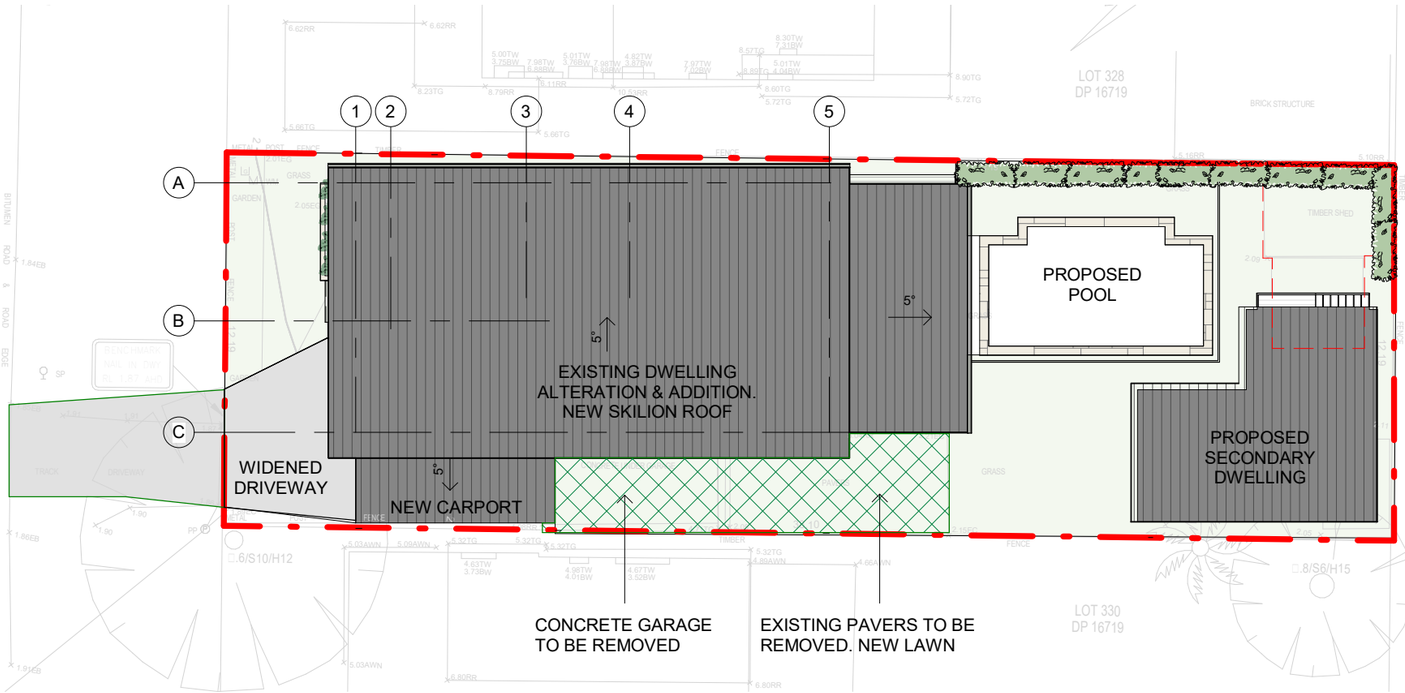
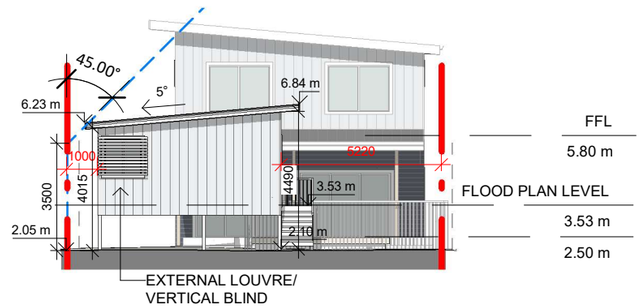
PROJECT TITLE:	Alteration & Addition; Pool; Sec. dwell.
PROJECT NO.:	2019044
AT:	10 LIDO AVE NORTH NARRABEEN
FOR:	Katie & Kelvin King
SHEET TITLE:	SEDIMENT CTRL & WASTE MANAG. PLAN
SHEET NO:	A109
SCALE A3:	As indicated



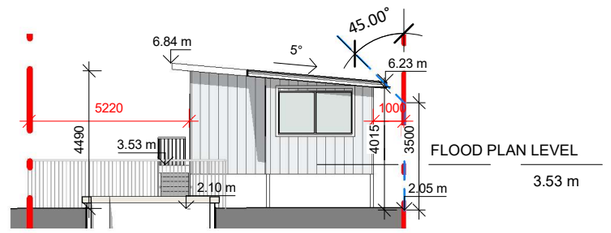
1 | SITE PLAN_NP

NP | 1 : 200



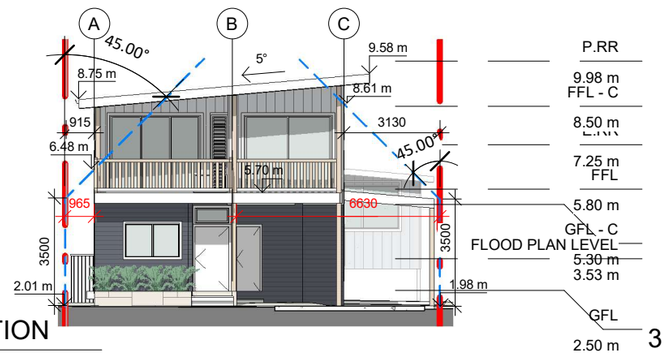
5 | _NP_SEC. DW._NE ELEVATION

NP | 1 : 200



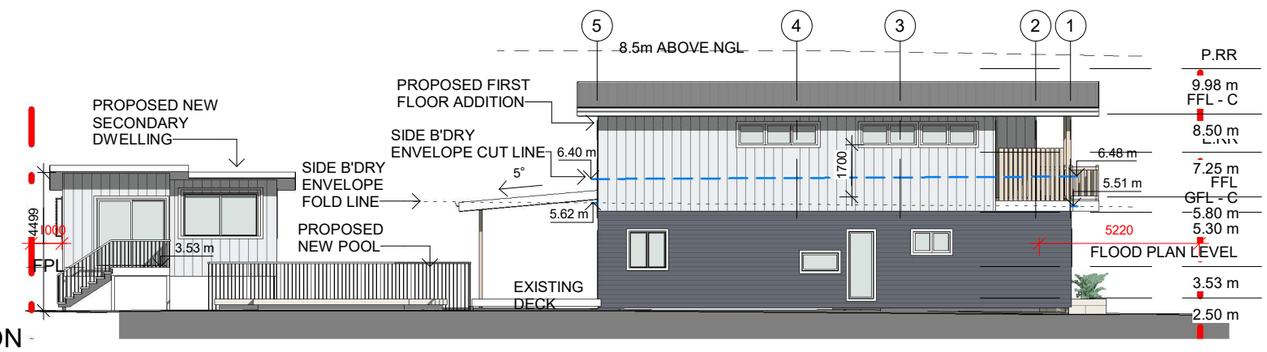
6 | _NP_SEC. DW._SW ELEVATION

NP | 1 : 200



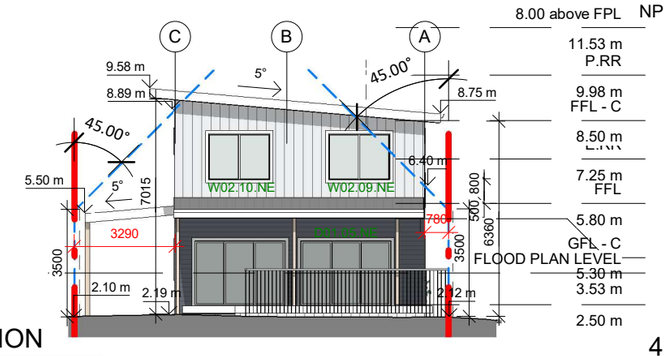
7 | _NP_SW ELEVATION

NP | 1 : 200



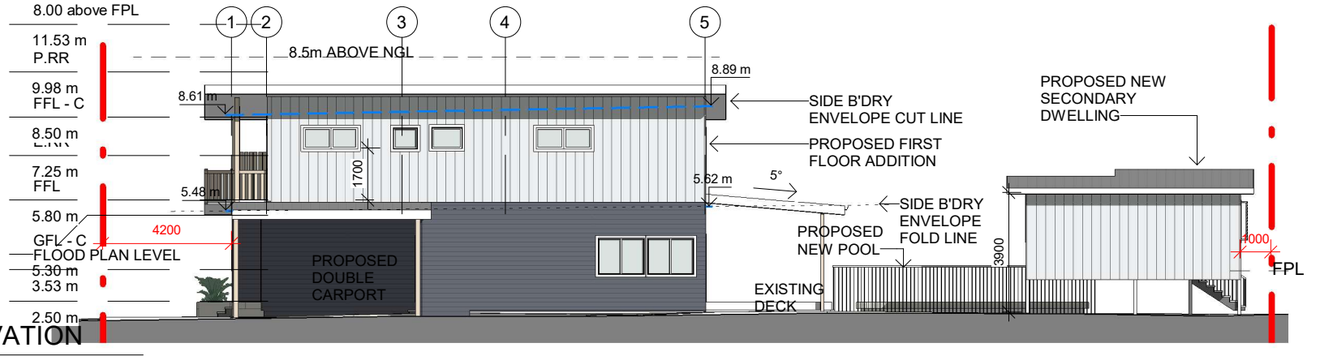
3 | _NP_NW ELEVATION

NP | 1 : 200



2 | _NP_NE ELEVATION

NP | 1 : 200



4 | _NP_SE ELEVATION

NP | 1 : 200

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PROJECT NO.:	2019044
AT:	10 LIDO AVE NORTH NARRABEEN
FOR:	Katie & Kelvin King
SHEET TITLE:	NOTIFICATION PLAN
SHEET NO:	NP
SCALE A3:	1 : 200

Appendix C

tce.

Damien Schaefer <damien@taylorconsulting.net.au>

Fwd: Flood Information for 10 Lido Avenue, North Narrabeen

1 message

Damien Schaefer <damien@taylorconsulting.net.au> 17 September 2020 at 14:41
To: Damien Schaefer <damien@taylorconsulting.net.au>

From: Flood plain <floodplain@northernbeaches.nsw.gov.au>
Subject: Flood Information for 10 Lido Avenue, North Narrabeen
Date: 22 August 2017 at 2:32:58 pm AEST
To: "kelvin.king@optusnet.com.au" <kelvin.king@optusnet.com.au>

Hi Kelvin,
The property at 10 Lido St, North Narrabeen is identified as flood affected, as shown on the attached mapping.
Please note that the extents shown and the Aerial Laser Survey ground spot heights are indicative only, and should be checked against survey by a registered surveyor for better accuracy.

The following flood information applies for this property.
Flood Risk Precinct: High
1 in 100 year flood level: 3.03m AHD
1 in 100 year flood level with climate change: 3.77m AHD
Freeboard: 0.5m
Flood Planning Level for single dwelling or secondary dwelling on the property: 3.53m AHD
Probable Maximum Flood level: 4.9m AHD
This flood information is the best currently available information, but could be subject to change in the future.

Any development application to Council for this property would need to be accompanied by a flood risk management report, which addresses Council's LEP (for the former Pittwater Council LGA) and the DCP for Flood Prone Land (for the whole of the Northern Beaches, updated on 7 August 2017).
Refer to https://eservices1.warringah.nsw.gov.au/ePlanning/live/pages/plan/book.aspx?exhibit=DCP

If you have any further queries about flooding, please feel free to contact me.

Kind regards,
Valerie

Valerie Tulk
Specialist Floodplain Engineer

Stormwater Floodplain Engineering
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From: Christopher Nguyen
Sent: Thursday, 17 August 2017 4:54 PM
To: Flood plain; kelvin.king@optusnet.com.au


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High Risk Precinct
Low Risk Precinct
Medium Risk Precinct
Lot Boundary
Map not to Scale

Flood Life Hazard Categories

H6 H5 H3-H4 H1-H2

Lot Boundary

Map not to Scale

Scale 1:253

Date Printed 22/08/2017

Appendix D

EMERGENCY FLOOD RESPONSE PROCEDURE

Flood waters can rise very rapidly on this site

Once a warning is received for a possible flood or floodwaters start to inundate the roadway frontage or the eastern portion of the site:

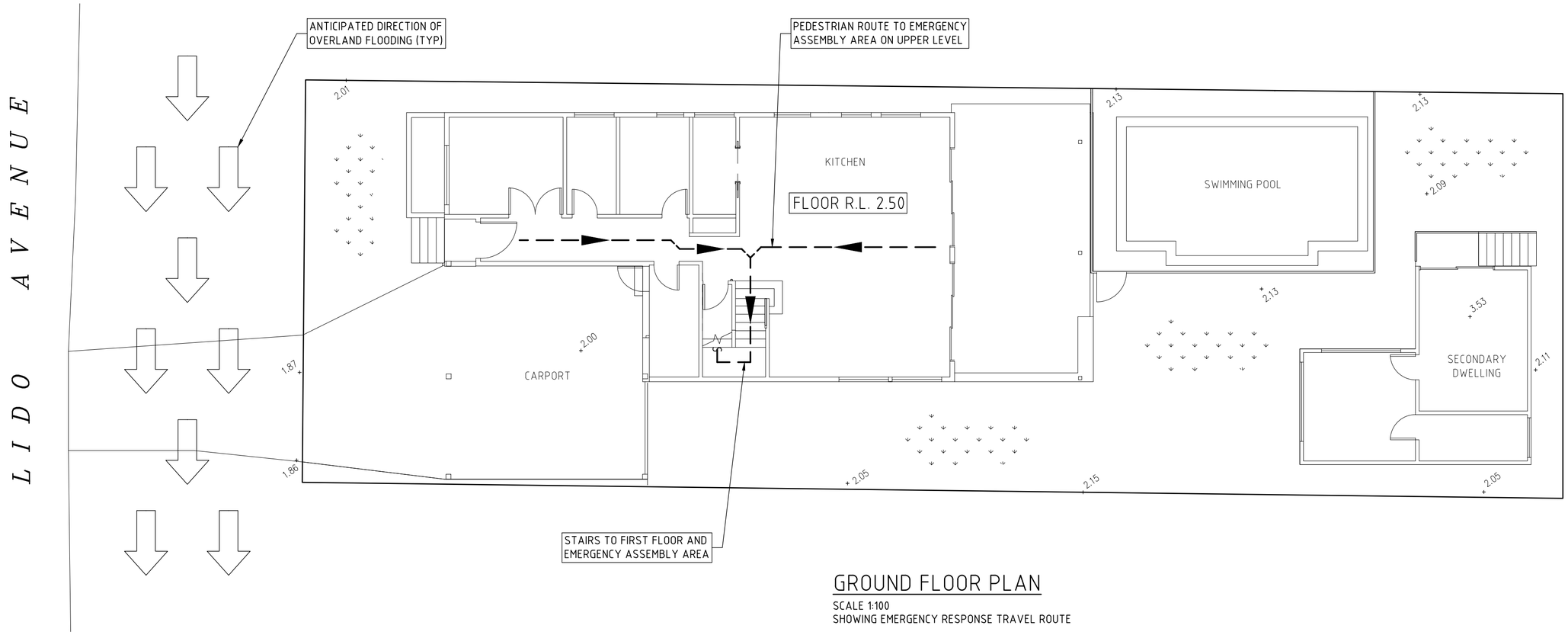
1. All residents should be at the assembly point by the time the flood waters are observed to have inundated the roadway frontage or eastern area of the site.
2. The Owner is to turn off all power, water and other relevant services.
3. Nominated occupants to sweep the promises to ensure that all occupants have sought refuge at the emergency assembly point.
4. 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 leave:

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



GROUND FLOOR PLAN

SCALE 1:100
SHOWING EMERGENCY RESPONSE TRAVEL ROUTE

ISSUE DATE	REVISION

TITLE
FLOOD EMERGENCY RESPONSE PLAN
10 LIDO AVENUE, NORTH NARRABEEN

DRAWN	DATE	CHECKED	SCALE @ A2
JBP	17 SEPTEMBER 2020	BE Civil (Hons) MIE Aust.	1:100

TAYLOR CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING NO
SHEET–1

"Seascape" Suite 7 22-26 Fisher Rd Dee Why NSW 2099 | T 02 9982 7092 | F 02 9982 5898 | enquire@taylorconsulting.net.au | www.taylorconsulting.net.au

Appendix E

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 Occupants with an emergency response plan and advise of their responsibilities and delegations	
● Maintain an emergency contacts list	
● Update emergency response 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 to monitor conditions at the rear of the site	
● The Owner to notify Occupants to proceed to the emergency response area	
● The Owner to shut off nominated services	

DURING A FLOOD

Trigger for action: When water is sighted ponding across the rear of the site:

Action	Status
● Emergency response to be undertaken in an orderly fashion	
● The phases of the emergency response shall be:	
➢ The Owner to request all occupants to proceed to the emergency assembly point.	
➢ All occupants should be at the assembly point by the time the flood waters reach the rear boundary of the site.	
➢ The Owner to sweep premises for remaining persons	
➢ The Owner to retreat to the emergency assembly area.	
● Emergency services to be notified by The Owner of the situation at site.	

Appendix F

Emergency Contacts

Organisation	Role	Contact
Emergency Services	Fire/ambulance/police	000
Northern Beaches Council	Disaster Co-ordination Centre	9970 1111
State Emergency Service	SES Local Controller	132 500
Mona Vale Hospital		9998 0333

Appendix G

Flood Compatible Materials and Building Components for New Works

BUILDING COMPONENT	FLOOD COMPATIBLE MATERIAL	BUILDING COMPONENT	FLOOD COMPATIBLE MATERIAL
Flooring and Sub-floor Structure	▪ concrete slab-on ground monolith construction ▪ suspended reinforced concrete slab	Doors	▪ solid panel with water proof adhesives ▪ flush door with marine ply filled with closed cell foam ▪ painted metal construction ▪ aluminium or galvanised steel frame
Floor Covering	▪ clay tiles ▪ concrete, precast or in situ ▪ concrete tiles ▪ epoxy, form-in-place ▪ mastic flooring, formed in-place ▪ rubber sheets or tiles with chemical-set adhesives ▪ silicone floors formed in-place ▪ vinyl sheets or tiles with	Wall and Ceiling Linings	▪ fibro-cement board ▪ brick, face or glazed ▪ clay tile glazed in waterproof mortar ▪ concrete ▪ concrete block ▪ steel with waterproof applications ▪ stone, natural solid or veneer, waterproof grout ▪ glass blocks ▪ glass

	chemical-set adhesive ▪ ceramic tiles, fixed with mortar or chemical-set adhesive ▪ asphalt tiles, fixed with water resistant adhesive ▪ linoleum		▪ plastic sheeting or wall with waterproof adhesive
Wall Structure	▪ solid brickwork, blockwork, reinforced, concrete or mass concrete	Insulation Windows	▪ foam (closed cell types) ▪ aluminium frame with stainless steel ▪ rollers or similar corrosion and water resistant material
Roofing Structure (for Situations where the Relevant Flood Level is Above the Ceiling)	▪ reinforced concrete construction ▪ galvanised metal construction	Nails, Bolts, Hinges and Fittings	▪ brass, nylon or stainless steel ▪ removable pin hinges ▪ hot dipped galvanised steel wire, nails or similar.

Electrical and Mechanical Equipment For buildings constructed on land to which this Plan applies, the electrical and mechanical materials, equipment and Installation should conform to the following requirements.	Heating and Air Conditioning Systems Heating and air conditioning systems should, to the maximum extent possible, be installed in areas and spaces of the building above the relevant flood level. When this is not feasible every precaution should be taken to minimise the damage caused by submersion according to the following guidelines.
Main power supply Subject to the approval of the relevant authority the incoming main commercial power service equipment including all metering equipment, shall be located above the relevant flood level. Means shall be available to easily disconnect the building from the main power supply.	Fuel Heating systems using gas or oil as a fuel should have a manually operated valve located in the fuel supply line to enable fuel cut-off.
Wiring All wiring, power outlets, switches, etc, should to the maximum extent possible, be located above the relevant flood level. All electrical wiring installed below the relevant flood level should be suitable for continuous submergence in water and should contain no fibrous	Installation The heating equipment and fuel storage tanks should be mounted on and securely anchored to a foundation pad of sufficient mass to overcome buoyancy and prevent movement that could damage the

components. Earth core linkage systems (or safety switches) are to be installed. Only submersible-type splices should be used below the relevant flood level. All conducts located below the relevant designated flood level should be so installed that they will be self draining if subjected to flooding.	fuel supply line. All storage tanks should be vented to the FPL.
Equipment All equipment installed below or partially below the relevant flood level should be capable of disconnection by a single plug and socket assembly.	Ducting All ductwork located below the relevant flood level should be provided with openings for drainage and cleaning. Self draining may be achieved by constructing the ductwork on a suitable grade. Where ductwork must pass through a water-tight wall or floor below the relevant flood level, the ductwork should be protected by a closure assembly operated from above relevant flood level.
Reconnection Should any electrical device and/or part of the wiring be flooded it should be thoroughly cleaned or replaced and checked by an approved electrical contractor before reconnection.	Ancillary Structures (steps, pergolas, etc) Suitable water tolerant materials should be used such as reinforced concrete, masonry, sealed hardwood and corrosive resistant metals. Copper Chrome Arsenate (CCA) treated timber is not a suitable material.