

GEOTECHNICAL RISK MANAGEMENT POLICY FOR PITTWATER
FORM NO. 1 – To be submitted with Development Application

Development Application for _____
Name of Applicant

Address of site 108 Cabarita Road, Avalon Beach

The following checklist covers the minimum requirements to be addressed in a Geotechnical Risk Declaration made by geotechnical engineer or engineering geologist or coastal engineer (where applicable) as part of a geotechnical report

I, Ben White on behalf of White Geotechnical Group Pty Ltd
(Insert Name) (Trading or Company Name)

on this the 25/10/22 certify that I am a geotechnical engineer or engineering geologist or coastal engineer as defined by the Geotechnical Risk Management Policy for Pittwater - 2009 and I am authorised by the above organisation/company to issue this document and to certify that the organisation/company has a current professional indemnity policy of at least \$10million.

I:

Please mark appropriate box

- ☒ have prepared the detailed Geotechnical Report referenced below in accordance with the Australia Geomechanics Society's Landslide Risk Management Guidelines (AGS 2007) and the Geotechnical Risk Management Policy for Pittwater - 2009
- ☒ am willing to technically verify that the detailed Geotechnical Report referenced below has been prepared in accordance with the Australian Geomechanics Society's Landslide Risk Management Guidelines (AGS 2007) and the Geotechnical Risk Management Policy for Pittwater - 2009
- ☐ have examined the site and the proposed development in detail and have carried out a risk assessment in accordance with Section 6.0 of the Geotechnical Risk Management Policy for Pittwater - 2009. I confirm that the results of the risk assessment for the proposed development are in compliance with the Geotechnical Risk Management Policy for Pittwater - 2009 and further detailed geotechnical reporting is not required for the subject site.
- ☐ have examined the site and the proposed development/alteration in detail and I am of the opinion that the Development Application only involves Minor Development/Alteration that does not require a Geotechnical Report or Risk Assessment and hence my Report is in accordance with the Geotechnical Risk Management Policy for Pittwater - 2009 requirements.
- ☐ have examined the site and the proposed development/alteration is separate from and is not affected by a Geotechnical Hazard and does not require a Geotechnical Report or Risk Assessment and hence my Report is in accordance with the Geotechnical Risk Management Policy for Pittwater - 2009 requirements.
- ☐ have provided the coastal process and coastal forces analysis for inclusion in the Geotechnical Report

Geotechnical Report Details:

Report Title: Geotechnical Report 108 Cabarita Road, Avalon Beach
Report Date: 19/10/22

Author: BEN WHITE

Author's Company/Organisation: WHITE GEOTECHNICAL GROUP PTY LTD

Documentation which relate to or are relied upon in report preparation:

Australian Geomechanics Society Landslide Risk Management March 2007.
White Geotechnical Group company archives.

I am aware that the above Geotechnical Report, prepared for the abovementioned site is to be submitted in support of a Development Application for this site and will be relied on by Pittwater Council as the basis for ensuring that the Geotechnical Risk Management aspects of the proposed development have been adequately addressed to achieve an "Acceptable Risk Management" level for the life of the structure, taken as at least 100 years unless otherwise stated and justified in the Report and that reasonable and practical measures have been identified to remove foreseeable risk.

Signature 
Name Ben White
Chartered Professional Status MScGEOLAusIMM CP GEOL
Membership No. 222757
Company White Geotechnical Group Pty Ltd

GEOTECHNICAL RISK MANAGEMENT POLICY FOR PITTWATER
FORM NO. 1(a) - Checklist of Requirements for Geotechnical Risk Management Report for Development Application

Development Application for	Name of Applicant
Address of site	<u>108 Cabarita Road, Avalon Beach</u>

The following checklist covers the minimum requirements to be addressed in a Geotechnical Risk Management Geotechnical Report. This checklist is to accompany the Geotechnical Report and its certification (Form No. 1).

Geotechnical Report Details:

Report Title: Geotechnical Report <u>108 Cabarita Road, Avalon Beach</u>
Report Date: <u>19/10/22</u>
Author: <u>BEN WHITE</u>
Author's Company/Organisation: <u>WHITE GEOTECHNICAL GROUP PTY LTD</u>

Please mark appropriate box

- ☒ Comprehensive site mapping conducted 18/10/22
(date)
- ☒ Mapping details presented on contoured site plan with geomorphic mapping to a minimum scale of 1:200 (as appropriate)
- ☒ Subsurface investigation required
 - ☐ No Justification _____
 - ☒ Yes Date conducted 18/10/22
- ☒ Geotechnical model developed and reported as an inferred subsurface type-section
- ☒ Geotechnical hazards identified
 - ☒ Above the site
 - ☒ On the site
 - ☒ Below the site
 - ☐ Beside the site
- ☒ Geotechnical hazards described and reported
- ☒ Risk assessment conducted in accordance with the Geotechnical Risk Management Policy for Pittwater - 2009
 - ☒ Consequence analysis
 - ☒ Frequency analysis
- ☒ Risk calculation
- ☒ Risk assessment for property conducted in accordance with the Geotechnical Risk Management Policy for Pittwater - 2009
- ☒ Risk assessment for loss of life conducted in accordance with the Geotechnical Risk Management Policy for Pittwater - 2009
- ☒ Assessed risks have been compared to "Acceptable Risk Management" criteria as defined in the Geotechnical Risk Management Policy for Pittwater - 2009
- ☒ Opinion has been provided that the design can achieve the "Acceptable Risk Management" criteria provided that the specified conditions are achieved.
- ☒ Design Life Adopted:
 - ☒ 100 years
 - ☐ Other _____
specify
- ☒ Geotechnical Conditions to be applied to all four phases as described in the Geotechnical Risk Management Policy for Pittwater - 2009 have been specified
- ☒ Additional action to remove risk where reasonable and practical have been identified and included in the report.
- ☐ Risk assessment within Bushfire Asset Protection Zone.

I am aware that Pittwater Council will rely on the Geotechnical Report, to which this checklist applies, as the basis for ensuring that the geotechnical risk management aspects of the proposal have been adequately addressed to achieve an "Acceptable Risk Management" level for the life of the structure, taken as at least 100 years unless otherwise stated, and justified in the Report and that reasonable and practical measures have been identified to remove foreseeable risk.


Signature _____
Name Ben White
Chartered Professional Status MScGEOLAusIMM CP GEOL
Membership No. 222757
Company White Geotechnical Group Pty Ltd

GEOTECHNICAL INVESTIGATION:

Alterations and Additions at 108 Cabarita Road, Avalon Beach

1. Proposed Development

- 1.1** Construct a new deck on the downhill side of the house.
- 1.2** Extend the first floor of the house on the downhill side.
- 1.2** Various other minor internal and external alterations and additions.
- 1.3** Details of the proposed development are shown on 11 architectural drawings prepared by Sketch Studio 77, reference number SB-00067, drawings numbered 101, 201 to 203, 301 to 303, 401 to 403, and 501, Issue B02, dated 22/07/22.

2. Site Description

- 2.1** The site was inspected on the 18th October, 2022.
- 2.2** This residential property is on the low side of the road and has a NE aspect. The block is located on the moderate to steeply graded middle reaches of a hillslope. The natural surface falls across the majority of the property at an average angle of ~16° and increases to steep angles downhill of the driveway. The slope above and below the property continues at moderate to steep angles.
- 2.3** A brick retaining wall ~2.1m high is located along the uphill property boundary that supports the fill for the road reserve and a cut for lawn and garden area on the subject property (Photo 1). Stepped cracking was observed in the mortar between the bricks of the wall (Photo 2). **See Section 12** for recommendations regarding this wall. Low brick and rendered masonry retaining walls support cuts for level paved and lawn/garden areas on the uphill side of the house (Photo 3). A cut has been made in the slope to create a level platform for the S corner of the house. This cut is supported

by a stable stack rock wall ~1.0m high (Photo 4). The part three-storey house is supported on brick walls and brick piers (Photo 5). The walls and piers appear to stand vertical and show no signs of deflection. An excavation has been made under the house for the lower floor (Photo 5). The cut has been taken entirely through competent sandstone bedrock and displays no signs of geological defects. This is expected to be a band of sandstone in an otherwise shale dominated profile. On the N side of the house is a pool (Photo 6). The water level of the pool indicates no ground movement has occurred in the shell of the pool since its construction. A partially suspended concrete driveway in the NE corner of the property is accessed by a Right of Carriageway (ROW) off Cabarita Road and runs up the slope to a garage on the lower ground floor of the house (Photo 7). The concrete columns supporting the downhill side of the driveway appear to stand vertical (Photo 8). On the downhill side of the driveway, the slope falls steeply to the E corner of the property (Photo 9). This slope is densely vegetated. Immediately underneath the driveway is an exposed fill batter (Photo 10). The slope is partially terraced on the S side of the slope. The terraces are supported by a series of timber retaining walls ~1.0m high (Photo 11). The walls were observed to be tilting downslope at a maximum angle of ~5°. The owner has informed us that the exposed batter and retaining walls will be replaced in the future. We recommend this be carried out within 2 years of the date of this report.

3. Geology

The Sydney 1:100 000 Geological sheet indicates the site is underlain by the Newport Formation of the Narrabeen Group. This is described as interbedded laminite, shale and quartz to lithic quartz sandstone.

4. Subsurface Investigation

One hand Auger Hole (AH) was put down to identify the soil materials. Three Dynamic Cone Penetrometer (DCP) tests were put down to determine the relative density of the overlying soil and the depth to bedrock. The locations of the tests are shown on the site plan attached.

It should be noted that a level of caution should be applied when interpreting DCP test results. The test will not pass through hard buried objects so in some instances it can be difficult to determine whether refusal has occurred on an obstruction in the profile or on the natural rock surface. This is not expected to be an issue for the testing on this site. However, excavation and foundation budgets should always allow for the possibility that the interpreted ground conditions in this report vary from those encountered during excavations. See the appended "Important information about your report" for a more comprehensive explanation. The results are as follows:

AUGER HOLE 1 (~RL20.6) – AH1 (Photo 12)

Depth (m)	Material Encountered
0.0 to 1.3	FILL , disturbed clayey sand and clay, dark brown, brown and orange, very loose to loose, damp, fine to medium grained with rock fragments and fine trace organic matter.
1.3 to 1.5	CLAYEY SOIL , dark brown, wet, fine to medium grained.
1.5 to 1.6	SANDY CLAY , dark brown, stiff, wet, fine to medium grained.

Refusal @ 1.6m auger grinding on rock. No water table encountered.

DCP TEST RESULTS ON NEXT PAGE

DCP TEST RESULTS – Dynamic Cone Penetrometer			
Equipment: 9kg hammer, 510mm drop, conical tip.		Standard: AS1289.6.3.2 - 1997	
Depth(m) Blows/0.3m	DCP 1 (~RL20.6)	DCP 2 (~RL21.6)	DCP 3 (~RL28.2)
0.0 to 0.3	2F	4	6
0.3 to 0.6		2	12
0.6 to 0.9	4	14	5
0.9 to 1.2	7	9	9
1.2 to 1.5	10	9	7
1.5 to 1.8	10	19	14
1.8 to 2.1	#	10	10
2.4 to 2.7		#	#
	Refusal on Rock @ 1.7m	Refusal on Rock @ 2.2m	Refusal on Rock @ 2.0m

#refusal/end of test. F = DCP fell after being struck showing little resistance through all or part of the interval.

DCP Notes:

DCP1 – Refusal on rock @ 1.7m, DCP bouncing off rock surface, brown and yellow rock fragments on damp tip

DCP2 – Refusal on rock @ 2.2m, DCP bouncing off rock surface, white impact dust on dry tip.

DCP3 – Refusal on rock @ 2.0m, DCP bouncing off rock surface, brown sandy clay on damp tip.

5. Geological Observations/Interpretation

The slope materials are colluvial at the near surface and residual at depth. In the test locations, the ground materials consist of fill, topsoil and clayey soil over firm to stiff sandy clays. Sandstone bedrock is exposed under the house (Photo 5). This is expected to be a band of sandstone in an otherwise shale dominated profile. In the test locations, the depth to weathered rock ranged from ~1.7m to ~2.2m below the current surface. The weathered zone of the underlying rock is interpreted as Very Low to Low Strength. It is to be noted that this material is a soft rock and can appear as a mottled stiff clay when it is cut up by excavation equipment. See Type Section attached for a diagrammatical representation of the expected ground materials.

6. Groundwater

Normal ground water seepage is expected to move over the buried surface of the rock and through the cracks. Due to the slope and elevation of the block, the water table is expected to be many metres below the base of the proposed works.

7. Surface Water

No evidence of significant surface flows were observed on the property during the inspection. Normal sheet wash from the slope above will be intercepted by the street drainage system for Cabarita Road above.

8. Geotechnical Hazards and Risk Analysis

No geotechnical hazards were observed beside the property. The moderate to steep land surface that falls across the property and continues above and below is a potential hazard (Hazard One).

Geotechnical Hazards and Risk Analysis - Risk Analysis Summary

HAZARDS	Hazard One
TYPE	The moderate to steep slope that falls across the property and continues above and below failing and impacting on the property.
LIKELIHOOD	'Unlikely' (10^{-4})
CONSEQUENCES TO PROPERTY	'Medium' (15%)
RISK TO PROPERTY	'Low' (2×10^{-5})
RISK TO LIFE	9.1×10^{-7} /annum
COMMENTS	This level of risk is 'ACCEPTABLE' provided the recommendations in Section 12 are followed.

(See Aust. Geomech. Jnl. Mar 2007 Vol. 42 No 1, for full explanation of terms)

9. Suitability of the Proposed Development for the Site

The proposed development is suitable for the site. No geotechnical hazards will be created by the completion of the proposed development provided it is carried out in accordance with the requirements of this report and good engineering and building practice.

10. Stormwater

The roofing of the proposed works adds less than $\sim 50\text{m}^2$ to the current roof area so it is possible the existing stormwater system can be used with the approval of the stormwater engineer.

11. Foundations

Due to the steep grade of the slope in the location of the proposed works, piers imbedded no less than 0.5m into Very Low Strength Rock or better are suitable footings for the proposed deck. This material is expected at depths of between 1.7 to 2.2m below the current surface.

A maximum allowable bearing pressure of 600kPa can be assumed for footings on Very Low Strength Rock or better. It should be noted that this material is a soft rock and a rock auger will cut through it so the builders should not be looking for refusal to end the footings.

NOTE: If the contractor is unsure of the footing material required, it is more cost-effective to get the geotechnical consultant on site at the start of the footing excavation to advise on footing depth and material. This mostly prevents unnecessary over-excavation in clay-like shaly-rock but can be valuable in all types of geology.

12. Ongoing Maintenance

Stepped cracking was observed in the mortar between the bricks of the walls supporting the fill and cut on the uphill side of the property (Photo 2). To be prudent, we recommend the retaining walls be inspected by the owners on a biannual basis or after heavy prolonged rainfall, whichever occurs first, keeping a photographic record of the inspections. We can carry out these inspections upon request. Should any new movement be observed, the geotechnical consultant is to be engaged to assess the movement and provide remedial advice if necessary.

Where slopes approach or exceed 30° such as below the driveway, it is prudent for the owners to occasionally inspect the slope (say annually or after heavy rainfall events, whichever occurs

first). Should any of the following be observed: movement or cracking in retaining walls, cracking in any structures, cracking, or movement in the slope surface, tilting or movement in established trees, leaking pipes, or newly observed flowing water, or changes in the erosional process or drainage regime, then a geotechnical consultant should be engaged to re-assess the slope. We can carry out these inspections upon request.

The risk assessment in **Section 8** is subject to this site maintenance being carried out.

13. Geotechnical Review

The structural plans are to be checked and certified by the geotechnical engineer as being in accordance with the geotechnical recommendations. On completion, a Form 2B will be issued. This form is required for the Construction Certificate to proceed.

14. Inspection

The client and builder are to familiarise themselves with the following required inspection as well as council geotechnical policy. We cannot provide geotechnical certification for the owners and Occupation Certificate if the following inspection has not been carried out during the construction process.

- All footings are to be inspected and approved by the geotechnical consultant while the excavation equipment and contractors are still onsite and before steel reinforcing is placed or concrete is poured.

White Geotechnical Group Pty Ltd.



Ben White M.Sc. Geol.,
AusIMM., CP GEOL.
No. 222757
Engineering Geologist



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5

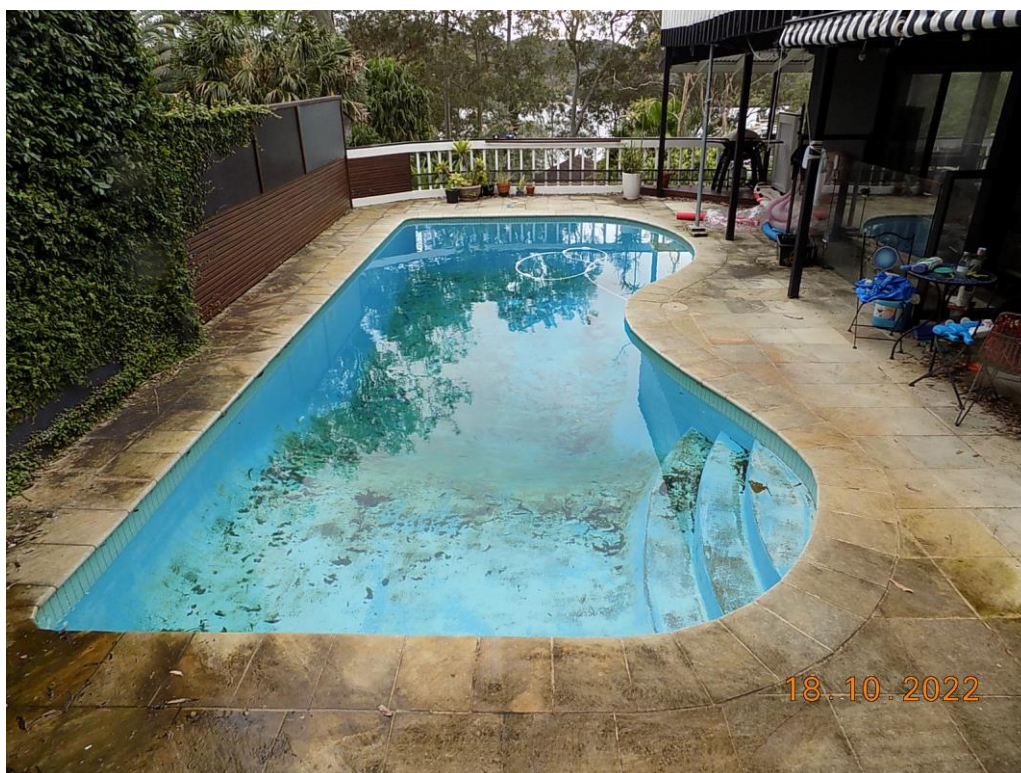


Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12 (Downhole is from Top Left to Bottom Right)

Important Information about Your Report

It should be noted that Geotechnical Reports are documents that build a picture of the subsurface conditions from the observation of surface features and testing carried out at specific points on the site. The spacing and location of the test points can be limited by the location of existing structures on the site or by budget and time constraints of the client. Additionally, the test themselves, although chosen for their suitability for the particular project, have their own limiting factors. The testing gives accurate information at the location of the test, within the confines of the test's capability. A geological interpretation or model is developed by joining these test points using all available data and drawing on previous experience of the geotechnical consultant. Even the most experienced practitioners cannot determine every possible feature or change that may lie below the earth. All of the subsurface features can only be known when they are revealed by excavation. As such, a Geotechnical report can be considered an interpretive document. It is based on factual data but also on opinion and judgement that comes with a level of uncertainty. This information is provided to help explain the nature and limitations of your report.

With this in mind, the following points are to be noted:

- If upon the commencement of the works the subsurface ground or ground water conditions prove different from those described in this report, it is advisable to contact White Geotechnical Group immediately, as problems relating to the ground works phase of construction are far easier and less costly to overcome if they are addressed early.
- If this report is used by other professionals during the design or construction process, any questions should be directed to White Geotechnical Group as only we understand the full methodology behind the report's conclusions.
- The report addresses issues relating to your specific design and site. If the proposed project design changes, aspects of the report may no longer apply. Contact White Geotechnical if this occurs.
- This report should not be applied to any other project other than that outlined in section 1.0.
- This report is to be read in full and should not have sections removed or included in other documents as this can result in misinterpretation of the data by others.
- It is common for the design and construction process to be adapted as it progresses (sometimes to suit the previous experience of the contractors involved). If alternative design and construction processes are required to those described in this report, contact White Geotechnical Group. We are familiar with a variety of techniques to reduce risk and can advise if your proposed methods are suitable for the site conditions.

DEMOLISHED STRUCTURE
DASHED RED AS SHOWN

ALL PROPOSED ELEMENTS
SUBJECT TO ENGINEERS DETAIL
AND SITE CONDITIONS

SITE PLAN – showing test locations

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ISSUED STATING OTHERWISE.

SKETCH STUDIO

77

2/85 LASSO RD, GREGORY HILLS NSW 2557
02 9043 1498 | admin@ss77.com.au

THE NOMINATED DESIGNER FOR SKETCH STUDIO 77 PTY
LTD IS PETER GULIKOV.
ACCREDITATION NO: 6337

SPANNENBERG & SON PTY LTD
builders & contractors

CONSTRUCTION NOTES:

- THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS PROVIDED.
- WHERE OTHER CONSULTANTS DRAWINGS ARE REQUIRED SUCH MUST TAKE PRECEDENCE TO THESE DRAWINGS.
- ALL DIMENSIONS PROVIDED ARE TO BE CHECKED AND VERIFIED BY THE BUILDER/CONTRACTOR/OWNER PRIOR TO COMMENCEMENT OF WORKS. DO NOT SCALE OFF DRAWINGS.
- LEVELS SHOWN ARE APPROXIMATE AND SHOULD BE CHECKED AND CONFIRMED ON SITE.
- WHERE NOT INDICATED BY THESE PLANS, IT REMAINS THE RESPONSIBILITY OF THE BUILDER/CONTRACTOR TO LOCATE ALL SITE SERVICES PRIOR TO ANY EXCAVATION/CONSTRUCTION.
- ALL BOUNDARY CLEARANCES MUST BE VERIFIED BEFORE COMMENCEMENT OF ANY BUILDING WORKS BY A REGISTERED SURVEYOR.
- ANY INCONSISTENCIES TO BE REPORTED TO SKETCH STUDIO 77.
- PLANS TO BE READ IN CONJUNCTION WITH BUILDERS TENDER.
- WHERE DISCREPANCIES OCCUR BUILDERS TENDER SHALL TAKE PRECEDENCE.
- ALL BRICKWORK SHALL BE IN ACCORDANCE WITH AS3700.
- ALL TIMBER FRAMING SHALL BE IN ACCORDANCE WITH AS1684.
- ELECTRICIAN TO SUPPLY AND INSTALL APPROVED HARD WIRED SMOKE ALARMS IN ACCORDANCE WITH AS3786.
- ALL PROPOSED FLOOR LEVELS AND OTHER RELATED RL'S NOMINATED ARE SUBJECT TO +/-100mm.

PROPOSED:

NEW RESIDENCE

CLIENT:

SPANNENBERG & SON

LOCATION:

**LOT: 5 DP: 237925
108 CABARITA ROAD,
AVALON BEACH 2107**

COUNCIL:

NORTHERN BEACHES

DESIGNED BY:

PETER GULIKOV

DRAWN BY:

P. GULIKOV

DESIGN:

HOUSE

PAPER:

A3

DRAWING:

SITE PLAN

SHEET:

101

REFERENCE:

SB-00067

REVISION:

B02

DEVELOPMENT CALCULATIONS

LOT AREA: 695.50sqm

EXISTING AREAS

GROUND FLOOR: 111.73sqm
SUBFLOOR: 110.99sqm
FIRST FLOOR: 68.06sqm
SUBFLOOR DECK: 13.01sqm
POOL AREA: 96.16sqm
PORCH: 3.29sqm
GF DECK 1: 12.57sqm
GF DECK 2: 13.01sqm
GF DECK 3: 2.32sqm

PROPOSED AREAS

FIRST FLOOR: 27.55sqm
GF DECK: 36.14sqm
FF DECK: 19.36sqm

TOTAL AREA: 514.19sqm

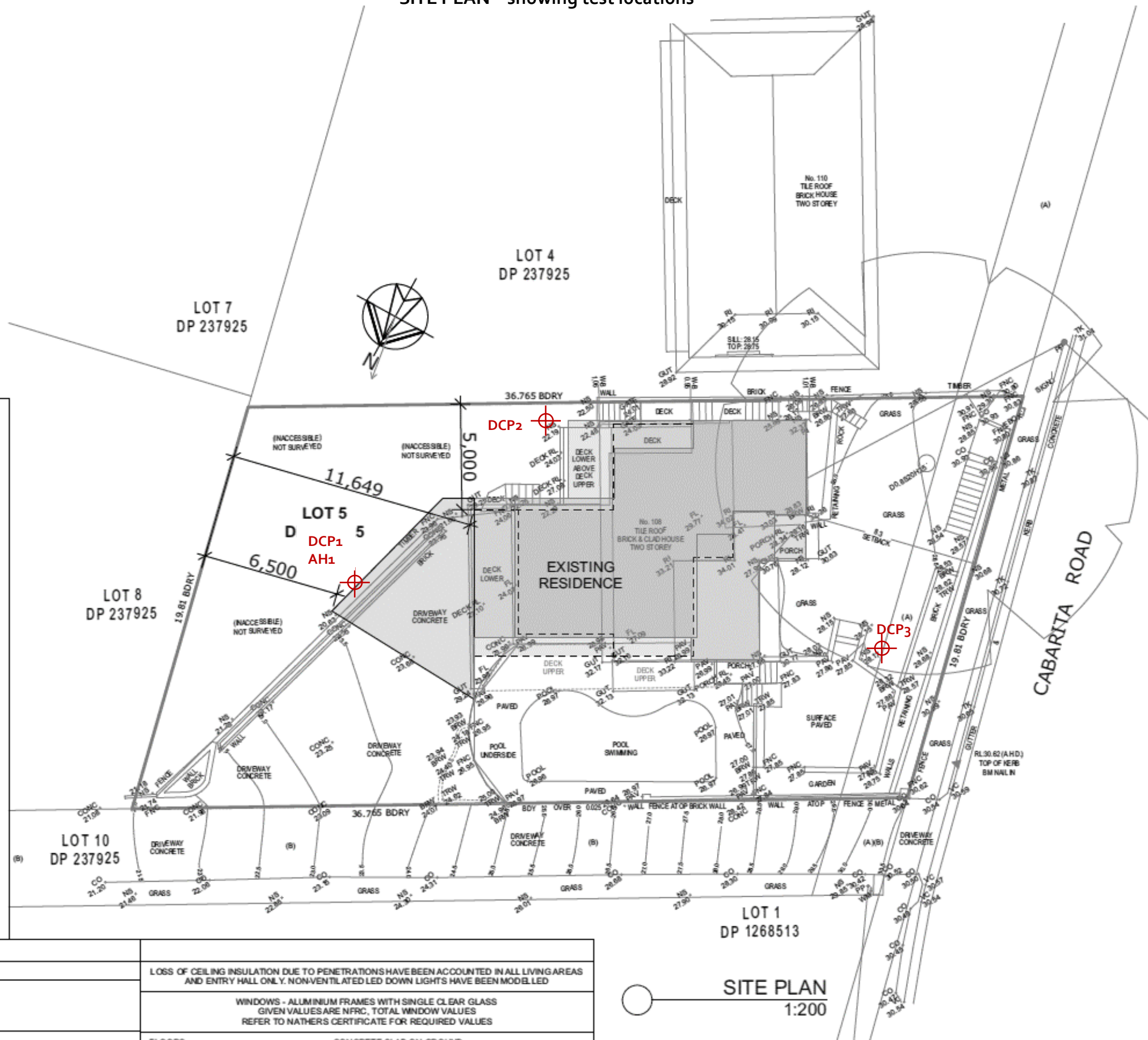
FLOOR AREA: 318.33sqm
FLOOR COVER AREA: 222.72sqm
SITE COVER RATIO: 32.02%

LANDSCAPING AREA: 248.30sqm
LANDSCAPING RATIO: 35.70%

ROOF AREA: 149sqm

BASIX NOTES	
STORMWATER DETAILS	
RAINWATER TANK / RETICULATED	N/A
MIN. RAINWATER TANK SIZE	N/A
HARVESTED ROOF AREA	N/A
CONNECT TO:	N/A
WATER	
KITCHEN & BATHROOM TAP RATING	4 STARS
SHOWER HEAD RATING	3 STAR (>6L BUT <= 7.5L/MIN)
TOILET RATING	4 STARS
THERMAL COMFORT / ENERGY	
EXT. WALL INSULATION (EXCL GARAGE)	R2.2
EXT. WALL COLOUR	LIGHT
INT. WALL INSULATION (GARAGE)	R2.2
ROOF MATERIAL	TILE/METAL
ROOF INSULATION	SARKING/ANTICON BLANKET
ROOF COLOUR	DARK ROOF - SA >0.7
CEILING INSULATION (EXCL GARAGE)	R4.0
FLR INSULATION	
UPPER FLOOR AND GARAGE/OUTDOOR	R2.0 (2-STORY DWELLINGS ONLY)

LOSS OF CEILING INSULATION DUE TO PENETRATIONS HAVE BEEN ACCOUNTED IN ALL LIVING AREAS AND ENTRY HALL ONLY. NON-VENTILATED LED DOWN LIGHTS HAVE BEEN MODELLED	
WINDOWS - ALUMINIUM FRAMES WITH SINGLE CLEAR GLASS GIVEN VALUES ARE NFRC, TOTAL WINDOW VALUES REFER TO NATHER'S CERTIFICATE FOR REQUIRED VALUES	
FLOORS	CONCRETE SLAB ON GROUND
FLOOR COVERINGS	N/A
HOT WATER SYSTEM	N/A
AIR CONDITIONING	N/A
EER or STAR RATING	N/A
VENTILATION	N/A
COOKING APPLIANCES:	N/A
OTHER	N/A
ENERGY EFFICIENT LIGHTING THROUGHOUT	
IN ADDITION TO THE BASIX REQUIREMENTS, ALL NEW RESIDENTIAL DWELLINGS MUST COMPLY WITH: NSW PART 3.12.1 BUILDING SEALING & 3.12.5.0 - 3.12.5.3 IN VOLUME TWO OF THE NCC	
VENTILATED ROOF SPACE	



SITE PLAN
1:200

OWNER'S ACKNOWLEDGMENT

The owner hereby acknowledges that these drawings are correct illustrations of the house to be built at the job address pursuant to the building contract between the owner and the builder.

Notwithstanding the owner's acknowledgment herein, the builder's quotation that forms part of the building contract shall take precedence over these drawings should there be any discrepancies between them.

OWNER SIGNATURE

DATE

OWNER SIGNATURE

DATE

DEMOLISHED STRUCTURE
DASHED RED AS SHOWN

ALL PROPOSED ELEMENTS
SUBJECT TO ENGINEERS DETAIL
AND SITE CONDITIONS

TYPE SECTION – Diagrammatical Interpretation of expected Ground Materials

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ISSUED STATING OTHERWISE.

SKETCH
STUDIO
77

2/85 LASSO RD, GREGORY HILLS NSW 2557
02 9043 1498 | admin@ss77.com.au

THE NOMINATED DESIGNER FOR SKETCH STUDIO 77 PTY
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108 CABARITA ROAD,
AVALON BEACH 2107

COUNCIL:

NORTHERN BEACHES

DESIGNED BY:

PETER GULIKOV

DRAWN BY:

P. GULIKOV

DESIGN:

HOUSE

PAPER:

A3

DRAWING:

SECTION & DETAILS

SHEET:

501

REFERENCE:

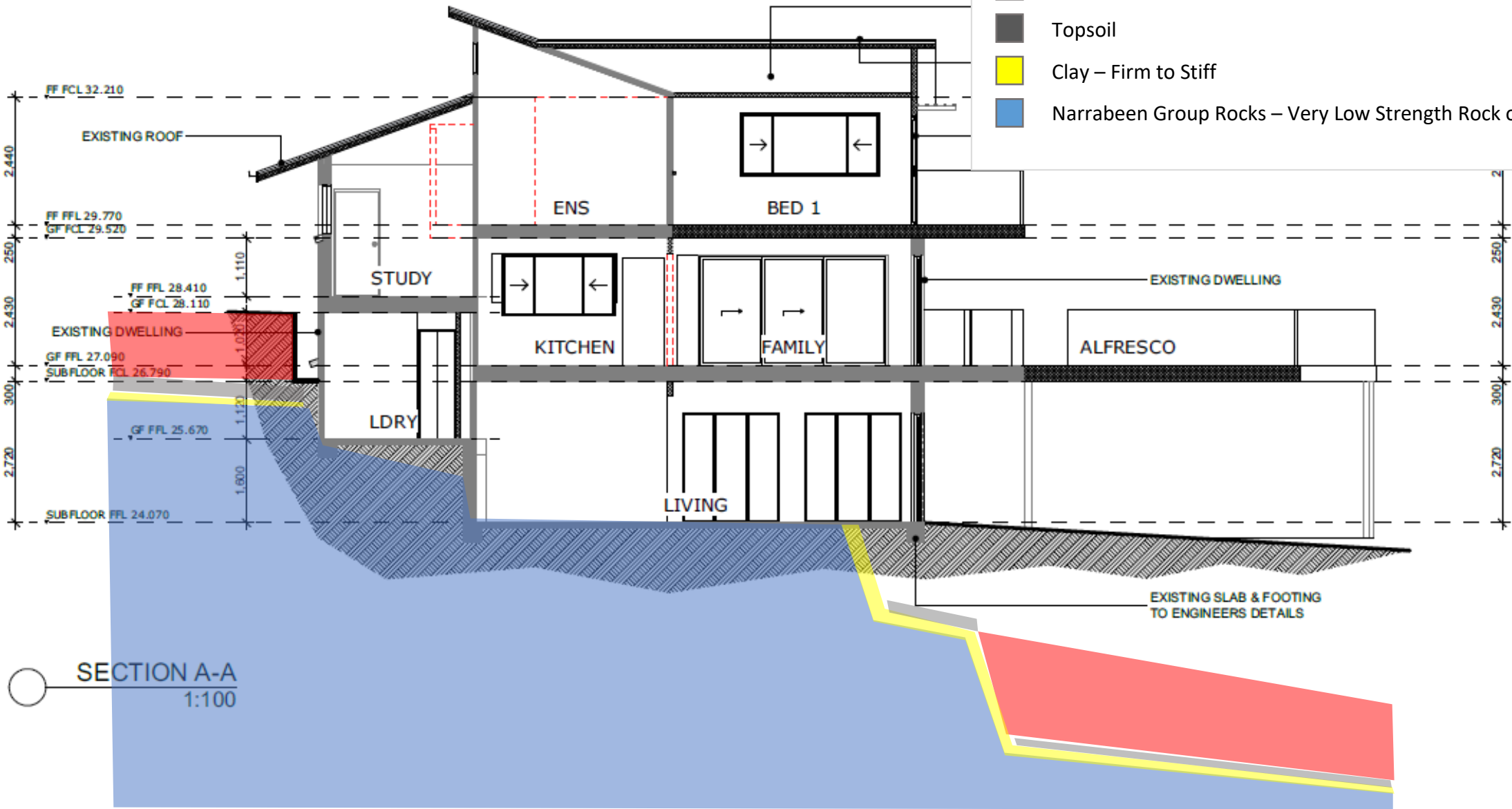
SB-00067

REVISION:

B02

Expected Ground Materials

- Fill
- Topsoil
- Clay – Firm to Stiff
- Narrabeen Group Rocks – Very Low Strength Rock or better



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The owner hereby acknowledges that these drawings are correct illustrations of the house to be built at the job address pursuant to the building contract between the owner and the builder.

Notwithstanding the owner's acknowledgment herein, the builder's quotation that forms part of the building contract shall take precedence over these drawings should there be any discrepancies between them.

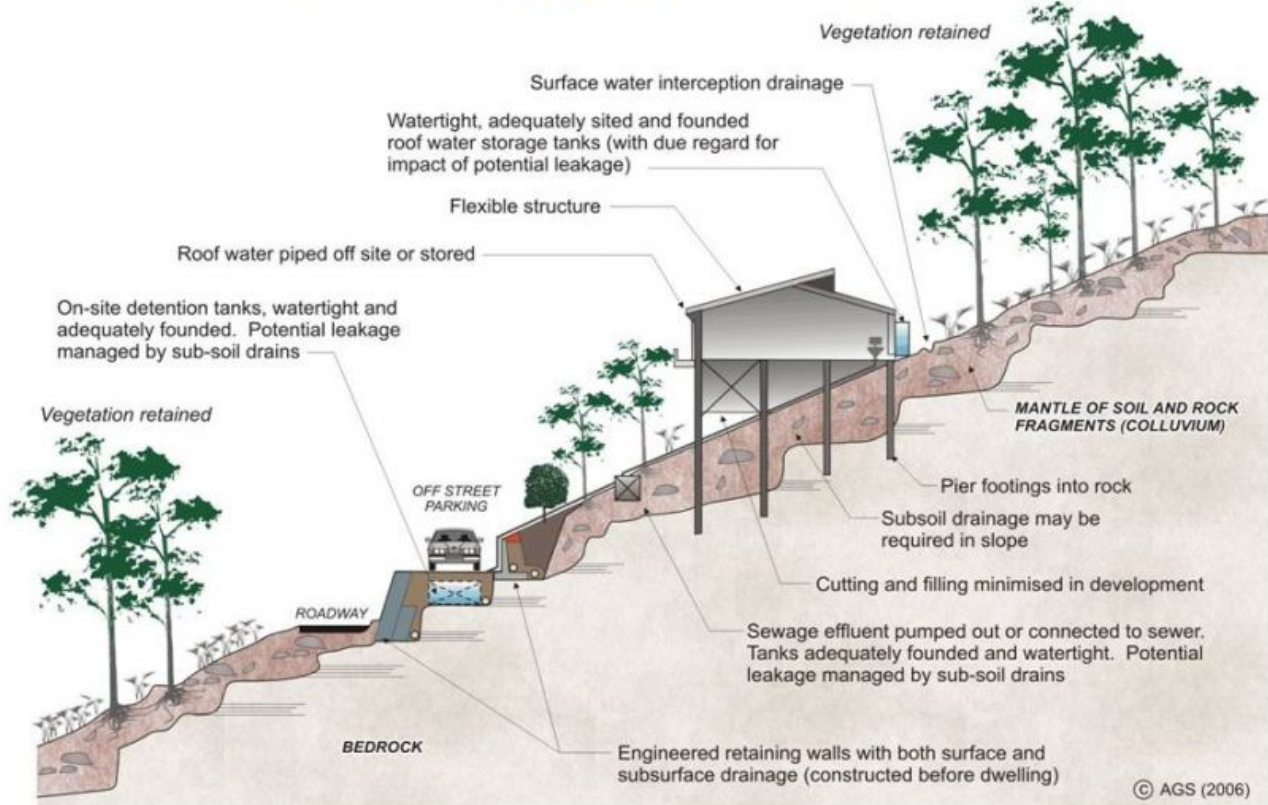
OWNER SIGNATURE

DATE

OWNER SIGNATURE

DATE

EXAMPLES OF **GOOD** HILLSIDE PRACTICE



EXAMPLES OF **POOR** HILLSIDE PRACTICE

