

11 Coolawin Road, Avalon Beach

Comments on Updates to Plans

We have reviewed the existing geotechnical report, the plans used to carry out the report, and the updated plans for DA shown on 4 drawings prepared by RK Designs, Project number 21-101, sheets numbered 0 to 3, Issue A, dated 1/10/21.

The changes include:

- Relocating the proposed granny flat. This reduces the proposed excavation from ~2.0m to ~0.9m and increases the proposed set back from the upslope retaining wall from close to flush to ~0.4m (allowing for back-wall drainage).
- Various other minor modifications.

Provided the excavation support advice in the original report is followed, the proposed changes do not significantly alter the recommendations or the risk assessment in the report carried out by this firm numbered J3810 and dated the 25th October, 2021.

White Geotechnical Group Pty Ltd.



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

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

Development Application for _____
Name of Applicant

Address of site 11 Coolawin 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 28/10/21 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 11 Coolawin Road, Avalon Beach
Report Date: 25/10/21


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>11 Coolawin 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>11 Coolawin Road, Avalon Beach</u>
Report Date: <u>25/10/21</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 18/10/21
(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 18/10/21
- ☒ 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:

New Granny Flat at 11 Coolawin Road, Avalon Beach

1. Proposed Development

- 1.1** Construct a new granny flat on the downhill side of the property by excavating to a maximum depth of ~2.0m into the slope.
- 1.2** Details of the proposed development are shown on 5 drawings prepared by RK Designs, project number 21-101, sheets numbered 0 to 4, Issue A, dated 1/10/21.

2. Site Description

- 2.1** The site was inspected on the 18th October, 2021.
- 2.2** This irregularly-shaped residential property has access from three separate road frontages. It is on the downhill side of The Knoll, is level with Palmgrove Road, and is on the uphill side of Coolawin Road. The property has a NW aspect. It is located on the moderately graded upper reaches of a hillslope. The natural slope rises across the property at an average angle of ~14° before easing to gentle angles near the crest of the slope at The Knoll. The slope below the property gradually eases in grade.
- 2.3** At the road frontage to Palmgrove Road, a gravel driveway runs to a garage under the downhill side of the house (Photos 1 & 2). The fill for the driveway and for a lawn area on the downhill side of the house is supported by a stable mortared sandstone block retaining wall ~1.4m high (Photo 3). Between this wall and the road frontage for Coolawin Road is a gentle to moderate slope with a dense covering of native and exotic grasses and shrubs (Photo 4). The part two-storey rendered masonry and timber framed and clad house is supported on masonry walls (Photo 5). No significant signs of movement were observed in the supporting wall of the house. Between the driveway, house, and road frontage to The Knoll, the slope has been

terraced with a series of low sandstone flagging walls (Photo 6). The fill for The Knoll is supported by a stable ~0.5m high timber retaining wall that lines the road frontage (Photo 7).

3. Geology

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

4. Subsurface Investigation

Four Dynamic Cone Penetrometer (DCP) tests were put down to determine the relative density of the overlying soil and the depth to weathered rock. 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:

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 (~RL48.8)	DCP 2 (~RL49.7)	DCP 3 (~RL51.2)	DCP 4 (~RL52.6)
0.0 to 0.3	16	27	7	8
0.3 to 0.6	26	50	15	24
0.6 to 0.9	37	#	27	33
0.9 to 1.2	#		#	#
	End of Test @ 0.9m	End of Test @ 0.5m	Refusal on Rock @ 0.9m	End of Test @ 0.9m

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

DCP Notes:

DCP1 – End of test @ 0.9m, DCP still very slowly going down, grey and maroon shale on dry tip.

DCP2 – End of test @ 0.5m, DCP still very slowly going down, brown shale on dry tip.

DCP3 – Refusal on rock @ 0.9m, DCP bouncing off rock surface, orange shale fragments on dry tip.

DCP4 – End of test @ 0.9m, DCP still very slowly going down, orange shale on dry 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 a thin silty soil over firm to hard silty clays. The silty clays merge into the underlying weathered rock at an average depth of ~0.6m below the current surface in the location of the proposed granny flat. The weathered zone is interpreted to be Extremely Low to Very Low Strength Shale. 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 excavation.

7. Surface Water

No evidence of surface flows were observed on the property during the inspection. As the property is located immediately below the crest of the hill, any surface flows will be generated immediately above the property and will flow onto the property as The Knoll is not guttered above the subject property.

8. Geotechnical Hazards and Risk Analysis

No geotechnical hazards were observed below or beside the property. The moderately graded slope that rises across the property and continues below is a potential hazard (**Hazard One**).

The proposed excavation collapsing onto the work site before permanent support is in place is a potential hazard (**Hazard Two**). The proposed excavation undercutting the footings of the sandstone block retaining wall is a potential hazard (**Hazard Three**).

Risk Analysis Summary

HAZARDS	Hazard One	Hazard Two	Hazard Three
TYPE	The moderately graded slope that rises across the property and continues below is a potential hazard.	The unsupported cut batters of the excavation collapsing onto the work site before permanent support is in place.	The proposed excavation undercutting the footings of the sandstone block retaining wall and causing movement (Photo 3).
LIKELIHOOD	'Unlikely' (10^{-4})	'Possible' (10^{-3})	'Possible' (10^{-3})
CONSEQUENCES TO PROPERTY	'Medium' (12%)	'Medium' (12%)	'Medium' (15%)
RISK TO PROPERTY	'Low' (2×10^{-5})	'Moderate' (2×10^{-4})	'Moderate' (2×10^{-4})
RISK TO LIFE	9.1×10^{-7} /annum	5.6×10^{-5} /annum	4.8×10^{-5} /annum
COMMENTS	This level of risk is 'ACCEPTABLE'.	This level of risk to life and property is 'UNACCEPTABLE'. To move the risk levels to acceptable levels, the recommendations in Section 13 are to be followed.	This level of risk to life and property is 'UNACCEPTABLE'. To move the risk levels to acceptable levels, the recommendations in Section 13 are to be 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

There is fall to Coolawin Road. Roof water from the development is to be piped to the street drainage system through any tanks that may be required by the regulating authorities.

11. Excavations

An excavation to a maximum depth of ~2.0m is required to construct the proposed granny flat. It is expected the excavation will be through a thin silty topsoil over a firm to hard clay and Extremely Low to Very Low Strength Shale.

Excavations through soil, clay, and Extremely Low to Very Low Strength Shale can be carried out with an excavator and bucket.

12. Vibrations

No excessive vibrations will be generated by excavation through soil, clay, or Extremely Low to Very Low Strength Shale. Any vibrations generated by a domestic machine and bucket up to 16 ton will be below the threshold limit for infrastructure or building damage.

13. Excavation Support Requirements

The excavation will reach a maximum depth of ~2.0m and will come flush with the sandstone block retaining wall below the house (Photo 3). The excavation will be set back sufficiently from all other surrounding structures and boundaries. As such, the sandstone block retaining wall will be within the zone of influence of the proposed excavation.

Where the retaining wall falls within the zone of influence of the excavation, exploration pits in this location will need to be put down by the builder to determine the foundation depth and material. The pits are to be inspected by the geotechnical consultant.

If the wall is found to be supported below the base of the proposed excavation, the excavation may commence. If it is not supported below the base of the proposed excavation, the wall will need to be underpinned prior to the excavation commencing. See the site plan attached showing the minimum extent of the required exploration pits/underpinning.

Underpinning is to follow the underpinning sequence 'hit one miss two'. Under no circumstances is the bulk excavation to be taken to the edge of the wall and then underpinned. Underpins are to be constructed from drives that should be proportioned according to footing type and size. Allowances are to be made for drainage through the underpinning to prevent a build-up of hydrostatic pressure. Underpins that are not designed as retaining walls are to be supported by retaining walls. The void between the retaining walls and the underpinning is to be filled with free-draining material such as gravel.

Where underpinning is not required, the cut batters of the proposed excavation are expected to stand unsupported for a short period until the retaining walls are in place.

Upslope runoff is to be diverted from the cut faces by sandbag mounds or other diversion works. Unsupported cut batters are to be covered to prevent access of water in wet weather and loss of moisture in dry weather. The covers are to be tied down with metal pegs or other suitable fixtures so they can't blow off in a storm. The materials and labour to construct the retaining walls are to be organised so on completion of the excavations they can be constructed as soon as possible. The excavations are to be carried out during a dry period. No excavations are to commence if heavy or prolonged rainfall is forecast.

All excavation spoil is to be removed from site following the current Environmental Protection Agency (EPA) waste classification guidelines.

14. Retaining Walls

For cantilever or singly-propped retaining walls, it is suggested the design be based on a triangular pressure distribution of lateral pressures using the parameters shown in Table 1.

Table 1 – Likely Earth Pressures for Retaining Walls

Unit	Earth Pressure Coefficients		
	Unit weight (kN/m ³)	'Active' K _a	'At Rest' K ₀
Soil and Residual Clays	20	0.40	0.55
Extremely Low Strength Rock	22	0.25	0.35
Rock Up to Low Strength Rock	24	0.25	0.35

For rock classes refer to Pells et al "Design Loadings for Foundations on Shale and Sandstone in the Sydney Region". Australian Geomechanics Journal 1978.

It is to be noted that the earth pressures in Table 1 assume a level surface above the wall, do not account for any surcharge loads (such as the fill/retaining wall immediately above the proposed cut), and assume retaining walls are fully drained. Rock strength and relevant earth pressure coefficients are to be confirmed on site by the geotechnical consultant.

All retaining walls are to have sufficient back-wall drainage and be backfilled immediately behind the wall with free-draining material (such as gravel). This material is to be wrapped in a non-woven Geotextile fabric (i.e., Bidim A34 or similar), to prevent the drainage from becoming clogged with silt and clay. If no back-wall drainage is installed in retaining walls, the likely hydrostatic pressures are to be accounted for in the structural design.

15. Foundations

The proposed granny flat can be supported on spread footings and piers taken to Extremely Low to Very Low Strength Shale. This ground material is expected to be exposed across a portion of the base of the excavation. Where the slope falls away on the downhill side, this material is expected at a maximum depth of ~0.6m below the current surface. A maximum allowable bearing pressure of 600kPa can be assumed for footings on Extremely Low to Very Low Strength Shale. 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.

As the bearing capacity of clay and shale reduces when it is wet, we recommend the footings be dug, inspected, and poured in quick succession (ideally the same day if possible). If the footings get wet, they will have to be drained and the soft layer of wet clay or shale on the footing surface will have to be removed before concrete is poured.

If a rapid turnaround from footing excavation to the concrete pour is not possible, a sealing layer of concrete may be added to the footing surface after it has been cleaned.

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.

16. Geotechnical Review

The structural plans are to be checked and certified by the geotechnical consultant 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.

17. Inspections

The client and builder are to familiarise themselves with the following required inspections as well as council geotechnical policy. We cannot provide geotechnical certification for the

regulating authorities or the owner if the following inspections have not been carried out during the construction process.

- The geotechnical consultant is to inspect any test pits dug by the builder to verify foundation depth and material of the existing footings.
- 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

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.

SITE PLAN – showing test locations

Minimum extent of required exploration pits/underpinning shown in blue

DCP1

DCP2

DCP3

DCP4

THE MOUL (12.19 WIDE)

Old Garage The Road

No. 2

No. 11

No. 12

No. 13

No. 14

No. 15

No. 16

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1 : 200

PRELIMINARY
DO NOT USE FOR CONSTRUCTION



All dimensions are to be confirmed on site by the builder/subcontractor, any incongruencies must be reported to the Designer before commencement of any work.

No Survey has been made on the boundaries, all bearings, distances and areas have been taken from the contour survey plan. A Survey must be carried out to confirm the exact boundary locations.

No construction work shall commence until a site survey confirming the site boundaries has been completed. The contractor is to ensure that the boundary setbacks are confirmed and used, the boundary setbacks take precedence over all other dimensions. The Survey work must be performed by a registered Surveyor.

In the event of encountering any discrepancies on these drawings, specification or subsequent instructions issued, the Builder/Subcontractor shall contact the designer before proceeding further with any work.

All construction, control joints and expansion joints in the wall, floors, other locations shall be in strict accordance with the Structural Engineering details. No joints or breaks other than specified, are allowed without written permission from the Engineer.

Measurements for the fabrication of secondary components such as, windows, doors, internal frames, structural steel components and the like, are not to be taken from these documents. Measurements must be taken on site to suit the work as constructed.

All structural components shall be in strict accordance to details and specifications as prepared by a structural engineer.

All existing structures need to be examined for structural adequacy, and it is the Contractor's responsibility to ensure that a certificate of structural adequacy is available prior to the start of any work.

drawn	date	issue	amendment
EC	01/10/21	A	ISSUE FOR DA

project
PROPOSED CONSTRUCTION OF A GRANNY FLAT AT 11
COOLAWIN ROAD, AVALON BEACH 2107 LOT 2 DP
734942

client
ROSS & SOPHIE BUTLER



true north



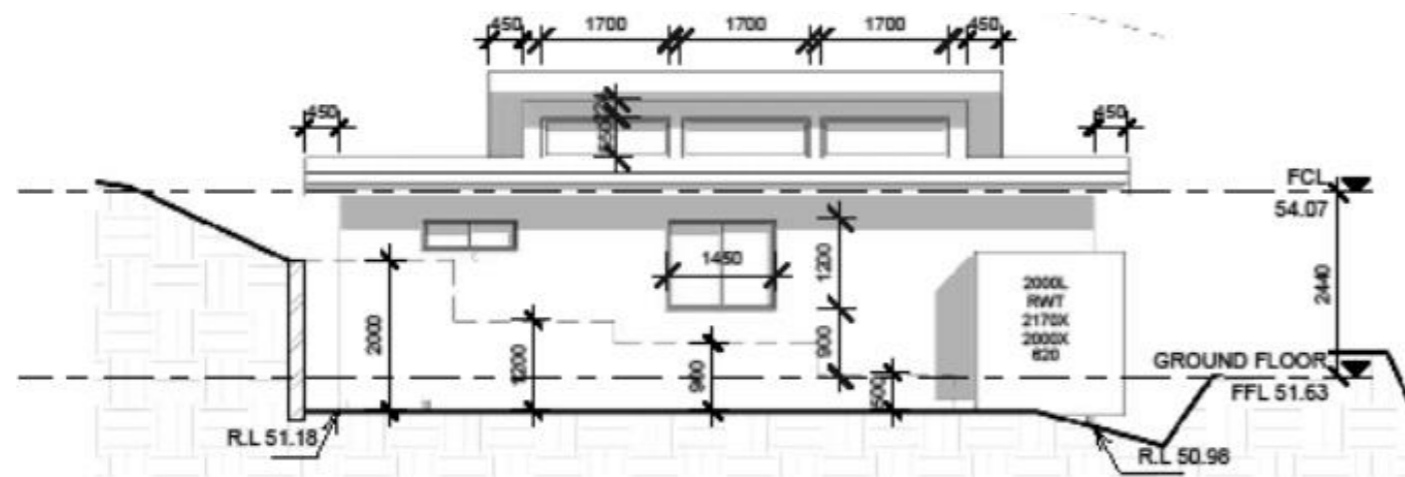
SITE AND ROOF PLAN

project no	date	sheet no.	scale @ A3	issue	drawn
21-101	01/10/21	1	1:200	A	RK

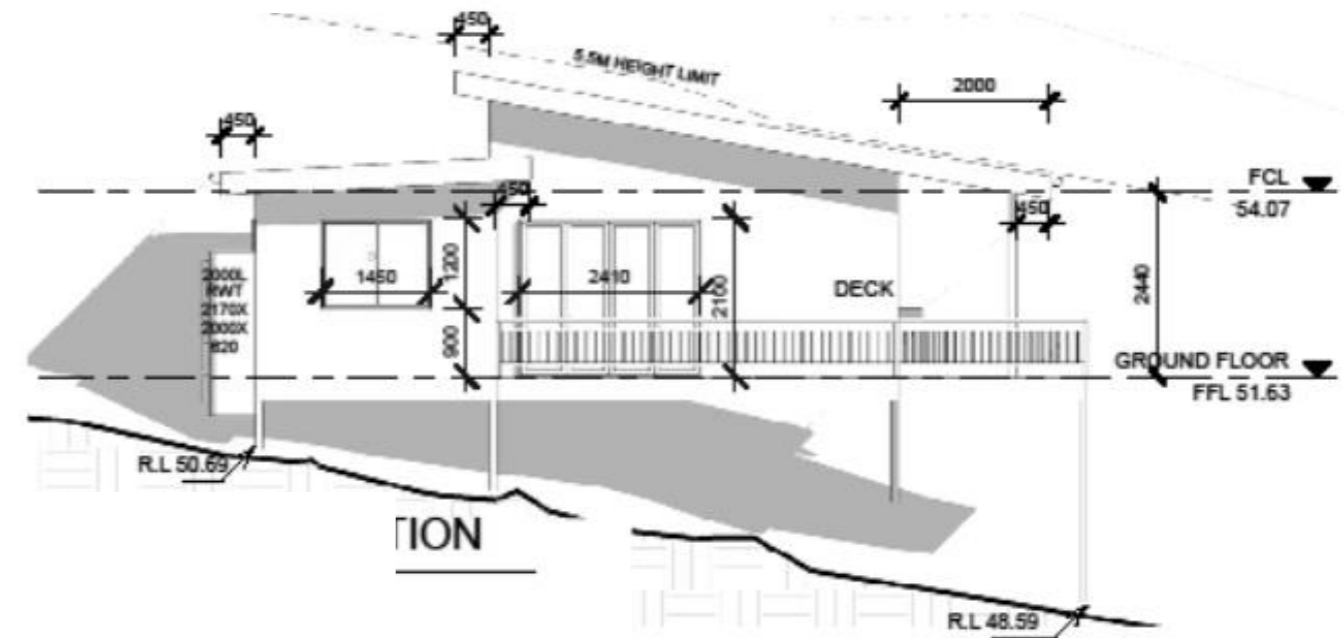
6/7 Parkes street.
Parramatta NSW 2150
www.rkdesigns.com.au
admin@rkdesigns.com.au
02 9633 4797
abr. 393 300 330 53
spaces designed for life

RK
DESIGNS

TYPE SECTION – Diagrammatical Interpretation of expected Ground Materials

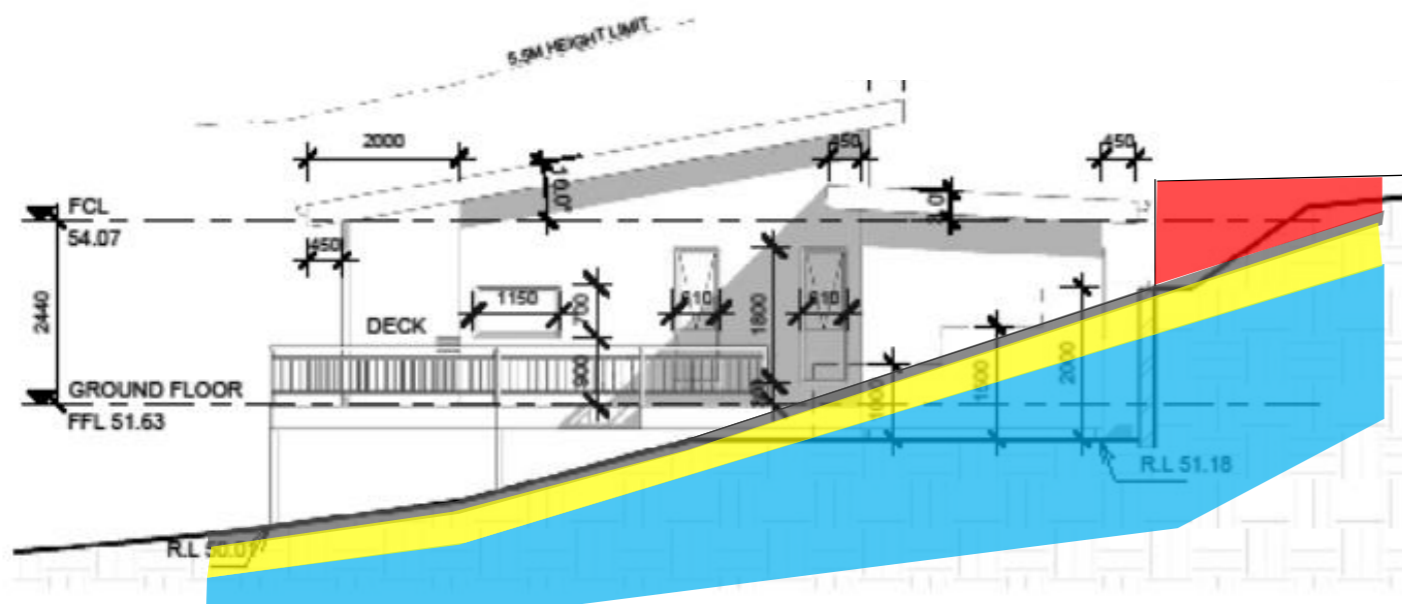


1 EAST ELEVATION
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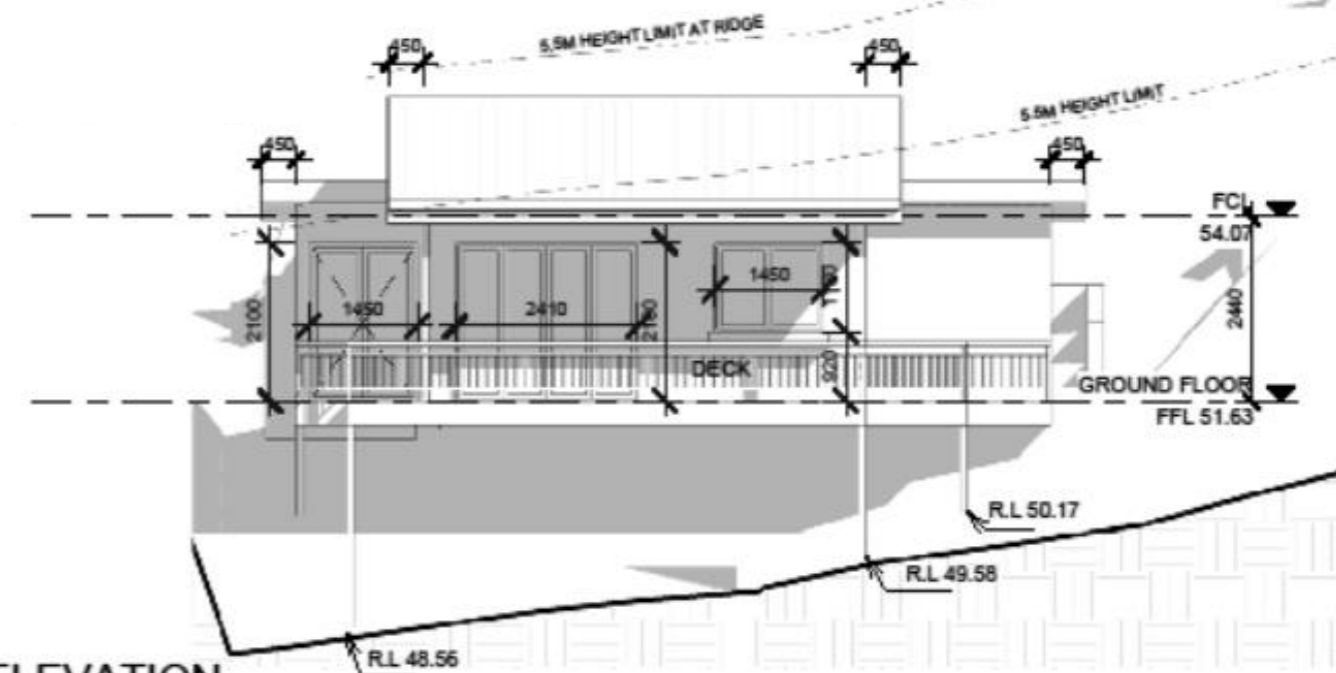


3 SECTION A - A
1 : 100

- Fill
- Topsoil
- Silty Clay – Firm to Hard
- Narrabeen Group Rocks – Extremely Low Strength Shale - after being cut up by excavation equipment can resemble a stiff to hard clay.



4 SOUTH ELEVATION
1 : 100



5 WEST ELEVATION
1 : 100

GENERAL NOTES

- All dimensions are to be confirmed on site by the builder/subcontractor, any incongruities must be reported to the Designer before commencement of any work.
- No Survey has been made on the boundaries, all bearings, distances and areas have been taken from the contour survey plan. A Survey must be carried out to confirm the exact boundary locations.
- No construction work shall commence until a site survey confirming the site boundaries has been completed. The contractor is to ensure that the boundary setbacks are confirmed and used, the boundary setbacks take precedence over all other dimensions. The Survey work must be performed by a registered Surveyor.
- In the event of encountering any discrepancies on these drawings, specification or subsequent instructions issued, the Builder/Subcontractor shall contact the designer before proceeding further with any work.
- All construction, control joints and expansion joints in the wall, floors, other locations shall be in strict accordance with the Structural Engineering details. No joints or breaks other than specified, are allowed without written permission from the Engineer.
- Measurements for the fabrication of secondary components such as, windows, doors, internal frames, structural steel components and the like, are not to be taken from these documents. Measurements must be taken on site to suit the work as constructed.
- All structural components shall be in strict accordance to details and specifications as prepared by a structural engineer.
- All existing structures need to be examined for structural adequacy, and it is the Contractor's responsibility to ensure that a certificate of structural adequacy is available prior to the start of any work.

drawn	date	issue	amendment
EC	01/10/21	A	ISSUE FOR DA

project
PROPOSED CONSTRUCTION OF A GRANNY FLAT AT 11 COOLAWIN ROAD, AVALON BEACH 2107 LOT 2 DP 734042.

client
ROSS & SOPHIE BUTLER

Bungalow Homes

true north

drawing
ELEVATIONS AND SECTIONS

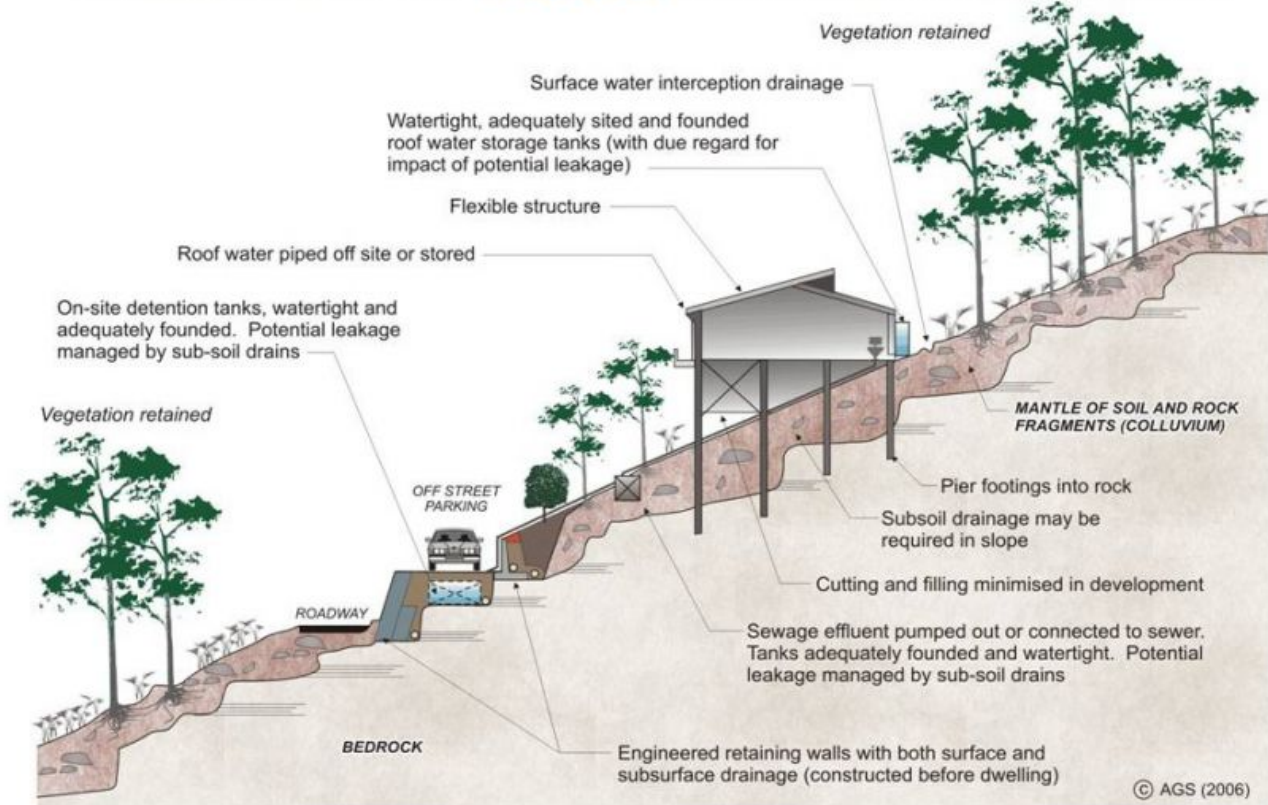
project no	date	sheet no.	scale @ A3	issue	drawn
21-101	01/10/21	3	1 : 100	A	RK

bdoo
ACCREDITED
BUILDING DESIGNER

6/7 Parkes Street,
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