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

Development Application for _____
Name of Applicant

Address of site 17 Corniche Road, Church Point

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 3/3/22 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 **17 Corniche Road, Church Point**
Report Date: 3/3/22

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 17 Corniche Road, Church Point

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 **17 Corniche Road, Church Point**

Report Date: 3/3/22

Author: BEN WHITE

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

Please mark appropriate box

☒ Comprehensive site mapping conducted **7/12/21**
(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 **7/12/21**

☒ 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

J3948.
3rd March, 2022.

GEOTECHNICAL INVESTIGATION:

Alterations and Additions and New Carport at **17 Corniche Road, Church Point**

1. Proposed Development

1.1 Construct an extension to the uphill side of the house by excavating to a maximum depth of ~0.6m.

1.2 Construct a suspended carport on the uphill side of the property.

1.3 Landscape the downhill side of the property by filling to a maximum height of ~1.3m.

1.4 Various other minor internal and external alterations.

1.5 Details of the proposed development are shown on 23 drawings prepared by JJ Drafting, Job number 946/20, drawings numbered DA.01 to DA.23, dated 01/02/22.

2. Site Description

2.1 The site was inspected on the 7th December, 2021.

2.2 This residential property is located off the low side of the turning circle at the end of the street. It has a S aspect. The block is located on the moderate to steeply graded middle reaches of a hillslope. The slope falls across the property at angles averaging ~15°. The slopes above and below the property continue at similar angles.

2.3 At the road frontage, a concrete driveway runs to a parking area on the uphill side of the property (Photo 1). The cut batter for the driveway is lined with a ~1.0m high sandstone flagging wall. Between the road frontage and the house is a moderately sloping garden area (Photo 2). The part two-storey brick house is supported on brick walls (Photo 3). The external brick walls show no significant signs

of movement. A pool has been partially cut into the slope on the downhill side of the property (Photo 4). No significant signs of movement were observed in the concrete shell of the pool. A fill for a level lawn area to the SE of the pool is supported by a ~1.5m high timber log retaining wall. This wall is to be demolished as part of the proposed works. In between the pool and the lower common boundary is a paved patio area. This patio area is to be demolished as part of the proposed works. A moderately sloping garden area falls to a level lawn area at the lower common boundary (Photo 5 & 6). The fill for the level lawn area is supported by a stable timber retaining wall reaching up to ~0.5m in height.

3. Geology

The Sydney 1:100 000 Geological sheet indicates the contact of the Hawkesbury Sandstone and the Newport Formation of the Narrabeen Group cuts the property. The contact is likely located near the lower common boundary or below the property as DCPs 2, 3, and 4 Refused. Hawkesbury Sandstone is expected to underlie the proposed works. It is described as a medium to coarse grained quartz sandstone with very minor shale and laminite lenses.

4. Subsurface Investigation

One hand Auger Hole (AH) was put down to identify the soil materials. Four 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 (~RL26.0) **–** AH1 (Photo 7)

Depth (m)	Material Encountered
0.0 to 0.2	**TOPSOIL**, dark brown, medium grained, loose to medium dense, dry.
0.2 to 0.4	**FILL**, dark brown clay, fine to medium grained, loose to medium dense, rock fragments, dry.
0.4 to 1.0	**CLAY**, red and black, fine to medium grained, stiff to firm, damp to wet.
1.0 to 1.2	**CLAY**, mottled yellow, grey, orange, red, fine grain, stiff to very stiff, dry.
1.2 to 1.5	**SAND**, yellow, coarse grained, very dense, dry.

End of test @ 1.5m. No water table encountered.

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** (~RL26.0)	**DCP 2** (~RL28.1)	**DCP 3** (~RL32.5)	**DCP 4** (~RL33.1)
0.0 to 0.3	3	1	6	3
0.3 to 0.6	4	3	10	7
0.6 to 0.9	4	5	16	15
0.9 to 1.2	20	11	32	24
1.2 to 1.5	80	10	45	38
1.5 to 1.8	#	11	#	#
1.8 to 2.1		11		
2.1 to 2.4		#		
	End of Test @ 1.5m	Refusal on Rock @ 2.05m	Refusal on Rock @ 1.4m	Refusal on Rock @1.4m

#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 @ 1.5m, DCP thudding, brown sandy clay on wet tip.

DCP2 – Refusal on rock @ 2.05m, DCP bouncing off rock surface, red clay on dry tip, orange, white, and yellow sandy clay in collar.

DCP3 – Refusal on rock @ 1.4m, DCP thudding, white impact dust on dry tip.

DCP4 – Refusal on rock @ 1.4m, DCP thudding, white impact dust on dry tip.

5. Geological Observations/Interpretation

The surface features of the block are controlled by the underlying sandstone bedrock that steps down the property forming sub-horizontal benches between the steps. Where the grade is steeper, the steps are larger and the benches narrower. Where the slope eases, the opposite is true. The rock is overlain by soils and clays that fill the bench step formation. Filling has been placed below the house for landscaping. In the test locations, the depth to rock was encountered at depths of between 1.4 to 2.1m below the current surface, being slightly deeper due to the presence of fill and the stepped nature of the underlying bedrock. It is interpreted that a thin layer of Very Low Strength Rock overlies the buried rock in some locations as DCPs 1, 3, and 4 ended after a high blow count. The Very Low Strength Rock is expected to be encountered at depths of between 1.2m to 1.5m below the current surface. Medium Strength Sandstone is expected immediately below the layer of Very Low Strength Sandstone. We point out around the contact of two rock types (sandstone & shale) the rock can be associated with higher groundwater seepage. 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 excavations. As above, ground water seepage may be slightly elevated around the contact of the Hawkesbury Sandstone and Narrabeen Group.

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 Corniche Road above.

8. Geotechnical Hazards and Risk Analysis

No geotechnical hazards were observed beside the property. The moderate to steeply graded slope that falls across the property and continues above and below is a potential hazard (**Hazard One**). The proposed excavation is a potential hazard until retaining walls are in place (**Hazard Two**). The proposed fills for the lawn areas are a potential hazard until retaining walls are in place (**Hazard Three**).

Risk Analysis Summary

HAZARDS	Hazard One	Hazard Two	Hazard Three
TYPE	The moderate to steep slope that falls across the property and continues above and below failing and impacting on the proposed works.	The excavation (up to a maximum depth of ~0.6m) collapsing onto the work site before retaining structures are in place.	The proposed fills (up to a maximum height of 2.9m) failing and impacting the proposed works.
LIKELIHOOD	'Unlikely' (10^{-4})	'Possible' (10^{-3})	'Possible' (10^{-3})
CONSEQUENCES TO PROPERTY	'Medium' (15%)	'Minor' (10%)	'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	8.3×10^{-6}/annum	6.0×10^{-5}/annum
COMMENTS	This level of risk is 'ACCEPTABLE'.	This level of risk to life and property is 'TOLERABLE'. To move risk to 'ACCEPTABLE' levels, the recommendations in **Section 14 and 15** are to be followed.	This level of risk to life and property is 'UNACCEPTABLE'. To move risk to 'ACCEPTABLE' levels the recommendations in **Section 11** 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

The fall is away from the street. The stormwater engineer can refer to council stormwater policy for suitable options.

11. Excavations

An excavation to a maximum depth of ~0.6m is required to create a level platform for the extension to the uphill side of the house.

The excavation is expected to be through soil and clay. Very Low Strength Rock or better is expected at depths of between ~1.4 and ~2.1m below the current surface in the area of the proposed excavation and as such is not likely to be encountered.

It is envisaged that excavations through soils and clays can be carried out with a bucket and excavations through rock will require grinding or rock sawing and breaking.

12. Vibrations

Possible vibrations generated during excavations through soils and clays will be below the threshold limit for building damage. Medium Strength Rock is not expected to be encountered during the proposed excavation.

13. Excavation Support Requirements

The excavation to create a level platform for the extension to the uphill side of the house will reach a maximum depth of ~0.6m. Allowing for 0.5m of backwall drainage, the setbacks are as follows:

- Near flush with the SE boundary.

- ~3.5m from the NW boundary.

As such, only the SE boundary will lie within the zone of influence of the cut for the extension to the uphill side of the house. In this instance, the zone of influence is the area above a theoretical 45° line from the base of the excavation towards the surrounding structures and boundaries. This line reduces to 30° through the fill and soil.

The SE boundary fence is to be braced prior to the excavation commencing.

The cut for the extension to the uphill side of the house is to be temporarily supported along the SE side with braced form ply or similar shoring. The shoring materials and labour are to be organised prior to the excavation commencing so it can be installed during the bulk excavation process. The shoring is to be designed/ approved by the structural engineer. The temporary shoring is to remain in place until permanent retaining walls are constructed. See site plan attached for extent of minimum required shoring.

The remaining sides of the excavation are expected to stand at near-vertical angles for a short period of time until the retaining walls are in place, provided they are kept from becoming saturated.

Upslope runoff is to be diverted from the cut faces by sandbag mounds or other diversion works. Unsupported cut batters through soil and clay 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. Fills

Three fills to create level lawn areas and Four fills to create garden terraces will be placed on the downhill side of the property for landscaping. No fills are to be laid until retaining walls are in place. The fills will reach a maximum depth of between ~0.2m and ~1.3m. The surface is to be prepared before any fills are laid by removing any organic matter and topsoil. Fills are to be laid in a loose thickness not exceeding 0.3m before being moderately compacted. Tracking the machine over the loose fill in 1 to 2 passes should be sufficient. Immediately behind the retaining walls (say to 1.5m), the fills are to be compacted with light weight equipment such as a hand-held plate compactor so as not to damage the retaining walls. Where light weight equipment is used, fills are to be laid in a loose thickness not exceeding 0.2m before being compacted. No structures are to be supported on fill.

15. 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
Fill, Soil, and clay	20	0.40	0.55
Rock Up to Low Strength Rock - Jointed	24	0.25	0.35
Medium Strength Rock	24	0.00	0.10

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 structure, do not account for any surcharge loads, 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 structure 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.

16. Foundations

Retaining walls with concrete footings can be supported on the natural clays. For toe support the downhill edge of the footing/shear key is to be embedded a minimum of 0.3m into the natural undisturbed clay.

If the proposed extension to the uphill side of the house is a flexible structure, and some movement in accordance with a 'Class S' site can be tolerated (i.e., timber framed and clad), it can be supported on spread footings taken to at least 0.4m below the current surface, taken from the downhill side of the footing. A maximum allowable bearing pressure of 200kPa can be assumed for footings on firm to stiff clay.

For the best quality footings, or where little movement can be tolerated (i.e., the structures are of masonry construction) piers can be taken to Very Low Strength Rock or better. This material is expected at a maximum depth of ~1.4m below the current surface in the area of the proposed works.

The depth and material of the existing house foundations are unknown. Where the foundation material changes across the structure it is recommended that construction joints or similar be installed to allow for differential movement, where the structure cannot tolerate such movement in line with a 'Class S' site.

Due to the grade of the slope in the location of the proposed carport, it is recommended it be supported on piers taken to and potted ~0.3m into the underlying Very Low Strength Rock or better. This ground material is expected at depths of between 1.4m to 2.1m below the current surface in the area of the proposed works. As such, the required depths of the piered foundations are expected to be between 1.7m and 2.4m below the current surface measured from the downhill side of the pier hole.

The furthest downhill supporting piers for the carport are to be braced in both directions. The bracing is to be designed by the structural engineer.

A maximum allowable bearing pressure of 600kPa can be assumed for footings on Very Low Strength Rock or better.

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.

17. 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.

18. 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 owners and Occupation Certificate if the following inspections have not been carried out during the construction process.

- The geotechnical consultant is to inspect and test the fill in not more than 1.0m rises. This is to ensure the required density has been achieved during compaction.

- 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.

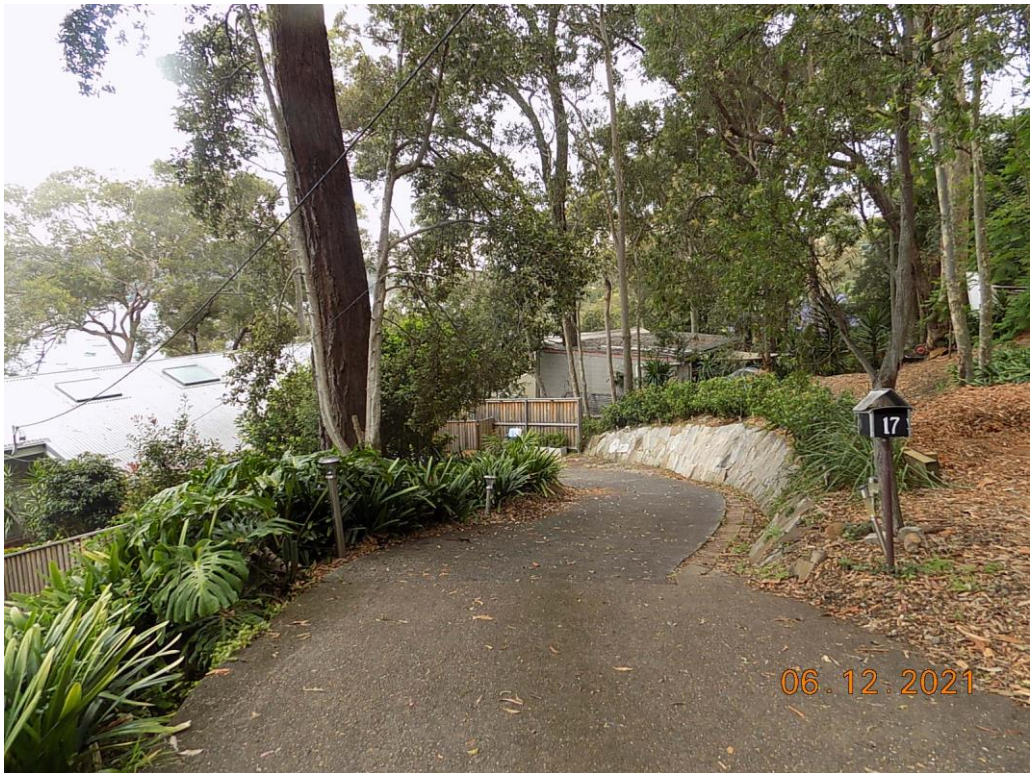


Photo 1 (date on ALL photos should read 7.12.2021)

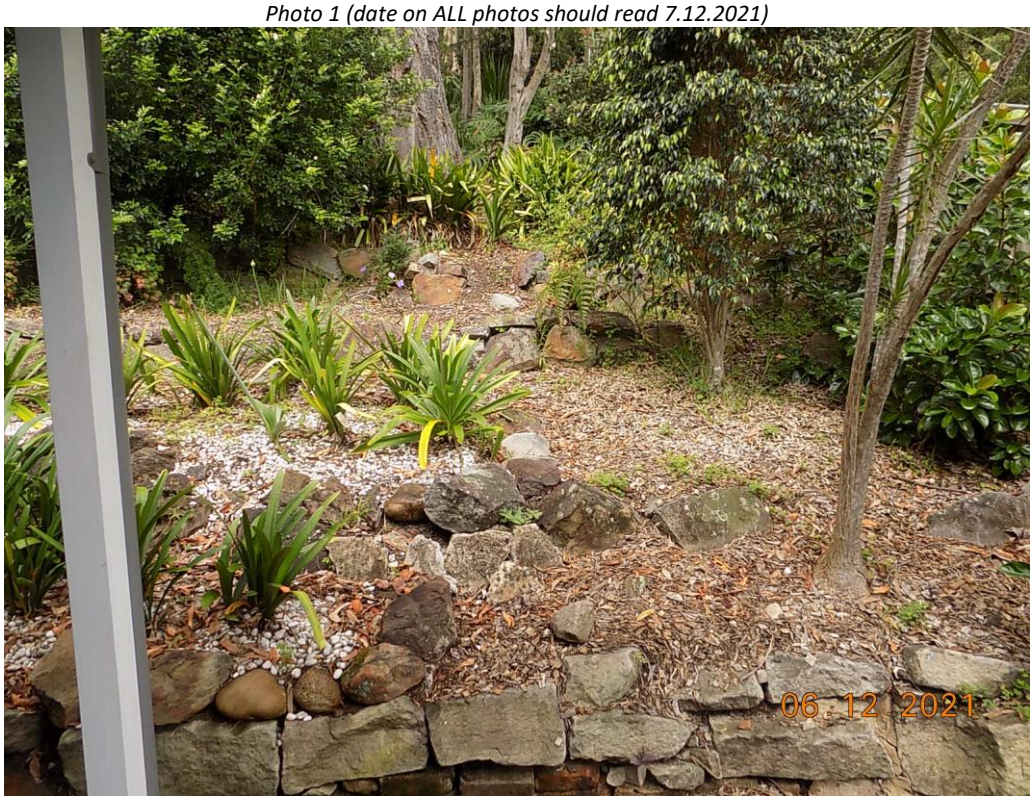


Photo 2

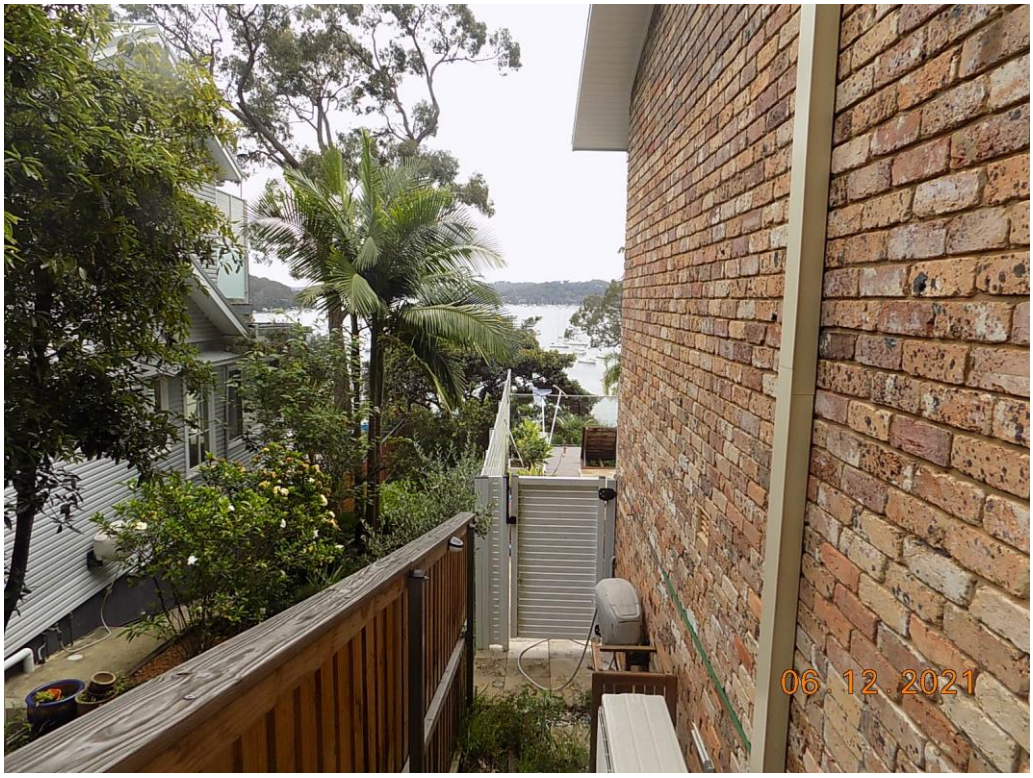


Photo 3

Photo 4

Photo 5

Photo 6

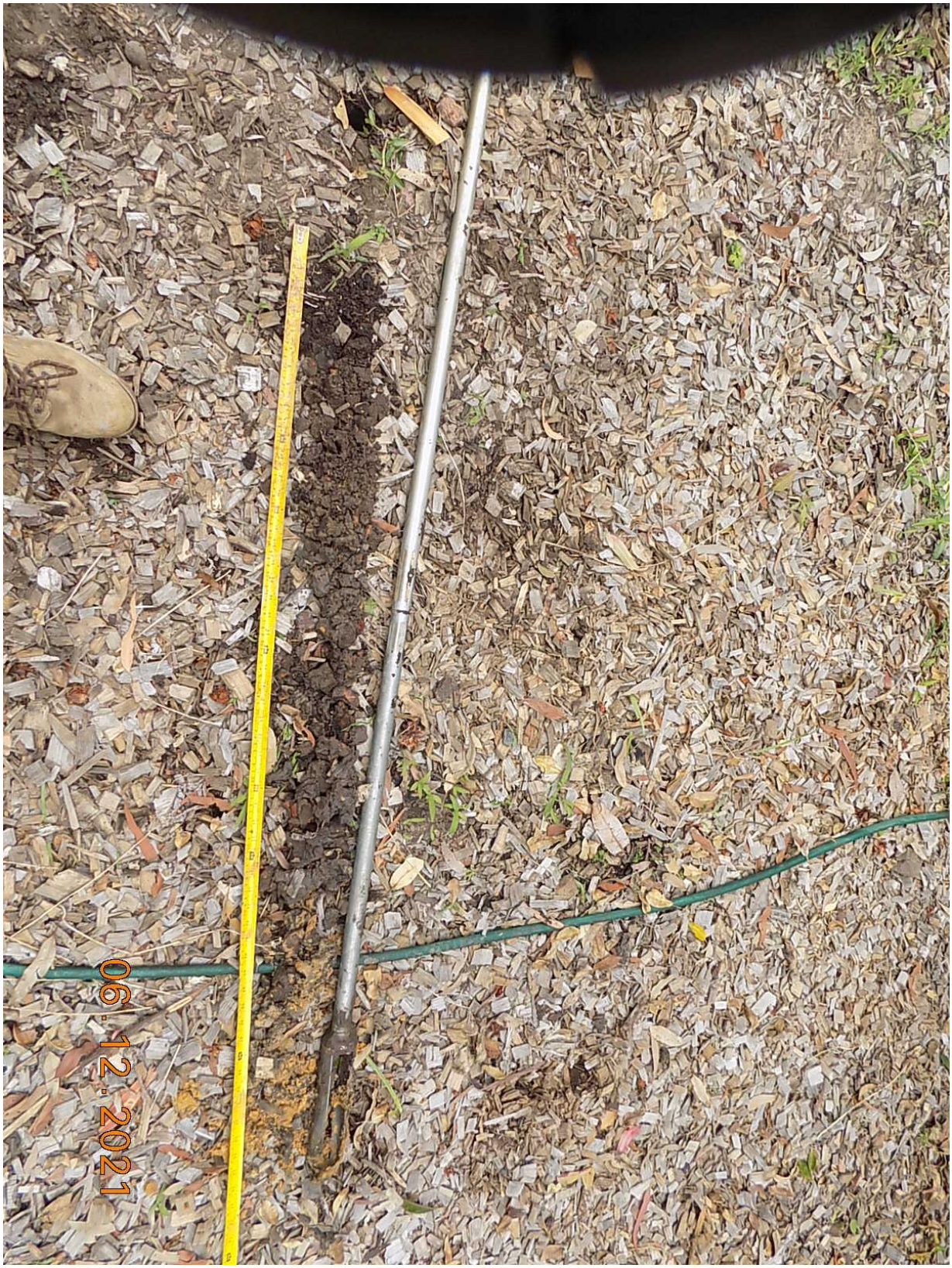


Photo 7 (Top to bottom)

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 SURVEY– showing test locations

A1
1:100@A1

2 4 6 8 10 20 M

CORNICHE ROAD

BENCHMARK SSM 60965
BRASS PLAQUE IN GUTTER
RL 37.98 (ASSUMED)

14
DP 11518

TIMBER CLAD
RESIDENCE
METAL ROOF
No. 15

RIDGE RL 39.11

CARPORT
METAL ROOF
FL 35.04

SINGLE STORY
FIRST FLOOR WALL
RIDGE RL 37.05
FIRST FLOOR WALL
UPPER DECK RL 33.22
SINGLE STORY
LOWER DECK FL 29.84

POOL

POOL SURROUND RL 27.54

WIRE MESH FENCE

3
DP 1186422

PALING FENCE

APPROX TRUE NORTH
MAGNETIC NORTH

DP 532883

PATHWAY

3.66 WIDE

ALUMINIUM SCREEN (1.84 HIGH)

CONCRETE RETAINING WALL (UNDER)

35°22'30"
59.365

Y
DP 418250

115°59'30"
7.08

DCP3

DCP1

AH1

2
DP 532883
AREA BY DED'N = 1148 m²

1 & 2 STOREY
BRICK
RESIDENCE
METAL ROOF
No.17

TOP OF GUTTER RL 35.15

RIDGE RL 37.06

IST FL RL 32.88

LOWER WALL

ELEVATED TIMBER DECK
FL 32.88

COVERED CONCRETE CARPORT

TILED AREA

POOL

TIMBER DECKING

FENCE

GARDEN

STONE FLAGGING

WATER FEATURE

STONE RETAINING WALL

TIMBER STAIRS

TILED (UNDER)

DECKING

LAWN

PATH

TIMBER RETAINING WALL

Arc 15.87
Rad. 12.19
Chord 14.775
78°42'30"

DRIVEWAY

CONCRETE

RETAINING WALL

FENCED WALL

DCP4

ROUGH CONC. STEPS

PAVED PATH

METAL SHED

18.82
221°25'10"

BRICK WALL

DCP2

BUBBLE PICT

TIMBER RET. WALL

STONE RETAINING WALL

TRAMPOLINE

15.43
232°11'10"

12.48
249°00'30"

30.69
132°05'30"

SINGLE STOREY GARAGE

TOP OF GUTTER RL 28.30

RIDGE RL 31.07

PARAPET RL 29.60

1 & 2 STOREY
RENDERED
RESIDENCE
METAL ROOF
No.2083
(PITTWATER ROAD)

2
D.P.558975

S.P.91758

CONCRETE
BLOCK GARAGE

3
D.P.544355

2
D.P.544355

BRICK
COTTAGE
TILE ROOF
No.38
(KANANOOK AVE)

TOP OF GUTTER RL 29.37
RIDGE RL 30.64
COVERED TIMBER DECK
FL 26.69
TOP OF GUTTER RL 29.80

LEGEND

BS - BOTTOM OF STEP
BW - BOTTOM OF WALL
DH - DOOR HEAD LEVEL
DS - DOOR SILL LEVEL
FL - FLOOR LEVEL
GFL - GARAGE FLOOR LEVEL
KI - KERB INVERT LEVEL
PA - PARAPET
PC - PEDESTRIAN CROSSING
SO - STORMWATER OUTLET
TF - TOP OF FENCE
TG - TOP OF GUTTER
TS - TOP OF STAIRS
TW - TOP OF WALL
VC - VEHICLE CROSSING
WH - WINDOW HEAD
WS - WINDOW SILL

LAYER	LINE TYPE
BUILDING & STRUCTURES	
CONTOURS	
EDGE OF PAVING AND CONCRETE	
ELECTRICITY OVERHEAD	
FENCE	
GARDEN	
ROAD	
ROOF LINE	
ROCK OUTCROP	
WALLS AND RETAINING WALLS	
WINDOWS AND DOORS	

PALM
P/CANOPY/TRUNK DIAMETER/HEIGHT

TREE
T/CANOPY/TRUNK DIAMETER/HEIGHT

ROOF FALL INDICATOR

DENOTES STONE RETAINING WALL

DENOTES COLUMN

DENOTES STAIRS

SYM	CODE	DESCRIPTION
	BM	BENCH MARK
	BOL	BOLLARD
	GAS	GAS SERVICE/METER
	HYD	HYDRANT
	IC	INSPECTION CAP
	LP	LIGHT POLE
	PIT	SERVICE PIT
	PP	POWER POLE
	SGN	SIGN
	SLH	SEWER LAMP/VENT HOLE
	SMH	SEWER MANHOLE
	SV	STOP VALVE
	TEL	TELECOM SERVICE
	WM	WATER METER
	US	UNKNOWN SERVICE

NOTES:

1. BOUNDARIES HAVE BEEN DETERMINED BY FIELD SURVEY.
2. LEVELS ARE ON AN ASSUMED DATUM.
3. CONTOUR INTERVAL, 1.0 METRES.
4. CONTOURS ARE INDICATIVE OF GROUND FORM ONLY. SPOT LEVELS SHOULD BE USED FOR CALCULATIONS OF QUANTITIES WITH CAUTION.
5. CRITICAL SPOT LEVELS SHOULD BE CONFIRMED PRIOR TO ANY DESIGN OR CONSTRUCTION.
6. THIS DRAWING MUST BE PRINTED IN COLOUR.
7. TOP OF WALLS AND FENCES ARE INDICATIVE IN NATURE AND AS SUCH ARE ONLY RELIABLE AT THE LOCATIONS INDICATED.
8. ONLY VISIBLE SERVICES HAVE BEEN SURVEYED. THE POSITION OF UNDERGROUND SERVICES HAVE NOT BEEN INVESTIGATED. IF EXCAVATION IS REQUIRED IT IS RECOMMENDED A FULL UTILITY INVESTIGATION BE UNDERTAKEN SUBJECT TO S149 OF THE EP&A, IN CONJUNCTION WITH A LOCATION SURVEY BEFORE CONSTRUCTION COMMENCES.
9. PRIOR TO ANY CONSTRUCTION WORK, SURVEY MARKS SHOULD BE PLACED TO DEFINE THE PROPERTY BOUNDARIES.
10. TREE SPREADS ARE DIAGRAMMATIC ONLY AND ARE NOT SYMMETRICAL.
11. THE POSITION OF RIDGE LINES ARE DIAGRAMMATIC ONLY.
12.

TITLE NOTATIONS:

- RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- MORTGAGE TO COMMONWEALTH BANK OF AUSTRALIA (AM766410)

ROGER POCKLEY

SURVEY PLAN SHOWING DETAIL, LEVELS
& BOUNDARY IDENTIFICATION
OVER LOT 2 IN D.P.532883
No.17 CORNICHE ROAD, CHURCH POINT

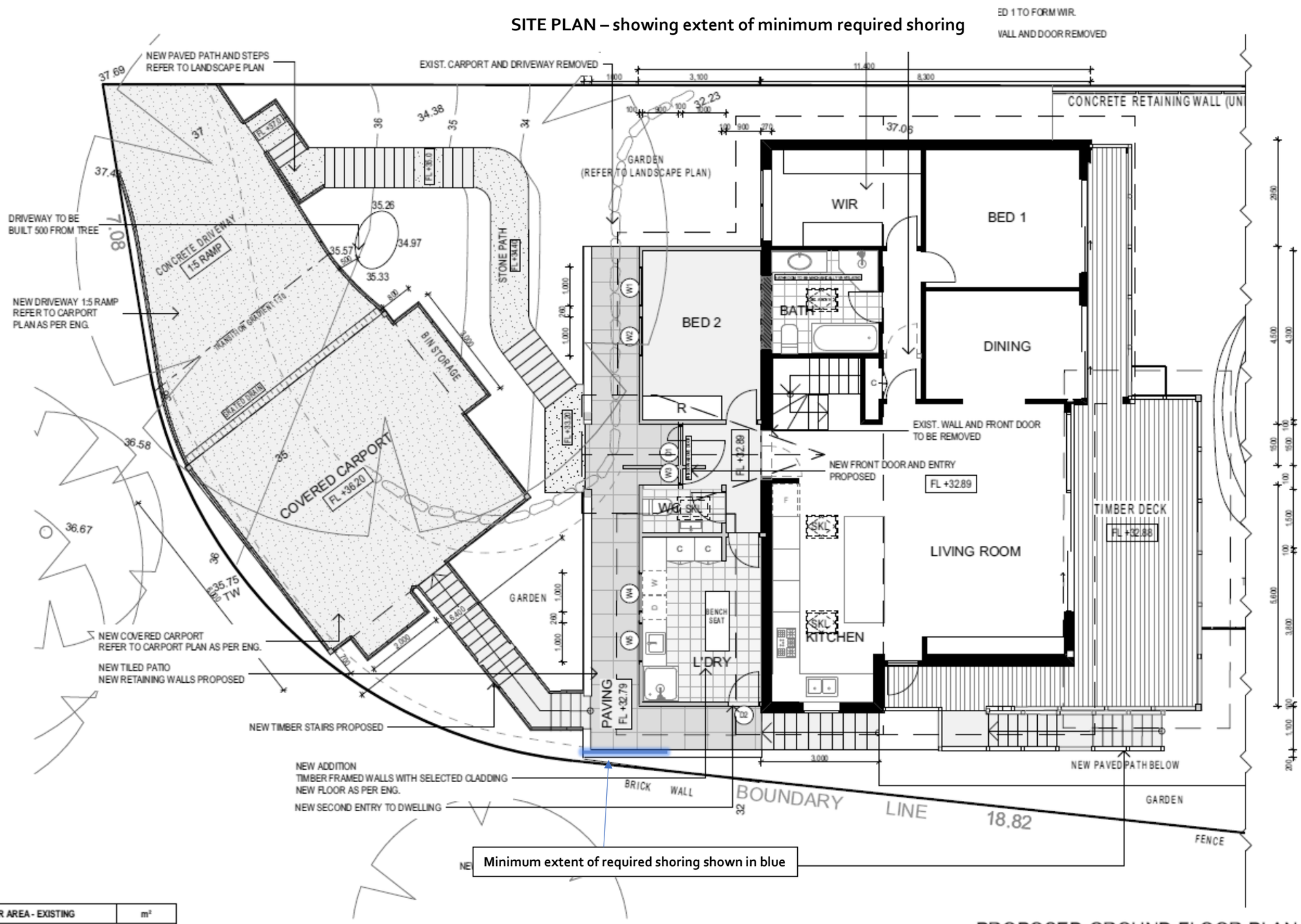
DIAL 1100 BEFORE YOU DIG

DATE OF REVISION: 05/09/2021	LGA: NORTHERN BEACHES	SITE AREA: 1148m²	
REVISION: A	SURVEYED: GH	REFERENCE: 21133	
DATE OF SURVEY: 18/08/2021	DRAWN: GH		
HORIZONTAL DATUM: N/A	CHECKED: JS		
VERTICAL DATUM: AHD	SCALE @ A3 - 1:200		
SHEET 1 OF 1 SHEETS	SCALE @ A1 - 1:100		

JASON SHELDRAKE
REG'D SURVEYOR
ID No.9132

H & S
LAND SURVEYORS . PTY LTD
ABN: 90 631 354 286
E-MAIL: info@hslandsurveyors.com.au

SITE PLAN – showing extent of minimum required shoring



GROSS FLOOR AREA - EXISTING	m²
189.76	

GROSS FLOOR AREA - PROPOSED	m²
225.74	

PROPOSED GROUND FLOOR PLAN

TRUE NORTH:

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

JJ Drafting
Division of JJ DRAFTING AUSTRALIA PTY LTD
25/90 MONA VALE RD, MONA VALE, NSW, 2103
PO Box 687, Dee Why, NSW, 2099
Mob. 0414 717 541 | Email. jjdraft@tpg.com.au
www.jjdrafting.com.au
ACN 651 693 346

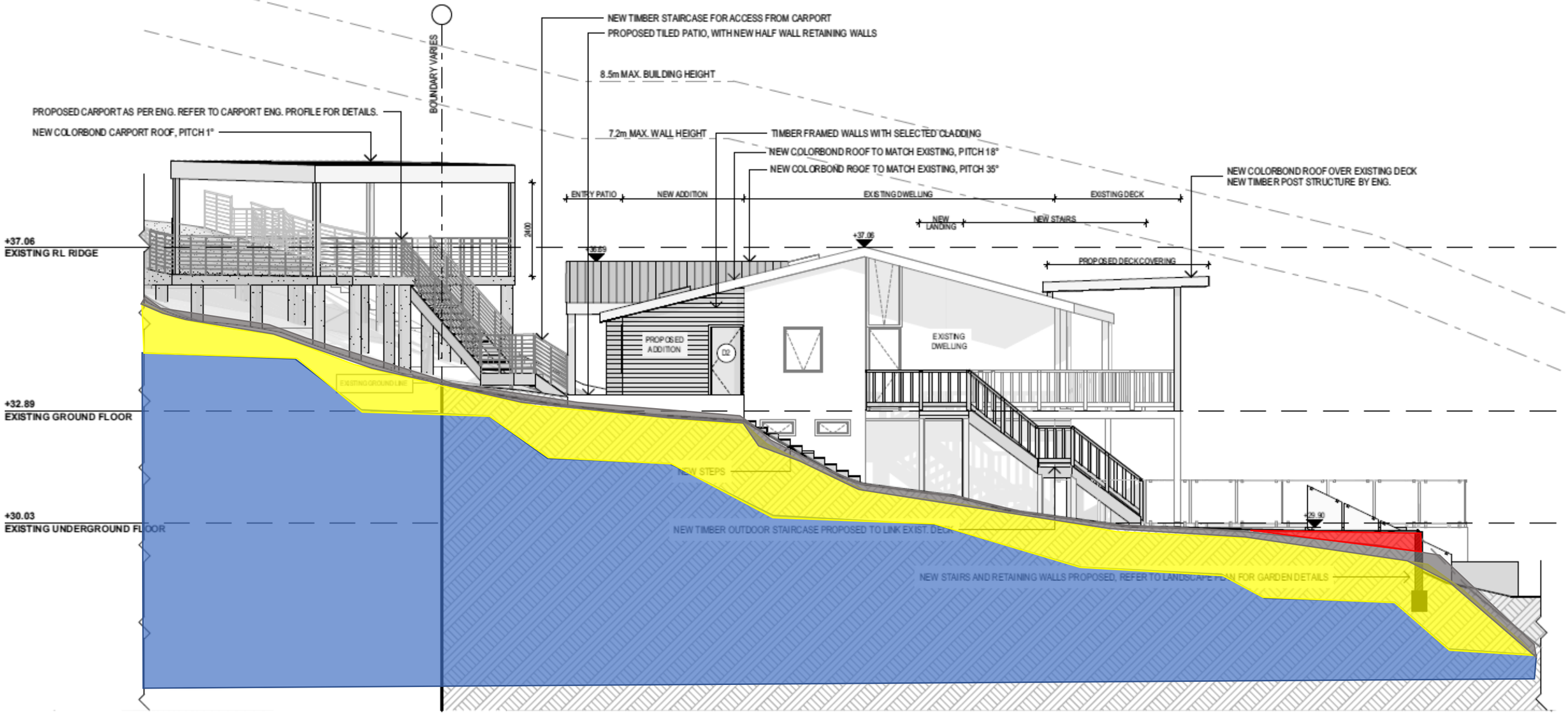
REV:	DATE:	DESCRIPTION:
A	05/10/21	REVISION TO DRAWINGS
B	16/12/21	REVISION TO DA
C	01/02/22	REVISION TO DA

PROPOSED ALTERATIONS AND ADDITIONS
17 CORNICHE RD, BAYVIEW
ROGER POCKLEY

DRAWING TITLE:
PROPOSED GROUND FLOOR PLAN

DATE:	DRAWN BY:	SCALE:
SEPT/21	AN	1:100 @ A3
JOB No:	CHECKED BY:	DRAWING No:
946/20	JJ	DA.06

TYPE SECTION – Diagrammatical Interpretation of expected Ground Materials



Expected Ground Materials

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

N

NOTES (E & OE)

- All structures including stormwater & drainage to engineer's details.
- Do not obtain dimensions by scaling drawings.
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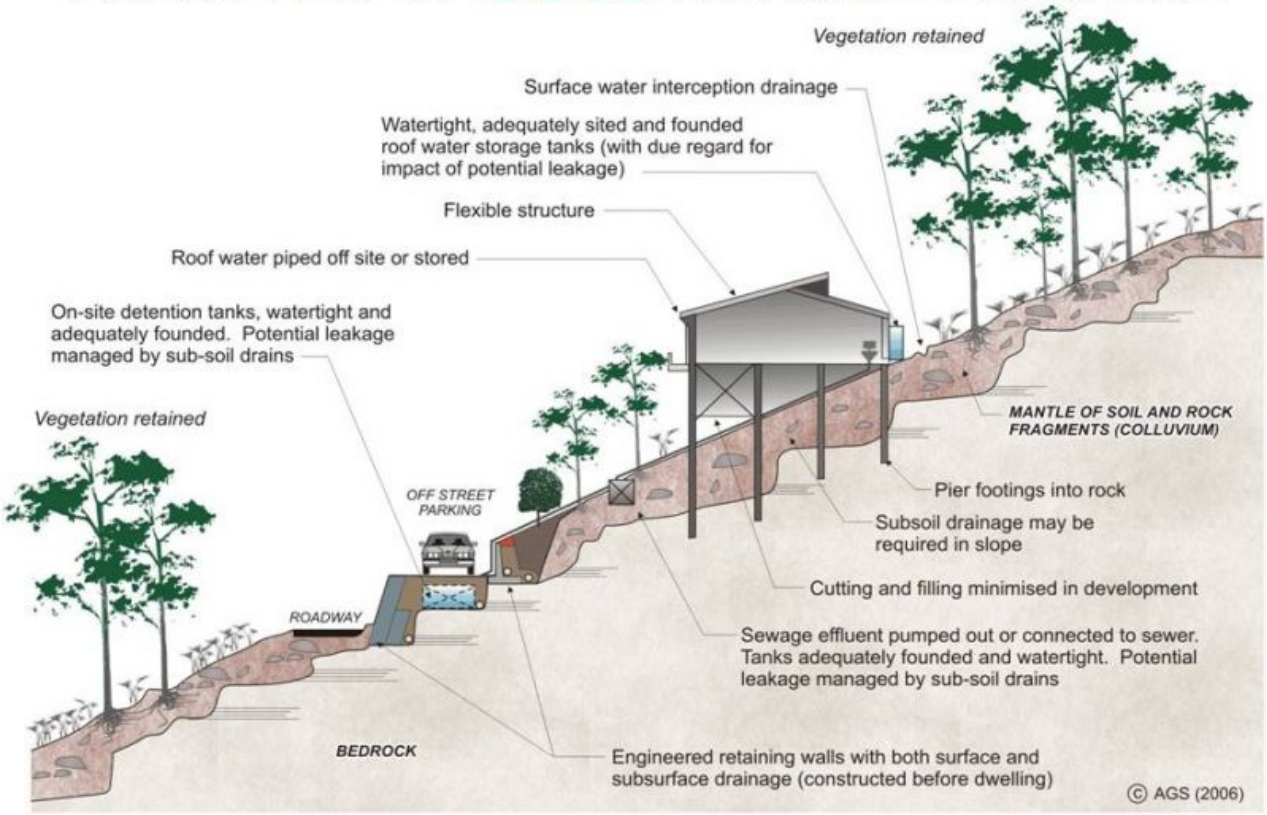
C	01/02/22	REVISION TO DA

PROPOSED ALTERATIONS AND ADDITIONS
17 CORNICHE RD, BAYVIEW
ROGER POCKLEY

DRAWING TITLE:
PROPOSED SOUTH EAST ELEVATION

DATE:	DRAWN BY:	SCALE:
SEPT/21	AN	1:100 @ A3
JOB No:	CHECKED BY:	DRAWING No:
946/20	JJ	DA.08

EXAMPLES OF **GOOD** HILLSIDE PRACTICE



EXAMPLES OF **POOR** HILLSIDE PRACTICE