

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

Development Application for _____
Name of Applicant
Address of site 40 Bungan Head Road, Newport

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 10/1/25 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 40 Bungan Head Road, Newport
Report Date: 10/1/25
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 MScGEOL AIG., RPGeo
Membership No. 10306
Company White Geotechnical Group Pty Ltd



40 Bungan Head Road, Newport

Minor Works Assessment

1. Proposed Development

A geotechnical site inspection was carried out on the 8th January, 2025.

Details of the proposed subdivision are shown on 1 drawing prepared by Modality, project number 2139, drawing number SD01, dated 13/12/24. Additional details are shown in 1 drawing prepared by David A. Stutchbury, reference number 11604/22, dated 16/7/24. The proposal is only for a subdivision of the existing property into two lots. As such, the proposal is considered minor in scope from a geotechnical perspective.

2. Geotechnical Hazards and Risk Analysis

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

Hazard One – Qualitative Risk Assessment on Property

This residential property is on the high side of the road and encompasses the crest and gentle to moderately graded flanks a hillslope. The slopes either side of the crest fall at gentle angles before increasing in grade to moderate angles.

At the road frontage, a concrete right of carriageway (ROW) runs up the slope to a concrete driveway on the subject property. Medium Strength Hawkesbury Sandstone bedrock outcrops at the downhill side of the ROW. The concrete driveway runs to a carport at the S side of the house. The part three storey house is supported on brick and sandstone block walls. The external supporting walls show no significant signs of movement. Stable sandstone block and timber sheds are located at the W side of the house. Gently sloping lawn areas extend off the S and N sides of the house. Fill reduces the grade of part of the lawn areas. Stable low sandstone block retaining walls support the fill. A stable brick retaining wall up to

~1.3m high along the E common boundary supports fill on the E neighbouring property. Medium Strength Sandstone bedrock outcrops at various locations across the N side of the property. No significant signs of movement were observed on the property. The adjoining neighbouring properties were observed to be in good order as seen from the road and subject property.

The slope to the N of the property continues at moderate angles. The slope to the S of the property increases in grade to steep angles. The likelihood of the land surface on or below the property failing and impacting on the property is assessed as 'Unlikely' (10^{-4}). The consequences to property of such a failure are assessed as 'Medium' (12%). The risk to property is 'Low' (2×10^{-5}).

Hazard One – Quantitative Risk Assessment on Property

For loss of life risk can be calculated as follows:

$R_{(LoI)} = P_{(H)} \times P_{(S: H)} \times P_{(T: S)} \times V_{(D: T)}$ (See Aust. Geomech. Jnl. Mar 2007 Vol. 42 No 1, for full explanation of terms)

Annual Probability

No evidence of significant movement was observed on the property.

$P_{(H)} = 0.01/\text{annum}$

Probability of Spatial Impact

The probability of the subject house being impacted when a landslide occurs is estimated to be 0.001.

$P_{(S: H)} = 0.001$

Possibility of the Location Being Occupied During Failure

The average household is taken to be occupied by 4 people. It is estimated that 1 person is in the house for 20 hours a day, 7 days a week. It is estimated 3 people are in the house 12 hours a day, 5 days a week.

For the person most at risk:

$$\frac{20}{24} \times \frac{7}{7} = 0.83$$

$$P_{(T:s)} = 0.83$$

Probability of Loss of Life on Impact of Failure

Based on the volume of land sliding and its likely velocity when it hits the house, it is estimated that the vulnerability of a person to being killed when a landslide occurs is 0.01.

$$V_{(D:T)} = 0.01$$

Risk Estimation

$$R_{(LoI)} = 0.01 \times 0.001 \times 0.83 \times 0.01 \\ = 0.000000083$$

$$R_{(LoI)} = 8.3 \times 10^{-8}/\text{annum} \quad \text{NOTE: This level of risk is 'ACCEPTABLE'}$$

Geotechnical Hazards and Risk Analysis - Risk Analysis Summary

HAZARDS	Hazard One
TYPE	The gentle to moderate slope that falls across the property and continues below failing and impacting on the property.
LIKELIHOOD	'Unlikely' (10^{-4})
CONSEQUENCES TO PROPERTY	'Medium' (12%)
RISK TO PROPERTY	'Low' (2×10^{-5})
RISK TO LIFE	$8.3 \times 10^{-8}/\text{annum}$
COMMENTS	This level of risk is 'ACCEPTABLE'

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

3. Conclusion

The property has an 'Acceptable Risk Level' in accordance with the 2009 Geotechnical Risk Management Policy for Pittwater.

White Geotechnical Group Pty Ltd.

Reviewed By:



Dion Sheldon
BEng(Civil)(Hons) MIEAust NER,
Geotechnical Engineer.



Ben White M.Sc. Geol.,
AIG., RPGeo Geotechnical & Engineering.
No. 10306
Engineering Geologist.

