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Preliminary Landslip Risk Assessment Report 532 Pittwater Road, North Manly, NSW

1. INTRODUCTION

At the request of Mr. Ali Mehfooz (the Client), EI Australia (EI) carried out a Preliminary Landslip Risk Assessment at 532 Pittwater Road, North Manly, NSW. The purpose of this inspection was to carry out a landslip assessment required by Warringah Council (Northern Beaches Council) as part of their 2011 LEP to accompany all new Development or Building Certificate Applications. The assessment was carried out in consonance with the guidelines as set out in Section E10-Landslip Risk of Warringah Councils 2011 LEP Planning Rules.

The purpose of this assessment was to:

- Carry out a review of the design plans of the proposed development.
- Carry out a detailed visual inspection and assessment of the geological conditions and stability of the existing property, no in-situ testing was carried out; and
- Based on the above mentioned inspection, prepare a preliminary landslip risk assessment report providing recommendations with regards to geotechnical design parameters for construction of the retaining wall and the batter slope to address.

The client has provided EI with the following documents which were used to assist in writing of this preliminary landslip assessment report:

- Updated Design Plans prepared by Mileswinter.com , Drawing Nos.: D-S-01, D-S-02, D-P-01, D-P-02, D-P-03, D-E-01 & D-E-02, dated February 2021;
- Contour Plan for Lot 40, DP 7027 prepared by Donovan Associates, Job Reference: 1962/281551, Drawing No.: 281551, dated 3 September 2015; and
- Site Classification Report by AW Geotechnical, Reference AWG39667, dated 3 September 2015.

2. PROPOSED DEVELOPMENT

Based on the provided design plans, it is understood that the proposed works involve demolition of the existing structures and construction of a new two storey residential building consisting of 10 lodges with lower floor car parking areas. The lower floor level is designed with Finished Floor Levels (FFL's) varying from RL 5.40m (southern end) Australian Height Datum (AHD) to RL 5.95m (northern end). The Bulk Excavation Levels (BEL's) of RL 5.10m and 5.65m AHD are assumed for the construction of the lower floor which include allowance for a concrete floor slab. To achieve the BEL's, an excavation depth varying from almost nil (front southern end) to about 1.85m (rear northern end) Below Existing Ground Level (BEGL) is expected. Locally shallow ($\leq 1.00\text{m}$) excavations may be required for the new column footings and service trenches.

3. LANDSLIP RISK CLASS

The project site is located within Warringah Councils Landslip Risk Class “A” – Slope less than 5°, and Class “B” – Flanking Slopes of between 5° and 25°, as shown below in the Warringah Landslip Risk Map, **Plate 1**:

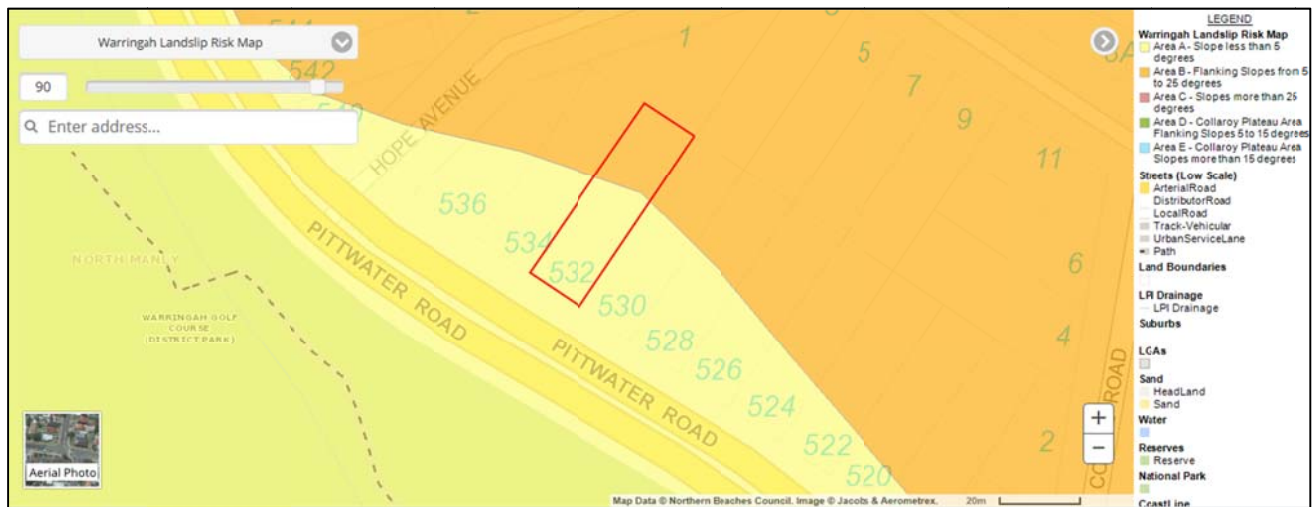


Plate 1: Warringah Council (Northern Beaches) Landslip Risk Map showing the site location

4. SITE OBSERVATIONS

Following observations are made based on our site visit on 15 May 2020:

- The site is located on the slightly higher north side of Pittwater Road within gently (<5°) south dipping topography. Pittwater Road is gently west dipping and is formed with a bitumen pavement and concrete kerb and gutter where it passes the site. The road reserve is formed with a gently west sloping grass verge and a concrete footpath which extends across to the sites front southern boundary.
- The front of the site consists of a near level grassy lawn with a concrete strip driveway along the western site boundary that provides access to a single lock up garage located adjacent to the western side of the existing site house. A narrow concrete pathway through the front lawn provides access to the front entrance while a slightly uneven concrete pathway along the eastern site boundary leads to the rear of the property. A front view of the existing site house is shown below in **Plate 2**.



Plate 2: Front view of the site house, looking north

- The existing house is a single storey fibro residence with tiled roof located approximately on the centre of the block. It is raised approximately 0.50m above the ground surface level at the front south side of the house via brick column footings. The house appears at grade or slightly excavated into the slope at the rear northern end of the house with a small retained garden adjacent to a covered pergola on the northern side of the house. The house structure appears of significant age (>80 years) and is in a reasonable condition. However there were no indications of movement within the column footings supporting the house structure. A rear view of the existing site house is shown below in **Plate 3**.



Plate 3: Rear view of the site house, looking south

- The back yard at the rear north of the site is gently south dipping and formed with lawns and gardens along with a small timber secondary dwelling formed at grade adjacent to the northern side boundary. A general view of the backyard is shown below in **Plate 4**.



Plate 4: A view of the back yard, looking north

- The neighbouring property to the east (No. 530) contains a single storey brick building located on the centre of the block which is being used as children Playhouse facility. A concrete paved car park is located at the front, with concrete paved driveway along the west side providing access to the rear of the

property. The building structure appears to be of similar age to the site house and is in good condition based on a cursory inspection of the exterior.

- The neighbouring property to the west (No. 534) contains a single storey brick residential house structure with gently sloping lawns and gardens at the front and rear of the block. The house structure appears >50 years of age and is in reasonable condition. The house extends to within 1.00m of the common boundary with the site with the ground surface levels similar along the boundary.
- The neighbouring property to the rear north (No. 2 Hope Avenue) contains a two storey rendered residential house structure with metal roof. The house structure appears relatively of recent construction however the conditions of the building structure could not be observed from within the site area. The house extends to within 1.00m of the common boundary with the site with the ground surface levels slightly higher along the boundary.

A limited inspection of these neighbouring properties from within the site and public roadway reserve did not identify any signs of previous or impending landslip instability.

5. CONCLUSION

Based on the above details of the proposed development and site observation and review of Warringah Council's (Northern Beaches Council) flow chart check list (Page: 2 of 2 in Section E10), i.e., does the present site or proposed development contain:

- | | |
|--------------------------------|-----|
| • History of Landslip | No |
| • Proposed Excavation/Fill >2m | No |
| • Site developed | Yes |
| • Existing Fill >1m | No |
| • Site Steeper than 1V:4H | No |
| • Existing Excavation >2m | No |
| • Natural Cliffs >3m | No |

It is concluded that a detailed Landslip Risk Assessment is not required for this Development Application.

6. LIMITATIONS

This report has been prepared for the exclusive use of Construction Consultants who is the only intended beneficiary of EI's work. The scope of the inspections carried out for the purpose of this report is limited to those agreed with Construction Consultants (Mr. Ali Mehfooz).

No other party should rely on the document without the prior written consent of EI, and EI undertakes no duty, or accepts any responsibility or liability, to any third party who purports to rely upon this document without EI's approval.

EI has used a degree of care and skill ordinarily exercised in similar investigations by reputable members of the geotechnical industry in Australia as at the date of this document. No other warranty, expressed or implied, is made or intended. Each section of this report must be read in conjunction with the whole of this report, including its appendices and attachments.

The conclusions presented in this report are based on a limited investigation of conditions, with specific sampling locations chosen to be as representative as possible under the given circumstances.

EI's professional opinions are reasonable and based on its professional judgment, experience, training and results from analytical data. EI may also have relied upon information provided by the Client and other third parties to prepare this document, some of which may not have been verified by EI.

EI's professional opinions contained in this document are subject to modification if additional information is obtained through further investigation, observations, or validation testing and analysis during remedial

activities. In some cases, further testing and analysis may be required, which may result in a further report with different conclusions.

7. CLOSURE

Please do not hesitate to contact the undersigned should you have any questions.

For and on behalf of,

EI AUSTRALIA

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ATTACHMENT: Important Information

SCOPE OF SERVICES

The geotechnical report ("the report") has been prepared in accordance with the scope of services as set out in the contract, or as otherwise agreed, between the Client And EI Australia ("EI"). The scope of work may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints.

RELIANCE ON DATA

EI has relied on data provided by the Client and other individuals and organizations, to prepare the report. Such data may include surveys, analyses, designs, maps and plans. EI has not verified the accuracy or completeness of the data except as stated in the report. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations ("conclusions") are based in whole or part on the data, EI will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to EI.

GEOTECHNICAL ENGINEERING

Geotechnical engineering is based extensively on judgment and opinion. It is far less exact than other engineering disciplines. Geotechnical engineering reports are prepared for a specific client, for a specific project and to meet specific needs, and may not be adequate for other clients or other purposes (e.g. a report prepared for a consulting civil engineer may not be adequate for a construction contractor). The report should not be used for other than its intended purpose without seeking additional geotechnical advice. Also, unless further geotechnical advice is obtained, the report cannot be used where the nature and/or details of the proposed development are changed.

LIMITATIONS OF SITE INVESTIGATION

The investigation programme undertaken is a professional estimate of the scope of investigation required to provide a general profile of subsurface conditions. The data derived from the site investigation programme and subsequent laboratory testing are extrapolated across the site to form an inferred geological model, and an engineering opinion is rendered about overall subsurface conditions and their likely behaviour with regard to the proposed development. Despite investigation, the actual conditions at the site might differ from those inferred to exist, since no subsurface exploration program, no matter how comprehensive, can reveal all subsurface details and anomalies. The engineering logs are the subjective interpretation of subsurface conditions at a particular location and time, made by trained personnel. The actual interface between materials may be more gradual or abrupt than a report indicates.

SUBSURFACE CONDITIONS ARE TIME DEPENDENT

Subsurface conditions can be modified by changing natural forces or man-made influences. The report is based on conditions that existed at the time of subsurface exploration. Construction operations adjacent to the site, and natural events such as floods, or ground water fluctuations, may also affect subsurface conditions, and thus the continuing adequacy of a geotechnical report. EI should be kept apprised of any such events, and should be consulted to determine if any additional tests are necessary.

VERIFICATION OF SITE CONDITIONS

Where ground conditions encountered at the site differ significantly from those anticipated in the report, either due to natural variability of subsurface conditions or construction activities, it is a condition of the report that EI be notified of any variations and be provided with an opportunity to review the recommendations of this report. Recognition of change of soil and rock conditions requires experience and it is recommended that a suitably experienced geotechnical engineer be engaged to visit the site with sufficient frequency to detect if conditions have changed significantly.

REPRODUCTION OF REPORTS

This report is the subject of copyright and shall not be reproduced either totally or in part without the express permission of this Company. Where information from the accompanying report is to be included in contract documents or engineering specification for the project, the entire report should be included in order to minimize the likelihood of misinterpretation from logs.

REPORT FOR BENEFIT OF CLIENT

The report has been prepared for the benefit of the Client and no other party. EI assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of EI or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own inquiries and obtain independent advice in relation to such matters.

OTHER LIMITATIONS

EI will not be liable to update or revise the report to take into account any events or emergent circumstances or fact occurring or becoming apparent after the date of the report.