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No. Pages: 4

Project No.: 2021-061

Mark Aubrey
14 Ellen Street,
Freshwater NSW 2096

Preliminary Landslip Assessment for Proposed New Boundary Wall,
14 Ellen Street, Freshwater, NSW.

This letter report details the results of a preliminary landslip assessment required by Northern Beaches Council to accompany all new Development or Building Certificate Applications. It is a review of the design plans followed by a walk over visual assessment of the stability of the existing property, no insitu testing was undertaken.

The assessment follows the guidelines as set out in Section E10-Landslip Risk of Warringah Councils 2011 LEP Planning Rules.

1. Landslip Risk Class:

The western side of the block is located within Landslip Risk Class "C" which is classified as slopes > 25° and the eastern side of block is located within Landslip Risk Class "B" which is classified as Flanking Slopes 5° to 25°.

2. Site Location:

The site is located on the high western side of Ellen Street. The eastern portion of the block contains the main site-structure and is moderately east dipping and contains an approximately 6.0m high north-south striking sandstone cliff face across the centre of the block. The western portion of the block contains a secondary structure and is steeply east dipping. The rear of the site is near a ridge crest. The block is a rectangular shaped block with front east and rear west boundaries of 12.575m, side north and south boundaries of 50.345m, as referenced from the provided survey plan.

3. Proposed Development:

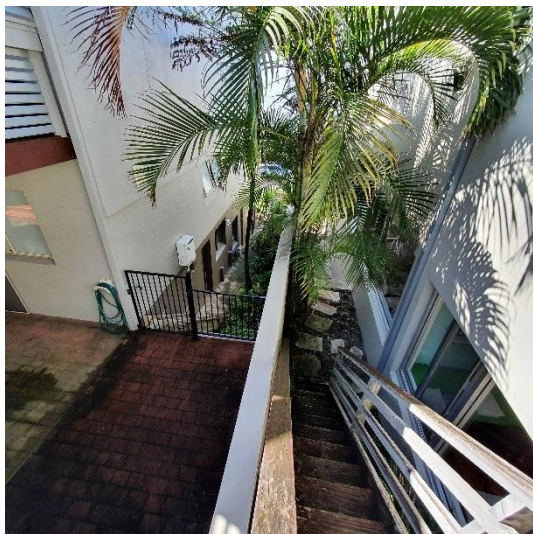
It is understood that the proposed works involve the construction of a new boundary wall with some retention approximately 2.0m north from the existing site's northern boundary along with minor landscaping works within the site. The proposed works will not require bulk excavation but minor only for the proposed new wall footings.

4. Existing Site Description:

Ellen Street contains a gently south dipping bitumen driveway, adjacent to low concrete kerbs and gutters, grass lawn and a stone flagging cross over driveway which allows vehicular access to the site. Signs of instability or underlying geotechnical issues were not observed within the road reserve.

The site-dwelling comprises a two to three storey rendered brick residence which broadly occupies the eastern portion of the block and extends north and south to approximately 1.0m off the northern and southern boundaries. Along the northern side of the dwelling is a series of paved pathways and stairs and a timber staircase (Photograph-1) which allows access to a raised grass lawn. Along the southern side of the

dwelling is a series of concrete pathways and stairs that lead to the rear of the dwelling. Signs of deformation, cracking or underlying geotechnical issues were not observed within the dwelling's external walls or adjacent structures and all appeared in good condition.



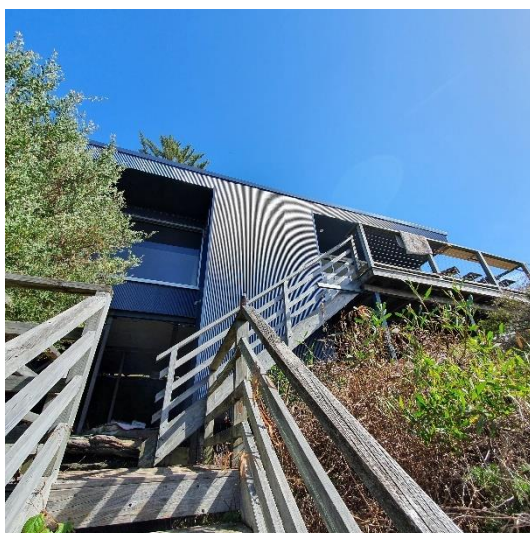
Photograph-1: Existing site's northern boundary. View looking down east.



Photograph-2: Existing site's southern boundary. View looking down east.

To the rear of the dwelling are numerous palm trees and a sandstone bedrock cliff face (approximately $\leq 6.0\text{m}$ high) which is partly obscured by vegetation. The sandstone bedrock cliff face contains sub-horizontal bedding defects and an approximately 4.5m overhang within the northern lower portion.

Access to the western higher portion of the block (above the cliff face) is available via a series of timber staircase located to the south-west of the site-dwelling. Numerous bedrock outcrop along with dense vegetation is present around the timber staircase. The timber staircase leads to a secondary dwelling which is located at the higher western end of the block, comprising a timber framed, metal clad studio (Photograph-3) supported by steel columns (Photograph-4). The secondary dwelling structure and timber staircase appeared in good condition, signs of instability or underlying geotechnical issues were not identified within these structures or the cliff face.



Photograph-3: Secondary dwelling. View looking high west.



Photograph-4: Secondary dwelling supported by steel columns. View looking north.

5. Neighbouring Property Conditions:

The neighbouring property to the north (No.16 Ellen Street) contains a two to three storey rendered brick residence with a concrete pathway, raised patio and raised lawn adjacent the common boundary. The front of the block contains a concrete driveway with a lawn and gardens and the rear of the block contains a raised retained lawn that extends to the rear of the block. The rear of the lawn is bounded by the extension of the same north-south striking bedrock cliff face (however slightly higher, approximately $\leq 8.0\text{m}$ high) which is also present on the site. The property dwelling extends south to within approximately 1.50m off the common boundary. The raised lawn and patio are approximately 0.50m to 1.0m lower than the site, whilst the remainder of the property is at similar Ground Surface Level (GSL) to the site along the common boundary. The neighbouring property appeared in good condition, signs of cracking or underlying geotechnical issues were not observed within the neighbouring property.

The neighbouring property to the south (No. 12 Ellen Street) contains a two to three storey rendered brick and fibro residence within the eastern portion of the block. The front of the block contains a concrete driveway with a grass lawn and to the rear of the dwelling is a raised grass lawn. The raised grass lawn is bounded along the western side by the extension of the same north-south striking bedrock cliff face which is also present on the site. The western end of the block is currently occupied by rocky gardens. The property dwelling extends north to within approximately 0.80m off the common boundary. The raised lawn is approximately 1.0m higher than the site along the common boundary, whilst the remainder portion of the property is at similar GSL to the site along the common boundary. The neighbouring property appeared in good condition, signs of cracking or underlying geotechnical issues were not observed within the neighbouring property.

The neighbouring property to the higher west (No. 23 Loch Street) contains a one and two storey rendered brick residence which broadly occupies the western portion of the block. The eastern rear of the block contains a swimming pool with decking and lawn. The property dwelling and swimming pool extends east to approximately 20.0m and 2.0m off the common boundary respectively. The neighbouring property is approximately 2.0m higher than the western portion of the site. Limited observation was possible to the neighbouring property to the rear, however signs of instability or underlying geotechnical issues were not identified within the neighbouring property.

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

6. Assessment:

Based on the above items and on Councils 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 | Yes |
| • Existing Excavation >2m | No |
| • Natural Cliffs >3m | Yes |

It is considered that based on the proposed works and the Council's flow chart (Section E10) assessment that a detailed Landslip Risk Assessment is not required for this Development Application.

7. Date of Assessment: 14th April 2021.

8. Assessment by:



Marvin Lujan
Geotechnical Engineer

9. References:

- Design plans by Peter Stutchbury Architecture, Drawing No.: CN 100, CN 101, CN 102, CN103, Long Section A, Plan and Street Elevations.
- Survey by Stutchbury Jaques Pty Ltd, Date: 22/06/2020, Sheet: 1 of 1 and Reference No.: 10358/19.