

Date: 9th September 2021

No. Pages: 4

Project No.: 2021-196

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Preliminary Landslip Assessment for 6 Stephen Street, Beacon Hill, 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 in-situ 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 site is located within Landslip Risk Class "B" which is classified as 'Flanking Slopes of between 5° and 25°.

2. Site Location:

The site is located on the low northern side of the road within gently east dipping topography near a ridge crest, close to the intersection with Government Road.

3. Proposed Development:

It is understood that the proposed works involve additions and alterations including a proposed new first floor extension, garage extension and a new balcony and driveway. The maximum anticipated excavation depth appears <1.5 metres. Part of the works also include the removal of an existing tree within the rear of the site.

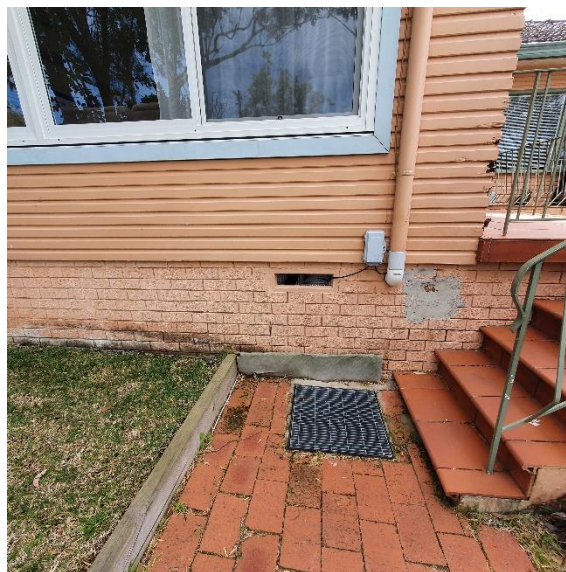
4. Existing Site Description:

Stephen Street contains a bitumen pavement with concrete kerb and gutter along the sides and is gently east dipping where it passes the site. A gently east dipping grass reserve lies between the road and the site boundary. Vehicular access to the site is achieved via a concrete cross-over driveway. There were no signs of excessive cracking or deformation within the road pavement, or driveway to suggest any movement or underlying geotechnical issues.

The site is currently occupied by one-storey weatherboard house with a brick garage below the eastern side of the dwelling's Ground Floor Level (GFL), within the centre of the site. The site contains front and rear lawns.

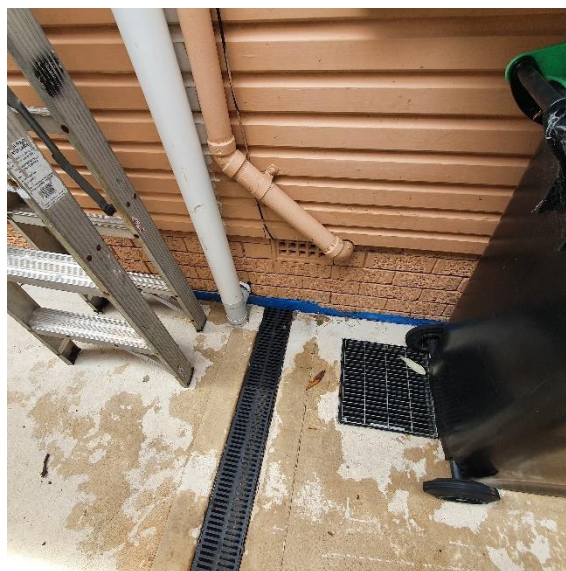
The southern portion of the site contains a concrete driveway within the eastern side and a slightly raised grass lawn supported by a concrete retaining wall (≤0.60m high), within the western side. An entry brick paved area at similar Ground Surface Level (GSL) to the front lawn is located within the northern end of the

lawn, which allows access to a set of tiled stairs that lead to a tiled deck and the main site-structure. A drainage pit is located within the northern end of the paved area (Photograph-1).



Photograph-1: Drainage pit directly to the front of the dwelling. View looking north.

The centre of the site is currently occupied by a single storey weatherboard house on brick footing walls which contains a brick garage below the eastern side of the GFL and a timber deck within the rear of the GFL. Access to the northern rear of the block is achieved via an approximately $\leq 1.50\text{m}$ wide concrete pathway along the western boundary which appeared in new and good condition. It was observed that the dwelling's stormwater pipes are connected to a sub-surface system (Photograph-2) and the pathway contained surface drainage collection. Cracking, defects or signs of movement or underlying geotechnical issues were not identified within the centre of the site.



Photograph-2: Drainage pit within the side concrete pathway. View looking east.

The northern portion of the site contains a grass lawn within the western side and is supported by an approximately $\leq 0.20\text{m}$ high timber lagging retaining wall along the eastern side. The north-eastern portion of the site is currently non-grassed, gently east and south dipping with a depression (approximately $\leq 1.5\text{m}$ lower than the grass lawn) within the southern end. The ground exposes a silty sandy clayey, disturbed (likely unnatural) soil with numerous gravels in the surface and appears currently supported along the eastern

boundary by a metal fence which contains a minor outward deflection as a result of the soil lateral pressure. The south-east corner of the non-grassed area contains an approximately $\leq 10\text{m}$ high inclined tree ($\leq 2.5\text{m}$ north from the site-dwelling, Photograph-3). Directly to the south of the depression zone are stacked hay bales which appear to provide filtration to the run-off coming from the slightly higher non grassed area (up to $< 1.5\text{m}$ higher than the dwelling garage). Between the hay blocks and dwelling is a small concrete platform which allows access to the rear of the garage and contains a small drainage pit (Photograph-4). Apart from the minor ground movement along the eastern side of the non-grassed area, the rear of the site contained no other sign of ground movement, ground instability or underlying geotechnical issues and appeared in good condition.



Photograph-3: Non-grassed area within the north-eastern portion of the site. View looking east.



Photograph-4: Area between stacked hay and rear entry to the garage. View looking east.

5. Neighbouring Property Conditions:

The neighbouring property to the west (No.4 Stephen Street) contains a single storey weatherboard dwelling within the centre of the property with a garage below the south-eastern corner of the Ground Floor Level (GFL). The southern front of the property contains a concrete driveway and a grass lawn within the eastern and western sides, respectively. Limited observation was possible to the rear of the property, however it appears to be occupied by a grass lawn. The property dwelling extends east to approximately $\leq 0.70\text{m}$ from the common boundary. The southern and centre portion of the property contain a similar GSL to the site along the common boundary, whilst the northern portion of the property is approximately $\leq 1.5\text{m}$ higher than the site along the common boundary. Sign of cracking, deflection, ground movement or underlying geotechnical issues were not observed within the neighbouring property.

The neighbouring property to the east (No.8 Stephen Street) contains a two storey rendered residence within the centre of the block. The southern portion of the block contains a paved driveway and a grass lawn within the eastern and western sides, respectively. The northern rear of the block contains a grass lawn. The property dwelling extends west to approximately $\leq 1.50\text{m}$ from the common boundary. The southern and centre portion of the property contain a similar GSL to the site along the common boundary, whilst the northern portion of the property is approximately $\leq 0.5\text{m}$ higher than the site along the common boundary. Signs of cracking, deflection, ground movement or underlying geotechnical issues were not observed within this neighbouring property.

The neighbouring property to the north (No.5 Margaret Street) contains a single storey weatherboard dwelling within the centre of the block with a brick garage below the north-eastern side of the GFL. The rear of the

property contains a grass lawn. The front of the property contains a brick driveway and grass lawn within the eastern and western sides, respectively. The neighbouring dwelling extend south to approximately $\leq 10.0\text{m}$ from the common boundary. Limited observation was possible to the rear of the property; however it is estimated that the rear of the property is at similar GSL to the site as no retaining structures were observed along the rear boundary. Signs of instability, ground movement or underlying geotechnical issues were not observed within the rear of the property.

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 | No |
| • Existing Excavation >2m | No |
| • Natural Cliffs >3m | No |

It is considered that a detailed Landslip Risk Assessment is not required for this Development Application. However, remediation works along the rear eastern boundary must be undertaken to either remove or support the soils placed along the fence line whilst an arborist should be engaged to assess the inclined tree.

7. **Date of Assessment:** 9th September 2021

8. **Assessment by:**



Marvin Lujan
Geotechnical Engineer

9. References:

- Architectural Drawings – Newbuild Design and Drafting, DWG No.: 272-2, 272-3, Dated: August 2021
- Survey Drawing – True North Surveys, Drawing Number: 2088TN, Dated: 16 November 2020