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Project No.: 2020-095

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3 Drumcliffe Avenue,
Killarney Heights N.S.W. 2087.

Preliminary Landslip Assessment for 3 Drumcliffe Avenue, Killarney Heights

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 site is located within Landslip Risk Class "B" which is classified as Flanking Slopes of between 5° and 25° (Warringah LEP Landslip Risk Map Sheet LSR_008).

2. Site Location:

The site, 3 Drumcliffe Avenue, is located on the low south side of the road, within gently south dipping topography, at mid-slope level which extends downwards to Middle Harbour to the south. It is a rectangular shaped block with the front north boundary of 18.48m, rear south boundary of 18.29m, side east boundary of 40.81m and side west boundary of 38.15m as referenced from the supplied survey drawing contained within the architectural design set.

3. Proposed Development:

It is understood that the proposed works involve alterations and additions to the existing house and site including demolition of various ground floor elements and construction of an additional storey above the existing building footprint with a detached carport structure to the west of the main building. Alterations to the existing detached brick garage at the rear will consist of demolition of timber shutters and interior modifications. Additionally, minor landscaping works are proposed to the front which includes new paving areas, stairs, bench seats and fencing. The proposed works do not appear to require any bulk excavation or filling.

4. Existing Site Description:

The site is located on the low south side of Drumcliffe Avenue, which is near level and formed with a bitumen pavement and concrete kerb and gutter with similarly sloping lawn verge where it passes the site. There were no signs of significant deformation or cracking in the pavement or reserve to indicate deep seated instability.

The site is occupied by a one-storey brick dwelling located at the centre of the site with in-ground swimming pool to the front and detached brick garage to the rear. It appears that the house structure is formed at existing ground levels at the front of the site and is raised at the rear by approximately 1.50m. It is likely that the rear is raised above the existing ground surface by brick columns from cursory inspection under the patio cavity. A concrete staircase, which appears to have minor settlement cracking and separation at inference joints, leads from the rear raised patio to the rear of the site. The house appears in excellent condition with no evidence of footing/foundation settlement or movement related to slope instability.

The front of the site is bordered by approximately 2.0m high brick walls along the northern, western and eastern sides and consists of an in-ground swimming pool with perimeter brick paving and level grassed lawns. The northern portion of the site is partially retained below the road reserve by the front brick boundary wall. Additionally, the brick boundary wall along the eastern side appears to have significant vertical and stepped cracking throughout the northern section. A sewer access hole is located to the south-east of the swimming pool. The front of the house contains an undercover front porch which is formed approximately 0.65m below the adjacent grassed front lawn.

Access to the site is provided via a concrete crossover and driveway which extends the length of the western boundary and slopes gently to the south (-10°) before reducing to near level (-3°) along the rear portion. The driveway leads to a detached brick garage structure in the rear south-western corner of the site.

The rear of the site is comprised of a brick garage, segmental concrete flooring and a grassed lawn which dips gently to the south (-2°) with semi-mature trees adjacent to site boundaries. Significant differential settlement and deformation was observed within the concrete slabs and increased up to 50mm in parts.

5. Neighbouring Property Conditions:

The neighbouring property to the west (No. 1 Drumcliffe Avenue) is a corner lot which is bound to the north by Drumcliffe Avenue and to the west by Downpatrick Road. The property contains a one and two storey rendered residential house with an in-ground swimming pool at the front and open grassed lawns to the west. Similarly to the site, it appears that the northern portion of the swimming pool area has been retained below the road reserve by the boundary wall. The house appears relatively new and is in good condition with no signs of cracking or settlement over the observable external walls.

The neighbouring property to the east (No. 5 Drumcliffe Avenue) contains a one and two storey brick house situated on the rear portion of the block with gently sloping front lawn and near level backyard. The front of the property has various retaining walls which creates level sections, however, it is generally south sloping. A concrete ribbon driveway extends along the western boundary which leads into a passageway to provide access to the rear. The house appears <50 years of age and is in good condition with no signs of cracking or settlement over the observable external walls.

The neighbouring property downslope to the south (No. 15 Downpatrick Road) contains a two-storey red brick house on the central portion of block with gently south sloping front and rear lawns. The conditions of the building structure could not be observed from within the site area due to the presence of high vegetation and a paling fence at the common boundary.

The neighbouring buildings and properties were only inspected from within the site or from the road reserve however the visible aspects did not show any significant signs of large-scale slope instability or other major geotechnical concerns which would impact the site or the proposed development.

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, increased loading on the existing building footings as a result of the additional storey may result in additional settlement of loaded footings. Therefore, it is recommended that the existing building footings and founding conditions are investigated and deemed adequate to withstand supplementary loads by a structural engineer.

7. Date of Assessment: 12th May 2020.

8. Assessment by:



Ben Sheppard
Geotechnical Engineer

9. References:

Architectural Drawings by CAD Draft P/L, Project No.: 19-62, Drawing No.: A000 and A100 to A013, Dated: 18/02/20