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**Date:** 20<sup>th</sup> February 2019 **No. Pages:** 3 **Project No.:** 2019-018

RAM Construction Corporation 47 Alfred Road, Narraweena. N.S.W. 2099.

# Preliminary Landslip Assessment for 13 Cousins Road, Beacon Hill.

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°.

# 2. Site Location:

The site, 13 Cousins Road, is located on the low west side of the road, within gently to moderately sloping topography. It is a roughly rectangular shaped block with north side boundary of 42.15m, and rear western boundary of 24.31m, with a site area of 937.5m<sup>2</sup> as referenced from the supplied survey drawing.

### 3. Proposed Development:

It is understood that the proposed works involve construction of a new carport over the existing garage with driveway access to Cousins Road. The works involve no bulk excavation however some fill and retention is proposed for the driveway.

### 4. Existing Site Description:

The site is located on the west side of Cousins Road, which is gently north dipping and formed with a bitumen pavement and concrete kerb and gutter with narrow gently sloping verge where it passes the site. The western side of the road reserve appears constructed over fill, which is formed with a steep (25°) slope that dips down into the site and is covered in low vegetation and occasional trees with extensive exposed soil areas. At the north-east corner of the site a low dry stacked rock wall is formed to retain the road reserve, adjacent to timber retaining walls within the neighbouring property. The road pavement appears in good condition with no significant cracking or deformation observed whilst no significant erosion or excess creep movement or instability was identified in the road reserve adjacent to the site.



The site is accessed via a concrete driveway from Anthony Close to the west, passing through the adjacent property (No. 6 Anthony Cl). This driveway extends along the sites northern side boundary and provides access to a brick garage structure in the north-east corner of the site. The driveway contains extensive cracking however this appears related to heavy vehicle traffic. The garage shows signs of deterioration due to age, however there were no significant cracks or signs of settlement in the structure.

The western side of the site is formed as an open soil terrace, with low (<1.0m) concrete retaining wall around its north-west corner. The southern and eastern side of the terrace are formed with steep excavated soil batters that drop down from the boundary and existing house structure. The batter slopes show minor erosion and creep though there are no indications of landslip instability with sandstone bedrock and boulders exposed in the base of the batters and terrace area.

The existing house is situated near the centre of the block and adjacent to the southern side boundary. It is a single storey brick structure with ground floor at surface level in the south-east corner and raised up to 1.5m in the north-west corner due to the ground surface slope. The house appears in a poor to moderate condition on the external areas due to deterioration due to age, however there are no signs of foundation movement related to slope instability.

The front yard of the site, in the south-east corner is formed as a variable and undulating soil slope with some evidence of previous filling. Along the southern side boundary, a stacked gabion basket retaining wall is formed that supports the front yard of the neighbouring property to the south (No. 11) up to 3.0m above the level of the site. The wall generally appears in reasonable condition and appears to have been formed entirely within the neighbouring property. The remainder of the front yard of the site is gently to moderately sloping and shows no signs of excess erosion or creep.

### 5. Neighbouring Property Conditions:

The neighbouring property upslope to the south (No. 11) contains a one and two storey brick residential house on the centre of the block with gently sloping front yard. The front yard is supported above the site by the previously detailed gabion basket retaining wall. The backyard was inaccessible. The existing house appears <30 years of age, or more modernised since its original construction, and appears in good condition with no evidence of foundation movement.

The neighbouring property to the north (No. 15) contains a two storey brick house on the centre of the block with gently sloping front yard consisting of terraces supported by timber and concrete retaining walls along with sandstone outcrops and a concrete driveway in the north-east corner. The existing house is formed within an excavation into the hill slope, which is up to 1.20m in depth and extends to the common boundary with the site, where it is supported by a rendered/concrete retaining wall of unknown make. The house structure appears at least 30 years of age and in good condition, whilst there was no evidence of deformation or cracking in the boundary retaining wall.

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.

#### 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 Yes
- Site Steeper than 1V:4H No
- Existing Excavation >2m No
- Natural Cliffs >3m No

It is considered that a <u>detailed</u> Landslip Risk Assessment is not required for this Development Application.

- 7. Date of Assessment: 19<sup>th</sup> February 2019.
- 8. Assessment by:

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Troy Crozier Principal. MAIG, RPGeo – Geotechnical and Engineering

### 9. References:

Design Plans by CASA Distinct, Drawing No.: DA00, Sheet 01 to 13, Revision: P1, Dated: 13/01/2019.

ATS Land and Engineering Surveyors, Drawing No.: 000 - 00, Revision: , Dated: 00-00-2013