

PRELIMINARY GEOTECHNICAL ASSESSMENT:

41 Sir Thomas Mitchell Drive, Davidson

1.0	LANDSLIP RISK CLASS (<i>Highlight indicates Landslip Risk Class of property</i>)
<input type="checkbox"/>	A - Geotechnical Report not normally required
<input checked="" type="checkbox"/>	B - Geotechnical Engineer (Under Council Guidelines) to decide if Geotechnical Report is required
<input type="checkbox"/>	C - Geotechnical Report is required
<input type="checkbox"/>	D - Geotechnical Engineer (Under Council Guidelines) to decide if Geotechnical Report is required
<input type="checkbox"/>	E - Geotechnical Report required

2.0 Proposed Development

- 2.1 Extend the paved area on the uphill side of the house by excavating to a maximum depth of ~1.0m into the slope.
- 2.2 Construct a new inclined lift on the uphill side of the property.
- 2.3 Convert the existing garage into a rumpus room.
- 2.4 Various other external modifications.
- 2.5 No significant fills are shown on the plans.
- 2.6 Details of the proposed development are shown on 12 drawings prepared by Just Architects, job number A-103, drawings numbered 1.01 to 1.05, 2.01 to 2.03, 3.01 to 3.03, and 4.01, Issue B, dated 21/8/19.

3.0 Site Location

- 3.1 The site was inspected on the 16th September, 2019.

3.2 This residential property is on the downhill side of the road and has a S aspect. It is located on the moderate to steeply graded upper middle reaches of a hillslope. Medium Strength Hawkesbury Sandstone bedrock outcrops and steps down the property. Where sandstone is not exposed, it is expected to underlie the surface at relatively shallow depths. The natural surface of the block has been altered with excavations for landscaping on the uphill side of the property and for a pool on the downhill side of the property. The proposed development will require an excavation to a maximum depth of ~1.0m to extend the paved area on the uphill side of the house.

3.3 The site shows no indications of historical movement in the natural surface that could have occurred since the property was developed. We are aware of no history of instability on the property.

4.0 Site Description

The natural slope falls from the road frontage at an average angle of ~20° to the uphill side of the house before easing to angles of ~12° across the remainder of the property. This slope falls to a ~7.0m high cliff below the lower common boundary. At the E end of the road frontage, a concrete driveway runs to a stable brick carport on the uphill side of the property. At the W end of the road frontage, another concrete driveway runs down and across the slope to a stable brick garage between the carport and the house. The ~2.0m cut for the garage has been taken entirely through competent Medium Strength Sandstone. The cut face displays no significant geological defects that may impact on its stability. The downhill side of the garage was observed to be supported directly off outcropping sandstone. Between the road frontage and the house is a steep, well-vegetated garden. A paved area extends off the uphill side of the house. The cut for this area is supported by a low treated timber retaining wall that will be demolished as part of the proposed works. The single-storey brick house is supported on brick walls and brick piers. No significant signs of movement were observed in the supporting brick walls and the supporting piers stand vertical. A cut has been made in the

slope on the downhill side of the property for a pool. The water level of the pool indicates no ground movement has occurred in the shell of the pool since its construction. A gently sloping garden area falls from the downhill side of the pool to the lower common boundary. A ~7.0m high cliff falls just beyond the lower common boundary. Near the base of the cliff face, a portion of the rock is undercut to ~2.0m (Photo 1). The undercut joint block is set back sufficiently from the downhill property boundary that a failure of the rock would not impact the subject property. The area surrounding the house is mostly paved or lawn covered. No signs of movement associated with slope instability were observed on the grounds. The adjoining neighbouring properties were observed to be in good order as seen from the road and the subject property.

5.0 Recommendations

The proposed development and site conditions were considered and applied to the Council Flow Chart.

Provided good engineering and building practice are followed, no further Geotechnical assessment is recommended for the proposed development.

White Geotechnical Group Pty Ltd.

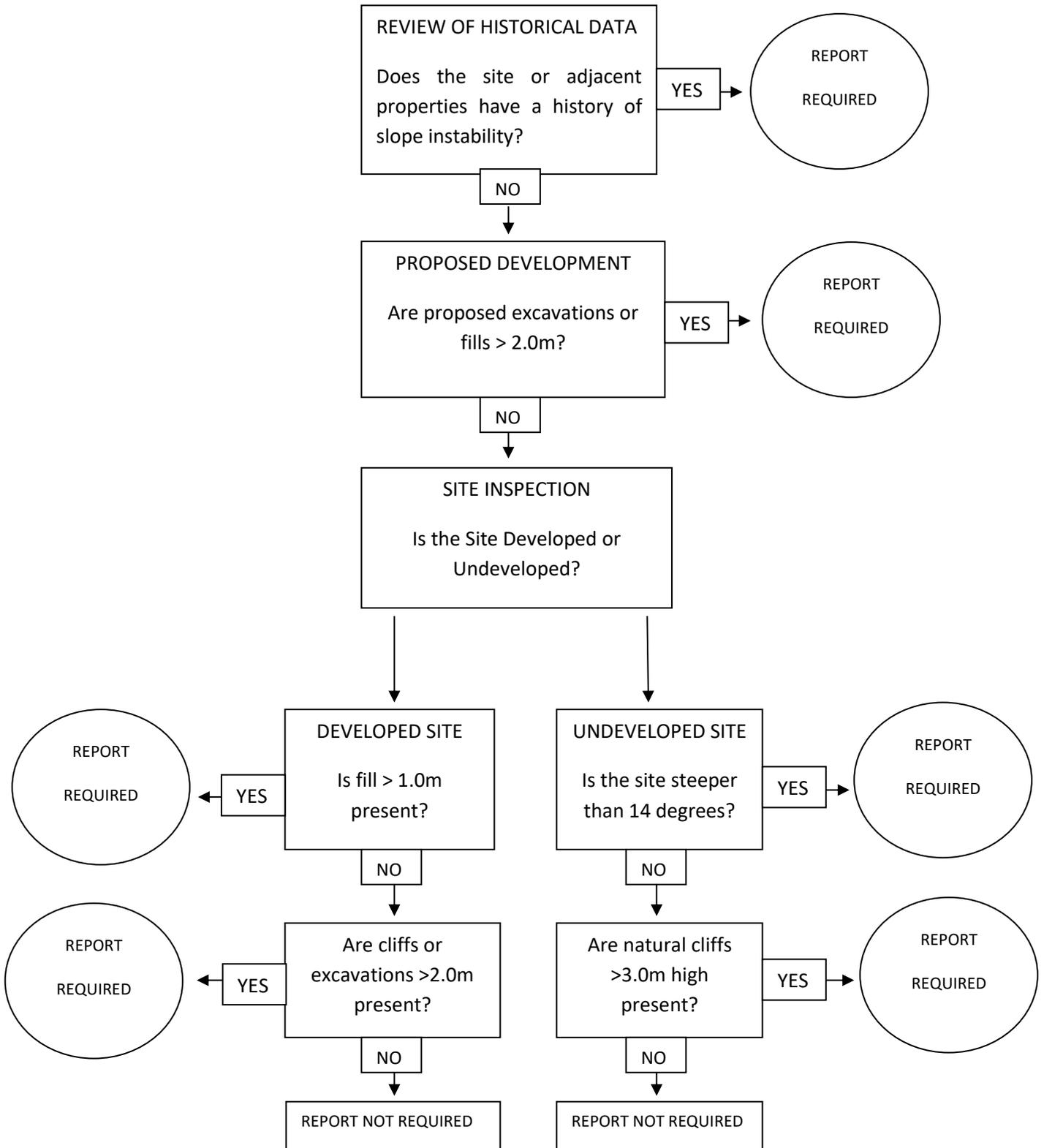


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Photo 1

Preliminary Assessment Flow Chart – Northern Beaches Council (Warringah)



Information about your Preliminary Assessment

This Preliminary Assessment relies on visual observations of the surface features observed during the site inspection. Where reference is made to subsurface features (e.g. the depth to rock) these are interpretations based on the surface features present and previous experience in the area. No ground testing was conducted as part of this assessment and it is possible subsurface conditions will vary from those interpreted in the assessment.

In some cases, we will recommend no further geotechnical assessment is necessary despite the presence of existing fill or a rock face on the property that exceed the heights that would normally trigger a full geotechnical report, according to the Preliminary Assessment Flow Chart. Where this is the case, if it is an existing fill, it is either supported by a retaining wall that we consider stable, or is battered at a stable angle and situated in a suitable position on the slope. If it is a rock face that exceeds the flow chart limit height, the face has been deemed to be competent rock that is considered stable. These judgements are backed by the inspection of over 5000 properties on Geotechnical related matters.

The proposed excavation heights referred to in section 2.0 of this assessment are estimated by review of the plans we have been given for the job. Although we make every reasonable effort to provide accurate information excavation heights should be checked by the owner or person lodging the DA. If the excavation heights referred to in in section 2.0 of this assessment are incorrect, we are to be informed immediately and before this assessment is lodged with the DA.