

PRELIMINARY GEOTECHNICAL ASSESSMENT:

53 Gardere Avenue, Curl Curl

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

2.0 Proposed Development

- 2.1** Install a new pool on the downhill side of the house with pavement and deck by excavating to a maximum depth of ~1.0m.
- 2.2** Construct steps that provide access to the pool trimming the upper 1.1m of the rock face back ~0.1m. An excavation will be required below that extends to a depth of ~1.0m.
- 2.3** No significant fills are shown on the plans.
- 2.4** Details of the proposed development are shown on 4 drawings prepared by Space Landscape Designs, project number 211853, drawings numbered DA-01 to DA-04, Revision A, dated 28/6/21.

3.0 Site Location

- 3.1** The site was inspected on the 2nd July, 2021.
- 3.2** This residential property is on the low side of the road and has a N aspect. It is located on the gentle to moderately graded upper reaches of a hillslope. Medium Strength Hawkesbury Sandstone bedrock outcrops in the foundation space of the

house and on the downhill side of the house. 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 little with the development to date. The proposed development will require excavations to a maximum depth of ~1.0m.

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 uphill property boundary to the downhill side of the house at an average angle of ~6° before reaching the top of a ~3.0m high sandstone rock face. The slope below the rock face continues at gentle angles.

At the road frontage, a concrete driveway runs to a brick garage in good condition. Between the road frontage and the house is a gently sloping lawn and a concrete paved area. The part two storey brick house is supported by brick walls and brick piers. The supporting walls and piers stand vertical and show no significant signs of movement. Medium Strength Hawkesbury Sandstone bedrock outcrops in the foundation space of the house. A portion of the rock is undercut by ~1.0m. Two of the brick piers supporting the house are founded on the undercut rock. Given the thickness of the cantilever arm in relation to its overhang length the undercut rock and piers are considered to be stable.

A stable sandstone rock face ~3.0m high is located on the downhill side of the house. A gently sloping garden area is located downhill of the rock face. The area surrounding the house is mostly lawn/garden covered with some paved areas. 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.

The pool excavation is set back:

- ~2.1m from the existing sewer pipe that cuts across the property.
- ~6.0m from the subject house.
- ~3.0m from the E neighbouring pool.
- ~4.7m from the E neighbouring house.

The pool access/steps excavation is set back:

- ~7.3m from the sewer pipe.
- ~2.8m from the subject house.
- ~2.0m from the E neighbouring pool.
- ~2.1m from the E neighbouring house.

Due to the proximity of the sewer pipe and surrounding structures to the excavations, the rock portion of the excavations are to be sawn up into segments with rock saws, so the rock can be 'picked out' without the use of pneumatic hammers. Vibration impacts on the pipe and surrounding structures will be less than a peak particle velocity of 3mm/sec using these methods.

If pneumatic hammers are used excavation methods are to be used that limit peak particle velocity to 3mm/sec on the line of the sewer and 5mm/sec at the subject house and property boundaries. Vibration monitoring will be required to verify this is achieved. Vibration monitoring must include a light/alarm so the operator knows if vibration limits have been exceeded. The equipment is to log and record vibrations throughout the excavation works.

The proposed deck is over the footprint of the sewer pipe. The deck is to be supported on piers taken to Medium Strength Sandstone.

6.0. Inspection

The following inspection is recommended and if geotechnical certification is desired/required it is mandatory.

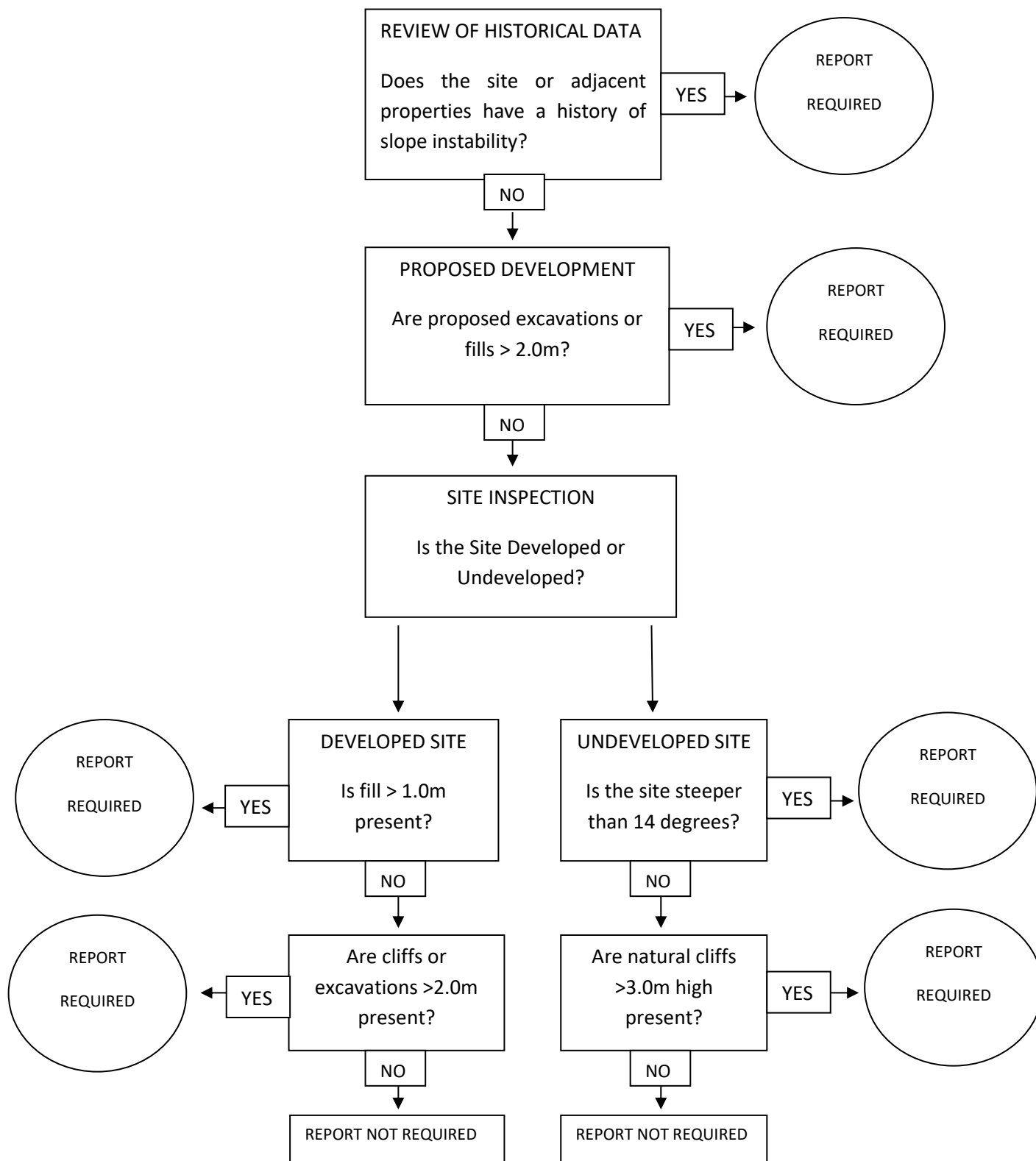
- The geotechnical consultant is to inspect the excavation for the pool access/stairs following the rock trimming and prior to the bulk excavation commencing.

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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.
