Structural Report- Retaining Wall

58B Suffolk Avenue, Collaroy

Job No: 93159

2nd February 2018

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1. Introduction

This report was prepared at the request of Mrs Nicole Hallettand summarises the findings of an inspection of a sandstone block retaining Wall located along the front boundary of the property.

The inspection of the above was carried out on the 31st January 2018 by the undersigned structural engineer.

2. Scope of Review

A detailed inspection was carried out of the retaining wall for the purpose of recommending a means of stabilizing the wall by a method of :

- a. Reconstruct the existing wall
- b. Reconstruct the wall in combination with a sloping batter
- c. Strengthen the existing wall

This written report is supported by a photographs taken at the time of the inspection.

3. Wall Description

The wall is constructed as a 'Dry Wall', with sandstone blocks. The sandstone consists of blocks varying in size and are not interlocked. The wall measures approximately 2 metres high. Section of the wall have displaced and are in danger of collapse, as a result of 1 or more of the following:

- a. Lack of width of the base
- b. Lack of bearing on rock at the base
- c. The blocks are not interlocked and are not acting as 1 unit.d. Clay backfill behind the wall
- e. Surcharge from vehicles accessing the private driveway above
- f. The growth and swelling of trre roots growing within the soil backfill.

The private road access appears to be offset from the top of the wall, allowing an area to manoeuvre machinery. The road appears to be in sound condition with an alignment unaffected by the lack of stability of the retaining wall

4. Wall Reconstruction Options and Discussion

a. Cantileved post and sleeper wall

Partition area below the retaining wall as a 'No Go' area Remove bushes above the existing wall and poison tree roots. 150UC galvanized steel posts, embedded with concrete1500mm into 300mm cored holes at 1200 spacing offset 500mm from face of existing wall. Holes cored into solid sandstone bedrock certified by geotechnical consult due to their proximity to edge of the rock shelf. Backfill behing log wall with free draining non clay backfill. Install 150x100 treated pine sleepers slotted horizontally between posts.

Limit surcharge loading on road and behind the wall

b. Replace block wall with wall of similar height

Partition area below the retaining wall as a 'No Go' area Install a catch scaffold capable of retaining blocks displaced by the reconstruction work.

Prepare a dilapidation report for the existing driveway

Limit surcharge loading on road and behind the wall

Remove brushes and poison tree roots.

Replace existing wall with wall of similar height.

c. Replace block wall with short wall and batter.

Partition area below the retaining wall as a 'No Go' area Install a catch scaffold capable of retaining blocks displaced by the reconstruction work.

Prepare a dilapidation report for the existing driveway.

Limit surcharge loading on road and behind the wall

Remove brushes and poison tree roots.

Replace existing wall with short wall and batter.

