

## PSM5665 McCrae Landslide - Pile Testing Proposal

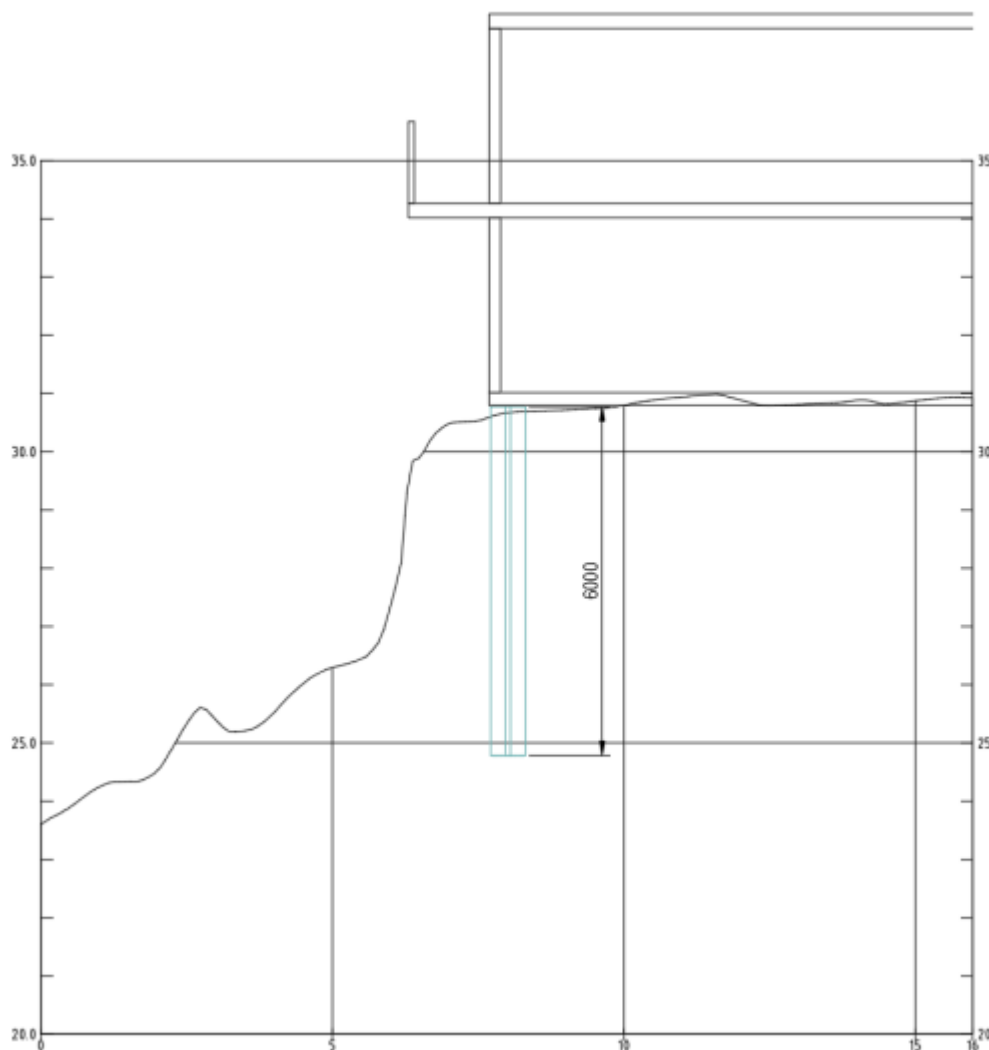
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**Date:** Mon, 24 Feb 2025 14:52:09 +1100

Hi Emily,

Mornington Peninsular Shire Council (MPSC) has expressed concerns regarding the pile founding depth at 6 View Point Rd, McCrae (the Site). This concern is generally in relation to the proximity of piles to the Landslide, and socket, if any, below the influence of the recent movement. Furthermore, it is relatively common that footings called up on a drawing set are often not constructed as drawn.

PSM have considered methods available to test the lengths of piles at the Site. A sectional sketch showing the proximity of pile to the rear scarp of the landslide is shown in inset below. The founding depth of the pile is a key control of stability and the pile lengths are not known with any confidence. The estimated range of pile depths is 4 to 8 m. There are approximately 3 to 4 piles in close proximity to the rear of the Landslide.



### **Pile Testing**

We propose to engage Integrity Testing Pty Ltd to undertake Mod-shock testing on the piles at the Site. Mod-Shock testing is a non-destructive form of testing that is able to estimate pile lengths. Mod-shock testing is similar to pile integrity testing, in that both methods use light impacts to the pile (i.e. a hammer) and measure how the sound waves travel through the pile. However, mod-shock testing, unlike pile integrity testing, is able to undertake testing on existing structures without direct access to the top of the pile.

The main aspects of Mod-Shock testing are summarised as follows:

- ☐ \* The test involves the use of a geophone or sensor which is placed on the side/top of the pile.
- ☐ \* An impact source is then generated by the use of a small hammer.
- ☐ \* The sound wave that is generated is then captured through an interface and filters whereby the data is then stored in a computer.
- ☐ \* The data is then analysed to estimate pile lengths as well as other engineering parameters

### **Access**

Access is required to the side of the pile or to the slab/pile cap directly above the pile. At this stage work necessary to achieve these requirements is not known. Where possible it is intended to test with any disturbance, however some or all of the following activities may required in order to provide appropriate access for testing:

- \* Removal of a small number of tiles on slab
- \* Removal of a small number of paving stones
- \* Removal of soil.

Due to proximity of piles to the crest of the landslide, an industrial ropes access crew is necessary to provide safe access. We propose to engage Rix Asset Maintenance (RAM) to provide this service, they previously assisted in the installation of monitoring equipment. Depending on the access conditions it is possible for rope access technicians to undertake the test under the direction/supervision of Integrity Testing.

Consent would be required from owner of 6 View Point Road for:

- \* Access to the property
- \* Permission to undertake the testing,
- \* Permission for minor work necessary to gain access to the piles.

### **Budget**

### **I&S**

### **Timing**

- \* Testing is expected to be completed within one-day
- \* Integrity Testing and RAM have indicated availability for 3 March 2025. Other dates would be subject to availability of Ram and Integrity testing.
- \* Integrity Testing expect to provide results within 1 week of testing.

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