

23 Reynolds Crescent, Beacon Hill

Notice of Intention to Issue an Order
Ref No LGA2020/0049

Scope

We have been requested by the owner to assess the stability of the cut, the existing shoring and to provide recommendations to address the Council Letter.

Observations/Discussion

The site was inspected on the 26th November 2020 and previously on 15th & 10th September 2020.

The existing shoring (Photo 1 & 2) recommended by this firm was proposed as short term solution where seepage was moving through the soil overlying the bedrock causing the soil to erode/reel back slightly. The soil on the Western face is some 0.3 to 0.7m deep. The remaining exposed soil on the Southern face is up to 0.3m deep. The owner informs us since our last inspection he has dug some exploration pits along the western boundary beside the neighbours' brick boundary wall. The pits indicate the boundary wall is founded on the rock.

The soil portion of the cut batters on the W and S faces appear stable. The shoring requires a little bit of work to ensure it will stand for a longer period of time than originally envisaged. See the recommendations to follow.

Recommendations

To extend the life of the existing shoring for a period of possibly beyond 6 months the following is recommended:

- The existing backfill is of a fine diameter and has not been wrapped in Geotextile fabric. As such during the recent heavy rainfall some of the backfill has washed through the gap between the base of the shoring and rock face. It is recommended a

suitable mesh (of finer grade than the backfill diameter) be fixed across the gap at the base of the shoring between the timber and the rock so no more backfill can move through the gap. The mesh is to stop the gravel movement but is to allow seepage to continue to flow through the gap. The mesh is to be of adequate strength that it will not tear or brake over time. Alternatively the gravel can be removed from behind the shoring and wrapped in geotextile fabric to prevent further movement of the gravel.

The backfill is free draining and the gaps between the base of the existing shoring and the rock face are large enough for gravel to fall through. As such these gaps should be adequate to drain the shoring. We do not consider additional drainage measures are required for the shoring, provided the recommendations above are followed.

- The existing shoring is to be propped to provide additional lateral support. A slab has now been constructed at the base of the shoring. The slab edge is set back sufficiently from the excavation face that it can provide the toe (lateral) support for the props. The props are to be robust and are to be fixed to a plate attached to the existing form ply face. All fasteners used are to be heavy gauge coach screws or similar. Nails are not considered adequate for this work.
- Where the gravel levels have been depleted by the water movement through the gaps at the base of the shoring, the gravel is to be topped up behind the shoring so the gravel level is equal to the soil level immediately behind the shoring.

Works considered a priority

In our original recommendations the cut batter on the N boundary in the location of the pool plant room was to be supported as a matter of priority. The face was partly filled in with brick work as a temporary measure but this did not extend over a floating boulder in the cut face. The starter bars for the proposed retaining wall are in place but the wall has not been built or backfilled. There is some reeling back of the clays around the boulder where seepage has been moving through the cut face (Photo 3). To prevent the potential movement of the

boulder it is recommended this small wall be constructed as matter of priority and under emergency measures if required. During the construction it is imperative that the wall be backfilled properly with gravel, and that the backfill fills all the voids in the cut face behind the wall.

Required Inspections

- The shoring is to be inspected by the Geotechnical Consultant once the recommended shoring upgrades have been completed to ensure they are in line with our expectations and are considered suitable to provide support for a period of more than 6 Months.
- Upon approval of the shoring upgrades the shoring is to be inspected by the geotechnical Consultant at 3 month intervals or after extreme rainfall events whichever occurs first.

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Photo 1



Photo 2



Photo 3