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# SITE VISIT RECORD

Sheet No. 1 of 11

Contract: Mauao Base Track Geotechnical Monitoring

Inspection No: 5

Project Number: 2-9B463.01

Work Site: Mt Maunganui Base Track Engineer/ Geologist: s 7(2)(a) - Privacy

Day & Date of Visit: 28/09/20

Arrival Time: 1.45

Departure Time: 3.15pm

**Weather and Site Conditions:** Showers and fine periods on the day. Previous significant rainfall events for August included 10.6mm recorded on 27<sup>th</sup> September, (Tauranga Airport rain gauge, Metservice record).

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## Site Inspection Notes – Track level

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### General observations

- Refer to Figure 1 for locations of drains / culverts.
- The track condition was overall in the same condition as the previous visit on 02/08/20, with the exception of some minor scour near the western end. Apart from the minor scour, the drainage system appears to be performing well. Water is being efficiently drained from the slope above the track to the culvert beside the track. The green filter socks collecting this water at the base of the slip were draining efficiently.
- Photos from this inspection and the first inspection (02/06/20) are compared to monitor changes in the attached site photographic record.
- The repaired face of the slip is in good condition. Weeds and some grass is beginning to grow through the geogrid.
- Most of the drains installed were running after rain the day prior and morning of inspection, showing that they are capturing a significant amount of excess water from the slope.

### Track Condition

- The repaired track was moist after rain on the morning of the 28/09/20. The minor amount of scour is at the western end of the repaired track. This scour occurred sometime during September, as it was not present during the previous site visit on 27/08/20 (Photographs 7 - 9). The scour looks to be associated with drainage from horizontal drain 03 (HD03) (Photographs 7 - 9).
- The scour is likely caused by excess water seeping from the slope around horizontal drain 03. This has been monitored in previous site inspections. This seepage has caused minor erosion of the slope around the end of the drainage pipe (horizontal drain 03).
- Recommendations for the remediation of this scour and erosion are presented in the recommendations section below.

### Culverts and Swales

- All grates (Culverts 01 - 03) were clear, with the exception of a covering of leaves (Photographs 3 - 4).

## Horizontal Bored Drains

- Horizontal drains HD01 - HD03 (Figure 1) on the slope above the repaired track were checked. There was a steady stream of water coming out of HD01 (Photograph 10). Horizontal drain 02 was dripping at a rate of about 1 drip per second (Photograph 11). Horizontal drain 03 had a steady stream of water (Photograph 12) flowing out of it. A small amount of algae indicated that water flow from the drain has been relatively constant.
- The scour around drain HD03 appeared to be in the same or similar condition as when last checked on 28/08/20; the slope around the drain was wet and weak. A minor amount of erosion has occurred. It was difficult to assess how much of the slope was affected due to the geogrid covering. Recommendations regarding this issue are outlined below.
- At the bottom of the slope HD05 and HD07 were both dripping steadily, while HD04, HD06, HD08 and HD09 were not dripping.

## Observations of the slip scarp

- On the slip scarp itself there were no signs of soil nail deformation / movement.
- A minor amount of grass is continuing to grow in the slip face.

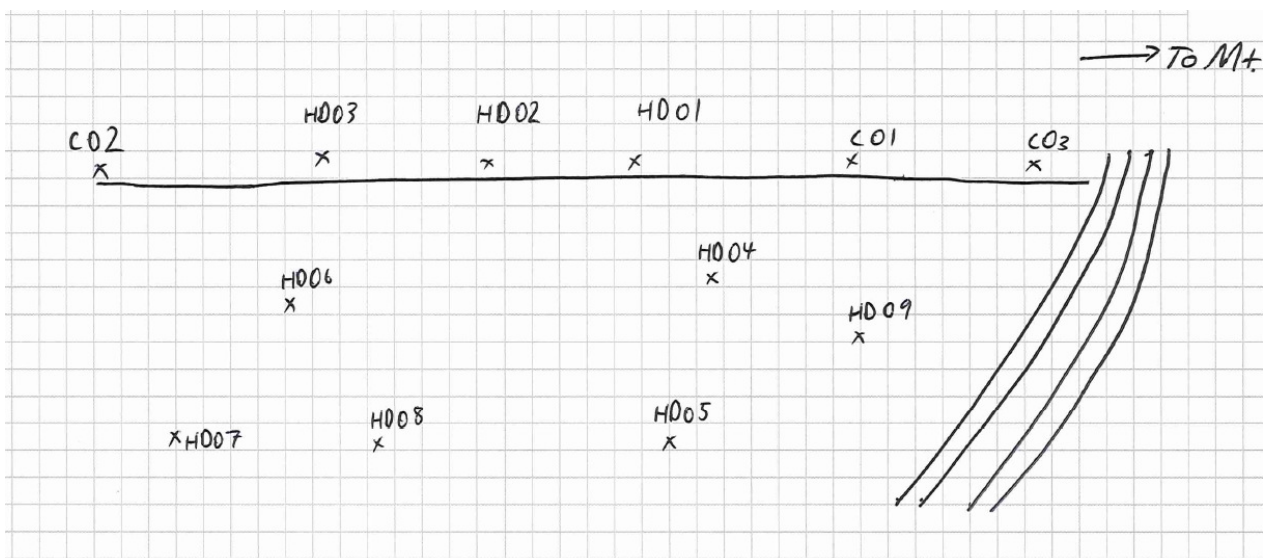
## Observations at Toe of Slope

- There were no signs of wave / water erosion of the toe of the slope or between the toe of the slope and debris remains.

## Observations of the Pohutukawa Tree on the west side of the slip

- The minor amount of scour around the roots of the Pohutukawa Tree at the western edge of the slip appears to be stable - erosion of this area has not increased despite recent heavy rain (Photographs 16 - 17).

Figure 1 - diagram of site



## Recommendations

- To remediate the scour and prevent further erosion of the track below horizontal drain 03, we recommend to hand dig a subsoil drain and connect the outlet to the existing culvert located at the western end of the prepare. A detail for this drain is outlined in Figure 2 (attached) and comprises a 100mm drain coil encased in drainage aggregate and bidim geotextile cloth. We have also indicated the extent of the drain required on the attached plan C73.
- In addition, the slope around horizontal drain 03 is seeping more than expected. We need to assess the condition of the slope around the drain to assess whether another horizontal bored drain is necessary at this location. We recommend that the geogrid be pulled back around this area during an additional site visit to assess the condition of the slope.

Signature:

s 7(2)(a) - Privacy

# CALCULATION SHEET

Project/Task/File No:

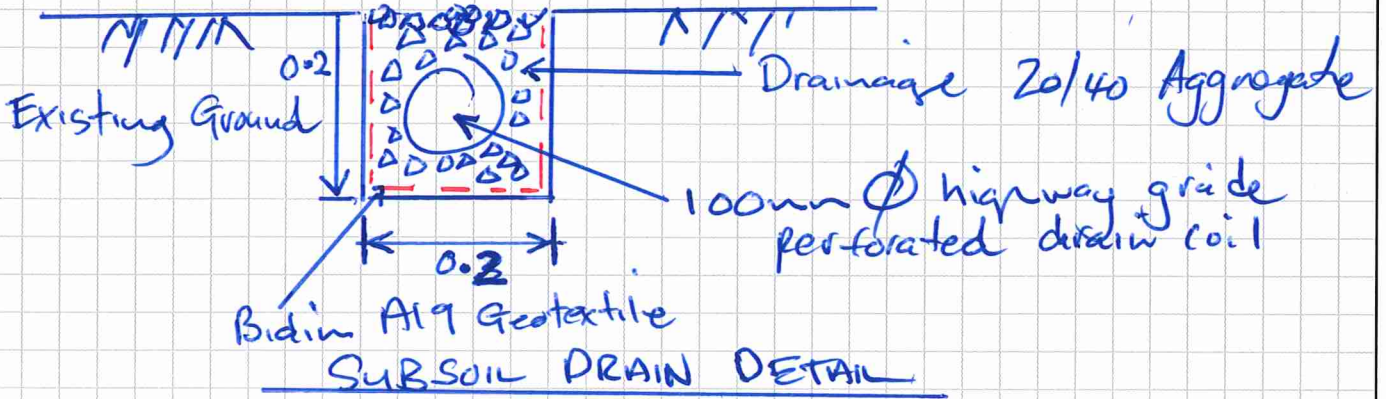
Sheet No 1 of 1

Project Description: Mauao Base Track

Office:

Computed: 30 / 9 / 2020

Check: / /



## Site Photographic Record



Photograph 1 (top, taken on 02/06/20) compared to the most recent visit on 28/09/20 -  
At the start of the track looking west



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Photograph 1 & 2

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Culvert 02 at west extent of track repair. Photograph 3 (above, left) was taken during the initial inspection on 02/06/20 and Photograph 4 (above, right) taken on 28/09/20.



View of slope looking west. Photograph 4 (left) taken on 02/06/20, compared to Photograph 5, taken on 28/09/20.



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Photographs 3 - 6

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Photograph 7 (top left, taken on 27/08/20) and Photograph 8 (top right, taken on 28/09/20) showing the minor amount of scouring that has occurred below horizontal drain 3 during the month of September. Photograph 9 (bottom) shows the scour looking west from horizontal drain 3 (28/09/20).



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Photographs 7 - 9

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Photograph 10 (top left): Horizontal drain 01. Photograph 11 (top right): Horizontal drain 02. Photograph 12 (bottom left): horizontal drain 03. Photograph 13 (bottom right): looking towards the west end of the repaired track from horizontal drain 01. All photos were taken on 28/09/20.



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Photographs 10 - 13

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Photograph 14 (left, 02/06/20) and Photograph 15 (28/09/20) - View looking upslope



Photograph 16 (left, taken on 02/06/20) and Photograph 17 (right, taken on 28/09/20).  
Looking west across slip face towards the Pohutukawa tree.



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Photographs 14 - 17

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Photograph 18 (top, 02/06/20) and Photograph 19 (bottom, 28/09/20) - slope above track.



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Photographs 18 & 19

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Photograph 20 (top, 02/06/20) and Photograph 21 (bottom, 28/09/20). Looking towards the track from the western end.



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Photographs 20 & 21

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Photograph 22 (top, 01/06/20) and Photograph (bottom, 29/06/20). Looking up to the slip face.



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Photograph 22 & 23

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