



a.s.miner
Geotechnical
Consulting Engineers

50 Calder Street, Manifold Heights, VICTORIA 3218

Tel : 03.52294568 Mobile : 0438.294568

ABN 72 856 478 451

Email: aminers@pipeline.com.au

Corangamite Catchment Management Authority and the City of Greater Geelong

A.S. Miner Geotechnical

Case Study for Erosion and Landslides.

Western Freeway Bacchus Marsh

Report No: 356.3/04/06

Prepared for Troy Clarkson

Department of Primary Industries

PO Box 103

Geelong, VIC 3220

and

Leigh Dennis

Corangamite Catchment Management
Authority

64 Dennis Street

Colac, VIC 3250

1. Site Description

1.1 Site I.D.

356.3/04

1.2 Site address

Western Freeway Bacchus Marsh

1.3 Brief site description

The site is located in a cutting on the northern side of the Western Freeway heading into Melbourne. A landslide has occurred in an extensive cutting and has travelled down the face of the cut slope but has not reached the road shoulder

1.4 Map datum/ Map projection/ Zone

MGA Zone 55 (GDA94)

1.5 Easting

E276910

1.6 Northing

N5826540

1.7 Municipality

Moorabool

1.8 CCMA landscape zone

(In Port Phillip CCMA)

1.9 Previous ID

Not previously recorded

1.10 Previous Data Source

Not previously recorded

2. Hazard Description

2.1 Soil degradation type

Landslide

2.2 Soil degradation sub-class

Rotational slide

2.3 Description of hazard present on site or threatening site from above or below

A small rotational landslide is located approximately 20 metres upslope on an embankment adjacent to the Western highway. The slide has moved only a few meters but could continue to fail in wet weather and may have enough potential to travel onto the road.

2.4 Dimensions of Hazard (width, length and depth if appropriate)

Approximately 20 m (W) x 20 m (L) x ??m depth . However the depth appears to be not more than a metre or two.

2.5 Extent of Hazard (spatial area and volume if appropriate)

Approximate 400 m² with a possible volume of the order of 2400 m³

2.6 Magnitude of hazard (travel distance or rate of occurrence)

The slide only appears to have moved cms to less than a metre and the rate of travel has probably been slow

2.7 List previous reports or studies relevant to this site

Unknown

2.8 Custodian of previous reports and studies

NA

3. The Event Has Already Occurred

3.1 Date of first occurrence

Unknown but first noted by Warren Feltham in Dec 2005

3.2 Date of most recent re-activation or acceleration

Unknown

3.3 Actual or postulated trigger event including magnitude and duration

Unknown

3.4 Frequency of Trigger Event if known

NA

3.5 What damage or impact occurred?

No known damage

3.6 Was there a risk of injury or loss of life?

Probably a low to very low risk of injury and or loss of life due to small run out

3.7 How important was it?

Given it occurred directly above a busy transport route, it would be viewed as having at least moderate importance

3.8 What asset classes were impacted?

Infrastructure

3.9 What asset sub classes were impacted?

Major roads

3.10 What are the asset values?

Major road asset value =8

3.11 How severely were assets impacted?

Very low to minimal

3.12 Estimated cost of impact (including qualitative and quantitative costs for loss of asset, investigations, remedial works, cultural, business and environment)

No remedial work has been undertaken so costs would be low

4. No Remediation Has Been Undertaken Yet

4.1 What are the remediation options?

Removal of failed materials and surface protection using a geotextile (possibly biodegradable) to assist vegetation growth

4.2 How will the site be assessed?

It is assumed this site would be assessed as part of the VicRoads landslide risk assessment process and would probably be rated low to low-moderate.

4.3 How will the remediation be designed and by who?

This would be a VicRoads project

4.4 Will it require specialist equipment or contractors?

Unlikely

4.5 How will effectiveness be judged?

Ongoing monitoring and inspection

4.6 Will it be early intervention or reactive?

Reactive

4.7 What is the likely overall cost of remediation?

Possibly of the order of \$25,000-\$40,000

4.8 How will the remediation be funded?

Either funded through the VicRoads priority funding allocation (which it would be unlikely to get immediate funds) or if it moves further it would probably get funded through emergency funds.

5. Ongoing Review and Monitoring Requirements

5.1 What is the likely ongoing monitoring and review strategy?

Probably included in the regular surveillance program

5.2 What is the nature of future monitoring and maintenance?

Observations only

5.3 What are the likely costs of monitoring and maintenance?

Minimal and included as part of the ongoing road surveillance program for major transport routes.

Photos



Sketches and Drawings