

McCrae Landslide Board of Inquiry

Opening Address
Senior Counsel Assisting



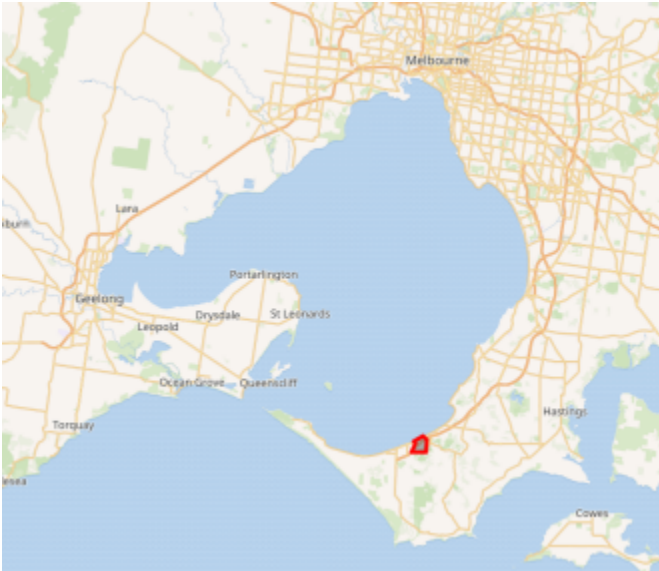
Board of Inquiry

Board of Inquiry – Work to date (as at 6 May 2025)	
Category	Number of documents
Number of witness statements prepared/obtained	13 received 6 lay witness statements drafted
Number of Notices to Produce issued	20
Number of documents obtained in response to Notices to Produce	1,307
Number of documents, photographs and supporting evidence such as emails obtained from public submissions	701

Community Engagement

Board of Inquiry – Community Engagement to date (as at 6 May 2025)	
Category	Dates and figures
Community session and site visit	9 April 2025
Flyers distributed	1,400
Number of public submissions received	32
Advertisements placed in newspapers and online	2
Interviews and media releases	3

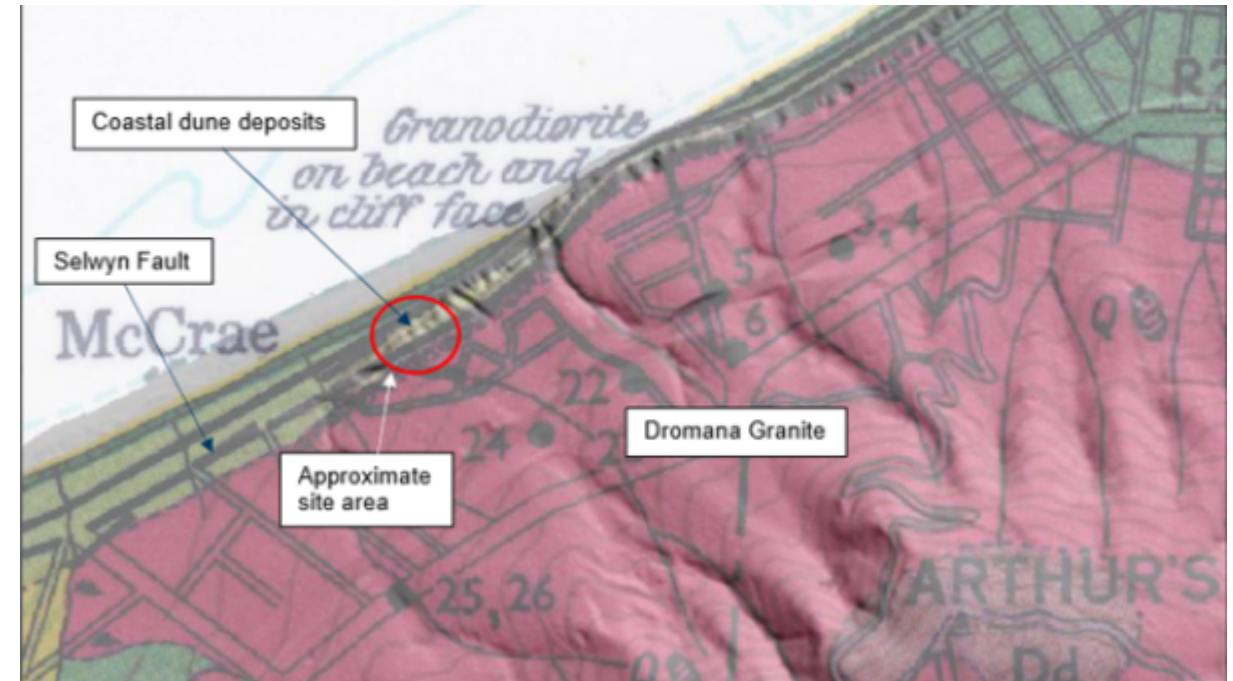
McCrae



Geology

The site is underlain by:

- Quaternary raised coastal deposits, comprising of siliceous and calcareous sand, shell beds, and guano (mud islands) at the base of the escarpment.
- At the elevated terrain behind the escarpment, palaeozoic granodiorite and granite.



Location of the landslides

Topography

The suburb can be defined by its near continuous coastal escarpment.

Along the toe of the escarpment is a low coastal plain, featuring small, low-lying dunes.



Location of the landslides overlaid by topographic map

Overview of landslides

Several significant **landslides** have occurred in the McCrae area in recent years.

2022

10-12 View Point Road, McCrae

First landslide – 14 November 2022

Second landslide – 15 November 2022

2025

3 Penny Lane, McCrae

First landslide – 5 January 2025

Second landslide – 14 January 2025



Landslide that occurred on 14 January 2025

LANDSLIDE HITS EIGHT HOUSES

DROMANA, Mon.—A landslide crushed the backs of eight holiday homes and a milk bar at the foot of Arthur's Seat at McCrae, early today.

Some of the homes were pushed up to 10 ft forward.

McCrae is about a mile on the Rosebud side of Dromana.

All but one of the homes were unoccupied.

One house, "The Rocks," collapsed on top of an in-built garage, smashing the basement structure to matchwood.

This house is now leaning about 10 degrees from vertical, and is surrounded by 8 ft of water.

The owner, Mr E. Massey, his wife and son, Mr Alan Massey, and his wife and twin daughters, aged 11 months, were about to go to bed at 11 last night in two rooms above the garage.

Mr Alan Massey said today that they noticed the water 8 ft deep in the garage, and decided to get out.

Two neighboring houses were crushed together.

Hundreds of tons of slush, top soil, rocks and tree-trunk smashed all

rooms at the back of all the houses.

"It was the most horrifying experience of my life," Mr W. Caldwell said today.

The landslide was preceded by "terrifying rumblings" in the hillside, and then suddenly the whole cliff-face gave way, he added.

Huge clods of earth hit the house and then a stream of mud, earth and rocks flowed into his bedroom.

Mr Caldwell said he escaped through the front of his house.

He then drove his car to high ground, where he slept for a few hours until daybreak.

Mr Caldwell has an antique shop only a few doors away, on the Nepean Highway.

Flood waters were 3 ft deep in the shop.

The Beach Road from Mount Martha to Dromana is impassable.

Three bridges have been swept away.

1952 landslide

A significant landslide occurred in July 1952.

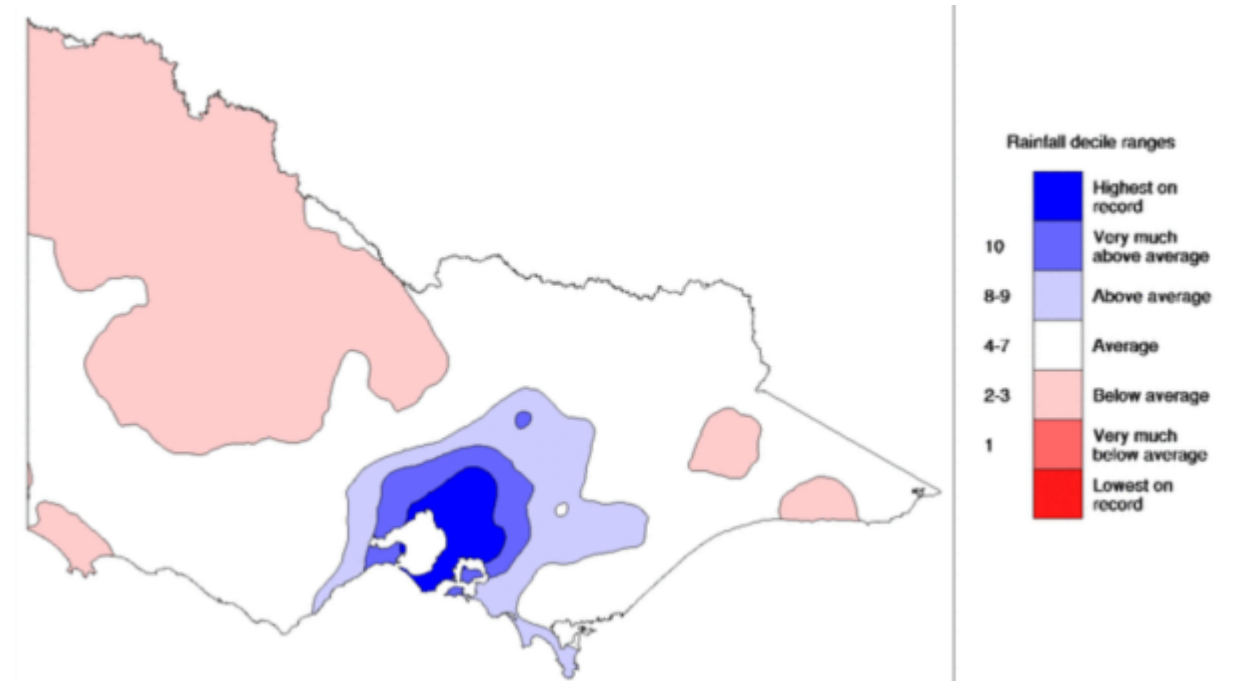
The landslide, which destroyed eight homes, is assumed to have occurred near Anthony's Nose, approximately 2km northeast of the 2022 landslides.

Rainfall in 1952

The 1952 landslide was triggered by significant rainfall.

1952 was a significantly wet year in Victoria.

In **July 1952**, rainfall was the highest on record for Southern parts of Victoria where McCrae is located.



Rainfall data of Victoria in July 1952

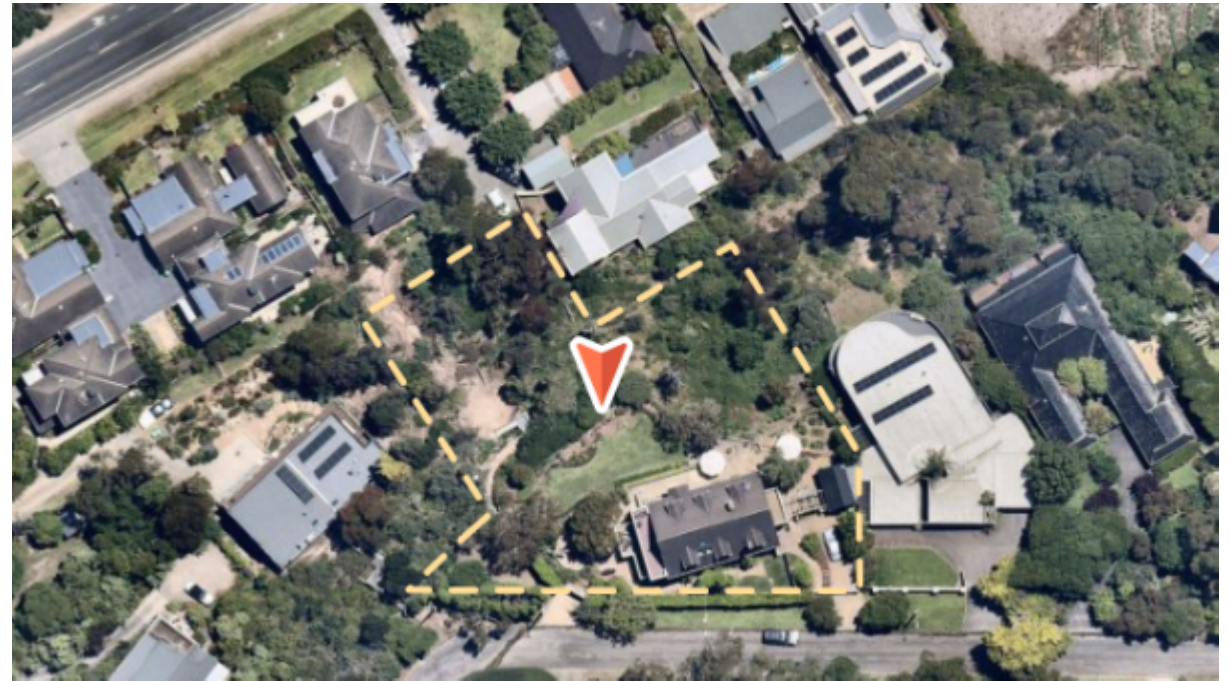
2022 Landslides



2022 Landslides

First landslide – 14 November 2022

Second landslide – 15 November 2022



Location of the 2022 landslides

Inspections of the 2022 landslide sites

Site inspections were conducted by a Senior Principal from **Stantec** (Geotechnical Engineers) on the afternoon of 15 November 2022 and by **Logocon** (Consulting Engineers) on 24 November 2022.

Visual, non-invasive investigations were conducted. Independent observations were made in addition to discussions with the local residents to ascertain anecdotal information.

First landslide – 14 November 2022

The reports of Geotechnical Engineers suggest that an initial landslide occurred on the **afternoon of 14 November 2022**.

It occurred at **10-12 View Point Road** on the upper slope at the rear of the property.

It was categorised as a **translational landslide** and was considered **moderate – rapid** in nature (in the order of metres per hour to metres per minute).

Residents' experiences

The **owners** of 3/613 Point Nepean Road heard a loud noise at the back of their property in the early morning on **14 November 2022** at approximately **6:30am**.

However, they did not identify anything visually that would indicate a landslide had occurred at this time.

Second landslide – 15 November 2022

In the early morning of 15 November 2022, a **subsequent landslide** occurred.

This landslide manifested as a **debris flow** from the middle part of the slope, down to the toe, resulting in impact on 3 Penny Lane and debris flowing into the backyard of 3/613 Point Nepean Road.

This landslide was considered **very rapid – extremely rapid** (in the order of metres per second).

Inspection of the failed slope indicates the displaced soil was **sand**.

Evacuation of residents

Several properties were **evacuated** after the 15 November landslide, including:

- 2 Penny Lane
- 3 Penny Lane
- 3/613 Point Nepean Road
- 10-12 View Point Road
- 14-16 View Point Road

Residents of **2 Penny Lane** and **3/613 Point Nepean Road** have been **unable to return to their properties** since the 2022 landslides.



Evacuation area following the 15 November landslide



Scale of the landslides

This image depicts the location of the initial landslide on 14 November 2022 at 10-12 View Point Road and the subsequent debris flow down the hill on 15 November 2022.

Debris from 2022 landslides

This image depicts the **subsequent debris flow** that impacted the slope leading down to Penny Lane from View Point Road, McCrae.



View looking up at the 2022 landslides



Residents' experience

Image of the **debris flow** from the **15 November 2022** landslide - taken by a resident of 3/613 Point Nepean Road from their garden.



Water flow

A resident of 3/613 Point Nepean Road took this image of the escarpment in the morning of 15 November 2022, following the landslide.

The image indicates the presence of significant water flow down the escarpment at that time.

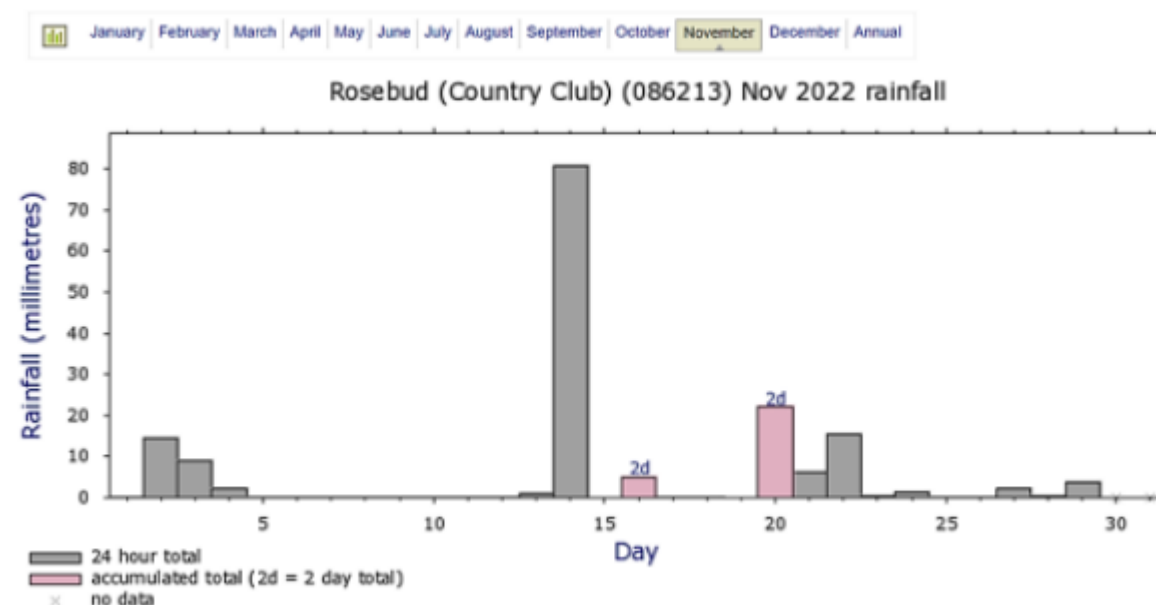
Rainfall for November 2022

On 14 November 2022, the date of the first landslide for 2022, **80mm of rain** was recorded at the Bureau of Meteorology rain gauge located at Rosebud Country Club, approximately 3 – 4km away.

According to data, this was the **highest single day of rainfall** at that rain gauge since February 2005.

More generally, the monthly precipitation for **October and November 2022 was much higher** than previous years, dating back to 1927.

The precipitation for **November 2022 was triple the historical average**.



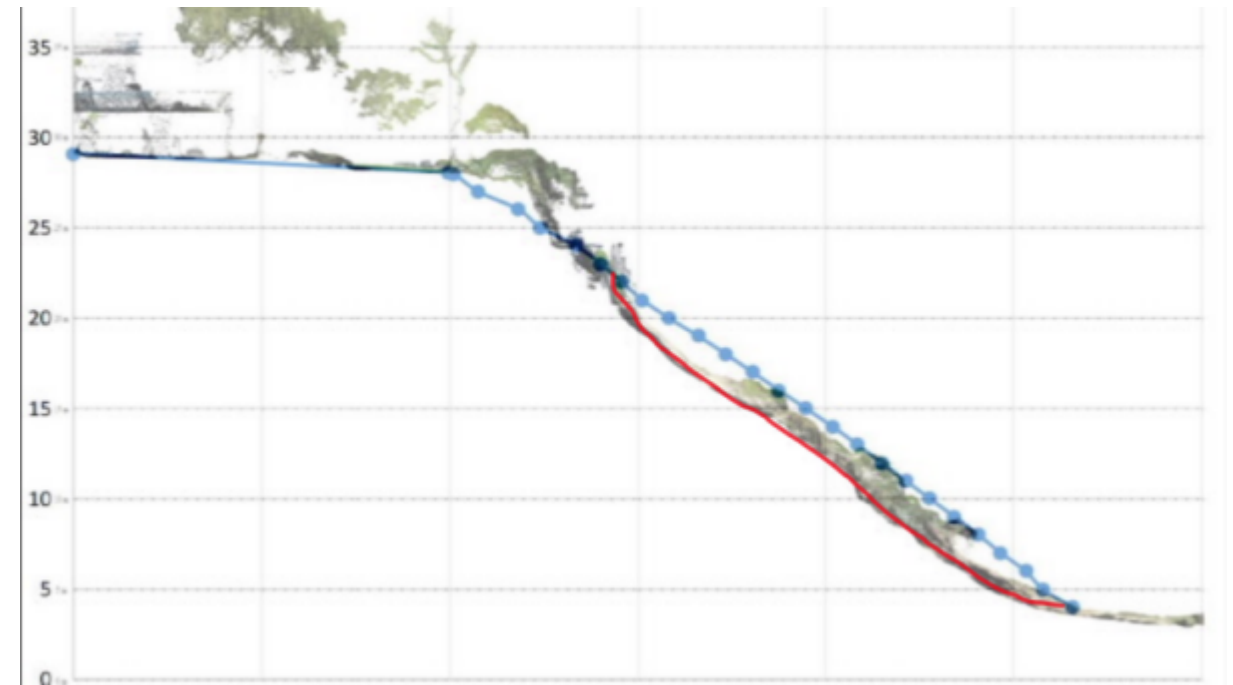
Daily precipitation November 2022 – Rosebud Station

Land survey

A land survey was conducted by G.J Martin Consulting Land Surveyors on 11 November 2022.

A drone topographical survey was conducted by Civiltest Pty Ltd on 2 December 2022.

The two surveys have been overlaid to estimate the **extent of the earth flow** on 15 November 2022.



Land survey of slope beneath 10-12 View Point Road

Legal Proceedings

There are current proceedings on foot before the Building Appeals Board relating to the 2022 landslides, including with respect to Emergency and Building Orders issued by the Mornington Peninsula Shire Council following the 15 November 2022 landslide and proposed rectification works to stabilise the escarpment and eliminate danger to life and property.

There are also current proceedings on foot before the Victorian Civil Administrative Tribunal regarding the 15 November 2022 landslide, issued by the owners of 10 – 12 View Point Road against the Council.

Last week, the Building Appeals Board delivered a determination in proceedings issued by the owners of 10 – 12 View Point Road, finding that the Emergency Order and Building Orders issued to them by Council were not jurisdictionally valid.

Proceedings issued by the owners of Unit 3, 613 Point Nepean Road in the Building Appeals Board are still awaiting determination.

2025 Landslides



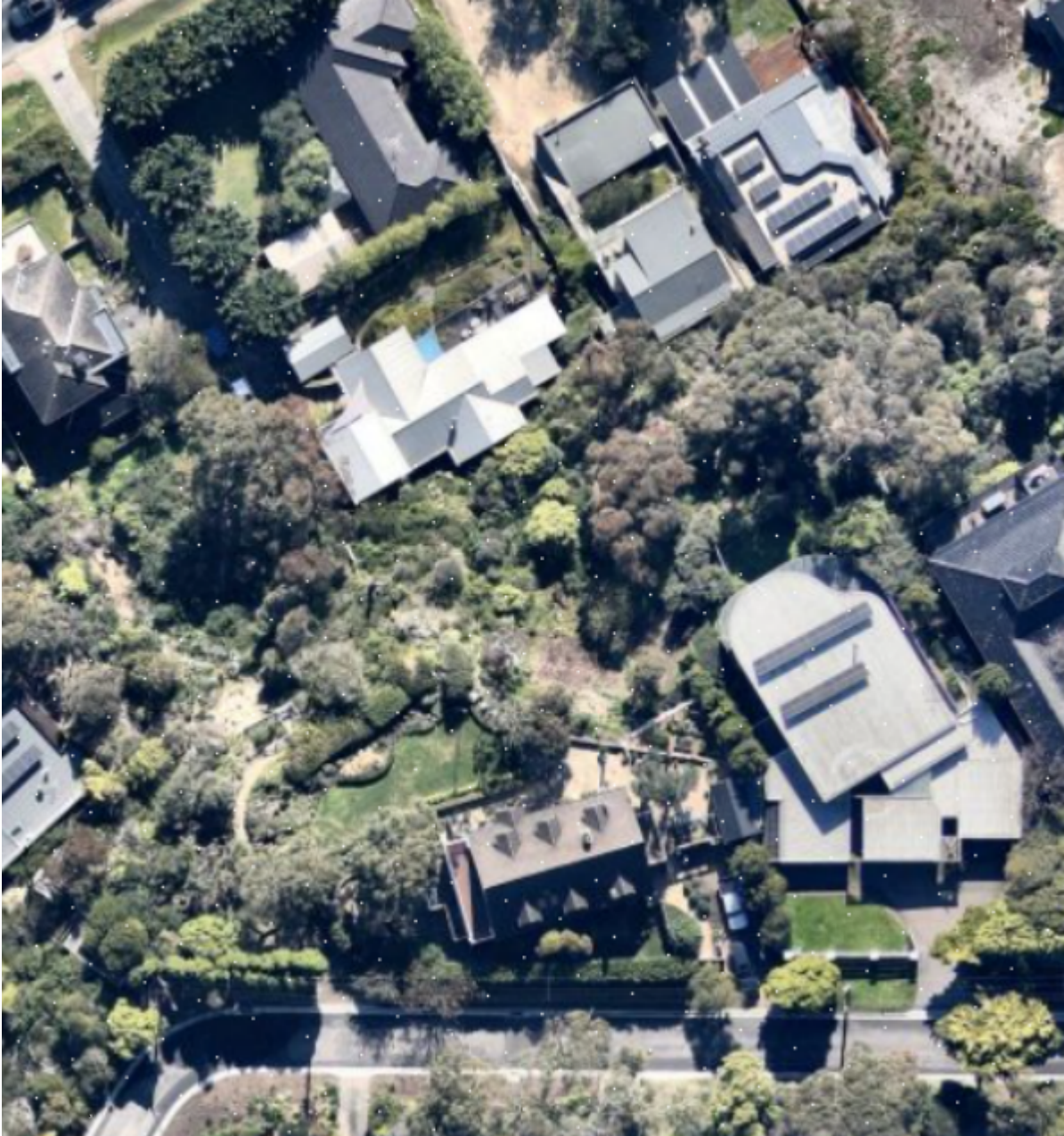
2025 Landslides

First landslide – 5 January 2025

Second landslide – 14 January 2025



3 Penny Lane after the 14 January 2025 landslide



Before 2025

This is an aerial image of the landslide site before 2025



After 2025

This an aerial image of the landslide site after the 14 January 2025 landslide

Before and after

These are aerial images of the same landslide site, before and after the 14 January 2025 landslide.



Before



After

3 Penny Lane, McCrae

3 Penny Lane was a 3-storey house located in McCrae.

It was built in 1999.

It sat on an 828 m² block and had 4 bedrooms, 2 bathrooms and 2 parking spaces.

It was purchased by the current owners, Nick and Kellie Moran, in 2023.



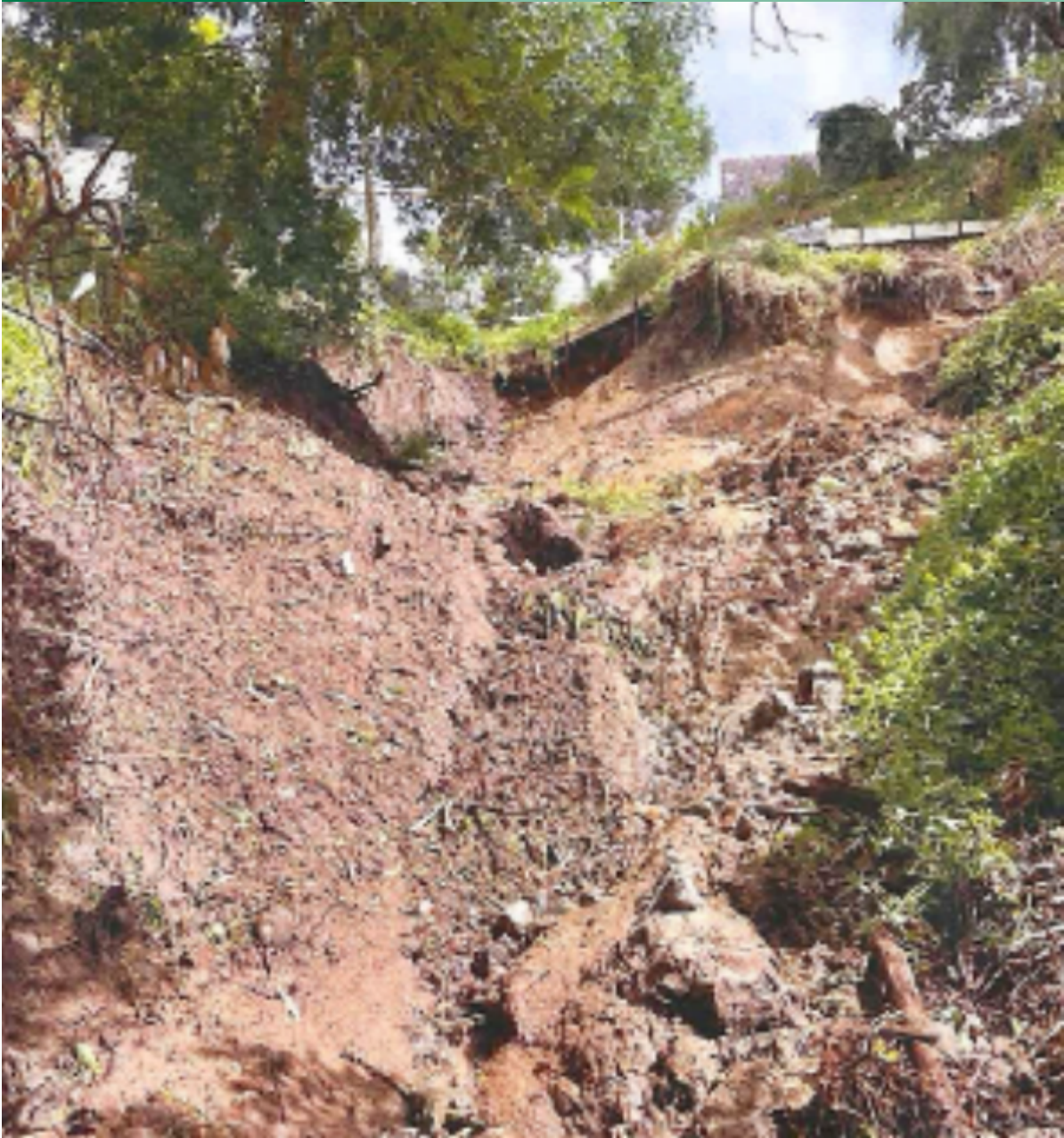
3 Penny Lane, McCrae

3 Penny Lane, McCrae

The Property was built on a slope that runs from roughly beach level at Point Nepean Road and Penny Lane, to the top of the McCrae Hill on View Point Road.



3 Penny Lane relative to the beach



First landslide – 5 January 2025

On 5 January 2025 at approximately 7:30pm, an initial landslide impacted 3 Penny Lane, McCrae.

Kellie Moran and her daughter were inside when the landslide occurred.

First landslide – 5 January 2025

The property sustained structural damage to the rear of the 3-storey dwelling.

Approximately **20 - 25 tonnes** of material struck the dwelling, causing moderate damage to the external walls and structural piers.

The rear external wall of the centre of the dwelling was deemed unsafe and unstable.

The source of the landslide was directly upslope towards 10 – 12 View Point Road.



Rear of 3 Penny Lane after the 5 January 2025 landslide

Affected Properties

The affected properties included:

- **10-12 View Point Road** (source of the landslide)
- **3 Penny Lane** (impacted by debris)
- **607-609 Point Nepean Road** (located downhill of potential landslide activity)

Note: Emergency Orders to evacuate were not issued at this time.



Properties affected by the 5 January 2025 landslide

Rainfall data before landslide

Rainfall data indicated there was **no** rainfall in the month of January leading up to the 5 January 2025 landslide.



Rainfall data from 5 January 2025 shows 0mm of rain in McCrae

Rainfall data after landslide

The first rainfall event of the year in McCrae was on 7 January 2025.

The second rainfall event was 13 January 2025.

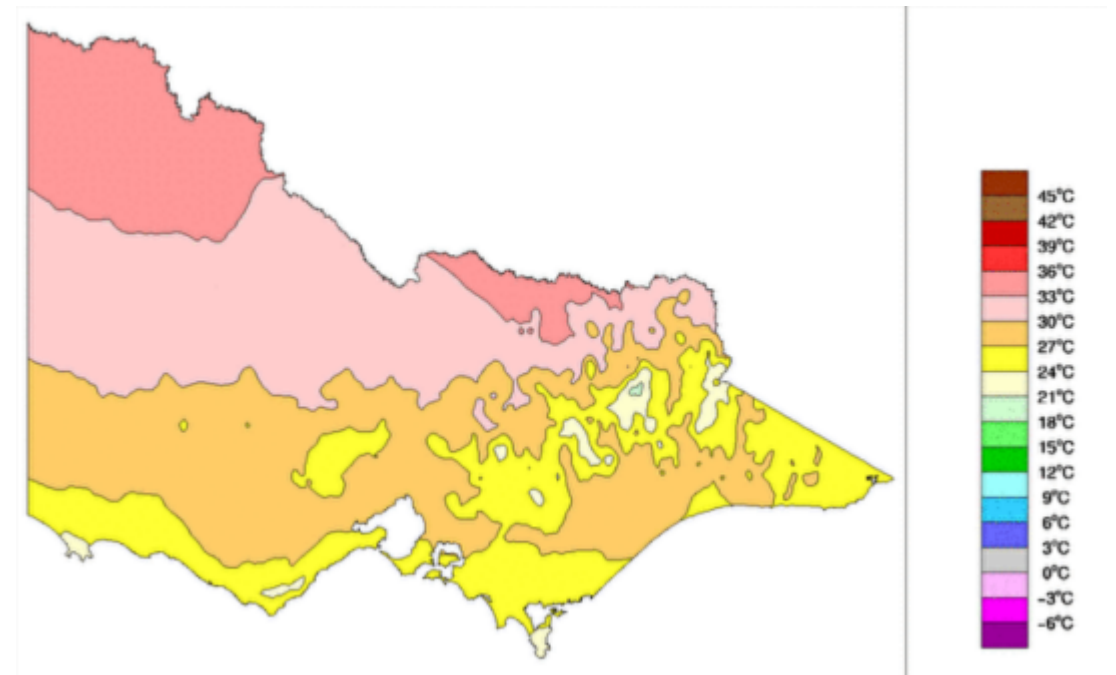
2025 ▾	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Graph												
1st	0	0	0	0								
2nd	0	0	0	0								
3rd	0	17.4	0	↓								
4th	0	0	0	↓								
5th	0	0	0	6.0								
6th	0	0	0	0								
7th	14.0	0	0	0								
8th	0	0	0	4.4								
9th	0	0	0	1.6								
10th	0	0	0	0								
11th	0	0	0	0								
12th	0	0	0	1.0								
13th	9.0	0	0	0.8								
14th	0	0	0	1.0								
15th	0	8.8	0	1.0								
16th	1.4	7.2	↓	0								
17th	0	0.4	11.8	0								
18th	0	0	0	↓								
19th	0	0	0	↓								
20th	0	0	0	6.2								
21st	0	0	28.8	0								
22nd	0	0	0	0								
23rd	0	0.8	0	4.2								
24th	0	0	6.2									
25th	0	0	0									
26th	0	0	0									
27th	0	0	0									
28th	0.8	0	0									
29th	0		0									
30th	0		0									
31st	0		0									
Highest Daily	14.0	17.4	28.8	4.4								
Monthly Total	25.2	34.6	46.8	26.2								

Annual total to Apr this year = 132.8 mm [View all monthly data](#) [Plot year of daily data](#)

Rainfall data from January 2025 in McCrae

Temperature in January 2025

Data indicates that the weather predating the landslide was hot and dry in the McCrae area.



Mean maximum temperature for 1-6 January 2025

Water flow observed

A significant portion of the head scarp was saturated in the wake of the 5 January 2025 landslide.

A measurable flow of water (0.15-0.2L/s) was observed to be flowing down the hill.

The seepage was observed at the point between the surface soils and underlying natural soils.



Upper portion of debris located at the rear of 10-12 View Point Road

Residents' experiences

The owners of 3 Penny Lane vacated the property and removed various items over the coming days.

Residents of 10 – 12 View Point Road and 607 – 609 Point Nepean Road remained in their respective properties during this period.

Response to first landslide

Victoria State Emergency Services (**VicSES**) were on site within 2 hours of the 5 January 2025 landslide. On the day, and over the coming days, VicSES were focused on diverting water out of 3 Penny Lane and assisted the owners in moving and removing furniture from the property.

South East Water switched off the water supply to 3 Penny Lane shortly after the landslide .

Between 5 January and 14 January 2025, representatives from and on behalf of the Council, including Building Surveyors and geotechnical engineers, attended the Property. Representatives from the owner's insurer were also on site at various times.



Second landslide – 14 January 2025

On 14 January 2025 at approximately 8:30am, a subsequent landslide destroyed the dwelling at **3 Penny Lane**.

The source of the landslide was **10-12 View Point Road**, which is situated directly upslope.

The collapse shunted the house on 3 Penny Lane towards **607-609 Point Nepean Road**. It did not impact the building on this property, except for some distortion to a rear retaining wall.

Water flow observed

Subsurface water was observed during a geotechnical engineer's visit discharging from points near the initial landslide area (5 January 2025 landslide) at the rear of 10-12 View Point Road.

Note: on 13 January 2025, the day before the second 2025 landslide, approximately 9mm of rainfall occurred in the area (see slide 34).



Source area located below retaining wall of 10-12 View Point Road

Exposed material

Some of the exposed material in the gully is observed to be dark in colour. Whereas material exposed in an adjacent slope appeared to be pale brown and sandy.



Upper portion of debris located at the rear of 10-12 View Point Road



Rapid debris flow

Whilst failure mechanisms were not able to be identified immediately, it was concluded that the landslide transitioned into rapid debris flow, with runout extending its reach to below properties.

It was acknowledged that 2 Penny Lane acted as a barrier to slow and stop debris.

Evacuation of residents

A total of 19 properties were originally evacuated on 17 January 2025.

11 properties have had Emergency Orders lifted on 14, 20 and 21 February 2025 and 15 April 2025.

Those residents have been allowed to move back into their homes, with the exception of 3 Penny Lane.

8 properties still remain in the exclusion zone with residents unable to return home.



McCrae Exclusion Area (as at 17 February 2025)

Injured worker

Mornington Peninsula Shire Council workers were on site at 3 Penny Lane in the days following the 5 January 2025 landslide.

Consequently, there was a Council worker inside 3 Penny Lane at the time of the 14 January 2025 landslide.

The worker sustained serious injuries as a result of the landslide and was taken to hospital.