MEMORANDUM

Office 16
Level 4, 60 Moorabool Street
Geelong VIC 3220
P +61 3 7068 5699
E mailbox@psm.com.au
www.psm.com.au

Company:	Mornington Peninsula Shire Council
Attention:	Emily Harkin
Our Ref:	PSM5665-056M
From:	Andrew Wilson
Date:	8 April 2025

RE: MCCRAE LANDSLIDE INCIDENT
DISPLACEMENT MONITORING
MONITORING PERIOD: 14 MARCH 2025 TO 27 MARCH 2025

1. Introduction

This memo provides a summary of displacement monitoring data collected between 14 March and 27 March 2025 (the Monitoring Period) at the McCrae Landslide Incident (the Site). Details of the monitoring systems and the monitoring procedure are to be provided in an Instrumentation and Monitoring Plan that is currently being drafted.

The location of monitoring points is shown in Figure 1.

Monitoring data and relevant plots of monitoring data are provided in Appendix A to Appendix G.

Monitoring memorandums issued to date are provided in Table 1.

Table 1 – Monitoring memorandums

Date Range	Document Reference	Comment
All monitoring to week ending 28 February 2025	PSM5665-050M (M1)	Issued 06/03/2025
28 February 2025 to 6 March 2025	PSM5665-052M (M2)	Issued 12/03/2025
7 March 2025 to 13 March 2025	PSM5665-054M (M3)	Issued 20/03/2025
14 March 2025 to 27 March 2025	PSM5665-056M (M4)	-

2. Site updates

2.1 Monitoring System updates

During the Monitoring Period no updates, repairs or replacement events occurred to the Monitoring System.

2.2 Rainfall

Rainfall records from rain gauges at Rosebud (BOM Station No. 86213) and Arthurs Seat (Melbourne Water Station No. 586202) were considered. During the Monitoring Period, the following notable rainfall events were recorded near the Site:

- 10 to 15 mm between 9 am 16 March 2025 and 9 am 17 March 2025. The Arthurs Seat rain gauge indicates that the majority of rainfall occurred between 7 pm 16 March 2025 and 7 am on 17 March 2025.
- 25 to 30 mm between 9 am 20 March 2025 and 9 am 21 March 2025. The Arthurs Seat rain gauge indicates that the majority of rainfall occurred between 3:20 pm and 5:10 pm on 20 March 2025.

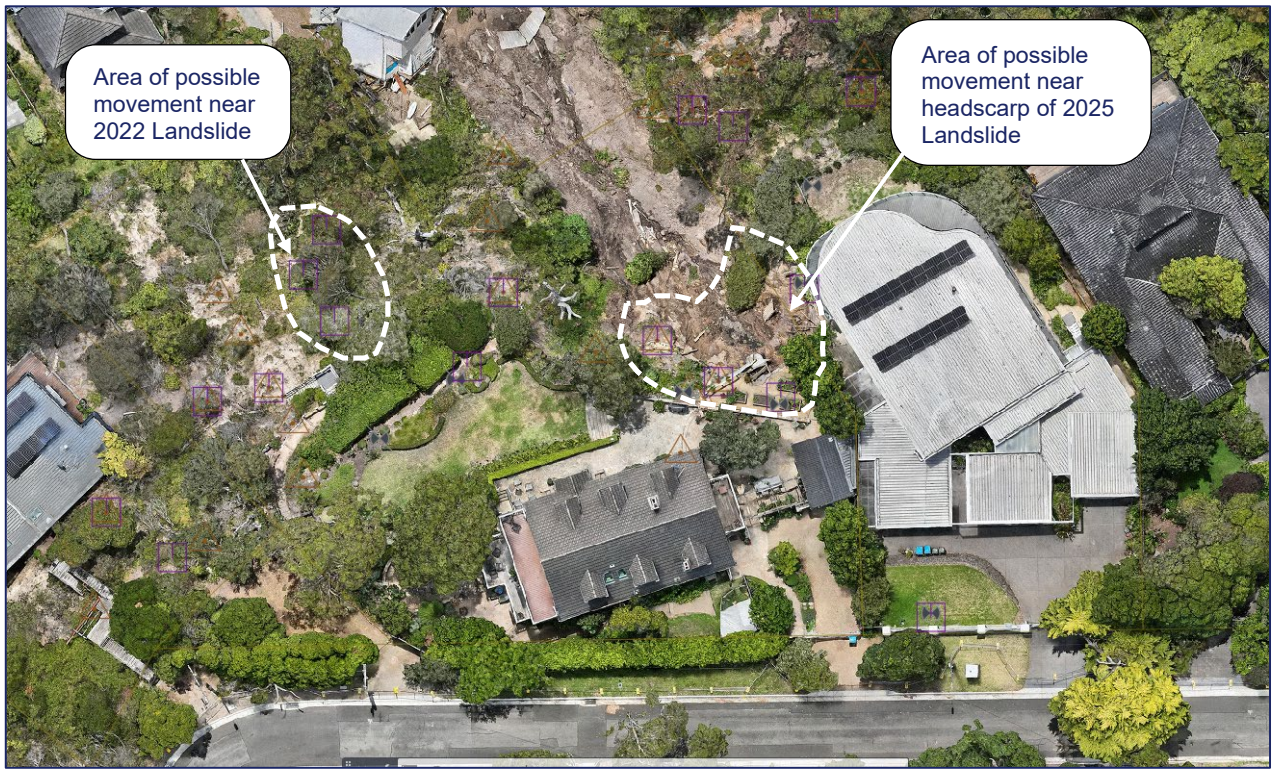
3. Discussion

3.1 Displacement Monitoring

Summaries of displacement monitoring data are provided in Sections 3.1.1 to 3.1.4.

From inspection of the monitoring data we note:

- There are possible areas of ground movement in:
  - The eastern flank of the 2022 Landslide (refer Inset 1). This is supported by a deformation trend in multiple tilt sensors in the area.
  - The head scarp and flanks of the 2025 Landslide (refer Inset 1). This is supported by the combination of movement in GPS, tilt sensors and radar in the area. Movements may represent surficial ravelling, or may represent the early stages of regressive slumping or sliding.
- The nature of ground movement is not yet clear, but it possible that early stages of ground movement have been detected at the following locations:
  - Slope below 22 View Point Rd (refer Figure 1 - TS19)
  - Slope above 14-16 View Point Rd (refer Figure 1 – TS02)
  - Slope below 6 View Point Rd, eastern flank of 2025 Landslide (refer Figure 1 – TS05)
- There appears to be a relationship between ground movement and rainfall. Many instruments showed a change in behaviour following rainfall events on 16 to 17 March 2025 and 20 March 2025.



Inset 1: Aerial image, with possible areas of movement highlighted as dashed white line

3.1.1 GPS instruments

GPS instrument data is included in Appendix A to Appendix B.

Regarding GPS:

- Most instruments continue to show less than 10 mm of movement, with significant day-to-day fluctuation.
- Where a clear trend of displacement behaviour cannot be recognised observed movements are inferred to be instrument noise and may not be reflective of actual ground movement.
- GPS06 shows 12 mm of movement with an inferred acceleration trend. This movement occurred after 21st March 2025.

A summary of displacement monitoring from GPS sensors is provided in Table 2.

Table 2 – Summary of GPS sensors observations

Instrument ID	Relevant Location	Summary of previously reported behaviour	Other relevant instrument behaviour	Comments
GPS01	Escarpment crest 6 View Point Rd	M2: High day-to-day fluctuation inferred to be instrument noise M3: Movement less than instrument error	-	• Small amount of movement (0 mm – 5 mm). • A general trend of displacement cannot be recognised. • Observed movement inferred to be instrument noise.
GPS02	Head scarp of 2025 Landslide	M2 & M3: High day-to-day fluctuation inferred to be instrument noise	S3P13: 1 mm[1] S3P14: 1 mm[1] TS20: Approx 0.5°, with increasing trend	
GPS06		M3: High day-to-day fluctuation inferred to be instrument noise	TS12: Approx 0.075°, change in behaviour 17 and 21 March 2025.	• 12 mm of total movement, which has developed since 21 March 2025. • Vector of movement upwards and to the north.
GPS03	Escarpment crest 10-12 View Point Rd	M2: High day-to-day fluctuation inferred to be instrument noise M3: Movement less than instrument error	TS01: Approx 0.02°, steady trend of movement.	• Small amount of movement (0 mm – 10 mm). • A general trend of displacement cannot be recognised. • Observed movement inferred to be instrument noise.
GPS04			-	
GPS05	Building structure of 6 View Point Rd	M3: High day-to-day fluctuation inferred to be instrument noise	-	

Notes:
(1) Stated accuracy of survey prisms is +/- 2 mm. Measurements less than 2mm are not considered reliable.

3.1.2 Prisms

Prism survey data is included in Appendix C to Appendix E.

Regarding survey prisms:

- Most survey prisms show less than 2mm of displacement since the baseline survey commenced. This is within the accuracy of the survey instrument and no conclusions regarding trends can be made at this time.
- The following prisms showed displacement greater than the stated survey accuracy:
  - S1P02
  - S3P10
  - S3P18
- Survey prisms S5P26, S6P34, S6P35, S6P35 previously showed displacement of 3 mm to 4 mm (refer M3) which was believed to be a result of inaccuracy in survey setup. The recent results show less than 2 mm of movement which confirms the hypothesis of survey inaccuracy.

A summary of key observations from survey prisms is provided in Table 3.

Table 3 – Summary of survey prism observations

Relevant Location	Instrument ID	Summary of previously reported behaviour	Comments
Slopes above 603 & 605 Point Nepean Rd	S1P02	M1, M2, M3: Displacements less than survey accuracy.	• Small magnitude of movement (3mm). • A general trend of displacement cannot be recognised at this time.
East flank of 2025 Landslide	S3P10		
West flank of 2025 Landslide	S3P18		
Slope above 18-20 View Point Rd	S5P26	M1, M2: Displacements less than survey accuracy. M3: Inferred error due to inaccuracy in survey setup	• Displacements returned to less than accuracy of survey. • No conclusions regarding trends can be made.
Slope below building of 22 View Point Rd	S6P34		
	S6P35		
	S6P36		

3.1.3 Tilt Sensors

Tilt sensor data is provided in Appendix F.

Regarding tilt sensors:

- All sensors continue to show a diurnal response, with a common pattern of changes in tilt occurring across the day. A change in tilt is inferred to be linked to changes in temperatures with obvious changes in tilt occurring in response to changes in temperature.
- Typically, the range of tilt measurements is between –0.05° and 0.05°, Appendix F.
- Half of the tilt sensors display a consistent day-to-day pattern of rotation with no discernible trends
- Half of the tilt sensors showed a trend of increasing rotation during the monitoring period:
  - TS02
  - TS05
  - TS06
  - TS08
  - TS12
  - TS15
  - TS17
  - TS19
  - TS20

- The following tilt sensors show a noted change from their typical behaviour around 20 to 21 March 2025. They do not show further increasing rotations after that change. It is inferred that the 20 March 2025 rain event had some contribution to this observed behaviour.
  - TS03
  - TS07
  - TS10
  - TS13

A summary of key observations relating to individual tilts sensors is provided in Table 4.

Table 4 – Summary of tilt sensors observations

Relevant Location	Tilt sensor ID	Summary of previously reported behaviour	Other relevant instrument behaviour	Comments
Slope above 14-16 View Point Rd	TS02	M3: increase in rotation	S5P28: 1 mm[1]	• Change in rotation behaviour on 20 March 2025. • Nature of possible ground movement is not yet clear.
East flank of 2025 Landslide	TS05	-	S3P10: 3 mm	• Increasing rotation since installation. • A change in rotation behaviour on 20 March 2025. • Nature of the possible movement is not yet clear. • Given survey prism showing displacement, tilt sensor may be detecting early signs of ground movement.
East flank of 2022 Landslide	TS06	M1, M2, M3: higher than typical rotations and increasing rotations	N/A	• Increasing rotations. • Possible ground movement occurring in this location. • TS08 recorded large change in rotation (approx. 0.6°) at 20:52 pm on 19 March 2025. The cause of this change is not known, but it occurred as single jump between successive readings. Therefore, it is not thought to be result of ground movement, but from other effects (e.g. tree branch strike, animal disturbance, etc.).
	TS08			
	TS17			
Head scarp of 2025 Landslide	TS12	M1& M2: increase in rotation M3: trend of tilt reversed with new trend of decreasing rotation	GPS02: 1 mm[2] GPS05: 12 mm GPS06: 6 mm[2] S3P12: 1 mm[1] S3P13: 1 mm[1] S3P14: 1 mm[1]	• Rain events on 16 and 20 March resulted in change in the trend of rotation for TS12 and TS20. • Small ground movements previously reported may be continuing. Tilt sensor observations supported by GPS and Radar measurements.
	TS20			
	TS15	-		

Relevant Location	Tilt sensor ID	Summary of previously reported behaviour	Other relevant instrument behaviour	Comments
Slope below building of 22 View Point Rd	TS19	M3: increase in rotation	S5P25: 2 mm[1]	• Change in rotation behaviour on 21 March 2025. • Previously reported trend in rotation continuing. • Nature of the possible ground movement is not yet clear • May be detecting early signs of ground movement

Notes:
(1) Stated accuracy of survey prisms is +/- 2 mm. Measurements less than 2mm are not considered reliable.
(2) The accuracy of GPS instruments is variable, particularly elevation measurements. Readings less than 10 mm are not considered reliable.

3.1.4 Radar

Radar monitoring data is provided in Appendix G.

A summary of key radar observations is provided in Table 5. Note that commentary regarding movement is relative to the radar.

Table 5 – Summary of radar observations

Relevant Location	Area ID	Summary of previously reported behaviour	Comments
Head scarp of 2025 Landslide	3	M2: Small amount of movement occurring M3: Movement slowed	• Approximately 5 to 10 mm of movement.
	8	M2: Small amount of fluctuating movement occurring M3: Continued small amount of fluctuating movement occurring	• Approximately 5 to 10 mm of movement. • Movement is fluctuating however overall trend is towards radar.
East flank of 2025 Landslide	6	M2: Movement occurring M3: Movement slowed	• Slight acceleration with approximately 5 to 10 mm of movement. • Acceleration noted on 23 March 2025.
Retaining Wall at head scarp of 2025 Landslide	5	-	• Approximately 3 mm of movement (away from radar) • Increasing movement commencing around 18 March 2025

Notes:
(1) Movements are measured relative to the radar position. Positive movement are movements away from the radar, and negative movements are towards the radar.

4. Next Monitoring Update

The next round of monitoring data collection and reporting is scheduled as follows:

- Next scheduled prism survey: 10 March 2025
- Next issue of monitoring report: 15 March 2025.

Should you have any queries related to this report please contact the undersigned.

Personal Information

ANDREW WILSON
ASSOCIATE GEOTECHNICAL ENGINEER

DANE POPE
PRINCIPAL

Enc:

Figure 1 – Instrumentation and Monitoring Plan

Appendix A – GPS monitoring summary

Appendix B – GPS monitoring plots

Appendix C – Survey data

Appendix D – Survey monitoring summary

Appendix E – Survey prism plots

Appendix F – Tilt sensor plots

Appendix G – Radar plots

LEGEND

- GNSS MONITORING POINT
- TILT SENSOR MONITORING POINT
- SURVEY PRISM MONITORING POINT
- SURVEY CONTROL POINT
- INDICATIVE TITLE BOUNDARIES

NOTES:

1. CO-ORDINATE SYSTEM: GDA2020 LOCAL, MGA ZONE 55
2. ELEVATION DATUM: DERIVED AHD (AUSGEOID2020)
3. TITLE BOUNDARIES SOURCED FROM VICMAP PROPERTY DATA SET DOWNLOADED DATA.VIC.GOV.AU

CONTROL POINT LOCATIONS

ID	EASTING	NORTHING	ELEVATION	TYPE
C01	319595.874	5753861.905	4.918	PRISM
C02	319627.019	5753860.621	5.123	PRISM
C03	319573.831	5753827.408	4.897	PRISM
C04	319534.083	5753802.569	4.941	PRISM
C05	319550.197	5753832.943	5.395	PRISM
C06	319347.239	5753713.073	4.746	PRISM

MORNINGTON PENINSULA SHIRE COUNCIL
MCCRAE LANDSLIDE INCIDENT
INSTRUMENTATION AND MONITORING

LAYOUT PLAN

FIGURE 1

Appendix A
GPS monitoring summary

LEGEND

GNSS MONITORING POINT

INDICATIVE TITLE BOUNDARIES

NOTES:

1. TITLE BOUNDARIES SOURCED FROM VICMAP PROPERTY DATA SET DOWNLOADED DATA.VIC.GOV.AU

MORNINGTON PENINSULA SHIRE COUNCIL
MCCRAE LANDSLIDE INCIDENT
INSTRUMENTATION AND MONITORING

GPS
LAYOUT PLAN

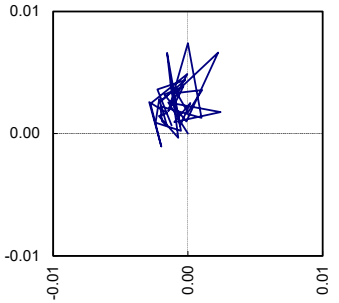
FIGURE A1

Table A1 – Summary of GPS monitoring results

Prism ID	Start Date	Base (m)			Displacement (m)				Total Movement Vector			Average Rate (mm/day)		
		Easting	Northing	RL	Last Date	Δ Easting	Δ Northing	Δ RL	Magnitude	Plunge (°) (up is +)	Azimuth (°)	last 3 readings	last 7 readings	last 30 readings
GPS01	13-Feb-25	-9.699	38.335	-2.995	27-Mar-25	-0.001	0.001	0.000	0.001	14.9	298.6	-1.5	0.0	-0.2
GPS02	13-Feb-25	-21.621	20.245	-2.725	27-Mar-25	0.000	0.000	0.000	0.001	-54.6	175.7	-3.7	-0.4	-1.1
GPS03	13-Feb-25	-41.863	21.761	-4.007	27-Mar-25	-0.001	0.001	-0.007	0.007	-81.4	328.5	0.9	0.0	0.1
GPS04	13-Feb-25	-48.756	16.672	-4.334	27-Mar-25	-0.001	0.000	-0.006	0.006	-76.6	274.2	1.0	0.4	0.1
GPS05	10-Mar-25	-10.886	29.671	-0.704	27-Mar-25	0.001	0.005	0.003	0.006	34.0	11.3	2.4	-1.7	
GPS06	10-Mar-25	-13.232	19.477	-2.897	27-Mar-25	0.001	0.004	0.011	0.012	72.0	15.6	1.6	1.0	

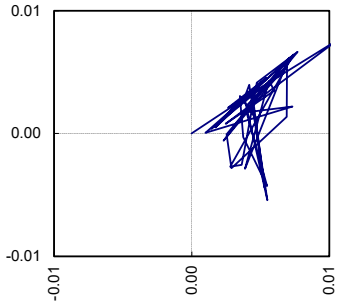
Notes:
(1) Co-ordinates provided are local co-ordinates relative to the base reference station installed at the Site. Co-ordinates are orientated to the GDA2020 grid.

Appendix B
GPS monitoring plots

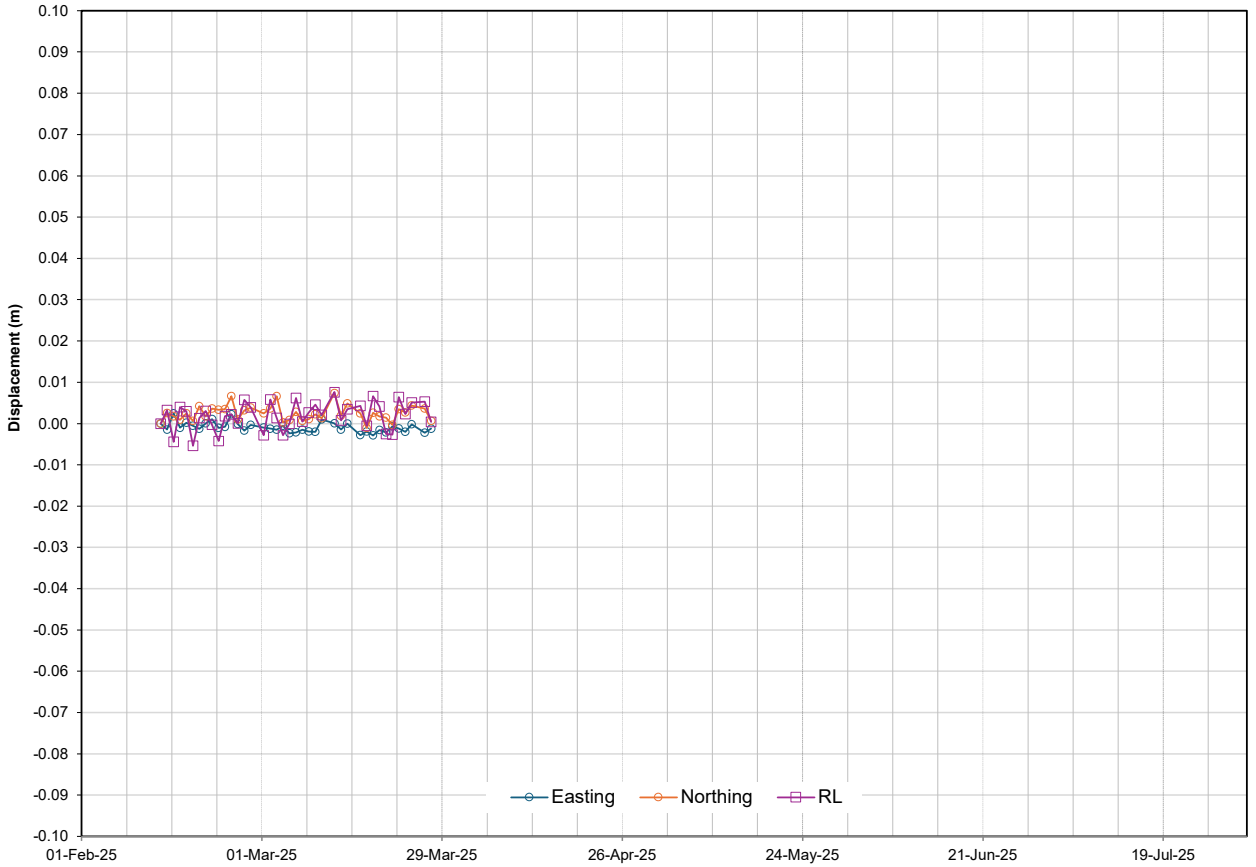


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over Final 3 days mm/day	Rate over Last week mm/day	Rate over Last Month mm/day
-1.5	**0.0**	**-0.2**

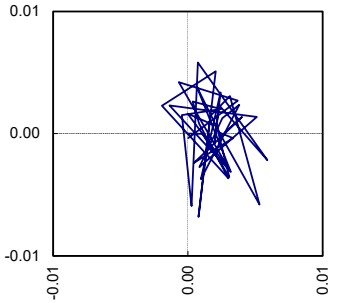
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 13/02/2025
LAST DATE: 27/03/2025

Analysed on: 31/03/2025

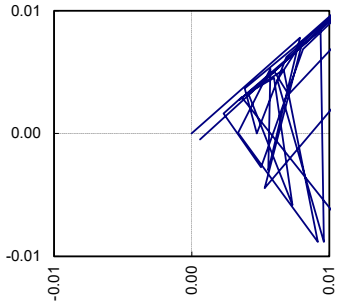
INSTRUMENT ID: **GPS01**

(c) Copyright PSM 1993-2025

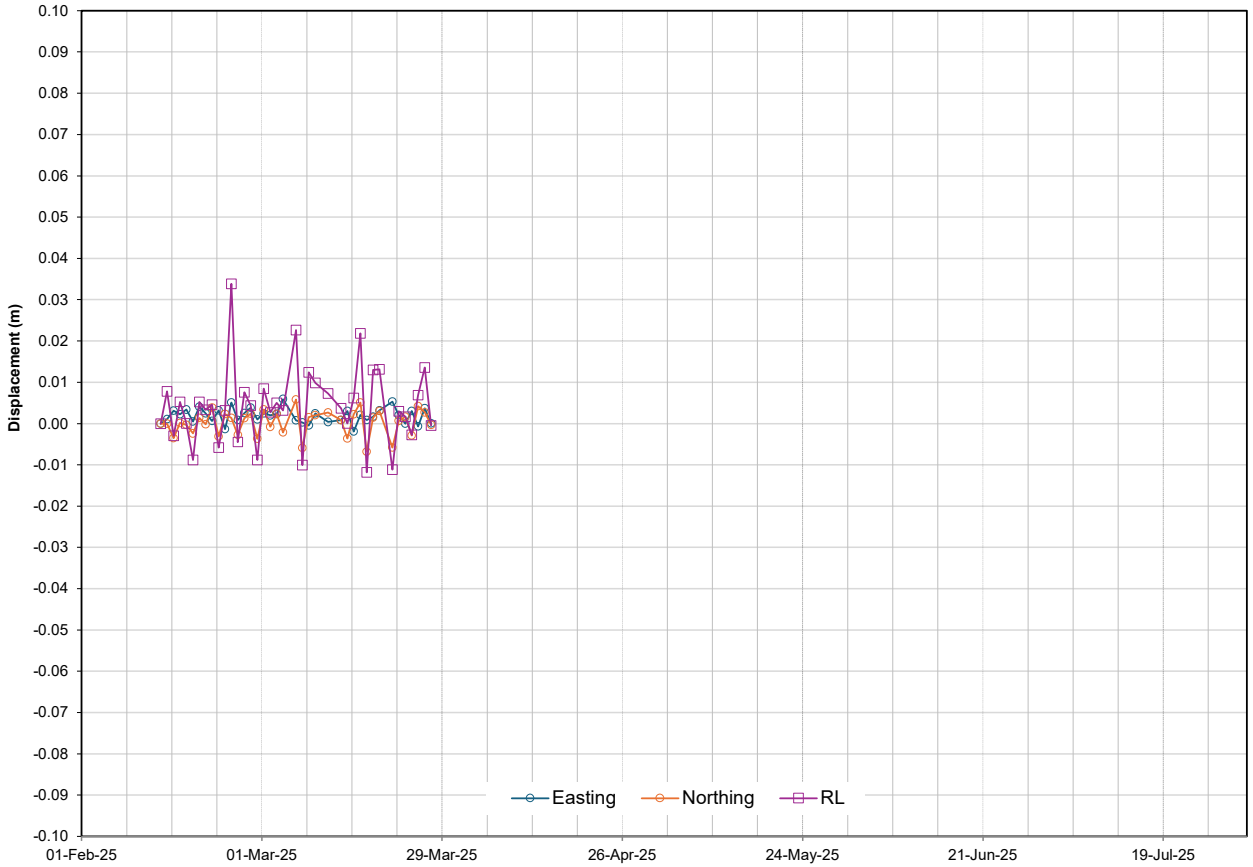


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over Final 3 days mm/day	Rate over Last week mm/day	Rate over Last Month mm/day
-3.7	**-0.4**	**-1.1**

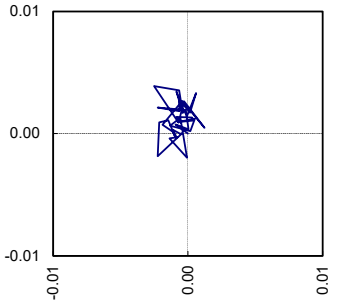
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 13/02/2025
LAST DATE: 27/03/2025

Analysed on: 31/03/2025

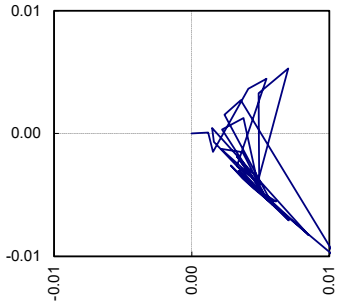
INSTRUMENT ID: **GPS02**

(c) Copyright PSM 1993-2025

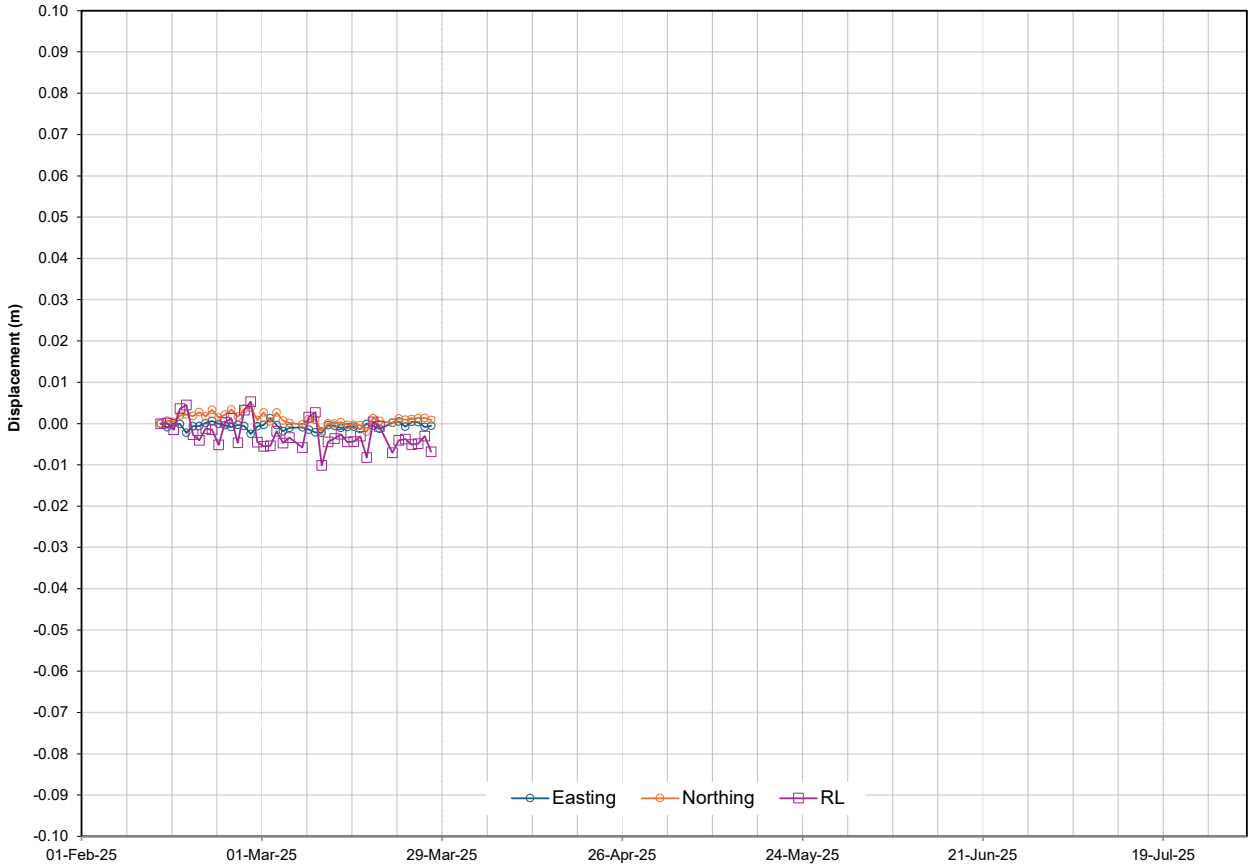


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over Final 3 days mm/day	Rate over Last week mm/day	Rate over Last Month mm/day
0.9	**0.0**	**0.1**

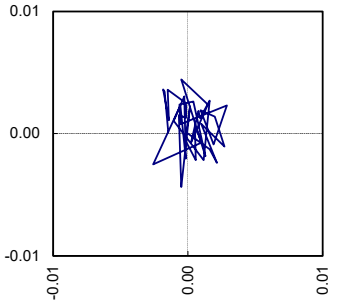
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 13/02/2025
LAST DATE: 27/03/2025

Analysed on: 31/03/2025

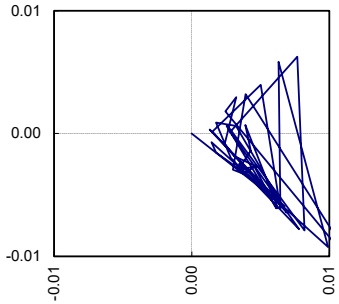
INSTRUMENT ID: **GPS03**

(c) Copyright PSM 1993-2025

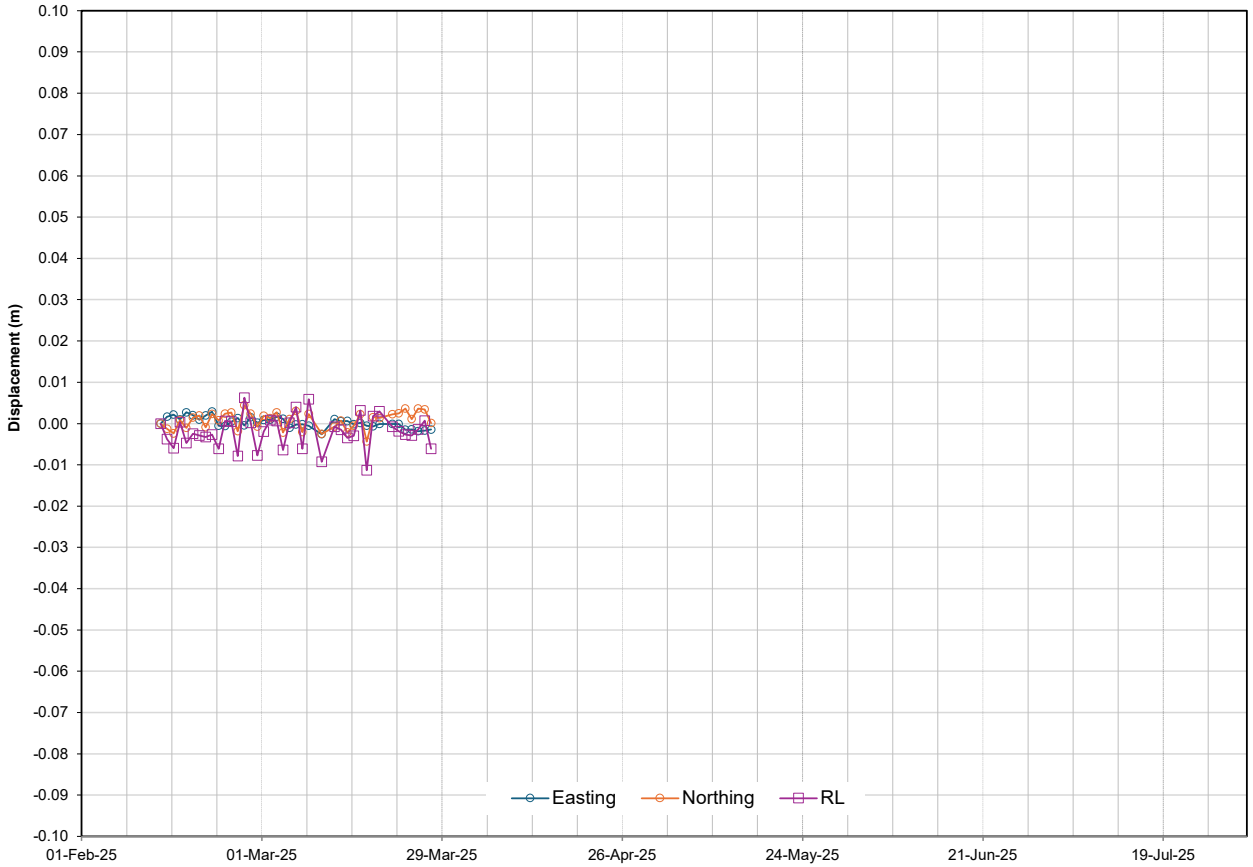


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over Final 3 days mm/day	Rate over Last week mm/day	Rate over Last Month mm/day
1.0	**0.4**	**0.1**

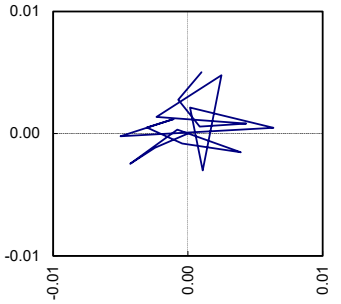
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 13/02/2025
LAST DATE: 27/03/2025

Analysed on: 31/03/2025

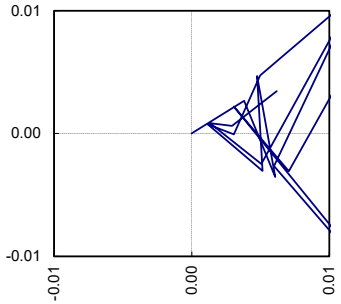
INSTRUMENT ID: **GPS04**

(c) Copyright PSM 1993-2025

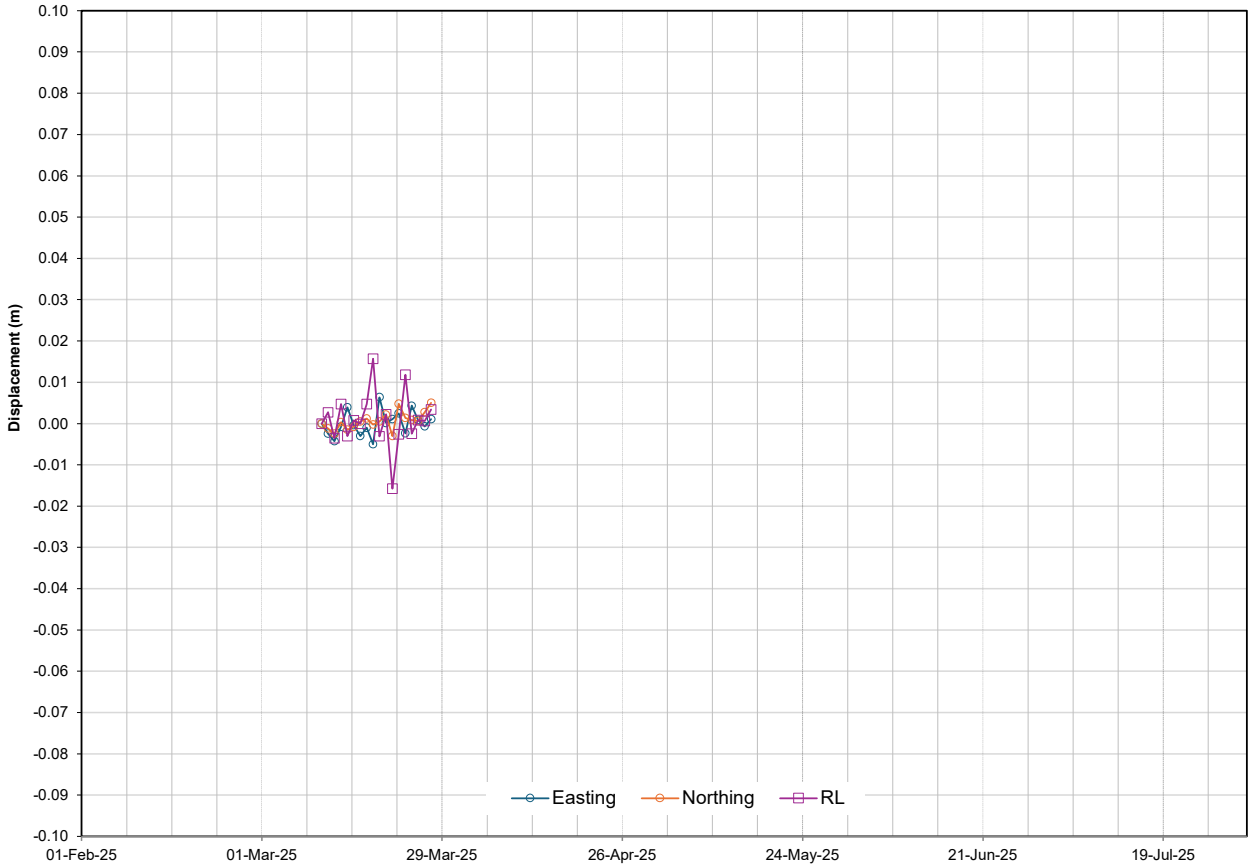


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over Final 3 days mm/day	Rate over Last week mm/day	Rate over Last Month mm/day
2.4	**-1.7**	**0.0**

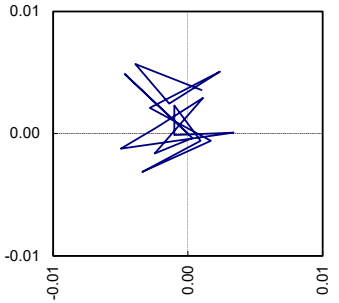
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 10/03/2025
LAST DATE: 27/03/2025

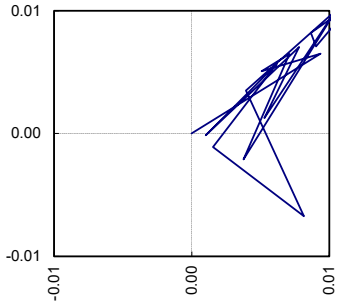
Analysed on: 31/03/2025

INSTRUMENT ID: **GPS05**

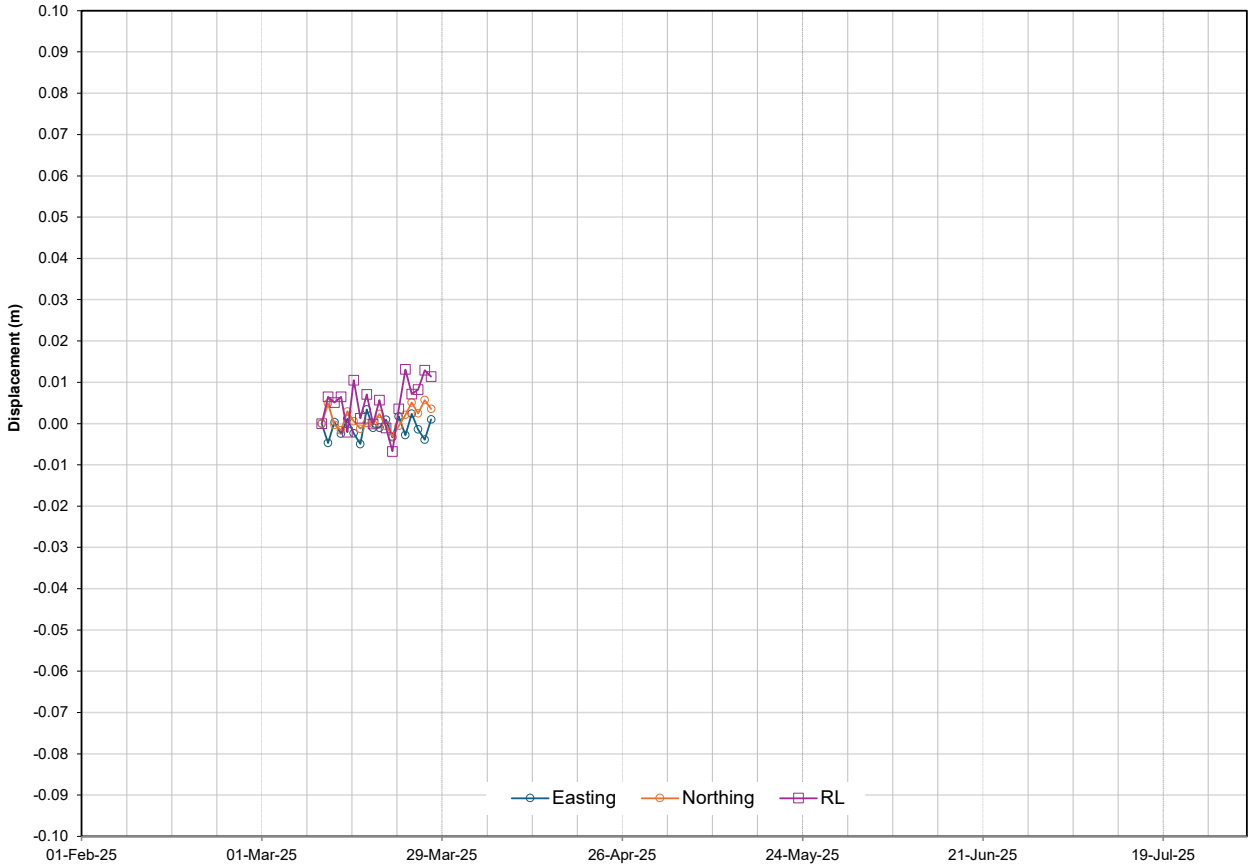
(c) Copyright PSM 1993-2025



N PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over Final 3 days mm/day	Rate over Last week mm/day	Rate over Last Month mm/day
1.6	**1.0**	**0.0**

COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 10/03/2025
LAST DATE: 27/03/2025

Analysed on: 31/03/2025

INSTRUMENT ID: **GPS06**

(c) Copyright PSM 1993-2025

Appendix C
Survey prism measurements

Table C1 – Survey monitoring data

Prism ID	Survey Date	Easting (m)	Northing (m)	RL (m)
S1P01	12/02/2025	319578.865	5753744.880	23.926
S1P01	20/02/2025	319578.866	5753744.882	23.926
S1P01	27/02/2025	319578.865	5753744.879	23.926
S1P01	6/03/2025	319578.865	5753744.879	23.926
S1P01	13/03/2025	319578.864	5753744.879	23.928
S1P01	27/03/2025	319578.867	5753744.879	23.927
S1P02	12/02/2025	319573.541	5753749.185	22.991
S1P02	20/02/2025	319573.543	5753749.187	22.990
S1P02	27/02/2025	319573.541	5753749.184	22.990
S1P02	6/03/2025	319573.542	5753749.184	22.990
S1P02	13/03/2025	319573.542	5753749.184	22.991
S1P02	27/03/2025	319573.544	5753749.184	22.990
S1P03	12/02/2025	319573.873	5753743.899	26.409
S1P03	20/02/2025	319573.875	5753743.900	26.409
S1P03	27/02/2025	319573.873	5753743.898	26.409
S1P03	6/03/2025	319573.873	5753743.898	26.409
S1P03	13/03/2025	319573.872	5753743.898	26.410
S1P03	27/03/2025	319573.874	5753743.897	26.410
S3P05	12/02/2025	319569.139	5753745.501	25.419
S3P05	20/02/2025	319569.138	5753745.501	25.420
S3P05	27/02/2025	319569.139	5753745.502	25.419
S3P05	6/03/2025	319569.139	5753745.501	25.420
S3P05	13/03/2025	319569.140	5753745.502	25.419
S3P05	27/03/2025	319569.140	5753745.501	25.420
S3P06	12/02/2025	319569.429	5753748.276	23.723
S3P06	20/02/2025	319569.428	5753748.277	23.723
S3P06	27/02/2025	319569.428	5753748.276	23.723
S3P06	6/03/2025	319569.428	5753748.276	23.723
S3P06	13/03/2025	319569.429	5753748.276	23.723
S3P06	27/03/2025	319569.430	5753748.275	23.724
S3P07	12/02/2025	319565.757	5753753.050	20.181
S3P07	20/02/2025	319565.755	5753753.050	20.181
S3P07	27/02/2025	319565.756	5753753.050	20.181
S3P07	6/03/2025	319565.756	5753753.050	20.181
S3P07	13/03/2025	319565.757	5753753.050	20.180
S3P07	27/03/2025	319565.757	5753753.049	20.182
S3P08	12/02/2025	319558.404	5753748.044	20.321
S3P08	20/02/2025	319558.403	5753748.045	20.321
S3P08	27/02/2025	319558.404	5753748.044	20.322
S3P08	6/03/2025	319558.404	5753748.043	20.322
S3P08	13/03/2025	319558.405	5753748.042	20.321
S3P08	27/03/2025	319558.404	5753748.042	20.322
S3P09	12/02/2025	319551.813	5753749.725	15.989
S3P09	20/02/2025	319551.812	5753749.725	15.989
S3P09	27/02/2025	319551.812	5753749.725	15.990

Prism ID	Survey Date	Easting (m)	Northing (m)	RL (m)
S3P09	6/03/2025	319551.812	5753749.724	15.990
S3P09	13/03/2025	319551.813	5753749.724	15.989
S3P09	27/03/2025	319551.813	5753749.724	15.990
S3P10	12/02/2025	319554.096	5753743.851	20.636
S3P10	20/02/2025	319554.095	5753743.851	20.636
S3P10	27/02/2025	319554.095	5753743.850	20.636
S3P10	6/03/2025	319554.096	5753743.850	20.636
S3P10	13/03/2025	319554.098	5753743.850	20.636
S3P10	27/03/2025	319554.098	5753743.849	20.637
S3P11	12/02/2025	319550.572	5753743.992	17.689
S3P11	20/02/2025	319550.571	5753743.992	17.689
S3P11	27/02/2025	319550.571	5753743.992	17.689
S3P11	6/03/2025	319550.572	5753743.992	17.689
S3P11	13/03/2025	319550.574	5753743.992	17.689
S3P11	27/03/2025	319550.573	5753743.991	17.690
S3P12	12/02/2025	319556.438	5753719.653	30.063
S3P12	20/02/2025	319556.436	5753719.654	30.064
S3P12	27/02/2025	319556.436	5753719.653	30.063
S3P12	6/03/2025	319556.436	5753719.653	30.064
S3P12	13/03/2025	319556.437	5753719.653	30.063
S3P12	27/03/2025	319556.437	5753719.653	30.064
S3P13	12/02/2025	319553.897	5753718.704	30.233
S3P13	20/02/2025	319553.896	5753718.705	30.234
S3P13	27/02/2025	319553.896	5753718.705	30.234
S3P13	6/03/2025	319553.896	5753718.705	30.234
S3P13	13/03/2025	319553.897	5753718.705	30.234
S3P13	27/03/2025	319553.897	5753718.704	30.234
S3P14	12/02/2025	319550.979	5753723.316	26.793
S3P14	20/02/2025	319550.977	5753723.316	26.792
S3P14	27/02/2025	319550.978	5753723.316	26.793
S3P14	6/03/2025	319550.978	5753723.316	26.793
S3P14	13/03/2025	319550.978	5753723.315	26.793
S3P14	27/03/2025	319550.979	5753723.315	26.793
S3P15	12/02/2025	319553.059	5753713.284	34.077
S3P15	20/02/2025	319553.057	5753713.284	34.076
S3P15	27/02/2025	319553.058	5753713.284	34.077
S3P15	6/03/2025	319553.057	5753713.283	34.077
S3P15	13/03/2025	319553.059	5753713.283	34.077
S3P15	27/03/2025	319553.058	5753713.283	34.078
S3P16	12/02/2025	319545.480	5753722.252	28.079
S3P16	20/02/2025	319545.479	5753722.253	28.079
S3P16	27/02/2025	319545.479	5753722.253	28.080
S3P16	6/03/2025	319545.480	5753722.253	28.080
S3P16	13/03/2025	319545.481	5753722.253	28.079
S3P16	27/03/2025	319545.481	5753722.253	28.080
S3P17	12/02/2025	319537.244	5753739.894	15.611

Prism ID	Survey Date	Easting (m)	Northing (m)	RL (m)
S3P17	20/02/2025	319537.242	5753739.894	15.611
S3P17	27/02/2025	319537.243	5753739.894	15.611
S3P17	6/03/2025	319537.243	5753739.894	15.611
S3P17	13/03/2025	319537.243	5753739.893	15.611
S3P17	27/03/2025	319537.243	5753739.893	15.611
S3P18	12/02/2025	319535.799	5753733.932	20.813
S3P18	20/02/2025	319535.797	5753733.933	20.813
S3P18	27/02/2025	319535.797	5753733.933	20.813
S3P18	6/03/2025	319535.797	5753733.932	20.813
S3P18	13/03/2025	319535.799	5753733.932	20.812
S3P18	27/03/2025	319535.797	5753733.933	20.814
S4P19	12/02/2025	319511.865	5753727.513	13.595
S4P19	20/02/2025	319511.865	5753727.513	13.596
S4P19	27/02/2025	319511.865	5753727.513	13.595
S4P19	6/03/2025	319511.865	5753727.513	13.595
S4P19	13/03/2025	319511.865	5753727.513	13.595
S4P19	27/03/2025	319511.865	5753727.513	13.596
S4P20	12/02/2025	319513.882	5753723.875	16.356
S4P20	20/02/2025	319513.882	5753723.874	16.358
S4P20	27/02/2025	319513.882	5753723.874	16.357
S4P20	6/03/2025	319513.882	5753723.874	16.357
S4P20	13/03/2025	319513.883	5753723.874	16.358
S4P20	27/03/2025	319513.882	5753723.874	16.358
S4P21	12/02/2025	319516.370	5753719.111	20.014
S4P21	20/02/2025	319516.370	5753719.111	20.014
S4P21	27/02/2025	319516.370	5753719.110	20.014
S4P21	6/03/2025	319516.370	5753719.110	20.014
S4P21	13/03/2025	319516.370	5753719.110	20.014
S4P21	27/03/2025	319516.371	5753719.110	20.014
S4P22	12/02/2025	319518.496	5753715.939	24.367
S4P22	20/02/2025	319518.496	5753715.939	24.368
S4P22	27/02/2025	319518.496	5753715.939	24.368
S4P22	6/03/2025	319518.496	5753715.938	24.368
S4P22	13/03/2025	319518.497	5753715.939	24.368
S4P22	27/03/2025	319518.497	5753715.939	24.368
S4P23	12/02/2025	319519.446	5753711.080	28.188
S4P23	20/02/2025	319519.446	5753711.080	28.190
S4P23	27/02/2025	319519.446	5753711.080	28.189
S4P23	6/03/2025	319519.446	5753711.080	28.189
S4P23	13/03/2025	319519.446	5753711.080	28.189
S4P23	27/03/2025	319519.446	5753711.079	28.189
S4P24	12/02/2025	319510.888	5753717.890	18.600
S4P24	20/02/2025	319510.888	5753717.889	18.602
S4P24	27/02/2025	319510.888	5753717.889	18.601
S4P24	6/03/2025	319510.888	5753717.889	18.601
S4P24	13/03/2025	319510.888	5753717.889	18.601

Prism ID	Survey Date	Easting (m)	Northing (m)	RL (m)
S4P24	27/03/2025	319510.888	5753717.888	18.601
S5P25	12/02/2025	319464.805	5753661.480	20.644
S5P25	20/02/2025	319464.804	5753661.480	20.645
S5P25	27/02/2025	319464.803	5753661.481	20.644
S5P25	6/03/2025	319464.803	5753661.480	20.644
S5P25	13/03/2025	319464.804	5753661.480	20.643
S5P25	27/03/2025	319464.803	5753661.479	20.644
S5P26	12/02/2025	319501.487	5753683.243	27.691
S5P26	20/02/2025	319501.485	5753683.243	27.691
S5P26	27/02/2025	319501.486	5753683.243	27.691
S5P26	6/03/2025	319501.488	5753683.244	27.691
S5P26	13/03/2025	319501.489	5753683.245	27.690
S5P26	27/03/2025	319501.487	5753683.244	27.691
S5P27	12/02/2025	319500.816	5753699.365	22.092
S5P27	20/02/2025	319500.816	5753699.365	22.093
S5P27	27/02/2025	319500.816	5753699.365	22.092
S5P27	6/03/2025	319500.817	5753699.365	22.093
S5P27	13/03/2025	319500.817	5753699.365	22.092
S5P27	27/03/2025	319500.816	5753699.364	22.092
S5P28	12/02/2025	319501.883	5753707.991	19.601
S5P28	20/02/2025	319501.883	5753707.991	19.602
S5P28	27/02/2025	319501.883	5753707.991	19.601
S5P28	6/03/2025	319501.883	5753707.991	19.602
S5P28	13/03/2025	319501.883	5753707.991	19.601
S5P28	27/03/2025	319501.883	5753707.990	19.602
S5P29	12/02/2025	319510.670	5753705.418	26.674
S5P29	20/02/2025	319510.669	5753705.419	26.675
S5P29	27/02/2025	319510.669	5753705.420	26.674
S5P29	6/03/2025	319510.669	5753705.419	26.675
S5P29	13/03/2025	319510.669	5753705.420	26.674
S5P29	27/03/2025	319510.668	5753705.419	26.674
S5P30	12/02/2025	319537.264	5753727.604	26.880
S5P30	20/02/2025	319537.264	5753727.604	26.881
S5P30	27/02/2025	319537.264	5753727.604	26.880
S5P30	6/03/2025	319537.264	5753727.604	26.881
S5P30	13/03/2025	319537.264	5753727.604	26.880
S5P30	27/03/2025	319537.264	5753727.603	26.880
S6P34	20/02/2025	319458.812	5753656.785	19.662
S6P34	27/02/2025	319458.812	5753656.786	19.663
S6P34	6/03/2025	319458.812	5753656.786	19.663
S6P34	13/03/2025	319458.815	5753656.783	19.661
S6P34	27/03/2025	319458.812	5753656.784	19.663
S6P35	20/02/2025	319457.955	5753658.070	18.866
S6P35	27/02/2025	319457.956	5753658.070	18.866
S6P35	6/03/2025	319457.957	5753658.070	18.866
S6P35	13/03/2025	319457.959	5753658.068	18.866

Prism ID	Survey Date	Easting (m)	Northing (m)	RL (m)
S6P35	27/03/2025	319457.956	5753658.069	18.866
S6P36	27/02/2025	319460.138	5753656.446	25.933
S6P36	6/03/2025	319460.138	5753656.447	25.934
S6P36	13/03/2025	319460.141	5753656.444	25.933
S6P36	27/03/2025	319460.138	5753656.446	25.934

Appendix D
Survey prism monitoring summary

LEGEND

- SURVEY PRISM MONITORING POINT
- SURVEY CONTROL POINT
- INDICATIVE TITLE BOUNDARIES

NOTES:

1. TITLE BOUNDARIES SOURCED FROM VICMAP PROPERTY DATA SET DOWNLOADED DATA.VIC.GOV.AU

MORNINGTON PENINSULA SHIRE COUNCIL
MCCRAE LANDSLIDE INCIDENT
INSTRUMENTATION AND MONITORING

SURVEY PRISMS
LAYOUT PLAN

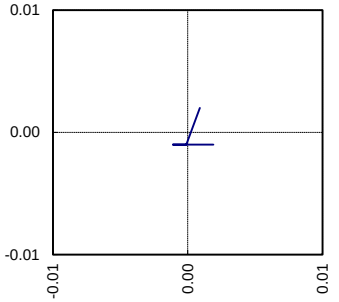
FIGURE D1

Table D1 – Survey monitoring summary

Prism ID	Start Date	Base (m)			Displacement (m)				Total Movement Vector			Average Rate (mm/day)		
		Easting	Northing	RL	Last Date	Δ Easting	Δ Northing	Δ RL	Magnitude	Plunge (°) (up is +)	Azimuth (°)	last 3 readings	last 7 readings	last 30 days
S1P01	12-Feb-25	319578.865	5753744.880	23.926	27-Mar-25	0.002	-0.001	0.001	0.002	22.7	117.8	0.1		0.0
S1P02	12-Feb-25	319573.541	5753749.185	22.991	27-Mar-25	0.003	-0.001	-0.001	0.003	-12.9	109.0	0.1		0.0
S1P03	12-Feb-25	319573.873	5753743.899	26.409	27-Mar-25	0.001	-0.002	0.001	0.002	18.3	160.7	0.1		0.0
S3P05	12-Feb-25	319569.139	5753745.501	25.419	27-Mar-25	0.001	0.000	0.001	0.001	45.0	90.0	0.0		0.0
S3P06	12-Feb-25	319569.429	5753748.276	23.723	27-Mar-25	0.001	-0.001	0.001	0.002	27.6	125.5	0.1		0.0
S3P07	12-Feb-25	319565.757	5753753.050	20.181	27-Mar-25	0.000	-0.001	0.001	0.002	51.4	153.4	0.1		0.0
S3P08	12-Feb-25	319558.404	5753748.044	20.321	27-Mar-25	0.000	-0.002	0.001	0.002	16.4	168.7	0.0		0.0
S3P09	12-Feb-25	319551.813	5753749.725	15.989	27-Mar-25	0.000	-0.001	0.001	0.001	29.9	163.3	0.0		0.0
S3P10	12-Feb-25	319554.096	5753743.851	20.636	27-Mar-25	0.002	-0.002	0.001	0.003	23.6	132.3	0.1		0.1
S3P11	12-Feb-25	319550.572	5753743.992	17.689	27-Mar-25	0.001	-0.001	0.002	0.002	48.1	138.0	0.1		0.0
S3P12	12-Feb-25	319556.438	5753719.653	30.063	27-Mar-25	-0.001	0.000	0.001	0.001	67.4	270.0	0.0		0.0
S3P13	12-Feb-25	319553.897	5753718.704	30.233	27-Mar-25	0.000	0.000	0.001	0.001	90.0	0.0	0.0		0.0
S3P14	12-Feb-25	319550.979	5753723.316	26.793	27-Mar-25	0.000	-0.001	0.000	0.001	26.6	180.0	0.0		0.0
S3P15	12-Feb-25	319553.059	5753713.284	34.077	27-Mar-25	-0.001	-0.001	0.001	0.002	46.8	215.0	0.0		0.0
S3P16	12-Feb-25	319545.480	5753722.252	28.079	27-Mar-25	0.001	0.001	0.001	0.002	35.3	45.0	0.0		0.0
S3P17	12-Feb-25	319537.244	5753739.894	15.611	27-Mar-25	0.000	-0.001	0.000	0.001	19.7	206.6	0.0		0.0
S3P18	12-Feb-25	319535.799	5753733.932	20.813	27-Mar-25	-0.002	0.001	0.002	0.003	34.9	297.8	0.0		0.0
S4P19	12-Feb-25	319511.865	5753727.513	13.595	27-Mar-25	0.000	0.000	0.001	0.001	85.6	270.0	0.1		0.0
S4P20	12-Feb-25	319513.882	5753723.875	16.356	27-Mar-25	0.000	-0.001	0.002	0.002	56.9	196.7	0.0		0.0
S4P21	12-Feb-25	319516.370	5753719.111	20.014	27-Mar-25	0.001	-0.001	0.000	0.001	22.3	145.0	0.0		0.0
S4P22	12-Feb-25	319518.496	5753715.939	24.367	27-Mar-25	0.001	0.000	0.001	0.001	48.4	90.0	0.0		0.0

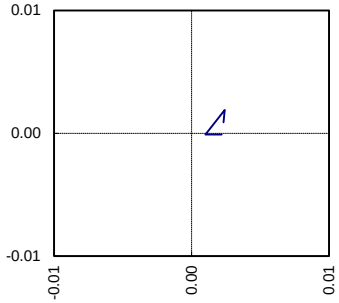
Prism ID	Start Date	Base (m)			Displacement (m)				Total Movement Vector			Average Rate (mm/day)		
		Easting	Northing	RL	Last Date	Δ Easting	Δ Northing	Δ RL	Magnitude	Plunge (°) (up is +)	Azimuth (°)	last 3 readings	last 7 readings	last 30 days
S4P23	12-Feb-25	319519.446	5753711.080	28.188	27-Mar-25	0.000	-0.001	0.001	0.002	50.2	180.0	0.0		0.0
S4P24	12-Feb-25	319510.888	5753717.890	18.600	27-Mar-25	0.000	-0.002	0.001	0.002	24.2	180.0	0.0		0.0
S5P25	12-Feb-25	319464.805	5753661.480	20.644	27-Mar-25	-0.002	-0.001	0.000	0.002	12.5	236.3	0.0		0.0
S5P26	12-Feb-25	319501.487	5753683.243	27.691	27-Mar-25	0.001	0.001	0.000	0.001	24.1	26.6	0.0		0.0
S5P27	12-Feb-25	319500.816	5753699.365	22.092	27-Mar-25	0.000	-0.001	0.000	0.001	16.4	191.3	0.0		0.0
S5P28	12-Feb-25	319501.883	5753707.991	19.601	27-Mar-25	0.000	-0.001	0.001	0.001	42.0	180.0	0.0		0.0
S5P29	12-Feb-25	319510.670	5753705.418	26.674	27-Mar-25	-0.002	0.001	0.000	0.002	9.0	302.0	0.0		0.0
S5P30	12-Feb-25	319537.264	5753727.604	26.880	27-Mar-25	0.000	-0.001	0.000	0.001	11.3	185.7	0.0		0.0
S6P34	20-Feb-25	319458.812	5753656.785	19.662	27-Mar-25	0.000	-0.001	0.001	0.001	39.9	158.2	0.0		0.0
S6P35	20-Feb-25	319457.955	5753658.070	18.866	27-Mar-25	0.001	-0.001	0.000	0.001	-9.7	149.0	0.0		0.0
S6P36	27-Feb-25	319460.138	5753656.446	25.933	27-Mar-25	0.000	0.000	0.001	0.001	85.6	270.0	0.0		0.0

Appendix E
Survey prism monitoring plots

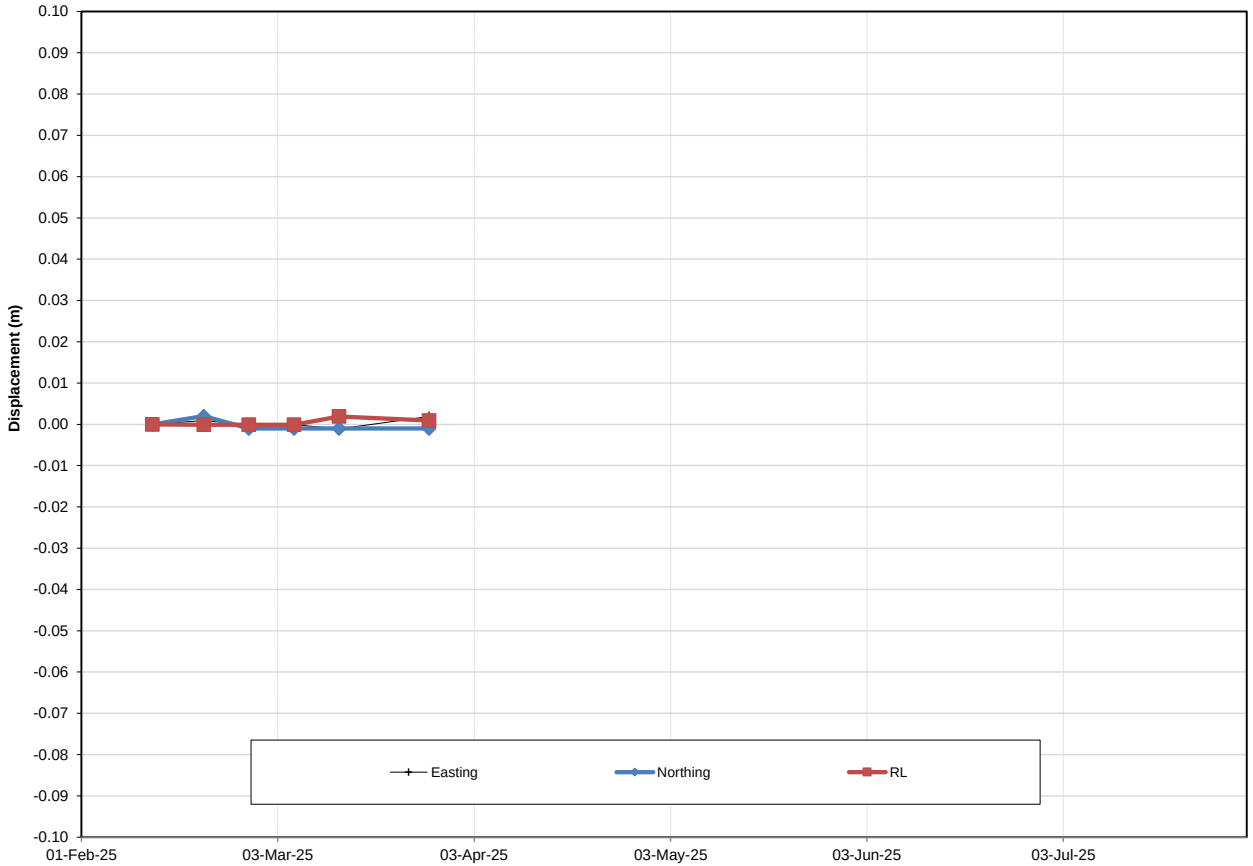


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.1		**0.0**

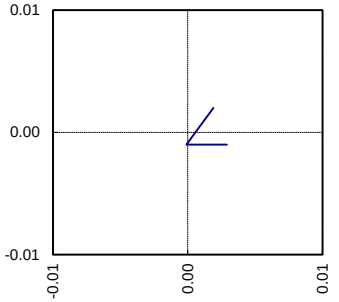
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

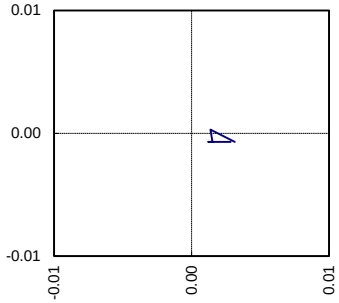
PRISM ID: **S1P01**

(c) Copyright PSM 1993-2025

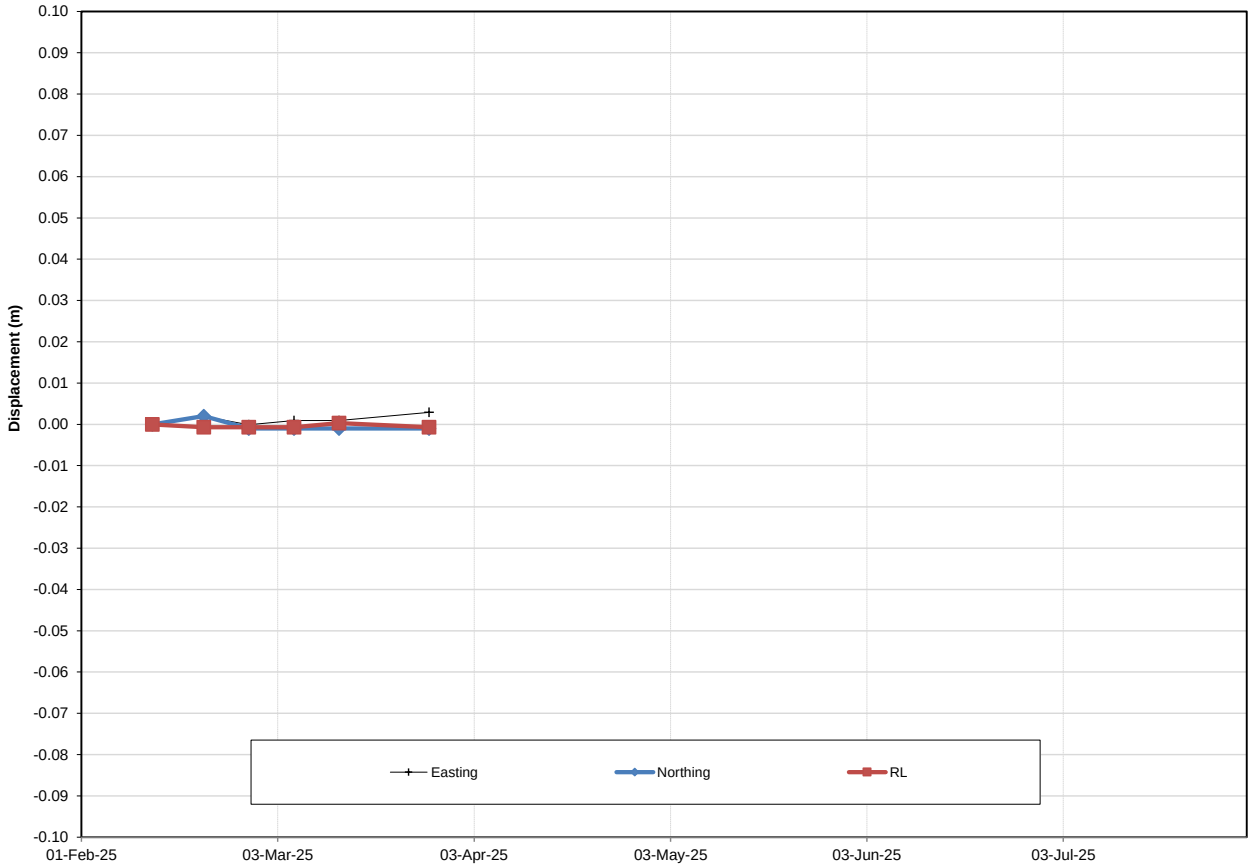


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.1		**0.0**

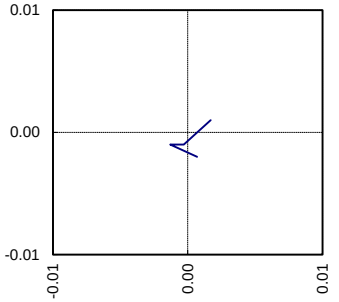
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

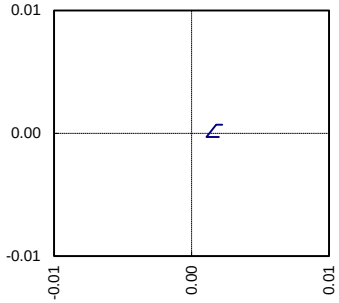
PRISM ID: **S1P02**

(c) Copyright PSM 1993-2025

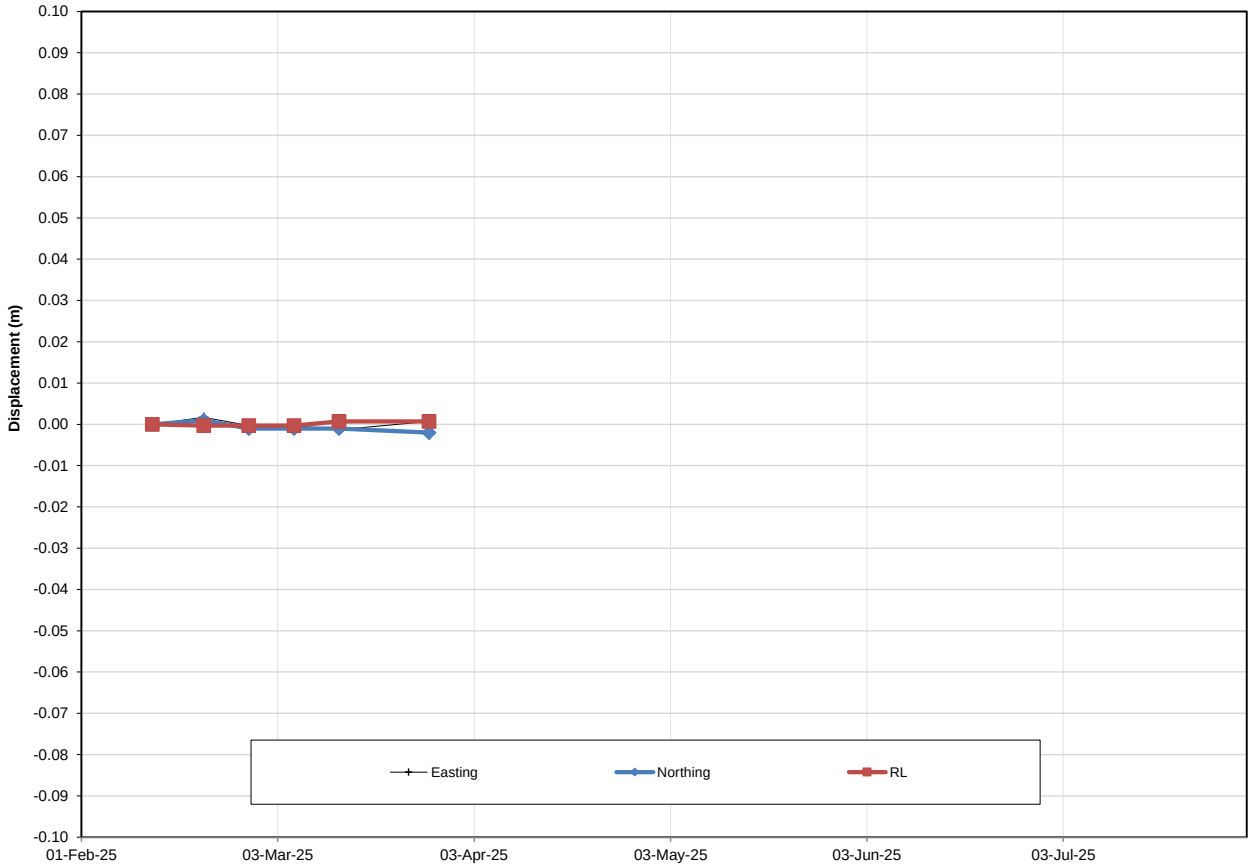


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.1		**0.0**

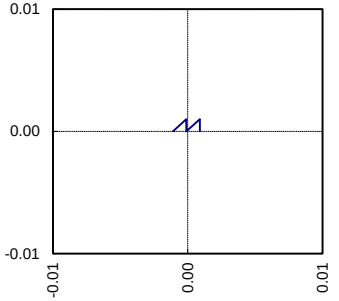
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

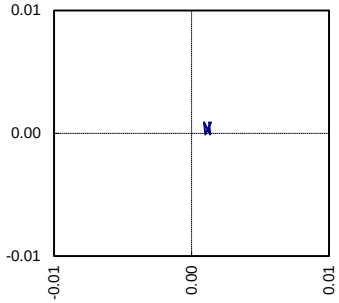
PRISM ID: **S1P03**

(c) Copyright PSM 1993-2025

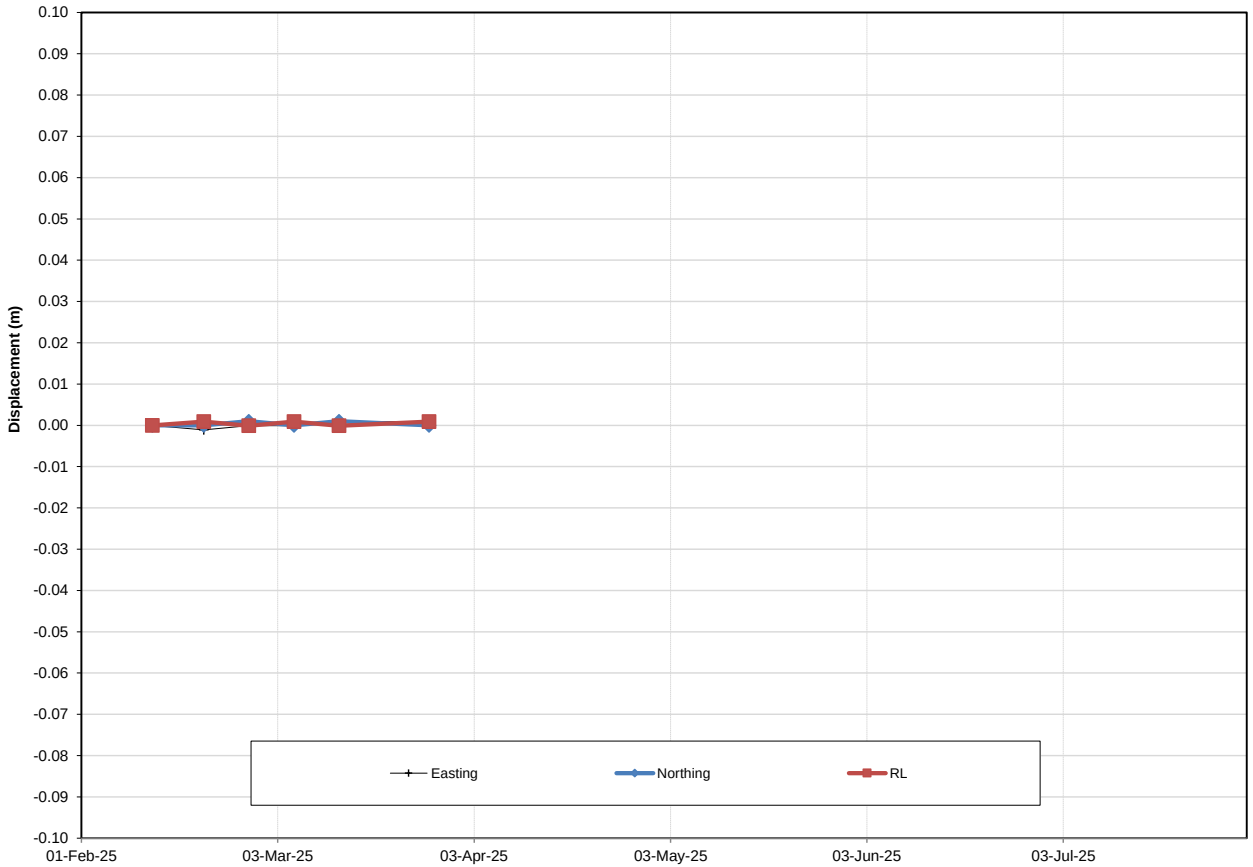


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

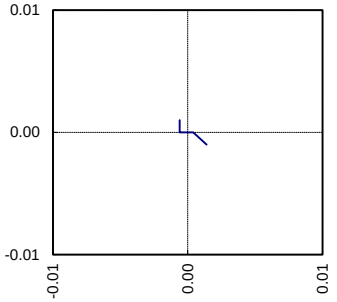
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

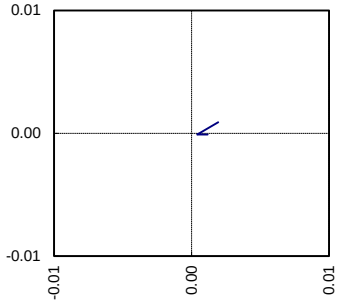
PRISM ID: **S3P05**

(c) Copyright PSM 1993-2025

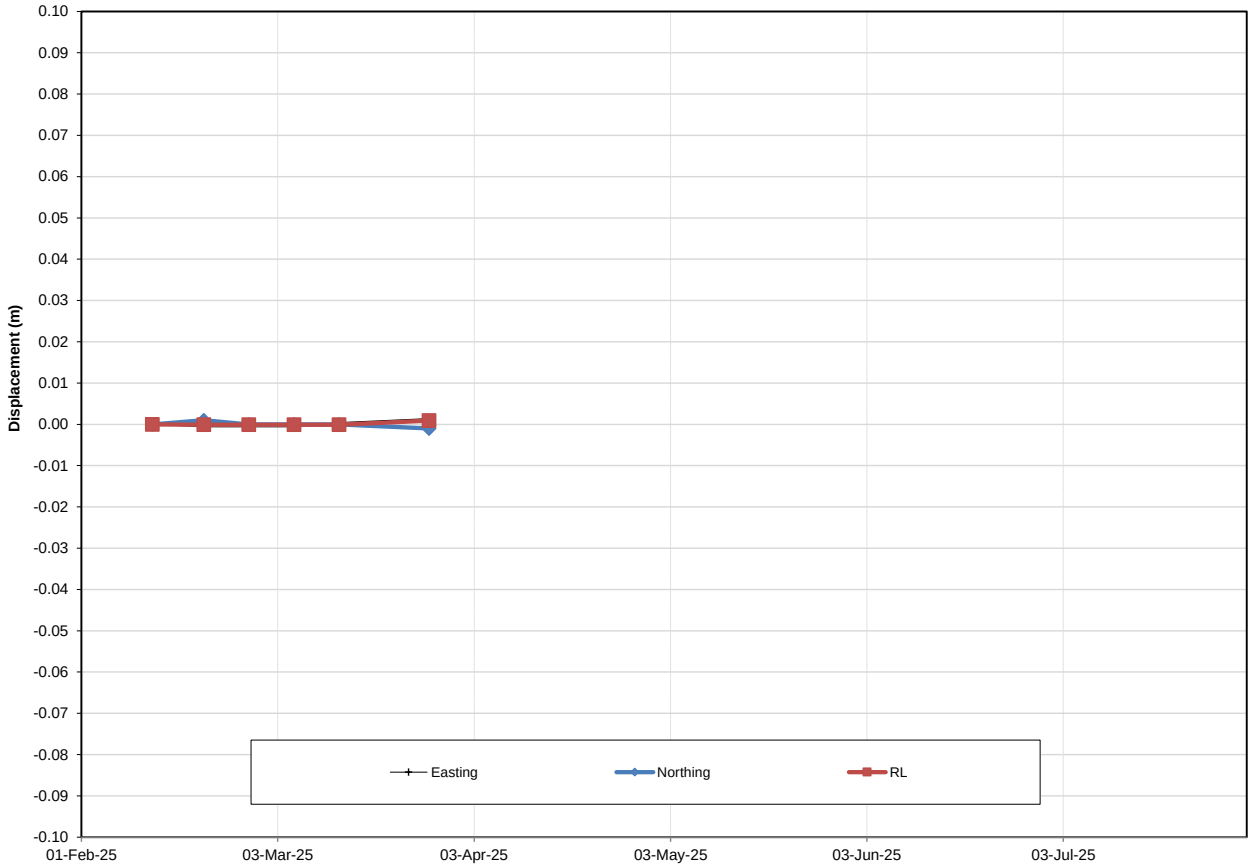


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.1		**0.0**

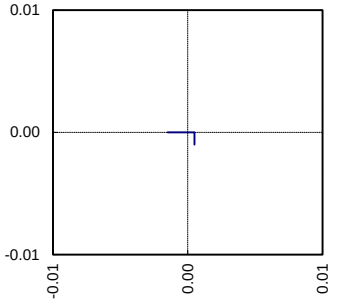
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

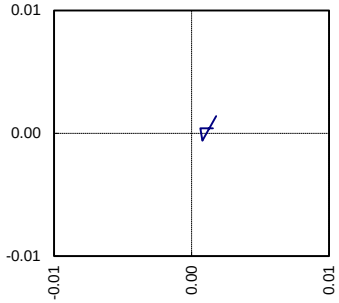
PRISM ID: **S3P06**

(c) Copyright PSM 1993-2025

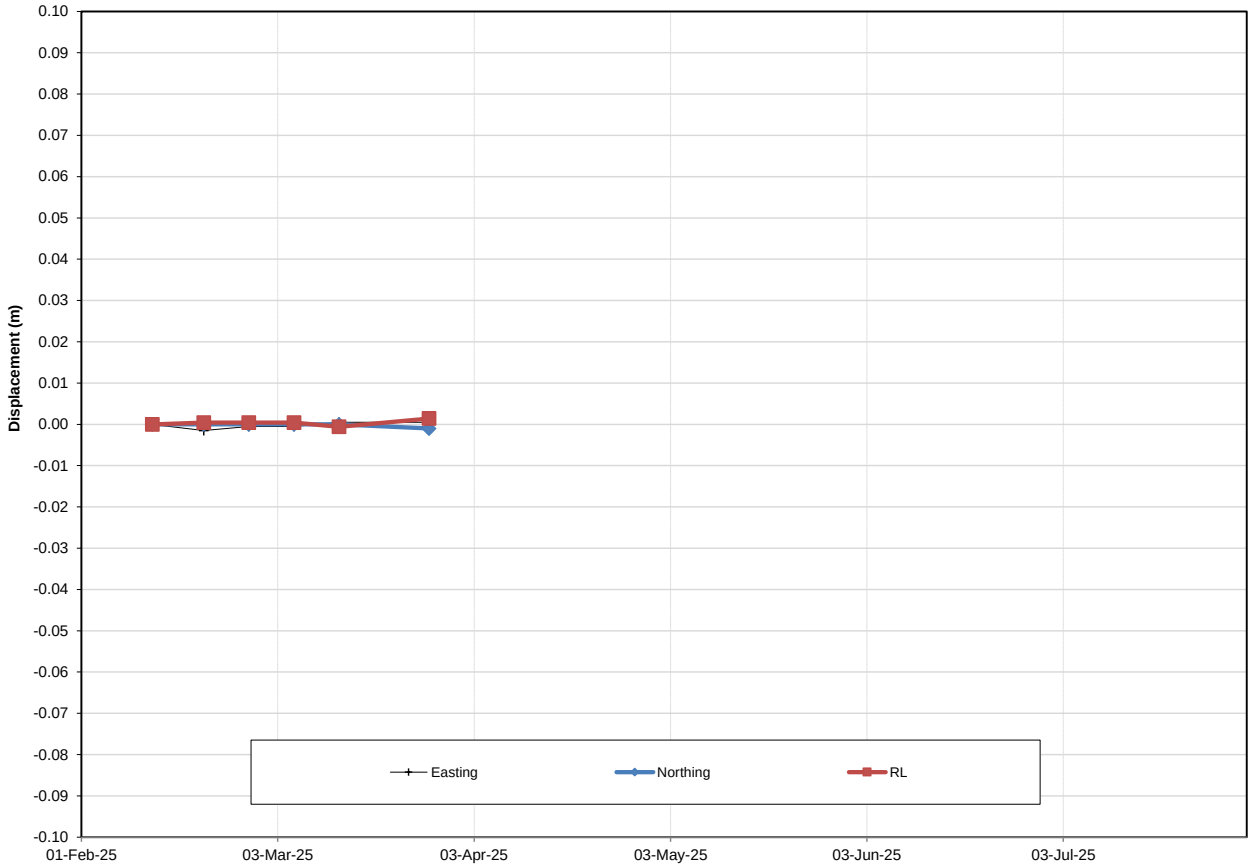


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.1		**0.0**

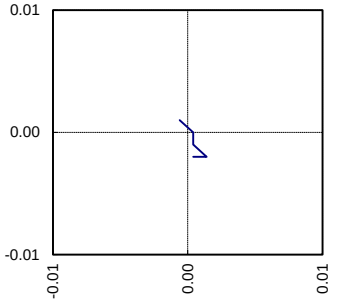
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

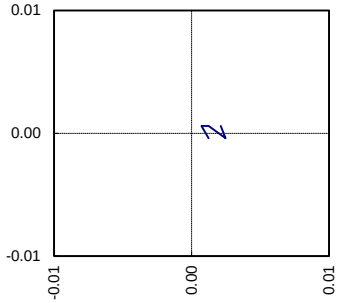
PRISM ID: **S3P07**

(c) Copyright PSM 1993-2025

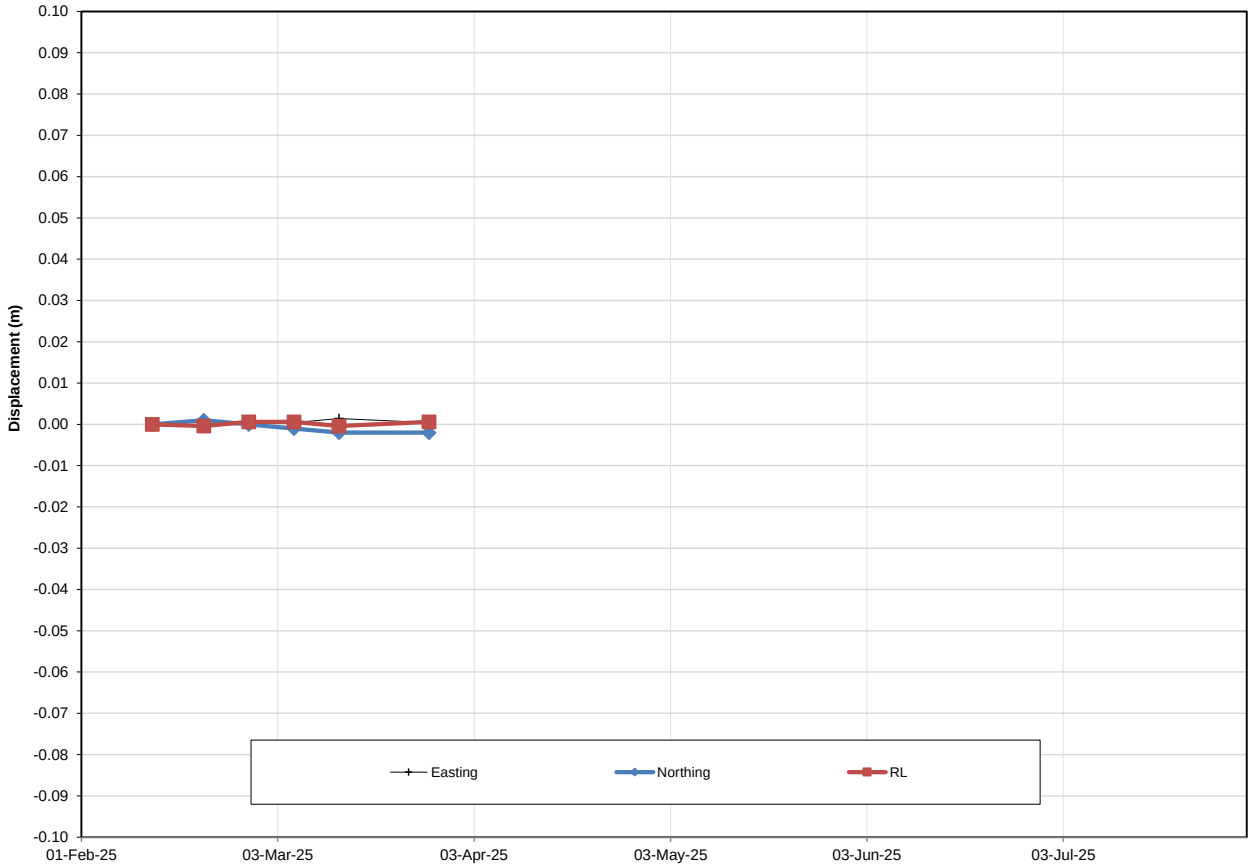


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

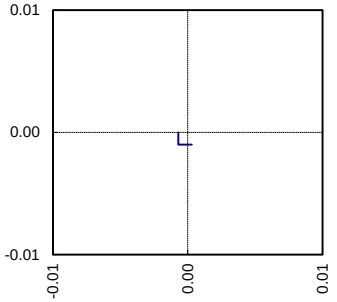
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

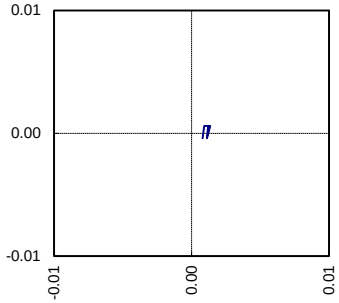
PRISM ID: **S3P08**

(c) Copyright PSM 1993-2025

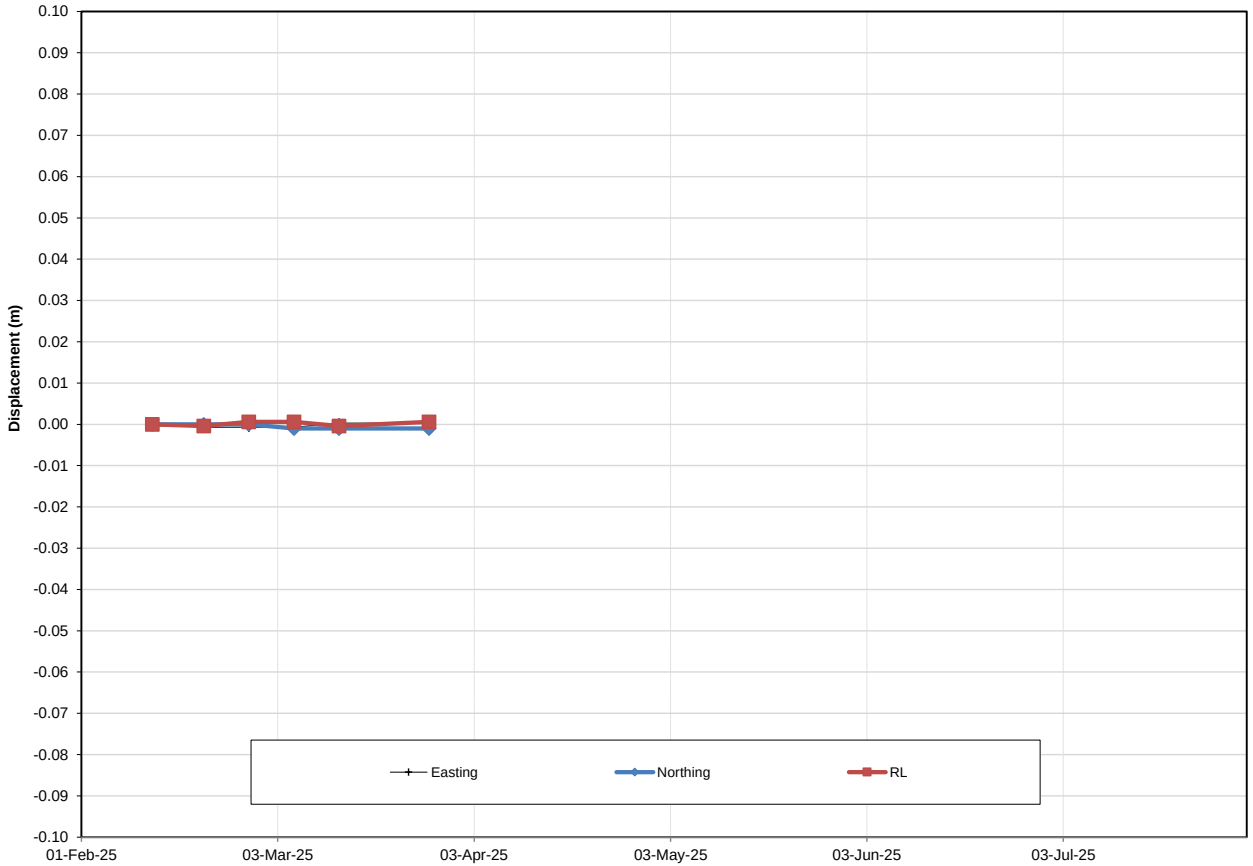


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

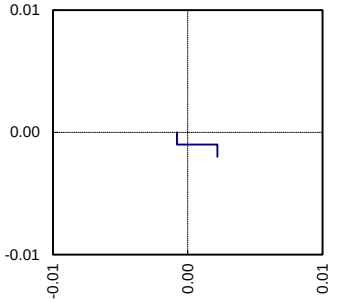
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

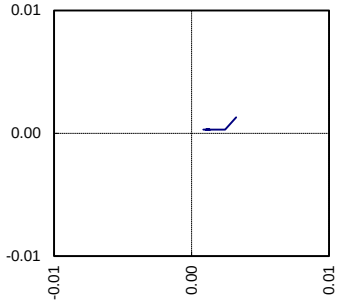
Analysed on: 8/04/2025

PRISM ID: **S3P09**

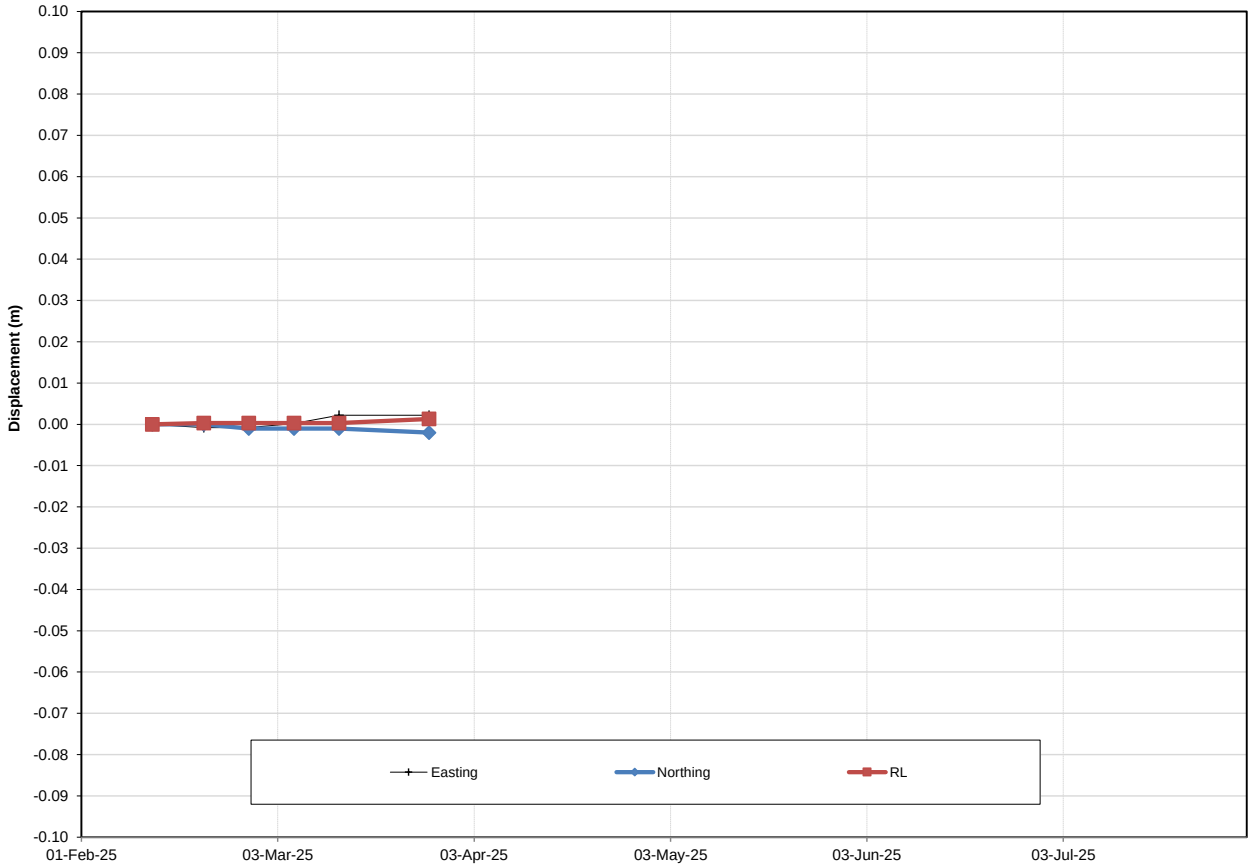
(c) Copyright PSM 1993-2025



N PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.1		**0.1**

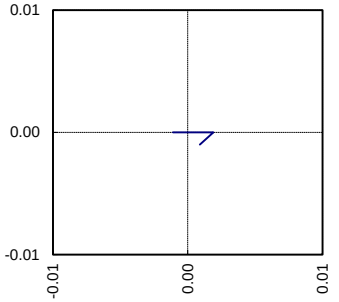
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

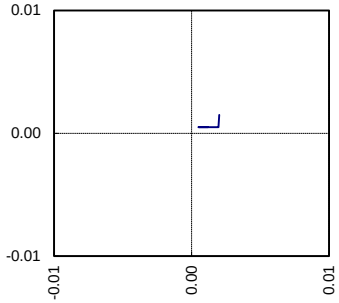
PRISM ID: **S3P10**

(c) Copyright PSM 1993-2025

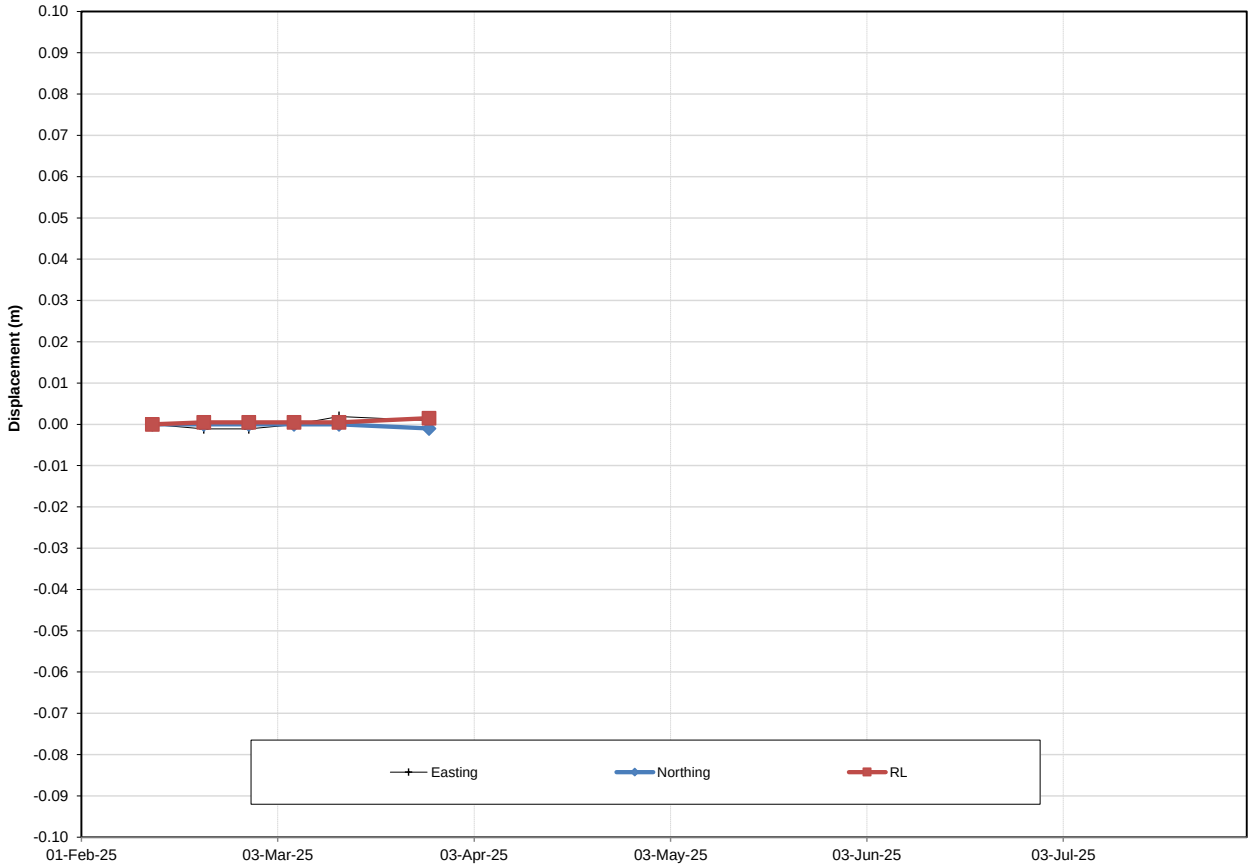


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.1		**0.0**

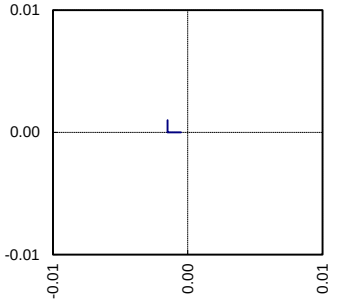
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

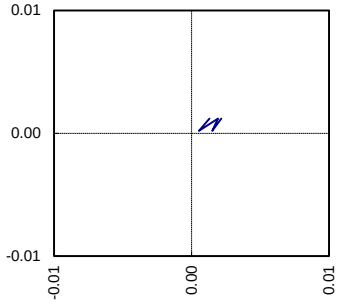
PRISM ID: **S3P11**

(c) Copyright PSM 1993-2025

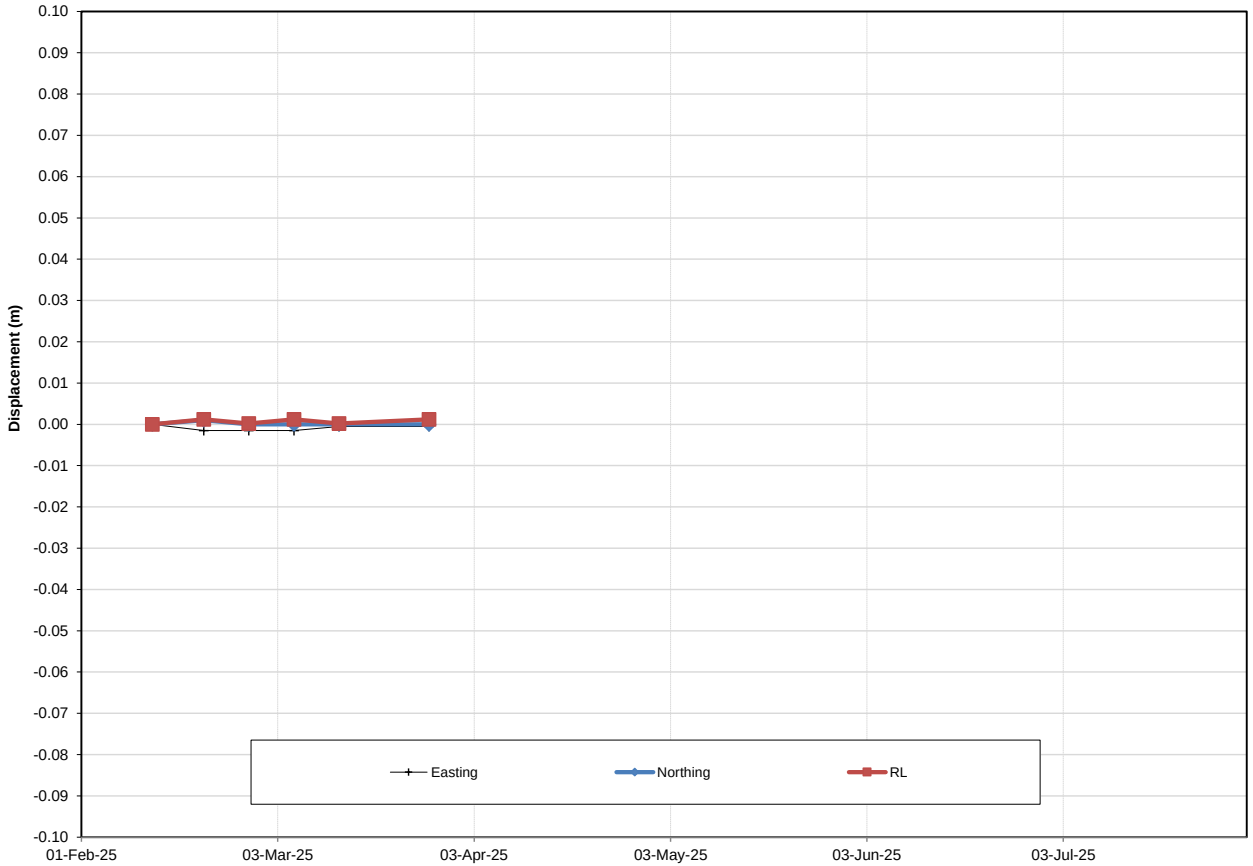


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

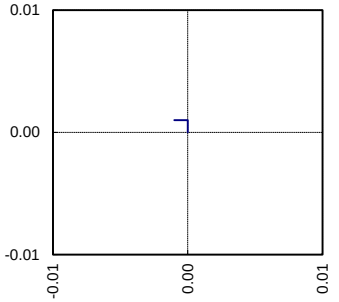
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

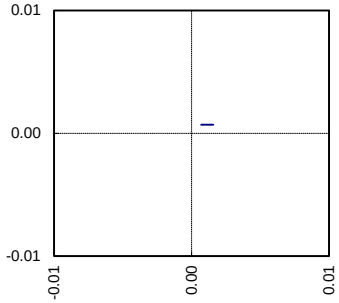
PRISM ID: **S3P12**

(c) Copyright PSM 1993-2025

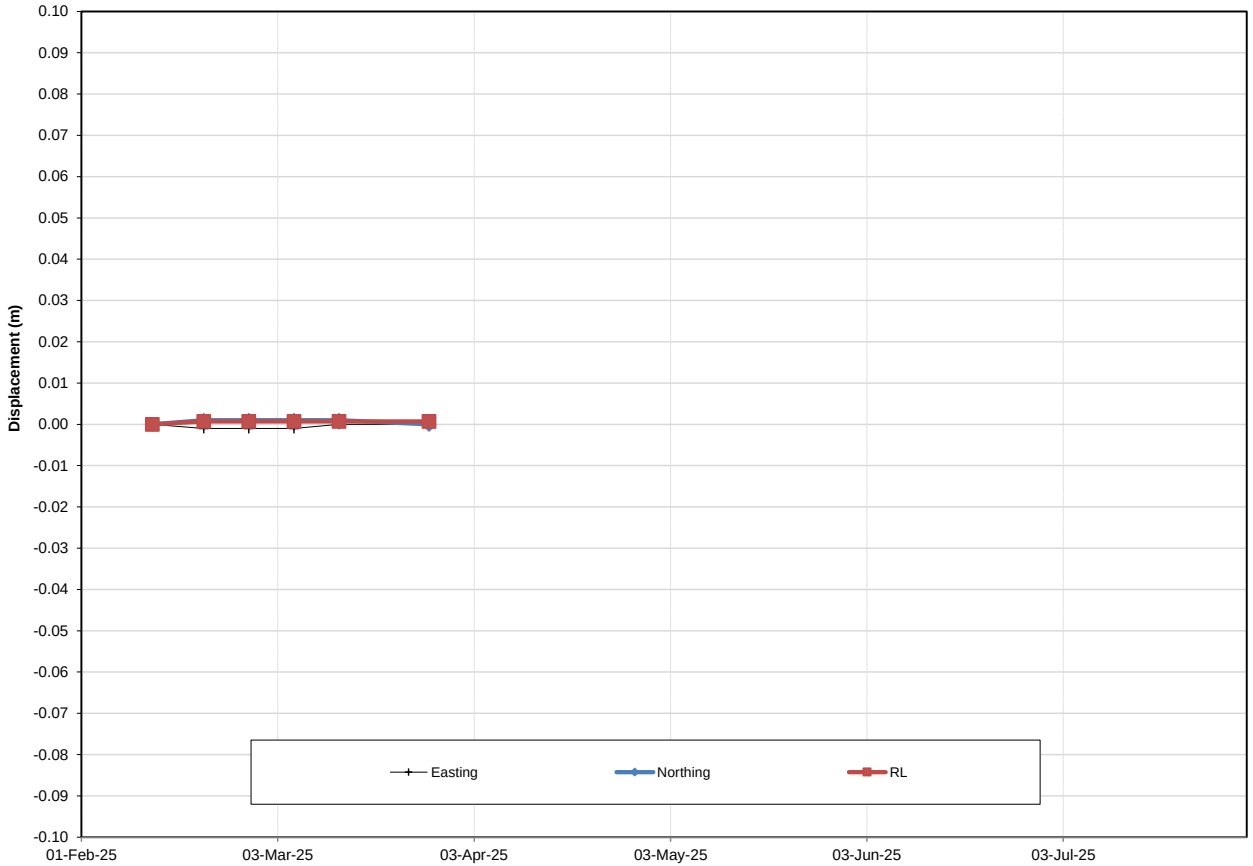


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

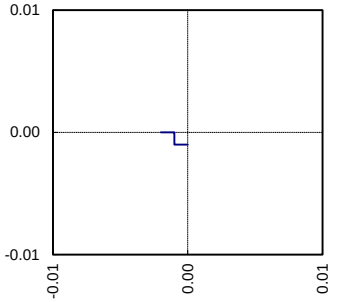
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

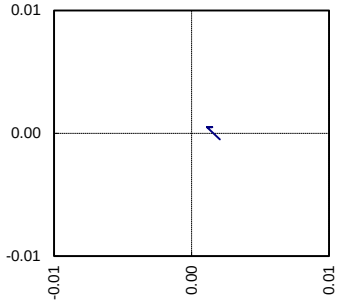
Analysed on: 8/04/2025

PRISM ID: **S3P13**

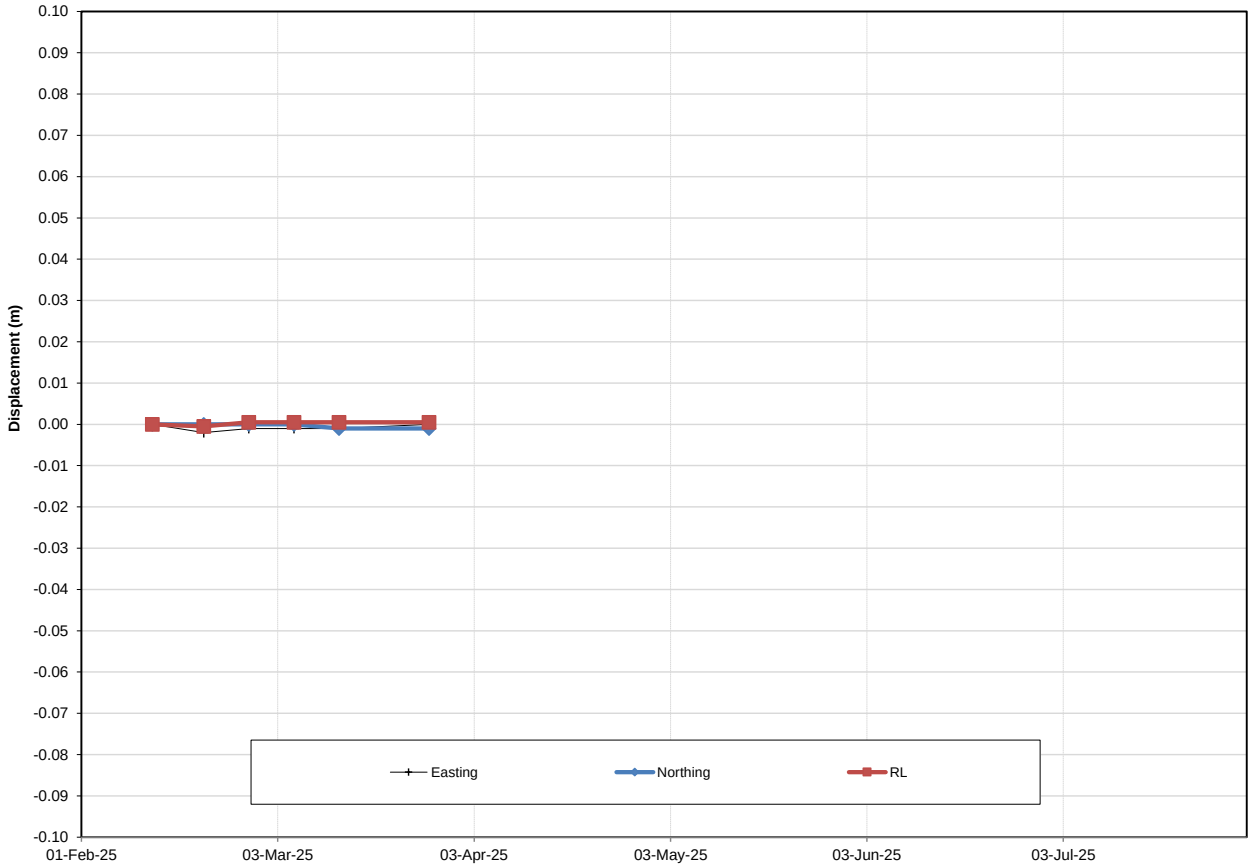
(c) Copyright PSM 1993-2025



N PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

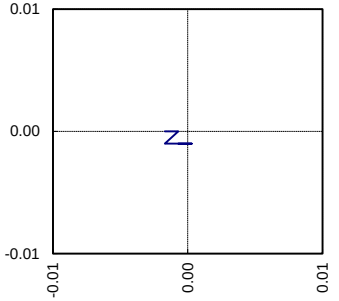
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

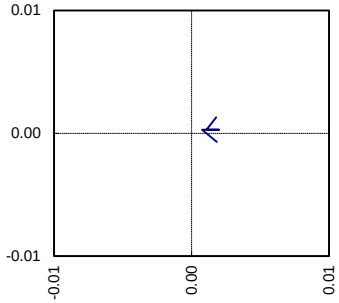
Analysed on: 8/04/2025

PRISM ID: **S3P14**

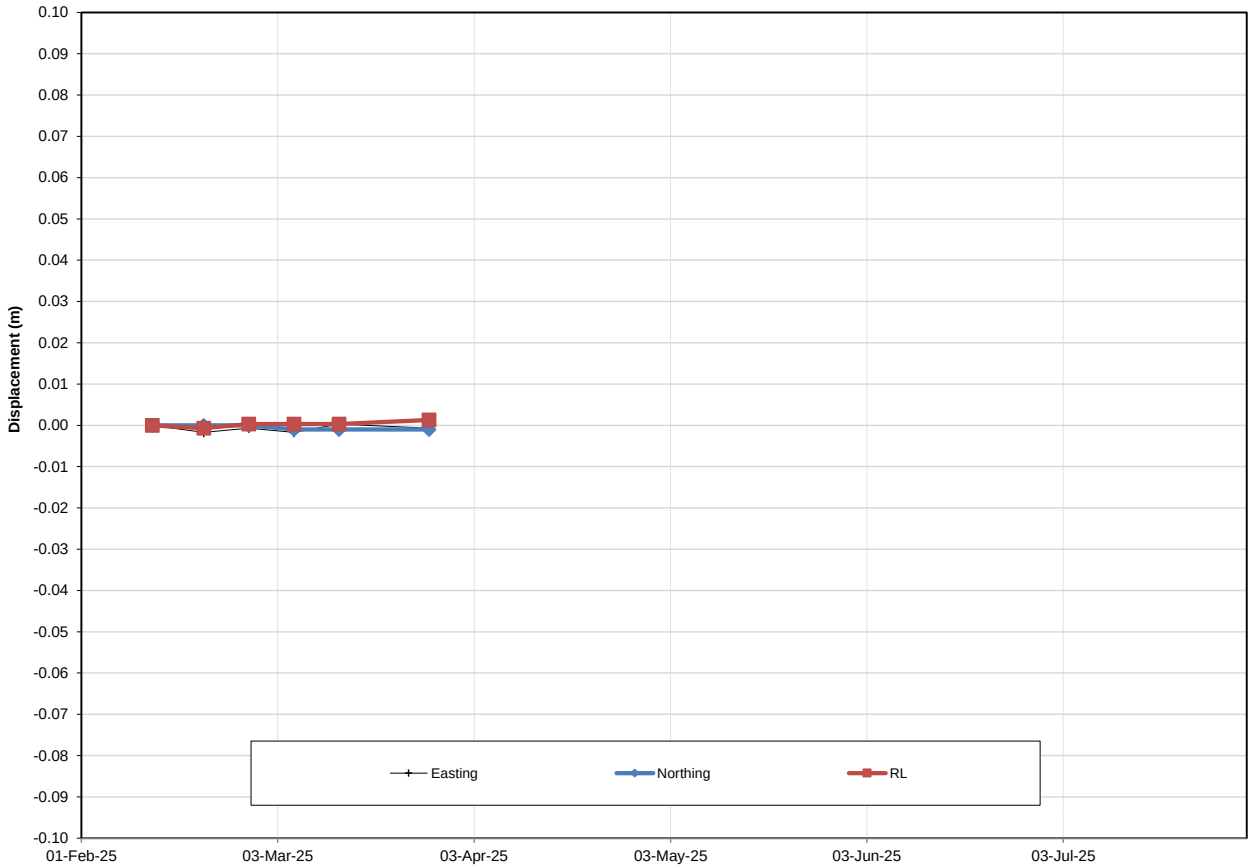
(c) Copyright PSM 1993-2025



N PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

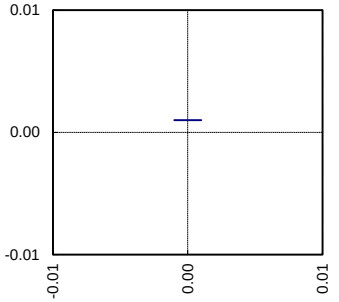
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

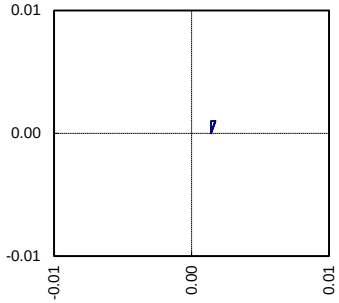
PRISM ID: **S3P15**

(c) Copyright PSM 1993-2025

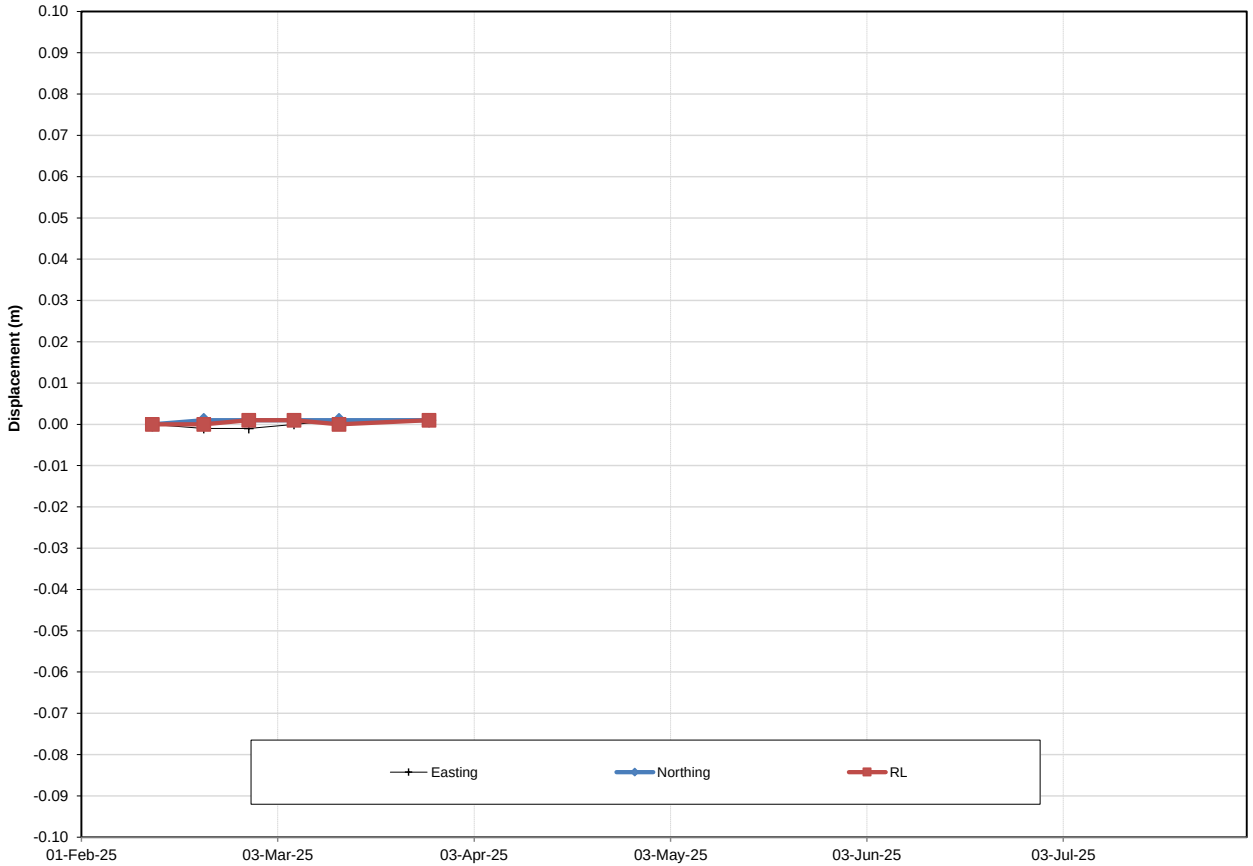


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

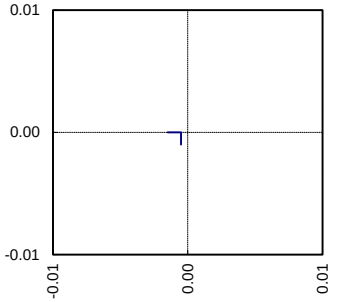
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

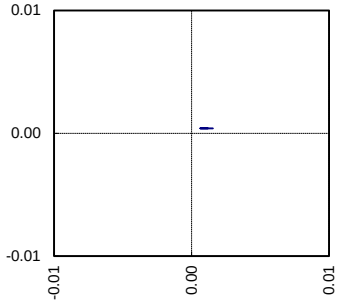
PRISM ID: **S3P16**

(c) Copyright PSM 1993-2025

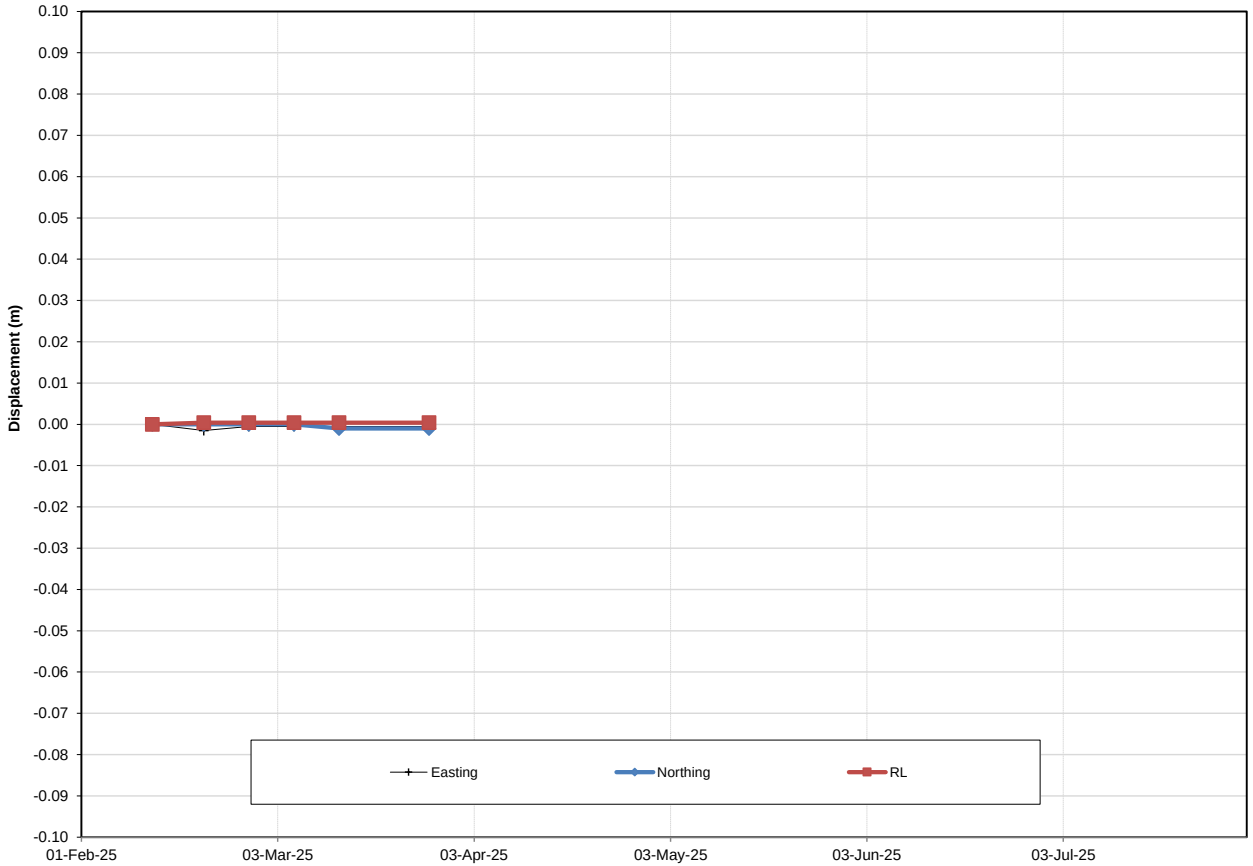


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

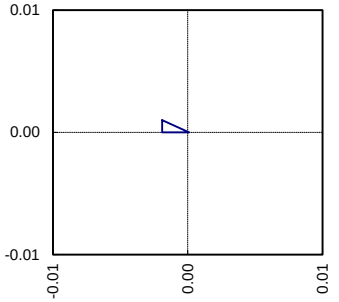
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

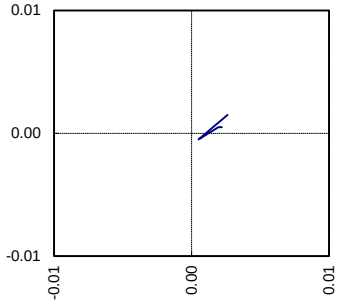
Analysed on: 8/04/2025

PRISM ID: **S3P17**

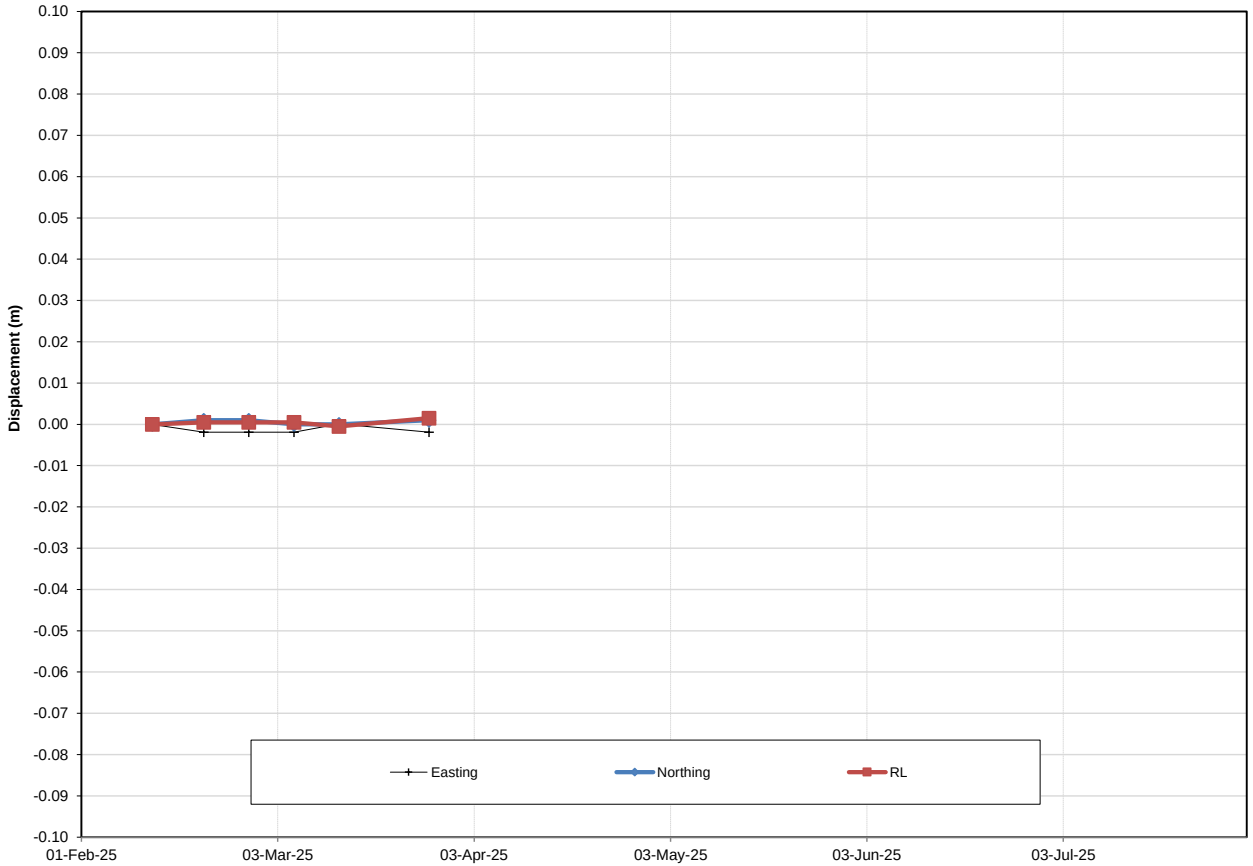
(c) Copyright PSM 1993-2025



N PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

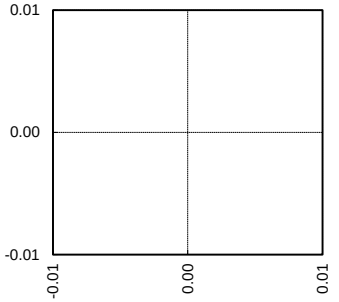
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

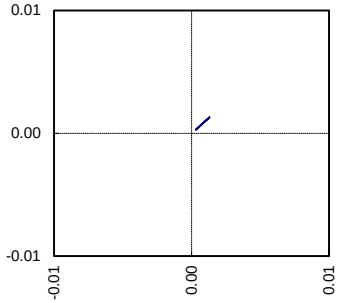
Analysed on: 8/04/2025

PRISM ID: **S3P18**

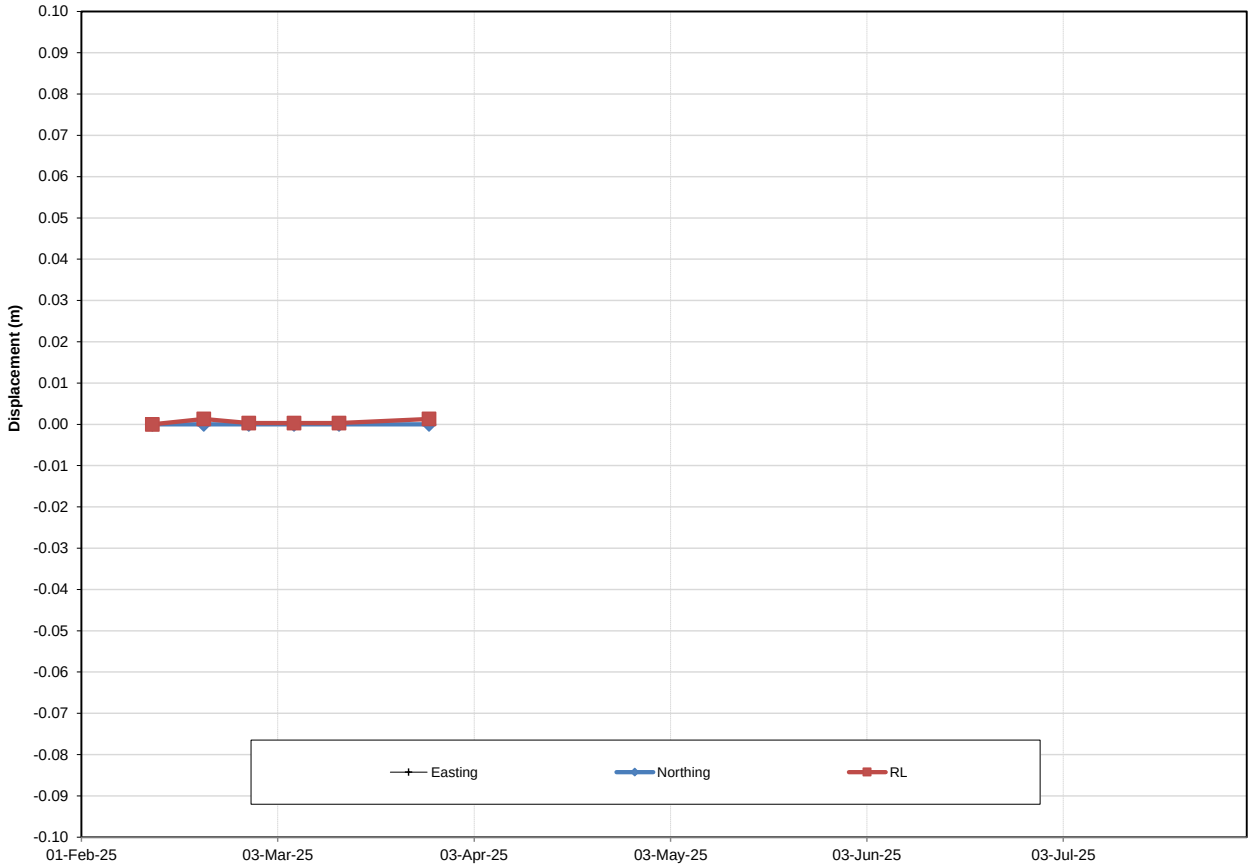
(c) Copyright PSM 1993-2025



N PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.1		**0.0**

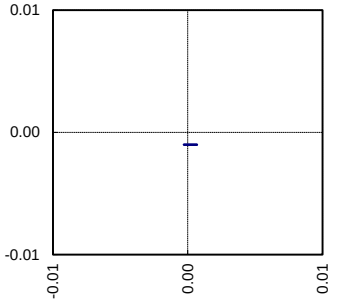
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

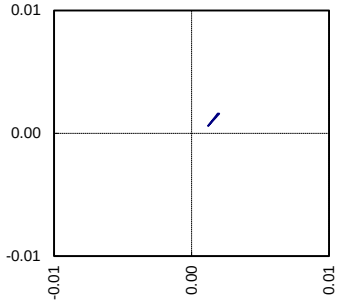
Analysed on: 8/04/2025

PRISM ID: **S4P19**

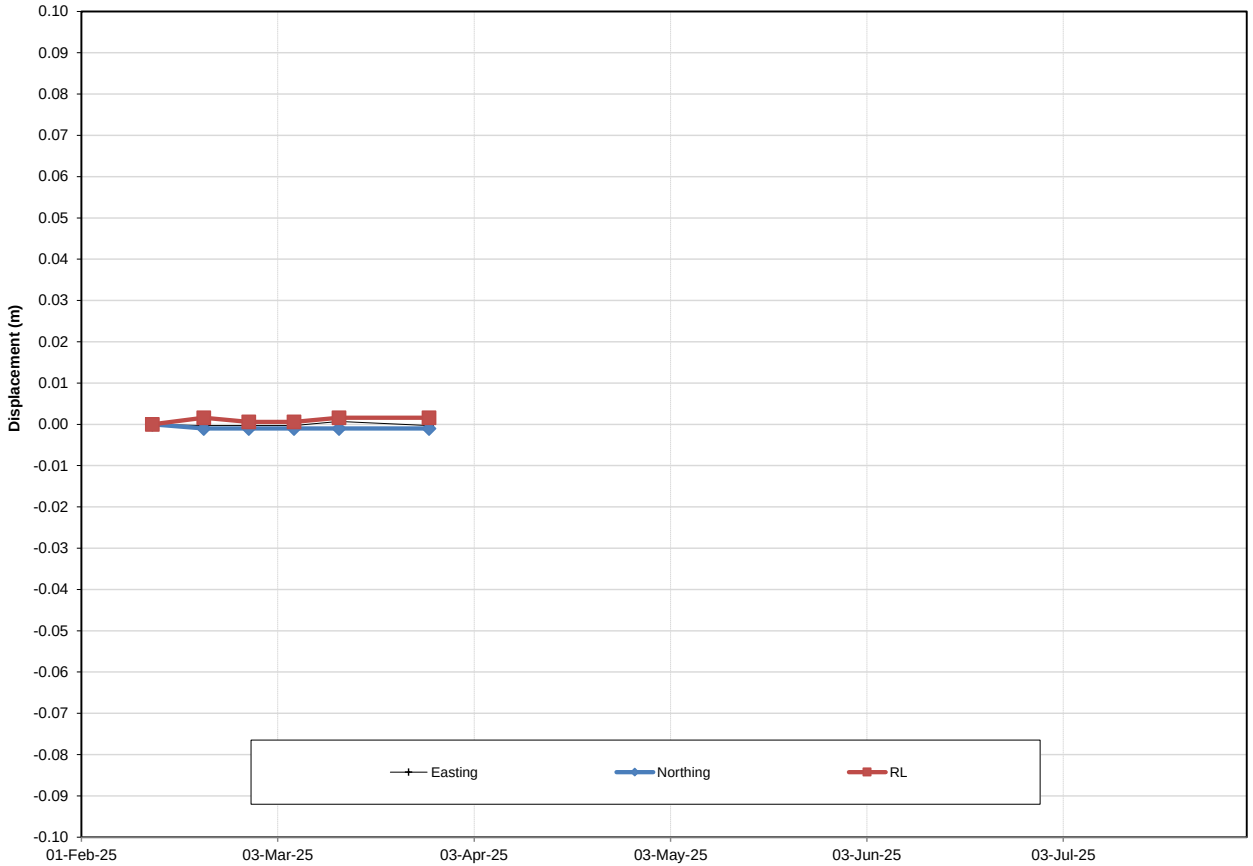
(c) Copyright PSM 1993-2025



N PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

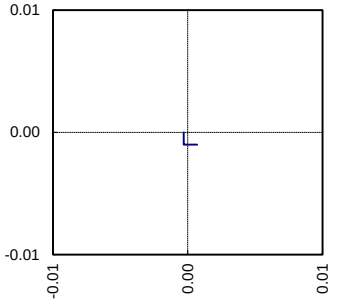
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

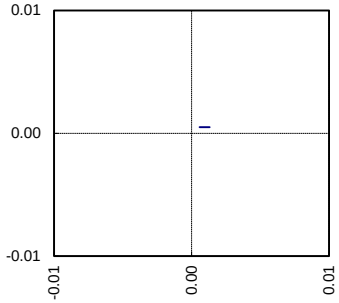
PRISM ID: **S4P20**

(c) Copyright PSM 1993-2025

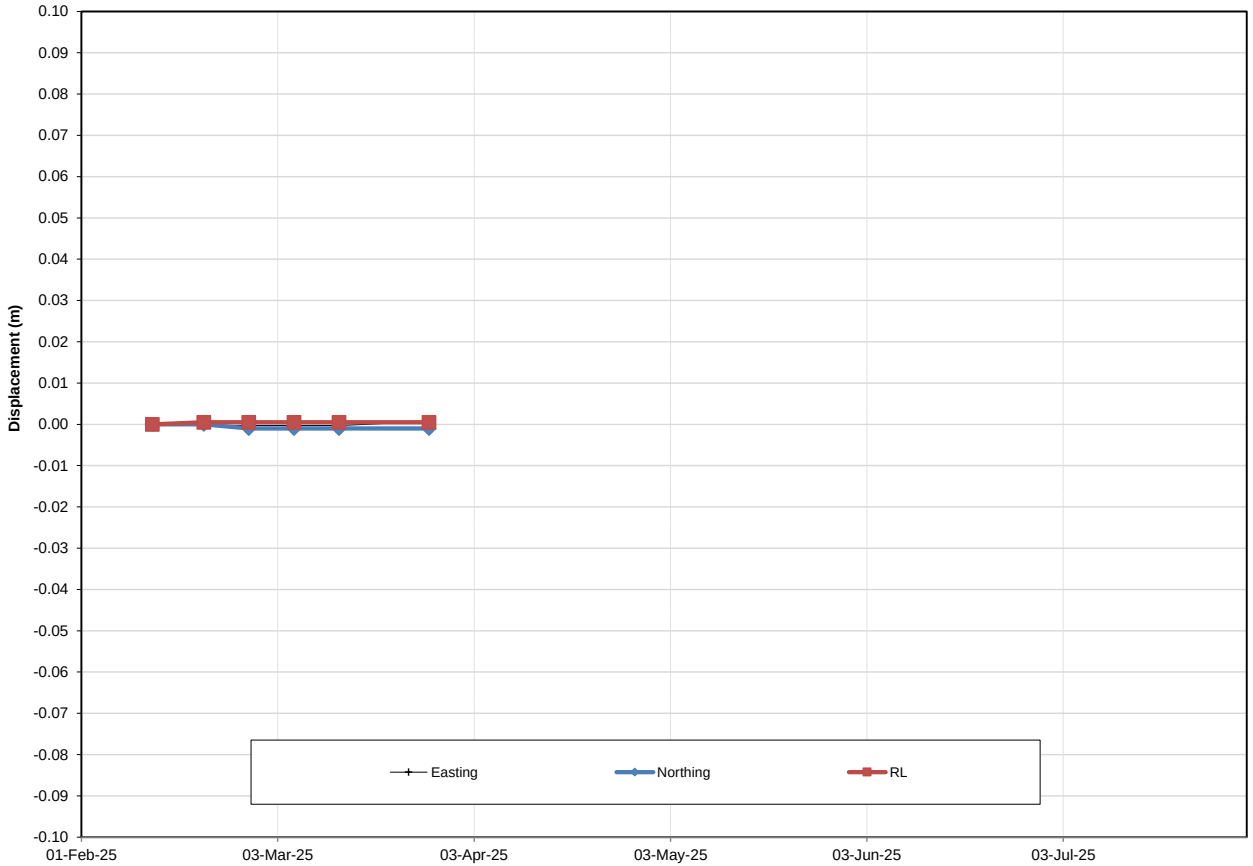


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

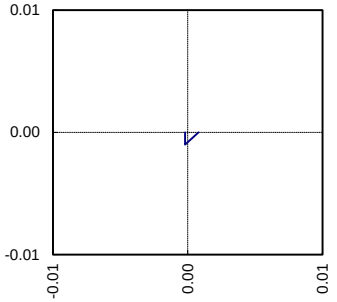
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

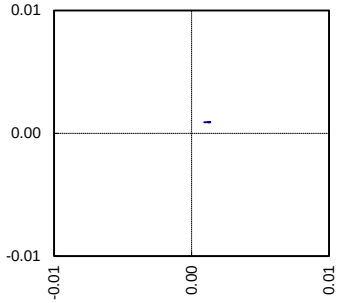
PRISM ID: **S4P21**

(c) Copyright PSM 1993-2025

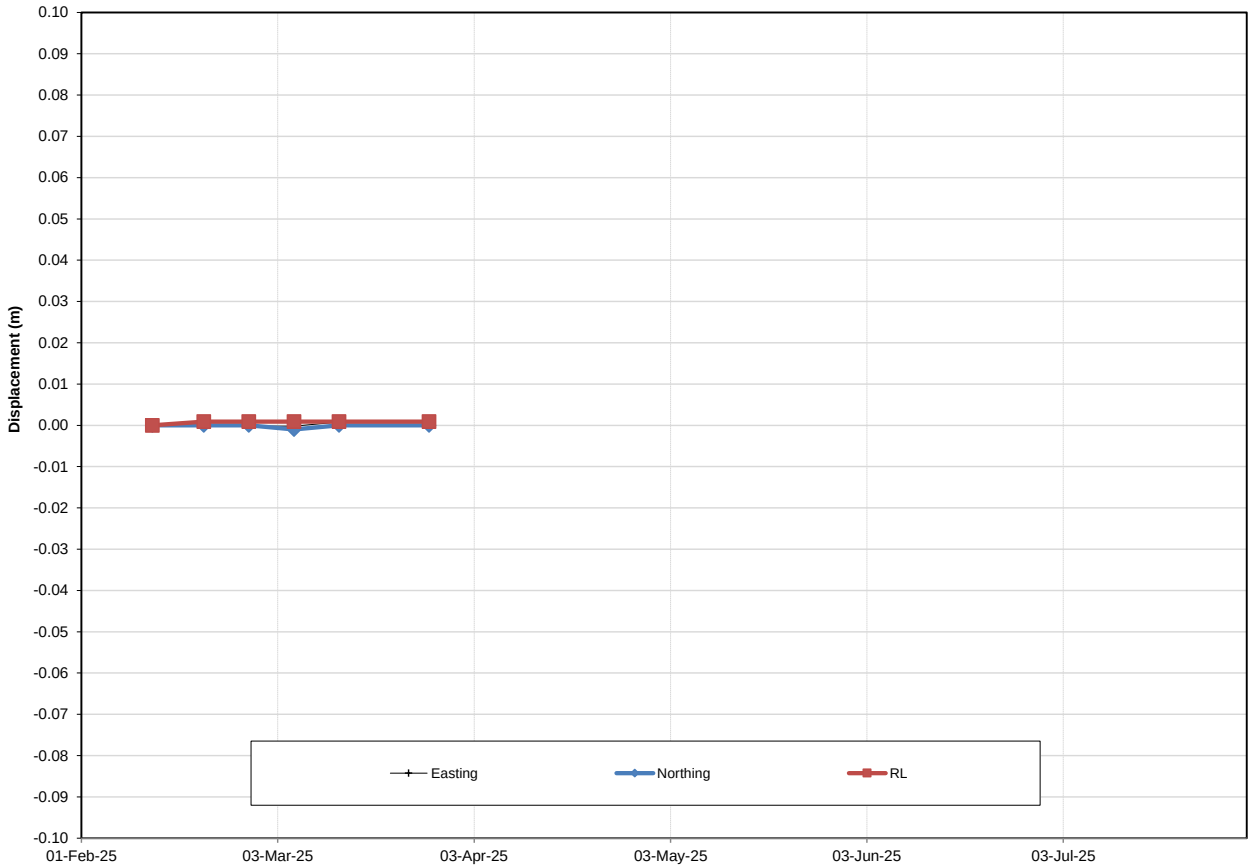


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

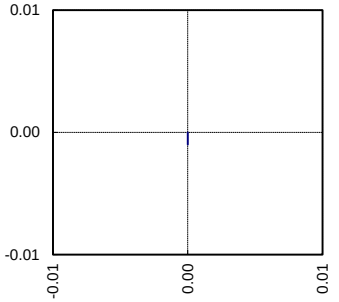
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

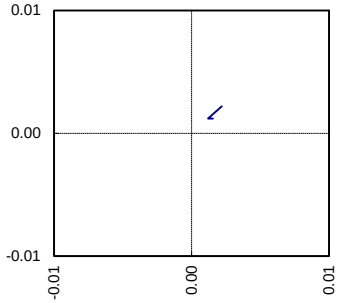
PRISM ID: **S4P22**

(c) Copyright PSM 1993-2025

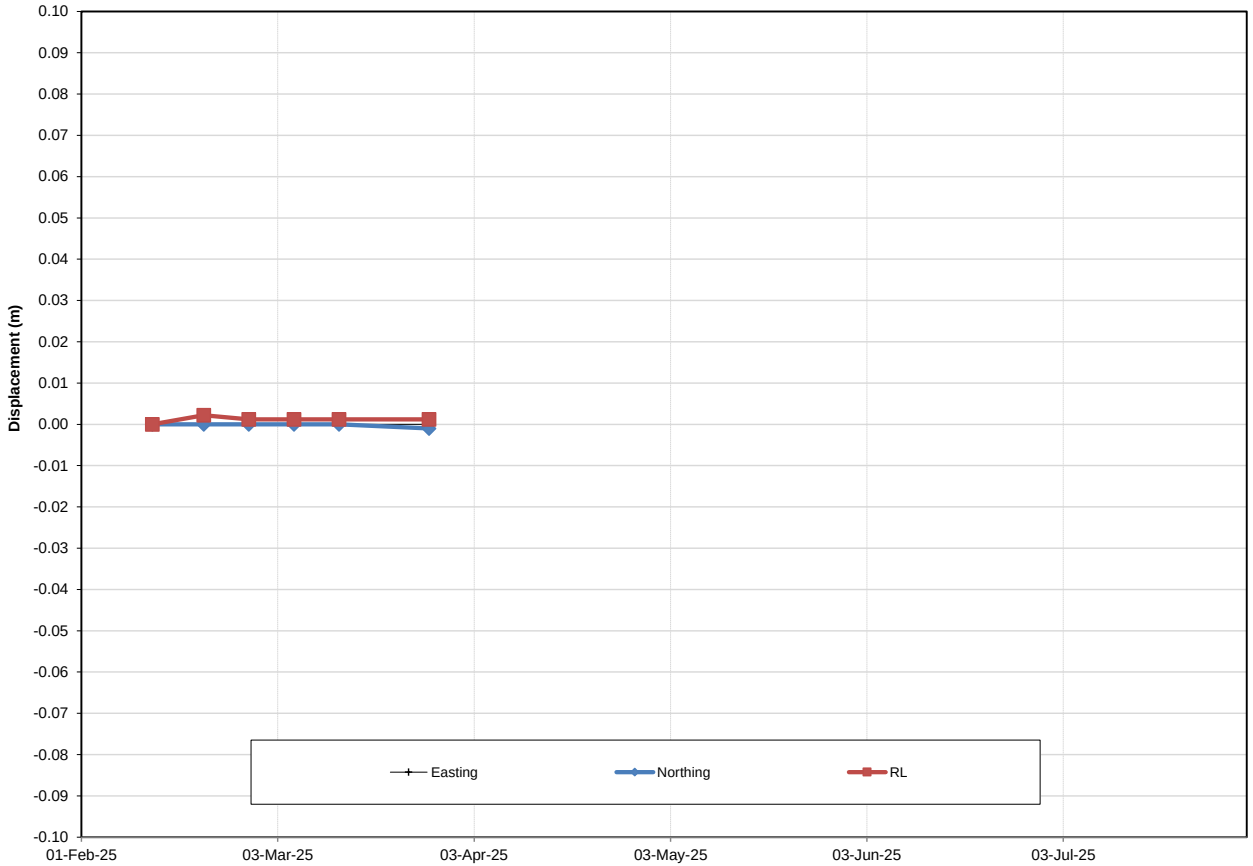


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

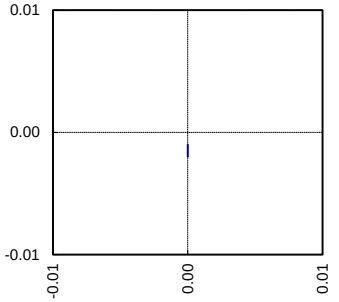
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

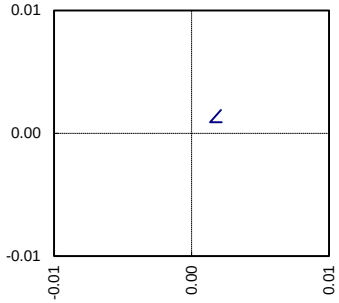
Analysed on: 8/04/2025

PRISM ID: **S4P23**

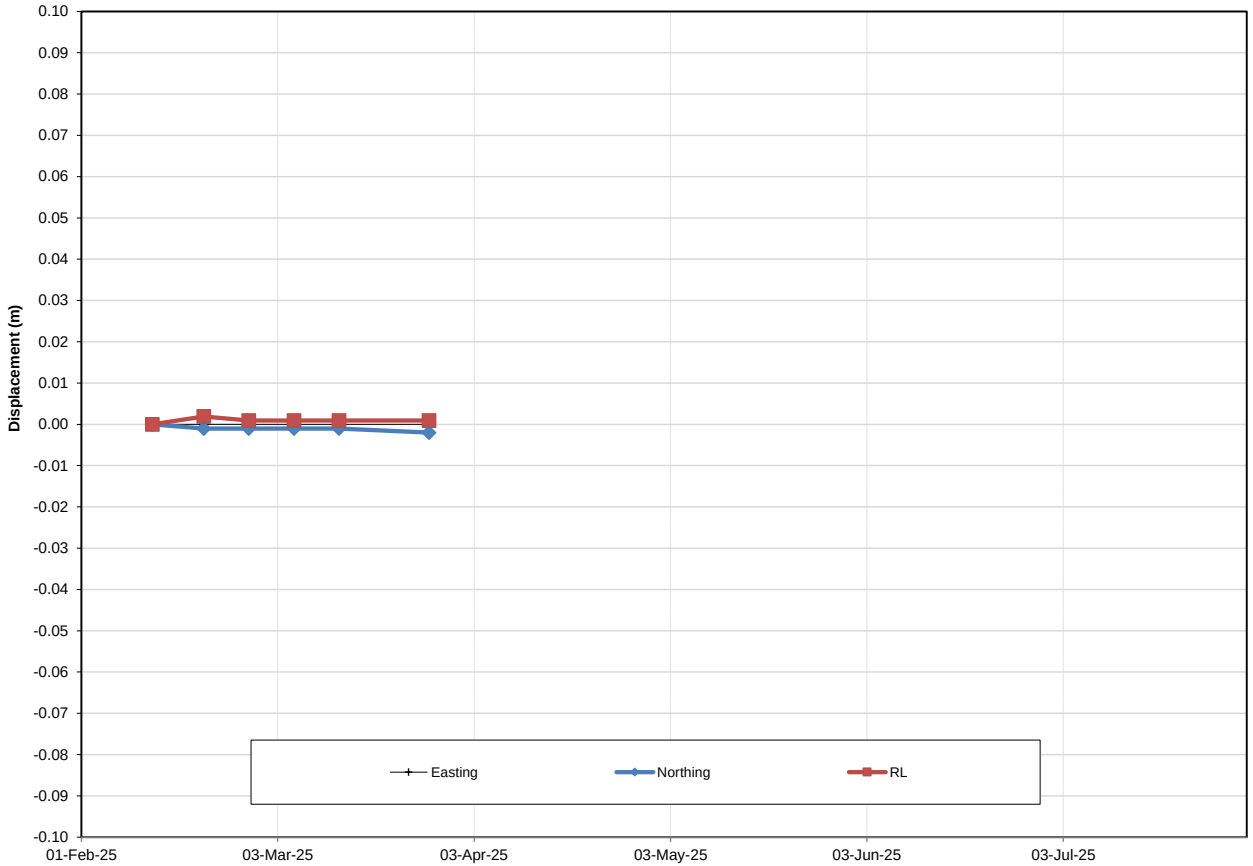
(c) Copyright PSM 1993-2025



N PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

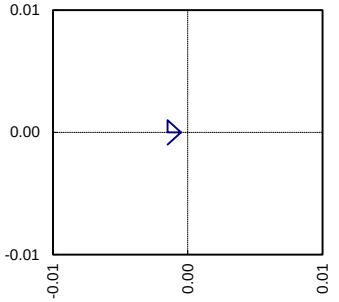
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

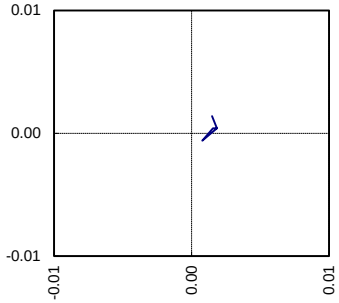
PRISM ID: **S4P24**

(c) Copyright PSM 1993-2025

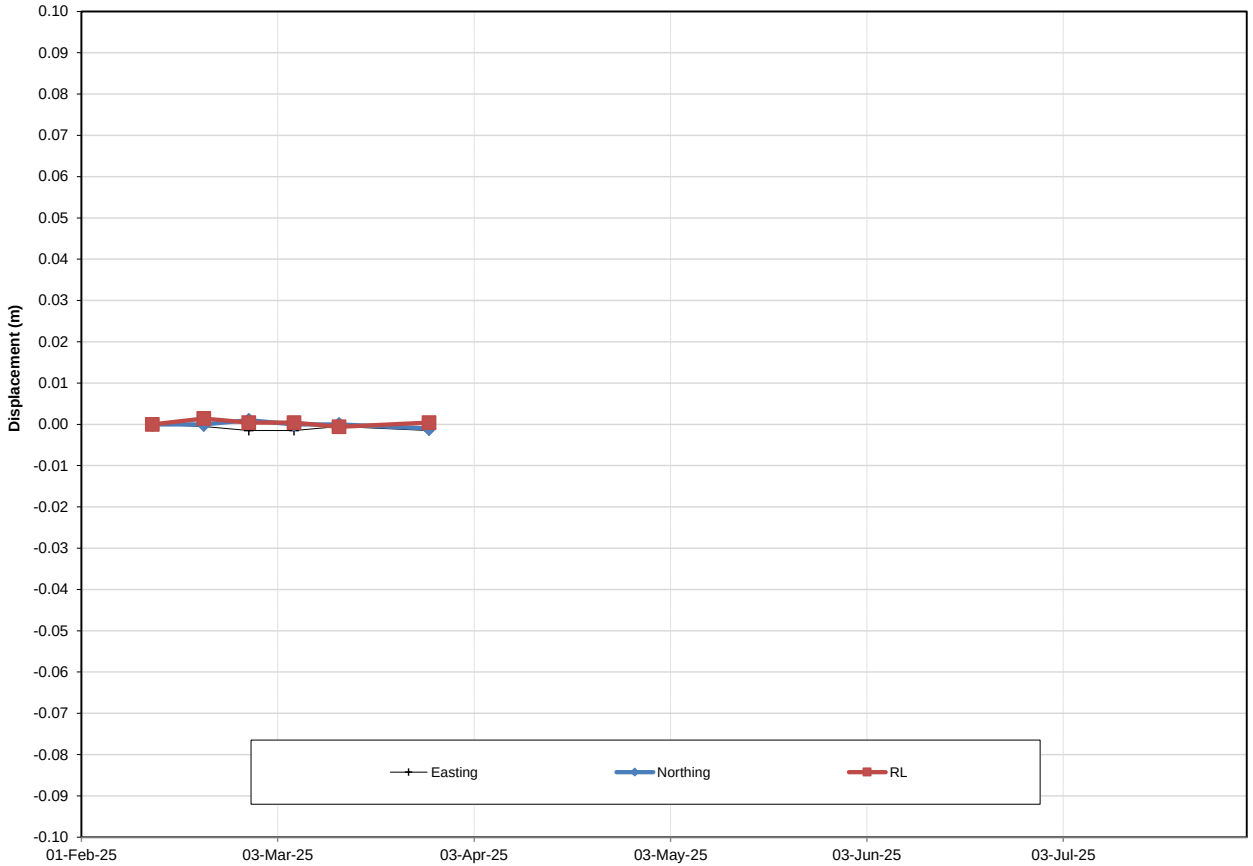


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

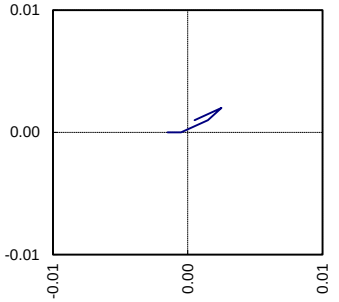
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

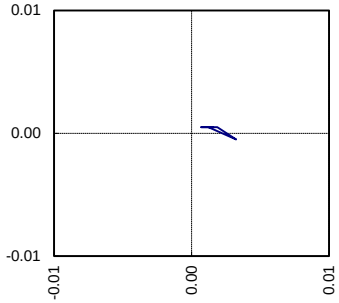
PRISM ID: **S5P25**

(c) Copyright PSM 1993-2025

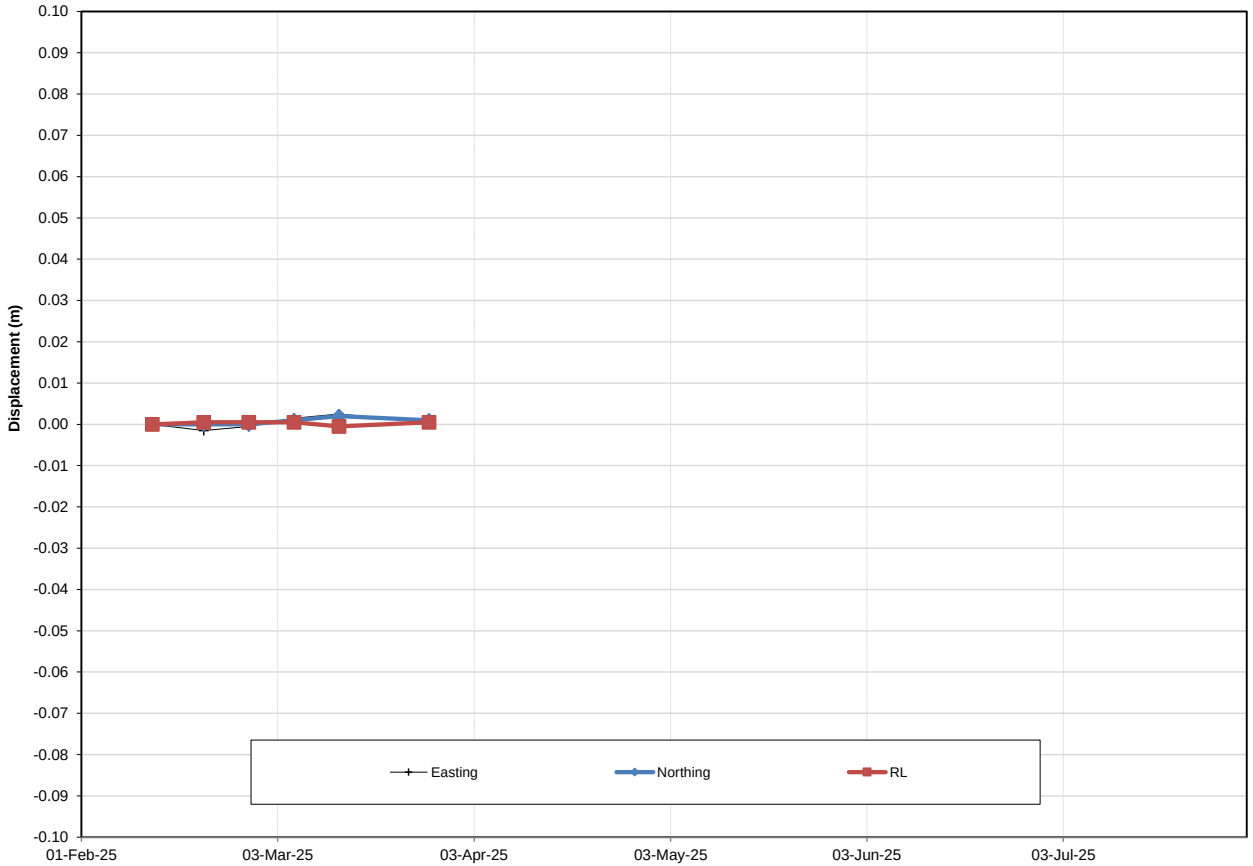


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

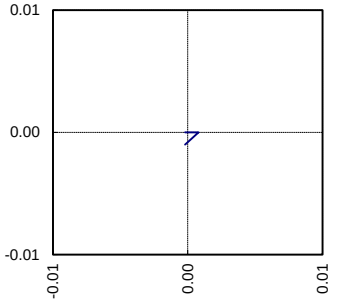
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

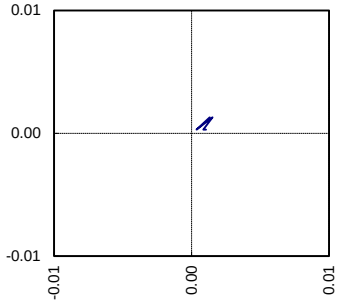
PRISM ID: **S5P26**

(c) Copyright PSM 1993-2025

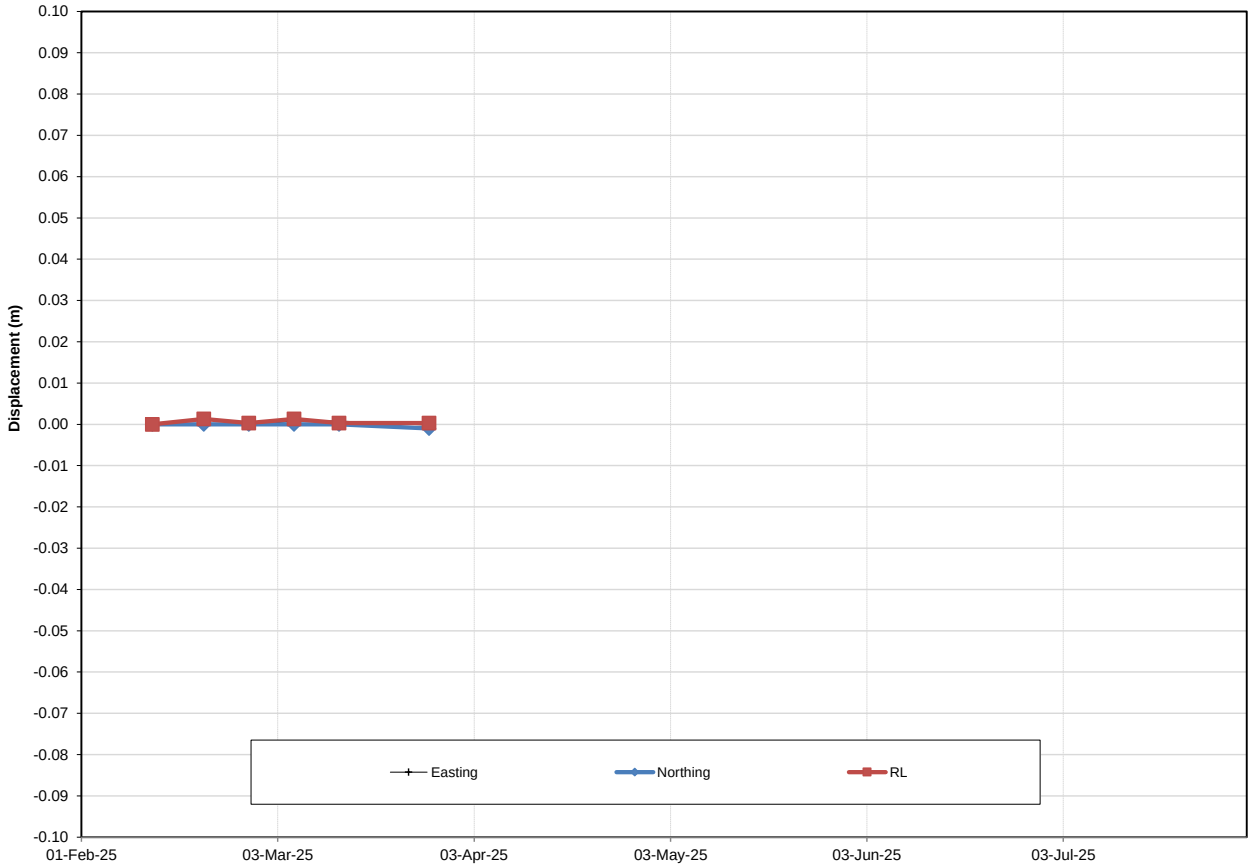


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

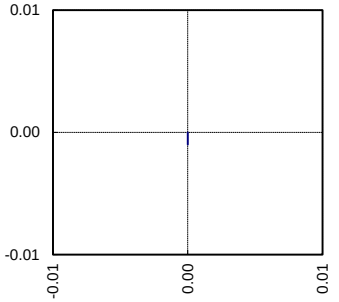
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

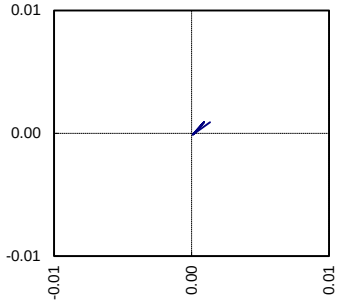
PRISM ID: **S5P27**

(c) Copyright PSM 1993-2025

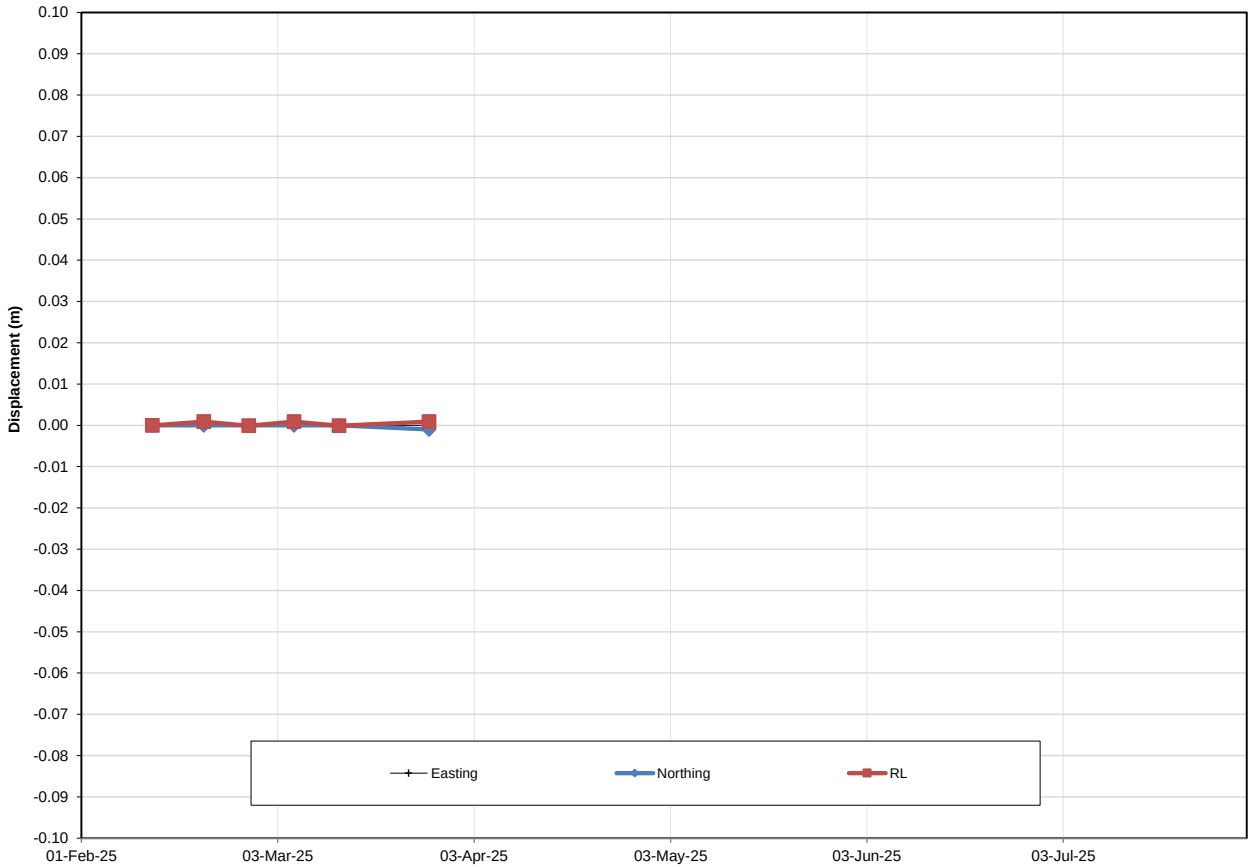


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

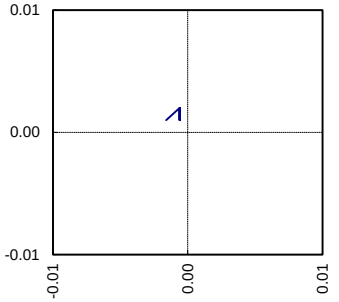
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

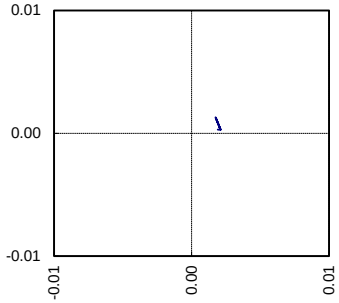
PRISM ID: **S5P28**

(c) Copyright PSM 1993-2025

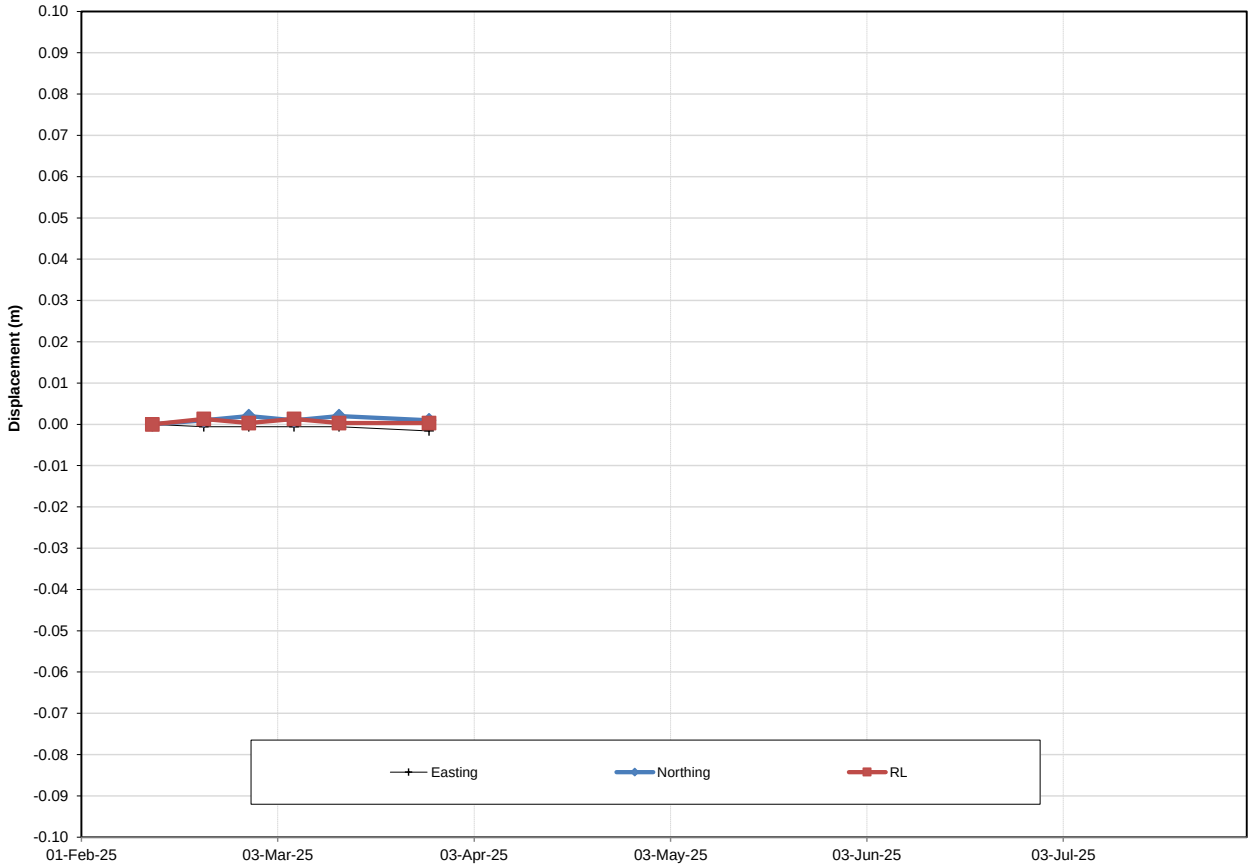


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

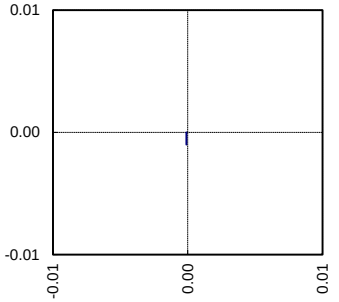
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

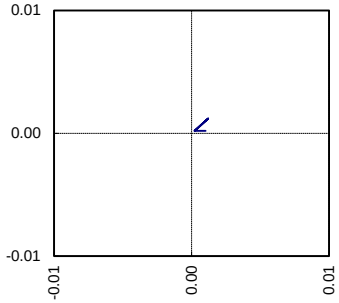
PRISM ID: **S5P29**

(c) Copyright PSM 1993-2025

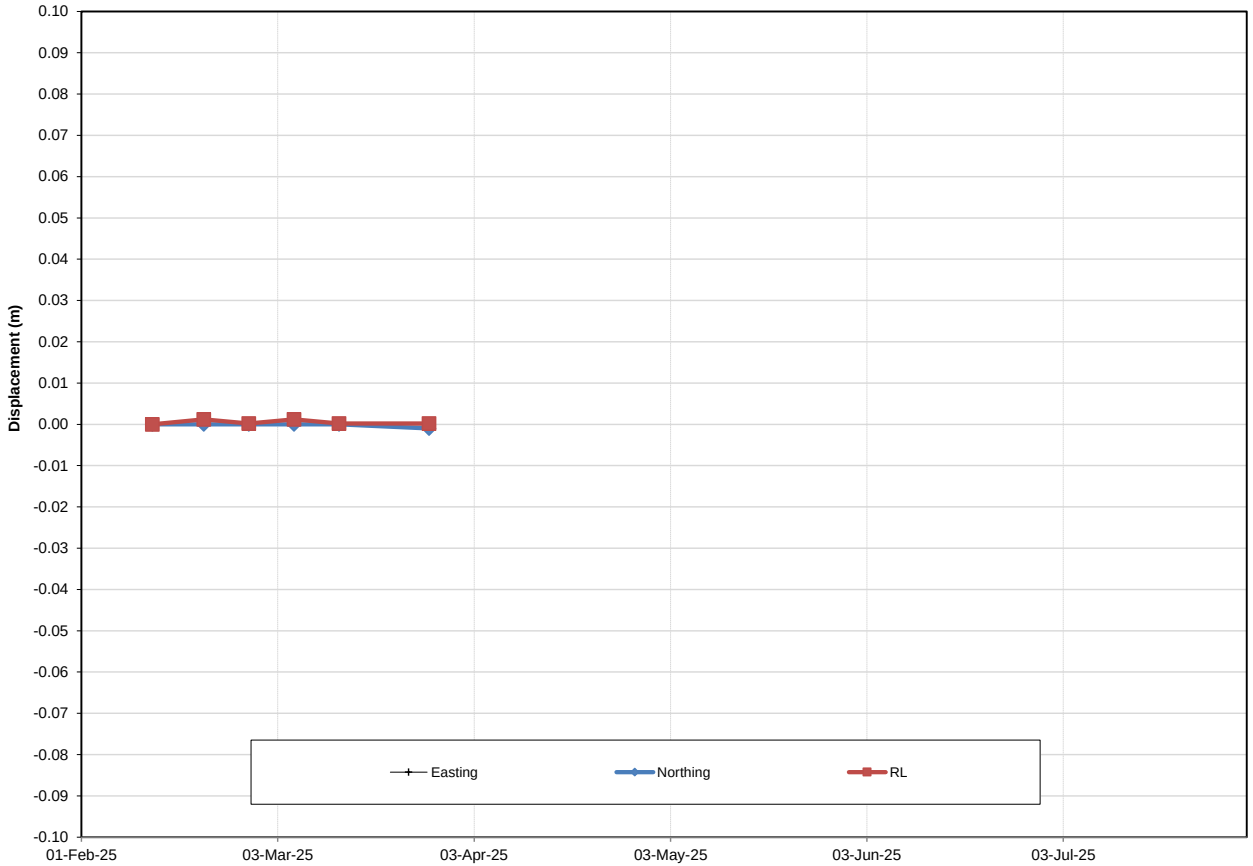


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

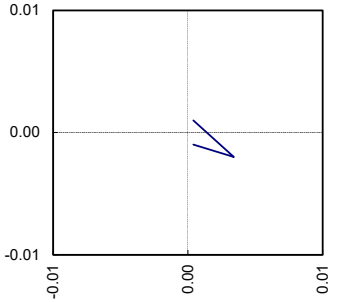
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

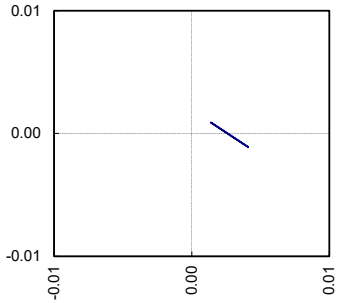
PRISM ID: **S5P30**

(c) Copyright PSM 1993-2025

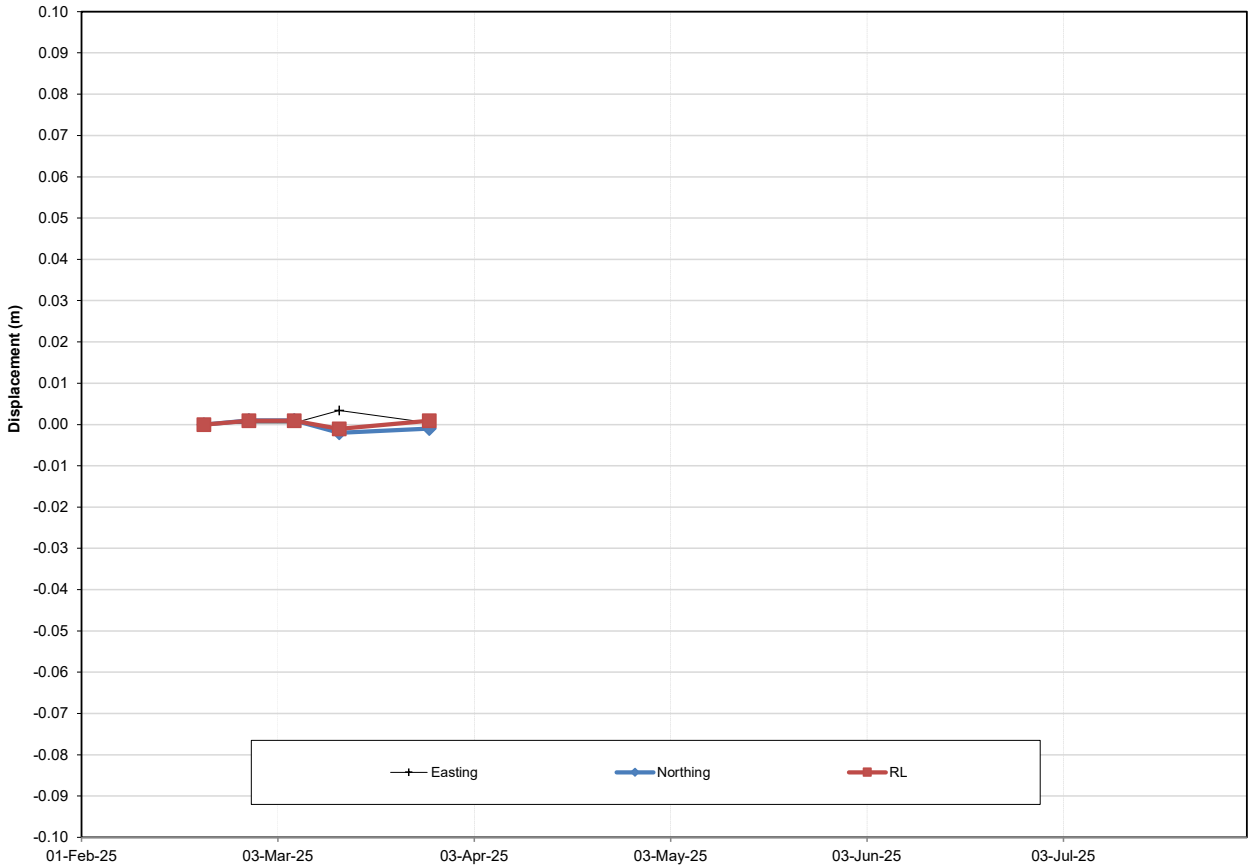


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

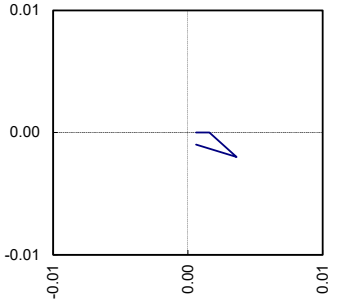
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

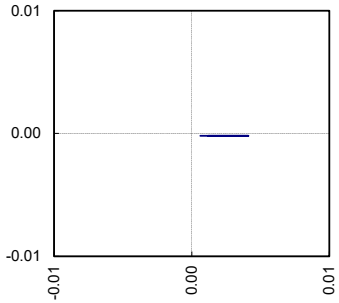
PRISM ID: **S6P34**

(c) Copyright PSM 1993-2025

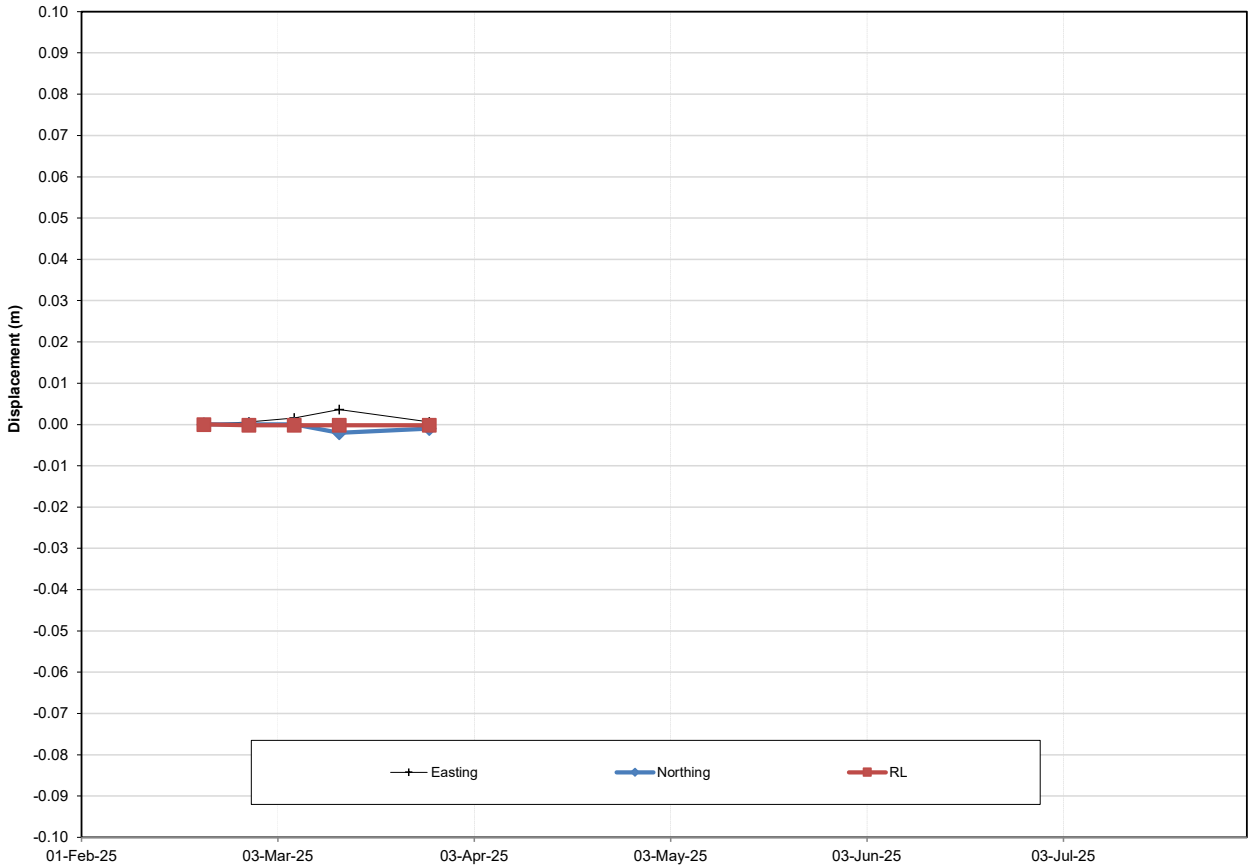


N

PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

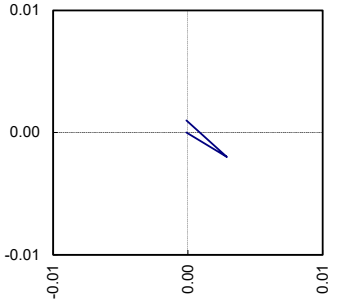
COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

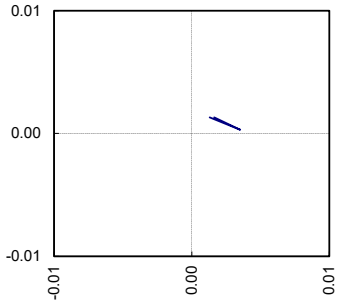
Analysed on: 8/04/2025

PRISM ID: **S6P35**

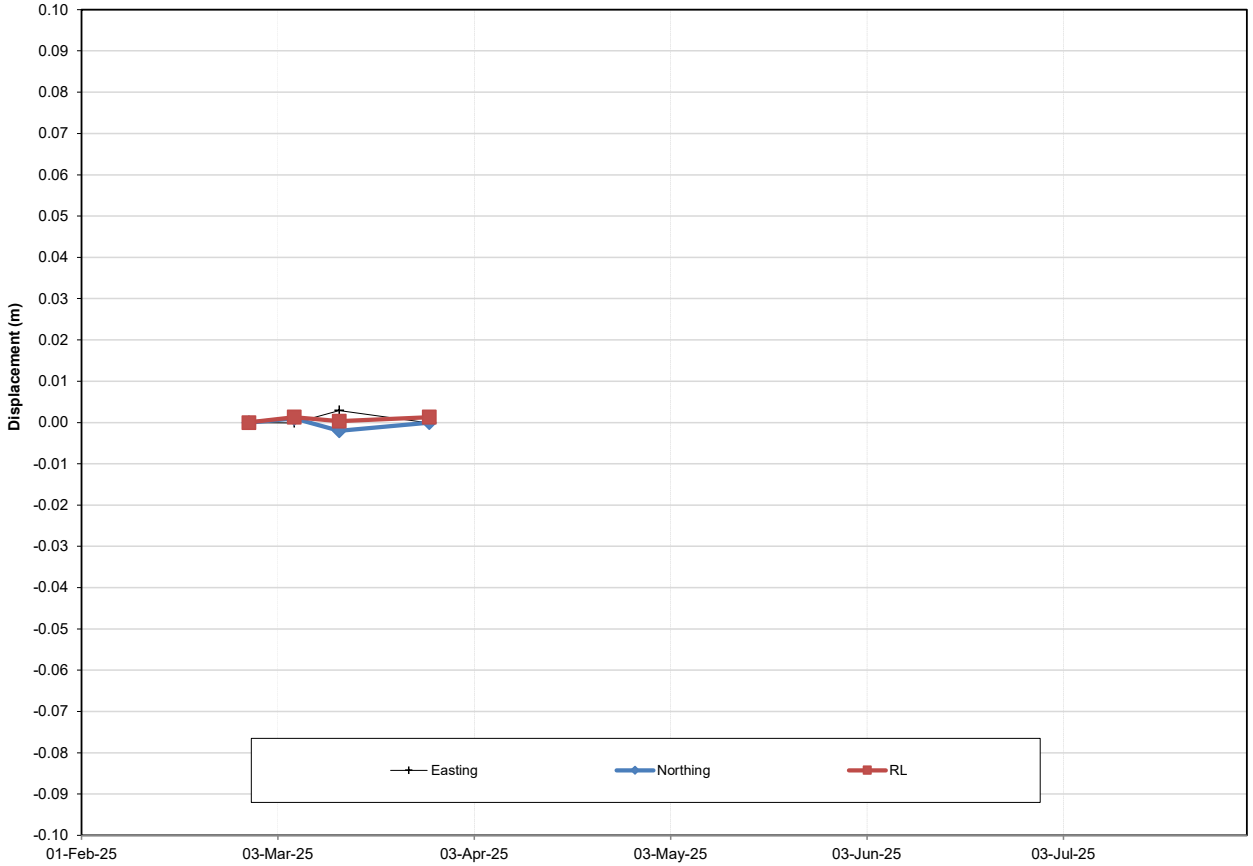
(c) Copyright PSM 1993-2025



N PLAN PLOT
mN vs mE



SECTION PLOT
RL vs Movement Vector



Rate over last 3 readings mm/day	Rate over last 7 readings mm/day	Rate over last 30 days mm/day
0.0		**0.0**

COMPANY: Mornington Peninsula Shire Council
SITE: McCrae
PROJECT : McCrae Landslide Incident Monitoring

INITIAL DATE: 20/02/2025
LAST DATE: 27/03/2025

Analysed on: 8/04/2025

PRISM ID: **S6P36**

(c) Copyright PSM 1993-2025

Appendix F
Tilt sensor monitoring plots

LEGEND

TILT SENSOR MONITORING POINT

INDICATIVE TITLE BOUNDARIES

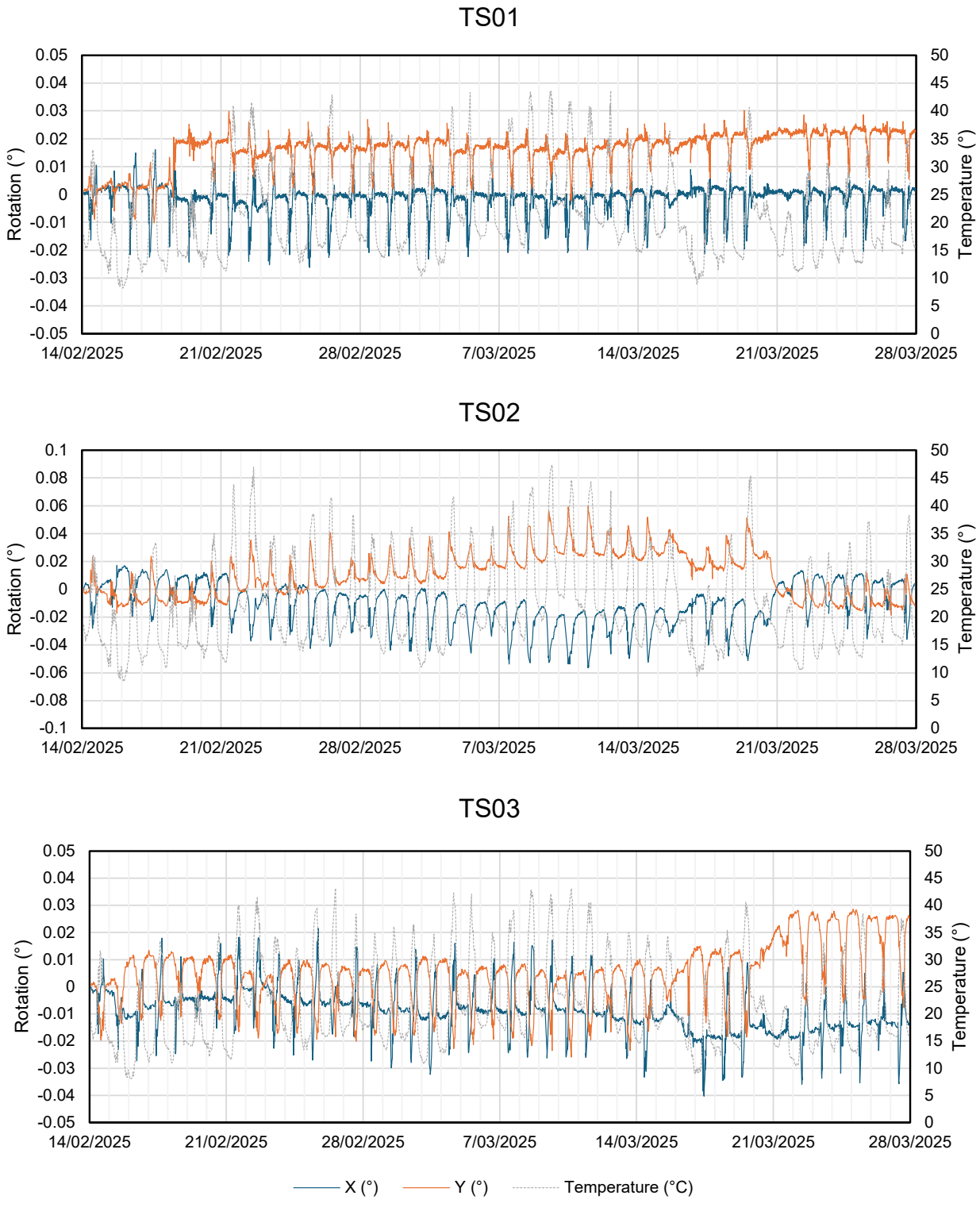
NOTES:

1. TITLE BOUNDARIES SOURCED FROM VICMAP PROPERTY DATA SET DOWNLOADED DATA.VIC.GOV.AU

MORNINGTON PENINSULA SHIRE COUNCIL
MCCRAE LANDSLIDE INCIDENT
INSTRUMENTATION AND MONITORING

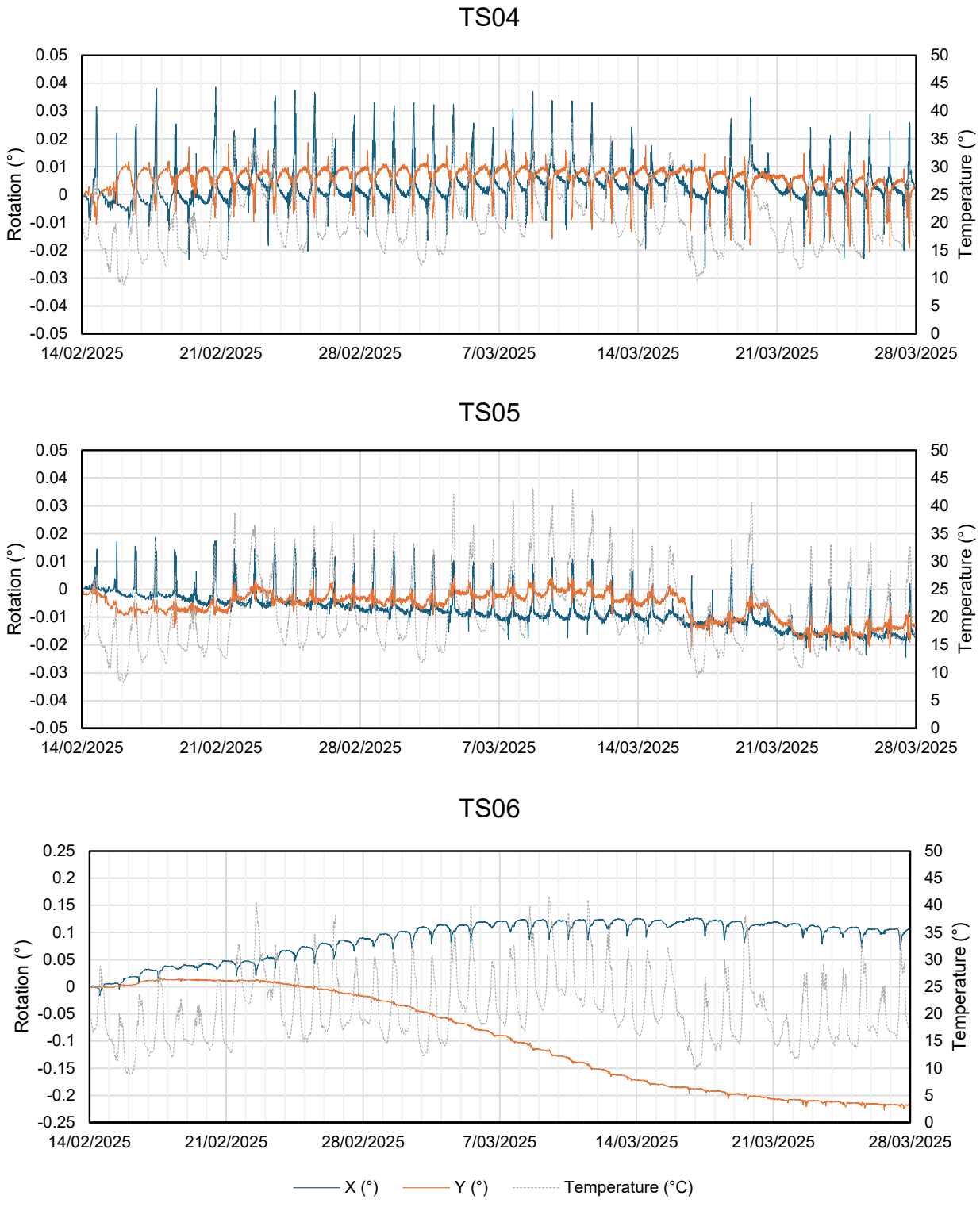
TILT SENSORS
LAYOUT PLAN

FIGURE F1



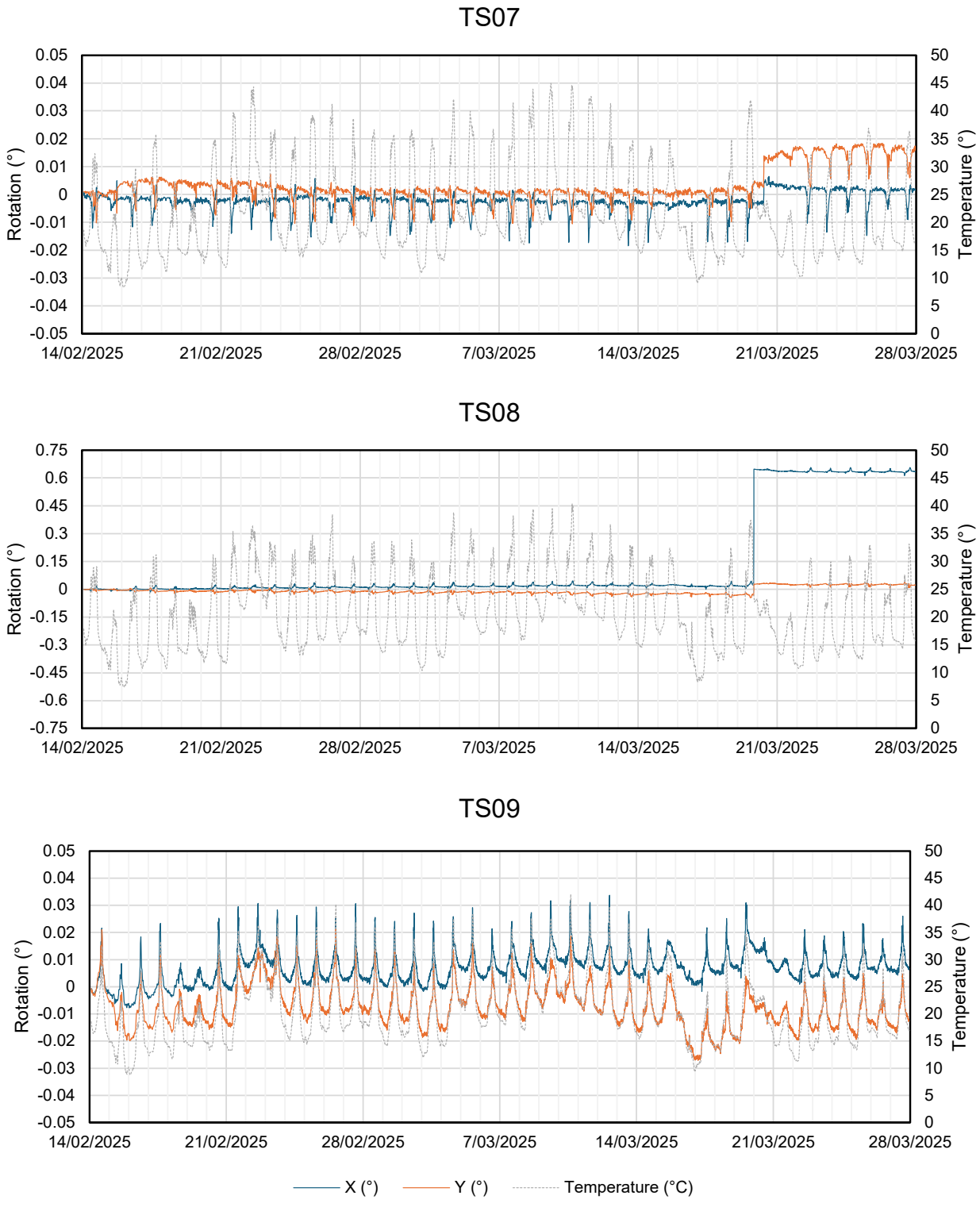
Mornington Peninsula Shire Council
McCrae Landslide Incident
Instrumentation and Monitoring
Tilt Sensors - Monitoring Data
14 Feb 2025 to 28 Mar 2025

Figure F1



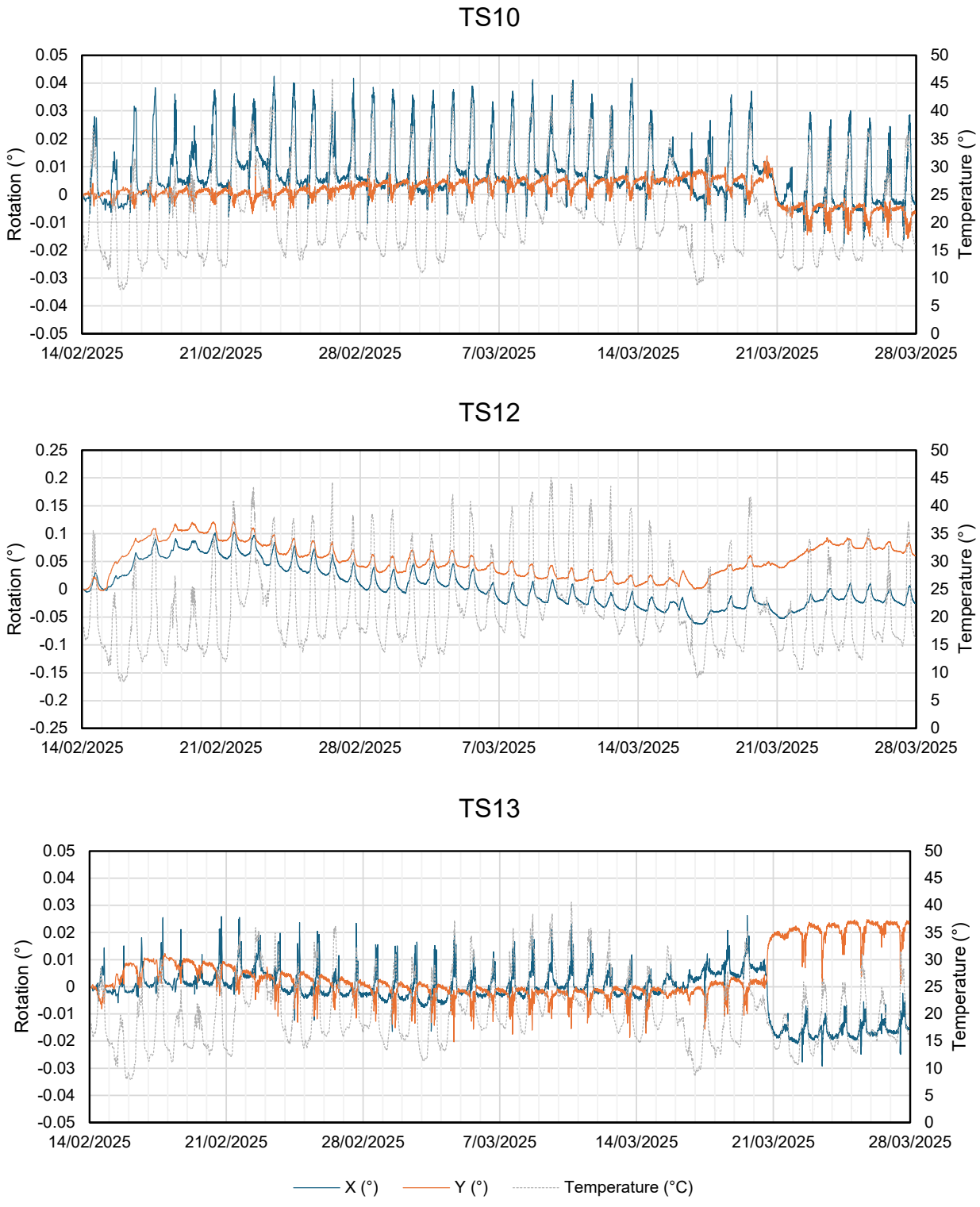
Mornington Peninsula Shire Council
McCrae Landslide Incident
Instrumentation and Monitoring
Tilt Sensors - Monitoring Data
14 Feb 2025 to 28 Mar 2025

Figure F2



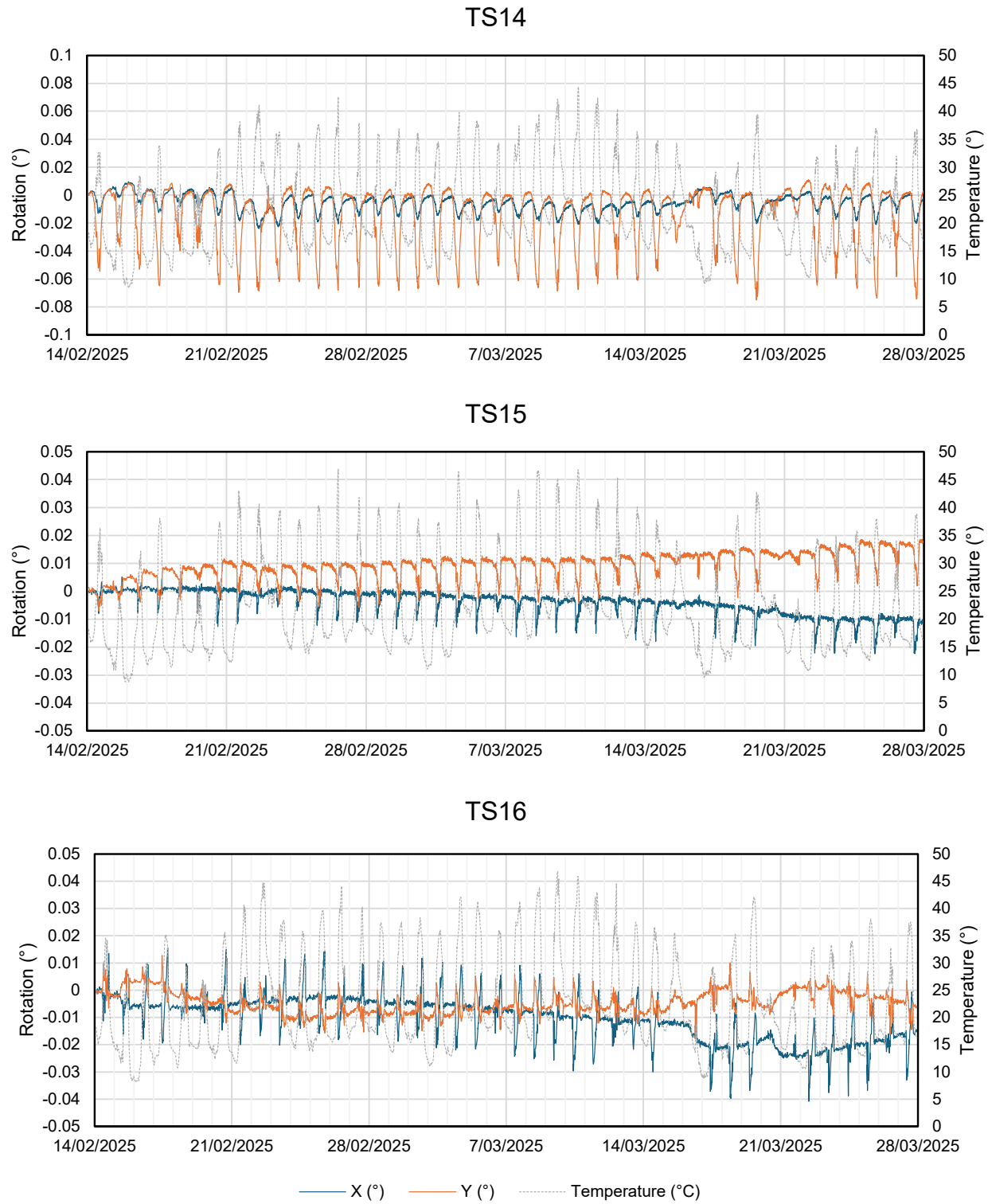
Mornington Peninsula Shire Council
McCrae Landslide Incident
Instrumentation and Monitoring
Tilt Sensors - Monitoring Data
14 Feb 2025 to 28 Mar 2025

Figure F3



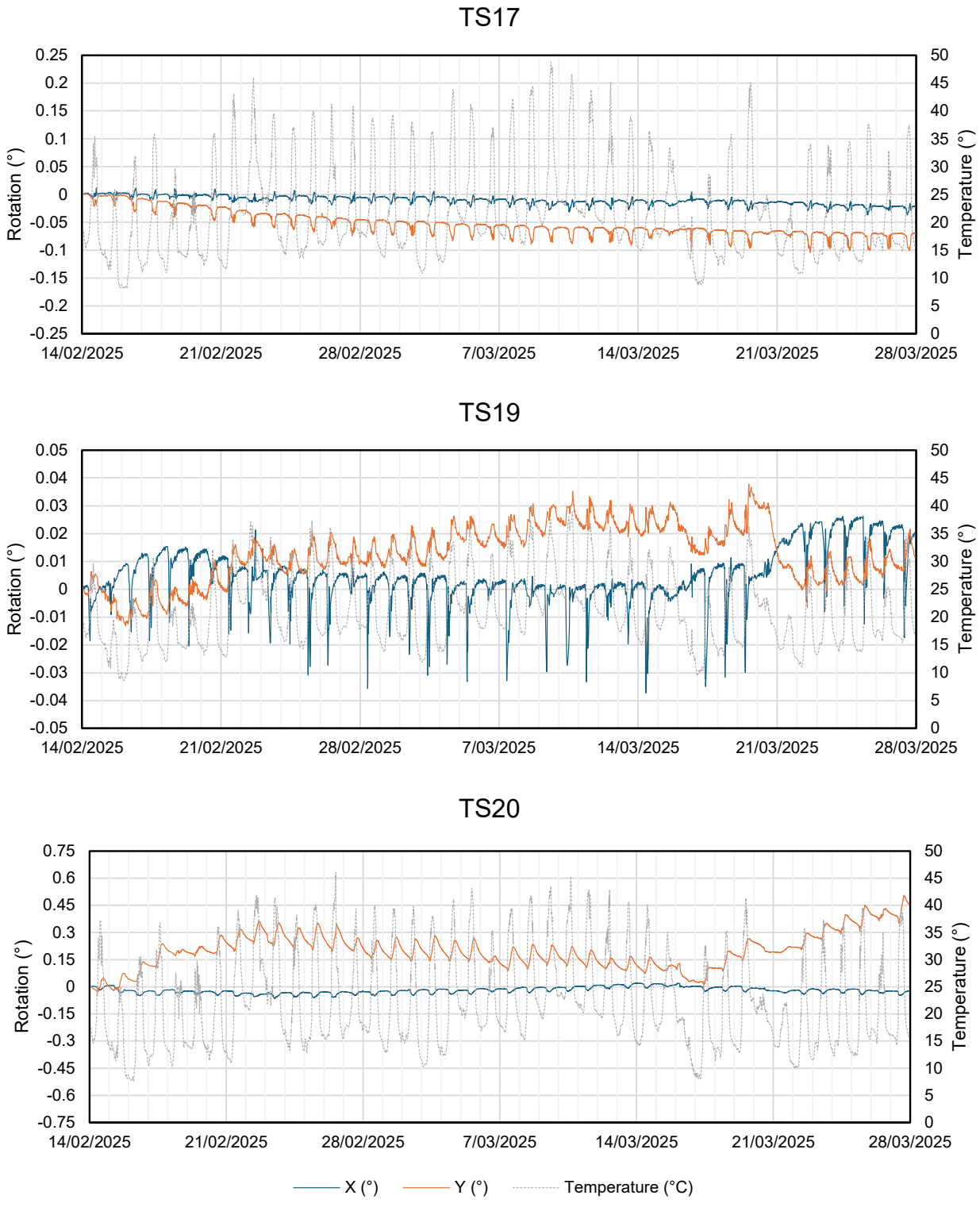
Mornington Peninsula Shire Council
McCrae Landslide Incident
Instrumentation and Monitoring
Tilt Sensors - Monitoring Data
14 Feb 2025 to 28 Mar 2025

Figure F4



Mornington Peninsula Shire Council
McCrae Landslide Incident
Instrumentation and Monitoring
Tilt Sensors - Monitoring Data
14 Feb 2025 to 28 Mar 2025

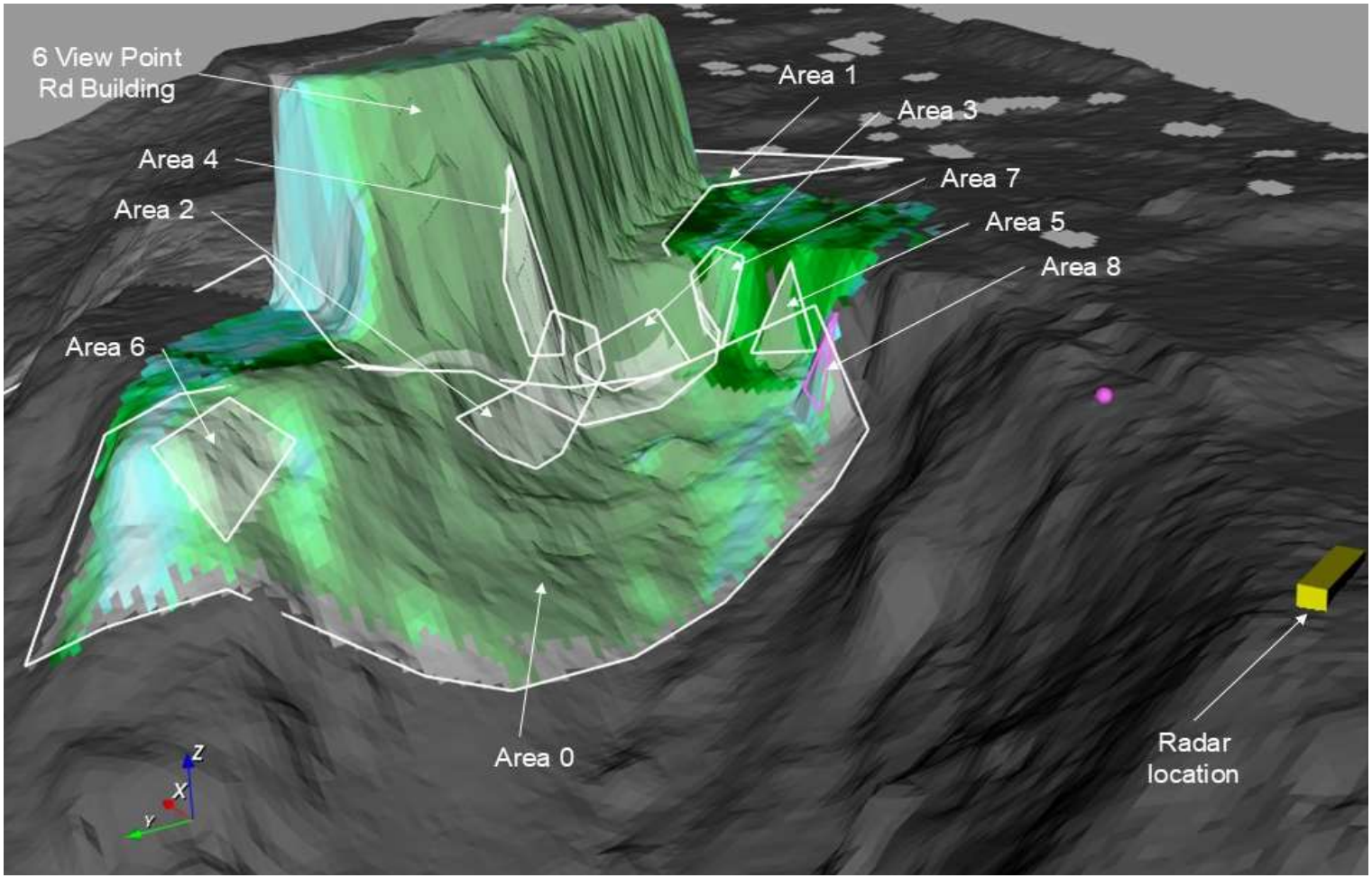
Figure F5



Mornington Peninsula Shire Council
McCrae Landslide Incident
Instrumentation and Monitoring
Tilt Sensors - Monitoring Data
14 Feb 2025 to 28 Mar 2025

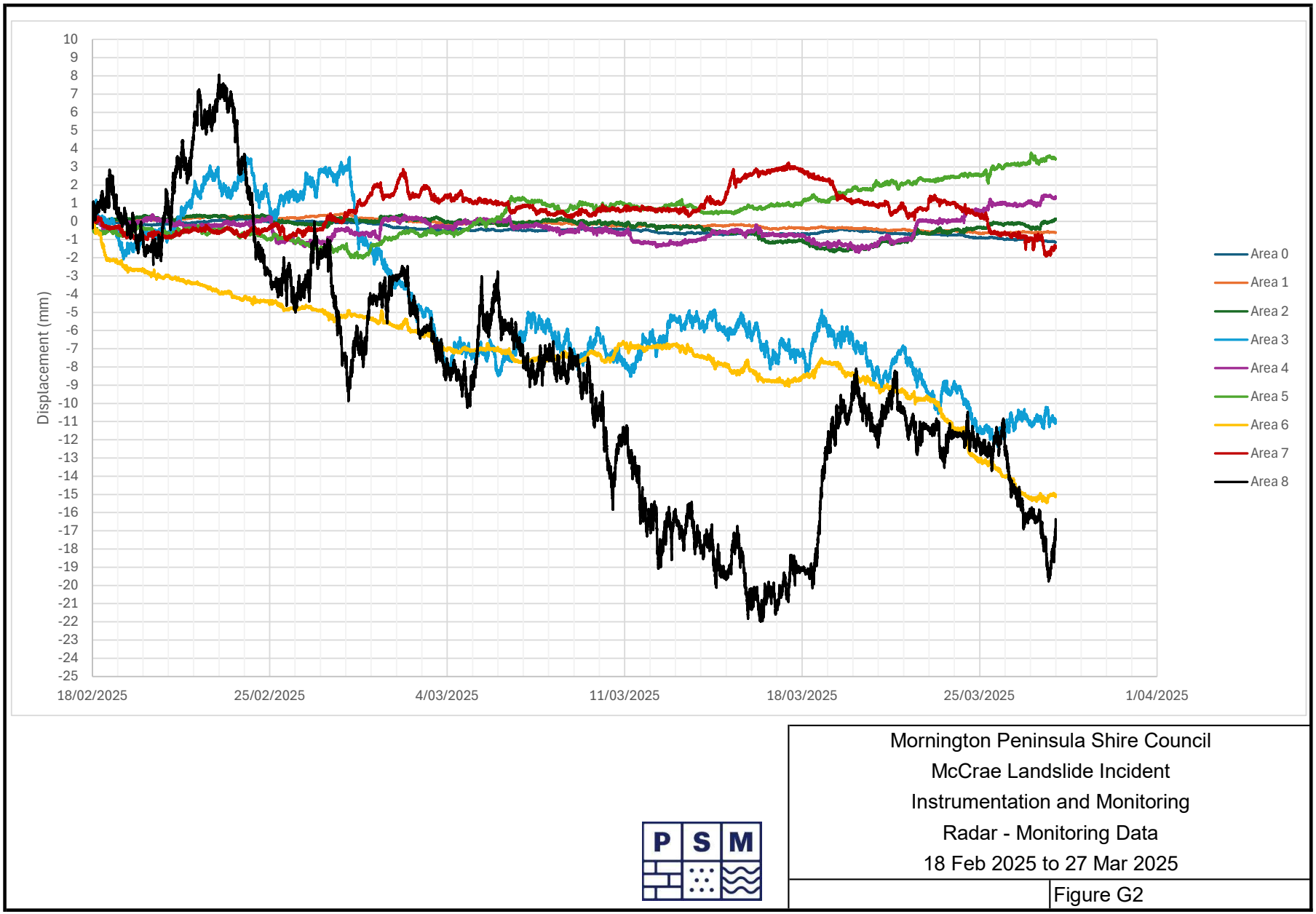
Figure F6

Appendix G
Radar monitoring plots



Mornington Peninsula Shire Council
McCrae Landslide Incident
Instrumentation and Monitoring
Radar - Monitoring Areas

Figure G1



Mornington Peninsula Shire Council
McCrae Landslide Incident
Instrumentation and Monitoring
Radar - Monitoring Data
18 Feb 2025 to 27 Mar 2025

Figure G2