

## APPENDIX H – SEVERE WEATHER (STORM) EVENTS

### Overview

Cardinia municipality is susceptible to severe weather events because of a combination of its hilly terrain in the northern half of the municipality; the high number of mature trees located within the municipality and its proximity to the Dandenong Ranges.

Severe storm activity could result in injuries and increase in road accidents. Damaging wind events will tend to lead to trees down, with damage to the built and natural environment. Obstructions across roads could disrupt services, affect community functioning and have great potential for road traffic delays.

This Appendix uses Request for Assistance data from the Victoria State Emergency Service (VICSES) to display areas at risk from severe weather events.

### Large Storm Events

Typically, the Pakenham and Emerald units would expect to be impacted by a large storm event once or twice a year (more than 100 RFA's per event).

Since 2009 the following larger storm events have occurred in Cardinia Shire:

- February 2011 – A widespread flood and storm event that saw **278** requests received for flood damage to property and buildings as well as a number of flood rescues.
- October 2013 – Windstorm event that saw **186** requests received for trees down and building damage.
- May 2016 – Another high wind event that saw 146 requests received for tree damage and building damage
- October 2016 – Storm event which saw **227** requests received.
- June 2021 – Windstorm event predominantly affecting the northern areas of the shire with **272** requests for assistance, mainly for trees down.
- October / November 2021 – A series of windstorm events that occurred over the last few days of October into November resulting in **208** RFAs for Trees Down and Building Damage

### VICSES requests for assistance

The Victoria State Emergency Service records requests for assistance made by the public during severe weather events. Table H1 below is a breakdown of requests by suburb and damage type during the period July 2009 and December 2021.

VICSES Request for Assistance (July 2009 – December 2021)					
Suburb	Building Damage	Flooding	Tree Down	Tree Down Traffic Hazard	Other *
Avonsleigh	25	84	143	2	3
Bayles	2	18	29	9	1

VICSES Request for Assistance (July 2009 – December 2021)					
Suburb	Building Damage	Flooding	Tree Down	Tree Down Traffic Hazard	Other *
Beaconsfield	50	69	95	18	5
Beaconsfield Upper	25	126	225	11	1
Bunyip	26	52	91	17	3
Bunyip North	0	0	20	0	0
Caldermeade	3	1	6	3	0
Cardinia	1	9	29	7	0
Catani	0	2	6	3	0
Clematis	7	38	40	1	1
Cockatoo	136	459	547	23	6
Cora Lynn	2	3	8	2	1
Dalmore	1	7	11	1	0
Dewhurst	3	6	42	0	0
Emerald	133	490	595	21	15
Garfield	8	28	54	18	2
Garfield North	1	13	27	2	2
Gembrook	30	111	287	9	2
Guys Hill	0	11	23	0	0
Heath Hill	0	8	31	0	1
Iona	2	6	11	3	0
Koo Wee Rup	36	28	29	27	3
Koo Wee Rup North	0	0	4	0	1
Lang Lang	21	32	122	4	6
Lang Lang East	0	7	8	0	0
Longwarry	1	3	11	0	0
Maryknoll	4	16	21	1	0
Menzies Creek	2	22	25	0	0
Modella	2	2	19	1	0
Monomeith	0	1	2	0	0
Mount Burnett	1	11	65	0	0
Nangana	0	9	16	0	0
Nar Nar Goon	5	19	77	10	0
Nar Nar Goon North	7	31	194	4	3
Officer	39	42	102	13	9
Officer South	2	3	14	2	1
Pakenham	499	335	363	176	32
Pakenham South	6	5	21	2	2
Pakenham Upper	15	86	270	4	1
Rythdale	0	1	4	0	0
Tonimbuk	0	7	54	1	0
Tooradin	1	0	2	0	0
Tynong	11	17	40	16	1
Tynong North	2	20	92	3	1
Vervale	0	0	4	1	0
Yannathan	1	3	35	0	0

Table H1 – Breakdown of severe weather RFAs received by VICSES Emerald and Pakenham Units by suburb

\*Assist Agency, Dam Incident, Fence Down, Landslide, Loose Debris / Objects, Rescue Persons Trapped, Rescue Structure Collapse, Rescue Vehicle into Structure and Sandbag Request

Table H2 is a breakdown of requests for assistance by date (month) and damage type.

VICSES Request for Assistance (July 2009 – December 2021)					
Date	Building Damage	Flooding	Tree Down	Tree Down Traffic Hazard	Other *
July 2009	2	0	6	5	0
August 2009	41	0	45	58	0
September 2009	6	1	20	31	0
October 2009	0	0	3	5	0
November 2009	8	1	11	11	0
December 2009	1	0	8	7	0
January 2010	6	0	7	13	0
February 2010	1	1	5	17	0
March 2010	15	5	20	18	0
April 2010	5	0	2	2	0
May 2010	0	0	1	3	0
June 2010	2	0	14	21	0
July 2010	3	0	6	11	0
August 2010	3	1	20	34	0
September 2010	15	0	26	56	0
October 2010	3	9	11	30	0
November 2010	4	10	17	37	0
December 2010	3	5	7	29	0
January 2011	9	4	23	33	0
February 2011	29	147	29	66	7
March 2011	0	1	6	8	0
April 2011	3	0	3	7	0
May 2011	0	0	2	11	0
June 2011	12	1	27	42	0
July 2011	4	0	11	16	0
August 2011	1	0	1	5	0
September 2011	5	0	4	13	0
October 2011	0	0	3	13	0
November 2011	5	17	14	29	0
December 2011	1	3	6	15	0
January 2012	5	0	12	27	0
February 2012	6	7	13	20	0
March 2012	4	0	10	33	0
April 2012	6	1	14	43	0
May 2012	7	5	7	21	1
June 2012	5	31	15	41	0
July 2012	2	1	4	10	0
August 2012	5	0	10	26	0
September 2012	51		58	71	0
October 2012	1	0	3	8	0
November 2012	5		3	9	0
December 2012	0	0	7	5	0
January 2013	4	0	9	11	0
February 2013	0	1	8	8	0
March 2013	13	0	23	23	0
April 2013	0	0	6	3	0
May 2013	4	1	1	1	0
June 2013	4	3	3	22	0
July 2013	5	0	5	22	0
August 2013	9	0	48	89	0
September 2013	14	0	30	76	0

VICES Request for Assistance (July 2009 – December 2021)

Date	Building Damage	Flooding	Tree Down	Tree Down Traffic Hazard	Other *
October 2013	47	0	62	77	0
November 2013	1	0	3	17	0
December 2013	0	0	7	12	0
January 2014	6	2	11	27	0
February 2014	4	0	7	24	0
March 2014	1	0	2	7	0
April 2014	1	0	0	7	0
May 2014	1	0	3	6	0
June 2014	15	0	25	37	1
July 2014	21	0	31	68	0
August 2014	4	0	20	17	0
September 2014	30	6	36	48	0
October 2014	5	0	8	17	0
November 2014	0	0	6	15	0
December 2014	5	0	13	18	0
January 2015	6	0	16	22	0
February 2015	8	0	9	16	1
March 2015	1	0	8	9	0
April 2015	2	0	0	2	0
May 2015	2	0	2	9	0
June 2015	1	0	3	7	0
July 2015	3	0	4	23	0
August 2015	4	0	5	5	1
September 2015	2	0	4	8	0
October 2015	2	1	4	13	0
November 2015	5	0	5	13	0
December 2015	7	0	12	30	0
January 2016	13	0	14	25	0
February 2016	2	1	2	7	0
March 2016	4	0	15	22	0
April 2016	2	0	4	10	0
May 2016	23	0	40	83	0
June 2016	10	0	6	30	0
July 2016	9	2	26	61	0
August 2016	3	0	6	13	0
September 2016	1	0	2	5	0
October 2016	59	3	83	82	0
November 2016	1	0	8	17	0
December 2016	7	1	8	9	0
January 2017	3	0	3	15	0
February 2017	3	9	11	23	0
March 2017	2	0	9	21	0
April 2017	8	2	3	7	0
May 2017	4	0	5	11	0
June 2017	1	0	1	5	0
July 2017	3	1	17	21	0
August 2017	5	0	7	14	0
September 2017	9	1	8	20	0
October 2017	2	0	2	6	0
November 2017	4	1	5	17	0
December 2017	24	7	9	26	2
January 2018	6	0	6	19	0
February 2018	6	1	22	44	0
March 2018	7	0	11	47	0
April 2018	4	0	11	17	1
May 2018	3	0	5	11	0
June 2018	5	0	6	16	0

VICSES Request for Assistance (July 2009 – December 2021)					
Date	Building Damage	Flooding	Tree Down	Tree Down Traffic Hazard	Other *
July 2018	32	0	19	50	0
August 2018	22	0	18	66	0
September 2018	2	1	5	3	0
October 2018	0	0	2	12	0
November 2018	16	13	25	39	2
December 2018	15	15	8	20	0
January 2019	13	0	28	48	0
February 2019	3	0	8	24	1
March 2019	3	0	8	24	0
April 2019	3	0	4	17	0
May 2019	4	0	4	26	1
June 2019	1	0	8	31	0
July 2019	23	0	28	101	2
August 2019	15	3	10	54	2
September 2019	7	2	10	43	0
October 2019	3	1	11	14	0
November 2019	9	1	12	29	3
December 2019	2	0	8	21	0
January 2020	14	34	15	29	8
February 2020	9	7	25	47	1
March 2020	4	3	12	19	1
April 2020	9	2	30	46	3
May 2020	3	4	14	44	4
June 2020	2	1	8	11	0
July 2020	4	2	13	26	1
August 2020	13	2	65	69	5
September 2020	3	0	36	49	6
October 2020	3	1	27	33	4
November 2020	2	1	22	33	0
December 2020	3	2	12	17	0
January 2021	3	6	24	29	1
February 2021	4	0	6	7	0
March 2021	1	0	9	12	2
April 2021	1	7	7	0	1
May 2021	4	7	15	0	1
June 2021	14	10	152	84	12
July 2021	13	1	42	65	5
August 2021	3	0	12	17	1
September 2021	8	2	19	29	6
October 2021	39	3	79	57	15
November 2021	22	0	72	65	7
December 2021	3	2	14	22	1

Table H2 – Breakdown of severe weather RFAs received by VICSES Emerald and Pakenham Units by month

\*Assist Agency, Dam Incident, Fence Down, Landslide, Loose Debris / Objects, Rescue Persons Trapped, Rescue Structure Collapse, Rescue Vehicle into Structure and Sandbag Request