

Cardinia Shire

Storm and Flood Emergency Sub Plan

For Cardinia Shire Municipality
And
VICSES Pakenham and Emerald Units

Version 8.1
Reviewed June 2022



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Distribution List

Copy No.	Issue To:		Date
	Position	Organisation	
Original	MEMP Committee Executive Officer	Cardinia Shire Council	
1	Council Office Copy	Cardinia Shire Council	
2	MEMP Committee Executive Officer	Cardinia Shire Council	
3	Municipal Emergency Manager (MEM)	Cardinia Shire Council	
4	Municipal Emergency Management Officer (MEMO)	Cardinia Shire Council	
5	Municipal Recovery Manager (MRM)	Cardinia Shire Council	
6	MERC (Pakenham Police Station)	Victoria Police	
7	RERC	Victoria Police	
8	Station Copy	Victoria Police Pakenham	
9		Victoria Police Koo Wee Rup	
10		Victoria Police Lang Lang	
		Victoria Police Bunyip	
11	Central Region	VICSES	
12	Emerald Unit	VICSES	
13	Pakenham Unit	VICSES	
14	Team Leader Hydrology and Flood Warnings	Melbourne Water	
15	Flood Warning Manager	Bureau of Meteorology (Flood Warning)	
16		DELWP Powelltown	
17	Ranger in Charge	Parks Victoria Gembrook	
18	Team Leader	Ambulance Victoria (Pakenham branch)	
19	Group Officer	CFA Cardinia Group of Brigades	
20	Group Officer	CFA Dandenong Ranges Group of Brigades	
21	Group Officer	CFA Casey Group of Brigades	
22	Operations Manager	CFA (Southern Metropolitan Region Headquarters)	
23		Department of Transport (VicRoads)	
24	Manager Emergency Management	Department of Families, Fairness and Housing	
		Department of Health	
25		Power supplier - AusNet Services	
26		Water Retailer - South East Water	
27		Water Retailer – Yarra Valley Water	

Document Transmittal Form / Amendment Certificate

This Municipal Storm and Flood Emergency Plan (MSFEP) will be amended, maintained and distributed as required by VICSES in consultation with the Cardinia Shire Municipal Emergency Management Planning Committee (MEMPC).

Suggestions for amendments to this Plan should be forwarded to VICSES Regional Office Unit, 6 3-5 Gilda Court, Mulgrave VIC 3170.

Amendments listed below have been included in this Plan and promulgated to all registered copyholders.

Amendment Number	Date of Amendment	Amendment Entered By	Summary of Amendment
1	30/10/2012	C Carter	Format update (minor/test)
2	13/11/2012	M.O'Reilly	
3	12/02/2016	Ross Butler	Update of Appendix A, B, C, F and addition of Appendix G
4	28/07/2016	Glynn Owen	3 year review/update. Inclusion of Storm Appendix and Sand Bag Arrangements.
5	01/07/2019	Kevin Carlisle-Stapleton	3 year review. Minor updates for consistency and changes in legislation.
6	09/06/2020	Ross Butler	Update of Appendix A, B, C, F, G and I
7	25/03/2021	Ross Butler	Update of Appendix C, F & I
8	20/01/2022	Ross Butler	Inclusion of modelling for Northern Cardinia updating parts of Appendix A, C and F and adding Appendix C5. Recent storms also added to Appendix A & H.
8.1	30/06/2022	Stewart Matulis	Update reviewed and approved by Cardinia Shire MEMPC

This Plan will be maintained on the SES website (www.ses.vic.gov.au) and through linkages from the Cardinia Shire Council website (www.cardinia.vic.gov.au).

List of Abbreviations & Acronyms

The following abbreviations and acronyms are used in the Plan:

The following abbreviations and acronyms are used in the Plan			
AAR	After Action Review	FZ	Floodway Zone
AEP	Annual Exceedance Probability	IC	Incident Controller
AHD	Australian Height Datum (the height of a location above mean sea level in metres)	ICC	Incident Control Centre
AIDR	Australian Institute of Disaster Resilience	IMT	Incident Management Team
AIIMS	Australasian Inter-service Incident Management System	IMS	Incident Management System
AoCC	Area of Operations Control Centre / Command Centre	EMLO	Emergency Management Liaison Officer
ARI	Average Recurrence Interval	LSIO	Land Subject to Inundation Overlay
AV	Ambulance Victoria	MECC	Municipal Emergency Coordination Centre
BoM	Bureau of Meteorology	MEMP	Municipal Emergency Management Plan
CEO	Chief Executive Officer	MEMPC	Municipal Emergency Management Planning Committee
CERA	Community Emergency Risk Assessment	MERC	Municipal Emergency Response Coordinator
CFA	Country Fire Authority	MEMO	Municipal Emergency Management Officer
CMA	Catchment Management Authority	MRM	Municipal Recovery Manager
RERC	Regional Emergency Response Coordinator	PMF	Probable Maximum Flood
RERCC	Regional Emergency Response Coordination Centre	RAC	Regional Agency Commander
DFFH	Department of Families, Fairness and Housing	RCC	Regional Control Centre
DoI	Department of Infrastructure	RDO	Regional Duty Officer
DELWP	Department of Environment, Land, Water and Planning	SBO	Special Building Overlay
DJPR	Department of Jobs, Precincts and Regions	SCC	State Control Centre
DoT	Department of Transport	SERP	State Emergency Response Plan
		SEWS	Standard Emergency Warning Signal
EMT	Emergency Management Team	SHERP	State Health Emergency Response Plan
EMV	Emergency Management Victoria	SOP	Standard Operating Procedure
EO	Executive Officer	VicPol	Victoria Police
FO	Floodway Overlay	VICSES	Victoria State Emergency Service
FRV	Fire Rescue Victoria	SEMP	State Emergency Management Plan
FWS	Flood Warning System		

Glossary

Below are terms defined for the purpose of this Plan:

Term	Definition
Annual Recurrence Interval (ARI)	The average, or expected, value of the period between exceedances of a given rainfall or flow total accumulated over a given duration
Annual Exceedance Probability (AEP)	The probability that a given total rainfall or flow is accumulated over a given duration will be exceeded in any one year
Flash flooding	Sudden unexpected flooding caused by local heavy rainfall or rainfall in another area. Often defined as flooding which occurs within six hours of the rain which causes flooding.
Flood mapping	The process where the extent of flooding is documented in mapping software based on flood studies and surface elevations
Floodplain	Area of land adjacent to a creek, river, estuary, lake, dam or artificial channel, which is subject to inundation.
Hot spot	A known flood problem area which has a history of repeat flooding of a road, crossing or property, often highlighted through anecdotal information and customer complaints. It is a localised issue which will vary from council to council.
Natural drainage system	Flow paths which are largely undeveloped by human sources, these include rivers, streams, natural depressions and wetlands. All natural systems greater than 60 ha are managed by Melbourne Water.
Overland flooding	Flooding by local runoff caused by heavier than usual rainfall. Overland flooding can be caused by local flow exceeding the capacity of an urban stormwater drainage system or by the backwater effects of mainstream flooding causing urban stormwater drainage system to overflow. For local government areas this is over the 5-year ARI in residential or over 10yr ARI in commercial/industrial. For Melbourne Water catchment areas this is for all other ARIs up to the 100yr ARI. Note that not all overland flows cause flooding under the definition in the Knox City Service Plan Appendices.
Retarding Basin	A Retarding Basin is a large, open, free draining basin that temporarily stores collected stormwater runoff. These basins are normally maintained in a dry condition between storm events.
Stormwater drainage system	A series of drains and waterways into which surface and stormwater flows. Features of a stormwater drainage system can include underground pipe drains, open channels, retarding basins, floodways, waterway improvements, water sensitive urban design, integrated water management systems and environment protection measures. All drainage under 60 ha is maintained and operated by Cardinia Council
Stormwater Runoff	The amount of rainfall that enters the stormwater drainage system, (via pits, pipes, retarding basins, water sensitive structures, harvesting tanks and overland flow paths) after water which is not absorbed into the ground has been taken into account.

Part 1. INTRODUCTION

1.1 Approval and Endorsement

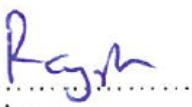

This Municipal Storm and Flood Emergency Sub Plan (MSFEP) has been prepared by the Cardinia Municipal Storm and Flood Management Committee (MSFEPC) and with the authority of the Cardinia Municipal Emergency Management Planning Committee pursuant to Section 20 of the Emergency Management Act 1986 (as amended).

This MSFEP is a sub plan to the Cardinia Municipal Emergency Management Plan (MEMP), is consistent with the State Emergency Management Plan (SEMP), State Flood Emergency Plan and State Storm Emergency Plan (sub plans of the now superseded State Emergency Response Plan and transitioned to be sub plans of the SEMP). It is also consistent with the Victorian State Emergency Service (VICSES) Central Region Storm and Flood Emergency Plans and the Victorian Flood Management Strategy, and takes into account the outcomes of the Community Emergency Risk Assessment (CERA) process undertaken by the Municipal Emergency Management Planning Committee (MEMPC).

This Municipal Storm and Flood Emergency Plan is a result of the cooperative efforts of the Cardinia Storm and Flood and Flood Emergency Planning Committee (MSFEPC) and its member agencies.

This Plan is endorsed by the Cardinia MEMPC

Endorsement

	1/07/2022
Ray Jasper Regional Manager – VICSES Central Region	Date
	1/07/2022
Stewart Matulis Chair – Cardinia Shire Municipal Emergency Management Planning Committee	Date

1.2 The Municipality

An outline of Cardinia Shire in terms of its location, demography and other general matters is provided in the MEMP. An outline of the flood threat is provided in **Appendix A** of this Plan.

1.3 Purpose and Scope of this Storm and Flood Emergency Plan

The purpose of this MSFEP is to detail arrangements agreed for the planning, preparedness/prevention, response and recovery from flood incidents within the Cardinia Shire

As such, the scope of the Plan is to:

- Identify the Storm and Flood Risk to Cardinia Shire;
- Support the implementation of measures to minimise the causes and impacts of storm and flood incidents within Cardinia Shire;
- Detail Response and Relief arrangements (Recovery arrangements are detailed within the Relief and Recovery sub-plan of the MEMP) including preparedness, Incident Management, Command and Control;
- Identify linkages with Local, Regional and State emergency and wider planning arrangements with specific emphasis on those relevant to flood.

1.4 Municipal Storm and Flood Management Planning Committee (MSFEMPC)

Membership of the Cardinia Municipal Storm and Flood Emergency Management Planning Committee (MSFEMPC) will comprise of the following representatives from the following agencies and organisations:

- VICSES (Regional Officer – Emergency Management) (**Chair**),
- Cardinia Shire Council (**Administrative Support**),
- VICSES Local Unit Controllers (Pakenham & Emerald)
- Victoria Police (i.e. Municipal Emergency Response Co-ordinator) (MERC),
- Catchment Management Authority (Melbourne Water),
- Department of Environment, Land, Water and Planning (DELWP) as required
- Other agencies as required

1.5 Responsibility for Planning, Review & Maintenance of this Plan

This MSFEP must be maintained in order to remain effective. This Plan must be assured, approved and published every three years, or more frequently if required.

VICSES, through the Storm and Flood Emergency Planning Committee (MEMPC) has responsibility for preparing, reviewing, maintaining and distributing this plan.

The Cardinia MSFEMPC will meet at least two times within a calendar year.

The plan should be reviewed and where necessary, arrangements and information contained in it should be amended:

- Following any new flood study;
- Following a change in non-structural and/or structural flood mitigation measures;
- After the occurrence of a significant storm or flood event within the Municipality.

Part 2. BEFORE: PREVENTION / PREPAREDNESS ARRANGEMENTS

2.1 Community Awareness for all Types of Storm and Flooding

Details of this MSFEP will be released to the community through local media, websites (VICSES and the Municipality) upon formal endorsement by Cardinia Shire MEMPC.

VICSES (with the support of Cardinia Shire Council and Melbourne Water) have the responsibility to coordinate community education programs and engagement for flooding and storm related events within the Cardinia Shire Council e.g., Local Flood Guides and public events.

A Community Education Plan (CEP) to support the Storm and Flood Emergency Plan has been developed in conjunction with VICSES local units. VICSES local units will lead the delivery of the CEP with support from Cardinia Shire Council and VICSES Regions.

2.1.1 Community Resilience

A key objective within the Storm and Flood Emergency Plan and in particular the Community Education Plan is to increase the community's ability to make informed decisions related to storm & flood emergencies.

Key to this is:

- Information - Providing the public with accurate and relevant information before an event and accurate and timely information during an event to allow them to make sound decisions.
- Community Confidence - Developing a culture of confidence during an event in both the agency's ability to deal with the event and community's in-built strength to recover from it.

VICSES in partnership with Council will develop locality specific resilience programs (such as door knocks and local flood guides) for at-risk areas.

2.2 Structural Flood Mitigation Measures

The following summary of structural flood mitigation measures exist within the Municipal area:

- Levees
- Retarding Basins

Refer to **Appendix A** for detailed information of structural flood mitigation measures.

2.3 Non-structural Flood Mitigation Measures

2.3.1 Exercising the Plan

Arrangements for exercising this Plan will be at the discretion of the MEMPC. The plan should be exercised at least once per 3 years (within the life of the plan) and/or reviewed after a significant event.

2.3.2 Storm and Flood Warnings

Arrangements for flood warnings are contained within the State Flood Emergency Plan and State Storm Emergency Plan (ses.vic.au/em-sector/vicses-emergency-plans), the SEMP and on the BoM website <http://www.bom.gov.au>.

Specific details of local storm and flood warning system arrangements are provided in **Appendix E**.

Part 3. DURING: RESPONSE ARRANGEMENTS

3.1 Introduction

3.1.1 Activation of Response

Storm and flood response arrangements may be activated by the VICSES Central Region Duty Officer (RDO), Regional Agency Commander (RAC) or Incident Controller (IC).

The VICSES RDO/RAC or IC will activate agencies as required and documented in the VICSES Central Region and State Storm Emergency Plans State Flood Emergency Plan. (see <https://www.ses.vic.gov.au/em-sector/VICSES-emergency-plans>).

3.1.2 Responsibilities

There are several agencies with specific roles that will act in support of VICSES and provide support to the community in the event of a serious storm or flood within Cardinia Shire. These agencies will be engaged through the Emergency Management Team (EMT).

The general roles and responsibilities of supporting agencies are as agreed within the Cardinia MEMP, the SEMP (Roles and Responsibilities) VICSES Central Region Flood Emergency Plan and State Flood and Storm Emergency Plans. (See <https://www.ses.vic.gov.au/em-sector/VICSES-emergency-plans>).

3.1.3 Municipal Emergency Coordination Centre (MECC)

The Incident Controller will ensure that there is **early** contact with Cardinia Shire Council's Municipal Emergency Management Officer (MEMO).

The Incident Controller/Incident Management Team (IMT) will liaise closely with the Emergency Management Team (EMT) throughout the event. The EMT will comprise (but not limited to) the:

- The Municipal Emergency Management Officer (MEMO)
- Municipal Emergency Response Coordinator (MERC), and
- Other agencies / organisations as required

3.1.4 Tiers of Control

Most flood incidents are of local concern and an appropriate response can usually be coordinated using local resources.

However, when these local resources are fully committed, the State's arrangements provide for further resources to be made available, firstly from within the region and then on a State-level basis. Resourcing and event escalation arrangements are described in the SEMP.

State Emergency Management Priorities

To provide guidance to the Incident Management Team (IMT), the following strategic control priorities shall form the basis of incident action planning processes:

1. **Protection and preservation of life is paramount** - this includes:
 - a. Safety of emergency services personnel, and;
 - b. Safety of community members including vulnerable community members and visitors/tourist located within the incident area.
2. **Issuing of community information and community warnings** detailing incident information that is timely, relevant and tailored to assist community members make informed decisions about their safety;
3. **Protection of critical infrastructure and community** assets that supports community resilience;
4. **Protection of residential property** as a place of primary residence;
5. **Protection of assets supporting individual livelihoods and economic production** that supports individual and community financial sustainability
6. **Protection of environmental and conservation values** that considers the cultural, biodiversity, and social values of the environment;

Circumstances may arise where the Incident Controller is required to vary these priorities, with the exception being that the protection of life should remain the highest. This shall be done in consultation with the State Controller and relevant stakeholders based on sound incident predictions and risk assessments.

3.2 The Six C's

Arrangements in this MFEP must be consistent with the 6 C's detailed in State and Regional Flood Emergency Plans and the MEMP. For further information, refer to the SEMP.

- **Command:** Overall direction of response activity in an emergency.
- **Control:** Internal direction of personnel and resources within an agency.
- **Coordination:** Bringing together agencies and resources to ensure effective preparation for response and recovery.
- **Consequence:** Management of the effect of emergencies on individuals, communities, infrastructure and the environment.
- **Communication:** Engagement and provision of information across agencies and proactively with the community around preparation, response and recovery in emergencies.
- **Community Connection:** Understanding and connecting with trusted networks, leaders and communities around resilience and decision making.

Specific details of arrangements for this plan are to be provided in **Appendix C**.

3.2.1 Control

Functions 5(a) and 5(c) at Part 2 of *the Victoria State Emergency Service Act 1986 (as amended)* detail the authority for VICSES to plan for and respond to flood.

Table 9 of the SEMP (Roles and Responsibilities) identifies VICSES as the Control Agency for storm and flood. It identifies DELWP as the Control Agency responsible for “dam safety, water and sewerage asset related incidents” and other emergencies

All flood response activities within Cardinia Shire including those arising from a dam failure or retarding basin / levee bank failure incident will therefore be under the control of the appointed Incident Controller, or his / her delegated representative.

3.2.2 Incident Controller (IC)

As required the IC will be appointed by VICSES (as the Control Agency) to command and control available resources in response to a storm or flood event on the advice of the Bureau of Meteorology (or other reliable source) that a storm or flood event will occur or is occurring. The IC responsibilities are as defined in the SEMP Incident Control Centre (ICC)

As required, the Incident Controller will establish an Incident Control Centre (ICC) from which to initiate incident response command and control functions. The decision as to if, and when the ICC should be activated, rests with the Control Agency (i.e., VICSES).

Pre-determined Incident Control Centre locations are

- Ferntree Gully
- Woori Yallock
- Dandenong
- Sunshine

3.2.3 Divisions and Sectors

To ensure that effective Command and Control are in place, the Incident Controller may establish Divisions and Sectors depending upon the complexity of the event and resource capacities.

Pre-determined Division Command locations for events within Cardinia Shire are:

- Pakenham Emergency Services Complex, 780 Princess Highway, Pakenham
- Emerald Fire Station, 5 Emerald Monbulk Road, Emerald

Pre-determined Sector Command locations are to be allocated on a as needs basis.

3.2.4 Incident Management Team (IMT)

The IC will form an Incident Management Team (IMT) in line with the AIIMS principles.

Refer to the SEMP guidance on IMTs.

3.2.5 Emergency Management Team (EMT)

The IC will establish a multi-agency Emergency Management Team (EMT) to assist the storm or flood response. The EMT will consist of key personnel (with appropriate authority) from stakeholder agencies and relevant organisations who need to be informed of strategic issues related to incident control and who are able to provide high level strategic guidance and policy advice to the IC for consideration in developing incident management strategies.

Organisations required within the EMT (including Cardinia Shire) will provide an Emergency Management Liaison Officer (EMLO) to the ICC if and as required as well as other staff and / or resources identified as being necessary, within the capacity of the organisation.

3.2.6 Refer to the SEMP for guidance on IMT's Consequence Management Team (CMT)

Refer to the SEMP (Emergency Management Agency Roles), it is EMV that has the responsibility to co-ordinate relief and recovery planning at State level. The Department of Families, Fairness and Housing is responsible for coordination at regional level.

At a municipal level, this function carried out by Local Government.

To assist with this co-ordination role in the event of an emergency, Cardinia Shire Council will establish a Consequence Management Team.

One of the key components of effective emergency management is the management of the consequences of an event.

To manage consequence effectively there must be:

- The prevention of further impact of an event once that event is controlled;
- a thorough understanding of the measures taken to protect public health and safety and the restoration of essential community services;
- an appreciation of the potential impacts and consequence of decisions taken, and
- effective strategies to provide emergency relief and recovery to communities, neighbourhoods, families and individuals affected by emergencies.

Cardinia Shire Council's CMT, under the direction of the Municipal Emergency Manager (MEM) is drawn together from expertise across Council and with agencies and organisations with responsibilities to manage the consequence of an emergency.

3.2.7 On Receipt of a Flood Watch / Severe Weather Warning

The IC or VICSES Region Duty Officer (until an incident controller is appointed) will ensure actions are undertaken as defined within the flood intelligence cards (**Appendix C**). General considerations by the IC/VICSES RDO will be as follows:

- Review storm and flood intelligence to assess likely event consequences;
- Monitor weather and flood information – www.bom.gov.au;
- Assess Command and Control requirements;
- Review local resources and consider needs for further resources regarding personnel, property protection, rescue and air support;
- Notify and brief appropriate officers. This includes RCC (if activated), SCC (if activated) and other emergency services through the EMT;
- Advise local government emergency management duty officer;
- Assess ICC readiness including staffing of IMT and activate if required;
- Ensure flood bulletins and community information are prepared and issued to the community;
- Monitor watercourses and undertake reconnaissance of low-lying areas;
- Develop media and community information management strategy;
- Ensure storm and flood mitigation works are being checked by owners;
- Develop and issue incident action plan, if required and

- Develop and issue situation report, if required.

3.2.8 On Receipt of the First and Subsequent Storm and Flood Warnings

The VICSES Region Duty Officer/IC will ensure actions are undertaken as defined within the flood intelligence cards (**Appendix C**). General considerations by the IC/VICSES RDO will be as follows:

- Obtain situational awareness of **current**, and **predicted**, flood levels. Are floodwaters rising, peaking or falling;
- Advise local government emergency management duty officer;
- Review flood intelligence to assess likely flood consequences. Consider:
 - What areas may be at risk of inundation;
 - What areas may be at risk of isolation;
 - What areas may be at risk of indirect affects as a consequence of power, gas, water, telephone, sewerage, health, transport or emergency service infrastructure interruption and
 - The characteristics of the populations at risk.
- Determine what the at-risk community need to know and do as the flood develops. (*Determine what information is to hand and what gaps in information exist – this will inform the messaging that is feasible and when it is to be delivered*);
- Warn the at-risk community including ensuring that an appropriate warning and community information strategy is implemented including details of:
 - The current flood situation;
 - Flood predictions;
 - What the consequences of predicted levels may be;
 - Public safety advice;
 - Who to contact for further information and
 - Who to contact for emergency assistance.
- Liaise with relevant asset owners as appropriate (i.e. water and power utilities);
- Implement response strategies as required based upon flood consequence assessment;
- Continue to monitor the flood situation – www.bom.gov.au/vic/flood/ and
- Continue to conduct reconnaissance of low-lying areas.

When predictions/intelligence indicates that communities, neighbourhoods and/or households may become isolated, VICSES will advise the community, through their media connections, of the need to stock up their essential flood survival items, food supply, particularly in areas that may become isolated.

Further information can be found in the Victorian Warning Protocol: <https://www.emv.vic.gov.au/publications/victorian-warnings-protocol-august-2013>

3.3 Community Information and Warnings

Guidelines for the distribution of community information and warnings are contained in the VICSES Central Region Storm and Flood Emergency Plans and State Flood Emergency Plan.

Formal Community information and warnings communication methods available include:

- One Source One Message (OSOM);
- Emergency Alert;
- Phone messages (including SMS);
- Sirens;
- Agency Websites;
- Emergency Vic;
- Radio and Television;
- Two-way radio;
- Mobile and fixed public address systems;
- Verbal Messages (i.e. Doorknocking);
- Variable Message Signs (i.e. road signs) and
- Community meetings.

Informal methods could also include:

- Newspapers;
- Email;
- Telephone trees;
- Community Flood Observers;
- Fax Stream;
- Newsletters;
- Letter drops and
- Social media and/or social networking sites (i.e. twitter and/or Facebook).

Refer to **Appendix E** for the specific details of how community information and warnings are to be provided.

The release of flood bulletins and information regarding response activities at the time of a flood event is the responsibility of VICSES, as the Control Agency.

Council has the responsibility to assist VICSES to warn individuals within the community including activation of flood warning systems, where they exist. Responsibility for public information, including media briefings related to the response activities rest with VICSES as the Control Agency.

Other agencies such as CFA, DELWP and VicPol may be requested to assist VICSES with the communication of community storm and/or flood warnings.

In cases where severe flash flooding is predicted, dam failure or landslip is likely or flooding necessitating evacuation of communities is predicted, the Incident Controller may consider the use of the Emergency Alert System and Standard Emergency Warning System (SEWS).

The Department of Health will disseminate information regarding public health precautions during and after the event.

3.4 Media Communication

The IC through the Public Information Unit established at the ICC will manage media communication. If the ICC is not established the RDO will manage all media communication. Cardinia Shire will work with the IC to ensure that consistent and timely messaging occurs.

3.5 Impact Assessment (IA)

An impact assessment can be conducted in accordance with State doctrine and Standard Operating Procedures (SOP'S) assess and record the extent and nature of damage caused by the storm or flooding. This information may then be used to provide the basis for further needs assessment and recovery planning by applicable recovery agencies.

The control agency is responsible for coordinating the collection, collations and dissemination of IA information on a whole-of government basis.

The purpose, function and conduct of IAs are outline in the State Flood Emergency Plan and the State Storm Response Plan. All IAs should be conducted in accordance with current State Impact assessment doctrine and SOP's

The Incident Controller is responsible for coordinating the collection, collation and dissemination of Impact Assessment information.

VICSES if requested by council to notify Cardinia Shire Council or any structures that have been damaged from storm and flood events to ensure appropriate relief and recovery arrangements are in place and to ensure the Municipal Building Surveyor can fulfill his statutory obligations. Usual practice is EMLO from Council would work with SES in ICC or DCP to collect data.

VICSES if requested by Council my provide a list of locations that VICSES attended following all declared operations to assist with relief and recovery operations.

3.6 Preliminary Deployments

When storm impact or flooding is expected to be severe enough to cut access to towns, suburbs and/or communities the Incident Controller will consult with relevant agencies to ensure that resources are in place if required to provide emergency response. These resources can include emergency service personnel, food items and non-food items such as medical supplies, shelter, assembly areas, relief centres etc. in line with the Cardinia MEMP.

3.7 Response to Flash Flooding

Emergency management response to flash flooding should be consistent with the guideline for the emergency management of flash flooding contained within the VICSES Central Region Storm and Flood Emergency Plans and State Storm and Flood Emergency Plans.

When conducting pre-event planning for flash floods the following steps should be followed, and in the order as given:

1. Determine if there are barriers to evacuation by considering warning time, safe routes, resources available and etc;
2. If evacuation is possible, then evacuation should be the adopted strategy, it must be supported by public information capability and a rescue contingency plan;
3. Where it is likely people will become trapped by floodwaters, safety advice needs to be provided to people at risk advising them not to attempt to flee by entering floodwater if they become trapped, and that it may be safer to seek the highest point within the building and to telephone 000 if they require rescue;
4. For buildings known to be structurally un-suitable an earlier evacuation trigger will need to be established (return to step 1 of this cycle) and

5. If an earlier evacuation is not possible then specific preparations must be made to rescue occupants trapped in structurally unsuitable buildings either pre-emptively or as those people call for help.

Due to the rapid development of flash flooding will often be difficult to establish evacuation (relief) centres ahead of triggering the evacuation. This normal practice and is insufficient justification for not adopting evacuation.

Refer to **Appendix C** for response arrangements for flash flood events. Refer to VicRoads website for road closure information (<http://alerts.vicroads.vic.gov.au>) and Public Transport Victoria website for rail closures (<https://www.ptv.vic.gov.au/plan/disruptions/>).

3.8 Evacuation

In Victoria, evacuation is largely voluntary, however in particular circumstances, legislation provides some emergency services with authority to remove people from areas or prohibit their entry.

The decision to recommend or warn people to prepare to evacuate or to evacuate immediately rests with the IC in conjunction with Victoria Police and where possible the EMT. It is the choice of individuals as to how they respond to this recommendation.

It is key that Council is involved in the decision-making process for evacuation as it has the responsibility to coordinate relief and recovery arrangements at a local level which includes the establishment and maintenance of relief.

Once the decision to evacuate is made, VicPol are responsible for the coordination of the evacuation process where possible. VICSES and other agencies will assist where practical. VICSES is responsible for the development and communication of evacuation warnings in a timely fashion.

VicPol and/or Australian Red Cross may take the responsibility of registering people affected by an emergency including those who have been evacuated typically using Register.Find.Reunite.

Evacuation operations should be consistent with the Joint Standard Operation Procedure on Evacuation (JSOP3.12). Guidelines for best practice for planning evacuations are provided in Australian Institute for Disaster Resilience Handbook 4, available at knowledge.aidr.org.au/resources/handbook-evacuation-planning

Refer to **Appendix D** of this Plan for detailed evacuation arrangements for Cardinia Shire.

3.9 Flood Rescue

VicPol as the designated Control Agency for water rescue, coordinates rescues undertaken during flood events.

In order to activate water rescue services, VICSES as a Control Agency for overall flood response, will identify areas at risk of requiring rescue and notify the Officer in Charge of the Water Police Search and Rescue Squad to request pre-deployment of rescue resources to those areas.

In conducting rescues VicPol may require the assistance of appropriately trained and equipped personnel. In these circumstances, appropriately trained and equipped VICSES units or other agencies may carry out rescues.

Rescue operations may be undertaken where voluntary evacuation is not possible, has failed or is considered too dangerous for an at-risk person or community. An assessment of available

flood rescue resources (if not already done prior to the event) should be undertaken prior to the commencement of Rescue operations.

Rescue is considered a high-risk activity for both rescuers and effected person and should only be undertaken by those competent and capable of undertaking it. It is an activity which is undertaken when all other strategies have failed and only as a last resort.

Flood specific rescue resources available for use within Cardinia Shire are detailed in **Appendix D**.

3.10 Aircraft Management

Aircraft can be used for a variety of purposes during flood operations including evacuation, resupply, reconnaissance, intelligence gathering, impact assessment and emergency travel.

Air support operations will be conducted under the control of the IC in line with State Aircraft Policy 01- Air Operations.

3.11 Resupply

Communities, neighbourhoods or households can become isolated during storm or floods as a consequence of road closures or damage to roads, bridges and causeways. Under such circumstances, the need may arise to resupply isolated communities/properties with essential items.

When predictions/intelligence indicates that communities, neighbourhoods and/or households may become isolated, VICSES will advise businesses and/or households that they should stock up on essential items.

Council is responsible for the provision of relief across the Shire and resupply is a component of relief.

Where it is operationally safe to do so, VICSES may assist with the transport of essential items to isolated communities and assist with logistics functions. Resupply arrangements are to be included as part of the emergency relief arrangements as outlines in the Cardinia MEMP.

3.12 Essential Infrastructure and Property Protection

Essential Infrastructure and Property (e.g., roads and rail, energy supply, water & sewerage, communications etc.) may be affected in the event of a storm or flood.

The Incident Controller will ensure that owners of Essential Infrastructure are kept advised of the flood situation. Essential Infrastructure providers must keep the Incident Controller informed of their status and ongoing ability to provide services.

Sandbag supplies are available through the VICSES Regional Headquarters and/or at hardware stores. The Incident Controller will determine the priorities related to the use of sandbags, which will be consistent with the strategic priorities.

If sandbags are becoming limited in supply, then priority will be given to protection of Essential Infrastructure. If time permits, request for supplementary supply should be carried out in line with the *Cardinia Municipal Relief and Recovery Sub Plan and **Appendix G- Sandbag Arrangements of this plan***.

Note: If the Construction of temporary levees is considered by the Incident Controller to be necessary to preserve such essential infrastructure, then this must be done in consultation with the CMA, LGA and / or VICPOL.

Refer to **Appendix C** for further specific details of essential infrastructure requiring protection and **Appendix G** for locations of sandbag collection point(s).

3.13 Disruption to Services

Disruption to services other than essential community infrastructure and property can occur in storm and flood events. Refer to **Appendix D** for specific details of likely disruption to services and proposed arrangements to respond to service disruptions in Cardinia Shire.

3.14 Road Closures

Cardinia Shire, VicPol and the Department of Transport (DoT) will carry out their formal functions of road closures. This includes the observation and placement of warning signs and roadblocks to its designated local and regional roads, bridges, walking and bike trails. VicPol may liaise with and advise Cardinia Shire Council and DoT of the need to erect warning signs and /or of close roads and bridges under its jurisdiction. DoT are responsible for designated main roads and highways and Councils are responsible for the designated local and regional road network.

DoT, VicPol and the Cardinia Shire Council will communicate community information regarding road closures.

Council and VICSES should advise VicRoads when roads are reopened.

The following is the link to the VicRoads Traffic alert webpage for information on road closures.
<https://traffic.vicroads.vic.gov.au/>.

3.15 Dam Spilling / Failure

DELWP is the Control Agency for dam safety incidents (e.g., breach, failure or potential breach / failure of a dam), however VICSES is the Control Agency for any flooding that may result.

Major dams with potential to cause structural and community damage within the Municipality are contained in **Appendix A**.

The Cardinia municipality may be impacted by the failure of the Cardinia Reservoir (Report for Cardinia Reservoir Spillway Adequacy and Dam Break Analysis, GHD, Sept 2011). For more information, refer to the Cardinia Dam Safety Emergency Plan.

3.16 Waste Water related Public Health Issues and Critical Sewerage Assets

South East Water and Yarra Valley Water are the responsible agencies for water and sewerage in Cardinia Shire Council.

Inundation of septic tanks and sewerage pump stations may result in significant health risks.

Where this has occurred or is likely, the responsible agency for the critical sewerage asset will:

- Advise VICSES of the security of sewerage assets to assist preparedness and response activities in the event of flood;
- Take necessary steps to preserve the functioning of these assets and
- Advise the Incident Controller of the risk or actual inundation of sewerage or septic systems.

It is the responsibility of the Cardinia Shire Council Environmental Health Officer and/or the EPA to inspect and report to the Council's MEMO and the ICC on any significant health risks related to flooding.

Council have mapping available on their GIS systems to identify properties that have septic tanks.

3.17 Access to Technical Specialists

VICSES Manages contracts with private technical specialists who can provide technical assistance in the event of flood operations or geotechnical expertise. Refer to VICSES SOP061 for the procedure to engage these specialists.

3.18 After Action Review

VICSES will coordinate the after-action review arrangements of storm/ flood response operations as soon as practical following a significant event.

All agencies involved in the storm/flood incident should be represented at the after-action review.

Part 4. AFTER: EMERGENCY RELIEF AND RECOVERY ARRANGEMENTS

4.1 General

Arrangements for recovery from a storm or flood incident within Cardinia Shire are detailed in the Cardinia Shire MEMP and/or the Municipal Relief and Recovery Sub-plan.

Relief is the coordinated process of providing immediate life support and other essential needs to affected individuals, and the community and primarily is the responsibility of the municipality.

4.2 Initiating Emergency Relief

The IC determines the need for Emergency Relief services in accordance with THE SEMP. ICs are responsible for ensuring that relief arrangements have been considered and implemented where required under the State Emergency Relief and Recovery Plan.

The range and type of emergency relief services to be provided in response to a storm or flood event will be dependent upon the size, impact, and scale of the storm/flood. THE SEMP for details of the range of emergency relief services that may be provided.

Designated Relief Centres are identified for the provision of relief use during floods are detailed in the MEMP Relief and Recovery Sub Plan, however, Cardinia's Consequence Management approach means that relief may delivered outside of these identified fixed bases.

4.3 Recovery

Properly carried out, the process of relief also begins the process of recovery by stemming the impact of the event and the reestablishment of societal norms and functions as much as is possible.

Recovery pertains to the rebuilding and reinstatement of the:

- Social and Community Environment;
- The Built Environment;
- The Natural Environment, and
- The Economic Environment.

The Department of Families, Fairness and Housing is the key partner in recovery along with the Departments of Environment, Land, Water and Planning and Department of Economic Development, Jobs, Transport and Resources.

The arrangements for recovery from a flood incident within Cardinia Shire are included in the Cardinia MEMP Relief and Recovery Sub-plan and are monitored on behalf of the MEMP Committee by the Relief & Recovery Subcommittee.

4.4 Animal Welfare

Matters relating to the welfare of livestock are to be referred to DJPR.

Matters relating to companion animals will be shared between Council and RSPCA. Council assists in the rehousing of displaced companion animals.

Requests for assistance with stranded livestock are also coordinated by DJPR.

Matters relating to the welfare of wildlife should be referred to DELWP.

Consideration for relocation and placement of pets should be considered when establishing a relief centre.

4.5 Transition from Response to Recovery

VICSES as the Control Agency is responsible for ensuring effective transition from response to recovery in line with the Cardinia MEMP and THE SEMP.