

Flood Information Property Report

Corangamite Catchment Management Authority (CMA) is the regional floodplain management authority within the Corangamite region of Victoria. A key role of the Corangamite CMA is to find out how far floodwaters are likely to extend and how high they are likely to rise. The following information relates to inundation that is associated with waterways (riverine flooding) and coastal storm surge only. To determine if a property is subject to flooding from the local drainage system (stormwater) or overland flow you will need to contact the relevant Council for flood information.

This report provides a summary of available flood information for the selected property only. It does not constitute approval or otherwise of any development at this location. If you require a more detailed assessment specific to your development or works, you can submit a Flood Advice Request to the CMA

This report is for:	
Address	23-79 BAMBRA ROAD AIREYS INLET 3231
Parcel PFI	52994183
Planning zone(s)	RURAL CONSERVATION ZONE(RCZ)
Planning overlay(s)	BUSHFIRE MANAGEMENT OVERLAY
	LAND SUBJECT TO INUNDATION OVERLAY
	ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 4
	DESIGN AND DEVELOPMENT OVERLAY - SCHEDULE 11

Property Flood Information Summary

Please note that inundation levels may not be consistent over the whole property.

1% AEP Riverine Flooding	Max	Min
<i>Painkalac Creek Flood Study 2013</i>		
Flood Depth (metres)	2.88	0.00
Flood Level (mAHD)	5.28	2.71

Flood Extent Map

This map shows the extent of flooding in the event of a 1% AEP (1 in 100 yr ARI) flood as it relates to the highlighted property.



Selected Property



Property Boundary



Address

23

Coastal Flood Extent - 1% (1 in 100 yr) with 80cm Sea Level Rise

 Detailed Flood Data

 Limited Flood Study Data

Riverine Flood Extent - 1% (1 in 100 yr)

 Detailed Flood Data

 Limited Flood Study Data

Decision guidelines

The following describes how Corangamite CMA assesses proposed developments in flood-prone areas. This assessment is based on the current best available information to the Authority and has been made considering the State Planning Policy Framework which contains strategic issues of State importance which must be considered when decisions are made.

Clause 65 of the planning scheme general provisions extends the consideration of flood issues to all planning permit applications regardless of whether the site is affected by a flood zone or overlay. Clause 65 requires that for the approval of an application or plan, the council must consider, among other things, the degree of flood risk associated with the location of the land and the use, development or management of the land so as to minimise flood risk.

In addition to clause 65, the flood zone and overlays contain their own decision guidelines that the council must consider when assessing an application. The Floodway Overlay (FO – clause 44.03), Land Subject to Inundation Overlay (LSIO – clause 44.04), and Special Building Overlay (SBO – clause 44.05) contain more detailed decision guidelines.

Guidance on making an application for a planning permit where flooding is a consideration and an explanation of how such an application will be assessed (in effect an explanation of how the decision guidelines are applied) is provided in the Victorian Planning Provision (VPP) Practice Note “Applying for a Planning Permit under the Flood Provisions”. A second practice note “Applying the Flood Provisions in Planning Schemes” provides guidance about applying the flood provisions in planning schemes.

A copy of the Practice Notes can be downloaded from the Department of Environment, Land, Water and Planning website <https://www.planning.vic.gov.au/publications/planning-practice-notes> (<https://www.planning.vic.gov.au/publications/planning-practice-notes>)

- Planning Practice Note 11: Applying for a Planning Permit under the Flood Provisions, August 2015
- Planning Practice Note 12: Applying the Flood Provisions in Planning Schemes, June 2015
- Planning Practice Note 53: Managing coastal hazards and the coastal impacts of climate change, August 2015

In assessing the suitability of any new development, Corangamite CMA considers the following:

- The safety of future occupants.
- Avoiding any adverse flood related impacts on other properties.
- The protection of waterways and other environmental assets.
- Minimising potential property damage.
- Ensuring there is no increased burden on community and emergency services.

Developments are assessed against five core requirements:

Buildings or works:

1. Buildings or works must not affect floodwater flow capacity.
2. Buildings or works must not reduce floodwater storage capacity.
3. Buildings meet minimum floor level height (above flood level) relevant to development location (freeboard).
4. Buildings or works must not occur where the depth and flow of floodwaters would create a hazard
5. Buildings or works must not occur in circumstances where the depth and flow of floodwater affecting access to the property is hazardous.

1% AEP Flood Event

The 1% AEP flood event means that a flood of that magnitude (or greater) has a 1% chance of occurring in any given year. It is also known as the 100 year Average Recurrence Interval (ARI) flood; however a flood of this size or greater may occur more frequently than this, and can happen more than once in any year. The Victorian Government has determined that the 1% AEP flood is the appropriate standard to regulate and protect new developments through the planning and building systems. The impacts of floods rarer than the 1% AEP flood (i.e. less than 1% AEP) are not regulated through the planning and building systems.

Flood Hazard

According to Attorney-General's Departments Australian Emergency Management handbook Series (EMA Handbook 7), in recent years, a high proportion of flood related deaths in Australia have occurred on flooded roads. Fatalities also result from people being swept away while crossing rivers, stormwater channels, overland flow paths or other flooded areas. In assessing access routes between a site and safe ground it has been shown that people trying to evacuate from flooded land will do so by vehicle in most circumstances, and therefore development decisions should assume this to be the default method. For those who do decide to seek a pedestrian route, walking through flood water is also not considered to be an acceptable means of evacuation. For some, walking is likely to be physically difficult or even impossible and can be the cause of significant mental or physical exhaustion.

Analysis of flood hazard is used to determine if it is safe for people and vehicles leaving a property during a flood event. Inappropriate development is likely to increase the burden on emergency services and personnel if an emergency evacuation is required due to illness, injury, inadequate preparation or loss of essential services. It should be noted that the relative evacuation time does not decrease the flood hazard.

Developments should not occur where the depth and flow of floodwater on a property and affecting the access to the property is hazardous.

Minimum floor levels provide protection for a property and its contents, but separate provisions are needed to protect people moving about or attempting to enter or leave a property so that they are not at risk from deep or fast-flowing water.

Safety is assessed against Australian Rainfall and Runoff Revision Project 10 Safety Criteria.

Safety is defined in terms of the depth and velocity of water over the area in question during a 1% AEP flood event as follows:

1. Depth must be no greater than or equal to 0.3 metres; **and**
2. Velocity must be no greater than or equal to 3.0 m/s; **and**
3. The product of depth multiplied by velocity must be no greater than or equal to 0.3 m² per second.

Stormwater Flooding

The Victorian Floodplain Management Strategy (2016) recognises that LGA's are accountable for applying the planning requirements of Clause 56 of the Victorian Planning Provisions' Practice Note 39 to ensure that new developments do not have significant third party impacts as a result of increased runoff from impervious surfaces. Please contact your Council for further information. To determine if a property is subject to flooding from the local drainage system (stormwater) or overland flow **you will need to contact the relevant Council for flood information.**

Floor Levels and Freeboard

Freeboard is the height above a defined flood level and is typically used to provide a factor of safety in the setting of floor levels. The minimum freeboard requirements compensate for effects such as wave action and water movement resulting from variations in topography. Freeboard also provides

additional protection from flooding which is marginally above the defined flood level. The Corangamite CMA has adopted the 1% AEP flood level with a minimum 300 mm freeboard requirement.

A greater freeboard may be required on occasions, for instance where buildings contain valuable equipment or potentially hazardous substances.

Freeboard requirements for areas impacted by Climate Change and sea level rise will be established in line with normal floodplain management best practice and consistent with direction on appropriate flood levels in such areas.

Disclaimers

The information contained in this correspondence is subject to the following disclaimers:

This report is based on the land parcel(s) selected. The Authority accepts no responsibility for or makes no warranty with regard to the accuracy or naming of this location according to its official land title description.

No warranty is made as to the accuracy or liability of any studies, estimates, calculations, opinions, conclusions, recommendations (which may change without notice) or other information contained in this letter and, to the maximum extent permitted by law, the Authority disclaims all liability and responsibility for any direct or indirect loss or damage which may be suffered by any recipient or other person through relying on anything contained in or omitted from this letter.

This report has been prepared for the sole use by the party to whom it is addressed and no responsibility is accepted by the Authority with regard to any third party use of the whole or of any part of its contents. Neither the whole nor any part of this report or any reference thereto may be included in any document, circular or statement without the Authority's written approval of the form and context in which it would appear.

The flood information provided represents the best estimates based on currently available information. This information is subject to change as new information becomes available and as further studies are carried out.

Definitions and Acronyms

Annual Exceedance Probability (AEP)

The likelihood of the occurrence of a flood of a given or larger size occurring in any one year, usually expressed as a percentage. For example, if a peak flood flow of 500 m³/s has an AEP of 5%, it means that there is a 5% (one-in-20) chance of a flow of 500 m³/s or larger occurring in any one year (see also average recurrence interval, flood risk, likelihood of occurrence, probability).

Please note that the 1% probability flood is not the probable maximum flood (PMF). There is always a possibility that a flood larger in height and extent than the 1% probability flood may occur in the future.

Australian Height Datum (AHD)

The adopted national height datum that generally relates to height above mean sea level. Elevation is in metres.

Average Recurrence Interval (ARI)

A statistical estimate of the average number of years between floods of a given size or larger than a selected event. For example, floods with a flow as great as or greater than the 20-year ARI (5% AEP) flood event will occur, on average, once every 20 years. ARI is another way of expressing the likelihood of occurrence of a flood event (see also Annual Exceedance Probability).

Catchment

The area of land draining to a particular site. It is related to a specific location and includes the catchment of the main waterway as well as any tributary streams.

Coastal flooding (inundation)

Flooding of low-lying areas by ocean waters, caused by higher than normal sea level, due to tidal or storm-driven coastal events, including storm surges in lower coastal waterways.

Design flood event (DFE)

In order to identify the areas that the planning and building systems should protect new development from the risk of flood, it is necessary to decide which level of flood risk should be used. This risk is known as the design flood event.

Flash flooding

Flooding that is sudden and unexpected, often caused by sudden local or nearby heavy rainfall. It is generally not possible to issue detailed flood warnings for flash flooding. However, generalised warnings may be possible. It is often defined as flooding that peaks within six hours of the causative rain.

Flood

A natural phenomenon that occurs when water covers land that is normally dry. It may result from coastal or catchment flooding, or a combination of both (see also catchment flooding and coastal flooding).

Flood hazard

Potential loss of life, injury and economic loss caused by future flood events. The degree of hazard varies with the severity of flooding and is affected by flood behaviour (extent, depth, velocity, isolation, rate of rise of floodwaters, duration), topography and emergency management.

Flood level

Height of flood water in metres Australian Height Datum (AHD). Can be considered synonymous with flood height and flood water surface elevation.

Flood-prone land

Land susceptible to flooding by the largest probable flood event. Flood-prone land is synonymous with the floodplain. Floodplain management plans should encompass all flood-prone land rather than being restricted to areas affected by defined flood events.

Flood risk

The potential risk of flooding to people, their social setting, and their built and natural environment. The degree of risk varies with circumstances across the full range of floods. Flood risk is divided into three types – existing, future and residual. Existing flood risk refers to the risk a community is exposed to as a result of its location on the floodplain. Future flood risk refers to the risk that new development within a community is exposed to as a result of developing on the floodplain. Residual flood risk refers to the risk a community is exposed to after treatment measures have been implemented. For example: a town protected by a levee, the residual flood risk is the consequences of the levee being overtopped by floods larger than the design flood; for an area where flood risk is managed by land-use planning controls, the residual flood risk is the risk associated with the consequences of floods larger than the DFE on the community.

Freeboard

The height above the DFE or design flood used, in consideration of local and design factors, to provide reasonable certainty that the risk exposure selected in deciding on a particular DFE or design flood is actually provided. It is a factor of safety typically used in relation to the setting of floor levels, levee crest heights and so on. Freeboard compensates for a range of factors, including wave action, localised hydraulic behaviour and levee settlement, all of which increase water levels or reduce the level of protection provided by levees. Freeboard should not be relied upon to provide protection for flood events larger than the relevant design flood event. Freeboard is included in the flood planning controls applied to developments by LGAs.

LiDAR (Light Detection And Ranging)

An optical remote sensing technology which measures the height of the ground surface using pulses from a [laser](http://en.wikipedia.org/wiki/Laser) (<http://en.wikipedia.org/wiki/Laser>). LiDAR can be used to create a topographical map of the land and highly detailed and accurate models of the land surface.

Local Government Authority (LGA)

Synonymous with Council or Shire

Local overland flooding

Inundation by local runoff on its way to a waterway, rather than overbank flow from a stream, river, estuary, lake or dam. Can be considered synonymous with stormwater flooding.

Planning Scheme zones and overlays

Planning Schemes set out the planning rules – the state and local policies, zones, overlays and provisions about specific land uses that inform planning decisions. Land use zones specify what type of development is allowed in an area (e.g. urban (residential, commercial, industrial), rural, environmental protection). Overlays specify extra conditions for developments that are allowed in a zone. For example, flooding overlays specify that developments must not affect flood flow and storage capacity of a site, must adhere to freeboard requirements, and not compromise site safety and access.

Riverine flooding

Inundation of normally dry land when water overflows the natural or artificial banks of a stream, river, estuary, lake or dam. Riverine flooding generally excludes watercourses constructed with pipes or artificial channels considered as stormwater channels.

Runoff

The amount of rainfall that drains into the surface drainage network to become stream flow; also known as rainfall excess.

Storm surge

The increases in coastal water levels above the predicted tide level resulting from a range of location dependent factors such as wind and waves, together with any other factors that increase tidal water level.

Stormwater flooding

The inundation by local runoff caused by heavier than usual rainfall. It can be caused by local runoff exceeding the capacity of an urban stormwater drainage systems, flow overland on the way to waterways or by the backwater effects of mainstream flooding causing urban stormwater drainage systems to overflow (see also local overland flooding).