



Frequently Asked Questions (FAQs)

Who is responsible for Floodplain Management and Stormwater Drainage in the City of Greater Bendigo?

North Central CMA is the Floodplain Management Authority by delegation from the Minister responsible for the Water Act 1989. Consequently, North Central CMA is responsible for determining the potential inundation from rivers and creeks within the North Central region. The City of Greater Bendigo is responsible for the provision and maintenance of drainage and the management of any stormwater overflows from its drainage system.

What is North Central Catchment Management Authority's role in planning schemes?

North Central CMA is a referral authority in the planning system under Section 55 of the Planning and Environment Act 1989 and receives applications for subdivisions and other developments within the floodplain from councils. This allows North Central CMA to comment on applications and if necessary, place conditions on town planning permits. These ensure that new developments are adequately designed to protect occupants against the risk of future flood events.

Why does flooding occur in Bendigo?

Flooding is a natural process intrinsic to all waterways. Flooding occurs periodically as a result of heavy rainfall within a catchment and is generally defined by the runoff from the storm event exceeding the capacity of the bed and banks of a waterway or local drainage system. The effects of flooding in Bendigo are magnified by the proximity of urban development to natural or modified creeks and channels resulting in damage to roads, residential, commercial and industrial properties.

What is a flood study?

The first stage in managing floodplain risk for a particular catchment involves a flood study, which is a comprehensive technical investigation of flood behaviour for that catchment. These flood studies show the distribution, extent, levels and velocity of floodwaters across sections of the floodplain for a range of different flood events.

Why is the study required?

Flooding remains a significant community issue throughout the whole of our state and country. The average annual cost of damages from flooding in Victoria alone is greater than \$100 million. It is widely accepted that the best way to mitigate against the effects of flooding is through appropriate building design and land use planning. To assist these processes the risks posed by flooding need to be properly understood by undertaking flood studies.

The last flood study was previously undertaken in Bendigo in 1984. The results of this study are now considered obsolete due to additions to long-term rainfall averages and development which has occurred in and around Bendigo's waterways since 1984. Significant advances in computer technology also mean that available flood data can be reproduced in a manner which reflects a more accurate representation of catchment conditions and predicted flood extents for a range of flood events.





What is flash flooding?

Flash flooding occurs following intense rainfall with resulting flood levels rising to their peak within a very short time, typically between 30 minutes and 2 hours. This tends to occur in steep urbanised catchments such as Bendigo and gives residents very little warning time to prepare.

What is a 1 in 100 year flood?

A 1 in 100 year ARI flood is a level of flooding that has a 1% chance of occurring in any year. It is considered a very large flood and is used as the minimum design standard for new development in Victoria. If an area experiences a 1 in 100 year flood in a certain year, it does **not** mean that another 1 in 100 year flood will **not** occur for another 99 years, it is an average only. The 1 in 100 year flood is technically referred to as the 1% AEP* flood.*

** Average Recurrence Interval – is the likelihood of occurrence, expressed in terms of the long-term average number of years, between flood events as large or larger than the design flood event. For example, floods with a discharge as large as or larger than the 100 year ARI flood event will occur on average once every 100 years.*

** Annual Exceedence Probability – is the likelihood of occurrence of a flood of given size or larger occurring in any one year. AEP is expressed as a percentage (%) risk and may be expressed as a reciprocal of ARI* (Average Recurrence Interval)*

What are the benefits of the study?

The primary purpose of the study is to update flood related overlays within the Greater Bendigo Planning Scheme utilising advanced flood mapping techniques. The study will improve future land use planning and development decisions to minimise the risks to the Bendigo community from flooding. The study assists North Central CMA, City of Greater Bendigo and VicSES in preparing for and responding to a flood emergency in Bendigo. The study will also assist Council in understanding existing drainage problems and in designing new infrastructure.

What works are proposed as a result of the study?

The study is not a mitigation plan, but will assist in understanding local flood issues, provide information for future investigations into flood mitigation and assist the prioritisation of works through thorough cost-benefit analysis. No works are currently proposed as a direct result of this study. However it will provide information to ensure that future land use planning, emergency management and infrastructure design will be far more effective.





Will the outcomes of the study affect my property value?

As stated above, North Central CMA is generally aware of the extent of flood inundation throughout urban Bendigo due to the 1984 flood study findings. Prior to the completion of this study a prospective buyer of your property could already access information regarding the potential flood risk associated with a property by making the appropriate enquiries to North Central CMA or the City of Greater Bendigo. The new information will provide a more accurate analysis of a property's susceptibility to flooding from a range of flood events compared to previous findings. It is unlikely that any effects on land value as a result of new flood mapping would be able to be determined without a thorough analysis of an individual property's flood risk in conjunction with other competing market forces by appropriately qualified individuals.

Flood-Related Planning Scheme Overlays

What is a Land Subject to Inundation Overlay (LSIO)?

The LSIO is a planning tool applied to land designated as being subject to inundation in the event of a 1% AEP flood. It triggers development proposals which require planning approval to be designed in a manner compatible with the flood risk to the site. To find out if your property is in an area designated as subject to flooding, please contact North Central Catchment Management Authority, City of Greater Bendigo or log on to www.dpcd.vic.gov.au/planning/planningschemes and select the Greater Bendigo Planning Scheme.

What is a Special Building Overlay (SBO)?

During severe storms in urban areas land can be affected by overland flows if the rainfall run-off exceeds the design capacity of the existing drainage system. This is called stormwater flooding and can occur in areas where there is a high density of existing development and a high potential for flood damage. The Special Building Overlay (SBO) identifies areas affected by stormwater flooding in planning schemes to ensure new development is designed accordingly.

What is an Environmental Significance Overlay (ESO)?

The ESO is a planning tool applied to land where the development of land may be affected by an identified environment constraint. In Greater Bendigo, the Environmental Significance Overlay – Schedule 1 is used to protect waterways from the encroachment of development as well as trigger an assessment of flood risk where other flood-related planning scheme controls don't exist or haven't been implemented (i.e. the LSIO or SBO).

Will the development potential of my property be limited if my property is found to be subject to flooding?

A number of factors are considered when development is proposed in areas designated to be subject to flooding. North Central CMA is generally aware of the extent of flood risk throughout urban Bendigo. However, the results of the study will provide accurate levels based on the current catchment conditions. For more information on how to apply for a planning permit under the flood provisions, please see the Department of Planning and Community Development website www.dpcd.vic.gov.au/planning.





Will my insurance premium increase if my property is deemed subject to flooding?

*As with any type of insurance cover, a premium is applied for flooding based on an analysis of the flood risk as it applies to your property. A flood study can assist an insurance company to properly understand the risk posed by flooding to any given property within the study area. This ensures that an appropriate premium is applied to reflect the likelihood of the property being affected by flooding and also ensures that the property is not under-insured.**

**The above statement is intended as advice only; please contact your insurance provider to discuss any details of your own personal circumstances and insurance policy.*

I have recently undertaken development on my land, how has flood risk been determined previously?

Floodplain management and development assessment is undertaken as part of the planning permit process under the Planning and Environment Act 1987. In Bendigo, Council utilises both the Land Subject to Inundation Overlay and Environmental Significance Overlay to assess development against potential or actual flood risk. Applications are then referred to North Central CMA for specialist advice on what development is considered appropriate and any conditions that may apply to the development. Most new development is required to be constructed 300mm above the applicable flood level which is known as the 'freeboard requirement'. This ensures that new development is protected from wave action and also provides an allowance for changes to flood levels and rainfall information over time as a result of advancements in technology and accuracy.

If the results of the new flood study are variable to the 1984 results, development assessed via the planning permit process may still be afforded a high level of protection from flooding due to the freeboard requirements imposed on previous planning permits. Please contact North Central CMA or the City of Greater Bendigo if you have any concerns regarding relating to your individual circumstances.

What can I do to be flood prepared?

The Victorian State Emergency Service's website provides an array of information on preparing for, responding to and recovering from a flood event. Please visit www.ses.vic.gov.au for more information.

Where can I find more information regarding the study?

For further information on the outcomes of the flood study or to view the proposed future changes to the Greater Bendigo Planning Scheme please visit the North Central CMA or City of Greater Bendigo web pages listed below:

North Central CMA www.nccma.vic.gov.au
City of Greater Bendigo www.bendigo.vic.gov.au

If you have any further queries please contact North Central CMA on 1800 282 944 or the City of Greater Bendigo on (03) 5434 6000 and your query will be directed to an appropriate staff member.

