

Floodplain Risk Management Plan

Answers to Frequently Asked Questions

Council is preparing flood studies across the LGA and planning to ensure flood prone land is appropriately developed and managed. The following answers some frequently asked questions about Council's work in this area.

What kind of flooding is council concerned with?

Council is investigating and managing the natural flooding that occurs in all parts of Australia. This kind of flooding occurs where runoff after rain exceeds the capacity of the drainage system including the creeks, rivers, built pipes and channels. It can be dangerous and result in property damage and even loss of life.

Local over land flows after heavy rains which take the 'path of least resistance' on the way to drains or water courses can also cause localised flooding.

Urbanisation and an increasing number of hard surfaces have impacted flows because they stop ground absorption of rainfall and allow run-off to reach catchments faster than before areas were developed.

What is a "Floodplain Risk Management Plan"?

A document outlining a range of actions aimed at improving floodplain management. The plan is the principal means of managing the risks associated with the use of the floodplain. The plan will usually contain both written information and diagrams describing how particular areas of the floodplain are to be used and managed to reduce the risks from floods.

Why is Council conducting this study?

Flooding costs local government and property owners and occupiers a lot of money and imposes substantial intangible costs on the community, such as social and emotional costs. The main objectives of Floodplain Management are: 'to reduce the impact of flooding and flood liability on individual owners and occupiers of flood prone property, and to reduce private and public losses resulting from floods, utilising ecological positive methods wherever possible'.

Key aims of the Floodplain Risk Management Plan are to:

- minimise the risk to life, health and safety;
- minimise damage to property;
- preserve the natural function of the floodplain;
- ensure development on the floodplain is compatible to flood risk.

Who is responsible for Floodplain Management?

In NSW, the responsibility for Floodplain Risk Management is shared between several agencies, including those listed below:

Council

- Prepare and implement floodplain management plans;
- Commission, maintain and enhance flood information;
- Construct and maintain flood management infrastructure
- Input to statutory planning schemes, community education and involvement;
- Provide flood advice and controls on developments.

NSW Department of Environment, Climate Change and Water

- Defines broad policy objectives;
- Provides technical advice and financial assistance;
- Provides emergency management advice.

State Emergency Service

- Act as the lead agency for coordinating evacuation and welfare during flood events

Sydney Water

- Prepare and implement floodplain management plans;
- Commission, maintain and enhance flood information;
- Construct flood related infrastructure.

How have the flood risk maps been prepared?

Because large and rare floods have often not been experienced since European settlement commenced, computer models are used to simulate the depths and velocities of major floods. These computer models are established and operated by flooding experts. Because of the critical importance of the flood level estimates produced by the models, such modelling is subjected to very close scrutiny before flood information is formally adopted by a council.

Maps of flood risks are prepared after consideration of such issues as:

- flood levels and velocities for a range of possible floods;
- ground levels;
- flood warning time and duration of flooding;
- suitability of evacuation and access routes; and
- emergency management during floods.

Why were houses built in areas where it floods?

The Bankstown LGA was developed for urban usage mainly in the 1950's and the design of the suburbs is typical of most Sydney suburbs designed at that time. Flood problems often occur in many other places around Sydney.

While parks and canals were built where most of the water naturally flowed, and the lowest lying land was kept clear of development, it was not understood back then just how much water could flow through the catchment in the rarer storms. It is only in the last decade that this has been properly appreciated and the rainfall data and computer technology has been available to better understand and calculate it.

What is flash flooding?

Flooding that is sudden and unexpected is referred to as flash flooding. It is usually caused by slow-moving thunderstorms that deposit an extraordinary amount of water in a relatively short period of time.

What is the 100 year flood?

A 100 year flood is the flood that will occur or be exceeded on average once every 100 years. It has a probability of 1% of occurring in any given year. If your area has had a 100 year flood, it is wrong to think you will need to wait another 99 years before the next flood arrives. Floods do not happen like that. Some parts of Australia have received a couple of 100 year floods in one decade or even a year apart. On average, if you live to be 70 years old, you have about a 50/50 chance of experiencing a 100 year flood.

There is no recorded history of flooding in my area, could I still be at risk?

Lack of evidence of historical flooding does not necessarily mean the area is not prone to flooding. If you live close to a creek, river, stormwater drain or in a low-lying area, you may be at risk from flooding even if you have not experienced it personally. Flooding can also occur on the sides of hills if the shape of the landscape concentrates overland flows on their way to the drainage network.

What are the consequences of flooding?

Flooding causes severe economic damage and emotional distress. Flooding in urban and rural NSW is estimated to cost our economy about \$250 million each year, and the human impact is even greater.

Flooding can be dangerous to people and animals and cause damage to buildings, infrastructure and utilities. It may also cause the loss of valuable belongings and the disruption of essential services. Some examples of the risks associated with flooding:

- Fast moving waters may knock down a person
- A moving water height of about 600mm is all that is needed to float and wash away an average vehicle
- Nearly 50% of deaths are caused by floating cars while people are trying to escape from a flood affected area

What solutions are available?

In theory there are many different ways in which flood risks can be managed. Which ones are the most effective, practical or acceptable to the community will depend on the nature of flooding, the local topography, existing development and future aspirations for a locality.

Broadly the approaches to dealing with flooding are:

1. Simply live with it – accept that the damage and disruption caused by flooding is part of the experience of living or doing business in flood prone areas.
2. Take actions to protect people and possessions when flooding occurs – move goods to higher levels and evacuate at-risk properties.
3. Install new drainage works to convey the floodwaters away – deepen or widen creeks, channels or drains.

4. Install new detention works to temporarily store water further up in the catchment – this could involve many small structures on individual properties or a few large structures in parks or open space.
5. Raise existing buildings so that they are less likely to flood – clad, timber-framed houses can be jacked up and supported on piers.
6. Erect barriers around properties to keep floodwaters out – these could be permanent measures such as levees or temporary measures such as sandbags.
7. Place restrictions on new development – by specifying the type and design of new buildings (floor levels, building materials) in the floodplain it is possible to reduce the damage and disruption caused by flooding in the long term.
8. Negotiating with the owners of particularly vulnerable properties to voluntarily purchase their property, demolish it and convert the area to public open space.
9. Fill in part of the floodplain and build houses on top of the fill.

The appropriateness of each of these approaches varies and a detailed assessment would be required before identifying and implementing the best approach for any specific site or area. Council may not permit some of these approaches, for example, filling in the floodplain may help an individual householder, but it makes everyone else's flooding worse.

What can be done to minimise flooding?

Flooding is a significant issue, which affects the entire community, and actions by individuals may have serious consequences on others within the catchment. To play your part:

- be aware if your property is affected by flooding or contains a potential overflow path;
- be aware of what drainage easement affects your property;
- be conscious of flow paths around your dwelling and keep them clear - be careful not to dispose of grass clippings and other garden cuttings in or near the watercourse and remove any obstructions that may cause blockages.;
- do not fence over known flow paths;
- do not construct raised gardens or plant significant trees or vegetation within flow paths - Certain species such as Jacaranda, Poplar, Willow, Fig, Camphor Laurel, rubber Trees and other types with aggressive root systems can cause pipelines to become blocked or cracked;
- do not perform any significant work (earthworks, creek bank protection, bridges, piping etc) to the watercourse through your property without first consulting Council;
- do not lay any pipes, construct a bridge or divert a watercourse without first consulting Council. Unapproved work can increase flooding for both you and your neighbors;
- do not fill in low lying areas of your yard without seeking Council approval may cause water to pond and increase flooding potential on both your property and your neighbor's.

With your help, we can help to minimise flood risks and damages.

How does Council maintain drainage infrastructure?

Council carries out regular maintenance of its entire drainage infrastructure. As the majority of the drainage infrastructure is underground, blockages inside pipes are not evident till a rain event occurs.

Illegal dumping of waste (grass clippings, soil, concrete slurry etc) in the drainage system can cause blockages and contribute to flooding. The 'first flush' of a rain event can also cause blockages by dislodging debris from a variety of places. Larger rain events can also move large objects (fences, cars etc) and block culverts and open drains making flooding worse.

Will Council upgrade existing drainage infrastructure?

The floodplain management process allows Council to identify deficiencies in its drainage system and investigate potential upgrades of this system. If upgrades are recommended as part of the floodplain process, Council will prioritise these projects and plan for them to be undertaken as soon as funds are available.

What if I want to sell my property?

The approach taken by each Council in providing flood information is often different. However, generally when you sell your property you are required to attach a "Section 149(2)" certificate from Council to the contract of sale. This will inform the purchaser if there are any Council policies (including policies relating to flooding) applying to the property which restricts the use or development of the land or places obligations on the owner. A Section 149(5) certificate provides additional information to that given above.

Advice on flood risk on the Section 149 certificate may change in accordance with the notification policy adopted in the Floodplain Risk Management Plan.

What will this do to my property value?

Research in Australia¹ indicates that these certificates do not have a noticeable effect on property values, particularly in high value markets such as Sydney. However, any change in a Council's classification of properties can have an impact on property values. If your property is now classified as being flood prone, the real flood risks on your property have not changed, only its classification has been assigned. A prospective purchaser of your property could have previously discovered this risk if they had made enquiries themselves.

Ultimately, however, the market determines the value of any residential property. Individual owners should seek their own valuation advice if they are concerned that the Flood Planning Area categorisation may influence their property value.

Will Council make me change my property?

If you prefer, you can choose to do nothing about any potential risks associated with flooding.

What if I want to carry out building works on my property?

When you make major modifications to your building you will have to make the property comply with any new requirements for building or development that may

¹ Dr Stephen Yeo, "Are Residential Property Values Adversely Affected by Disclosure of Flood Risk?" Proceedings of the 44th Annual Floodplain Management Authorities Conference, Coffs Harbour May 2004

now apply to your property as a result of the flood risk precinct assigned and the Floodplain Risk Management Plan which Council adopts at the end of this process. Generally this means that rebuilt houses and house extensions take into account the flood risk in their design and thus reduce the risk of damage to the property as a result of flooding.

My property was never classified as ‘flood prone’ or ‘flood liable’ before. Now it is. Why?

There are three main reasons why this could have occurred:

- 1.) Council had not previously undertaken a study to the level that has now been undertaken
- 2.) The State Government changed the meaning of the terms ‘flood prone’, ‘flood liable’ and ‘floodplain’ in 2001. Prior to this time, these terms generally related to land below the 100 year flood level. Now it is different. These terms now relate to all land that could possibly be inundated, up to an extreme flood known as the probable maximum flood (PMF). This is a very rare flood. The reason the Government changed the definition of these terms was because there was always some land above the 100 year flood level that was at risk of being inundated in rarer and more extreme flood events. History has shown that these rarer flood events can and do happen (e.g. the 1990 flood in Nyngan, the November 1996 flood in Coffs Harbour, the August 1998 flood in Wollongong, the 1998 flood in Katherine, the 2007 Gippsland floods, and the widespread flooding along Queensland’s Central Coast in June 2008.
- 3.) Better computer models and information become available over time which has shown there is a risk of flooding in your area

What is the probable maximum flood (PMF)?

The PMF is the largest flood that could possibly occur in your area. It is a very rare and improbable flood. Despite this, a number of historical floods in Australia have approached the magnitude of a PMF. Every property potentially inundated by a PMF will have some flood risk, even if it is very small. Under the State Government changes implemented during 2001, councils must now consider floods of all possible sizes, even these very unlikely ones, when managing floodplains. As part of the State Government changes, the definitions of the terms ‘flood liable’, ‘flood prone’ and ‘floodplain’ have been changed to refer to land inundated by the PMF. Although the PMF is much rarer than a 100 year event, there is a surprisingly high chance of occurrence of extreme events over an average lifetime. For example, a 500 year event has about a 1 in 6 chance (or a roll of a die) in a 70 year life time. In February 2007 a 500 year flood occurred in Campbelltown and in January 2007, a 1,000 year flood occurred in Hawker, South Australia.

Will I be able to get house and contents insurance if my house might be affected by flooding?

Until recently it was difficult to get flood insurance for your property. Recently some larger insurers have extended their policies to cover flooding.

In some policies the additional coverage is automatically included while in others it is an optional extra. In either case, if you have flood insurance coverage you will most likely pay a higher premium for it, either directly or indirectly. Insurance companies do use Council flood studies to calculate property flood risks but where such

information is not readily available they use their own methods of identifying which properties are likely to flood.

This project will not change your flood risk nor change your eligibility for flood insurance. It might change your premium (up or down) if the Council's more accurate modeling of your flood risk differs from your insurer's estimate.

You should contact your insurer to find out your level of coverage and what options are available for flood insurance. More information is available from the Insurance Council of Australia, www.insurancecouncil.com.au

Will I be able to get a home loan if my land might be affected by flooding?

Most banks and lending institutions do not account for flood risks when assessing home loan applications unless there is a very significant risk of flooding at your property. The "Flood Planning Area" includes properties that might be affected by a 100 year flood. The system of Flood Planning Area classification will make it clear to all concerned the nature of the flood risks. Under the previous system, if a prospective lending authority made appropriate enquiries, they would have identified the nature of the flood risk and considered it during assessment of home loan applications. As a result, it is not likely that the classification of your property within a Flood Planning Area will alter your ability to obtain a home loan. Nevertheless, property owners who are concerned about their ability to obtain a loan should clarify the situation with their own lending authority.

What will climate change do?

No one knows exactly. Certainly the areas which currently flood will still flood. It is expected that new areas at the adjacent to rivers will be affected by any sea level rises. If the rainfall intensity increases, as is predicted by the CSIRO, some new properties at the outer limits of the existing flood extent may be slightly more affected by flooding where they were before. Increased rainfall intensity may also cause localised ponding in natural depressions and behind major flow constrictions such as elevated railways and roadways where the culvert capacity is insufficient.

Modelling of the Sydney Region by the CSIRO suggests that flooding may happen more often. The Floodplain Risk Management Study and Plan will look at the possible effects of sea level rise and increased rainfall intensity.

How can I get involved and have my say?

There are multiple opportunities for property owners and occupiers to be involved in the floodplain risk management process. Community members are encouraged to attend forums which will be held at two stages of the project:

- Review of the Flood Study Report and Flood Risk Management Inception
- Review of Draft Floodplain Risk Management Study and Plan

A property owner survey is also available to be filled out.

The community is also allowed to review the final draft report and plan at a public exhibition and make recommendations or suggestions before it is adopted by Council.