

DRAFT - FOR CONSULTATION

Flooding Hazards Mapping Update Code Amendment


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HAVE YOUR SAY

This Code Amendment is on consultation from 22 February to 21 April 2023.

During this time, you are welcome to lodge a written submission about any of the changes proposed in this Code Amendment.

There are several ways in which you can provide feedback on the Code Amendment. This includes:

- Completing an online submission via the SA Planning Portal at plan.sa.gov.au/en/code_amendments
- Providing a written submission by email to:
Email: plansasubmissions@sa.gov.au
(subject: Submission – Flooding Hazards Mapping Update Code Amendment)
- Providing a written submission by post to:
Code Amendment Team
Planning and Land Use Services
Department for Trade and Investment
GPO Box 1815
ADELAIDE SA 5001
- Providing a written submission in person by attending an information drop-in session.

There are public information sessions planned during the consultation period. You must register to attend a session via www.plansaevents.eventbrite.com.

For more information, contact PlanSA on 1800 752 664 or at plansa@sa.gov.au.

1. WHAT IS THE PLANNING AND DESIGN CODE?

The Planning and Design Code (the Code) sets out the rules that determine what landowners can do on their land.

For instance, if you want to build a house, the Code rules will tell you how high you can build and how far back from the front of your land your house will need to be positioned. The Code will also tell you if any additional rules apply to the area where your land is located. For example, you might be in a high bushfire risk area or an area with specific rules about protecting native vegetation.

1.1. Planning and Design Code Framework

The Code is based on a framework that contains various elements called overlays, zones, subzones and general development policies. Together these elements provide the rules that apply to a particular parcel of land.

1.2. Overlays

Overlays contain policies and maps that show the location and extent of special land features or sensitivities, such as heritage places or areas of high bushfire risk.

Overlays may apply across one or more zones, and they are intended to be applied in conjunction with the relevant zone. However, where a policy in a zone conflict with a policy in an overlay, the overlay policy prevails over the zone policy.

1.3. Zones

Zones are areas that share common land uses and in which specific types of development are permitted. Zones are the main element of the Code and will be applied consistently across the state.

For example, a township zone for Andamooka can be expected to apply to similar townships like Carrieton. Each zone includes information (called classification tables) that describes the types of development that are permitted in that zone and how they will be assessed.

1.4. Subzones

Subzones enable variation to policy within a zone, which may reflect local characteristics. An example is Port Adelaide centre, which has many different characteristics to typical shopping centres due to its maritime activities and uses.

1.5. General Development Policies

General development policies outline functional requirements for development, such as the need for car parking or wastewater management. While zones determine what development can occur in an area, general development policies provide guidance on how development should occur.

1.6. Amending the Planning and Design Code

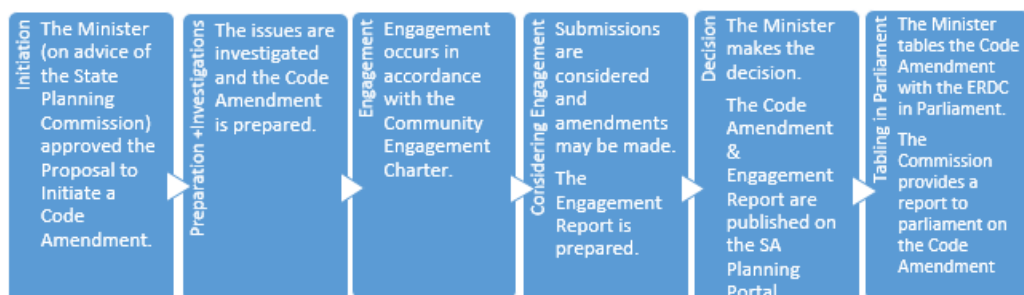
The Planning, Development and Infrastructure Act 2016 (the Act) provides the legislative framework for undertaking amendments to the Code. With approval of the Minister for Planning and Local Government (the Minister) the Chief Executive of the Department for Trade and Investment (the Department), a Council, Joint Planning Board, Government Agency or private proponent may initiate an amendment to the Code and undertake a Code Amendment process.

The Flooding Hazards Mapping Update Code Amendment (Code Amendment), by the Chief Executive of the Department, was initiated on 28 October 2021.

An approved Proposal to Initiate defines the scope of the Amendment and prescribes the investigations which must occur to enable an assessment of whether the Code Amendment should take place and in what form. A copy of the Proposal to Initiate for the Flooding Hazards Mapping Update Code Amendment can be downloaded from https://plan.sa.gov.au/have_your_say/general_consultations

The State Planning Commission (the Commission) is responsible under the Act for ensuring the Code is maintained, reflects contemporary values relevant to planning, and readily responds to emerging trends and issues.

The Commission provided independent advice to the Minister for Planning and Local Government on the Proposal to initiate this Code Amendment. The Commission may also provide advice to the Minister on the Code Amendment at the final stage of the Code Amendment process.



2. WHAT IS PROPOSED IN THIS CODE AMENDMENT?

2.1. Need for the amendment

Flooding has the potential to impact our safety and natural and built environment within South Australia, but with investigations and planning, the risk arising from flooding hazards can be minimised or mitigated.

On 19 March 2021, the Code came into effect for the whole of South Australia (SA). As part of this process, existing flood mapping was taken from council Development Plans (25 councils) and other flood mapping sources that were being used to support the assessment of development (19 councils), and incorporated into the flood hazard overlays, which currently appear in the Code.

At this time, the Hazards (Flooding - Evidence Required) Overlay was applied as a precautionary measure to areas of councils that did not have flood mapping or had not provided mapping to Planning and Land Use Services in time for the implementation of the Code.

Flood mapping has historically been a product of a flood study related to riverine flooding or surface water flooding and produced by a council or a group of councils. These plans and studies are developed through a detailed process that involves the collection of physical characteristics and rainfall data, which is then processed through hydraulic models that simulate the behaviour of floodwaters in different scenarios. Studies generally cover catchment areas and therefore, they are not defined by council boundaries. Some councils have multiple studies covering a particular area and have other areas where no study or plan has been undertaken.

In 2020, the Department received a \$3 million COVID Stimulus Grant for the Flood Hazard Mapping and Assessment Project (the project). The Project is being undertaken in three stages and will attempt to deliver more consistent and contemporary mapping of flood hazard across the State.

This Code Amendment is the first stage of the Project and is proposing to review the application of the current Hazards (Flooding – Evidence Required) Overlay in the Code, across 13 local government areas and townships within the outback areas of the state, to consider if the application of the overlay required or not, based on more recent flood studies. The Code Amendment seeks to improve flood hazard mapping by reducing the extent of the Hazards (Flooding - Evidence Required) Overlay in areas where existing flood studies, flood hazard mapping or coarse regional mapping has demonstrated that there is minimal or no risk of flooding.

The second stage of the Project (currently being undertaken) will comprise the preparation of detailed and enhanced flooding studies and flood hazard mapping. The new flood hazard mapping, prepared in Stage 2 of the Project, will then be used in Stage 3 of the Project. Stage 3 will comprise of developing new flood hazard overlays and policies that will be incorporated into the Code, as part of a State-wide Flooding Hazards Code Amendment.

The new flood hazard policies and more accurate flood hazard mapping being introduced in the second State-wide Flooding Hazards Code Amendment, will help to further improve the development assessment process and provide greater certainty for applicants undertaking new development in areas that will potentially be impacted by flood. Improving the accuracy of flood hazard mapping will also help to better inform the future rezoning of land, and the preparation of regional plans and emergency management plans.

The Project is also proposing to introduce state-wide standardised modelling parameters for the identification of flood hazard to ensure that future flooding and stormwater management studies are undertaken in a consistent manner and considers land use planning requirements.

For information on the Project or to better understand flood hazard refer to the Flood Hazard Mapping and Assessment Project webpage at: https://plan.sa.gov.au/our_planning_system/programs_and_initiatives/hazard_mapping_project

2.2. Flood Hazard in South Australia

Natural hazards, including extreme heat events, bushfire, terrestrial and coastal flooding, are an integral part of the South Australian landscape and have the potential to impact on people, property, infrastructure, our economy and the environment. As we continue to grow and develop, we need to identify, plan for and mitigate risk and exposure of natural hazards to people, property and the environment.

Flooding is one of the most important physical climate hazards in South Australia, affecting households, communities, businesses and government on a regular basis.

There are several kinds of flooding including:

- **Riverine flooding** – occurs six or more hours after heavy rainfall when excess water flows over the banks of watercourses.

- **Flash flooding** – occurs less than six hours after heavy rainfall. This type of flood mostly occurs as a result of overbank flow from quick response streams, run-off flowing toward a waterway or run-off exceeding local drainage capacity (i.e., stormwater flooding in urban catchments).
- **Infrastructure failure** – caused by failure of infrastructure that controls, conveys or stores water (e.g., pipes, pumps, dams or levees).
- **Coastal flooding** – caused by elevated sea levels as a result of tidal and/or wind-driven events, including storm surges in lower coastal waterways (not part of this project).

Each kind of flooding differs in terms of occurrence, potential damage and management measures.

Comparable with bushfire, flood is a costly hazard to South Australia in economic terms. An analysis of disaster losses from natural hazards in Australia over the period 1967-2013 (Handmer, Ladds and Magee, 2016) estimates that the cost of significant flood events in South Australia was \$2.5 billion (in 2013 prices), 50.3% of the costs of natural hazards in South Australia and an average loss per year of \$48 million over that 46-year period, making it the costliest natural hazard in that period.

A more recent analysis by the Australia Business Roundtable for Disaster Resilience and Safer Communities in 2017 (ABR, 2017) estimated that flooding in South Australia contributed to average annual damages of \$26.6 million, which is approximately 13% of all damages caused from natural hazards in South Australia. Between 1987-2016 (not including the 2016 flood damages nor the more recent bushfires in South Australia), flooding was ranked the third highest cause of damage from natural hazard, after bushfire and hail.

Consequences of flooding

The most serious direct consequences of flooding to individuals involved in hazardous flood situations are drownings (often while evacuating), electrocution, physical injuries during escape, flood-induced stress, hypothermia, and illness from contaminated water. Indirect afflictions include illness from an increase in mosquitos borne illness and toxic mould exposure in homes affected by flood water.

Damage and destruction to homes is also a serious consequence of flooding. Surveys indicate that the average disruption to normal life, in a house impacted by above floor level flooding, is two to three months.

Flooding can damage buildings and their contents in many ways, but the most common forms of flood damage are:

- Direct damage during a flood from inundation, high velocity flow, waves, erosion, sedimentation and/or flood – borne debris
- Degradation of building materials, either during the flood or sometime after the flood, and
- Contamination of the building due to flood-borne substances or mould.

Climate change is expected to raise the severity of storms and significant rainfall events in South Australia resulting in an increased risk of severe floods. The impact of climate change was evident in the recent flooding in Western Europe in 2021 where the flooding resulted in at least 184 fatalities in Germany and 38 in Belgium. These floods caused considerable damage to infrastructure, including houses, motorways, railway lines and bridges. It has been found by the World Weather Attribution (WWA) project that the most extreme rain was a once-in-400-year event, and that climate change increased the intensity of daily extreme rainfall by 3% to 19%.

Conversely the March 2021 flood events in NSW, which killed two people and forced 24,000 people to evacuate, were between a 1 in 15 – 1 in 50 annual chance floods. This demonstrates the importance of the role that planning plays in ensuring that development in high flood hazard areas is designed and sited to respond to the associated impacts.

2.3. Affected Area

The subject Code Amendment seeks to update the spatial extent of the Hazards (Flooding – Evidence Required) Overlay in the following Local Government Areas (LGAs) and townships within the outback areas of the state:

- City of Burnside
- District Council of Clare & Gilbert Valleys
- City of Marion
- City of Mitcham
- City of Mt Gambier
- District Council of Naracoorte

- City of Onkaparinga
- City of Playford
- City of Port Adelaide Enfield
- City of Port Lincoln
- City of Salisbury
- Outback Area townships (land not within a council area)
- District Council of Coober Pedy
- Roxby Downs Council

The local government areas affected by the proposed amendment are shown on the maps contained in [Attachment A](#).

The particular parts of those councils where the flood mapping will be updated are illustrated in [section 5.6](#) of this document.

2.4. Summary of proposed policy changes

2.4.1. Current Code Policy

Amendments to the policy wording in the overlays is not in the scope of this Code Amendment.

A copy of the existing Hazards (Flooding - Evidence Required) Overlay affected by spatial changes through this Code Amendment is provided in [Attachment B](#).

2.4.2. Proposed Code Policy

The Code Amendment will review the spatial application of the Hazards (Flooding - Evidence Required) Overlay.

The changes being proposed to the extent of the Hazards (Flooding - Evidence Required) Overlay will be made in accordance with the parameters established for this overlay, as described further in this document.

Maps illustrating the proposed changes are contained in an online map viewer titled '*Flooding Hazards Mapping Update Code Amendment - Draft Flood Mapping for Consultation*' at:

<https://dpti.geohub.sa.gov.au/portal/apps/instant/media/index.html?appid=84de6627dfd44e37b85f4f43c868fe48>

How the flood mapping will be applied in comparison to the current overlays is illustrated in [section 5.6](#) of this document.

3. WHAT ARE THE NEXT STEPS FOR THIS CODE AMENDMENT?

3.1. Engagement

Engagement on the Code Amendment must occur in accordance with the Community Engagement Charter principles, which required that engagement:

- is genuine
- is inclusive and respectful
- is fit for purpose
- is informed and transparent
- processes are reviewed and improved.

An Engagement Plan has been prepared for this Code Amendment to ensure that engagement will be conducted and measured against the principles of the Charter. For more information on the Community Engagement Charter go to the SA Planning Portal at (https://plan.sa.gov.au/our_planning_system/instruments/community_engagement_charter).

This draft Code Amendment has been informed through collaboration with councils and other stakeholders as follows:

- The Flood Mapping and Assessment Project Reference Group, which meets monthly and is represented by the Department for Environment and Water (DEW), Stormwater Management Authority (SMA), State Emergency Services (SES) and the Local Government Association of South Australia (LGASA).
- Working with staff from the Department for Infrastructure and Transport (DIT) and the other agencies named above.
- Engagement with councils affected by this Code Amendment to:
 - inform them about the Code Amendment and provide the required mapping data
 - include them in the Code Amendment process and gain their support for the Code Amendment
 - seek their support and assistance with the engagement.

Collaboration with councils and other stakeholders has been achieved by:

- Corresponding with Chief Executives
- Undertaking meetings with Council staff
- Ongoing phone conversations and emails.

In accordance with section 44(6) of the Act, consultation will be undertaken with:

- All of the councils affected by the Code Amendment
- The Local Government Association of South Australia.

In accordance with section 73(6)(e) of the Act, consultation will be undertaken with the following stakeholders:

- South Australian Police (SAPOL)
- South Australian Fire and Emergency Services Commission (SAFECOM)
- Local Government Association (LGASA)
- State Emergency Management Committee (SEMC)
- State Emergency Services (SES)
- Stormwater Management Authority (SMA)
- Department for Infrastructure and Transport (DIT)
- Department for Environment and Water (DEW)
- Environment Protection Authority (EPA).

3.2. How can I have my say on the Code Amendment?

There are several ways in which you can provide feedback on the Code Amendment. This includes:

- Completing an online submission via the SA Planning Portal at plan.sa.gov.au/en/code_amendments
- Providing a written submission by email to:
Email: plansasubmissions@sa.gov.au
(Subject: Submission – Flooding Hazards Mapping Update Code Amendment)
- Providing a written submission by post to:
Code Amendment Team
Department for Trade and Investment
GPO Box 1815
ADELAIDE SA 5001
- Providing a written submission in person by attending an online or in person information drop-in session.

There are public information sessions planned during the consultation period. You must register to attend a session via www.plansaevents.eventbrite.com.

For more information, contact PlanSA on 1800 752 664 or at plansa@sa.gov.au.

3.3. What changes to the Code Amendment can my feedback influence?

Aspects of the Code Amendment which stakeholders and the community can influence are:

- The spatial extent of the Hazards (Flooding – Evidence Required) Overlay in the council areas and townships within the outback areas of the state that are being affected by the Code Amendment.

Comments on existing Code policies or the other flood hazard overlays that appear in the Code, will not be considered as part of this amendment but may be collated for consideration in the future State-wide Flooding Hazards Code Amendment (noting that the existing structure and policy of the flood hazard overlays will be reviewed as part of this future Code Amendment and therefore, specific comments on existing policy may not be relevant in the future).

3.4. What will happen with my feedback?

The Chief Executive is committed to undertaking consultation in accordance with the principles of the Community Engagement Charter and is genuinely open to considering the issues raised by people in the community.

All formal submissions will be considered by the Chief Executive when determining whether the proposed Code Amendment is suitable and whether any changes should be made.

Each submission will be entered into a register and, if you provide an email address, you will receive an email acknowledging receipt of your submission. Your submission will be published on the SA Planning Portal. Personal addresses, email and phone numbers will not be published, however, company details will be.

The Chief Executive will consider the feedback received in finalising the Code Amendment and will prepare an Engagement Report which will outline what was heard during consultation and how the proposed Code Amendment was changed in response to submissions.

The Engagement Report will be forwarded to the Minister, and then published on the SA Planning Portal along with a copy of the submissions received.

3.5. Decision on the Code Amendment

After receiving the Engagement Report, the Minister may decide to undertake further consultation with the Commission if the Code Amendment is considered significant.

The Minister will then either adopt the Code Amendment (with or without changes) or determine that the Code Amendment should not proceed. The Minister's decision will then be published on the SA Planning Portal.

If adopted, the Code Amendment will be referred to the Environment Resources and Development Committee of Parliament (ERDC) for parliamentary scrutiny. The Commission will also provide the ERDC with a report on the Code Amendment.

4. ANALYSIS

4.1. Strategic Planning Outcomes

4.1.1. Summary of Strategic Planning Outcomes

Flood hazard mapping helps to ensure that new developments in flood prone areas are designed and sited to avoid or mitigate impacts from flood hazard on people, property and our environments and help to minimise the impact from new development on downstream users and watercourses.

This Code Amendment will use more contemporary and accurate flood data to better reflect the extent of the 1% Annual Exceedance Probability (AEP) flood¹.

The updated flood hazard mapping will allow for the removal of the Hazards (Flooding - Evidence Required) Overlay from areas where a detailed flood study is not required due to local knowledge or where detailed flood studies or coarse regional mapping has confirmed that its application is deemed to be unnecessary or not required. There has been limited addition to the extent of the Hazards (Flooding - Evidence Required) Overlay where local knowledge has indicated that it is warranted.

The proposed changes will help to ensure that the correct policies are applied to the right areas and allow for the existing policies in the Code to be focused on the protection of development within areas identified as having a flood hazard, while also helping to simplify the assessment process and provide greater opportunities for deemed-to-satisfy (DTS) development applications in areas that are not subject to flood risk and where it has been determined that a flood overlay is not required.

The Hazards (Flooding - Evidence Required) Overlay will not be removed where the recent detailed flood studies and flood hazard mapping has identified that a potential flood risk exists. The Hazards (Flooding - Evidence Required) Overlay will remain in these areas as a precautionary measure and will provide a policy framework to address potential flood risk in areas. Where the level of flood hazard has not yet been determined, these will be captured in the Stage 3 – State-wide Flooding Hazards Code Amendment.

The Code Amendment will help to achieve consistency with the following State directions from the *30 Year Plan 2017 Update* for the treatment of natural hazards and at the same time provide greater certainty in decision making:

¹ Refer to Frequently Asked Questions document on the [PlanSA website](#) for more information about AEP

- To build the resilience of communities, development and infrastructure from the adverse impacts of natural hazards.
- Identify and minimise the risk to people, property and the environment from exposure to terrestrial flooding including taking into account the impacts of climate change
- Locate and design development in accordance with a risk hierarchy of ‘avoid’, ‘accommodate’ and ‘adapt’.

4.1.2. Consistency with the State Planning Policies

State Planning Policies define South Australia’s planning priorities, goals and interests. They are the overarching umbrella policies that define the state’s interests in land use. There are 16 State Planning Policies and six special legislative State Planning Policies.

These policies are given effect through the Code, with referral powers assigned to relevant Government Agencies (for example, the Environmental Protection Agency for contaminated land). The Code (including any Code Amendments) must comply with any principle prescribed by a State Planning Policy.

This Code Amendment is considered to be consistent with the State Planning Policies as shown in [Attachment D](#).

4.1.3. Consistency with the Regional Plan

The directions set out in Regional Plans provide the long-term vision and set the spatial patterns for future development within a region. This can include land use integration, transport infrastructure and the public realm.

The Commission has identified that the existing volumes of the South Australian Planning Strategy, prepared under the *Development Act 1993*, will apply until such time as the new Regional Plans are prepared and adopted. Refer to the [SA Planning Portal](#) for more information on the Commission’s program for implementing Regional Plans throughout South Australia.

Where there is conflict between a Regional Plan and the State Planning Policies, the State Planning Policies will prevail.

This Code Amendment is considered to be consistent with the relevant Regional Plans as shown in [Attachment D](#).

4.1.4. Consistency with other key strategic policy documents

This Code Amendment aligns with other key policy documents, including:

- *The Priorities for Improved Flood Management in South Australia - Position Paper* by the Department for Environment and Water, June 2020 seeks to develop an improved state-wide approach to flood management in South Australia. This Code Amendment delivers the action to further improve the consideration of flood risk in land use planning by reducing the extent of the Hazards (Flooding - Evidence Required) Overlay to more accurately representing the location of flood hazard in the Planning and Design Code.
- *The State Emergency Management Committee Strategic Plan 2017-2022* sets priorities to 2022 relevant to this project. In particular, 5.22 states that land-use policy and planning reduces existing and potential environmental management risks and consequences.
- Both the priorities for improved flood management in *SA Position Paper - June 2020* and the *State Emergency Management Committee Strategic Plan 2017-2022* have been prepared to be consistent with the *National Disaster Risk Reduction Framework 2018*.

4.2. Understanding Flood Hazard

Financial losses from properties and building damage affect the financial health of households. A family home is usually the largest purchase in a person's life. For the majority of families, it is both their principal asset and is associated with their largest debt. It is also likely to contain the majority of their possessions.

The size and effect of financial impacts depend on the severity of flooding, the susceptibility of the house and contents, current and projected future income, financial assets and debt and capacity to recoup the losses sustained. On the next page is different estimations of the cost of flooding by its depth.

The importance is to ensure that the economic and social cost is not greater than can be reasonably managed by the community. As seen below, the *Glenelg-Marino Stormwater Management Plan 2014* included an assessment of the damage costs to buildings based on the flood depth

and the type of land use. NRMA Insurance has also communicated similar costs by flood depth.

Commentary about NSW Floods

“While clearly most of the homes and businesses which were flooded were approved prior to current flood related development controls, we must ask ourselves whether it is appropriate to permit ongoing, high-risk land uses in locations which are so flood prone now that we understand the risks. Let me illustrate my point with the Hawkesbury Nepean River. The recent flood peak there was just shy of 13m AHD at Windsor which makes it about a 1 in 15 AEP flood, yet there were houses, some recently renovated, which were flooded to their eaves. I know voluntary purchase schemes struggle to get funding, and when they do, have poor uptake but surely there is no economic sense in cleaning out these homes and reoccupying them time and again” Steven Molino, Floodplain Manager April 6, 2021

In Adelaide, the likelihood of such extensive hazardous floods is much less. Currently there is adequate land supply outside of flood hazard areas to ensure that new urban expansions do not occur in areas subject to high hazard.

It is considered that it is still appropriate to have a more simplified assessment process in South Australia that focuses on avoiding development in high flood risk areas and a design response in the lower flood hazard areas. Avoiding the need to rely on increased mitigation and emergency response is possible.

Furthermore, it is important that the correct flood policies are applied to the right areas, to reduce the time and cost associated with the assessment of development applications and avoid flood policies being unnecessarily applied to new development applications where there is minimal risk of flooding.

Damage Cost Estimating

For each inundated parcel, costs were assigned based on land use and the depth of above and below floor flooding to estimate the financial cost of flood damage.

To determine the cost of damages reference was made to work undertaken as a part of the Brown Hill Keswick Creek Stormwater Management Plan (Worley Parsons Services Pty Ltd, July 2011). As no actual capital value or improved value information was available, values were estimated for each land use. The adopted damage costs for each land category by depth of inundation are given in Table 4.10.

Table 4.10 Adopted Damage Costs

Zone	Cost by flood depth							
	0.025-0.1	0.1-0.14	0.15-0.19	0.2-0.29	0.3-0.49	0.5-0.99	1.0-2.49	2.5-4.0
Unit	\$2,100	\$3,200	\$3,200	\$27,565	\$29,241	\$35,551	\$69,792	\$154,117
Residential	\$3,150	\$4,800	\$4,800	\$41,348	\$43,862	\$53,326	\$104,687	\$231,176
Building	\$3,150	\$4,800	\$4,800	\$41,348	\$43,862	\$53,326	\$104,687	\$231,176
Historic	\$3,150	\$4,800	\$4,800	\$41,348	\$43,862	\$53,326	\$104,687	\$231,176
Commercial	\$18,500	\$34,690	\$70,040	\$122,487	\$225,301	\$454,422	\$1,025,892	\$1,652,097
Business	\$18,500	\$34,690	\$70,040	\$122,487	\$225,301	\$454,422	\$1,025,892	\$1,652,097
Institution	\$10,500	\$26,221	\$30,671	\$37,366	\$50,833	\$82,644	\$176,536	\$325,719
Industry	\$73,500	\$215,008	\$284,114	\$386,619	\$587,482	\$1,034,649	\$2,146,322	\$3,352,862

The cost of damage caused by floods

Flood damage can range from just ruining carpets and contents, to destroying entire kitchens, electrical wiring and even causing structural failure requiring a complete rebuild - the cost of recovering from even minor flooding can be surprisingly high.

The diagram below shows indicative costs to recover from floods of various depths, from one insurance company:



Insurance Council of Australia- Local Government and Insurance Flood Insurance Pricing

Flood insurance premiums are proportional to the flood risk at a property – this high cost of recovery can unfortunately result in high premiums in areas with a high likelihood of flooding.

4.2.1. Understanding the existing Flood Hazard Overlays

Flood Hazard Overlays originate from flood studies or stormwater management plans primarily prepared by councils. Most of the current overlays were transitioned from council Development Plan maps into the Code. The existing maps were previously inserted into Development Plans by either a council-led or Ministerial Development Plan Amendment (DPA) process.

Some additional hazard mapping, which was not previously in development plans, was incorporated in the Code. In these instances, the councils had completed either updated or new mapping studies but had yet to insert this mapping into their Development Plans through the DPA process. In many instances these councils had been referring to this flood mapping for the purposes of development assessment even though it was outside of their development plans.

The Hazards (Flooding - Evidence Required) Overlay was applied to areas where no flood study had been provided to the Department as part of the implementation of the Planning and Design Code.

The current State 'standard' for flood hazard mapping and applying flood policy for development purposes is the 1% Annual Exceedance Probability (AEP) Event. The 1% AEP has historically been the most adopted minimum flood level for residential development in both Australia and overseas.

An AEP is the probability of an event occurring in any given year. 1% AEP means there is a 1% chance in any given year of the event occurring. This means that on average 1 event of this size will occur every 100 years.

The 1% AEP flood event is considered indicative of a 'big flood' with potentially disastrous consequences and is given an even chance of occurring at least once in a 70-year lifetime.

In the Code, the State is currently divided into four flood hazard classifications:

- Hazard (Flooding) Overlay
- Hazard (Flooding - General) Overlay
- Hazard (Flooding - Evidence Required) Overlay
- Land not in a flood hazard overlay

The preparation of flood maps involves a complex process as shown below:

Step 1 Data Collection	Step 2 Hydrologic & Highdraulic assessment	Step 3 Flood Study Data
<ul style="list-style-type: none"> •Historical flood data •Physical characteristics- LiDAR digital terrain model •Rainfall records •Flood guage records •Impervious rating records •Stormwater infrastructure 	<ul style="list-style-type: none"> •Computer modelling identify: •Probable flood flows and volumes caused by rainfall. •Range of flood levels, depth verified against historical data 	<ul style="list-style-type: none"> •Planning flood maps (Hazards Flooding overlays & reference layers) created against rules for the purposes of applying policy in the Planning and Design Code. •Studies & reports prepared and data used for emergency management purposes and infrastructure planning.

Hazard is considered the most effective way of quantifying flood risk as it includes consideration of both depth and velocity. This is because very fast-moving water can be more dangerous than still water of a greater depth.

In all but the most recent flood studies, the SCARM (Standing Committee on Agriculture and Resource Management) Hazard rating scheme (shown in figure 1 below) has been used in SA to categorize flood hazard.

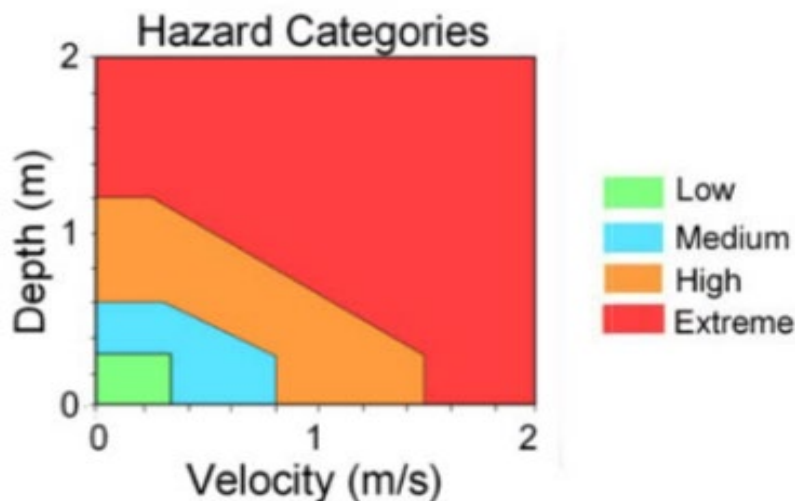


Figure 1. SCARM Hazard Categories 2000 (CSIRO)

This SCARM Hazard rating scheme has been reviewed with the Flood Hazard Classification Vulnerability Curve 2017 (shown in Figure 2 below), now considered to be the best practice flood hazard rating scheme.

The Flood Hazard Classification Vulnerability Curve 2017 more accurately reflects the vulnerabilities of buildings, people and vehicles to different degrees of hazard (depth and flooding). Only a few of the most recent studies incorporate this classification system.

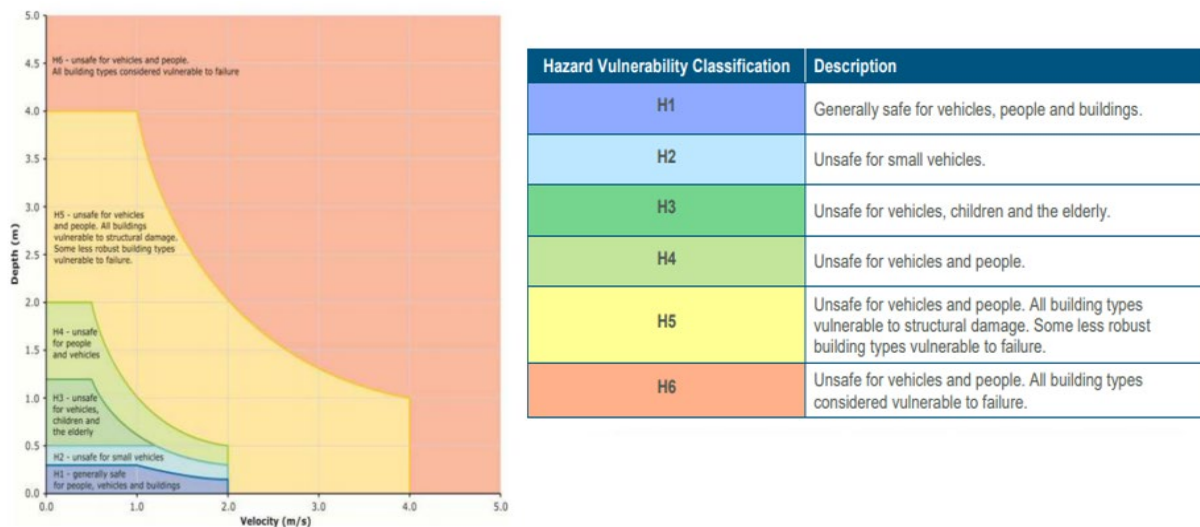
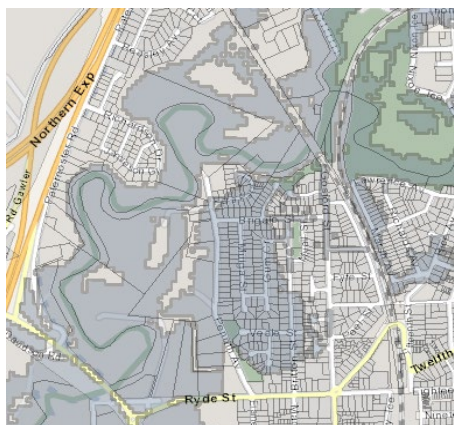


Figure 2. National Best Practice - Vulnerability Curve 2017

A more detailed description of the purpose of each flood hazard overlay in the Code and the data classification used, is provided below.

Hazards (Flooding) Overlay



Overlay Intent

This Overlay applies to areas identified as being of high flood risk. It seeks to minimise impacts on people, property, infrastructure and the environment from high flood risk by retaining areas free from development, and minimising intensification where development has occurred. It also seeks to minimise impacts on the flood plain and flow paths by not obstructing flow paths.

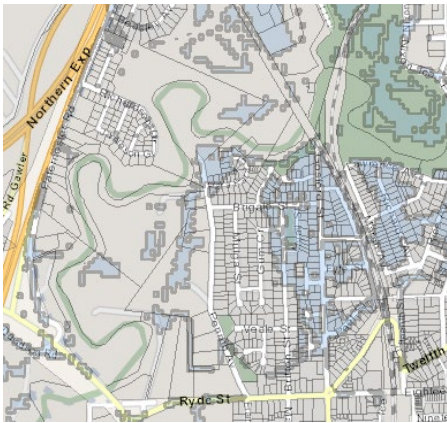
Certain forms of development that are usually exempt from approval require assessment in this overlay such as fencing, small outbuildings and levels of fill to ensure that flow paths are not obstructed.

Rules

The Hazards (Flooding) Overlay has been applied in accordance with the following in priority order:

1. Vulnerability Curve - H3 to H6 (Unsafe for vehicles, children, and the elderly)
2. SCARM 3 High and SCARM 4 Extreme
3. Depth only data - greater than 300mm, or
4. Where an outline to a flood hazard area was in the development plan but no other information was provided.

Hazards (Flooding - General) Overlay



Overlay Intent

This overlay applies to areas identified as being of medium flood risk. It seeks to minimise the impacts on people, property, infrastructure, and the environment by generally siting and designing development to be at least 300mm above the height of a 1% AEP flood (a Deemed-to-Satisfy criteria).

Pre-schools, educational establishments, retirement and supported accommodation, emergency services facilities, hospitals and prisons should be located outside the 1% AEP flood event.

Development involving the storage or disposal of hazardous materials should be wholly located outside the 1% AEP flood plain or flow path.

Rules

The Hazards (Flooding - General) Overlay has been applied in accordance with the following in priority order:

1. Vulnerability Curve - H1- to H2
2. SCARM 2 Medium and 1 Low
3. Depth only data - lower than 300mm

Hazards (Flooding - Evidence Required) Overlay



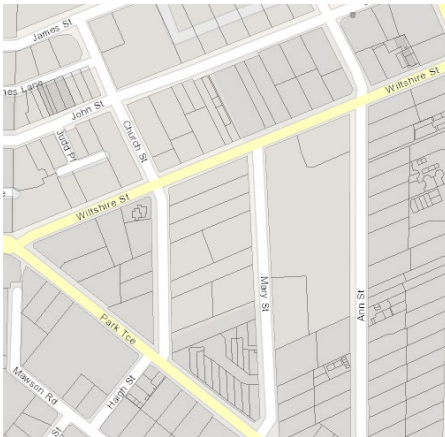
Overlay Intent

This overlay was applied as a precautionary measure to mitigate potential impacts on people, property, and infrastructure from potential flood risk by siting and designing development 300mm above the highest point of top of kerb of the primary street or the highest point of natural ground level at the primary boundary where there is no kerb (a Deemed-to-Satisfy criteria).

Rules

1. Applied where no flood study data has been provided.

Absence of a flood overlay



Intent

No flood policy applies, as for planning purposes this area has been identified has not been subject to 1% AEP flood risk. This does not mean that the area is free from flooding, it means that a flood study has determined that the area is unlikely to have significant damages in a 1% AEP event.

This could mean that the property may flood and gardens, fences and garage contents may be damaged, however it is unlikely to enter the dwelling.

The area may flood in a larger flood event, or if there is infrastructure failure in the stormwater network in small events.

Rules:

1. This area has been subject to a flood study which has determined that this area is unlikely cause a significant impact on property in a 1% AEP event.

This Code Amendment will seek to update the spatial extent of the Hazards (Flooding - Evidence Required) Overlay in the Code, by:

- a) reducing the extent of the Overlay within 13 local government areas and several townships within the Outback Areas of the State, where flood hazard mapping or coarse regional mapping has demonstrated that there is minimal risk of flooding; and
- b) applying the Hazards (Flooding - Evidence Required) Overlay to the north-eastern portion of the Port Adelaide Enfield Council area until the flood hazard mapping being prepared in Stage 2 of the Project, can be implemented into the Code as part of the future Stage 3 – State-wide Flooding Hazards Code Amendment. The application of the Overlay is a precautionary measure that will provide a policy framework to address potential flood risk in areas, where the level of flood hazard has not yet been determined.

4.2.2. Other Code Policy Referencing the 1% AEP event

In addition to the series of hazards flooding overlays, there are additional policies within the Code that refer to the 1% AEP flood event. The revised mapping can be used to guide the application of these policies more accurately. The policies are outlined below.

Water Resources Overlay

The Water Resources Overlay seeks protection of the quality of surface waters considering the projected reduction in rainfall and warmer air temperatures

because of climate change. It also seeks to maintain the conveyance function and natural flow paths of watercourses to assist in the management of floodwaters and stormwater runoff.

It applies to watercourses and other water bodies (including public water supply reservoirs) that require protection through the planning system. The mapping is based on:

- watercourses – typically those identified on 1:50,000 topographic maps
- water bodies – including wetlands, dams, lakes (intermittent / dry and perennial), land subject to flooding and reservoirs.

Other policy that refers to the protection of floodplains in a 1% AEP event

General Policy

- Animal keeping and horse keeping
 - **DTS 4.2** Waste storage facilities to be located outside of 1% AEP flood event.
- Beverage Production
 - **PO3.3** land in areas subject to flooding should not be irrigated
- Residential Development
 - **DTS 18.2 & 7.2** Managing stormwater run-off for 5 or more dwellings (including land division for up to 5 dwellings) up to a 1% AEP flood event.
- Infrastructure and Renewable Energy Facilities
 - **PO 12.1** Septic tank effluent drainage fields and other wastewater disposal areas are located away from watercourses and flood prone, sloping, saline or poorly drained land to minimise environmental harm.
- Waste Treatment and Management Facilities
 - **PO 2.3** Wastewater lagoons are designed and sited to:
 - avoid intersecting underground waters;
 - avoid inundation by flood waters;
 - ensure lagoon contents do not overflow;
 - include a liner designed to prevent leakage.
 - **PO 6.4 & 7.5** Landfill facilities/organic waste processing facilities are separated from areas subject to flooding
 - **DTS 6.4** Landfill facilities/organic waste processing facilities are set back 500m or more from land inundated in a 1% AEP flood event.

Zones

- Hills Face Zone
 - **PO 10.6** Buildings, structures are not located in areas subject to inundation by a 1% AEP flood event
 - **PO 10.7** Buildings, structures and associated fill do not interfere with the flow of flood waters.

5. INVESTIGATIONS

The extent of investigations that have been undertaken as part of this Code Amendment process have been agreed to by the Minister in the Proposal to Initiate.

The following investigations have been undertaken to inform the broader Project and this Code Amendment:

- A flood and stormwater study audit in growth areas of the State
- An audit of available flood and stormwater studies that have not previously been included in Development Plans and not incorporated in the Code
- Analysis of the growth projections for the State, land supply including greenfield, strategic infill and infill (analysis of capital value and site value ratios and demolition rates)
- Review of formal & informal feedback from councils on flooding policy and mapping
- Investigation of use 'off the shelf' coarse regional flood mapping for identifying areas of flood risk and determining whether this product can be utilised to identify areas where flood risk does not occur to remove the Hazards (Flooding - Evidence Required) Overlay
- Identify areas where more recent flood data could allow for the removal of the Hazards (Flooding - Evidence Required) Overlay

Following the implementation of the Code and as part of the Flood Hazard Mapping and Assessment Project, several councils requested that new and revised flood modelling be incorporated into the Code as early as possible, and not wait for the State-Wide Code Amendment. This resulted in the initiation of the Stage 1 Code Amendment.

After reviewing the available flood studies and the flood hazard mapping being prepared in the second stage of the Project, a decision was made to reduce the scope of the Code Amendment to focus only on reducing the extent of the Hazards (Flooding - Evidence Required) Overlay in areas where it could be demonstrated that there is minimal risk of flooding. This approach has also reduced the likelihood of properties being impacted twice through the two amendments.

Consequently, updates to the Hazard (Flooding) Overlay and Hazard (Flooding - General) Overlay will now be considered, when preparing the new flood hazard mapping in Stage 2 of the Project and implemented as part of a State-wide Flooding Hazards Code Amendment (yet to be initiated).

This approach will help to provide a clear distinction between this Code Amendment and the State-wide Flooding Hazards Code Amendment. This in turn will make it easier to communicate the changes during consultation and avoid any unnecessary confusion regarding the two amendments.

The following detailed flood studies and data has been used to inform the proposed changes to the Hazards (Flooding - Evidence Required) Overlay:

Council	Flood study/catchment
City of Burnside	Burnside Floodplain Mapping 2019 (1st to 3rd Creeks catchment)
Clare and Gilbert Valleys Council	Auburn Stormwater Management Plan 2019 (Eyre Creek, Upper Wakefield River Catchment and Rices Creek)
City of Mitcham	Brown Hill Creek Urban Catchment Draft* (2017)
Naracoorte Lucindale Council	Naracoorte Flood Study 2022
City of Port Lincoln	Port Lincoln Flood Study 2022
City of Salisbury	Dry Creek Stormwater Management Plan (draft*) 2021

**The first step in a Stormwater Management Plan (SMP) is flood modelling to understand the flood risk. SMPs are documents which may be in draft for a significant period of time while mitigation options and payment allocation for mitigation option construction are finalised. For SMPs referred to here as draft, the flood modelling has been finalised and accepted by the relevant council.*

Review of the Hazards (Flooding - Evidence Required) Overlay

In addition, investigations identified a need for review of the Hazards (Flooding - Evidence Required) Overlay in the following council areas.

- City of Burnside
- District Council of Coober Pedy
- City of Marion
- City of Mitcham
- City of Mt Gambier
- City of Onkaparinga
- City of Playford
- Outback Area townships (land not within a council area)
- City of Port Adelaide Enfield (updated to include areas of (Flooding - Evidence Required) Overlay)
- City of Port Lincoln
- Roxby Downs Council

5.1. Revised and New Council Flood Mapping

The relevant councils provided the flood data that was used to update the spatial extent of the Hazards (Flooding - Evidence Required) Overlay. The rules established for the Code, as explained above, were then used to remove areas that were shown to have a minimal risk of flooding. Refer to the detailed flood study information for individual councils ([section 5.6](#) of this document) for more specific information about the flood data that was used.

5.2. Coarse Regional Data Assessment

The Flood Hazard Mapping and Assessment Project seeks to provide consistent, current and complete flood mapping across the State. This does not necessarily require detailed and costly flood studies across areas of the State where there is no history of flooding or where there is likely to be very limited development.

To cover gaps where there are no detailed flood studies or those that are not proposed as part of the project “Off the Shelf” flood hazard mapping that is available Australia-wide, both 30m and a 5m scale flood mapping has been purchased from Ambiental Risk Analytics and JBA Risk Management. This mapping is predominantly commissioned for and used by insurance companies in estimating the likelihood of flood risk and damages.

These mapping products have been tested in a range of areas over the State, including against each other, the State’s watercourse data and against areas where detailed flood studies exist. This enables assessing the functionality of the mapping for use in planning decision-making.

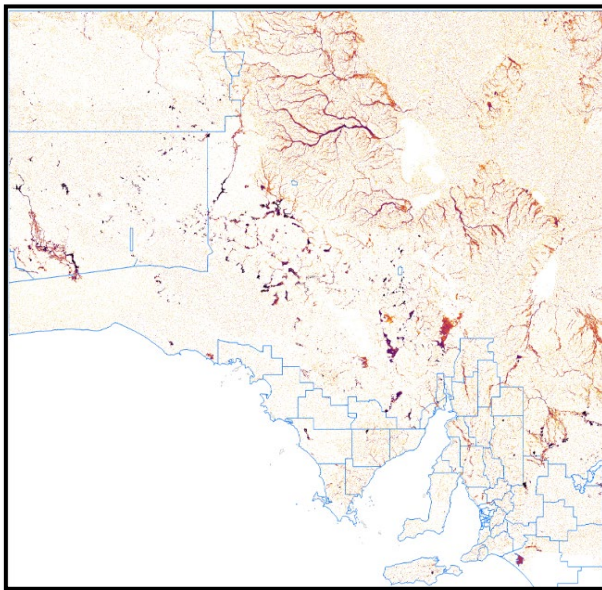
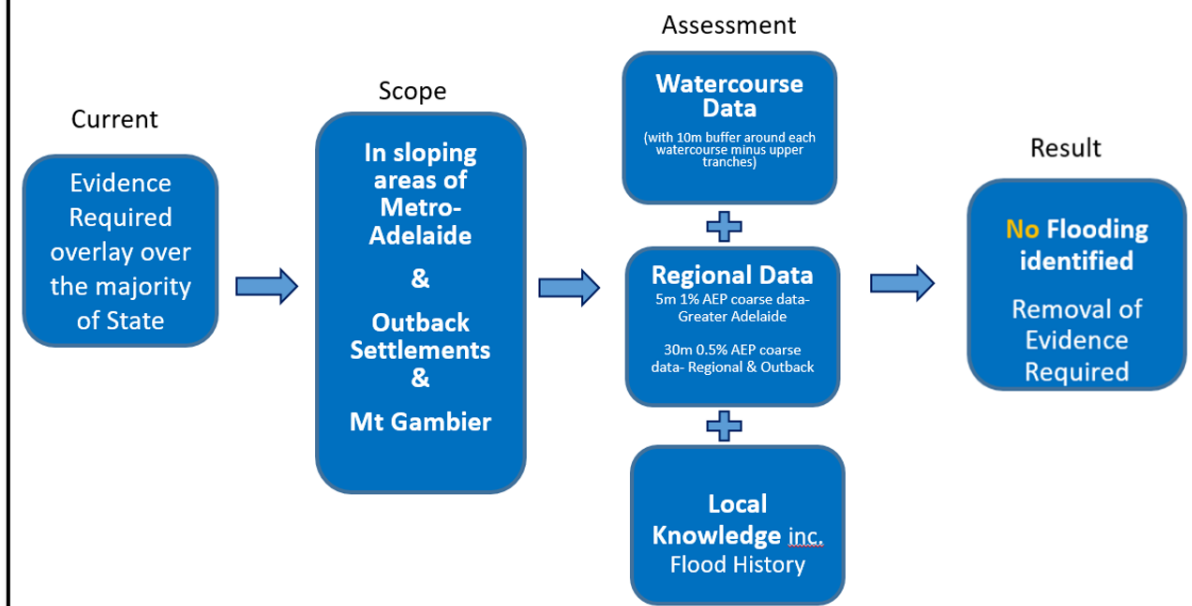
The investigations have determined that this mapping is fit for purpose for regional and outback areas and lower density areas with changing topography. Its accuracy, however, is not reliable in flat urban areas as it does not consider detailed stormwater infrastructure. Its accuracy is also not reliable in very flat non-urban areas.

It is considered that the 5m scale in a 1% AEP event, together with topographical and watercourse data, provides sufficient justification for areas being included in the Hazard (Flooding) Overlay. The policy in this overlay gives the planner sufficient ability to determine whether the hazard risk is high and therefore whether development should not proceed or whether a design approach is required to build above the anticipated flood depth. However, as 30m scale mapping is not fine scale, the 0.5% AEP event (1-in-200-year event) has been used as a precautionary measure to capture flood hazard risk.

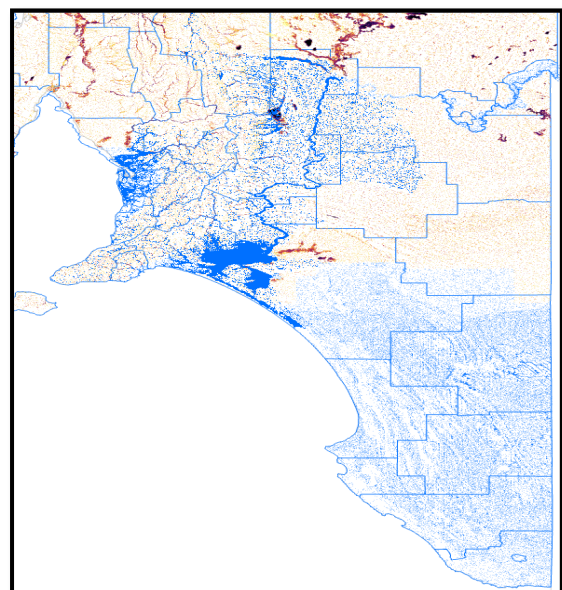
Coarse Regional Mapping has been used in this Code Amendment to identify areas that have a minimal risk of flooding and therefore do not need to be included in the Hazards (Flooding - Evidence Required) Overlay.

The methodology or rules that were established for the use of the Coarse Regional Data to determine flood hazard for each of the local government areas is described in greater detail below.

Process for reviewing Evidence Required Overlay Using New “Coarse” Flood Mapping Data



30m scale Flood Hazard Mapping



5m scale Flood Hazard Mapping

5.3. Outback areas

Currently the Hazards (Flooding - Evidence Required) Overlay is applied to the whole of the Outback because there was no flood hazard mapping available in these areas (see Figure 3). This means that development cannot be classified as deemed-to-satisfy unless it is built 300mm above the kerb, or if no kerb exists, the highest point of natural ground level at the primary street boundary. This policy does not function effectively because most outback areas have limited road and stormwater infrastructure.

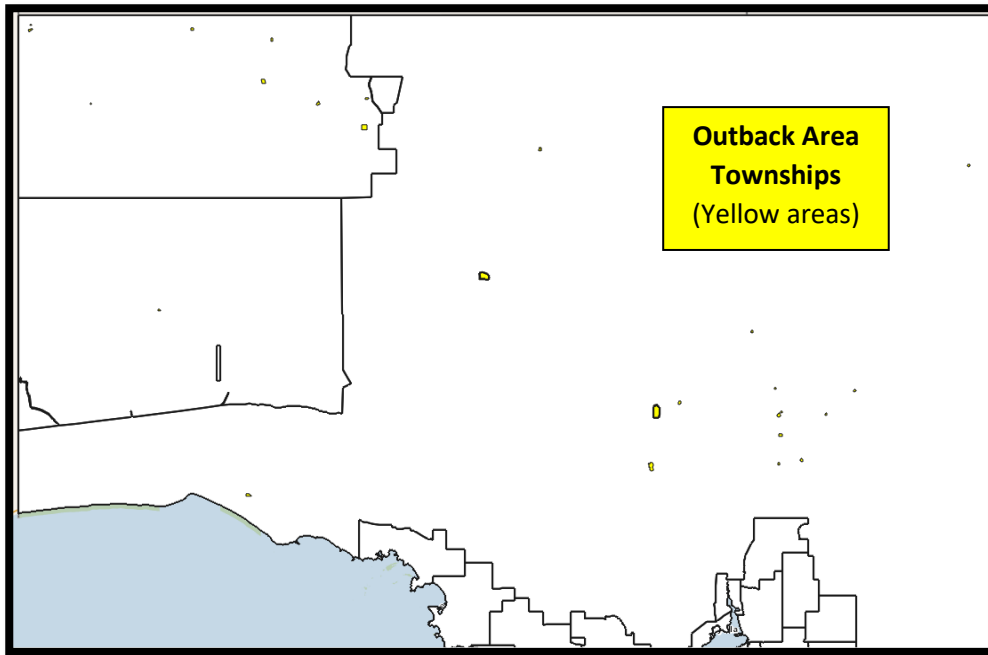


Figure 3. Outback Areas and the Hazards (Flooding - Evidence Required) Overlay (SAPPA)

To capture flood risk in developed areas of the outback, 30m regional mapping with a 0.5% AEP event has been utilised to map flood hazard. The use of 0.5% rather than 1% mapping was a precautionary measure to consider the inaccuracies associated with larger scale mapping.

If the regional mapping shows flooding in a 0.5% AEP event and within 1km of a settlement, the land is proposed to remain within the Hazards (Flooding - Evidence Required) Overlay and where this is not the case, the Hazard (Flooding - Evidence Required) Overlay will be removed from areas within 1km of a settlement.

The removal of the Hazards (Flooding - Evidence Required) Overlay from areas outside of the 1km buffered settlements will be considered in Stage 2 and 3 of the Project, to allow for further investigations to be undertaken. There is very limited development in these areas and therefore minimal risk. Sufficient guidance regarding flood risk in these areas can be gained by reviewing the Watercourse Overlay policies in the Code.

In summary, the key planning outcomes are as follows:

- The Hazards (Flooding - Evidence Required) Overlay has been applied across the whole Outback, however, its application was of no consequence and only complicated development assessment because the policy was limited to building above kerbs or street level, which are not relevant to areas outside of settlements in the Outback.
- The removal of the Hazards (Flooding - Evidence Required) Overlay within 1km of certain Outback townships will provide the opportunity for more streamlined applications within townships that are likely to experience development. It will also remove the need to apply complicated or unnecessary flood policies that are irrelevant in these areas.

5.4. Urbanised Areas surrounding Adelaide

Currently the Hazards (Flooding - Evidence Required) Overlay applies to many of the foothill areas of Greater Adelaide as there was no flood study prepared for these areas during the preparation of the Code. This Code Amendment, with the support of the relevant councils, reviewed the necessity of having this overlay apply in areas that do not have or are not planned to be part of a future flood study, due to the lack of preliminary investigations of flood history and topography.

The 5m regional mapping has been compared with watercourse data in these areas as a checking measure. In hilly areas, the proposed flood hazard mapping was closely aligned with the existing watercourses.

The Hazards (Flooding - Evidence Required) Overlay is proposed to be removed from areas that have not been defined as having a risk of flood hazard in a 1% AEP event.

In summary, the key planning outcomes are as follows:

- The Hazards (Flooding - Evidence Required) Overlay was applied across foothill areas of metropolitan Adelaide. However, its application was of limited consequence and only complicated development assessment as the policy was limited to building above kerbs or street level which is difficult to apply in hilly and undulating suburbs.
- The Hazards (Flooding - Evidence Required) Overlay will be removed in the foothills where there is minimal risk of flooding identified by evidence-based flood mapping. This will provide the opportunity for more streamlined development assessment in areas that are no longer subject to the Overlay.

5.5. Regional Cities

30m regional data at the 0.5% AEP was used to determine whether the Hazards (Flooding - Evidence Required) Overlay would be removed or revised in hillier areas of Port Lincoln not subject to a flood study and the Mount Gambier council area.

The approach used for urbanised areas surrounding Adelaide will also apply to the City of Port Lincoln with the exception of the southern area, which will be mapped as part of an enhanced study in the Flood Hazard Mapping and Assessment Project.

The City of Mount Gambier advised that there was no history of flooding in the City given the permeable nature of the geology. This advice, combined with a review of the 30m regional data, provided the justification for removing the Hazards (Flooding - Evidence Required) Overlay from the whole of the Mount Gambier council area.

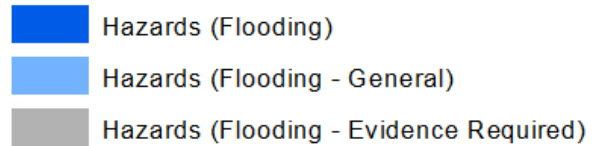
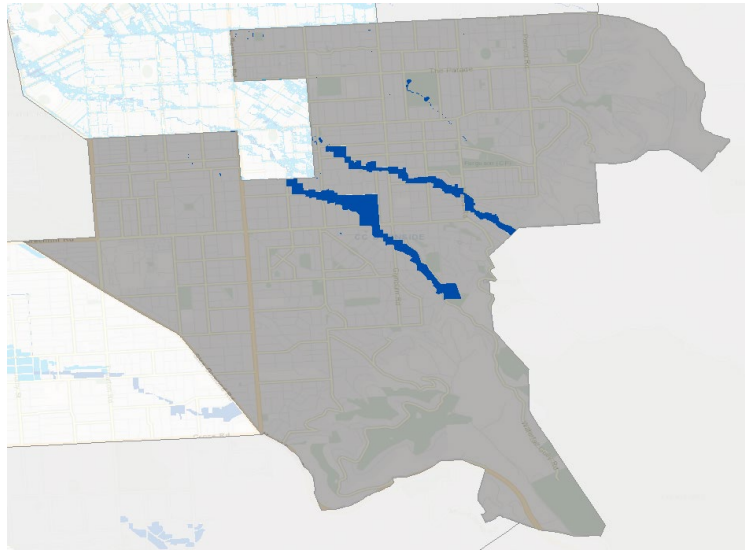
5.6. Detailed Flood Study information by Council

5.6.1. City of Burnside

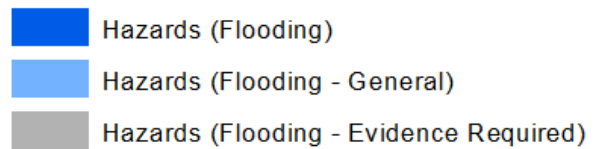
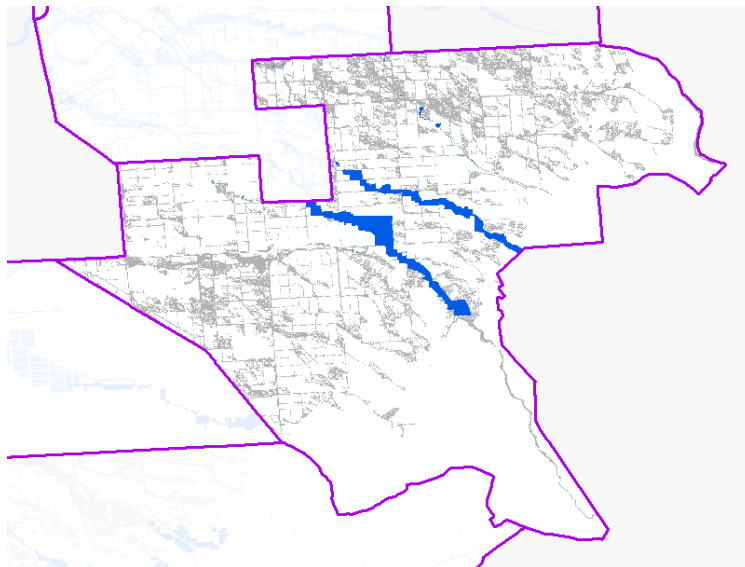
Suburbs affected (all):

Auldana, Beaumont, Beulah Park, Burnside, Cleland, Dulwich, Eastwood, Erindale, Frewville, Glen Osmond, Glenside, Glenunga, Hazelwood Park, Kensington Gardens, Kensington Park, Leabrook, Leawood Gardens, Linden Park, Magill, Mount Osmond, Rose Park, Rosslyn Park, Skye, St Georges, Stonyfell, Toorak Gardens, Tusmore, Waterfall Gully, Wattle Park

Current Flood Hazard Overlay application



Proposed Flood Hazard Overlay Application



Mapping changes

- Trimmed the extent of the Hazards (Flooding – Evidence Required) Overlay using the Flood Study, Regional Flood Dataset and Watercourse information

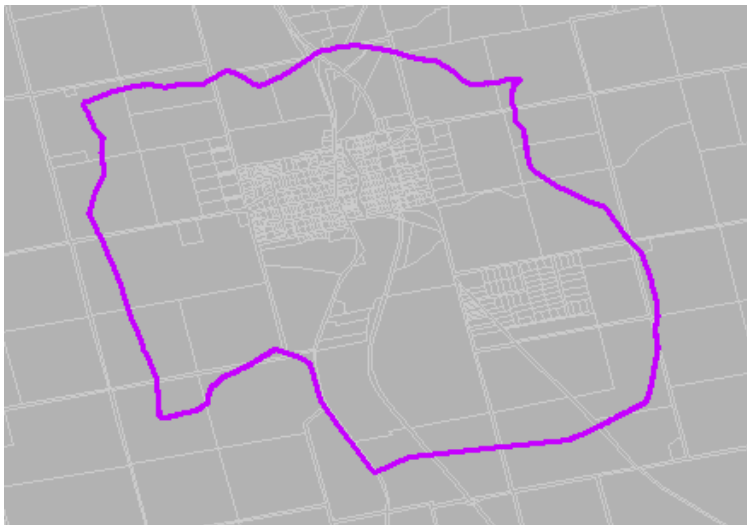


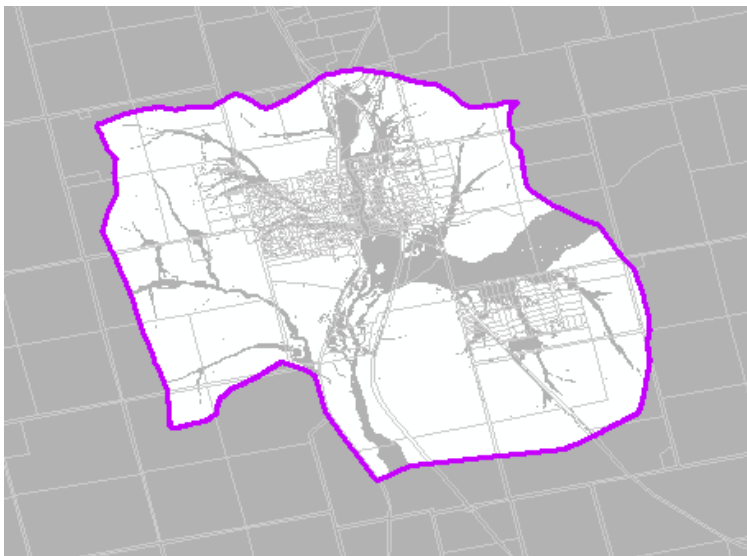


Flood Study Name/s	Burnside Floodplain Mapping 2019
Catchment Name/s	First to Third creeks
Scenario	Existing Development
Regional Flood Dataset	5m JBA Australia Flood Map version April 2021
Flood type/source	Fluvial (Riverine Flows)
Watercourse method	Watercourses were buffered 5 metres each side (output = 10m wide) and selected using Riverine 5m regional data. Both datasets were then combined and trimmed.

Estimated level of change by properties affected²:

Current Overlay	Current number of properties in overlay	Proposed number of properties in overlay	Level of Change
Hazards (Flooding – Evidence Required) Overlay	21990	8960	-12990

² Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.6.2. Clare and Gilbert Valleys Council

Suburbs affected: Auburn Township – selected area	
Current Flood Hazard Overlay application	
	<p> Extent of Flood Study</p> <p> Hazards (Flooding - Evidence Required)</p> <p>Whole township and surrounding allotments are currently covered by the Hazard (Flooding-Evidence Required) Overlay.</p>
Proposed Flood Hazard Overlay Application	
	<p> Extent of Flood Study</p> <p> Hazards (Flooding - Evidence Required)</p> <p>Mapping changes</p> <ul style="list-style-type: none"> Trimmed the extent of the Hazards (Flooding – Evidence Required) Overlay using the Flood Study
Flood Study Name/s	Auburn Stormwater Management Plan 2019
Catchment Name/s	Eyre Creek, Upper Wakefield River Catchment and Rices Creek
Scenario	Existing Development

Estimated level of change by properties affected³:

Current Overlay	Current Property Nos	Proposed Property Nos	Level of Change
Hazards (Flooding – Evidence Required) Overlay	6440	6390	-20

³ Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.6.3. District Council of Coober Pedy

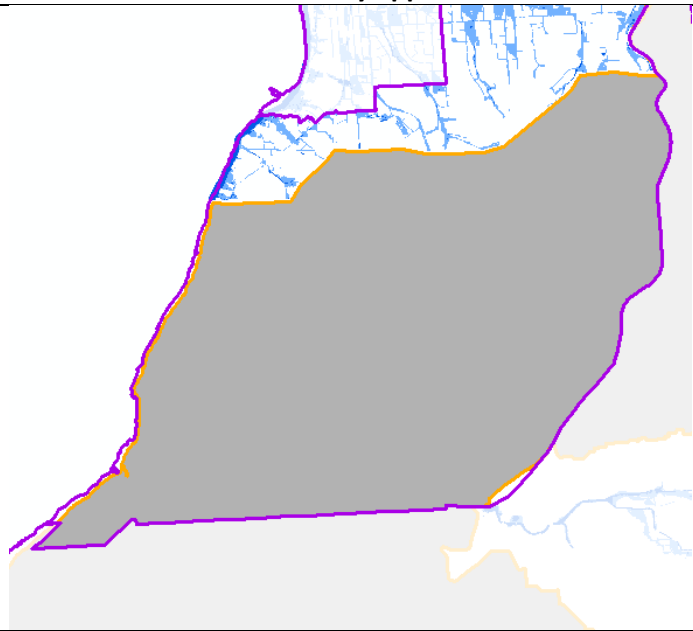




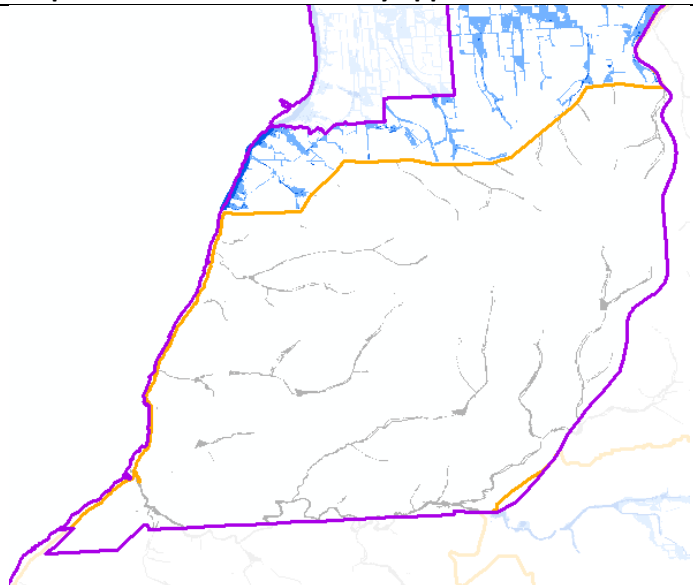




Suburbs affected: Coober Pedy	
Current Flood Hazard Overlay application	
	<p>■ Hazards (Flooding - Evidence Required)</p>
Proposed Flood Hazard Overlay Application	
	<p>□ Township 1 km extent</p> <p>■ Hazards (Flooding - Evidence Required)</p> <p>Mapping changes Trimmed the extent of the Hazards (Flooding – Evidence Required) Overlay using Regional Flood dataset and watercourses</p>
Regional Flood Dataset	30m Australia FloodMap™ v3.3 (rural) Feb. 2021 (Ambiental) Likelihood 0.5% AEP
Watercourse method	Selected within 1 kilometre zone buffered area. Watercourse lines were then buffered 15 metres each side.
Notes	30 metre regional data includes both Fluvial (Riverine Flows) and Pluvial (Surface water)
Method	30 metre cells for FloodMap™, were combined with buffered (15m) watercourses to generate the Hazards (Flooding) Overlay. Accuracy of source datasets vary across the state.

Estimated level of change by properties affected⁴:

Current Overlay	Current Property Nos	Proposed Property Nos	Level of Change
Hazards (Flooding – Evidence Required) Overlay	1860	190	-1670

⁴ Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.6.4. City of Marion

Suburbs affected: Darlington, Hallett Cove, Lonsdale, Marino, O'Halloran Hill, Reynella, Seaclyff Park, Seaview Downs, Sheidow Park, Trott Park	
Current Flood Hazard Overlay application	
	<ul style="list-style-type: none">  Area of Interest  Hazards (Flooding)  Hazards (Flooding - General)  Hazards (Flooding - Evidence)
Proposed Flood Hazard Overlay application	
	<ul style="list-style-type: none">  Area of Interest  Hazards (Flooding)  Hazards (Flooding - General)  Hazards (Flooding - Evidence) <p>Mapping changes</p> <ul style="list-style-type: none"> • Trimmed the extent of the Hazards (Flooding – Evidence Required) Overlay using the Regional Flood Dataset and Watercourse information
Regional Flood Dataset	5m Australia FloodMap™, v1.0 (urban) Feb 2021
Flood type/source	Fluvial (Riverine Flows)
Watercourse method	Watercourse lines buffered 5 metres each side (output = 10m wide) and selected if they intersected the Riverine 5m Regional dataset

Estimated level of change by properties affected⁵:

Current Overlay	Current Property Nos	Proposed Property Nos	Level of Change
Hazards (Flooding – Evidence Required) Overlay	28710	19520	-9190

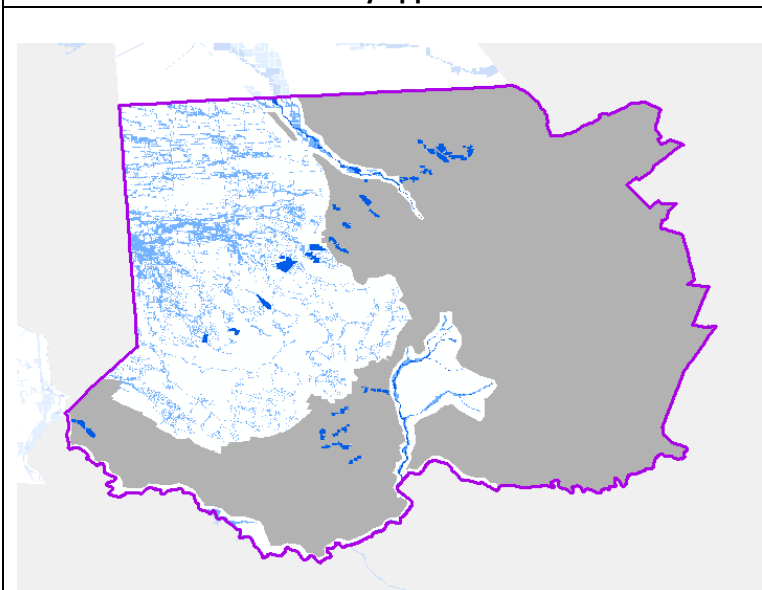
⁵ Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.6.5. City of Mitcham

Suburbs affected:

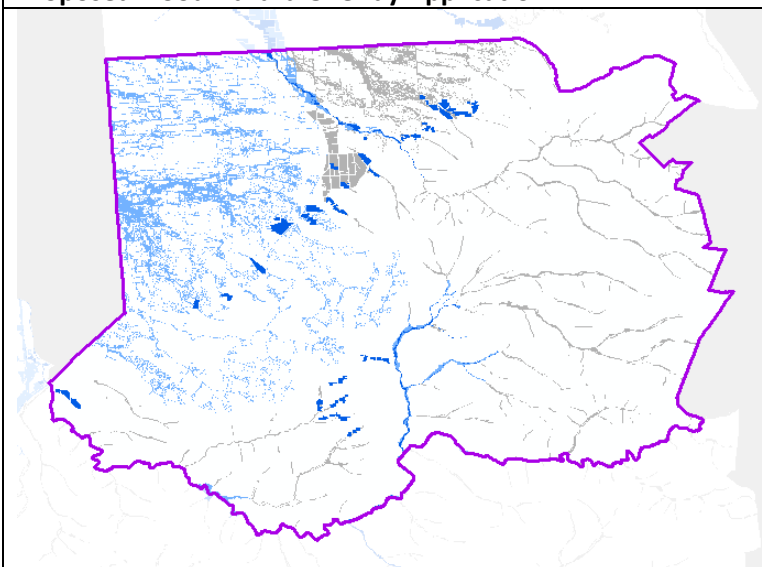
Bedford Park, Belair, Bellevue Heights, Blackwood, Brown Hill Creek, Coromandel Valley, Crafers West, Craighburn Farm, Eden Hills, Glenalta, Hawthorn, Hawthorndene, Kingswood, Leawood Gardens, Lower Mitcham, Mitcham, Mount Osmond, Netherby, Springfield, Torrens Park, Upper Sturt, Urrbrae

Current Flood Hazard Overlay application



- Hazards (Flooding)
- Hazards (Flooding - General)
- Hazards (Flooding - Evidence Required)

Proposed Flood Hazard Overlay Application



- Hazards (Flooding)
- Hazards (Flooding - General)
- Hazards (Flooding - Evidence Required)

Mapping changes

Trimmed the extent of the Hazards (Flooding – Evidence Required) Overlay using Flood Studies, Development Plan parcels, Regional Flood Dataset and Watercourse information

Flood Study Name/s Brown Hill Creek Urban Catchment 2017

Catchment Name/s Brown Hill Creek Urban Catchment

Scenario Existing

Regional Flood Dataset 5m Australia FloodMap™, v1.0 (urban) Feb 2021
5m JBA Australia Flood Map version April 2021

Flood type/source Fluvial (Riverine Flows), Pluvial (Surfacewater)



Watercourse method Watercourses were buffered 5 metres each side (output = 10m wide) and selected using Riverine 5m Regional data. Both datasets were then combined and trimmed.

Estimated level of change by properties affected⁶:

Current Overlay	Current Property Nos	Proposed Property Nos	Level of Change
Hazards (Flooding – Evidence Required) Overlay	10160	2950	-7210

⁶ Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.6.6. City of Mount Gambier

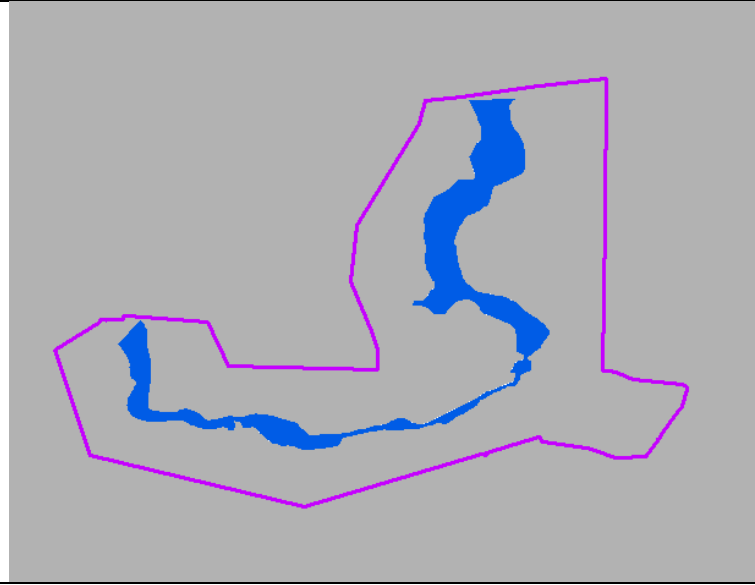



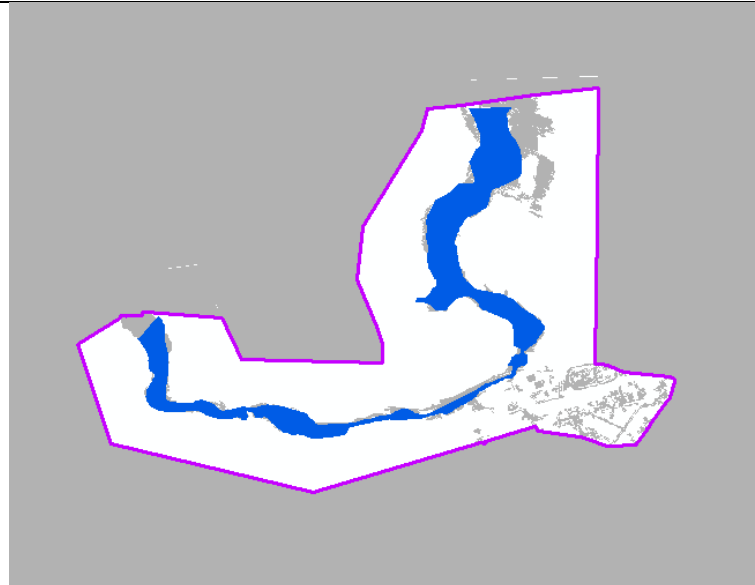


Suburbs affected: (All)	
Current Flood Hazard Overlay application	
	<p>■ Hazards (Flooding - Evidence Required)</p> <p>Where no flood data was available at launch of the Code, the Hazards (Flooding - Evidence Required) Overlay was applied.</p>
Proposed Flood Hazard Overlay Application	
	<p>No Hazard (Flooding) Overlays apply to Mount Gambier</p> <p>Mapping changes Hazards (Flooding - Evidence Required) Overlay removed.</p>
Information provided by council	No areas prone to flooding in Mount Gambier.
Regional Flood Datasets	No regional flood data applies in Mount Gambier

Estimated level of change by properties affected⁷:

Current Overlay	Current Property Nos	Proposed Property Nos	Level of Change
Hazards (Flooding – Evidence Required) Overlay	14180	0	-14180

⁷ Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.6.7. Naracoorte Lucindale Council

Suburbs affected: Naracoorte Township	
Current Flood Hazard Overlay application	
	<ul style="list-style-type: none">  Extent of Flood Study  Hazards (Flooding)  Hazards (Flooding - Evidence Required)
Proposed Flood Hazard Overlay application	
	<ul style="list-style-type: none">  Extent of Flood Study  Hazards (Flooding)  Hazards (Flooding - Evidence Required) <p>Mapping changes Trimmed the extent of the Hazards (Flooding – Evidence Required) Overlay using the Flood Study</p>
Flood Study Name/s	Naracoorte Flood Study 2022
Catchment Name/s	Naracoorte Creek catchment
Scenario	Future conditions (2050)

Estimated level of change by properties affected⁸:

Current Overlay	Current Property Nos	Proposed Property Nos	Level of Change
Hazards (Flooding – Evidence Required) Overlay	6520	5980	-540

⁸ Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.6.8. City of Onkaparinga

<p>Suburbs affected: Aberfoyle Park, Aldinga, Aldinga Beach, Blewitt Springs, Chandlers Hill, Cherry Gardens, Christie Downs, Christies Beach, Clarendon, Coromandel East, Coromandel Valley, Darlington, Dorset Vale, Flagstaff Hill, Hackham, Hackham West, Hallett Cove, Happy Valley, Huntfield Heights, Ironbank, Kangarilla, Kuitpo, Lonsdale, Maslin Beach, McLaren Flat, McLaren Vale, Moana, Morphett Vale, Noarlunga Centre, Noarlunga Downs, O'Halloran Hill, Old Noarlunga, Old Reynella, Onkaparinga Hills, O'Sullivan Beach, Port Noarlunga, Port Noarlunga South, Port Willunga, Reynella, Seaford, Seaford Heights, Seaford Meadows, Seaford Rise, Sellicks Beach, Sellicks Hill, Sheidow Park, Tatachilla, The Range, Whites Valley, Willunga, Willunga South, Woodcroft</p>	
Current Flood Hazard Overlay application	Proposed Flood Hazard Overlay Application
<ul style="list-style-type: none"> Hazards (Flooding) Hazards (Flooding - General) Hazards (Flooding - Evidence Required) 	<ul style="list-style-type: none"> Hazards (Flooding) Hazards (Flooding - General) Hazards (Flooding - Evidence Required) <p>Mapping changes Trimmed the extent of the Hazards (Flooding – Evidence Required) Overlay using Regional Flood Datasets and Watercourse information</p>
Regional Flood Datasets	5m Australia FloodMap™, v1.0 (urban) Feb 2021 5m JBA Australia Flood Map version April 2021
Flood type/source	Fluvial (Riverine Flows), Pluvial (Surfacewater)
Watercourse method	Watercourses were buffered 5 metres each side (output = 10m wide) and selected using Riverine 5m Regional data. All datasets were then combined and trimmed so they didn't overlap with existing Overlays or detailed flood studies.

Estimated level of change by properties affected⁹:

Current Overlay	Current Property Nos	Proposed Property Nos	Level of Change
Hazards (Flooding – Evidence Required) Overlay	63920	4820	-59100

⁹ Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.6.9. City of Playford

Suburbs affected: Bibaringa, Craigmore, Evanston Park, Gould Creek, Hillbank, Humbug Scrub, One Tree Hill, Sampson Flat, Uleybury, Yattalunga	
Current Flood Hazard Overlay application	Proposed Flood Hazard Overlay Application
<ul style="list-style-type: none"> Hazards (Flooding) Hazards (Flooding - General) Hazards (Flooding - Evidence Required) 	<ul style="list-style-type: none"> Hazards (Flooding) Hazards (Flooding - General) Hazards (Flooding - Evidence Required) <p>Mapping changes Trimmed the extent of the Hazards (Flooding – Evidence Required) Overlay using Regional Flood Datasets and Watercourse information</p>
Regional Flood Datasets	5m Australia FloodMap™, v1.0 (urban) Feb 2021 5m JBA Australia Flood Map version April 2021
Flood type/source	Fluvial (Riverine Flows), Pluvial (Stormwater)
Watercourse method	Watercourses were buffered 5 metres each side (output = 10m wide) and selected using Riverine 5m Regional data. All datasets were then combined and trimmed so they didn't overlap with existing Overlays or detailed flood studies

Estimated level of change by properties affected¹⁰:

Current Overlay	Current Property Nos	Proposed Property Nos	Level of Change
Hazards (Flooding – Evidence Required) Overlay	720	390	-330

¹⁰ Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.6.10. City of Port Adelaide Enfield

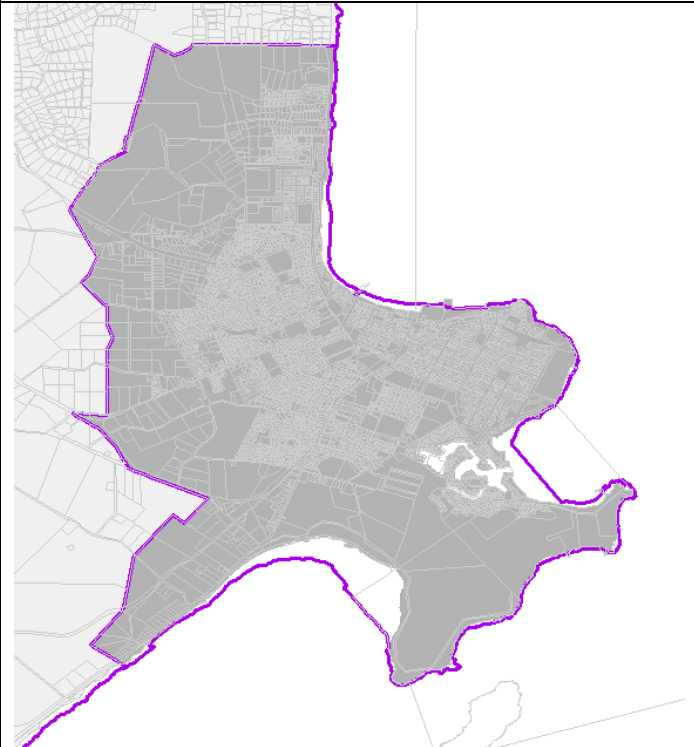
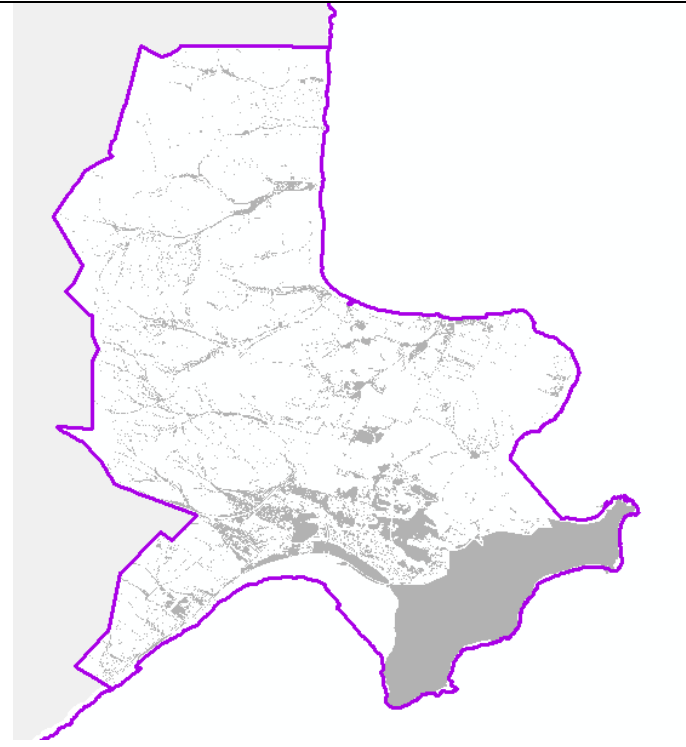


Suburbs affected: Dernancourt, Gilles Plains, Greenacres, Hampstead Gardens, Hillcrest, Holden Hill, Klemzig, Lightsview, Northfield, Northgate, Oakden, Valley View, Walkley Heights, Windsor Gardens	
Current Flood Hazard Overlay application	Proposed Flood Hazard Overlay Application
<ul style="list-style-type: none"> Hazards (Flooding) Hazards (Flooding - General) 	<ul style="list-style-type: none"> Hazards (Flooding) Hazards (Flooding - General) Hazards (Flooding - Evidence Required) <p>Mapping changes Added an area to the Hazards (Flooding – Evidence Required) Overlay based on information provided by City of Port Adelaide Enfield</p>

Estimated level of change by properties affected¹¹:

Current Overlay	Current Property Nos	Proposed Property Nos	Level of Change
Hazards (Flooding – Evidence Required) Overlay	0	13330	+13330

¹¹ Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.6.11. City of Port Lincoln

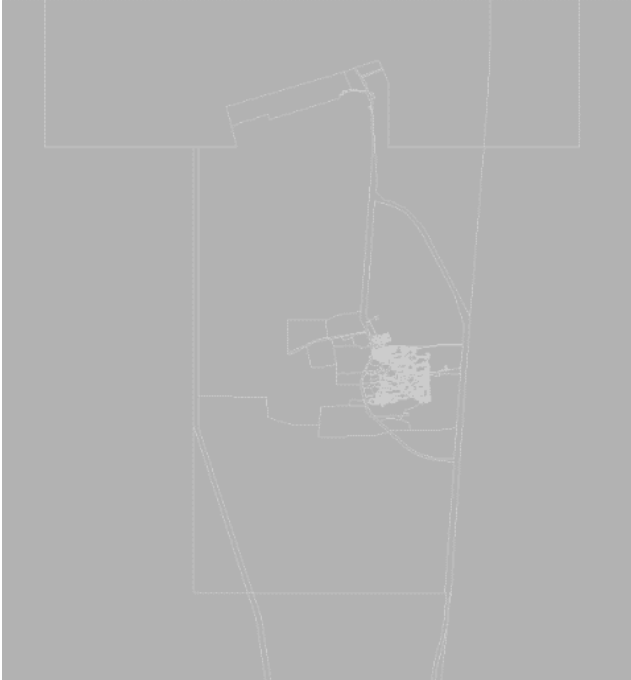




Suburbs affected: Port Lincoln, Boston	
Current Flood Hazard Overlay application	Proposed Flood Hazard Overlay Application
	
 Hazards (Flooding - Evidence Required)	 Hazards (Flooding - Evidence Required)
Mapping changes Trimmed the extent of the Hazards (Flooding – Evidence Required) Overlay using the Flood Study/	
Flood Study Name	Port Lincoln Flood Study 2022
Catchment Name/s	Port Lincoln
Scenario	Future conditions 2050

Estimated level of change by properties affected¹²:

Current Overlay	Current Property Nos	Proposed Property Nos	Level of Change
Hazards (Flooding – Evidence Required) Overlay	8500	3000	-5500

¹² Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.6.12. Roxby Downs Council

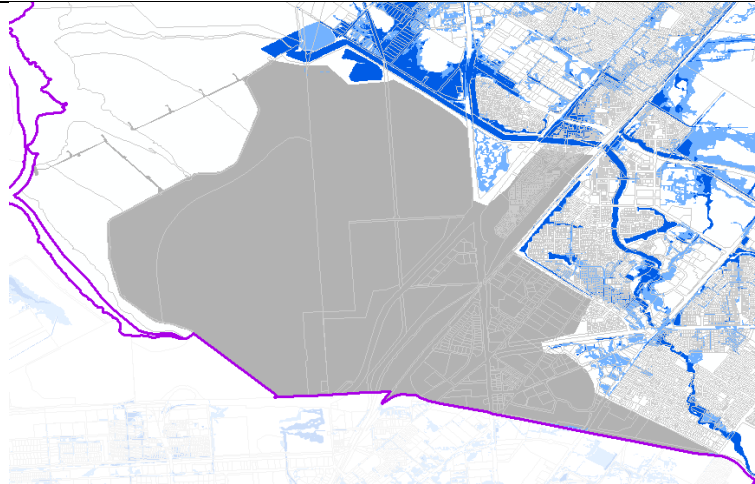
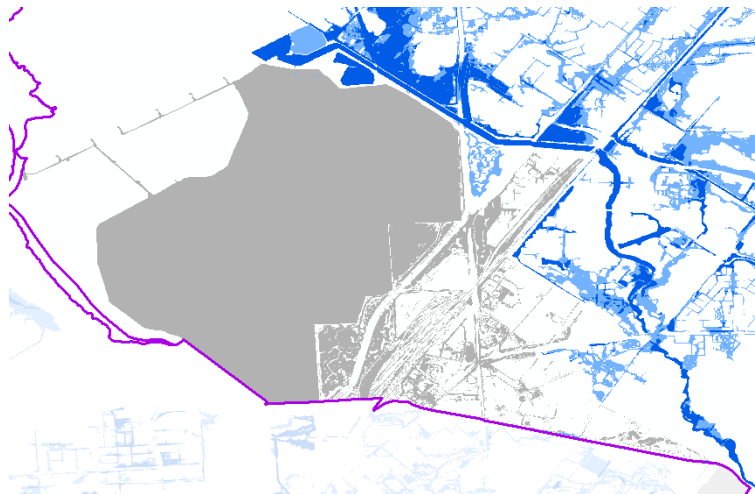
Suburbs affected: Roxby Downs	
Current Flood Hazard Overlay application	Proposed Flood Hazard Overlay Application
	
 Hazards (Flooding - Evidence Required)	 Township 1km extent  Hazards (Flooding - Evidence Required)
Mapping changes Trimmed the extent of the Hazards (Flooding – Evidence Required) Overlay using Regional Flood dataset and Watercourse information	
Regional Flood Dataset	30m Australia FloodMap™ v3.3 (rural) Feb. 2021 (Ambiental) Likelihood 0.5% AEP
Watercourse method	Selected within 1 kilometre zone buffered area. Watercourse lines were then buffered 15 metres each side.
Notes	30 metre regional data includes both Fluvial (Riverine Flows) and Pluvial (Surface water)
Method	30 metre cells for FloodMap™, were combined with buffered (15m) watercourses to generate the Hazards (Flooding) Overlay. Accuracy of source datasets vary across the state.

Estimated level of change by properties affected¹³:

Current Overlay	Current Property Nos	Proposed Property Nos	Level of Change
Hazards (Flooding – Evidence Required) Overlay	1950	210	-1740

¹³ Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.6.13. City of Salisbury

Suburbs affected: Cavan, Dry Creek, Mawson Lakes, Pooraka	
Current Flood Hazard Overlay application	
	<ul style="list-style-type: none"> Hazards (Flooding) Hazards (Flooding - General) Hazards (Flooding - Evidence Required)
Proposed Flood Hazard Overlay Application	
	<ul style="list-style-type: none"> Hazards (Flooding) Hazards (Flooding - General) Hazards (Flooding - Evidence Required) <p>Mapping changes Trimmed the extent of the Hazards (Flooding – Evidence Required) Overlay using the Flood Study</p>
Flood Study Name/s	Dry Creek Stormwater Management Plan (draft ¹⁴) 2021
Catchment Name/s	Dry Creek catchment
Scenario	Existing Development
Hazard Definition Used	Flood Depth

Estimated level of change by properties affected¹⁵:

Current Overlay	Current Property Nos	Proposed Property Nos	Level of Change
Hazards (Flooding – Evidence Required) Overlay	1170	560	-610

¹⁴ The first step in a Stormwater Management Plan (SMP) is flood modelling to understand the flood risk. SMPs are documents which may be in draft for a significant period of time while mitigation options and payment allocation for mitigation option construction are finalised. For SMPs referred to here as draft, the flood modelling has been finalised and accepted by the relevant council.

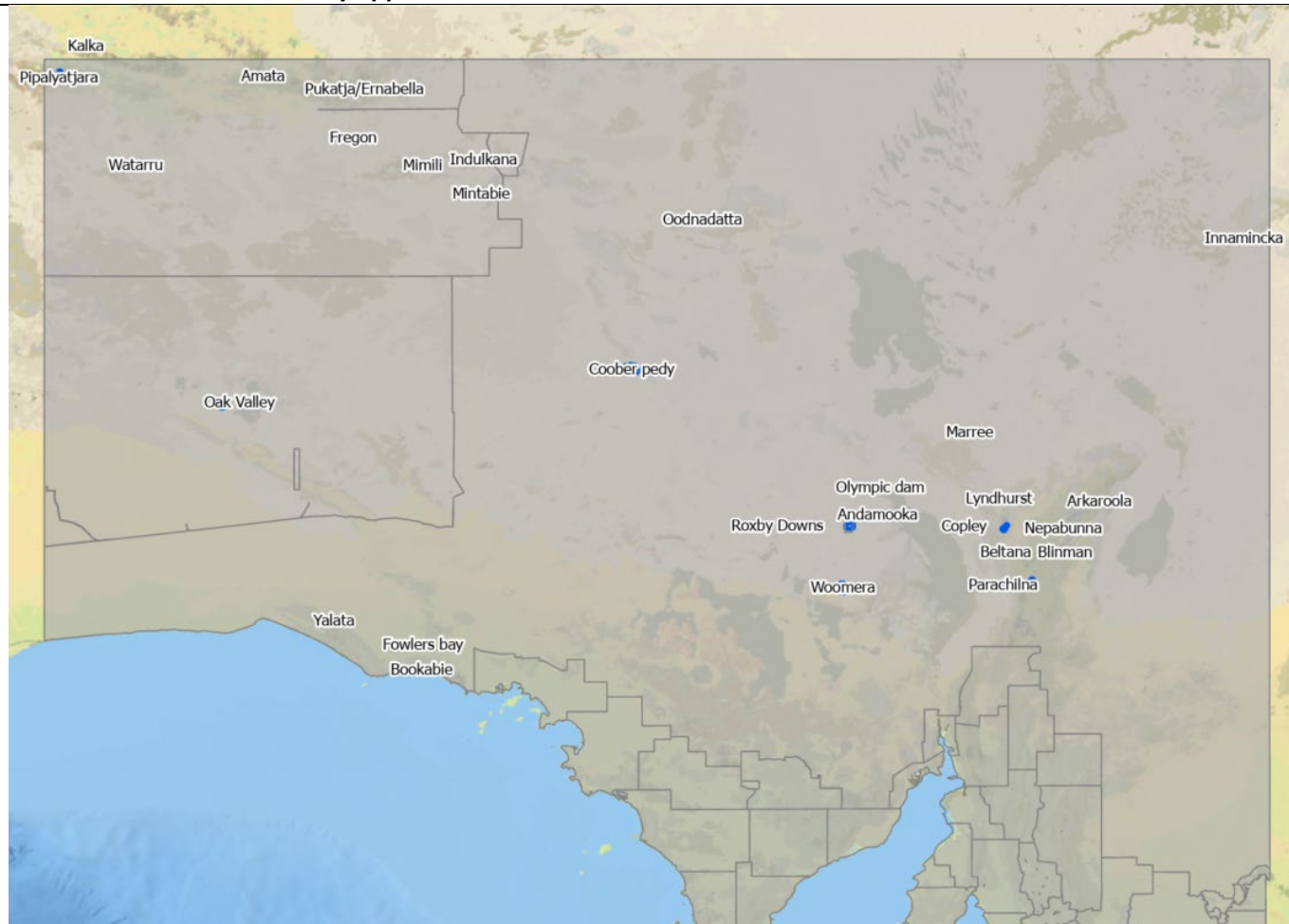
¹⁵ Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.6.14. Townships in outback (Out-of-Council) areas

Localities affected:

Andamooka, Arkaroola, Beltana, Blinman, Bookabie, Copley, Fowlers Bay, Innamincka, Leigh Creek, Lyndhurst, Marree, Nepabunna, Oak Valley, Olympic Dam, Oodnadatta, Parachilna, Woomera, Yalata [18]; and APY Lands sites [9] - Amata, Fregon, Indulkana, Kalka, Mimili, Mintabie, Pipalyatjara, Pukatja/Ernabella, Watarru

Current Flood Hazard Overlay application

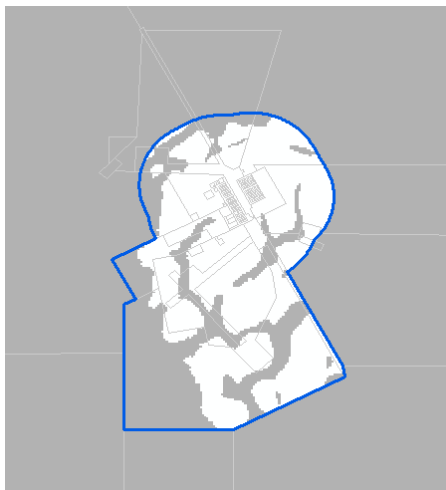


Township 1km extent
 Hazards (Flooding - Evidence Required)

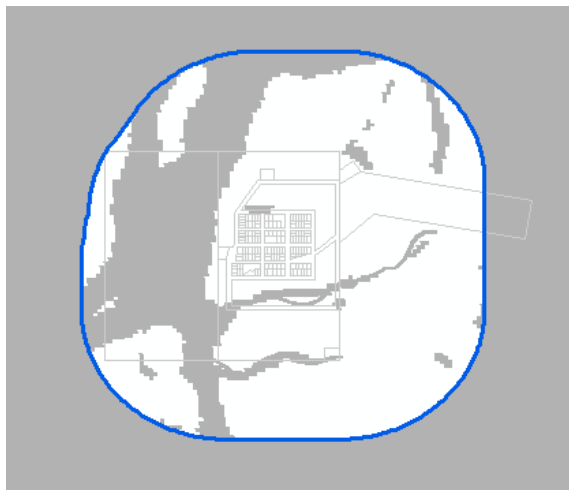
Proposed Flood Hazard Overlay application

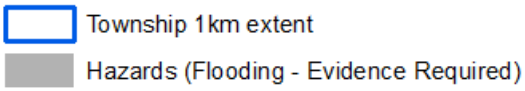
Representative localities are shown below. For detail of the other localities please refer to online map viewer: <https://dpti.geohub.sa.gov.au/portal/apps/instant/media/index.html?appid=84de6627dfd44e37b85f4f43c868fe48>

Oodnadatta



Innamincka



	
Mapping changes	
Trimmed Hazards (Flooding – Evidence Required) Overlay from within 1km of the township zones using Regional Flood Dataset(s)	
Township zones selected	<ul style="list-style-type: none"> • Deferred Urban • Employment • Strategic Employment • Employment (Enterprise) • Infrastructure • Township Activity Centre
Regional Flood Dataset	30m Australia FloodMap™ v3.3 (rural) Feb. 2021 (Ambiental) Likelihood 0.5% AEP
Watercourse method	Selected within 1 kilometre zone buffered area. Watercourse lines were then buffered 15 metres each side.
Notes	30 metre regional data includes both Fluvial (Riverine Flows) and Pluvial (Surface water)
Method	30 metre cells for FloodMap™, were combined with buffered (15m) watercourses to generate the Hazards (Flooding) Overlay. Accuracy of source datasets vary across the state.

Estimated level of change by parcels removed from Hazards (Flooding) Overlay¹⁶

Counts*	Township
190	Andamooka
7	Arkaroola
119	Beltana
202	Blinman
3	Bookabie
13	Copley
7	Fowlers bay
7	Innamincka
1	Kalka
73	Leigh Creek
76	Lyndhurst
39	Marree
1	Mintabie
2	Nepabunna
1	Oak Valley
19	Oodnadatta
9	Parachilna
6	Woomera
3	Yalata

¹⁶ Parcels are counted differently to properties; a property may contain more than one parcel

Estimated level of change by properties (aggregate) removed from Hazards (Flooding) Overlay¹⁷

Current Overlay	Current Property Nos	Proposed Property Nos	Level of Change
Hazards (Flooding – Evidence Required) Overlay	5870	3630	-2240

¹⁷ Property counts are an indication/estimate of the level of change resulting from the draft Code Amendment. Where a property is affected by more than one flood overlay, the highest risk overlay has been counted. Counts have been rounded to address any inconsistencies and extra counts have been removed where the properties overlap LGA boundaries.

5.7. Recommended changes

In response to the investigations undertaken in support of this Code Amendment, the following changes to the Planning and Design Code are proposed:

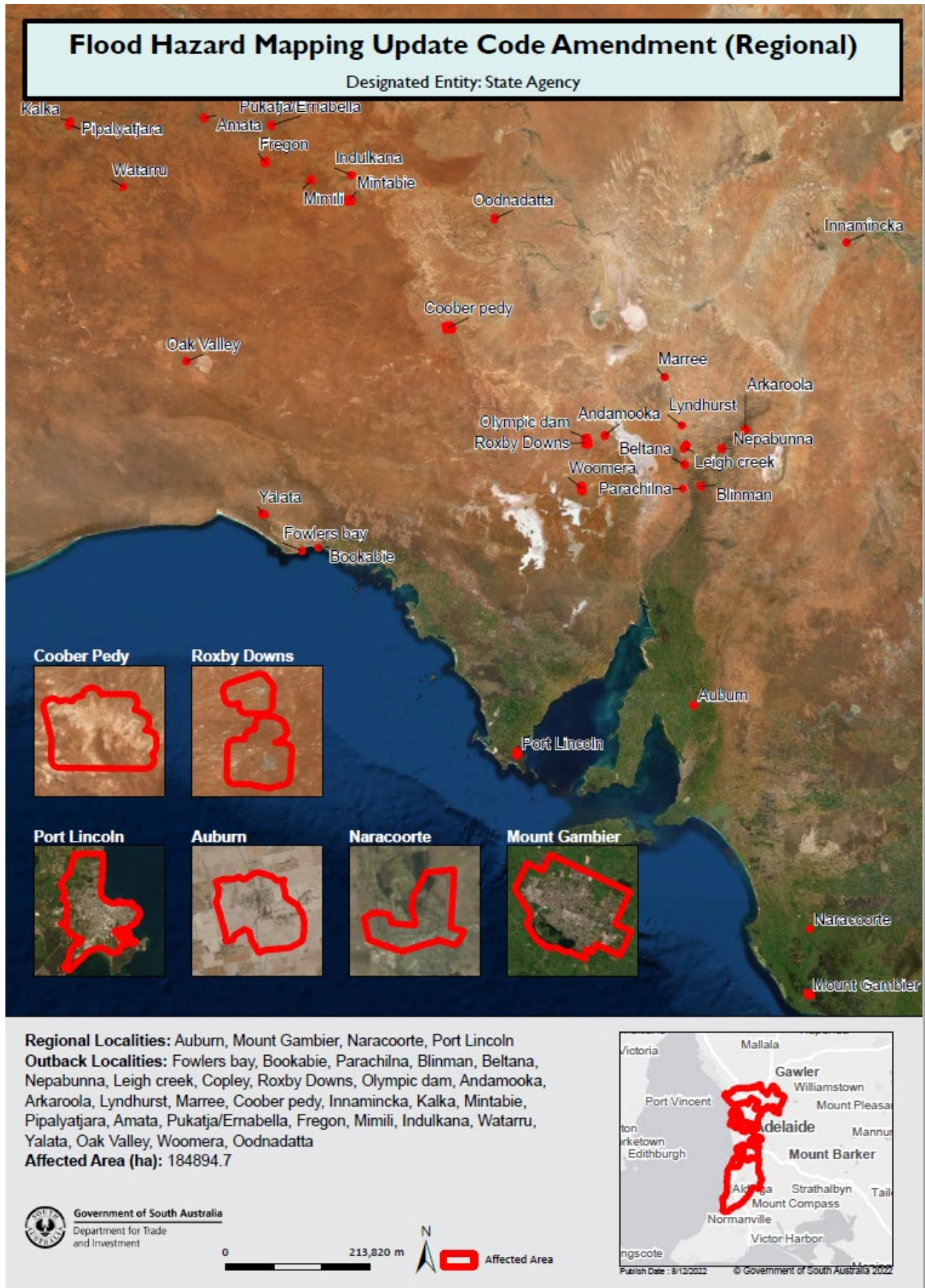
1. Amend the spatial application of the Hazards (Flooding – Evidence Required) Overlay as shown in the [Detailed Flood Study Information by Council](#) in section 5.6 of this document, and as illustrated on the online map viewer titled 'Flooding Hazards Mapping Update Code Amendment - Draft Flood Mapping for Consultation' at:

<https://dpti.geohub.sa.gov.au/portal/apps/instant/media/index.html?appid=84de6627dfd44e37b85f4f43c868fe48>

6. REFERENCES

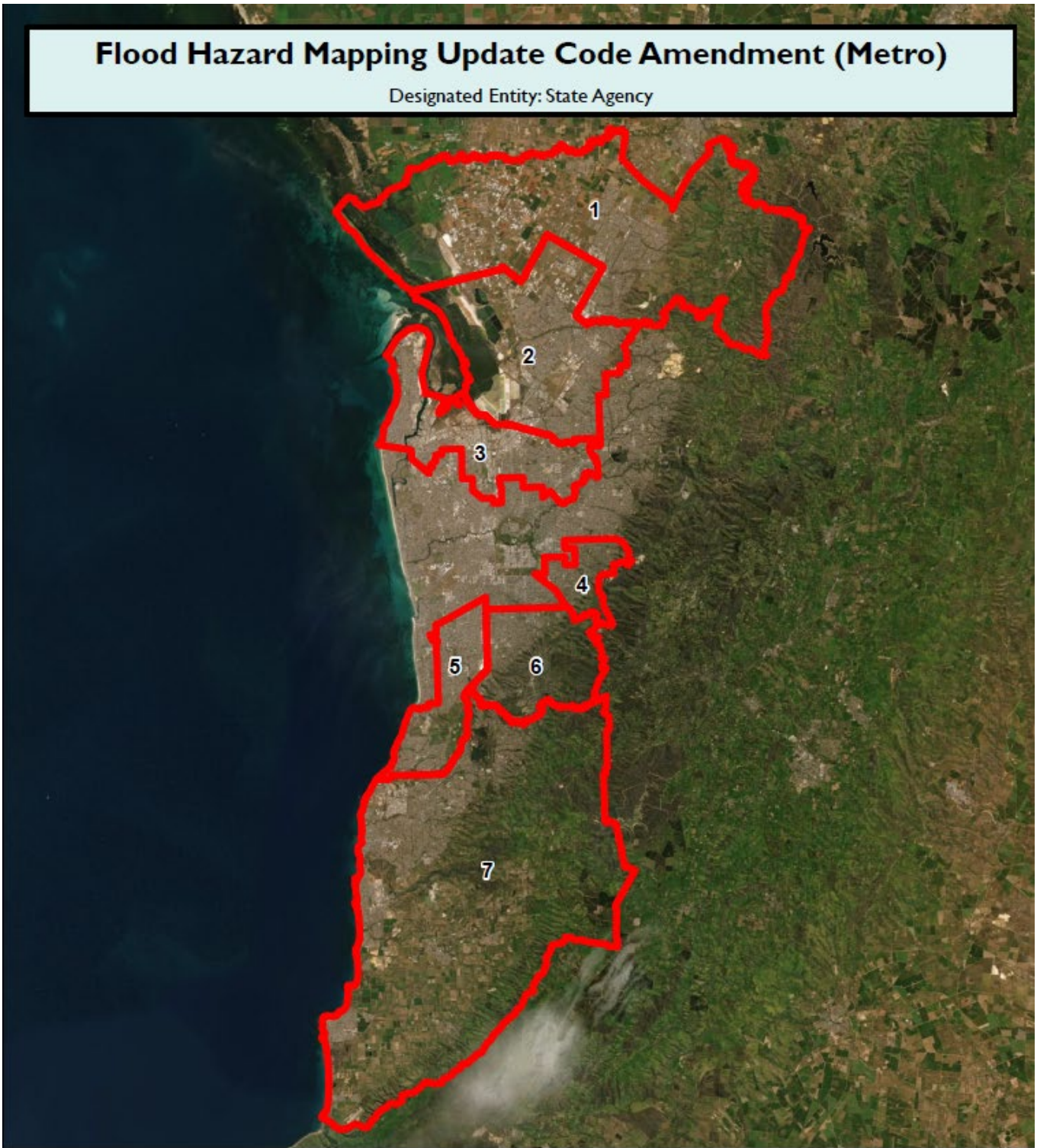
- [Government of South Australia \(2017 Update\), The 30-Year Plan for Greater Adelaide.](#)
- [Eyre and Western Region Plan - A volume of the South Australian Planning Strategy - April 2012](#)
- [Far North Region Plan - A volume of the South Australian Planning Strategy - July 2010](#)
- [Limestone Coast Region Plan - A volume of the South Australian Planning Strategy - August 2011](#)
- [Mid North Region Plan - A volume of the South Australian Planning Strategy - May 2011](#)

ATTACHMENT A – AFFECTED AREA MAPPING



Flood Hazard Mapping Update Code Amendment (Metro)

Designated Entity: State Agency



Key LGA

- 1 Playford
- 2 Salisbury
- 3 Port Adelaide Enfield
- 4 Burnside
- 5 Marion
- 6 Mitcham
- 7 Onkaparinga

Affected Area (ha): 184894.7



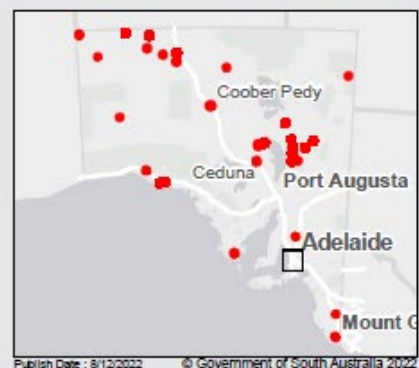
Government of South Australia
Department for Trade
and Investment

0

10,000 m



 Affected Area



Publish Date : 8/12/2022

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Refer to detailed council area maps in [section 5.6](#) of this report.

ATTACHMENT B – CURRENT CODE POLICY

- The scope of the Code Amendment is limited to the spatial application of the Hazards (Flooding - Evidence Required) Overlay.
- Amendments to the spatial extent of other overlays, the policy wording in the overlays or policy wording in the Code is not in the scope of this amendment.

Part 3 - Overlays

Hazards (Flooding - Evidence Required) Overlay

Assessment Provisions (AP)

Desired Outcome (DO)

Desired Outcome	
DO 1	Development adopts a precautionary approach to mitigate potential impacts on people, property, infrastructure and the environment from potential flood risk through the appropriate siting and design of development.

Performance Outcomes (PO) and Deemed-to-Satisfy (DTS) Criteria / Designated Performance Feature (DPF)

Performance Outcome	Deemed-to-Satisfy Criteria / Designated Performance Feature
Flood Resilience	
PO 1.1 Development is sited, designed and constructed to minimise the risk of entry of potential floodwaters where the entry of flood waters is likely to result in undue damage to or compromise ongoing activities within buildings.	DTS/DPF 1.1 Habitable buildings, commercial and industrial buildings, and buildings used for animal keeping incorporate a finished floor level at least 300mm above: <ul style="list-style-type: none"> (a) the highest point of top of kerb of the primary street or (b) the highest point of natural ground level at the primary street boundary where there is no kerb
Environmental Protection	
PO 2.1 Buildings and structures used either partly or wholly to contain or store hazardous materials are designed to prevent spills or leaks leaving the confines of the building.	DTS/DPF 2.1 Development does not involve the storage of hazardous materials.

Procedural Matters (PM) - Referrals

The following table identifies classes of development / activities that require referral in this Overlay and the applicable referral body. It sets out the purpose of the referral as well as the relevant statutory reference from Schedule 9 of the Planning, Development and Infrastructure (General) Regulations 2017.

Class of Development / Activity	Referral Body	Purpose of Referral	Statutory Reference
None	None	None	None

ATTACHMENT C – PROPOSED AMENDMENTS

The Code Amendment proposes changes to the spatial application of Hazards (Flooding - Evidence Required) Overlay in the Code, by:

- a) reducing the extent of the overlay within 13 local government areas and several townships within the Outback Areas of the State, where flood hazard mapping or coarse regional mapping has demonstrated that there is minimal risk of flooding; and
- b) applying the Hazards (Flooding - Evidence Required) Overlay to the north-eastern portion of the Port Adelaide Enfield Council area until the flood hazard mapping being prepared in Stage 2 of the Project, can be implemented into the Code as part of the future Stage 3 – State-wide Flooding Hazards Code Amendment. This is a precautionary measure that will provide a policy framework to address potential flood risk in areas, where the level of flood hazard has not yet been determined.

Maps illustrating the proposed changes are contained in an online map viewer titled '*Flooding Hazards Mapping Update Code Amendment - Draft Flood Mapping for Consultation*' at:

<https://dpti.geohub.sa.gov.au/portal/apps/instant/media/index.html?appid=84de6627dfd44e37b85f4f43c868fe48>

How the flood mapping will be applied in comparison to the current overlays is illustrated in [section 5.6](#) of this document.

Amendments to the spatial extent of other overlays, the policy wording in the overlays or policy wording in the Code is not proposed.

ATTACHMENT D – STRATEGIC PLANNING OUTCOMES

1. State Planning Policies

The State Planning Policies (SPPs) require that the Principles of Good Planning are considered in the preparation of any designated instrument, including a Code Amendment.

SPP Key Principles

There are 16 SPPs that include Objectives, Policies and Principles for Statutory Instruments (including the Planning and Design Code). The most critical SPPs in the context of this Code Amendment are:

SPP 5 – Climate Change

Objective

Provide for development that is climate ready so that our economy, communities and environment will be resilient to climate change impacts.

Policies

5.5 *Avoid development in hazard-prone areas or, where unavoidable, ensure risks to people and property are mitigated to an acceptable or tolerable level through cost-effective measures.*

5.8 *Encourage decision-making that considers the impacts of climate change and that draws on the best available information.*

5.9 *Encourage development that does not increase our vulnerability to, or exacerbate the impacts of climate change and which makes the fullest possible contribution to mitigation.*

Principles for statutory instruments

The Planning and Design Code should include a range of overlays that identify both the hazards that need to be considered when proposing new development and the features that should be protected due to their contribution to climate resilience, e.g. coastal dunes and natural environments that store carbon.

Policies should allow for innovative adaptation technologies; promote climate-resilient buildings; improve the public realm; and identify areas suitable for green industries and carbon storage.

SPP 15 – Natural Hazards

Objective

To build the resilience of communities, development and infrastructure from the adverse impacts of natural hazards.

Policies

15.1 *Identify and minimise the risk to people, property and the environment from exposure to natural hazards including extreme heat events; bushfire; terrestrial and coastal flooding; soil erosion; drought; dune drift; acid sulfate soils; including taking into account the impacts of climate change*

15.2 *Locate and design development in accordance with a risk hierarchy of ‘avoid’, ‘accommodate’ and ‘adapt’.*

15.3 *Avoid locating sensitive developments and communities in areas at high risk of hazards – namely hospitals, telecommunication towers, major transport infrastructure, energy base stations and water services – or ensure that these developments are subject to a higher level of assessment.*

Principles for statutory instruments

The Planning and Design Code should include policy that mitigates the adverse impacts from natural hazards, particularly flood and fire. Overlays will be used to identify risks relating to bushfire, flooding and other natural hazards.

Code Amendment

Outcome:

The Code Amendment seeks to update the Hazards (Flooding - Evidence Required) Overlay based on contemporary flood studies and flood hazard mapping, which more accurately reflect the 1% Annual Exceedance Probability (AEP) flood hazard.

The new mapping proposed in this Code Amendment uses more contemporary and accurate flood data to identify those areas that are subject to flood hazard, including hazards that may exist as a result of climate change, to more precisely define the level of hazard that exists in an area and also define those areas where the risk of flooding is minimal.

The proposed changes will help to ensure that the policies in the Code are applied to the right areas and that flood hazard policies are not unnecessarily applied in areas that have a minimal risk of flooding.

The existing Hazards (Flooding - Evidence Required) Overlay therefore, will not be removed from areas that have been identified as having a flood hazard, based on the recently completed flood studies and flood hazard mapping. The Hazards (Flooding - Evidence Required) Overlay policies will continue to apply, in these areas and can still be used as a precautionary measure to ensure the impacts from flood risk on people, property, infrastructure and the environment are minimised.

2. Regional Plans

As with the SPPs, the directions set out in Regional Plans provide the long term vision as well as setting the spatial patterns for future development in a region. This includes consideration of land use integration, transport infrastructure and the public realm.

The following volumes of the Planning Strategy (which has transitioned to a Regional Plan under the Act), principles and policies are relevant for this Code Amendment:

30-Year Plan for Greater Adelaide (2017 Update)

Policy Theme: Emergency Management and Hazard Avoidance

Policy 118- Minimise risk to people, property and the environment from exposure to hazards (including bushfire, terrestrial and coastal flooding, erosion, dune drift and acid sulphate soils) by designing and planning for development in accordance with a risk hierarchy of avoidance, adaptation and protection.

Policy 119- *Improve the integration of disaster risk reduction and hazard avoidance policies and land use planning.*

Limestone Coast Regional Plan

Principle

2- *Protect people, property and the environment from exposure to hazards*

Policies

2.1-*Design and plan development to prevent the creation of hazards and to minimise the impacts of naturally occurring hazards.*

2.3-*Develop partnerships and agreements between state and local government (particularly with emergency services agencies) to address identified risks and hazards and protect the health and wellbeing of the community.*

Eyre and Western Region Plan

Principle

2- *Protect people, property and the environment from exposure to hazards*

Policies

2.1-*Protect people, property and the environment from exposure to hazards by designing and planning for development in accordance with the following risk hierarchy:*

- **avoidance** – *avoid permanent development in and adjacent to areas at unacceptable risk from hazards*
- **adaptation** – *design buildings and infrastructure to minimise long-term risk*

2.2-*Develop partnerships and agreements between state and local government (particularly with emergency services agencies) to address identified risks and hazards and protect the health and wellbeing of the community.*

Mid North Region Plan

Principle

2- *Protect people, property and the environment from exposure to hazards*

Policies

2.1-*Design and plan development to prevent the creation of hazards and to minimise the impacts of naturally occurring hazards.*

2.4-*Develop partnerships and agreements between state and local government (particularly with emergency services agencies) to address identified risks and hazards and protect the health and wellbeing of the community.*

2.6-*Protect people, property and the environment from exposure to hazards by designing and planning for development in accordance with the following risk hierarchy:*

- **avoidance** – *avoid permanent development in and adjacent to areas at unacceptable risk from hazards*

- **adaptation** – design buildings and infrastructure to minimise long-term risk

Far North Region Plan

Principle

- 3- *Protect people, property and the environment from exposure to hazards*

Policies

3.1-*Design and plan development to prevent the creation of hazards and to minimise the impacts of naturally occurring hazards.*

3.4-*Develop partnerships and agreements between state and local government (particularly with emergency services agencies) to address identified risks and hazards and protect the health and wellbeing of the community.*

3.6-*Protect people, property and the environment from exposure to hazards by designing and planning for development in accordance with the following risk hierarchy:*

- **avoidance** – avoid permanent development in and adjacent to areas at unacceptable risk from hazards
- **adaptation** – design buildings and infrastructure to minimise long-term risk

The Code Amendment seeks to update the Hazards (Flooding - Evidence Required) Overlay based on contemporary flood studies and flood hazard mapping, which more accurately reflect the 1% Annual Exceedance Probability (AEP) flood hazard.

The Code Amendment will enhance integration of the risk hierarchy 'avoidance, adaption and protection' by ensuring that flood policies in the Code are applied to the correct areas and not in areas where the risk of flooding is minimal.

The existing Hazards (Flooding - Evidence Required) Overlay will remain in areas that have been identified as having a flood hazard, based on the recently completed flood studies and flood hazard mapping to ensure the impacts from flood risk on people, property, infrastructure, and the environment are minimised.

This Code Amendment is being prepared with agreement and in partnership with the relevant local governments.