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X August 2026

Mr Craig Holden
Chair
State Planning Commission
GPO Box 1815
Adelaide SA 5000

Via email: planSAsubmissions@sa.gov.au

Dear Mr Holden

Submission to the draft State-wide Flood Hazard Code Amendment consultation

Thank you for the opportunity to provide input into the **State-wide Flood Hazard Code Amendment** (the Code Amendment), open for consultation from 21 May 2026 until 13 August 2026.

On 11 August 2026, the City of Adelaide Council endorsed the following position regarding the Code Amendment.

The City of Adelaide supports the strategic intent of the Code Amendment and welcomes the State Government's commitment to improving flood resilience through contemporary flood modelling, a more consistent statewide planning framework and the incorporation of projected climate change impacts into development assessment.

Council recognises the significant technical work that has informed the Code Amendment and acknowledges that flood risk is dynamic. The planning system must continue to evolve as improved flood studies, modelling methodologies and climate science become available.

Council also considers the objectives of the Code Amendment to be closely aligned with the City's Integrated Climate Strategy 2030, particularly its commitment to becoming a climate-resilient city and a climate-leading capital.

While Council supports the intent of the Code Amendment to modernise South Australia's flood planning framework, the effectiveness of the reforms will ultimately depend on ensuring that the amended Planning and Design Code remains transparent, evidence-based and practical to administer.

Several aspects of the proposed framework require further refinement before implementation. In particular, the proposed removal of readily accessible flood depth information from the planning system is likely to increase reliance on underlying flood studies, engineering advice and council interpretation during development assessment. This has the potential to increase assessment complexity, reduce transparency for applicants and create inconsistencies between assessment authorities.

These matters are particularly significant for the City of Adelaide, which is expected to accommodate substantial residential and employment growth while managing a highly constrained urban environment. The city contains critical infrastructure, established drainage networks, the River Torrens / Karrawirra Parri, extensive Adelaide Park Lands and numerous strategic renewal precincts. It is therefore essential that the planning system continues to provide clear, accurate and accessible flood information that supports both resilient development and ongoing urban renewal.

Council also considers that the Code Amendment does not yet provide sufficient guidance on how flood mitigation measures should be assessed within established urban environments, particularly where flood planning requirements intersect with broader urban design objectives such as accessibility, active frontages and high-quality public realm outcomes.

It is imperative that flood mapping is both accurate and easily interpreted to ensure that the reforms support, rather than unnecessarily constrain, the delivery of housing and urban renewal projects.

The City of Adelaide is currently preparing a comprehensive Stormwater Management Plan for the CBD, with the support of consultancy ARUP, which uses improved drainage information, updated digital elevation modelling and the more recent ARR2019 Version 4.2 climate change factors.

This work is expected to be completed in early 2027 and will inform a comprehensive council-wide flood mapping study. Council understands that many other South Australian councils are undertaking similar investigations or have recently completed updated flood studies. Council considers that these contemporary studies should be capable of replacing the HARC flood mapping where they have been prepared using accepted methodologies and represent the best available evidence.

Key Positions

Retain access to technical flood information

Council supports the move towards hazard-based flood mapping. However, applicants and assessment authorities should continue to have access to flood depth information, Water Surface Elevations and Finished Floor Level guidance through SAPPA or an associated State platform. Without this information, development assessment is likely to become more complex and increasingly reliant on site-specific engineering advice.

Recognise contemporary council flood studies

Council supports the ongoing use of contemporary flood modelling but considers that locally prepared flood studies and Stormwater Management Plans should be capable of informing future Flood Hazard Overlay mapping where prepared using accepted methodologies. This will ensure that planning controls continue to reflect the best available evidence.

Provide certainty through governance

Council seeks a clear governance framework defining how flood mapping will be reviewed, updated and maintained over time, including the respective responsibilities of DHUD, DEW and local government. Regular review of flood mapping should become an integral component of the planning framework.

Support housing and urban renewal

The City of Adelaide is planning to accommodate significant housing growth through urban infill and redevelopment. Flood planning should continue to support these strategic objectives by recognising that many flood risks can be effectively mitigated through contemporary engineering design rather than unnecessarily constraining appropriate development.

Improve implementation guidance

Council recommends updated Flood Development Guidelines, Practice Directions and enhanced SAPPa functionality to provide greater certainty for assessment authorities, applicants and landowners. Clear implementation guidance will improve consistency across South Australia and reduce unnecessary assessment delays.

Continue collaboration with local government

Flood risk will continue to evolve as climate science, flood modelling and infrastructure improvements progress. Council supports ongoing collaboration between the State Government, local government and technical agencies to ensure the Planning and Design Code continues to reflect contemporary flood risk while supporting resilient communities.

The City of Adelaide acknowledges that the Code Amendment represents an important step towards modernising South Australia's flood planning framework. However, Council considers that several aspects of the proposed reforms require further refinement to ensure they are practical to administer, based on the best available evidence and capable of supporting both flood resilience and continued urban renewal.

Many of the issues identified in this submission are likely to be shared by other South Australian councils as they continue to undertake contemporary flood investigations and implement local stormwater management initiatives.

Council has enclosed a detailed schedule of technical comments and recommended policy amendments to accompany this submission and looks forward to continuing to work collaboratively with the State Planning Commission to ensure the Planning and Design Code delivers resilient, evidence-based planning outcomes while supporting a diversity of quality, affordable and accessible housing across South Australia.

To that end, I invite you to contact Sarah Gilmour, Associate Director, Park Lands, Policy and Sustainability on 8203 7033 or s.gilmour@cityofadelaide.com.au to discuss how the City of Adelaide can work with the State Planning Commission and Planning and Land Use Services to refine the Code Amendment.

Yours sincerely

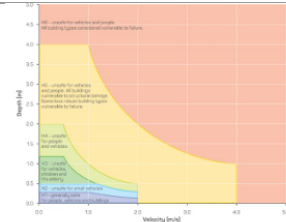
Michael Sedgman
Chief Executive Officer

Enc: Technical Comments Draft State-wide Flood Hazard Code Amendment



Enclosure 1 - City of Adelaide - Technical comments on the State-wide Flood Hazard Code Amendment

Topic	Comments	Changes or outcomes recommended								
Part 1 Rules of Interpretation										
In Part 1 – Rules of Interpretation	Spatial Information and Electronic Databases and Files, include, in alphabetical order, the following additional ‘Overlays’ and associated ‘Nature of Updates’ in the ‘Table’ <table><tr><th>Overlay or Concept Plan</th><th>Nature of Updates</th></tr><tr><td>Hazards (Flooding) Overlay</td><td>The overlay may be updated in accordance with a practice direction issued by the State Planning Commission under section 42 of the <i>Planning, Development and Infrastructure Act 2016</i>.</td></tr><tr><td>Hazards (Flooding – General) Overlay</td><td>The overlay may be updated in accordance with a practice direction issued by the State Planning Commission under section 42 of the <i>Planning, Development and Infrastructure Act 2016</i>.</td></tr><tr><td>Hazards (Flooding – Evidence Required) Overlay</td><td>The overlay may be updated in accordance with a practice direction issued by the State Planning Commission under section 42 of the <i>Planning, Development and Infrastructure Act 2016</i>.</td></tr></table> applying to Ministerial Determinations.	Overlay or Concept Plan	Nature of Updates	Hazards (Flooding) Overlay	The overlay may be updated in accordance with a practice direction issued by the State Planning Commission under section 42 of the <i>Planning, Development and Infrastructure Act 2016</i> .	Hazards (Flooding – General) Overlay	The overlay may be updated in accordance with a practice direction issued by the State Planning Commission under section 42 of the <i>Planning, Development and Infrastructure Act 2016</i> .	Hazards (Flooding – Evidence Required) Overlay	The overlay may be updated in accordance with a practice direction issued by the State Planning Commission under section 42 of the <i>Planning, Development and Infrastructure Act 2016</i> .	The details of how flood layers may be updated needs to be determined as part of this Code Amendment to enable councils to understand and determine the extent to which any impending or recent investigations of local conditions can be recognised in the Code.
Overlay or Concept Plan	Nature of Updates									
Hazards (Flooding) Overlay	The overlay may be updated in accordance with a practice direction issued by the State Planning Commission under section 42 of the <i>Planning, Development and Infrastructure Act 2016</i> .									
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Part 7 Land Use Definitions										
Land use definition for ‘Buildings for vulnerable communities’ In relation to a flood hazard overlay, means a Class 9 building containing any one or more of the following: a) health-care building; b) child care centre; c) primary or secondary school; d) residential care building. and includes Hospital; Childcare facility; Nursing home.	The term ‘vulnerable communities’ should be amended to ‘priority communities’ to align with current terminology and circumstance-based language.	Suggest changing terminology to: Buildings for priority communities								

Topic	Comments	Changes or outcomes recommended
Defined flood event	Means a 1 percent annual exceedance probability (AEP) at a 2050 flood event.	No changes recommended.
Extreme flood event	Means a 0.2 percent annual exceedance probability (AEP) at a 2050 flood event.	No changes recommended.
Flood hazard	In relation to a flood hazard overlay, means the potential loss of life, injury and economic loss caused by future flood events. The degree of hazard varies with the severity of flooding and is affected by topography and flood behaviour (extent, depth, velocity).	No changes recommended.
Flood hazard classification	In relation to a flood hazard overlay, means the classification of flood hazard from H1 to H6 based on depth and velocity, with vulnerability thresholds as follows: H1 – generally safe for vehicles, people and buildings. H2 – unsafe for small vehicles. H3 – unsafe for vehicles, children and the elderly. H4 – unsafe for vehicles and people. H5 – unsafe for vehicles and people. All building types vulnerable to structural damage. Some less robust building types vulnerable to failure. H6 – unsafe for vehicles and people. All building types considered vulnerable to failure. As published by the Australian Institute for Disaster Resilience in the Australian Disaster Resilience Guideline 7-3 Flood Hazard 2017	 Source: Australian Disaster Resilience Guideline 7-3 Flood Hazard published by the Australian Institute for Disaster Resilience dated 2017 and referred to the Flood Hazard, Technical Report 2014/07, prepared by Smith GP, Davey EK and Cox RJ at the Water Research Laboratory, University of New South Wales, Sydney dated 2014 (aidr.org.au)

Topic	Comments	Changes or outcomes recommended
	and illustrated in Column C of this term.	
Flood hazard overlay	Means any of the following: Flooding (Hazards) Overlay Flooding (Hazards – General) Overlay Hazards (Flooding – Evidence Required) Overlay	No changes recommended.
Flood risk	In relation to a flood hazard overlay, means the potential risk of flooding to people, their social setting, and their built and natural environment. Flood risk varies from tolerable flood risk to intolerable flood risk depending on the likelihood of a flood event occurring (AEP) and the consequence (flood hazard classification).	No changes recommended.
High flow area	In relation to a flood hazard overlay, means the area in which a building is vulnerable to structural damage or failure from floodwater in the flood hazard classification H5 or H6 for flood events up to and including the 5 percent annual exceedance probability (AEP) at a 2050 flood event.	No changes recommended.
Intolerable flood risk	In relation to a flood hazard overlay, means a risk that, following understanding of the likelihood and consequences of flooding is so high that it requires consideration of implementation of treatments or actions to improve understanding, avoid, transfer or reduce the risk. Intolerable flood risk is quantified as: H3-6 flood hazard classification for a one per cent annual exceedance probability (AEP) at 2050 flood event H2-6 flood hazard classification for a five per cent AEP at 2050 flood event and illustrated in Column B of this term.	No changes recommended to wording however, mapping should be colour coded to reflect this table for ease of interpretation. i.e. Flooding General should be light blue – Flooding should be dark blue.

Topic	Comments	Changes or outcomes recommended																											
	<table><tr><th colspan="2" rowspan="2"></th><th colspan="4">Flood hazard classification</th></tr><tr><th>H1</th><th>H2</th><th>H3</th><th>H4.5</th></tr><tr><th rowspan="2">Likelihood</th><th>1% AEP</th><td></td><td></td><td></td><td></td></tr><tr><th>5% AEP</th><td></td><td></td><td></td><td></td></tr></table> <table><tr><th colspan="2">Legend</th></tr><tr><td></td><td>Tolerable flood risk</td></tr><tr><td></td><td>Intolerable flood risk</td></tr></table>			Flood hazard classification				H1	H2	H3	H4.5	Likelihood	1% AEP					5% AEP					Legend			Tolerable flood risk		Intolerable flood risk	
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Tolerable flood risk	In relation to a flood hazard overlay, means a risk that, following understanding of the likelihood and consequences of flooding are tolerated provided the risk is reduced as low as reasonably practicable. Tolerable flood risk is quantified as: H1-2 flood hazard classification for a one per cent annual exceedance probability (AEP) at 2050 flood event H1 flood hazard classification for a five per cent AEP at 2050 flood event as illustrated in Column B of this term. <table><tr><th colspan="2" rowspan="2"></th><th colspan="4">Flood hazard classification</th></tr><tr><th>H1</th><th>H2</th><th>H3</th><th>H4.5</th></tr><tr><th rowspan="2">Likelihood</th><th>1% AEP</th><td></td><td></td><td></td><td></td></tr><tr><th>5% AEP</th><td></td><td></td><td></td><td></td></tr></table> <table><tr><th colspan="2">Legend</th></tr><tr><td></td><td>Tolerable flood risk</td></tr><tr><td></td><td>Intolerable flood risk</td></tr></table>			Flood hazard classification				H1	H2	H3	H4.5	Likelihood	1% AEP					5% AEP					Legend			Tolerable flood risk		Intolerable flood risk	No changes recommended to wording however, mapping should be colour coded to reflect this table for ease of interpretation. i.e. Flooding General should be light blue – Flooding should be dark blue.
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Policy Changes - Hazards (Flooding) Overlay																													
DO 1 Impacts on people, property, infrastructure and the environment from high-intolerable flood risk are minimised by retaining areas free from development, and minimising intensification where development has occurred.	Provides consistent terminology for better interpretation.	No changes recommended.																											

Topic	Comments	Changes or outcomes recommended
PO 1.1 Land division is limited to areas where the consequences to buildings and safety are low and can be readily managed or overcome to a tolerable flood risk .	Provides a defined benchmark for appropriate siting and design of land divisions however without flood depth data within the mapping, could increase the complexity of assessment with each division needing to be accompanied by a flood management study.	DTS/DPF should include measures on how to achieve a tolerable flood risk and would also be assisted by including the specific data-set within the overlay.
PO 2.1 Development sited and designed to minimise exposure of people and property to unacceptable intolerable flood risk .	Provides consistent terminology for better interpretation.	No changes recommended.
PO 2.2 Development including buildings for vulnerable communities Buildings housing vulnerable people , community services facilities, key infrastructure and emergency services facilities are not located in the overlay unless: a) there is an overriding planning need for the use b) there is no alternative site outside of the overlay that would address the identified need c) development sited away from flood prone areas to enables the uninterrupted operation of services during an extreme flood event and d) development reduces the likelihood of entrapment during an extreme flood event.	The DTS/DPF includes uses that are NOT permitted. This is not how DTS/DPF provisions have traditionally been utilised (usually worded to demonstrate compliance with the PO) This may cause confusion for interpretation. Agree with the intent however that the uses listed in the DPF should not be located within this Overlay and perhaps would be better understood as an exception within the PO. It is unclear what an 'overriding planning need' refers to. Are points (a) to (d) all required to be 'met' in order to allow certain buildings for vulnerable communities be established within this Overlay? How would 'uninterrupted operation of services' during an extreme flood event be determined (i.e. a standard flood event procedure)?	A definition is required for <i>an 'overriding planning need'</i> Suggested wording of PO 2.2 includes purple text below: Development including buildings for priority communities Buildings housing vulnerable people, community services facilities, key infrastructure and emergency services facilities are not located in the overlay unless all of the following criteria (a) to (d) are demonstrated: a) does not include any of the following land uses in part or whole: <i>Childcare facilities, educational facilities, retirement and supported accommodation, emergency services facilities, hospitals and prisons;</i> b) there is an overriding planning need for the use;

Topic	Comments	Changes or outcomes recommended
		c) there is no alternative site outside of the overlay that would address the identified need; d) development sited away from flood-prone areas to enables the uninterrupted operation of services during an extreme flood event and e) development reduces the likelihood of entrapment during an extreme flood event Practice direction to include understanding of how this (b) – (e) may be demonstrated is required.
PO 3.2 Development does not cause unacceptable adverse impacts on any adjoining property by the diversion of flood waters or an increase in flood velocity or flood level.	With reference to development ensuring no ‘adverse’ impacts on an adjoining property through diversion of flood waters or increase flood level/velocity.	No changes recommended.
PO 3.4 Development avoids frequently flooded or high-velocity high flow areas, other than where it is part of a flood mitigation scheme to reduce flood impact. DTS/DPF 3.4 Other than a recreation area, development is located outside of a 5% AEP principal flow-path high flow area.	Provides consistent terminology for better interpretation.	No changes recommended.

Topic	Comments	Changes or outcomes recommended
PO 3.5 Buildings are sited, designed and constructed to prevent the entry of floodwaters in a 1%-AEP defined flood event where the entry of floodwaters is likely to result in undue damage to, or compromise ongoing activities within, buildings.	Provides consistent terminology for better interpretation.	No changes recommended.
DTS/DPF 3.5 Buildings comprise one of the following: a) a porch or portico with at least 2 open sides b) a verandah with at least 3 open sides c) a carport or outbuilding with at least 2 open sides (whichever elevations face the direction of the flow) d) any post construction with open sides e) a building with a finished floor level that is at least 300mm above the height of a 1%-AEP defined flood event.	Many developments have occurred under current hazard flooding (water courses, creeks, flood plains with conditions such as FFL of buildings above the 1% AEP flood elevation with the consideration of a buffer not less 10m of both banks of the watercourse/creek). (Reference: Latest National Construction Code)	Are these conditions going to be maintained?
PO 4.1 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 during the 1%-AEP defined flood event to avoid potential environmental harm. DTS/DPF 4.1 Development involving the storage or disposal of hazardous materials is wholly located outside of the 1%-AEP flood plain or flow path defined flood event.	Provides consistent terminology for better interpretation.	No changes recommended.

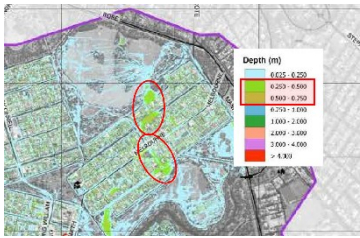
Topic	Comments	Changes or outcomes recommended
PO 6.1 Development does not occur on land: a) from which evacuation to areas not vulnerable to flood risk is not possible during a 1%-AEP defined flood event b) which cannot be accessed by emergency services vehicles or essential utility service vehicles during a 1%-AEP defined flood event.	Provides consistent terminology for better interpretation.	No changes recommended.
PO 6.2 Access driveways and tracks to a Class 1 to 9 building significant development (i.e. dwellings, places of work, etc.) consist of comprises a safe, all-weather trafficable surface that is accessible during a 1%-AEP defined flood event.	Understand that the intent is to exclude the need to demonstrate safe/all-weather trafficable surfaces (during a defined flood event) for class 10 structures. As highlighted earlier, DTS/DPF provisions have traditionally been utilised with enabling assessment criteria 'positive' this may cause confusion for interpretation.	Suggested wording for PO 6.2 in purple: Access driveways and tracks to a Class 1 to 9 building (excluding Class 10 non-habitable buildings) significant development (i.e. dwellings, places of work, etc.) consist of comprises a safe, all-weather trafficable surface that is accessible during a 1%-AEP defined flood event.
Policy Changes - Hazards (Flooding- General) Overlay		
DO 1 Impacts on people, property, infrastructure and the environment from general tolerable flood risk are minimised through the appropriate siting and design of development.	Provides consistent terminology for better interpretation.	No changes recommended.
PO 1.1 Development including buildings for vulnerable communities Buildings housing vulnerable people, community services facilities,	Provides consistent terminology for better interpretation.	PO 1.1 Development including buildings for priority communities Buildings housing vulnerable

Topic	Comments	Changes or outcomes recommended
key infrastructure and emergency services facilities are sited away from flood areas, designed and operated to enable uninterrupted operation of services and reduce likelihood of entrapment in an extreme flood event.		people, community services facilities, key infrastructure and emergency services facilities are sited away from flood areas, designed and operated to enable uninterrupted operation of services and reduce likelihood of entrapment in an extreme flood event.
DTS/DPF 2.1 Habitable buildings, commercial and industrial buildings, and buildings used for animal keeping incorporate a finished ground and floor level not less than 300mm above the height of a defined flood event. Finished Ground and Floor Levels In instances where no finished floor level value is specified, a building incorporates a finished floor level at least 300mm above the height of a 1% AEP flood event.	Developments under this flooding scenario require buildings FFL to be set at 300mm above the defined flood event however, this may not be practical to achieve when the data is not available and/or the overlay does not reach all parts of one allotment. Therefore, the DTS/DPF should recognise the local top of kerb level as a benchmark alternative and include the words <i>or 300mm above the top of the kerb, whichever is higher</i>.	Suggested wording for DTS/DPF 2.1 DTS/DPF 2.1 Habitable buildings, commercial and industrial buildings, and buildings used for animal keeping incorporate a finished ground and floor level not less than 300mm above the height of a defined flood event <i>or 300mm above the top of the kerb, whichever is higher</i>.
PO 3.1 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 during a 1% AEP defined flood event to avoid potential environmental harm.	Provides consistent terminology for better interpretation.	No changes recommended.

Topic	Comments	Changes or outcomes recommended
DTS/DPF 3.1 Development involving the storage or disposal of hazardous materials is wholly located outside of the 1% AEP flood plain or flow path defined flood event.		
Technical/Other matters		
Consultation material	Interpreting the map viewer is challenging for most people (the general community). For example, any point on the map returns the label "1 in 20 _2050 _H _filt 50 mm" Please explain what this means.	
Interpretation of mapping	The flood hazard from the AIDR (Australian Disaster Resilience) Handbook 7-3 dated 2017 classification This figure is important and should be simplified to enable the non-engineers to understand interpret and provide comments.	
Mapping accuracy	The HARC flood mapping for the CBD shows some depth up to 1m in some high points of some roads, or large depth differences on balanced roads. Therefore, CoA is not confident that the HARC flood depth in most areas is applicable. CoA is currently undertaking Stormwater Management Plan (by ARUP Engineers) for the CBD with greater existing drainage information, DEM data, and using a more recent ARR2019 v4.2 climate change factor which will then inform a	Further clarification required on the discrepancies between the levels and depth of flooding shown on high points of the roads. Confirmation that mapping undertaken by council will be able to be included in the Code in a timely manner.

Topic	Comments	Changes or outcomes recommended
	more comprehensive council-wide flood mapping study. The SMP is expected in early 2027. Once completed, the flood maps produced by ARUP must replace the current HARC flood maps.	
Rainfall intensity increment	Rainfall Intensity increment of 5% per degree Celsius appears to be an older finding from ARR2019 v4.1. A more recent ARR2019 v4.2 suggested a higher intensity increment at about 8%-15% per degree Celsius of temperature warming. This suggests that the flood overlays depth information will underestimate the future climate factor, therefore imposing risk to the development in regard to Finished Floor Level (FFL) design.	Further clarification is required on whether this updated rainfall intensity increment will be part of the future updates for the policy.
Elevations/depression model	Is a 0.5 m LiDAR-derived Digital Elevation Model (DEM) being applied to the Adelaide City catchment area? The HARC report (pg 84) indicates that a 1m DEM was used, and the model results show instances of trapped surface flow within side streets and private properties. This may suggest limitations in the underlying survey data, potentially resulting in artificial depressions and unrealistic ponding in these locations.	Further clarification on the DEM applied.
Data accessibility	The 1% AEP flood depth is currently not visible or identifiable from the web viewer, which is important for development assessment against flood immunity when defining the FFL requirement.	Are there future plans to release flood depth information within the mapping. It is recommended that the flood depth legend be presented for intended user to interpret flood

Topic	Comments	Changes or outcomes recommended
	Further to this, in the HARC flood mapping, a flood depth interval of 250mm is too broad which increases uncertainty and can hide important local differences in hazard and impact for intended user.	depth against the freeboard requirement in the policy. It is suggested that the depth information be colour coded in 50 mm increments (e.g. 0–0.05 m, 0.05–0.10 m, 0.10–0.15 m, etc.) to improve clarity and better represent depth variations.
Inconsistency in mapping	Within the City of Adelaide catchment, the flood overlay is currently mapped over the road network, whereas in the Unley council catchment the overlay is mapped within property parcels (Parcel-based mapping). For example: 1. City of Unley Catchment (Left) 2. City of Adelaide catchment (Right)  Further clarification is required for the 'parcel-based' mapping overlays. e.g. how is this determined or distinguish between 1. The Hazards (Flooding) overlay Intolerable flood risk. vs 2. The Hazards (Flooding-General) Overlay Tolerable flood risk.	This appears to be an inconsistency in the approach used to display the flood overlay in some other council areas. This needs to be standardised to provide a consistent approach across council boundaries.

Topic	Comments	Changes or outcomes recommended
Future projection	Is there any reason for selecting the 2050 climate model when many SA councils are increasingly using 2070 (or even 2090/2100) climate projections?	Provide clarification or any intent to update.
	Based on the HARC Flood Report, several side streets intersecting Jerningham Street are shown to experience ponding depths of up to 0.75m (as per appendix legend). At these depths, flooding would overtop the road network and potentially inundate adjacent properties however, the overlay appears to be limited to the road system only in most cases. This may create confusion for map users where the associated flood depth information is not readily accessible or clearly represented. For example: 1. Flood hazard overlay (Left) 2. HARC Report - Appendix 1%AEP (Right)  	Provide clarification on how this is to be interpreted i.e. does the overlay policy ONLY apply to the area where the overlay is present or is development of the whole allotment affected if part of the overlay affects part of an allotment. And what occurs for a development that has both Flood Hazard and Flood General Overlays intersecting the land.

Topic	Comments	Changes or outcomes recommended
	The HARC report (refer pg 106, pg111, pg113 and snips below) indicates that the CBD hydraulic model has not been calibrated. In the absence of calibration and validation against observed flood behaviour or historical flood records, it is unclear on what basis a high level of confidence can be assigned to the resulting flood mapping outputs. Given that the proposed flood hazard overlay may inform planning controls and influence development outcomes, further clarification is sought regarding the methodology adopted to verify the model performance, the limitations associated with the current mapping, and the degree of confidence that should reasonably be attributed to the HARC flood extents and depths within the Adelaide CBD catchment. As part of the calibration process anecdotal evidence was gathered about the October 2016 event, in particular. The anecdotal evidence suggested that the water did not break the banks of the river during the October 2016 event. For the initial runs undertaken for the October 2016 event a higher Manning's n to that shown in Table 5-1 was adopted. The higher Manning's n value indicated that the river broke its banks. Therefore, the Manning's n value was lowered to the one shown in Table 5-1. In general, the calibration result indicate that the Manning's n values adopted are appropriate for use. The CBD model was not calibrated as there was no data to calibrate against. Flood Hazard Mapping and Assessment Project as discussed in Section 5.7, is modelled separately in the Lower Torrens Model, i.e. not rain on grid. Also, as the majority of the CBD has a critical duration of 30 mins, the temporal pattern variability for very short durations is likely to have a limited effect on flows further justifying the choice of one representative temporal pattern. A sensitivity analysis of the CBD model was considered, in the form of blockage at the pits. However, given the uncertainty around the inverts of the pipe network and pit details a sensitivity on already uncertain information was not considered justified. To better understand the pit and pipe network a detailed survey of the pit and pipe network is recommended. 8. Design event flood mapping and sensitivity analysis This section presents an overview of the mapping process. 8.1 General From the Lower Torrens model, flood waters are generally contained within the waterway for events up to and including the 2% AEP event. However, for the 1% AEP, water begins to spill onto the floodplain breaking the river banks between Findon Road and Henley Beach Road. For the 0.2% AEP water breaks out in several locations downstream of Port Road flooding a very large area. Up to and including the 1% AEP event none of the roads modelled are overtopped. During a 0.2% AEP existing conditions event South Road, Player Avenue and Railway Bridge near Winchester St would likely experience closures due to depth as well as velocity over the bridges. From the CBD model, flood waters are generally along the roads for events up to and including the 0.2% AEP event. The two main areas of flooding within the CBD are around the University of Adelaide and north of the CBD along Jerrington Street. Of note though is that the flooding around the University is affected by flows on the First Creek catchment. First Creek is the subject of a separate flood study, to others. As a result, any assessment of flood depths, extents and hazards in this area should refer to the separate flood study (Torbin 2021). 8.2 Lower Torrens Maps TUPLLOW tracks the maximum of each map output during the simulation period on a geo-	Provide clarification on the calibration of the hydraulic modelling used to assist council engineers to interpret any discrepancies between the Code overlay mapping and any subsequent mapping undertaken by council.