

## SUBMISSIONS SUMMARY

<b>To:</b>	Council Report	<b>From:</b>	Team Leader Floodplain Management
<b>CC:</b>	File	<b>Date:</b>	14/02/2023
<b>SUBJECT:</b>	<b>Proposed Upper South Creek Flood Study</b> <i>Total Submissions: 6. Total Topics: 10</i>		

Submission Topics Summary by Category		
# Raised	Submission Topic Category	Percentage
3	Lowes Creek Maryland Precinct	30%
3	Changes - approved strategies.	30%
1	Flood affectation - 29 Allenby Road ROSSMORE	10%
1	Overland flow path - 268 Catherine Fields Road CATHERINE FIELD	10%
1	Upper South Creek Regional Flood Model and User Guide - freely available for use?	10%
1	Animations underestimated (1) Catherine Field & Deepfield Roads + (2) Bringelly Rd including Allenby / Barry Ave	10%
10	<b>Total</b>	<b>100%</b>

## SUBMISSION RESPONSES SUMMARY

Submission Ref.	Submission Topic	Response
1	<p>1. The <b>flood affectation</b> of property 29 Allenby Road ROSSMORE</p> <p>The customer's query is about the Figure 27B - Upper South Creek Flood Study. It is shown PMF affected for both 19 Allenby Rd Rossmore (the customer agrees with that) and the adjacent property - 29 Allenby Rd., Rossmore (the customer/the owner does not agree with that). The only area that should be shaded " blue " (i.e., PMF affected) is the street frontage as the creek opposite covers the entire street. The rear side of the property is hilly &amp; all the runoff goes to 19 Allenby Rd Rossmore. The customer expects council to amend the mapping to reflect the slope of the land. The customer is also referring the recent 3 floods in 2022 as the proof of his claim.</p>	<p>The flood affectation of number 29 Allenby Road is the same source as number 19 Allenby Road - local catchment flows.</p> <p>There is water adjacent to Allenby Road in a table drain (this is why there are culverts under the driveways - this is a path of flow), and also around the rear of 29 Allenby Road. This flow path is even mapped on Google Maps as a path of water as it moves in a north west direction toward the Masterfield Levee. This flood behaviour can be seen in the 1% AEP event. The flood depths in this event reach a maximum of approximately 0.2m, which can be referred to as shallow overland flows. This is not significant affection and generally aligns with descriptions from the respondent.</p> <p>In the PMF event that is referred to, both 19 and 29 Allenby Road are subject to inundation as a result of a combination of South Creek, Riley's Creek and local catchment flows (described above). The Annual Exceedance Probability (AEP) of the Probable Maximum Flood (PMF) is approximately 1 in 10 million. We have not seen a flood of this magnitude or anything close to it and as such; using historic events to disprove the PMF extent is not advisable.</p>
2	<p>1. <b>Overland flow path</b> not shown on the property 268 Catherine Fields Road CATHERINE FIELD</p> <p>The customer's query is regarding flooding on 268 Catherine Field Rd CATHERINE FIELD. According to him, the old maps (2019) showed overland flooding; whilst the new maps show no flooding on this block. Nor does the computer animation. He mentioned that the property had been flooded at least 4 times in the recent floods. As a proof, he has photos and videos of recent events. The customer suggested verification/amendments for the new flood study.</p>	<p>It is correct that there is an overland flow path along the southern boundary of 268 Catherine Field Road. This was simulated in the previous study due to the direct rainfall approach.</p> <p>The previous study modelled depths up to about 0.3m on this flow path in the 1% AEP, and less than 0.5m in the PMF. It is noted, however, that the flow path is not mapped as continuous (due to the cut-off depth applied of 0.15m) and probably more likely controlled by the terrain (small depressions, etc) on the flow path. In the Flood Study Update, this is modelled as a single catchment, with inflows placed at the Catherine Fields Road culvert. The flow paths upstream of this, including the one located on 268 Catherine Fields Road has not been considered.</p> <p>Since this lot is subject to development, overland flow / local flooding would be considered as part of</p>

		the development assessment and updated in future flood models. As previously indicated the proposed development has undertaken localised flood modelling of this flow path.
3	1. If the <b>Lowes Creek Maryland</b> rezoning report/study is to be included in Council's flood studies and plans	<p>The following comments are addressed:</p> <p>2.3 Precinct Development. It is correct that at the time of the draft Flood Study preparation, the Lowes Creek and Maryland (Part Precinct) was in the planning phase. We are unable to say that "development that occurs in accordance with an endorsed strategy requires no further assessment". While it is true, if the development occurs exactly as per the current strategy report, no further assessment would be required. However, it is unlikely that this would occur. There will always be changes to a development between the strategy and construction. It will need to be determined if the proposed changes are significant or not with regard to flooding and downstream affectation. This will ultimately be addressed by Council as part of separate assessment processes.</p> <p>3.1.3 Other studies. The Upper South Creek Flood Study document is a standalone flood study and does not need to reference the Lowes Creek Maryland Precinct Water Cycle Management Strategy Report, which was produced after the flood study update commenced. Same question above in relation to the development approval.</p> <p>At this stage the Upper South Creek Regional Flood Model is freely available to developers' consultants working in the Upper South Creek catchment. In future there may be a requirement to sign a user agreement (as for Nepean River catchment).</p> <p>If required, the models with results submitted to Council to assess will be reviewed by the Council's consultant. Further to that these models are required to update the base regional flood model for future developments / precinct developments.</p>
	2. <b>Upper South Creek Regional Flood Model</b> and User Guide - will it be freely available for use?	
	3. Council to confirm that no design changes are required to <b>approved strategies</b> .	
4	1. If the <b>Lowes Creek Maryland</b> precinct report/study is to be included in Council's flood studies and plans	This is similar to submission 3 with Developers seeking confirmation that they have met all requirements.

	<p>2. Council to confirm that no design changes are required to <b>approved strategies</b>.</p>	<p>The Upper South Creek Flood Study document is a standalone flood study and not need to reference the Lowes Creek Maryland Precinct Water Cycle Management Strategy Report, which was produced after the flood study update commenced.</p> <p>A number of other reports were looked at (all listed in Section 3.1.3). It appears the request is to have their modelling validated and given status within Council. That is not the role of this Flood Study. This is covered separately in the Precinct Planning Processes. ie Water Cycle Management Strategies completed for these precincts (eg. Oran Park, Turner Road, El Caballo Blanco, etc.).</p> <p>No further assessment is required to Lowes Creek Maryland Precinct Water Cycle Master (WCM) Plan unless either the WCM or the Indicative Layout Plan is changed. However, each DA is to be assessed based on the adopted Flood Risk management Policy. For an example, this includes the requirement of further assessment if the topography changes compared to the WCM model.</p>
5	As per submission 4.	As per submission 4 response.
6	<p>Animations for (1) Catherine Field &amp; Deepfield Roads + (2) Bringelly Rd including Allenby / Barry Ave seem to <b>underestimate flooding</b>.</p> <p>The feedback offered here is relative the two (2) animations as shown i.e. those for (1) Catherine Field &amp; Deepfield Roads + (2) Bringelly Rd including Allenby / Barry Ave.</p> <p>These animations seem to grossly underestimate the number of points at which road flooding occurs, the water levels, rate of water flow and the actual properties as impacted based on the most recent 2 major weather events. If understood correctly the report as adopted is from 2019 and the event's I refer to are those of past 6-12 months. Other than those 2 events having very high sustained rainfall levels, what I</p>	<p>Each of the culvert crossings of these rural roads has been included. These culverts are typically placed on flow paths where water will collect and be conveyed under the road. As such, the modelling places catchment runoff at these locations, and hence overtopping of the road is expected at these locations also. If there are any other locations where road overtopping is experienced away from such hydraulic structures, these are likely to be shallow overflows that may not be represented in this catchment-wide flood model.</p> <p>The Upper South Creek flood modelling is based on development as at November 2018. While it is correct that there has been some development in the catchment, at the present stage this has not been significant (in terms of a percentage of the catchment developed). The flood modelling undertaken is still considered to be valid. It is worth noting that Council has strict policies that aim to ensure that any development does not adversely affect downstream properties in terms of flood affectation. Many of the precinct developments contain flood mitigation devices in the form of</p>

	<p>suspect the past report and modelling Does Not allow for is the significant increased flood impact as generated by the number of properties / homes as developed in these areas over the past 3 years and thus the resultant storm water discharge these generate. Further, as Council also gets notice of any forward development plans for existing and / or new properties (large commercial, schools &amp; homes), these should then likewise be factored into any new modelling developed to reflect true and full impact of those additional developments.</p> <p>Above in mind, I trust any flood planning and water management systems allow for full and complete assessment of "worst case flooding scenarios" ensuring major access roads remain accessible and homes are not inundated</p>	<p>detention basins to limit peak flows from these precincts so that they do not exceed pre-development peak flows. It is correct, however, that flood behaviour (particularly timing and volume) will be altered by large scale developments, and as such Council will require future updates to the Upper South Creek flood model to ensure it remains current. The 'worst case flooding scenario' (ie. the Probable Maximum Flood) is required to be modelled for any new developments, and consideration of access and evacuation is part of this.</p>
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