



Attachment 2 to Item 10.3.3.

Copy of Written Submissions

Date of meeting: 11 March 2025
Location: Council Chambers
Time: 6:30pm



18 December 2024

Elizabeth Richardson, General Manager
Megan Ang, Director City Planning
Hawkesbury City Council
PO Box 146
Windsor NSW 2756

Dear Ms. Richardson and Ms. Ang

Submission regarding draft Hawkesbury Floodplain Risk Management Study and Plan 2025

██████████ welcomes the opportunity to provide feedback on the draft *Hawkesbury Floodplain Risk Management Study and Plan 2025 (FRMSP)* prepared by WMAwater for Hawkesbury City Council (**Council**). ██████████ plays a vital role in education, research, and innovation. ██████████ is advancing the establishment of the Agri Tech Precinct, a federally supported initiative that will advance sustainable food systems, attract industry, and create new jobs for the local community. This significant project builds on the Hawkesbury campus's long history of agricultural education and research excellence.

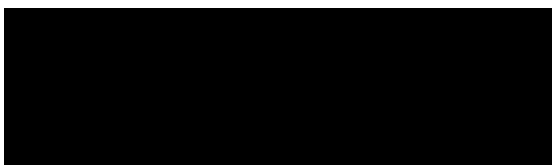
██████████ has been operating as an agricultural educational establishment since 1891 and predates much of the development in the Hawkesbury-Nepean River floodplain. The campus is a strategically important educational facility in the Hawkesbury Local Government Area (**LGA**) and its operations cannot be relocated. In fact, there are plans to diversify the campus to support learning and research within local specialised industries like agriculture. ██████████ is concerned that many of the measures recommended in the draft FRMSP would restrict or prohibit some of these proposals.

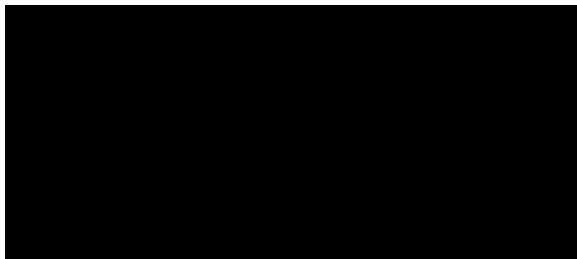
██████████ is of the opinion that there is insufficient detail in the draft FRMSP about the recommended planning controls and their implementation. This makes it difficult for ██████████ and the community more broadly, to understand the totality of impacts arising from the recommendations and to provide fully informed comment on their appropriateness or otherwise.

In this regard, ██████████ **requests that Council defer adoption of recommendations in the draft FRMSP until these details are confirmed and ██████████ is provided with further opportunity to properly consider their implications and make a submission in response.**

In the interim, this submission details ██████████ response in relation to:

- The recommendation to change the Flood Planning Level (**FPL**).
- The recommendations to change or introduce flood-related development controls.
- The recommendation to adopt Clause 5.22.
- The relationship of changed development controls to flood evacuation.
- Transitional arrangements.





Raising the flood planning level

The *Hawkesbury Flood Policy 2020 (Flood Policy)* currently defines the FPL as the 1% AEP flood level. Based on flood data from both the *Hawkesbury-Nepean Valley Regional Flood Study 2019* by WMAwater and the *Hawkesbury-Nepean River Flood Study 2024* by Rhelm and CSS, the 1% AEP flood level for [REDACTED] Hawkesbury campus is approximately 17.4 m AHD. The currently applicable FPL for the area is approximately 17.4 m AHD.

The draft FRMSP proposes that the FPL should be redefined as the 0.5% AEP flood level plus 0.5m freeboard. Based on the model results of the *Hawkesbury-Nepean River Flood Study 2024*, the 0.5% AEP flood level for the Hawkesbury campus is 18.5 m AHD. Once the 0.5 m freeboard is added, the proposed FPL for the campus would therefore be 19.0 m AHD.

This is an increase of 1.6 m in the FPL at the campus, which potentially represents a significant increase in minimum floor levels and the application of flood related planning controls to a much larger part of the campus. However, it is unclear from the draft FRMSP how the existing flood-related development controls set out in the Flood Policy will be adjusted to facilitate this increase in the FPL.

Currently the applicability of development controls is determined largely based on the hydraulic hazard of the land in the 1% AEP flood, which is consistent with the current definition of the FPL as the 1% AEP flood level. However, if the FPL is raised it would no longer be consistent with the method for determining land use suitability. If Council simply updates this method to be based on hydraulic hazard in a larger event, such as the 0.5% AEP flood, the resulting controls would not be entirely consistent with the FPL. The FPL is 0.5 m above the 0.5% AEP flood level and so for this event, there is no hydraulic hazard for land with an elevation between the 0.5% AEP flood level and the FPL.

Alternatively, the draft FRMSP recommends that the *Hawkesbury Local Environmental Plan 2012 (LEP)* and the *Hawkesbury Development Control Plan 2023 (DCP)* be revised to use FPCCs as a basis for the appropriate application of planning controls. This is discussed further in the following section.

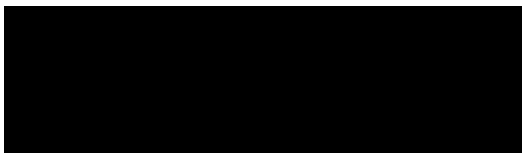
As changes to the current planning controls have not yet been drafted, it is difficult for [REDACTED] and other members of the Hawkesbury community to determine the potential implications of revised controls. There is insufficient information available for [REDACTED] to adequately respond to the suggested change to the FPL. It would be premature for Council to adopt the suggested FPL until it has drafted and exhibited development controls that are consistent with this FPL.

Council should clarify whether flood-related development controls and the method for determining the applicability of these controls will be updated and, if so, identify how they will be updated. Once this information has been made available, Council should then provide another opportunity for the community to consider and respond to the proposed changes.

Flood Planning Constraint Categorisation mapping

It is a recommendation of the draft FRMSP that the LEP and the DCP be revised to use Flood Planning Constraint Categories (**FPCCs**) as a basis for the appropriate application of planning controls.

If Council were to undertake this revision, [REDACTED] **requests that further details and clarity be provided regarding the types of development controls that would be**





proposed for each of the FPCCs. Once this information has been made available Council should then provide another opportunity for the community to consider and respond to the proposed controls.

Adoption of Clause 5.22

The draft FRMSP recommends that Council consider adopting *Clause 5.22 Special Flood Considerations (Clause 5.22)* into the LEP. Development controls for areas outside of the Flood Planning Area (FPA) and within the PMF extent have not been drafted as part of the draft FRMSP process. As such, it is difficult for [REDACTED] and other members of the Hawkesbury community to determine the potential implications of the adoption of Clause 5.22 for land in this area outside of the FPA.

There is insufficient information available for [REDACTED] to adequately respond to the suggested adoption of Clause 5.22. It would be premature for Council to adopt this clause until it has drafted development controls that would apply to land to which the special flood considerations of Clause 5.22 apply. [REDACTED] **requests that Council provide further details and clarity regarding the types of development controls that would be proposed for areas above the FPL.** Once this information has been made available, Council should then provide another opportunity for the community to consider and respond to the proposed controls.

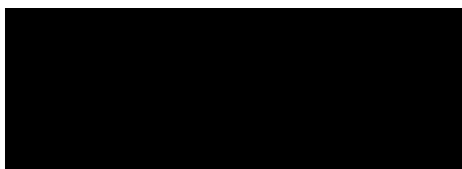
[REDACTED] **also requests further clarification on the implications for the evacuation capacity of Richmond based on the evacuation modelling undertaken by Infrastructure NSW and set out in the *Hawkesbury-Nepean Valley Flood Evacuation Modelling to Inform Flood Risk Management Planning (Infrastructure NSW, 2023) report.*** This report does not provide any detail on how many dwellings and other development the evacuation modelling assumes to be in Richmond currently and how many in the future. Therefore, it is difficult to be certain of the future development capacity of Richmond. The implications of the flood evacuation modelling for the Hawkesbury campus' evacuation capacity are not clear in the Infrastructure NSW report and are not elaborated on in the draft FRMSP.

Without further details it is difficult to comment on the proposal to adopt Clause 5.22 into the LEP as flood evacuation would clearly be a consideration under that clause.

Council decisions and NSW SES advice regarding the suitability of development in sections of the Hawkesbury-Nepean floodplain will be guided by the results of Infrastructure NSW's flood evacuation modelling. However, at present there is little information publicly available regarding:

- Which evacuation sectors the NSW SES considers to be at or to have exceeded their existing evacuation capacity.
- Which evacuation sectors the NSW SES considers have capacity for increases in population or vehicle density.
- How evacuation capacity will impact which land uses Council is likely to consider appropriate in the different evacuation sectors.
- How many additional vehicles or people Council would consider for each sector (i.e., a cap on development based on the capacity of existing evacuation routes).

It is also unclear if Council expects evacuation capability to be assessed based on design flood events or include consideration of the impacts of climate change.





Clarity from Council about caps on additional vehicles for various subsectors and the events for which evacuation capability is to be assessed is essential given that all new development must currently be accompanied by an evacuation capability assessment. These cannot be undertaken if information regarding the capacities of existing evacuation routes is not made available.

Voluntary purchase

██████ supports the recommendation by the draft FRMSP for voluntary purchase to be investigated for residential properties affected by high to extreme hazard in the 1% AEP event. This is an effective method for reducing flood risk to life and to property in locations where the existing development type is not compatible with the flood function and hazard of the land.

In addition, this measure has the potential to reduce the number of people and vehicles in the floodplain and therefore reduce the number of vehicles that would need to use existing evacuation routes during a flood. Flood evacuation modelling undertaken by Infrastructure NSW should be updated to reflect this reduction in vehicles.

Development of a flood chapter for the Hawkesbury DCP

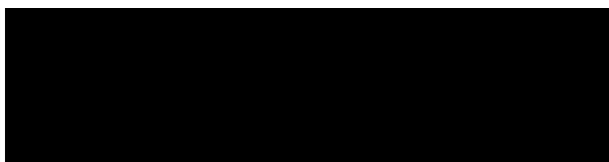
Currently, flood-related development controls applicable in the LGA are set out in the Flood Policy. A recommendation of the draft FRMSP is that a flood chapter be developed for inclusion in the DCP. ██████ supports this measure as it would assist in consolidating the flood-related planning controls applicable to development throughout the LGA into a single document and make it simpler for developers to understand the constraints on development.

However, the content of the flood chapter is not specified by the draft FRMSP. **If Council were to develop a flood chapter for the DCP, ██████ requests that further details and clarity be provided regarding the types of development controls that would be proposed and how they would differ from the existing development controls set out in the Flood Policy.** Once this information has been made available, Council should then provide another opportunity for the community to consider and respond to the proposed controls.

Any revision of the existing flood-related development controls should include consideration of proposed land use when determining suitability for the flood function and hazard of the land and for determining appropriate floor levels.

The current controls set out in the Flood Policy identify all educational establishments as Sensitive Uses and Facilities. However, this does not take into consideration the different types of educational establishments that can exist and the different risk profiles of the students of those establishments. Primary and secondary school students can be considered vulnerable users given their age and the fact that they cannot be assumed to be able to make flood emergency response decisions independently or be able to self-evacuate. Therefore, primary and secondary schools can appropriately be described as Sensitive Uses and Facilities.

However, tertiary education students do not exhibit the same vulnerabilities and are generally more independent and capable of self-evacuation with appropriate notice, with clear guidance and support from ██████ during flood events. ██████ acknowledges its duty of care to ensure all students and staff are well-prepared and assisted in responding to flood risks. However, the risk profile is similar to that of the general population and vastly different to those of primary and secondary school students. Therefore, any revision of flood-related development controls





should acknowledge that tertiary education establishments are not Sensitive Uses and Facilities. Development controls applicable to tertiary education establishments should be more similar to those applicable to commercial land uses than to those for primary or secondary schools.

Similarly, tertiary information and educational facilities should not necessarily be considered highly vulnerable uses. The current development controls list information and education facilities as Commercial/Industrial – Highly Vulnerable Uses.

In addition, educational establishments such as [REDACTED] Hawkesbury campus can be comprised of a range of different land uses. Although the campus itself is an education establishment, development on campus can include a range of facilities such as research facilities, agricultural facilities, classrooms, lecture halls and student accommodation. Development controls applicable to these facilities should consider the specific use of the facility, the type of equipment likely to be housed in the facility and the risk profiles of facility users. For example, agricultural facilities on the university campus are less vulnerable to inundation than student accommodation. Facility users are likely to occupy agricultural facilities for a lower portion of time than students would occupy their residences and agricultural buildings is more likely to be composed of flood compatible materials. Therefore, the different facilities should be subject to different development controls.

[REDACTED] recommends that any revision of the existing flood-related development controls recognises that tertiary education establishments are not necessarily Sensitive Uses and Facilities or Highly Vulnerable Uses. Development controls should consider the specific uses, risk profiles of site occupants and the types of equipment likely to be on site for proposed education-related facilities.

Infill residential development

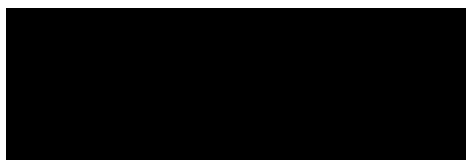
The draft FRMSP does not address infill development. However, [REDACTED] suggests that if flood-related development controls are to be revised this is an ideal opportunity to reconsider the suitability of infill development. Currently, infill residential development is permitted in areas zoned for residential development. However, this type of development gradually exacerbates existing flood-related constraints in the floodplain. It places increasing numbers of people and vehicles in the floodplain, placing an increasing burden on existing flood evacuation routes. In addition, infill development can have a cumulative impact on flood behaviour, potentially worsening flood affectation for existing development.

The Hawkesbury campus has been in operation since 1891 and since this time significant residential development has been permitted nearby in Richmond, placing increasing pressure on the evacuation routes on which the campus depends. Infill development has the potential to exacerbate this pressure further, adversely impacting evacuation capacity for the area.

[REDACTED] recommends that future infill residential development be carefully assessed in line with flood evacuation capacity. Council should prioritise securing investment and/or development contributions to improve evacuation infrastructure and ensure capacity upgrades align with any additional residential development approvals.

Transitional arrangements

Another aspect of the planning controls which is not discussed in the draft FRMSP is transitional arrangements. For example, the existing Flood Policy does not require replacement of existing buildings to meet the same development control requirements as a new development. Similar





arrangements would be appropriate for the Hawkesbury campus or for the floodplain generally given the extensive development which already exists.

██████████ has been engaging with Council in planning for the Agri Tech Precinct on the Hawkesbury campus. A concept plan approval has already been granted by Council, and a Development Application (DA) for Stage 1 (enabling) works has been approved. This includes subdivision of the site from the broader campus and the construction of an intersection with Blacktown Road. The Stage 1 works will support the planned Agri Tech Precinct. ██████████ notes that further DAs will be submitted as the Precinct progresses and seeks assurance that these will align with existing approvals.

It would be procedurally unfair for these subsequent DAs to be subject to different, potentially more stringent development controls than the Stage 1 DA that has already been approved.

Council should consider transitional arrangements for this and similar existing development.

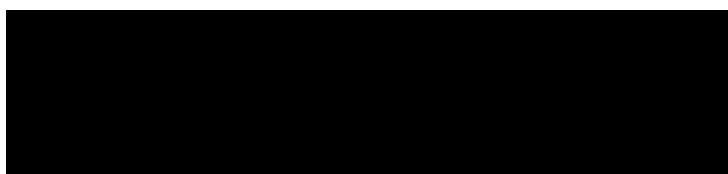
Summary

In summary, ██████████ requests that:

- Council clarifies whether flood-related development controls and the method for determining the applicability of these controls will be updated and, if so, identify how they will be updated.
- Any revisions of the applicable flood-related development controls recognises that tertiary education establishments are not necessarily Sensitive Uses and Facilities or Highly Vulnerable Uses. Development controls should consider the specific uses, risk profiles of site occupants and the types of equipment likely to be on site for proposed education-related facilities.
- Council provides further details and clarity regarding the types of development controls that would be proposed for areas covered by Clause 5.22.
- Council provides further clarity regarding the implications of the flood evacuation modelling undertaken by Infrastructure NSW for evacuation capacity and development for ██████████ Hawkesbury campus.
- Council ensures future residential development aligns with flood evacuation capacity and secures investment to upgrade infrastructure as needed.
- Council adopts transitional arrangements for existing development.

In general, insufficient urban planning-related information has been provided in the draft FRMSP (WMAwater, 2025) for ██████████ to adequately respond to recommendations relates to Council's planning instruments. Council should make further information available and then provide another opportunity for the community to consider and respond to the proposed changes.

██████████ requests an urgent meeting between the senior executive at Council and ██████████ to discuss the above, broader impacts to the LGA as a result of the draft FRMSP, and potential arrangements for the strategically important Hawkesbury campus.



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



The purpose of developing a flood risk management plan is to identify and understand the risks facing the community arising from flooding and consequently to develop appropriate strategies to address those risks through either mitigation, adaptation or emergency response.

The risks facing the Hawkesbury community from flooding essentially fall into two categories: (a) risk to life and (b) risk to property.

My first response to the draft plan on exhibition is that, while the report makes some brief acknowledgment of the reality of risk to life in several places, the focus of most of the discussion, assessment of options and recommended actions predominantly addresses risk to property.

It is clear that formulating a benefit-cost ratio is more difficult in relation to risk to life than for risk to property. It seems that as a result the report does not contain any substantial attempt to do so.

Risk to Life

The risk to life facing the Hawkesbury community arises largely from the fact that several of the major population centres are located on land which will become flood islands in the event of major flooding. This means they will be isolated as flood waters rise and potentially submerged if those waters rise higher. In these circumstances, people’s safety can only be ensured through evacuation before isolation occurs.

The risk is exacerbated by the fact that in many cases people’s homes are on land significantly higher than the available evacuation road, meaning that in the event of a flood they will be directed to leave long before their own property is directly threatened by flooding. Given human nature, many people will be disinclined to comply with evacuation directions if they cannot see for themselves that they are in danger. Yet successful evacuation of each of the flood islands relies on timely compliance with SES directions to evacuate, as there will be a limited time to do so. Hence the risk could be mitigated by providing a higher evacuation road which will still be available for use at the time when residents are convinced of the need to evacuate.

This risk is greatest in relation to McGraths Hill, but exists in several locations as the Table 1 shows.

Table 1

Locality / sector	Height (AHD) at which isolated	Evacuation road which is cut
McGraths Hill	13.5m	Windsor Road
Pitt Town	15.9m	Pitt Town-Dural Road
Windsor (southwards)	15.5m	Collith Avenue
Windsor (eastwards)	17.3m	Hawkesbury Valley Way
Bligh Park	18.5m	“Thorley Street”
Richmond	21.5m	Southee Road
Windsor Downs	23.8m	Llandilo Road

While almost all homes in the McGraths Hill sector have a habitable floor level of 16m or more (the FPL at the time of development) some of the internal roads and Windsor Road are much lower. Residents whose homes are not under imminent threat of flooding can experience a false sense of security which may lead them to ignore directions to evacuate. This was what occurred in McGraths Hill in July 2022.

Compounding this challenge is the lived experience of long-term residents who have seen floods in the 1980s, 1990s and 2020s, all of which peaked below levels which would inundate homes in McGraths Hill. This could lead to a perception that residents in the locality need not worry too much about floods nor heed the warnings of “nanny state” authorities.

In my view no amount of “public education” or “flood awareness” work will be sufficient to overcome the natural reluctance of many people to leave their homes at a stage that is so early in a flood event that they do not perceive any direct threat to themselves.

Yet as the evacuation strategy is entirely reliant on moving large numbers of vehicles through roads with finite capacity in a limited timeframe, success in evacuating McGraths Hill and some other localities currently depends on this movement commencing at just such an early stage in the flood event.

In my view, a major flood which isolates and then inundates McGraths Hill is one of the greatest flood risks facing the Hawkesbury LGA. It could lead to major loss of life.

The logical response is to “move the goalposts” by making an evacuation road available at a height which will ensure it is still open when people are convinced of the need to evacuate.

In the case of McGraths Hill this can be provided by raising Wolseley Road on an embankment and / or viaduct from the intersection of Havelock Street to the roundabout at Clare Crescent. The road would rise from 15.5m to about 16m across Mackenzies Creek, leading to an evacuation route comprising Oakville Road, Stahls Road, Menin Road and Boundary Road.

The other form of evacuation enhancement available is to provide additional roads or lanes, allowing more vehicles to exit the flood island within the available time. Proposal D takes advantage of an existing route, but one which is not identified in current evacuation planning, to augment evacuation capacity.

Proposals B, F, H and I involve creating an extra lane in key locations to ease choke points or expedite traffic past low points.

Table 2 lists my recommendations for enhancing flood evacuation capacity for the various flood islands.

Table 2

	Locality / Sector	Proposal	New min height AHD	Notes
A	McGraths Hill	Raise Wolseley Road between Havelock Street and Clare Crescent.	15.5m	From Wolseley Road traffic moves east on Oakville Road, south-east on Stahls Road, north-east on Menin Road and either south on Boundary Road to Windsor Road or north on Boundary Road to Old Pitt Town Road.
B	Pitt Town	Widen Mitchell Place and Pitt-Town Dural Road to provide two eastbound lanes as far as Old Stock Route Road; realigning the two roads to meet each other at Cattai Road; raising the road level to 16.5m in the process.	16.5m	The intent is to enable vehicles to pass the low point on the route quickly, even though they can expect queuing once they reach the higher ground.

C	Windsor (eastbound)	Widen Railway Road South and address drainage challenges in at least two locations on that road.	17.3m (Jim Anderson bridge)	Drainage issues: c.550 m and c.100 m north of Level Crossing Road.
D	Windsor (southbound)	Designate the Collith-Sirius route as an additional southbound egress from the Windsor sector. This road is currently available.	15.5m at Collith Avenue. George Street is closed at 15m.	The route would commence on Mileham Street near the netball courts, south to Woods Road, east to Collith Avenue, south to Rifle Range Road, west to Sirius Road, south west to Colonial Drive. Not only will this provide an additional southbound flow, but it will remain open longer.
E	Windsor (southbound)	Raise Collith Avenue to 16m between Harpur Crescent and Tasman Place.	16m	A short low stretch can be raised at modest cost.
F	Windsor (southbound)	Construct a left turn ramp from Colonial Drive to George Street at a height of 16 – 17m AHD.	16 – 17m	This ramp would serve not only the Collith-Sirius route but would enhance evacuation from Bligh Park, noting that Bligh Park East needs to evacuate before water reaches 17.1m.
G	Windsor (southbound)	Address drainage problems near the speed camera on George Street.	NA	
H	Bligh Park	Reconfigure /widen the 90 metre section of "Thorley Street" which serves as access to the fast food outlets on Blacktown Road, to provide two southbound evacuation lanes.	NA	It is intended that "Thorley Street" would support two outbound lanes during peak evacuation demand. In this situation the southern section could prove to be a bottleneck.
I	Bligh Park	Construct an emergency left turn bypass from "Thorley Street" to Richmond Road allowing traffic to bypass the roundabout.	NA	This will allow the flow of 3 lanes of evacuation traffic through the Northern Road / Richmond Road intersection which could otherwise become a bottleneck during evacuation.

All of these proposals are designed to address the risk to life which is inherent in the reliance on evacuation plans premised on commencement of evacuation at an unrealistically early stage in a flood event. I urge that they each be investigated for incorporation into the Plan.

Rate of Rise

I note that another distinct benefit of raising evacuation roads relates to the rate of rise of the flood. While there is no single "formula" for rate of rise, as each flood is unique and rates will differ, what can be predicted with confidence is that the rate of rise will taper off as the flood approaches its peak.

For example, in a 1% flood the water may rise at, say, 0.7 or 0.6 metres per hour as it passes through 11, 12 and 13 metres AHD; but might rise at 0.5 or 0.4 m/h as it climbs through 14, 15 and 16 metres AHD with the floodplain broadening; slowing to just 0.2 or 0.1 m/h as it nears its peak at 17 or 18 metres AHD. While the specific rates used in this example would vary for each flood, the tapering trend would nevertheless likely be evident.

Consequently a higher road, being nearer the peak of floods which would create the need for mass evacuation, would be more likely to remain open during the tapering phase of water rise, giving more time for evacuation traffic to clear.

Currency Creek diversion

Of the options listed in the draft Flood Risk Management Plan, only the Currency Creek diversion provides any tangible action to significantly reduce risk to life. By reducing the peak level of a 1% AEP event at Windsor by about a metre, and by reducing the rate of rise of any flood surpassing that level, it would prove to be a significant benefit in relation to flood evacuation from all of the relevant flood islands.

In fact, the reduction of 1 metre in the peak of the flood could be considered the equivalent of raising all of the evacuation routes across the Windsor-Richmond region by 1 metre. As the cost of such road-raising would be very great indeed, this benefit should be considered in determining the cost-benefit ratio of the Currency creek diversion project. It is a strong reason for the diversion project to be pursued.

Regional flood mitigation

The previous point underlines the reality that the only measure which can produce large scale reduction of the height of flood waters, and hence significantly reduce both risk to life and risk to property, is the temporary capture and detention of large volumes of water in one or more flood mitigation dams. While acknowledging that this is matter for the NSW Government and that the current government does not support raising of the wall of Warragamba dam, I support Council's continued advocacy for the only feasible measure which can be effective on a regional scale.

Regional evacuation traffic flow

I noted the diagram displaying regional evacuation routes (*Diagram 11, page 66*) which shows traffic from Emu Plains being directed eastwards across the Nepean River to use the M4 and Great Western Highway corridors. As a resident of Hawkesbury LGA, and being aware of the risk of congestion being caused by evacuation traffic convergence in the Penrith area, I find it alarming that the plan appears to be to evacuate Emu Plains residents eastwards, rather than westwards to safety in the lower Blue Mountains. If this proposed traffic flow poses a possible impediment to the safe evacuation of Hawkesbury LGA residents, it should be opposed.

Risk to Property

"Legacy" development

While all properties located below the PMF bear some level of risk of flooding, obviously those located on lower ground are at greater risk. The Flood Planning Level (FPL) introduced into planning regulations some decades ago is intended to designate a level at which the risk is deemed acceptable.

While it is reasonable to question whether the current FPL is appropriate for Hawkesbury LGA, and propose alternatives, it should be noted that the greatest risk to property lies with the thousands of properties, including residential, commercial and agricultural, which stand below the current FPL due to the long history of largely unregulated development in previous eras.

Any plan to reduce property risk needs to squarely address the problem of legacy development.

"Buyback" or "Land swap"

The Report document made reference to a "land swap" scheme employed in Grantham, Queensland after the 2011 floods there. Yet that reference was not followed by any proposal to implement a scheme of that kind or any related kind in the Hawkesbury. This approach, whether as "land swap" or as "tradeable development rights", appears to me to be the only way that removal of the thousands of properties in inappropriate locations throughout the Hawkesbury Nepean Valley can ever be afforded. Direct buyback by Government will never be possible given the huge scale of the problem. Even with the Commonwealth involved, only a small scale buyback program could be afforded in the Northern Rivers region.

House raising

House raising is a property damage reduction measure. It can be appropriate where the differences in height between design flood heights are relatively small, so that raising a house by two or three metres can dramatically reduce the risk, perhaps producing a floor level above PMF. This is **NOT** the case in the Windsor-Richmond floodplain.

Moreover, while reducing risk to property, this measure could unintentionally increase risk to life. If residents are inclined to feel safe in a raised home and become unreceptive to warnings to evacuate they could place themselves at greater risk of isolation and drowning.

For this reason house raising in the Hawkesbury context is not an appropriate measure for use on flood islands. It could in some situations be appropriate for properties on the flood fringe, ie. with rising egress away from the flood, but only if the house raising is undertaken in a manner which facilitates evacuation from the upper floor to the road to be used for evacuation, as may be the case if the property is on the lower side of a slope with the road frontage above the house site.

"Risk to property" includes government and agency infrastructure

Much of the assessment of benefit-cost ratios relies on the number of "properties" damaged, but appears to fail to account for the potentially massive cost of damage to infrastructure owned by all three levels of government, government agencies or utility companies.

The cost of restoring or replacing various forms of infrastructure is an important element in calculating the true cost of flooding and therefore the potential benefits of various interventions. In particular, flood mitigation options such as flood mitigation dams and the Currency Creek diversion are the most effective options at reducing damage cost to infrastructure.

Future Risk

Council is obliged to consider risk over the long term, including by taking into account the potential risk posed by climate change.

By definition it is true that a property built at the 1% AEP level in the Hawkesbury Nepean Valley is at the same level of risk as property at the 1% AEP level in Maitland, Lismore, Nowra, Forbes or Nyngan, if one is referring to risk of flooding at floor level.

Yet what differs is the variation in height between different recurrence interval floods in each of these locations. In the case of many inland rivers and creeks, the difference between the 1% and the 0.5% or 0.2% floods may be measured in tens of centimetres, but in the Windsor-Richmond floodplain the variation is measured in metres. So while in Nyngan the damage to a house caused by 1% and 0.5% floods may be very similar, in Windsor the damage caused by the 1% flood may be repairable but that caused by the 0.5% flood may render the house completely uninhabitable.

This factor may justify setting a more conservative FPL for Hawkesbury LGA than for other places in NSW.

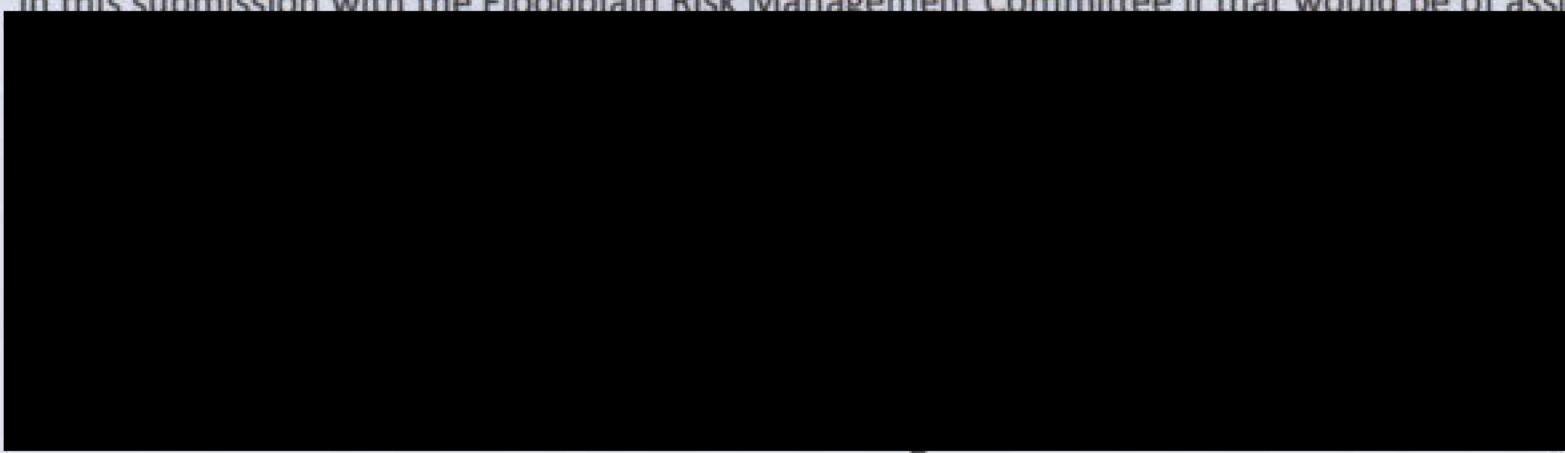
But whatever FPL is decided, it should be clearly understood that this measure does nothing whatsoever to address existing risk, either to life or to property. Because it "costs nothing" (to governments) it can be seen as an easier form of being seen to "do something" than tackling some of the more expensive and more complex measures that I have discussed.

Further, raising the FPL creates a class of residents who own property which was validly approved by planning authorities in the past but which is now deemed "too low"; which may become uninsurable and lead to limits on the future uses of their property; and which may attract criticism of those residents for "choosing to live on a floodplain". In fact their risk profile will not have changed at all, but the effects on them may be quite detrimental.

Nevertheless, it is inappropriate that Hawkesbury LGA has a lower FPL than its neighbours in the same high risk floodplain. Some adjustment should be made. I believe that it would be appropriate to adopt the 0.5% AEP level, *without* any freeboard, as the new FPL for areas which are not flood islands. In my view the concept of "freeboard" simply achieves a slightly higher FPL than the pre-existing 1% AEP standard. If Hawkesbury were to adopt the 0.5% AEP level, this higher level can be deemed to subsume any expectation of a "freeboard".

It may be appropriate to consider a different approach for those areas which are flood islands, where the total number of vehicles requiring evacuation and the capacity of the road network to support that evacuation may be the over-riding considerations as to whether additional development can occur. "Land swaps" or "tradeable development rights" within those flood islands could see new development replace old poorly located development with net reduction to flood risk.

I would be happy to discuss and further explain my thinking in relation to any of the matters I have raised in this submission with the Floodplain Risk Management Committee if that would be of assistance.



**The Mayor.
Hawkesbury City Council.
366 George Street
Windsor NSW 2756**

6 December 2024

SUBMISSION TO:

Draft Hawkesbury Floodplain Risk Management Study and Plan 2025 (the report).

Executive Summary.

I believe the key proposal of the report to raise the flood control level from the current 1 in 100 AEP (average exceedance probability) to the 1 in 200 AEP plus a 0.5m freeboard is ill conceived.

From my reading of the report suggesting the change, it's clear that **the benefits are overstated and the "concerns" are glossed over** – the real world consequences for property owners of this change are significant and not given consideration.

It is worth noting that this key recommendation is essentially buried at page 72 of the report.

And that the preceding and following content is largely a repetition of widely available information in various flood publications.

Cited "Concerns"

The table citing the benefits and concerns with this key proposal is misleading. (**Table 3 of the report**).

The table infers that the only concerns are: *"May be considered more onerous for developers."*

This is a massive understatement – the proposed measure won't be onerous, an expression that suggests some minor level of inconvenience – it will completely block development, redevelopment, improvements and/or changes of use for a large number of properties in the Macquarie towns. The flow on effect will also stifle development of the properties which sit above the proposed flood control level.

The report should cite the real-world consequences of this measure.

For a large number of properties in Windsor, Richmond, Wilberforce, Pitt Town and other localities in the Hawkesbury, the proposed increase in the flood control level:

- will **decimate property values** of directly affected properties, with a flow on effect to the towns as a whole
- will make these properties effectively **uninsurable**
- will make bank **financing an impossibility** for these properties and this will directly impact the viability of many small businesses.
- could easily **deny flood relief** in a catastrophic event to properties below the flood control level – responsibility deemed to be with the property owner

- will completely **block development**, including redevelopment, improvements and/or changes of use for many properties
- will add **cost and complexity** to the already diabolical approval process. Hawkesbury Council Schedule of Flood Related Development Controls requires even minor applications on partially affected properties to be accompanied by a Flood Study and Evacuation Plan. From direct experience, this is a cost that ranges from \$6,000 to \$30,000 and upwards depending on the property and the application.
- will render many properties **unsalable**

Properties protected.

The report tells us that *“4,766 residential and non-residential properties within the floodplain are flooded above floor level in a 1% AEP event and 19,080 properties are flooded above floor level in a PMF event in the Hawkesbury LGA.”*

What it doesn't tell us is how many properties fall in the zone between 1% and 0.5% - ie how many properties would be “protected” by the proposed flood control level.

My review of the mapping suggests this is an incremental number and doesn't warrant the damage to property values the proposed changes will inflict.

What the report also doesn't tell us is how many undeveloped properties lie in the zone between the existing and proposed flood control levels.

Given the over-200 years of development of the towns and the constraints on land imposed by historical and current flood control levels, there is likely to be relatively few undeveloped properties in the zone between the existing and proposed flood control levels.

The large increase in the flood control level will “protect” these few properties, but destroy their property value in the process. As collateral damage, the change will destroy the property value of hundreds of other already-developed properties.

To test the above conclusions I have overlaid the reports very low-resolution maps of the flood extent onto a higher resolution image of Windsor township.

Refer to **Annexure A and B of this submission**.

Providing usable images at a resolution that allows identification of the buildings and geographical features of the study areas is a responsibility of the report. The failure to do this goes to the credibility of the conclusions and recommendations.

The mapping also shows that the vast majority of the flood plain is already restricted by the current flood control level - the more conventional 1% AEP flood level. In these areas development is proscribed in detail under the **current** Hawkesbury Council Schedule of Flood Related Development Controls and heavily restricted.

The change in the planning control level does nothing to improve the flood resilience or preparedness of properties in relatively low-lying areas.

Damages.

In **Table 2**, the report gives a figure for damages arising from a 1% AEP event, a figure for damages arising from a PMF event, but no comparative figure for a 0.5% AEP event. This raises the question – how much property is “protected” by the change.

The report cites an alarming figure Average Annual Damages (AAD) of \$90,868,080 which appears to be a meaningless number. There is no basis cited for this calculation.

The report projects benefits which are not supported by the numbers.

The report does not address the obvious in this situation - **raising the flood control level does nothing to protect existing developments.**

On the flip side, the report does not attempt to estimate the damage to property values resulting from the adoption of a radically different flood control level.

The report doesn't suggest that Council will be compensating property owners for the loss of value and the inability to obtain finance or insurance.

Historical Flooding.

The report does not seem to give much weight to the fact that there has been one flood (1867) in excess of 15m¹ in recorded colonial history. (200 plus years is not insignificant statistically). Refer to the attached graph of historic flood levels. **Annexure C** of this submission.

The Hawkesbury townships and surrounds have been developed over that long period within the constraints of the flood plain. The “islands” of high ground are fully developed already.

The poor resolution of the flood extent figures accompanying the report seems to mask the historical extent of development of the relatively high ground of the townships.

The extent to which the higher ground, above the existing flood control level 1% AEP, is already developed is an important consideration.

Reference to available imagery of any reasonable level of resolution shows that the higher ground, above the existing flood control level, in the flood affected townships is already close to fully developed.

Recent flooding provided a timely reminder of why historic development has largely been restricted to the higher “islands”.

The proposed change is essentially “shutting the gate” - restricting development that has already happened.

¹ Based on flood levels at Windsor

The Actual Problem.

No-one is denying the risk of a catastrophic event. The real issue is dealing with an event on the scale of the 1867 flood – or even larger.

Evacuation of the numbers of people stranded on “islands” shrinking in front of rising flood waters will be a huge challenge. And does require planning at a state level.

Providing residents who are isolated by flood water for extended periods with reliable communication, household provisions and medical assistance is also a major issue.

Raising an artificial flood control level is something of a smoke screen. There is a risk that the appearance of doing something will allow government to do nothing.

Consultant-splaining of the flood risk categorisation.

As a side note, the report is condescending in some respects – most Hawkesbury residents have lived on the flood plain long enough to understand the issues.

And the inference always seems to be that a 1 in 100 flood level is misunderstood. In this gambling nation, Australians understand that you have a 1 in a million chance of winning the lottery, but that you can also win it twice in one week.

There is also the inference that residents are ignorant of or complacent about the risk of flooding. From my experience, those directly impacted are acutely aware of the various scenarios.

Raising the wall at Warragamba Dam.

The report seems to justify the adoption of a new flood control level by citing the decision not to raise the wall level at Warragamba dam. The report states that the 1% AEP level would have been lowered by 3-4m if the dam wall was raised.

This assertion is not proven and was largely discredited by the various studies and modelling undertaken as part of the feasibility study into raising the dam wall. The 1978 flood is a case in point – a massive flood in the Colo backed up the Hawkesbury – the wall would have been irrelevant in that scenario.

The report relies on more accurate metrological data and modelling now available. Some of that expertise could be applied to forward planning to better manage the flood mitigation at Warragamba – currently non-existent. Residents feel rightly or wrongly that the water release policy of the dam management is exacerbating flooding.

Levees & other measures.

The report spends a lot of time analysing measures such as levee banks and channels.

It is simplistic to assert that there are only two types of levee bank. (Page 56 of the report)
Levees are an important and successful flood mitigation measure in many mid-west NSW towns.

I agree with the conclusions that these types of physical barrier are not feasible in the Hawkesbury flood plain because of the scale required and the ecological consequences.

However, that shouldn't lead to the conclusion that adding 2m to the flood control height is a good idea.

In summary.

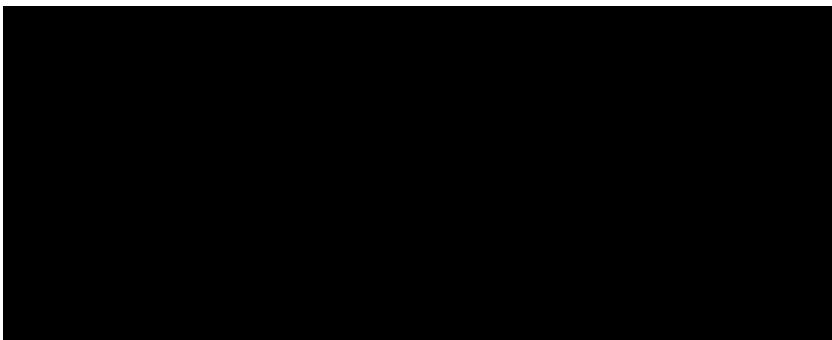
I urge Council to **not** adopt the report recommendation to raise the flood control level.

The stated benefits are illusory – raising the flood control level will do nothing to protect the developed townships and will have no relevance to a catastrophic flood event.

The economic consequences for the townships of this measure have not been considered. A key component of flood resilience is the financial resilience of the affected homes and businesses. This proposed measure will erode that resilience.

I urge Council to recognise and work with the existing historic footprint of development, to continue to promote flood awareness and preparedness, and to work with State bodies on a comprehensive flood evacuation policy.

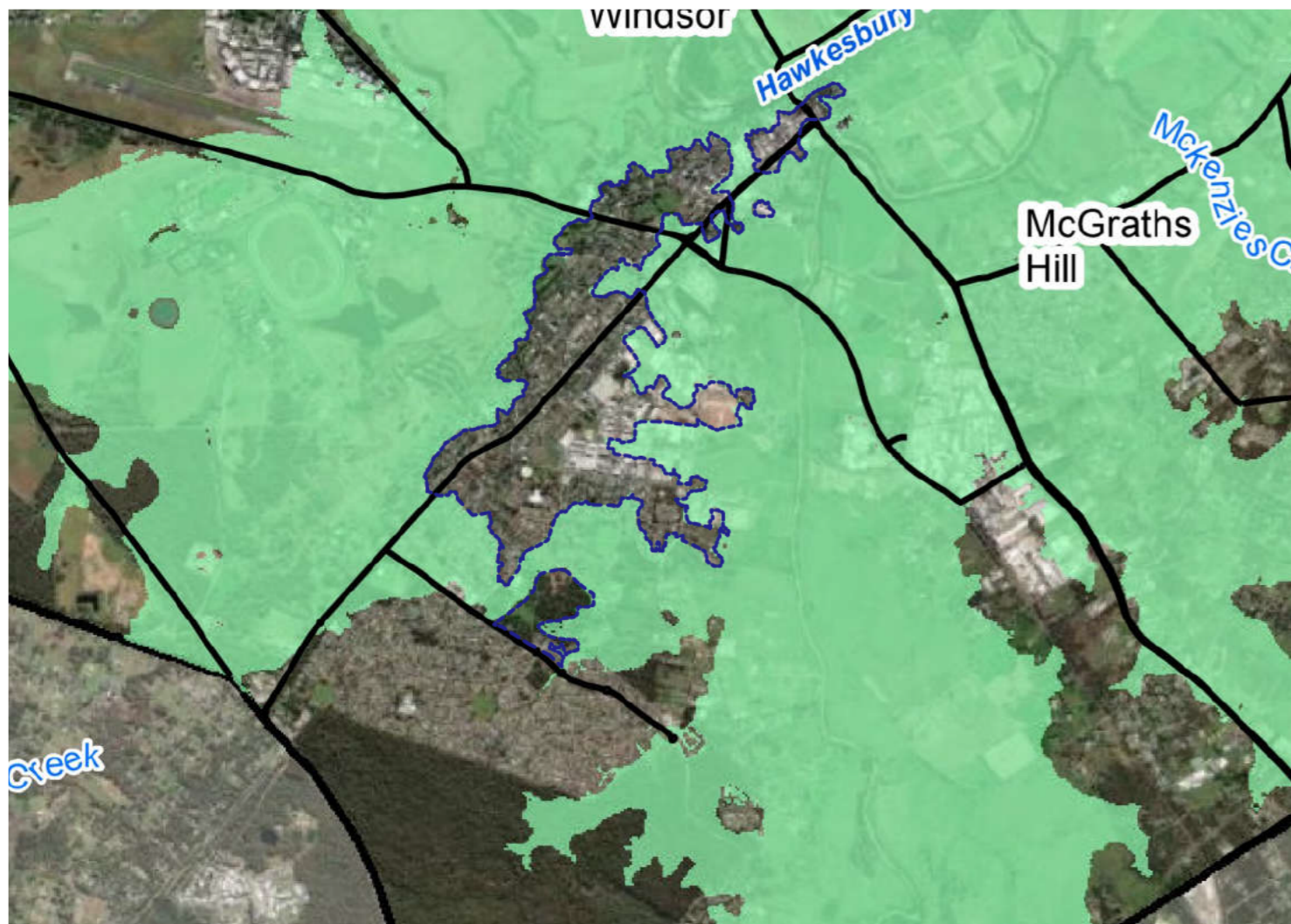
Signed.



Annexure A. Flood mapping 1% AEP extent overlaid on 0.5% AEP extent. Windsor township.

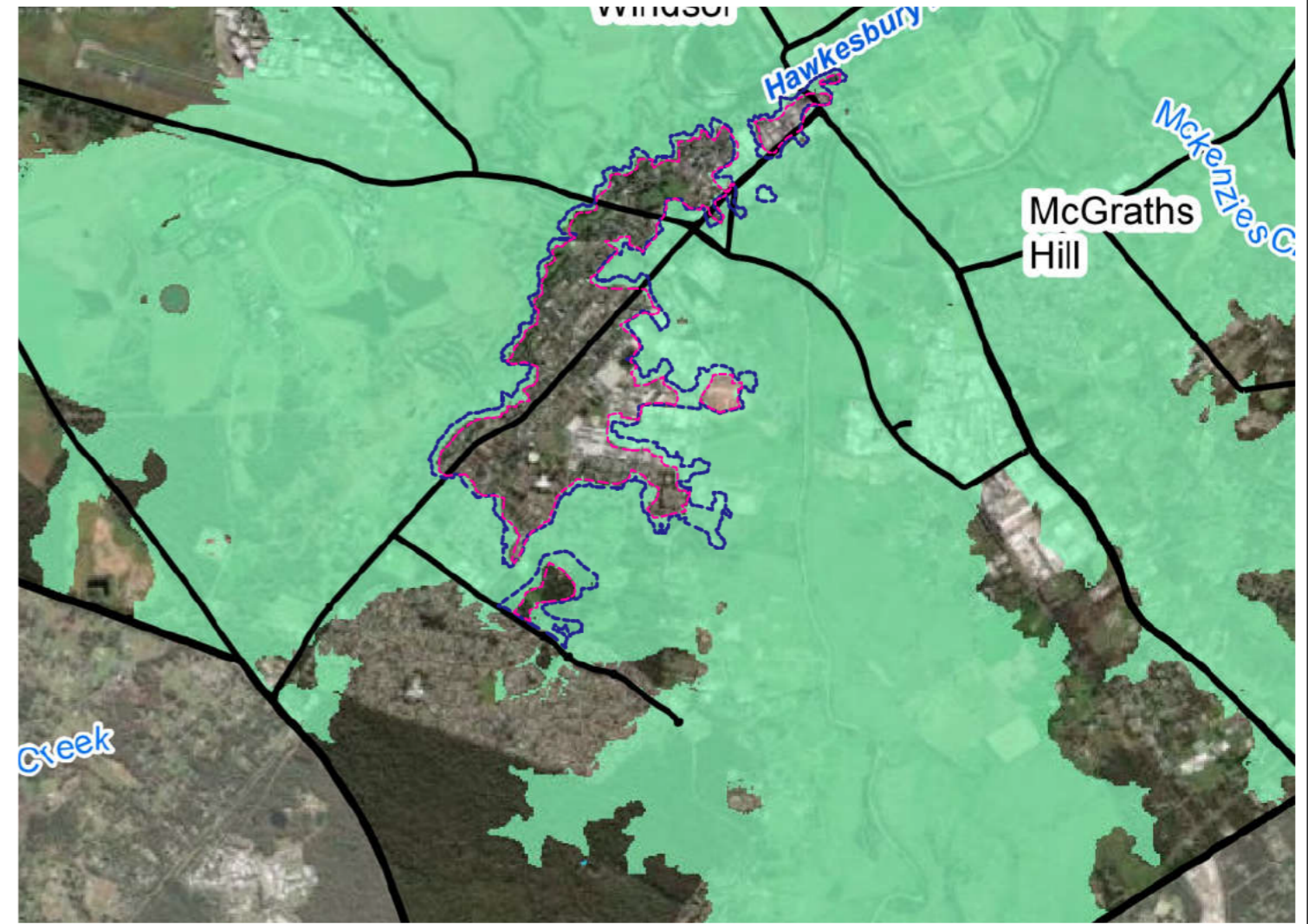
Annexure B. Flood mapping 1% AEP extent overlaid on 0.5% AEP extent. Windsor township at viewable resolution.

Annexure C. Historic flood levels at Windsor.



1 IN 100 AEP FLOODING

FLOOD MAPPING - WINDSOR TOWNSHIP 1% AEP FLOOD

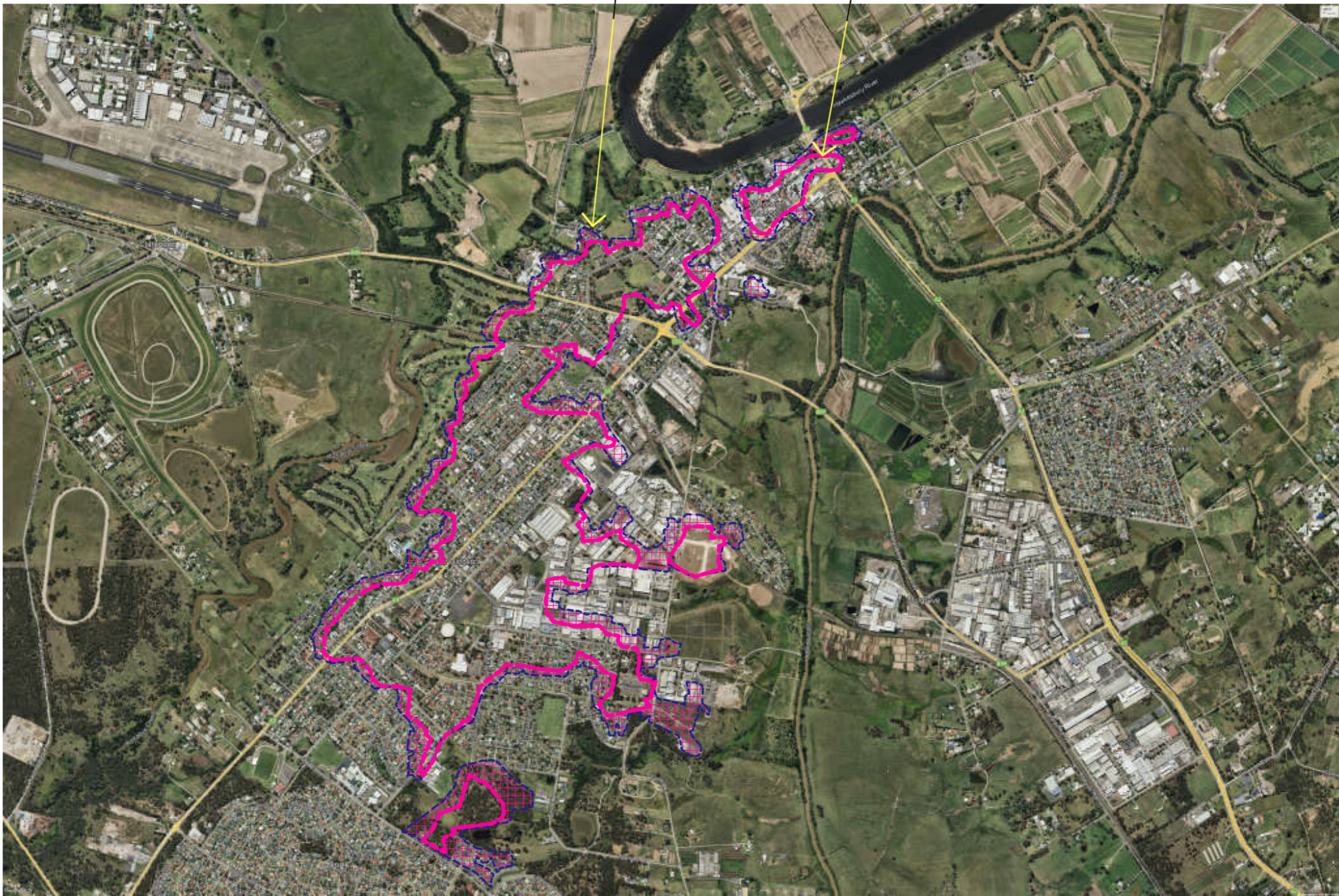


1 IN 200 AEP FLOODING

**FLOOD MAPPING - WINDSOR TOWNSHIP
1% AEP FLOOD EXTENT OVERLAID ON 0.5% AEP FLOOD EXTENT**

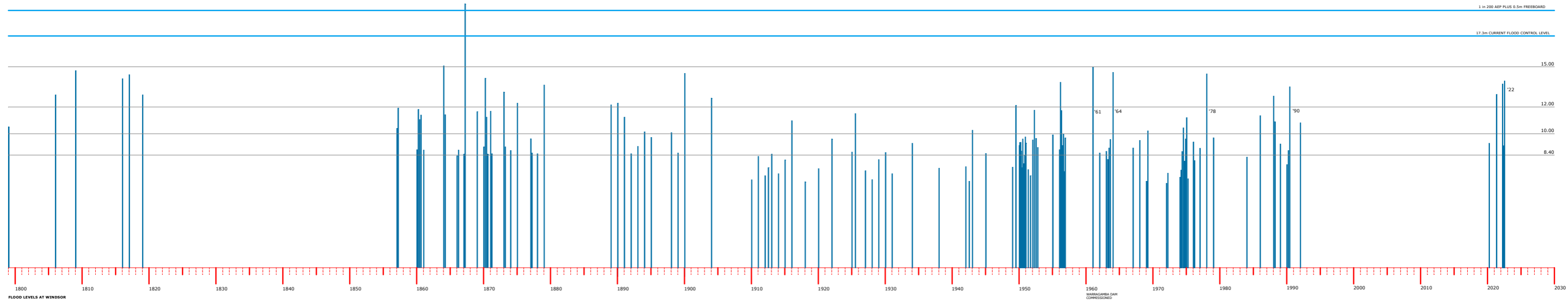
1 IN 100 AEP FLOODING

1 IN 200 AEP FLOODING



FLOOD MAPPING - WINDSOR TOWNSHIP
1% AEP FLOOD EXTENT OVERLAID ON 0.5% AEP FLOOD EXTENT

SOURCE: HAWKESBURY COUNCIL
Hawkesbury Floodplain Risk Management Study & Plan 2025



submission on Draft Hawkesbury Floodplain Risk Management Study and Plan 2025

Introduction

supports many of the recommendations contained in the Draft Hawkesbury Floodplain Risk Management Study and Plan 2025.

The focus on flood resilience and moderate changes to planning controls in the floodplain are important initiatives to reduce ongoing damage to property and long-term mental health impacts on individuals as well as the wider community.

Additionally, transparency on Planning Certificates is important for existing landowners and future purchases of property. However, insurance and borrowing impacts need to be managed and understood.

Resilience

The Insurance Council of Australia recently released their Insurance Council Catastrophe Resilience Report 2023-2024. In their policy recommendations, they state because of worsening extreme weather in Australia there should be increased investment in resilience and mitigation projects with a 10-year rolling program.

They also state that they are urging governments to adopt a risk-based approach that stops development in high-risk areas and prioritise minimal risk areas for development.

We encourage Transport for NSW (TfNSW) to look at significant flood resilience upgrades of the existing bridges on Springwood Road. These upgrades could be achieved in a cost effective and relatively short period of time if included in the resilience upgrade programs.

developing the master-planned estate at d. As part of the Voluntary Planning Agreement (VPA) it is a requirement for to construct a new bridge and connecting road from Grose River Rd at Grose Vale to Springwood Rd and for it to be constructed at the 1:100-year flood level. This VPA is a 3-party document signed by Transport for NSW, Hawkesbury City Council and Redbank Communities. The Bridge and connecting road to Springwood Road have now been approved through a Part 5 approval and TfNSW are now responsible for the required land acquisition process.

Multiple large floods in recent years have repeatedly highlighted to the community better flood resilience and road transport options as essential to provide the community with enhanced options and to have them delivered in the shortest time possible to prepare for what many people are calling increased flooding frequency because of climate change.

In the flooding event in July 2022 the North Richmond Bridge shut at approx. 915 am on Sunday 3-7-22 and reopened Saturday at approx. 10 am 9-7-22. Windsor Bridge was shut because of the

surrounding road network at approx. 2pm Sunday 3-7-22 and reopened Saturday 9-7-22 at approx. 1130 am. Yarramundi Bridge was shut for an even greater period of time.

In comparison if the Grose River Bridge and connecting roads had been in place at the location of the proposed bridge the connecting roads and proposed intersection at Springwood Road never went under water. Springwood Rd because of the small low creek bridges did go out but only for a short period of time. Springwood Road shut on 4-7-22 and reopened approx. 2pm Tuesday 5-7-22.

That means for anybody living west of the river instead of having to travel via Bells Line of Road and Darling Causeway for over 3-5 hours to get to Penrith they would have only had a 40 min journey to get to Penrith via Springwood Rd. So, for over 5 days whilst the main bridges were shut residents would have had access to Penrith and east via the new Grose River Bridge.

The residents of Yarramundi who become isolated when the bridges go out on Springwood Road will also have access to North Richmond during times of flood once the Grose River Bridge is complete.

To provide a true 1:100-year flood resilience route once the Grose River Bridge is complete, we strongly suggest that TfNSW take advantage of the new Grose River Bridge infrastructure and plan to raise the bridges on Springwood Rd to a 1:100-year flood level to tie in with the timeframe for the opening of the Grose River Bridge. This enhancement to the Road Resilience Program would provide significant access improvements in times of flood for not just residents but also for emergency service personnel and delivery vehicle access for replenishment of consumer items at the supermarkets at North Richmond.

Additional flood resilience will also be achieved with the completion of the Richmond Bridge Project. We encourage both the State and Federal Governments to fast-track this project considering how many floods the Hawkesbury Community has experienced in recent years.

Essential Services Protection

Electrical substations, sewer and water infrastructure should be protected from large floods. Currently the electrical substation that provides electricity to most of the Hawkesbury LGA is not protected to the 1:100 flood level. Plans should be put in place to improve the resilience of that infrastructure to ensure electrical supply during floods to at least the 1:100 flood level.

Planning Certificates and Insurance

The discussion outlined in the draft plan of increasing the Flood Planning Level (FPL) above the 1% level whilst on the face of it has merit to provide transparency for current and future residents however serious consideration must be taken on the impact of that change on properties that were approved to be built at or above the 1:100 year level up to any proposed new flood planning level.

The concern is that building replacement insurance could be impacted as well as house and contents insurance.

This impact could be in the fact that loans could be called in by lenders if insurance coverage was not able to be obtained or additionally, insurance policies if able to be sourced could be unaffordable. There are examples in 2024 of insurance companies charging 3 – 5 times more for households classified as flood affected versus unaffected properties.

If the flood level is changed and thousands of households that are currently unaffected become flood affected on their planning certificate this may have far reaching and significant negative affects to house values, household budgets, existing loans and people's wealth.

This may trigger an unknown outcome in the market that could create social divide being those with devalued assets versus those that are unaffected.

Such a significant proposed disruption to an established market should be thoroughly analysed/modelled before implementation.

The Insurance Council of Australia should provide guidance to council on the impacts to house insurance and the likely reaction from large re-insurers in the global market that provide coverage to local insurance retailers.

The flow on impact from a change in the FPL causing insurance uncertainty would be owners unable to offload their assets because new purchase^rs are unable to secure finance because of the new FPL.

Flood Planning Level and Exempt and Complying Development

Exempt and complying development is certain specified development, on certain land, which meets a set of pre-defined design standards. In meeting these criteria, the development is eligible for a fast-tracked approvals process. The relevant legislation governing exempt and complying development is the State Environmental Planning Policy (Exempt and Complying Codes) 2008 (also referred to as the "Codes SEPP").

Any increase in the FPL will impact complying development for new house builds, renovations to existing homes and buildings and swimming pool construction approvals contained at or below any new FPL as outlined on the Planning Certificate.

Resilient Lands Strategy

The Northern Rivers Resilient Land Strategy aims to provide flood affected residents with housing options to support their relocation, and to improve the resilience of the region into the future.

By working with Councils and other housing providers the Resilient Lands Program aimed to complement, not replace, current land releases and other housing developments.

Similarly, future housing in the Hawkesbury needs to consider a safe and cohesive society where families can plan for the future in homes free from the risks of flooding at all flood levels and to provide certainty when it comes to financing homes and insurance for those homes.

The 2012 Hawkesbury Residential Strategy was a document developed through widespread community consultation over many years and supported by the NSW Department of Planning. That strategy took into account for housing to be in a flood-resilient area not directly impacted by flooding and in an area that did not become a flood island and did not require SES resources for flood evacuation considerations.

Hawkesbury City Council should review its current 2020 housing strategy which is more focused on infill medium density development in the floodplain to look to the future of creating a cohesive and resilient community by adopting a revised 2012 strategy with the central focus on housing outside of the floodplain.

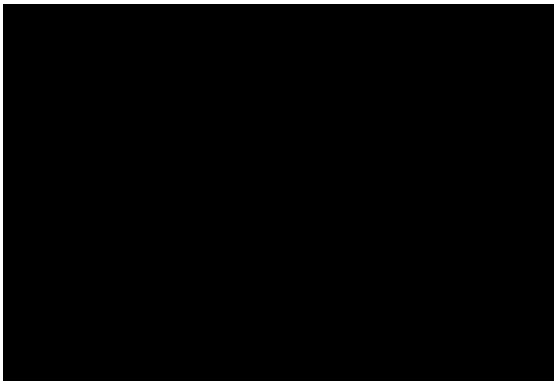
Conclusion

The updating of the Hawkesbury Floodplain Risk Management Plan is an important initiative with a focus on improved resilience following significant flooding events in recent years.

Any changes to the Flood Planning Level would require careful consideration for any unintended consequence to existing residents who would be impacted by any increase in the FPL. Such a change without detailed commercial modelling may have significant negative impacts to those households affected in the short and long term. Ultimately it may impact the current social structure of the LGA.

To improve flood resilience for new housing in the Hawkesbury LGA any revised Housing Strategy should focus on land above all flood levels outside of the floodplain.

Council should lobby TfNSW and State Government Ministers to prioritise the lifting of the bridges on Springwood Road and to fast-track the Richmond Bridge duplication project.



Elizabeth Richardson
General Manager
Hawkesbury City Council

Dear Ms Richardson,

I write to provide feedback on the Draft Hawkesbury Floodplain Risk Management Study and Plan 2025.

There are key areas requiring reconsideration to ensure equitable and sustainable outcomes for disaster impacted communities.

Submission to Hawkesbury City Council: Enhancing Disaster Management for Flood

Background

The [REDACTED] is a key advocate for local businesses and stakeholders along the Bells Line of Road. With the increasing frequency and severity of natural disasters such as bushfires and floods, [REDACTED] emphasizes the urgent need for improved disaster management strategies tailored to the unique challenges faced by our community.

[REDACTED] has long highlighted the importance of adaptive solutions to ensure the resilience of businesses and residents alike. Disasters not only cause immense physical and emotional distress but also disrupt economic activities, leaving communities vulnerable to prolonged recovery periods. Effective planning and infrastructure improvements are critical to safeguarding lives, property, and the economic stability of the Hawkesbury Local Government Area (LGA).

Key Concerns and Recommendations

1. Learning from Other Councils

- **Adaptive Infrastructure:** Drawing inspiration from councils like the MidCoast Council NSW, which has implemented measures such as elevating homes and driveways to ensure access during water inundation, Hawkesbury should consider similar initiatives. These practical solutions are proven to reduce disaster recovery times and minimize the disruption caused by flooding.
- **Integrated Approaches:** MidCoast Council's integration of flood-resilient designs within their planning frameworks ensures a proactive rather than reactive disaster response, an approach Hawkesbury could replicate.

2. Promoting Resilience and Adaptability

- **Resilient Buildings:** Strengthened planning controls requiring flood and fire-resilient designs for new builds and retrofits can reduce long-term recovery costs. Mandating materials and designs that withstand extreme conditions ensures community safety while minimizing damage.

- **Retrofitting Existing Properties:** Financial incentives, grants, or subsidies for retrofitting homes and businesses with disaster-resistant features should be a cornerstone of the strategy.

3. Strategic Rezoning and Buy-Back Schemes

- High-risk areas prone to recurring disasters should be rezoned for less vulnerable uses, such as open spaces or flood-tolerant commercial activities. Coupling rezoning with government-supported buy-back programs ensures fair compensation and facilitates the transition for affected residents and businesses.

4. Comprehensive Community Support Programs

- **Communication and Transparency:** Clear, accessible information about disaster management policies, options for retrofitting, and zoning changes must be provided to ensure public trust and participation.
- **Financial Assistance:** Transitioning to resilient infrastructure requires upfront costs that many residents cannot afford. Programs that provide targeted assistance will ensure equitable implementation.

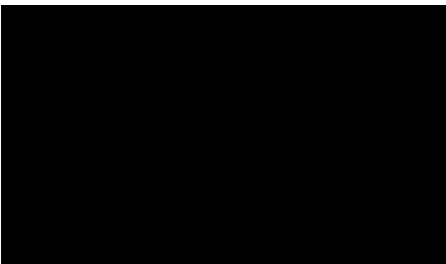
5. Concerns with Proposed Flood Level Adjustments

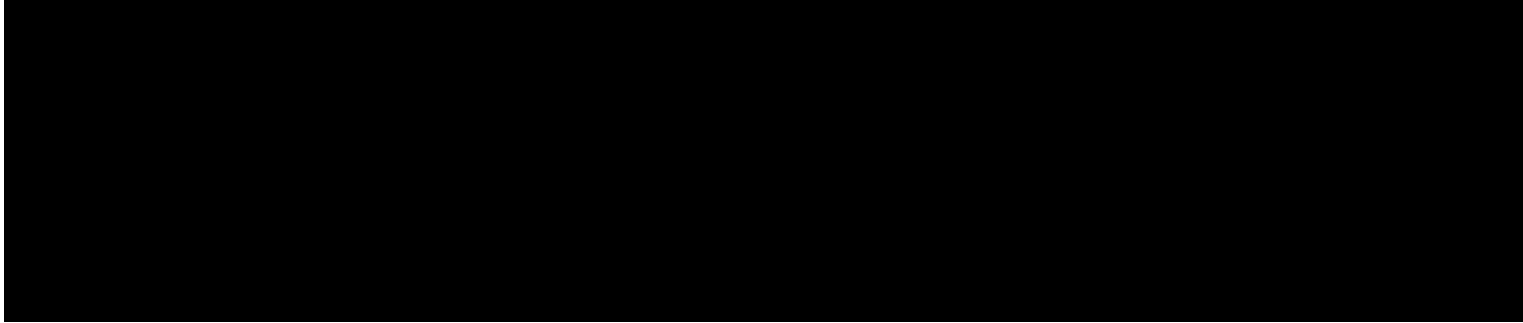
- As highlighted in the Draft Hawkesbury Floodplain Risk Management Study and Plan 2025, increasing flood levels without adequate compensation and mitigation measures will disproportionately harm the community. Adjusting flood levels should only proceed with a comprehensive plan addressing the 300 directly affected properties and the broader economic impact on 15,000 surrounding properties.

Conclusion

The Hawkesbury LGA stands at a crossroads, with the potential to lead in disaster resilience and adaptive planning. By incorporating proven solutions such as those implemented by MidCoast Council, Hawkesbury can enhance its preparedness for fire and flood, protect its residents, and preserve its economic vitality. [REDACTED] urges the Council to adopt a forward-thinking approach, prioritizing the long-term safety, sustainability, and equity of the region.

We appreciate the opportunity to provide this feedback and look forward to seeing a disaster management strategy that reflects the resilience and strength of our community.





9 December 2024

Hawkesbury City Council
PO Box 146
Windsor, NSW 2756

Via email: council@hawkesbury.nsw.gov.au

Dear Sir/Madam,

Submission Regarding Draft Hawkesbury FRMSP 2025

Thank you for the opportunity to comment on the draft Hawkesbury Flood Risk Management Study and Plan (FRMSP) 2025 prepared by WMAwater for Hawkesbury City Council. This letter sets out the responses of [REDACTED] to the recommended measures set out in the draft FRMSP. This response was prepared on the advice of, and in consultation with, [REDACTED] and his team from Water Technology (formerly Molino Stewart).

We make the following submissions in relation to:

- The recommendations to change or introduce flood-related development controls
- The relationship of those controls to flood evacuation
- The potential impacts of changed flood levels on flood insurance and property financing
- The potential impacts of changed planning controls on property values and property financing.

Adoption of Clause 5.22

The draft Hawkesbury FRMSP 2025 recommends that Council consider adopting Clause 5.22 Special Flood Considerations into the Hawkesbury Local Environment Plan (LEP) 2012. While in principle this is a reasonable measure to manage risk to life in the floodplain, if Council were to adopt Clause 5.22 [REDACTED] requests that further details and clarity be provided regarding the types of development controls that would be proposed for areas above the Flood Planning Level (FPL).

[REDACTED] also requests further clarification on the implications for the evacuation capacity of Pitt Town based on the evacuation modelling undertaken by Infrastructure NSW and set out in the Hawkesbury-Nepean Valley Flood Evacuation Modelling to Inform Flood Risk Management Planning (Infrastructure NSW, 2023) report. The implications of the flood evacuation modelling for Pitt Town evacuation capacity are not clear in the Infrastructure NSW report and are not elaborated on in the draft FRMSP (WMAwater, 2025). Without further details it is difficult to comment on the proposal to adopt Clause 5.22 into the LEP 2012 as flood evacuation would clearly be a consideration under that clause.

Council decisions and NSWSES advice regarding the suitability of development in sections of the Hawkesbury-Nepean floodplain will be guided by the results of Infrastructure NSW's flood evacuation modelling (2023). However, at present there is little information publicly available regarding:

- which evacuation subsectors in Pitt Town and on its evacuation routes the NSW SES considers to be at or to have exceeded their existing evacuation capacity
- which evacuation subsectors in Pitt Town the NSW SES considers have capacity for increases in population or vehicle density
- how evacuation capacity constraints will impact which land uses Council is likely to consider appropriate in the different evacuation subsectors
- how many additional vehicles or people Council would consider for each subsector (i.e., a cap on development based on the capacity of existing evacuation routes).

It is also unclear if Council expects evacuation capability to be assessed based on design flood events or include consideration of the impacts of climate change. Clarity from Council about caps on additional vehicles for various subsectors and the events for which evacuation capability is to be assessed is essential given that based on the existing Hawkesbury Flood Policy 2020 most new development must be accompanied by an evacuation capability assessment. Such assessments cannot be undertaken if information regarding the capacities of existing evacuation routes is not made available.

Flood Planning Constraint Categorisation Mapping

It is a recommendation of the draft FRMSP 2025 that the Hawkesbury LEP 2012 and the Hawkesbury DCP 2023 be revised to use Flood Planning Constraint Categories (FPCCs) as a basis for the appropriate application of planning controls. If Council were to undertake this revision, [REDACTED] requests that further details and clarity be provided regarding the types of development controls that would be proposed for each of the FPCCs.

Development of a Flood Chapter for the Hawkesbury DCP

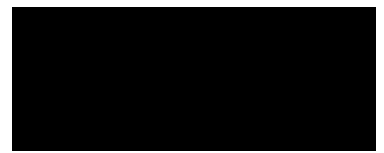
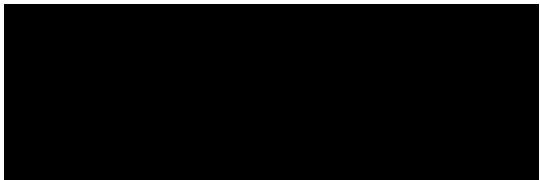
Currently flood-related development controls applicable in the Hawkesbury LGA are set out in the Hawkesbury Flood Policy 2020. A recommendation of the FRMSP is that a flood chapter be developed for inclusion in the Hawkesbury DCP 2023. [REDACTED] supports this measure as it would assist in consolidating the flood-related planning controls applicable to development throughout the LGA into a single document and make it simpler for developers to understand the constraints on development.

However, the content of the flood chapter is not specified by the draft FRMSP. If Council were to develop a flood chapter for the Hawkesbury DCP, [REDACTED] requests that further details and clarity be provided regarding the types of development controls that would be proposed and how they would differ from the existing development controls set out in the Flood Policy 2020.

Impacts on Flood Insurance, Financing and Land Values

The draft FRMSP assumes that the flood levels from the Hawkesbury Nepean River Flood Study (Rhelm and Catchment Simulation Solutions, 2024) are to be adopted by Council. [REDACTED] acknowledges that the new flood levels have not been produced by the draft FRMSP. However, the FRMSP has not explored options to mitigate the impacts of changes in Council's adopted flood levels on flood insurance premiums, financing and land values in the floodplain.

The increase in flood levels for events larger than the 1% AEP flood is likely to increase flood insurance premiums for existing residents of properties above the current flood planning level. In addition, the large increase in the PMF level (which has risen by 3.83 m at Windsor in comparison with Council's



currently adopted PMF level) will result in residents who previously would not have been mapped as flood-affected now requiring flood insurance.

These changes could potentially adversely impact the insurability, financing and land values for properties above the current flood planning level.

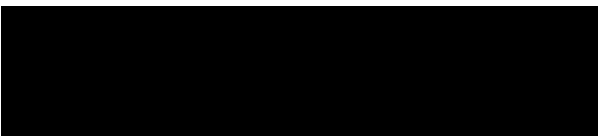
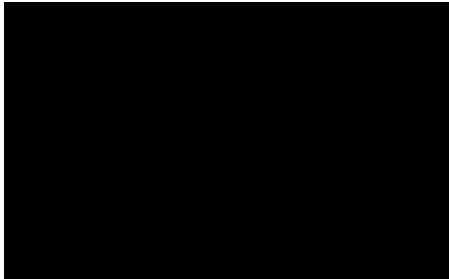
█ submits that the draft Hawkesbury FRMSP should explore options to mitigate the impacts of Council adopting the revised flood levels and higher flood planning level.

Summary

In summary, █ requests that:

- Further details be made available regarding potential changes and additions to existing development controls
- Council provide further clarity regarding the implications of the flood evacuation modelling undertaken by Infrastructure NSW for evacuation capacity and development in Pitt Town
- The FRMSP should explore options to mitigate the impacts Council adopting the revised flood levels and higher flood planning level on flood insurance premiums, financing and property values.

Regards



SUBMISSION TO: Draft Hawkesbury Floodplain Risk Management Study and Plan 2025



Caution! This message was sent from outside your organization.

Draft Hawkesbury Floodplain Risk Management Study and Plan 2025

Proposed change to the flood control level to 0.5% AEP plus 0.5m.

In my view Council should **not** adopt the report recommendation to raise the flood control level.

Raising the flood control level won't change the situation for the towns that are already developed and won't make any difference to a major flood event.

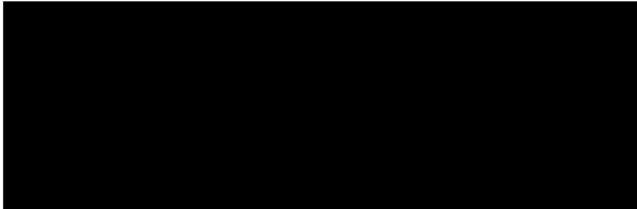
It also makes no difference to most of the flood plain that's sitting below the existing 1 in 100 flood level.

Raising the flood control level will have a major negative impact on property values, saleability, insurance, access to loans, ability to improve property, and ability to change use of a property.

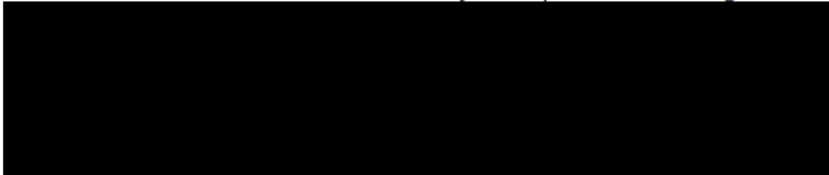
I believe this change would be unfair to those affected who bought or developed properties in areas subject to the long established 1 in 100 flood levels.

The proposed change will lead to the neglect of properties and financial hardship, without achieving any real improvement in managing the flooding risk.

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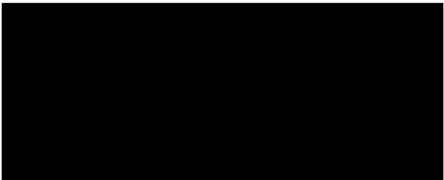
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Written submission in relation to the draft flood plan study



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Mon 9/12/2024 2:31 PM

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To Whom it may concern,

Although I understand why there may be a need to raise the flood level from 1:100 to 1:200 to control future development on the floodplain there is another side to this scenario - existing residential properties and businesses and there are no positives for this sector. I was notified by insurance companies that for home and contents they would no longer be insuring properties in Windsor Downs as they have changed underwriters. Even though my land is above the current 1:100. I can only imagine the issues if it becomes 1:200. How many more companies won't offer insurance in some suburbs in the Hawkesbury. Residents living in affected suburbs would be unable to get any insurance forcing them to sell and move out or risk being uninsured. For any insurance companies still offering coverage it would most likely be far more expensive. In the first instance uninsured properties may become a financial burden to both local and state governments during flooding or fires and secondly if residents leave the area because they can't get insurance or can't afford the extremely high costs then revenue from rates etc may decline simply because of falling property values when the flood level becomes 1:200 and more properties are now classed as being below the new flood level. Raising the level to 1:200 will obviously decrease the value of residences in the area even if they were above the 1:100 flood level but are now below the new 1:200 level. In these circumstances to finance a knock down and rebuild, renovations, additions etc for premises below the 1:200 the lender may require flood cover insurance if finance is required. If that is not possible then none of the above can proceed unless finance from a lender is not required. Lenders may also only lend an amount for the value of the land thus requiring the owner to have a far greater deposit (possibly up to 50%) Overall properties will be worth less in a flood zone - cheaper to purchase and have a lower selling price. There are absolutely no positives for existing residents in some suburbs of the Hawkesbury with the change to 1:200.

