

Our Ref: ID2517
Your Ref:

17 July 2024

Mark Regent
Redbank Communities
PO Box 262
North Richmond NSW 2754

Via email

email: markregent@redbankcommunities.com.au
CC: helen.slater@ses.nsw.gov.au

Dear Mark,

Planning Proposal for Redbank Master Planned Estate

Thank you for the opportunity to provide comment on the Planning Proposal for Redbank Master Planned Estate, Arthur Phillip Drive, North Richmond. It is understood that the planning proposal seeks to deliver a master planned development comprised of 1399 dwellings in addition to the completed 80 bed aged care facility and 192 home retirement village. The proposal further seeks to understand any requirements for evacuation during flood events.

The NSW State Emergency Service (NSW SES) is the agency responsible for dealing with floods, storms and tsunami in NSW. This role includes, planning for, responding to and coordinating the initial recovery from floods. As such, the NSW SES has an interest in the public safety aspects of the development of flood prone land, particularly the potential for changes to land use to either exacerbate existing flood risk or create new flood risk for communities in NSW.

The consent authority will need to ensure that the planning proposal is considered against the relevant Section 9.1 Ministerial Directions, including 4.1 – Flooding and is consistent with the NSW Flood Prone Land Policy as set out in the Flood Risk Management Manual 2023 (the Manual) and supporting guidelines, including the Support for Emergency Management Planning. Key considerations relating to emergency management are outlined in Attachment A.

In summary, we note the site appears to be located above the (2024) Hawkesbury-Nepean Probable Maximum Flood (PMF) extent¹ and **recommend**:

¹ NSW Reconstruction Authority, 2024, Hawkesbury-Nepean River Flood Study, Map-EXT12-PMF-04 Flood Extents, Depths and Contours Probable Maximum Flood (PMF), Page 92

- undertaking further modelling for Redbank Creek to the north of the site² including time to onset, duration of inundation, depth, velocity and hydraulic hazard of any local flooding.
- careful consideration is given to the secondary risks to the site as a result of riverine flooding and minimising their impact on-site users, such as loss of essential services and access for staff during flood events, and access to emergency services.
- pursuing site design and stormwater management that reduces the impact of flooding and minimises any risk to the community. Any improvements that can be made to reduce flood risk will benefit the community.

You may also find the following Guidelines, originally developed for the Hawkesbury Nepean Valley and available on the NSW SES website useful:

- [Reducing Vulnerability of Buildings to Flood Damage](#)
- [Designing Safer Subdivisions](#)
- [Managing Flood Risk Through Planning Opportunities](#)

Please feel free to contact Kate Dawes via email at rra@ses.nsw.gov.au should you wish to discuss any of the matters raised in this correspondence. The NSW SES would also be interested in receiving future correspondence regarding the outcome of this referral via this email address.

Yours sincerely,



Peter Cinque
Senior Manager, Emergency Risk Management
NSW State Emergency Service

² Molino Stewart, 2009, North Richmond Release Area Flood and Bushfire Safety Evaluation, Section 2.1 The Site, Page 8

ATTACHMENT A: Principles Outlined in the Support for Emergency Management Planning Guideline³

Principle 1 Any proposed Emergency Management strategy should be compatible with any existing community Emergency Management strategy.

Any proposed Emergency Management strategy for an area should be compatible with the evacuation strategies identified in the Hawkesbury Nepean Valley Flood Plan⁴.

Principle 2 Decisions should be informed by understanding the full range of risks to the community.

Risk assessment should consider the full range of flooding, including events up to the Probable Maximum Flood (PMF) and not focus only on the 1% AEP flood. Climate change considerations should also be included, in line with NSW Government Guidelines.

It is noted that the site itself is outside of the PMF extent for Hawkesbury-Nepean River flooding⁵ and is not likely to require evacuation during these flood events. However, as noted in the Flood and Bushfire Safety Evaluation the site is also bounded by Redbank creek to the north and may experience local creek flooding which affects properties within the development. While no local studies are available for Redbank Creek further modelling should be undertaken including the time to onset, duration of inundation, depth, velocity and hydraulic hazard of any flooding to better understand the risk to life and property and consideration given to *“Upstream detention basins and appropriate building designs provide scope to mitigate the direct impacts of flooding on buildings in events larger than the 1 in 100 flood.”*⁶

Further, the community has historically become isolated due to landslides on the western access routes during heavy rainfall. Therefore, the potential for isolation must be considered by the developer and consent authority. The ability to staff the facility during flood events should also be considered. Development strategies relying on an assumption that mass rescue may be possible where evacuation either fails or is not implemented are not acceptable to the NSW SES.

Principle 3 Development of the floodplain does not impact on the ability of the existing community to safely and effectively respond to a flood.

³ NSW Government. 2023. Principles Outlined in the Support for Emergency Management Planning Guideline

⁴ NSW SES, 2020. Hawkesbury Nepean Valley Flood Plan,

⁵ NSW Reconstruction Authority, 2024, Hawkesbury-Nepean River Flood Study, Map-EXT12-PMF-04 Flood Extents, Depths and Contours Probable Maximum Flood (PMF), Page 92

⁶ Molino Stewart, 2009, North Richmond Release Area Flood and Bushfire Safety Evaluation, Section 3.4.1b Local Flooding, Page 16

The ability of the existing community to effectively respond (including self-evacuating) within the available timeframe on available infrastructure is to be maintained and is not to be impacted on by the cumulative impact of new development. However, it is important to note that evacuation of aged care facilities can be complex, and known to be associated with an increased mortality rate in facility residents.^{7 8 9}

Principle 4 Decisions on development within the floodplain does not increase risk to life from flooding.

Managing flood risks associated with Indirectly Affected communities requires careful consideration of development type, likely users, and their ability respond to minimise their risks. This includes consideration of:

- Secondary risks – This includes fire and medical emergencies that can impact on the safety of people isolated by floodwater. The potential risk to occupants needs to be considered and managed in decision-making.
- Consideration of human behaviour – The behaviour of individuals such as choosing not to remain isolated from their family or social network for an extended flood duration needs to be considered.

While the site is located outside of the PMF extent for Hawkesbury-Nepean flooding there are a range of secondary impacts including loss of road access, power, telecommunications and water supply, as examined in the Flood and Bushfire Safety Evaluation¹⁰. Consideration should be given to reducing risks to site users by minimising the impacts of loss of services, a number of alternatives are listed in the report¹¹ and should be explored where practical.

Principle 5 Risks faced by the itinerant population need to be managed.

Any Emergency Management strategy needs to consider people visiting the area or using a development.

Principle 6 Recognise the need for effective flood warning and associated limitations.

⁷ Terui, T., Kunii, Y., Hoshino, H., Kakamu, T., Hikada, T., Fukushima, T., Anzai, N., Gotoh, D., Miura, I., Yabe, H. 2021. Long-term observation of mortality among inpatients evacuated from psychiatric hospitals in Fukushima prefecture following the Fukushima nuclear disaster. *Science Reports* 11, 14651.

⁸ Rojek A, Little M. Review article: evacuating hospitals in Australia: what lessons can we learn from the world literature? *Emergency Medicine Australasia*.

⁹ NSW Government. 2016. Evacuation Decision Guidelines for Private Health and Residential Care Facilities.

¹⁰ Molino Stewart, 2009, North Richmond Release Area Flood and Bushfire Safety Evaluation, Section 3.4.2 Indirect

¹¹ Molino Stewart, 2009, North Richmond Release Area Flood and Bushfire Safety Evaluation, Section 3.4 Site Flood Impacts

Principle 7 Ongoing community awareness of flooding is critical to assist effective emergency response.

The flood risk at the site and actions taken to reduce risk to life should be communicated to all site users (includes increasing risk awareness, community connections, preparedness actions, appropriate signage and emergency drills) during and after the construction phase.

Residents and users of the proposed development should be made aware of their relevant flood risks, the [Hazards Near Me](#) app (a tool to receive flood warnings as part of the Australian Warning System) and the [NSW SES website](#) which contains comprehensive information for the general community about what to do before, during and after floods as well as in-language resources and HazardWatch (NSW SES interactive information and warnings site).