

10 June 2025

Simon Haire
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Via email: infrastructureprojects@bnsw.com.au

Dear Simon

Our ref: 25050155 R01v02 FIRA and FERP Review Letter.docx

Hunter Indoor Sports Centre FIRA and FERP Review

As requested, I have reviewed the following documents prepared by Torrent Consulting for the proposed Hunter Indoor Sports Centre (HISC) on the corner of Turton Road and Monash Road New Lambton.

- Hunter Indoor Sports Centre - Flood Impact and Risk Assessment (FIRA) – v06 – 5/6/2025
- Hunter Indoor Sports Centre - Flood Emergency Response Plan (FERP) v04 – 5/6/2025

I have reviewed the documents with reference to the following:

- City of Newcastle Council (2023) Development Control Plan
- DPHI (2025) Shelter in Place Guideline for Flash Flooding
- DPE (2023) NSW Flood Risk Management Manual
- Red Cross Australia (2014) Preferred Sheltering Practices for Emergency Sheltering in Australia

In my review I have also taken into consideration:

- the flood related requirements of the Secretary of Environment Assessment Requirements (SEARS) issued for the state significant development
- issues raised by:
 - Department of Planning Housing and Industry
 - City of Newcastle
 - NSW State Emergency Service
 - Department of Climate Change, Energy, the Environment and Water

However, I note that the design of the proposal which is addressed by the FIRA and FERP has evolved in response to issues which were raised by the agencies.

I am not a flood modeller and can provide no commentary on the quality of the flood modelling undertaken by Torrent Consulting and upon which both the FIRA and FERP rely. Instead, I have taken the reported flood modelling outputs at face value as being accurate and my commentary reflects that assumption.



My review focussed on:

- compliance with flood related development controls
- characterisation and quantification of flood risk
- the likely effectiveness and practicality of proposed measures to manage life safety risks
- the residual risks.

In relation to the FIRA I am of the following opinion:

- It provides sufficient information to be able to understand the existing, future and residual flood risks at the site in terms of risk to property and risk to life
- It demonstrates that the absence of quantified advance flood warnings, the rapid rate of rise of flood waters, the relative short duration of flooding and the low probability of floodwaters entering the HISC building, makes sheltering within the building the most appropriate flood emergency response strategy
- It shows that the development meets the recommended eligibility criteria for shelter in place as set out in the NSW Shelter in Place Guideline for Flash Flooding
- It quantitatively shows that in most circumstances the facility would provide sufficient floor space above the PMF for users of the building and that those circumstances in which it would not are of infinitesimally low probability and occupants would still remain safe above the reach of floodwaters
- The discussion in Section 6.2.2 provides reasonable arguments as to why the satisfaction of the objectives of condition C1 should exempt the development from having to strictly meet the storage quantum in condition C1
- The discussion in Section 6.2.3 demonstrates that the development satisfies the planning control requirements relating to the management of risk to property
- The discussion in Section 6.2.4 that the development satisfies most of the planning control requirements relating to the management of risk to life. It is my view that in most circumstances vehicular evacuation from site in advance of a flood would not be practical and could be dangerous. Furthermore, although the building is within 40m of the PMF extent and so C-4 would suggest that on site refuge is not required, the vehicle evacuation route from the site is more than 40m from the PMF extent and is towards higher hazard flooding. While pedestrian evacuation towards Womboin Avenue ahead of a flood would be possible, it is questionable as to whether this would be the best option given that it would potentially require thousands of people to exit a shelter with no local flood free shelter available to them. Accordingly, I agree that the most appropriate flood emergency response for this site is to shelter within the building at a level which is above the reach of the PMF as required by C-5.
- With regard to the SEARs requirements, the FIRA meets all of these requirements
- The discussion on page 41 regarding the impact of off site afflux on PMF refuges during a PMF is well reasoned
- The flood risk management strategy and mitigation measures outlined in Chapter 7 of the document is appropriate for the flood risk profile of the site.



With regard to the FERP I am of the view that the draft document contains all of the required elements of a workable FERP that will need to be updated to reflect final site operations prior to site occupancy.

Yours sincerely

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