



Miss Alejandra Rojas  
Principal Planner

DEPARTMENT OF EDUCATION  
SUITE 9 259 GEORGE STREET  
SYDNEY New South Wales 2000

28/02/2022

Dear Miss Rojas

**New Liverpool Primary School (SSD-10391)**  
**Request for additional information**

I refer to the State significant development (SSD) application for the New Liverpool Primary School (SSD-10391) and flood related information received by the Department of Planning and Environment (Department) in the Response to Submissions (RtS) dated 12 November 2021 and also the subsequent additional information dated 23 December 2021 and 27 January 2022.

The Department has carefully considered the submitted Flood Emergency Plan prepared by Flood MIT dated November 2021 (evacuation plan) and has conducted an independent review of the flood related information by a Flood and Hydraulic Specialist (Department's specialist). Additionally, the Department has also referred the information to the Environment, Energy and Science Group (EESG) and has engaged with their representatives in relation to flood risk within the site and within the locality (including the road network).

Based on the comments from EESG and the specialist consultant, the Department considers that the submitted information does not provide sufficient information to enable the Department to progress the assessment of the application in relation to the flood risk associated with the site and the adequacy of the proposed mitigation measures, in particular, the components of the evacuation plan.

Consequently, the Department raises the following concerns in relation to the proposed flood risk and mitigation measures associated with the proposal:

- The recommendations of the Civil Design Report prepared by Meinhardt-Bonacci (April 2021) includes consideration for an evacuation plan in lieu of the development being located above the probable maximum flood (PMF) level that affects the site.
- However, the submitted evacuation plan is based on the site-specific flooding conditions only, with no consideration for the cumulative impacts of the PMF event from the Georges River on existing and future developments in the locality. Additionally, no consideration is given for demand for evacuation in the surrounding area in addition to the whole of the site and the adequacy of the transport networks to support evacuation within a regional context.
- The flood assessment considers the impact of flood waters within the site within which the proposed building is to be sited. It, however, does not provide an assessment of the ability of the site to be accessed in the future by parents and other care givers during low level flood events such as 1% , when the roads surrounding Liverpool Central Business District (CBD) will be affected by flood waters when the catchment is further developed.
- The current evacuation plan submitted as part of the development involves three main response measures including early warnings to close the school; evacuation if flooding occurs when children are on site; and Shelter-in-Place (on-site refuge) if the school is occupied and

evacuation cannot occur. However, the evacuation plan prepared by Flood MIT concludes that the Shelter-in-Place is likely to be the most viable option for this site. Notwithstanding, the Department's specialist and EESG's experts have assessed all the possible mitigation measures outlined in the report.

- Following the assessment, both the Department's specialist and EESG's experts have raised concerns regarding the reliance on the early warning system for evacuating the site. EESG note that whilst early warning systems may be developed for the catchment and improve in the future to provide greater lead times, it is likely to be many years before this occurs. Consequently, the Department raises concerns regarding the adequacy of warning times and the responsible authority for identifying when the warning parameter has been reached, nothing that this catchment does not have a single flood warning system such as the flood warning system managed by City of Parramatta Council.
- The evacuation plan includes a comparison between the flood warning times and the time within which the site is expected to be fully flooded based on the rate of rise of floodwater. It concludes that the available warning time would be adequate to evacuate the site. However, it does not consider that some portion of the warning time (i.e. the lag time for accepting an evacuation order and the time taken for parents/care givers to attend the site to evacuate children etc.) would need to be excluded from the evacuation time, that the safety of entering flood waters at less than peak and therefore the actual available time to travel with or without caregivers/parents from the flood impacted area to a flood free zone (or a regional evacuation route) may not be adequate.
- Noting that children within this age group cannot self-evacuate, the Department considers that this would pose risk to the school and pre-school children due to inadequate travel time being given for care givers to reach the building before access to the building is affected by flood waters and inadequate time for care givers to take their children to a flood free refuge (which has not been nominated).
- With regard to Shelter-in-Place proposal, sufficient evidence has not been provided to identify the necessary period of time for refuge to occur within the site and how quickly flood waters will enter the site and then also recede from the site . Further the time flood waters will recede from all access road servicing the Liverpool CBD. Evidence sighted by the Department indicates that future development modelled to occur within the flood catchment will result in access roads serving Liverpool CBD to be significantly flood affected for events above 1% AEI.
- The evacuation plan has not provided any commentary on flood events below the PMF event. This is particularly important given that much of the surrounding road network is affected by flooding before the PMF event. In this regard, EESG refer to the Flood Risk and the Evacuation Study prepared by Molino Stewart on behalf of Liverpool City Council (currently draft). The above report provides a clear idea of the behaviour of the various roads and areas in the locality during lower level flooding events and the associated constraints for evacuation of the Liverpool CBD.
- The evacuation plan does not consider that parents would be needing to travel along those flooded routes at 1% AEI to pick their children and the cumulative impacts on the overall traffic network of the travelling parents to not just this school but to the existing schools on this site and the risks associated in this scenario.
- The Shelter-in-Place strategy is proposed by you as the final viable option for PMF events. Given the vulnerable nature of the students and pre school age children associated with the development and the potential overall length of inundation (including ability of parents to travel through flood areas to collect students) Shelter-in-Place may not be a viable option for the development.

Noting the above concerns, the Department requests that an updated flood assessment and a detailed emergency response plan (evacuation plan) be prepared to include:

- information regarding the impact of lower level floods on the regional road network (used by parents) to access the Liverpool CBD.
- assessment of the future likelihood of access roads being flood impacted during lower level floods (below the PMF event), children being unable to be reached by parents during these events and the period these roads will be flooded (including how long it will take for these floods to recede) to enable parents to enter the Liverpool CBD to collect children. Please clarify whether this will be a short term or long-term period and what management requirements will be implemented to overcome this situation.
- clarification of how the system of monitoring of flood events would occur in terms of the warning trigger, the authority for measuring and issuing a direction that the trigger has been reached, the intended length of the warning times and the response by DoE following such warnings.
- clarification of who would be responsible for the monitoring and warning, under what scenarios the school would be closed and the frequency of school closures due to flooding events noting that not every warning will result in a PMF event, but the warning should nevertheless be applied.
- further information as to how the warning trigger will be determined and by who, what the warning lead time will be and how that warning time will be adequate to ensure that the school is closed prior to a large flood events occurring in the area in lieu of relying on evacuation given the vulnerability of the students and children. The frequency of that warning trigger occurring must also be identified.
- a holistic approach exploring all possible options to evacuate the site and the associated risk. To progress within this approach, you will need to consult with the NSW State Emergency Services (SES) being the responsible agency for assisting communities in flood affected areas. This consultation must explore options that are otherwise unknown at this stage as well as provide comments on the flood management measures currently proposed. EESG have also advised that some additional consultation be undertaken in this regard.
- consideration for various flood events including the PMF event and the other flood events where the surrounding roads may be affected (thus affecting the overall evacuation plan), while the site remains unaffected. The Flood Risk and the Evacuation Study prepared by Molino Stewart should be utilised to assist in the consideration of various flood events.
- more details of the Shelter-in-Place strategy including how the children would be safely sheltered for extended periods if the shelter in place can't otherwise be demonstrated to be short term. In this case you are requested to explore if the entire site (including the two existing high schools) can be considered for evacuation and/or shelter and whether this sheltering will be short duration or long and if it will be long what arrangements are intended to be made for care of children through that shelter in place particular if that will likely be over night.
- if shelter in place has been modelled to be short term only then evidence confirming confirmation the shelter in place being no more than one or two hours at most – including the time required for caregivers to access the site and their children through flood affected (below PMF) areas within the regional road network.
- The Department requests that prior to submitting the updated flood assessment and/or evacuation plan (flood emergency response plan), consultation on the plan occurs with Council and SES.

The Department also requests that you consider whether limiting the number of students on the site would ensure a safer environment on the site or the maximum number of students that can be safely sheltered within the site and/or evacuated.

The above information should be submitted in addition to the information requested by the Department in the letter dated 18 February 2022.

Please provide the information or notify us that the information will not be provided, by Thursday 14 April 2022. If you cannot meet this deadline, please provide, and commit to an alternative timeframe for providing this information.

If you have any questions, please contact Nahid Mahmud, on / at [Nahid.Mahmud@dpie.nsw.gov.au](mailto:Nahid.Mahmud@dpie.nsw.gov.au).

Yours sincerely,

A handwritten signature in black ink, appearing to be 'Nahid Mahmud', with a stylized, cursive script.

28 February 2022