ETHOS URBAN

30 March 2022

2190413

Aditi Coomar
Team Leader – School Infrastructure Assessments
Department of Planning and Environment
12 Darcy Street, Parramatta 2150

Attention: Nahid Mahmud, Senior Planning Officer

Dear Aditi,

RE: REQUEST FOR ADDITIONAL INFORMATION – 28 FEBRUARY 2022
SSD 10391, NEW LIVERPOOL PRIMARY SCHOOL, LIVERPOOL

We refer to the Department of Planning and Environment (DPE) request for information letters dated 18 February and 28 February 2022 relating to the design of the proposed New Liverpool Primary School and proposed response to the flood conditions of the site, and comments made by Energy, Environment and Science Group.

In response to the Department's request SINSW has requested TTW Engineer's undertake a peer review of the proposed flood strategy, including providing comment to the request for information. This letter and been prepared by Ethos Urban on behalf of SINSW and sets out a response to the issues raised and provides further clarification on the appropriateness of the proposed flood mitigation strategy.

The following has also been prepared to respond to the comments raised by DPE, and is appended to this letter:

- Flood Impact Review and Response prepared by Taylor Thomson Whitting (**Attachment A**).
- Flood Emergency Response Plan prepared by FloodMIT (**Attachment B**).
- Consultation Summary prepared by ADCO (**Attachment C**).

1.0 Background

The New Liverpool Primary School (NLPS) site is subject to mainstream flooding from Georges River to the southeast of the site, and overland flooding from the CBD catchment to the south and west of the site. The site is located within the extent of both of these Probable Maximum Flood (PMF) level's, but is free from CBD overland flooding during the 1% Annual Exceedance Probability (AEP).

Under Part 9 (Flooding Risk) of the Liverpool Development Control Plan 2008 Part 1 (the DCP):

- Part 9 of the DCP is consistent with Council's and State Government's "Flood Prone Land Policy" and the Floodplain Development Manual.
- The land is ***Low Flood Risk Category*** as the site is above the 1 in 100 AEP;
- Educational Establishments and Child Care Centre's are identified as a ***sensitive use***.
- The site is within the Georges River Floodplain. Georges River Flood Plain requirements at Table 4 and 5 require the floor level of a *Low Flood Risk Category - sensitive use* to be no lower than the PMF level **unless justified by a site-specific assessment**.

Accordingly, the DCP sets out that the site is suitable for educational establishment and childcare centre uses, where supported by a site-specific assessment.

2.0 Site Specific Assessment

The DCP establishes that subject to site-specific assessment an appropriate alternative solution can be implemented which permits development of the school below the PMF.

A site-specific assessment was originally carried out by Meinhardt Bonacci Engineering and the project team (Section 3 of the Civil Design Report provided at Appendix J of the EIS, and additional information provided to DPE to date), and is supplemented by the peer review provided by TTW (**Attachment A** of this response).

The site-specific assessment has concluded that building the school to the PMF would have significantly adverse impacts on the school and the local community, including significant stairs and ramping and bulk earthworks that would divorce the site from the locality, which is an impractical and adverse urban design outcome.

As outlined at **Attachment A**, instead of adopting the PMF flood planning level, the flood planning level for this site is the 1% AEP flood level +500mm freeboard where the Flood Emergency Response Plan (FERP) for the proposed development is adopted (see **Attachment B**).

Accordingly, during a flood event, the flood evacuation procedure would be to 'shelter on site' above the PMF level of 10.80m in accordance with the recommendations and procedures in the FERP.

The first floor and second floor of the NLPS will be above the PMF providing a large area for safe refuge, if required. Further, the western area of the Liverpool Boys and Girls High School is also above the PMF level and can provide an area of additional safe refuge.

3.0 Department's Request for Information

3.1 Request 1 – email dated 4 February 2022

The Department's email dated 4 February 2022 suggests the project does not comply with Liverpool Development Control Plan 2008 (the DCP), however this is not accurate.

As outlined at Section 1.0 above, the DCP allows development with a flood planning level below the PMF where addressed by a site-specific assessment. As outlined at Section 2.0 the project site specific assessment has been carried out and includes a flood evacuation management plan with a shelter in place strategy (see commentary by TTW Engineers at **Attachment A**).

3.2 Request 2 – letter dated 18 February 2022

The Department's letter dated 18 February 2022 seeks further information relating to flood assessment and the outcome of consultation with Liverpool City Council in relation to the proposed flood response. In response to this request, the following responses are provided.

> *Provide some examples of other sites within NSW where habitable ground floor levels of schools and/or childcare centres have been approved/constructed below the Probable Maximum Flood (PMF) level.*

SINSW is unaware of any precedents of similar schools where this design response has been incorporated. SINSW note that a robust Flood Evacuation Management Plan has been prepared, and the proposal needs to be assessed on its merits.

> *Provide the outcome of consultation with Liverpool City Council (Council) to establish whether a Flood Emergency Plan is acceptable to Council in lieu of the school buildings being built above the PMF.*

Significant ongoing consultation has been undertaken with both Liverpool City Council (Council) and State Emergency Services (SES). During the design of the school and prior to lodgement of the EIS, consultation with Council was undertaken to inform the design, including monthly updates for Council, the Transport Working Group

(of which Council are members) and through the RTS process. Since the issuing of the RFIs by the Department, several efforts have been made to contact Council to discuss the flood strategy. No response or request for a meeting has been received from Council. SINSW will continue to seek to consult with Council, however notwithstanding, the flood strategy is informed by the DCP and Floodplain development manual, which establishes the suitability of the school design and proposed flood mitigation approach.

It is noted that several requests to consult with the SES have been made, in order to assist in the preparation of the FERP. Consultation with NSW SES was ongoing throughout 2021 as SINSW explored alternate planning pathways separate to the EIS. Since the issuing of the RFIs from the Department, several efforts have been made to contact the SES to discuss flooding impacts and the FERP, including contact with several members of the NSW SES Planning Team. No response has been received. A summary of the consultation undertaken with NSW SES to date has been provided at **Attachment C**.

3.3 Request 3 – letter dated 28 February 2022

The Department's letter dated 28 February 2022 seeks further information regarding the flood risk and mitigation measures, including commentary on parts of the evacuation plan.

In response to this request, a Flood Impact Review has been prepared by TTW Engineers. TTW have also provided detailed responses to the DPE's queries raised in the RFI, provided at **Attachment A**.

TTW have confirmed that the finished floor level of RL 9.3m, being the 1% AEP maximum plus 500mm of freeboard, is an appropriate response to the site and flood setting based on the DCP (as outlined above). Further, TTW note that the shelter in place strategy for the site in circumstances of flooding is a safe and useable strategy, considering it will allow for students to safely shelter and does not require parents or caregivers to attend the school to pick up children in circumstances of flooding.

Further, TTW's report confirms that the shelter in place strategy would be a moderate term management strategy (12-24 hours), allowing children to shelter on the site until floodwaters over surrounding roads recede enough to allow for parents to attend the site for pick up. TTW conclude that this is a sufficient and appropriate response, considering the unlikely nature of the events.

In responding to the revised evacuation strategy, the Flood Emergency Response Plan has been updated by FloodMIT and is provided at **Attachment B**. This FERP outlines the shelter in place strategy, the components required to undertake any shelter in place circumstances and the relevant authority contacts, including who will be responsible from the school, Council and NSW State Emergency Services. It is noted that this FERP is in draft and ongoing consultation with NSW SES will occur in finalising this FERP.

We trust this letter and attachments sufficiently address your queries. Should you have any further queries, please don't hesitate to contact me.

Yours sincerely,

Chris McGillick
Associate-Director
cmcgillick@ethosurban.com