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Dear Mr Jennejohn,

**Subject: Notice of Exhibition – Powerhouse Parramatta**

Thank you for your e-mail dated 9 June 2020, inviting Environment, Energy and Science Group (EES) in the Department of Planning, Industry and Environment (DPIE) to comment on the Notice of Exhibition for Powerhouse Parramatta.

EES has reviewed the relevant documentation and make the following comments.

Biodiversity

A Biodiversity Development Assessment Report Waiver was approved on 14 May 2020.

Flooding

EES has reviewed the SSDA Report – Flood Risk and Stormwater Management prepared by ARUP, dated April 2020 (the report) and makes the following comments which are generally confined to the methodology used for the assessment as outlined in the report.

- Chapter 7 and 8 of the report outlines flood nature particularly flood depth and hazard, due to combined Parramatta River mainstream and overland flooding for the 5%, 1% AEP and the probable maximum flood (PMF) for pre and post development conditions. The report also identifies flood planning level based on 1% AEP plus 0.5m freeboard as 7.3m AHD and proposes a finished floor level (FFL) at 7.5 m AHD. The post development condition shows that up to the 1% AEP the proposed flood management strategy would result in containing mainstream flow within proposed undercroft spaces and external landscape open areas. Post development PMF as illustrated in map P1.0-PMFD shows flood level reaches 10.9 to 11m AHD i.e. 3.5m above the FFL of the Ground Level 0. A plan of Ground Level 0 is provided in the Architectural Plans and Design Report.
- It is also not clear, whether the proponent adopted a no flow ingress approach above the FFL as indicated by map P1.0-PMFD. Though, there is inconsistency between the map and the report's discussion. The map shows the buildings site surrounded by water while the buildings are flood free, while the report indicates that post-development condition for the PMF is shown to be flooded by more than 2m of floodwaters. This needs to be clarified.
- Map P1.0-PMFH shows the buildings in PMF are largely within the H6 hazard categories. Therefore, due to the significance of this infrastructure, it may be prudent to address structural measures required to ensure the structure of the buildings can withstand floodwater forces including debris and buoyancy up to this level.

- Item 12 of the SEARs requires the proponent to prepare an assessment of flood risk in accordance with the guideline contained in the NSW Floodplain Development Manual (2005). The Manual emphasises the need to explicitly consider the full range of flood sizes up to and including the PMF and to consider existing, future and continuing flood risk strategically. The obligation of assessing the full range of flood sizes is principally derived from an understanding of continuing risk and the management measures required to deal with that risk to address the safety of people. The Manual states that:

*Analysing the PMF provides an upper bound of flood behaviour and consequences for emergency response planning. It can identify critical factors, such as key levels for loss of evacuation routes and inundation of entire areas, so that appropriate emergency response and recovery planning and community education programs can be developed.*

The Manual also highlights that response planning for the consequences of the PMF provides for effective management of all events rarer than the defined flood event selected as the basis of the flood planning level (FPL) but smaller than the PMF.

There is no consideration from an emergency management perspective regarding flood events rarer than the 1% AEP up to the PMF as the proposed emergency evacuation strategy outline in Section 8.7 is limited to the 1% AEP.

EES recommends that this is addressed in this current stage of planning.

- The proposed emergency evacuation strategy recommends shelter in place as the main evacuation strategy during the 1% mainstream flood, the report states:

*... time of inundation for a Parramatta River flood is greater and estimated in the order of 10 hours or more for the critical storm event but is still a number of hours rather than days and the advice to remain in the Powerhouse Parramatta buildings and wait until the storm / flood has passed would remain the same.*

It should be noted that, shelter in place is not considered an evacuation strategy approved by the State Emergency Service (SES). Evacuation definition is to remove people from risk areas to a flood free area. While shelter in place as a management measure allows people to remain within the risk site but in a higher level above the flood level.

Therefore, it is recommended that, a site flood emergency response plan is developed in consultation with SES and City of Parramatta Council and complementary to existing Parramatta local plans.

Should you have any queries regarding this matter, please contact Bronwyn Smith Senior Conservation Planning Officer on 9873 8604 or [Bronwyn.smith@environment.nsw.gov.au](mailto:Bronwyn.smith@environment.nsw.gov.au).

Yours sincerely



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