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Re: Conditions B21 and B26 – Flood Emergency Response Plan (FERP)

As per Condition B21 indicated below, a Floodplain Emergency Response Plan must be prepared for the site, and as per Condition B26, the floodplain management measures for the construction phase of the project are required to be implemented.

B21. A Flood Emergency Response Plan (FERP) must be prepared and must address, but not be limited to, the following:

- (a) be prepared by a suitably qualified and experienced person(s) and in consultation with the NSW State Emergency Service;*
- (b) be generally consistent with the details provided in the Amended DA / RtS;*
- (c) address the provisions of the Floodplain Risk Management Guidelines (EESG);*
- (d) include details of:*
 - (i) the flood emergency responses for both construction and operation phases of the development;*
 - (ii) predicted flood levels;*
 - (iii) flood warning time and flood notification;*
 - (iv) assembly points and evacuation routes;*
 - (v) evacuation and refuge protocols; and*
 - (vi) awareness training for employees and contractors, and students.*

B26. Prior to the commencement of construction, the Applicant must implement the flood management measures for during construction in the FERP.

The site is located at 74 Rickard Road Bankstown within the Salt Pan Creek Catchment which is a tributary of Georges River in Sydney's south. The catchment is approximately 26 km² and the site is subject to overland flooding in the 1% AEP flood event. Flooding at the site is the result of overland flow.

A FERP was prepared by Bonacci for DA submission and is titled Western Sydney University Bankstown City Campus Development – Flood Emergency Response Plan, dated 11 August 2020. Sections of the Bonacci FERP relevant to requirements have been extracted and are listed below.

CONDITION B21 – FERP

The Flood Emergency Response Plan (FERP) has been developed to promote a satisfactory awareness of expected flood behaviour and risks, identify measures to become flood prepared and recommend a course of action during and after flood events.

Flow arrives at the subject site from the west, north-west, north and north-east. Most significant flow path is from the North and this flow crosses the median on Rickard Road. This flow then continues south and passes the east side of the site, between the site and the Council building, while also flowing south on Jacobs Street. There is a 1% AEP flood level of 25.3 mAHD at the site entrance on Rickard Road, while the south eastern corner of the site on Appian Way has a level of 24.2 mAHD in the same event. In the Probable Maximum Flood (PMF), these levels increase to 25.8 and 24.5 mAHD, respectively.

Flooding at the site will typically be of short duration (an hour or less) with minimal advance warning time. Neither the Bureau of Meteorology (BOM) or the State Emergency Service (SES) will issue a warning of flooding specifically at the site. The BOM will however issue warnings of Severe Weather, Severe Thunderstorms or Generalised Flooding for the Bankstown or Sydney area. When a warning is issued, it is listed at www.bom.gov.au/nsw/warnings/. Separate to the formal warning system, heavy rainfall at or near the site, with significant gutter flow, is a sign that flooding may potentially occur soon after.

During the construction phase, the site is to be evacuated following any of the above flood warnings being issued, or if there are other signs that flooding could soon occur. If evacuation occurs the existing library forecourt area on the western side of the subject site is nominated as the emergency assembly point and nominated refuge point. The existing library forecourt location could provide a safe refuge until the flood event has passed. The location of emergency assembly point and nominated refuge point and evacuation route are shown in Figure 1.

Evacuation drills are designed to increase flood awareness within the site population. These drills can be undertaken twice yearly to familiarise the employees and contractors of the procedures when responding to a flood event. It is an opportunity to outline flood levels and the dangers of entering flood water.

Separately to the evacuation requirements, efforts should be made to reduce the possibility of overland flow filling below ground areas during construction. The flow rate and total volume of runoff in a large flood event is such that any excavated or basement areas could potentially become completely inundated. Use of a continuous barrier around the site will reduce the likelihood of this occurring.

CONDITION B26 – FERP REQUIREMENTS FOR CONTRACTOR

The relevant FERP flood management measures are listed below. As per B26, these are required to be implemented by the contractor as a condition of consent.

The contractor shall acknowledge flooding as a potential hazard at the site and shall evacuate the site in the event of a flood. This involves including flooding as a trigger for evacuation and other risk management measures, as per the following requirements:

- A designated person shall monitor the relevant BOM warnings and issue an evacuation order as necessary. In addition, any worker who observes overland flow at or around the site can trigger the evacuation through notifying the designated staff member
- The Contractor shall train their staff and site visitors on evacuation procedures from the site in case of such a scenario.
- The existing library forecourt area on the western side of the subject site can be used as the emergency assembly point and refuge point. This location with a level of approximately 27.5m AHD is above the PMF levels of 25.8 mAHD at the upstream side of the site. The location can provide a safe refuge location until the flood event has passed. The location of emergency assembly point and nominated refuge point and evacuation route are shown in Figure 1 below.
- During construction the Contractor is responsible to create, manage, implement and audit a Construction Management Plan which includes a Project Safety Management Plan (PSMP) which will dictate how the Contractor will manage safety on-site, including but not limited to, during heavy rainfall events and flooding of the site and shall include the following requirements;
 - Creation, management, implementation, and auditing of the flood emergency response plan as construction progresses on-site, as part of this response plan the contractor shall provide the following:
 - Identify Safety Personal responsible for creating, implementing, and auditing PSMP's (provide contact details, including names, phone numbers, emails etc)
 - Identify how flood emergency warnings will be received by above nominated safety individuals, including how that person will disseminate and share the information with the greater construction workforce
 - Create an evacuation plan, including a muster point (assumed point included below in Figure 1)
 - Install any necessary signage for evacuation and update accordingly through construction
 - Training of construction workers and site guests shall be undertaken at the beginning of construction and updated weekly. This information shall be introduced at toolbox safety briefings to workers weekly and as information changes through construction
- It would be prudent that the Contractor account for the potential site flooding and the effects that could be sustained by equipment and tools and should come up with a contingency plan to address protection of equipment should an event occur.

