

Our ref: PS214031-WSP-SYD-CIV-LTR-001 Rev1.docx

By email
CSalter@investa.com.au

3 October 2025

Level 27, 680 George Street
Sydney NSW 2000
GPO Box 5394
Sydney NSW 2001

Tel: +61 2 9272 5100
Fax: +61 2 9272 5101
www.wsp.com

Callan Salter
Development Manager
Investa
Level 30, 420 George Street
Sydney NSW 2000

Dear Callan

105 Miller Street Response to SSD submissions - Flooding

This letter has been prepared in response to agency advice for the SSD submission (SSD-83956216) for the redevelopment and adaptive reuse of the building at 105 Miller Street, North Sydney. It responds to issues raised by Heritage Council, Conservation Programs, Heritage and Regulation (CPHR) Group and NSW State Emergency Services.

Key Issue

Heritage Council

4. Proposed flood alleviation

The Heritage Council acknowledges the issue of stormwater flooding on Miller Street but is concerned about the heritage impacts that would result from the SSD's proposed flood alleviation strategy. The Heritage Council's (April 2025) pre-lodgement advice was that alternative options should be considered to alleviate flooding without raising the Miller Street ground floor level. The scheme remains unchanged from pre-lodgement.

Response

Various options were considered in the concept design for the adaptive re-use to address the existing flooding condition. The following figure gives some of the option considered, and the impacts of each option

Option 1 – self raising flood barrier at ground floor. This would involve installing a flood barrier at the lobby entry, and flood proof glazing (or other flood proof treatment) along the ground floor colonnade. This option was considered to have an unacceptable impact on the basement below.

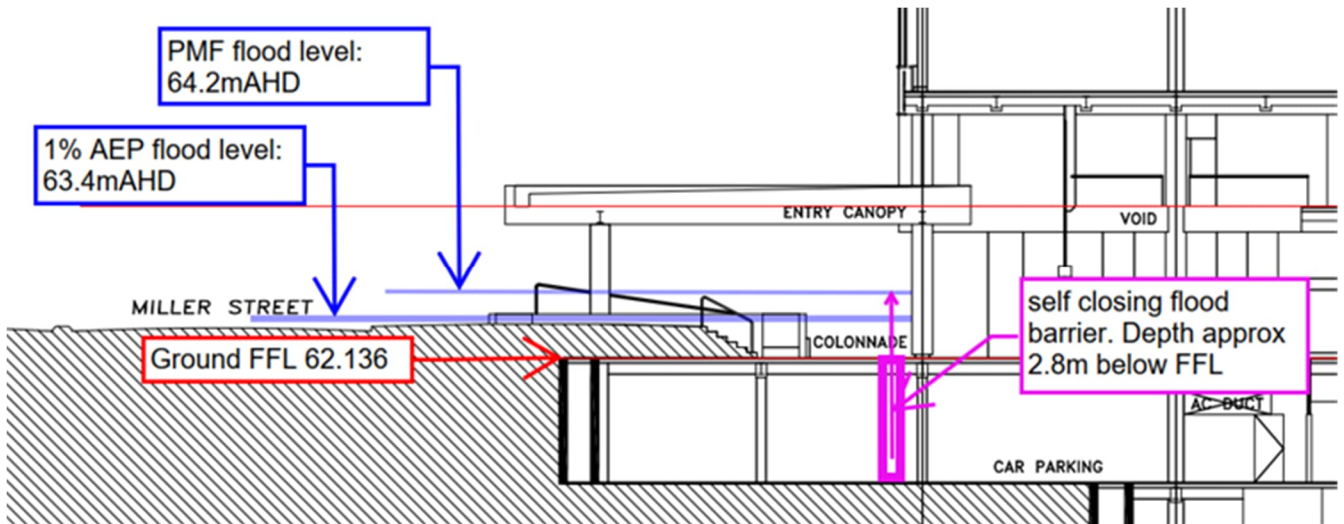


Figure 1 Flood mitigation Option 1

Option 2 – tilt up flood barrier at ground floor. This is a mechanically operated flood barrier at the lobby entry, similar to Option 1. The depth of the barrier in the ground floor slab is 600mm, plus the slab below, which would have an unacceptable impact on the basement below. Furthermore, given the height of the barrier, the surface finish when the barrier is not operating (ie the floor of the colonnade) would be limited to a lightweight finish (not tiles)

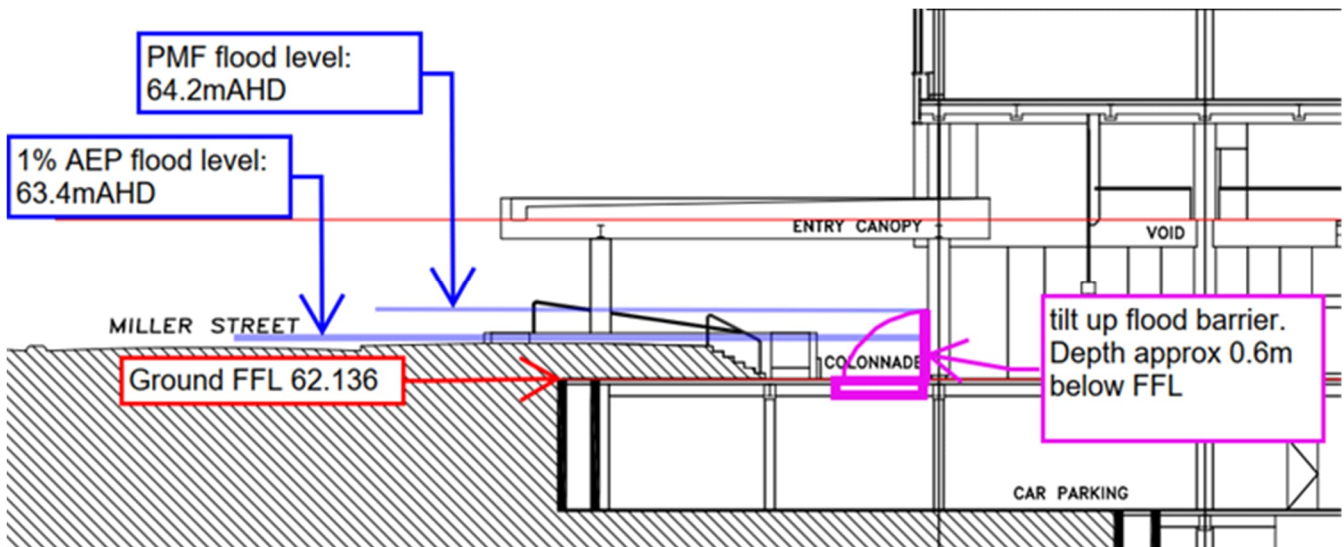


Figure 2 Flood mitigation Option 2

Option 3 – A flood proof roller shutter dropping down from above, noting this cannot be operated day to day but should be reserved for flood events only. This option is not suitable due to the visual impact on the façade.

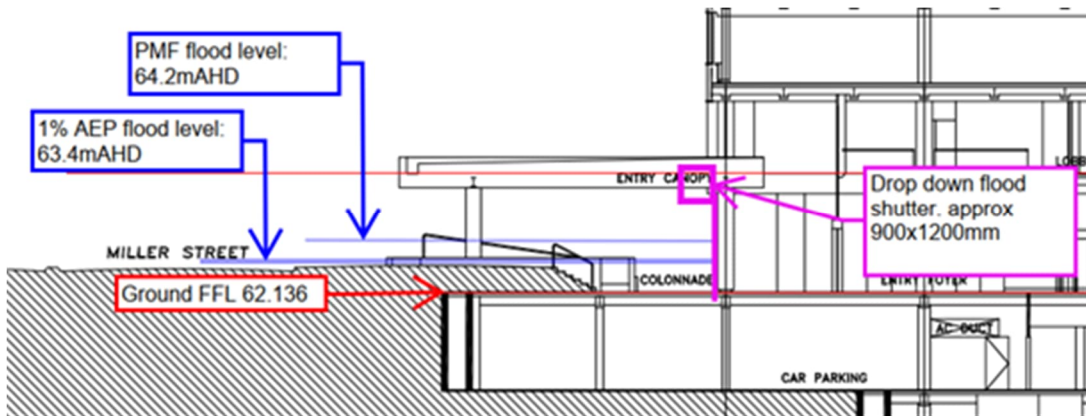


Figure 3 Flood mitigation Option 3

Option 4 – Flood barrier at the boundary, and a flood storage tank. The flood barriers would be located at the northern ramp from Miller Street, and the stairway from Miller Street. Flood storage tank would collect flood water from Miller Street and discharge to Brett Whitely Place similarly to existing conditions where the colonnade acts as an overland flow path between Miller Street and Brett Whitely Place. This would keep the colonnade flood free in all flood events. This option would have a significant impact on the Special Area on the Miller Street frontage, with reduced planting depth available for landscaping. A bespoke flood barrier solution would be required to allow flood waters to enter the flood storage tank.

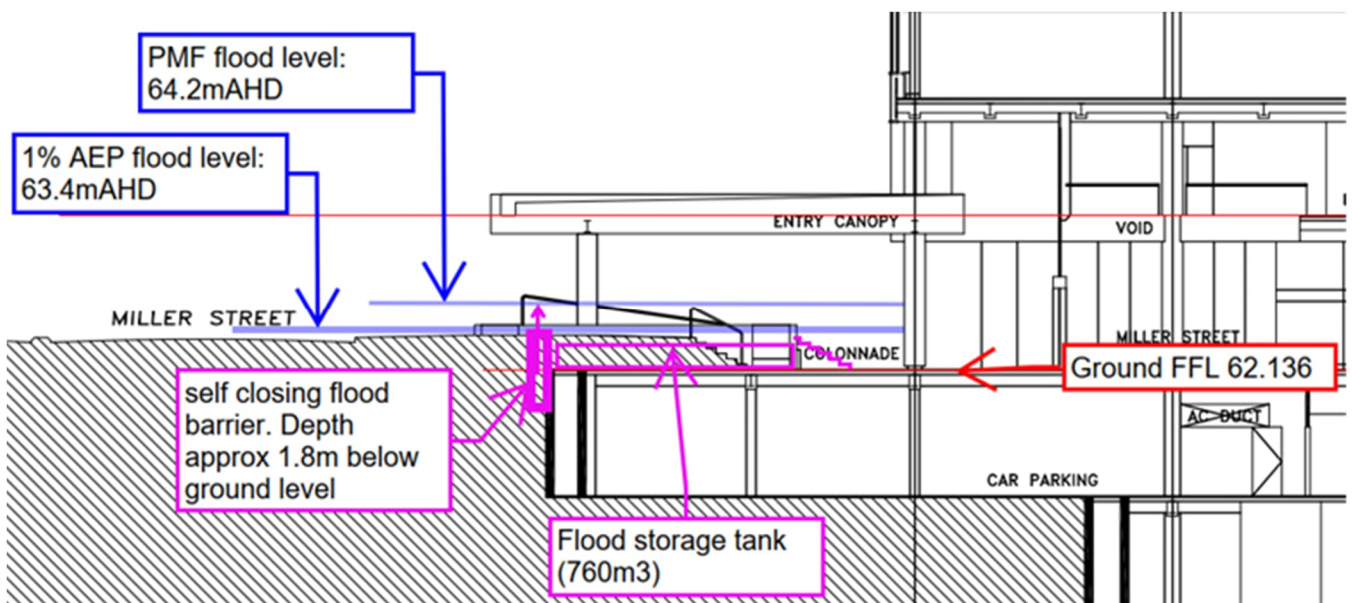


Figure 4 Flood mitigation Option 4

Key Issue

- a. It is understood that the flooding is primarily caused by stormwater that originates from outside the boundaries of the site. Please advise of any consultation that has taken place with North Sydney Council for the management of the external stormwater that is causing flooding of the Miller Street Wing.

Response

Council was consulted to obtain a copy of the flood modelling prepared as part of the Vicotria Cross Metro development. This modelling shows stormwater ponding in the sag point on Miller Street at the northern end of the Miller Street frontage. This is considered to be part of the existing flood regime and there are no plans by North Sydney Council to alleviate flooding in this location.

The flood model provided by Council was modified to include the proposed development.

Key Issue

- b. *Please advise how heritage impacts have been factored into the SSD flood alleviation strategy and provide justification for the major heritage impacts that would result from the resultant redesign of the Miller Street forecourt and alterations to the proportions of the Miller Street colonnade.*

Response

Under existing conditions, the colonnade is regularly affected by flooding. The flood modelling indicates a high frequency of flooding to be in the order of 20% chance in any given year (20% AEP). This aligns with anecdotal reports of flooding in the colonnade and flood water entering the lobby. Active flood gates were considered to protect the building from flooding; however, these options were shown to have unacceptable impacts on the adaptive re-use scheme. Flood barriers at a higher level would result in adverse impacts on flooding in Miller Street. To enable an adaptive re-use where the building is protected from flooding, raising the ground floor level and adopting the flood tank was considered the most appropriate solution. By adopting this scheme, off-site flood impacts were minimised and a better connection established between the ground floor and Miller Street.

Key Issue

Conservation Programs, Heritage and Regulation (CPHR) Group

Modelling of the flood storage tank should ensure that inlet capacity of the grated drain is correctly accounted for. The flood model is to be updated to include blockage of the proposed grated drain (50%) and allow for multiple entry points. Alternative entry structures are likely to be required to ensure that flood impacts are not transferred offsite in the event of drain blockage.

Response

In order to calculate the inflow capacity of the proposed grated drain along the Miller St boundary, we have calculated the inlet capacity of a 1m section of 300mm wide grated drain with heelsafe grate using the sag pit wizard in DRAINS. The clear opening area is based on data available from ACO for a 300mm wide heelsafe grate.

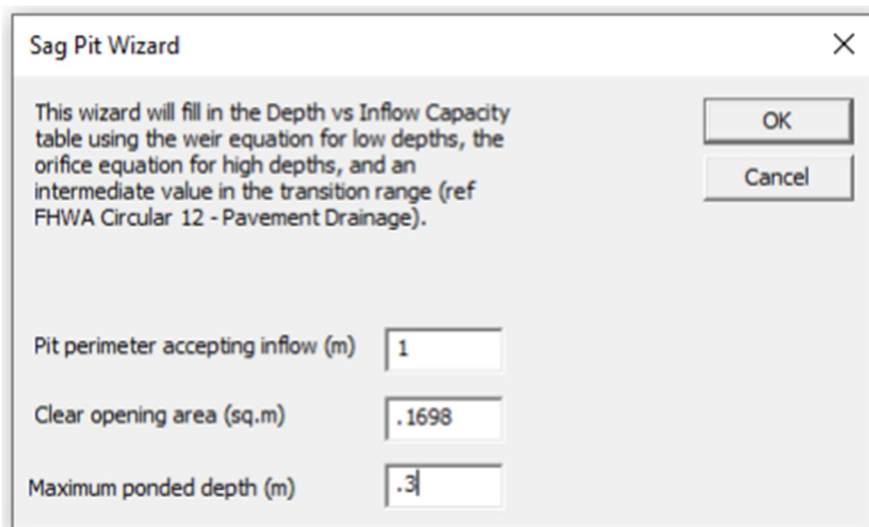


Figure 5 DRAINS inlet capacity calculator

To allow for 50% blockage of the grate, the width of the grated drain needs to increase to 600mm. Alternatively, this could be integrated into the forecourt as additional drainage grates.

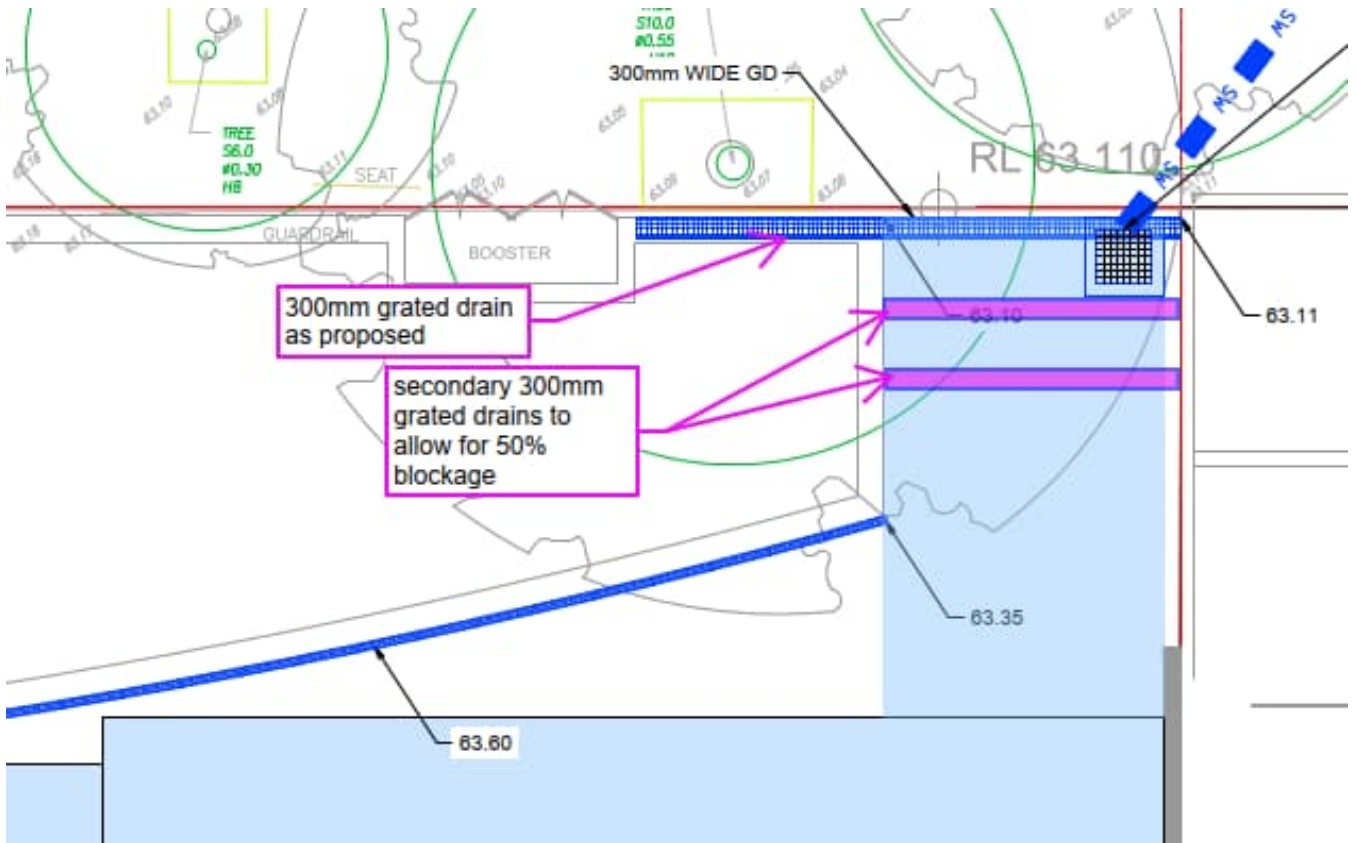


Figure 6 Additional inlet grates to allow for grate blockage

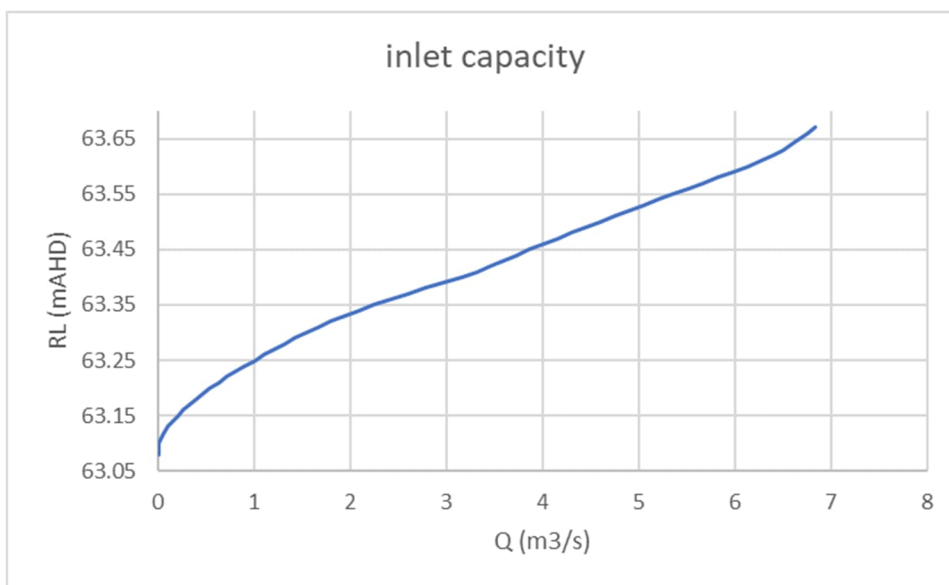


Figure 7 Inlet capacity of layout shown in Figure 2 with 50% blockage

Key Issue

The flood storage tank would receive off site water (roadwater) and maintenance of inlets and outlets would be critical to performance of the structure. Detailed design should include operation and maintenance requirements.

Response

It is agreed that maintenance of inlets and outlets will be required to ensure the long-term performance of the flood storage tank. Maintenance requirements will be included as part of the detailed design and specification.

Key Issue

Update flood modelling to indicate further gradation of offsite impacts in excess of 10 mm. Adequate mitigation is required to be provided to ensure that existing hazard or velocity does not increase for existing flow paths and flow diversion to other offsite locations does not pose new risk.

Response:

Figure 8 below shows the flood impact at a more refined detail showing where there is more than 10mm change in flood levels.

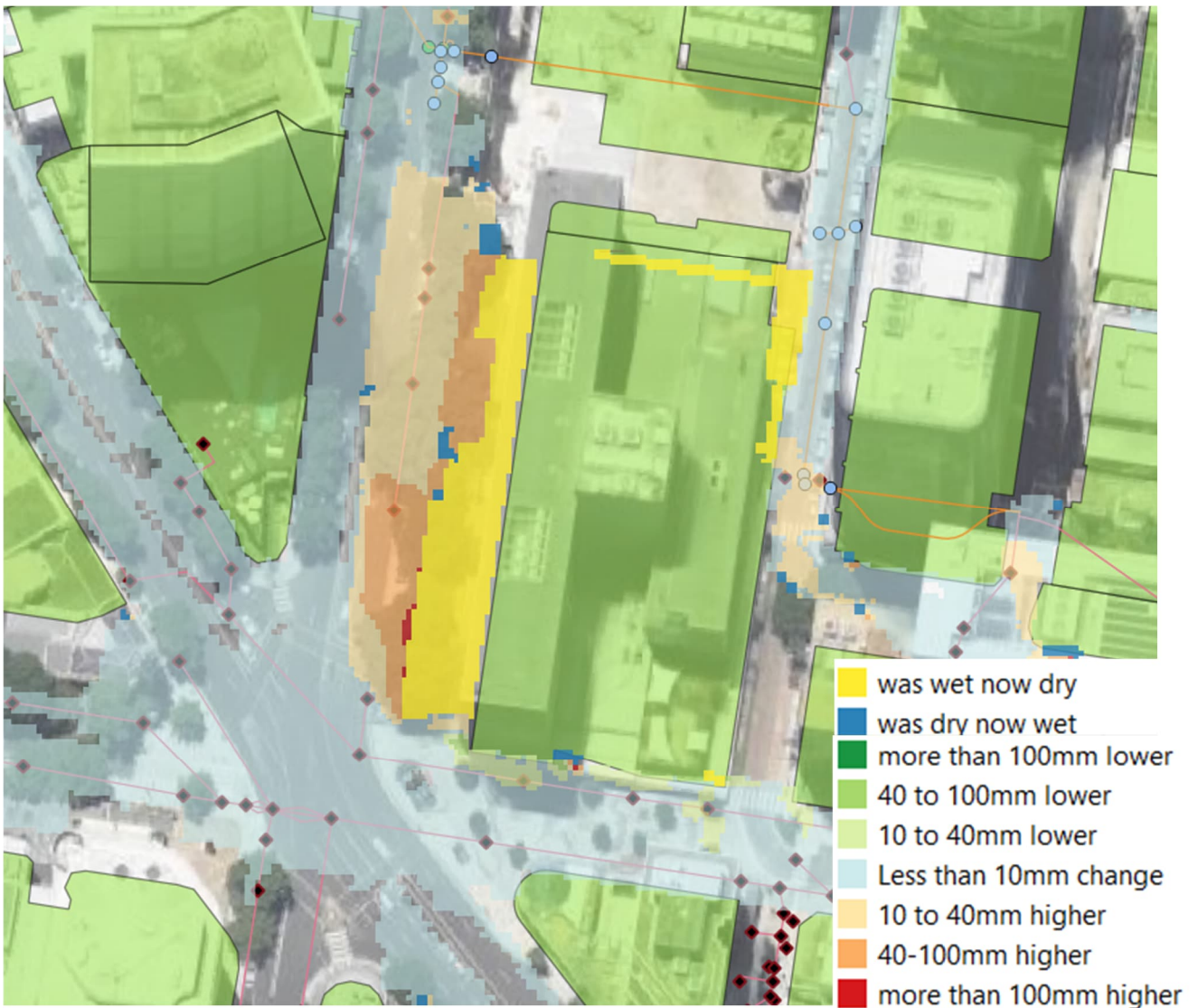


Figure 8 1% AEP flood impact

The map shows a relatively minor impact on flood level in Miller Street, noting that this does not extend to adjacent properties.

Key Issue

Prepare a site specific Flood Emergency Response Plan (FERP) in consultation with the facilities manager. The FERP must contain:

- a) appropriate warning products*
- b) action plans*
- c) evacuation routes and shelter locations*
- d) a process for the FERP to be reviewed every 12 months and after any flood event.*

Response:

The FERP (revision C) has been updated to address the above.

NSW State Emergency Services

Recommend the consideration of the NSW Government Shelter in Place Guideline for flash flooding, noting it is adaptive reuse of an existing development.

Response:

The NSW Government Shelter in Place Guideline has been considered in the FERP (revision C).

If you have any further questions on the civil engineering and flooding aspects of this project, please do not hesitate to contact the undersigned.

Yours sincerely



Tim Henderson
Associate Director