



henry&hymas

30th November 2021

Our Ref: A21C51

TMX Global
Level 1, 63 Ann Street,
Surry Hills, NSW 2010

Attention: Mr Matt Logan,

Dear Matt,

**RE: INDUSTRIAL DEVELOPMENT EXPANSION
2-14 DISTRIBUTION DRIVE, ORCHARD HILLS, NSW
SSD 18204994 - Responses to RFIs**

Henry & Hymas have reviewed the various requests for information/matters of concern relating to the civil engineering design of the aforementioned project, and offer the following responses to those items:

It is acknowledged that the site is not affected by mainstream flooding from South Creek in a 1% AEP flood event. The development site adjoins a stormwater channel, contained within the drainage easement (D), that was constructed as part of the parent subdivision works. Details of the stormwater flows within the channel were not provided with the application. The development must ensure that floor level of any warehouse structure is located at least 0.5m above the top water level of the 1% AEP flow within the stormwater channel contained within the drainage easement (D).

This stormwater channel was designed by Costin Roe Consulting and formed part of the subdivision works. The proposed building FFLs are at or higher than the proposed pad levels that formed the subdivision design. The documentation by Costin Row clarifies that the overland flow swale has the capacity to convey the 1:100yr ARI flows, citing a peak 100yr flow of 2.82m³/s (there is a 9.5ha upstream catchment). Since we are not proposing to make any adjustments to this swale (and our building FFL is significantly higher than the original pad FFL that formed the subdivision design) it is expected that the FFL has more than sufficient freeboard. At the most upstream (and conservative) section adjacent to the proposed building we have a building FFL of 36.75, and a swale invert of 33.68. This gives a 3.07m clearance from building FFL to the invert of the swale. Taking a very conservative approach and assuming a total flow depth of 1.0m – the top of water level would be 34.68 – giving a total freeboard of 2.07m.

The lot is burdened by a variable width drainage easement (D) that contains a stormwater channel to convey upstream stormwater flows around the development site. A 2.1m high palisade perimeter fence is proposed across a stormwater channel at the north-east corner of the lot (adjoining Lot 12 DP 271141) which may impede flows. The fence must be designed to accommodate the stormwater flows contained within the channel up to the 1% AEP local flood event. Any fencing proposed in this location must not have any





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adverse impacts upon adjoining properties by way of the concentration, diversion, damming or blocking of stormwater flows within the channel.

The fence through the drainage easement is an existing fence that is proposed to remain. Since we are not proposing to make any changes to this existing fence, it is not expected that an investigation of the flood impact is required

The proposed development will include a satisfactory stormwater management cycle which includes a Water Sensitive Urban Design (WSUD) strategy which achieves the relevant stormwater and pollution reduction targets across the site. Rainwater harvesting would also be applied across the site (where considered practical), which will incorporate re-use in irrigation methods and recycled potable water components, i.e. toilet flushing, roof wetting and irrigation. The applicant stormwater report states that both a 50kl and a 40kl rainwater tank are to be provided with a non-potable reuse demand of %80.37. The above comments above indicates compliance with Penrith Council's WSUD strategy. However, an electronic MUSIC model in sqz format should be made available to support the application as two different sizes of rain tank have been provided.

As summarised in the civil DA report, there is downstream infrastructure provided which caters for the water quality treatment of the entire subdivision, the subject site included. The downstream water quality infrastructure consists of a gross pollutant trap, and a bio-retention basin. It is not expected that any further treatment of the site stormwater is required.

A MUSIC model has already been provided (I have re-attached to this correspondence). The tank size has been modelled as a 40kL tank within the MUSIC software, however we have proposed a 50kL tank to be installed. The 20% increase is to account for the following factors which is not taken into account in the MUSIC model:

- Anaerobic zone
- Mains water top up levels
- Overflow levels

I trust this serves as an adequate response to the queries raised. Please do not hesitate to contact the undersigned if further clarification on any of the above items is required.

Yours faithfully,

NICK HEAZLEWOOD

For, and on behalf of,
H & H Consulting Engineers Pty Ltd