

Reference: 2018.0061-L05

Date: 24/08/2018

Dear Sir,

**RE: 36-38 Rodley Avenue, Penrith  
FLOOD ADVICE & IMPACT CALCULATIONS**

This letter provides details on flooding affectation on the above sites and provides calculations for the impact assessment based on flood storage requirements.

The site is affected by overland flooding as advised by Penrith City Council. Figure 1 below shows the affectation of the site.

The council has provided a set of controls that apply for sites affected by overland flooding which are detailed in this letter.

The architectural drawings prepared by Morson Group Pty Ltd address these requirements as follows:

- Floor Level
  - The lowest habitable floor levels is 27.60 which is 0.5m higher than the 1% AEP flood level.
- Structural Soundness
  - The structural engineer for the project will have to design the structure to withstand the forces of floodwater, debris and buoyancy up to and including the existing building.
- Flood Effects
  - The flood letter from Penrith City Council provided the flood level at the North boundary in 100-yr ARI event is at RL 27.1m AHD.

Based on the above and after review of the detailed survey plan for the site, the flood depth at the site is 150mm on average. The area of the site affected by overland flooding at the site boundary is 94.22m<sup>2</sup>. A total flood storage volume of 14.133m<sup>3</sup> currently exists on site under existing conditions. (Refer to Figure 1 & 2 for Flood Storage Plan & Calculations).

In the post development conditions, a compensatory storage of 15.54m<sup>3</sup> is required at the front of the property to ensure that there is no increasing flood impact in vicinity. The location of the flood storage is showed in the stormwater management plans conducted by S&G consultants and its details can be found in the figures below (Refer to Figure 3 and 4 for Flood Storage Plan & Calculations).

- Substations Protection
  - If a substation is required ,The proposed FFL of the substation is at minimum as 27.60 to avoid any impacts from 100yr ARI storm event and the structures will be of flood compatible building components.
- Water entrance
  - Allow an empty 160mm x 230mm every 600mm at the front retaining wall for water accessing to the storage (refer figure 5)

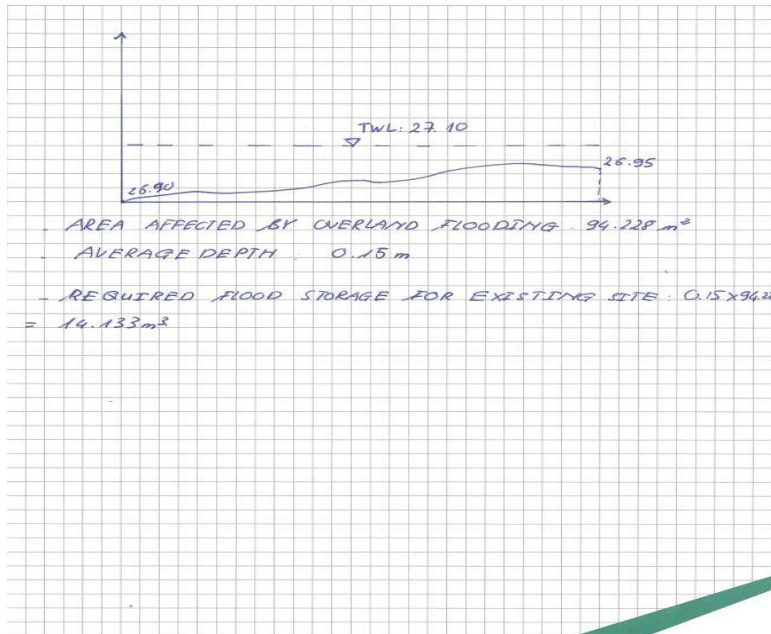


Fig1 Flood Storage Plan (Existing Site Condition)



Project Number: 20180061 Engineer: LOUIS Page:      of       
 Project: 36-38 RODLEY AVENUE, PERTH Date: 21/09/2018  
 Description: FLOOD STORAGE CALCULATIONS

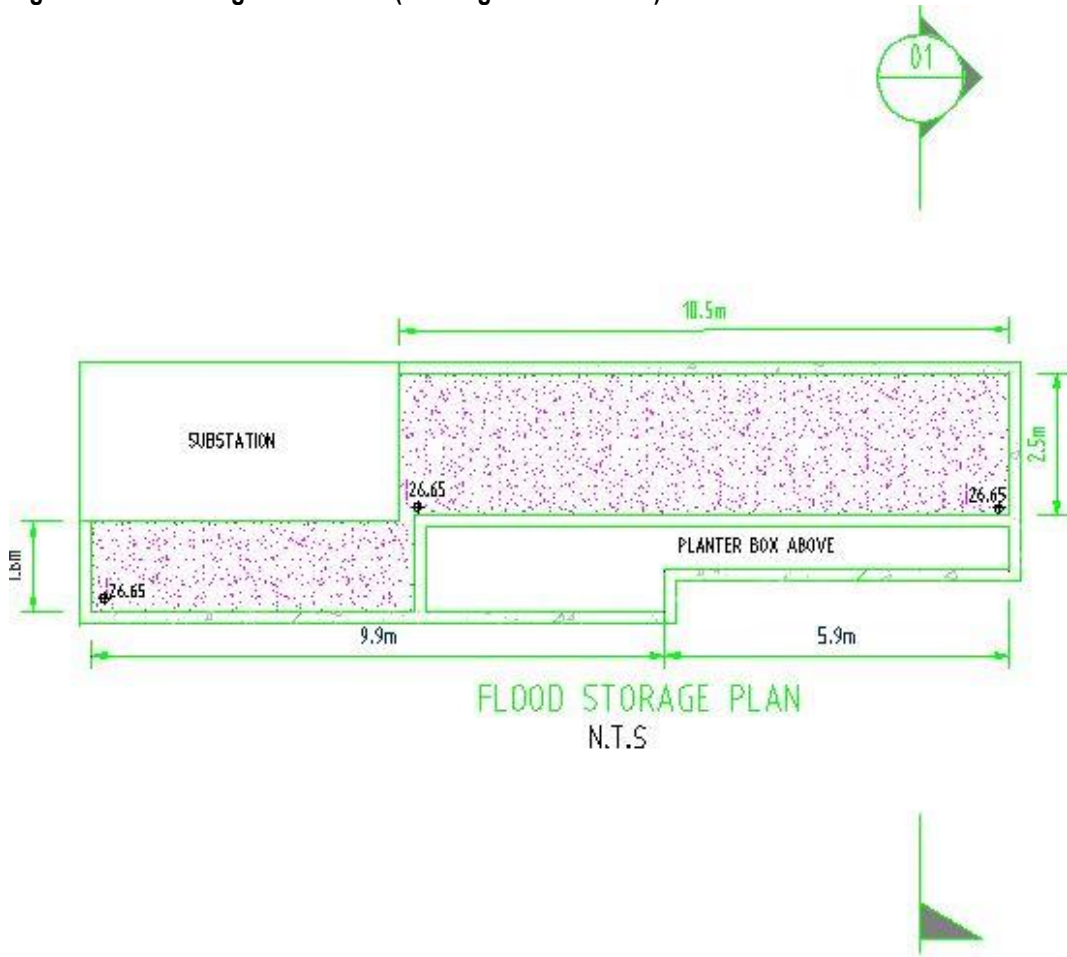
CALCULATION / SKETCH SHEET



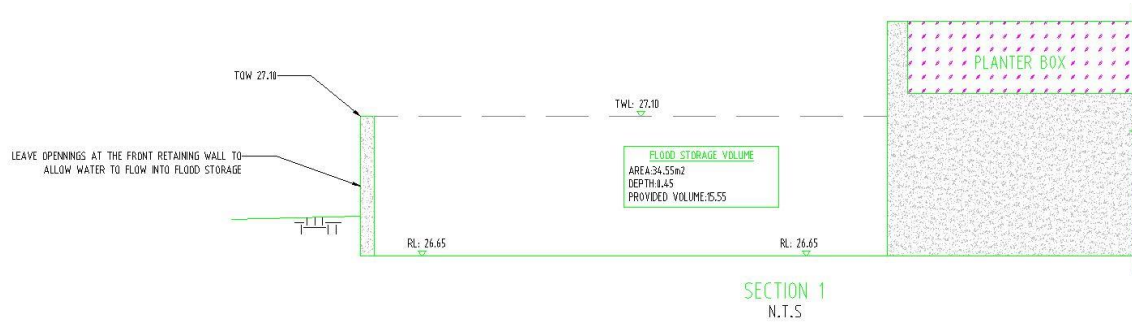
+61 2 8883 4239  
 office@sgce.com.au

www.sgce.com.au

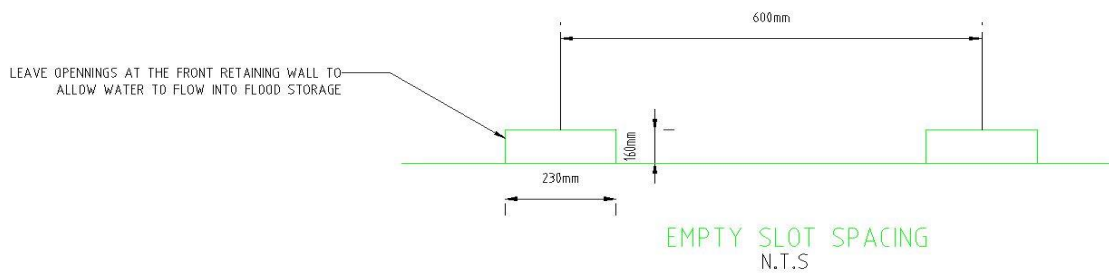
**Fig2 Flood Storage Calculation (Existing Site Condition)**



**Fig3 Proposed Flood Storage Plan**



**Fig4 Flood Storage Cross-section**



**Fig5 Empty Slot Spacing**

Should you have any queries in relation to the above, please contact the undersigned.

Yours faithfully  
**S&G Consultants Pty Limited**

**Sam Haddad**  
 Director (Civil)  
 MIEAust CPEng NPER-3 (2247040)