

Reference: 2018.0061-L06

Date: 16/03/2020

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 Northern boundary in 100-yr ARI event at RL 27.1m AHD. The flood storage calculation is given below:
Existing Area affected by flood = 97.50m² (See Fig 1)
Existing flood volume on site = 14.625m³ (Average depth is 0.15m as calculated from the existing levels shown in survey plan)
Proposed building area displacing flood area = 51.20m² (see Fig 2)
Flood volume displaced = 9.07m³ (Average depth is 0.178m as calculated from the existing levels in Fig 2)

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 97.50m². A total flood storage volume of 14.625m³ currently exists on site under existing conditions.

In the post development conditions, a compensatory storage of 9.07m³ is required at the front of the property to ensure that there is no flood impact in the vicinity of the site. The location of the flood storage is shown in the stormwater management plans prepared by S&G consultants as detailed in figure 3 below.

- Flood Storage Volume
 - The proposed flood storage details are summarised below:
Area: 30.53m²
TWL: 27.10
Provided volume: 9.16m³

- Water entrance
 - Allow for multiple openings 160mm x 230mm every 600mm in the front retaining wall for water to enter and exit the flood storage area (refer figure 5).

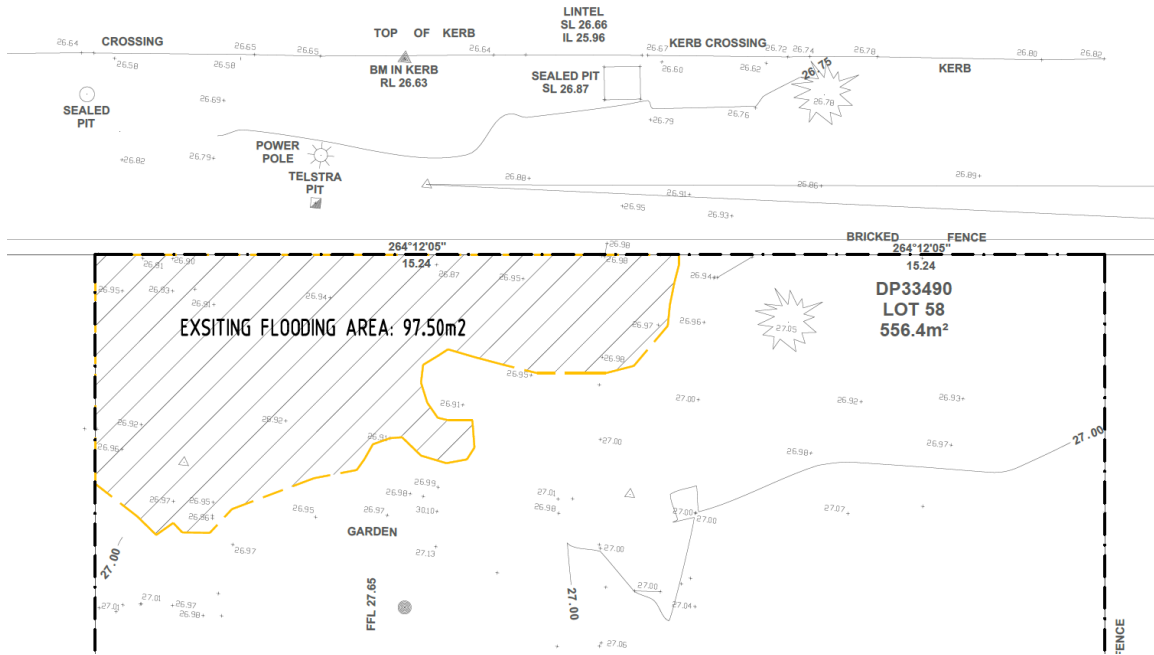


Fig1 Flood affected area (Existing Site Condition)

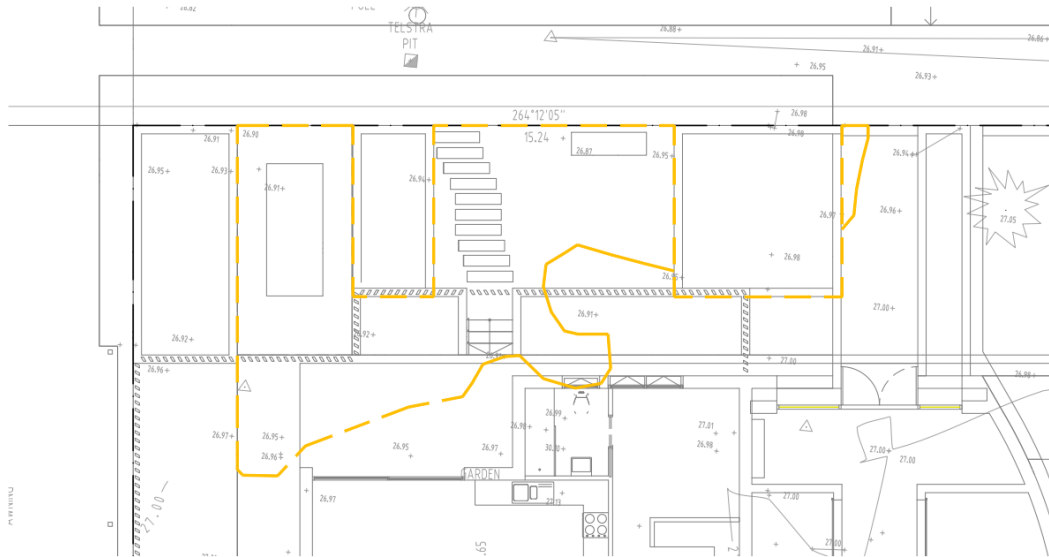


Fig2 Displaced flooding area (Proposed Site Condition)

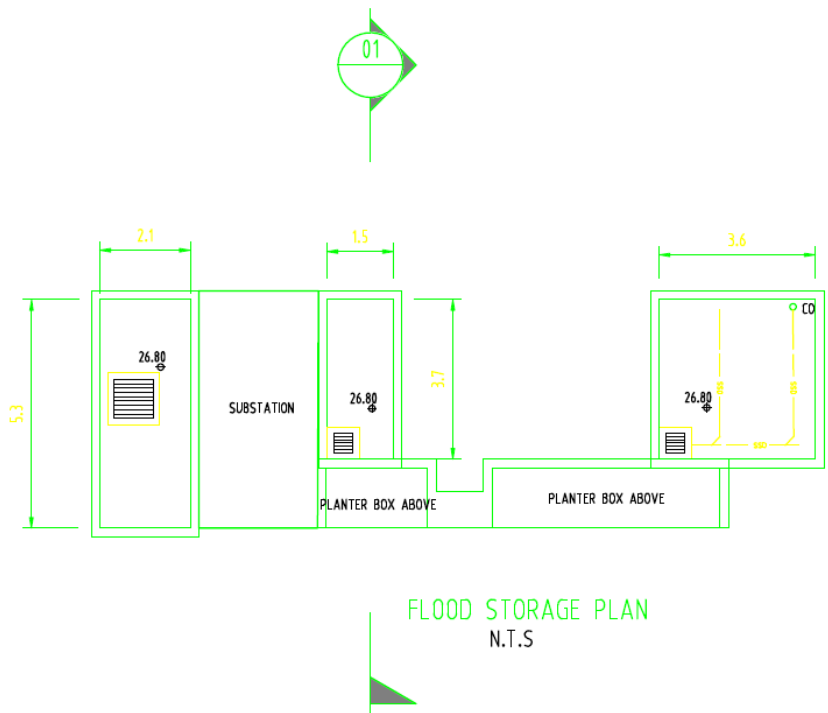


Fig3 Proposed Flood Storage Plan

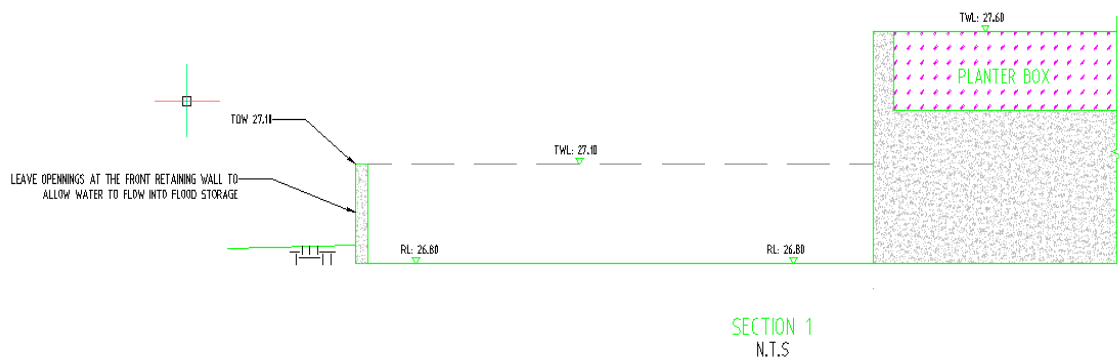


Fig4 Flood Storage Cross-section

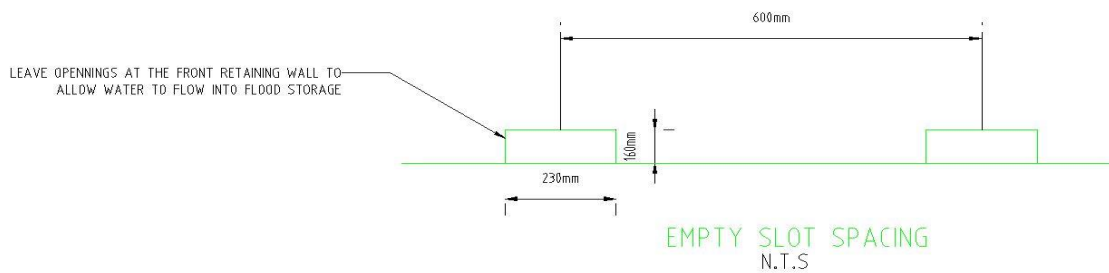


Fig5 Empty Slot Spacing

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

Yours faithfully
S&G Consultants Pty Limited

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