

04 October 2019

Re: Stormwater Management Plan at
15 Wareham Crescent, FRENCHS FOREST
Job N° 190714

Northern Beaches Consulting Engineers Pty Ltd have been instructed by the Novam Design Studio to provide a stormwater management plan in support of the proposed development at the subject site. This letter explains the proposed stormwater drainage and detention concept regime.

The following documents are referred to in this letter:

- **Stormwater Management Plan**, D01 – D03, prepared by Northern Beaches Consulting Engineers dated 04 October 2019.

1. Existing Stormwater Drainage Regime at Subject Site

The subject site is located on Wareham crescent in Frenchs Forest and is located within the Northern Beaches Council (Warringah area) LGA. The site is a low-level property, naturally grading away from the street from west to east towards Rabbett street. Upon inspection of the existing stormwater drainage system, there are multiple elements within the system that are either damaged or blocked. Further, the existing outlet discharge regime was not visible at the time of inspection and remains unknown. However, given that the existing system appears to be blocked, It is likely that the existing discharge regime discharges uncontrolled within the site and through the neighbouring properties downstream of the subject site.

2. Proposed Stormwater Drainage System at the Subject Site

The Stormwater Management Plan prepared by Northern Beaches Consulting Engineers Pty Ltd details proposes to capture and control the total built upon area into an On-Site Detention (OSD) system and discharge stormwater runoff from the site via a dispersion system. In consideration of the subject site constraints, the following has been carried out;



- All downpipes attached to the main dwelling and secondary dwelling are to be directed to rainwater re-use tanks. The rainwater re-use tanks shall overflow into the OSD system.
- The existing concrete pavement in the rear yard shall be made pervious to assist in the reduction of runoff flows at the subject site.
- Only the development area has been considered in the hydraulic modelling for the calculation of the OSD storage requirement. The hydraulic modelling methodology used proposes to reduce the development area of stormwater runoff from the 1% AEP condition to the 0.2EY (greenfield) condition (refer to the Stormwater Management Plan).
- A 7m long dispersion trench has been located under the secondary dwelling with a minimum 3m clearance from the rear boundary and side boundaries to disperse collected runoff.



The above-mentioned methodology has been utilised due to the inherent limitations of the existing topography and built-upon layout at the subject site. As a result, preparing a stormwater solution in strict compliance with the Warringah Council Stormwater Drainage from Low Level Properties Technical Specification is not achievable. Therefore, the proposed solution shall collect runoff from all developed upon areas and discharge collected flows via a controlled outlet. This will significantly reduce the total site runoff compared to the predeveloped condition. NBCE recommend that the proposed solution prepared by NBCE be adopted for this development. The existing dilapidated stormwater system will be rectified as a result of the development and the stormwater runoff shall be both reduced and disposed of in a controlled manner.

Please contact the undersigned with any questions relating to the contents of this letter.

Yours sincerely

NORTHERN BEACHES CONSULTING ENGINEERS P/L

Rick Wray

BE CPEng NPER Director

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