



## Engineering Referral Response

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| <b>Application Number:</b> | DA2018/1044 |
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| <b>To:</b>                             | Renee Ezzy  |
| <b>Land to be developed (Address):</b> | Lot 5 DP 736961 , 9 Fern Creek Road WARRIEWOOD NSW 2102<br>Lot 11 DP 1092788 , 11 Fern Creek Road WARRIEWOOD NSW 2102<br>Lot 13 DP 1092788 , 13 Fern Creek Road WARRIEWOOD NSW 2102<br>Lot 12 DP 1092788 , 12 Fern Creek Road WARRIEWOOD NSW 2102 |

### Reasons for referral

This application seeks consent for the following:

- New Dwellings or
- Applications that require OSD where additional impervious area exceeds 50m<sup>2</sup> or
- Alterations to existing or new driveways or
- Where proposals affect or are adjacent to Council drainage infrastructure incl. watercourses and drainage channels or
- Torrens, Stratum and Community Title Subdivisions or
- All new Commercial and Industrial and RFB Development with the exception of signage or
- Works/uses in flood affected areas

And as such, Council's development engineers are required to consider the likely impacts on drainage regimes.

### Officer comments

#### Referral response 28/3/19

The engineering plans have been reviewed and the following further information is required regarding stormwater drainage and the submitted DRAINS model associated with a proposed subdivision .

• Stormwater drainage along Proposed Access Street appears insufficient. It appears there will be significant gutter flow in the 20-year storm event, which will flow overland at the intersection with Proposed Local Street. It is recommended that the Applicant investigate increasing the inlet capacity along this proposed Access Street by providing additional pit/pipe connections, and improving the stormwater arrangement. The capacity of the half-road section should be considered.

• The sag point at the proposed intersection is unclear. The longitudinal section of Proposed Local Street is incomplete.

• Catchment C3/2 indicates 90% impervious. Please consider whether this is appropriate.

- Pipeline 1/L2 to 6/L1 appears to run against the proposed surface levels. A redesign of the drainage arrangement in this area should be considered.
- Pipeline 3/L4 to 1/L4 appears inconsistent with the existing Construction Certificate approval for 6 Orchard Street, Warriewood, with respect to pipe sizes, locations and depths.
- Tailwater conditions have not been considered from the creek. A preliminary assessment does not raise further concern, but should be considered prior to Construction Certificate.
- Detail should be provided regarding the end of road treatment with respect to stormwater management for stormwater discharge to the creek in the 100-year storm event. It appears that the current arrangement will discharge across the adjoining property, which is not acceptable.
- Detail should be provided regarding the provision of a channel for overland flows in the 100-year storm event over the proposed pipeline within Lot 3.
- In addition the end of road treatment with respect to turning facilities for vehicles and waste services would require a temporary /permanent solution. This could be addressed through the provision of a temporary turning facility and associated Rights of Way.

### **Previous referral response**

The 2 lot subdivision proposal is not acceptable for the following reasons:

1) The engineering concept plans fail to address Councils requirements in regard to storm water drainage both internally and externally to the site.

There is a current earth open channel that runs from the Fern Creek cu de sac to the creek, which is required to be pipe in accordance with Councils Auspec One design standard. The concept plans detail part piping of the channel and discharge to an outlet structure in a location not acceptable to council.

The application also requires a hydraulic analysis to determine the upstream flows entering the site both by Councils existing drainage system and as overland flow. The internal pipe is to be designed for a 1 in 20 ARI storm event and overland flow path to the 1 in 100 year ARI event to the existing creek. Councils requires a Drains model to determine the flows and hydraulic grade line for this new drainage line.

The outlook structure near the creek is to be designed to minimize scour of the creek and impacts on existing flow regimes.

Detailed engineering plans in accordance with Auspec One should have been provided to Council.

2) The internal drainage system is to demonstrate the provision of On site storm water detention for the proposed housing lots in accordance with the Warriewood Valley water management specification.

3) The width of the access street being 11.75m is not in accordance with the Warriewood Valley Masterplan which details a minimum road reserve width of 12.5m.

### **Referral Body Recommendation**

Recommended for refusal

### **Refusal comments**

### **Recommended Engineering Conditions:**

Nil.