

Water Management Referral Response

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| Application Number: | DA2019/0263 |
| To: | Rebecca Englund |
| Land to be developed (Address): | Lot 3 DP 1115877 , 53 B Warriewood Road WARRIEWOOD NSW 2102 Lot 3 DP 942319 , 53 Warriewood Road WARRIEWOOD NSW 2102 |

Reasons for referral

Council's Water Management Officers are required to consider the likely impacts.

Officer comments

Generally the concept for water management is very good, but a few changes are required. Advance notice is provided of likely conditions regarding erosion and sediment controls relating to the bio-basin, and for groundwater management.

1. Water Quality Monitoring

While the applicant has noted that baseline water quality data for Narrabeen Creek is available from various sources, they haven't provided a report with the application. The data must be obtained and analysed in a report for submission as part of the DA. The water quality monitoring plan is satisfactory. The three monitoring points may seem a lot, but it will allow the applicant to separate out any impacts from Council's drainage at the downstream boundary of the site.

2. Bio-retention/detention basin

There are a number of improvements required for the bio-retention basin.

- In the concept design provided, the flows enter and exit a long and narrow basin at the same end, creating a high-impact zone at the northern end of the basin that is likely to show the effects of scour and sedimentation.
- There is no vehicular access to the southern end of the basin for maintenance (when for example sediment needs to be removed or the filter media needs replacing), with a long-arm excavator most likely only being able to reach the first third of the basin from the access driveway to the GPT.
- As the GPT will go into bypass in anything greater than a 1 in 3-month rainfall event, the first pit with the orifice plate should have a trash screen to prevent floatables such as large plastic bottles entering the creek. The pit should have a hinged grate so that the trash screen can be cleaned by suction hose from a truck parked on the access driveway.
- The landscape plan indicates that planting will only take place around the edge of the bio-retention basin. The basin should be fully planted.

3. GPT

The stormwater plans specify a Rocla CDS unit 1012, whereas the water management report specifies a Rocla CDS unit 1018 (or equivalent). This discrepancy needs to be resolved. Please note approval from Council will be required before an 'equivalent' device can be used.

4. Council's stormwater pipe

The outlet for Council's stormwater pipe (2-10) will require more structure in terms of dissipation of flows than has been shown on the General Arrangement Plan 076-18C-DA-1101. Please see comment in the riparian referral.

5. Erosion and sediment controls

While the erosion and sediment control plan is suitable for the developed area of the site, please see the riparian referral for further requirements during creek works.

Advance notice of likely condition regarding erosion and sediment controls

Council will require that until development of individual house lots on the subdivision is 90 percent complete, filter media and planting is not installed (the basin may be used during this time to capture sediment). A bond will be placed to ensure the basin is delivered with sediment removed and filter media and planting completed once house lots are 90 percent complete.

Advance notice of likely condition regarding groundwater

It is possible that excavation for roads and drainage may encounter groundwater. The Geotech report identifies that groundwater is close to the surface from 0.8-3.5m depth, which is consistent with our knowledge of this particular aquifer. Our understanding is that there is a significant groundwater pathway from the north-western corner of 53A Warriewood Road (near the road) that spreads out across 53B and 53C and provides a water source for the Swamp Sclerophyll/Swamp Oak Floodplain Forest Endangered Ecological Community (EEC) on 41-49 Warriewood Road and 4 Macpherson Street. Due to the possible presence of acid sulphate soils there is a risk of acidification of the groundwater aquifer. The most significant area of excavation proposed is for the bio-basin, however excavation in this area is unlikely to impact groundwater flows to the EEC.

A groundwater management plan must be provided prior to Construction Certificate that addresses what action will be taken when groundwater is encountered, including an approach to dewatering and acid sulphate soil management that also allows for compaction. Any extended period of dewatering upslope of Lorikeet Grove should address mitigation of potential impacts to water sources for the EEC. That plan should include monitoring of groundwater levels by piezometer prior to excavation to a depth greater than 1m below the existing ground surface upslope of where the work will be completed. Any dewatering will need to be accompanied by a permit from the Natural Resources Access Regulator.

Referral Body Recommendation

Recommended for refusal

Refusal comments

Recommended Water Management Conditions:

Nil.