

## Engineering Referral Response

<b>Application Number:</b>	DA2020/0912
<b>Date:</b>	25/11/2020
<b>To:</b>	Rebecca Englund
<b>Land to be developed (Address):</b>	Lot 16 DP 31499 , 30 Davidson Avenue FORESTVILLE NSW 2087

### 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

The proposed Stormwater Concept Plan is unsatisfactory. The concept stormwater plan provided gives three options for an OSD system without sufficient details regarding volume or discharge rates. As the site falls to the rear stormwater drainage for the site shall be in accordance with Council's Water Management for Development Policy Clause 5.5. All stages must be followed before finding an appropriate discharge solution. Where the proposed method of discharge is via a level spreader the design shall be in accordance with Appendix 4. The proposed OSD system is to be designed in accordance with Clause 9.0.

In particular, the following matters are raised with regard to this Policy:

- Insufficient information has been provided to indicate the Clause 5.5.1.1 Stage1, provision of an easement to drain water, has been addressed by the Applicant.
- It has not been demonstrated that the proposed level spreader complies with the design guidelines in Appendix 4, particularly with regard to points b) and c) stormwater flows.
- Insufficient information has been provided to demonstrate compliance with Clause 9.0 for the design of the OSD system. The minimum information required to be submitted is detailed in Clause 9.7, including the provision of DRAINS model, and plans, elevations and sections of any OSD system.

The proposed application cannot be supported by Development Engineering due to lack of information to address:

- *Stormwater drainage for the development in accordance with clause C4 Stormwater.*

### **Additional Information Provided on 18/11/2020**

The OSD volume proposed in the stormwater concept plan is not adequate. As the site discharge is proposed via a level spreader, in accordance with Council's water management for Development Policy Appendix 4, total discharge including bypass flows and controlled flows through the level spreader must not exceed the 20% AEP state of nature storm event for all storm events.

It is noted as per the Landscape Officers comments that the rear portion of the site which forms a rock outcrop is to remain unaltered. As this poses a constraint in how the post developed stormwater flows are managed and increases the area of the site which must be managed as bypass flows it is recommended that that portion of the site is excluded in calculations. Hence a deferred commencement consent is recommended where the applicant is required to provide a stormwater management plan including an OSD system designed in accordance with the Clause 9.0 and Appendix 4 of Council's Water Management for Development Policy.

The proposal is therefore supported.

Note: Should you have any concerns with the referral comments above, please discuss these with the Responsible Officer.

### **Recommended Engineering Conditions:**

## **DEFERRED COMMENCEMENT CONDITIONS**

### **Stormwater Management Plan**

The applicant is to provide stormwater management plans and certification detailing the provision of on-site stormwater detention in accordance with Northern Beaches Council's Water Management for Development Policy to the Council for approval in order to activate the consent. Detailed drainage plans are to be prepared by a suitably qualified Civil Engineer, who has membership to the Institution of Engineers Australia, National Professional Engineers Register (NPER) and registered in the General Area of Practice for civil engineering.

The drainage plans must address the following:

- i. On Site Detention is to be provided for the development in accordance with Clause 9.0 of Council's Water Management for Development Policy.
- ii. Stormwater flows from the whole site (excluding the area to remain unaltered) are to be restricted for all storm events up to and including the 1% AEP storm event to the 20% AEP state of nature storm event.
- iii. The PSD for the site including bypass flows and controlled flows through the level spreader must not exceed the 20% AEP state of nature storm event for all storm events which is calculated as 19l/s.
- iv. As the rock outcrop at the rear of the site is to remain unaltered, an above ground OSD basin shall be provided on the eastern edge of the rock outcrop upstream of the proposed level spreader.
- v. OSD volume shall be calculated for the site area excluding the area required to remain unaltered (approximately 294m<sup>2</sup> to the rear of the site).
- vi. All impervious and pervious flows upstream of the basin are to be directed through the OSD system.
- vi. Maximum depth of the OSD basin to be limited to 300mm.
- vii. Additional 20% volume shall be provided to compensate for loss of volume due to vegetation growth and construction inaccuracies in above ground basins. The 20% additional volume is to be gained by increasing the surface area of the ponded surface.

Detailed drainage plans addressing the above items, calculation, DRAINS model, plans, elevations and sections of any OSD system, and engineering certification are to be submitted to the Council for approval prior to the activation of this consent.

Reason: To ensure appropriate provision for the disposal of stormwater and stormwater management arising from the development.

## CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE CONSTRUCTION CERTIFICATE

### **Stormwater Disposal from Low Level Property**

The applicant is to demonstrate how stormwater from the new development within this consent shall be disposed of to an existing approved system or in accordance with Northern Beaches Council's Water Management for Development Policy in particular Clause 5.5 Stormwater Drainage from Low Level Properties. Details demonstrating that the existing approved system can accommodate the additional flows or compliance with the Northern Beaches Council's Water Management for Development Policy are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: To ensure appropriate provision for disposal and stormwater management arising from the development.

### **On-site Stormwater Detention Details**

The Applicant is to provide a certification of drainage plans detailing the provision of on-site stormwater detention in accordance with Northern Beaches Council's Water Management for Development Policy", and generally in accordance with the concept drainage plans submitted under the Deferred Commencement Condition. Detailed drainage plans are to be prepared by a suitably qualified Civil Engineer, who has membership to the Institution of Engineers Australia, National Professional Engineers Register (NPER) and registered in the General Area of Practice for civil engineering.

Detailed drainage plans, including engineering certification, are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: To ensure appropriate provision for the disposal of stormwater and stormwater management arising from the development.

### **Vehicle Driveway Gradients**

The Applicant is to ensure driveway gradients within the private property are not to exceed a gradient of 1 in 4 (25%) with a transition gradient of 1 in 10 (10%) for 1.5 metres prior to a level parking facility. Access levels across the road reserve are to comply with the allocated vehicle profile detailed in this consent.

Details demonstrating compliance are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: To ensure suitable vehicular access to private property.

### **Structural Adequacy and Excavation Work**

Excavation work is to ensure the stability of the soil material of adjoining properties, the protection of adjoining buildings, services, structures and / or public infrastructure from damage using underpinning, shoring, retaining walls and support where required. All retaining walls are to be structurally adequate for the intended purpose, designed and certified by a Structural Engineer, except where site conditions permit the following:

- (a) maximum height of 900mm above or below ground level and at least 900mm from any property boundary, and
- (b) Comply with AS3700, AS3600 and AS1170 and timber walls with AS1720 and AS1170.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To provide public and private safety.

### **Vehicle Crossings Application**

The Applicant is to submit an application for driveway levels with Council in accordance with Section 138 of the Roads Act 1993. The fee associated with the assessment and approval of the application is to be in accordance with Council's Fee and Charges.

An approval is to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To facilitate suitable vehicular access to private property.

## **CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK**

### **Road Reserve**

The applicant shall ensure the public footways and roadways adjacent to the site are maintained in a safe condition at all times during the course of the work.

Reason: Public safety.

### **Vehicle Crossings**

The Applicant is to construct one vehicle crossing 3 metres wide in accordance with Northern Beaches Council Drawing No A4-3330/ 5EL and the driveway levels application approval. An Authorised Vehicle Crossing Contractor shall construct the vehicle crossing and associated works within the road reserve in plain concrete. All redundant laybacks and crossings are to be restored to footpath/grass. Prior to the pouring of concrete, the vehicle crossing is to be inspected by Council and a satisfactory "Vehicle Crossing Inspection" card issued.

A copy of the vehicle crossing inspection form is to be submitted to the Principal Certifying Authority.

Reason: To facilitate suitable vehicular access to private property.

## **CONDITIONS WHICH MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF THE OCCUPATION CERTIFICATE**

### **Positive Covenant and Restriction as to User for On-site Stormwater Disposal Structures**

The Applicant shall lodge a Legal Documents Authorisation Application with Council. The application is to include the original completed request forms (NSW Land Registry standard forms 13PC and/or 13RPA) and a copy of the Works-as-Executed plan (details overdrawn on a copy of the approved drainage plan by a Registered Surveyor) and Hydraulic Engineers' certification for the completed on-site stormwater disposal system works. A guide to the process can be found on Council's website using the following link.

<https://files.northernbeaches.nsw.gov.au/sites/default/files/documents/pdf-forms/legal-documents-authorisation-on-site-stormwater-detention-systems/guide-submitting-ldaa-nov19.pdf>

The form for the application can be found on Council's website using the following link.

<https://files.northernbeaches.nsw.gov.au/sites/default/files/documents/pdf-forms/legal-documents-authorisation-on-site-stormwater-detention-systems/4023-legal-documents-authorisation-oct19.pdf>

The Applicant shall create on the Title a positive covenant in respect to the ongoing maintenance and restriction as to user over the on-site stormwater disposal system within this development consent. The terms of the positive covenant and restriction are to be prepared to Council's standard requirements at the applicant's expense and endorsed by Northern Beaches Council's delegate prior to lodgement with the NSW Land Registry Services. Northern Beaches Council shall be nominated as the party to release, vary or modify such covenant. A copy of the certificate of title demonstrating the creation of the positive covenant and restriction as to user for the on-site stormwater disposal system is to be submitted.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Occupation Certificate.

Reason: To ensure the on-site stormwater disposal system is maintained to an appropriate operational standard and not altered.