

## Engineering Referral Response

<b>Application Number:</b>	DA2023/0541
<b>Proposed Development:</b>	Construction of two dwelling houses including pools.
<b>Date:</b>	19/12/2023
<b>To:</b>	Claire Ryan
<b>Land to be developed (Address):</b>	Lot 4 DP 30205 , 50 Condover Street NORTH BALGOWLAH NSW 2093

### 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

#### **A. Stormwater Plans by Stellen Consulting dated 03.05.2023**

- The proposed proprietary Aquacomb pods and Atlantis Cells are not supported for detention purposes due to maintenance, accessibility and inspection shortcomings. It is suggested that a cast in-situ reinforced concrete design be shown on amended plans. Council supports their use for retention of rainwater.
- On "Site Areas" sheet confirm what dark Pink shading represents.
- Provide individual OSD design for each lot with levels. Provide outlet orifice size.
- Confirm if an easement for draining stormwater is proposed or if the Community Lot will be utilised for the purpose of stormwater drainage.

#### **B. Driveway Plans by Stellen Consulting dated 04.05.2023**

- AS289.1:2004, Section 2.6.2 states that the maximum gradient of a domestic driveway shall be 1 in 4 (25%). The Standard notes that in difficult sites this may not be practical whilst also noting that the design needs to be safe and environmentally sustainable. A preliminary check by Council indicates that lowering the garage levels by approximately 400mm will bring the maximum driveway gradient down to 25%. Given that the work is on a greenfield site, the applicant is asked to lower the garage level or provide an alternate design that is compliant with Australian Standards and Council requirements.

### **C. Subdivision Certificate**

- (i) It is noted that the requirements of the Parent DA, which produced two residential lots and a Community title lot have not been satisfied. These requirements will be noted in Deferred Commencement conditions should the above matters listed in points A and B be addressed to Councils satisfaction.
- (ii) It is noted that the Court in its judgement gave permission for a Community Title lot to be utilised for the purpose of a drainage easement rather than for community benefit. Amended plans should not refer to drainage easements unless one is proposed with this application.

### **Engineering Comments 10.11.23**

1. The water level and overflow level in the on-site detention system for Lot 1 is above the habitable floor levels of dwellings on Lot 2. Amended stormwater plans need to provide an overland flow path through the Community titled land (or another appropriate path) to safely convey flows from Lot 1 for all events up to the 1% AEP storm. Assume 100% pipe blockage and provide a minimum 300 mm freeboard. Provide a 1D HEC-RAS model to Council for perusal.
2. Provide habitable floor levels on amended plans. The water level and overflow level in the on-site detention system is to be a minimum of 300 mm below habitable floor levels and 150 mm below garage levels.
3. The on-site detention volume for Lot 2 appears to be deficient. Provide method of sizing tank that is in compliance with Section 9.3.2 of the Water Management for Development Policy.
4. Drawing No. P170945-DR-SW-005 rev 2
  - (i) Detail 4. Provide levels for floor of on-site detention tank that show an absolute minimum slope of 0.5% in all directions.
  - (ii) Detail 4. The emergency overflow weir appears undersized. Provide a weir capacity analysis assuming full blockage of orifice and 75% blockage of weir for the 1% AEP storm.
  - (iii) Detail 4. Provide additional access openings to OSD tank in accordance with Section 9.10.3 and Appendix 15 of the Water Management for Development Policy.
  - (iv) Detail 5. Provide levels for floor of on-site detention tank that show an absolute minimum slope of 0.5% in all directions.

### **Engineering Comments 19.12.23**

Amended stormwater plans have been provided. I have no further objections to the proposed development subject to the inclusion of the recommended engineering conditions of consent.

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:**

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

### **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 prepared by **Stellen Consulting**, drawing number **P170945-DR-SW-000, 001, 002, 003, 004, 005, 006**, dated **30.11.2023**. Detailed drainage plans are to be prepared by a suitably qualified Civil Engineer, who has membership to Engineers Australia, National Engineers Register (NER) or Professionals Australia (RPENG) and registered in the General Area of Practice for civil engineering.

The Drainage Plans must address the following:

**i :Provision of an overland flow channel from Lot 1 to Condover Street to convey all flows up to the 1% AEP storm event safely around Lot 2 in the event of full blockage of the on-site detention system, stormwater pipes and all ancillary works on Lot 1, Community Lot and Lot 2.**

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

### **Stormwater Disposal**

The applicant is to submit Stormwater Engineering Plans for the new development within this development consent in accordance with AS/NZS 3500 and Council's Water Management for Development Policy, prepared by an appropriately qualified and practicing Civil or Hydraulic Engineer who has membership to Engineers Australia, National Engineers Register (NER) or Professionals Australia (RPENG) , indicating all details relevant to the collection and disposal of stormwater from the site, buildings, paved areas and where appropriate adjacent catchments. Stormwater shall be conveyed from the site to **Condover Street**.

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

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

### **Geotechnical Report Recommendations have been Incorporated into Designs and Structural Plans**

The recommendations identified in the Geotechnical Report referenced in Condition 1 of this consent are to be incorporated into the construction plans. Details demonstrating compliance are to be submitted to the Certifier prior to the issue of the construction certificate.

Reason: To ensure geotechnical risk is mitigated appropriately.

### **Vehicle Crossings Application**

The Applicant is to submit an application with Council for driveway levels to construct **two** vehicle crossings **4** metres wide in accordance with Northern Beaches Council Standard Drawing **A4 3330/5 EL for Lot 1 and A4 3330/6 MH for Lot 2** in accordance with Section 138 of the Roads Act 1993.

Note, driveways are to be in plain concrete only.

The fee associated with the assessment and approval of the application is to be in accordance with

Council's Fee and Charges.

A Council approval is to be submitted to the Certifier prior to the issue of the Construction Certificate.

Reason: To facilitate suitable vehicular access to private property.

### **Off Street Parking Design**

The Applicant shall submit a design for the parking facility in accordance with the relevant provisions of Australian/New Zealand Standard AS/NZS 2890.1:2004 parking facilities - Off-street car parking, in particular Section 2.4.5 Physical Controls and Section 2.6 Design of Domestic Driveways.

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

Reason: Compliance with this consent.

## **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.

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

### **Stormwater Disposal**

The stormwater drainage works shall be certified as compliant with all relevant Australian Standards and Codes by a suitably qualified person. Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of an Occupation Certificate.

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

### **Reinstatement of Kerb**

The Applicant shall reinstate all redundant laybacks and vehicular crossings to conventional kerb and gutter, footpath or grassed verge as appropriate with all costs borne by the applicant.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of an Occupation Certificate.

Reason: To facilitate the preservation of on street parking spaces.

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

The Applicant shall lodge the Legal Documents Authorisation Application with the original completed request forms (NSW Land Registry standard forms 13PC and/or 13RPA) to Council and a copy of the Works-as-Executed plan (details overdrawn on a copy of the approved drainage plan), and Civil Engineers' certification.

The Applicant shall create on the Title a restriction on the use of land and a positive covenant in respect to the ongoing maintenance and restriction of the on-site stormwater disposal structures 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 for on-site storm water detention for Lot 1 and Lot 2 and overland flow channel through the Community Lot as to user is to be submitted.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of an Occupation Certificate.

Reason: To ensure the on-site stormwater disposal system is maintained to an appropriate operational standard.

#### **Certification of Off Street Parking Works**

The Applicant shall submit a certificate from a suitably qualified person certifying that the parking facility was constructed in accordance within this development consent and the relevant provisions of Australian/New Zealand Standard AS/NZS 2890.1:2004 parking facilities - Off-street car parking, in particular Section 2.4.5 Physical Controls and Section 2.6 Design of Domestic Driveways.

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

Reason: Compliance with this consent.