

## Engineering Referral Response

<b>Application Number:</b>	Mod2018/0076
<b>To:</b>	Rebecca Englund
<b>Land to be developed (Address):</b>	Lot 20 DP 632081 , 79 Cabbage Tree Road BAYVIEW NSW 2104

### 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

#### Comments 3/5/2019

#### STORMWATER QUANTITY

1) The DRAINS model to determine the on site detention tank storage volume required 180cumecs of storage however given the dimensions of the proposed tank only 150cumecs is possible, therefore there is a shortage of 30cumecs.

The OSD tank size is required to be increased to 180cumecs.

2) The proposed outlet of the OSD tank will be connected to directly to the downstream drainage system which contributes to the downstream flooding of properties. It is suggested that the discharge be spread out via a level spreader to better mimic the current flow regimes.

#### SEDIMENT and EROSION CONTROL PLAN

3) The proposed sediment basin is to be designed and sized in accordance with the Blue Book

requirements and detailed on the cicill plans.

However the above requirements can be conditioned .

**The Seniors living proposal for 24 units is not supported for the following reasons and non compliance with Pittwater 21 DCP 2014:**

**1) Clause B5 water management** – Referring to the Stormwater Management Strategy and associated concept plans the Drains model and summary information has not been submitted to Council for assessment . Additionally dimensions, orifice plate sizes etc of the Bioretention/OSD basin have not been provided.

The Music model also has not been submitted for review and compliance with water quality controls cannot not demonstrated.

The stormwater management strategy and plan also lack information on the connection point to the existing internal drainage system and whether it has additional capacity to handle the newly introduced flows.

No catchment calculations have been provided to determine upstream catchment flows entering the development site and determination of the required upstream swale size.

**2) Clause B6.2 (Internal driveways)**

The TTPP traffic report fails to demonstrate that the driveway grades comply with the AS/NZS 2890.1 Off street carparking . No driveway longsections have been provided for the internal driveway as well as entries into the garages.

**3) Clause B8.1 (Erosion and sediment control)**

No erosion and sediment control plan has been provided.

**The development does however comply with :**

**4) Clause B3.1 (Landslip hazard)**

The Davies Geotechnical report states the proposed works can achieve an acceptable risk.

**5) Clause B6.3 (Off street carparking requirements)**

Parking requirements comply with Sepp Housing for Seniors with a disability .

Dimensions of carparking spaces comply with Pittwater DCP 2014.

**6) Clauses B8.1, 8.3, 8.4 ,8.5 and 8.6.**

## Referral Body Recommendation

Recommended for approval, subject to conditions

## Refusal comments

## Recommended Engineering Conditions:

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

#### Stormwater Disposal

Stormwater shall be disposed of to an existing approved system or in accordance with Northern Beaches Council's PITTWATER DCP21, Details demonstrating that the existing approved system can accommodate the additional flows and compliance with the Council's specification are to be submitted to the Principal Certifying Authority for approval prior to the issue of the Construction Certificate. The below ground on site detention tank is to be increased in size to 180 cumecs in accordance with the submitted DRAINS model.

Engineering Plans certified by an appropriately qualified and practicing Civil Engineer, indicating all details relevant to the collection and disposal of stormwater are to be generally in accordance with the concept plans prepared by Northrop Ref nos C02DA "C", C20DA "B" . C21DA "B", indicating all details relevant to the collection and disposal of stormwater from the paved areas and where appropriate adjacent catchments. Stormwater engineering plans demonstrating compliance are to be submitted and approved by the Principal Certifying Authority for approval prior to the issue of the Construction Certificate.

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

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

The recommendations of the risk assessment required to manage the hazards as identified in the Geotechnical Report prepared by Davies Geotechnical dated 28 January 2019 are to be incorporated into the construction plans. Prior to issue of the Construction Certificate, Form 2 of the Geotechnical Risk Management Policy for Pittwater (Appendix 5 of P21 DCP) is to be completed and submitted to the Accredited Certifier. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure geotechnical risk is mitigated appropriately.

#### On-site Stormwater Detention Compliance

Certification of Drainage plans detailing the provision of On-site Stormwater Detention in accordance with Northern Beaches Council's PITTWATER DCP21, and the concept drawing by Northrop C02DA

"C", C21DA "B" dated 16/4/19. Details demonstrating compliance are to be submitted to the Principal Certifying Authority for approval prior to the issue of the Construction Certificate

Reason: To ensure engineering works are constructed in accordance with relevant standards and Council's specification.

### **Engineering Details**

Civil engineering details of the proposed excavation/landfill are to be submitted to the Accredited Certifier or Council with the Construction Certificate application. Each plan/sheet is to be signed by a qualified practising Civil Engineer who has corporate membership of the Institution of Engineers Australia (M.I.E) or who is eligible to become a corporate member and has appropriate experience and competence in the related field.

Reason: To ensure excavation and landfill are completed to an appropriate standard and conducted in a safe manner.

### **Pre-commencement Dilapidation Report**

The applicant must prepare and submit a pre-commencement dilapidation report providing an accurate record of the existing condition of adjoining public and private properties and public infrastructure (including roads, gutter, footpaths, etc). A copy of the report must be provided to Council, any other owners of public infrastructure and the owners of adjoining and affected private properties.

Reason: Protection of Council's and Private Party's Infrastructure during construction.

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

### **Road Reserve**

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

Reason: Public Safety.

### **Excavation and Erosion Control**

The following measures shall be implemented in the sequence given below, to minimise soil erosion: Approved runoff and erosion controls shall be installed before site vegetation is cleared (other than that associated with the construction of the controls). These shall be as shown on an ESCP approved by the certifying authority. Topsoil shall be stripped only from approved areas and stockpiled for re-use during site rehabilitation and landscaping. Stockpiles of topsoil, sand, aggregate, spoil or other material shall be stored clear of any drainage line or easement, waters, footpath, kerb or road surface and shall have measures in place to prevent the movement of such materials onto the areas mentioned. All stockpiled materials are to be retained within the property boundaries. Uncontaminated runoff shall be intercepted up-site and diverted around all disturbed areas and other areas likely to be disturbed. Diversion works shall be adequately stabilised. Runoff detention and sediment interception measures shall be applied to the land. These measures will reduce flow velocities and prevent topsoil, sand, aggregate, or other sediment escaping from the site or entering any downstream drainage easements or waters. The capacity and effectiveness of runoff and erosion control measures shall be maintained at all times to conform to the specifications and standards quoted and to any conditions of approval of those measures.

Erosion control measures are to be generally in accordance with the concept plan by Northrop Ref DRW Nos C01DA. The sediment basin is to be designed in accordance with Landcoms Blue Book .

Reason: To minimise soil erosion

### **Maintenance of Sediment**

Sedimentation and erosion controls are to be effectively maintained at all times during the course of construction and shall not be removed until the site has been stabilised or landscaped to the Principal Certifying Authority's satisfaction.

Reason: To ensure sediment controls are effective

### **Cleaning of Vehicles Leaving Site**

Adequate measures shall be undertaken to remove clay from vehicles leaving the site so as to maintain public roads in a clean condition.

Reason: To reduce sediment being taken offsite

### **Site filling - Virgin Excavated Natural Material (VENM)**

Where site fill material is necessary, fill materials must:

1. be Virgin Excavated Natural Material (VENM) only, as defined in: The Protection of the Environment Operations Act 1997
2. be free of slag, hazardous, contaminated, putrescibles, toxic or radioactive excavated material and soil, rock or similar material. Putrescibles and non-putrescibles solid waste (including demolition material) is not permitted.
3. Certification is to be provided to the Principal Certifying Authority by a N.A.T.A. approved laboratory.

Reason: To ensure protection of the natural environment

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

### **Authorisation of Legal Documentation Required for Onsite Detention**

The original completed request forms (NSW Land Registry standard forms 13PC and/or 13RPA) must be submitted to Council, with a copy of the Works-as-Executed plan (details overdrawn on a copy of the approved drainage plan), hydraulic engineers certification and Compliance Certificate issued by an Accredited Certifier in Civil Works. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Occupation Certificate.

Reason: To create encumbrances on the land.

### **On-Site Stormwater Detention Compliance Certification**

Upon completion of the on-site stormwater detention (OSD) system, certification from a consulting engineer and a "work as executed" (WAE) drawing certified by a registered surveyor and overdrawn in red on a copy of the approved OSD system plans are to be provided to Council. Additionally a Compliance Certificate is to be issued by an Accredited Certifier in Civil Works registered with the Institute of Engineers Australia, stating that the works are in accordance with the approved plans.

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

Reason: To ensure stormwater disposal is constructed to Council's satisfaction. (DACENF10)

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

A positive covenant shall be created on the title of the land requiring the proprietor of the land to

maintain the on-site stormwater detention structure in accordance with the standard requirements of Council. The terms of the positive covenant 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 restriction as to user shall be created on the title over the on-site stormwater detention system, restricting any alteration to the levels and/or any construction on the land. The terms of such restriction are to be prepared to Council's standard requirements at the applicant's expense and endorsed by Council prior to lodgement with the Department of Lands. Northern Beaches Council shall be nominated as the party to release, vary or modify such restriction.

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

Reason: To ensure the on-site detention and/or pump system is maintained to an appropriate operational standard

#### **Post-Construction Road Reserve Dilapidation Report**

The applicant must bear the cost of all restoration works to Council's property damaged during the course of this development. All building work must have been carried out in accordance with the provisions of the Building Code of Australia

Note: Where by Council is not the Principal Certifying Authority, Refund of the trust fund deposit will also be dependent upon receipt of a final Occupation Certificate by the Principal Certifying Authority, Post Construction Dilapidation Report and infrastructure inspection by Council.

Reason: To ensure security against possible damage to Council property.

#### **Post-Construction Dilapidation Report**

The applicant must prepare and submit a post-construction dilapidation report. The report must clearly detail the final condition of all property, infrastructure, natural and man-made features that were originally recorded in the pre-commencement dilapidation report. A copy of the report must be provided to Council, any other owners of public infrastructure and the owners of adjoining and affected private properties

Reason: To ensure security against possible damage to Council and private property.

#### **Geotechnical Certification Prior to Occupation Certificate**

Prior to issue of the Occupation Certificate, Form 3 of the Geotechnical Risk Management Policy is to be completed and submitted to the Principal Certifying Authority.

Reason: To ensure geotechnical risk is mitigated appropriately.

### **CONDITIONS THAT MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF ANY STRATA SUBDIVISION OR SUBDIVISION CERTIFICATE**

#### **Restoration of Damaged Public Infrastructure**

Restoration of all damaged public infrastructure caused as a result of the development to Council's satisfaction. Council's written approval that all restorations have been completed satisfactorily must be obtained and provided to the Private Certifying Authority with the Subdivision Certificate application.

Reason: To ensure public infrastructure is returned to the state it was in prior to development



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