

## Engineering Referral Response

<b>Application Number:</b>	DA2019/0505
<b>To:</b>	Rebecca Englund
<b>Land to be developed (Address):</b>	Lot 2 DP 9900 , 876 Pittwater Road DEE WHY NSW 2099 Lot 3 DP 9900 , 876 Pittwater Road DEE WHY NSW 2099 Lot 4 DP 9900 , 876 Pittwater Road DEE WHY NSW 2099 Lot 1 DP 9900 , 874 Pittwater Road DEE WHY NSW 2099

### Reasons for referral

This application seeks consent for the following:

- New Dwellings or
- Applications that require OSD where additional impervious area exceeds 50m2 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

#### Development Engineering comments 20/9/2019

The stormwater drainage concept plan detailing the provision of On site stormwater detention is generally satisfactory , however the outlet pipe being skewed at 45 degrees has too much of an impact on Council's recently installed street paving and street planting. A condition has been recommended that a new inlet pit be constructed on the RHS of the proposed vehicle crossing in which the outlet pipe can be connected.

No objections to the proposal subject to conditions.

Updated Development Engineering comments 23/7/19  
Stormwater:

The proposed Stormwater Concept Plan is unsatisfactory. The proposed point of stormwater discharge is to Council's road drainage in Oaks Avenue. Stormwater infrastructure within Oaks Avenue has been constructed by Council, and is inconsistent with the provided information and proposed discharge point

as shown on the Stormwater Concept Plan. The Applicant shall provide updated survey information (as detailed below) of the stormwater infrastructure and an updated Stormwater Concept proposal as part of any future submission.

Insufficient information has been provided to demonstrate compliance with Council's OSD Technical Specification. The minimum information required to be submitted is detailed in Section 3.3, including the provision of DRAINS model. It shall be demonstrated that the permissible site discharge is restricted to the "state of nature" (0% impervious) condition for all storm durations for the 5-year, 20-year and 100-year ARI storm event. The longsection of the proposed connection to Council's road drainage line shall be supported by a HGL analysis.

Access:

Insufficient information has been provided with regard to the proposed access driveway. The Applicant shall provide a long-section at both edges of the proposed access driveway, with relevant gradients, across the road reserve to the proposed carpark and demonstrate compliance with AS2890.

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

- Vehicle access for the development in accordance with clause C2 Traffic, Access and Safety.
- Stormwater drainage for the development in accordance with clause C4 Stormwater.
- 

### **Previous Dev Eng comments**

**Stormwater:**

The proposed Stormwater Concept Plan is unsatisfactory. The proposed point of stormwater discharge is to Council's road drainage in Oaks Avenue. Stormwater infrastructure within Oaks Avenue has been constructed by Council, and is inconsistent with the provided information and proposed discharge point as shown on the Stormwater Concept Plan. The Applicant shall provide updated survey information (as detailed below) of the stormwater infrastructure and an updated Stormwater Concept proposal as part of any future submission.

The provision of any Onsite Stormwater Detention (OSD) system shall be in accordance with Council's Warringah OSD Technical Specification. In particular, Council will not approve detention systems directly under habitable floors, and in this regard the proposed location of the OSD basin is not supported.

Insufficient information has been provided to demonstrate compliance with Council's OSD Technical Specification. The minimum information required to be submitted is detailed in Section 3.3, including the provision of DRAINS model. It shall be demonstrated that the permissible site discharge is restricted to the "state of nature" (0% impervious) condition for all storm durations for the 5-year, 20-year and 100-year ARI storm event. The longsection of the proposed connection to Council's road drainage line shall be supported by a HGL analysis.

#### Council's Stormwater Infrastructure:

Council's records indicate that the subject property may be/is burdened by a Council stormwater pipeline. As outlined in the Development Application Checklist, the applicant shall demonstrate compliance with Council's Warringah Building Over or Adjacent to Constructed Drainage Systems and Easements Technical Specification. This consists of accurately locating, confirming dimensions including depth and plotting Council's stormwater pipelines and associated infrastructure to scale on the DA plans in accordance with Section 8.1 of this Specification. Council has public Planning Maps online with stormwater information as a reference for detailed stormwater investigations, available under the "Stormwater" overlay map (<https://services.northernbeaches.nsw.gov.au/icongis/index.html>).

#### Access:

Insufficient information has been provided with regard to the proposed access driveway. The Applicant shall provide a long-section at both edges of the proposed access driveway, with relevant gradients, across the road reserve to the proposed carpark and demonstrate compliance with AS2890.

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

- Vehicle access for the development in accordance with clause C2 Traffic, Access and Safety.
- Stormwater drainage for the development in accordance with clause C4 Stormwater.
- Council's stormwater assets for the development in accordance with clause C6 Building Over or Adjacent to Constructed Council Drainage Easements.

#### **Referral Body Recommendation**

Recommended for approval, subject to conditions

#### **Refusal comments**

#### **Recommended Engineering Conditions:**

### **FEES / CHARGES / CONTRIBUTIONS**

#### **Construction, Excavation and Associated Works Bond (Road)**

A Bond of \$ 40000 as security against any damage to Council's footpath paving and kerb and gutter for the frontage of the site.

Reason: Protection of Council's Infrastructure

## **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 WARRINGAH WATER MANAGEMENT POLICY PL850.

A certificate is to be provided to the Principal Certifying Authority with the Construction Certificate application by a qualified experienced practicing Civil Engineer, with Corporate membership of the Institute 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 that the existing approved system can accommodate the additional flows or provide drainage plans demonstrating compliance with Council's requirements.

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 appropriate provision for disposal and stormwater management arising from development.

### **Pump-Out System Design for Stormwater Disposal**

The design of the pump-out system for Stormwater disposal will be permitted for drainage of hard surfaces areas such as driveways and basement pavement areas only, and must be designed in accordance with AS/NZS 3500. Engineering details demonstrating compliance with this requirement and certified by an appropriately qualified and practising hydraulic engineer. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure adequate provision is made for the discharge of Stormwater from the excavated parts of the site.

Shot

### **Tanking of Basement Level**

The basement area is to be permanently tanked. Details of the tanking are to be prepared by a suitably qualified Engineer. Where temporary dewatering works are required on the development site during construction, the developer/applicant must apply for and obtain a bore license from the NSW Office of Water. The bore license must be obtained prior to commencement of dewatering works. All requirements of the NSW Office of Water are to be complied with and a copy of the approval must be submitted to the Principal Certifying Authority. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To prevent ingress of sub-surface flows into the basement area and to comply with State Government Requirements

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

An On-site Stormwater Detention system must be designed and constructed in accordance with Northern Beaches Council's current WARRINGAH WATER MANAGEMENT POLICY PL850, and generally in accordance with the concept drainage plans prepared by Demlakian Engineers drawing number SW12 P5, SW14 P4, SW15 P4, dated 20/8/19

Detailed drainage plans are to be prepared by a qualified experienced practicing Civil Engineer, with membership of the Institute of Engineers Australia (M.I.E.) or RPENG.

The drainage plans must address the following:

- i) The Detention tank outlet pipe is to be connected to a new stormwater inlet pit within Oaks avenue located on the right side of the vehicle crossing.
- ii) All utility services are to be shown on a long section relative the the outlet pipe within the footpath area.

Detailed drainage plans, including engineering certification confirming the above requirements have been satisfied and complying with Council's requirements, are to be submitted to the Principal Certifying Authority for approval prior to the issue of the Construction Certificate.

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

### **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.

### **Shoring of Adjoining Property**

Should the proposal require shoring to support an adjoining property or Council land, owner's consent for the encroachment onto the affected property owner shall be provided with the engineering drawings.

Council approval is required if temporary ground anchors are to be used within Council land. A Temporary Ground Anchors (Road Reserve) Application is to be submitted with Council for assessment and approval subject to Council's Fees and Charges. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate

Reason: To ensure that owners consent is obtained for ancillary works, and to ensure the protection of adjoining properties and Council land.

### **Vehicle Crossings Application**

A Driveway Levels and Formwork Inspections Application shall be made with Council subject to the payment of the fee in accordance with Council's Fees and Charges. The fee includes all Council inspections relating to the driveway construction and must be paid.

Approval of the application by Council is to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To facilitate suitable vehicular access to private property.

### **Construction Management Program**

An application for Traffic Management Plan is to be submitted to Council for approval. The Traffic Management Plan shall be prepared to RMS standard by an appropriately certified person. An approval is to be submitted to the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure appropriate measures have been considered for site access, storage and the operation of the site during all phases of the construction process in a manner that respects adjoining owner's property rights and protects amenity in the locality, without unreasonable inconvenience to the community

### **Stormwater Drainage Application**

A Stormwater drainage application under Section 68 of the Local Government Act 1993 is to be submitted to Council for approval. The submission is to include four (4) copies of Civil Engineering plans for the design of a new stormwater inlet pit within Oaks avenue (located adjacent to the RHS of the vehicle crossing) which is to be generally in accordance with Council's specification for engineering works - AUS-SPEC #1.

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

<https://files.northernbeaches.nsw.gov.au/sites/default/files/documents/pdf-forms/stormwater-drainage-approval/4022-stormwater-drainage-approval.pdf>

The fee associated with the assessment and approval of the application is to be in accordance with Council's Fees and Charges.

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

Reason: To ensure appropriate provision for disposal and Maintenance Stormwater management and compliance with the BASIX requirements, arising from the development.

### **Pre-Construction Stormwater Assets Dilapidation Report**

Survey a pre-construction / demolition Dilapidation Survey of Council's Stormwater Assets in Oaks avenue is to be prepared by a suitably qualified person in accordance with Council's Guidelines for Preparing a Dilapidation Survey of Council Stormwater Asset, to record the existing condition of the asset prior to the commencement of works. Council's Guidelines are available at:

<https://files.northernbeaches.nsw.gov.au/sites/default/files/documents/general-information/engineering-specifications/2009084729guidelineforpreparingadilapidationsurveyofcouncilstormwaterassets2.pdf>

The pre-construction / demolition dilapidation report must be submitted to Council for approval and the Principal Certifying Authority prior to the issue of the Construction Certificate.

Reason: Protection of Council's Infrastructure

### **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 THAT MUST BE ADDRESSED PRIOR TO ANY COMMENCEMENT**

### **Public Liability Insurance - Works on Public Land**

Any person or contractor undertaking works on public land must take out Public Risk Insurance with a minimum cover of \$20 million in relation to the occupation of, and approved works within Council's road



reserve or public land, as approved in this consent. The Policy is to note, and provide protection for Northern Beaches Council, as an interested party and a copy of the Policy must be submitted to Council prior to commencement of the works. The Policy must be valid for the entire period that the works are being undertaken on public land.

Reason: To ensure the community is protected from the cost of any claim for damages arising from works on public land.

## **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.

### **Notification of Inspections**

Council's Development Engineer is to be given 48 hours notice when the works reach the following stages: devices

- (a) Prior to backfilling of pipelines with the footpath area.
- (b) Prior to pouring of stormwater gully pits

NOTE: Any inspections carried out by Council do not imply Council approval or acceptance of the work, and do not relieve the developer/applicant from the requirement to provide an engineer's certification. Council approval or acceptance of any stage of the work must be obtained in writing, and will only be issued after completion of the work to the satisfaction of Council and receipt of the required certification

Reason: To ensure new Council infrastructure is constructed to Council's requirements.

### **Vehicle Crossings**

The provision of one vehicle crossing 7 metres wide in accordance with Northern Beaches Council Drawing No A4-3330/ Normal and specifications. 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.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority.

Reason: To facilitate suitable vehicular access to private property.

### **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

### **Site Entry Access way**

An all-weather access way at the front of the property consisting of 50-75mm aggregate or similar material at a minimum thickness of 200mm and 15metres long laid over geotechnical fabric is to be constructed prior to commencement of works and maintenance over the works period.

Reason: To reduce sediment being taken offsite

#### **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

#### **Protection of Adjoining Property - Excavation**

Where excavations extend below the level of the base of the footings of a building on an adjoining allotment of land, the person causing the excavation must preserve and protect the building from damage and, if necessary, underpin and support the adjoining building in an approved manner.

Reason: To ensure private and 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 Certifying Authority prior to the issue of any interim / final Occupation Certificate.

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

#### **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.

#### **Reinstatement of Kerb**

All redundant laybacks and vehicular crossings shall be reinstated 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 Certifying Authority prior to the issue of any interim / final Occupation Certificate.

Reason: To facilitate the preservation of on street parking spaces

#### **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.

#### **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 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 NSW Land Registry Services. 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.

#### **Creation of Positive Covenant and Restriction as a User**

A restriction on the use of land and a positive covenant shall be created on the title of the land in respect of the installation and maintenance of on-site stormwater disposal structures. The detailed information for a restriction on the use of land and a positive covenant is shown in Northern Beaches Council's WARRINGAH WATER MANAGEMENT POLICY PL850. The terms of the positive covenant and a Restriction on the use of land 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 Department of Lands. Northern Beaches Council shall be nominated as the party to release, vary or modify such covenant.

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

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

#### **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 Occupation Certificate application.

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