

Engineering Referral Response

Application Number:	DA2018/1826
To:	Rebecca Englund
Land to be developed (Address):	Lot 29 DP 5464 , 27 Warriewood Road WARRIEWOOD NSW 2102 Lot 28 DP 5464 , 25 Warriewood Road WARRIEWOOD NSW 2102

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

Comments 7/5/2019

No objections subject to conditions .

The following information/amendments to the stormwater drainage concept plans are required:

1)The outlet must be relocated slightly to ensure the outlet structure and discharge are directed downstream (they currently sit perpendicular to the creek).

2.) A kerb inlet pit is to be installed downstream of the OSD Tank 1 within Lorikeet Grove .

3) Additional detailed sections of the above ground basin (OSD 2) are to be provided in relation to the adjoining building (including floor levels) and Lorikeet Grove.

Referral Body Recommendation

Recommended for refusal

Refusal comments

Recommended Engineering Conditions:

FEES / CHARGES / CONTRIBUTIONS

Road and Drainage damage bond

A Bond of \$40000 as security against any damage to Council's existing road, footpath and drainage network. This security also covers any damage or loss to street tree planting.

Reason: Protection of Council's Infrastructure

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

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 Geotechnique dated 6 March 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 Warriewood Valley Water Management Specification and the concept drawing by SGC Drawing nos SWDA202A"E", SWDA202B "E", SWDA 203 "E", SWDA 300A "E" SWDA300B "E" 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.

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

Utilities Services

Prior to the issue of the Construction Certificate, evidence is to be submitted to the Principal Certifying Authority that

- (a) A letter from the utility provider confirming that satisfactory arrangements have been made for the approved development have been made; and
- (b) Evidence that notification has been received from a utility provider, requirements for the development can be provided.

Reason: To ensure that service have been provided as required by this Consent

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

Certification of Water Management Report

A qualified practising 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 is to certify that the Water Management Report and all associated plans and detailed design are in accordance with the Warriewood Valley Water Management Specification (February 2001) and as meeting the requirements of these conditions.

Reason: To ensure water is managed appropriately

Pre-Construction Stormwater Assets Dilapidation Report

Survey a pre-construction / demolition Dilapidation Survey of Council's Stormwater Assets 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.

Civil Works Supervision

All civil works approved in the Construction Certificate are to be supervised by an appropriately qualified and practising Civil Engineer. Details demonstrating compliance are to be submitted to the Principal Certifying Authority

Reason: To ensure compliance of civil works with Council's specification for engineering works.

Traffic Control During Road Works

Lighting, fencing, traffic control and advanced warning signs shall be provided for the protection of the works and for the safety and convenience of the public and others in accordance with RMS Traffic Control At Work Sites Manual (<http://www.rms.nsw.gov.au/business-industry/partners-suppliers/documents/technical-manuals/tcws-version-4/tcwsv4i2.pdf>) and to the satisfaction of the Principal Certifying Authority. Traffic movement in both directions on public roads, and vehicular access to private properties is to be maintained at all times during the works

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 council. 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.

Measures shall be applied, to the satisfaction of council, to prevent site vehicles tracking sediment and other pollutants onto any sealed roads serving the development. Measures required in permits issued under the Rivers and Foreshores Improvement Act shall be implemented. This Act requires that people obtain approval for any proposed excavation or fill in or within 40 metres of a watercourse. Permits should be sought from the Department of Natural Resources.

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

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

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.

Restriction as to User for On-site Stormwater Detention

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, (available from Northern Beaches Council), 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 modification to the on-site stormwater detention structure is not carried without Council's approval. (DACENF04)

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 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 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

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.

Geotechnical Certification Recommendations have been Implemented

Prior to issue of the Occupation Certificate, Form 3 of the Geotechnical Risk Management Policy (Appendix 5 of P21 DCP) is to be completed and submitted to the Accredited Certifier.

Reason: To ensure geotechnical risk is mitigated appropriately.

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

Certification of Water Management

Certification is to be provided to the accredited certifier by a qualified experienced practising 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 drainage/stormwater management system has been installed to the manufacturer's specification (where applicable) and completed in accordance with the engineering plans and specifications required under this consent.

Reason: To ensure Stormwater Management has been built in accordance with the plans and specifications required under this consent

Completion of Water Management Report

All works associated with the water management system required under these conditions of consent are to be completed prior to the issue of the Occupation Certificate

Reason: To ensure Stormwater Management has been built in accordance with the plans and specifications required under this consent

Updated Water Management Report

A copy of the updated/revised Water Management Report required under these conditions of Consent must be submitted to Council. The Water Management Report must contain all reports, assessments and plans as required by the Warriewood Valley Water Management Specification (February 2001). An operation and performance manual is to be provided to Council for the water management system prior to the release of the Occupation Certificate.

Reason: To ensure Stormwater Management has been built in accordance with the plans and specifications required under this consent

Post-Construction Dilapidation Survey

A post-construction Dilapidation Survey of Council's Stormwater Assets is to be prepared by a suitably qualified person in accordance with Council's Guidelines for Preparing a Dilapidation Survey of Council Stormwater Asset in order to determine if the asset has been damaged by the works. Council's Guidelines are available at

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

The post construction dilapidation report must be submitted to the Council for review and the Principal Certifying Authority prior to the issue of the Occupation Certificate. Any damaged to Council's stormwater infrastructure is to be rectified in accordance with Council's technical specifications prior to the release of the security bond.

Reason: Protection of Council's Infrastructure

**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 Occupation Certificate application.

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