

Engineering Referral Response

Application Number:	DA2021/2639
Date:	08/07/2022
To:	Olivia Ramage
Land to be developed (Address):	Lot 52 DP 7593 , 25 Alleyne Avenue NORTH NARRABEEN NSW 2101

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

07/04/2022:

The development application is for the demolition of existing structures and the construction of a new dwelling with an attached secondary dwelling (Lower Ground Floor), attached carport (First Floor), driveway and swimming pool.

Access

Before Development Engineer provide feedback, comments from Council's Road Assets Team are requested.

Stormwater

This property is on the low side of the road.

Stormwater Management Plans prepared by Stellen Consulting , Drawing number DR-000 to DR-004, Project No 211105, Rev. 0 and Dated 20/12/2021, are provided.

But before Council consider these plans applicant is advised as below:

a) The Stormwater drainage for the site shall demonstrate compliance with Council's Water Management for Development Policy, particularly Stormwater Drainage from Low Level Properties Technical Specification Section 5.5. As the subject site falls to the rear, an easement to drain water is to be created in favor of the site over the downstream properties. Evidence of owners consent by the property owners (16 Powderworks Road NORTH NARRABEEN) shall be submitted with the Development Application. The Application shall be supported by a long section of the inter-allotment drainage to the connection with Council's road drainage system.

b) Should this method of stormwater disposal not be possible, evidence shall be submitted with the Application.

For sample letter refer Appendix 2, Easement Letter of Council's Water Management for Development Policy.

Geotechnical

The site is identified as Geotechnical Hazard H1 on Council's Geotechnical Hazard Map. An excavation to a maximum depth of ~4.3m is proposed to construct the proposed house. Geotech report by White Geotechnical Group , Ref J3881, Dated 15th Dec 2021 is provided. An acceptable risk can be achieved for the proposed development as per the geotechnical report.

Amended Plans Provided on 12/5/2022

Access

The amended plans propose the removal of all existing retaining walls and stairs within the road reserve as per comments provided by Council's Road Asset team. However no details have been provided as to how the proposed driveway and the road embankment will be supported once the retaining walls are removed. Additionally there exists a significant level difference in the road reserve between the site and the adjacent property and it is unclear how this will be addressed. The proposed driveway profile does not comply with the current standards. Additional information required for further assessment is as follows:

- The Applicant shall provide engineering long-sections at both edges and centerline of the proposed access driveway to the proposed garage and demonstrate compliance with AS2890. The sections are to include dimension as well as existing and proposed levels.
- Details of the supporting structures for the proposed driveway and the road reserve.
- Protection measures for the existing street tree.
- Engineering cross sections for the footpath and the road reserve to show the changes proposed changes on the road reserve between the subject site and adjacent properties.

Stormwater

The stormwater management plan proposes to discharge via a level spreader at the rear. The level spreader design must be in accordance with Appendix 4 of Council's Water Management for Development Policy. The post developed flows through the level spreader must not exceed the pre developed 20% AEP state of nature storm event for all storms including 1% AEP.

Additional Information provided on 14/6/2022

Stormwater

The previous comments have not been addressed. The post developed flows through the level spreader must not exceed the pre developed 20% AEP state of nature storm event for all storms including 1% AEP in accordance with Appendix 4 of Council's Water Management for Development Policy.

Access

The amended architectural plans proposes a vehicular cross at 90degrees off the boundary as requested by Road Asset team. However the previous comments regarding details on the road reserve have not been addressed. Additional information is required as to how the level difference in the road reserve between the site and the adjacent property will be addressed once the retaining walls are removed. Additional information required for further assessment is as follows:

- Engineering cross sections for the footpath and the road reserve to show the changes proposed

changes on the road reserve between the subject site and adjacent properties.

- Details of the supporting structures for the proposed driveway and the road reserve
- Engineering long-sections at both edges and centerline of the proposed access driveway to the proposed garage to demonstrate compliance with AS2890. The sections are to include dimension as well as existing and proposed levels.
- Impacts on the road embankment are due to the removal of the retaining walls are to be considered in the design.

Additional Information Provided 4/7/2022

The submitted driveway sections are satisfactory subject to conditions. The proposed OSD volume in the submitted stormwater plan is not adequate. The design for the level spreader and the required OSD shall be in accordance with Appendix 4 as conditioned.

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

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 White Geotechnical Group dated 15/12/2021 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.

Traffic Management and Control

The Applicant is to submit an application for Traffic Management Plan to Council for approval prior to issue of the Construction Certificate. The Traffic Management Plan shall be prepared to RMS standards by an appropriately certified person.

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.

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 DR-000, DR-001, DR-002, DR-003, dated 21/12/2021. 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. Level Spreader design shall be accordance with Appendix 4 of Council's Water Management for Development Policy.
- ii. Stormwater flows from the whole site are to be restricted for all storm events up to and including the 1% AEP storm event.
- iii. Total discharge including bypass flows and controlled flows through the level spreader must not exceed the 20% AEP state of nature storm event.
- iv. The level spreader should not be located within three meters of the side or rear boundary.

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.

Submission Roads Act Application for Civil Works in the Public Road

The Applicant is to submit an application for approval for infrastructure works on Council's roadway. Engineering plans for the new development works within the road reserve and this development consent are to be submitted to Council for approval under the provisions of Sections 138 and 139 of the Roads Act 1993.

The application is to include four (4) copies of Civil Engineering plans for the design of civil works in the road reserve which are to be generally in accordance with the Council's specification for engineering works - AUS-SPEC #1. The plan shall be prepared by a qualified civil engineer. The design must include the following information:

1. A vehicular crossing 5 meters wide should be constructed in accordance with Council's standard drawing A4/3330/3 NL.
2. The proposed retaining wall along the western edge of the driveway shall have a minimum 600mm setback from the boundary with the adjacent property.
3. The road reserve on the eastern side of the elevated driveway shall be battered to match the existing levels of the adjacent property.
4. The alignment and level of proposed driveway layback is to ensure consistency with the existing kerb and gutter alignment and levels.
5. The Applicant shall provide engineering long-sections at both edges and centerline of the proposed access driveway to the proposed garage and demonstrate compliance with AS2890. The sections are to include dimension as well as existing and proposed levels.
6. Engineering cross sections for the footpath and the road reserve to show the changes proposed changes on the road reserve between the subject site and adjacent properties.
7. Structural and certificate details of the driveway retaining wall, piers and slab designed by a Structural Engineer
8. Safety barriers and sight distances are to be in accordance with AS/NZS 2890.1:2004.
9. The application is to include a geotechnical report that is prepared by an appropriately qualified Geotechnical Engineer to assess the impact of the proposed elevated driveway and associated works on the road embankment.
10. A services plan indicating all services in the road reserve. Where any services are to be adjusted as a result of the works, approval from the relevant service authority is to be provided.
11. Concurrence from Telstra shall be provided regarding the proposed works adjacent to the existing Telstra pit in the road reserve.
12. Details of the tree protection measures for the existing street tree in accordance with the arborist

recommendations.

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

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.

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.

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.

Civil Works Supervision

The Applicant shall ensure all civil works approved in the Section 138 approval are supervised by an appropriately qualified and practising Civil Engineer.

Details demonstrating compliance are to be submitted to the Principal Certifying Authority and/or Roads 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 Roads 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.

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 detention 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 detention 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 detention system is to be submitted.

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

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

Certification Elevated Parking Facility Work

The Applicant shall submit a Structural Engineers' certificate certifying that the elevated parking facility was constructed in accordance within this development consent and the 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. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the final Occupation.

Reason: Compliance with this consent.

Retaining wall

The retaining wall works shall be certified as compliant with all relevant Australian Standards and Codes by a Structural Engineer. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of any final Occupation Certificate.

Reason: Public and Private Safety

Geotechnical Certification Prior to Occupation Certificate

The Applicant is to submit the completed Form 3 of the Geotechnical Risk Management Policy (Appendix 5 of P21 DCP) to the Principal Certifying Authority prior to issue of the Occupation Certificate.

Reason: To ensure geotechnical risk is mitigated appropriately.