

Engineering Referral Response

Application Number:	DA2021/1766
Date:	07/03/2022
To:	Adam Mitchell
Land to be developed (Address):	Lot 8 DP 6984 , 18 Alexander Street COLLAROY NSW 2097 Lot 9 DP 6984 , 18 Alexander Street COLLAROY NSW 2097

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

UPDATED COMMENTS 7/3/22

The design engineer has provided a crest within the driveway to provide approximately 330mm of freeboard above the 1 in 100 year AEP water surface level adjoining the driveway entrance.

The bin bay walls and an adjoining blade wall extend over Councils existing stormwater line, the bin bay needs to be modified slightly so the location of the bin bay north west corner wall can comply with Councils Water Management policy for development.

No objection to the development subject to conditions.

UPDATED COMMENTS 13/1/2022

In terms of the flood study, the post development results indicate that overland flows will pass the north western corner of the site. This portion of the site proposes a front wall, the entry gate and the bin store walls. These structures have not been modelled in the flood report and will likely impede the flows. In this regard, the applicant must amend the design to ensure no structures impede the flows. Open style fences and gates will be acceptable. The applicant's Engineer must review the design and confirm the flows will not be impeded.

The existing Council pipeline has been accurately located and is outside of the existing drainage

easement burdening the site. In this regard, a new easement will need to be created 3 metres wide centrally over the pipeline and the old easement extinguished. The bin store walls must not be located within the area of this proposed easement. The architectural plans are to include the proposed easement.

Finally, I have reviewed the proposed driveway grades and they do not appear to be in accordance with the requirements of AS/NZS2890.1:2004. In this regard, the applicant must provide sections on both sides of the driveway from the kerb invert to the basement demonstrating compliance. The grade from the kerb invert to the boundary is to be a maximum of 5% and internal grades must include a maximum grade of 1 in 8 for 6 metres from the boundary up to the required crest. Transitions to the basement are to be in accordance with the above standard.

Previous comments

The proposed stormwater drainage plans were reviewed and the following further information is required.

1) Submission of a DRAINS model for Council review including design summary parameters . Please note the pre existing condition is to be set at state of nature. The model has to be prepared in accordance with Councils Water Management Policy for Development and Australian rainfall and runoff 2019.

Additionally Councils overland flow mapping indicated the property is affected by overland flow and as such a Overland flow hydrological/hydraulic study is to be provided in accordance with the design parameters and relevant chapters of Australian Rainfall and Runoff 2019. Councils preferred model is DRAINS and the study is also to be in accordance Councils Water Management Policy for Development.

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:

FEES / CHARGES / CONTRIBUTIONS

Construction, Excavation and Associated Works Bond (Councils Stormwater Drainage line)

The applicant is to lodge a bond of **\$15000** as security against any damage during to course of construction works for councils 750mm diameter concrete drainage line that runs through the north wester corner of the site.

Details confirming payment of the bond are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: Protection of Council's infrastructure.

Construction, Excavation and Associated Works Security Bond (Crossing / Kerb)

The applicant is to lodge a Bond of \$20000 as security against any damage or failure to complete the

construction of any vehicular crossings, kerb and gutter, any footpath works and removal of any redundant driveways required as part of this consent.

Details confirming payment of the bond are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: Protection of Council's infrastructure.

Construction, Excavation and Associated Works (Security Bond)

A bond of \$10000 as security against damage to Council's roads fronting the site caused by the transport and disposal of materials and equipment to and from the site.

Details confirming payment of the bond are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: Protection of Council's infrastructure.

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

Walls located within the overland flow path.

Any proposed walls including the walling within the bin bay area are to feature openings to allow for the free passage of overland flow as defined by the flood engineer in the RTS consulting engineers overland flow and flood impact assessment report.

Details demonstrating compliance are to be submitted to the certifier prior to issue of the construction certificate.

Reason: To manage impacts of flooding on adjoining properties.

Deletion of walling within Council's 750mm drainage line and easement.

All proposed walling is to be removed from proposed Council relocated 3m wide easement footprint in accordance with Council's water management policy for development. The bin bay north west corner wall will need to be relocated to achieve this requirement.

Details demonstrating compliance are to be submitted to the certifier prior to issue of the construction certificate.

Reason: Compliance with Council's Water management policy for development.

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 POLICY FOR DEVELOPMENT**, and generally in accordance with the concept drainage plans prepared by RTS Civil Consultants, drawing number 210804 SW01-SW02A ,SW200A , dated 3/9/21. 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 (NER) or RPENG and registered in the General Area of Practice for civil engineering.

The drainage plans must address the following:

- i. **The discharge line from the on site stormwater detention tank is to be connected directly into the kerb and gutter with a No 200x100mm RHS gal pipes. Services in the footpath area are to be located to avoid conflicts.**
- ii. The discharge line from the pump sump within the basement is to be directly connected to Council's kerb inlet pit fronting the property.
- iii. 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.

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.

Vehicle Crossings Application

The Applicant is to submit an application for driveway levels with Council in accordance with Section 138 of the Roads Act 1993. 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 facilitate suitable vehicular access to private property.

Pre-Construction Stormwater Assets Dilapidation Report

The Applicant is to submit 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 property 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.

The pre-construction / demolition dilapidation report must be submitted to Council for written approval and the written approval is then to be submitted to the Certifying Authority prior to the issue of the any Construction Certificate and the commencement of any works including demolition.

Reason: Protection of Council'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 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.

Property Boundary Levels

The Applicant is to maintain the property boundary levels. No approval is granted for any change to existing property alignment levels to accommodate the development.

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

Reason: To maintain the existing profile of the nature strip/road reserve.

Notification of Inspections (infrastructure works to be handed over to Council)

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

- (a) Pouring of the vehicle crossing and any footpath works.

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.

Reason: To ensure new Council infrastructure is constructed in accordance with Auspec 1 Council's design and specification standards.

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.

Vehicle Crossings

The Applicant is to construct one vehicle crossing 5.5 metres wide in accordance with Northern Beaches Council Drawing No A4-3330/ Normal and the driveway levels application approval.

The proposed boundary RLs are to comply with the longitudinal driveway design provided by RTS consulting engineers DRW no 210804 CW200 B .

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.

A copy of the vehicle crossing inspection form is to be submitted to the Principal Certifying Authority.

Reason: To facilitate suitable vehicular access to private property.

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

Stormwater Disposal

The stormwater drainage/on site detention works shall be certified as compliant with the approved Construction certificate drawings and Council water management policy for development by the design engineer. 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.

Post-Construction Road Reserve Dilapidation Report (Major Development)

The applicant must bear the cost of all restoration works to Council's road, footpath and drainage assets damaged during the course of this development.

A Post Construction Dilapidation Report after the completion of all building works is to demonstrate that there is no damage to Council infrastructure prior to the refund of any security deposits.

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

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 Certifying Authority prior to the issue of the final Occupation Certificate.

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

Certification of Structures Located Adjacent to Council Pipeline or Council Easement

The applicant is to create a 3m wide drainage easement in favour of Council over the centre line of Council's 750mm RCP pipe that traverses the north west corner of the site. All costs associated with the creation of this easement are to be borne by the applicant.

Additionally all structures are to be located clear of any Council pipeline or the relocated Council easement. Footings of any structure adjacent to an easement or pipeline are to be designed in accordance with Council's Water Management Policy; (in particular Section 6 - Building Over or Adjacent to Constructed Council Drainage Systems and Easements Technical Specification). Any proposed landscaping within a Council easement or over a drainage system is to consist of ground cover or turf only (no trees are permitted) - Structural details prepared by a suitably qualified Civil Engineer demonstrating compliance are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: Protection of Council's infrastructure

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), hydraulic 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 as to user 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 disposal system is maintained to an appropriate operational standard.