Engineering Referral Response

Application Number:	DA2022/1510
Proposed Development:	Demolition works and Construction of a mixed use development to accommodate a café, church, conference centre, boarding house and two level of basement car park.
Date:	22/05/2023
To:	Jordan Davies
Land to be developed (Address):	Part Lot 28 DP 7413 , 9 Francis Street DEE WHY NSW 2099 Part Lot 28 DP 7413 , 28 Fisher Road DEE WHY NSW 2099 Part Lot 28 DP 7413 , 28 Fisher 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

Supported - Subject to conditions

UPDATED COMMENTS 22/5/23
A Drains model was undertaken by Council and indicated the detention tank design with 40m2 of storage volume is satisfactory. As disccussed with a recent meeting with the applicant the previous outstanding information will be conditioned.
No objections to the development subject to conditions.

Comments 18/4/2023
1) A review of the DRAINS model and stormwater drainage plans has revealed a number of inconsistencies which include:
-The DRAIN model OSD RLs including the Top water level , Invert Levels and Orifice RL are not consistent with the drainage plans. The orifice plate size is different . The DRAINS model requires updating to be consistent with the drainage plans.
2)The levels of the proposed kerb inlet pit are not consistent with the survey. The invert of the existing Council stormwater drainage line in Fisher road is to be confirmed by survey.
3)As previously required the following information has not been provided:

In relation to the proposed new inlet pit and the 300mm stormwater outlet in Fisher Road all utility services crossings and a hydraulic grade line are to be detailed on a suitable scaled longsection. The design invert levels of the new inlet pit are also to be detailed.(Invert Level to be confirmed by survey)

4) The OSD tank needs to feature an overflow pipe to prevent overflows entering the building in the event of an orifice plate blockage. (IE surcharge out of the pit grates)
Additionally the OSD tank level is to be above the invert of the Council stormwater line in Fisher Road and set at a height to prevent the a flooded outlet. Hydraulic Grade line is required to demonstrate there is no flooded outlet.
5) The design engineer is also required to sign and denote their qualifications on the stormwater drainage plans.

Previous comments

The stormwater concept plan by the Mesh Group has been reviewed and not supported for the following reasons:

1) The stormwater design engineer needs to be registered in accordance with the NSW Design and Building regulation for the building type. Evidence of the engineers registration is to be provided to Council .
2) In accordance with Councils Water management policy for development a DRAINS model is to be submitted to Council for review, noting the post development flows up and including the 1/100AEP are to be limited to state of nature flows.
3) In accordance with section 9.7.2 of Councils Water management policy for development the minimum information as listed is to be included on amended stormwater drainage plans. The design engineer is to provide a cross check in tabulated form to council that this information has been provided.
The following information must be included on amended plans.

a) Dimensions (mm) and volume(s) (m3) of the proposed OSD system(s) ,
b) Size (mm) and shape of the orifice and outlet device at the control pit . The discharge control pit is to feature an overflow escape route in the case of the orifice plate blockage.
c) Finished floor levels of all existing and proposed structures and existing surface levels to Australian Height Datum (AHD) are to be shown on the drainage plan(s) .
d) Plans, elevations and sections of the OSD system(s) in relation to all existing and proposed buildings and site conditions, finished surface levels and invert levels of all stormwater drainage pipes and structures, centre line level of the outlet pipe and orifice, the maximum design water level in the OSD system. Please note that all habitable floors areas are to have a minimum 300mm free board above the OSD top water level.
e) Longitudinal section of all pipe(s) from the OSD basin to the discharge point showing calculated flows, velocities, pipe sizes, type and class, grades, and invert levels of all pipes. The stormwater plans are to demonstrate that if the OSD outlet is fixed to a basement ceiling there is adequate vehicular head height.
d) In relation to the proposed new inlet pit and the 300mm stormwater outlet in Fisher Road all utility services crossings and a hydraulic grade line are to be detailed on a suitable scaled longsection. The design invert levels of the new inlet pit are also to be detailed.
NB all stormwater discharge from the development site are to be conveyed to Fisher Road as discharge to Francis street is against the grade and not permitted.
4) The location of the on site stormwater detention tank is not permitted under habitable floor areas and is to be in a communal area where the tank can be accessed for maintenance operations. It also appears that a maintenance grate has a wall located over it. The designer engineer is to confirm these requirements have been achieved and there are no obstructions to maintenance grates.
5) The submitted geotechnical report indicated the presence of groundwater during the excavation to

the lower basement level as such it would be required that the basement be tanked to prevent the egress of groundwater and continuous discharge of groundwater to Councils stormwater drainage system.

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 (Drainage works)
The applicant is to lodge a bond of $15000 as security against any damage or failure to complete the construction of stormwater drainage works in Fisher Road as part of this consent.

Details confirming payment of the bond are to be submitted to the Certifier 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 $25000 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 Certifier prior to the issue of the Construction Certificate.

Reason: Protection of Council's infrastructure.

Construction, Excavation and Associated Works (Security Bond)
A bond of $30000 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 Certifier 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

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 TfNSW 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 fore Development Policy and generally in accordance with the concept drainage plans prepared by Mesh Group PTY LTD , drawing number STW03 Issue A, dated 28/8/22. 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 Professionals Australia (RPENG) and registered in the General Area of Practice for civil engineering.

The drainage plans must address the following:
i. As detailed in the stormwater concept plans the minimum On Site Detention storage volume is to be 39 cumecs.
ii. Minimum information as detailed in section 7.1 of Councils Water Management fore Development Policy is to provided on the stormwater management plans.
iii.The OSD tank needs to feature an overflow pipe to prevent overflows entering the building in the event of an orifice plate blockage. (IE surcharge out of the pit grates)
Additionally the OSD tank level is to be above the invert of the Council stormwater line in Fisher Road and set at a height to prevent the a flooded outlet. Hydraulic Grade line analysis is required to demonstrate there is no flooded outlet.
iv. In relation to the proposed new kerb inlet pit and the 300mm stormwater outlet in Fisher Road all utility services crossings and a hydraulic grade line are to be detailed on a suitable scaled longsection. The design invert levels of the new inlet pit are also to be detailed.(Invert Level to be confirmed by an appropriate survey)

v. Detailed drainage plans, including engineering compliance certification, are to be submitted to the Certifier 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 the full width paving works ,stormwater outlet works and new kerb inlet pit in Fisher Road 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: 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 Certifier 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. The Applicant is to submit structural details of the tanking, 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 Environment and Heritage. The bore license must be obtained prior to commencement of dewatering works. All requirements of the Water NSW are to be complied with and a copy of the approval must be submitted to the Certifier.

Details demonstrating compliance are to be submitted to the Certifier 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.

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 Certifier prior to the issue of the Construction Certificate.

Reason: To provide public and private safety.

Shoring of Council's Road Reserve (Temporary road anchors)
Should the proposal require shoring to support an adjoining property or Council land, the Applicant shall provide the adjoining properties with engineering drawings, detailing the proposed shoring works for their consideration and approval.

Written approval from Council under Section 138 of the Roads Act 1993 is required if temporary ground anchors are to be used within Council's road reserve. The Owner's approval is to be submitted to the Certifier 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
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 Certifier prior to the issue of the Construction Certificate.

Reason: To facilitate suitable vehicular access to private property.

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 Certifier 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 Certifier.

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

Footpath Construction
The applicant shall construct full width urban stone paving in Fisher Road in accordance with the following:

(a) All footpath works are to be constructed in accordance with Section 138 Road Act approval
(b) Council is to inspect the formwork prior to pouring of concrete base to ensure the works are in accordance with Section 138 Road Act approval for footpath.
(c) All footpath paving works are to be in accordance with Councils Dee Why Town Centre specifications and Auspec One.

Details demonstrating compliance are to be submitted to the Principal Certifier.

Reason: To ensure compliance of footpath 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.

Vehicle Crossings
The Applicant is to construct one vehicle crossing 5 metres wide in accordance with Northern Beaches Council Drawing No A4-3330/ Normal and the driveway levels application approval. 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 Certifier.

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 works on the site and in Fisher Roadshall be certified as compliant with all relevant approved construction certificate plans and Councils water management for development policy by the design engineer. A compliance certificate is to be issued by a NER or RPENG qualified civil engineer. Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of an 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 Certifier prior to the issue of an Occupation Certificate.

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

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 Certifier prior to the issue of an Occupation Certificate.

Reason: To ensure the on-site stormwater disposal system is maintained to an appropriate operational standard.