

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:	18/04/2023
To:	Adam Susko
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

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 unsupported.

Note: Should you have any concerns with the referral comments above, please discuss these with the Responsible Officer.

Recommended Engineering Conditions:

Nil.