

Engineering Referral Response

Application Number:	DA2023/0714
Proposed Development:	Demolition works and alterations and additions to the Covenant Christian School
Date:	21/06/2024
To:	Alex Keller
Land to be developed (Address):	Lot 101 DP 1159742 , 212 Forest Way BELROSE NSW 2085 Lot 1 DP 725754 , 212 Forest Way BELROSE NSW 2085 Lot 2 DP 725754 , 212 Forest Way BELROSE NSW 2085

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 on additional information received 30.4.2024

Comments 21/6/24

The additional information is to be reviewed by the Floodplain planning and Engineering Team and if supported conditions are to be provided by that team . Any additional plans and reports re the flood protection of the redevelopment of the library will need to be signed off by a NER or RPENG registered civil engineer,

Additional information recieved:

TRIM #2024/259834, #2024/313115 (Written response to flooding issues raised)
#2024/263606 (Amended architectural plans - floor levels remain at 154.430)

New comments 11/3/24 :

WMA Water has submitted a Flood assessment/ study and determined the 1/100AEP flood level in the vicinity of the proposed library building to be 158.58 m AHD. **The required Flood Planning Level for the development is 159.08** , however WMA have recommended the Finished Floor Level be set at 158.43.

This recommendation by WMA cannot be supported based on the following advice from

Councils Floodplain planning Team:

Clause 47 of Councils LEP (2000) states:

47. Flood affected land

Development on flood affected land is to be sited and designed to minimise impacts of flooding on property and have regard to the existing flood regime.

In particular—

- development is not to reduce flood storage area or impact upon the existing flood regime,
- habitable floor areas of buildings are to be at a level of at least 500mm above the 1% annual exceedance probability flood level, and
- buildings or works affected by flooding are to be constructed of flood compatible building materials.

For the purposes of this clause, *flood affected land* means land below the 1 per cent annual exceedance probability flood level.

Therefore it is essential that all the habitable floor levels of the library redevelopment need to be at the **FPL = 159.08** (this is to provide a freeboard at least 500mm above the 1% AEP" level.)

The DCP (2011) allows for a lower freeboard of 0.3m (where depth < 0.3m and velocity x depth < 0.3m²/s), however this does not apply in the deferred lands.

The library redevelopment proposal is not supported for non compliance with the required Flood Planning Level controls as required by Clause 47 of Councils LEP (2000).

Previous Referral comments:

The application for a new library building is not supported as the land has been identified as being affected by overland flow in a 1 /100 AEP storm event.

A flood/overland study prepared by a NER qualified hydraulic /civil engineer to identify the flood extents up to the PMF event. The flood/overland study is to be prepared using a 2D hydraulic like Rafta or Tu Flow to identify the flood extents, heights and velocities. Parameters in determining the flood extents, heights and velocities are to be detailed in the flood report . Councils existing stormwater drainage system within the site is to be modelled accordingly and pit blockage factors used as prescribed in Councils Auspec one design document.

The report is to be prepared in accordance with a Guide to Flood estimation of Australian Rainfall and Runoff 2019.

A Flood Management report is to be prepared addressing the former Warringah Development Control Plan section E11 Flood Prone land. The report is to determine the flood risk level and address the requirements of the matrix in particular Floor Levels C1 and C2 and flood effects caused by the 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:

Nil.