

Engineering Referral Response

Application Number:	DA2019/1098
To:	Maxwell Duncan
Land to be developed (Address):	Lot 24 DP 7686 , 13 Quinlan Parade MANLY VALE NSW 2093

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

Overland Flow:

The property is shown on Council's best available flood mapping as affected by overland flow flooding. Any future submission shall provide an overland flow flood report to assess the impact of the development with respect to local overland flows. The report shall be prepared by a suitably qualified engineer in accordance with Council's Warringah Stormwater Management Policy Section 9.3 and shall include, but not be limited to, an address of the following:

- The site survey and all levels shall be provided to Australian Height Datum (AHD).
- Catchment plan highlighting the full upstream catchment(s).
- A detailed analysis for any overland flow paths in both pre-development and post-development conditions, considering the 1% AEP storm.
- Consideration is to be given to the capacity of existing Council drainage infrastructure with appropriate blockage factors.
- Submission of plans clearly indicating pre-development and post-development flow path extents for the 1% AEP storm.

- Any relevant supporting longitudinal and cross-sectional information at appropriate intervals, including at the upstream and downstream property boundaries.
- Provision of any stormwater models (DRAINS, HEC-RAS) used in assessment, and relevant supporting input and output information.
- Demonstration of compliance with flood related development controls, in particular Warringah LEP 2011 Section 6.3 and DCP 2011 Section E11.
- Demonstration that there is no adverse impact to adjoining properties and the road reserve in relation to flood level, velocities and extents.
- Where conflicts occur between existing overland flow paths and the proposed development, detail shall be provided of any proposed flood mitigation measures.

The proposed application cannot be supported by Development Engineering due to lack of information to address:

- Stormwater drainage for the development in accordance with clause C4 Stormwater.

Additional information received on 04/12/2019

The provided Flood Study Report prepared by NY CIVIL ENGINEERING is not consistent with the architectural plans. In particular, the following matters are raised:

1. Proposed finish levels of swimming pool at the rear boundary are significantly higher than natural ground level. It is considered that the proposed swimming pool, deck and fence may impede the overland flow path. As a result, it may impact adversely on adjoining properties and the Council reserve in relation to flood level, velocities and extent. The Flood Study Report does not clearly demonstrate the impacts of the proposed pool, fence and deck on surrounding areas.

2. The Flood Study Report for the development needs to be amended to address clause I1 in Warringah DCP Section E11-Flood Prone Land. In this regard, pools located within the 1% AEP flood extent are to be in-ground, with coping flush with natural ground level. Where it is not possible to have pool coping flush with natural ground level, it must be demonstrated that the development will result in no net loss of flood storage and no impact on flood conveyance on or from the site.

3. Fencing, including pool fencing, shall be designed so as not to impede the flow of flood waters and not to increase flood affectation on surrounding land. Appropriate fencing must comply with the Flood Prone Land Design Standard in addition to other regulatory requirements of pool fencing.

The proposed application cannot be supported by Development Engineering due to lack of information to address:

- Stormwater drainage for the development in accordance with clause C4 Stormwater.
- Flood planning for the development in accordance with clause E11 Flood Prone Land.

Additional information received on 30/01/2020

Amended master set, flood study report and stormwater drainage plan have been submitted to Council. The applicant should be aware of potential risks from flooding as the subject site is affected by overland flow. The following matters are raised :

Stormwater Management Plan :

The proposed Stormwater Concept Plan is unsatisfactory. Stormwater pipeline should be connected to the closest Council's pit in the public reserve. Updated storm water management plan for the site shall be designed in accordance with Council's Warringah Water Management Policy.

Overland Flow:

Minimum 500mm freeboard above 1% AEP level is not provided for proposed habitable floor levels. In accordance with Clause 6.3 in Warringah Local Environmental Plan 2011, the habitable flood levels are to be at least 500mm above 1% AEP flood level in order to reduce the risk of life and property from flooding.

In addition, finish floor level of proposed garage is below the flood level. In accordance with Clause G5 in E11 Flood Prone land, enclosed garage must be located at or above the 1% AEP flood level. However, any existing floor level may be retained below the Flood Planning Level when it complies with Clause F6 in Section E11 Flood prone Land Warringah DCP 2011. The Side door of the garage should be removed from the master set in order to reduce flood affects.

The proposal is supported by Development Engineering team, subject to Stormwater & Floodplain Engineering section's comments and assessment. The following conditions should be considered for the proposal.

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 \$5000 as security against any damage or failure to complete the construction of stormwater drainage works 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.

CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE CONSTRUCTION

CERTIFICATE

Stormwater Disposal from Low level Property

The applicant is to submit Stormwater Engineering Plans for the new development within this development consent, prepared by an appropriately qualified and practicing Civil Engineer, indicating all details relevant to the collection and disposal of stormwater from the site, buildings, paved areas and where appropriate adjacent catchments. Stormwater shall be conveyed from the site to the closest Council's pit in Public reserve.

Details demonstrating compliance are to be submitted to the Certifying Authority for approval prior to the issue of the Construction Certificate.

Reason: To ensure appropriate provision for disposal and stormwater management arising from the development.

Construction Certificate Drainage Details

The applicant is to provide drainage plans including specifications and details showing the site stormwater management to the Accredited Certifier for approval prior to the issue of the Construction Certificate. Such details are to be accompanied by a certificate from (as appropriate) either a licensed plumber or qualified practicing Civil Engineer with corporate membership of the Institute of Engineers Australia (M.I.E.), or who is eligible to become a Corporate member and has appropriate experience and competence in the related field, that the stormwater management system complies with the requirements of section 3.1.2 Drainage of the Building Code of Australia Housing Provision and AS/NZS 3500.3.2 - Stormwater Drainage. The details shall include disposal of site stormwater (if the site is in a known slip area the stormwater disposal system must comply with the recommendations of a Geotechnical Engineers Report).

Reason: To ensure appropriate provision for disposal and maintenance stormwater management arising from the development.

Stormwater Drainage Application

The applicant is to provide a stormwater drainage application under Section 68 of the Local Government Act 1993 to Council for approval. The submission is to include four (4) copies of Civil Engineering plans for the design of the stormwater drainage which are to be generally in accordance with the civil design approved with the Development Application and Council's specification for engineering works - AUS-SPEC #1. The form can be found on Council's website at www.northernbeaches.nsw.gov.au > Council Forms > Stormwater Drainage Application Form.

The fee associated with the assessment and approval of the application is to be in accordance with Council's Fees and Charges. Details demonstrating compliance are to be submitted to the Certifying Authority prior to the issue of the Construction Certificate.

Reason: To ensure appropriate provision for disposal and maintenance stormwater management and compliance with the BASIX requirements, arising from the development.

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.

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 68 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.

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

Stormwater Disposal

The stormwater drainage works shall be certified as compliant with all relevant Australian Standards and Codes by a suitably qualified person. 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 Dilapidation Report

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.