

Development & Building Services

Engineering Services Assessment



TO: DAVID PAINE - SENIOR DEVELOPMENT OFFICER (PLANNING)

FROM: ALASTAIR PEDDIE – SENIOR DEVELOPMENT OFFICER (ENG)

DATE: 24/08/16

FILE NO: 2016/00346

SITE: 470 KING STREET, NEWCASTLE WEST

RECOMMENDATION: CONDITIONAL CONSENT

1.0 Assessment Scope

The following plans / details have been assessed for **flood and stormwater** management only.

- Flood Assessment letter report, prepared by BMT WBM Pty. Ltd., dated 23 May 2016.
- Stormwater Management Plans, prepared by Northrop Consulting Engineers Pty. Ltd., Drg. Nos. C01 DA to C04 DA inclusive, Revision B, dated 21 March 2016.
- Development Plans by hill thalis and CKDS Architecture, Issue AA, dated 22/03/16.
- Landscape Plans prepared by jila, Issue C, dated 08/03/16.

2.0 Flood Management

This site is affected by flooding being located adjacent to Cottage Creek at the bottom end of the catchment. A flood information certificate was issued by Council to Northrop, on 11 May 2015, which summarized the flood information from Council's records (copy attached).

2.1 Proposed Development

The calculated local catchment 1% Annual Exceedance Probability (AEP) flood level on the site is 2.32m AHD. The minimum required floor level for occupiable rooms set by Council is 2.82m AHD and this has been achieved in the ground floor retail premises.

In the June 2007 flood a shipping container partially blocked the downstream culvert under the railway line significantly raising flood levels in this area. The recorded peak flood level for this site was 3.1m AHD.

The estimated Probable Maximum Flood level on this site is 4.3m AHD. Upper floor levels will provide flood refuge for occupants and site users. The basement carpark has been designed to provide additional flood storage for extreme flood events. A Flood Emergency Response Plan will be required to best manage flood future scenarios in and around the building.

A flood assessment was undertaken by BMT WBM, local flood management consultants, to assess the potential flood impacts of the proposed development. The study found no significant flood impacts associated with the proposed development.

2.2 Associated Future Development

The flood impact assessment also assessed the benefits of removing the existing building in Hunter Street over Cottage Creek, which is proposed by the developer in an associated development, to provide a pedestrian link to Hunter Street. Due to the existing culvert/road level arrangement removal of the building would only provide benefits for floods greater than the 1% AEP event or for floods like the June 2007 flood

where significant downstream blockage occurred raising upstream flood levels on the proposed development site.

3.0 Stormwater Management

Roof water and runoff from the podium hardstand areas will be drained to an underground storage tank with proposed reuse of the roof runoff and treatment and controlled discharge of the podium runoff. The total storage capacity of the tank is 107kL sized using Council's DCP guidelines. Overflow from the tank will be discharged to the concrete lined section of Cottage Creek located on the eastern property boundary.

4.0 Recommended conditions

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

A021

All stormwater runoff from the proposed development being managed in accordance with the requirements of Element 7.06 'Stormwater' of Newcastle Development Control Plan 2012, the associated Technical Manual and the latest issue of AS 3500.3 as applicable, as indicated on the Stormwater Plans prepared by Northrop Consulting Engineers Pty. Ltd., Drg. Nos. C01 DA to C04 DA inclusive, Revision B, dated 21 March 2016. Full details are to be included in documentation for a Construction Certificate application.

New Condition

Additional flood modelling to be undertaken of the proposed external terracing and landscaped areas to demonstrate that the flood levels do not exceed the predicted post development flood levels in BMT WBM flood assessment (dated 23 May 2016). Full details are to be included in documentation for a Construction Certificate application.

New Condition

Safety fencing adjacent to the Cottage Creek channel being designed to restrict access to the channel while allowing the free flow of floodwaters into and out of the development site and minimising local flood impacts. Full details are to be included in documentation for a Construction Certificate application.

A024 -Minimum floor level – flooding Modified

The floor level of **all occupiable rooms** in the proposed buildings ~~or building additions~~ is to be not below **RL 2.82m** Australian Height Datum and being indicated on plans for a Construction Certificate application. The finished floor levels are to be certified by a registered Surveyor prior to the placement of the floor material and a copy of the Surveyor's Certificate is to be forwarded to the Principal Certifying Authority.

A025 - Construction in flood affected areas

The whole of the proposed structure below known the **Flood Hazard Level (i.e. reduced level 2.82m** Australian Height Datum) is to be constructed in materials and finishes that are resistant to damage from floodwaters/tidal waters. Any new machinery or equipment, electrical circuitry or fitting, storage unit or similar items likely to be damaged by floodwaters/tidal waters being installed above the said height or alternatively being of materials and functional capability resistant to the effects of floodwaters/tidal waters. Full details are to be included in documentation for a Construction Certificate application.

A026 – Flood emergency response plan

An appropriate flood emergency response plan is to be prepared by independent consulting engineers, experienced in flood management, and put in place by the applicant prior to occupation of this site for the intended use. Such plan is to be effectively updated and maintained by the occupiers; to include an education and awareness component for the workforce and detailed

evacuation procedures to interface with the Bureau of Meteorology's flood warning system and the local State Emergency Services plan (where appropriate) and to include provisions for any third parties likely to be involved.

A flood emergency response plan is to describe the following components:

- a) likely flood behaviour
- b) flood warning systems
- c) education awareness program
- d) evacuation and evasion procedures
- e) evacuation routes and flood refuges and
- f) flood preparedness and awareness procedures for residents and visitors

Considerations should include the full range of flood risks, the proposed use of the site, site access constraints and local area evacuation routes to high ground. As much as possible, the plan is to be aimed at self-directed evacuation or evasion to minimise the draw on limited State Emergency Services resources. Full details are to be included in documentation for a Construction Certificate application.

New Condition - Signage for Detention Devices

All onsite stormwater detention or water quality treatment systems are to be individually identified and sign posted in accordance with Council's Stormwater and Water Efficiency for Development Technical Manual (Updated 2013). Full details are to be included in documentation for a Construction Certificate application.

B - CONDITIONS TO BE SATISFIED PRIOR TO THE COMMENCEMENT OF WORK AND DURING THE CONSTRUCTION PHASE

B040 Stormwater – surface levels

Any alteration to natural surface levels on the site is to be undertaken in such a manner as to ensure that there is no increase in surface water runoff to adjoining properties or that runoff is impounded on adjoining properties, as a result of the development.

B068 Sediment control – simple

Erosion and sediment control measures are to be implemented prior to the commencement of works and maintained during the period of demolition and/or construction in accordance with the requirements of Managing Urban Stormwater: Soils and Construction 4th Edition - Vol. 1 (the 'Blue Book') published by Landcom, 2004. Controls are not to be removed until the site is stable with all bare areas supporting an established vegetative cover.

C - CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF AN OCCUPATION CERTIFICATE, A SUBDIVISION CERTIFICATE OR A STRATA CERTIFICATE

C002 Repair of footpath damage

All public footways, footpaving, kerbs, gutters and road pavement damaged during the works are to be immediately repaired following the damage, to a satisfactory state that provides for safe use by pedestrians and vehicles. Full restoration of the damage is to be carried out to Council's satisfaction prior to the completion of demolition work or prior to the issue of any occupation certificate in respect of development involving building work.

D- CONDITIONS TO BE SATISFIED DURING THE OPERATION AND USE OF THE DEVELOPMENT

E - ADVISORY MATTERS

E006 Dial before you dig

It is recommended that, prior to commencement of work, the free national community service 'Dial before you Dig' be contacted on 1100 or by fax on 1200 652 077 regarding the location of underground services in order to prevent injury, personal liability and even death. Inquiries should provide the property details and the nearest cross street/road.

E007 Public utilities

Any necessary alterations to public utility installations are to be at the developer/demolisher's expense and to the requirements of both Council and any other relevant authorities. Council and other service authorities should be contacted for specific requirements prior to the commencement of any works.

New Condition

For the purpose of applying the provisions of the Building Code of Australia for class 1, 2, 3, 4, 9a (health care) and 9c (aged care) buildings, it is advised that the proposed building is located in a Flood Hazard Area and the:

- a) Defined Flood Level (DFL) is 2.32m Australian Height Datum (AHD)
 - b) Flood Hazard Level is 2.82m AHD (Freeboard is 500mm above DFL)
- Maximum Flow Velocity of floodwaters for the Defined Flood Event is 0.9m/s.

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