Water Management Referral Response

Application Number:	DA2018/1924

Date:	23/04/2020
To:	David Auster
Land to be developed (Address):	Lot 20 DP 1209801 , Forest Way FRENCHS FOREST NSW 2086

Reasons for referral

Council's Water Management Officers are required to consider the likely impacts.

Officer comments

Referral comments 23 April 2020
The revised civil plans, stormwater layout and response to the comments below provided by the applicant have satisfactorily responded to the need to provide a more water sensitive design. The applicant has provided rainwater tanks, which will be used to supply water for landscaping and the green wall. While further effort to increase pervious surfaces would be well regarded, the solution provided will be acceptable. Conditions have been provided.

Referral comments: 20 December 2019

The application has been assessed under
Warringah DCP 2011 C4 – Stormwater
Warringah DCP 2011 C5 – Erosion and Sedimentation
Warringah Council PL 850 Water Management Policy
Northern Beaches Council Public Domain Design Guidelines

The proposed method for treating stormwater runoff is the use of SPEL hydrosystems. While these effectively treat all flows up to the designed bypass, they are not considered water sensitive urban design and do not meet the objectives of Northern Beaches Council for significant developments such as this.

The subject site is located in an area marked as Phase 3 of the Frenchs Forest Precinct Development. A significant objective of this precinct is the incorporation of water sensitive urban design elements into building design. This is also a significant objective of Council's current Water Management Policy. Council's policy includes the following principles:
"Integrate water sensitive urban design measures into the built form to maximise amenity"
"Encourage the reuse of water and alternative water sources"
"Align development controls with the objectives of the Water Sensitive Warringah Strategic Plan".

SPEL Hydrosystem filers do not reduce the quantity of runoff, and therefore do not minimise the impacts of increased flows or extended periods of flows (due to detention facilities). By using green infrastructure such as bio-filtration, permeable paving and green walls to treat stormwater runoff, additional water will infiltrate and evaporate, thus reducing the quantity of runoff and therefore reducing erosion of the downstream catchment. The proposal includes the use of green walls, however they have missed an opportunity for treatment by irrigating them with the potable water supply.

Council's Public Domain Guidelines B.1.14-18 Street Trees, WSUD and Landscape Treatments recommend that street tree surrounds be designed to incorporate WSUD to receive water runoff, WSUD treatments be incorporated in public spaces, and planted or turf verge treatments used to reduce paved surfaces and provide separation between the footpath and roadway (to reduce runoff to the gutter). There is sufficient landscaped areas around the perimeter of the development to incorporate these recommendations. Plantings in bio-filters do not need to be specifically directed at water treatment; there are many suitable native ornamentals that may be considered (see https://waterbydesign.com.au/wsud-plant-database/bioretention-plants).

The applicant must:
1. Provide a MUSIC model for the development (.sqz file)
2. Revise the stormwater treatment strategy to incorporate additional green infrastructure (WSUD) elements rather than relying entirely on filter devices. Using the proposed green walls to reuse stormwater, and incorporating tree pits, infiltration strips and permeable paving is strongly encouraged.

The proposal is therefore supported.

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

Recommended Water Management Conditions:

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

Detailed Design of Stormwater Treatment and Reuse Measures

A certificate from a Civil Engineer, stating that the stormwater treatment measures have been designed in accordance with the plans prepared by Taylor Thomson Whitting Engineers, dated February 2020 and Council's Water Management Policy.

The certificate shall be submitted to the Certifying Authority prior to the release of the Construction Certificate.

Reason: Protection of the receiving environment

CONDITIONS TO BE COMPLIED WITH DURING DEMOLITION AND BUILDING WORK

Substitution of Stormwater Treatment Measures

The substitution of an "equivalent" device for the stormwater treatment measure approved in the Development Application process must first be approved by the Principal Certifying Authority.

Details must be submitted to the Principal Certifying Authority for approval prior to installation.

Reason: To ensure stormwater is appropriately managed and in accordance with the Water Management for Development Policy.

Installation and Maintenance of Sediment and Erosion Control

Sediment and erosion controls must be installed in accordance with Landcom's 'Managing Urban Stormwater: Soils and Construction' (2004) and the Erosion and Sediment Control Plan prior to commencement of any other works on site.

Erosion and sediment controls are to be adequately maintained and monitored at all times, particularly after periods of rain, and shall remain in proper operation until all development activities have been completed and vegetation cover has been re-established across 70 percent of the site, and the remaining areas have been stabilised with ongoing measures such as jute mesh or matting.

The discharge of sediment-laden waters from the site may result in clean-up orders and/or fines under Council's Compliance and Enforcement Policy and legislation including Protection of the Environment Operations Act 1997 and Contaminated Lands Act 1997.

Reason: Protection of the receiving environment

Dewatering Management

Where a one-off instance of dewatering of groundwater or tailwater is required during works, Council's Catchment Team must be notified of your intention to discharge. Discharges should meet the water quality requirements below. Notification must be via the Team's email address - catchment@northernbeaches.nsw.gov.au.

For continuous dewatering approval for a period of one year a dewatering management plan must be provided to Council addressing the following information before Council will issue a dewatering permit. Where the dewatering of groundwater is required, WaterNSW will require a copy of Council's permit prior to considering your application. The plan must include the following:

1. Preliminary testing of groundwater/tailwater must be conducted by a NATA accredited laboratory to establish a correlation between NTU and TSS. This will allow the use of grab sampling at short notice prior to planned discharges. Test results must be provided to Council's Catchments Team at catchment@northernbeaches.nsw.gov.au, along with a notification of your intent to begin discharging at some time in the near future.
2. Grab samples from at least three locations must be collected **within 1 hour of discharge** that comply with the parameters in the table below. The groundwater/tailwater to be discharged must also be compliant with the General Terms of Approval/Controlled Activity permit issued by WaterNSW (if applicable), Landcom's 'Managing Urban Stormwater: Soils and Construction' (2004) (Blue Book), Council's Compliance and Enforcement Policy and legislation including Protection of the Environment Operations Act 1997 and Contaminated Lands Act 1997.

Parameter	Criterion	Method	Time Prior to Discharge
Oil and grease	No visible	Visual inspection	<1 hour
pH	6.5- 8.5	Probe/meter	<1 hour
Total Suspended Solids (TSS)	<50mg/L	Meter/grab sample measures as NTU	<1 hour

3. All records of approvals, water discharges and monitoring results are to be documented and kept on site. Records must include a diagram showing testing locations, and photos of the water to be

discharged at the time of testing. Copies of all records shall be provided to the appropriate regulatory authority, including Council, upon request.

Tailwater must be discharged to the nearest stormwater pit in accordance with Council's Auspec1 Design Manual and must not spread over any road, footpath and the like. Discharge to the kerb and gutter will not be accepted. Where there is no stormwater pit within 100 metres of the site, Council's Catchment Team must be contacted to discuss alternative arrangements.

Reason: Protection of the receiving environment

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

Certification for the Installation of Stormwater Treatment Measures

A certificate from a Civil Engineer, who has membership to Engineers Australia and the National Engineers Register must be provided, stating that the stormwater treatment measures have been installed in accordance with the plans prepared by Taylor Thomson Whitting. The certificate must confirm that stormwater treatment measures are completed, online, in good condition and are not impacted by sediment. Vegetated measures must exhibit an 80 percent survival rate of plantings.

The certificate shall be submitted to the Principal Certifying Authority prior to the release of the Occupation Certificate.

Reason: Protection of the receiving environment

Positive Covenant, Restriction as to User and Registration of Encumbrances for Stormwater Treatment and Reuse Measures

A positive covenant shall be created on the title of the land requiring the proprietor of the land to maintain the stormwater treatment measures (including the rainwater reuse system and green walls and roofs) in accordance with the standard requirements of Council, the manufacturer and as required by the Stormwater Treatment Measures Operation and Maintenance Plan.

A restriction as to user shall be created on the title over the stormwater treatment measures, restricting any alteration to the measures.

The terms of the positive covenant and restriction as to user are to be prepared to Council's standard requirements (available from Council) at the applicant's expense and endorsed by the Northern Beaches Council's delegate prior to lodgement with the Department of Lands. 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 as to user is to be submitted to the Principal Certifying Authority prior to the issue of any interim / final Occupation Certificate.

Reason: To identify encumbrances on land, ensure ongoing maintenance, and ensure modification to the stormwater treatment measures is not carried out without Council's approval.

Stormwater Treatment Measure Operation and Maintenance Plan

An Operation and Maintenance Plan is to be prepared to ensure the proposed stormwater treatment measures remain effective.

The Plan must be attached to the Positive Covenant (and the community or strata management statement if applicable) and contain the following:

1. Detail on the stormwater treatment measures:

    a) Work as executed drawings

    b) Intent of the stormwater treatment measures including modelled pollutant removal rates

    c) Site detail showing catchment for each device

    d) Vegetation species list associated with each type of vegetated stormwater treatment measure

    e) Impervious area restrictions to maintain the water balance for the site

    f) Funding arrangements for the maintenance of all stormwater treatment measures

    g) Identification of maintenance and management responsibilities

    h) Maintenance and emergency contact information

2. Maintenance schedule and procedure - establishment period of one year following commissioning of the stormwater treatment measure

    a) Activity description, and duration and frequency of visits

Additionally for vegetated devices:

    b) Monitoring and assessment to achieve an 80 percent survival rate for plantings

    c) Management of weeds, pests and erosion, with weed and sediment cover limited to a maximum of 5 percent of the total area of the stormwater treatment measure

3. Maintenance schedule and procedure - ongoing

    a) Activity description, and duration and frequency of visits

    b) Routine maintenance requirements

    c) Work Health and Safety requirements

    d) Waste management and disposal

    e) Traffic control (if required)

f) Renewal, decommissioning and replacement timelines and activities of all stormwater treatment measures (please note that a DA may be required if an alternative stormwater treatment measure is proposed)

g) Requirements for inspection and maintenance records, noting that these records are required to be maintained and made available to Council upon request.

Details demonstrating compliance shall be submitted to the Principal Certifying Authority prior to the release of the Occupation Certificate.

Reason: Protection of the receiving environment.

Works as Executed Drawings - Stormwater Treatment and Reuse Measures

Works as Executed Drawings for the stormwater treatment measures must be prepared in accordance with Council's Guideline for Preparing Works as Executed Data for Council Stormwater Assets.

The drawings shall be submitted to the Principal Certifying Authority prior to the release of the Occupation Certificate.

Reason: Protection of the receiving environment

Installation of Rainwater Tanks
Rainwater tanks shall comply with the following:

a) Be fitted with a first-flush device that causes initial rainwater run-off to bypass the tank and must drain to a landscaped area. The first flush device will not be permitted to connect to the stormwater system
b) Have a sign affixed to the tank stating the contents is rainwater
c) Be constructed or installed in a manner that prevents mosquitoes breeding, such as the use of mesh to protect inlets and overflows
d) Have its overflow connected to an existing stormwater drainage system that does not discharge to an adjoining property, or cause a nuisance to adjoining owners
e) Pumping equipment must be housed in a soundproof enclosure
f) Where the rainwater tank is interconnected to a reticulated water supply, it must be installed in accordance with Plumbing Code of Australia, particularly backflow/cross connection prevention requirements

A certificate from a licenced plumber shall be submitted to the Principal Certifying Authority prior to the release of the Occupation Certificate.

Reason: To conserve potable water.

Installation of Water Efficient Fittings
The following Water Efficiency Labelling and Standards (WELS) Scheme rated fittings must be installed:

a) 4 star dual-flush toilets
b) 3 star showerheads
c) 4 star taps (for all taps other than bath outlets and garden taps)
d) 3 star urinals
e) 3.5 star washing machines
f) 4 star dishwashers

A certificate from a licenced plumber shall be submitted to the Principal Certifying Authority prior to the release of the Occupation Certificate demonstrating compliance with this condition.

Reason: To conserve potable water.

ON-GOING CONDITIONS THAT MUST BE COMPLIED WITH AT ALL TIMES

Maintenance of Stormwater Treatment and Reuse Measures

Stormwater treatment measures must be maintained at all times in accordance with the Stormwater Treatment Measure Operation and Maintenance Plan, manufacturer's specifications and as necessary to achieve the required stormwater quality targets for the development.

Vegetated stormwater treatment measures must maintain an 80 percent survival rate of plantings and limit weed cover to no more than 10 percent of the total area of the stormwater treatment measure.

Northern Beaches Council reserves the right to enter the property and carry out appropriate maintenance of the device at the cost of the property owner.

Reason: Protection of the receiving environment