

Engineering Referral Response

Application Number:	DA2023/0669
Proposed Development:	Demolition work and the construction of 28 dwellings, infrastructure, roadworks, tree removal, landscaping, community title subdivision and the dedication of the creekline corridor to Council.
Date:	15/04/2024
To:	Alex Keller
Land to be developed (Address):	Lot 4 DP 553816 , 16 Macpherson Street WARRIEWOOD NSW 2102

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

A DRAINS model of pre development and post development conditions for the subdivision design should be submitted as soon as possible prior to perusal of the development engineering comments.

Water Cycle Management Report by Craig & Rhodes dated May 2023

(i) 3.2.2. As per the requirements of the *Warriewood Valley Urban Land Release Water Management Specification* (WVULRWMS) the post development area is to be assumed a minimum of 50% of site area.

(ii) 3.3 This section states 30% of the pre development site is impervious. The WVULRWMS states that for modelling pre developed conditions the site should be considered as rural or forest. Therefore the pre development impervious area should be assumed as 5%.

(iii) The WVULRWMS states that "Post development peak flows both from the sector and in the channel at the downstream boundary of each sector are not to exceed the pre-development flows for the full range of duration's and frequencies up to the 1% AEP level". The analysis and the basin sizing should therefore consider the 50% AEP storm event.

Proposed Subdivision of Lot 4 DP 553816 16 MacPherson Street Warriewood Civil Works

Development Application rev D by Craig & Rhodes

1. Drawing No. 048-22C-DA-0101.

- (i) Amend concrete footpath width to 1.2m.
- (ii) Provide a detail of typical surface inlet pit for Road 1 and Road 3. Has a concrete channel been considered? Are butterfly grates proposed?

2. Drawing No. 048-22C-DA-0752.

- (i) Provide labels for Sections. Provide levels.
- (ii) Provide additional section for longest dimension of basin from north west corner to south east corner. Provide levels.

3. Drawing No. 048-22C-DA-0712

- (i) The minimum cover for stormwater pipes and culverts is 600 mm.
- (ii) The minimum slope for pipes and culverts as per Councils Works Specifications is 1%. An absolute minimum of 0.5% will be considered on merit.
- (iii) Provide DRAINS model used for sizing proposed culvert.

4. Drawing No. 048-22C-DA-0751

- (i) Provide a more detailed design of OSD / bioretention basin.
- (ii) Show proposed maintenance access.
- (iii) Provide a plan and longitudinal section of overland flow access to basin for major storms in excess of street pipe network capacity.
- (iv) Provide emergency overflow weir for detention basin.

Engineering Comments 15.04.24

Amended Stormwater Management plans have been provided by Craig & Rhodes which have addressed some of the culvert design concerns. Development engineering raises no further objections to the proposed development, subject to conditions. **DRAFT CONDITIONS PROVIDED.**

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 Security Bond(s)

The applicant is to lodge a bond with Council for the following:

Drainage Works

As security against any damage or failure to complete the construction of stormwater drainage works required as part of this consent a bond of (one million one hundred and fifty thousand) \$1,150,000.00.

Crossing / Kerb & Gutter / Footpath Works

As security against any damage or failure to complete the construction of any vehicular crossings, kerb and gutter, any footpath works and removal of any redundant driveways required as part of this

consent a bond of \$50,000.

Road Works

As security against any damage or failure to complete the construction of road pavement/shoulder reconstruction works required as part of this consent a bond of \$100,000.

Security Bond

As security against damage to Council's roads fronting the site caused by the transport and disposal of materials and equipment to and from the site a bond of \$20,000.

Maintenance for Civil Works

A maintenance bond of \$50,000 for the construction of **Narrabeen Creek works**. The maintenance bond will only be refunded upon completion of the six month maintenance period, if work has been completed in accordance with the approved plans and to the satisfaction of Council. The maintenance bond is to be paid prior to Council prior to issuing of practical completion.

Details confirming payment of the bond(s) are to be submitted to the Principal Certifier prior to the issue of the Subdivision Works Certificate.

Reason: Protection of Council's infrastructure.

CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE SUBDIVISION WORKS CERTIFICATE

Revised internal road and footpath design

Amended plans for the internal road network shall be prepared which make provision for the following:

- Road No.01 to be designed with a minimum boundary to boundary width of 9m and a minimum kerb to kerb width of 6m, kerbed and guttered on both sides and with a footpath of a minimum width of 1.5m on the west side
- A continuous footpath connection of minimum 1.5m width at the northern end of Road No.01 to the shared path on the west side of Brands Lane
- Pram ramp connections from Road No.01 to the footpath on the south side of Road No.02
- Road No.3 to be designed with a 7.5m kerb to kerb width and no footpath but constructed, signposted and marked as a 10km/h shared zone with a contrasting paved surface to differentiate its shared zone use from the adjacent roads.

Reason: to adequately cater for the safety and amenity of pedestrians and prevent parking on footpaths

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 Civil Engineering plans for the design of the Narrabeen Creek Rehabilitation Works and on-site detention and water quality basin 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 submitted plans shall comply with the following requirements:

1. Design shall be in accordance with the Narrabeen Creek Rehabilitation Works drawings by Craig &

Rhodes drawing number: 048-22C-CK-0001, 048-22C-CK-0003, 048-22C-CK-0101, 048-22C-CK-0741, 048-22C-CK-0771, 048-22C-CK-0901, 048-22C-CK-0902 dated 22.11.23.

2. Stormwater outlets to the creek must be designed in accordance with DPE Water's Guidelines for Outlet Structures on Waterfront land. Guidelines can be found on the DPE website. No mortar is to be used on the outlet. Rocks must be placed using an interlocking system with varying rock sizes. The surface should be a textured finish to break up and dissipate sheet flows.

3. Amended and detailed landscape plans (at 1:200 scale minimum) are to be submitted, including typical detailed sections. The amended detailed landscape plans shall include the following information:

Creekline corridor landscape plan demonstrating the planting layout for the inner and outer creekline corridors. The plan shall detail planting layout, and plant schedules with selection, quantities and size. Typical sections shall be provided. The creekline corridor landscape plan shall be co-ordinated with the amended Riparian Corridor Vegetation Management Plan required by Condition. *Casuarina glauca* and *Eucalyptus robusta* shall occupy a minimum of 40% of the tree canopy schedule within the creekline corridor. Selected native trees shall be in accordance with the Plant Species List contained within the Warriewood Valley Release Area Landscape Masterplan and Design Guidelines. The creekline corridor landscape plan shall clearly indicate the extent of the inner 25m wide public creekline corridor that is solely composed of native flora/fauna and adjoining the creekline, as well as the 25m wide outer private landscaped buffer. The amended landscape plan shall include the following detail:

- All trees shall be installed at 200mm pot size.
- All shrubs within the 50m creekline corridor shall be installed at 1 per 1m².
- All grasses and groundcovers within the 50m creekline corridor shall be installed at 6 per 1m².

4. A Riparian Corridor Vegetation Management Plan is required to be submitted making provision for a 25m wide inner riparian corridor in compliance with the requirements of Section C6.7 of PDCP 21 and consistent with the biodiversity report (AEP 2564.01, rev04 dated October 2023) and Ecological Assessment Report (AEP 2564, Rev: 03 dated 4 May 2023). In addition, species selected must include species from the planting lists of the Warriewood Valley Landscape Masterplan. The amended plan is also to specify the removal of non-indigenous tree species as part of the rehabilitation/restoration works.

5. The complete detailed design of all works for Narrabeen creek corridor are to be submitted to Council as part of this application. The detailed designs is to be accordance with the creek plans 048-22C-CK-0101,048-22C-CK-0741,048-22C-CK-0771 revision F dated 22.11.23 from Craig&rhodes. the detail design is to include:

- design rational in a summary report with rock sizing graduation including nominal rock size (D10,D50, D90) and calculations.
- the construction of Narrabeen Creek corridor and associated transitions to upstream and downstream boundaries in compliance with the requirements of the Warriewood Valley Water Management Specification (WMS), i.e. low flow batter 1(v) in 3(h) up to the 50 percent AEP, then 1(v) in 6 (h) batter to 20 percent AEP and 1(v) in 8(h) batter over 20 percent AEP.
- 2.5 metre servicing wide ramp connecting Brands Lane to inner corridor is required.

6. Detailed On-site basin design generally in accordance with the Stormwater Management Plans by Craig & Rhodes, dwg no. 048-22C-DA-0751, 048-22C-DA-0752 & 048-22C-DA-0753 dated 02.04.24.

The plans must address the following requirements:

(i) Provision of at least four (4) additional basin cross-sections to accurately illustrate proposed basin capacity.

(ii) Detailed longitudinal section from Pit 4/01 to Pit 4/02 and from Pit 4/01 to Pit 4/03. Show all pit levels and dimensions. Show proposed orifice.

(iii) It is noted that the plans appear to show discharge controlled by a 300mm diameter pipe, whilst the DRAINS model utilises a 150mm diameter pipe. Amend DRAINS model and/ or plans as required to provide consistency and provide DRAINS model to Council as part of Stormwater Drainage

Application.

(iv) Provision of adequate maintenance access for the basin to maintain the water quality and detention function of the basin.

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 Principal Certifier prior to the issue of the Subdivision Works Certificate.

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

Utilities Services

Prior to the issue of the Subdivision Works Certificate, written evidence of the following service provider requirements must be provided to the Principal Certifier:

- a) a letter from Ausgrid demonstrating that satisfactory arrangements can be made for the installation and supply of electricity,
- b) a response from Sydney Water as to whether the proposed works subject to this consent would affect any Sydney Water infrastructure, and whether further requirements need to be met, and
- c) other relevant utilities or services - that the development as proposed to be carried out is satisfactory to those other service providers, or if it is not, the changes that are required to make the development satisfactory to them.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of the Subdivision Works Certificate.

Reason: To ensure relevant utility and service providers' requirements are provided to the Principal Certifier.

Submission of Roads Act Application for Civil Works in the Public Road

The Applicant is to submit an application for approval for Infrastructure works on Councils roadway. Engineering plans for the new development works within the road reserve and this development consent are to be submitted to Council for approval under the provisions of Sections 138 and 139 of the Roads Act 1993.

The application is to include Civil Engineering plans for the design of MacPherson Street and Brands Lane which are to be generally in accordance with the Council's specification for engineering works - AUS-SPEC #1. The plans shall be prepared by a qualified Civil Engineer.

The design must include the following information:

- 1 The construction of MacPherson Street and the indented parking bay accommodating no less than 7 vehicles on the MacPherson Street property frontage including removal of the existing kerb nib at the common boundary alignment of No.16 & No.18 MacPherson Street
2. The construction of Brands Lane and the indented parking bay accommodating no less than 6 vehicles on the east side of Brands Lane.
3. The signposting of a 4P timed parking restriction applying 8am to 6pm everyday in the indented parking bays in MacPherson Street and Brands Lane.
4. The reconstruction of the roundabout in Brands Lane at its junction with Road No.02.
5. The construction of a 2.1m shared path on the west side of Brands lane along the full frontage of the site and its connection via a 3m wide shared path connection to the footbridge over Narrabeen Creek.
6. streetlighting of Brands Lane and all internal roads consistent with AS/NZS 1158 and Ausgrid

requirements, to a subcategory of at least PR5. All streetlight poles to be located clear of any concrete paths and sufficient distance from any trees to allow for adequate light spill when the trees are mature.
7. Stormwater drainage design on MacPherson Street and Brands Lane, including full length of proposed 1800*900 box culvert

The fee associated with the assessment and approval of the application is to be in accordance with Council's Fee and Charges.

An approval is to be submitted to the Certifier prior to the issue of the Subdivision Works Certificate

Reason: To ensure engineering works are constructed in accordance with relevant standards and Council's specification.

Pre-Construction Stormwater Assets Dilapidation Report

The Applicant is to submit a pre-construction / demolition Dilapidation Survey of Council's Stormwater Assets 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 Certifier prior to the issue of the Construction Certificate.

Reason: Protection of Council's infrastructure.

Pre-Commencement Dilapidation Report

The applicant must prepare and submit a dilapidation report providing an accurate record of the existing condition of adjoining public property and public infrastructure (including roads, gutter, footpaths, etc). A copy of the report must be provided to Council, any other owners of public infrastructure and the owners of adjoining and affected private properties.

The dilapidation report must be submitted to Council for written approval and the written approval is then to be submitted to the Principal Certifier prior to the issue of the any Subdivision Works Certificate

and the commencement of any works including demolition.

Reason: Protection of Council's Infrastructure during construction.

Structures Located Adjacent to Council Pipeline or Council Easement

All structures are to be located clear of any Council pipeline or easement. Footings of any structure adjacent to an easement or pipeline are to be designed in accordance with Council's Water Management Policy; (in particular Section 6 - Building Over or Adjacent to Constructed Council Drainage Systems and Easements Technical Specification). Structural details prepared by a suitably qualified Civil Engineer, who has National Engineers Register (NER) or Professionals Australia (RPENG) demonstrating compliance are to be submitted to the Certifier for approval prior to the issue of the Subdivision Works Certificate.

Reason: Protection of Council's infrastructure.

Geotechnical Report recommendations have been correctly incorporated into designs and structural plans

The recommendations identified in the Geotechnical Report referenced in Condition 1 of this consent are to be incorporated into the construction plans. Details demonstrating compliance are to be submitted to the Certifier prior to the issue of the Subdivision Works Certificate.

Reason: To ensure geotechnical risk is mitigated appropriately.

Water Management Report - Warriewood Valley

The detailed design of all works associated with the water management system must provide for a complete system, which meets the objectives and requirements of the Warriewood Valley Water Management Specification (February 2001).

The system is to be in accordance with the revised Water Management Report in accordance with condition C1.

Details demonstrating compliance are to be submitted to the Certifier prior to the issue of the Subdivision Works Certificate.

Reason: To ensure water is managed appropriately and in accordance with the requirements of the Warriewood Valley Water Management Specification and Pittwater 21 DCP.

Certification of Water Management Report

The Applicant shall submit a certificate from a suitably qualified Civil Engineer, who has membership to Engineers Australia, National Engineers Register (NER) or Professionals Australia (RPENG) that the Water Management Report and all associated plans and detailed design are in accordance with the Warriewood Valley Water Management Specification (February 2001), and as meeting the requirements of these conditions.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of the Subdivision Works Certificate.

Reason: To ensure water is managed appropriately and in accordance with the requirements of the Warriewood Valley Water Management Specification and Pittwater 21 DCP.

Traffic Management and Control

The Applicant is to submit an application for Traffic Management Plan to Council for approval prior to issue of the Subdivision Works Certificate. The Traffic Management Plan shall be prepared to TfNSW standards by an appropriately certified person.

Reason: To ensure appropriate measures have been considered for site access, storage and the operation of the site during all phases of the construction process.

On-site Stormwater Detention Details

The Applicant is to provide a certification of drainage plans detailing the provision of on-site stormwater detention in accordance with Northern Beaches Council's Water Management for Development Policy, and generally in accordance with the concept drainage plans prepared by Craig & Rhodes, drawing number 048-22C-DA-0001, 048-22C-DA-0002, 048-22C-DA-0003, 048-22C-DA-0004, 048-22C-DA-0021, 048-22C-DA-0051, 048-22C-DA-0061, 048-22C-DA-0062, 048-22C-DA-0101, 048-22C-DA-0102, 048-22C-DA-0151, 048-22C-DA-0201, 048-22C-DA-0202, 048-22C-DA-0501, 048-22C-DA-0601, 048-22C-DA-0701, 048-22C-DA-0711, 048-22C-DA-0712, 048-22C-DA-0751, 048-22C-DA-0752, 048-22C-DA-0753, 048-22C-DA-0801, 048-22C-DA-0901, 048-22C-DA-0902 dated 02.04.24. Detailed drainage plans are to be prepared by a suitably qualified Civil Engineer, who has membership to Engineers Australia, National Engineers Register (NER) or Professionals Australia (RPENG) and registered in the General Area of Practice for civil engineering.

Detailed drainage plans, including engineering certification, are to be submitted to the Certifier for approval prior to the issue of the Construction Certificate.

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

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

Stormwater Disposal

The applicant is to submit Stormwater Engineering Plans for the new development within this development consent in accordance with AS/NZS 3500 and Council's Water Management for Development Policy, prepared by an appropriately qualified and practicing Civil or Hydraulic Engineer who has membership to Engineers Australia, National Engineers Register (NER) or Professionals Australia (RPENG), 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 street and on-site detention basin.

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

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

Geotechnical Report Recommendations have been Incorporated into Designs and Structural Plans

The recommendations identified in the Geotechnical Report referenced in Condition 1 of this consent are to be incorporated into the construction plans. Details demonstrating compliance are to be submitted to the Certifier prior to the issue of the construction certificate.

Reason: To ensure geotechnical risk is mitigated appropriately.

Off Street Parking Design

The Applicant shall submit a design for the parking facility in accordance with the relevant provisions of Australian/New Zealand Standard AS/NZS 2890.1:2004 parking facilities - Off-street car parking, in particular Section 2.4.5 Physical Controls and Section 2.6 Design of Domestic Driveways.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of the Construction Certificate.

Reason: Compliance with this consent.

On-site Stormwater Detention Details

The Applicant is to provide a certification of drainage plans detailing the provision of on-site stormwater detention in accordance with Northern Beaches Council's Water Management for Development Policy, and generally in accordance with the concept drainage plans prepared by Craig & Rhodes, drawing number 048-22C-DA-0001, 048-22C-DA-0002, 048-22C-DA-0003, 048-22C-DA-0004, 048-22C-DA-0021, 048-22C-DA-0051, 048-22C-DA-0061, 048-22C-DA-0062, 048-22C-DA-0101, 048-22C-DA-0102, 048-22C-DA-0151, 048-22C-DA-0201, 048-22C-DA-0202, 048-22C-DA-0501, 048-22C-DA-0601, 048-22C-DA-0701, 048-22C-DA-0711, 048-22C-DA-0712, 048-22C-DA-0751, 048-22C-DA-0752, 048-22C-DA-0753, 048-22C-DA-0801, 048-22C-DA-0901, 048-22C-DA-0902 dated 02.04.24. Detailed drainage plans are to be prepared by a suitably qualified Civil Engineer, who has membership to Engineers Australia, National Engineers Register (NER) or Professionals Australia (RPENG) and registered in the General Area of Practice for civil engineering.

Detailed drainage plans, including engineering certification, are to be submitted to the Certifier for approval prior to the issue of the Construction Certificate.

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

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.

Traffic Control During Road Works

Lighting, fencing, traffic control and advanced warning signs shall be provided for the protection of the works and for the safety and convenience of the public and others in accordance with RMS Traffic Control At Work Sites Manual (<http://www.rms.nsw.gov.au/business-industry/partners-suppliers/documents/technical-manuals/tcws-version-4/tcwsv4i2.pdf>) and to the satisfaction of the Roads Authority. Traffic movement in both directions on public roads, and vehicular access to private properties is to be maintained at all times during the works

Reason: Public Safety.

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

Post- Construction Stormwater Assets Dilapidation Report (Council stormwater assets)

The Applicant shall submit a post-construction 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 in order to determine if the asset has been damaged by the works. Council's Guidelines are available at <https://files.northernbeaches.nsw.gov.au/sites/default/files/documents/general-information/engineering-specifications/preparingdilapidationsurveyforcouncilstormwaterassets.pdf>

The post-construction / demolition dilapidation report must be submitted to Council for review and approval. Any damage to Council's stormwater infrastructure is to be rectified prior to the release of any Drainage security bonds. Council's acceptance of the Dilapidation Survey is to be submitted to the Principal Certifying Authority prior to the issue of the Occupation Certificate.

Reason: Protection of Council's infrastructure.

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 Certifier prior to the issue of an Occupation Certificate.

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

Reinstatement of Kerb

The Applicant shall reinstate all redundant laybacks and vehicular crossings to conventional kerb and gutter, footpath or grassed verge as appropriate with all costs borne by the applicant.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of an Occupation Certificate.

Reason: To facilitate the preservation of on street parking spaces.

Certification of Structures Located Adjacent to Council Pipeline or Council Easement

The Applicant shall submit a suitably qualified Structural Engineer's certification that the completed footing works have been constructed in accordance with this consent, Northern Beaches Council's Water Management for Development Policy and the approved Construction Certificate plans. Details demonstrating compliance are to be submitted to the Principal Certifying Authority prior to the issue of the Occupation Certificate.

Reason: Protection of Council's infrastructure

Certification of Off Street Parking Works

The Applicant shall submit a certificate from a suitably qualified person certifying that the parking facility was constructed in accordance within this development consent and the relevant provisions of Australian/New Zealand Standard AS/NZS 2890.1:2004 parking facilities - Off-street car parking, in particular Section 2.4.5 Physical Controls and Section 2.6 Design of Domestic Driveways.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of the Occupation Certificate.

Reason: Compliance with this consent.

Post-Construction Dilapidation Report (Major Development)

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.

Certification of Water Management Report

The Applicant shall submit a certificate from a suitably qualified Civil Engineer, who has membership to Engineers Australia, National Engineers Register (NER) or Professionals Australia (RPENG) and has appropriate experience and competence in the related field, that the drainage/stormwater management system has been installed to the manufacturer's specification (where applicable) and completed in accordance with the engineering plans and specifications required within this development consent is to be submitted to the Principal Certifier prior to the issue of the Occupation Certificate.

Reason: To ensure Stormwater Management has been built in accordance with the plans and specifications required under this consent.

Completion of Water Management Report

The Applicant shall submit a Water Management Report certifying the all works associated with the water management system required under these conditions of consent and the Warriewood Valley Water Management Specification (February 2001) and submitted to the Principal Certifier prior to the issue of the Occupation Certificate.

Reason: To ensure Stormwater Management has been built in accordance with the plans and specifications required under this consent.

CONDITIONS THAT MUST BE COMPLIED WITH PRIOR TO THE ISSUE OF ANY STRATA SUBDIVISION OR SUBDIVISION CERTIFICATE

Certification of Council Drainage Works and Works as Executed Data in accordance with Local Government S68 Approval

The Applicant shall submit certification by a suitably qualified Civil Engineer, who has membership to Engineers Australia, National Engineers Register (NER) or Professionals Australia (RPENG) that the completed works have been constructed in accordance with this consent and the approved Section 68 approved plans. Works as Executed data (details overdrawn on a copy of the approved drainage plan) certified by a registered surveyor in relation to boundaries and/or relevant easements prepared in accordance with Council's 'Guideline for preparing Works as Executed data for Council Stormwater Assets' within the subject site, shall be submitted to the Principal Certifier prior to the issue of the Subdivision Certificate.

Reason: To ensure compliance of drainage works with Council's specification for engineering works.

Certification of Civil Works and Works as Executed Data in accordance with Road Act Approval

The Applicant shall submit a certification by a suitably qualified Civil Engineer, who has membership to Engineers Australia, National Engineers Register (NER) or Professionals Australia (RPENG) that the completed works have been constructed in accordance with this consent and the approved Section

138 and/or Subdivision Works Certificate plans. Works as Executed data certified by a registered surveyor in relation to boundaries and/or relevant easements, prepared in accordance with Council's 'Guideline for preparing Works as Executed data for Council Assets' in an approved format shall be submitted to the Principal Certifier for approval prior to the issue of the Subdivision Certificate.

Reason: To ensure compliance of works with Council's specification for engineering works.

Landfill

Where it is intended to place filling on the allotments to a depth greater than 0.5m, the fill shall be compacted in accordance with AS 3798-2007. Certification from a Geotechnical Engineer for the fill and compaction shall be submitted to Council for approval prior to the issue of the Subdivision Certificate.

Reason: To ensure landfill is managed appropriately.

Positive Covenant for Drainage Structures

The Applicant shall submit a positive covenant (under the provisions of Section 88B of the Conveyancing Act) to be created on the final plan of subdivision and accompanying 88B instrument. The covenant will require the proprietor of the land to maintain the bioretention and on-site detention basin and all ancillary works in accordance with the standard requirements of Council. The terms of the positive covenant are to be prepared to Council's standard requirements, which are available from Northern Beaches Council. Northern Beaches Council shall be nominated as the sole authority empowered to release, vary or modify such covenant.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of the Subdivision Certificate.

Reason: To ensure ongoing maintenance of the on-site stormwater detention system

Positive Covenant for On-site Stormwater Detention

A positive covenant (under the provisions of Section 88B of the Conveyancing Act 1919) is to be created on the final plan of subdivision and accompanying 88B instrument, requiring the proprietor of the land to maintain the on-site stormwater detention structure in accordance with the standard requirements of Council. The terms of the positive covenant are to be prepared to Council's standard requirements, which are available from Northern Beaches Council. Northern Beaches Council shall be nominated as the sole authority empowered to release, vary or modify such covenant.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of the Subdivision Certificate

Reason: To ensure ongoing maintenance of the on-site detention system.

Provision of Services for Subdivision

The applicant is to ensure all services including water, electricity, telephone and gas are provided, located and certified by a registered surveyor on a copy of the final plan of subdivision.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of the Subdivision Certificate.

Reason: To ensure that utility services have been provided to the newly created lots.

Restriction as to User (On-site Stormwater Detention)

The Applicant shall create a restriction as to user (under the provisions of Section 88B of the

Conveyancing Act) on the final plan of subdivision and accompanying 88B instrument for the on-site stormwater detention system, restricting any alteration or additions to the system. The terms of such restriction are to be prepared to Council's standard requirements. Council shall be nominated as the party to release, vary or modify such restriction.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of the Subdivision Certificate.

Reason: To ensure no modification to the on-site stormwater detention structure without Council's approval.

Services

The Applicant shall ensure all utilities/services and street lighting is installed. The Applicant is to submit a Certification stating the above requirement has been complied with by the relevant authority(s) and/or authorised contractor.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of the Subdivision Certificate.

Reason: To ensure services have been provided in accordance with the relevant authorities requirements.

Certification of On-site Detention System (New Subdivision)

A Certificate is to be submitted by a suitably qualified Civil Engineer, who has membership to Engineers Australia, National Engineers Register (NER) or Professionals Australia (RPENG) and has appropriate experience and competence in the related field confirming to the satisfaction of the Principal Certifier that the on-site stormwater detention system has been constructed in accordance with the approved subdivision works certificate and relevant conditions of Development Consent. The Subdivision Certificate will not be released until this certification has been submitted and the Principal Certifier has confirmed that this condition has been satisfied.

Reason: To ensure the On-site Detention System has been built to the appropriate standard.

Sydney Water Compliance Certification

The Applicant shall submit a Section 73 Compliance Certificate under the Sydney Water Act 1994 issued by Sydney Water Corporation. Application must be made through an authorised Water Servicing Co-ordinator. Please refer to the Building Developing and Plumbing section of the web site www.sydneywater.com.au <<http://www.sydneywater.com.au>> then refer to "Water Servicing Coordinator" under "Developing Your Land" or telephone 13 20 92 for assistance.

Following application a "Notice of Requirements" will advise of water and sewer infrastructure to be built and fees to be paid. Please make early contact with the coordinator, since building of water/sewer infrastructure can be time consuming and may impact on other services and building, driveway or landscape design.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of the Subdivision Certificate.

Reason: To ensure compliance with the statutory requirements of Sydney Water.

Subdivision Certificate Application

The Applicant shall submit a Subdivision Certificate Application to Council, which is to include a completed Subdivision Certificate form and checklist, a final plan of subdivision prepared in

accordance with the requirements of the Conveyancing Act 1919, the final plan of subdivision and all relevant documents including electronic copies. This documentation is to be submitted to Council prior to the issue of the Subdivision Certificate. All plans of survey are to show connections to at least two Survey Co-ordination Permanent Marks. The fee payable is to be in accordance with Council's fees and charges.

Reason: Statutory requirement of the Conveyancing Act 1919.

Title Encumbrances

The Applicant shall ensure all easements, rights of carriageway, positive covenants and restrictions as to user as detailed on the plans and required by the development consent are to be created on the title naming Council as the sole authority empowered to release or modify.

Details demonstrating compliance are to be submitted to the Principal Certifier prior to the issue of the Subdivision Certificate.

Reason: To ensure proper management of land.