

Engineering Referral Response

Application Number:	DA2022/2152
Proposed Development:	Demolition works and subdivision of land into 9 lots including tree removal and infrastructure work
Date:	30/10/2023
To:	Adam Croft
Land to be developed (Address):	<p>Lot 295 DP 820302 , 122 A Crescent Road NEWPORT NSW 2106</p> <p>Lot 111 DP 556902 , 124 Crescent Road NEWPORT NSW 2106</p> <p>Lot 3 DP 210342 , 128 Crescent Road NEWPORT NSW 2106</p> <p>Lot 21 DP 545339 , 57 The Avenue NEWPORT NSW 2106</p> <p>Lot LIC 407538 , 57 The Avenue NEWPORT NSW 2106</p> <p>Lot LIC 460612 , 57 The Avenue NEWPORT NSW 2106</p> <p>Lot 1 DP 503390 , 126 Crescent Road NEWPORT NSW 2106</p> <p>Lot 2 DP 210342 , 55 The Avenue NEWPORT NSW 2106</p> <p>Lot 111 DP 556902 , 122 Crescent Road NEWPORT NSW 2106</p> <p>Lot 112 DP 556902 , 122 Crescent Road NEWPORT NSW 2106</p> <p>Lot LIC 188424 , 122 Crescent Road NEWPORT NSW 2106</p> <p>Lot 295 DP 820302 , 122 Crescent Road NEWPORT NSW 2106</p> <p>Lot 295 DP 820302 , 122 Crescent Road NEWPORT NSW 2106</p>

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

Updated comments 30/10/23

The proposed 9 Lot subdivision and marina development is not supported for the following reasons:

1) The site is affected by overland stormwater flows in larger storm events predominately along the line of the existing Council 375mm Concrete stormwater line which runs from the sag point in Crescent Road to the existing seawall .

An overland stormwater flow study is to be prepared by a NER/RPENG qualified civil engineer to determine the extent of the overland flow path and impacts on the development including the proposed construction of dwellings. The study is to be prepared by a suitable computer hydrological/hydraulic model . Councils preferred model is DRAINS. The overland flow cross-sections are to be determined by the HEC Ras programme or similar.

It is noted that the design engineers BG and E propose to re divert Councils existing 375mm RCP stormwater (SW) line which runs through the current site to the southern boundary with a 3m wide stormwater drainage easement over the re diverted drainage line. This proposal is supported by Councils stormwater assets team

The current proposed location of the overland flow swale is not acceptable as the overland flow path needs to be aligned with the sag pit Crescent road ie the lowest point . Any overland flow originating from this location cannot physical enter the proposed swale given its separation from the current sag point. Any over land flow path should be aligned from the current sag point in the Crescent Road and follow the alignment of the proposed re diverted Council SW line to the discharge point.

The following needs be addressed by the study :

- The existing overland flow regime is to be mapped. All proposed residential housing is to be keep clear of the overland flow path.
- The re diverted Council stormwater line running through the site is to be upgraded to have a minimum hydraulic capacity of 5/100 AEP. Flows in excess of this event are to be controlled via an above overland flow path to the 1 /100 AEP.
- The overland flow path is to be contained with a widened 3m easement from the sag point in Crescent Road to the outlet.
- The study is to also review velocity depth ratio in relation to pedestrian safety.
- The overland flow study/report is to be prepared in accordance with ARR 2019 - Section Flood estimation and use the Initial/ Continuing Hydraulic Loss model.
- The Council stormwater line upgrade works are to be designed in accordance with Councils Auspec one design guideline.

2) Construction of the Headwall outlet and upgraded pipeline requires a controlled activity permit. Comments from Councils Coast and Catchment Team will be required on the new headwall/pipe construction.

3) A Stormwater management plan will need to detail the provision of On site stormwater detention (OSD)in accordance with Councils water management policy for development. A DRAINS model is required to determine the required OSD storage volumes and post developed discharge rates to the 1/100AEP storm event. The pre developed scenario for the model is to be state of nature. Additionally

water quality treatment devices are to be provided for the proposed subdivision in accordance Councils water management policy for development. Councils Coast and Catchment Team can be contacted for more detailed comments.

4) Engineering plans for the internal access road are required to be prepared by a NER or RPENG qualified civil engineer in accordance with Councils Auspec One design guideline. Long sections and cross sections of the access road and pass bays are to be provide . Any proposed retaining walls are also to be detailed on the engineering plans. All Councils Transport Network comments are to be incorporated into the design of the engineering plans.

5) The proposed subdivision titling is to be provided to council given that there will be shared subdivision assets including the internal access road and stormwater quality treatment devices .

Previous referral comments

The proposed 9 Lot subdivision and marina development is not supported for the following reasons:

1) The site is affected by overland stormwater flows in larger storm events predominately along the line the of the existing Council 375mm Concrete stormwater line which runs from the sag point in Crescent Road to the existing seawall .

An overland stormwater flow study is to be prepared by a NER/RPENG qualified civil engineer to determine the extent of the overland flow path and impacts on the development including the proposed construction of dwellings. The study is to be prepared by a suitable computer hydrological/hydraulic model . councils preferred model is DRAINS. The overland flow cross-sections are to be determined by the HEC Ras programme or similar.

The following needs be addressed by the study :

- The existing overland flow regime is to be mapped. All proposed residential housing is to be keep clear of the overland flow path.
- The Council stormwater line running through the site is to be upgraded to have a minimum hydraulic capacity of 5/100 AEP. Flows in excess of this event are to be controlled via an above overland flow path to the 1 /100 AEP.
- The overland flow path is to be contained with a widened 3m easement from the sag point in Crescent Road to the outlet.
- The study is to also review velocity depth ratio in relation to pedestrian safety.
- The overland flow study/report is to be prepared in accordance with ARR 2019 - Section Flood estimation and use the Initial/ Continuing Hydraulic Loss model.

2) Construction of the Headwall outlet and upgraded pipeline requires a controlled activity permit. Comments from Councils Coast and Catchment Team will be required on the new headwall/pipe construction.

- 3) A Stormwater management plan will need to detail the provision of On site stormwater detention (OSD)in accordance with Councils water management policy for development. A DRAINS model is required to determine the required OSD storage volumes and post developed discharge rates to the 1/100AEP storm event. The pre developed scenario for the model is to be state of nature. Additionally water quality treatment devices are to be provided for the proposed subdivision in accordance Councils water management policy for development. Councils Coast and Catchment Team can be contacted for more detailed comments.
- 4) Engineering plans for the internal access road are required to be prepared by a NER or RPENG qualified civil engineer in accordance with Councils Auspec One design guideline. Long sections and cross sections of the access road and pass bays are to be provide . Any proposed retaining walls are also to be detailed on the engineering plans. All Councils Transport Network comments are to be incorporated into the design of the engineering plans.
- 5) The proposed subdivision titling is to be provided to council given that there will be shared subdivision assets including the internal access road and stormwater quality treatment devices and possibly the marina berths.

The proposal is therefore unsupported.

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

Recommended Engineering Conditions:

Nil.