DEMLAKIAN
INTELLIGENT THINKING

24 August 2020
REF: 220088rpt20200824_JD_Stormwater Quality Report.docx

Development Link Pty Ltd
C/- Crawford Architects
Suite 3.01
80 Mount Street
NORTH SYDNEY NSW 2060

RE: STORMWATER QUALITY REPORT – PROPOSED DEVELOPMENT
349 BARRENJOEY ROAD, NEWPORT

1.0 INTRODUCTION

Demlakian Consulting Engineers have been engaged to prepare a Stormwater Quality Report for the proposed Shop Top Housing development at the above site as supporting documentation for the Development Application. The aim of this report is to demonstrate the compliance of the proposed development with the stormwater quality requirements as outlined within Northern Beaches Council's pre-lodgement advice dated 31 October 2019, that states the following:

"The applicant is required to provide stormwater treatment for the site. A stormwater engineer should prepare the stormwater plan.

1. *The following pollutant reduction targets apply: GP 90%, TSS 85%, TP 65% and TN 45%. The incorporation of roof water for reuse in toilets and laundries will be viewed favourably and is more important than meeting targets for TP and TN removal.*
2. *Stormwater treatment measure must be included in the Water Management Plan, with detail provided of each measure.*
3. *A MUSIC model file must be provided with the DA to allow Council to review the model and parameters used.*
4. *A restriction as to user and positive covenant will be placed over the asset(s) and the applicant is required to provide an operation and maintenance plan for each asset. The responsibilities of the strata association in terms of maintaining and replacing the stormwater treatment measures must be made clear in the appropriate documents. (for CC – not for DA)."*

2.0 PROPOSED DEVELOPMENT AND CONTEXT

The site comprises lot 63 located at 349 Barrenjoey Road and currently consists of mixed-use buildings that are proposed to be demolished and replaced with a new three-storey mixed-use premises over one level of basement carpark.

Figure 1: Site Plan View

For the purpose of this report, the site adjoins existing developments to the northern and western boundaries, with Barrenjoey Road being adjacent to the southern boundary and Robertson Road to the eastern boundary.

The site has a pronounced fall from north to south.

The objective of this report is to demonstrate that the proposed development addresses the stormwater quality requirements as outlined within Northern Beaches Council's pre-lodgement advice dated 31 October 2019.

3.0 REFERENCED DOCUMENTS

The following documents have been referenced within this report:

- Northern Beaches Council pre-lodgement advice dated 31 October 2019
- Architectural drawings prepared by Crawford Architects
- Stormwater drainage concept drawings prepared by Demlakian Consulting Engineers.

4.0 STORMWATER QUALITY MEASURES

4.1 STORMWATER QUANTITY

The stormwater drainage for the proposed development has been designed to comply with the following guidelines:

- Northern Beaches Council Pittwater 21 DCP Section B5
- AS 3500.3-2015 Plumbing and Drainage – Stormwater Drainage
- The Northern Beaches Council pre-lodgement advice dated 31 October 2019.

Since the location of the site is within a flood zone, no OSD is required to be incorporated within the stormwater design of the property.

Furthermore, as the total paved areas of the existing site and proposed development are both 100% of the property, the discharge rate into Council's system will not change, and thus, have no adverse effect on Council's stormwater network.

Accordingly, and in order to avoid any existing services underneath the footpath, the proposed stormwater design will discharge all collected stormwater at two locations on Barrenjoey Road. (Refer to the DCE Stormwater Drainage Concept Drawings).

4.2 WATER QUALITY

As part of the proposed stormwater drainage system, Ocean Protect have provided a treatment system that is to be incorporated into the stormwater drainage design to treat the collected water, in accordance with Council's requirements, before it is discharged into the common drainage system. (Refer to the DCE Stormwater Drainage Concept Drawings).

In order to achieve the water quality treatment reduction targets as set by Norther Beaches Council, a Model for Urban Stormwater Improvement Conceptualisation (MUSIC) of the site has been developed to identify the necessary filtration system that will be sufficient in achieving the above standards. Accordingly, Ocean Protect provided the following treatment system:

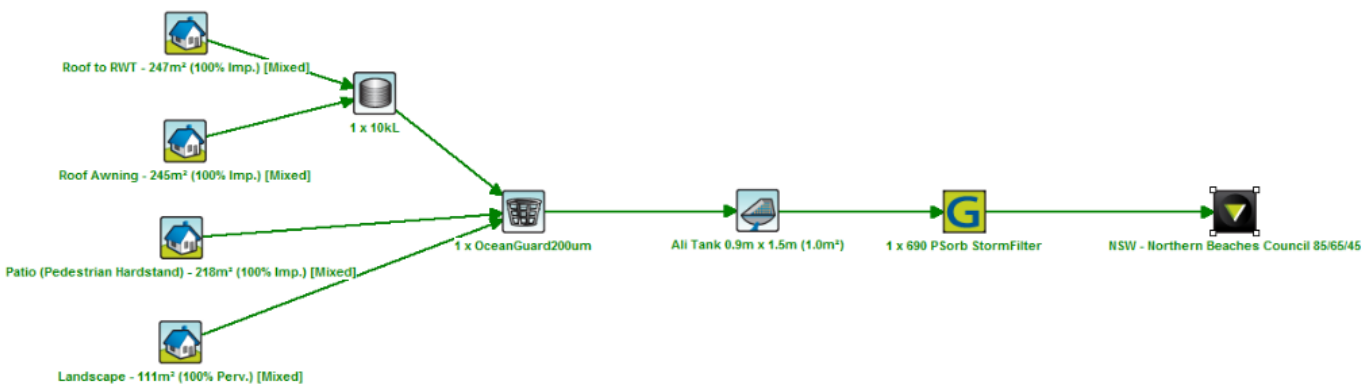
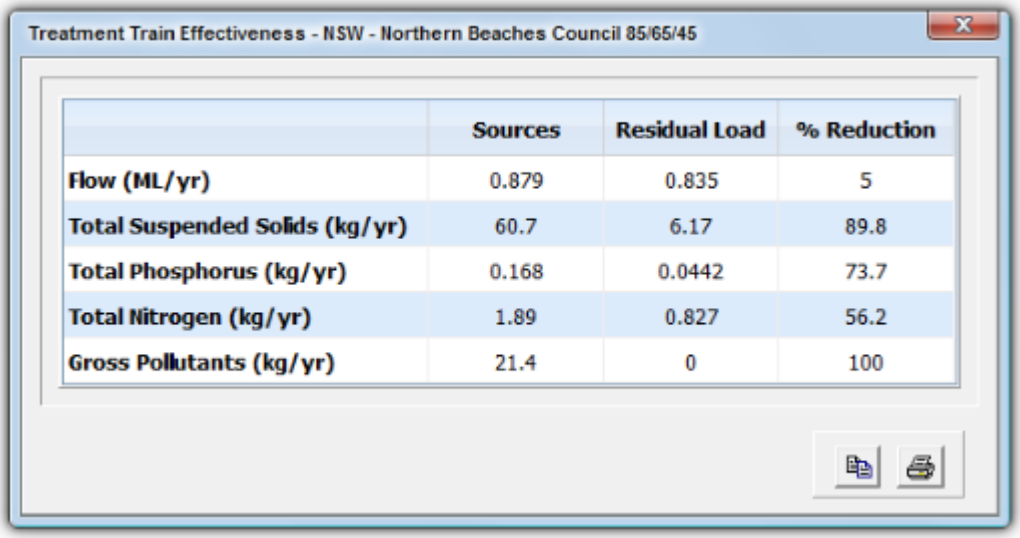


Figure 2: MUSIC Model Schematic



	Sources	Residual Load	% Reduction
Flow (ML/yr)	0.879	0.835	5
Total Suspended Solids (kg/yr)	60.7	6.17	89.8
Total Phosphorus (kg/yr)	0.168	0.0442	73.7
Total Nitrogen (kg/yr)	1.89	0.827	56.2
Gross Pollutants (kg/yr)	21.4	0	100

Figure 3: MUSIC Model Results

In accordance with the above, the following reduction targets for water quality improvement are stipulated:

- Total suspended Solids (TSS) – 89.8%
- Total Phosphorous (TP) – 73.7%
- Total Nitrogen (TN) – 56.2%
- Gross Pollutants Reduction (GP) – 100%

5.0 SEDIMENT AND EROSION CONTROL

Further to the proposed construction works commencing, the following soil and water management control measures are to be established:

- Installation of geotextile filter fabric and sediment fences
- Installation of temporary hay bale walls around existing pits
- Sand filter to treat storm and ground water before it is discharged to the street.

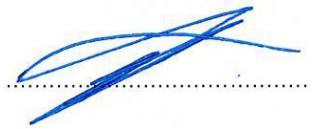
6.0 CONCLUSION

The existing fully paved site drains into the Council system. Therefore, as the discharge rate of the proposed development will not increase from that of the existing site, all collected stormwater from the proposed development will drain into Barrenjoey Road in accordance with section B5 of the Northern Beaches Council.

As the existing development is fully paved, there is no requirement by Council to implement an OSD within the proposed development.

Furthermore, all stormwater collected on site will pass through a Gullypit with 1x690 Stormfilter as specified by Ocean Protect in order to meet the stormwater quality treatment requirements as specified by the Northern beaches Council.

Yours faithfully,



David Wilcox
B.E. (Hons I), FIEAust, CPEng, NER APEC Engineer IntPE (Aus) RPEQ
Director
DEMLAKIAN CONSULTING ENGINEERS

Encl. DCE Stormwater Drawings 220088/SW00 – SW04
C&A Surveyors Survey Drawings dated 28/082018
Pre-lodgement Meeting Notes dated 31 October 2019.

Shop Top Housing - STORMWATER

349 Barrenjoey Road NEWPORT

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STORMWATER DRAINAGE NOTES:

GENERAL NOTES:

D1. All levels are to Australian Height Datum (AHD), unless noted otherwise.

D2. Dimensions shall not be scaled from drawings.

D3. The Contractor must verify all dimensions on site prior to commencement of the works.

D4. These plans shall be read in conjunction with the approved Architectural, Structural, Mechanical, Hydraulic, Electrical, Landscape & other Consultants drawings.

D5. Where new work abuts existing, the Contractor shall ensure a smooth even profile free from abrupt changes.

D6. The Contractor shall arrange for all survey setout & as-built to be performed by a Registered Surveyor.

D7. Invert levels are given at critical locations. The Contractor/Drainer shall determine levels on minor drainage lines and confirm design levels.

D8. Stormwater drains min. fall 1:100, unless noted otherwise.

D9. Advise Engineer for Inspection of all Stormwater works, pipes & pits, prior to covering. Provide as-built survey upon completion.

D10. Construction of Drainage to conform with the requirements of the relevant Authority or Council.

D11. Connections to new & existing drainage shall be neatly trimmed & cement rendered to a smooth finish.

D12. All work shall be in accordance with AS3500 'National Plumbing & Drainage Code', unless noted otherwise.

D13. The Contractor shall expose the full drainage route and point of discharge from the site and confirm levels prior to commencing construction.

EXISTING SERVICES:

D14. The Contractor shall excavate for, locate and co-ordinate with all services within & beyond the property line prior to the commencement of the Works.

D15. Existing services which are to remain shall be adjusted as necessary to suit the new Works.

D16. Existing services no longer required shall be capped off and removed out of sight to the relevant authorities requirements.

D17. Care is to be taken when excavating near existing services. Obtain services setout prior to works. Hand excavate as required to avoid damage to services.

D18. Construct temporary services as required.

DRAINAGE PIPES:

D19. UPVC type pipes shall be used for pipes not greater than 300mm diameter, unless noted otherwise. UPVC pipes shall have solvent welded watertight joints.

D20. Pipe diameter greater than 300mm shall be FRC type pipe Class '3', unless noted otherwise.

D21. Pipe laying, bedding & backfill to be in accordance with the specification and the pipe manufacturer's requirements.

D22. Where UPVC drainage pipes pass under slabs, sewer grade pipes shall be used.

D23. Contractor shall supply & install all proprietary fittings for connections & junctions.

D24. Additional subsoil drainage may be required where site conditions & groundwater dictate. Refer to Engineer for site inspection.

D25. Pipes to be 100Φ unless noted otherwise.

D26. Outlet pipes from pits shall have invert level at least 30mm lower than the invert level of the lowest pipe entering the pit.

D27. Inspection openings or stormwater pits shall be located where shown on the drawings and at the following locations:
- a. Each point of connection
- b. Even spacing not more than 30m apart.
- c. Each end of any inclined jump-up which exceeds 6m in length.
- d. Each connection to an existing stormwater drain.
- e. Any change of direction greater than 45°.

D28. Inspection openings shall be min 150Φ and shall be plugged or capped in accordance with AS3500.

D29. Planter boxes bases to be lined with 'Atlantis Drainage Cell' or approved equivalent wrapped in geotextile and draining to subsoil drainage pipes connected to the main stormwater system. Co-ordinate with requirements of Landscape Architect.

D30. Junctions in stormwater drains shall be made by means of a proprietary coupler or for pipes of at least 350Φ opening cut as detailed on the drawings.

DRAINAGE PITS:

D31. All pits and arrestors shall be constructed to the relevant authorities requirements. Provide local falls to pits.

D32. Minimum cover to all reinforcement in concrete to be 40mm.

D33. Minimum Drainage pit size shall be as follows:

Depth to Invert (mm)	Minimum Internal Dimensions (mm)		
	Rectangular		Circular
	Width	Length	Diameter
⩽600	450	450	600
>600 ⩽ 900	600	600	900
>900 ⩽1200	600	900	1000
>1200	900	900	1000

D34. All pits to have galvanised hinged lockable gratings equivalent to "Grate Drainage Products Pty Ltd" heelguard type.
Use Class B in general areas and Class D in areas subject to vehicles.

D35. Drainage pit size may need to be increased over minimum to suit pipe size. Pit internal dimensions shall be of least 300mm greater than external diameter of corresponding pipe.

D36. Pits deeper than 1000mm are to be fitted with step irons at 300mm centres. Contact Engineer for typical detail.

D37. All exposed pit edges shall be rounded with 20mm radius or 20 x 20 chamfer.

D38. Walls of cast insitu pits shall be 200mm (min.) thick concrete, grade N32, unless noted otherwise.

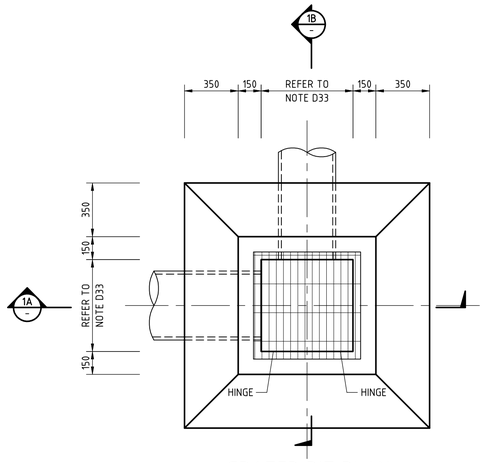
D39. Pits shall be reinforced with SL81 fabric, central in walls & base slab U.N.O. Mesh to be lapped 400mm. Lap mesh at corners or use N12-200 "L" bars lapping 400 each way.

D40. Approved precast pits may be used.

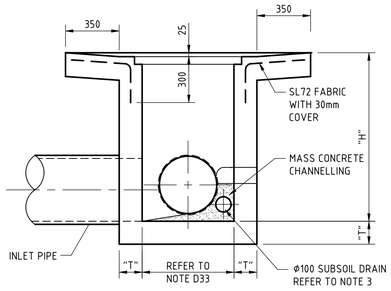
D41. Bases of drainage pits shall be grouted to prevent ponding of water, unless noted otherwise.

LEGEND

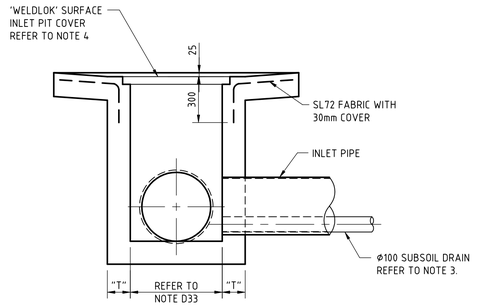
	Denotes stormwater pipe.
	Denotes subsoil drain.
100Φ	Denotes pipe diameter in mm.
EP	Denotes existing pipe
1:100	Pipe grade as a percentage (min)
I.L.139.50	Denotes invert level.
G.L.139.50	Denotes ground level.
R.L.139.50	Denotes reduced level.
	Denotes stormwater pit.
	Denotes grated stormwater pit.
K.I.	Denotes kerb entry & roadway pit system (900 x 600)
	Denotes 100 wide x 100 min. depth grated drain type "ACO KS100" with Class A antislip stainless steel heelguard grates U.N.O. Grated drains in areas subject to vehicle loads to be K100 and have Class D "ACO" perforated steel grating.
D.P	Denotes downpipes.
	Denotes downpipe with spreader
RWO	Represents 100mm round outlet, model TIA100/90F by speciality plumbing supplier. Cast iron RWO with galvanised heavy duty flat grate.
BD	Represents smart drain with ø65 outlet pipe cast in slab and connected to surface drainage
PD	Planter drain. 'Specialty Plumbing Supplies' 100mm RWO (TIA 100/90PB) with planter box insert



GRATED PIT PLAN



DETAIL 1A
SCALE 1:20

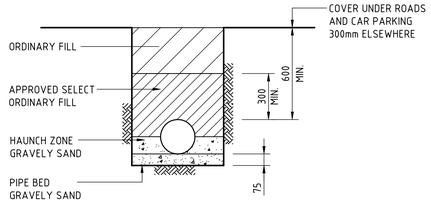


DETAIL 1B
SCALE 1:20

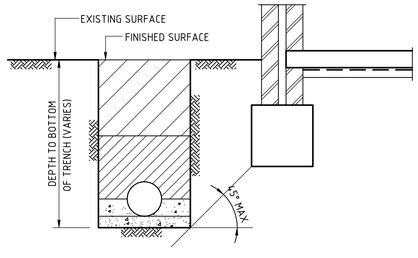
SAG INLET PIT NOTES:

1. COMPRESSIVE STRENGTH OF CONCRETE TO BE A MINIMUM OF 20MPa AT 28 DAYS.
2. TOP OF BENCHING SHALL BE 1/2 OF OUTLET PIPE DIAMETER.
3. Ø100 SUBSOIL DRAINAGE PIPE 3m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED AT INVERT LEVEL EITHER SIDE OF INLET PIPES.
4. PIT GRATE TO BE 'WELDLOK' OR APPROVED EQUIVALENT.
5. PROVIDE STEP IRONS WHERE PIT IS DEEPER THAN 1200

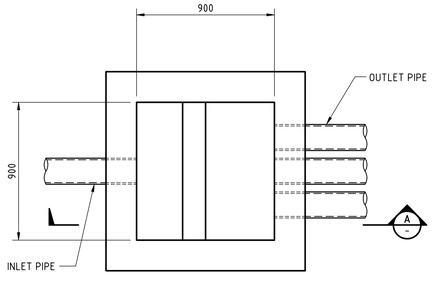
DRAWING SCHEDULE



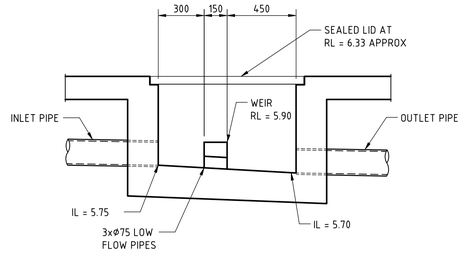
TYPICAL PIPE LAYING DETAIL
SCALE 1:20



TYPICAL PIPE LAYING ADJACENT TO FOOTINGS
SCALE 1:20



PLAN VIEW
SCALE 1:20



SECTION A
SCALE 1:20

FLOW EQUALISATION PIT

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REV.No	DATE	REVISION	BY
P2	24.08.20	TITLE BLOCK REVISED	RAL
P1	17.07.20	PRELIMINARY ISSUE	RAL

NOTE: This drawing must be read in conjunction with ALL other drawings for this project including but not limited to all construction notes.

PRELIMINARY
NOT FOR CONSTRUCTION

ARCHITECT: Crawford Architects

CLIENT: Summit Build Pty Ltd

PROJECT: Shop Top Housing
349 Barrenjoey Road NEWPORT

TITLE: STORMWATER NOTES & DRAWING SCHEDULE

DESIGNED: JD | DATE: JUL 2020
DRAWN: RAL | CHECKED: DW

220088

DRAWING: SW00 | REVISION: P2

ORIGINAL: A1 DWG

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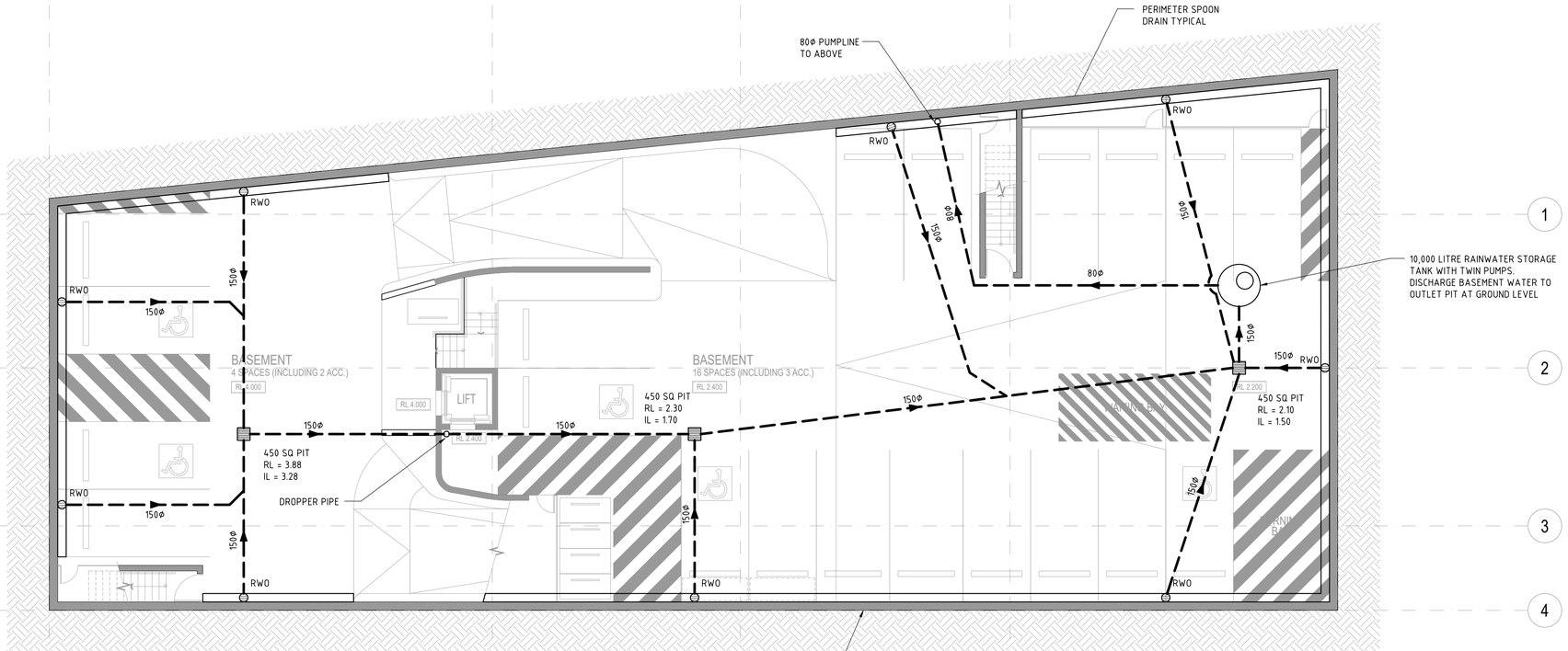

BASEMENT LEVEL DRAINAGE CONCEPT PLAN

ALL PIPES TO BE ø150 UPVC @ 1% FALL, TYPICAL U.N.O. SCALE 1:100

DENOTES STORMWATER PIPE

DENOTES SUBSOIL DRAIN

150ø DENOTES PIPE DIAMETER IN MM

DEMLAKIAN
INTELLIGENT THINKING

REV.No	DATE	REVISION	BY
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P1	17.07.20	PRELIMINARY ISSUE	RAL

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NOT FOR CONSTRUCTION

ARCHITECT: Crawford Architects

CLIENT: Summit Build Pty Ltd

PROJECT: Shop Top Housing
349 Barrenjoey Road NEWPORT

TITLE: BASEMENT LEVEL DRAINAGE CONCEPT PLAN

DESIGNED: JD | DATE: JUL 2020
DRAWN: RAL | CHECKED: DW

220088

DRAWING: SW01 | REVISION: P2

ORIGINAL: A1 DWG

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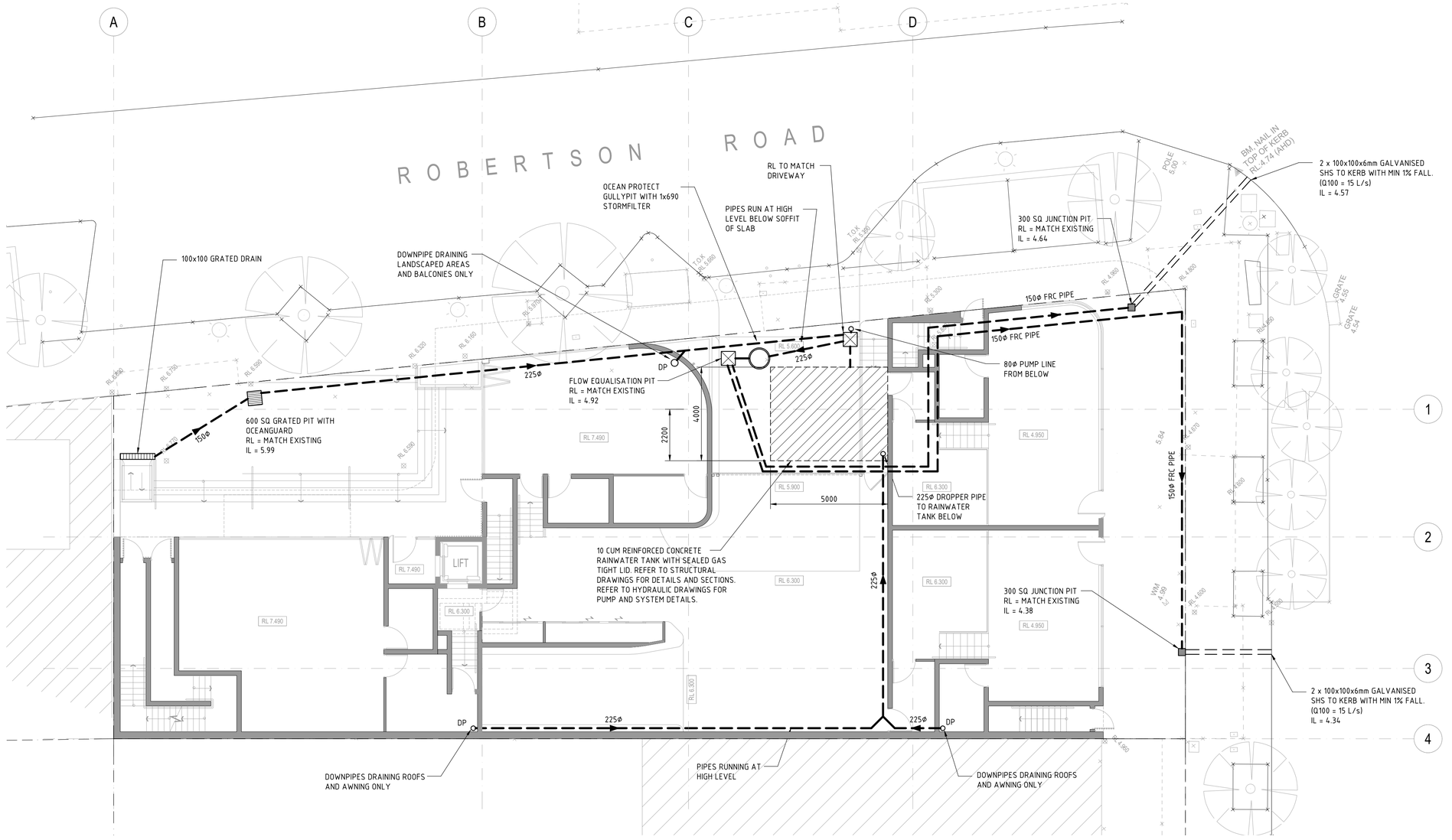

GROUND FLOOR DRAINAGE CONCEPT PLAN

ALL PIPES TO BE Φ150 UPVC @ 1% FALL, TYPICAL U.N.O. SCALE 1:100

- DENOTES STORMWATER PIPE
- DENOTES SUBSOIL DRAIN
- 150Φ DENOTES PIPE DIAMETER IN MM
- DP DENOTES DOWNPIPE - TO FUTURE DETAILS

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REV.No	DATE	REVISION	BY
P2	24.08.20	TITLE BLOCK REVISED	RAL
P1	17.07.20	PRELIMINARY ISSUE	RAL

NOTE: This drawing must be read in conjunction with ALL other drawings for this project including but not limited to all construction notes.

PRELIMINARY
NOT FOR CONSTRUCTION

ARCHITECT: Crawford Architects
CLIENT: Summit Build Pty Ltd

PROJECT: Shop Top Housing
349 Barrenjoey Road NEWPORT

TITLE: GROUND FLOOR DRAINAGE CONCEPT PLAN

DESIGNED: JD | DATE: JUL 2020
DRAWN: RAL | CHECKED: DW
220088
DRAWING: SW02 | REVISION: P2

ORIGINAL: A1 DWG

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SEDIMENT CONTROL PLAN

SCALE 1:100

INDICATES SEDIMENT FENCE

INDICATES HAY BALE WALL

INDICATES TYPICAL DISTURBED CONSTRUCTION ZONE

EROSION & SEDIMENT CONTROL NOTES

1. ALL EROSION & SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AS SHOWN ON THE DRAWINGS.
2. DUST SHALL BE CONTROLLED BY REGULAR MOISTENING OF EXCAVATED SERVICES AND STOCKPILES.

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REV.No	DATE	REVISION	BY
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ARCHITECT: Crawford Architects

CLIENT: Summit Build Pty Ltd

PROJECT: Shop Top Housing
349 Barrenjoey Road NEWPORT

TITLE: SEDIMENT AND EROSION CONTROL PLAN

DESIGNED: JD | DATE: JUL 2020
DRAWN: RAL | CHECKED: DW

220088

DRAWING: SW03 | REVISION: P2

ORIGINAL: A1 DWG

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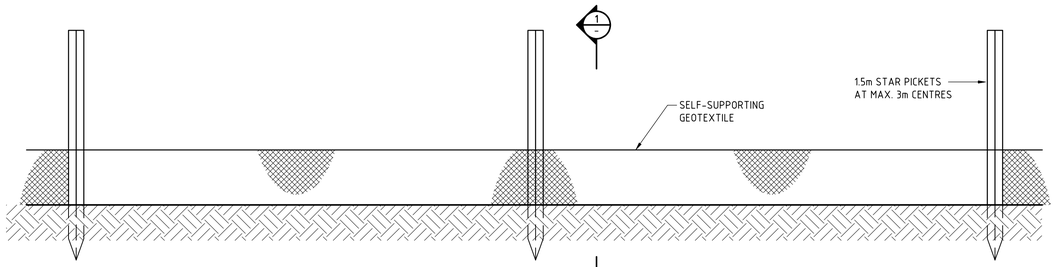
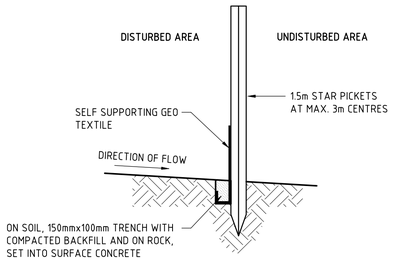


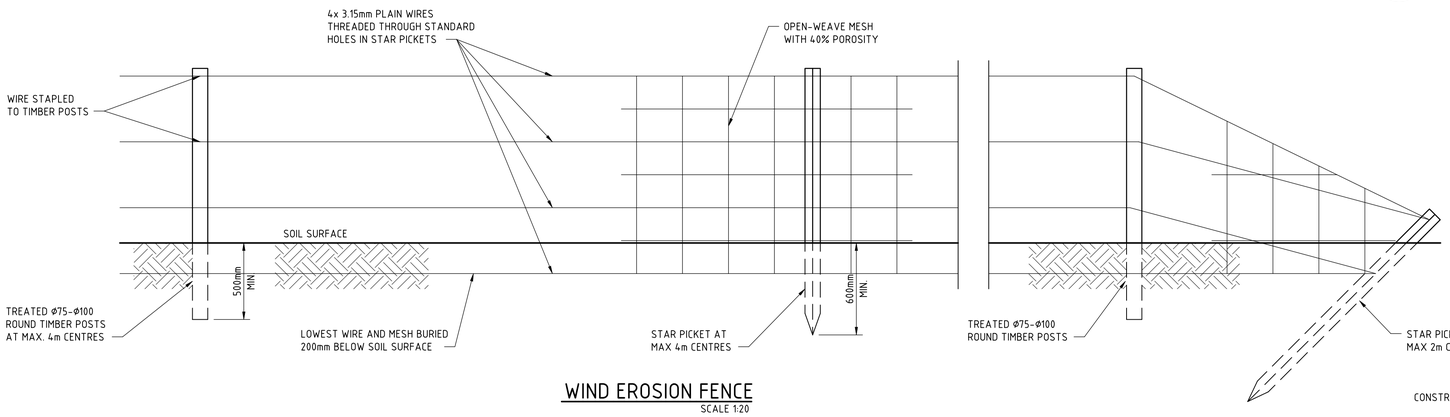
STANDARD SEDIMENT FENCE
SCALE 1:20



SECTION 1
SCALE 1:20

SEDIMENT FENCE CONSTRUCTION NOTES

1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE.
2. DRIVE 1.5m LONG STAR PICKETS INTO GROUND, 3m APART.
3. DIG A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FEBRIC TO BE ENTRENCHED.
4. BACKFILL TRENCH OVER BASE OF FABRIC.
5. FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY GEOTEXTILE MANUFACTURER.
6. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.



WIND EROSION FENCE
SCALE 1:20

WIND EROSION FENCE CONSTRUCTION NOTES

1. INSTALL FENCE TO HEIGHT AND LOCATION AS SPECIFIED ON SEDIMENT &EROSION CONTROL PLAN.
2. CUT A CHANNEL 200mm DEEP ALONG FENCE LINE.
3. PLACE A WIRE AND LIGHT RESISTANT, OPEN-WEAVE POLYMER MESH WITH 40% POROSITY ON PREVAILING WIND SIDE OF FENCE.
4. FASTEN MESH TO ALL WIRES USING RING FASTENERS AT 100mm-150mm INTERVALS ON TOP AND 300mm INTERVALS ON OTHER WIRES.
5. USE ONE Ø75-Ø100mm TREATED ROUND POST EVERY 20 METRES.
6. STAR PICKETS TO BE FITTED WITH SAFETY CAPS.

EROSION & SEDIMENT CONTROL NOTES

1. ALL EROSION & SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AS SHOWN ON THE DRAWINGS.
2. THE TRUCK SHAKER SHALL BE REGULARLY CLEANED BY LIFTING, DISLODGING & REMOVING SPOIL.
3. THE TEMPORARY SEDIMENT TRAP PIT SHALL BE CLEANED REGULARLY. IN THE EVENT THE GEOTEXTILE FILTER BECOMES CLOGGED DURING DEWATERING OF THE EXCAVATION, PUMPING SHALL BE STOPPED AND THE FILTER CLEANED OR RENEWED.
4. DUST SHALL BE CONTROLLED BY REGULAR MOISTENING OF EXCAVATED SERVICES AND STOCKPILES.

SOIL & WATER MANAGEMENT PLAN NOTES

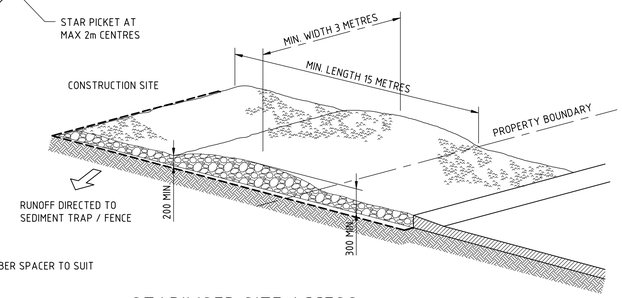
A. CONSTRUCTION SEQUENCE

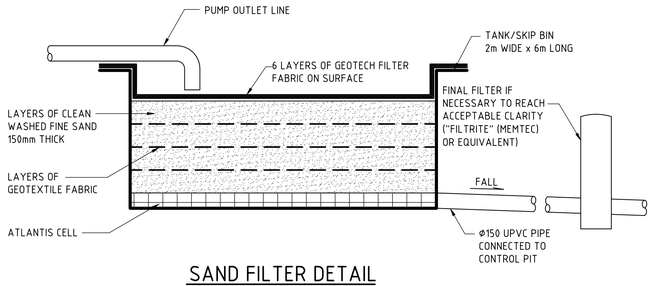
1. CONSTRUCT STABILISED SITE ACCESSES.
2. INSTALL ALL BARRIER FENCING TO EXCLUDE ACCESS TO THE NOMINATED RESTRICTED AREAS.
3. CONSTRUCT EARTH BANKS AND CUT-OFF DRAINS TO DIRECT OVERLAND FLOW BEYOND THE SITE.
4. CONSTRUCT EARTH BANKS & CUT-OFF DRAINS TO DIRECT OVERLAND FLOW TO THE DESIGNATED OUTLET PIT.
5. STRIP AND STOCKPILE TOPSOIL FROM THOSE LANDS TO BE EXPOSED TO CONSTRUCTION ACTIVITIES.
6. UNDERTAKE WORKS ACCORDING TO THE ENGINEERING PLANS.

B. SITE INSPECTION MAINTENANCE CONDITIONS

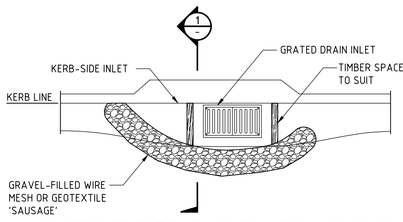
1. WASTE BINS WILL BE EMPTIED AS NECESSARY. DISPOSAL OF WASTE WILL BE IN A MANNER APPROVED BY THE SITE SUPERINTENDENT.
2. THE SITE SUPERINTENDENT WILL INSPECT THE SITE AT LEAST WEEKLY AND WILL:
   a) ENSURE THAT DRAINS OPERATE PROPERLY AND TO EFFECT ANY NECESSARY REPAIRS;
   b) REMOVE SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN FIVE METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS AND PAVED AREAS;
   c) REMOVE TRAPPED SEDIMENT WHENEVER LESS THAN DESIGN CAPACITY REMAINS WITHIN THE STRUCTURE;
   d) ENSURE REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND TO INITIATE UPGRADING OR REPAIR AS APPROPRIATE;
   e) MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED; AND
   f) REMOVE TEMPORARY SOIL CONSERVATION STRUCTURES AS THE LAST ACTIVITY IN THE REHABILITATION PROGRAM.
3. AS A PART OF THE STATUTORY "DILIGENCE AND CARE" RESPONSIBILITIES, THE SITE SUPERINTENDENT WILL KEEP A LOG BOOK, MAKING ENTRIES AT LEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:
   a) THE VOLUME AND INTENSITY OF ANY RAINFALL EVENTS;
   b) THE CONDITION OF ANY SOIL AND WATER MANAGEMENT WORKS;
   c) THE CONDITION OF VEGETATION AND ANY NEED TO IRRIGATE;
   d) THE NEED FOR DUST PREVENTION STRATEGIES; AND
   e) ANY REMEDIAL WORKS TO BE UNDERTAKEN.

   THE BOOK WILL BE KEPT ON-SITE AND MADE AVAILABLE TO ANY AUTHORISED PERSON ON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF WORKS.

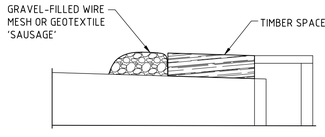




SAND FILTER DETAIL
SCALE 1:20



SEDIMENT TRAP SOCK ARRANGMENT
SCALE 1:50

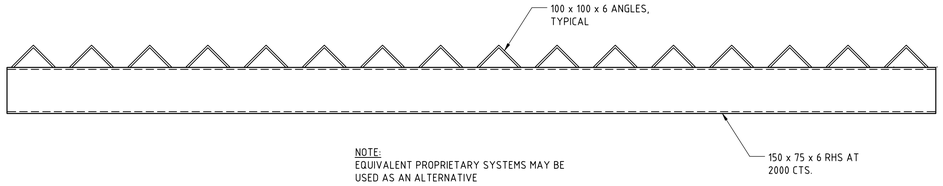


SECTION 1
SCALE 1:20

STABILISED SITE ACCESS

CONSTRUCTION NOTES - SITE STABILISATION ACCESS

1. STRIP TOPSOIL & LEVEL SITE.
2. COMPACT SUBGRADE.
3. COVER AREA WITH NEEDLE-PUNCHED GEOTEXTILE OR 30mm AGGREGATE. MINIMUM LENGTH 15m OR TO BUILDING ALIGNMENT. MINIMUM WIDTH 3m.
4. CONSTRUCT HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE OR SEDIMENT TRAP.



NOTE:
EQUIVALENT PROPRIETARY SYSTEMS MAY BE USED AS AN ALTERNATIVE

TYPICAL TRUCK SHAKER
SCALE 1:10

DEMLAKIAN
INTELLIGENT THINKING

REV.No	DATE	REVISION	BY
P2	24.08.20	TITLE BLOCK REVISED	RAL
P1	17.07.20	PRELIMINARY ISSUE	RAL

NOTE: This drawing must be read in conjunction with ALL other drawings for this project including but not limited to all construction notes.

PRELIMINARY
NOT FOR CONSTRUCTION

ARCHITECT: Crawford Architects
CLIENT: Summit Build Pty Ltd

PROJECT: Shop Top Housing
349 Barrenjoey Road NEWPORT

TITLE: SEDIMENT & EROSION CONTROL PLAN

DESIGNED: JD | DATE: JUL 2020
DRAWN: RAL | CHECKED: DW
220088
DRAWING: SW04 | REVISION: P2

ORIGINAL: A1 DWG

northern beaches council

PRELODGEMENT ADVICE

Application No:	PLM2019/0216
Meeting Date:	31/10/2019
Property Address:	349 Barrenjoey Road NEWPORT
Proposal:	Shop top housing
Attendees for Council:	Penny Wood (Planner, Development Assessment) Rebecca Englund (Principal Planner, Development Assessment) Dominic Chung (Urban Designer) Duncan Howley (Team Leader, Floodplain Planning & Response)
Apologies:	Patrick Bastawrous (Traffic Engineering Coordinator) Paul David (Development Engineer) Joseph Tramonte (Landscape Architect)
Attendees for Applicant:	Tony Gray (Crawford Architects) Megan Naylor (Crawford Architects) Georgina & Tony Nassif (Property Owners)

General Comments/Limitations of these Notes

These notes have been prepared by Council on the basis of information provided by the applicant and a consultation meeting with Council staff. Council provides this service for guidance purposes only. These notes are an account of the specific issues discussed and conclusions reached at the pre-lodgement meeting. These notes are not a complete set of planning and related comments for the proposed development. Matters discussed and comments offered by Council will in no way fetter Council's discretion as the Consent Authority. A determination can only be made following the lodgement and full assessment of the development application.

In addition to the comments made within these notes, it is a requirement of the applicant to address ALL relevant pieces of legislation including (but not limited to) any SEPP and any applicable clauses of Pittwater Local Environment Plan 2014 and Pittwater 21 Development Control Plan within the supporting documentation of a development application including the Statement of Environmental Effects.

You are advised to carefully review these notes. If there is an area of concern or non-compliance that cannot be supported by Council, you are strongly advised to review and reconsider the appropriateness of the design of your development for your site and the adverse impacts that may arise as a result of your development prior to the lodgement of any development application.

PITTWATER LOCAL ENVIRONMENTAL PLAN 2014 (PLEP 2014)

Note: PLEP 2014 can be viewed at the NSW Government Legislation Website

Zoning and Permissibility	
Definition of proposed development: **(ref. PLEP 2014 Dictionary)**	Shop top housing
Zone:	B2 Local Centre
Permitted with Consent or Prohibited:	Permitted with consent

Principal Development Standards:	
Clause 4.3 Height of Buildings	
Standard	**Proposed**
11.5m above existing ground level, or 11.5m above the relevant Flood Planning Level (FPL)	>11.5m above existing ground level
The proposal appears to exceed the 11.5m height limit prescribed by clause 4.3(2) of PLEP 2014. However, it is likely that the proposal is compliant with the variable height limit associated with the flood affectation of the site, being 11.5m above the relevant FPL, as prescribed by clause 4.3(2C) of PLEP 2014.	

PITTWATER 21 DEVELOPMENT CONTROL PLAN (P21 DCP)

Note: P21 DCP can be accessed via Council's Website.

Section B: General Controls
B2 Density Controls
B2.6 Dwelling Density and Subdivision – Shop Top Housing
The commercial/retail component of the development must be a minimum of 25% of the gross floor area of the building as a whole.
B3 Hazard Controls
B3.11 Flood Prone Land **B3.12 Climate Change (Sea Level Rise and Increased Rainfall Volume)** **B3.13 Flood Hazard - Flood Emergency Response Planning**
The subject site is classified flood prone land. The controls of the above clauses are applicable to the proposed development on site, in addition to the provisions of clause 7.3 (Flood planning) of PLEP 2014. Please refer to the comments from Council's Flooding Team further in this report.
B6 Access and Parking
B6.3 Off-Street Vehicle Parking Requirements
The proposed development generates the following demand for off-street parking: 14 x residential spaces (inclusive of 1 space for people with a disability) 3 x residential visitor spaces (inclusive of 1 space for people with a disability) 1 x service/delivery space 9 x retail spaces (inclusive of 1 space for people with a disability) Total: 27 off-street parking spaces The proposal provides 21 off-street parking spaces, representing a shortfall of 6 spaces. The proposed non-compliance is not supported, and the proposal is to be amended to address this deficiency. Council's preference would be for the shortfall to be addressed by virtue of a reduction in the amount of units and/or the replacement of two bedrooms units with one bedroom units. The current amount of commercial floor space is supported.
B8 Site Works Management
B8.1 Construction and Demolition – Excavation and Landfill
In accordance with the provisions of this clause, a Geotechnical Risk Management Report will be required to address the excavation proposed. The Geotechnical Risk Management Report should also identify the depth of any groundwater, noting that any interference of groundwater will constitute integrated development and require general terms of approval from Water NSW.

Section C: Development Type Controls
C1 Design Criteria for Residential Development
C1.9 Adaptable Housing and Accessibility
20% of the proposed residential units are to be designed to be consistent with the Silver Level design requirements of the *Livable Housing Guidelines*.

Section D: Locality Specific Development Controls
Newport Locality - Newport Commercial Centre
D10.9 Setbacks (Newport Commercial Centre)
Barrenjoey Road The siting of the stairs, accessible hoist and access platform in the south-east corner of the site is inconsistent with the 3.5m minimum front setback prescribed in relation to Barrenjoey Road. The proposed structures are to be recessed into the development, to provide for a clear 3.5m extension of the Barrenjoey Road footpath. Robertson Road The setback of the third floor in relation to the public plaza is inconsistent with the additional 3m setback prescribed by this development control. The setbacks and façade treatment should be amended to avoid the appearance of a three storey wall abutting the plaza. Whilst the dimensions of the proposed public plaza are consistent with the requirements of this development control, the design of the space is inconsistent with the design intent of the Newport Masterplan, in so far as the accessible ramp creates a disconnect to the adjacent footpath. The space should be redesigned to create one continuous space, with no barriers between public and private land. Southern Side Setback The southern side setback of the upper floor is inconsistent with the 3m minimum prescribed by this development control, and the 6m minimum spatial separation requirements of the ADG. Noting that the proposal fails to amalgamate with the adjoining property to the south, concern is raised in relation to any potential impact of this non-compliance upon the development potential of the site next door. As currently proposed, the sizing of the upper floor presents as an overdevelopment, and the accumulation of setback non-compliance is not supported.
D10.19 Subdivision and Amalgamation (Newport Commercial Centre)
The proposed development is inconsistent with the indicative amalgamation pattern prescribed by this development control, and fails to amalgamate with any adjoining properties. As such, the proposal also fails to achieve the access requirements and built form anticipated by the Newport Village Centre Masterplan.

In choosing to proceed/develop in isolation before any adjoining properties, the application must: a. be supported by detailed evidence of all attempts to amalgamate with adjoining properties, b. demonstrate that the proposal will not adversely affect the development potential of the adjoining properties, and c. be supported by evidence of attempts to gain legal access across the adjoining property to the south (noting that vehicular access to Robertson Road is not anticipated in the Newport Village Centre Masterplan).
D10.21 Active Frontage (Newport Commercial Centre)
Awnings are to extend the full width of the lot at the ground floor on Barrenjoey Road and Robertson Road (including the public plaza to a minimum depth of 2m). The awning along Barrenjoey Road should extend the full depth of the front setback.

SEPP No. 65 (Design Quality of Residential Apartment Development)
For the purpose of this prelodgement, it is assumed that the proposal has been designed to meet the criteria and guidelines of the Apartment Design Guideline. However, your attention is drawn to the following specific requirements: • The 3m/6m minimum spatial separation requirements of Objective 3F-1, • The design requirements for car park access in Objective 3H-1, • 8m maximum room depth in Objective 4D-2, • The minimum requirement for 20% of units to meet the Silver Level requirements of the *Livable Housing Guidelines* in Objective 4Q-1.

Specialist Advice	
Flooding	*The property at 349 Barrenjoey Road is identified at being subject to the risk of flooding. It is located in the medium flood risk precinct as shown in the Newport Flood Study, 2019. As the proposal will intensify development on the site, the provisions of B3.12 – Climate Change apply to this proposed development. Future development would require:* • *Any future Development Application must be accompanied by a Flood Management Report, guidelines to undertake this are available on Council's website.* • *The basement car park entry ramp crest and all potential water entry points must be located at or above the Flood Planning Level of 6.2m AHD. This is based on the Flood Planning Level at the location of the existing driveway, if it is re-located west the Flood Planning Level will increase. Please note flood barriers or exclusions will not be permitted.*

Specialist Advice	

	• *All ground floor levels must be set at or above the relevant Flood Planning Level.*
	• *The relevant Flood Planning Levels and required minimum floor levels for the proposed retail tenancies are:*
	  o *Retail 1 – 5.3m AHD (if rear entry is located above the driveway crest level of 6.2m AHD)*
	  o *Retail 2 – 5.4m AHD (if rear entry is located above the driveway crest level of 6.2m AHD)*
	  o *Retail 3 – 6.6m AHD*
	  o *Retail 4 – 6.9m AHD*
	  o *Retail 5 – 7.2m AHD*
	• *The minimum floor level requirement for the lift lobby on Barrenjoey Road is 5.3m AHD.*
	• *The proposed outdoor courtyard at the rear of the property is not required to be set at the Flood Planning Level.*
	• *A shelter in place refuge must be provided above the peak Probable Maximum Flood level of 7.4m AHD, specifications for the shelter in place refuge can be found in the Flood Emergency Response Planning for Development in Pittwater Policy.*
	• *Clause F10 of Part B3.11 of the Development Control Plan can be utilised have a minimum floor level for the first 5 metres from the street front of new development in business zonings below the Flood Planning Level provided it can be demonstrated that it complies with the Flood Prone Land Design Standard, specifically that the area below the Flood Planning Level is limited to a maximum of 30m².*
	• *Compliance with Part B3.11, B3.12 and B3.13 of the Pittwater 21 Development Control Plan and clauses 7.3 and 7.4 of the Pittwater Local Environmental Plan 2014*

Stormwater	*Council's records indicate that the property 349 Barrenjoey Road, Newport is located adjacent to a 600mm stormwater pipeline (SPI54365), a 300mm stormwater pipeline (SPI54366), a 900mm x 930mm Tonkin pipe (SPI59110), a 375mm stormwater pipeline (SPI58298), and associated stormwater infrastructure. This is shown on Council's stormwater map which is available on the webpage. (Please follow the relevant link below and select the 'Stormwater' map from the 'No Overlay Map' drop down menu. You can then search by address and use the zoom functionality to see pipe diameters and asset id*

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	numbers. i.e. 600 mm and SPP or SPI etc.). *To demonstrate compliance with Pittwater 21 Development Control Plan and Northern Beaches Council's Water Management Policy PL 850 Water (Section 6 – Building Over or Adjacent to Council Drainage System and Easement. Links provided below), it is recommended that the following details are submitted with any application.* • *Accurately locate, confirm dimensions including depth and plot to scale Council's stormwater pipelines and associated infrastructure on the DA site plans that outline the proposal. This should be carried out by a service locating contractor and registered surveyor. (Evidence of methodology used for locating stormwater system should be provided);* • *If the applicant proposes to use a CCTV pipeline survey to confirm the location of the pipeline, it is recommended that the survey is carried out in accordance with Council's CCTV guideline attached;* • *All structures are to be located clear of any Council pipeline, pit or easement;* • *Footings of any structure adjacent to an easement or pipeline are to be designed in accordance with the above-mentioned policy; and* • *Structural details prepared by a suitably qualified Civil Engineer demonstrating compliance with Council's policy are to be submitted.*
Water Quality	***Stormwater*** *The applicant is required to provide stormwater treatment for the site. A stormwater engineer should prepare the stormwater plan.* 1. *The following pollutant reduction targets apply: GP 90%, TSS, 85%, TP 65% and TN 45%. The incorporation of roofwater for reuse in toilets and laundries will be viewed favourably and is more important than meeting targets for TP and TN removal.* 2. *Stormwater treatment measures must be included in the Water Management Plan, with detail provided of each measure.* 3. *A MUSIC model file must be provided with the DA to allow Council to review the model and parameters used.* 4. *A restriction as to user and positive covenant will be placed over the asset(s) and the applicant is required to*

Specialist Advice	
	provide an operation and maintenance plan for each asset. The responsibilities of the strata association in terms of maintaining and replacing the stormwater treatment measures must be made clear in the appropriate documents. (for CC – not for DA) ***Sediment*** *1. A sediment and erosion control plan must be provided.* ***Groundwater*** *If the applicant intends to have basements and will excavate deeper than 1.5m, bores must be drilled to greater than the intended depth of the basements to monitor groundwater. The presence of groundwater should be discussed in the Geotech report and if present, measures to respond should be addressed.*
Traffic	*From a traffic and transport perspective the applicant would need to address the following issues:* • *Conflict between pedestrians and vehicles at the entry to the carpark as this will be through a pedestrian priority area.* • *All loading and waste collection is to be conducted on site.* • *The carpark access signals are to prioritise access into the basement to prevent queuing close to Barrenjoey Road.* • *RMS referral required (State Road Corridor).* • *The applicant will be required to submit a plan showing the compliance with AS 2890.1 & 2890.6 (Note: the current plans do not comply)* • *Loss of off-street parking is acceptable however this needs to be off-set with parking provided onsite for the retail component of the development.* • *How all retail parking spaces will be accessible to the public during trading hours and how residential spaces will be appropriately secured.*
Engineering	*1. Construction a standard vehicular crossing in accordance with Council's Vehicular Crossing standard profile available on Council's web page. A concept driveway plan with grades and levels is required to be submitted with the DA, demonstrating that the driveway*

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	is in compliance with AS2890.1 and Council's vehicular crossing standard profiles. Any raised crest required as result of flood levels shall be considered and appropriately designed. *2. Council infrastructure such as footpath and kerb & gutter surrounding the development site may require to be upgraded subject to detail assessment at DA stage.* *3. A Geotechnical engineers report is required to be submitted in accordance with Geotechnical Risk Management Policy for Pittwater – 2009.* *4. On Site Detention basin will not be required for the proposed development.* *5. Stormwater management for the development shall be provided in accordance with clause B5.10 of Pittwater DCP and connected to Council piped drainage system.*
Urban Design	*The applicant should address the following issues:* *1. The proposed external stairs and platform lift encroachment into the 3.5m footpath setback along Barrenjoey Road cannot be supported. They should be relocated to be in-line with the shop fronts to maintain an unobstructed footpath setback area. The proponent should consider the possibility of the lift lobby access to be from Robertson Road next to the vehicle entry/ exit/ service area to gain a higher street level access point. That will also result in a longer shopfront address to Barrenjoey Road which will be desirable for footpath activation. The continuous shop awning proposed should cantilever out the full width of the 3.5 setback footpath area.* *The loading dock address to Robertson Road should consider the high quality public domain amenity of the popular pedestrian footpath by using a higher quality of finishes and interior treatments to enhance the welcoming entrance gesture. That could also improve the arrival experience of residents and visitors if the lift lobby entrance is relocated next to the loading dock as suggested earlier.* *2. The ramp to access the courtyard alfresco dining area could also be potentially shortened if it is relocated to the north-west corner of the site subjected to the logistic of working with the flood levels. Integration with the future*

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	courtyard space when the neighbouring site to the west is developed should also be considered. 3. *The Newport Village Commercial Centre Masterplan 2014 indicates a preference for a site amalgamation with the next door site to the south with the Built form Strategy on page 48. The Masterplan states that topmost level of buildings should be designed to promote view sharing and to give openness to the streetscape with full breaks between them of minimum 6m. There should be a two storey street wall height to reduce apparent scale and setbacks on the top floor to modulate and breakdown building massing. The proposed top floor plan should consider the 4/3m setbacks from the façades of the lower floors fronting Barrenjoey/ Robertson Road respectively. All building facades fronting the Robertson Road plaza should be two storey and with a 3m setback on the top floor to reinforce an intimate pedestrian scale.*
Landscape	***Public Domain*** *The public domain character established from the Newport streetscape upgrade works undertaken previously, which were developed in consideration of the Newport Village Commercial Centre Masterplan, is minimally impacted by the proposal. The proposed driveway off Robertson Road is located to retain the existing small public space consisting of outdoor dining and street furniture, near the corner of Barrenjoey Road, and can be utilised as both a driveway and pedestrian footpath.* *Any public domain street furniture required to be removed for the proposed driveway will be replaced in close proximity, including the street lighting which appears to be located within the driveway footprint.* *A 3.5 metre setback to building is achieved in front of the proposed retail spaces along Barrenjoey Road, in accordance with DCP D10.9 Setbacks (Newport Commercial Centre). The public domain benefit, however is interrupted by the entry stairs/lift and as such the intent of the DCP clause to visually extend the public domain and thus the opportunities for street activation is reduced.* *A public Plaza Is proposed, however it does not strictly meet the intent of the DCP clause that the small public plaza is formed by a widened setback due to the proposal for a ramp and stair*

Specialist Advice	
	access, but can be interpreted as beneficial to the public domain. *At DA stage, detailed documentation is required demonstrating the extent of existing public domain streetscape elements that are retained, and if any, removed or relocated, complying with the Newport Village Commercial Centre Masterplan, Appendix 12, or as advised by Council.* *A Public Domain Protection Plan is required to demonstrate the methodology to protect the following existing elements along the Barrenjoey Road and Robertson Rd road reserve: pavements, utilities, lighting, street furniture, and tree planting and gardens.* ***Landscaping*** *A landscape plan will be required to satisfy the outcomes and controls of the DCP as noted below:* *For shop top housing, a planter or landscaped area with minimum area of 4m^2 is to be provided as a feature at the ground floor (entry) of the front building facade. This feature is to be positioned to soften any hard edges of the building including any ramps, podiums or changes in levels. Planter areas are to be a minimum area of 4m^2 and where canopy trees are proposed a minimum soil volume of 8m^3 is required. Provision of available root volume may need to incorporate the use of structural soils.*
Other	*Further information is required to demonstrate:* • *Separate and accessible public pedestrian access from the retail parking spaces within the basement carpark to the public domain.* • *Compliance with Council's Waste Management Policy, specifically with regard to the need for separate commercial and residential waste stores and appropriate access thereto.*

Relevant Policies
You are advised that copies of the following (but not limited to all) Council's policies are available via Council's website www.northernbeaches.nsw.gov.au : • Geotechnical Risk Management Policy for Development in Pittwater • Development Assessment Management Policy • Waste Management Guidelines Other policies that are relevant to the application, include but are not limited to: • SEPP No. 65 – Design Quality of Residential Apartment Development • SEPP (Building Sustainability Index: BASIX) • SEPP (Infrastructure) 2007 • Apartment Design Guideline • Livable Housing Guidelines

Documentation to accompany the Development Application

- Completed Application Form and Owners Consent
- Electronic copies (USB)
- Statement of Environmental Effects
- Cost of works estimate/ Quote
- Site Plan
- Floor Plan
- Elevations and sections
- A4 Notification Plans
- Survey Plan
- Site Analysis Plan
- Demolition Plan
- Excavation and fill Plan
- Waste Management Plan (Construction & Demolition)
- Waste Management Plan Ongoing
- Certified Shadow Diagrams
- BASIX Certificate
- Energy Performance Report
- Schedule of colours and materials
- Landscape Plan and Landscape Design Statement
- Arboricultural Impact Assessment Report (*if works are within 5m of existing trees)
- Photo Montage
- Erosion and Sediment Control Plan / Soil and Water Management Plan
- Stormwater Management Plan / Stormwater Plans and On-site Stormwater Detention (OSD) Checklist
- Stormwater Drainage Assets Plan
- Geotechnical Report
- Acoustic Report (addressing clause 101 of SEPP Infrastructure)
- Flood Risk Assessment Report
- Traffic and Parking Report
- Construction Traffic Management Plan
- Construction Methodology Plan
- Access Report
- BCA Compliance Report
- SEPP 65 Report, including compliance table addressing all relevant provisions of the ADG
- Integrated Development Fees (*if interference with ground water is proposed)

Please refer to Council's *Development Application and Modification Lodgement Requirements 19/20* for further detail.

Concluding Comments
These notes are in response to a prelodgement meeting held on 31 October 2019 to discuss a shop top housing proposal at 349 Barrenjoey Road, Newport. The notes reference preliminary plans prepared by Crawford Architects dated 8 October 2019. The subject site is considered to be appropriate for the type of development proposed. However, concern is raised in regards to the lack of amalgamation with adjoining sites and non-compliance with a number of provisions of P21 DCP and the Newport Village Centre Masterplan. If it is able to be demonstrated that the site is suitable for development in isolation, the proposal still requires refinement with respect to the non-compliances highlighted in this advice, including those associated with relevant flood controls, setback controls and minimum car parking requirements. You are advised to satisfactorily address the matters raised in these notes prior to lodging any future development application.