



NORTHERN SYDNEY
Seascope
Suite 7 22-27 Fisher Rd
Dee Why NSW 2099

BLUE MOUNTAINS
Shop 1
274 Macquarie Rd
Springwood NSW 2777

TAYLORCONSULTING.NET.AU

CONSULTING ENGINEERS
Civil
Structural
Stormwater & Flood

19 February 2024

Chief Executive Officer
Northern Beaches Council
725 Pittwater Road
DEE WHY NSW 2099

Address of the Project: **15 De Lauret Avenue, Newport**

Description of Project: **Stormwater Management Plan - New Dwelling**

With reference to the Development Application for the above property, please find enclosed a copy of the site Stormwater Management Plan, STORM-2/A & STORM-3 for your perusal.

The plan shows the collected flows from the proposed roofed areas, along with surrounding hardstand and landscaped areas, being discharged into a level spreader located towards the rear boundary of the site.

Note, the on-site detention system reduces the 1 in 100 year paved and landscaped areas flows to below the 5 year 'state of nature' level, in accordance with accepted Council policy.

This is also to certify that the Stormwater Management Plan layout, as shown on STORM-2/A and STORM-3 by Taylor Consulting Civil & Structural Engineers, has been designed in accordance with section 3.1.2, 'Drainage', of the Building Code of Australia Housing Provision, AS/NZS 3500.3.2 – Stormwater Drainage, Northern Beaches Council's Warringah DCP and Northern Beaches Council's Water Management for Development Policy

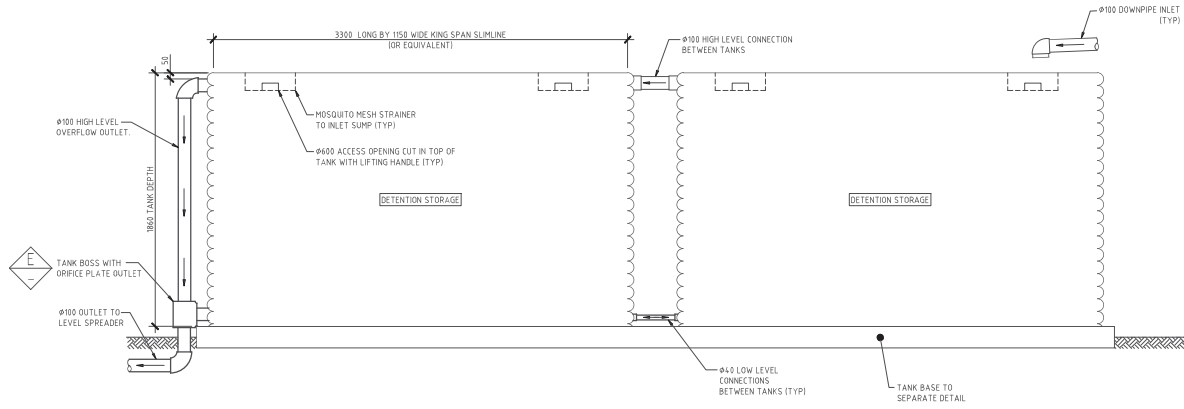
Should you require any further information, please contact the undersigned.

Yours faithfully
TAYLORCONSULTING.NET.AU

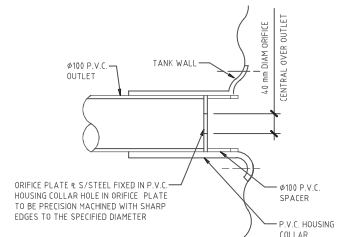
D.M.Schaefer - Director
B.E Civil (Hons) M.I.E. Aust. N.E.R.



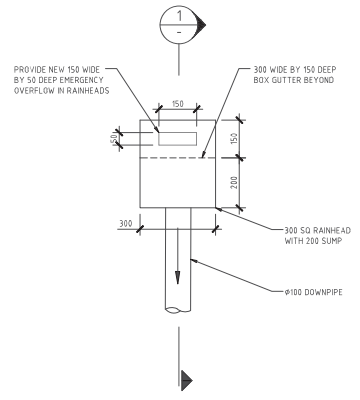
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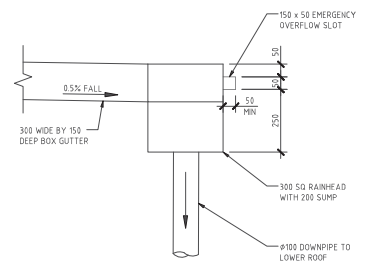
DETAIL A
SCALE 1/20



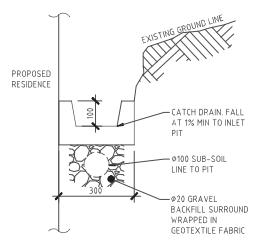
DETAIL E
SCALE 1/5



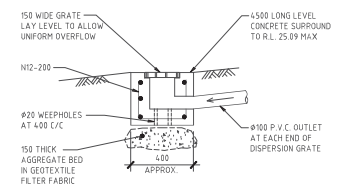
DETAIL B
SCALE 1/10
TYPICAL RAINHEAD DETAIL (OR EQUIVALENT) SHOWING PROVISION FOR EMERGENCY OVERFLOW



SECTION 1
SCALE 1/10



DETAIL C
SCALE 1/10



DETAIL D
SCALE 1/20
SHOWING HORIZONTAL DISPERSION GRATE
NOTE: CONCRETE STRENGTH = 20 MPa

ISSUE DATE	REVISION	TITLE	SCALE
		ALTERNATE STORMWATER MANAGEMENT DETAILS 15 DE LAURET AVENUE, NEWPORT	Ø A1
		DRAWN: ZS	DATE: 9 FEBRUARY 2024
		ENGINEER: RB	CHECKED: [Signature]
			SCALE: 1/10, 1/20



STORM-3



PROVIDE LANDSCAPING AS NECESSARY TO MAINTAIN UNIFORM DISCHARGE OF SITE FLOWS ACROSS THE REAR BOUNDARY TO SATISFACTION OF SUPERVISING ENGINEER

SECURE DRAINAGE LINES TO UNDERSIDE OF FLOOR STRUCTURE AS NECESSARY FOR CONNECTION TO SITE DRAINAGE SYSTEM (TYP)

NOTE: PLUMBER TO PERFORM WATER TESTING OF EXISTING PIPED SYSTEM TO DETERMINE CAPACITY AND STATE OF REPAIR. PLUMBER TO INSPECT & REPAIR DAMAGED SECTIONS OF EXISTING PIPE (INCLUDING DOWNPIPES) AS NECESSARY OR PROVIDE NEW DRAINAGE LINES WHERE NECESSARY SUBJECT TO THE APPROVAL BY THE SUPERVISING ENGINEER.

PROVIDE 300 WIDE BY 200 DEEP RAIN HEAD WITH 4000 OUTLET FROM BASE AND PROVISION FOR EMERGENCY OVERFLOW WITH SPREADER FROM UPPER TO LOWER ROOF AREA (TYP)

PROVIDE 100 WIDE GAP IN HOB FOR EMERGENCY OVERFLOW (TYP)

NOTE: CHECK & LOCATE DEPTH OF EXISTING MAINS & SERVICES PRIOR TO CONSTRUCTION OF STORMWATER SYSTEM AS VARIATIONS IN POSITION OF MAINS COULD AFFECT DRAINAGE CONSTRUCTION DETAILS

STORMWATER DETENTION TANK
 STORAGE VOLUME = 7050 LITRES
 STORAGE LENGTH = 3300mm
 STORAGE WIDTH = 1150mm
 STORAGE DEPTH = 1800mm
 TOTAL STORAGE = 14100 LITRES
 PROVIDE #100 HIGH LEVEL & #40 LOW LEVEL CONNECTOR BETWEEN TANKS WITH #100 HIGH LEVEL OVERFLOW TO SITE DRAINAGE SYSTEM

EXISTING CONCRETE HEADWALL SPP53233

EXISTING #300 COUNCIL B.C.P. SPP55004

300 WIDE BY 150 DEEP BOX GUTTER AT 0.5% FALL TO RAINHEAD WITH PROVISION OF EMERGENCY OVERFLOW

100 WIDE GRATED DRAIN (TYP)

PROVIDE STRAIGHT 150 HALF ROUND EAVES GUTTERS OR APPROVED EQUIVALENT (7000mm) (MINI EAVES GUTTER)

300 WIDE BY 100 DEEP CONCRETE CATCH DRAIN TO COLLECT UPSTREAM FLOWS

150 WIDE GRATED DRAIN ACROSS DRIVEWAY (TYP)

PROVIDE #100 DOWNPIPE (TYP)

SITE DRAINAGE PLAN
 SCALE 1:100

DRAINAGE NOTES

- DENOTES EXISTING GROUND LEVEL.
- FALL STORMWATER PIPES AT 1% MIN. UNLESS OTHERWISE NOTED.
- SUB-SOIL DRAINAGE TO BE CONNECTED TO THE SITE DRAINAGE SYSTEM AS NECESSARY.
- SURFACE DRAINS 300 SQ. UNLESS OTHERWISE NOTED.
- ALL STORMWATER PIPES TO HAVE SLOTTED COVER WATER TIGHT JOINTS.
- CHECK & LOCATE DEPTH OF EXISTING MAINS & SERVICES PRIOR TO CONSTRUCTION OF STORMWATER SYSTEM AS VARIATIONS IN POSITION OF MAINS COULD AFFECT DRAINAGE CONSTRUCTION DETAILS.
- NOTIFICATIONS MUST BE UNDERTAKEN BY THIS OFFICE BY PRIOR ARRANGEMENT WITH ENGINEER DURING CONSTRUCTION TO ENABLE FULL CERTIFICATION UPON COMPLETION OF WORKS.
- ALL CONSTRUCTION OF CONCRETE DRAINAGE WORKS TO COMPLY WITH CONCRETE STANDARD.
- REMOVE REDUNDANT DRAINAGE FITS AND SEAL PIPES.
- PIT BENCHING TO BE HALF THE OUTGOING PIPE DIAMETER. CONCRETE FOR BENCHING TO BE 20 MPa MASS CONCRETE.
- APPROVED PRE-CAST PITS MAY BE USED.
- ALL PIPES TO BE LAD ON COMPACTED FINE CRUSHED ROCK OR SAND BEDDING 150mm THICK & PIPES BACKFILLED WITH COMPACTED SAND TO 150mm ABOVE TOP OF PIPE. ELSE ATTACHED TO UNDERGIRD OF STRUCTURE AT 400mm U/A AS NECESSARY.
- PIPE ROUTES SHOWN ARE INDICATIVE ONLY AND SHOULD BE AS NECESSARY ACCORDING TO SITE CONDITIONS. THIS POSITION ETC. CONFORM SIGNIFICANT CHANGES IN PIPES SYSTEM DETAILS WITH SUPERVISING ENGINEER PRIOR TO COMMENCEMENT OF DRAINAGE CONSTRUCTION WORKS.
- CONTRACTOR SHALL ENSURE THAT SERVICES TO BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED. CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS WHERE REQUIRED. ONCE WORKS ARE COMPLETE AND CONSIDERED THE CONTRACTOR SHALL REMOVE ALL TEMPORARY SERVICES AND MAKE GOOD ALL AFFECTED AREAS.
- STORMWATER SYSTEM REQUIRES SIGNIFICANT MAINTENANCE DUE TO POTENTIAL HIGH POLLUTANT LOAD. FILTERS AND POLLUTANT TRAPS SHOULD BE CHECKED AFTER LARGE STORM EVENTS AND CLEANED AS NECESSARY.
- PLUMBING AND DRAINAGE WORKS TO COMPLY WITH AS-3500, THE NATIONAL DRAINAGE & PLUMBING CODE.
- WHERE POSSIBLE, DRAINAGE LINES SHALL BE LAD IN AREAS PREVIOUSLY DISTURBED BY OTHER SITE WORKS AND FILL TO TOPOGRAPHICAL FEATURES TO REDUCE IMPACT AND AVOID TREE ROOTS.
- THIS STORMWATER MANAGEMENT PLAN HAS BEEN PREPARED FOR SUBMISSION TO COUNCIL OFFICERS AND DOES NOT NECESSARILY REQUIRE APPROPRIATE PERMISSION TO ENABLE FOR ISSUE TO PLUMBER/BUILDER FOR CONSTRUCTION. CONTACT TAYLOR CONSULTING FOR FURTHER INFORMATION.

RAINWATER RE-USE NOTES AND SPECIFICATIONS

- ROOF WATER ONLY TO BE DRAINED TO THE RAINWATER STORAGE TANK.
- THE RAINWATER STORAGE TANK NEEDS TO BE CONNECTED FOR RE-USE AS REQUIRED BY THE OWNER.
- RAINWATER STORAGE TANK TO BE CONFIGURED IN ACCORDANCE WITH COUNCIL WATER SPECIFICATIONS GUIDELINES FOR RAINWATER TANK ON RESIDENTIAL PROPERTIES.
- PROVIDE MAINS TOP-UP SUPPLY TO RAINWATER TANK. MAINS TOP-UP ZONE TO BE BASED ON THE DAILY NON-POTABLE USAGE THAT MAY BE EXPECTED FROM THE TANK.
- PROVIDE MECHANICAL PUMPING ARRANGEMENT (IN SOUND PROOF HOUSING) TO PUMP SUPPLIERS SPECIFICATION TO SUIT INTENDED USAGE OF RAINWATER STORAGE. PUMPING ARRANGEMENTS MUST COMPLY WITH EPA GUIDELINES.
- INLET TO RAINWATER TANK MUST BE SCREENED TO PREVENT THE ENTRY OF FOREIGN MATTER, ANIMALS OR INSECTS.
- A SIGN MUST BE AFFIXED TO THE RAINWATER TANK CLEARLY STATING THAT THE WATER IN THE TANK IS RAINWATER AND IS NOT TO BE USED FOR HUMAN CONSUMPTION.
- RAINWATER TANK TO BE PLACED ON A STRUCTURALLY ADEQUATE BASE IN ACCORDANCE WITH THE MANUFACTURER'S OR STRUCTURAL ENGINEER'S DETAILS.
- THE TANK MUST NOT BE INSTALLED OVER ANY MAINTENANCE STRUCTURE OR FITTINGS USED BY A PUBLIC AUTHORITY.
- RAINWATER TANK AND ASSOCIATED PLUMBING WORKS TO BE INSTALLED AND CONFIGURED BY A LICENSED PLUMBER. PUMP TO BE INSTALLED BY A LICENSED ELECTRICIAN.

STORMWATER SYSTEM DESIGN DATA

SITE DATA
 SITE AREA = 844.2 m² (100%)
 PROPOSED IMPERVIOUS AREA = 256 m² (30%)
 PROPOSED LANDSCAPED AREA = 588.2 m² (70%)

PERMISSIBLE SITE PLANS (STATE OF NATURE FOR CATCHMENT: 370 m²)
 NOTE: 1736 m² OF SITE AREA HAS BEEN PROTECTED DUE TO SHORE OF SITE AND IS THEREFORE DEEMED UNCONTROLLABLE.
 5 YR ARI = 11.1%
 10 YR ARI = 11.5%

SSO SYSTEM DESIGN DATA
 AREA DRAINING TO SSO 1 = 210 m² (100% IMPERVIOUS)
 AREA BY PASSING SSO SYSTEM = 18 m² (4% IMPERVIOUS)
 DEVELOPED SITE PLANS (FOR DEVELOPER CATCHMENT) = 308 m²
 10 YR ARI = 11.5%
 DETENTION SYSTEM DATA
 ORifice DIAMETER = 40 mm
 TOTAL SSO = 13.64 m³

STORMWATER SYSTEM DESIGN DATA

SITE DATA
 SITE AREA = 844.2 m² (100%)
 PROPOSED IMPERVIOUS AREA = 256 m² (30%)
 PROPOSED LANDSCAPED AREA = 588.2 m² (70%)
 EXISTING IMPERVIOUS AREA = 269.3 m² (32%)
 EXISTING LANDSCAPED AREA = 579.9 m² (68%)

ISSUE DATE	REVISION
19 FEB 2024	RETENTION TANK LOCATION AMENDED

TITLE		SCALE	
ALTERNATE STORMWATER MANAGEMENT PLAN		1:100	
15 DE LAURET AVENUE, NEWPORT		1:10	
DRAWN	DATE	CHECKED	SCALE
LI	9 FEBRUARY 2024	ME	1:10
ENGINEER		BE CHW (HORN) ME Ass	1:20

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STORM-2/A