

20 March 2024

Principle Certifying Authority
Emailed to: hr@accoladebusinessservices.com.au

Certificate Title: **Drainage Letter**

Address of the Project: **53 Addison Road, Manly**

Description of Project: **Alterations and Additions**

With reference to the Development Application for the above property, please find copies of the site Stormwater Management Plan, STORM-1, for your perusal.

The plan shows collected flows from the proposed and existing roof areas, along with some surrounding hardstand areas, discharging via the on-site detention tank to the kerb and gutter in Addison Road. Note that it is proposed to provide a 3000 litre detention storage tank in accordance with Council requirements.

The remaining flows from the surrounding hardstand and landscaped areas, discharge to a new absorption trench situated at the rear of the site. An on-site absorption trench was conducted using a borehole permeameter test to result in an absorption rate of 0.167 l/s/m^2 , which was subsequently used in the design of the proposed absorption trench. All numbers and calculations are in accordance with AS1289.6.7.1-2001.

This is to certify that the Stormwater Management Plan and Details layout as shown on Plan STORM-1 by Taylor Consulting Civil & Structural Engineers has been designed in accordance with Part 3.1.3, - Drainage, of the Building Code of Australia Housing Provision, AS/NZS 3500.3 Plumbing And Drainage – Stormwater Drainage and Northern Beaches Council's - Water Management for Development Policy.

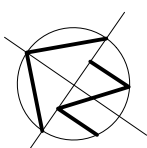
Should you require any further information please contact the undersigned.

Yours faithfully
TAYLORCONSULTING.NET.AU



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





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

A
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450 SQ POLLUTION CONTROL PIT WITH
Ø100 SCREWED CAP END TO PROPOSED
CHARGED DRAINAGE LINE TO ALLOW
FOR FLUSHING & MAINTENANCE

NOTE: Ø100 DOWNPIPE: ALL DOWNPIPES
DRAINING TO RAINWATER STORAGE TANK
TO BE WATERTIGHT TO 10m MIN. ABOVE
THE TOP OF THE RAINWATER TANK (TYP)

B
-

DETENTION STORAGE TANK
STORAGE VOLUME = 3000 LITRES
STORAGE LENGTH = 2500mm
STORAGE WIDTH = 700mm
STORAGE DEPTH = 1860mm
TANK FLOOR = R.L. 18.80
PROVIDE Ø150 LOW LEVEL
OUTLET TO BOUNDARY PIT

450 SQ. BOUNDARY PIT
GRATE R.L. = 19.14
INVERT R.L. = 18.74

PROVIDE 2/Ø100 P.V.C. OUTLETS TO
KERB AT 1% MIN. AND 150mm APART

BENCHMARK NAIL IN TOP
OF KERB R.L. 19.12 A.H.D.

A
-

4000 LONG STORMWATER
ABSORPTION TRENCHES - 2 ROWS

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 STRAIT 150 HALF-ROUND EAVES
GUTTERS OR APPROVED EQUIVALENT
7700mm² (MINI) EAVES GUTTER (TYPICAL)

PROVIDE LEVEL SPREADER FOR
DISCHARGE OF RUNOFF FROM
UPPER TO LOWER ROOF AREA (TYP)

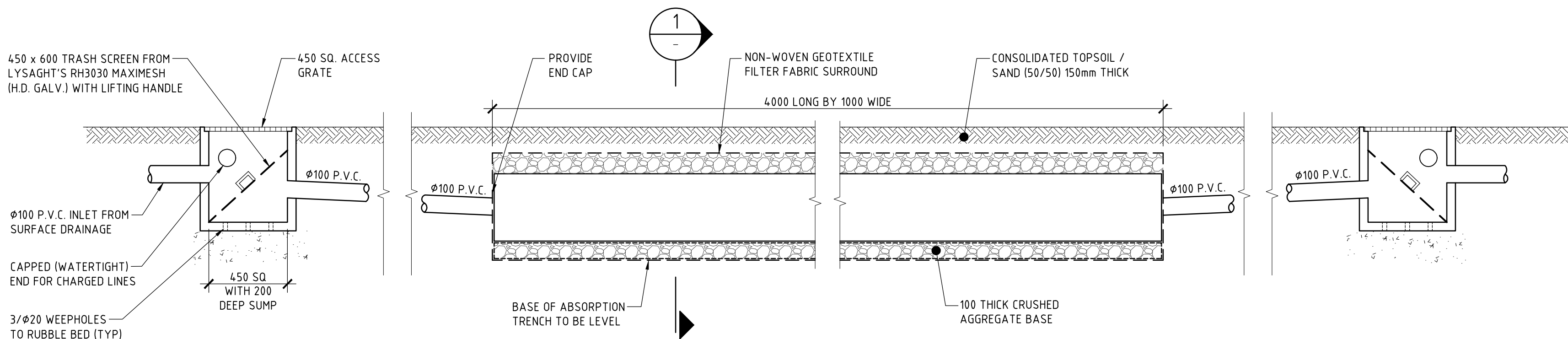
PROVIDE 100 WIDE
GRADED DRAIN (TYP)

PROVIDE 300 WIDE BY 150 DEEP BOX
GUTTER AT 1% FALL TO SUMP & WITH
PROVISION FOR EMERGENCY OVERFLOW

PROVIDE 150 WIDE GRATED
DRAIN ACROSS DRIVEWAY

SITE DRAINAGE PLAN

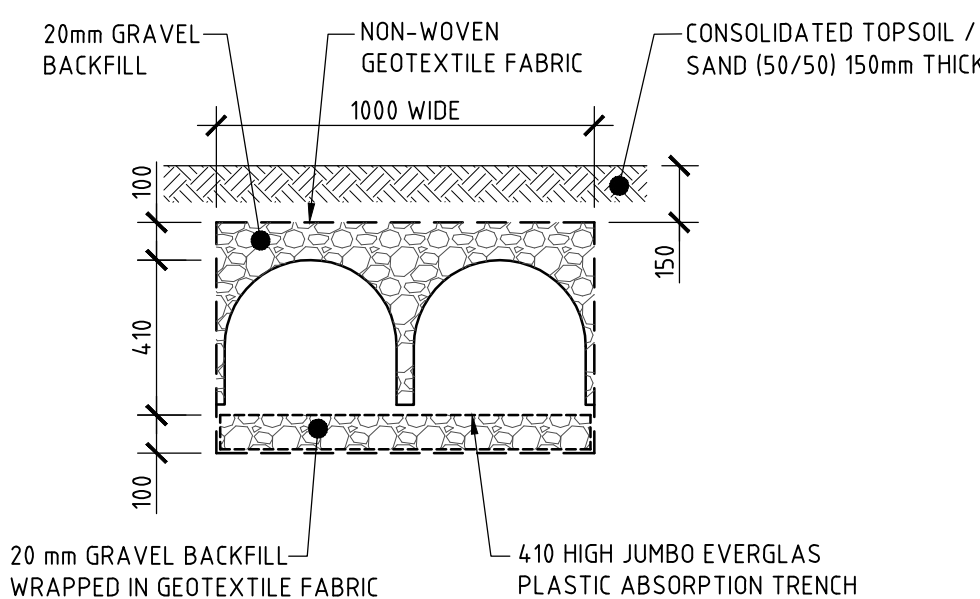
SCALE 1:100



DETAIL A

SCALE 120

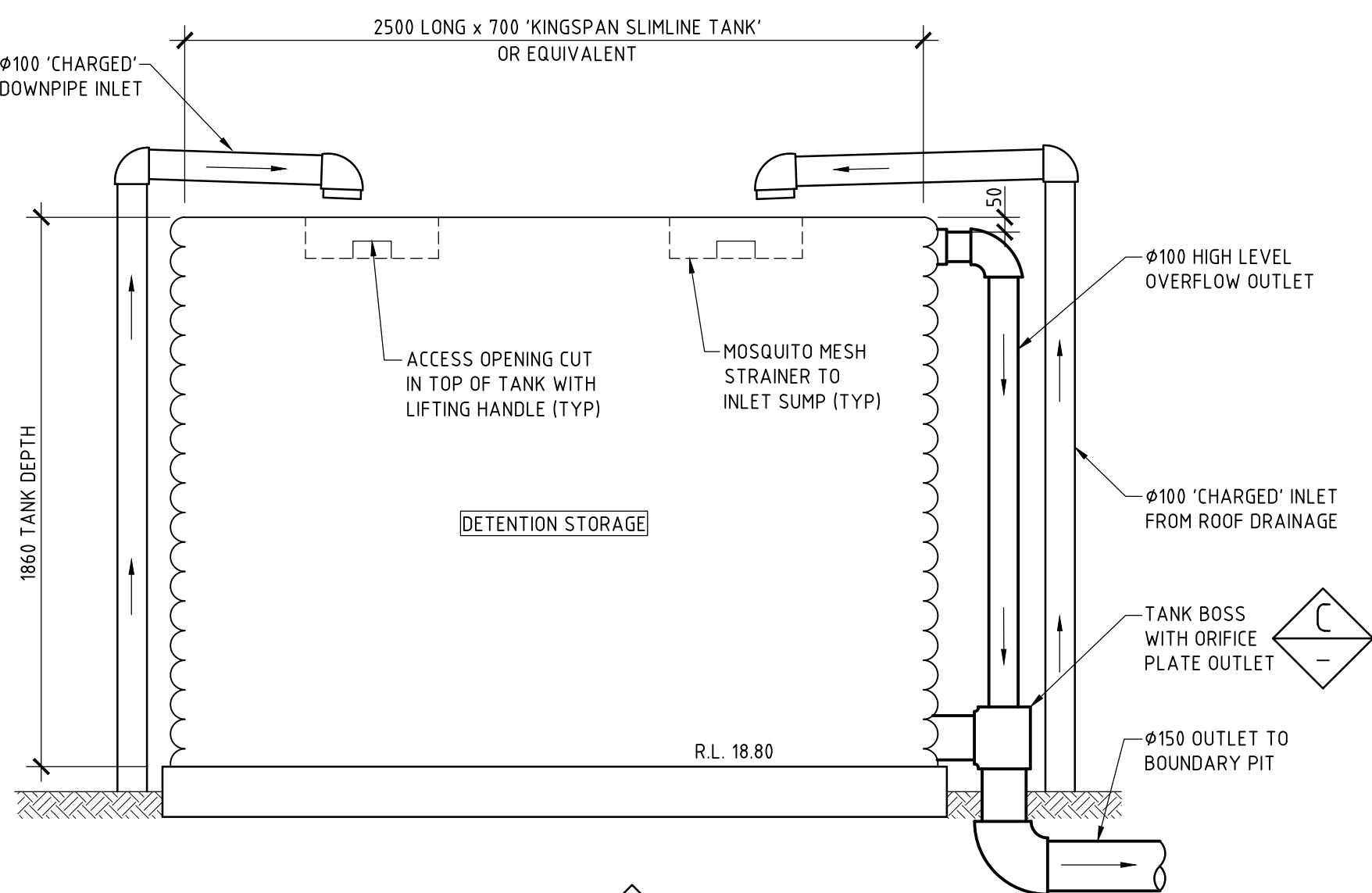
TYPICAL ABSORPTION TRENCH & PIT DETAIL



SECTION 1

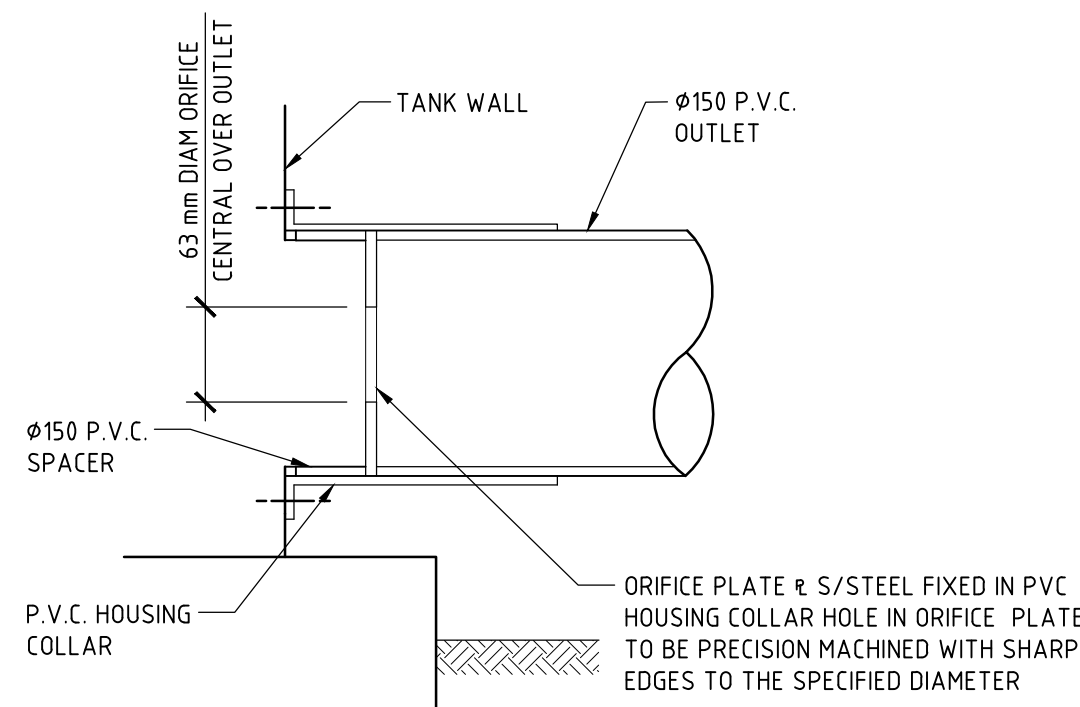
SCALE 120

TRANSVERSE SECTION THROUGH ABSORPTION TRENCH SYSTEM



DETAIL B

SCALE 120



DETAIL C

SCALE 15

DETENTION STORAGE OUTLET

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 GRATES 300 SQ. UNLESS OTHERWISE NOTED
- ALL STORMWATER PIPES TO HAVE SOLVENT CEMENT WATERTIGHT 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.
- INSPECTIONS MUST BE UNDERTAKEN BY THIS OFFICE (BY PRIOR ARRANGEMENT WITH ENGINEER) DURING CONSTRUCTION TO ENABLE FULL CERTIFICATION UPON COMPLETION OF WORKS.
- ALL CONSTRUCTION OF COUNCIL DRAINAGE WORKS TO COMPLY WITH COUNCIL STANDARD.
- REMOVE REDUNDANT DRAINAGE PITS 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 LAID ON COMPACTED FINE CRUSHED ROCK OR SAND BEDDING 75mm THICK & PIPES BACKFILLED WITH COMPACTED SAND TO 300mm ABOVE TOP OF PIPE, ELSE ATTACHED TO UNDERSIDE OF STRUCTURE AT 600mm c/c AS NECESSARY
- PIPE ROUTES SHOWN ARE INDICATIVE ONLY AND SHOULD BE AS NECESSARY ACCORDING TO SITE CONDITIONS, TREE POSITIONS ETC. CONFIRM 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 COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL TEMPORARY SERVICES AND MAKE GOOD ALL DISTURBED 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 EVERY 6 MONTHS.
- PLUMBING AND DRAINAGE WORKS TO COMPLY WITH AS-3500, THE NATIONAL DRAINAGE & PLUMBING CODE.
- WHERE POSSIBLE, DRAINAGE LINES SHALL BE LAID IN AREAS PREVIOUSLY DISTURBED BY OTHER SITE WORKS AND FOLLOW TOPOGRAPHICAL FEATURES TO REDUCE IMPACT AND AVOID TREE ROOTS.
- THIS STORMWATER MANAGEMENT PLAN HAS BEEN PREPARED FOR SUBMISSION TO COUNCIL/CERTIFIER AND DOES NOT NECESSARILY CONTAIN ALL APPROPRIATE INFORMATION TO ENABLE FOR ISSUE TO PLUMBER/BUILDER FOR CONSTRUCTION. CONTACT TAYLOR CONSULTING FOR MORE INFORMATION.

STORMWATER SYSTEM DESIGN DATA

SITE DATA

SITE AREA = 4331 m² (100%)
PROPOSED IMPERVIOUS AREA = 318 m² (73%)
PROPOSED LANDSCAPED AREA = 115.1 m² (45%)

NORTHERN BEACHES COUNCIL - REGION 3, SOUTHERN CATCHMENTS (ZONE 1)

TOTAL EXISTING IMPERVIOUS AREA = 60% OF TOTAL SITE AREA, OSD REQUIRED

OSD SYSTEM DESIGN DATA

EXISTING SITE FLOWS

5 YR ARI = 11 l/s

100 YR ARI = 11 l/s

DEVELOPED SITE FLOWS

100 YR ARI = 11 l/s

DETENTION SYSTEM DATA

AREA DRAINING TO THE TANK = 250.6 m²

ORIFICE DIAM = 63 mm

SSR = 2.897 m³ (DETERMINED VIA 'DRAINS')

ABSORPTION TRENCH DESIGN DATA
IMPERVIOUS CATCHMENT PER TRENCH = 50 m²
ABSORPTION RATE = 0.167 l/sec/m² (DETERMINED VIA HYDRAULIC INFILTRATION TEST AS PER AS1289.6.7.1-2001)
DESIGN RECURRENCE INTERVAL = 100 years

STORMWATER SYSTEM DESIGN DATA

SITE DATA

SITE AREA = 4331 m² (100%)
PROPOSED IMPERVIOUS AREA = 318 m² (73%)
PROPOSED LANDSCAPED AREA = 115.1 m² (27%)
EXISTING IMPERVIOUS AREA = 317 m² (73%)
EXISTING LANDSCAPED AREA = 116.1 m² (27%)

ISSUE	DATE	REVISION

TITLE STORMWATER MANAGEMENT PLAN 53 ADDISON ROAD, MANLY

DRAWN: JBP
ENGINEER: HSC
DATE: 20 MARCH 2024
CHECKED: [Signature]
SCALE: @ A1
1:100
1:20
1:5

BE Civil (Hons) MIE Aust.

TAYLOR
CONSULTING
CIVIL & STRUCTURAL ENGINEERS

DRAWING NO.
STORM-1