

7 May 2025

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

Address of the Project: **16 Coster Street, Frenchs Forest**

Description of Project: **Stormwater Management Plan - Alterations & Additions**

With reference to the Development Application for the above property, please find enclosed a copy of the site Stormwater Management Plan, STORM-1/B for your perusal.

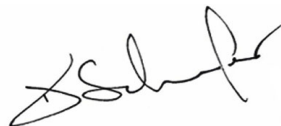
The plan shows collected flows from the proposed and existing dwelling and surrounding paved and landscaped areas discharging via a level spreader system. The rate of discharge for the developed area has been restricted to the 5 year state-of-nature level, in accordance with Council's Water Management for Development Policy for low level properties. The level spreader discharges collected runoff as uniform sheet flow across the rear boundary, observing the natural fall of the land.

Detention tanks are proposed to be installed beneath the rear deck and adjacent to the eastern boundary of the dwelling. The property owners have consulted the downstream neighbouring property but were unable to secure an easement.

Given the site's minimal slope and limited capacity to intercept total surface flows, a partial site hydrological assessment was undertaken. This analysis ensures that post-development impervious surface runoff does not exceed the pre-development five-year state of nature flow rate.

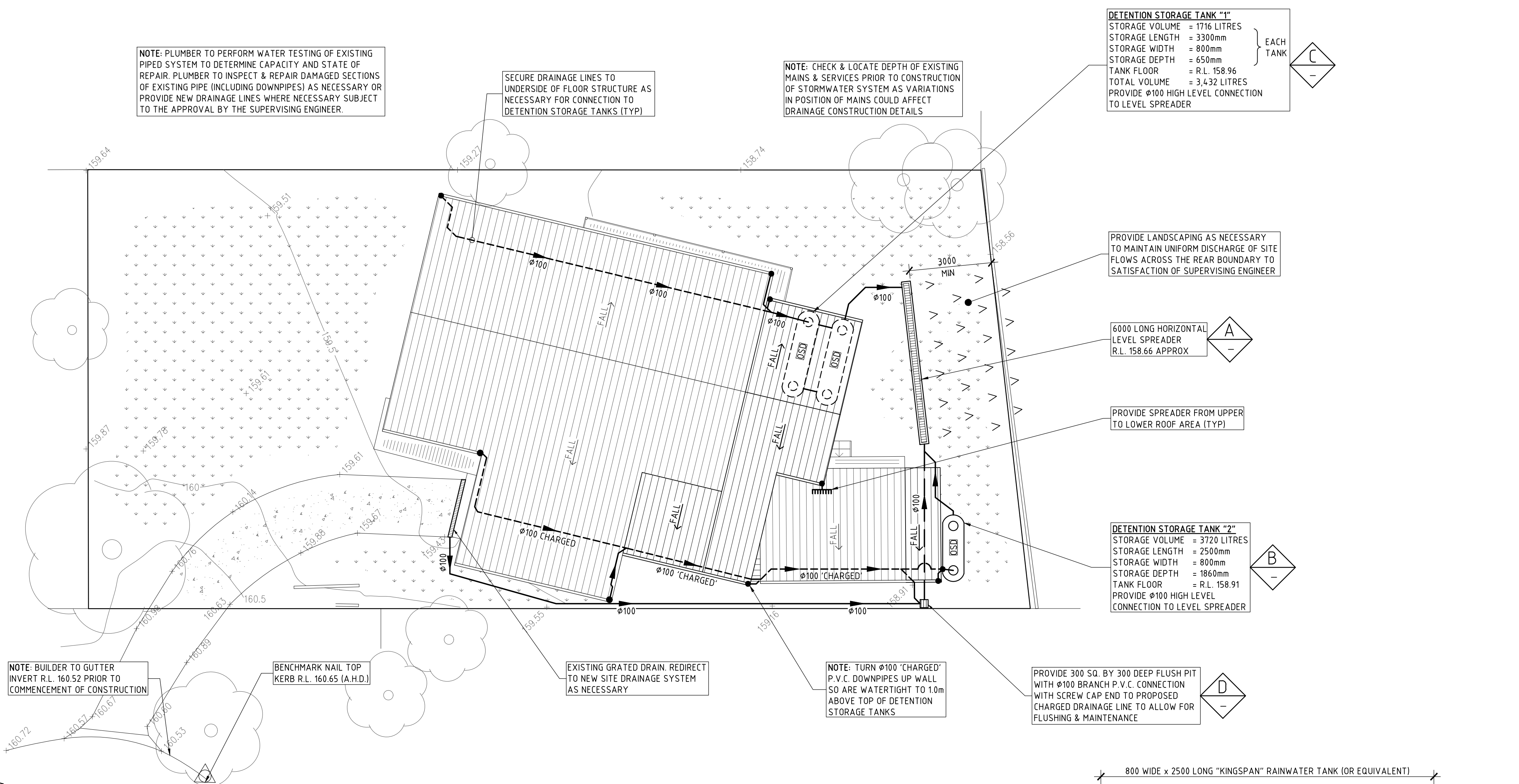
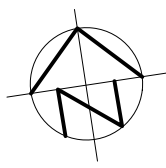
Should you require any further information, please contact the undersigned.

Yours faithfully
TAYLORCONSULTING.NET.AU



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





NOTE: 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.

SECURE DRAINAGE LINES TO UNDERSIDE OF FLOOR STRUCTURE AS NECESSARY FOR CONNECTION TO DETENTION STORAGE TANKS (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

DETENTION STORAGE TANK "1"
STORAGE VOLUME = 1716 LITRES
STORAGE LENGTH = 3300mm
STORAGE WIDTH = 800mm
STORAGE DEPTH = 650mm
TANK FLOOR = R.L. 158.96
TOTAL VOLUME = 3,432 LITRES
PROVIDE $\phi 100$ HIGH LEVEL CONNECTION TO LEVEL SPREADER

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

6000 LONG HORIZONTAL LEVEL SPREADER
R.L. 158.66 APPROX

PROVIDE SPREADER FROM UPPER TO LOWER ROOF AREA (TYP)

DETENTION STORAGE TANK "2"
STORAGE VOLUME = 3720 LITRES
STORAGE LENGTH = 2500mm
STORAGE WIDTH = 800mm
STORAGE DEPTH = 1860mm
TANK FLOOR = R.L. 158.91
PROVIDE $\phi 100$ HIGH LEVEL CONNECTION TO LEVEL SPREADER

NOTE: BUILDER TO GUTTER INVERT R.L. 160.52 PRIOR TO COMMENCEMENT OF CONSTRUCTION

BENCHMARK NAIL TOP
KERB R.L. 160.65 (A.H.D.)

EXISTING GRATED DRAIN. REDIRECT TO NEW SITE DRAINAGE SYSTEM AS NECESSARY

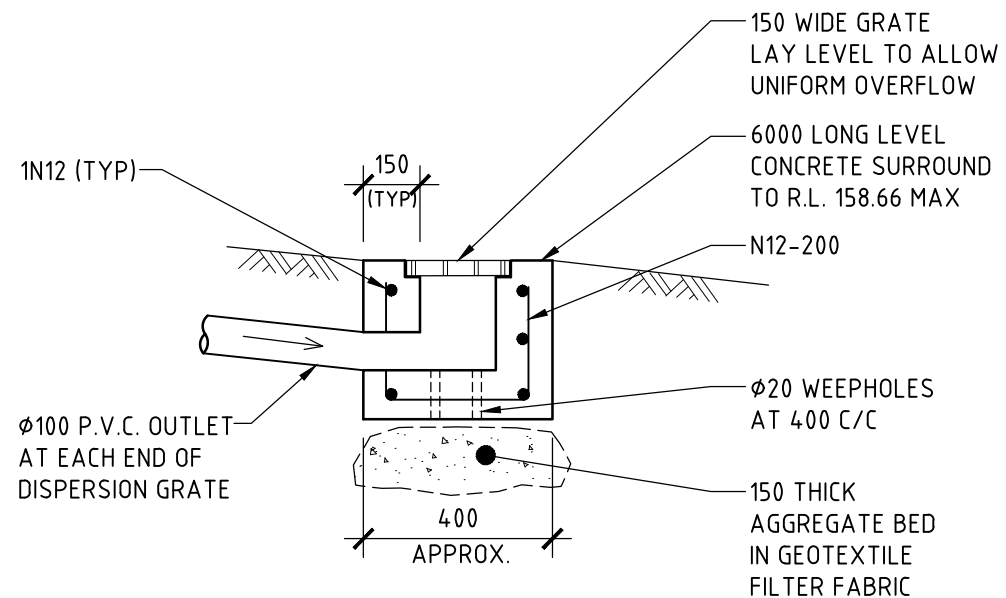
NOTE: TURN $\phi 100$ 'CHARGED' P.V.C. DOWNPIPES UP WALL SO ARE WATERTIGHT TO 1.0m ABOVE TOP OF DETENTION STORAGE TANKS

PROVIDE 300 SQ. BY 300 DEEP FLUSH PIT WITH $\phi 100$ BRANCH P.V.C. CONNECTION WITH SCREW CAP END TO PROPOSED CHARGED DRAINAGE LINE TO ALLOW FOR FLUSHING & MAINTENANCE

SITE DRAINAGE PLAN

SCALE 1:100

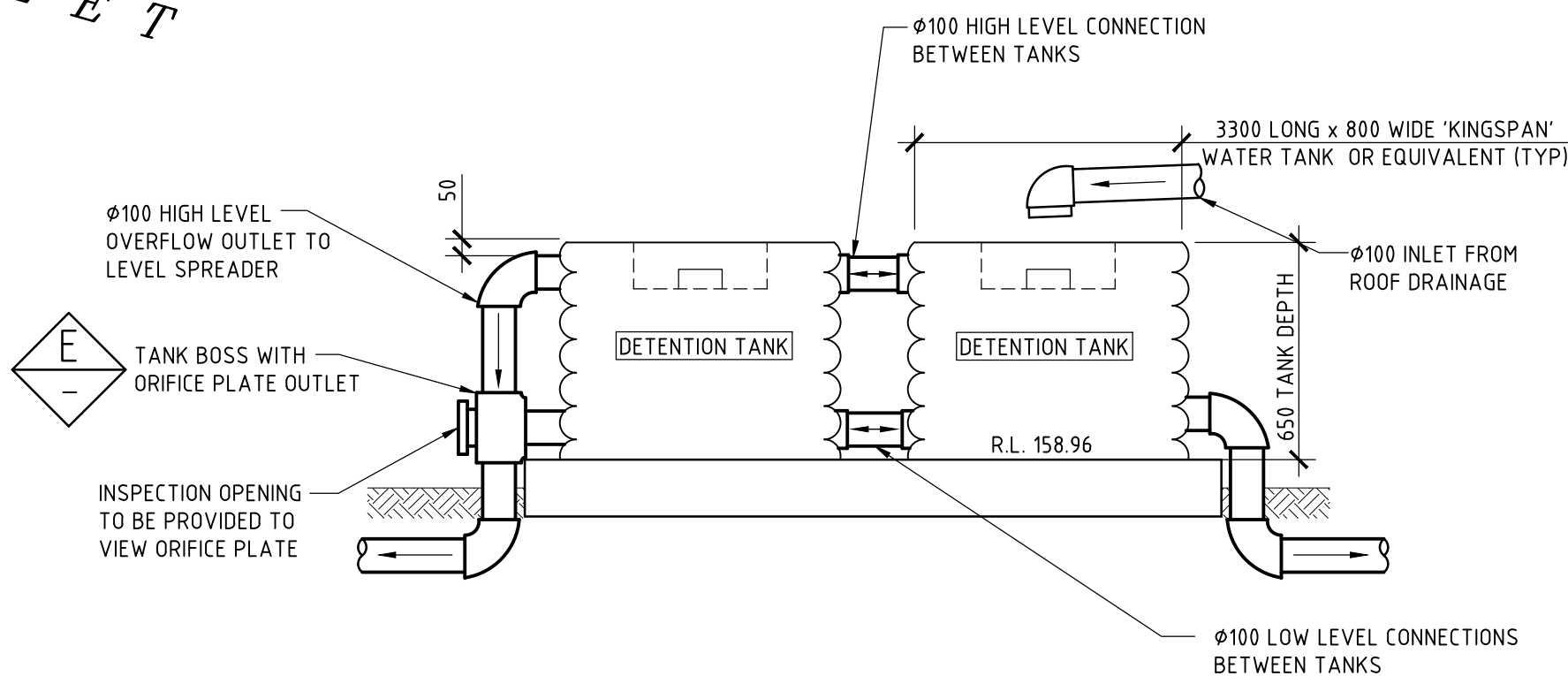
COSTER STREET



DETAIL A
SCALE 1:20

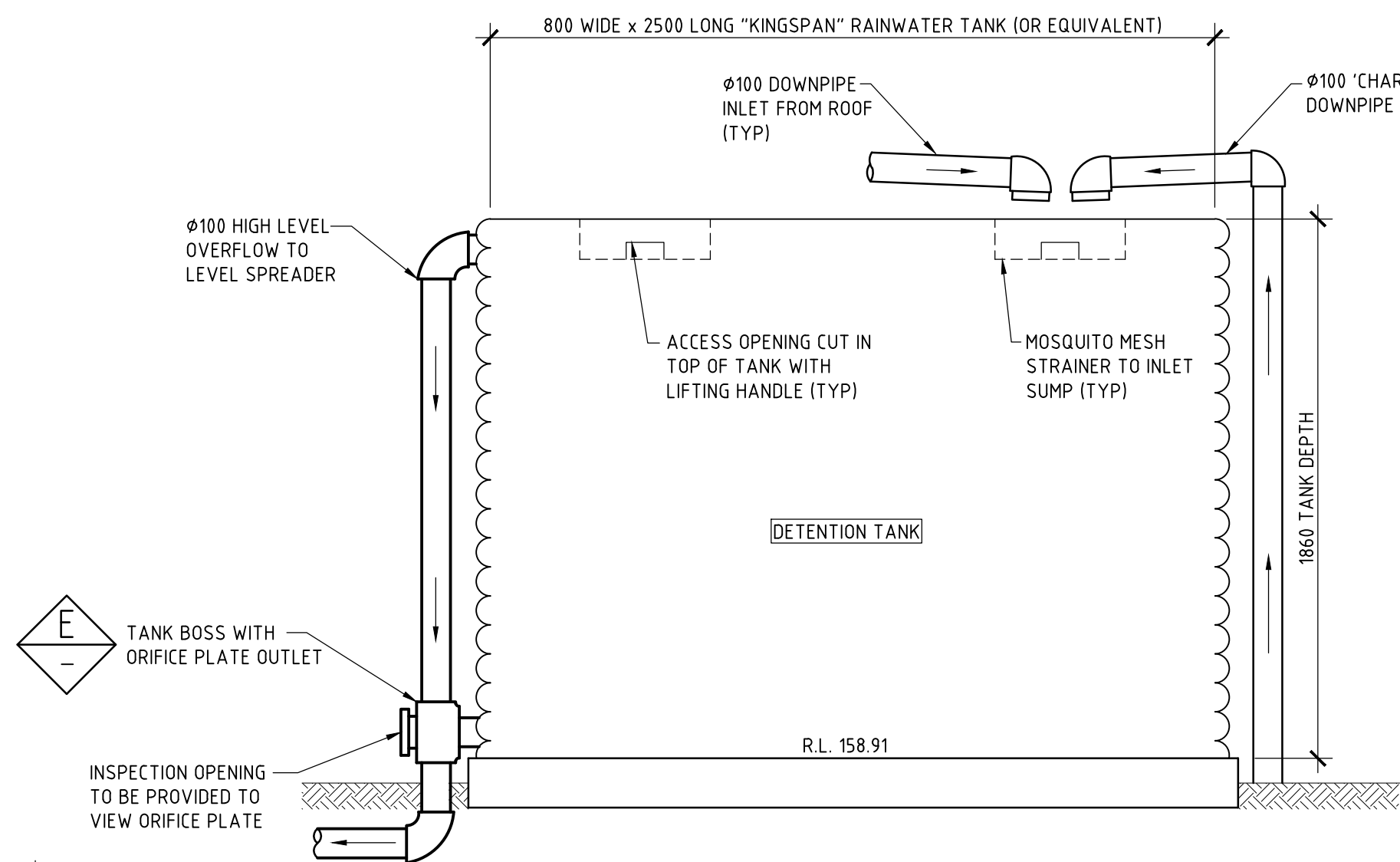
SHOWING HORIZONTAL DISPERSION GRATE
NOTE: CONCRETE STRENGTH = 20 MPa

NOTE: GRATING SURROUND MAY BE A PROPRIETARY PRODUCT SUBJECT TO APPROVAL BY SUPERVISING ENGINEER



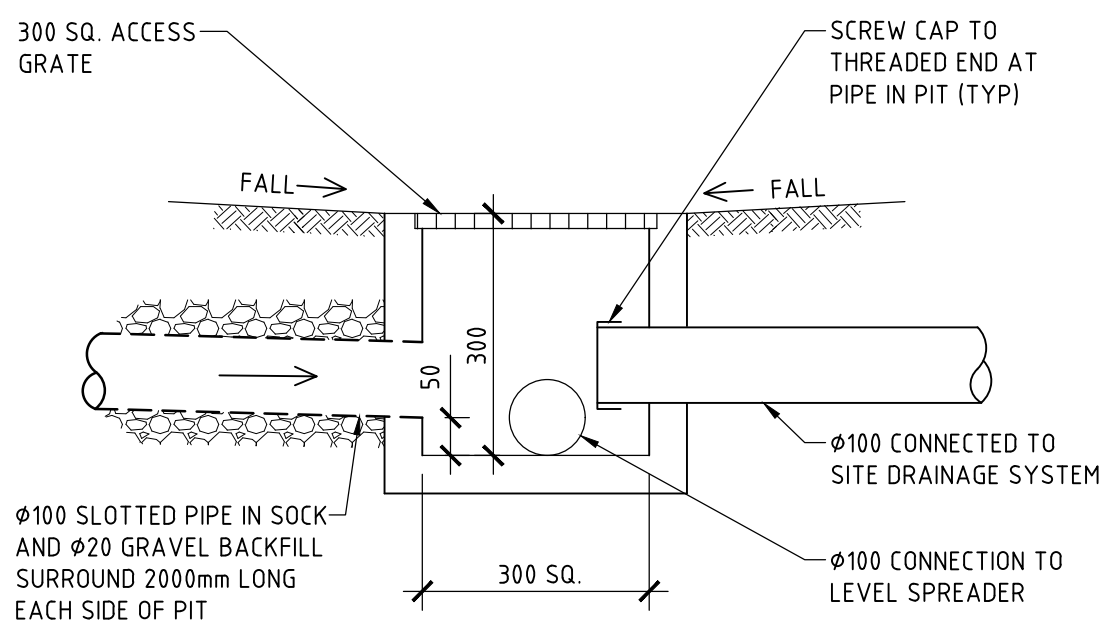
DETAIL C
SCALE 1:20

SHOWING ONSITE DETENTION TANK 1



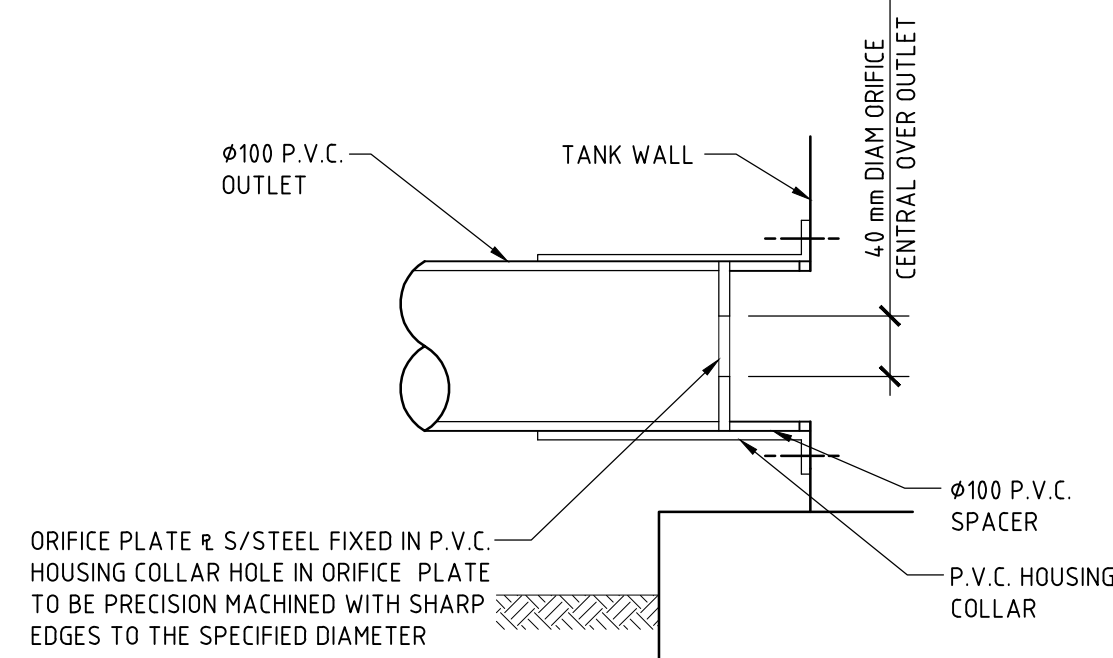
DETAIL B
SCALE 1:20

SHOWING ONSITE DETENTION TANK 2



DETAIL D
SCALE 1:10

TYPICAL INLET FLUSH PIT DETAIL



DETAIL E
SCALE 1:5

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.

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 SYDNEY 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 A 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.
- INLETS 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 = 566.9 m² (100%)
PROPOSED IMPERVIOUS AREA = 238 m² (42%)
PROPOSED LANDSCAPED AREA = 328.9 m² (58%)

OSD SYSTEM DESIGN DATA

PARTIAL PERMISSIBLE SITE FLOWS (STATE OF NATURE FOR CATCHMENT = 238m²)

5 YR ARI = 5 l/s

DEVELOPED IMPERVIOUS SITE FLOWS (FOR CATCHMENT = 238m²)

100 YR ARI = 5 l/s

DETENTION SYSTEM DATA

AREA DRAINING TO OSD 1 = 84 m² (100% IMPERVIOUS)
AREA DRAINING TO OSD 2 = 127 m² (100% IMPERVIOUS)
AREA BY-PASSING OSD SYSTEM = 27 m² (100% IMPERVIOUS)
TOTAL AREA = 238 m²
ORIFICE DIAMETER TANK 1 = 40mm (33mm CALCULATED USING DRAINS)
ORIFICE DIAMETER TANK 2 = 40mm (33mm CALCULATED USING DRAINS)
TOTAL SSR = 6.31 m³

STORMWATER SYSTEM DESIGN DATA

SITE DATA

SITE AREA = 566.9 m² (100%)
PROPOSED IMPERVIOUS AREA = 238 m² (42%)
PROPOSED LANDSCAPED AREA = 328.9 m² (58%)
EXISTING IMPERVIOUS AREA = 233.2 m² (42%)
EXISTING LANDSCAPED AREA = 333.7 m² (58%)

| ISSUE DATE | REVISION |
|--------------|---------------------------------|
| 31 JAN 2025 | UPDATED TO SUIT NEW ARCH PLANS |
| 3 APRIL 2025 | UPDATED PER CLIENT COMMENTS |
| 1 MAY 2025 | UPDATED TO SUIT COUNCIL CHANGES |

TITLE
STORMWATER MANAGEMENT PLAN
16 COSTER STREET, FRENCHS FOREST

DRAWN: TDR
ENGINEER: RB
DATE: 31 JAN 2025
CHECKED: [Signature]
SCALE: A1
1:100
1:20
1:10

BE Civil (Hons) MIE Aust.

TAYLOR
CONSULTING
CIVIL & STRUCTURAL ENGINEERS

STORM-1/B