



15 May 2022

General Manager Manly Council PO Box 82 MANLY NSW 1655

Dear Sir/Madam,

Re: Stormwater Drainage Details – 29 Dobroyd Road, Balgowlah Heights

With reference to the development application for the above property, please find enclosed a copy of the site Stormwater Management Plan & Details, STORM-1/B, STORM-2/B & STORM-3/B, for your perusal.

The plan shows the collected flows from the proposed roofed area discharging to an existing council pit in Commerce Lane.

Note that it is proposed to provide a 8600 litre on-site detention tank on the southeast corner of the property.

Should you require any further information please contact the undersigned.

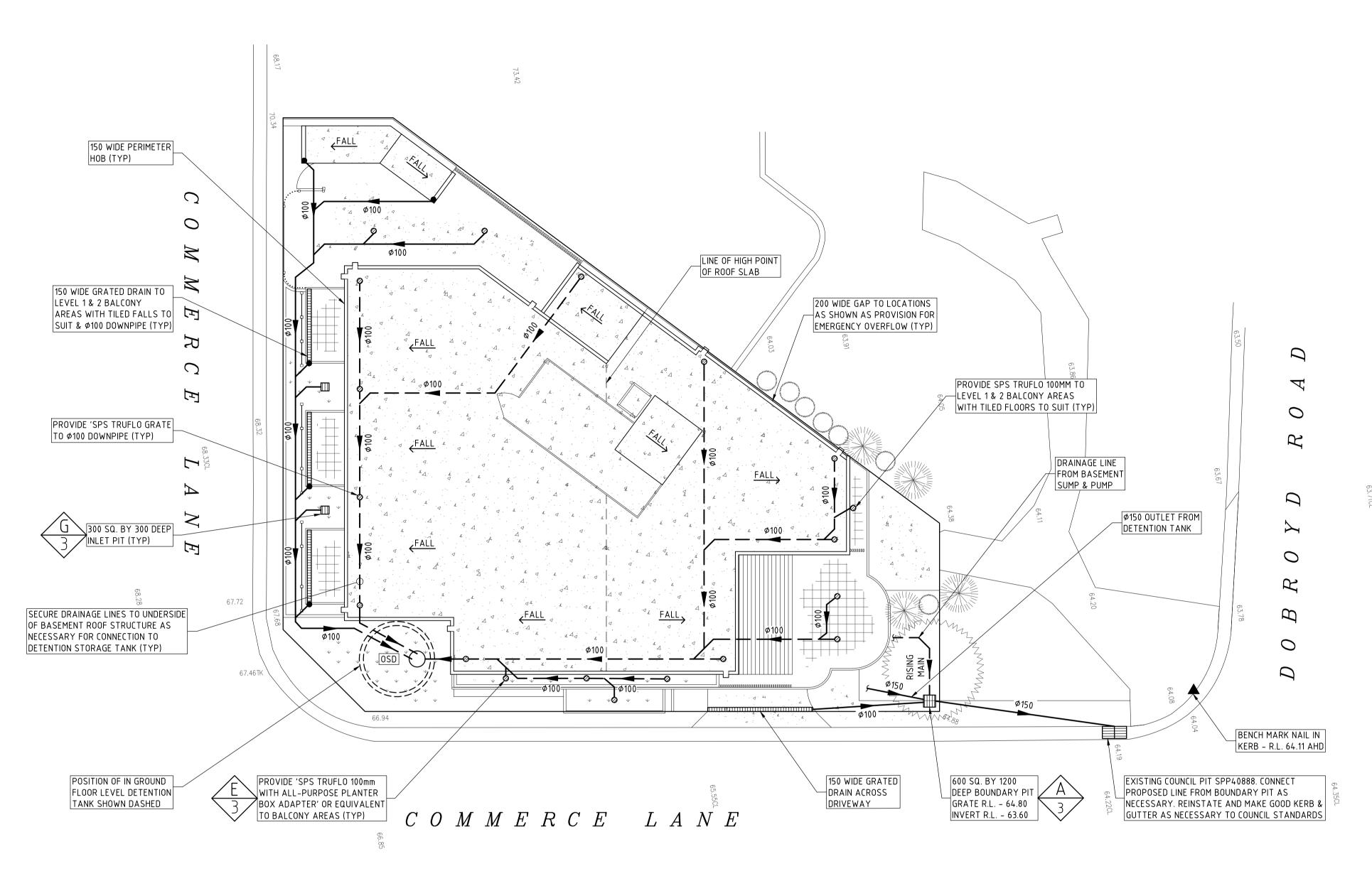
Yours faithfully TAYLOR CONSULTING

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







ROOF & UPPER LEVEL DRAINAGE PLAN

SCALE 1:100 SHOWING DRAINAGE ELEMENTS CONNECTING TO DETENTION TANK

						TORMWATER SYSTEM DESIGN DAT ITE DATA ITE AREA = 381.7 m ² (100%) ROPOSED IMPERVIOUS AREA = 321 ROPOSED LANDSCAPED AREA = 60 XISTING IMPERVIOUS AREA = 321 m XISTING LANDSCAPED AREA = 60.	lm² (84%) 0.7m² (16%) n² (84%)
· · · · · · · · · · · · · · · · · · ·	REVISION CHANGES TO SUIT NEW ARCHITECTURAL PLANS CHANGES TO SUIT NEW		ATER MANA OYD RD, BAL	TAYLOR			
	ARCHITECTURAL PLANS	DRAWN MDB	DATE 11 MAY 2023	CHECKED SSI BE Civil (Hons) MIE Au	SCALE @ A1 1:100 Ist	CONSULTING CIVIL & STRUCTURAL ENGINEERS	M−1/B
•••••••		"Seascape" Suite 7 22-20	6 Fisher Rd Dee Why NSW 209	99 T 02 9982 7092	F 02 9982 5898 en	nquire@taylorconsulting.net.au www.taylo	prconsulting.net.au

DRAINAGE NOTES

1.	+	DENOTES	EXISTING	GROUND	LEVEL

- 2. FALL STORMWATER PIPES AT 1% MIN. UNLESS OTHERWISE NOTED.
- 3. SUB-SOIL DRAINAGE TO BE CONNECTED TO THE SITE DRAINAGE SYSTEM AS NECESSARY.
- 4. SURFACE GRATES 300 SQ. UNLESS OTHERWISE NOTED.
- ALL STORMWATER PIPES TO HAVE SOLVENT CEMENT WATERTIGHT JOINTS.
- 6. CHECK & LOCATE DEPTH OF EXISTING MAINS & SERVICES PRIOR TO CONSTRUCTION OF STORMWATER SYSTEM AS VARIATIONS IN POSITION OF MAINS COULD AFFECT DRAINAGE CONSTRUCTION DETAILS.
- 7. INSPECTIONS MUST BE UNDERTAKEN BY THIS OFFICE (BY PRIOR ARRANGEMENT WITH ENGINEER) DURING CONSTRUCTION TO ENABLE FULL CERTIFICATION UPON COMPLETION OF WORKS.
- 8. 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.
- 11. 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
- 13. 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.
- 14. 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.
- 15. 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.
- 17. 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
- 18. THIS STORMWATER MANAGEMENT PLAN HAS BEEN PREPARED FOR D.A. SUBMISSION TO COUNCIL 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

- 1. 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'.
- 4. 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.
- 5. 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.
- 7. 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.
- 9. THE TANK MUST NOT BE INSTALLED OVER ANY MAINTENANCE STRUCTURE OR FITTINGS USED BY A PUBLIC AUTHORITY.
- 10. RAINWATER TANK AND ASSOCIATED PLUMBING WORKS TO BE INSTALLED AND CONFIGURED BY A LICENSED PLUMBER. PUMP TO BE INSTALLED BY A LICENSED ELECTRICIAN.

OSD SYSTEM DESIGN DATA

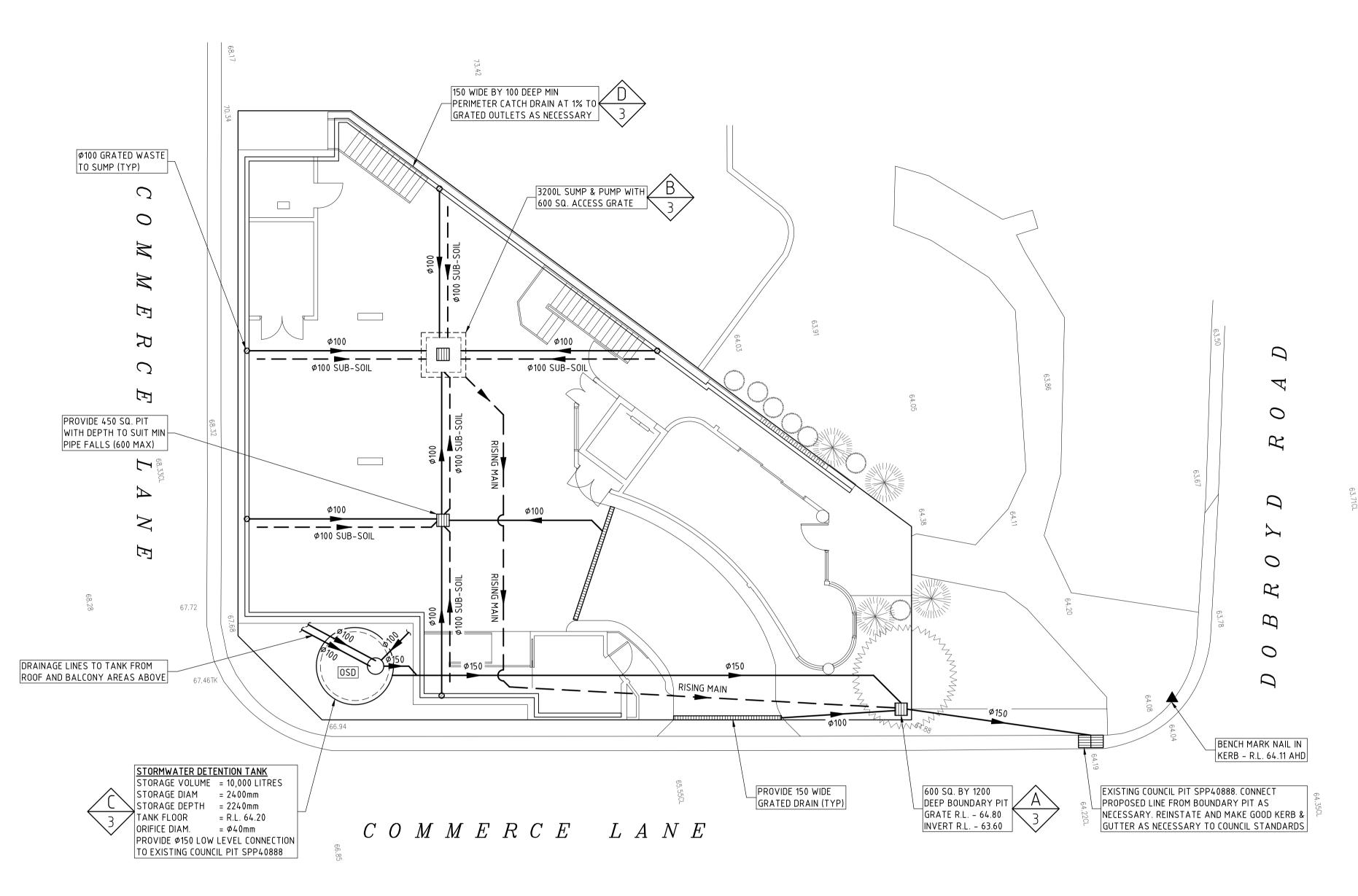
- SITE DATA SITE AREA = 381.7 m^2
- PROPOSED IMPERVIOUS AREA = 321 m² (84%) PROPOSED LANDSCAPED AREA = 60.7 m² (16%)

EXISTING SITE FLOWS (PERMISSIBLE SITE DISCHARGE FOR PAVED PROPORTION = 35%)

- 5 YR ARI = 9 l/s <u>DEVELOPED SITE FLOWS</u>
- 100 YR ARI = 9 l/s

DETENTION SYSTEM DATA

AREA DRAINING TO THE TANK = 278.3 m² ORIFICE DIAM = 40 mm SSR = 8.46 m³

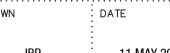


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GROUND FLOOR DRAINAGE PLAN

SCALE 1:100 SHOWING CARPARK LEVEL DRAINAGE ELEMENTS AND CONNECTION TO DETENTION TANK

ISSUE DATE 8 FEB 2022 12 MAY 2023	REVISION CHANGES TO SUIT NEW ARCHITECTURAL PLANS CHANGES TO SUIT NEW ARCHITECTURAL PLANS	0101111	ATER MANA OYD RD, BAL	TAYLOR	STORN		
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		JBP	11 MAY 2023	BE Civil (Hons) MIE Aus	1:100 st:	CIVIL & STRUCTURAL ENGINEERS	-2/B
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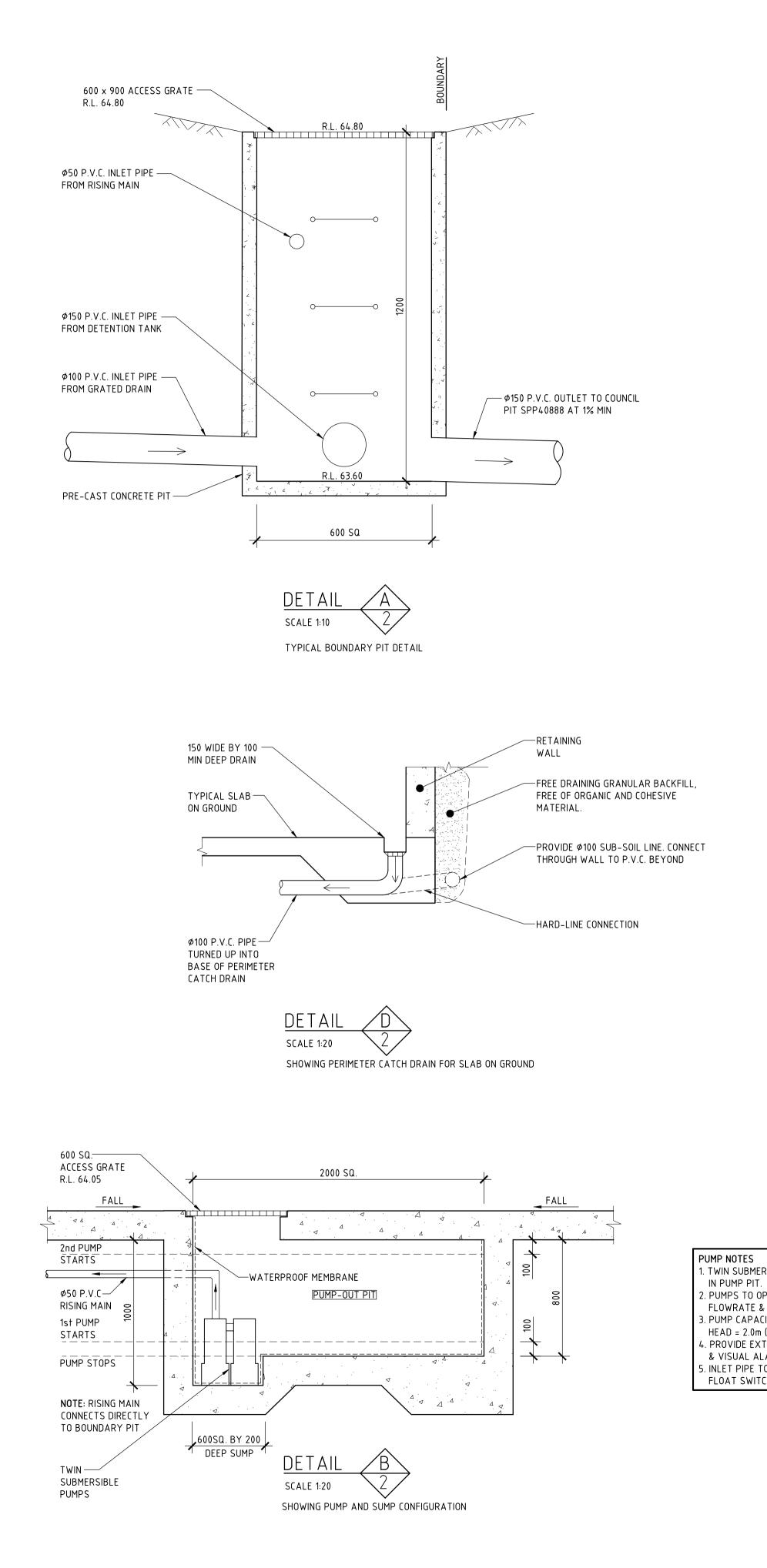


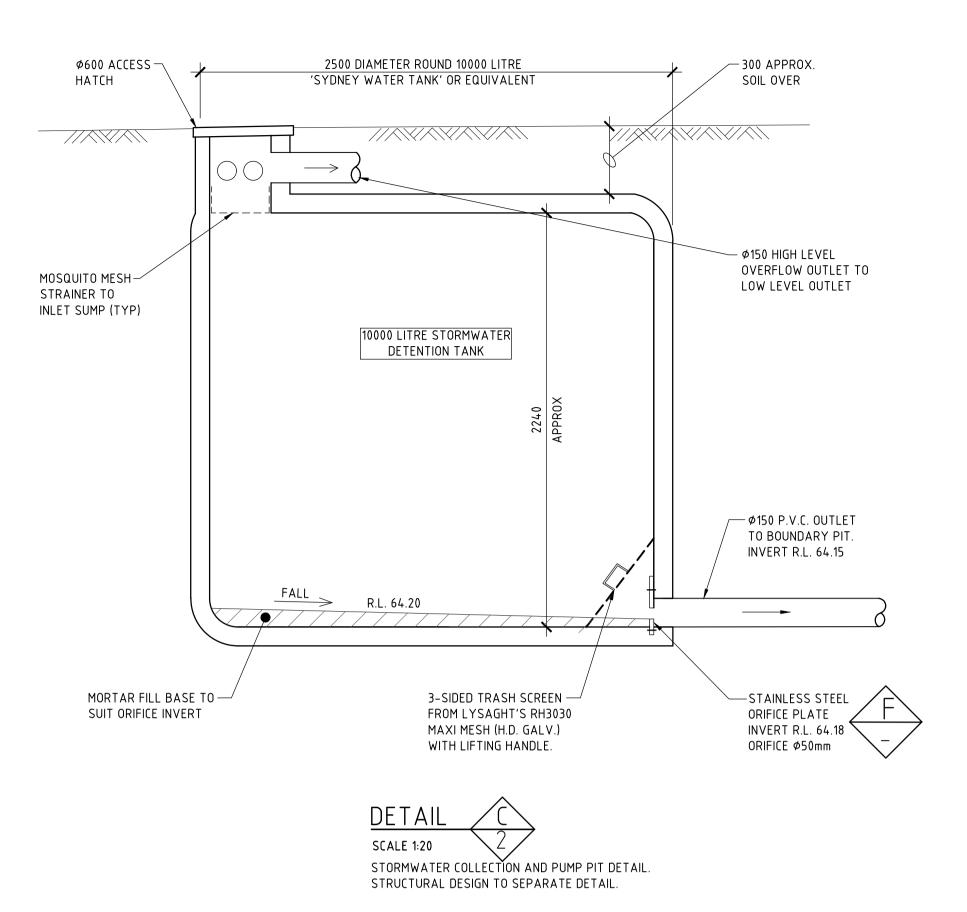


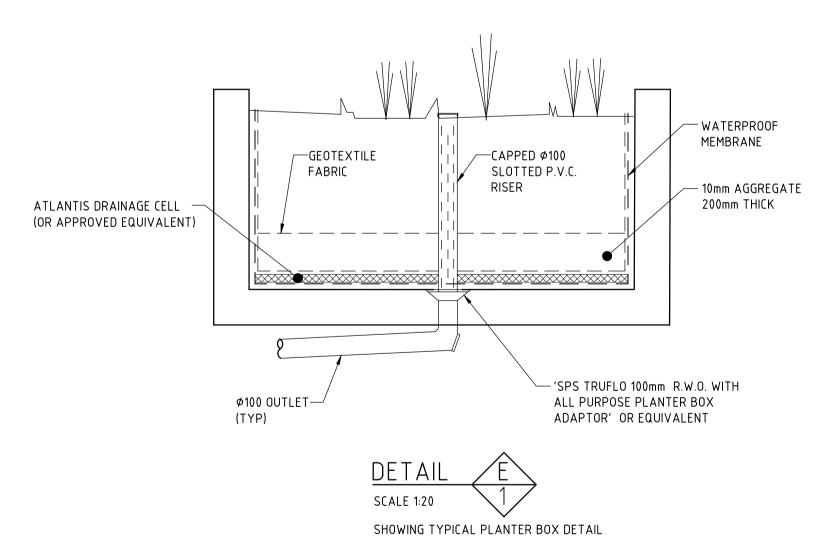












1. TWIN SUBMERSIBLE PUMPS TO BE PROVIDED

 PUMPS TO OPERATE ALTERNATELY AT LOW INLET FLOWRATE & CONCURRENTLY AT HIGH INLET FLOWRATE.
 PUMP CAPACITY TO BE 2.0 I/s EACH FOR STATIC OF HEAD = 2.0m (EXCLUDES OUTLET PIPE LOSSES).
 PROVIDE EXTERNAL CONTROL PANEL WITH AUDIO & VISUAL ALARMS & BATTERY POWER BACK-UP.
 INLET PIPE TO BE LOCATED CLEAR OF THE HIGH LEVEL FLOAT SWITCH TO PREVENT FALSE ALARMS.

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