

LEGEND:

- (A) EASEMENT TO DRAIN WATER 1.22 WIDE
- (B) EASEMENT TO DRAIN WATER 1.83 WIDE
- (C) EASEMENT FOR MECHANICAL WAY VARIABLE WIDTH AND EASEMENT FOR SERVICES

NOTE:

SWIMMING POOL SURCHARGE OVERFLOW TO BE CONNECTED TO SYDNEY WATER SEWER IN ACCORDANCE WITH AS3500.2.2.2003 DETAILS AND CERTIFICATION BY OTHERS.

NOTES:

- ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.

ASSUMED LOCATION OF EXISTING STORMWATER DRAINAGE LINE BUILDER TO CONFIRM ON SITE

PROPOSED NEW 450x450 GRATED BOUNDARY PIT LEVELS TO BE CONFIRMED ON SITE ONCE JUNCTION OF EXISTING PIPES HAS BEEN LOCATED

ASSUMED LOCATION OF EXISTING STORMWATER DRAINAGE LINE BUILDER TO CONFIRM ON SITE
ADJUST PIPE AS REQUIRED TO CLEAR NEW FOOTINGS FOR NEW POOL AND DECK STRUCTURE
NEW DECK RL 37.39

CONNECT RWT OVERFLOW PIPE INTO EXISTING SYSTEM

ASSUMED LOCATION OF EXISTING STORMWATER DRAINAGE LINE BUILDER TO CONFIRM ON SITE

ALL PIPES TO BE 100mm ϕ uPVC LAID AT 1 % MINIMUM FALL UNLESS NOTED OTHERWISE

SITE STORMWATER DRAINAGE PLAN

SCALE = 1 : 100

NOTES:

- FINISHES, FLASHING AND WATERPROOF MEMBRANES AS PER ARCHITECTS DETAILS

NOTE: EXCAVATION AROUND TREES

CARE SHOULD BE TAKEN WHEN UNDERTAKING WORKS IN THE VICINITY OF SELECTED TREES NOT TO DISTURB THE TREE ROOT SYSTEM. HAND DIGGING OF TRENCHES ETC MAY BE NECESSARY.

NOTE: EXISTING STORMWATER SYSTEM

EXISTING STORMWATER DRAINAGE SYSTEM TO BE UTILISED WHERE ADEQUATE. BUILDER TO INSPECT PRIOR TO CONSTRUCTION AND UPGRADE IF REQUIRED IN ACCORDANCE WITH AS 3500.3

NOTE: EXCAVATION WORKS

STRUCTURAL ENGINEER TO INSPECT AND APPROVE EXCAVATION WORKS ADJACENT TO EXISTING FOOTINGS AND PROVIDE UNDERPINNING INSTRUCTIONS IF REQUIRED.

LEGEND

- 100mm ϕ DOWNPIPE TO DISCHARGE TO RWT
- NEW STORMWATER PIPE
- EXISTING STORMWATER PIPE
- STORMWATER PIPE FLOW DIRECTION
- RWT RAINWATER TANK TO COLLECT ALL DPI DOWNPIPES. TO BE RE-USED AS PER BASIX REQUIREMENTS LOCAL COUNCIL & SYDNEY WATER REQUIREMENTS RWT = 2,000 L ABOVE GROUND TANK

NOTE: ALL DRAINAGE LINES ARE INDICATIVE ONLY. LOCATION MAY VARY DUE TO CONSTRAINTS.

ONSITE DETENTION CALCULATIONS NORTHERN BEACHES COUNCIL - MANLY

SITE SUMMARY: STORMWATER ZONE 1

TOTAL SITE AREA = 649.8 m²
PRE DEVELOPED IMPERVIOUS AREA = 248.9 m² (38 %)
PROPOSED IMPERVIOUS AREA = 270 m² (42 %)
OVERALL INCREASE = 21.3 m²
THE OVERALL INCREASE IS LESS THAN 50m²
AND THE IMPERVIOUS SITE COVERAGE IS LESS THAN 60 %, THEREFORE OSD IS NOT REQUIRED FOR THIS DEVELOPMENT
METHOD OF DISCHARGE - SITE DISCHARGING TO EXISTING STORMWATER SYSTEM AT REAR OF PROPERTY

NOTE:

ALL WATERPROOF MEMBRANES AND FLASHINGS TO BE INSTALLED AS PER ARCHITECTS DETAILS.

NOTE:

SURFACE DRAINAGE TO BE PROVIDED IN ACCORDANCE WITH AS 3500.3

NOTE:

SUBSOIL DRAINAGE TO BE INSTALLED WHERE REQUIRED AS PER AS 3500.3

NOTE:

ALL DPI DOWN PIPES TO DISCHARGE INTO RAINWATER RE-USE TANK IN ACCORDANCE WITH AS 3500.3

NOTE:

NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE

DEVELOPERS & EXCAVATORS MAY BE HELD FINANCIALLY RESPONSIBLE BY THE ASSET OWNER SHOULD THEY DAMAGE UNDERGROUND NETWORKS.

CARELESS DIGGING CAN:

- CAUSE DEATH OR SERIOUS INJURY TO WORKERS AND THE GENERAL PUBLIC
- INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER AND COMMUNICATIONS
- LEAD TO CRIMINAL PROSECUTION AND DAMAGES CLAIMS
- CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS
- CUT OFF EMERGENCY SERVICES
- DELAY PROJECT COMPLETION TIMES WHILE THE DAMAGE IS REPAIRED

MINIMISE YOUR RISK AND DIAL BEFORE YOU DIG. - TEL. 1100

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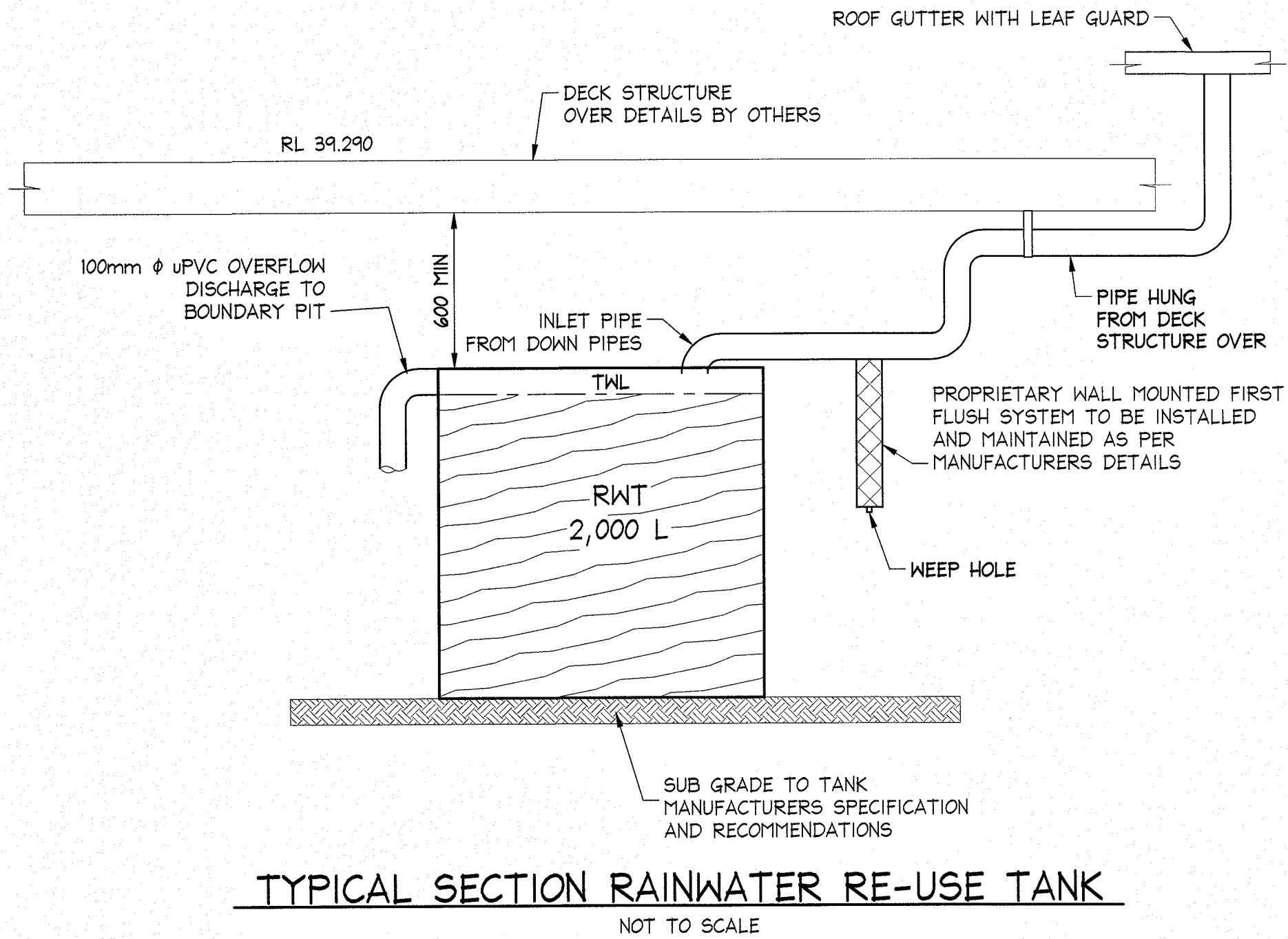
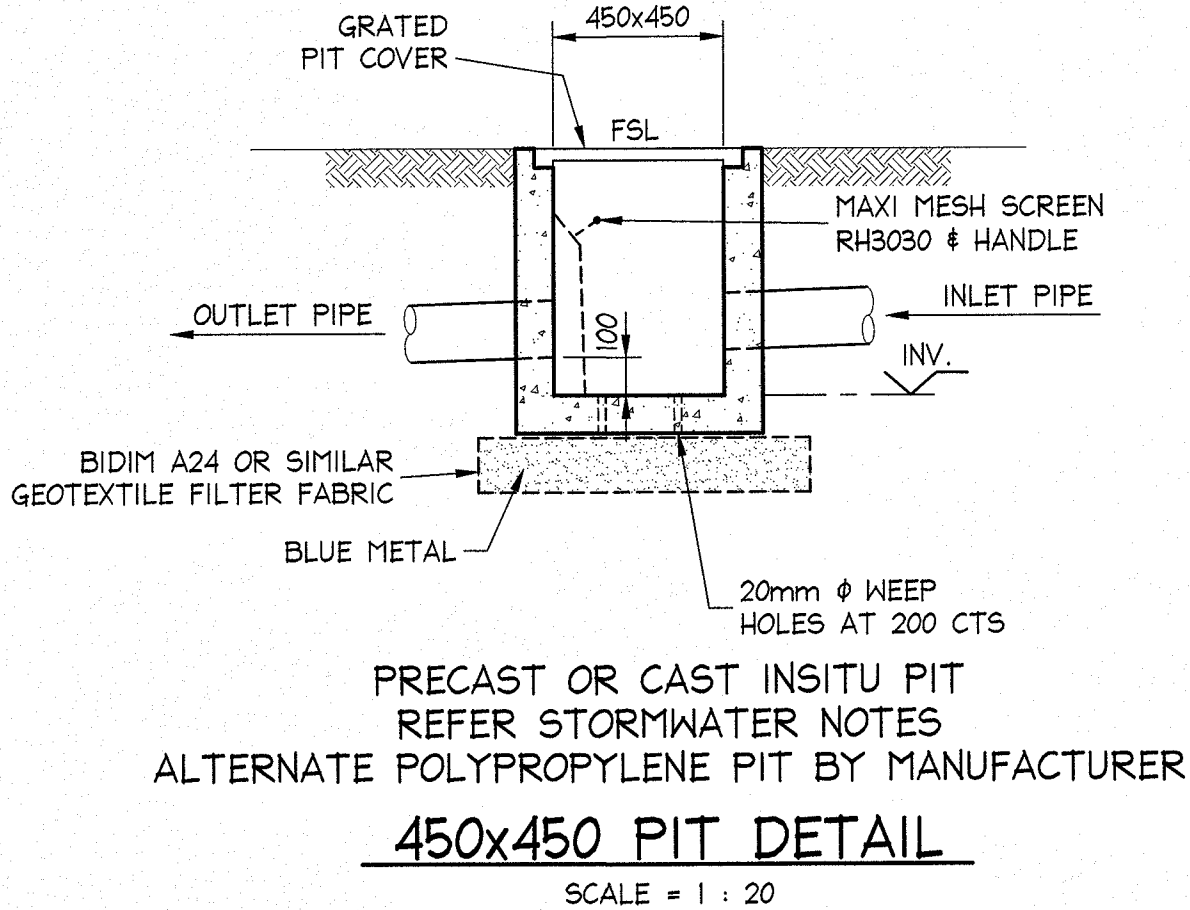
DOCUMENT CERTIFICATION				Architect:		Project:		Date:	Design:	Drawn:	
Date: 12/09/2019 Rick G Wray BE(Civil), CPEng, MIEAust., NER, RPEQ 0825 (Director NB Consulting Engineers)				Urban Escape Landscape Contractors		ALTERATIONS AND ADDITIONS 135 Seaforth Avenue Seaforth N.S.W. 2092		Sept. 2019	L.G.	Paul R Bruce AMEAust.	
By: Review:				Client:		Drawing Title:		Job No:		Drawing No:	
The copyright of this drawing remains with Northern Beaches Consulting Engineers Pty Ltd. Trading as NB Consulting Engineers				Nathan & Michelle Cahill		SITE STORMWATER DRAINAGE PLAN		190808		D01	
12/09/2019				A		ISSUED FOR D.A. SUBMISSION ONLY - NOT FOR CONSTRUCTION				A	

STORMWATER NOTES:

- ALL PIPES TO BE 100mm Ø UNLESS NOTED OTHERWISE.
- ALL PIPES TO BE uPVC TO AS 1254-2002 UNLESS NOTED OTHERWISE.
- ALL PIPES TO BE LAYED AT 1 % MINIMUM GRADE UNLESS NOTED OTHERWISE.
- ALL PIPES SHALL BE LAID ON A 75mm SAND BED, COMPACTED TO 100% S.M.D.D. BELOW PAVEMENTS.
(NO COMPACTION REQUIRED BELOW LANDSCAPING)
COVER TO SURFACE FROM TOP OF PIPE TO BE 300mm MINIMUM.
BACKFILL TO BE ADEQUATELY CONSOLIDATED AROUND PIPES BY METHOD OF RAMMING AND WATERING IN. TRENCHES TO BE FILLED WITH GRANULAR MATERIAL AS SPECIFIED.
- ALL DOWN PIPES TO BE 100mm Ø UNLESS NOTED OTHERWISE.
- DOWN PIPE LOCATIONS ARE INDICATIVE ONLY. LOCATIONS TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
- PROVIDE CLEANING EYES AT ALL DOWNPIPES.
- ALL PITS TO BE CAST INSITU OR, IF PRECAST, APPROVED BY ENGINEER.
CAST INSITU PITS TO HAVE 150mm THICK CONCRETE WALLS AND BASE.
WALLS TO BE REINFORCED WITH 1 N12 TOP TIE UNLESS NOTED OTHERWISE.
CAST INSITU PITS GREATER THAN 900 DEEP TO BE MINIMUM 900x600 AND TO HAVE 150mm THICK CONCRETE WALLS AND BASE. WALLS TO BE REINFORCED WITH N12 AT 300 EACH WAY UNLESS NOTED OTHERWISE.
- ALL PITS GREATER THAN 1000mm DEEP SHALL HAVE STEP IRONS AS PER COUNCIL STANDARDS.
- THE BOUNDARY OR SILT ARRESTOR PIT SHOULD ALWAYS INCORPORATE A SUMP AND MAXI-MESH SCREEN AS PER LOCAL COUNCIL REQUIREMENTS. HOWEVER, UNLESS SPECIFICALLY REQUIRED BY COUNCILS POLICY OR IF THE SITE CONSISTS OF A CLAY OR ROCK SUBGRADE, ALL OTHER DRAINAGE PITS WILL NOT REQUIRE A SUMP.
- ALL WORK TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARDS AND SPECIFICATIONS.
- PRIOR TO COMMENCING ANY SITE WORKS THE CONTRACTOR SHALL IMPLEMENT EROSION CONTROL MEASURES TO APPROVED SEDIMENT AND EROSION CONTROL PLAN, EPA GUIDELINES AND COUNCIL SPECIFICATIONS. ALL MEASURES TO REMAIN IN PLACE UNTIL COMPLETION AND STABILIZATION OF THE SITE TO COUNCIL SATISFACTION.
- ALL LEVELS SHOWN ARE TO AHD
- ENSURE THAT ALL PITS AND STORMWATER PIPES ARE LOCATED CLEAR FROM TREE ROOT SYSTEMS.
- ALL EXISTING EARTHENWARE PIPES TO BE UPGRADED TO uPVC.
- ALL WORKS TO BE IN ACCORDANCE WITH AS 3500-2003 NATIONAL PLUMBING DRAINAGE CODE PART 3 - STORMWATER DRAINAGE.
- UNLESS NOTED OTHERWISE, SUB-SOIL DRAINS ARE TO BE INSTALLED IN ACCORDANCE WITH AS3500.3 ALONGSIDE WALLS THAT IMPEDE THE NATURAL FLOW OF GROUNDWATER. THIS MAY ALSO INVOLVE TRENCHING INTO THE CLAY OR ROCK SUBGRADE TO DIRECT GROUNDWATER AWAY FROM STRUCTURES.
- IF NOT INDICATED ON PLANS, PROVIDE LEAF CATCHERS TO ALL DOWNPIPES OR GUTTER GUARD TO ALL EAVES GUTTERS.

RAINWATER RE-USE TANKS:

- CONSIDERING THE ROOF CATCHMENT AREA, LOCATION OF PROPERTY, INTENDED USE OF RAINWATER AND GARDEN SIZE WE RECOMMEND PROVIDING A RAINWATER TANK FOR USE AS PER BASIX REQUIREMENTS, SYDNEY WATER AND NSW HEALTH REQUIREMENTS FOR NON DRINKING USE ONLY AS PER BASIX REQUIREMENTS.
- THE TANKS PROVIDED WILL REDUCE PRESSURE ON COUNCIL'S STORMWATER INFRASTRUCTURE.
- REFERENCES:
COOMBS P.J. & KUCZERA G. (2001), "RAINWATER TANK DESIGN FOR WATER SUPPLY & STORMWATER MANAGEMENT." STORMWATER INDUSTRY ASSOCIATION REGIONAL CONFERENCE.
PATRICK DUPONT & STEVE SHACKEL, "RAINWATER"
AUSTRALIAN GOVERNMENT (2004), "GUIDANCE ON USE OF RAINWATER TANKS"
ALL CONNECTIONS TO PLUMBING AND RAINWATER TANKS TO BE IN ACCORDANCE WITH SYDNEY WATERS' GUIDE "INSTALLING A RAINWATER TANK"
AVAILABLE AT www.sydneywater.com.au
- PROVIDE A DUAL SUPPLY SYSTEM AND BACKFLOW PREVENTION SYSTEM IN ACCORDANCE WITH 'BASIX-DESIGN GUIDE FOR SINGLE DWELLINGS' BY NSW DEPARTMENT OF INFRASTRUCTURE, PLANING AND NATURAL RESOURCES.
- IF NOT SPECIFIED ON PLANS, THE FIRST FLUSH SYSTEM IS TO HAVE A MINIMUM SIZE OF 20L PER 100m2 OF ROOF CATCHMENT AREA PRIOR TO ENTERING THE RAINWATER TANK. INDIVIDUAL SITE ANALYSIS IS REQUIRED IN HEAVILY POLLUTED AREAS TO DETERMINE IF LARGER VOLUMES OF FIRST FLUSH RAINWATER ARE TO BE DIVERTED. IF IN DOUBT, CHECK WITH LOCAL HEALTH AUTHORITIES.
- SCREENED DOWNPIPE RAINWATER HEAD OR OTHER SUITABLE LEAF AND DEBRIS DEVICE TO BE INSTALLED ON EACH DOWNPIPE. SCREEN MESH TO BE 4-6mm AND DESIGNED TO BE SELF-CLEANING.
- FIRST FLUSH DEVICES, OR APPROVED ALTERNATIVE, TO BE INSTALLED WITH AN AUTOMATED DIVERSION AND DRAINAGE SYSTEM, THAT IS, NO MANUAL DIVERSION AND DRAINAGE VALVES. REFER TYPICAL FLUSH OUT PIT FOR DETAILS.
- BEFORE PURCHASING MATERIALS OR PAINT TO BE USED ON ROOF CATCHMENT AREAS, THE MANUFACTURER'S RECOMMENDATIONS ON LABELS AND BROCHURES FOR RAINWATER TANK SUITABILITY TO BE READ AND ADHERED TO.
- PRE-STORAGE PITS FOR UNDERGROUND RAINWATER STORAGE TANKS AND FLUSH OUT PITS MAY ASSIST IN LIMITING SILT, AND PREVENT VERMIN, INSECTS (INCLUDING MOSQUITOES) AND DEBRIS FROM ENTERING THE RAINWATER STORAGE AREA.
- BUILDER/PLUMBER TO ENSURE THE INSTALLATION OF THE RAINWATER TANK SYSTEM IS IN ACCORDANCE WITH THE RELEVANT AUSTRALIAN STANDARDS AND THE RAINWATER TANK DESIGN AND INSTALLATION HANDBOOK - HB 230-2008. IF IN DOUBT CONTACT ENGINEER.
- RAINWATER TANK TO BE WATER PROOFED IN ACCORDANCE WITH HB 230-2008



NOTES:

- ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.

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Date:	Issue:	Description:	By:	Review:	

DOCUMENT CERTIFICATION

Date: 12/09/19
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Project: ALTERATIONS AND ADDITIONS
135 Seaforth Avenue Seaforth N.S.W. 2092
Drawing Title:
STORMWATER DRAINAGE DETAILS

Date: Sept. 2019
Design: L.G.
Drawn: Paul R Bruce AMIEAust.
Job No: 190808
Drawing No: D02
Issue: A



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