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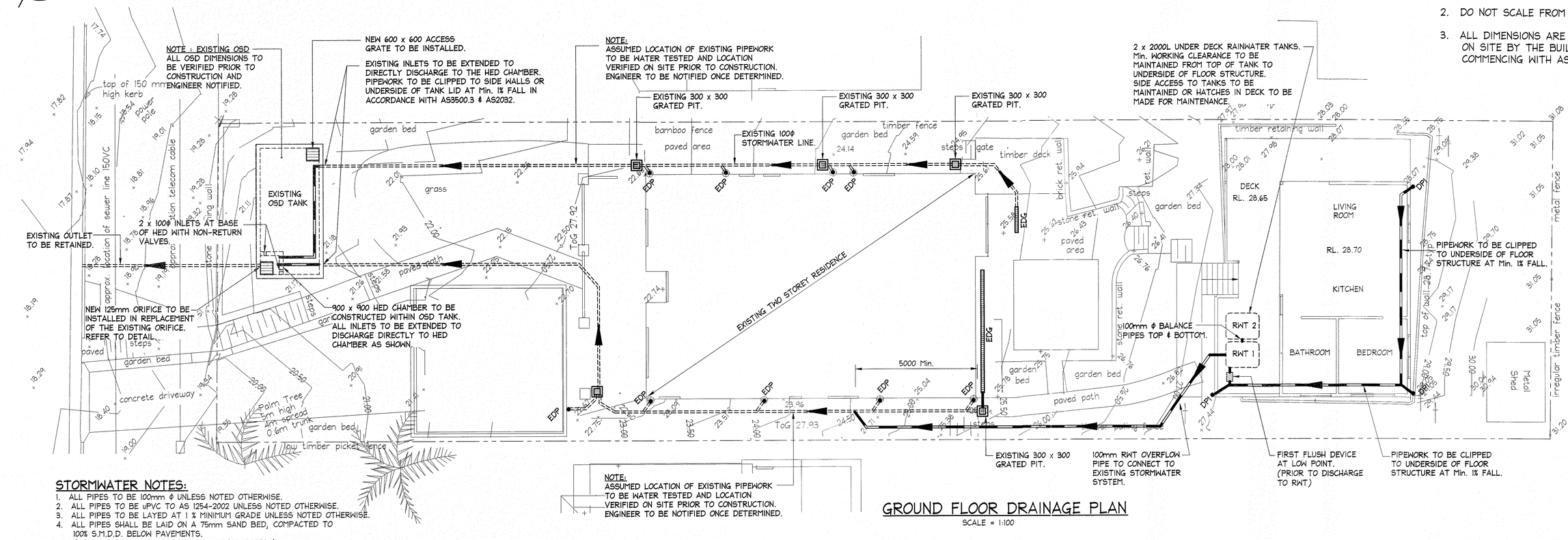

GROUND FLOOR DRAINAGE PLAN

SCALE = 1:100

STORMWATER NOTES:

1. ALL PIPES TO BE 100mm ϕ UNLESS NOTED OTHERWISE.
2. ALL PIPES TO BE uPVC TO AS 1254-2002 UNLESS NOTED OTHERWISE.
3. ALL PIPES TO BE LAYED AT 1 % MINIMUM GRADE UNLESS NOTED OTHERWISE.
4. 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.
5. ALL DOWN PIPES TO BE 100mm ϕ UNLESS NOTED OTHERWISE.
6. DOWN PIPE LOCATIONS ARE INDICATIVE ONLY. LOCATIONS TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
7. PROVIDE CLEANING EYES AT ALL DOWNPIPES.
8. 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.
9. ALL PITS GREATER THAN 1000mm DEEP SHALL HAVE STEP IRONS AS PER COUNCIL STANDARDS.
10. 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.
11. ALL WORK TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARDS AND SPECIFICATIONS.
12. 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.
13. ALL LEVELS SHOWN ARE TO AHD
14. ENSURE THAT ALL PITS AND STORMWATER PIPES ARE LOCATED CLEAR FROM TREE ROOT SYSTEMS.
15. ALL EXISTING EARTHENWARE PIPES TO BE UPGRADED TO uPVC.
16. ALL WORKS TO BE IN ACCORDANCE WITH AS 3500-2003 NATIONAL PLUMBING DRAINAGE CODE PART 3 - STORMWATER DRAINAGE.
17. 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.
18. IF NOT INDICATED ON PLANS, PROVIDE LEAF CATCHERS TO ALL DOWNPIPES OR GUTTER GUARD TO ALL EAVES GUTTERS.
19. ORIFICE PLATE MUST BE INSTALLED PRIOR TO INSTALLATION OF THE ROOF DRAINAGE SYSTEM AND CONNECTION OF THE SITE STORMWATER SYSTEM TO THE ONSITE DETENTION TANK.

RAINWATER RE-USE TANKS:

1. 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 REQUIRMENTS FOR NON DRINKING USE ONLY AS FOLLOWS:
   a) TO WATER GARDEN AREAS b) WASHING CARS
2. THE TANKS PROVIDED WILL REDUCE PRESSURE ON COUNCIL'S STORMWATER INFRASTRUCTURE.
3. REFERENCES:
   COOMBES 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"
4. 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
5. 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.
6. 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.
7. 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.
8. FIRST FLUSH DEVICES, OR APPROVED ALTERATIVE, 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.
9. 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.
10. 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.
11. 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.
12. RAINWATER TANK TO BE WATER PROOFED IN ACCORDANCE WITH HB 230-200B

NORTHERN BEACHES COUNCIL (PITTWATER AREA) ON SITE DETENTION SYSTEM CALCULATION SHEET

ADDRESS: 36 GRANDVIEW PARADE, MONA VALE

SITE DETAILS

TOTAL SITE AREA	973.78 m^2
PRE DEVELOPMENT IMPERVIOUS AREA	441 m^2 (45% IMPERVIOUS)
POST DEVELOPMENT IMPERVIOUS AREA	580 m^2 (60% IMPERVIOUS)
INCREASE	139 m^2

OSD REQUIREMENT

SINCE THE TOTAL IMPERVIOUS AREA FOR THE SITE IS MORE THAN 50 m^2, OSD IS REQUIRED.

NOTE: THE SUBJECT SITE HAS AN EXISTING ON-SITE DETENTION SYSTEM WITH A STORAGE VOLUME OF APPROXIMATELY 10.80 m^3. IN ACCORDANCE WITH THE OSD CALCULATIONS BELOW, THE EXISTING ON-SITE DETENTION SYSTEM IS ADEQUATE TO CATER FOR THE PROPOSED ALTERATIONS & ADDITIONS. THEREFORE, NO ADDITIONAL ON-SITE DETENTION STORAGE IS REQUIRED FOR THIS DEVELOPMENT.

PERMITTED SITE DISCHARGE

PRE DEVELOPMENT SITE DISCHARGE	
20 YR	47 l/s
100 YR	62 l/s
POST DEVELOPMENT SITE DISCHARGE	
20 YR	34 l/s (30 l/s FROM OSD)
100 YR	36 l/s (30 l/s FROM OSD)

NOTE: 20YR & 100YR STORM EVENTS HAVE BEEN MATCHED FOR PRE-DEVELOPMENT AND POST-DEVELOPMENT FLOW RATES

SITE STORAGE REQUIREMENT

OSD VOLUME REQUIRED	10.0 m^3 (10.80 m^3 PROVIDED)
RAINWATER 'BASIX' REQUIRED	3.5 m^3 (4.0 m^3 PROVIDED)

OUTLET CONTROL

METHOD OF DISCHARGE	KERB & GUTTER

LEGEND

DPI •	100mm ϕ DOWNPIPE TO DISCHARGE TO EXISTING OSD TANK.
EDP •	EXISTING DOWNPIPE TO DISCHARGE TO EXISTING OSD TANK.
	NEW STORMWATER PIPE
==========	EXISTING STORMWATER PIPE
	STORMWATER PIPE FLOW DIRECTION
PIT	STORMWATER PIT
EDG	EXISTING GRATED DRAIN
RWT 1, RWT 2	RAINWATER TANKS TO COLLECT ALL DPI DOWNPIPES. TO BE RE-USED AS PER BASIX REQUIREMENTS LOCAL COUNCIL & SYDNEY WATER REQUIREMENTS RWT 1 = 2000 L RWT 2 = 2000 L

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

www.dialbeforeyoudig.com.au
DIAL 1100 BEFORE YOU DIG

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

Date : Aug 20'
Rick G Wray
BE(Civil),CPEng,MIEAust.,NER.,RPEQ: 08268.
(Director NB Consulting Engineers)

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Architect: ACTION PLANS	Project: ADDITONS AND ALTERATIONS 36 GRANDVIEW PARADE, MONA VALE	Date: AUGUST 20'	Design: CF / Drawn: NP
Client: HAYDEN ELLERTON	Drawing Title: GROUND FLOOR DRAINAGE PLAN AND DETAILS	Job No: 200823	Drawing No: D01 / Issue: A

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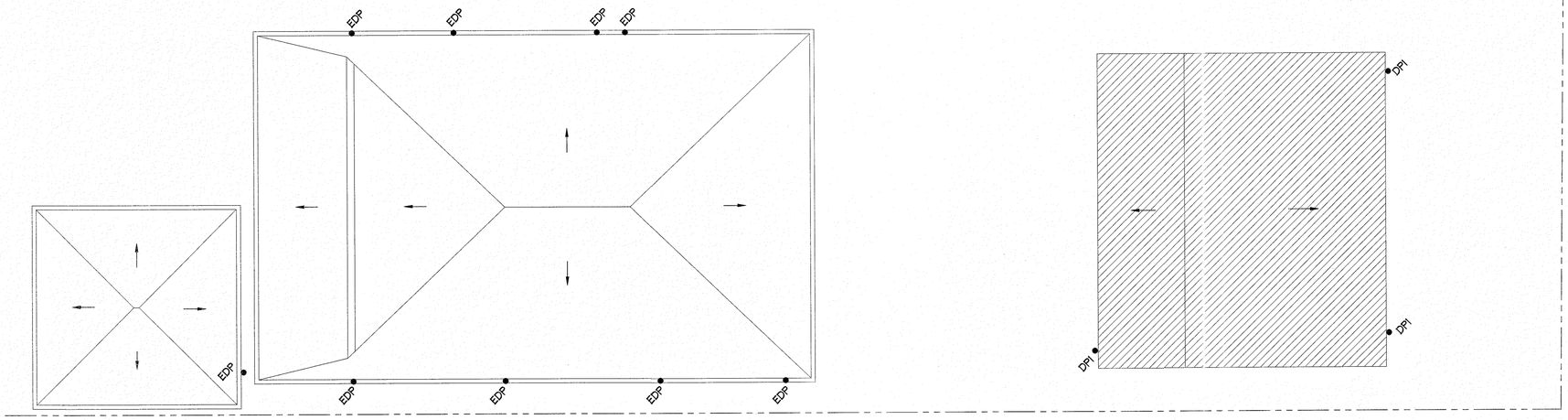


ROOF DRAINAGE PLAN

SCALE = 1:100

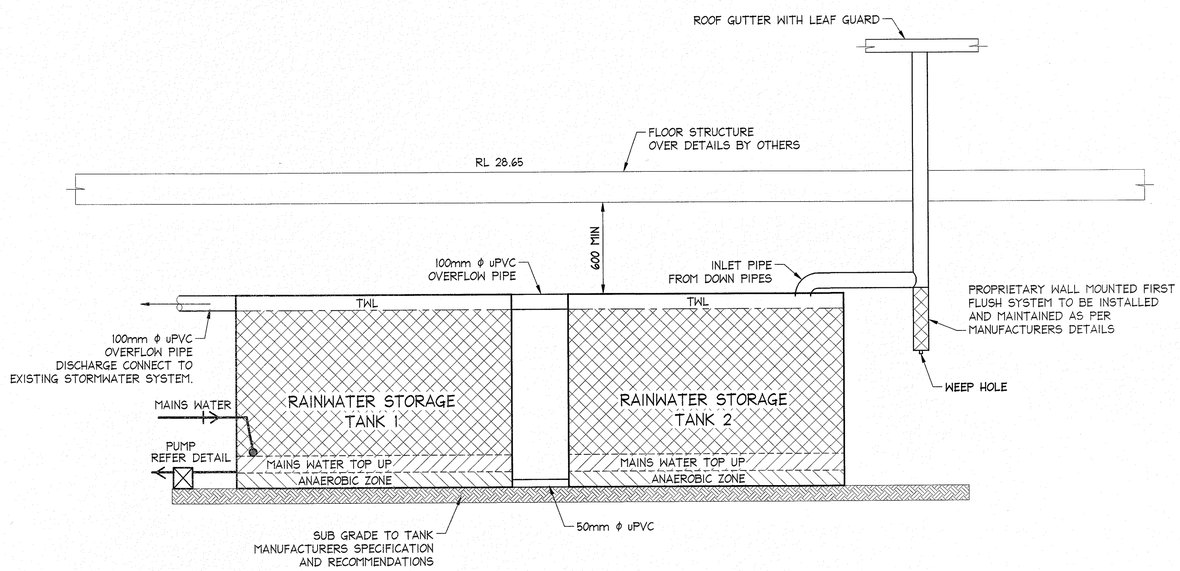
HATCHED AREA DENOTES EXTENT OF NEW ROOF.

LEGEND

DPI ● 100mm ϕ DOWNPIPE TO DISCHARGE TO EXISTING OSD TANK.

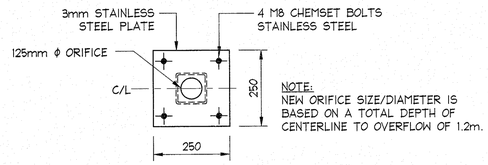
EDP ● EXISTING DOWNPIPE TO DISCHARGE TO EXISTING OSD TANK.

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



TYPICAL SECTION RAINWATER RE-USE TANKS

NOT TO SCALE



ORIFICE PLATE DETAIL

SCALE = 1 : 10

NOTE:
REAR OF ORIFICE PLATE TO BE HYDROSTATICALLY SEALED AGAINST PIT WALL USING SIKAFLEX 11 FC OR APPROVED EQUAVALENT.

Scale check - 100mm when printed to scale

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Architect:	ACTION PLANS
Client:	HAYDEN ELLERTON
Project:	ADDITONS AND ALTERATIONS 36 GRANDVIEW PARADE, MONA VALE
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Date:	AUGUST 20'
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Drawn:	NP
Job No:	200823
Drawing No:	D02
Issue:	A

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