



PRIME ENGINEERING CONSULTANTS

PROPOSED ALTERATIONS AND ADDITIONS AT 92 ALFRED ROAD NARRAWEENA NSW 2099



PRIME
ENGINEERING
CONSULTANTS

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ARCHITECT:



DRAWN	DATE	DESCRIPTION	ISSUE	CLIENT	DESIGNED BY:	D.S.	ISSUE:
D.S.	03.11.2023	ISSUED FOR C.D.C.	A	OLMA FERNANDES	CHECKED BY:	D.S.	A
				SITE ADDRESS	SCALE:	1:100	
				92 ALFRED ROAD NARRAWEENA NSW 2099	CLIENT REF:	DRAWING NO:	SHEET NO:
					PSW23451	-	SW01

COVER PAGE

LEGEND	
DP ●	DOWNPIPE
	STORMWATER LINE
	SUBSOIL DRAINAGE LINE
	OVERFLOW LINE
	STORMWATER RISING MAIN
	EXISTING STORMWATER LINE
	AUTHORITY STORMWATER LINE
	HIGH LEVEL STORMWATER LINE
	AUTHORITY SEWER LINE
	AUTHORITY WATER LINE
	AUTHORITY GAS LINE
	AUTHORITY ELECTRICITY LINE
	AUTHORITY FIBRE OPTIC LINE
	AUTHORITY COMMS LINE
	FENCE LINE
	GRATED SURFACE INLET PIT
	GRATED SURFACE INLET PIT WITH ENVIROPOD INSERT
	JUNCTION PIT
	KERB INLET PIT
	EXISTING GRATED SURFACE INLET PIT
	GRATED TRENCH DRAIN
	EXISTING JUNCTION PIT
	EXISTING KERB INLET PIT
	EXISTING TELSTRA PIT
	EXISTING HYDRANT
	EXISTING STOP VALVE
	EXISTING GAS VALVE
	EXISTING POWER POLE
	EXISTING BOUNDARY TRAP

LEGEND	
FF ●	FIRST FLUSH
	EXISTING SEWER MANHOLE
OFF	OVERLAND FLOW PATH
RWO ●	RAINWATER OUTLET
CO ●	CLEAR OUT POINT
DDO ●	DISH DRAIN OUTLET
PD ●	PLANTER DRAIN
	CAPPING
	PIT TAG/NUMBER
RH	RAINHEAD
	DOWNPIPE DROP
	NON RETURN VALVE
	WALL PENETRATION
DP ●	DOWNPIPE SPREADER
	WARNING LIGHT
0.00 ●	SPOT LEVELS
	BENCHMARK



DIAL BEFORE YOU DIG SHOULD BE CONTACTED PRIOR TO ANY EXCAVATION ON SITE

TM: TRADE MARK OF THE ASSOCIATION OF DIAL BEFORE YOU DIG SERVICES LTD. USED UNDER LICENSE.

SERVICES SHOWN ON PLAN ARE INDICATIVE, EXACT DEPTH AND LOCATION TO BE CONFIRMED ONSITE. CONTRACTOR TO CARRY OUT DIAL BEFORE YOU DIG APPLICATION AND ENGAGE A REGISTERED SURVEYOR TO PEG OUT ALL EXISTING SERVICES PRIOR TO ANY WORK COMMENCING ONSITE.

ABBREVIATIONS:

Ø or DIA	DIAMETER
CBR	CALIFORNIA BEARING RATIO
CH	CHAINAGE
CL	CENTER LINE
CO	CLEAR OUT
DD	DISH DRAIN
DDO	DISH DRAIN OUTLET
DEJ	DOWELLED EXPANSION JOINT
DGB	DENSE GRADED BASECOURSE
DGS	DENSE GRADED SUB-BASE
DP	DOWNPIPE
e	EXISTING
FFL	FINISHED FLOOR LEVEL
GTD	GRATED TRENCH DRAIN
GSIP	GRATED SURFACE INLET PIT
HYD	HYDRANT
IJ	ISOLATING JOINT
IK	INTEGRAL KERB
IL	INVERT LEVEL
IP	INTERSECTION POINT
KIP	KERB INLET PIT
KO	KERB ONLY
K&G	KERB & GUTTER
KR	KERB RETURN
LS	LONGITUDINAL SECTION
NGL	NATURAL GROUND LEVEL
OFF	OVERLAND FLOW PATH
OSD	ON-SITE DETENTION
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RK	ROLL KERB & GUTTER
RL	REDUCED LEVEL
RW	RETAINING WALL
RWT	RAINWATER TANK
SJ	SAWN CONTROL JOINT
SMH	SEWER MAN HOLE
SW	STORMWATER
SWP	STORMWATER PIT
SWRM	STORMWATER RISING MAIN
SWS	STORMWATER SUMP
SV	STOP VALVE
TOK	TOP OF KERB
TOW	TOP OF WALL
TWL	TOP WATER LEVEL
TP	TANGENT POINT
UPVC	UNPLASTICISED POLYVINYL CHLORIDE
UNO	UNLESS NOTED OTHERWISE
WPJ	WEAKENED PLANE JOINT
FF	FIRST FLUSH DEVICE
TYP	TYPICAL
BM	BENCH MARK

DRAINAGE NOTES:

ALL PIPES TO BE LAID ON 75mm SAND BED WITH THE BARRELS FULLY SUPPORTED

100mm AND 150mm DIAMETER PIPES TO BE LAID ON MINIMUM 1% GRADE

MINIMUM DEPTH OF COVER FOR PIPES NOT SUBJECT TO VEHICULAR LOADING TO BE 300mm

ALL DRAINAGE PIPES LAID UNDER PAVEMENT SHALL BE REINFORCED CONCRETE WITH RUBBER RING JOINTS

BACKFILL TRENCHES WITH COMPACTED SAND OR APPROVED AGGREGATE MATERIAL

ALL PITS TO HAVE 600x600mm INTERNAL DIMENSIONS (U.N.O.)

SILT ARRESTORS TO HAVE 900x900mm INTERNAL DIMENSIONS

HEAVY DUTY GRATES AND COVERS ARE TO BE PROVIDED IN TRAFFICABLE AREAS

PIT GRATE TO BE TYPE WELDLOK OR APPROVED EQUIVALENT

ALL PITS SHALL BE PROVIDED WITH A LOCKING CLIP

ALL PITS SHALL BE MAINTAINED REGULARLY

TOP OF BENCHING SHALL BE TO THE HALF OF THE OUTLET PIPE DIAMETER

MAXIMUM FRONT ENTRY PIPE: –
STRAIGHT ENTRY – Ø750
SKEW ENTRY 45° – Ø525

Ø100 SUBSOIL DRAINAGE PIPE 3000mm LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO INLET PIPES

COMPRESSIVE STRENGTH f_c FOR CAST IN SITU CONCRETE TO BE A MINIMUM OF 20MPa AT 28 DAYS

PROVIDE CLEANING EYES TO ALL DOWNPIPES NOT DIRECTLY CONNECTED TO PITS

ISOLATED JOINTS TO BE PROVIDED TO ISOLATE CONCRETE PAVEMENTS FROM PITS

ALL TRENCH GRATES PROVIDED SHALL HAVE A MINIMUM CLEAR WIDTH OF 200mm

STORMWATER DRAINAGE CONNECTIONS TO THE MAIN SYSTEM SHALL BE TO THE REQUIREMENTS AND THE SATISFACTION OF LOCAL COUNCIL

STORMWATER PIPE BEDDING/PAVING NOTES:

WHERE TRENCH BASE IS ROCK A MINIMUM OF 75mm BEDDING TO BE PROVIDED UNDER PIPE COLLARS.

STORMWATER PIPE BEDDING DETAIL TO BE IN ACCORDANCE WITH LOCAL COUNCIL REQUIREMENTS. BEDDING DETAILS TO BE CONFIRMED UPON EXCAVATION & PRIOR TO INSTALLATION OF PIPEWORK.

FOOTPATH REINSTATEMENT NOTES:

REMOVE ALL SAND FILL WITHIN THE FOOTPATH AREA TO THE EXISTING SUBGRADE.

SUPPORT ALL AUTHORITY SERVICES TO STRUCTURAL ENGINEERS DETAILS DURING EXCAVATION.

REINSTATE FOOTPATH SUBGRADE.

THE CONTRACTOR SHALL PROVIDE CERTIFICATION OF COMPACTION FROM A NATA REGISTERED TESTING AUTHORITY. MINIMUM THREE TESTS PER LAYER AS FOLLOWS:

SELECT FILL	95% MODIFIED
SELECT FILL (LESS THAN 300mm BELOW BASE COURSE)	98% MODIFIED
BASE COURSE	100% MODIFIED

EROSION & SEDIMENT CONTROL NOTES:

PROVIDE SILT FENCE/HAY BAIL BARRIERS TO THE LOW SIDE OF ALL EXPOSED EARTH EXCAVATIONS (TYPICAL).

ISOLATE EXISTING STORMWATER PITS WITH HAY BALES TO FILTER ALL INCOMING FLOWS.

DO NOT STOCK PILE EXCAVATED MATERIAL ON THE ROAD WAY.

SURVEY

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. PRIME ENGINEERING CONSULTANTS DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAW.

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT PRIME ENGINEERING CONSULTANTS.

DRAWING REGISTER		
NUMBER	NAME	REVISION
SW01	COVER SHEET	A
SW02	SPECIFICATIONS SHEET	A
SW03	STORMWATER PLAN – UPPER GROUND FLOOR	A
SW04	STORMWATER PLAN – LOWER GROUND FLOOR	A
SW010	STORMWATER DETAILS	A

THE SITE IS LOCATED IN NORTHERN BEACHES COUNCIL.

SITE AREA = 629m²
EXISTING FRACTION IMPERVIOUS = 54.3% SITE AREA.
THE SITE IS LOCATED IN REGION 2 – CENTRAL CATCHMENTS.

IN ACCORDANCE TO COUNCIL'S GUIDELINES, OSD IS REQUIRED.
OSD IS PROVIDED AS A COMBINED RAINWATER AND OSD TANK.

OSD IS DESIGNED SUCH THAT POST-DEVELOPMENT SITE
DISCHARGE IS LIMITED TO PRE-DEVELOPMENT CONDITION FOR
ALL STORM EVENTS UP TO AND INCLUDING 1% AEP.

CONTRACTOR TO INSTALL RAINWATER TANK/OSD TO COLLECT
ALL NON-TRAFFICABLE ROOF AREA AND PROVIDE SUPPLY
CONNECTION FOR REUSE AS PER BASIX CERTIFICATE.

RAINWATER TANK TO BE EQUIPPED WITH FIRST FLUSH AND
MOSQUITO PROTECTION DEVICES.

ALL NEW STORMWATER PIPES TO HAVE A MINIMUM OF 100mm
CONCRETE OR 300mm TOPSOIL COVER U.N.O.

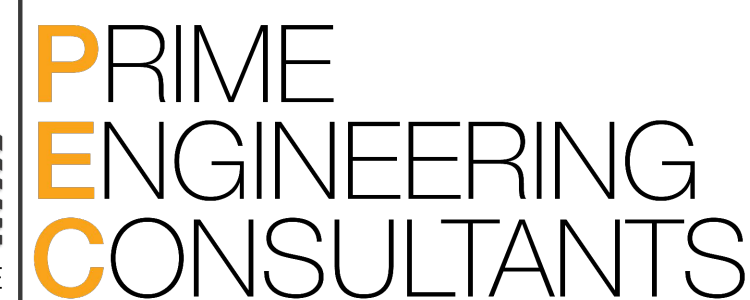
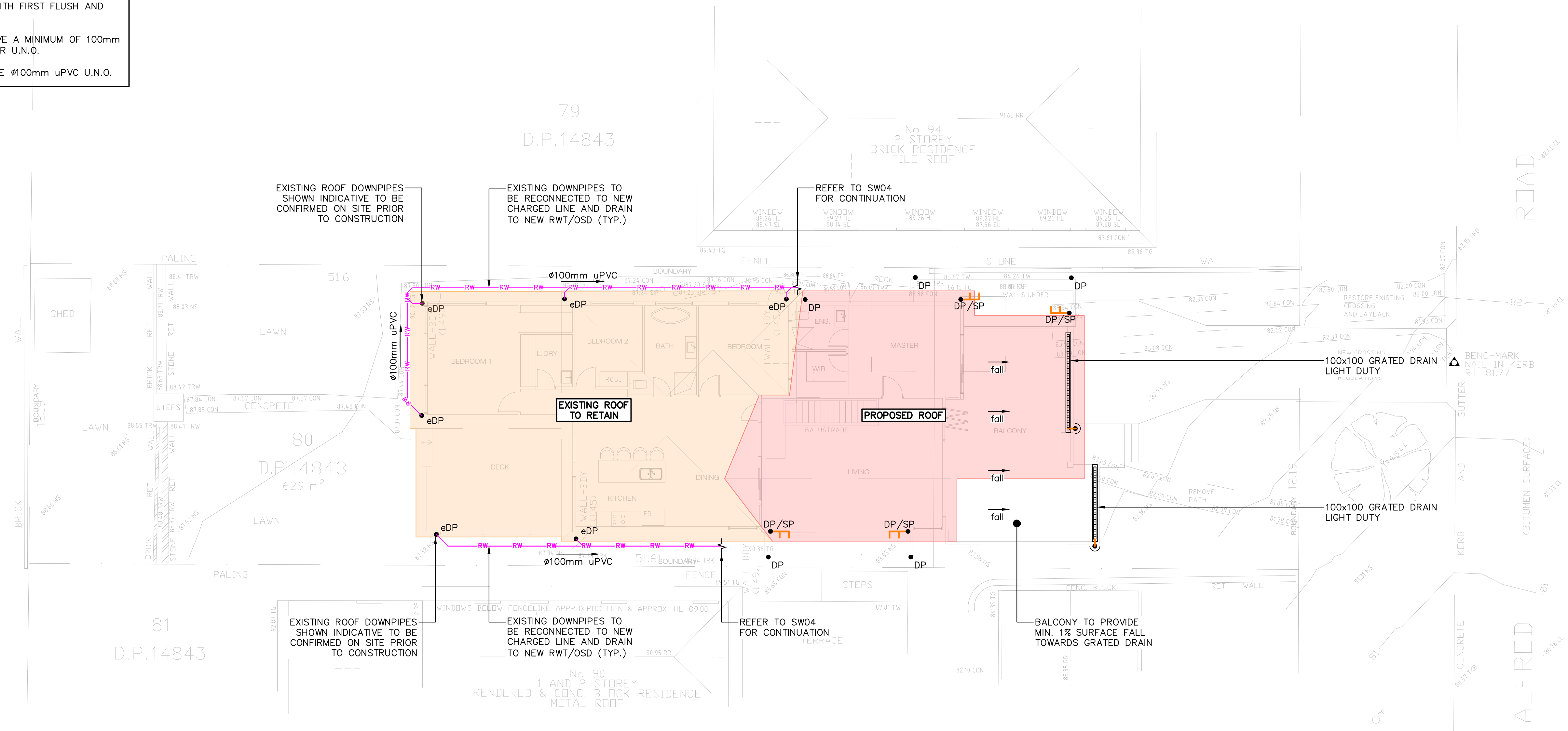
ALL DOWNPIPES SHOWN ON PLAN ARE ø100mm uPVC U.N.O.

CONTRACTOR TO PROVIDE SILT FENCE/HAY BAIL BARRIERS TO THE LOW SIDE OF ALL EXPOSED EARTH EXCAVATIONS (TYP).

ISOLATE EXISTING STORMWATER PITS WITH HAY BALES TO FILTER ALL INCOMING FLOWS.

DO NOT STOCK PILE EXCAVATED MATERIAL ON THE ROAD WAY.

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS
HAVE BEEN INVESTIGATED BY REGISTERED SURVEYORS. THE
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HIGH DESIGN

DRAWN	DATE	DESCRIPTION	ISSUE	CLIENT	DESIGNED BY:	D.S.	ISSUE:	STORMWATER PLANS UPPER GROUND FLOOR
D.S.	03.11.2023	ISSUED FOR C.D.C.	A	OLMA FERNANDES	CHECKED BY:	D.S.	A	
				SITE ADDRESS	SCALE:	1:100		
				92 ALFRED ROAD NARRAWEENA NSW 2099	CLIENT REF:	DRAWING NO:	SHEET NO:	
					PSW23451	-	SW03	

DESIGN NOTES:

THE SITE IS LOCATED IN NORTHERN BEACHES COUNCIL.

SITE AREA = 629m²
EXISTING FRACTION IMPERVIOUS = 54.3% SITE AREA.
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CONNECTION FOR REUSE AS PER BASIX CERTIFICATE.

RAINWATER TANK TO BE EQUIPPED WITH FIRST FLUSH AND
MOSQUITO PROTECTION DEVICES.

ALL NEW STORMWATER PIPES TO HAVE A MINIMUM OF 100mm
CONCRETE OR 300mm TOPSOIL COVER U.N.O.

ALL DOWNPIPES SHOWN ON PLAN ARE ø100mm uPVC U.N.O.

EROSION & SEDIMENT CONTROL
NOTES:

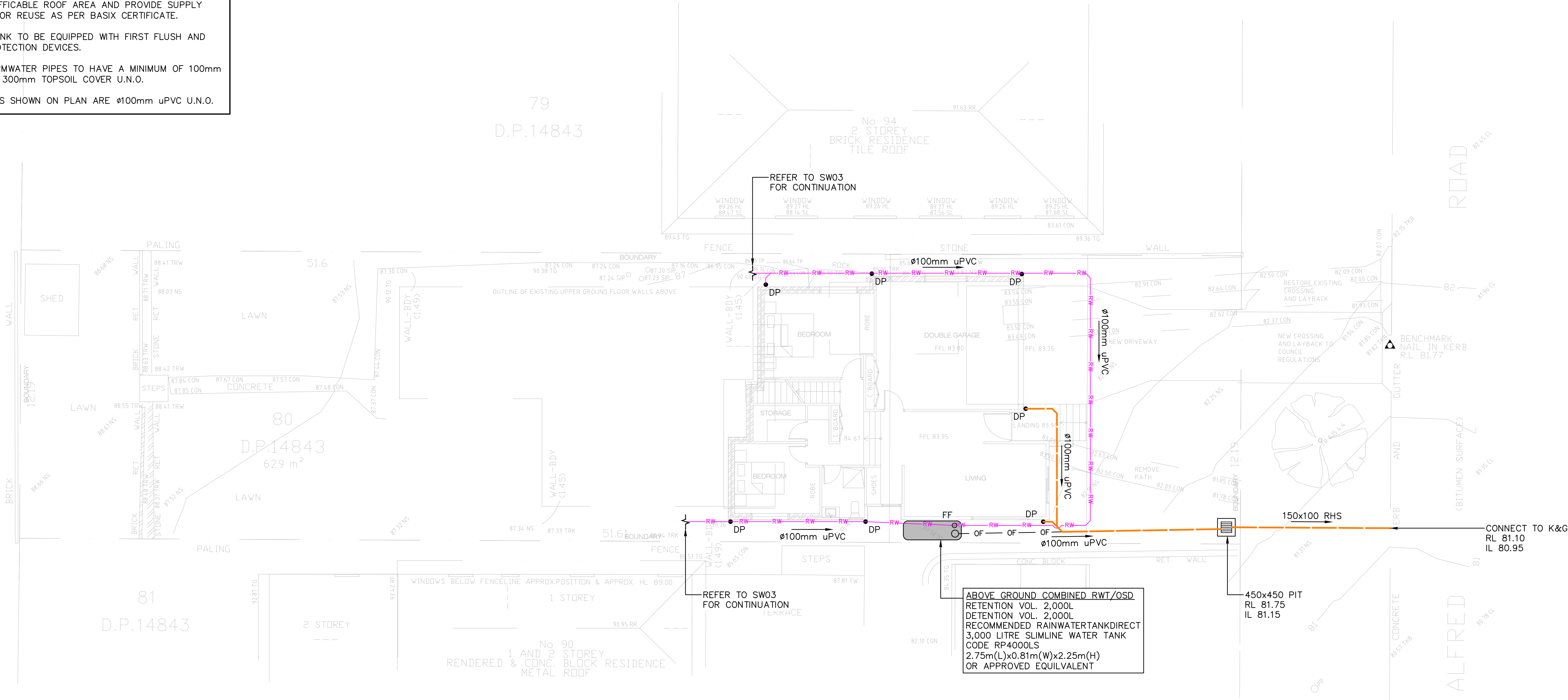
CONTRACTOR TO PROVIDE SILT FENCE/HAY BAIL BARRIERS TO THE
LOW SIDE OF ALL EXPOSED EARTH EXCAVATIONS (TYP).

ISOLATE EXISTING STORMWATER PITS WITH HAY BALES TO FILTER ALL
INCOMING FLOWS.

DO NOT STOCK PILE EXCAVATED MATERIAL ON THE ROAD WAY.

SURVEY

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS
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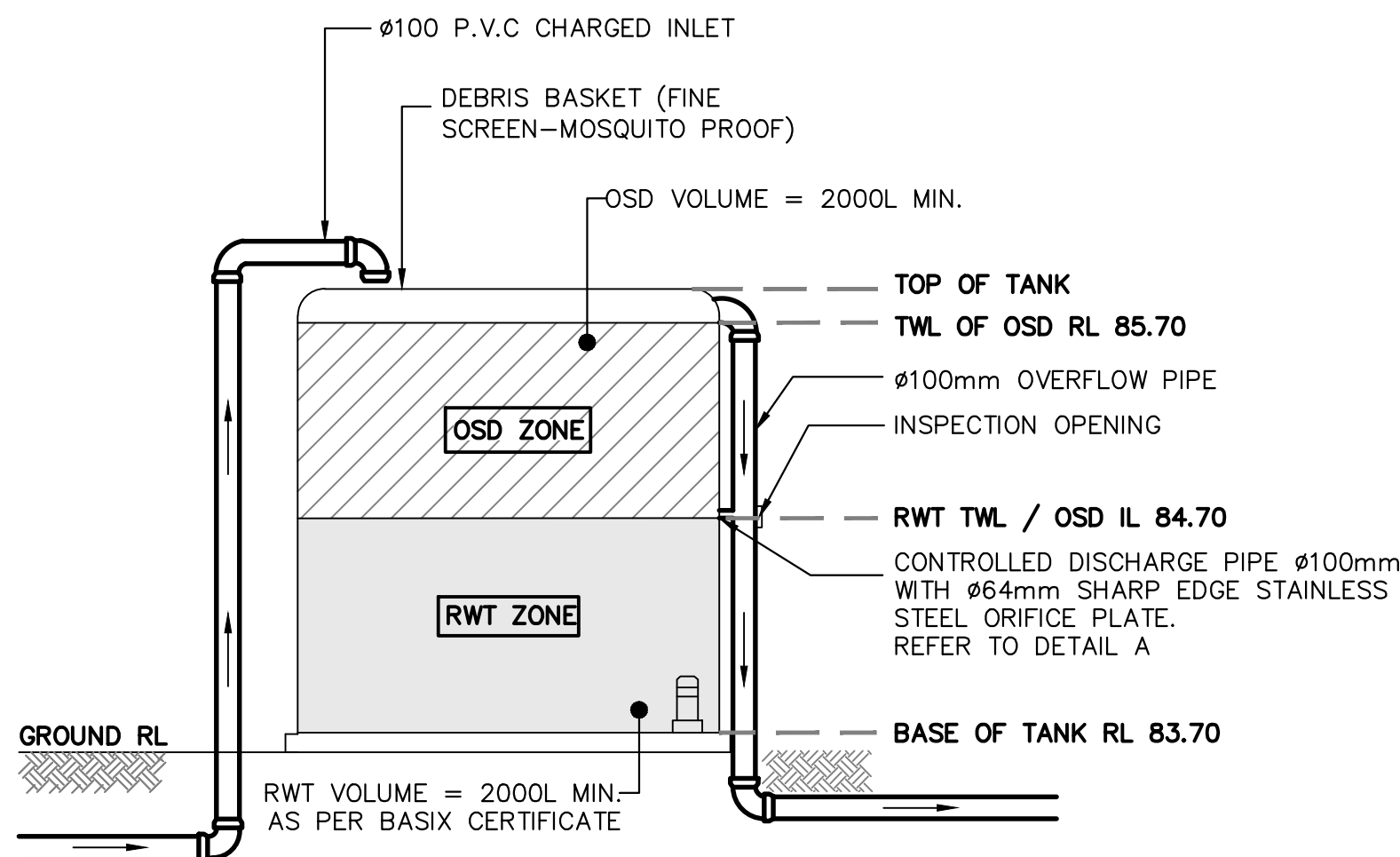
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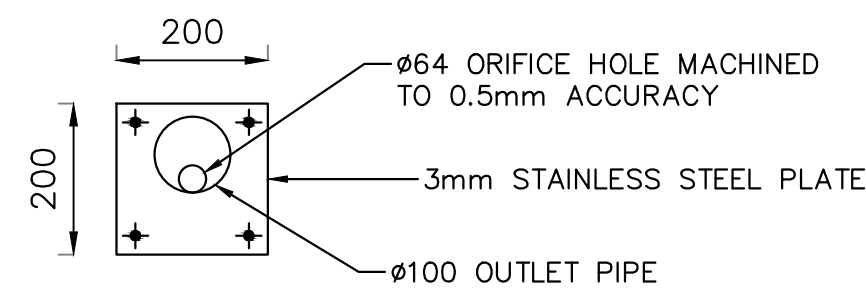


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				SITE ADDRESS	SCALE:	1:100	
				92 ALFRED ROAD NARRABEENA NSW 2099	CLIENT REF:	DRAWING NO:	SHEET NO:
					PSW23451	-	SW04

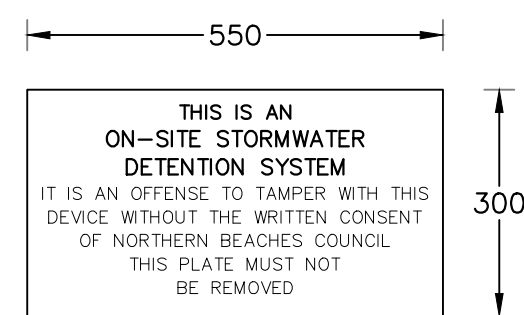
STORMWATER PLANS
LOWER GROUND FLOOR



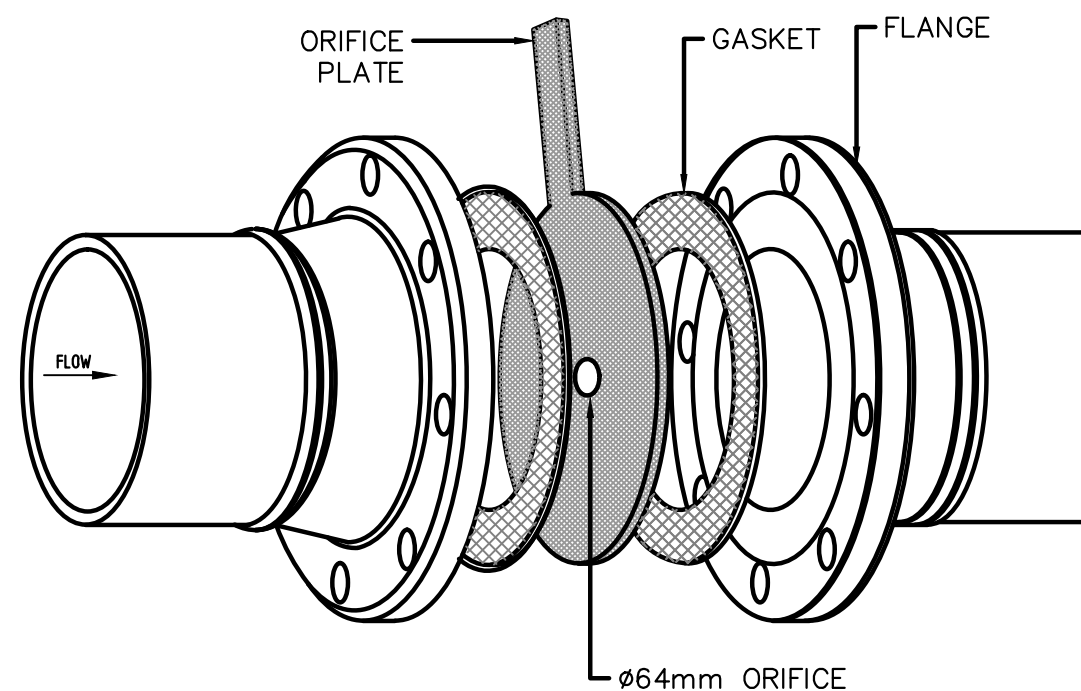
DETAIL
COMBINED OSD/RAINWATER TANK 1
NOT TO SCALE



DETAIL A
ORIFICE PLATE
SCALE 1:10



DETAIL 2
OSD SIGN
SCALE 1:10

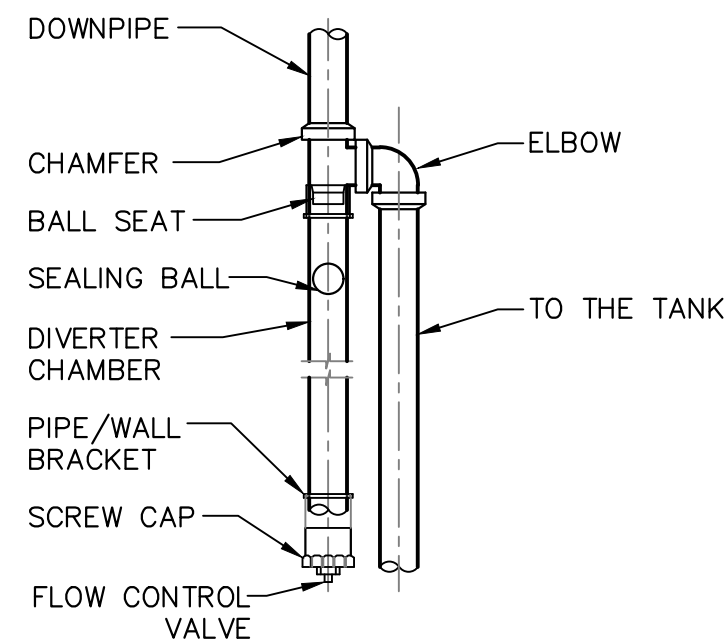


DETAIL 3
TYPICAL ORIFICE DETAIL
SCALE N.T.S.

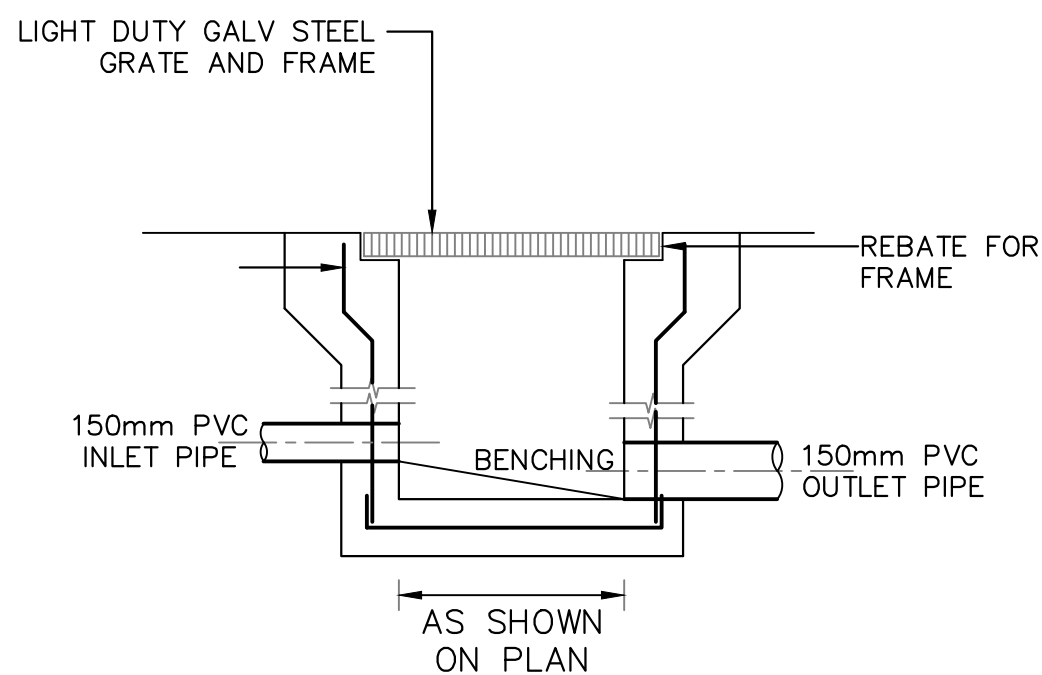
LEGEND:
BACKGROUND IS YELLOW
TEXT IS WHITE ON BLACK
BACKGROUND



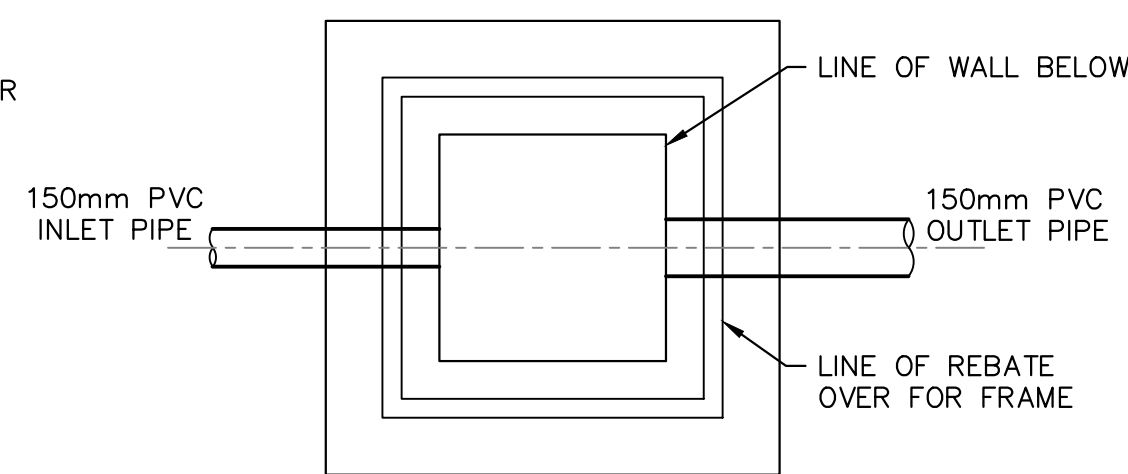
DETAIL 4
RAINWATER SIGN
SCALE 1:10



DETAIL 5
FIRST FLUSH DIVERTER
SCALE 1:20

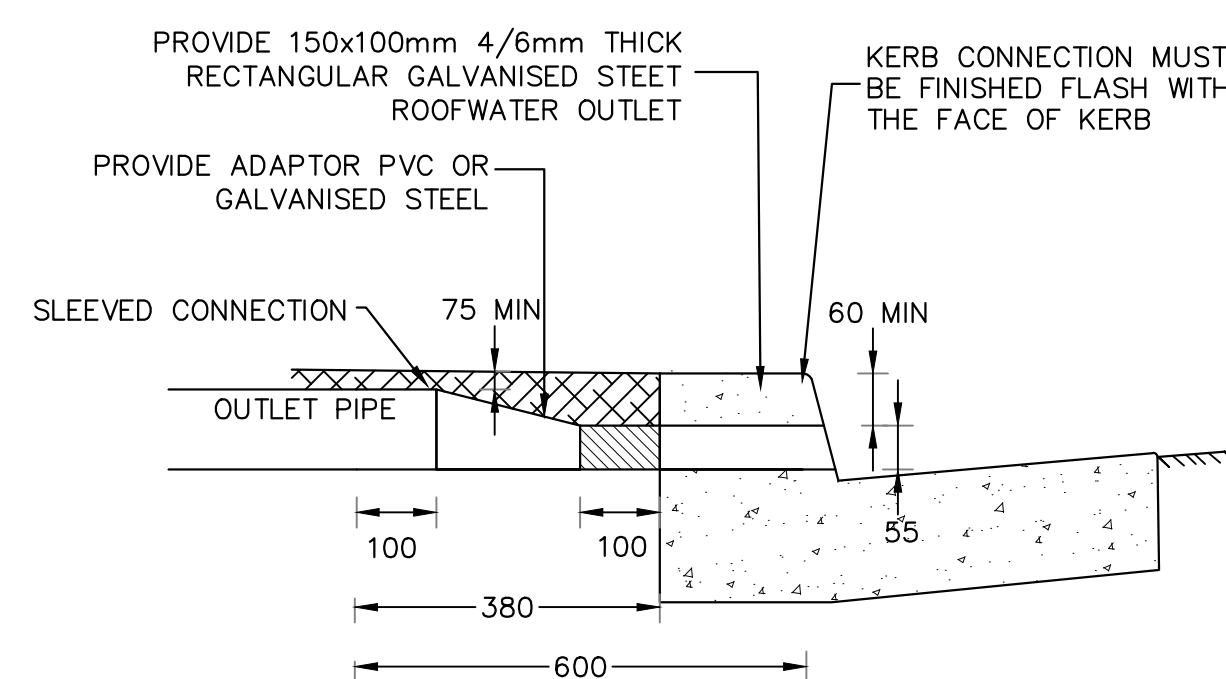


SECTION

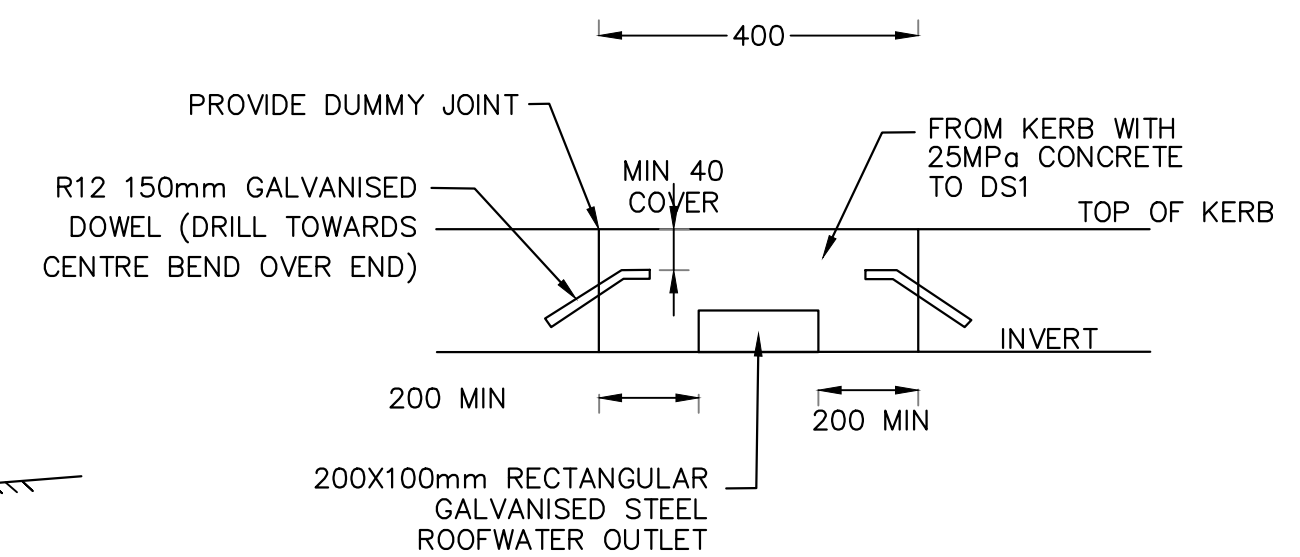


PLAN WITHOUT GRATE

DETAIL 6
STORMWATER PIT
SCALE 1:20



SECTION VIEW



FRONT VIEW SECTION

DETAIL 7
KERB OUTLET CONNECTION
NOT TO SCALE

- NOTES FOR KERB CONNECTION**
1. ENSURE THAT ALL CONNECTIONS ARE WATER TIGHT.
 2. FOR TRAFFICABLE AREA SUCH AS DRIVERWAYS, USE RECTANGULAR GALVANISED STEEL OUTLET PIPE FOR FULL LENGTH, EG. BOUNDARY TO KERB.
 3. ALL DEMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

OSD PRE/POST CALCULATION

STORM EVENT	PRE-DEV (L/s)	OSD DISCHARGE (L/s)	BYPASS (L/s)	TOTAL POST-DEV (L/s)
20% AEP	19	8	11	19
10% AEP	25	10	14	24
5% AEP	29	11	17	28
1% AEP	39	15	23	38

OSD/RWT MAINTENANCE SCHEDULE

COMPONENTS	RESPONSIBILITY	ACTION REQUIRED	DURATION
STORMWATER PIT	OWNER	CHECK FOR BLOCKAGE AT INLET GRATES, BASE OF PIT, INLET AND OUTLET. REMOVE DEBRIS AND THE LIKE IF PRESENT	EVERY 6 MONTHS
GUTTER	OWNER	CHECK FOR BLOCKAGE ALONG THE BASE OF GUTTER, GUTTER AND LEAF GUARD INTEGRITY, CHECK FOR CORROSION	EVERY 6 MONTHS
INLET TO OSD/RWT	OWNER	CHECK FOR BLOCKAGE AT INLET, REMOVE ANY SEDIMENT, LEAF OR THE LIKE	EVERY 6 MONTHS
FIRST FLUSH	OWNER	REMOVE CAP OF FIRST FLUSH AND ITS PART, CLEAN AND REMOVE SEDIMENT, CHECK INTEGRITY	EVERY 6 MONTHS
CLEAN OUT PIT	OWNER	REMOVE CAP INSIDE PIT TO INSPECTION AND REMOVE SEDIMENT ALONG THE CHARGE LINE. CHECK WEEP HOLES	EVERY 6 MONTHS
ORIFICE	OWNER	REMOVE ORIFICE PLATE FROM TANK, CLEAN AND CHECK FOR CORROSION, PLATE INTEGRITY.	EVERY 6 MONTHS

*INSPECTION AND MAINTENANCE SHOULD BE CARRIED OUT AT THE MINIMUM INTERVAL OF 6 MONTHS OR AFTER ANY MAJOR STORM EVENTS.

**CONTACT REGISTERED PLUMBER FOR ANY ADDITIONAL MAINTENANCE OR REPLACEMENT REQUIRED. ENSURE THE OSD/RWT IS FUNCTIONING PROPERLY AS REQUIRED BY COUNCIL.



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CLIENT

DESIGNED BY:

D.S.

ISSUE:

STORMWATER DETAILS

D.S.

03.11.2023

ISSUED FOR C.D.C.

A

OLMA FERNANDES

CHECKED BY:

D.S.

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SITE ADDRESS

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SW10