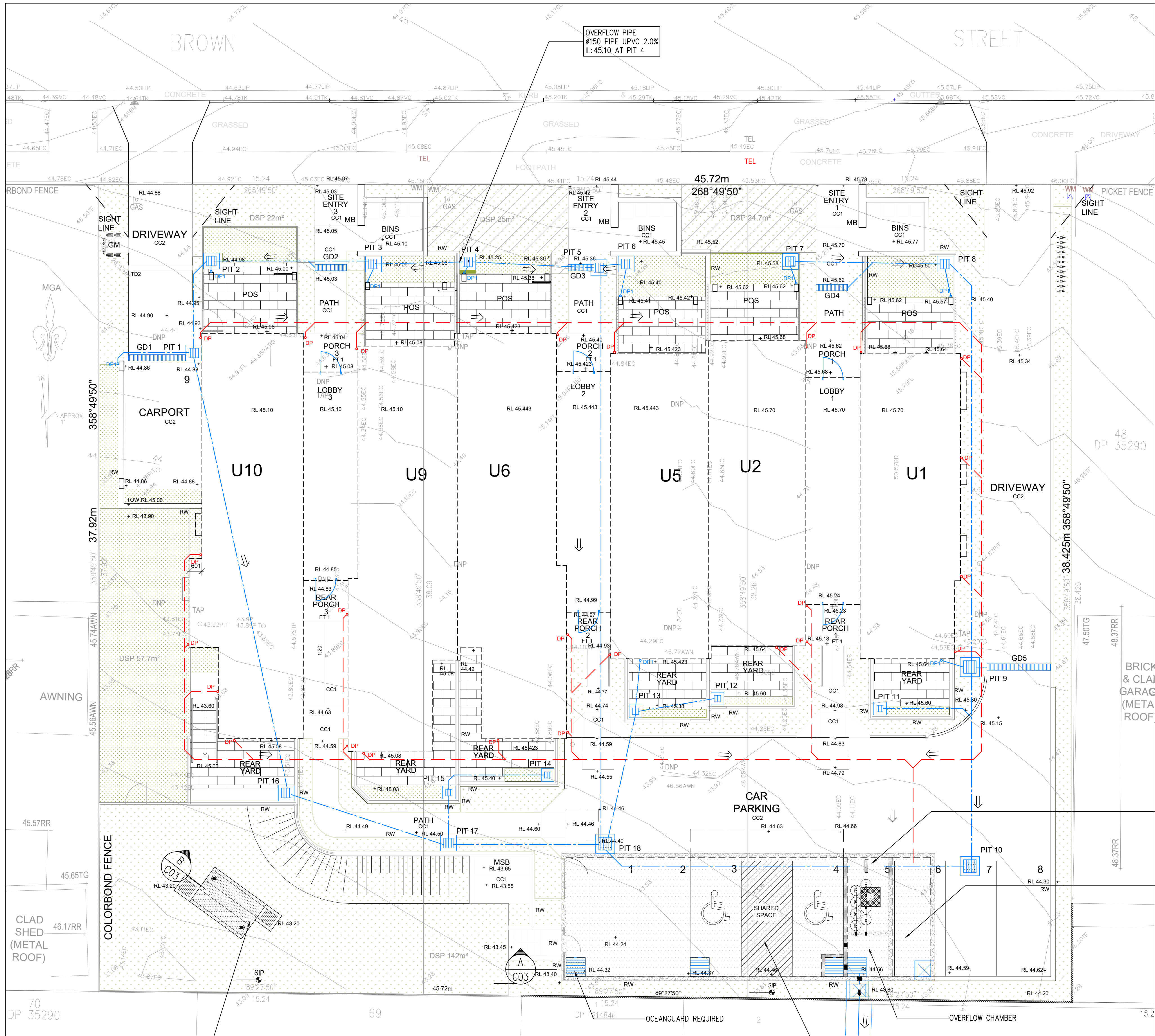






SITE STORMWATER DRAINAGE LAYOUT PLAN

SCALE 1:100

PIT TABLE

PIT NO	RL	IL	SIZE	TREATMENT
PIT 1	44.88	44.50	450x450	
PIT 2	44.98	44.60		
PIT 3	45.05	44.70		
PIT 4	45.26	44.90		
PIT 5	45.36	44.80		
PIT 6	45.40	44.90		
PIT 7	45.58	45.18		
PIT 8	45.50	45.08		
PIT 9	45.30	44.80	600x600	OCEANGUARD
PIT 10	45.46	44.70	600x600	
PIT 11	45.60	45.00	300x300	
PIT 12	45.60	45.00		
PIT 13	45.38	44.80		
PIT 14	45.40	44.90		
PIT 15	45.03	44.60		
PIT 16	45.00	44.30	450x450	OCEANGUARD
PIT 17	44.55	44.20	600x600	
PIT 18	44.40	43.80	600x600	
PIT 19	43.80	43.15	600x600	OCEANGUARD
			SOLD LID	
GD1	300 WIDE			
GD2	300 WIDE			
GD3	300 WIDE			
GD4	300 WIDE			
GD5	300 WIDE			

ALL SLs & ILs OF PITS IS INDICATIVE ONLY AT DA STAGE

- DP DENOTES DOWNPIPE TO RAIN WATER TANK
- DP1 DENOTES DOWNPIPE TO OSD TANK
- IO INSPECTION OPENING

Ø150 UPVC TO RAIN WATER TANK 1.0% FALL

Ø150 UPVC TO OSD TANK 1.0% FALL MIN

NOTES:

- "LITTER SCREENS" TO BE INSTALLED FOR THE PITS WITHIN GARDEN AND TURFED AREA.
- HEEL GUARD - HEAVY DUTY GALV. STEEL GRATES AND FRAMES FOR OSD TANK.

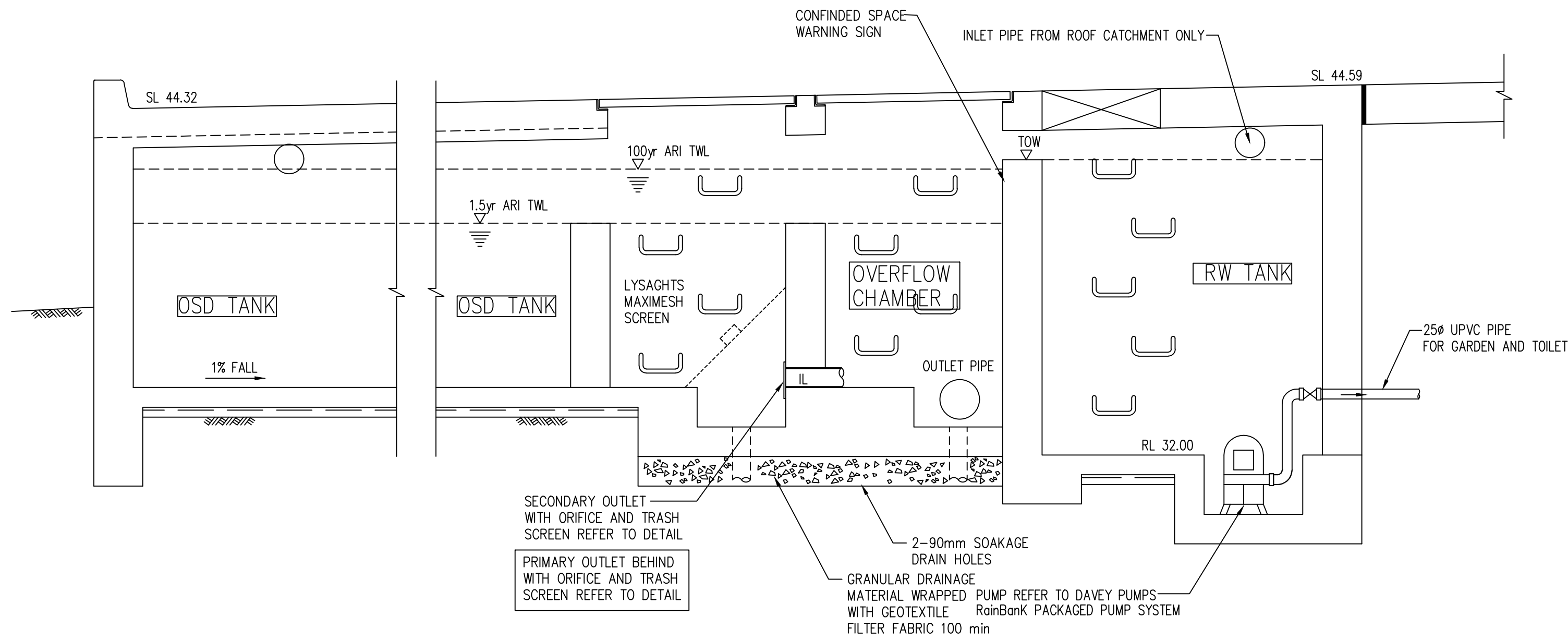
STORMWATER NOTES

- S1. ALL STORMWATER DRAINAGE TO BE IN ACCORDANCE WITH AS 3500.3 AND PARRAMATTA CITY COUNCIL REQUIREMENTS.
- S2. DOWNPIPE LOCATIONS ARE INDICATIVE ONLY. FINAL LOCATIONS REFER TO ARCHITECTURAL DRAWINGS.
- S3. WHERE PIPE SIZE NOT SHOWN ON DRAWING, USE 100Ø UPVC (MIN. 1.0%)
- S4. PRIOR TO ANY CONSTRUCTION ON SITE THE BUILDER SHALL CHECK THE ASSUMED LEVELS OF ALL UPSTREAM AND DOWNSTREAM EXISTING DRAINAGE STRUCTURES TO ENSURE THE VIABILITY OF THE PROPOSED WORKS. THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES IN LEVELS OR LOCATION OF STRUCTURES.
- S5. PRIOR TO ANY CONSTRUCTION ON SITE THE BUILDER SHALL CHECK THE LOCATION AND DEPTH OF ALL SEWER STRUCTURES TO ENSURE NO CONFLICT WITH THE PROPOSED WORKS.
- S6. PIPES TO BE THRUST BORED TO MINIMISE ROOT DAMAGE IN THE VICINITY OF TREES.
- S7. DOWNPIPES AND PIPES UNDER GROUND TO BE UPVC WITH FULLY SEALED AND SEWER GRADE.
- S8. POLYETHYLENE RAINWATER TANK COLOUR DETERMINED BY ARCHITECT, INSTALLED WITH SUBMERSIBLE PUMP, PUMP SWITCH AND DEBRIS BASKET.

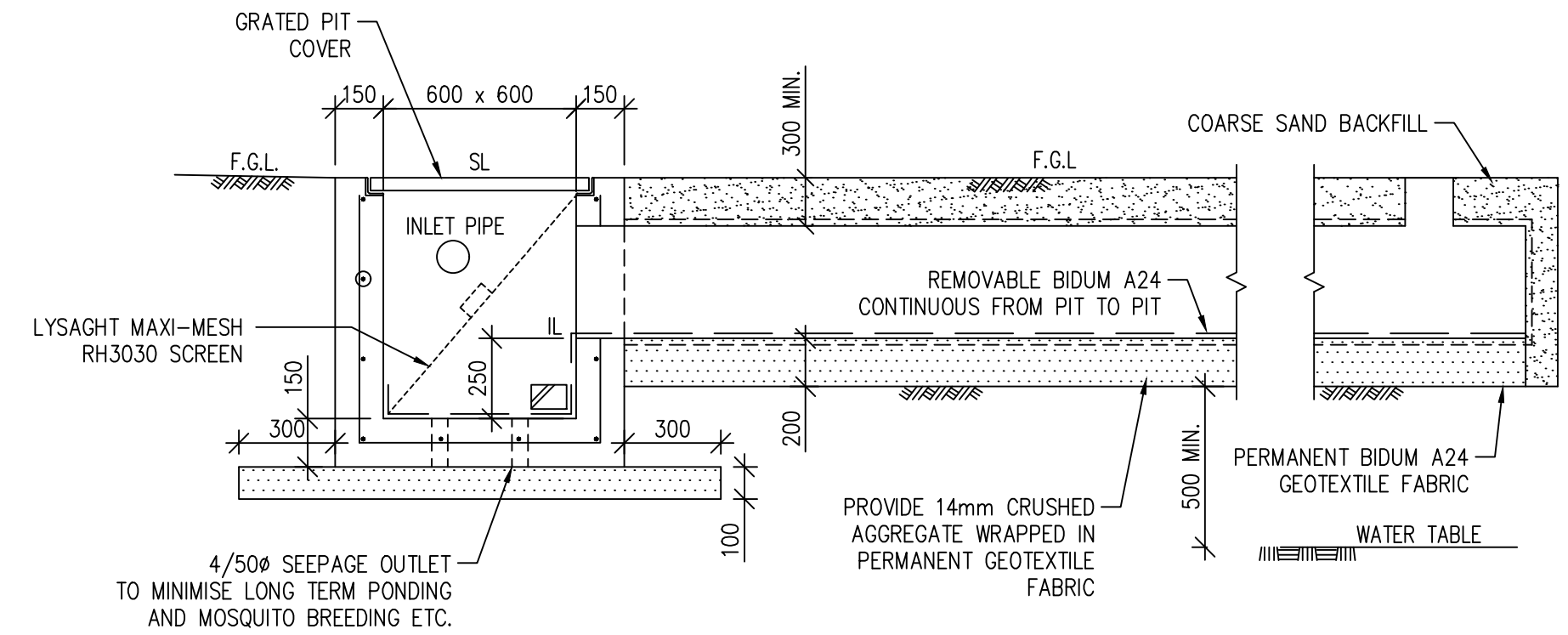
OCEAN PROTECT CARTRIDGE STORMFILTER SYSTEM
3 x 460 PsoB CARTRIDGES,
100 FLASH FLOOR AND
OVERFLOW WEIR AT 640mm
AREA 6.7 M2 PROVIDED
AREA 4.6 M2 REQUIRED
REFER TO OCEAN PROTECT'S
SPECIFICATION & DETAILS.

6,000L RAIN WATER
TANK WITH FIRST FLUSH SYSTEM
AND SEALED/SOLID LID
TO BASIX REQUIREMENT

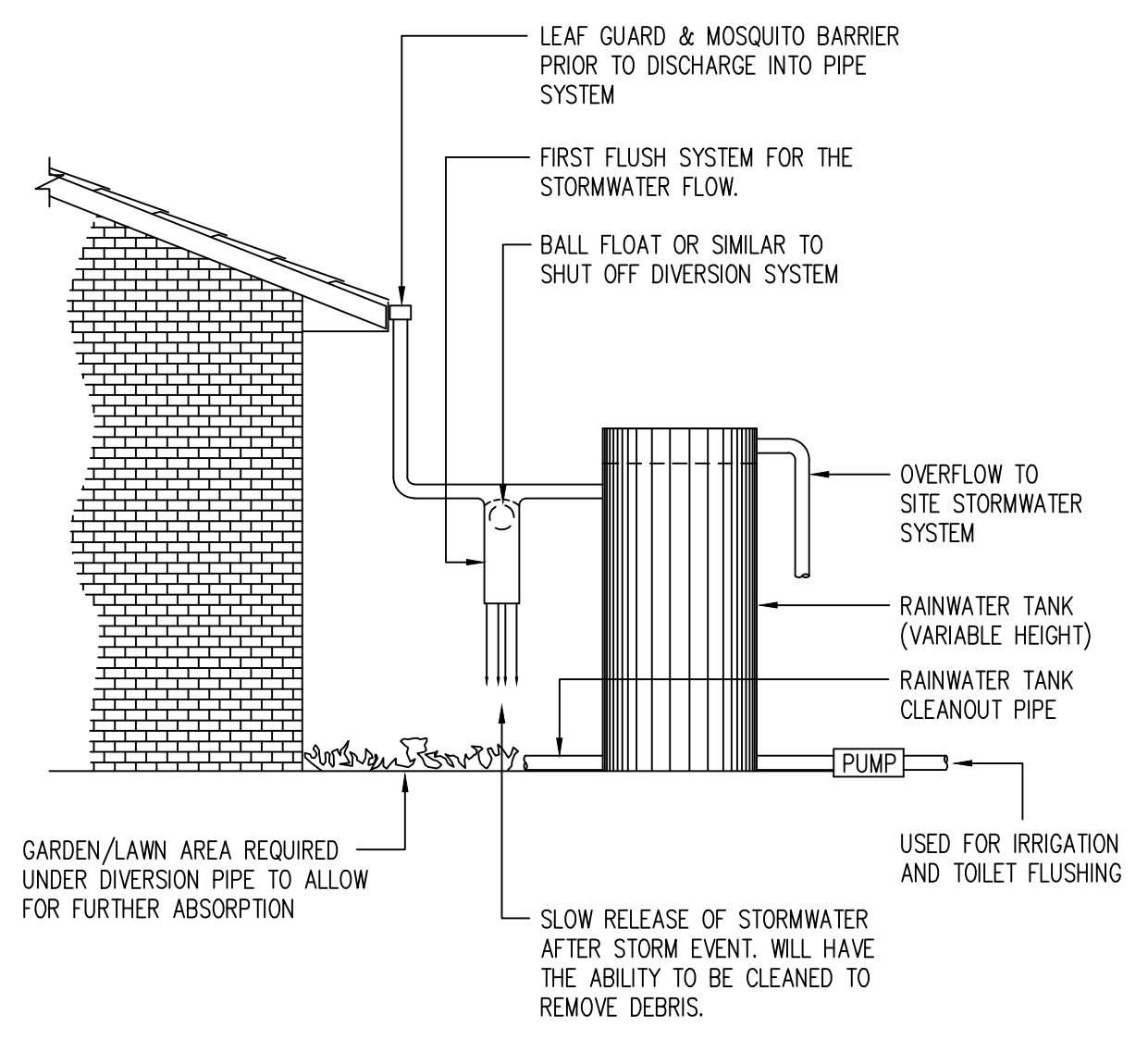
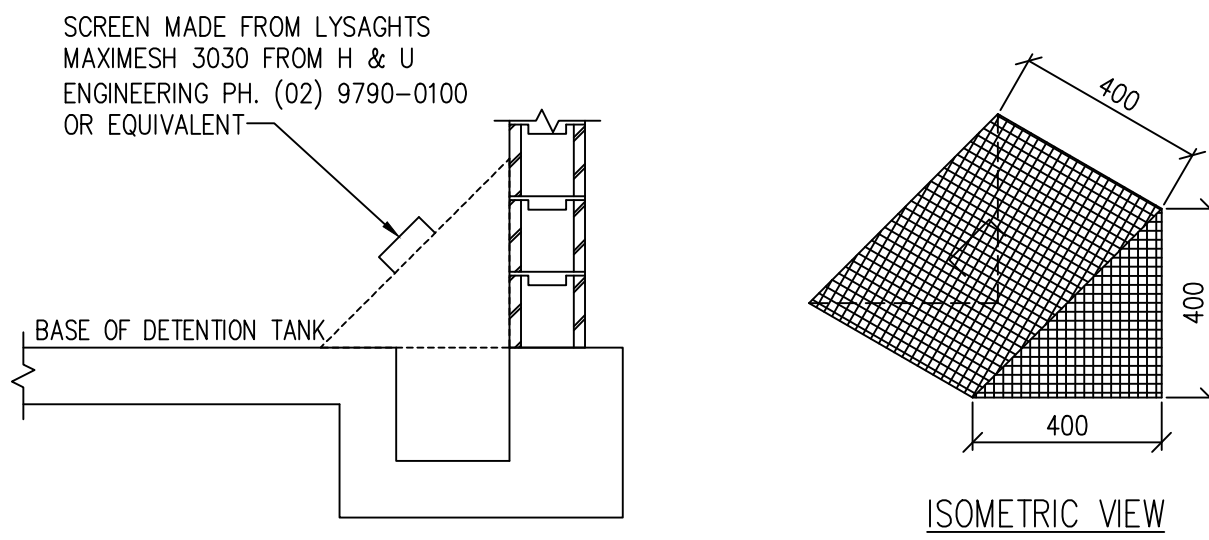
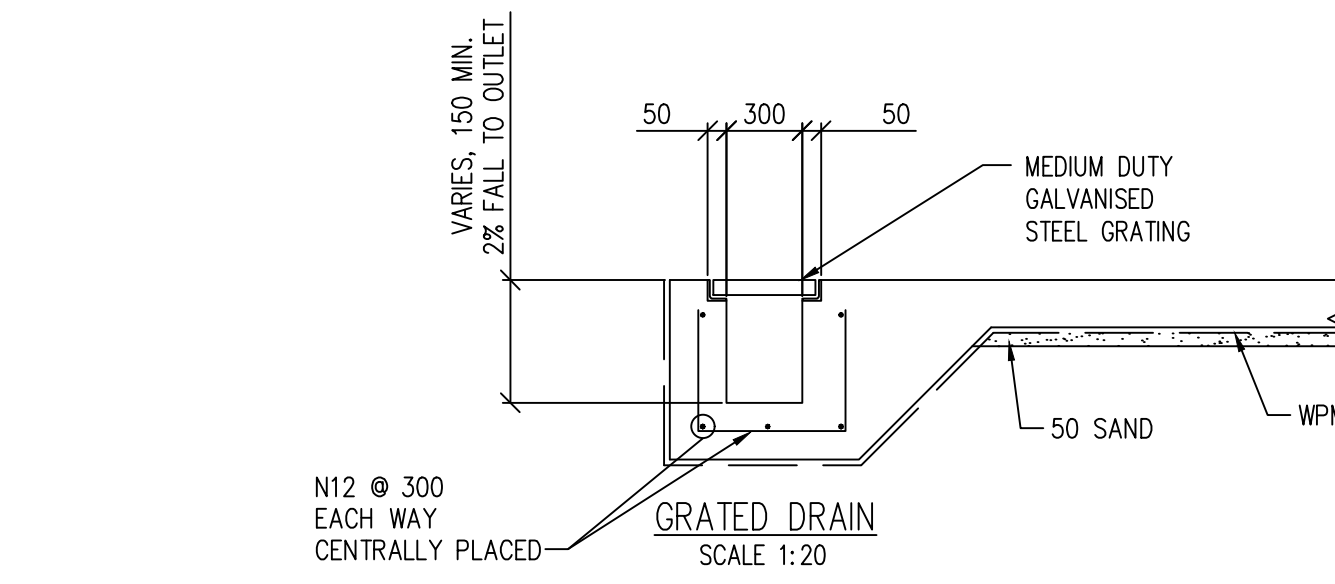
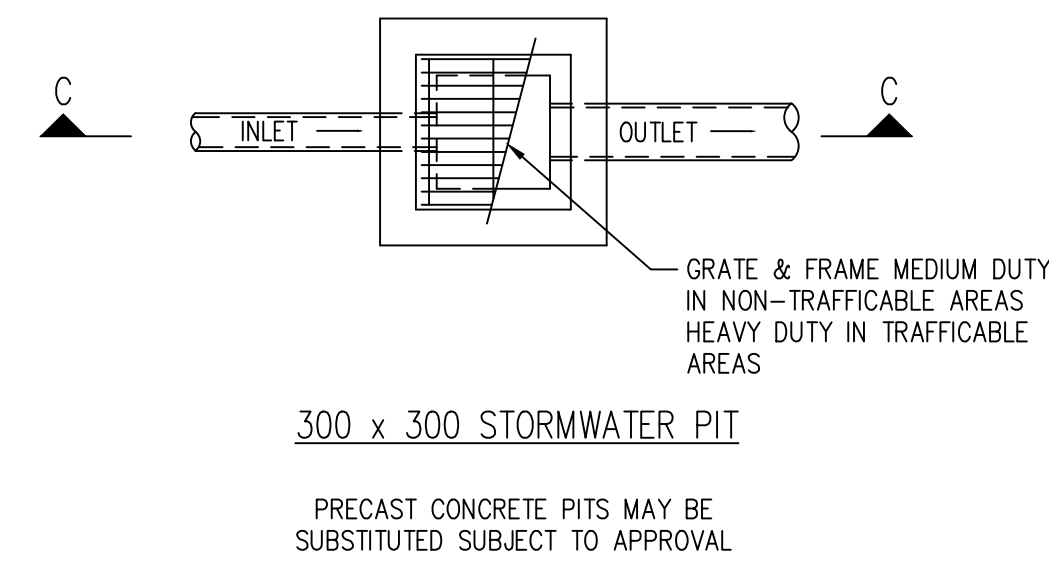
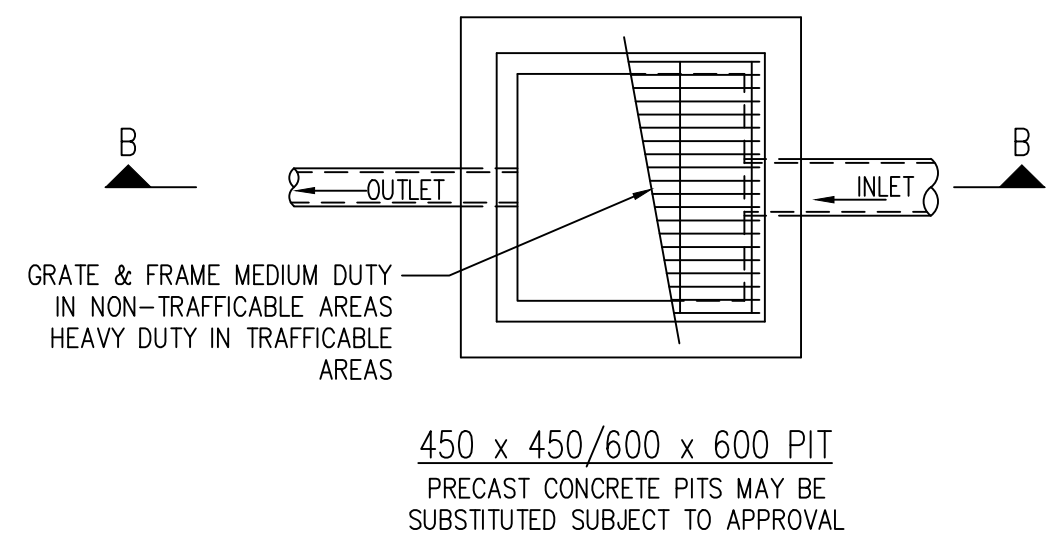
DETENTION TANK
SL 44.32-44.64
IL 43.20(PRIMARY)
IL 43.20(SECONDARY)
TWL 44.20
AVERAGE DEPTH 1.0m
AREA 5.6x15.0=84.0 m2
DET. VOL. =84.0 m3 PROVIDED
DET. VOL. REQUIRED =79.4 m3
PSD(PsoB cartridges) = 1.39l/s
PSD(MODIFIED) = 4.49L/S(PRIMARY)
PSD = 18.87 l/s(SECONDARY)
FLOW CONTROL = Ø 50 mm
ORIFICE PLATE(PRIMARY)
FLOW CONTROL = Ø 104 mm
ORIFICE PLATE(SECONDARY)



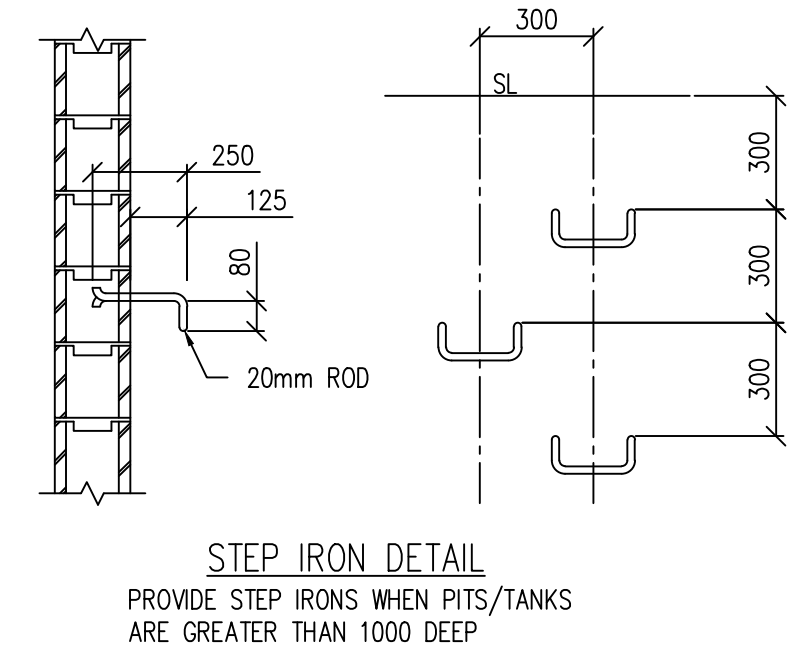
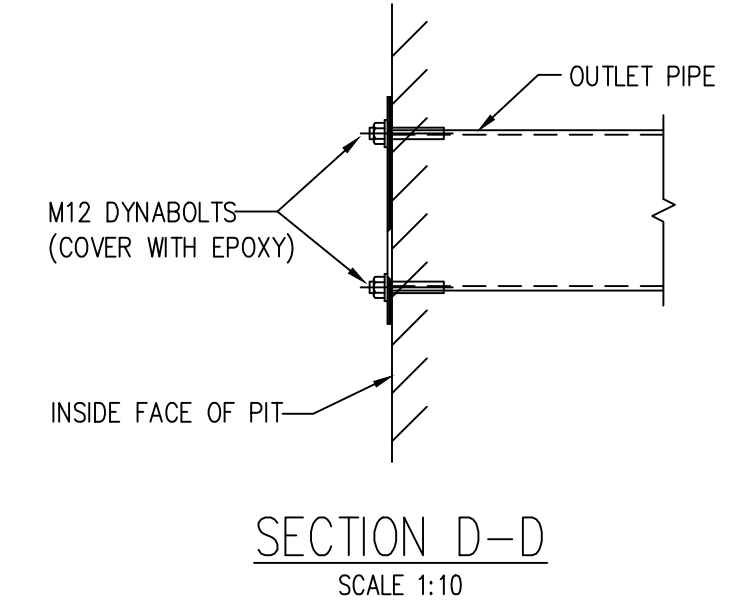
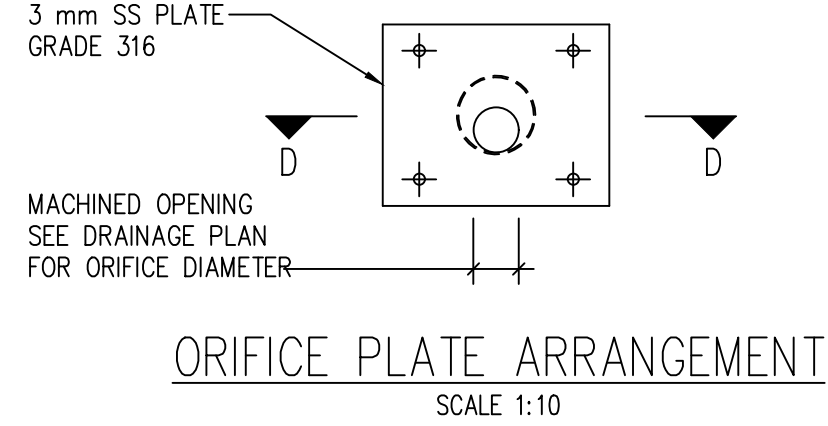
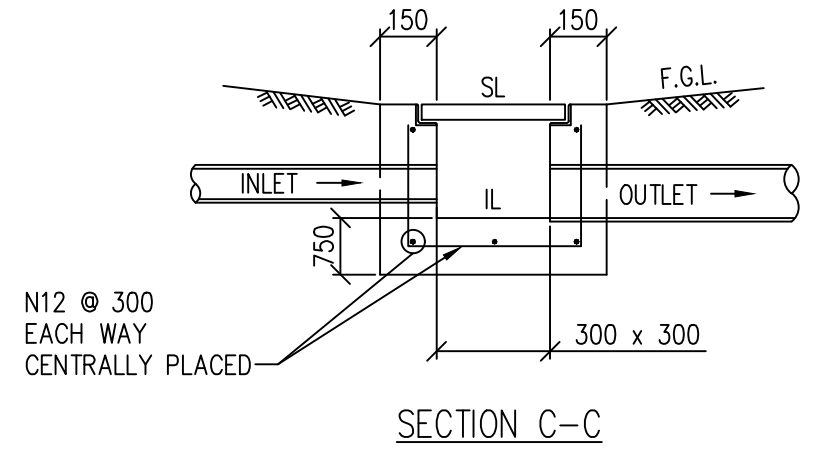
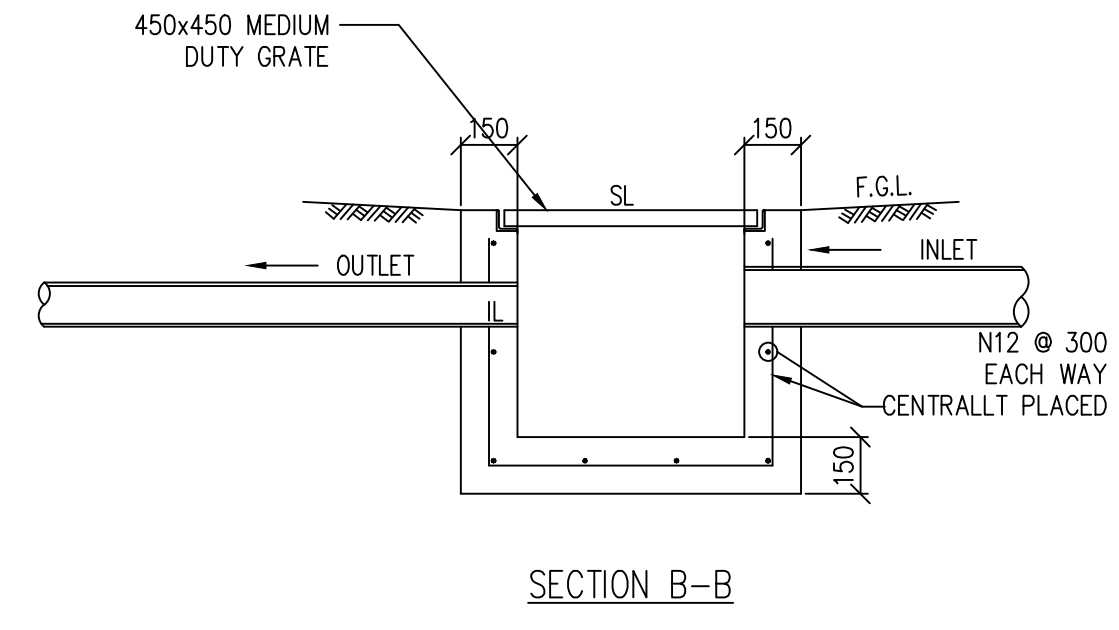
SECTION A
1:20
C02
SECTION THROUGH DETENTION



SECTION A
1:20
C02
SECTION THROUGH ABSORPTION TRENCH



TYPICAL RAINWATER TANK ARRANGEMENT
NTS
NOTE: RAINWATER TANK IS REPRESENTED DIAGRAMMATICALLY, EXACT RAINWATER TANK LOCATION & DIMENSIONS REFER TO ARCH'S DWG. PIPE WILL BE PARTLY UNDERGROUND



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Issue	Details	Date
2	REVISED ISSUE FOR DA	14.11.22
1	PART 5 ACTIVITY SUBMISSION	25.03.22

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29A West Street
PETERSHAM NSW 2049
Tel: 02 9673 9115
Email: info@lsbarchitects.com.au
Web: www.lsbarchitects.com.au
Non-Residential Architect
Sincere Bedell
NSW Reg. No. 6353

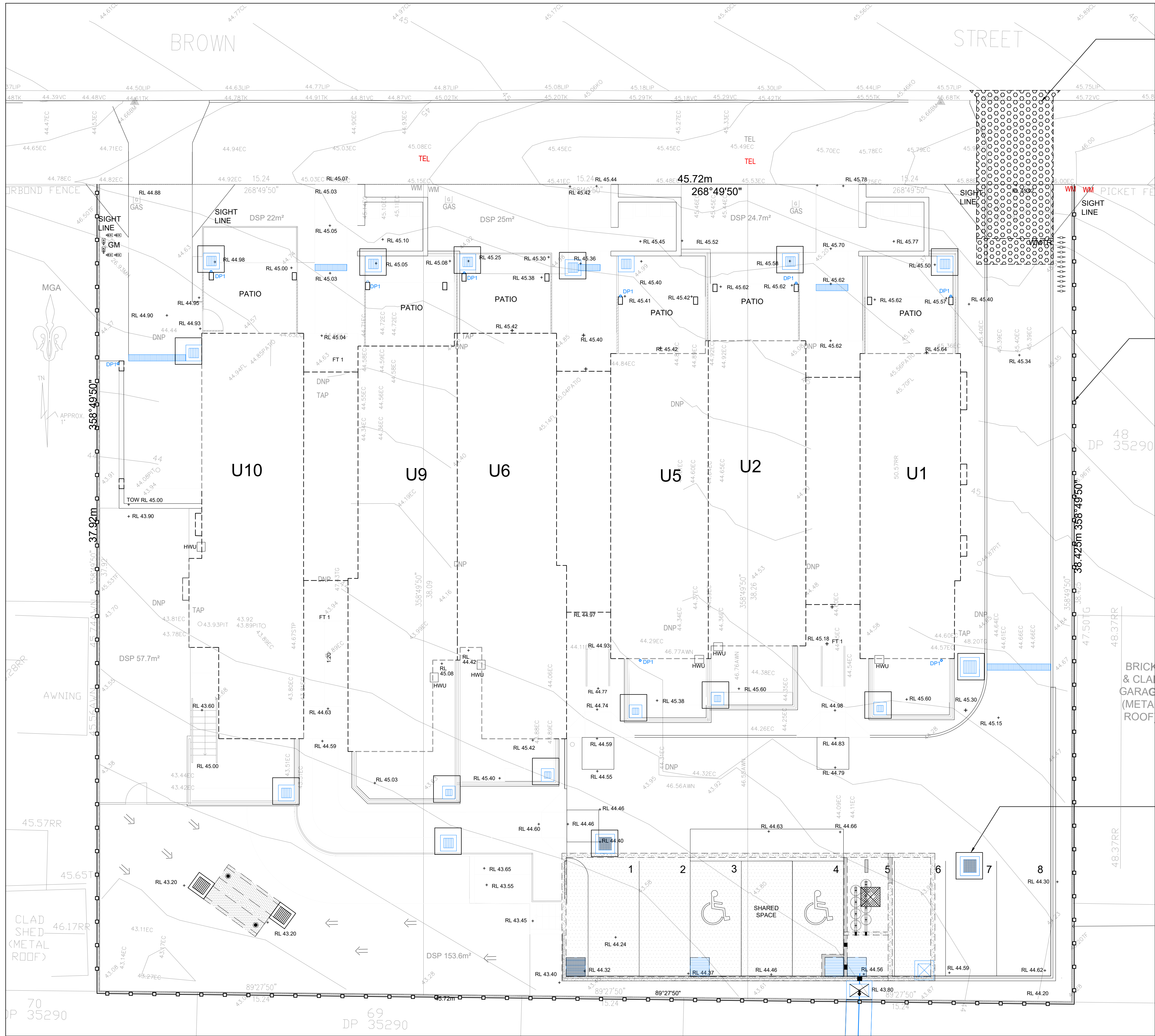
Structural & Civil / SW Engineer
A & O Consulting Engineers P/L
Tel: 0433 186 478
Hydraulic & Electrical
Marine Building Services Engineers
Tel: 4925 9300
Landscape Architect
Ray Fuggle & Associates P/L
Tel: 8860 0222
BCA Consultant:
BCA Vision
Tel: 9476 8613

BASIX:
Energy Rating Australia
Tel: 1800 372 069
Access:
Accessibility Solutions
Tel: 9695 1940
Traffic:
TEF Consulting
Tel: 0414 978 067
Arboret:
Urban Tree Management Australia P/L
Tel: 0418 471 806

Client
Planning, Industry & Environment
Project
SENIORS LIVING REDEVELOPMENT
1-5 BROWN STREET, NORTH
PARRAMATTA, NSW
Lots: 45, 46 & 47
DP 35290

Drawing Title
STORMWATER DRAINAGE
DETAILS
PROJECT NO
BGXWY
FILE
21024-C04

STATUS					Date
PART 5 ACTIVITY SUBMISSION					11.03.22
STAGE	DRAWN	DESIGNED	CHECKED	SCALE	
DA	AZ	AG		1:100	
SHEET	DWG SIZE	TYPE	REV		
04 OF 7	A1	C	2		



PROVIDE TEMPORARY CONSTRUCTION EXIT TO THE DETAIL SHOWN. EXACT LOCATION TO BE DETERMINED ON SITE.

GEOTEXTILE LINED 'SILT' FENCE REFER TO DETAIL

INSTALL TEMPORARY INLET SEDIMENT TRAP TYP. REFER DETAIL

- LEGEND:
- PROPOSED BUILDING OUTLINE
 - PROPRIETARY SILT FENCE
 - TEMPORARY CONSTRUCTION EXIT
 - TEMPORARY HAY BALES/SANDBAGS
 - PROPOSED DRAINAGE PIT WITH INLET SEDIMENT TRAP

EROSION AND SEDIMENT CONTROL LAYOUT PLAN

SCALE 1:100



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2	REVISED ISSUE FOR DA	14.11.22
1	PART 5 ACTIVITY SUBMISSION	25.03.22
Issue	Details	Date

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Nominated Architect:
Stevie Betts
NSW Reg. No. 5353

Structural & Civil / SW Engineer
A & O Consulting Engineers P/L
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PETERSHAM NSW 2049
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Hydraulic & Electrical
Marine Building Services Engineers
Tel: 4925 9300
Landscape Architect
Ray Fuggle & Associates P/L
Tel: 8860 0222
BCA Consultant:
BCA Vision
Tel: 9476 8613

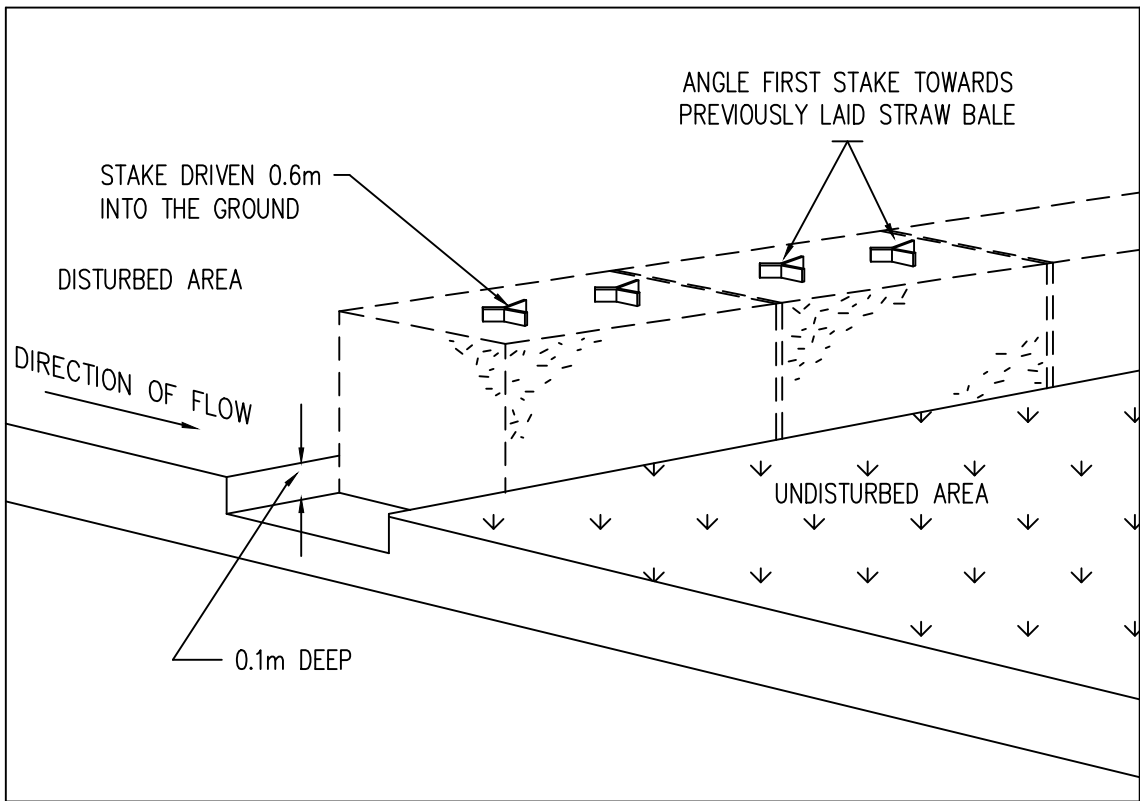
BASIX:
Energy Rating Australia
Tel: 1800 372 089
Access:
Accessibility Solutions
Tel: 9695 1940
Traffic:
TEF Consulting
Tel: 0414 978 067
Arboret:
Urban Tree Management Australia P/L
Tel: 0418 471 806



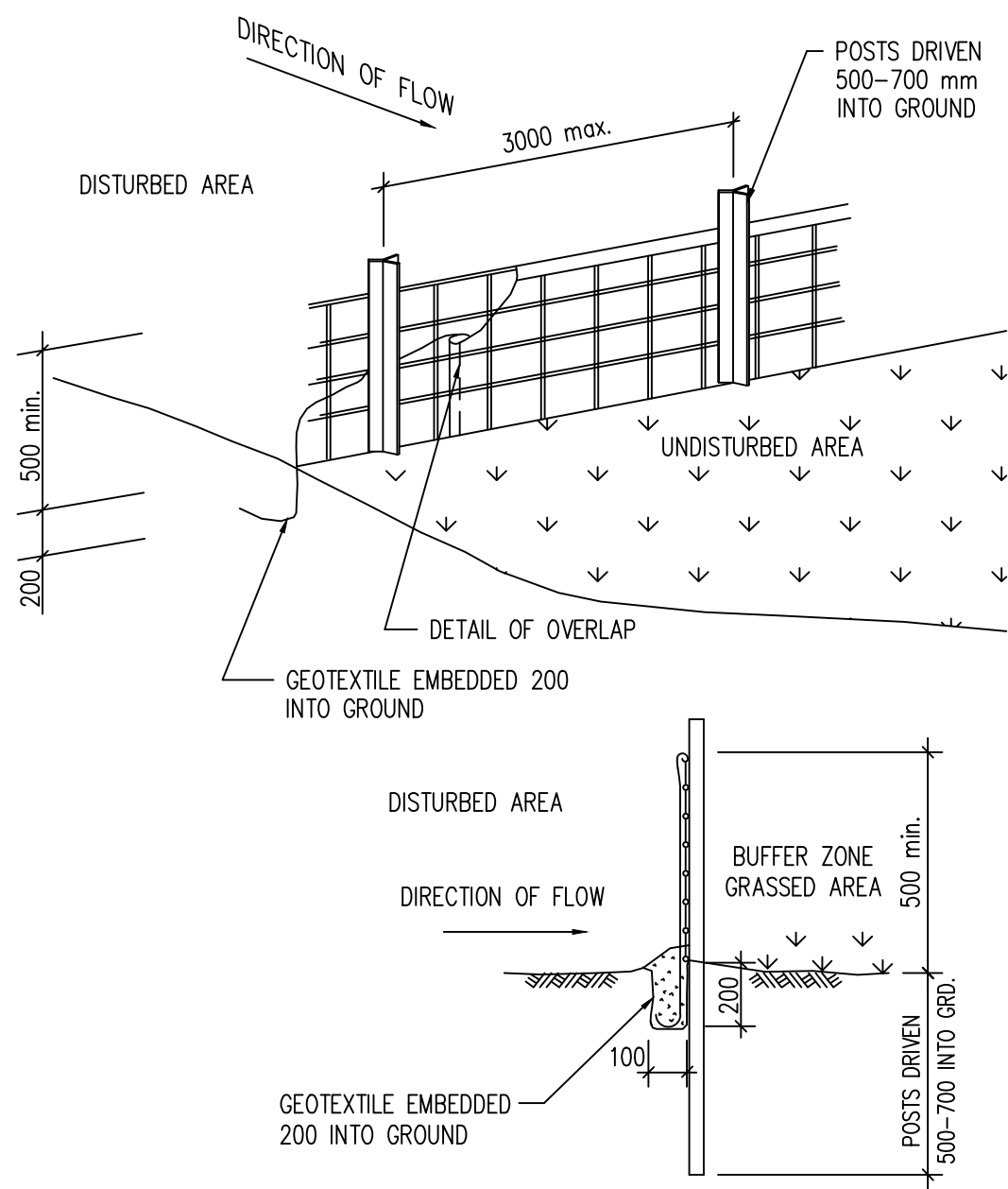
Client
SENIORS LIVING REDEVELOPMENT
1-5 BROWN STREET, NORTH
PARRAMATTA, NSW
Lots: 45, 46 & 47
DP 35290

Drawing Title
EROSION & SEDIMENT CONTROL LAYOUT PLAN
PROJECT NO
BGXWY
FILE
21024-C05

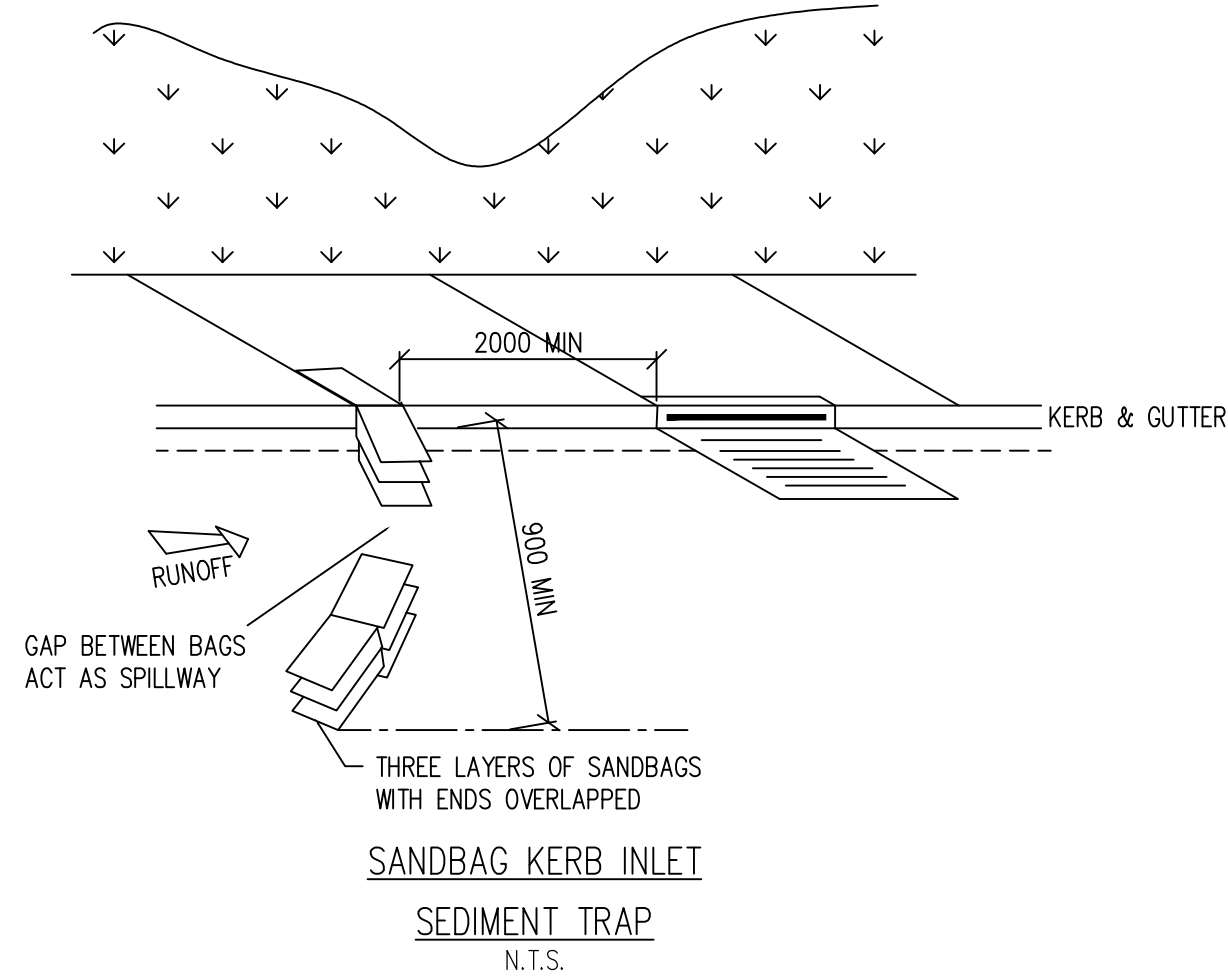
STATUS PART 5 ACTIVITY SUBMISSION					Date 11.03.22
STAGE DA	DRAWN AZ	DESIGNED AG	CHECKED	SCALE 1:100	
SHEET 05 OF 7	DWG SIZE A1	TYPE C	REV 2		



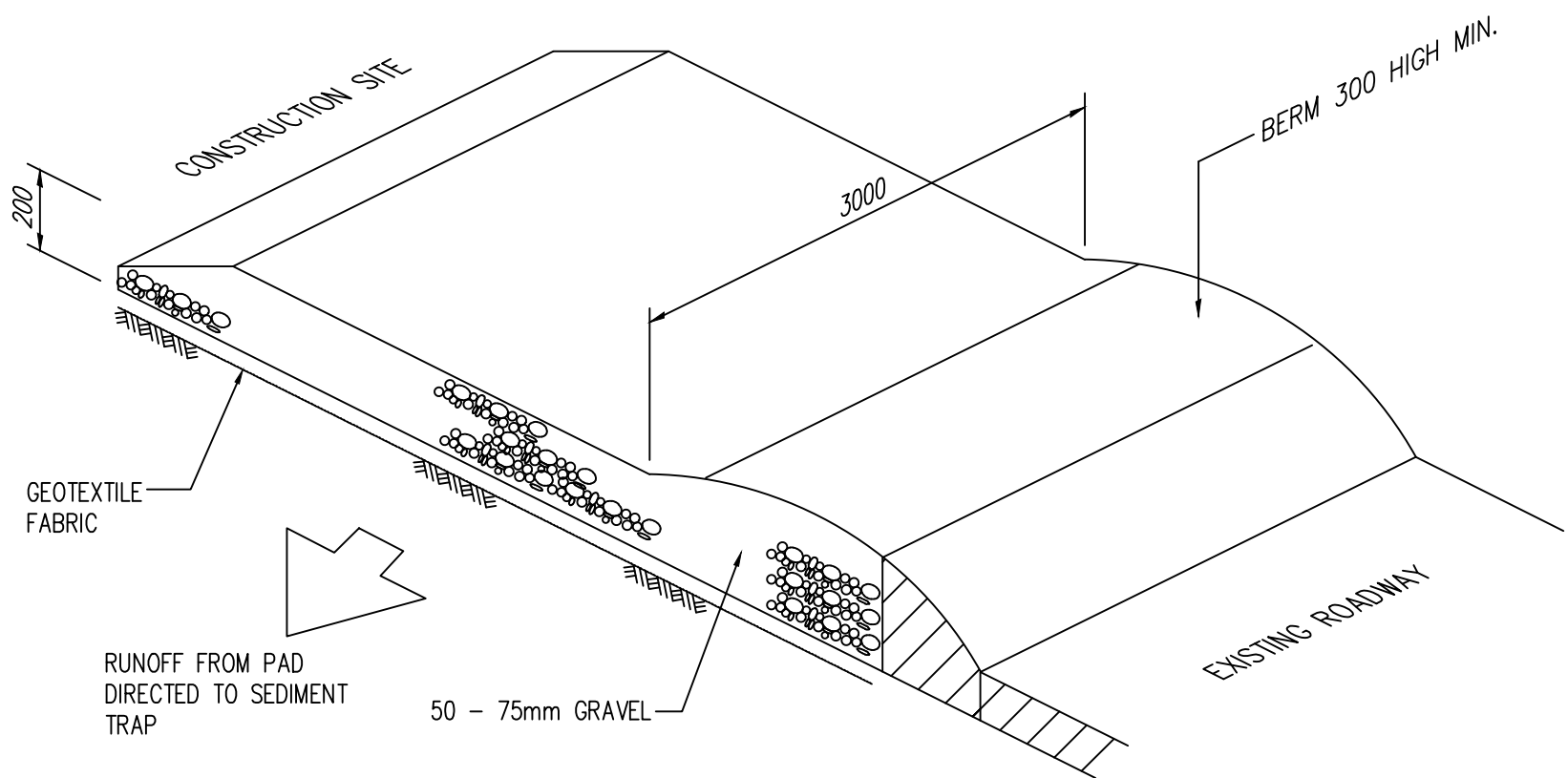
STRAW BALE SEDIMENT FILTER



GEOFABRIC LINED 'SILT' FENCE

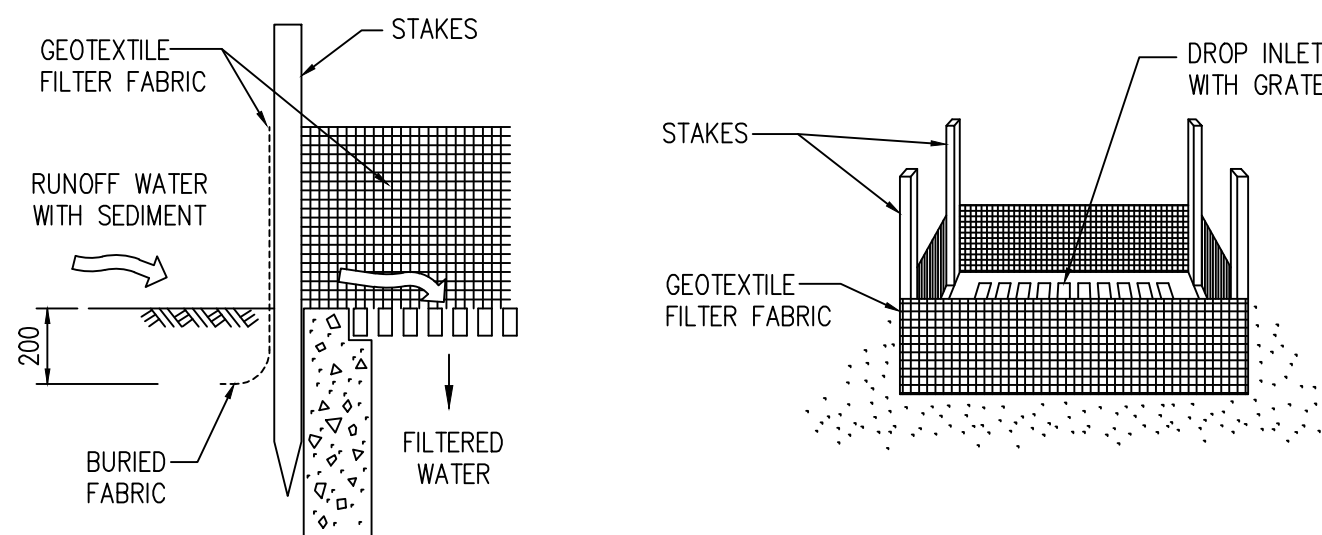


SANDBAG KERB INLET
SEDIMENT TRAP
N.T.S.

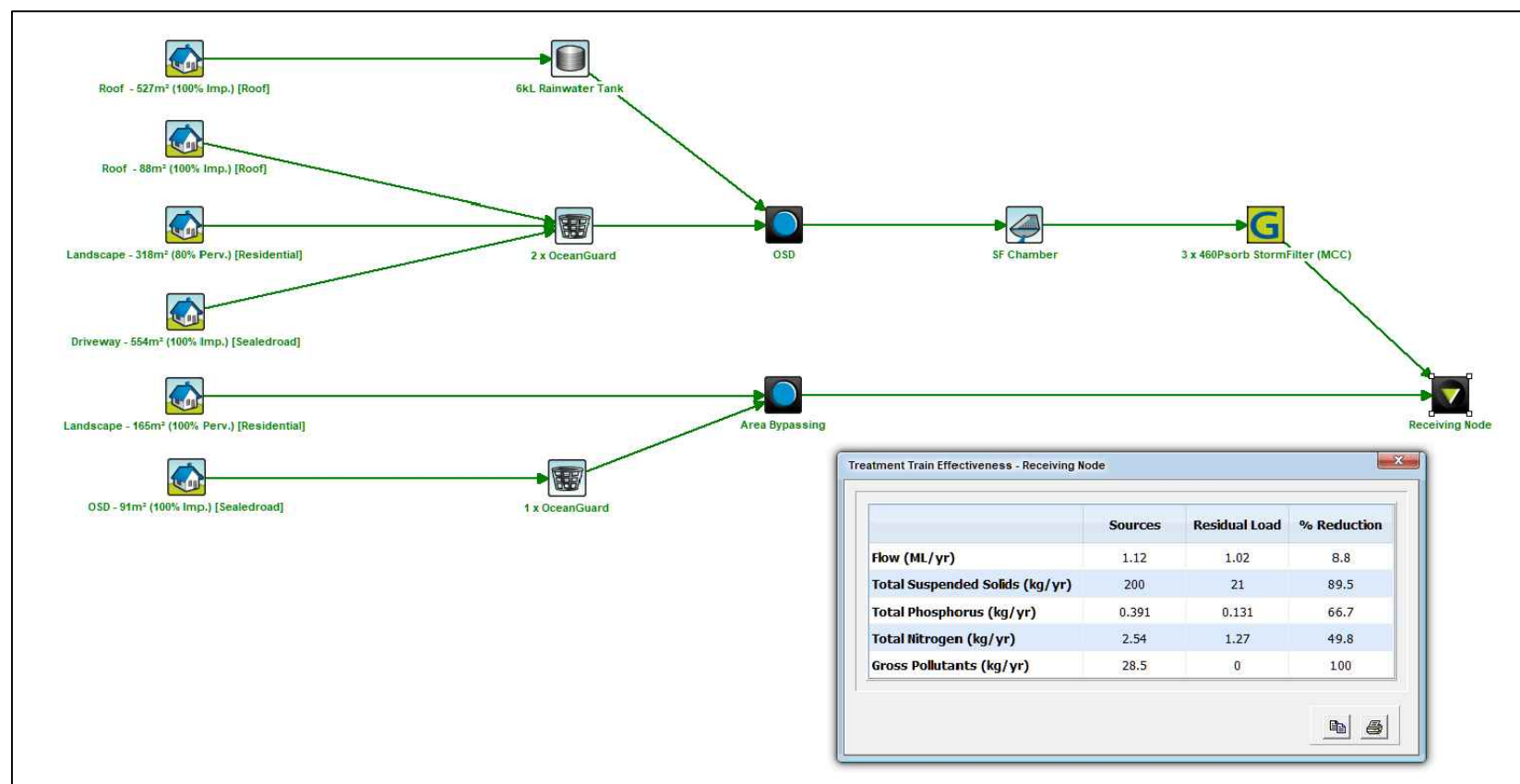


RUBBLE CROSSING

FOR USE AT ALL TRUCK/CONSTRUCTION
VEHICLE ENTRY POINTS TO THE SITE



GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP
N.T.S.



Treatment Train Effectiveness - Receiving Node			
	Source	Residual Load	% Reduction
Flow (ML/yr)	1.12	1.02	9.8
Total Suspended Solids (kg/yr)	209	21	89.5
Total Phosphorus (kg/yr)	0.391	0.331	66.7
Total Nitrogen (kg/yr)	2.54	1.27	49.8
Gross Pollutants (kg/yr)	28.5	0	100

EROSION CONTROL NOTES:

- ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED PRIOR TO SITE DISTURBANCE
- STRIPPING OF GRASS AND VEGETATION ETC. FROM SITE SHALL BE KEPT TO A MINIMUM
- TOPSOIL FROM ALL AREAS THAT WILL BE DISTURBED TO BE STRIPPED AND STOCKPILED ON SITE
- ALL SEDIMENT CONTROL STRUCTURES TO BE INSPECTED AFTER EACH RAINFALL EVENT FOR STRUCTURAL DAMAGE AND ALL TRAPPED SEDIMENT TO BE REMOVED TO A NOMINATED SOIL STOCKPILE SITE

On-Site Detention Calculation Sheet for Upper Parramatta River Catchment
HED Secondary Outlet

Project: UPRCT Handbook Demonstration Example
Site Address: 1-5 BROWN STREET, NORTH PARRAMATTA
Job No: 21024
Designer: A&G CONSULTING ENGINEERS PTY LTD
Telephone: (02) 9807 7971

Site Data

OSD Area:	Upper Parramatta River Catchment			
L.G.A.	Parramatta City Council			
Site Area	0.1745	ha	1,745 m ²	
Total Roof Area	0.0665	ha	665 m ²	
Area of Site draining to OSD Storage	0.1519	ha	1,519 m ²	Satisfactory
Residual Site Area (Lot Area - Roof Area)	0.108	ha		
Area Bypassing Storage	0.0226	ha		
Area Bypassing / Residual Site Area	20.9%			Satisfactory
No. of Dwellings on Site	12			Satisfactory
Site Area per Dwelling	0.015	ha		
Roof Area per Dwelling	0.006	ha		

Basic OSD Parameters

Basic SSR Vols	Ext Detention Storage	300	m ³ /ha	Total Storage	455	m ³ /ha
Basic SRDs	Primary Outlet	40	L/s/ha	Secondary Outlet	150	L/s/ha

OSD Tank Bypass

Residual Lot Capture in OSD Tank	79%					
Adjusted SRDs	34	L/s/ha		108	L/s/ha	

OSD Calculations

Basic SSR Volume	Ext Detention Storage	52.35	m ³	Total Storage	79.40	m ³
Total Rainwater Tank Credits		0.27	m ³		0.20	m ³
Storage Volume				Total	79.20	m ³
Storage Volume	Ext Detention Storage	52.08	m ³	Flood Detention Storage	27.12	m ³
OSD Discharges	Primary Outlet	5.88	L/s	Secondary Outlet	18.87	L/s
	Psorb cartridge	1.39	L/s			
RL of Top Water Level of Storage		43.900	m		44.200	m
RL of Orifice Centre-line		43.200	m		43.200	m
Number of Orifices		1			1	
Estimated Downstream Flood Level		42.80	1.5 yr ARI		42.80	100 yr ARI
Downstream FL - RL of Orifice Centre-line	-0.40	Satisfactory		Satisfactory	-0.40	m
Design Head to Orifice Centre	0.700	m		TWL Ext Detn Storage - RL Orifice	0.700	m
Calculated Orifice Diameter	58	mm	Satisfactory	Satisfactory	104	mm
modified Orifice Diameter			50	mm		

Overflow Weir & Freeboard Calculation

RL of Minimum Habitable Floor Level		45.100	m
RL of Minimum Garage Floor Level		44.880	m
Length of Overflow Weir		0.90	m
Site Runoff Coefficient		0.75	
Storm Intensity (5 min 100 yr ARI)		206	mm/h
Peak Flow over Weir		65.2	L/s
Depth of Flow over Weir		125	mm
Freeboard to Habitable Floor	Satisfactory	775	mm
Freeboard to Garage Floor	Satisfactory	555	mm

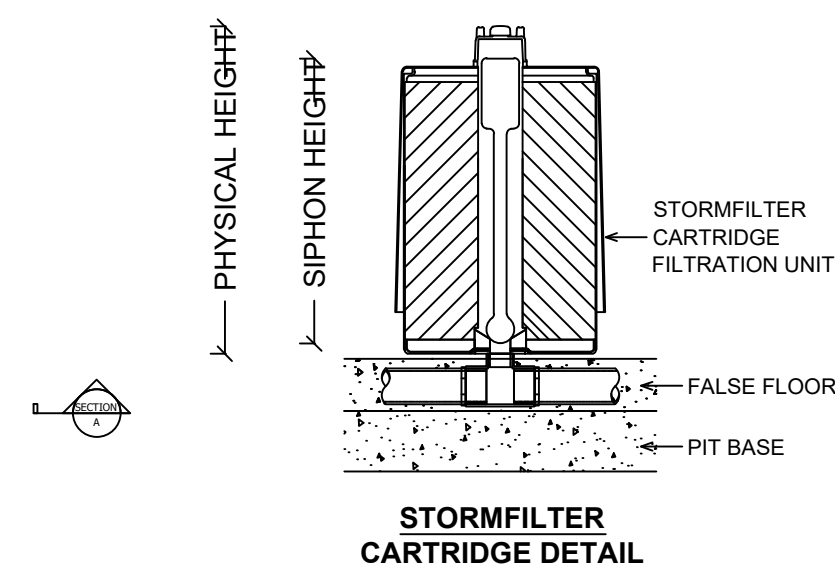
Rainwater Tank Calculations (per Dwelling)

The calculations assume that the same size rainwater tank is installed on each dwelling

				Min	Max
% of Roof draining to Rainwater Tank	80.0%		Increase	95.0%	100%
Total Rainwater Tank Volume	0.50	kL	Tank Volume OK		
Min Volume that triggers Top-up	0.00	kL	Note - Min Vol in Tank < 10% Total Tank Vol		
Total Tank Vol - Min Top-up Vol	0.50	kL			
		Dedicated Airspace			
Dedicated Airspace	0.00	kL	Satisfactory		
	Extended Detention		Detention		
Dedicated Airspace Credit	0.00	kL		0.00	kL
Maximum Tank PSD	40	L/s/ha			
Maximum Tank Discharge	0.0	L/s			
Maximum Head to Centre of Tank Orifice	0.000	m	No Dedicated Airspace		
Calculated Orifice Diameter	0	mm	No Dedicated Airspace		
		Dynamic Airspace			
Maximum Dynamic Storage (Nett Vol)	0.50	kL	Controls minimum % Roof to Rainwater Tank		
Daily Demand on Rainwater Tank	0.657	kL/d	Satisfactory		
Dynamic Airspace at start of Storm	0.50	kL			
	Extended Detention		Detention		
Dynamic Airspace Credit	0.02	kL		0.02	kL
Combined Rainwater Tank Credit	0.02	kL		0.02	kL
Maximum Rainwater Tank Credit	0.50	kL		0.50	kL
Rainwater Tank Credit per Dwelling	0.02	kL		0.02	kL
Rainwater Tank Credit for the Site	0.27	m ³		0.20	m ³

Signature:

Date:



STORMFILTER DESIGN TABLE

- STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED.
- THE STANDARD CONFIGURATION IS SHOWN. ACTUAL CONFIGURATION OF THE SPECIFIED STRUCTURE(S) PER CERTIFYING ENGINEER WILL BE SHOWN ON SUBMITTAL DRAWING(S).
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 178mm.

CARTRIDGE NAME / SIPHON HEIGHT (mm)	690	460	310
CARTRIDGE PHYSICAL HEIGHT (mm)	840	600	600
TYPICAL WEIR HEIGHT [H] (mm)	920	690	540
CARTRIDGE FLOW RATE FOR ZPG MEDIA (L/s)	1.6	1.1	0.7
CARTRIDGE FLOW RATE FOR PSORB MEDIA (L/s)	0.9	0.46	0.39

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
NUMBER OF CARTRIDGES REQ'D	
SIPHON HEIGHT (310 / 460 / 690)	
MEDIA TYPE (ZPG / PSORB)	
WATER QUALITY FLOW RATE (L/S)	
DIMENSION A	
DIMENSION B	

TOTAL CARTRIDGE BAY AREA (A x B)
TO MATCH AREA REQUIRED BY MUSIC
MODELLING OR COUNCIL SPECIFIC
REQUIREMENTS

GENERAL NOTES

1. INLET AND OUTLET PIPES TO BE IN ACCORDANCE WITH APPROVED PLANS.
2. A HIGH FLOW BYPASS ARRANGEMENT OR DISSIPATION STRUCTURE MAY BE REQUIRED TO MINIMISE RE-SUSPENSION OF SOLIDS OR ANY SIGNIFICANT INERTIAL FORCES ON THE CARTRIDGES.
3. ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.
4. SITE SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED ON PLACEMENT OF ORDER.
5. THE INVERT LEVEL OF THE INLET PIPE MUST BE GREATER THAN THE RL OF THE FALSE FLOOR WITHIN THE CARTRIDGE CHAMBER.
6. CONCRETE STRUCTURE AND ACCESS COVERS DESIGNED AND PROVIDED BY OTHERS. ACCESS COVERS TO BE A MINIMUM 900 X 900 ABOVE CARTRIDGES. OH&S REGARDING ACCESS COVERS AND TANK ACCESS TO BE ASSESSED BY OTHERS ON SITE.
7. THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES.
8. DRAWINGS NOT TO SCALE.

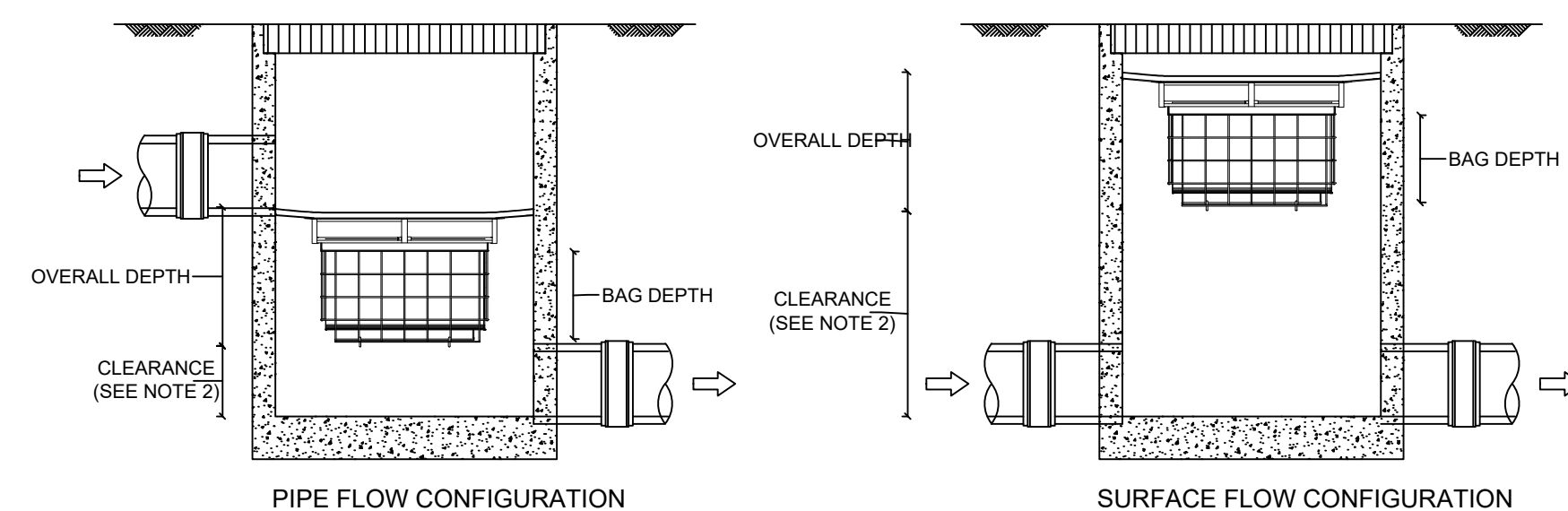
INSTALLATION NOTES

1. UNDERDRAIN AND FALSE FLOOR INSTALLED BY OCEAN PROTECT.



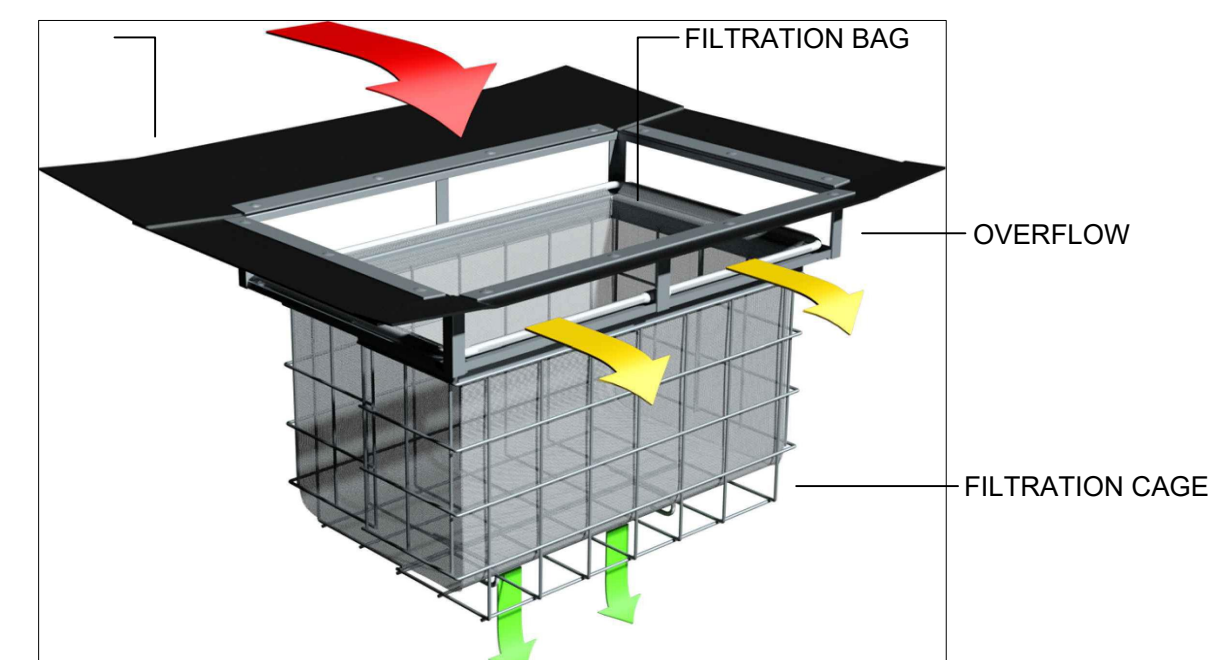
PHONE: 1300 354 722 www.oceanprotect.com.au

OCEAN PROTECT
CARTRIDGE STORMFILTER SYSTEM
DUAL ORIFICE DETENTION TANK
PARRAMATTA COUNCIL SPECIFICATION DRAWING



GENERAL NOTES

1. THE MINIMUM CLEARANCE DEPENDS ON THE CONFIGURATION (SEE NOTE 2) AND THE LOCAL COUNCIL REQUIREMENTS.
2. CLEARANCE FOR ANY PIT WITHOUT AN INLET PIPE (ONLY USED FOR SURFACE FLOW) CAN BE AS LOW AS 50mm. FOR OTHER PITS, THE RECOMMENDED CLEARANCE SHOULD BE GREATER OR EQUAL TO THE PIPE OBVERT SO AS NOT TO INHIBIT HYDRAULIC CAPACITY.
3. OCEAN PROTECT PROVIDES TWO FILTRATION BAG TYPES- 200 MICRON BAGS FOR HIGHER WATER QUALITY FILTERING AND A COARSE BAG FOR TARGETING GROSS POLLUTANTS.
4. DRAWINGS NOT TO SCALE.



CONTACT OCEAN PROTECT
AND GET APPROVAL PRIOR TO
WORK COMMENCEMENT FOR
STORMFILTER & ENVIPOD WORK