110 - 112 MOUNT VERNON ROAD, MOUNT VERNON PROPOSED CHILDCARE CENTRE

STORMWATER CONCEPT PLAN



LOCALITY PLAN

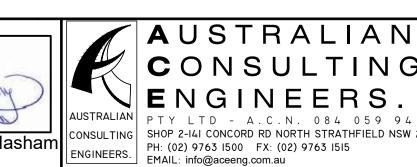
DRAWING INDEX								
Drawing No.	DESCRIPTION							
ACE171195.SW.DA - 000	COVER SHEET PLAN							
ACE171195.SW.DA - 101	STORMWATER CONCEPT PLAN GROUND LEVEL							
ACE171195.SW.DA - 102	WSUD TANK DETAILS SHEET 1 OF 3							
ACE171195.SW.DA - 103	WSUD TANK DETAILS SHEET 2 OF 3							
ACE171195.SW.DA - 104	WSUD TANK DETAILS SHEET 3 OF 3							
ACE171195.SW.DA - 105	MISCELLANEOUS DETAILS SHEET							

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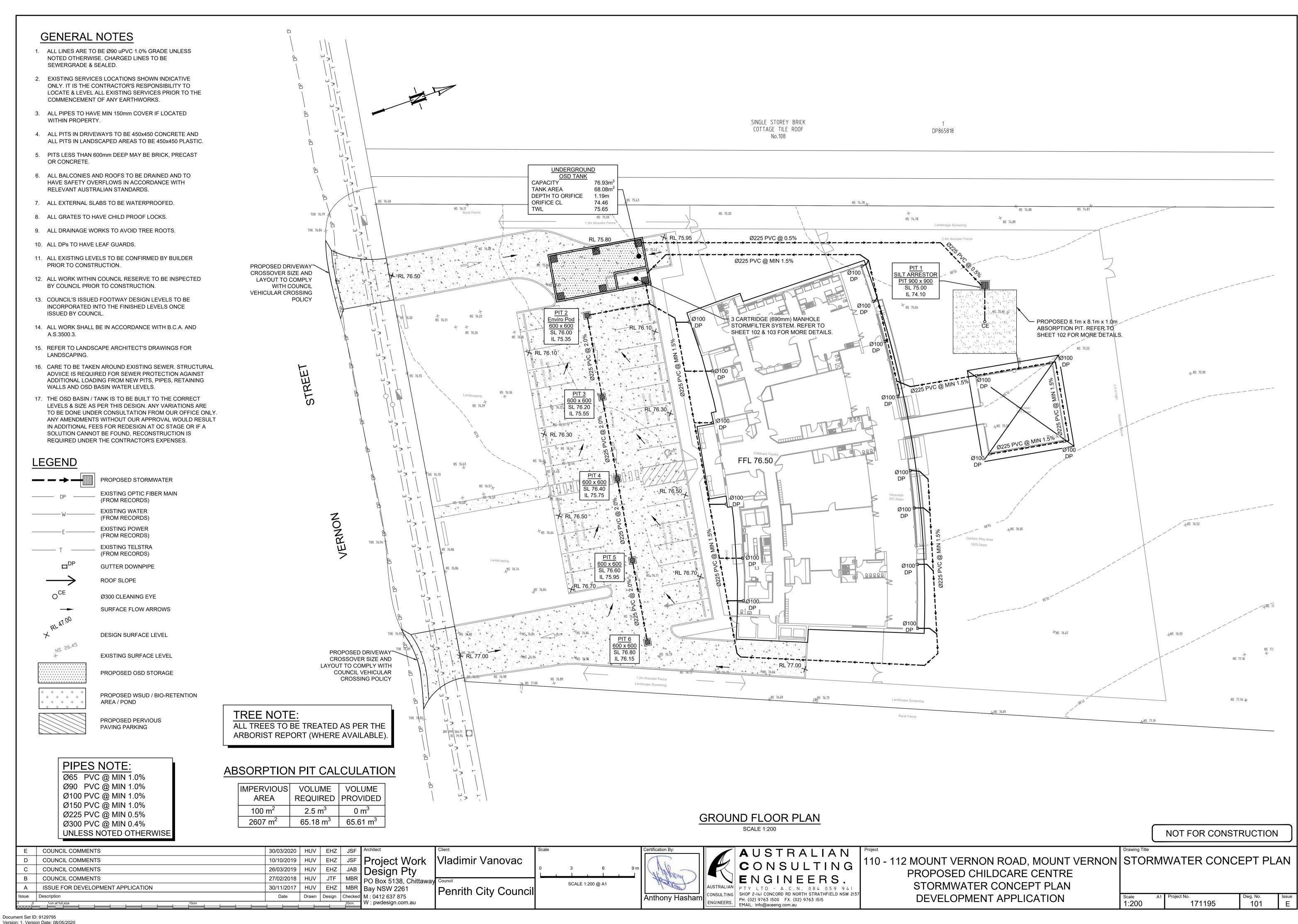
COUNCIL COMMENTS COUNCIL COMMENTS HUV | EHZ | COUNCIL COMMENTS 26/03/2019 | HUV | EHZ | JAB COUNCIL COMMENTS ISSUE FOR DEVELOPMENT APPLICATION 30/11/2017 | HUV | EHZ | MBR Drawn Design Checked M: 0412 637 875

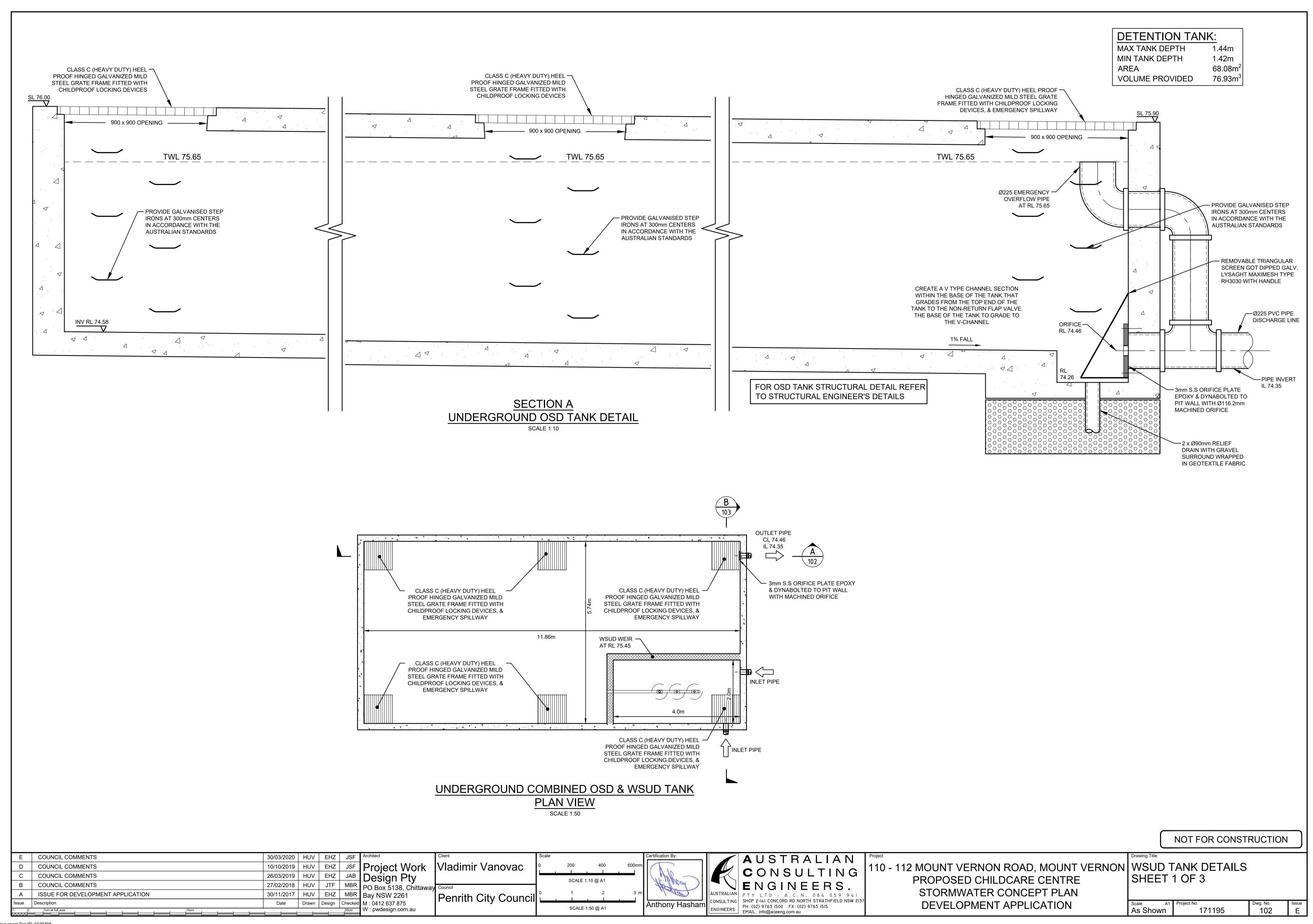
Vladimir Vanovac Project Work Design Pty Penrith City Council

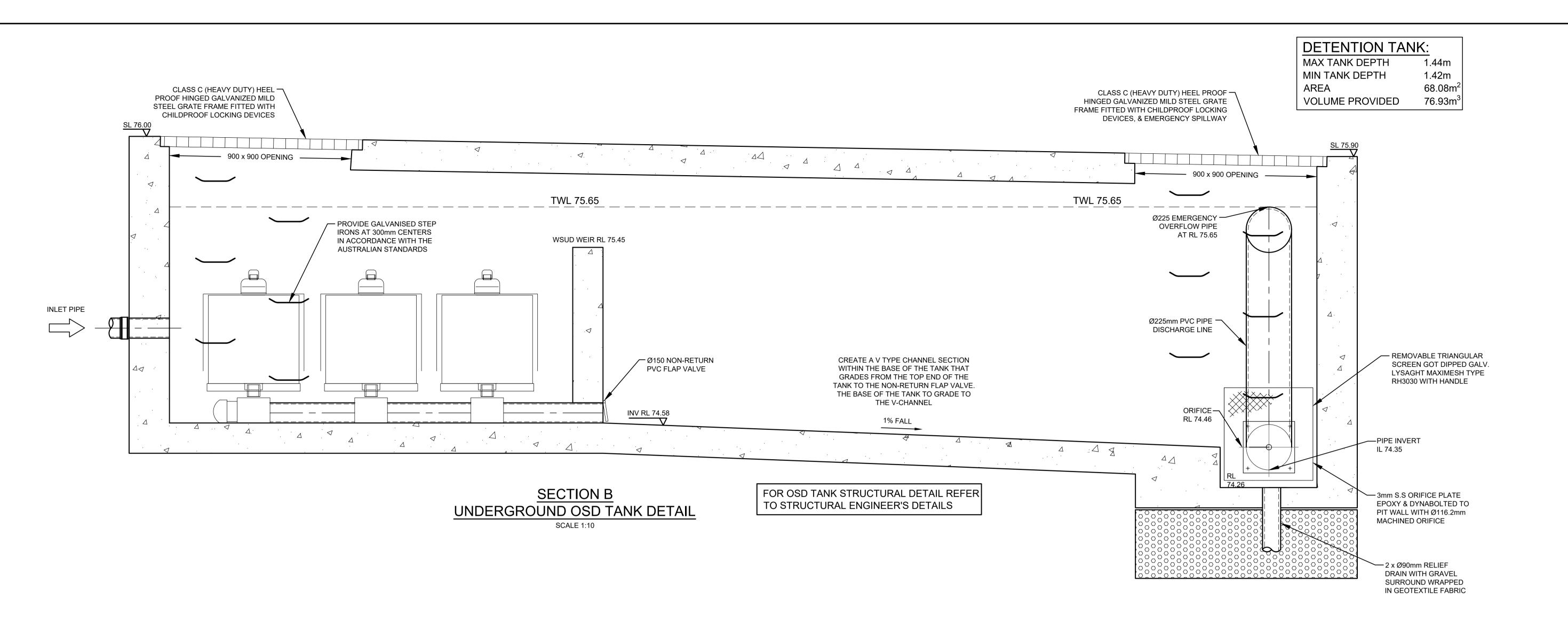


110 - 112 MOUNT VERNON ROAD, MOUNT VERNON COVER SHEET PLAN PROPOSED CHILDCARE CENTRE STORMWATER CONCEPT PLAN **DEVELOPMENT APPLICATION**

171195

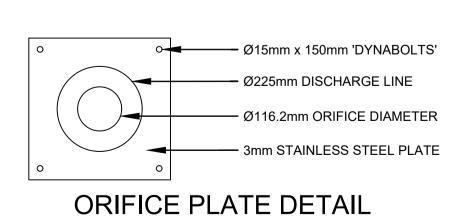






UNDERGROUND OSD TANK STAGED STORAGE CALCULATIONS

DEPTH (mm)	AREA (m²)	CUMULATIVE VOLUME (m³)
0	68.08	0
120	68.08	4.0848
200	68.08	9.5312
300	68.08	16.3392
400	68.08	23.1472
500	68.08	29.9552
600	68.08	36.7632
700	68.08	43.5712
800	68.08	50.3792
900	68.08	57.1872
1000	68.08	63.9952
1100	68.08	70.8032
1190	68.08	76.9304



W : pwdesign.com.au

OSD CALCULATIONS:

 $= 2607 \text{ m}^2$ SITE AREA = 0.2607 ha

PSD = 120 l/s/ha SSR = $280 \text{ m}^3/\text{ha}$

THEREFORE:

 $PSD = 120 \times 0.2607$

= 31.28 l/s

SSR = 280×0.2607 $= 73.00 \text{ m}^3$

ORIFICE CALCULATIONS:

 $Q = C \times A \times (2 \times g \times h)^{0.5}$

SO: $A = Q / (C \times sqrt(2 \times g \times h))$

 $= 0.03128 / (0.61 \times \text{sqrt}(2 \times 9.81 \times 1.19))$

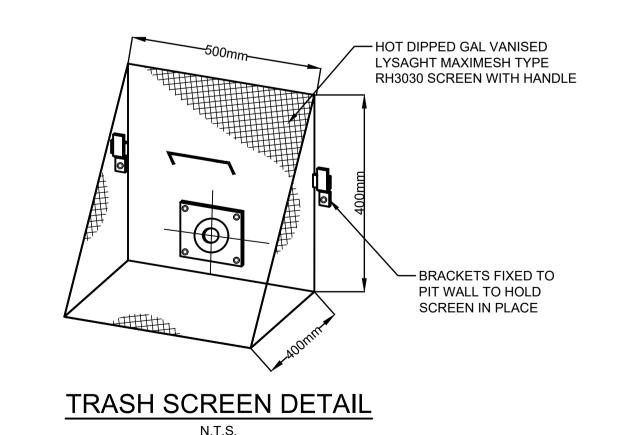
 $= 0.0106 \text{ m}^2$

THEREFORE:

= sqrt(4 x A / pi)

 $= sqrt(4 \times 0.0106 / 3.14159)$

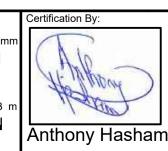
= 116.2 mm



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COUNCIL COMMENTS 30/03/2020 | HUV | EHZ | JSF 10/10/2019 HUV EHZ JSF Project Work Design Pty
26/03/2018 HUV JTF MBR PO Box 5138, Chittaway Council COUNCIL COMMENTS COUNCIL COMMENTS COUNCIL COMMENTS ISSUE FOR DEVELOPMENT APPLICATION 30/11/2017 | HUV | EHZ | MBR Bay NSW 2261 Date Drawn Design Checked M: 0412 637 875 Issue Description

Vladimir Vanovac SCALE 1:10 @ A1 Penrith City Council SCALE 1:50 @ A1

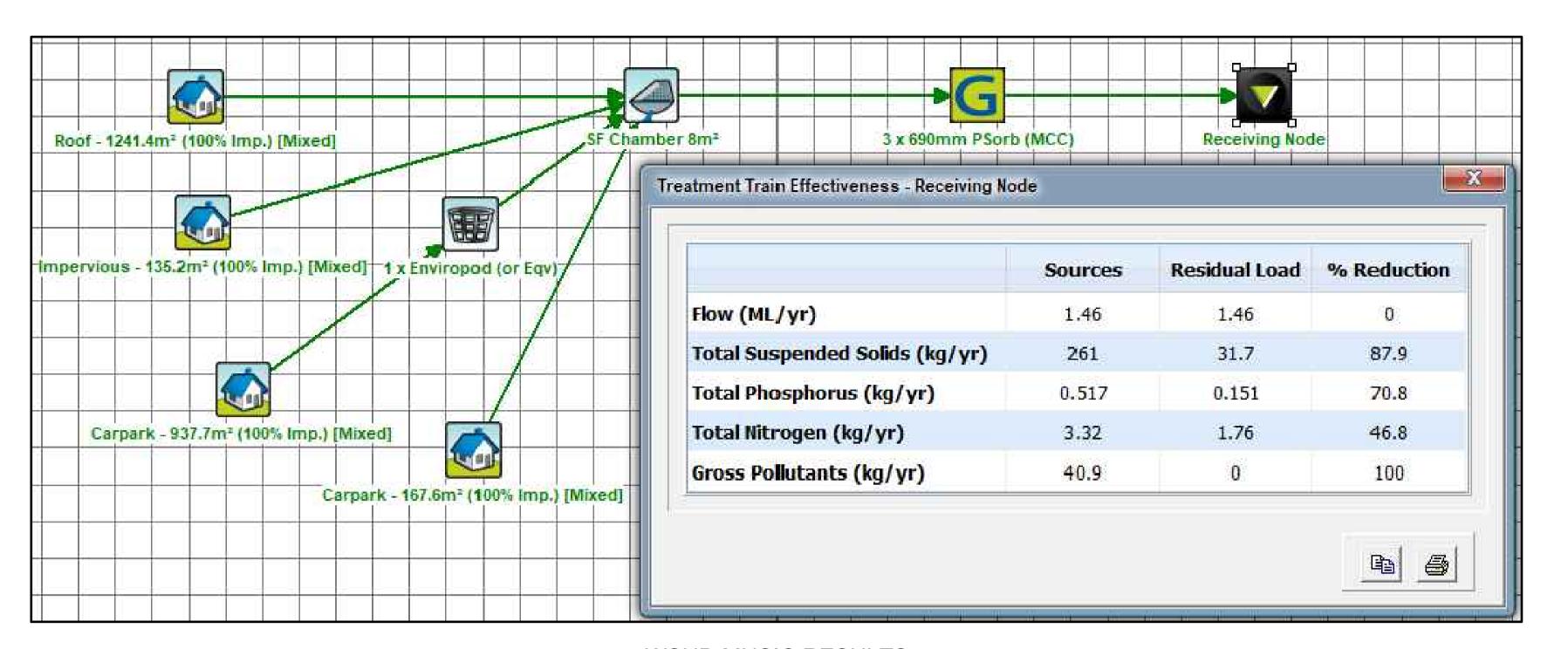


AUSTRALIAN **C**ONSULTING ENGINEERS. CONSULTING SHOP 2-141 CONCORD RD NORTH STRATHFIELD NSW 2137 ENGINEERS. PH: (02) 9763 I500 FX: (02) 9763 I515 EMAIL: info@aceeng.com.au

110 - 112 MOUNT VERNON ROAD, MOUNT VERNON WSUD TANK DETAILS PROPOSED CHILDCARE CENTRE STORMWATER CONCEPT PLAN DEVELOPMENT APPLICATION

SHEET 2 OF 3

Dwg. No. 103 171195 As Shown



WSUD MUSIC RESULTS

WSUD NOTE:

THE WSUD TANK IS TO BE BUILT TO THE CORRECT LEVELS & SIZE AS PER THIS DESIGN. ANY VARIATIONS ARE TO BE DONE UNDER CONSULTATION FROM OUR OFFICE ONLY. ANY AMENDMENTS WITHOUT OUR APPROVAL WOULD RESULT IN ADDITIONAL FEES FOR REDESIGN AT OC STAGE OR IF A SOLUTION CANNOT BE FOUND, RECONSTRUCTION IS REQUIRED UNDER THE CONTRACTOR'S EXPENSES.

STORMFILTER DESIGN TABLE

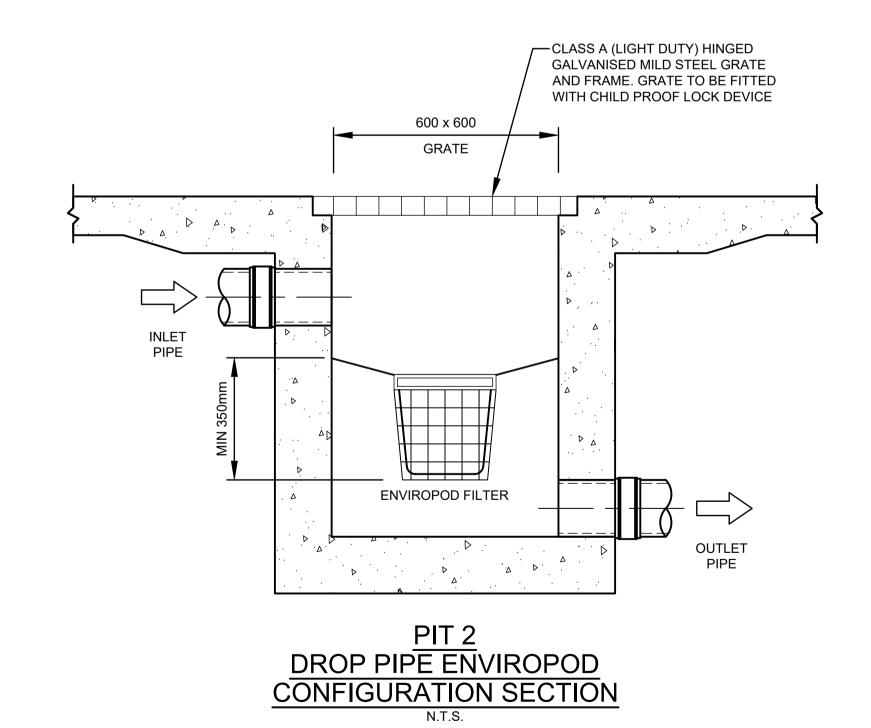
- STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED AND BY REGION SPECIFIC INTERNAL FLOW CONTROLS. CONVEYANCE CAPACITY IS RATED AT 80L/S.
- ALL PARTS PROVIDED AND INTERNAL ASSEMBLY BY STORMWATER360 AUSTRALIA UNLESS OTHERWISE NOTED.

CARTRIDGE HEIGHT	690		460		310	
SYSTEM HYDRAULIC DROP (H - REQ'D. MIN.)	93	30	700		550	
TREATMENT BY MEDIA SURFACE AREA L/S/m2	1.4	0.7	1.4	0.7	1.4	0.7
CARTRIDGE FLOW RATE (L/s)	1.42	0.71	0.95	0.47	0.63	0.32

- STORMFILTER CARTRIDGE FILTRATION UNIT ₹ FALSE FLOOR ← PRECAST PIT

SYSTEM HYDRAULIC DROP

CARTRIDGE FLOW RATE



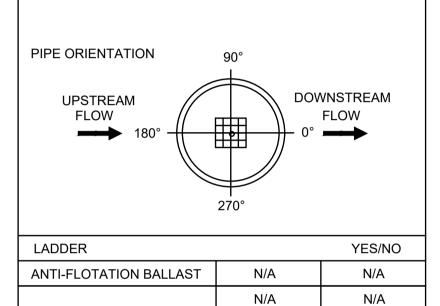
SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	1
WATER QUALITY FLOW RATE (L/S)	-
PEAK FLOW RATE (L/S)	-
RETURN PERIOD OF PEAK FLOW (yrs)	-
# OF CARTRIDGES REQUIRED (8-22)	3
CARTRIDGE HEIGHT (310, 460 or 690mm)	690
MEDIA TYPE (PERLITE, PERLITE/ZEOLITE OR ZPG)	ZPG

PRECAST VAUL	-				
PRECAST LID W	-				
PIPE DATA:	I.L.	MATERIAL	DIAMETER		
INLET PIPE #1	74.58	PVC	225		
INLET PIPE #2	74.58	PVC	225		

74.35

OUTLET PIPE



STORMFILTER TABLE

GENERAL NOTES

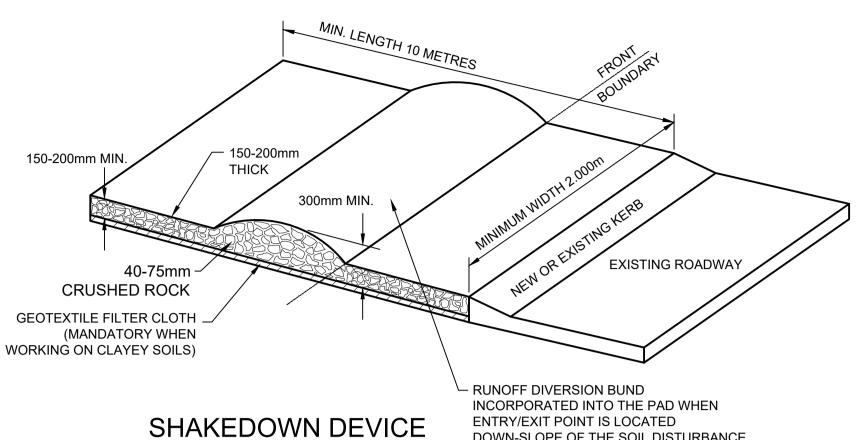
- 1. INLET AND OUTLET PIPING SHALL BE SPECIFIED BY SITE CIVIL ENGINEER (SEE PLANS) AND PROVIDED BY CONTRACTOR. STORMFILTER IS PROVIDED WITH OPENINGS AT INLET AND OUTLET LOCATIONS.
- 2. IF THE PEAK FLOW RATE, AS DETERMINED BY THE SITE CIVIL ENGINEER, EXCEEDS THE PEAK HYDRAULIC CAPACITY OF THE PRODUCT, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED. PLEASE CONTACT STORMWATER360 FOR OPTIONS.
- 3. THE FILTER CARTRIDGE(S) ARE SIPHON-ACTUATED AND SELF-CLEANING. THE STANDARD DETAIL DRAWING SHOWS THE MAXIMUM NUMBER OF CARTRIDGES. THE ACTUAL NUMBER SHALL BE SPECIFIED BY THE SITE CIVIL ENGINEER ON SITE PLANS OR IN DATA TABLE BELOW. PRECAST STRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH AS3600.
- 4. FOR SHALLOW, LOW DROP OR SPECIAL DESIGN CONSTRAINTS, CONTACT STORMWATER360 FOR DESIGN OPTIONS.
- 5. ALL WATER QUALITY PRODUCTS REQUIRE PERIODIC MAINTENANCE AS OUTLINED IN THE O&M GUIDELINES. PROVIDE MINIMUM CLEARANCE FOR MAINTENANCE ACCESS.
- 6. STRUCTURE AND ACCESS COVERS DESIGNED TO MEET AUSTROADS T44 LOAD RATING WITH 0-2m FILL MAXIMUM.
- 7. THE STRUCTURE THICKNESSES SHOWN ARE FOR
- REPRESENTATIONAL PURPOSES AND VARY REGIONALLY. 8. ANY BACKFILL DEPTH, SUB-BASE, AND OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND

SHALL BE SPECIFIED BY SITE CIVIL ENGINEER. 9.. STORMFILTER BY STORMWATER360: SYDNEY (AU) PHONE: (02) 9525 5833, BRISBANE (AU) PHONE: (07) 3272 1872.

NOT FOR CONSTRUCTION

E COUNCIL COMMENTS	30/03/2020 HUV EHZ JSF Architect	Client	Scale	Certification By:	A USTRALIAN	Project	Drawing Title
D COUNCIL COMMENTS	10/10/2019 HUV EHZ JSF Project Work	Vladimir Vanovac				110 - 112 MOUNT VERNON ROAD, MOUNT VERNO	NI WSLID TANK DETAILS
		TVIddiiiii Valiovac		$(D I_0)$	CONSULTING	<u>′</u>	
C COUNCIL COMMENTS	26/03/2019 HUV EHZ JAB Design Pty		0 200 400 600n	nm Ut-Mthr		PROPOSED CHILDCARE CENTRE	SHEET 3 OF 3
B COUNCIL COMMENTS	27/02/2018 HUV JTF MBR PO Box 5138 Chittawa	Council	1	Ho Inch	ENGINEERS.		
A ISSUE FOR DEVELOPMENT APPLICATION	30/11/2017 HUV EHZ MBR Bay NSW 2261	Penrith City Counci	SCALE 1:10 @ A1	1/200	AUSTRALIAN PTY LTD - A.C.N. 084 059 941	STORMWATER CONCEPT PLAN	
Issue Description	Date Drawn Design Checked M: 0412 637 875	The Hill City Counci	'	Anthony Hasham	CONSULTING SHOP 2-141 CONCORD RD NORTH STRATHFIELD NSW 2137	DEVELOPMENT APPLICATION	Scale A1 Project No. Dw
-1 0 _1cm at full size10cm	W : pwdesign.com.au			7 thaterry machani	ENGINEERS. FMAIL: info@aceeng.com.au	DEVELOI WENT ALL LICATION	As Shown 171195

171195 104 As Shown



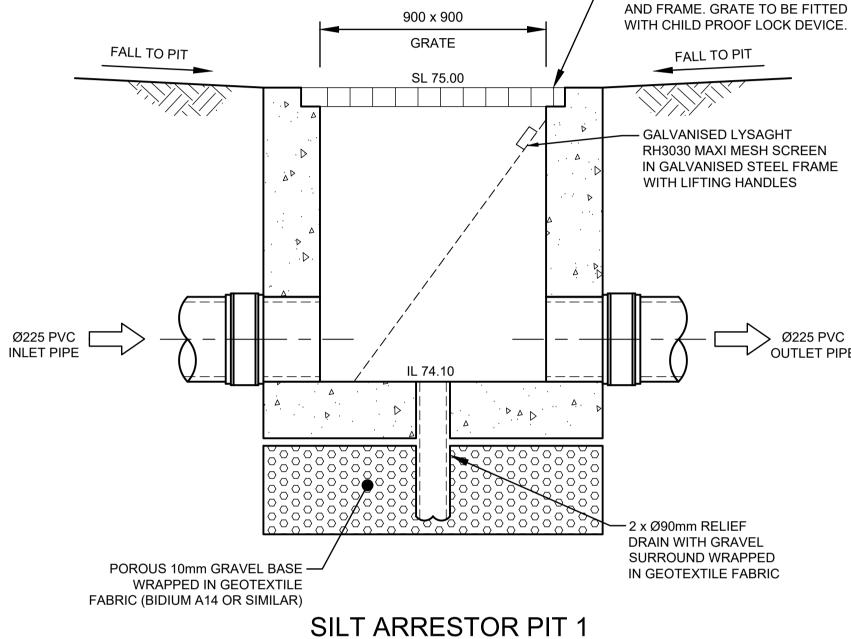
DOWN-SLOPE OF THE SOIL DISTURBANCE

SEDIMENT & EROSION NOTES

- 1. IMMEDIATELY FOLLOWING SETTING OUT OF THE WORKS, BUT PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORKS, THE CONTRACTOR AND SUPERINTENDENT SHALL WALK THE SITE TO NOMINATE THE LOCATIONS AND TYPES OF SEDIMENT AND EROSION CONTROL MEASURES TO BE ADOPTED. THESE MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CLEARING OR EARTHWORKS AND MAINTAINED UNTIL THE WORKS ARE COMPLETED AND NO LONGER POSE AN EROSION HAZARD, UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT.
- 2. IMMEDIATELY FOLLOWING SETTING OUT OF THE WORKS, BUT PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORKS, THE CONTRACTOR AND SUPERINTENDENT SHALL WALK THE SITE TO IDENTIFY AND MARK TREES WHICH ARE TO BE PRESERVED. NOTWITHSTANDING THE ABOVE, THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO MINIMISE DISTURBANCE TO EXISTING VEGETATION AND GROUND COVER OUTSIDE THE MINIMUM AREAS REQUIRED TO COMPLETE THE WORKS AND SHALL BE RESPONSIBLE FOR RECTIFICATION, AT ITS OWN COST, OF ANY DISTURBANCE BEYOND THOSE
- 3. PROVIDE GULLY GRATE INLET SEDIMENT TRAPS AT ALL GULLY PITS.
- 4. PROVIDE SILT FENCING ALONG PROPERTY LINE AS DIRECTED BY

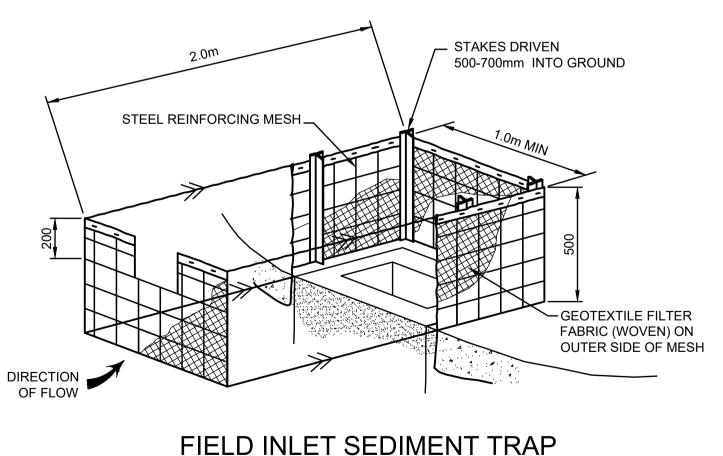
SUPERINTENDENT.

- 5. ADDITIONAL CONTROL DEVICES TO BE PLACED WHERE DIRECTED BY THE
- 6. ALTERNATIVE DESIGNS TO BE APPROVED BY SUPERINTENDENT PRIOR TO CONSTRUCTION.
- 7. WASH DOWN/RUMBLE AREA TO BE CONSTRUCTED WITH PROVISIONS RESTRICTING ALL SILT AND TRAFFICKED DEBRIS FROM ENTERING THE STORMWATER SYSTEM.
- 8. NO WORK OR STOCKPILING OF MATERIALS TO BE PLACED OUTSIDE OF SITE WORK BOUNDARY.
- APPROPRIATE EROSION AND SEDIMENT CONTROLS TO BE USED TO PROTECT STOCKPILES AND MAINTAINED THROUGH OUT CONSTRUCTION.
- 10. IT IS THE CONTRACTORS RESPONSIBILITY TO TAKE DUE CARE OF NATURAL VEGETATION. NO CLEARING IS TO BE UNDERTAKEN WITHOUT PRIOR APPROVAL FROM THE SUPERINTENDENT.
- 11. TO AVOID DISTURBANCE TO EXISTING TREES, EARTHWORKS WILL BE MODIFIED AS DIRECTED ON-SITE BY THE SUPERINTENDENT.
- 12. THE LOCATION OF EROSION AND SEDIMENTATION CONTROLS WILL BE DETERMINED ON SITE BY THE SUPERINTENDENT.
- 13. ACCESS TRACKS THROUGH THE SITE WILL BE LIMITED TO THOSE DETERMINED BY THE SUPERINTENDENT AND THE CONTRACTOR PRIOR TO ANY WORK COMMENCING.
- 14. ALL SETTING OUT IS THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO WORKS COMMENCING ON SITE. THE SUPERINTENDENT'S SURVEYOR SHALL PEG ALL ALLOTMENT BOUNDARIES, PROVIDE COORDINATE INFORMATION TO THESE PEGS AND PLACE BENCH MARKS. THE CONTRACTOR SHALL SET OUT THE WORKS FROM AND MAINTAIN THESE PEGS.
- 15. PLANS ARE MINIMUM REQUIREMENTS AND ARE TO BE USED AS A GUIDE ONLY. EXACT MEASURES USED SHALL BE DETERMINED ON SITE IN CONJUNCTION WITH PROGRAM OF CONTRACTORS WORKS etc.

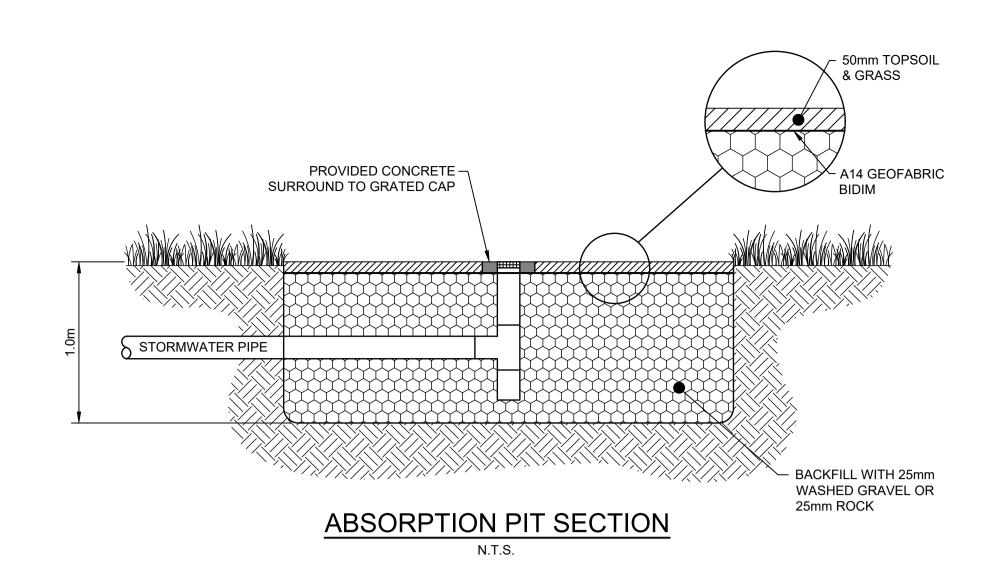


- CLASS A (LIGHT DUTY) HINGED

GALVANISED MILD STEEL GRATE



FIELD INLET SEDIMENT TRAP



GRATED CAP CONCRETE SURROUND STORMWATER PIPE

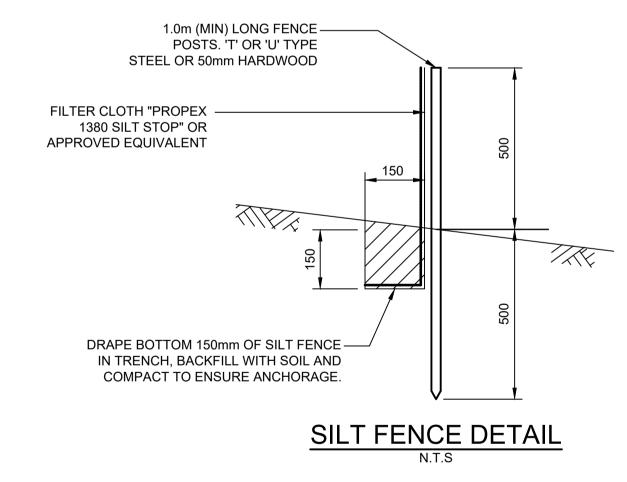
-IMPERMEABLE

Ø300

CLEANING EYE DETAIL

NOTE: MINIMUM 2.0m SETBACK FROM SIDE / **REAR BOUNDARIES**

ABSORPTION PIT PLAN



SILT FENCE NOTES:

- 1. FILTER CLOTH TO BE FASTENED SECURELY TO POSTS WITH
- GALVANISED WIRE TIES, STAPLES OR ATTACHMENT BELTS.
- POSTS SHOULD NOT BE SPACED MORE THAN 3.0m APART. 3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER
- THEY SHALL BE OVERLAPPED BY 150mm AND FOLDED. 4. FOR EXTRA STRENGTH TO SILT FENCE, WOVEN WIRE (14mm
- GAUGE, 150mm MESH SPACING) TO BE FASTENED SECURELY
- BETWEEN FILTER CLOTH AND POSTS BY WIRE TIES OR STAPLES 5. INSPECTIONS SHALL BE PROVIDED ON A REGULAR BASIS,
- ESPECIALLY AFTER RAINFALL AND EXCESSIVE SILT DEPOSITS
- REMOVED WHEN "BULGES" DEVELOP IN SILT FENCE SEDIMENT FENCES SHALL BE CONSTRUCTED WITH SEDIMENT

TRAPS AND EMERGENCY SPILLWAYS AT SPACINGS NO GREATER THAN 40m ON FLAT TERRAIN DECREASING TO 20m SPACINGS ON STEEP TERRAIN.

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Е	COUNCIL COMMENTS	30/03/2020	HUV	EHZ	JSF	Architect	Client	Scale			Certification By:	
D	COUNCIL COMMENTS	10/10/2019	HUV	EHZ	JSF	Proiect Work	Vladimir Vanovac					
С	COUNCIL COMMENTS	26/03/2019	HUV	EHZ	JAB	Design Pty		0	200 400	600mm	Cuthille -	
В	COUNCIL COMMENTS	27/02/2018	HUV	JTF	MBR	PO Box 5138, Chittaway	Council	╏┕───			Ho Turonh	- \
Α	ISSUE FOR DEVELOPMENT APPLICATION	30/11/2017	HUV	EHZ	MBR		Penrith City Council		SCALE 1:10 @ A1		1/200	AUSTRALI
sue	Description	Date	Drawn	Design		M : 0412 637 875					Anthony Hasham	CONSULTI

AUSTRALIAN CONSULTING ENGINEERS. JLTING SHOP 2-141 CONCORD RD NORTH STRATHFIELD NSW 2137 PH: (02) 9763 I500 FX: (02) 9763 I5I5 ENGINEERS. EMAIL: info@aceeng.com.au

WEEP HOLES-

IN SIDE OF PIT

| 110 - 112 MOUNT VERNON ROAD, MOUNT VERNON | MISCELLANEOUS PROPOSED CHILDCARE CENTRE STORMWATER CONCEPT PLAN DEVELOPMENT APPLICATION

TO OUTLET

SCREW CAP

DETAILS SHEET

105 As Shown 171195