

PROPOSED MULTI UNIT DEVELOPMENT

140-146 GLENHAVEN RD., GLENHAVEN

STORMWATER CONCEPT PLAN

DA ISSUE
NOT FOR CONSTRUCTION

SERVICES NOTES

HYDRAULIC SERVICES NOTES & PROJECT REQUIREMENTS

- THE CONTRACTOR SHALL READ AND FULLY FAMILIARISE THEMSELVES WITH THE HYDRAULIC PLANS, HYDRAULIC SPECIFICATION DOCUMENTS, AUSTRALIAN STANDARDS, AND AUTHORITY REQUIREMENTS APPLICABLE TO THE WORKS. CLAIMS DUE TO IGNORANCE OF THE CONTENTS OF HYDRAULIC SERVICES DOCUMENTS AND / OR REQUIREMENTS OF AUSTRALIAN STANDARDS (S1. AUTHORITY REQUIREMENTS WILL NOT BE ENTERED INTO.
- THE CONTRACTOR IS REQUIRED TO VISIT AND INSPECT EXISTING SITE STRUCTURES, SERVICES AND CONDITIONS OF THE SITE PRIOR TO SUBMITTING THEIR TENDER AND FAMILIARISE THEMSELVES WITH THE VISIBLE NATURE AND CONDITIONS OF THE SITE RELATIVE TO THE WORKS TO BE CARRIED OUT. CLAIMS DUE TO IGNORANCE OF EXISTING SITE CONDITIONS WILL NOT BE ENTERED INTO.
- THE HYDRAULIC SERVICES DRAWINGS AND SPECIFICATION SET OUT THE PROJECT REQUIREMENTS TO BE MET OVER AND ABOVE THE MINIMUM STANDARDS AS SET OUT BY THE RELEVANT AUSTRALIAN STANDARD APPLICABLE TO THAT SERVICE. THE CONTRACTOR SHALL MAKE DUE ALLOWANCE IN THEIR TENDER, AND WARRANTIES THAT THEY HAVE MADE DUE ALLOWANCE FOR ALL REQUIREMENTS NECESSARY FOR THE EXECUTION OF THE WORKS IN ACCORDANCE WITH THE STANDARDS AS SET OUT BY THE RELEVANT AUSTRALIAN STANDARD APPLICABLE TO THAT SERVICE. THE RELEVANT LOCAL AUTHORITY REQUIREMENTS AND FOR THOSE REQUIREMENTS AS SET OUT IN THE HYDRAULIC SERVICES DRAWINGS AND THE ACCOMPANYING SPECIFICATION.
- HYDRAULIC SERVICES DRAWINGS ARE TO BE READ IN CONJUNCTION WITH HYDRAULIC SERVICES SPECIFICATION AND DRAWINGS OF ALL OTHER DISCIPLINES FOR THIS PROJECT. IGNORANCE OF THE CONTENTS OF ANY DOCUMENT RELATIVE TO THE PROJECT SHALL NOT PROVIDE A BASIS FOR ANY VARIATION TO THE CONTRACT.
- ALLOW TO OBTAIN ALL APPROVALS AND PAY ALL FEES AND CHARGES TO ALL AUTHORITIES IN RELATION TO THE PROPOSED SERVICE INSTALLATIONS INDICATED ON THE DRAWINGS.
- ALLOW TO DISCONNECT & SEAL ALL REDUNDANT HYDRAULIC SERVICES RELATED TO THE INSTALLATION OF THE PROPOSED WORKS TO THE REQUIREMENTS OF THE RELEVANT AUTHORITY.
- ALL WORK BE CARRIED OUT IN ACCORDANCE WITH WATER & SEWER AUTHORITY REGULATIONS, SUPERINTENDENTS APPROVAL & HYDRAULIC SPECIFICATION.
- LOCATION OF FIXTURES SHALL BE IN ACCORDANCE WITH LATEST ARCHITECTURAL DRAWINGS.
- WIRING OF HWLS AND GPO/S FOR BOILING / CHILLED WATER UNIT BY ELECTRICAL CONTRACTOR.
- LIAISE WITH BUILDING SUPERINTENDENT TO ARRANGE SHUTDOWN AND ASSOCIATED WORKS.
- ALL PIPES FIXTURES & FITTINGS ARE TO BE FIRST QUALITY AND OF ONE MANUFACTURER. WRITTEN WARRANTIES ON WORKMANSHIP AND MATERIALS OF AT LEAST 1 YEAR REQUIRED FOR EACH UNIT. ALL UNITS SHALL BE SUBJECT TO A1 INSPECTION BY THE SUPERINTENDENT. ALL TO BE VANDAL PROOF.
- ALL FIXTURES ARE TO BE SUPPLIED AND INSTALLED BY THE HYDRAULICS SERVICES CONTRACTOR UNLESS SPECIFIED OTHERWISE.
- ON COMPLETION OF THE INSTALLATION ALLOW TO TEST THE FIXTURES FOR NORMAL OPERATION AND ADJUST AS NECESSARY.
- ALL FIXINGS SHALL BE PLUMB AND LEVEL AND NEATLY FINISHED IN A TRADESMAN LIKE MANNER AND WITHOUT DAMAGE.
- PROVIDE ALL MATERIALS AND LABOUR NECESSARY TO PROVIDE A COMPLETE, WORKING AND SERVICEABLE INSTALLATION BASED ON THE DRAWINGS, SPECIFICATION COORDINATION WITH THE STRUCTURE AND OTHER SERVICES PLUS ANY RELEVANT AUSTRALIAN STANDARDS.
- ALL MATERIALS USED IN THE WORK SHALL BE NEW AND OF THE BEST QUALITY AND TYPE AVAILABLE TO CONFORM WITH THE RELEVANT AUSTRALIAN STANDARDS AND BEAR THE REQUIRED STANDARDS MARK.
- FOR ALL PLUMBING AND DRAINAGE WORKS, AN APPLICATION SHALL BE LODGED AS REQUIRED BY THE SYDNEY WATER REGULATION 2000 SECTION 7 UNDER THE SYDNEY WATER ACT 1994. UPON COMPLETION, THE PLUMBER CARRYING OUT THE WORK SHALL SUBMIT TO THE PROJECT MANAGER THE SIGNED ORIGINAL OWNER'S COPY OF THE CERTIFICATE OF COMPLIANCE.
- ANY DAMAGE TO SERVICES DURING CONSTRUCTION SHALL REPAIRED IMMEDIATELY AT THE CONTRACTORS OWN EXPENSE.
- REFER TO SPECIFICATION FOR ADDITIONAL, SPECIFICATION NOTES, WORK INSTRUCTIONS, MATERIAL SPECIFICATIONS & STANDARDS.
- PIPE WORK SHALL BE CAPPED OFF AS WORK PROCEEDS TO PREVENT INGRESS OF DIRT, CONCRETE ETC. USE PROPRIETARY CAPS / PLUGS.
- ALLOW TO MAKE APPLICATION & PAY ALL FEES TO SYDNEY WATER TO OBTAIN A PERMIT TO UNDERTAKE PLUMBING & DRAINAGE WORKS AND FOR ALL SYDNEY WATER INSPECTIONS.
- PIPING SHOWN FOR CLARITY ONLY. ACTUAL POSITION TO BE DETERMINED AND COORDINATED ON SITE.
- ALL LEVELS AND DIMENSIONS SHOWN TO BE CHECKED ON SITE PRIOR TO COMMENCING ANY WORKS. REPORT ANY DISCREPANCIES TO THE SUPERINTENDENT.
- HYDRAULIC DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND ENGINEERING DRAWINGS.
- COORDINATE SERVICES WITH ALL OTHER TRADES AND WORKS ON SITE. THOROUGHLY INVESTIGATE THE EXTENT OF EXISTING SERVICES PRIOR TO COMMENCING WORKS ON SITE.
- DURING THE INSTALLATION, RECORD ALL CHANGES TO THE DESIGN DRAWINGS AND DIMENSION OF HIDDEN SERVICES FROM PERMANENT, VISIBLE LANDMARKS. AT THE COMPLETION OF THE WORKS PROVIDE THREE (3) SETS OF AS560 INSTALLED DRAWINGS AND ELECTRONIC FILES IN AUTOCAD DWG FORMAT ON CD.
- PROVIDE THREE (3) SETS OF OPERATION AND MAINTENANCE MANUALS FOR ALL SYSTEMS. THE MANUALS SHALL INCLUDE A BRIEF DESCRIPTION OF EACH SERVICE AND DETAILS OF ALL EQUIPMENT WARRANTIES AND MAINTENANCE PROCEDURES ASSOCIATED WITH THAT SERVICE. THE AS INSTALLED DRAWINGS AND ELECTRONIC FILES ARE TO BE INCLUDED IN THE MANUALS.
- ALL PIPEWORK AND ASSOCIATED VALVES AND EQUIPMENT WHICH ARE TO BE INSTALLED IN EXISTING BUILDINGS AND PENETRATING THROUGH EXISTING STRUCTURE ARE TO BE APPROVED BY THE SUPERINTENDENT PRIOR TO COMMENCEMENT OF WORKS.
- FIT ALL SLEEVES AND FIRE COLLARS WHERE NECESSARY FOR PIPES PASSING THROUGH FIRE RATED STRUCTURE. PIPEWORK SHALL BE HIDDEN FROM VIEW BY INSTALLATION IN WALLS, CEILING OR BURYING IN GROUND, WHERE PIPEWORK CANNOT BE HIDDEN FROM VIEW, OBTAIN APPROVAL FROM THE SUPERINTENDENT PRIOR TO INSTALLATION.
- EXPOSED PIPEWORK SHALL BE PAINTED AND LABELLED WITH PIPE MARKERS IN ACCORDANCE WITH AS 1345. PIPEWORK IN GROUND SHALL BE PROVIDED WITH MARKING TAPE IN THE TRENCH INDICATING THE SERVICE AND DIRECTION OF FLOW IN ACCORDANCE WITH AS 2846.
- TEST ALL SYSTEMS AS REQUIRED BY THE LOCAL AUTHORITIES AND RELEVANT AUSTRALIAN STANDARDS.
- ALLOW TO CO-ORDINATE FINAL LOCATIONS OF ALL PIPEWORK & EQUIPMENT WITH STRUCTURE & OTHER SERVICES PRIOR TO MANUFACTURE & INSTALLATION.
- ALLOW TO ACOUSTICALLY INSULATE ALL SANITARY & STORM WATER DRAINAGE INSTALLED IN ABOVE SOUND SENSITIVE AREAS (e.g. BEDROOMS, LIVING AREAS IN ACCORDANCE WITH THE BCA OR THE ACOUSTIC REPORT IF AVAILABLE.
- UNLESS OTHERWISE SPECIFIED, CORE HOLES ARE TO BE SLAB SEAL OR SIMILAR.
- WHERE PASSING THROUGH ROOF THE PIPES SHALL BE FLASHED IN AN APPROVED MANNER LEAVING THE ROOF WATER TIGHT. UNLESS OTHERWISE SPECIFIED ON NON-TRAFFICABLE ROOFS THE VENT SHALL TERMINATE A MINIMUM OF 300mm ABOVE ROOF AND ON TRAFFICABLE ROOFS THE VENTS SHALL TERMINATE 3000mm ABOVE ROOF.
- REFER TO ARCHITECTS PLANS FOR EXACT LOCATION & SET OUT OF PLUMBING FIXTURES & FITTINGS.
- ALL WORK SHALL BE CARRIED OUT BY AND UNDER THE SUPERVISION OF A LICENSED PLUMBER IN STRICT CONFORMITY WITH THE ARCHITECTURAL PLANS, HYDRAULIC DRAWINGS AND SPECIFICATIONS AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING CODE OF AUSTRALIA, LOCAL AUTHORITIES, AS 3500 AND OTHER RELEVANT AUSTRALIAN STANDARDS.
- WORK IS TO BE CARRIED OUT TO THE SATISFACTION OF THE PROJECT MANAGER.
- EXISTING SERVICES HAVE BEEN PLOTTED FROM SUPPLIED DATA. THE SUPERINTENDENT DOES NOT GUARANTEE THEIR ACCURACY. IT IS THE CONTRACTORS RESPONSIBILITY TO ESTABLISH THE LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCING WORK.
- UPON SIGNING THE CONTRACT, THE CONTRACTOR IS DEEMED TO HAVE VISITED SITE AND FAMILIARISED THEMSELVES WITH THE SITE, THE LOCATIONS & SIZES OF ALL EXISTING SERVICES AND THE EXTENT OF WORKS REQUIRED TO PROVIDE A COMPLETE, WORKING AND SERVICEABLE INSTALLATION BASED ON THE DRAWINGS, AND SITE CONSTRAINTS. VARIATIONS DUE TO OBVIOUS SITE CONSTRAINTS WILL NOT BE APPROVED.
- HYDRAULIC SERVICES CONTRACTOR SHALL PROVIDE A CERTIFICATE OF COMPLIANCE UPON COMPLETION OF WORKS FOR ALL SERVICES INSTALLED.
- THE CONTRACTOR SHALL ALLOW FOR AND PAY ALL FEES AND OBTAIN ALL AUTHORITY CLEARANCES INCLUDING SYDNEY WATER, COUNCIL AND GAS COMPANY.
- ALL PIPE PENETRATIONS AT WALLS SHALL BE FITTED WITH A PUDDLE FLANGE AND ALL WALL PENETRATIONS SHALL BE MADE GOOD AND WATER TIGHT.
- PRESSURE PIPE 'BLUE BRUTE' CLASS 20 TO AS 2977 WITH RUBBER RING JOINTS AND DUCTILE IRON FITTINGS EXCEPT WHERE PIPEWORK RUNS UNDERSIDE OF THE BUILDING.
- CAP OFF ALL REDUNDANT SERVICES AT THE AUTHORITY MAIN. ARRANGE INSPECTION WITH THE AUTHORITY PRIOR TO BACK FILLING AND MAKING GOOD THE SURFACE. PAY ALL ASSOCIATED FEES AND CHARGES.
- PROVIDE APPROVED FIRE STOP COLLARS TO THE REQUIREMENTS OF THE BCA AND RELEVANT AUSTRALIAN STANDARDS.
- DRAINS TO BE SUPPORTED ON OR FROM SOLID GROUND. LOCATION & DEPTH / INVERT LEVEL OF BRANCH SHALL BE VERIFIED ON SITE PRIOR TO COMMENCEMENT OF WORK.
- REUSED DRAINS UNDER BUILDINGS SHALL BE RETESTED WHERE DIRECTED BY SUPERINTENDENT.
- INSPECTION OPENINGS SHALL BE PROVIDED AT:
 - THE PROPERTY BOUNDARY
 - ON EACH WC OR BRANCH
 - AT MAX. 30m INTERVALS SPREAD EQUIDISTANT WHERE POSSIBLE
 - IMMEDIATELY UPSTREAM & DOWNSTREAM OF ALL JUMP-UPS
 - AS REQUIRED BY THE AUTHORITY FOR INSPECTION & MAINTENANCE
- ALL SERVICES THAT CROSS PAVEMENTS, FOOTING ETC SHALL BE BACKFILLED WITH GRANULAR MATERIAL TO SUBGRADE LEVEL & COMPACTED TO 95% M.M.D.D.
- PROVIDE 80mm COMPRESSIBLE MATERIAL OVER PIPEWORK WHERE CLEARANCE TO UNDERSIDE OF FOOTING IS LESS THAN 150mm UNLESS NOTED OTHERWISE.
- ON COMPLETION OF PIPE INSTALLATION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL CONDITION INCLUDING: KERBS, FOOTPATH, CONCRETE AREAS, GRAVEL AREAS & ROAD PAVEMENTS.
- CARE SHALL BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATION SHALL BE MADE OVER AUTHORITY SERVICES, TELSTRA OR ELECTRICAL SERVICES. EXCAVATE BY HAND IN THESE AREAS.
- THE PLUMBING CONTRACTOR SHALL OBTAIN ALL AUTHORITY APPROVALS & PAY ALL FEES.
- INVERT LEVELS SHOWN ARE INDICATIVE ONLY. CONFIRM ALL LEVELS ON SITE BEFORE COMMENCING INSTALLATION WORK.
- ACCESS PANEL ARE TO BE INSTALLED WHERE REQUIRED TO ACCESS CONTROL VALVES IN WATER LINES AS REQUIRED & INSPECTION OPENINGS ON STORMWATER & SEWER RISERS. ACCESS PANELS SHALL MATCH PROPOSED FINISH. REFER TO ARCHITECTURAL DRAWING FOR FINISHES.

Note

Allow to obtain approval and pay all fees and charges to all authorities in relation to the proposed service installations as indicated on the drawings.

Allow to provide " as-built " drawings on Autocad dwg compatible file format together with 2-off paper copies before final payment.

Existing services are located within the site for which documentation is not available.

Services shown on this plan have been plotted from plans and by field. These services and others that may exist may not be situated within registered easements or within standard footpath allocations.

It is the contractors responsibility to identify the locations of all services via electronic pipe locating prior to **ANY** construction works and to avoid disturbance of these services.

Allow to disconnect & cap off obsolete services at authority mains.

Contractor to provide work as executed plan prepared by a registered surveyor & provide certification that the stormwater drainage & detention system has been installed as per approved plans.

PIPELINE SYMBOL LEGEND

	LOOSE JUMPER CONTROL VALVE		AIR ADMITTANCE VALVE
	CHECK VALVE OR NON RETURN VALVE		FLOOR WASTE
	VALVE AND CAST IRON SURFACE BOX		ENWARE CSQ43 SHROUDED HOSETAP
	BALANCING VALVE		RECESSED IN WALL TRAPPED TUNDISH
	BALL VALVE		RAINWATER OUTLET
	BALANCING VALVE		WINDOW DRENCHER HEAD - 93°C TEMPERATURE RATING
	FLOAT VALVE		CIRCULATING PUMP
	SOLENOID VALVE		BACKFLOW PREVENTION DEVICE
	STRAINER		PRESSURE REDUCING VALVE
	EXPANSION JOINT		PRESSURE LIMITING VALVE
	FIRE HOSE REEL		THERMOSTATIC MIXING VALVE
	EXISTING STREET HYDRANT		WM WATER METER
	EXTERNAL FIRE HYDRANT		HWM HOT WATER METER
	YARD GULLY / OVERFLOW GULLY		GM GAS METER
	CLEAROUT		SERVICE RISER / DROPPER
	BOUNDARY TRAP		HOSE TAP
	INDUCT PIPE MICA FLAP		
	REFLUX VALVE		
	FLOW DIRECTION		
	CAPPED PIPE		
	FLOOR WASTE		
	BASKET ARRESTOR		
	INSPECTION / COVERED PIT		
	GRATED PIT		
	KERB INLET PIT		
	GRATED DRAIN		
	MANHOLE		
	HYDRANT BOOSTER VALVE		
	CONTROL PANEL		
	CONTINUATION OF SERVICE		
	OVERFLOW RELIEF GULLY		
	TUNDISH		
	CHECK VALVE/REFLUX VALVE OR NON RETURN VALVE		
	TRAP PRIMING VALVE		

SERVICE LEGEND

	EXISTING STORMWATER DRAINAGE
	EXISTING SEWER DRAINAGE/SANITARY PLUMBING
	EXISTING COLD WATER SERVICE
	EXISTING HOT WATER SUPPLY
	EXISTING GAS SERVICE
	EXISTING FIRE HYDRANT SERVICE
	EXISTING FIRE HOSE REEL SERVICE
	STORMWATER DRAINAGE
	SEWER DRAINAGE/SANITARY PLUMBING
	COLD WATER SERVICE
	RAINWATER / RECYCLED WATER REUSE SERVICE WATER SERVICE
	HOT WATER SUPPLY
	HOT WATER RETURN
	WARM WATER SERVICE
	GAS SERVICE
	FIRE HYDRANT SERVICE
	FIRE HOSE REEL SERVICE
	VENT PIPING
	TUNDISH DRAINAGE SERVICE
	SILT FENCE
	DENOTES EXISTING PAVED AREA TO BE SAWCUT AND REINSTATE

EXISTING SERVICES NOTES

1. SERVICES SHOWN ON HYDRAULIC PLANS HAVE BEEN PLOTTED FROM PLANS AND BY FIELD INSPECTION. THESE SERVICES AND OTHERS MAY NOT BE SITUATED WITHIN REGISTERED EASEMENTS OR WITHIN STANDARD FOOTPATH ALLOCATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO IDENTIFY THE LOCATIONS OF ALL SERVICES PRIOR TO CONSTRUCTION WORKS AND TO AVOID DISTURBANCE OF THESE SERVICES. THE CONTRACTOR IS ADVISED TO CONTACT THE 'DIAL BEFORE YOU DIG' SERVICE TO ASCERTAIN THE LOCATIONS OF ANY EXISTING AUTHORITY SERVICES.

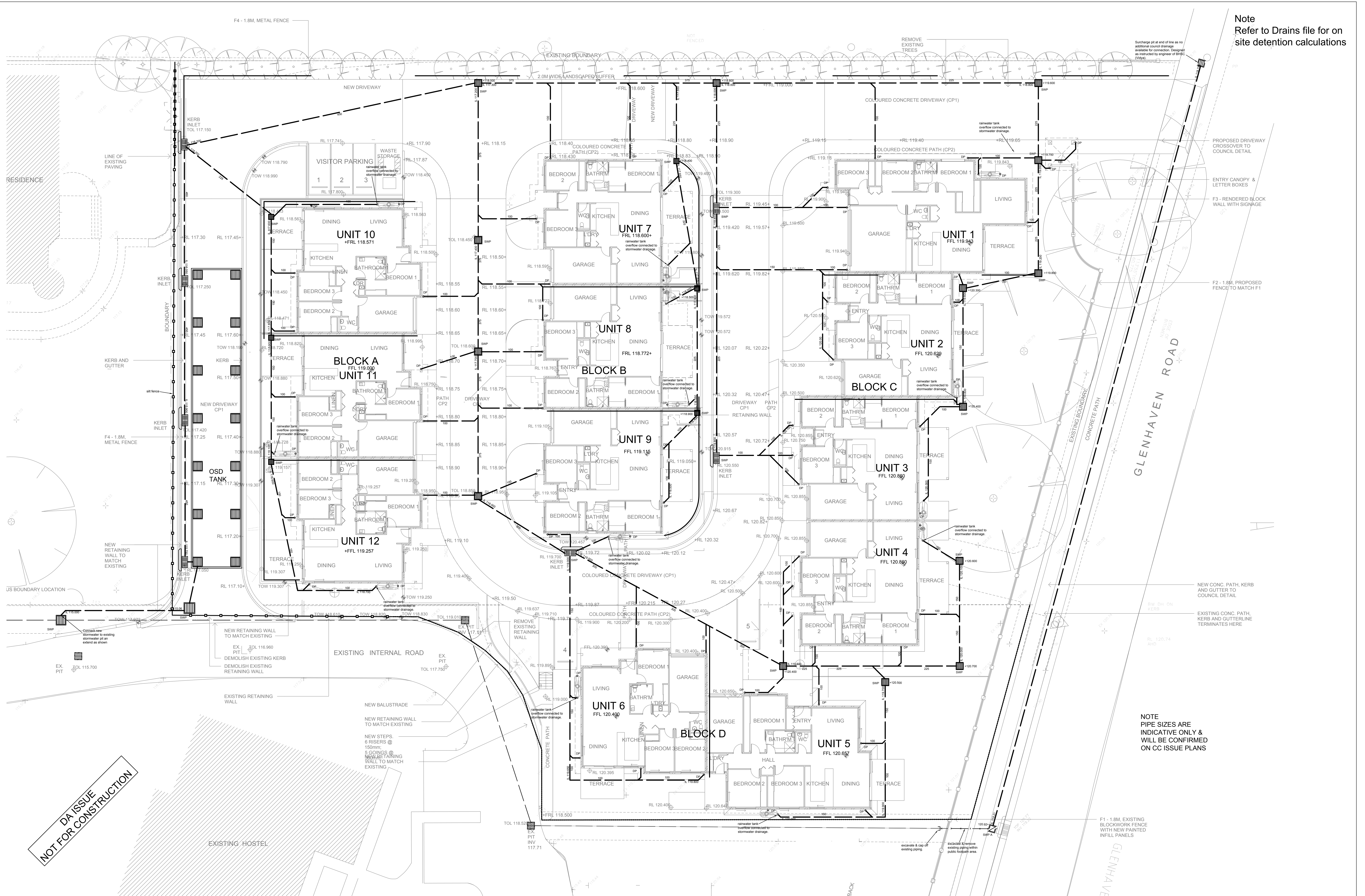
2. THE HYDRAULIC SUBCONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED. PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN APPROVAL OF THEIR PROGRAMME FOR THE RELOCATION/CONSTRUCTION OF TEMPORARY SERVICES.

3. HYDRAULIC SUBCONTRACTOR SHALL ALLOW TO CONSTRUCT NECESSARY SERVICES TO MAINTAIN SUPPLY TO EXISTING BUILDINGS REQUIRED TO REMAIN IN OPERATION TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL ALLOW TO REMOVE ALL TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.

4. INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE TO THE PRINCIPAL. CONTRACTOR TO GAIN APPROVAL OF SUPERINTENDENT FOR TIME OF INTERRUPTION.

Note
Hydraulic design plans
to be read in conjunction
with architectural plans.

			PROJECT ARCHITECT	HYDRAULIC CONSULTANT	CLIENT:	PROJECT:	TITLE:	STATUS:
			NBRs ARCHITECTURE	ABEL & BROWN PTY. LTD.	CHRISTIAN BRETHERN COMMUNITY SERVICES	PROPOSED MULTI DWELLING DEVELOPMENT	STORMWATER CONCEPT PLAN LEGEND & SERVICE NOTES	DA SUBMISSION
C	Aug.2017		Council Amendments	23 WARUNG STREET YAGOONA, NSW 2199		at		NOV 16
B	Apr.2017		DA Submission	M: 0403 360 810 F: 0204 4706 FAK 0796 2272		140-146 GLENHAVEN RD.,	SCALE: mbs@A1	PROJ: 2658
A	Nov.2016		Preliminary	E-mail: n@nvillebrown.com.au W: www.nvillebrown.com.au		GLENHAVEN, NSW	NO IN SET: 6	CHECKED: RB
REV	DATE		NOTATION/AMENDMENT				DRAWN: SB	APPROVED: NB
			DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE.					REV: C
			FIGURED DIMENSIONS TAKE PRECEDENCE.				FILE:	
							PLOTTED:	
								SHEET: H-01



Note
Refer to Drains file for on
site detention calculations

NOTE
PIPE SIZES ARE
INDICATIVE ONLY &
WILL BE CONFIRMED
ON CC ISSUE PLANS

DA ISSUE
NOT FOR CONSTRUCTION

REV	DATE	NOTATION/AMENDMENT
C	Aug 2017	Council Amendments
B	Apr 2017	DA Submission
A	Nov 2016	Preliminary
REV	DATE	NOTATION/AMENDMENT
DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE.		

PROJECT ARCHITECT	
NBR ARCHITECTURE	
SYDNEY 612-9922-2344	MELBOURNE 613-8676-0427

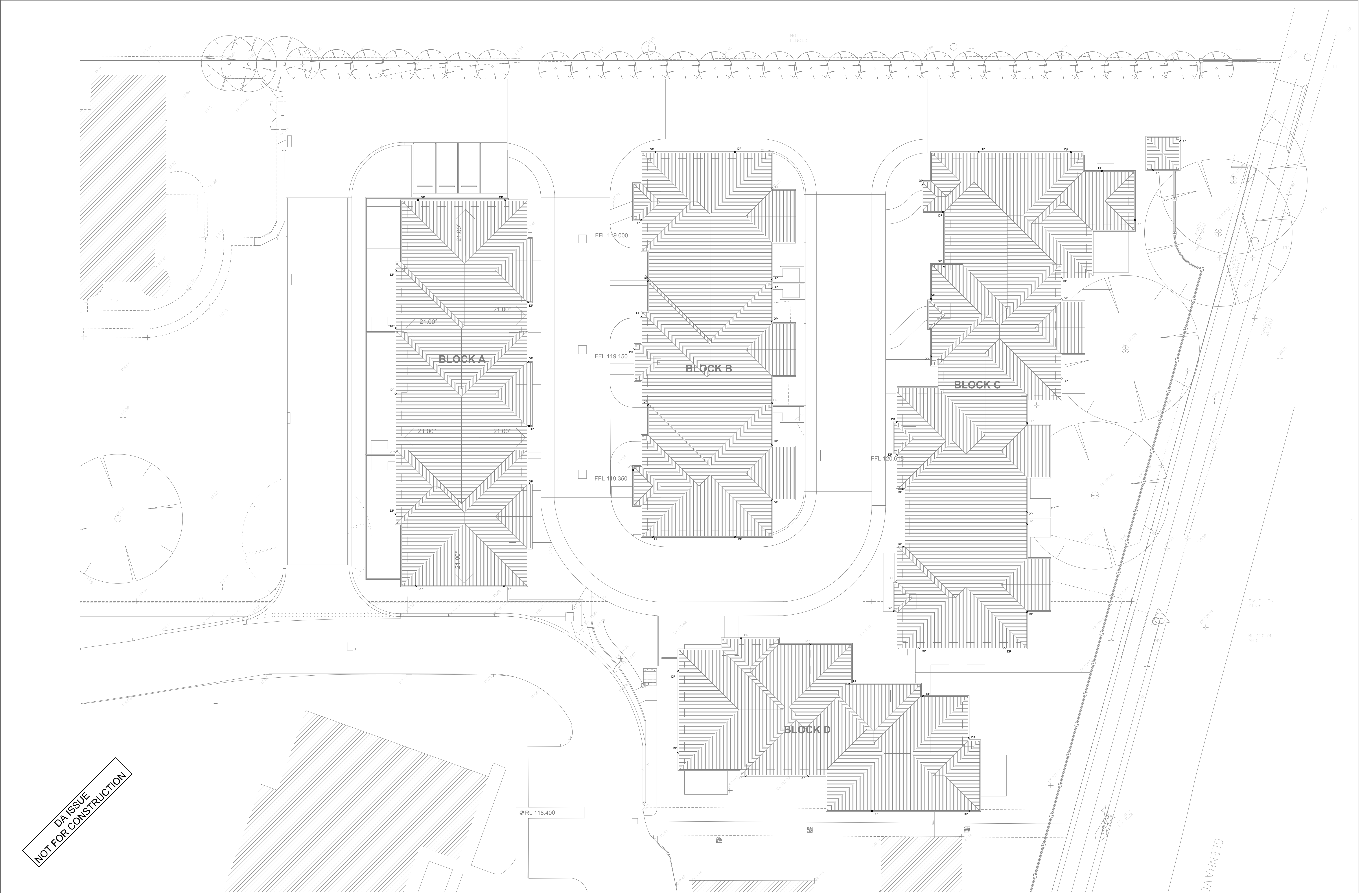
HYDRAULIC CONSULTANT	
ABEL & BROWN PTY. LTD.	
23 WARUNG STREET YAGOONA, NSW 2199 M: 040 390 810 T: 0789-0700 F: 0789-2272 E: mail@revlebrown.com.au W: www.revlebrown.com.au	

CLIENT:	
CHRISTIAN BROTHERN COMMUNITY SERVICES	

PROJECT:	
PROPOSED MULTI DWELLING DEVELOPMENT	
at 140-146 GLENHAVEN RD., GLENHAVEN, NSW	

TITLE:	
STORMWATER CONCEPT PLAN SITE PLAN	
FILE:	PLOTTED:

STATUS:	
DA SUBMISSION	
DATE: NOV 16	SCALE: 1:150@B1
NO IN SET: 6	PROJ: 2658
DRAWN: SB	CHECKED: RB
SHEET:	APPROVED: NB
REV: C	



C	Aug.2017	Council Amendments
B	Apr.2017	DA Submission
A	Nov.2016	Preliminary
REV	DATE	NOTATION/AMENDMENT
DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE.		

PROJECT ARCHITECT

NBRS ARCHITECTURE

SYDNEY

MELBOURNE

612-9922-2344

613-8676-0427

HYDRAULIC CONSULTANT

ABEL & BROWN PTY. LTD.

23 HANCOCK STREET | HAWKESBURY, NSW 2106

M: 0403 390 810 T: 9109-5705 FAX: 9756-2272

E: mail@nevillebrown.com.au W: www.nevillebrown.com.au

A&B
CIVIL
HYDRAULIC
FIRE

CLIENT:

CHRISTIAN BROTHEREN COMMUNITY SERVICES

PROJECT:

PROPOSED MULTI DWELLING DEVELOPMENT
at
140-146 GLENHAVEN RD.,
GLENHAVEN, NSW

TITLE:

**STORMWATER CONCEPT PLAN
DETAIL SHEET**

FILE:

PLOTTED:

STATUS:

DA SUBMISSION

DATE:
NOV 16

SCALE:
1:150@B1

PROJ:
2658

NO IN SET:
6

DRAWN:
SB

CHECKED:
RB

APPROVED:
NB

SHEET:


H-03

REV:

C



DA ISSUE
NOT FOR CONSTRUCTION

			PROJECT ARCHITECT		PROJECT: TITLE:		STATUS: DA SUBMISSION			
C	Aug.2017	Council Amendments	NBRS ARCHITECTURE SYDNEY 612-9922-2344 MELBOURNE 613-8676-0427		 ABEL & BROWN PTY. LTD. 23 MARION STREET YAGODINA NSW 2190 M: 0403 300 810 F: 0703 8705 FAX: 8796-2272 E: mail@nevillebrown.com.au W: www.nevillebrown.com.au		PROPOSED MULTI DWELLING DEVELOPMENT at 140-146 GLENHAVEN RD., GLENHAVEN, NSW		STORMWATER CONCEPT PLAN DETAIL SHEET	
B	Apr.2017	DA Submission								
A	Nov.2016	Preliminary								
REV	DATE	NOTATION/AMENDMENT	CLIENT: CHRISTIAN BRETHREN COMMUNITY SERVICES		PROJECT: PROPOSED MULTI DWELLING DEVELOPMENT at 140-146 GLENHAVEN RD., GLENHAVEN, NSW		FILE: PLOTTED:			
DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE.							NO DATE: NOV 16 SCALE: 1:1000 PROJ: 2658 NO 25 SET: 6 DRAWN: SB CHECKED: RB APPROVED: NB SHEET: H-04 REV: C			

DA ISSUE
NOT FOR CONSTRUCTION

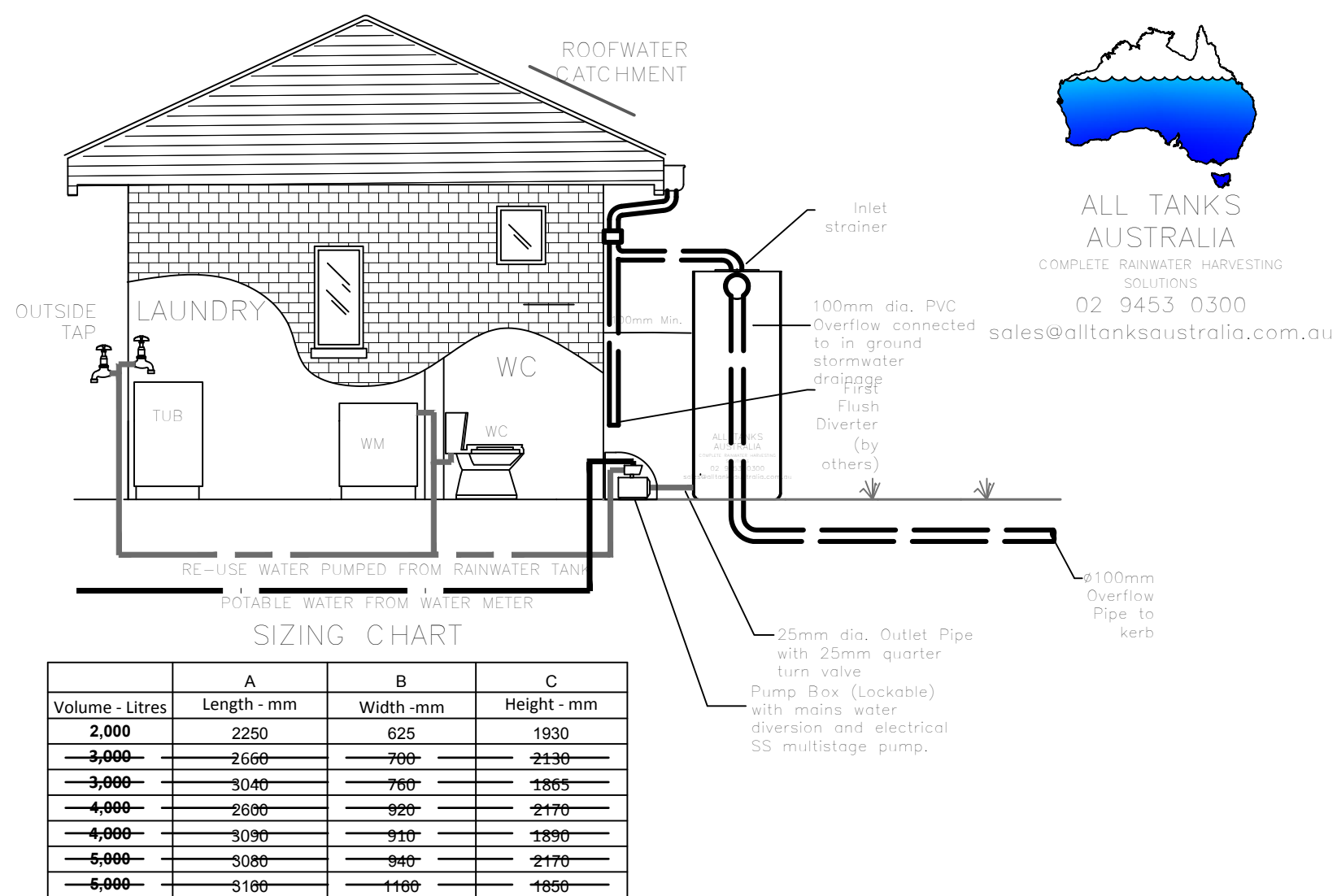
OSD Tank Signage



Colours
"DANGER" and background - White
Elliptical area - Red
Rectangle containing ellipse - Black
Other lettering and border - Black

Minimum Size - 187.5 mm x 250mm

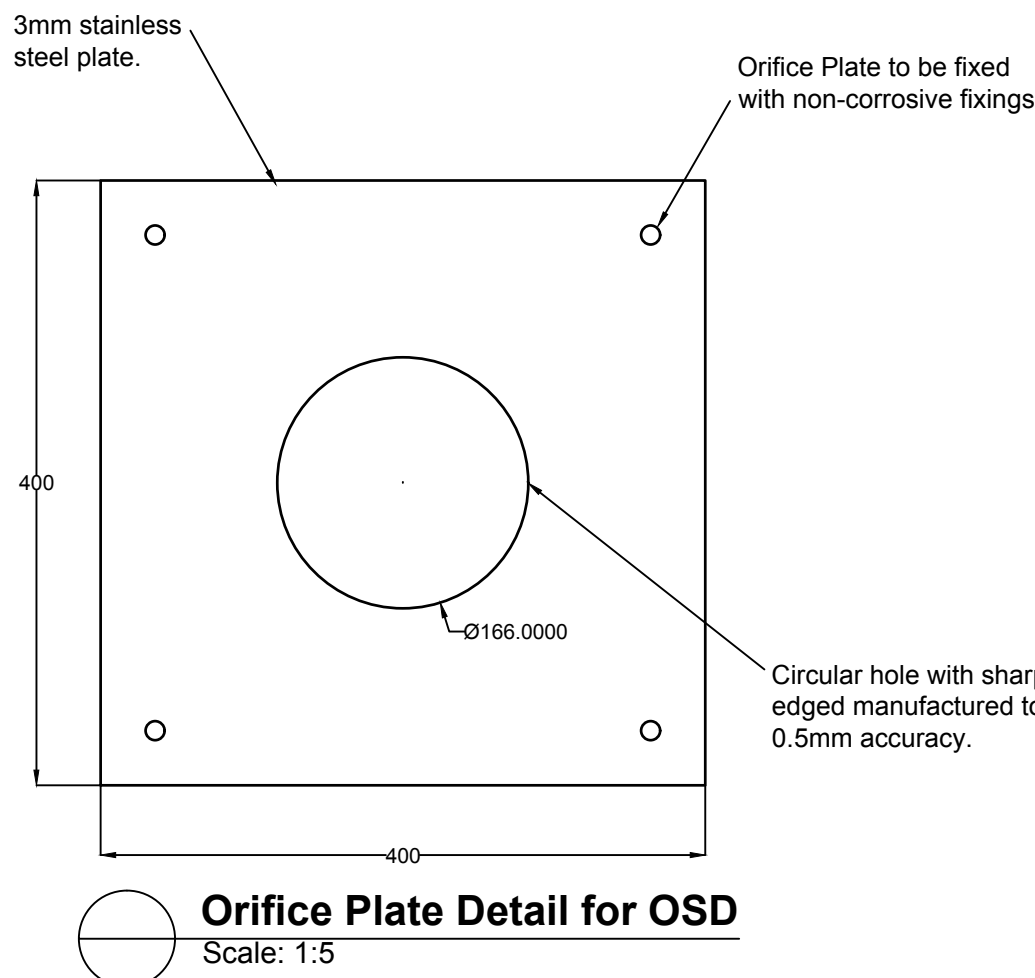
All downpipes draining to the detention system shall be made watertight below the maximum water storage level.
builder to arrange for final survey of all detention structures & as-built drawings as required for certification purposes.
Any proposed change to detention discharge control shall be submitted to consultant for approval prior to installation final drainage layout shall be marked on as-built drawings as required for certification & reference purposes any positive covenants or restriction-as-to-user legal instruments to be arranged & registered by surveyor or other approved agent.
Note: the builder shall ensure that all items indicated on the approved drawings (such as orifice plate at the correct level, removable debris screen, step rungs, etc) have been installed prior to final inspection & measurement by a registered surveyor or other approved agent. Engineering certification will not be issued if documented verification of critical items (including storage volume) is not provided.



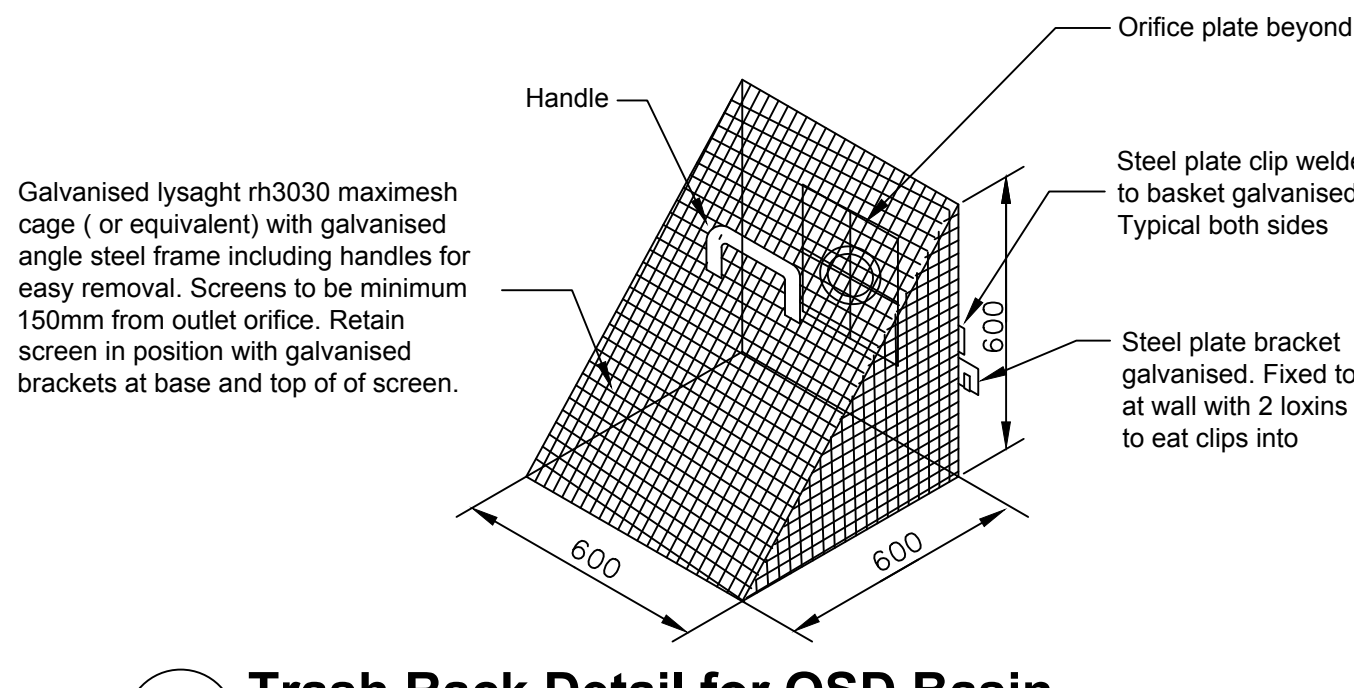
Rainwater Tank Installation Detail
Scale - NTS

Note
Refer to Drains file for on site detention calculations

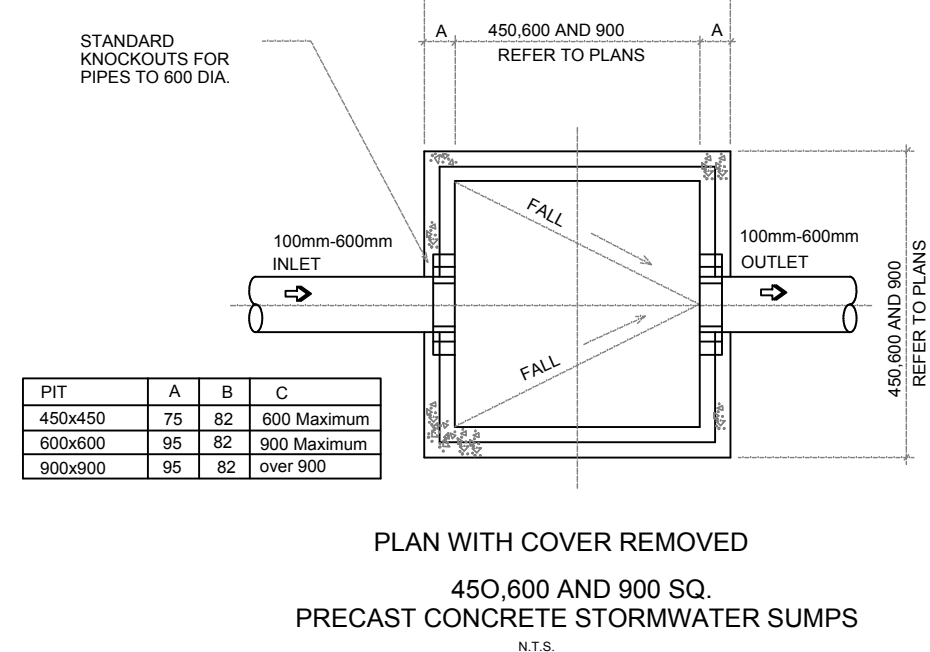
PARRAMATTA CITY COUNCIL On-Site Detention Calculation Sheet			
Hills Shire Council			
Project:	Proposed Multi-Unit Development		
Location:	144-145 Glenhaven Road, Glenhaven		
Designer:	Ross Brown		
Project No.			
OSD Area:	Full Site		
Total OSD Area:	0.7093 ha		
Site Area Considered	0.7093 ha		
Permissible Site Discharge	110 l/s/ha		
Site Storage Requirement	330 m ³ /ha		
Basic Storage Volume	238.32 m ³		
Basic Discharge	81.57 l/s		
Top Water Level	AHD 117.05 m		
Weir RL	AHD 116.40 m		
Orifice centre line RL	AHD 115.00 m		
Outlet discharge RL		AHD	
1% Flood level		AHD	
Area of Site to Storage	0.6873		
Percentage of Site	96.90		97%
Storage per ha of contributing area	346.76		
Volume/PSD Adjustment	121.65		
PSD for site	83.54		
Maximum Head to Orifice Centre	1.970 m		
Calculated Orifice Diameter	0.166 m		
Maximum discharge	83.54 l/s		
Head for high early discharge	1.320 m		
High Early Discharge	68.386 l/s		
Mean Discharge	75.965 l/s		
Average Discharge per Hectare	110.526		
Final Site Storage Ratio	374		
Site Storage Volume	256.72 m ³		
Volume Provided	257.60		100%
Checked By:	S Brown		
Date Checked:	28-Aug-17		
OSD Plan Number:			



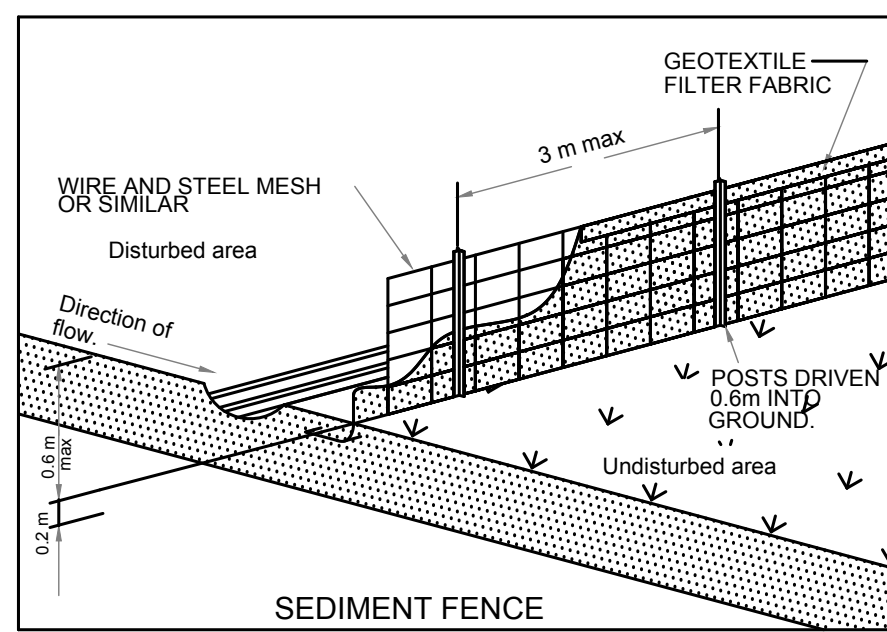
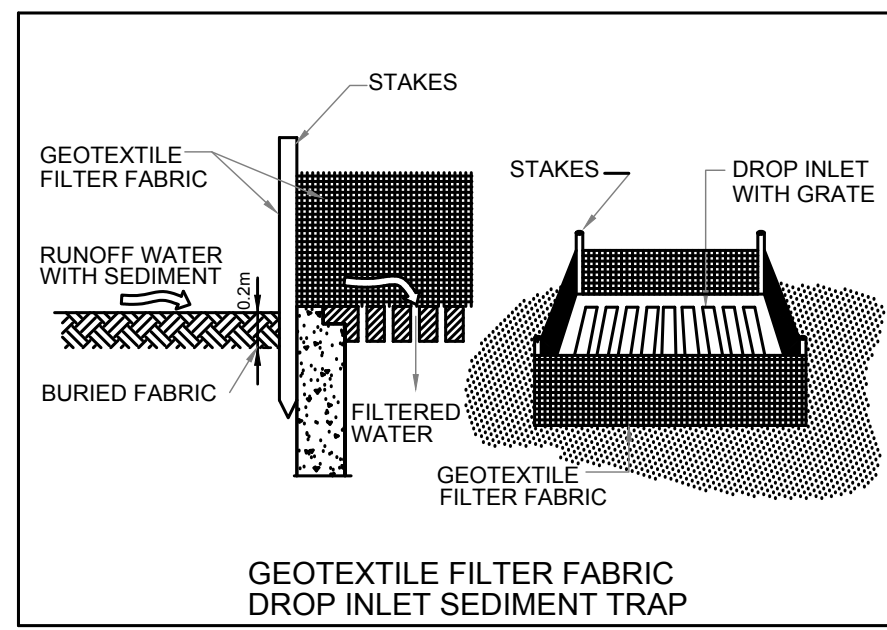
Orifice Plate Detail for OSD
Scale: 1:5



Trash Rack Detail for OSD Basin
Scale - NTS



Stormwater Pit Detail
Scale: NTS

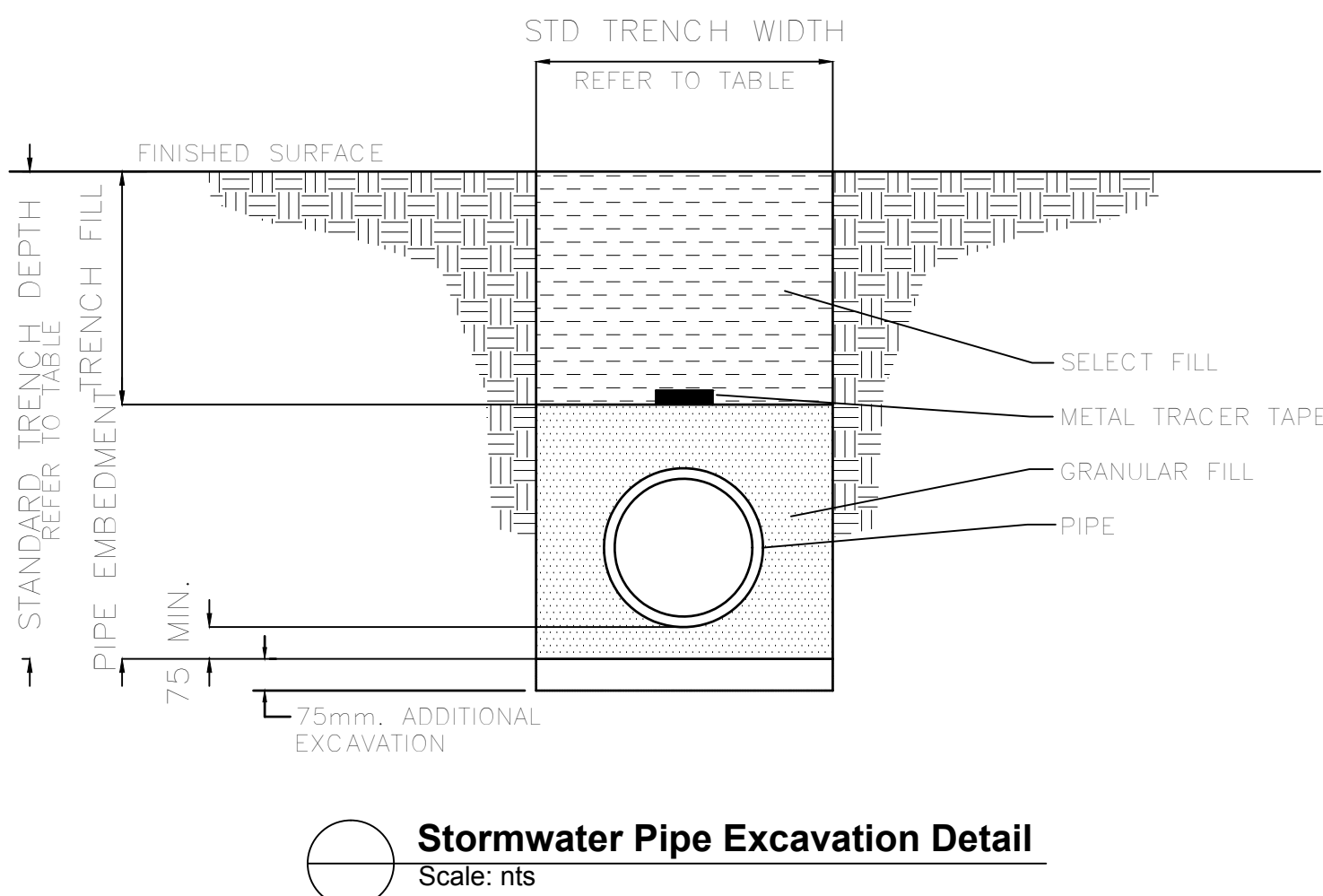


Sediment & Erosion Control Notes

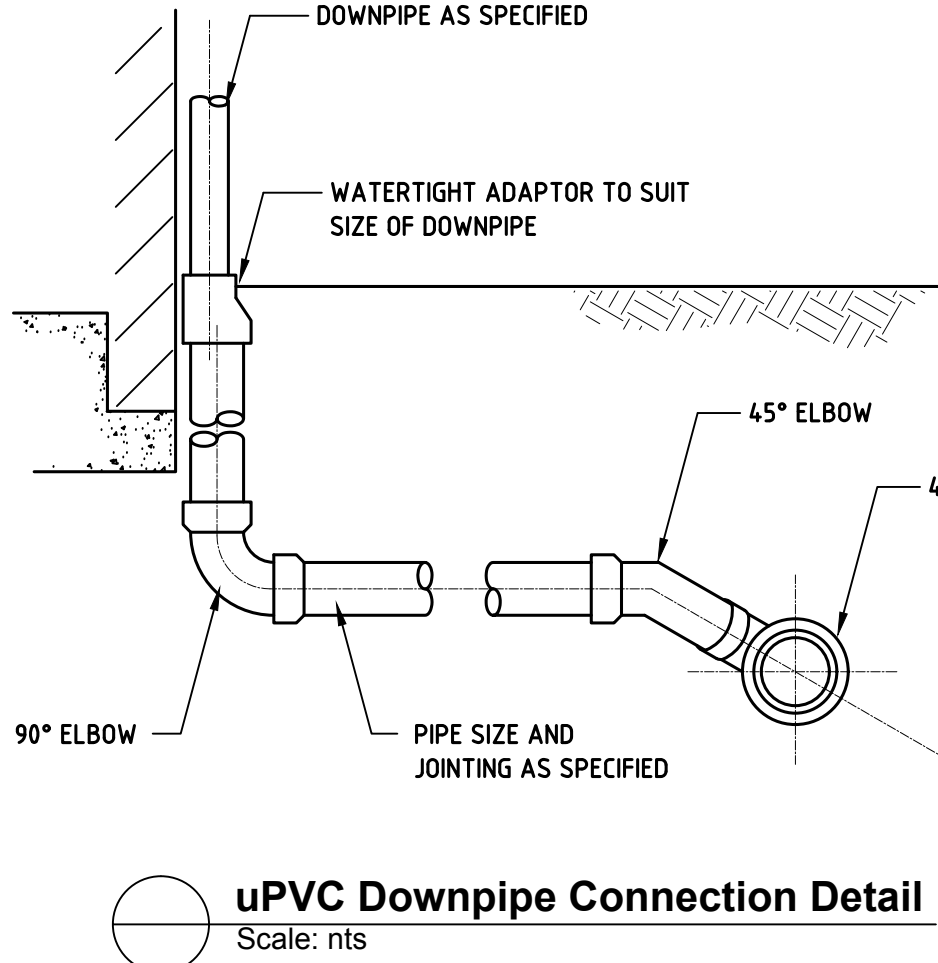
- The contractor shall implement all soil erosion and sediment control measures relating to a particular upstream catchment prior to stripping of topsoil from that catchment. Where it is necessary to undertake striping in order to construct a sediment control device only sufficient ground shall be stripped to allow construction.
- All soil erosion and sediment control measures shall be constructed and maintained as indicated on these drawings. Location and extent of soil and water management devices is diagrammatic only.
- Conformity with this plan shall in no way reduce the responsibility of the contractor to protect against water damage during the course of the contract. It shall be the contractors responsibility to ensure that any necessary control is in place even though such control may not be shown on the plan.
- The contractor shall inform all subcontractors and all employees of their responsibility in minimising the potential for soil erosion and pollution to downstream areas.
- The contractor shall regularly maintain sediment and erosion control structures and desilt such structures prior to the reduction in capacity of 30% due to accumulated silt. The sediment shall be disposed of on site in a manner approved by the Liverpool Council Erosion and Sediment Control Policy.
- Topsoil and spoil shall be stockpiled in non hazard areas and protected from surface runoff by diversion drains or similar. Stockpiles shall be surrounded on downstream sides by silt fencing. Stockpiles shall be suitable compacted to inhibit erosion. Where the stockpiling period exceeds four(4) weeks, the stockpile shall be seeded to encourage vegetation growth.
- Topsoil shall be respread and stabilised as soon as possible.
- The contractor shall temporarily rehabilitate within 40 days any disturbed areas. Where final shaping has occurred the contractor shall provide final rehabilitation within 20 days.
- The contractor shall provide a turf strip behind all kerb and gutter at completion of footpath formation.
- The contractor shall maintain gross cover until all works have been completed, including the maintenance period, by frequent watering and mowing where required. Plant machinery and vehicles shall not be driven over grassed areas unless on an approved haulage route.
- Seed mixtures and stabilisation procedures shall be in accordance with the NSW department of housing 'Soil and water management for Urban Development', January 1993 and construction specification.
- The contractor shall provide inlet sediment traps at all pits during construction.
- All drainage works shall be constructed and stabilised as quickly as possible to minimise risk of erosion.
- Vehicular traffic shall be controlled during construction confining access where possible to proposed or existing road alignments plus 3 metres where necessary areas to be left undisturbed shall be marked off.
- Site access shall be restricted to a nominated point. The construction of a shake down area may be required depending upon soil conditions.
- The contractor shall maintain dust control throughout the duration of the project.

OSD Maintenance Requirements

Maintenance Action	Frequency	Responsibility	Procedure
Discharge Control Pit			
Inspect D walls for cracks or spalling	Annually	Maintenance Contractor	Remove grate to inspect internal walls. Repair as required. Clear vegetation from external walls and repair as required.
Inspect D sump & remove any sediment	Six monthly	Owner	Remove grate and screen. Remove sediment and check orifice and flap valve are clear.
Inspect grate for damage or blockage	Six monthly	Owner	Check both sides of the grate for corrosion, damage or blockage.
Inspect return pipe from storage & remove any blockage.	Six monthly	Owner	Remove grate and screen. Ventilate underground storage if present. Open flap valve and remove any blockages in return line. Check for any sediment on upstream side of return line.
Inspect outlet pipe & remove any blockage	Six monthly	Maintenance Contractor	Remove grate and screen. Ventilate underground storage if present. Check orifice and remove any blockages in outlet pipe. Flush outlet pipe to confirm it drains freely. Check for sludge on upstream side of outlet pipe.
Check step irons for corrosion	Annually	Maintenance Contractor	Remove grate. Examine step irons and repair any corrosion or damage.
Check fixing of step irons is secure	Six monthly	Maintenance Contractor	remove grate and ensure fixings are secure prior to placing weight on step irons.
Storage			
Inspect return pit & remove any sediment in pit.	Annually	Maintenance Contractor	Remove Grate. Remove built up sediment.
Inspect internal return pit walls for cracks or spalling	Annually	Maintenance Contractor	Remove grate to inspect internal walls. Repair as required. Clear vegetation from external walls and repair as required.
Inspect and remove any debris blocking grates of pits.	Six monthly	Owner	Remove blockages from grate and check if pit is blocked.

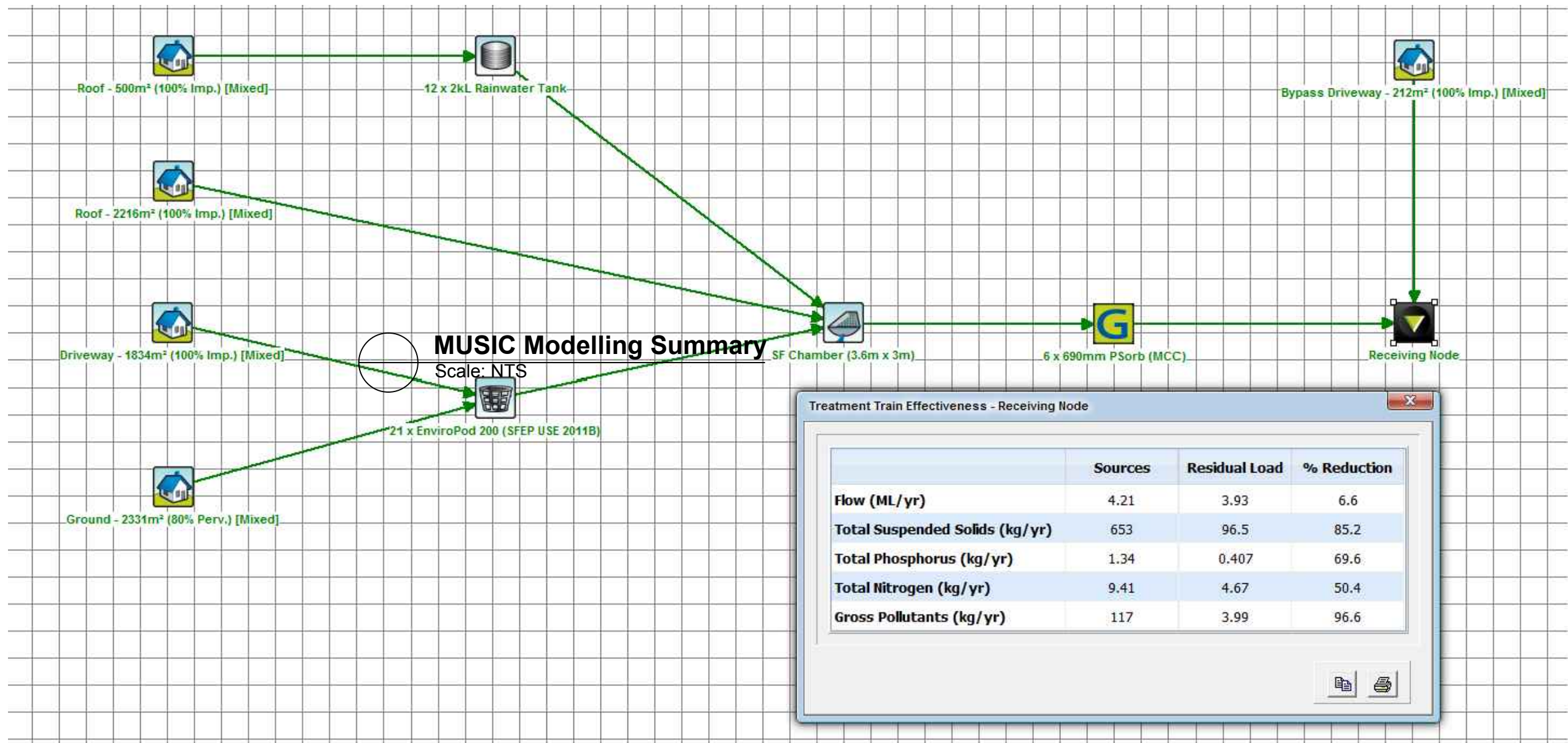


Stormwater Pipe Excavation Detail
Scale: nts



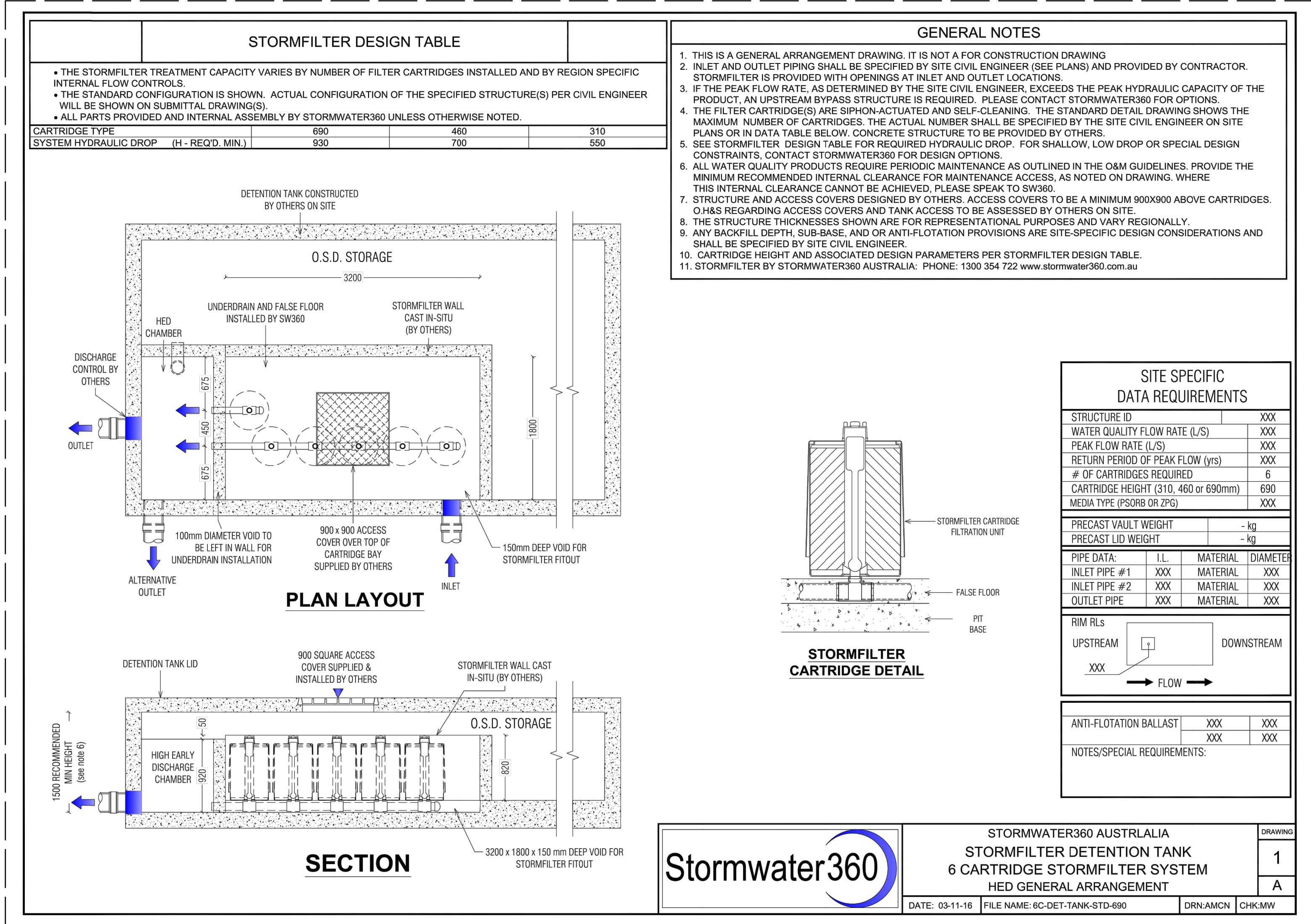
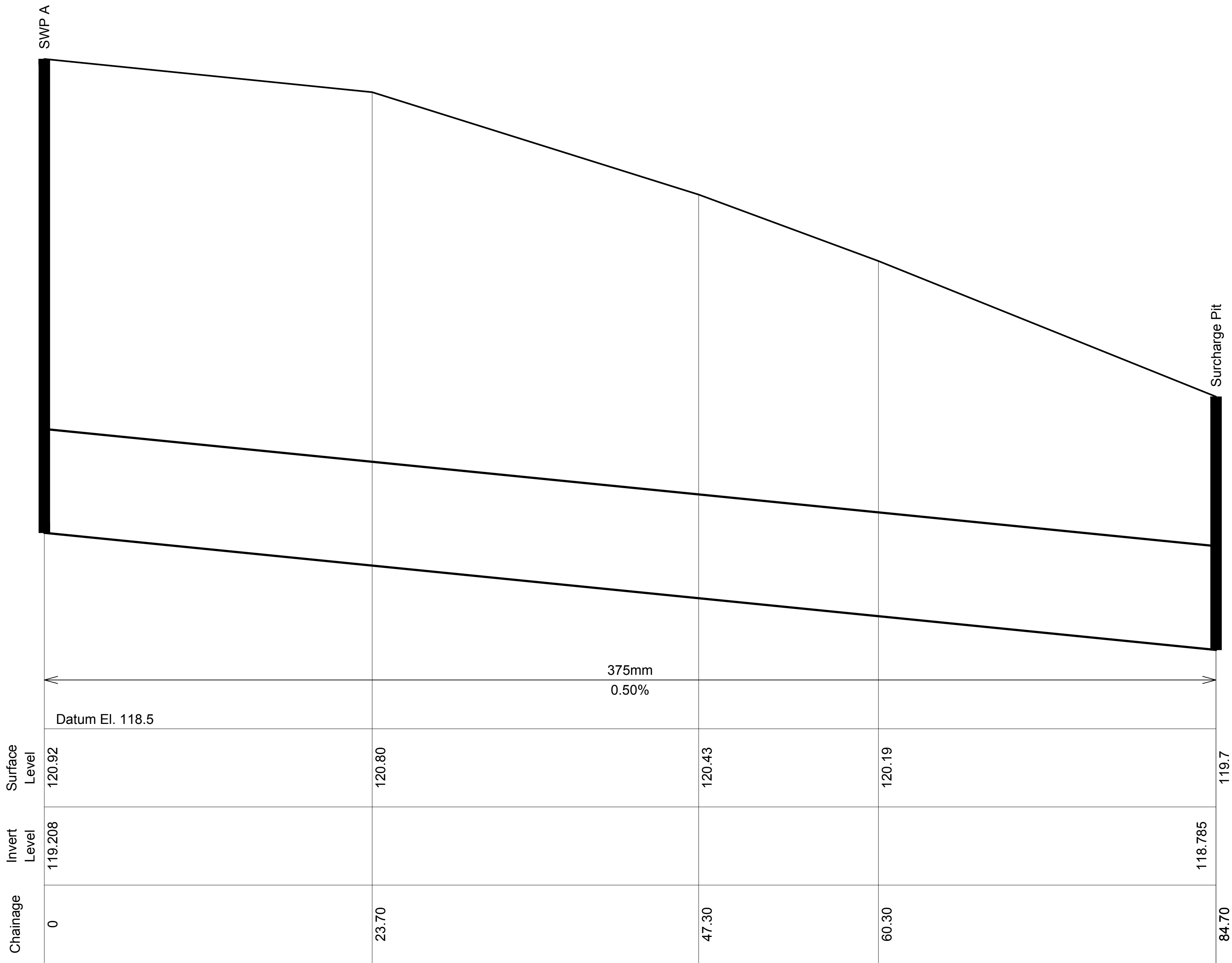
uPVC Downpipe Connection Detail
Scale: nts

				PROJECT ARCHITECT				HYDRAULIC CONSULTANT				CLIENT:				PROJECT:				TITLE:				STATUS: DA SUBMISSION					
C	Aug 2017	Council Amendments		NBR ARCHITECTURE				ABEL & BROWN PTY. LTD. 23 WARRING STREET, YAGOONA, NSW 2189 M: 0403 390 810 T: 0199 4705 FAX: 0199 4272 E: mail@nevillebrown.com.au W: www.nevillebrown.com.au				CHRISTIAN BRETHREN COMMUNITY SERVICES				PROPOSED MULTI DWELLING DEVELOPMENT at 140-146 GLENHAVEN RD., GLENHAVEN, NSW				STORMWATER CONCEPT PLAN DETAIL SHEET				DATE:		SCALE:		PRD:	
B	Apr 2017	DA Submission																						NOV 16		nts@B1		2658	
A	Nov 2016	Preliminary																											
REV	DATE	NOTATION/AMENDMENT		SYDNEY 612-9922-2344				MELBOURNE 613-8676-0427												FILE:		PLOTTED:		SHEET:		REV:			
DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE.																								H-05		C			



DA ISSUE
NOT FOR CONSTRUCTION

MUSIC Modelling Summary
Scale: NTS



			PROJECT ARCHITECT	HYDRAULIC CONSULTANT	CLIENT:	PROJECT:	TITLE:	STATUS:
			NBR ARCHITECTURE	ABEL & BROWN PTY. LTD.	CHRISTIAN BRETHEREN COMMUNITY SERVICES	PROPOSED MULTI DWELLING DEVELOPMENT	STORMWATER CONCEPT PLAN DETAIL SHEET	DA SUBMISSION
C	Aug 2017	Council Amendments	SYDNEY	23 WARUNG STREET YAGOONA, NSW 2199		at		NOV 16
B	Apr 2017	DA Submission	MELBOURNE	M 0403 390 810 T: 0758 4705 FAX 0758 2372		140-146 GLENHAVEN RD.,		SCALE: as shown
A	Nov 2016	Preliminary	612-9922-2344	E - mail@revlebrown.com.au W - www.revlebrown.com.au		GLENHAVEN, NSW		PROJ: 2658
REV	DATE	NOTATION/AMENDMENT						CHECKED: RB
DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE.								APPROVED: NB
FIGURED DIMENSIONS TAKE PRECEDENCE.								REV: C