







# STORMWATER MANAGEMENT PLANS

## PROPOSED NEW RESIDENTIAL DEVELOPMENT

### No.21 BROWN STREET, FORESTVILLE NSW 2087

#### LEGEND

	GRATED INLET PIT
450x450	450mm SQUARE INTERNAL
GRT 75.54	GRATE LEVEL = RL 75.54
IL 75.12	INVERT LEVEL = RL 75.12
○ IO	INSPECTION OPENING CAP
○ DP	PROPOSED DOWNPIPE 90mm dia or 100mm x 50mm RECTANGULAR UNO
	EXISTING TREE
	GRATED TRENCH DRAIN
	GRATED ROUND OUTLET 100mm DIAMETER
	PROPOSED DOWNPIPE SPREADER
	STRUCTURE No 1 (FOR HYDRAULIC CALCS)
---	STORMWATER DRAINAGE
-.-.-	100 DIA CHARGED/1% MIN ROOF AREA ONLY UNO

#### NORTHERN BEACHES COUNCIL'S STORMWATER MANAGEMENT DESIGN REQUIREMENTS

DESIGN CODE: WARRINGAH COUNCIL'S ONSITE STORMWATER DETENTION TECHNICAL SPECIFICATION REVISED AUGUST 2012.

PROPOSED DEVELOPMENT: NEW SINGLE DWELLING  
SITE AREA= 792m<sup>2</sup>

SITE COVERAGE= 310/792 = 39%

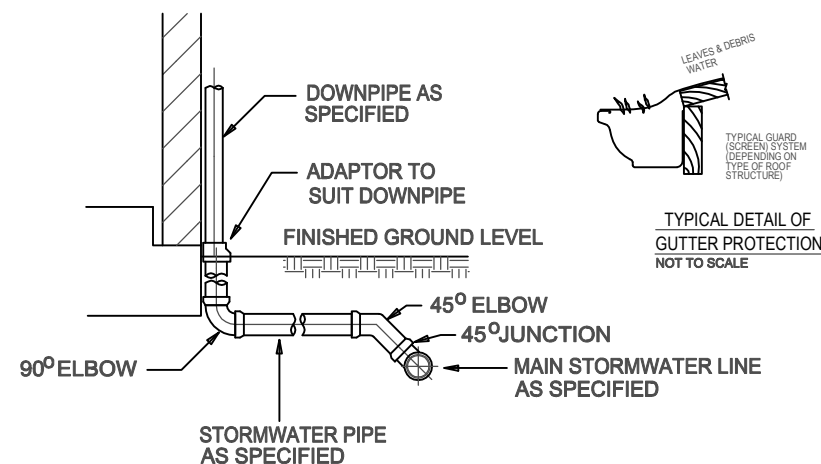
THEREFORE OSD IS NOT REQUIRED.

COLLECT THE WHOLE ROOF AREA OF THE NEW DWELLING AND DISCHARGE INTO AN ABOVE GROUND RAINWATER TANK OF 5000 LITRES LOCATED ON THE WESTERN SIDE OF THE NEW DWELLING. THE DISCHARGE/OVERFLOW FROM THIS TANK SYSTEM INCLUDING THE DRIVEWAY RUNOFF AND SURROUNDING IMPERVIOUS/ PERVIOUS SURFACES ALL DRAIN TO THE KERB & GUTTER ON BROWN STREET.

DESIGN BASED ON AR & R, AS3500 & RELEVANT STORMWATER MANAGEMENT CODE.

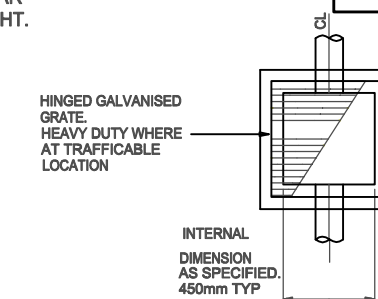
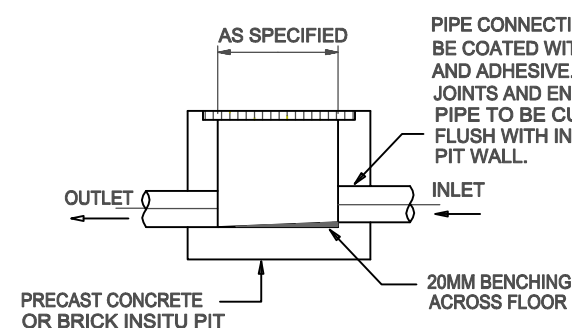
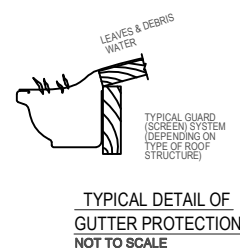
#### GENERAL NOTES

1. FINAL LOCATION OF NEW DOWNPIPES TO BE DETERMINED BY BUILDER/ARCHITECT AT TIME OF CONSTRUCTION.
2. THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTS AND OTHER CONSULTANTS DRAWINGS. ANY DISCREPANCIES TO BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH WORK.
3. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH AS/NZS 3500.3:2003 STORMWATER DRAINAGE, BCA AND LOCAL COUNCIL POLICY/CONSENT/REQUIREMENTS.
4. ALL DIMENSIONS AND LEVELS TO BE VERIFIED BY BUILDER ON-SITE PRIOR TO COMMENCEMENT OF WORKS. THESE DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS NOR TO BE USED FOR SETOUT PURPOSES.
5. ALL SURVEY INFORMATION AND PROPOSED BUILDING AND FINISHED SURFACE LEVELS SHOWN IN THESE DRAWINGS ARE BASED ON LEVELS OBTAINED FROM DRAWINGS BY OTHERS.
6. THESE DRAWINGS DEPICT THE DESIGN OF SURFACE STORMWATER RUNOFF DRAINAGE SYSTEMS ONLY AND DO NOT DEPICT ROOF DRAINAGE OR SUBSOIL DRAINAGE SYSTEMS UNLESS NOTED OTHERWISE. THE DESIGN OF ROOF AND SUBSOIL DRAINAGE SYSTEMS IS THE RESPONSIBILITY OF OTHERS.
7. ALL STORMWATER DRAINAGE PIPES ARE TO BE 100mm DIAMETER uPVC AT MINIMUM 1% GRADE UNLESS NOTED OTHERWISE.
8. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND LEVEL ALL EXISTING SERVICES OR OTHER STRUCTURES WHICH MAY AFFECT/BE AFFECTED BY THIS DESIGN PRIOR TO COMMENCEMENT OF WORKS.
9. ALL PITS WITHIN DRIVEWAYS TO BE 150mm THICK CONCRETE OR EQUAL.
10. THIS PLAN IS THE PROPERTY OF EZE DRAINAGE SOLUTIONS PTY LTD AND MAY NOT BE USED OR REPRODUCED WITHOUT WRITTEN PERMISSION FROM EZE DRAINAGE SOLUTIONS PTY LTD..



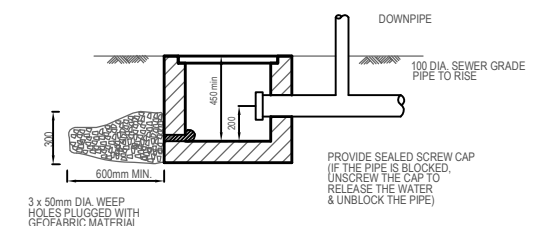
TYPICAL DETAIL - DOWNPIPE CONNECTION

NOT TO SCALE



TYPICAL DETAIL - STANDARD PIT

NOT TO SCALE



TYPICAL DETAIL - CHARGED SYSTEM CLEANOUT PIT

NOT TO SCALE

A	12.06.20	DA ISSUE
ISS	DATE	AMENDMENT

ARCHITECT/BUILDER  
ALLCASTLE HOMES

CLIENT  
MR. VERYINIS

#### EZE DRAINAGE SOLUTIONS

Pty Ltd ACN 619 135 198

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Fax: (02) 94754315

CONSULTING ENGINEERS  
CIVIL & STORMWATER MANAGEMENT

Mobile: 0405507654  
Email : info@ezeeng.com.au

DWG TITLE  
COVER SHEET & CALCULATION TABLE

PROJECT TITLE  
PROPOSED NEW RESIDENTIAL DEVELOPMENT  
No.21 BROWN STREET, FORESTVILLE NSW 2087

DESIGNED BY :

EZ

ISSUED BY :



BE MIE Aust PENG

JOB No	DWG No	No IN SET	ISSUE
19021	D1	4	A

**BASIX COMMITMENT**  
PROPOSED DWELLING TO HAVE A  
2000 LITRE (MINIMUM)  
RAINWATER TANK TO BE  
CONNECTED 200m<sup>2</sup> OF ROOF  
AREA IN ACCORDANCE WITH  
BASIX REQUIREMENTS.

**NOTE**  
THIS DRAWING IS TO BE READ  
IN CONJUNCTION WITH  
ARCHITECTURAL DRAWINGS :  
**ALLCASTLE HOMES**  
**JOB NO.6217 ISSUE A**  
**DATED 20.05.2020**

100 DIA ROOF ONLY.  
CHARGED LINE PRESSURE GRADE  
uPVC SOLVENT WELDED.  
NOTE CHARGED SYSTEM TO BE  
FULLY SEALED FROM TANK INLET  
TO ROOF GUTTER LEVEL.  
ROOF GUTTER RL = 109.90, 112.60  
TANK INLET RL = 109.10  
DIFFERENTIAL HEAD = 0.80 , 3.50  
SUFFICIENT TO DRIVE SYSTEM.

**WARNING**  
LOCATION AND DEPTH OF ALL  
UNDERGROUND SERVICES TO  
BE INVESTIGATED WITH THE  
RELEVANT AUTHORITIES PRIOR  
TO COMMENCING WORKS.



**NOTE**  
THIS DRAWING IS FOR STORMWATER  
MANAGEMENT DESIGN AND DOES  
NOT COVER ANY OVERLAND FLOW  
DESIGN REQUIREMENTS.

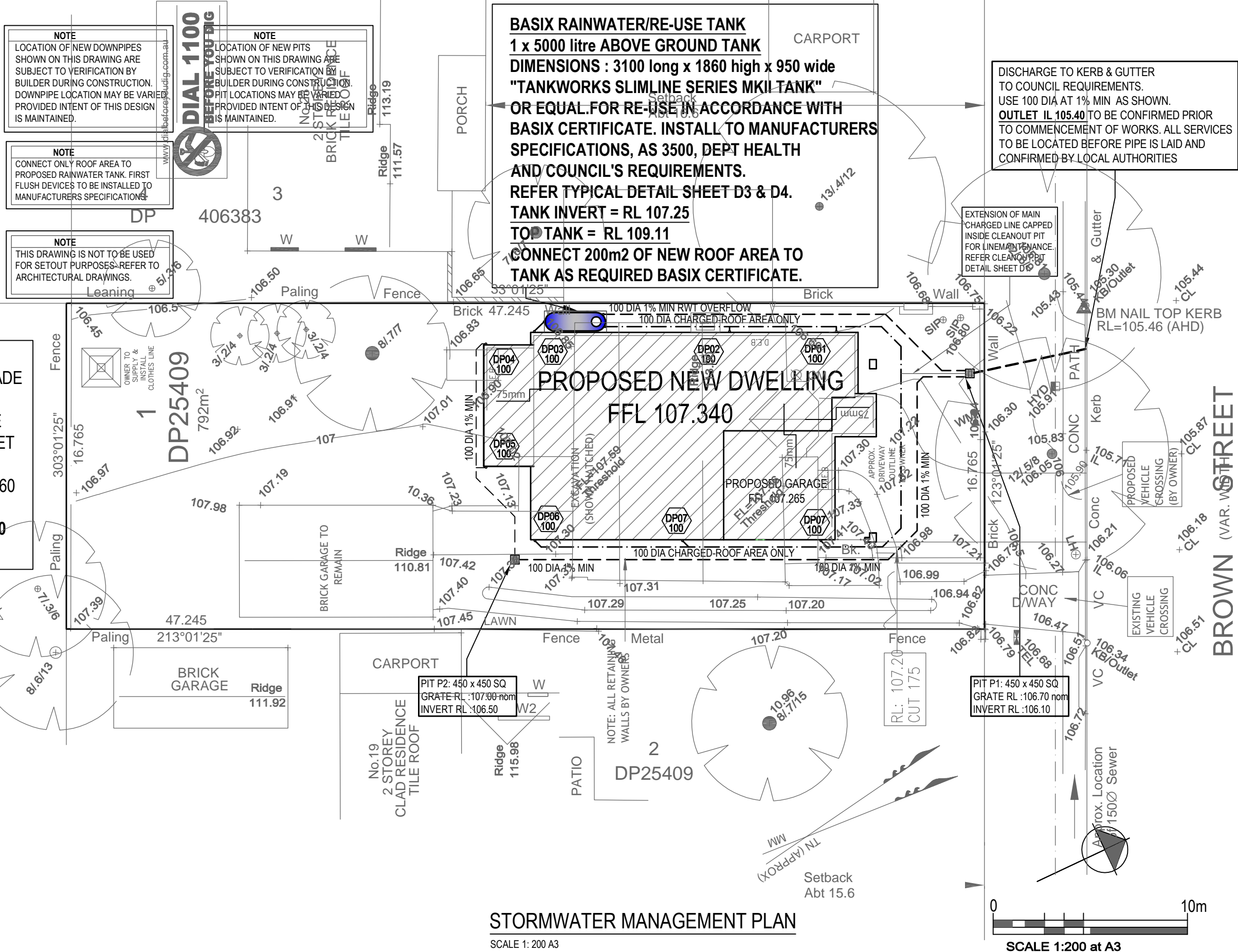
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PROJECT TITLE  
**PROPOSED NEW RESIDENTIAL DEVELOPMENT**  
**No.21 BROWN STREET, FORESTVILLE NSW 2087**

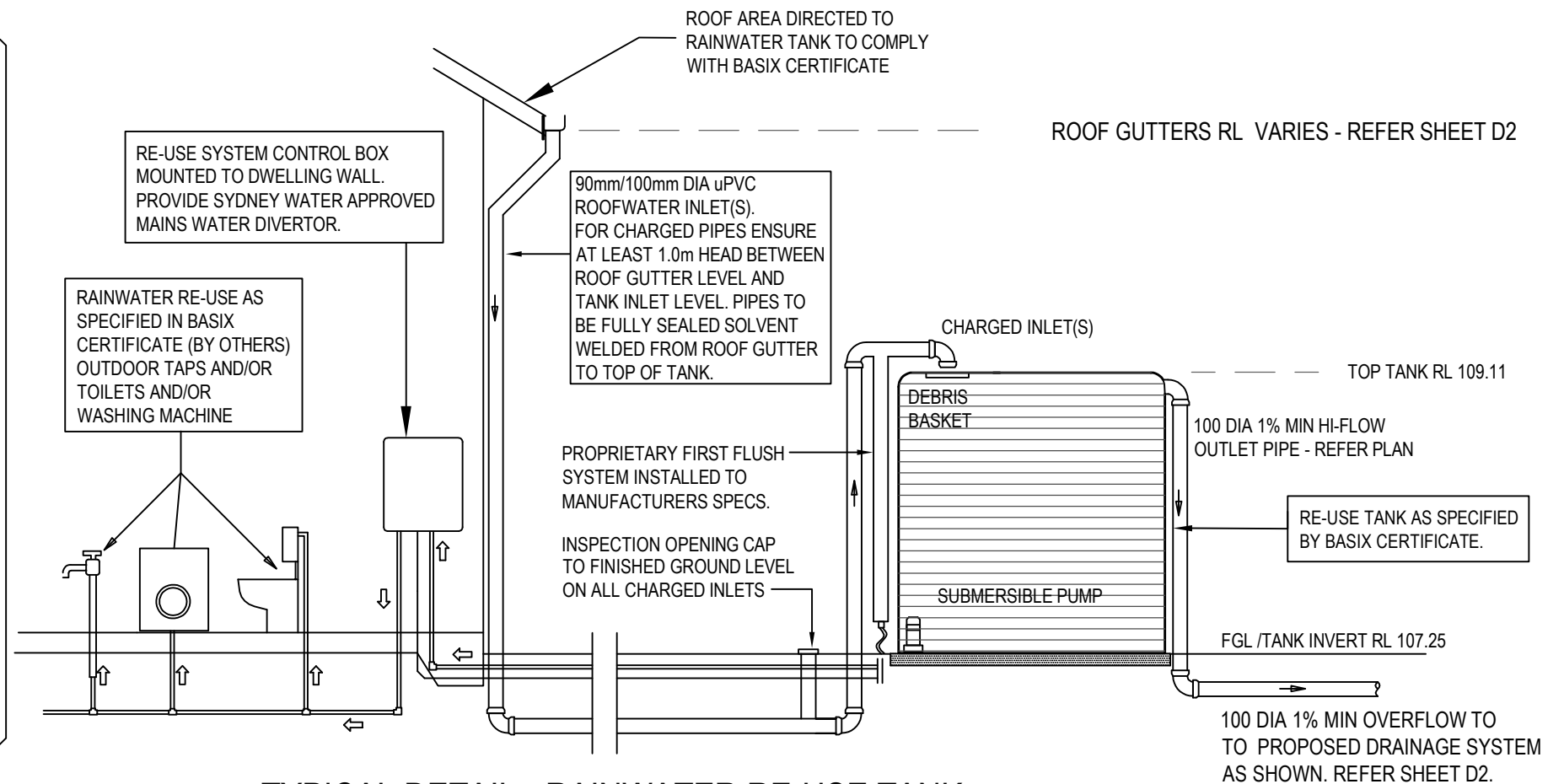
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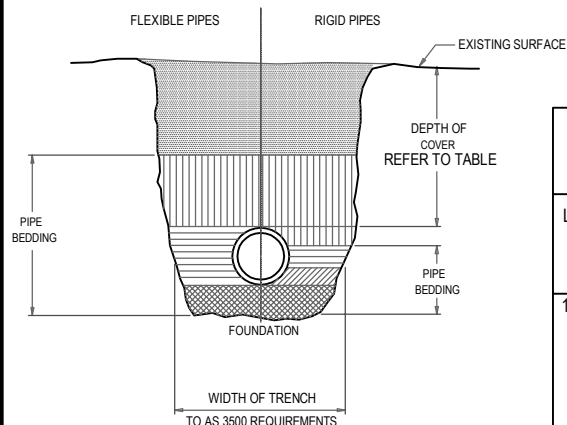
## RAINWATER RE-USE SYSTEM NOTES

- TOWNWATER CONNECTION TO RAINWATER TANK TO BE TO THE SATISFACTION OF SYDNEY WATER. THIS MAY REQUIRE PROVISION OF:
  - PERMANENT AIR GAP.
  - A BACKFLOW PREVENTION DEVICE.
  - NO DIRECT CONNECTION BETWEEN TOWN WATER SUPPLY AND THE RAIN WATER SUPPLY.
  - AN APPROVED STOP VALVE AND/OR PRESSURE LIMITING VALVE AT THE RAINWATER TANK.
- PROVIDE AT LEAST ONE (1) EXTERNAL HOSE COCK ON THE TOWN WATER SUPPLY FOR FIRE FIGHTING.
- PROVIDE APPROPRIATE FLOAT VALVES AND/OR SOLENOID VALVES
- ALL PLUMBING WORKS ARE TO BE CARRIED OUT BY LICENSED PLUMBERS IN ACCORDANCE WITH AS3500.1 NATIONAL PLUMBING AND DRAINAGE CODE.
- PRESSURE PUMP ELECTRICAL CONNECTION TO BE CARRIED OUT BY LICENSED ELECTRICIAN.
- ONLY ROOF RUN-OFF IS TO BE DIRECTED TO THE RAINWATER TANK. SURFACE WATER INLETS ARE NOT TO BE CONNECTED.
- PIPE MATERIALS FOR RAINWATER SUPPLY PLUMBING ARE TO BE APPROVED MATERIALS TO AS 3500 PART 1 SECTION 2 AND TO BE CLEARLY AND PERMANENTLY IDENTIFIED "RAINWATER". THIS MAY BE ACHIEVED FOR BELOW GROUND PIPES USING IDENTIFICATION TAPE (MADE IN ACCORDANCE WITH AS 2648) OR FOR ABOVE GROUND PIPES BY USING ADHESIVE PIPE MARKERS (MADE IN ACCORDANCE WITH AS1345).
- EVERY RAINWATER SUPPLY OUTLET POINT AND THE RAINWATER TANK ARE TO BE LABELLED "RAINWATER" ON A METALLIC SIGN IN ACCORDANCE WITH AS 1319.
- ALL INLETS AND OUTLETS TO THE RAINWATER TANK ARE TO HAVE SUITABLE MEASURES PROVIDED TO PREVENT MOSQUITO AND VERMIN ENTRY.
- SYSTEM TO COMPLY WITH SYDNEY WATER REQUIREMENTS AND ANY CONDITIONS OF LOCAL COUNCIL DEVELOPMENT CONSENT.



## TYPICAL DETAIL - RAINWATER RE-USE TANK

NOT TO SCALE



### NOTE A

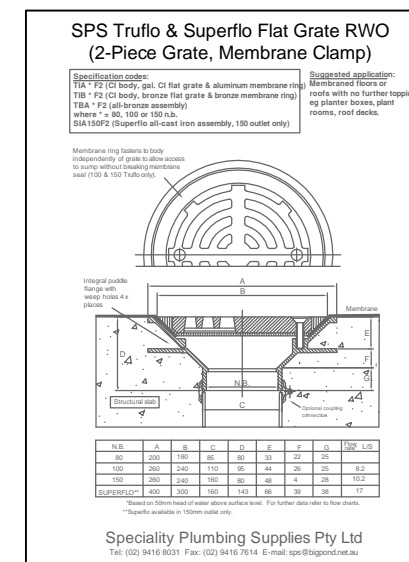
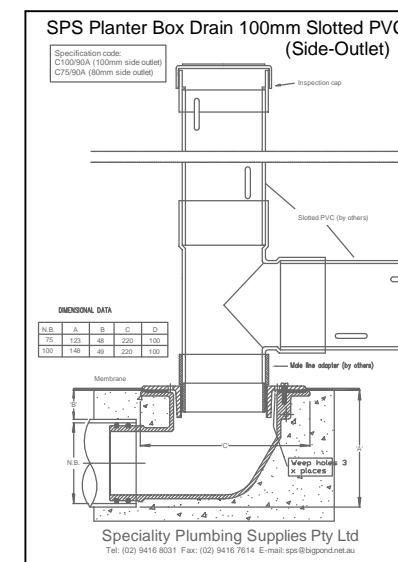
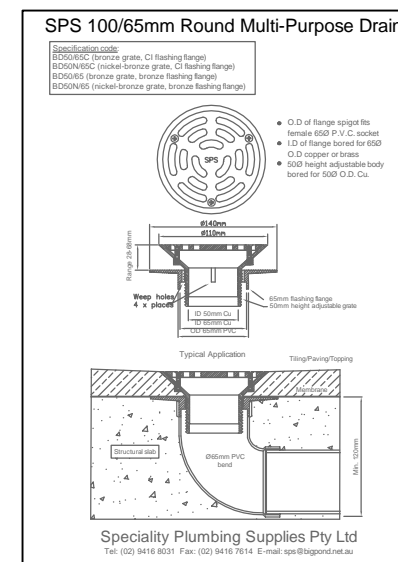
STORMWATER DRAINS CONSTRUCTED OF OTHER THAN CAST IRON, DUCTILE IRON OR GALVANISED STEEL HAVING COVER LESS THAN THAT SPECIFIED IN TABLE SHALL BE COVERED WITH AT LEAST 50mm OVERLAY AND SHALL BE PAVED WITH AT LEAST —  
(a) 100mm THICKNESS OF REINFORCED CONCRETE WHERE SUBJECT TO HEAVY VEHICULAR LOADING

### LEGEND - TRENCH BACKFILL

SYMBOL	FLEXIBLE PIPES	RIGID PIPES
	BACKFILL	
	PIPE OVERLAY	
	PIPE SIDE SUPPORT	SIDE ZONE
	—	HAUNCH ZONE
	PIPE UNDERLAY	BED ZONE

MINIMUM PIPE COVER (FROM FINISHED SURFACE TO TOP OF PIPE)		
LOCATION	MINIMUM COVER (mm)	
	CAST/DUCTILE IRON GAL STEEL	OTHER AUTHORISED PRODUCTS (*)
1. NOT SUBJECT TO VEHICULAR LOADING: A. WITHOUT PAVEMENT: i. FOR SINGLE DWELLINGS - ii. OTHER THAN SINGLE DWELLINGS - B. WITH PAVEMENT OF BRICK/UNREINFORCED CONCRETE -	0 0	100 300
	0 (**)	50 (**)
2. SUBJECT TO VEHICULAR LOADING: A. OTHER THAN ROADS: i. WITHOUT PAVEMENT - ii. WITH PAVEMENT OF: - REINF. CONC. FOR HEAVY VEHICLES - - BRICK/UNREINF. CONC LIGHT VEHICLES - B. ROADS i. SEALED ii. UNSEALED	300 0 (** #) 0 (** #) 300 300	450 100 (** #) 75 (** #) 500 (#) 500 (#)
	300	500 (#)
3. SUBJECT TO CONSTRUCTION VEHICLES OR IN EMBANKMENT CONDITIONS	300	500 (#)

(\*) INCLUDES OVERLAY ABOVE THE TOP OF THE PIPE OF NOT LESS THAN 50mm THICK  
(\*\*) BELOW THE UNDERSIDE OF THE PAVEMENT  
(#) SUBJECT TO COMPLIANCE WITH AS1762, AS2033, AS/NZS 2566.1, AS3725 OR AS 4060



## TYPICAL DETAILS- PLANTER BOX, ROOF DRAIN & TERRACE GRATE

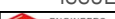
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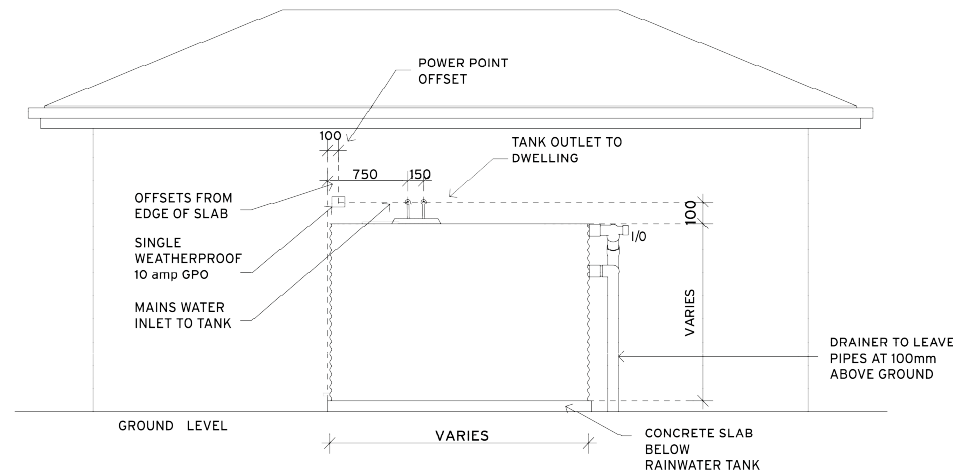
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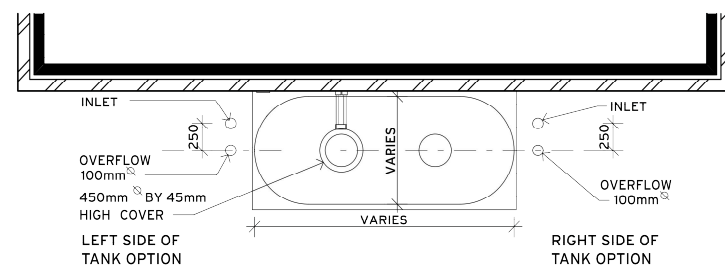
DWG TITLE TYPICAL DETAILS
PROJECT TITLE PROPOSED NEW RESIDENTIAL DEVELOPMENT No.21 BROWN STREET, FORESTVILLE NSW 2087

DESIGNED BY :  EZ		ISSUED BY :   BE MIE Aust PENG	
JOB No 19021	DWG No D3	No IN SET 4	ISSUE A

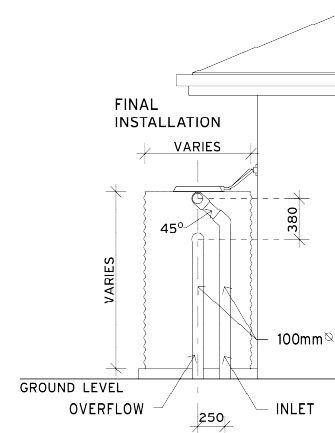


FRONT ELEVATION OPTION A

Tank can be rotated 180° to have charge lines on the right hand side so High-Flow can be installed right. Evo MkIII Pump and strainer is interchangeable.



PLAN VIEW  
TYPICAL



SIDE ELEVATION  
TYPICAL

PERSPECTIVE  
VIEW

ALL DIMENSIONS MEASURED TO CIRCLE ARE DIMENSIONS TO CENTRE.

OUTLET/INLET OPTION A & B: PIPEWORK CAN BE PROVIDED ON EITHER OR BOTH SIDES OF TANK.

AN OUTLET MUST BE PROVIDED WITH EACH INLET PIPE.

KINGSPAN INSTALLATION		Rev.
DATE	01/06/2018	C
DRAWN:	DG	
CHECKED	CW	



Kingspan Environmental Pty Ltd  
3 Herbert Place Smithfield NSW 2164  
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EVOLUTION AND HIGH-FLOW ROUGH-IN  
- SLIMLINE TANK

## TYPICAL DETAIL-SLIMLINE SERIES


NOT TO SCALE

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DWG TITLE HI-FLOW RAINWATER TANK DESIGN DETAILS
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