

PROPOSED RESIDENTIAL DEVELOPMENT
4 MUNOORA STREET, SEAFORTH
STORMWATER MANAGEMENT PLANS

GENERAL NOTES:

1. THESE THE PLANS SHALL BE READ IN CONJUNCTION WITH OTHER RELEVANT CONSULTANTS'S PLANS, SPECIFICATIONS, CONDITIONS OF DEVELOPMENT CONCEST AND CONSTRUCTION CERTIFICATE REQUIREMENTS. WHERE DISCREPANCIES ARE FOUND NASTASI & ASSOCIATES MUST BE CONTACTED IMMEDIATELY FOR VERIFICATION.
2. WHERE THESE PLANS ARE NOTED FOR DEVELOPMENT APPLICATION PURPOSES ONLY, THEY SHALL NOT BE USED FOR OBTAINING A CONSTRUCTION CERTIFICATE NOR USED FOR CONSTRUCTION PURPOSES.
3. SUBSOIL DRAINAGE SHALL BE DESIGNED AND DETAILED BY THE STRUCTURAL ENGINEER. SUBSOIL DRAINAGE SHALL NOT BE CONNECTED INTO THE STORMWATER SYSTEM IDENTIFIED ON THESE PLAN UNLESS APPROVED BY NASTASI & ASSOCIATES ENGINEERS.

STORMWATER CONSTRUCTION NOTES:

1. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500 (CURRENT EDITION) AND THE REQUIREMENTS OF THE LOCAL COUNCIL'S POLICIES AND CODES
2. THE MINIMUM SIZE OF THE STORMWATER DRAINS SHALL NOT BE LESS THAN DN 90 FOR CLASS 1 BUILDINGS AND DN100 FOR OTHER CLASSES OF BUILDING OR AS REQUIRED BY REGULATORY AUTHORITY
3. THE MINIMUM GRADIENT OF STORMWATER DRAINS SHALL BE 1%, UNLESS NOTED OTHERWISE
4. COUNCIL'S TREE PRESERVATION ORDER IS TO BE STRICTLY ADHERED TO. NO TREES SHALL BE REMOVED UNTIL PERMIT IS OBTAINED
5. PUBLIC UTILITY SERVICES ARE TO BE ADJUSTED AS NECESSARY AT THE CLIENT'S EXPENSE
6. ALL PITS TO BE BENCHED AND STREAMLINED. PROVIDE STEP IRONS FOR ALL PITS OVER 1.2m DEEP
7. ALL PITS IN AN EASEMENT OR TRAFFICABLE AREA ARE TO BE PRE-CAST OR CAST-IN-SITU OR APPROVED EQUIVALENT
8. MAKE SMOOTH JUNCTION WITH ALL EXISTING WORK
9. VEHICULAR ACCESS AND ALL SERVICES TO BE MAINTAINED AT ALL TIMES TO ADJOINING PROPERTIES AFFECTED BY CONSTRUCTION
10. SERVICES SHOWN ON THESE PLANS HAVE BEEN LOCATED FROM INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES AND FIELD INVESTIGATIONS AND ARE NOT GUARANTEED COMPLETE NOR CORRECT. IT IS THE CLIENT & CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL PRIOR TO CONSTRUCTION
11. ANY VARIATION TO THE WORKS AS SHOWN ON THE APPROVED DRAWINGS ARE TO BE CONFIRMED BY NASTASI & ASSOCIATES PRIOR TO THEIR COMMENCEMENT

RAINWATER RE-USE NOTES:

1. RAINWATER SUPPLY PLUMBING TO BE CONNECTED TO OUTLETS WHERE REQUIRED BY BASIX CERTIFICATE (BY OTHERS)
2. TOWN WATER CONNECTION TO RAINWATER TANK TO THE SATISFACTION OF THE REGULATORY AUTHORITY. THIS WAY REQUIRE PROVISION OF:
2.1. PERMANENT AIR GAP
2.2. BACKFLOW PREVENTION DEVICE
3. NO DIRECT CONNECTION BETWEEN TOWN WATER SUPPLY AND THE RAINWATER SUPPLY
4. AN APPROVED STOP VALVE AND/OR PRESSURE LIMITING VALVE AT THE RAINWATER TANK
5. PROVIDE AT LEAST ONE EXTERNAL HOSE COCK ON THE TOWN WATER SUPPLY FOR FIRE FIGHTING
6. PROVIDE APPROPRIATE FLOAT VALVES AND/OR SOLENOID VALVES TO CONTROL TOWN WATER SUPPLY INLET TO TANK IN ORDER TO ACHIEVE THE TOP-UP INDICATED ON THE TYPICAL DETAIL
7. ALL PLUMBING WORKS ARE TO BE CARRIED OUT BY LICENSED PLUMBERS IN ACCORDANCE WITH AS/NZS3500.1 NATIONAL PLUMBING AND DRAINAGE CODE
8. PRESSURE PUMP ELECTRICAL CONNECTION TO BE CARRIED OUT BY A LICENSED ELECTRICIAN
9. ONLY ROOF RUN-OFF IS TO BE DIRECTED TO THE RAINWATER TANK. SURFACE WATER INLETS ARE NOT BE CONNECTED
10. PIPE MATERIALS FOR RAINWATER SUPPLY PLUMBING ARE TO BE APPROVED MATERIALS TO AS/NZE3500 PART 1 SECTION 2 AND TO BE CLEARLY AND PERMANENTLY IDENTIFIED AS 'RAINWATER'. THIS MAY BE ACHIEVED FOR BELOW GROUND PIPES USING IDENTIFICATION TAPE (MADE IN ACCORDANCE WITH AS2648) OR FOR ABOVE GROUND PIPES BY USING ADHESIVE PIPE MARKERS (MAKE IN ACCORDANCE WITH AS1345)
11. EVERY RAINWATER SUPPLY OUTLET POINT AND THE RAINWATER TANK ARE TO BE LABELED 'RAINWATER' ON A METALLIC SIGN IN ACCORDANCE WITH AS131619
12. ALL INLETS AND OUTLETS TO THE RAINWATER TANK ARE TO HAVE SUITABLE MEASURES PROVIDED TO PREVENT MOSQUITO AND VERMIN ENTRY.

EROSION AND SEDIMENT NOTES:

1. THESE THE PLANS SHALL BE READ IN CONJUNCTION WITH EROSION AND SEDIMENT CONTROL DETAILS AS ATTACHED
2. THE CONTRACTOR SHALL IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURE AS NECESSARY AND TO THE SATISFACTION OF THE RELEVANT LOCAL AUTHORITY PRIOR TO THE COMMENCEMENT ANY DURING CONSTRUCTION. NO DISTURBANCE TO THE SITE SHALL BE PERMITTED OTHER THAN IN THE IMMEDIATE AREA OF THE WORKS AND NO MATERIAL SHALL BE REMOVED FROM THE SITE WITHOUT THE RELEVANT LOCAL AUTHORITY APPROVAL. ALL EROSION AND SEDIMENT CONTROL DEVICES TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH STANDARDS OUTLINED IN NSW DEPARTMENT OF HOUSING'S "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTIONS"
3. TOPSOIL SHALL BE STRIPPED AND STOCKPILED OUTSIDE HAZARD AREA SUCH AS DRAINAGE LINES. THIS TOPSOIL SHALL BE RESPREAD LATER ON AREAS TO BE REVEGETATED AND STABILIZED ONLY. TOPSOIL SHALL NOT BE RESPREAD ON ANY OTHER AREA UNLESS SPECIFICALLY INSTRUCTED BY THE SUPERINTENDENT. IF THEY ARE TO REMAIN LONGER THAN ONE MONTH STOCK PILES SHALL BE PROTECTED FROM EROSION BY COVERING THEM WITH A MULCH AND HYDROSEEDING AND, IF NECESSARY, BY LOCATING BANKS OR DRAINS DOWNSTREAM OF A STOCKPILE TO RETARD SILT LADEN RUNOFF
4. THE CONTRACTOR SHALL REGULARLY MAINTAIN ALL EROSION AND SEDIMENT CONTROL DEVICES AND REMOVE ACCUMULATED SILT FROM SUCH DEVICES SUCH THAT MORE THAN 60% OF THEIR CAPACITY IS LOST. ALL THE SILT IS TO BE PLACED OUTSIDE THE LIMIT OF WORKS. THE PERIOD FOR MAINTAINING THESE DEVICES SHALL BE AT LEAST UNTIL ALL DRISTURBED AREAS ARE REVEGETATED AND FURTHER AS MAY BE DIRECTED BY SUPERINTENDENT. OR COUNCIL
5. VEHICULAR TRAFFIC SHALL BE CONTROLLED DURING CONSTRUCTION CONFINING ACCESS WHERE POSSIBLE TO NOMINATED STABILISED ACCESS POINTS
6. THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL BY REGULAR WETTING DOWN DISTURBED AREA
7. ALL DRAINAGE PIPE INLETS TO BE CAPPED UNTIL
- DOWNPIPES CONNECTED
- PITS CONSTRUCTED AND PROTECTED WITH SILT BARRIER

MINIMUM PIPE COVER NOTES:

LOCATION	MINIMUM COVER
NO SUBJECT TO VEHICLE LOADING	100mm SINGLE RESIDENTIAL
SUBJECT TO VEHICLE LOADING	450mm WHERE NOT IN A ROAD
UNDER A SEALED ROAD	600mm
UNSEALED ROAD	750mm
PAVED DRIVEWAY	100mm PLUS DEPTH OF CONCRETE

SEE AS2032 INSTALLATION OF UPVC PIPES FOR FURTHER INFORMATION.

CONCRETE PIPE COVER SHALL BE IN ACCORDANCE WITH AS3725-1989 LOADS ON BURIED CONCRETE PIPES, HOWEVER A MINIMUM COVER OF 450mm WILL APPLY.

WHERE INSUFFICIENT COVER IS PROVIDED, THE PIPE SHALL BE COVERED AT LEAST 50mm THICK OVERLAY AND SHALL BE PAVED WITH AT LEAST:

- 150 mm REINFORCED CONCRETE WHERE SUBJECT TO HEAVY VEHICLE TRAFFIC
- 75mm THICKNESS OF BRICK OR 100mm OF CONCRETE PAVING WHERE SUBJECT TO LIGHT VEHICLE TRAFFIC; OR
- 50mm THICK BRICK OR CONCRETE PAVING WHERE NOT SUBJECT TO VEHICLE TRAFFIC

SURFACE STORMWATER PIT NOTES:

PIT DEPTH (mm)	MINIMUM PIT SIZE (mm)
UP TO 600 mm	450 x 450
FROM 600mm TO LESS THAN 900mm	600 x 600
FROM 900mm	900 x 900

ALL BASEMENT PIT TO BE FITTED WITH HEAVY DUTY CLASS C GRATE & FRAME

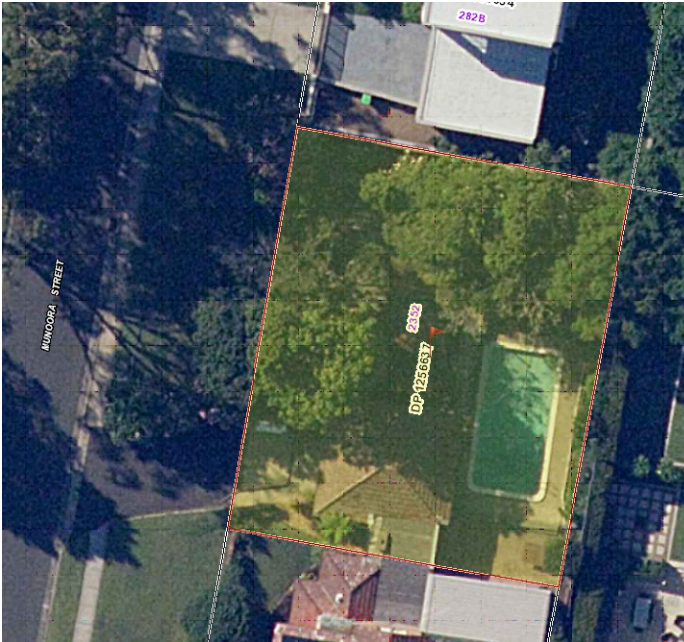
LEGEND

	DENOTES BELOW GROUND ON-SITE DETENTION TANK
	DENOTES ON-SITE DETENTION BASIN
	DENOTES Ø100 DOWNPIPE (U.N.O)
	DENOTES INSPECTION OPENING WITH SCREW DOWN LID AT FINISHED SURFACE LEVEL
	DENOTED PLANTER BOX DRAINS
	DENOTED SURFACE DRAINAGE GRATES
	DENOTED CLEANING EYE
	STORMWATER PIT - SOLID COVER
	STORMWATER PIT - GRATED INLET
	DENOTES GRATED DRAIN
	DENOTES ABSORPTION TRENCH
	DENOTES NON RETURN VALVE
	DENOTES OVERLAND FLOW PATH
	INVERT LEVEL
	TOP OF KERB
	REDUCED LEVEL/SURFACE LEVEL
	PROPOSED FINISH SURFACE LEVEL
	DENOTED Ø100mm PVC (SEWER GRADE) @1% MIN. FALL U.N.O FOR RAINWATER RE-USE
	DENOTED Ø100mm PVC (SEWER GRADE) @1% MIN. FALL U.N.O
	DENOTED Ø150mm PVC (SEWER GRADE) @1% MIN. FALL U.N.O
	DENOTED Ø225mm PVC (SEWER GRADE) @0.5% MIN. FALL U.N.O
	DENOTE AGG PIPE
	DENOTE RAINWATER TANK

SCHEDULE OF DRAWING



DESCRIPTION	SHEET NUMBER
COVER SHEET & NOTES	C1
DRAINAGE PLANS	C2
OSD PLAN & DETAILS	C3
STORMWATER DETAILS	C4

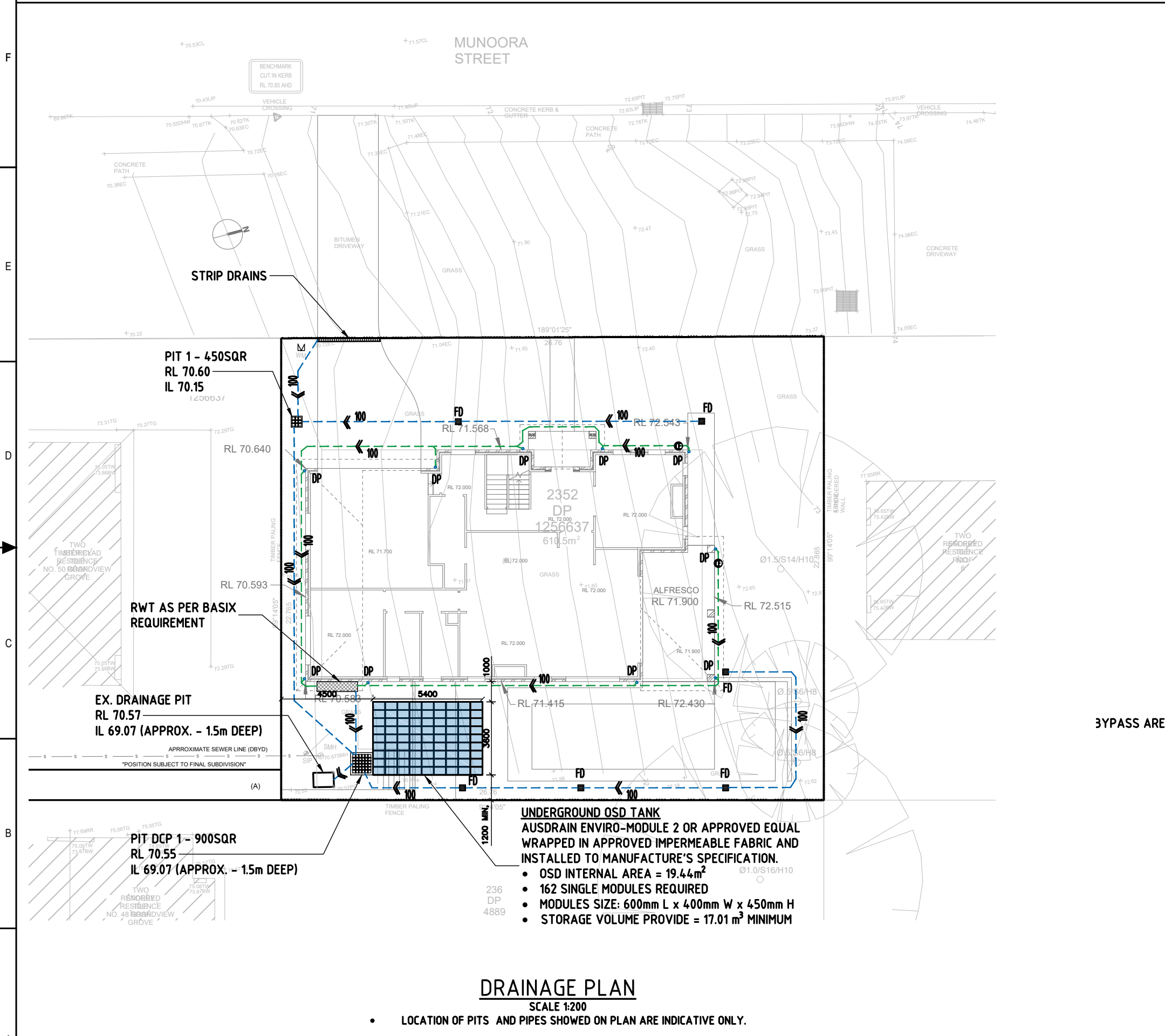
LOCATION MAP



ISSUE FOR APPROVAL



		REFERENCE COORDINATION DRAWING				GENERAL NOTES:				<div><div></div><div>NASTASI & ASSOCIATES CONSULTING CIVIL & STRUCTURAL ENGINEERS B-5, M.J.E. AUST CPEng NPER-3 UNIT 6, 1-3 WYALLA PLACE, PRESTONS NSW 2170 PH: (02) 9607 2864 OR (02) 8708 5677 FAX: (02) 9731 2081 MOB: 0419 041 401</div></div>				QUALITY CONTROL		APPROVED:		CLIENT:		ADDRESS:		DRAWING STATUS	
						DESIGNED		DATE						4 MUNOORA STREET, SEAFORTH		CONCEPT PLAN FOR APPROVAL							
						MD		10.08.2021				G.J. Gardner. HOMES											
										Builders Details													
						CHECKED		DATE		S. NASTASI B.E., M.J.E., CPEng, Nper-3		TITLE:		SCALE (AT ORIGINAL SIZE) AS NOTED									
A		ORIGINAL ISSUE				10.08.2021						COVER SHEET & NOTES		PROJECT NO. DRAWING NO. REVISION NO.									
		REVISION				DATE								26901 C1 A									



DESIGN SUMMARY

NORTHERN BEACH COUNCIL - MANLY DCP

SITE AREA

= 610.50 m²

EXISTING IMPERVIOUS AREA

= 0 m² (0%)

PROPOSED IMPERVIOUS AREA

= 354.27 m² (45.6%)

THE PROPOSED DEVELOPMENT IS SINGLE DWELLING. SINCE THE PROPOSED DEVELOPMENT IMPERVIOUS AREA IS GREATER THAN 35%, OSD IS REQUIRED.

SITE DISCHARGE ASSESSMENT BY DRAINS ILSAX MODEL

AREA TO OSD =

578.50 m²

AREA BYPASS OSD =

32.00 m² (100% LANDSCAPE)

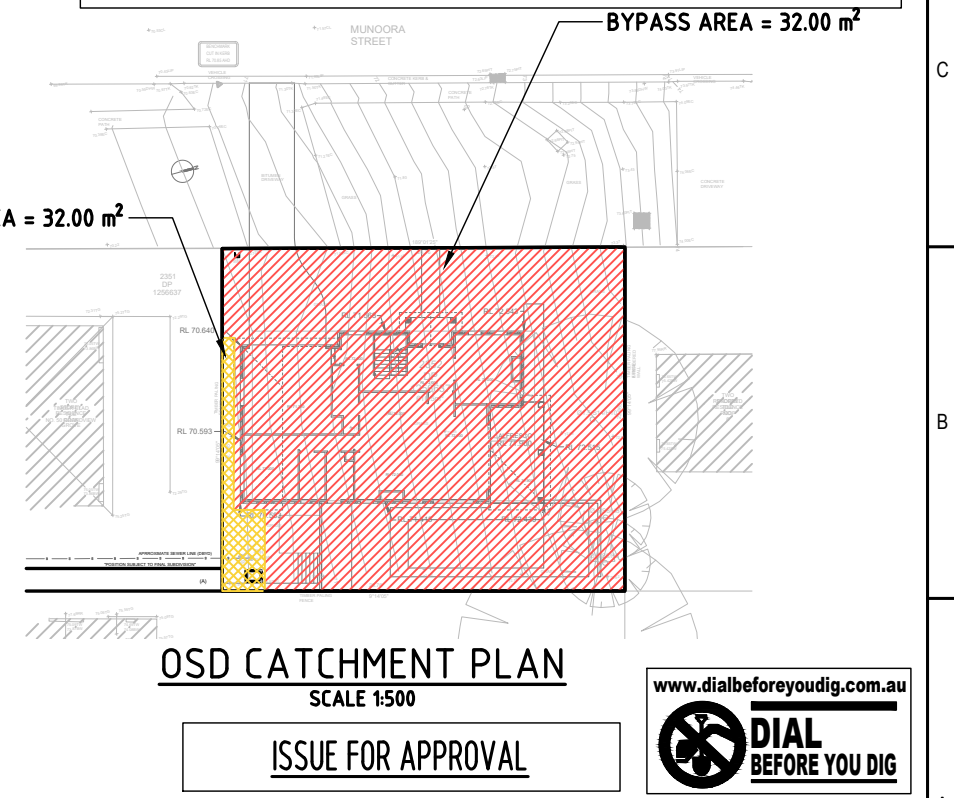
PERMITTED SITE DISCHARGE IS LIMITED TO PRE-DEVELOPMENT 5 YEAR ARI WITH 0% IMPERVIOUS.

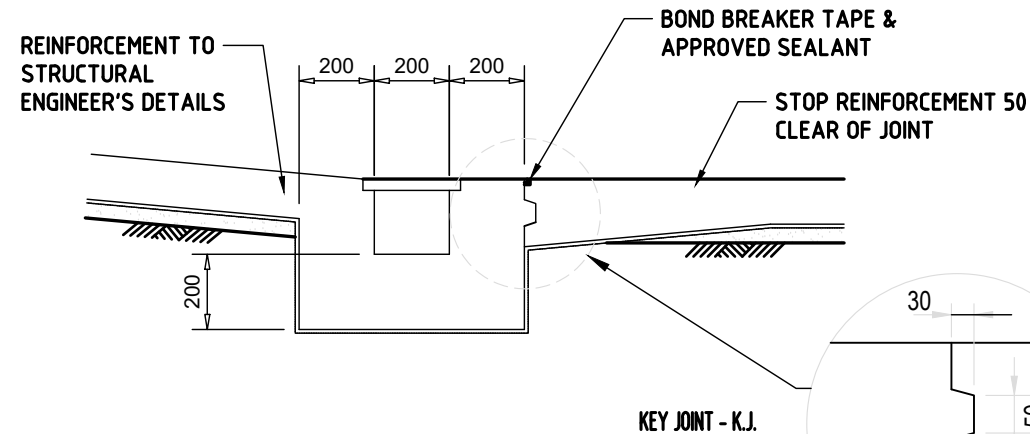
	PRE DEV	POST DEV			OSD VOLUME (m ³)	Ø ORIFICE (m ³)
ARI	Q _{PRE} (l/s)	Q _{OSD} (l/s)	Q _{BYPASS} (l/s)	Q _{POST} (l/s)		
5	14	8	1	9	5.98	80
20	24	10	1	11	10.07	80
100	33	12	2	14	15.45	80

OSD VOLUME REQUIRED = 15.45 m³ AT 1% AEP 10min STORM

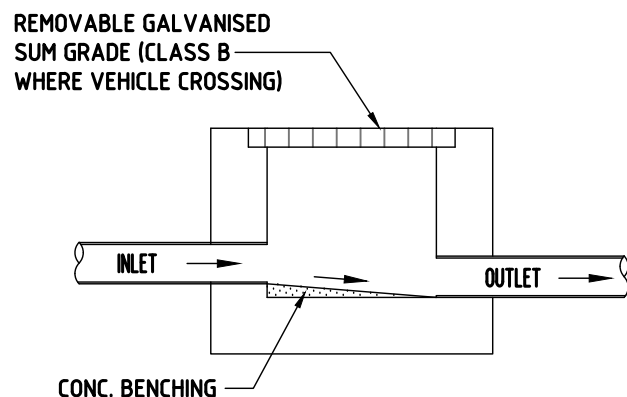
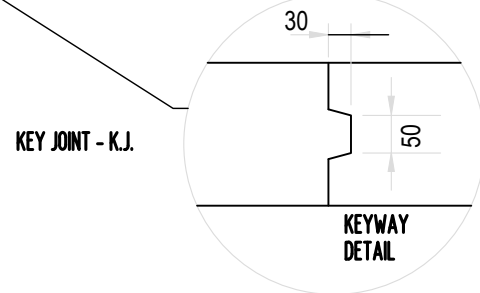
OSD VOLUME PROVIDED = 17.01 m³

ORIFICE DIAMETER = 80 mm

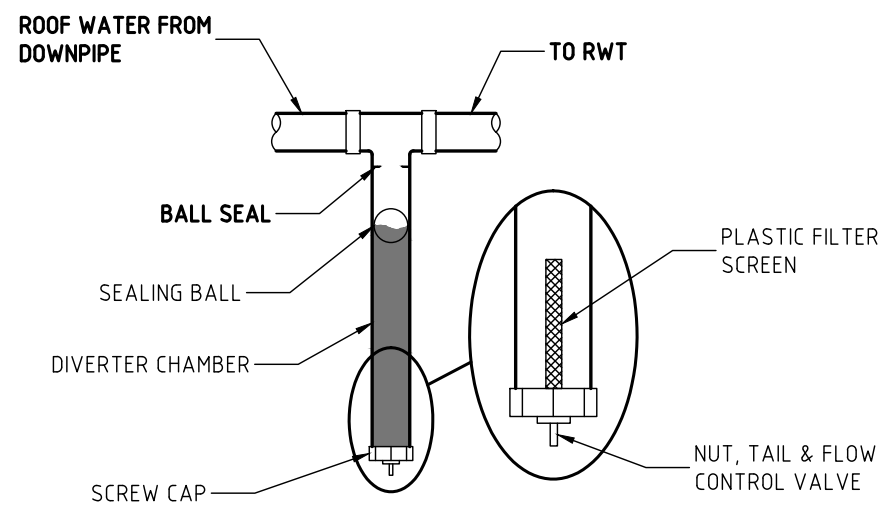




TYPICAL GRATED DRAINS
SCALE 1:20



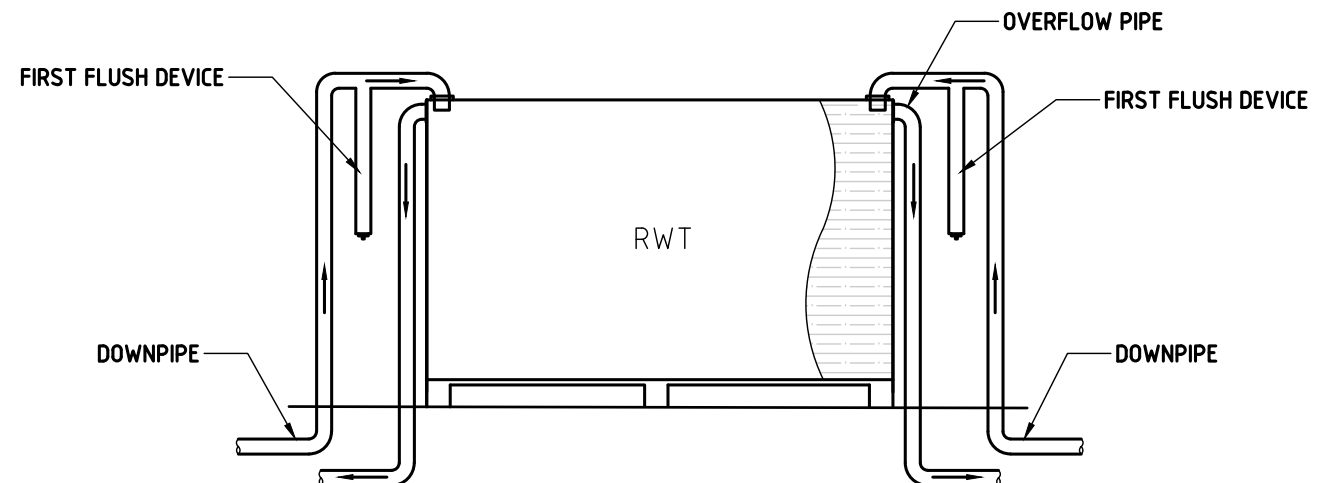
TYPICAL SURFACE PIT
NTS



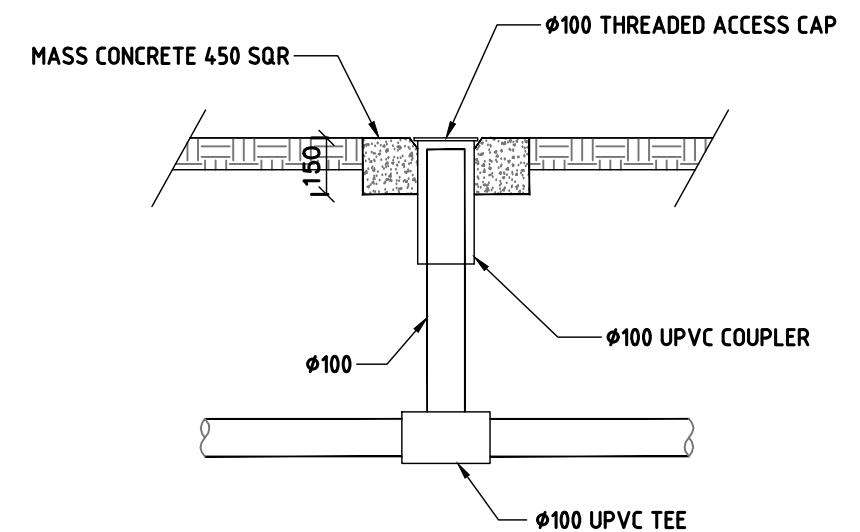
FIRST FLUSH DEVICE DETAIL
1:20

RAINWATER TANK NOTES:

1. A FIRST FLUSH DEVICE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS SHALL BE FITTED TO RAINWATER TANK SYSTEM TO FLUSH OUT THE FIRST 0.5mm OF RUN-OFF FROM THE ROOF AREA THAT DRAINED INTO THE TANK (E.G. 0.5L/m²).
2. PUMP SIZE & SPECIFICATION TO BE NOMINATED BY MANUFACTURER.
3. DIMENSIONS ARE INDICATIVE ONLY. EXACT DETAILS TO MANUFACTURER'S SPECIFICATIONS.



RAINWATER TANK DETAIL
NTS

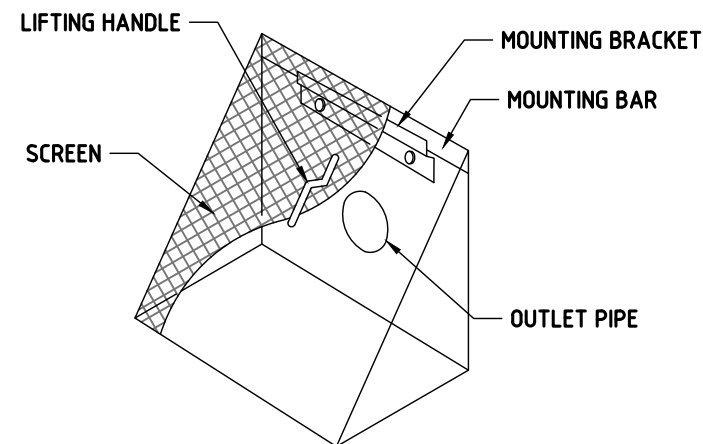


CLEANING EYE DETAILS
SCALE 1:20

ISSUE FOR APPROVAL



REFERENCE COORDINATION DRAWING				GENERAL NOTES:				QUALITY CONTROL		APPROVED:		CLIENT:		ADDRESS:		DRAWING STATUS	
DISCIPLINE	DRAWING TITLE AND NUMBER	DATE	REV.	DRAWING TITLE AND NUMBER	DATE	REV.	FILE	DESIGNED	DATE	 S. NASTASI B.E., M.A.E., CPEng, Nper-3		G.J. Gardner. 'HOMES' Builders Details		4 MUNOORA STREET, SEAFORTH		CONCEPT PLAN FOR APPROVAL	
ARCH.							LAND	MD	10.08.2021								
STRUCT.							CHIL	CHECKED	DATE					TITLE:		SCALE (AT ORIGINAL SIZE)	
MECH.							SURVEY							STORMWATER DETAILS		AS NOTED	
ELEC.																PROJECT NO.	
ISSUE	REVISION	DATE	REV.													26901	
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STAINLESS STEEL "DYNA BOLTS" OR EQUIVALENT

OUTLET PIPE $\phi +50$

3mm THICK STAINLESS STEEL PLATE (6mm WHERE ORIFICE ϕ EXCEEDS 150mm) WITH CIRCULAR HOLE MACHINES TO 0.5mm ACCURACY AND SHARP-EDGED

$\phi 80$ mm CIRCULAR HOLE WITH SHARP EDGES MACHINED TO 0.5mm ACCURACY

OUTLET PIPE ϕ

$\phi 100$ OUTLET PIPE

OUTLET PIPE ϕ

**900x900 REMOVABLE
GALVANISED SUMP GRADE
CHILD PROOF WITH J-LOCK**

REMOVABLE RECTANGULAR
SCREEN HOT DIPPED GALV.
LYSAGHT MAXIMESH TYPE
RH3030 WITH HANDLE

Ø100 OUTLET PIPE TO
EXISTING EASEMENT PIT
CL 69.25
IL 69.20

2xØ90 HOLES IN BASE
— FILLED WITH 10mm
GRAVEL (TYP.)

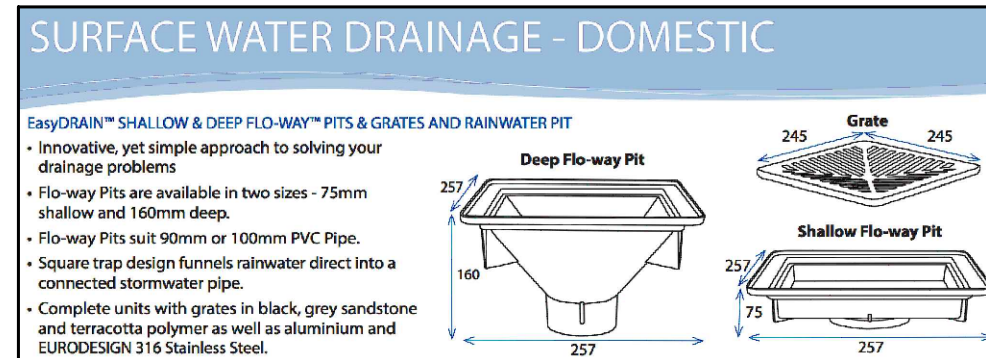
— 200mm BACKFILL WITH CLEAN SOIL

MIN. 100mm COVER -
COARSE WASHED RIVER
SAND OR CLEAN
GRANULAR MATERIAL

MIN. 100mm COVER -
COARSE WASHED RIVER
SAND OR CLEAN
GRANULAR MATERIAL

UNDERGROUND OSD TANK
AUSDRAIN ENVIRO-MODULE 2 OR APPROVED EQUAL
WRAPPED IN APPROVED IMPERMEABLE FABRIC AND
INSTALLED TO MANUFACTURE'S SPECIFICATION.

- **OSD INTERNAL AREA = 19.44m²**
- **162 SINGLE MODULES REQUIRED**
- **MODULES SIZE: 600mm L x 400mm W x 450mm H**
- **STORAGE VOLUME PROVIDE = 17.01 m³ MINIMUM**



CONFINED SPACE SIGN TO BE
PLACED INSIDE DCP PIT
NTS

www.dialbeforeyoudig.com.au

 **DIAL
BEFORE YOU DIG**

		REFERENCE COORDINATION DRAWING				GENERAL NOTES:				<div></div> <div>NASTASI & ASSOCIATES CONSULTING CIVIL & STRUCTURAL ENGINEERS B.E., M.I.E. AUST. CPENG NPER-3 UNIT 5, 1-3 WHYYALLA PLACE, PRESTONS NSW 2170 PH: (02) 9607 2564 OR (02) 8798 5617 FAX: (02) 9731 2081 MOB: 0479 041 401</div>		QUALITY CONTROL		APPROVED:		CLIENT:		ADDRESS:		DRAWING STATUS	
								DESIGNED DATE MD 10.08.2021				<div></div> <div>S. NASTASI B.E., M.I.E., CPENG, Nper-3</div>		<div>G.J. Gardner. </div> <div>Builders Details</div>		4 MUNOORA STREET, SEAFORTH		CONCEPT PLAN FOR APPROVAL			
		DISCIPLINE DRAWING TITLE AND NUMBER DATE REV. DRAWING TITLE AND NUMBER DATE REV.												SCALE (AT ORIGINAL SIZE) AS NOTED							
		ARCH. FIVE STRUCT. LANSER MECH. CIVIL ELEC. SURVEY																			
A ORIGINAL ISSUE		10.08.2021																			
ISSUE REVISION		DATE																			