

STORMWATER CONCEPT PLAN

AT 9-13 GOULBURN STREET, WARWICK FARM, NSW

DRAWING SCHEDULE

DRAWING No.	DRAWING TITLE
DO0	COVER SHEET, LEGEND & DRAWING SCHEDULE
DO1	BASEMENT 2 STORMWATER DRAINAGE PLAN
DO2	BASEMENT 1 STORMWATER DRAINAGE PLAN
DO3	BASEMENT STORMWATER DRAINAGE DETAILS
DO4	GROUND FLOOR & SITE STORMWATER DRAINAGE PLAN
DO5	STORMWATER DRAINAGE DETAILS
DO6	EROSION AND SEDIMENT CONTROL PLAN AND DETAILS
DO7	MUSIC MODEL AND RESULT

NOTE RE. SERVICES

APPROXIMATE LOCATIONS OF EXISTING SERVICES SHOWN ON LONGITUDINAL SECTION. EXACT LOCATIONS & DEPTHS TO BE ACURATELY LOCATED BY BUILDER CONTRACTOR BY CONTACTING THE RELEVANT AUTHORITIES BEFORE COMMENCEMENT OF ANY WORKS



GENERAL NOTES

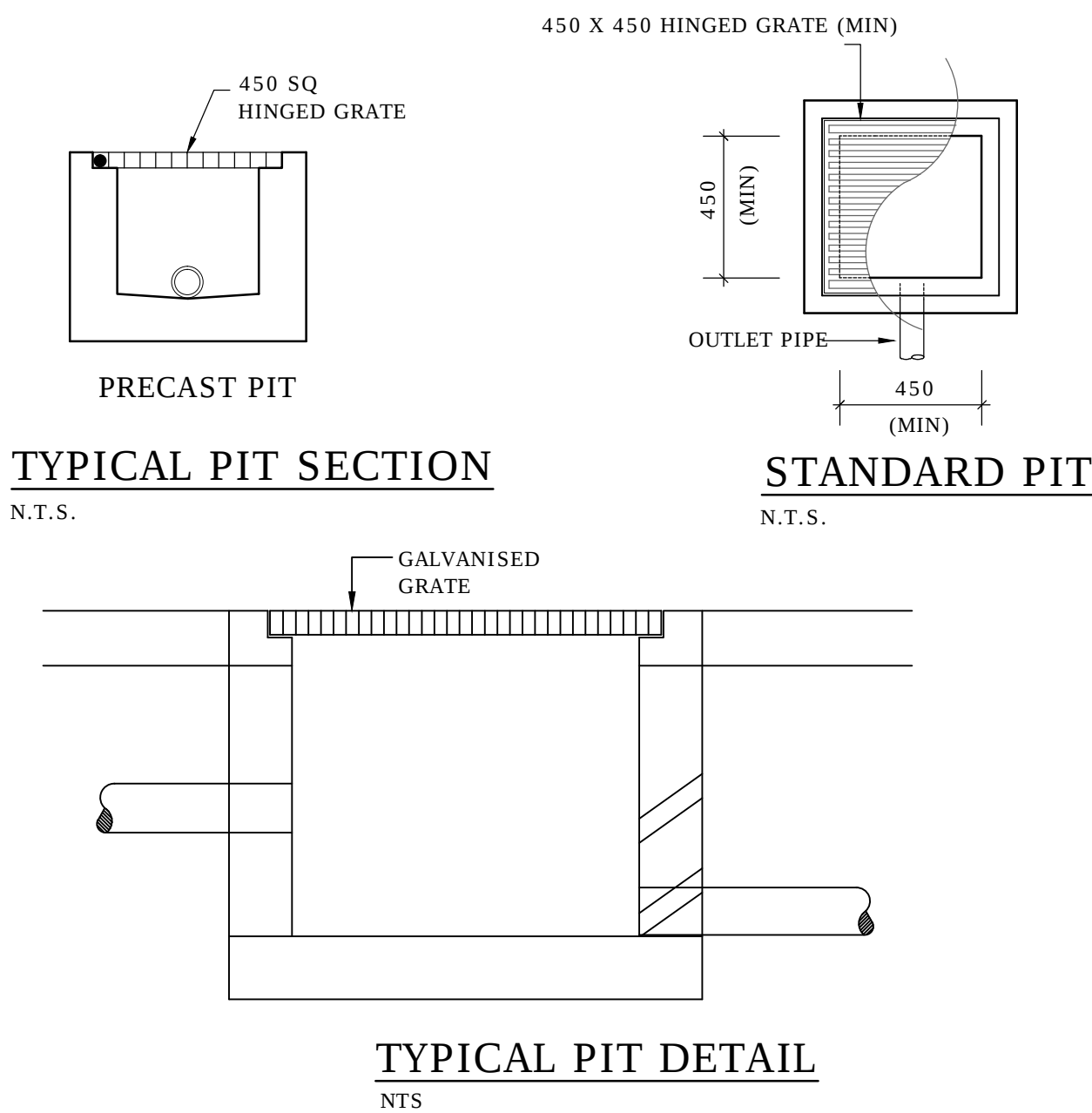
- ALL LINES ARE TO BE MIN. 100Ø UPVC @ MIN 1.0% GRADE UNLESS NOTED OTHERWISE.
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- ALL PIPES TO HAVE MIN 200mm COVER IF LOCATED WITHIN PROPERTY.
- ALL PITS IN DRIVEWAYS BE HEAVY DUTY GRATES. DIRECT SURFACE FLOW TO ALL GRATED SURFACE INLET PITS.
- ALL WORK DO BE DONE IN ACCORDANCE WITH COUNCIL'S DCP AND TO COUNCIL'S SATISFACTION.
- LOCATION OF DOWNPIPES & FLOOR WASTES ARE INDICATIVE ONLY. DOWNPIPE & FLOOR WASTE SIZE, LOCATION & QUANTITY TO BE DETERMINED BY BUILDER & IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
- THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, LANDSCAPE AND STRUCTURAL PLANS.
- ANY DISCREPANCIES OR OMISSIONS SHALL BE REFERRED TO THE DESIGN ENGINEER AND COUNCIL ENGINEER FOR RESOLUTION.
- ALL PITS OR GRATES IN TRAFFICABLE AREAS TO BE HEAVY DUTY.
- ALL GUTTERS WILL BE FITTED WITH LEAF GUARDS AND SHOULD BE INSPECTED AND CLEANED TO ENSURE LEAF LITTER CANNOT ENTER THE DOWNPIPES
- ALL PIT GRATES ON SITE MUST BE HINGED WITH J-BOLT LOCKDOWN SYSTEM.
- PITS DEEPER THAN 1m REQUIRE STEP IRONS IN A STAGGERED MANNER. THE DEPTH OF ANY PIT IN EXCESS OF 2m SHALL BE STRUCTURALLY DESIGNED AND CERTIFIED BY A STRUCTURAL ENGINEER AND SUBMITTED TO COUNCIL FOR APPROVAL.
- PROVIDE GRATED DRAIN IN ALL OPEN AREAS TO THE SKY INCLUDING STAIRS AND CONNECT TO NEAREST STORMWATER SYSTEM.
- PROVIDE EMERGENCY SPITTERS TO ALL BALCONIES.
- PROVIDE AGG PIPE IN ALL LANDSCAPE AREA AND CONNECT TO THE STORMWATER DRAINAGE SYSTEM.
- PROVIDE AGG PIPE BEHIND THE RETAINING WALL AND CONNECT TO THE STORMWATER DRAINAGE SYSTEM

SYMBOLS

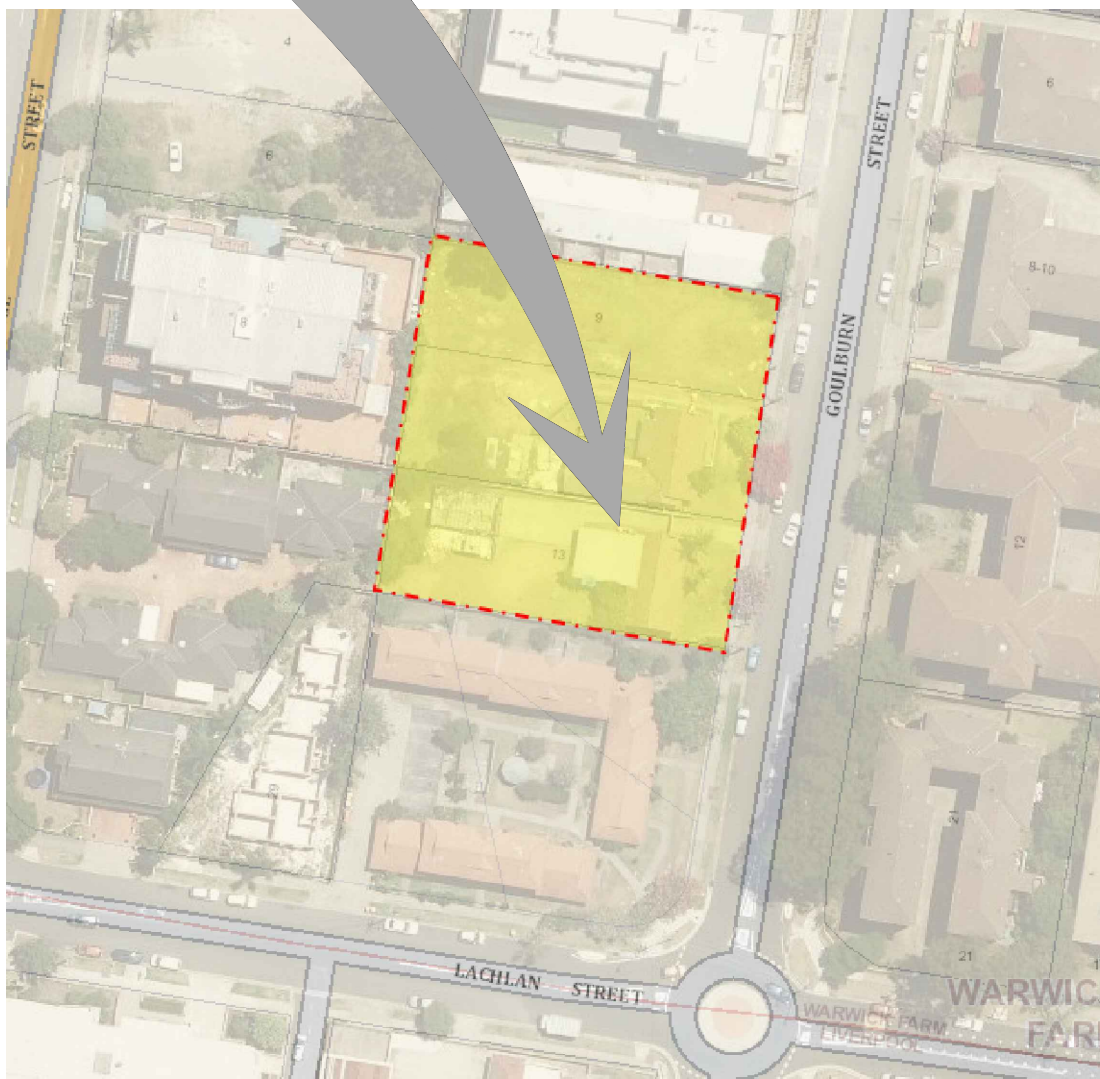
F.F.L. FINISHED FLOOR LEVEL
T.K. TOP OF KERB
RL PIT SURFACE LEVEL
IL INVERT LEVEL
--- STORMWATER DRAINAGE PIPE
--- DOWNPIPE TO RAINWATER TANK
• DP 100Ø DOWN PIPE (U.N.O.)
• IO INSPECTION OPENING
FW MASONRY RETAINING WALL
FW FLOOR WASTE 150Ø
GRATED INLET PIT
GRATED DRAIN
OVERLAND FLOW PATH
CLEAN OUT PIT

ABBREVIATIONS

CL CLEARANCE
DIA DIAMETER
DDO DISH DRAIN OUTLET
DP DOWNPIPE
EX EXISTING
F.F.L. FINISHED FLOOR LEVEL
GL GROUND LEVEL
GMS GALVANISED MILD STEEL
GSDP GRADED SURFACE (INLET PIT)
GTD GRATED TRENCH DRAIN
HL HIGH LEVEL
IL INVERT LEVEL
JP JUNCTION PIT
KIP KERB INLET PIT
IO INSPECTION OPENING
LL LOW LEVEL
O/F OVERFLOW
PVC POLYVINYLCHLORIDE
SL SURFACE LEVEL
STW STORMWATER
S/S STAINLESS STEEL
U/S UNDER SIDE



SITE OF WORK



LOCALITY SKETCH

NOT TO SCALE

NOT FOR CONSTRUCTION

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IL	INVERT LEVEL
---	STORMWATER DRAINAGE PIPE
---	DOWNPIPE TO RAINWATER TANK
• DP	100Ø DOWN PIPE (U.N.O.)
• VD	VERTICAL DROP PIPE
• VR	VERTICAL RISER
• IO	INSPECTION OPENING
	MASONRY RETAINING WALL
• FW	FLOOR WASTE 150Ø
	GRATED INLET PIT
	GRATED DRAIN
	OVERLAND FLOW PATH
SP	SPREADER

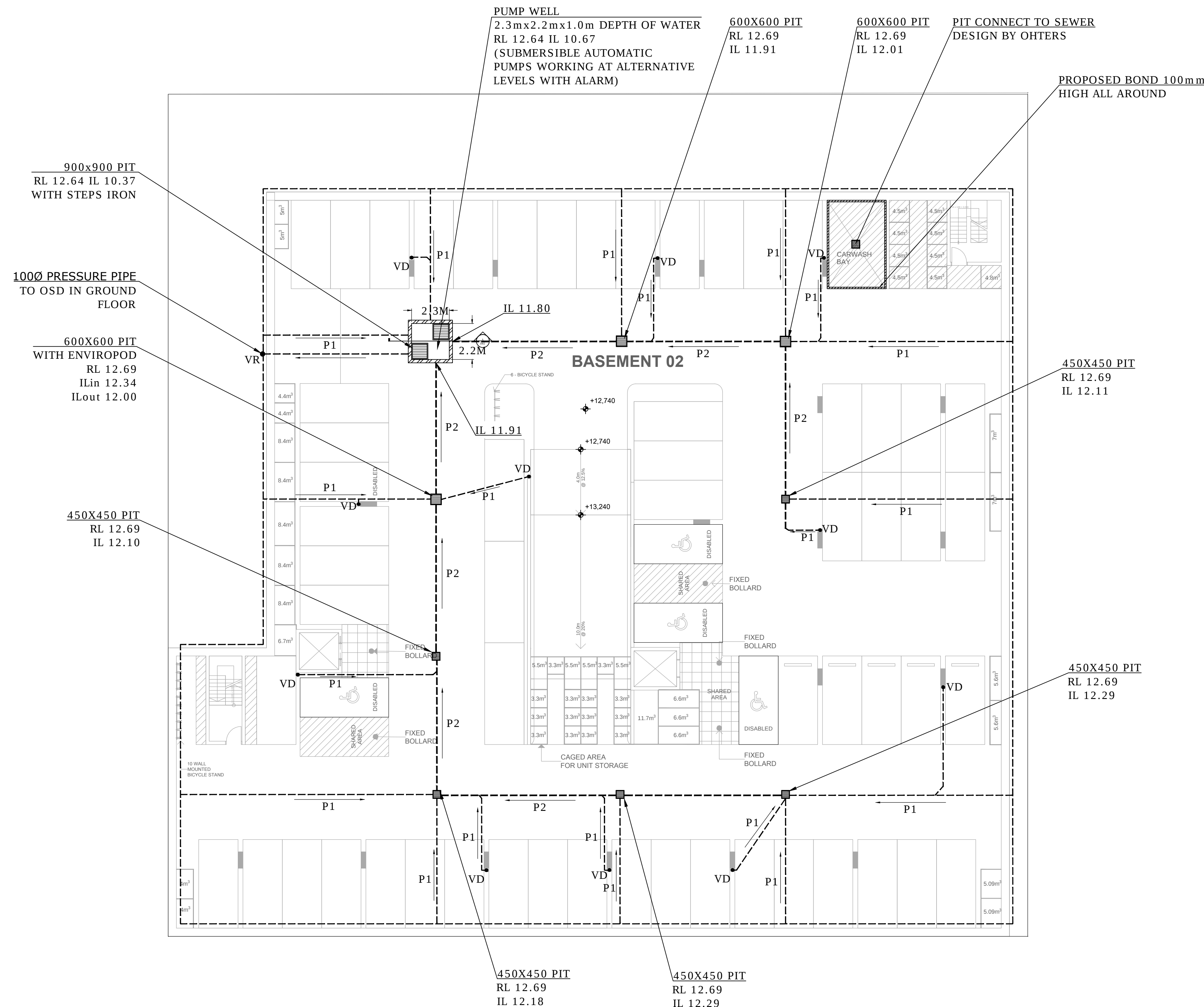
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REFER TO AS.3500 PART 3 TABLE 7.2
 P1 : 100Ø UPVC PIPE AT 1.0% MIN. GRADE
 P2 : 150Ø UPVC PIPE AT 1.0% MIN. GRADE
 P3 : 225Ø UPVC PIPE AT 1.0% MIN. GRADE

DRAINAGE LINES SHOWN continuous TO COLLECT SURFACE WATER

DRAINAGE LINES SHOWN DASHED TO COLLECT ROOF WATER ONLY TO RAINWATER TANK

NOTES: COUNCIL ISSUED FOOTWAY DESIGN LEVELS
COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED INTO THE
FINISHED LEVELS ONCE ISSUED BY COUNCIL

NOTES: ROAD RESERVE & FOOTWAY DRAINAGE ELEMENTS
ALL STORMWATER DRAINAGE ELEMENTS PROPOSED WITHIN THE ROAD RESERVE AND FOOTWAY
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ENGINEER.



BASEMENT 2 STORMWATER DRAINAGE PLAN
SCALE 1:150

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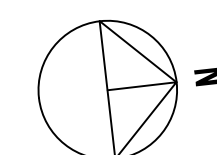
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Nominated Architect

Ziad Boumelhem Reg: 8008 Ashraf Anwar Reg: 8007

PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT
9-13 GOULBURN STREET,
WARWICK FARM, NSW



SHEET	SUBJECT
	BASEMENT 2 STORMWATER DRAINAGE PLAN

PROJECT 9-13 GOULBURN STREET, WARWICK FARM, NSW			
DATE OCT 16	DRAWN J.L.	DESIGNED N.L.	CHECKED N.L.
SCALE @ A1 N.T.S.		JOB No 16NL205	
AUTHORISED NERMEIN LOKA		DWG No D01	REV C

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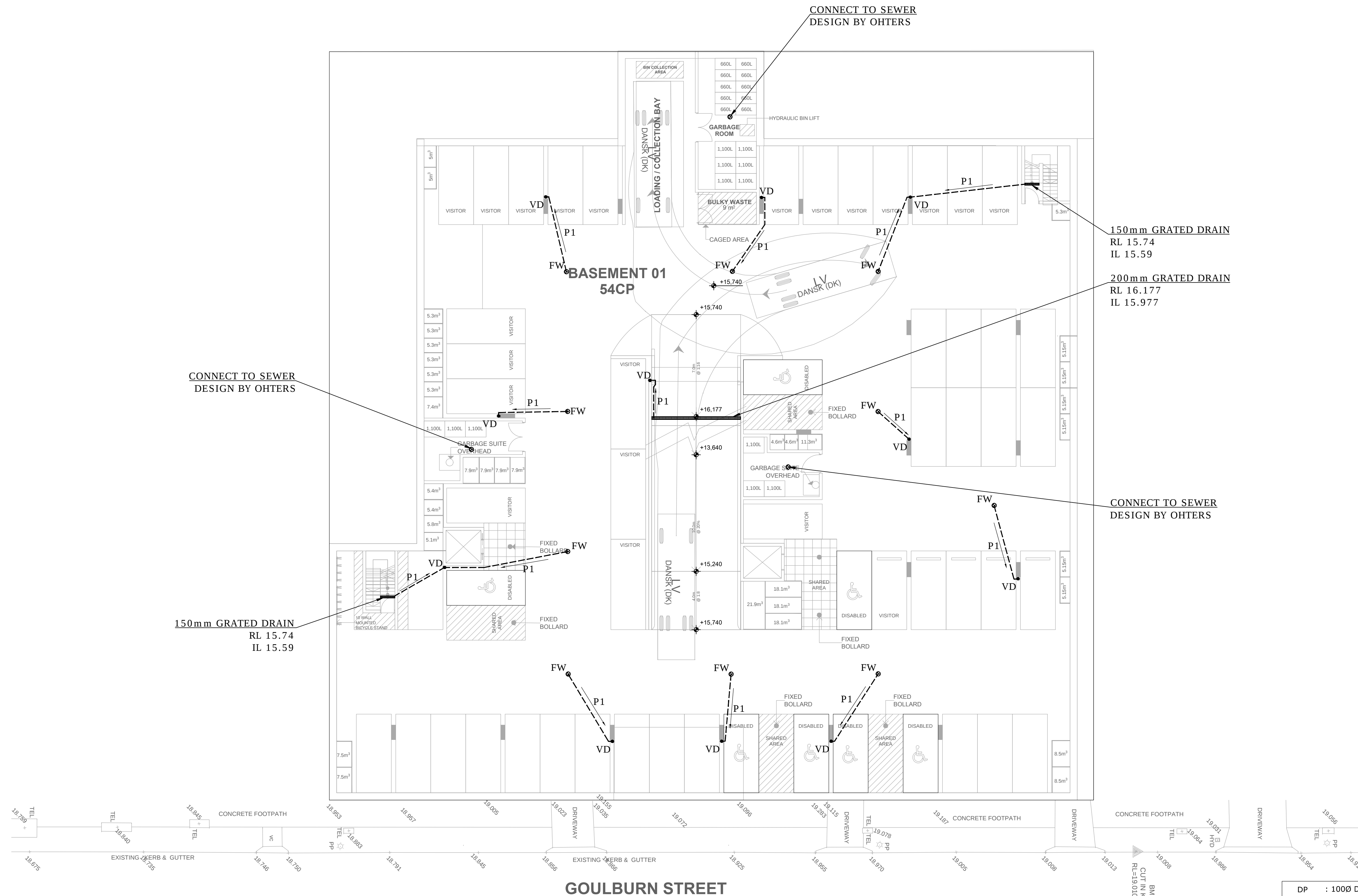
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Joseph El Khawaja Reg: 8693

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PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT
9-13 GOULBURN STREET,
WARWICK FARM, NSW



T	SHEET SUBJECT
	BASEMENT 1 STORMWATER DRAINAGE PLAN

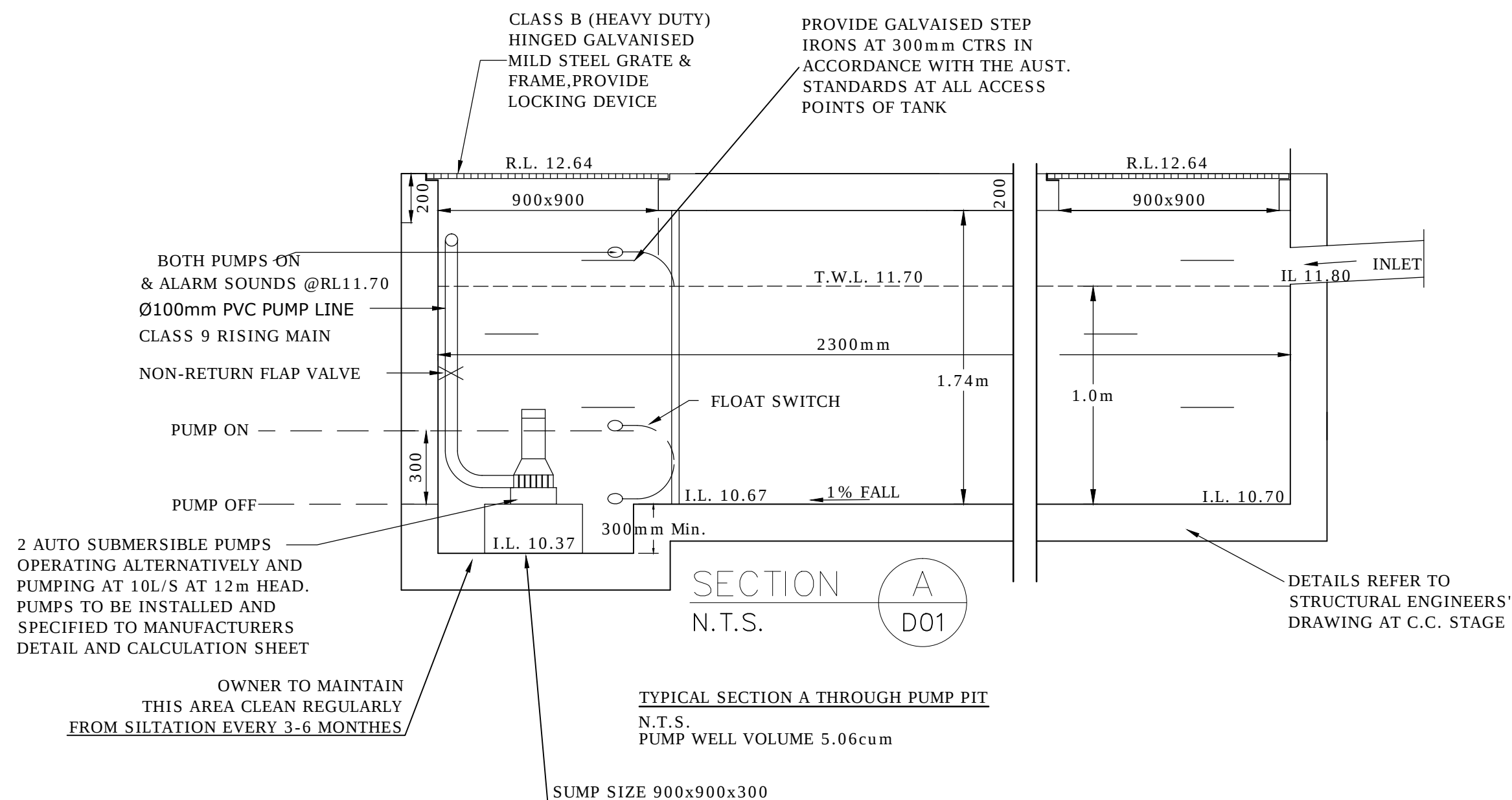
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STANDARD PUMP-OUT NOTES

1. THE PUMPS SHALL BE PROGRAMMED TO WORK ALTERNATELY SO AS TO ALLOW BOTH PUMPS TO HAVE EQUAL OPERATION LOAD & PUMP LIFE.
2. A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE BELOW GROUND TANK. IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.
3. A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE & BRAIN THE TANK TO THE LEVEL OF THE LOW LEVEL FLOAT.
4. A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE ROOF LEVEL OF THE BELOW GROUND TANK. THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING & ACTIVATE THE ALARM.
5. AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT & A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE DRIVEWAY ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.

PUMP WELL DETAILS

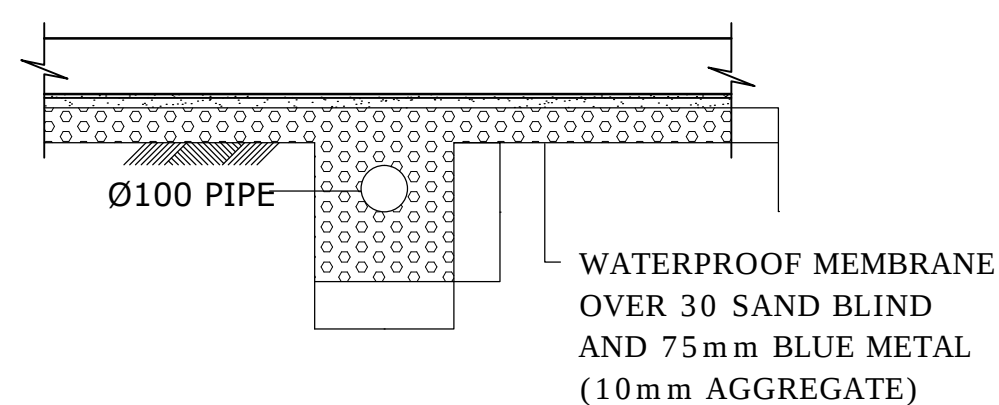
SUMP SIZE AND PUMP SIZE BASED ON 50 YEAR 1 HR STORM
 INTENSITY IS 62.2mm/hr, AREA DRAINING TOWARDS SUMP IS 78m²
 $Q = C i A / 3600 = 1.0 \times 62.2 \times 78 / 3600 = 1.348 \text{ L/s}$
 VOLUME REQUIRED IS $1.348 \times (1 \times 60 \times 60) = 4853 \text{ L}$
 STORAGE PROVIDED $2300 \times 2200 \times 1000 = 5060 \text{ L}$
 THEREFORE ADEQUATE STORAGE PROVIDED
 PUMP OUT RATE BASED ON 100YR 5MINS. STORM = 222mm/hr
 $Q = C i A / 3600 = 1.0 \times 222 \times 78 / 3600 = 4.81 \text{ L/s}$
 USE KS 50 OR EQUIVALENT DUAL PUMPS TO BE INSTALLED IN SUMP AND CONNECTED TO CONTROL
 PANEL WHICH WILL ALLOW FOR THE PUMPS TO ACT ALTERNATIVELY AT 10L/s AT 12m HEAD



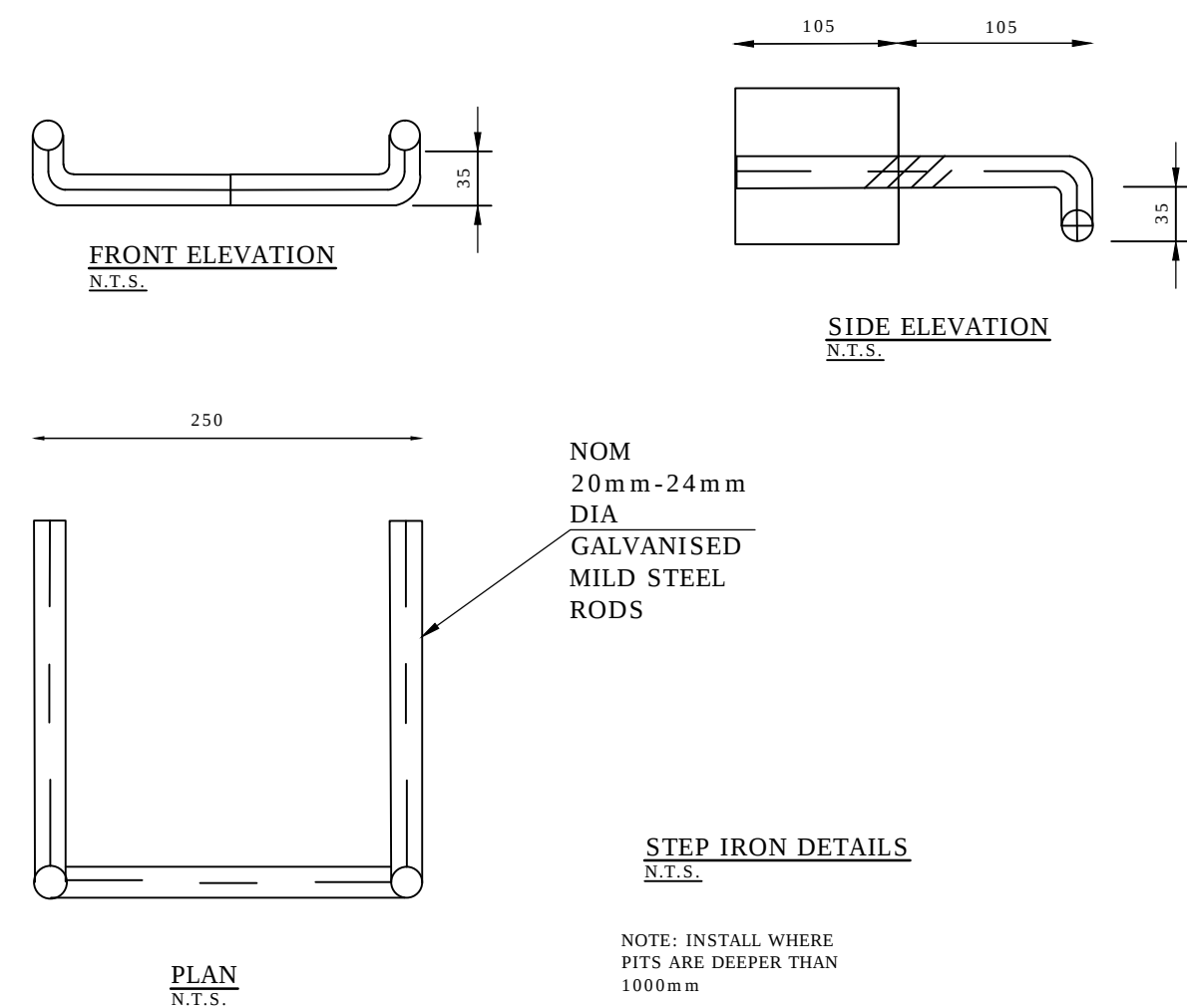
RECOMMENDED PUMP

Type	Output		Outlet		Rated		Maximum		Weigh	Dimension		
	HP	kW	mm	Inch	Head Capacity		Head	Capacity		Kg	L(mm)	W(mm)
					M	LPM	M	LPM				
K5-03	1/3	0.25	40	1 1/2"	3	130	8	180	9	188	141	305
K5-04	1/2	0.4	50	2"	5	150	8	220	11	208	140	359
K5-05	1/2	0.4	50	2"	5	160	10	260	14	230	156	375
K5-08	1	0.75	50	2"	6	240	13	380	21	290	180	425
K5-20	2	1.5	80	3"	10	300	16	600	31	278	182	475
K5-30	3	2.2	80	3"	10	500	18	800	42	390	250	450
K5-50	5	3.7	100	4"	10	800	21	1100	48	450	240	530
K5-75	7 1/2	5.6	100	4"	15	800	23	1300	60	550	310	590
K5-100	10	7.5	150	6"	18	900	25	1600	70	550	310	610

RECOMMENDED
PUMP

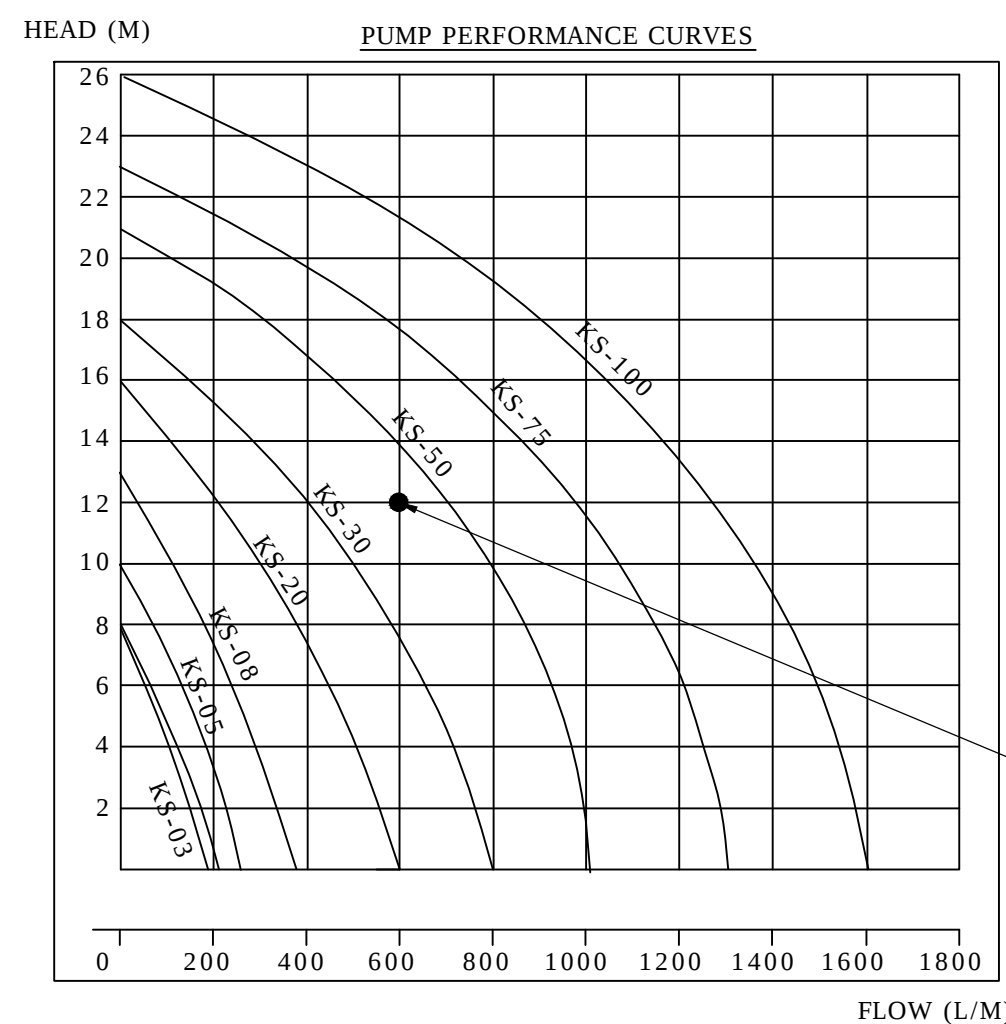


TYPICAL SECTION THROUGH SUBSOIL HARD PIPE
N.T.S.

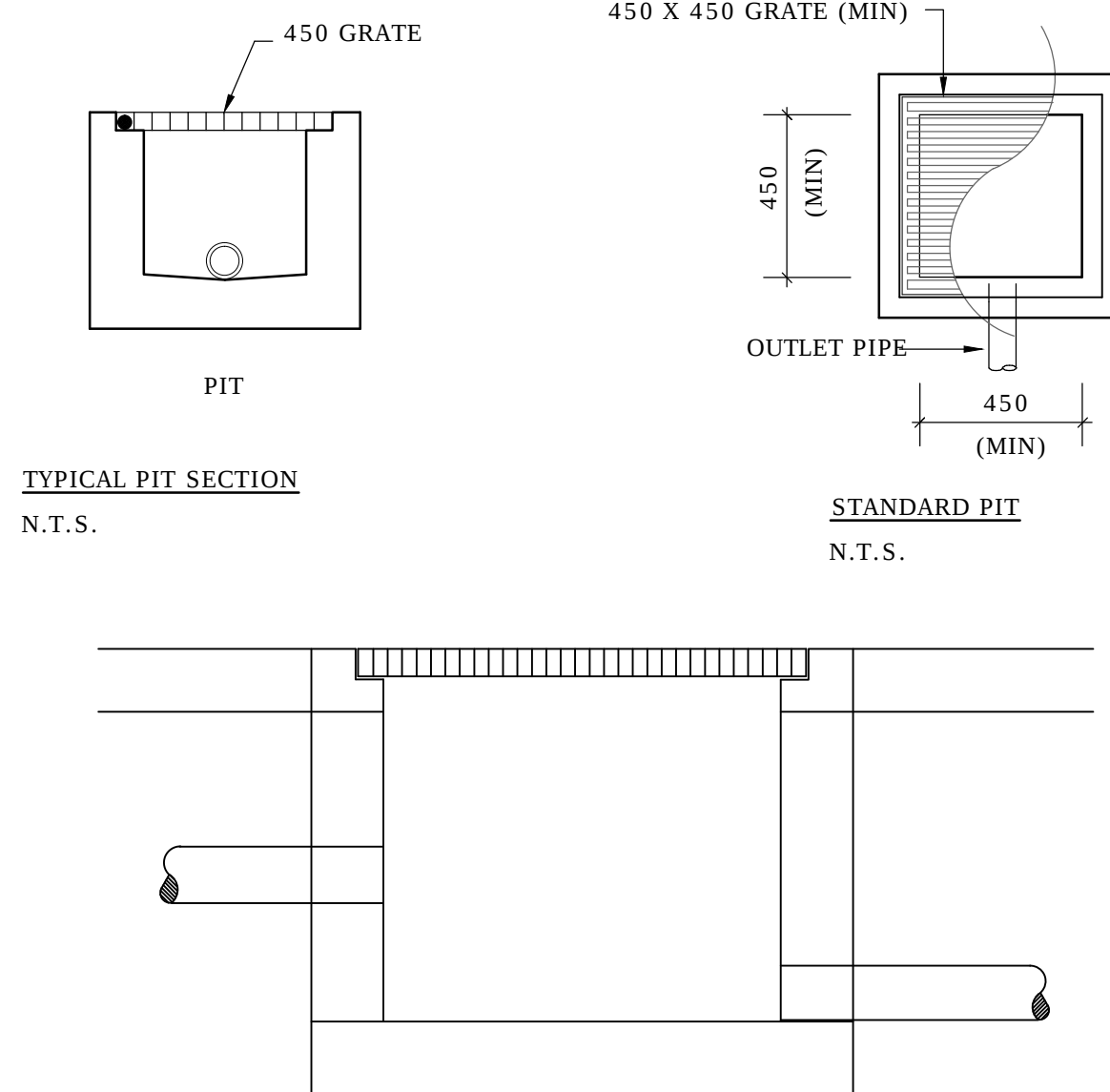


STEP IRON DETAILS
N.T.S.

NOTE: INSTALL WHERE
PITS ARE DEEPER THAN
1000mm



—DUTY POINT



TYPICAL PIT DETAIL
NTS

A1 0 1 2 3 4 5 6 7 8 9 10

A	FOR D.A. APPROVAL		N.L.	J.L.	05-10-16					
No	AMENDMENT		ENG	DRAFT	DATE	No	AMENDMENT		ENG	DRAFT DATE

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SHEET	SUBJECT
	BASEMENT STORMWATER DRAINAGE DETAILS

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WARNING

PUMP OUT SYSTEM
FAILURE IN BASEMENT
WHEN LIGHT IS FLASHING
AND SIREN SOUNDING

BASEMENT PUMP OUT FAILURE

WARNING SIGN

NOTE:-

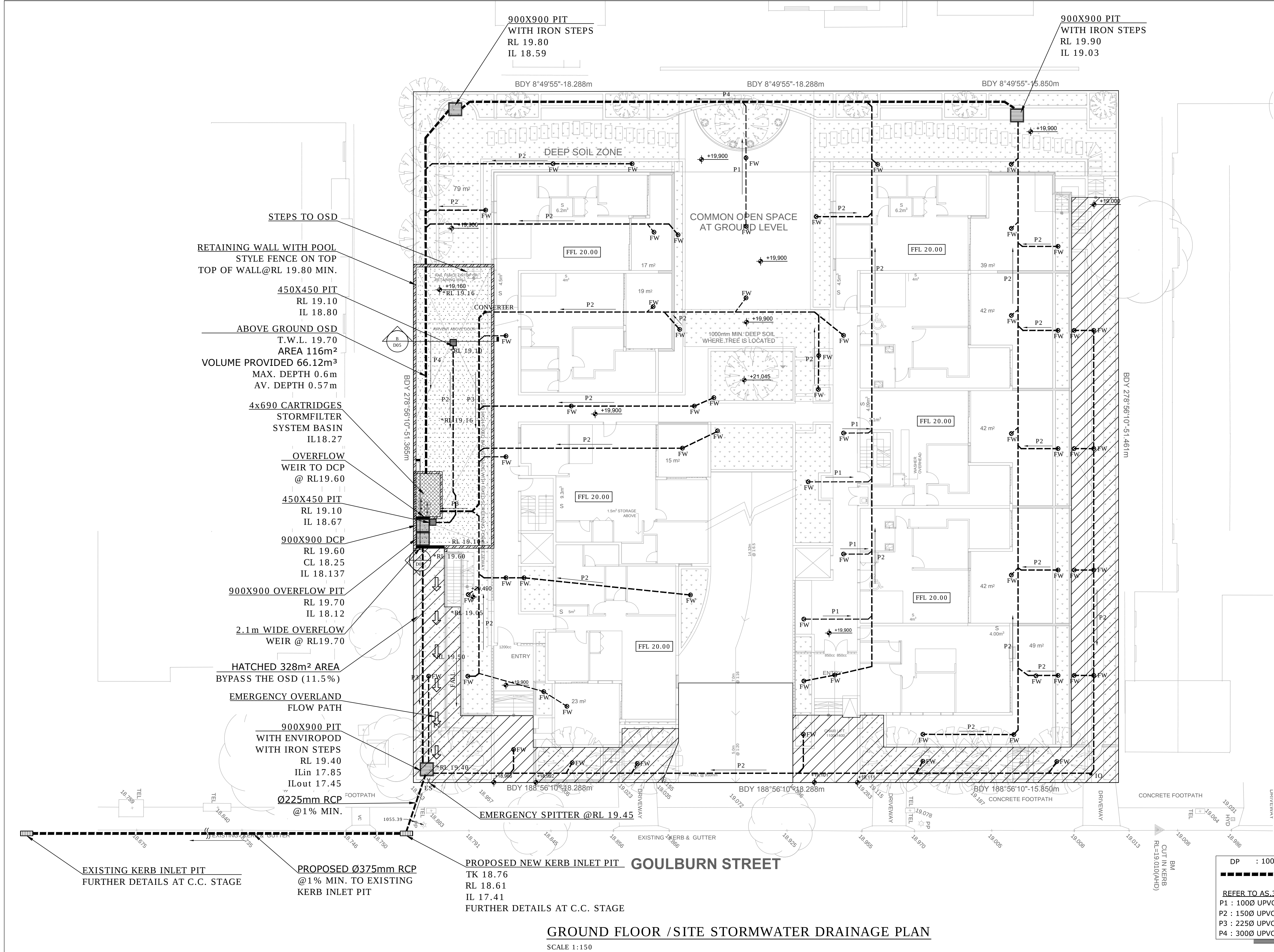
1- SIGN SHALL BE PLACED IN A CLEAR AND VISIBLE LOCATION
WHERE VEHICLES ENTER THE BASEMENT.

COLOURS :: -

WARNING - RED
BORDER AND OTHER COLOURING - BLACK

NOTE: A SUITABLE ALARM SYSTEM
POSITIONED AT ENTRANCE OF BASEMENT
CARPARK TO PROVIDE A FLOOD WARNING
IN CASE OF PUMP FAILURE (TO COUNCIL'S
SPEC). AS SHOWN ABOVE.

PROJECT 9-13 GOULBURN STREET, WARWICK FARM, NSW			
DATE	DRAWN	DESIGNED	CHECKED
OCT 16	J.L.	N.L.	N
SCALE @ A1		JOB No	
N.T.S.		16NL205	
AUTHORISED		DWG No	
NERMEIN LOKA		D03	



NOTE RE. SERVICES

APPROXIMATE LOCATIONS OF EXISTING SERVICES SHOWN ON LONGITUDINAL SECTION. EXACT LOCATIONS & DEPTHS TO BE ACCURATELY LOCATED BY BUILDER CONTRACTOR BY CONTACTING THE RELEVANT AUTHORITIES BEFORE COMMENCEMENT OF ANY WORKS



NOTES

- ALL LINES ARE TO BE MIN. 1000 UPVC @ MIN 1.0% GRADE UNLESS NOTED OTHERWISE.
- IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS. ALL DESIGN LEVELS SHOWN ON PLAN SHALL BE VERIFIED ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORK.
- ALL PIPES TO HAVE MIN 200mm COVER IF LOCATED WITHIN PROPERTY.
- ALL PITS IN DRIVEWAYS BE HEAVY DUTY GRATES. DIRECT SURFACE FLOW TO ALL GRATED SURFACE INLET PITS.
- ALL WORK DO BE DONE IN ACCORDANCE WITH AS/NZ 3500.3.2:2003 AND COUNCIL SPECIFICATIONS.
- LOCATION OF DOWNPIPES & FLOOR WASTES ARE INDICATIVE ONLY. DOWNPIPE & FLOOR WASTE SIZE, LOCATION & QUANTITY TO BE DETERMINED BY BUILDER & IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
- THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, LANDSCAPE AND STRUCTURAL PLANS.
- ANY DISCREPANCIES OR OMISSIONS SHALL BE REFERRED TO THE DESIGN ENGINEER FOR RESOLUTION.
- ALL PITS OR GRATES IN TRAFFICABLE AREAS TO BE HEAVY DUTY.
- ALL GUTTERS WILL BE FITTED WITH LEAF GUARDS AND SHOULD BE INSPECTED AND CLEANED TO ENSURE LEAF LITTER CANNOT ENTER THE DOWNPIPES

SYMBOLS

F.F.L.	FINISHED FLOOR LEVEL
T.K.	TOP OF KERB
RL	PIT SURFACE LEVEL
IL	INVERT LEVEL
---	STORMWATER DRAINAGE PIPE
---	DOWNPIPE TO RAINWATER TANK
• DP	1000 DOWN PIPE (U.N.O.)
• VD	VERTICAL DROP PIPE
• VR	VERTICAL RISER
• IO	INSPECTION OPENING
	MASONRY RETAINING WALL
• FW	FLOOR WASTE 1500
■	GRATED INLET PIT
■	GRATED DRAIN
←	OVERLAND FLOW PATH
SP	SPREADER

NOTES: DRAINAGE LINES

DRAINAGE LINES SHOWN continuous TO COLLECT SURFACE WATER

DRAINAGE LINES SHOWN dashed TO COLLECT ROOF WATER ONLY TO RAINWATER TANK

DP : 1000 DOWN PIPE U.N.O.

--- : STORMWATER PIPE @1% MIN. U.N.O.

REFER TO AS 3500 PART 3 TABLE 7.2

P1 : 1000 UPVC PIPE AT 1.0% MIN. GRADE

P2 : 1500 UPVC PIPE AT 1.0% MIN. GRADE

P3 : 2250 UPVC PIPE AT 0.5% MIN. GRADE

P4 : 3000 UPVC PIPE AT 0.4% MIN. GRADE

NOTES: COUNCIL ISSUED FOOTWAY DESIGN LEVELS

COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED INTO THE FINISHED LEVELS ONCE ISSUED BY COUNCIL

NOTES: ROAD RESERVE & FOOTWAY DRAINAGE ELEMENTS

ALL STORMWATER DRAINAGE ELEMENTS PROPOSED WITHIN THE ROAD RESERVE AND FOOTWAY SHALL BE CONSTRUCTED UNDER THE SUPERVISION AND TO THE SATISFACTION OF COUNCIL'S ENGINEER.

NOT FOR CONSTRUCTION

A1	0	1	2	3	4	5	6	7	8	9	10
D	FOR D.A. APPROVAL	N.L.	J.L.	13-06-17							
C	UPDATED ARCHITECTURAL	N.L.	J.L.	10-02-17							
B	FOR D.A. APPROVAL	N.L.	J.L.	08-02-17							
A	FOR D.A. APPROVAL	N.L.	J.L.	05-10-16							
No	AMENDMENT	ENG	DRAFT	DATE	No	AMENDMENT	ENG	DRAFT	DATE		

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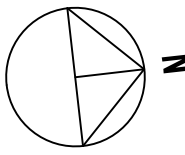
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PROJECT

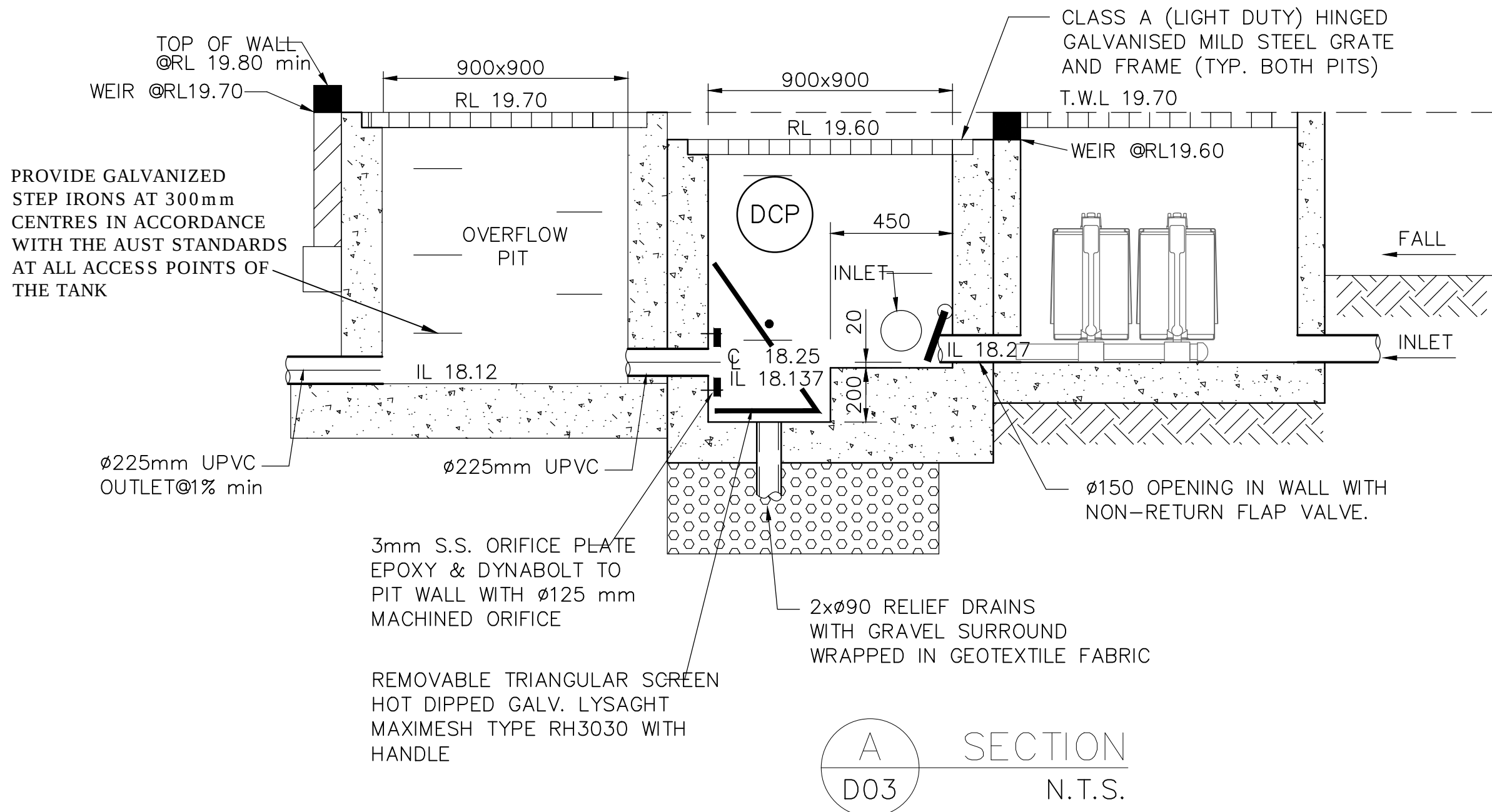
PROPOSED RESIDENTIAL DEVELOPMENT
9-13 GOULBURN STREET,
WARWICK FARM, NSW



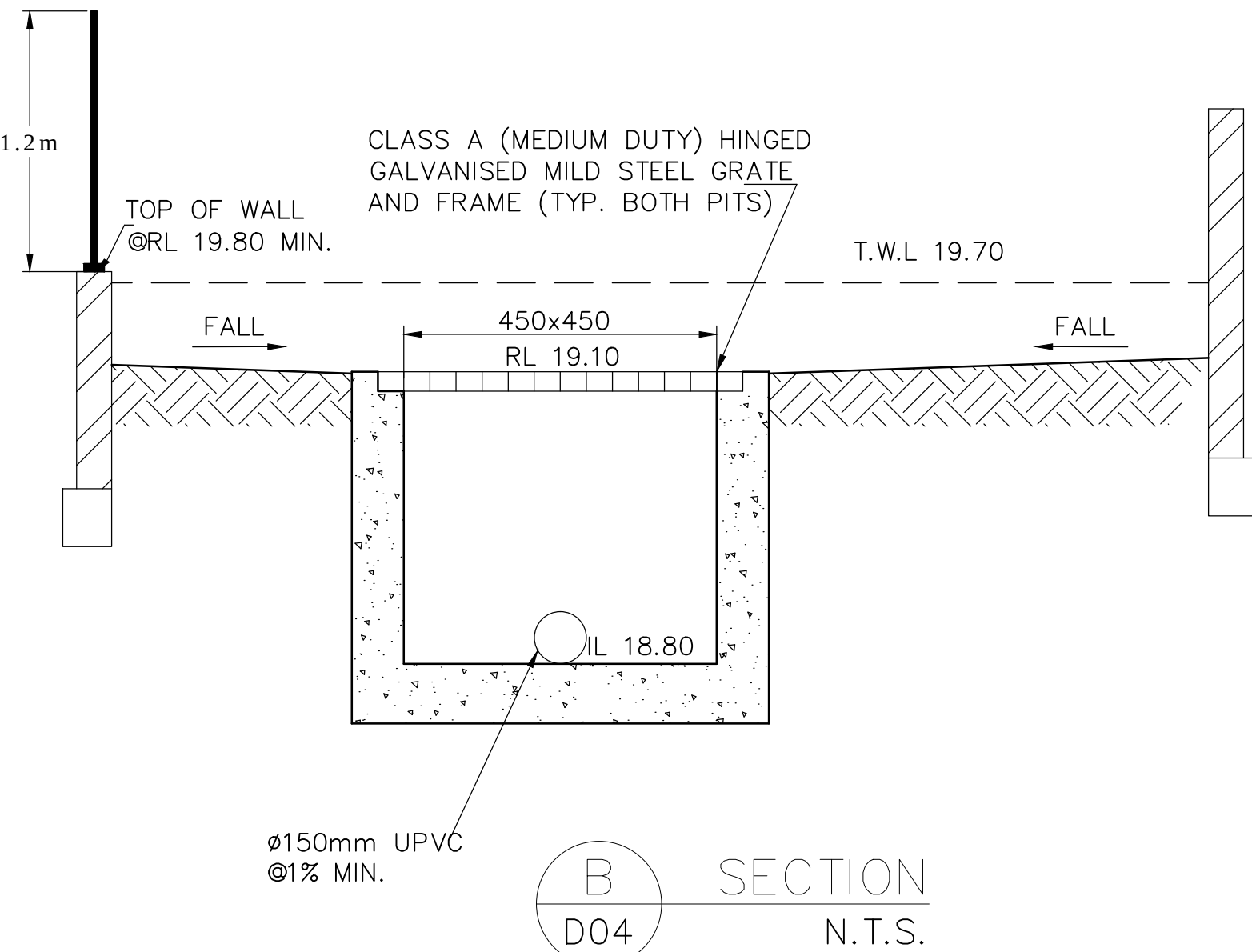
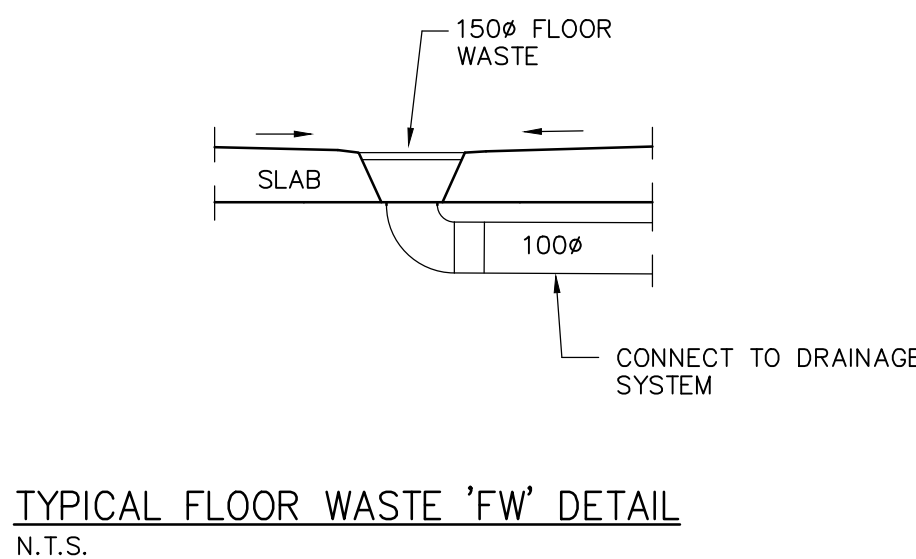
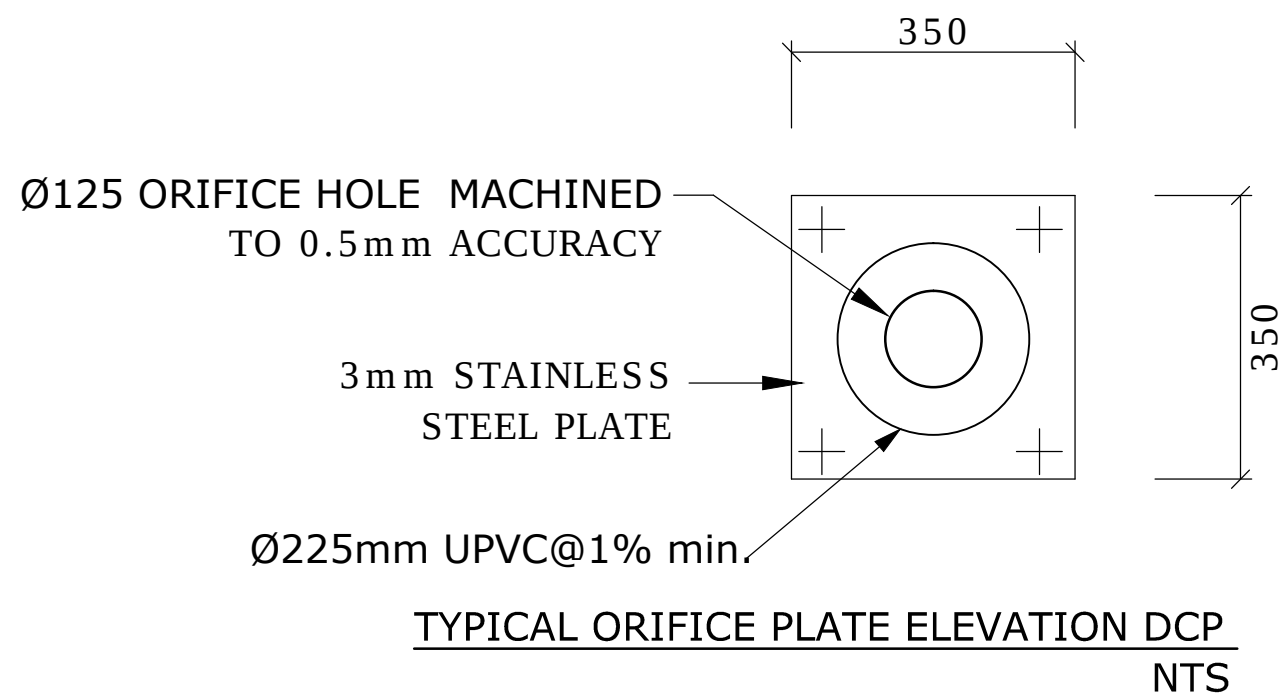
SHEET SUBJECT

GROUND FLOOR / SITE
STORMWATER DRAINAGE
PLAN

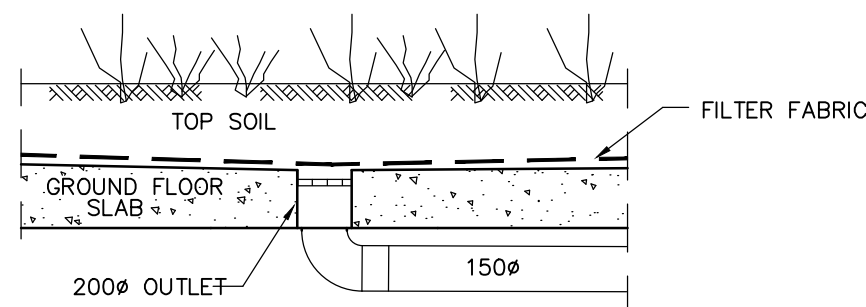
PROJECT				9-13 GOULBURN STREET, WARWICK FARM, NSW			
DATE		DRAWN		DESIGNED		CHECKED	
OCT 16		J.L.		N.L.		N.L.	
SCALE @ A1				JOB No			
1:150				16NL205			
AUTHORISED				DWG No		REV	
NERMEIN LOKA				D04		D	



SECTION THROUGH
DISCHARGE CONTROL PIT DCP
N.T.S.



SECTION THROUGH OSD
NTS



TYPICAL LANDSCAPING AREA FLOOR WASTE DETAIL
N.T.S.

NOTE - ALL PLANTING AREAS OVER BASEMENT TO HAVE
ADEQUATE FLOOR WASTES INSTALLED

Minimum size: 150mm x 60mm
Material: Non-corrosive metal or 4mm thick laminated plastic.
Location: Screwed to the nearest concrete or Permanent surface
and be above the expected water surface level in the
basin. If in doubt contact Council.
Wording: Minimum letter height of 5mm. Wording to consist of;



THIS IS AN ON-SITE DETENTION STRUCTURE.
DO NOT TAMPER WITH.
CONTACT LIVERPOOL CITY COUNCIL PRIOR
TO ANY PROPOSED WORKS IN THIS AREA.

NOTE RE. SERVICES

APPROXIMATE LOCATIONS OF
EXISTING SERVICES SHOWN
ON LONGITUDINAL SECTION.
EXACT LOCATIONS & DEPTHS
TO BE ACCURATELY LOCATED BY
BUILDER CONTRACTOR BY CONTACTING
THE RELEVANT AUTHORITIES BEFORE
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NOT FOR CONSTRUCTION

A1 1 2 3 4 5 6 7 8 9 10

No	AMENDMENT	ENG	DRAFT	DATE	No	AMENDMENT	ENG	DRAFT	DATE
C	FOR D.A. APPROVAL	N.L.	J.L.	13-06-17					
B	FOR D.A. APPROVAL	N.L.	J.L.	08-02-17					
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Joseph El Khawaja Reg: 8833
Astraf Anwar Reg: 8007

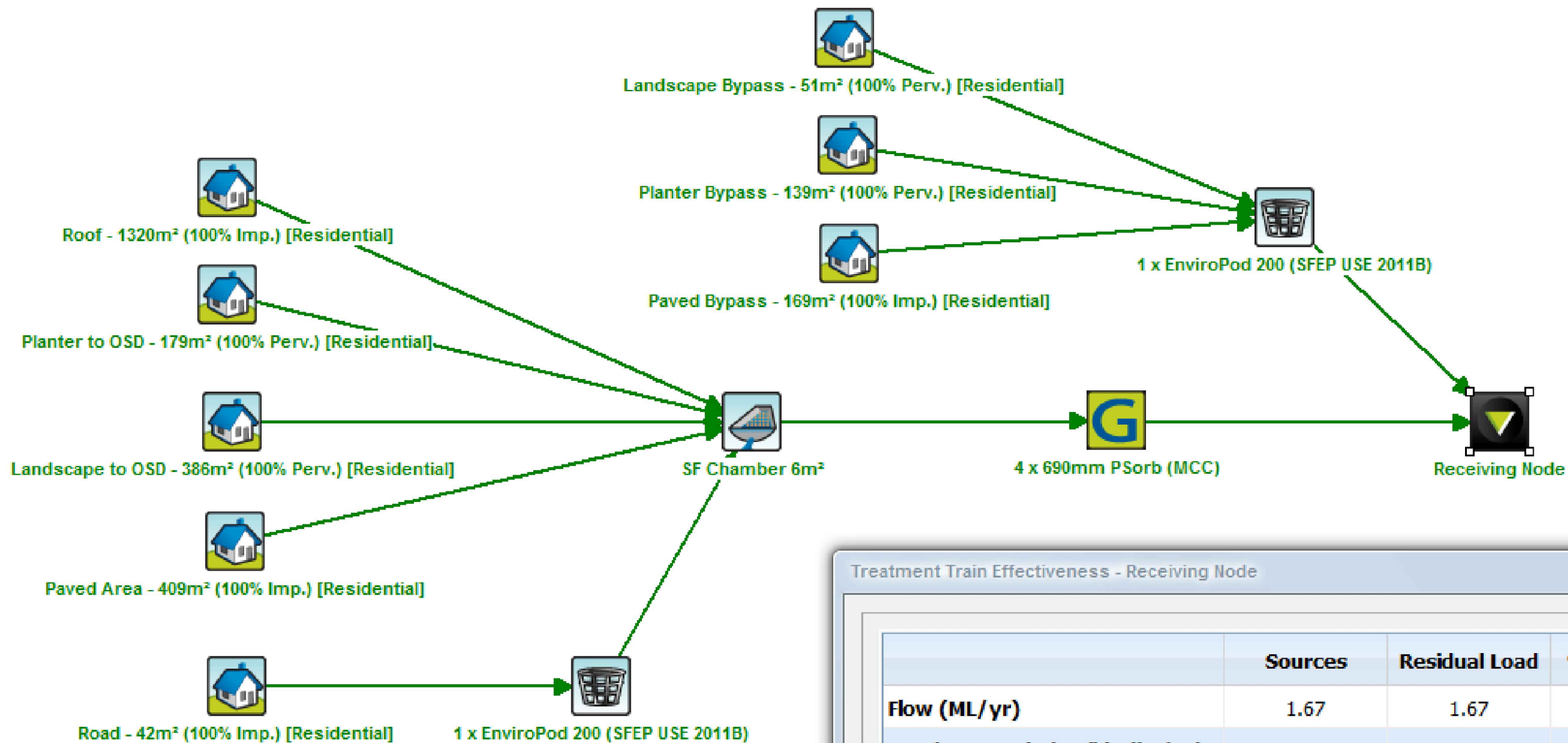
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PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT
9-13 GOULBURN STREET,
WARWICK FARM, NSW

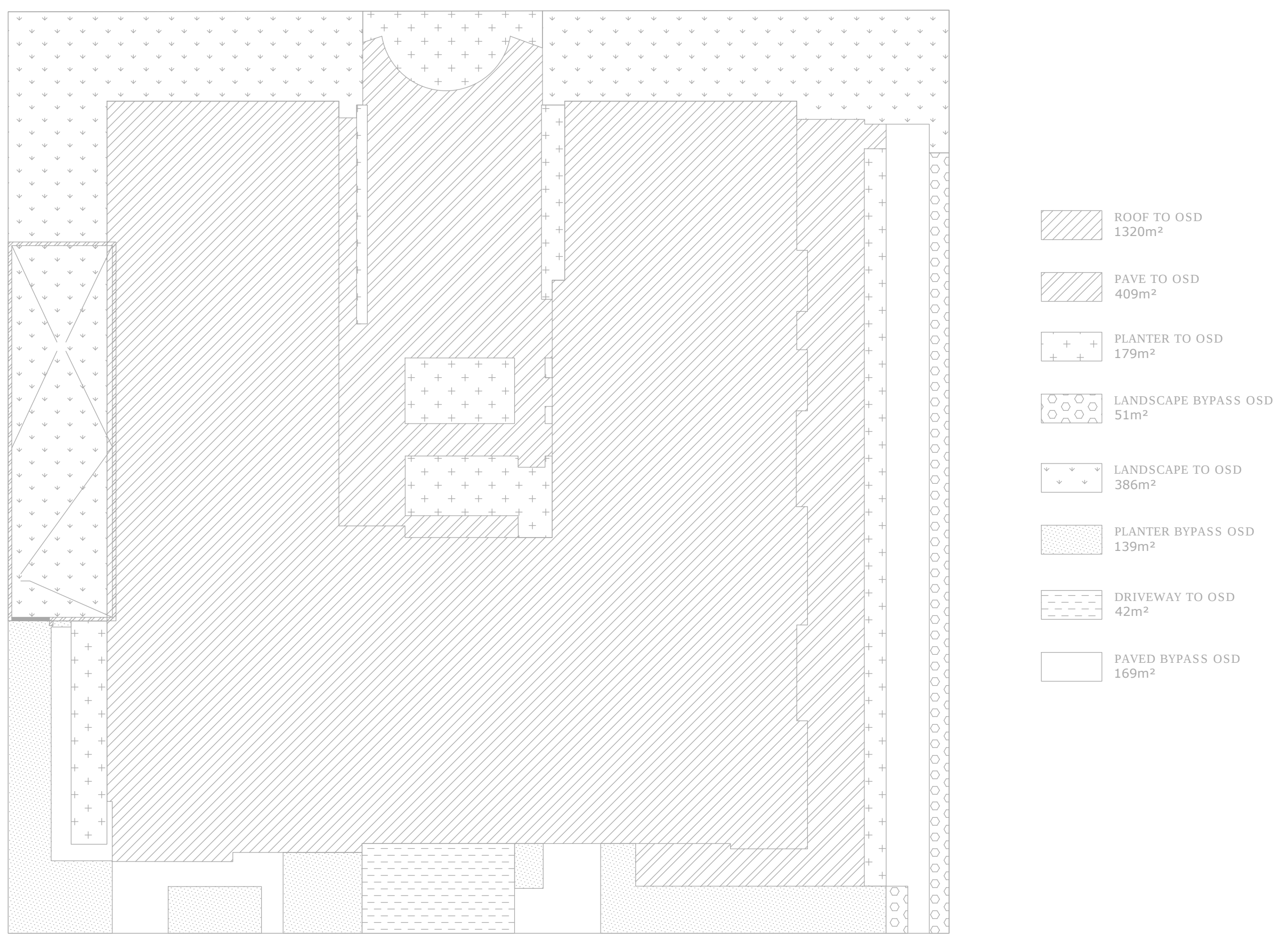
SHEET SUBJECT
STORMWATER DRAINAGE
DETAILS

PROJECT 9-13 GOULBURN STREET, WARWICK FARM, NSW			
DATE OCT 16	DRAWN J.L.	DESIGNED N.L.	CHECKED N.L.
SCALE @ A1 N.T.S.	JOB No 16NL205		
AUTHORISED NERMEIN LOKA	DWG No D05	REV C	

PROJECT 9-13 GOULBURN STREET, WARWICK FARM, NSW			
DATE OCT 16	DRAWN J.L.	DESIGNED N.L.	CHECKED N.L.
SCALE @ 1 N.T.S.		JOB No 16NL205	
AUTHORISED NERMEIN LOKA		DWG No D06	REV A



Treatment Train Effectiveness - Receiving Node			
	Sources	Residual Load	% Reduction
Flow (ML/yr)	1.67	1.67	0
Total Suspended Solids (kg/yr)	128	25.8	79.9
Total Phosphorus (kg/yr)	0.338	0.109	67.6
Total Nitrogen (kg/yr)	3.62	1.98	45.4
Gross Pollutants (kg/yr)	42.3	0	100



MUSIC MODEL AND RESULT

CATCHMENT PLAN

STORMFILTER DESIGN TABLE

• THE SIZE 2.1 x 1.3m STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED AND BY REGION SPECIFIC INTERNAL FLOW CONTROLS.

• THE STANDARD CONFIGURATION IS SHOWN. ACTUAL CONFIGURATION OF THE SPECIFIED STRUCTURE(S) PER CIVIL ENGINEER WILL BE SHOWN ON SUBMITTAL DRAWINGS.

• ALL PARTS PROVIDED AND INTERNAL ASSEMBLY BY STORMWATER360 UNLESS OTHERWISE NOTED.

CARTRIDGE HEIGHT	690	400	310
SYSTEM HYDRAULIC DROP (H-REQ'D MIN.)	900	700	550
TREATMENT BY MEDIA SURFACE AREA L/SM2	1.4	0.7	1.4
CARTRIDGE FLOW RATE (L/S)	1.42	0.71	0.63

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. CONCRETE STRUCTURE TO BE PROVIDED BY OTHERS.

4. SEE STORMFILTER DESIGN TABLE FOR REQUIRED HYDRAULIC DROP. 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 BY OTHERS. ACCESS COVERS TO BE A MINIMUM 900x900 ABOVE CARTRIDGES.

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. CARTRIDGE HEIGHT AND ASSOCIATED DESIGN PARAMETERS PER STORMFILTER DESIGN TABLE.

10. STORMFILTER BY STORMWATER360, SYDNEY (AU) PHONE: 1300 354 712 www.stormwater360.com.au

PLAN LAYOUT

SECTION

STORMFILTER CARTRIDGE DETAIL

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	XXX
WATER QUALITY FLOW RATE (KX/S)	XXX
PEAK FLOW RATE (L/S)	XXX
RETURN PERIOD OF PEAK FLOW (YRS)	XXX
# OF CARTRIDGES REQUIRED	XXX
CARTRIDGE HEIGHT (310, 400, 690, 900mm)	XXX
MEDIA TYPE (PERLITE, PERLITE/2600, PE OR ZPG)	XXX
PRECAST VAULT WEIGHT - kg	XXX
PRECAST LID WEIGHT - kg	XXX
PIPE DATA I.D. MATERIAL/DIAMETER	XXX
INLET PIPE XXX MATERIAL XXX	XXX
OUTLET PIPE XXX MATERIAL XXX	XXX
RIM RLs	XXX
UPSTREAM DOWNSTREAM	XXX
FLOW	XXX
LADDER	YES/NO
ANTI-FLOTATION BULKHEAD	XXX
XXX	XXX
NOTES/SPECIAL REQUIREMENTS	XXX

Stormwater360

STORMWATER360

STORMFILTER DETENTION TANK

4 CARTRIDGE STORMFILTER SYSTEM

HED GENERAL ARRANGEMENT

Drawings

1

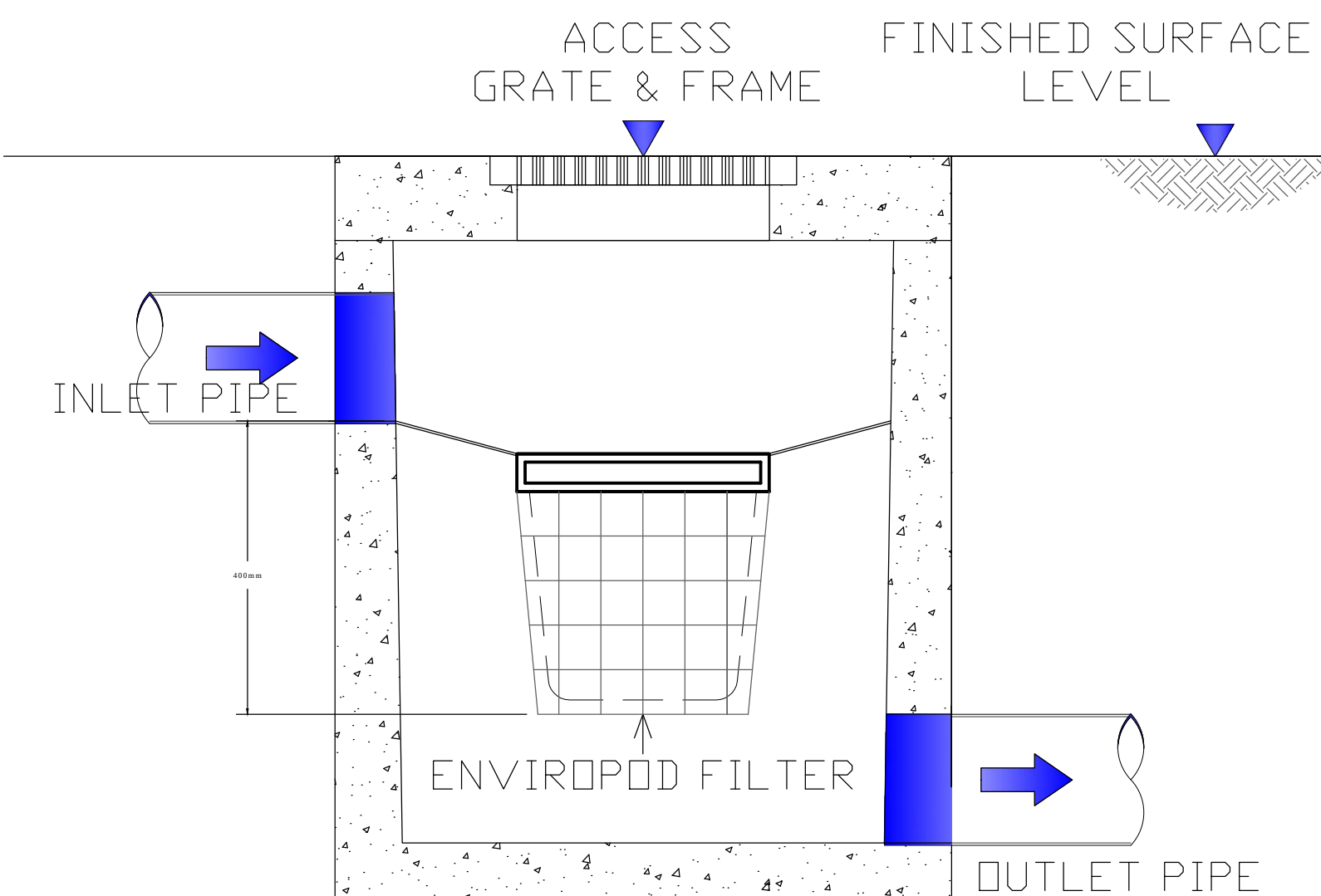
A

DATE: 11.01.12

FILE NAME: 4C-DET-TANK-STD-690

DRN R.P.

CHK: M.W.



DROP PIPE ENVIROPOD CONFIGURATION SECTION

SUMMARY:

THE PROPOSED STORMWATER QUALITY TREATMENT TRAIN ARE COMPRISES OF 4-CARTRIDGE (690mm PSORB) DETENTION STORMFILTER SYSTEM AND 2 NO. OF ENVIROPODS TO REMOVE DIFFERENT SOURCE POLLUTANTS. IT IS OUR OPINION THAT IF THESE MEASURES ARE IMPLEMENTED, THE PROPOSED DEVELOPMENT WILL COMPLY WITH THE INTENT OF LIVERPOOL COUNCIL REQUIREMENT. IN ADDITION, THE PROPOSED STORMWATER QUALITY TREATMENT TRAIN SHALL BE MAINTAINED AND SERVICES BY THE OWNERS OF THE PROPOSED DEVELOPMENT AT NO COST TO COUNCIL.

STORMWATER TREATMENT SUMMARY

SITE AREA = 2695m²

"MUSIC" HAS BEEN USED FOR WATER QUALITY TREATMENT ANALYSIS

AS PER YOUR REQUEST PLEASE SEE STORMWATER360'S TREATMENT DESIGN FOR THE ABOVE MENTIONED SITE. THE CATCHMENT IN MUSIC IS MODELLED IN ACCORDANCE WITH THE FOLLOWING GUIDELINES & PARAMETERS:

- MUSIC VERSION 6.2.1
- SF CHAMBER NODE MODELLED WITH 'K' VALUES SET TO 1
- RAINFALL STATION 67035 LIVERPOOL(WHITLAM), 6 MINUTE TIME STEP FROM 1967 TO 1976
- SYDNEY CATCHMENT MANAGEMENT AUTHORITY (CMA) SOURCE NODE(S) UTILIZING MODIFIED % IMPERVIOUS AREA, RAINFALL THRESHOLD, SOIL PROPERTIES & POLLUTANT CONCENTRATIONS
- NO DRAINAGE ROUTING BETWEEN NODES.

THE SYSTEM HAS BEEN MODELLED TO MEET THE LIVERPOOL COUNCIL DCP (2008) TARGET

TSS: 80% REDUCTION
TP: 45% REDUCTION
TN: 45% REDUCTION

TREATMENT DEVICES:

- 4-CARTRIDGE (690mm PSORB) DETENTION STORMFILTER SYSTEM
- STORMFILTER CHAMBER UTILISING 6m² OF SURFACE AREA FOR CARTRIDGE INSTALLATION
- 2 NO. OF ENVIROPODS 200.