STORMWATER CONCEPT PLAN AT 54 BARDO ROAD, NEWPORT, NSW

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 AUTHORTIES BEFORE COMMENCEMENT OF ANY WORKS



GENERAL NOTES

- 1. ALL LINES ARE TO BE MIN. 100Ø UPVC @ MIN 1.0% GRADE UNLESS NOTED OTHERWISE.
- 2. 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
- 3. ALL PIPES TO HAVE MIN 200mm COVER IF LOCATED WITHIN PROPERTY.
- 4. ALL PITS IN DRIVEWAYS BE HEAVY DUTY GRATES. DIRECT SURFACE FLOW TO ALL GRATED SURFACE INLET PITS.
- 5. ALL WORK DO BE DONE IN ACCORDANCE WITH COUNCIL'S DCP AND TO COUNCIL'S SATISFACTION.
- 6. 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.
- 7. THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, LANDSCAPE AND
- 8. ANY DISCREPANCIES OR OMISSIONS SHALL BE REFERRED TO THE DESIGN ENGINEER AND COUNCIL ENGINEER FOR RESOLUTION.
- 9. ALL PITS OR GRATES IN TRAFFICABLE AREAS TO BE HEAVY DUTY.
- 10. ALL GUTTERS WILL BE FITTED WITH LEAF GUARDS AND SHOULD BE INSPECTED AND CLEANED TO ENSURE LEAF LITTER CANNOT ENTER THE
- 11. ALL PIT GRATES ON SITE MUST BE HINGED WITH J-BOLT LOCKDOWN SYSTEM.
- 12. 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.
- 13. PROVIDE GRATED DRAIN IN ALL OPEN AREAS TO THE SKY INCLUDING STAIRS AND CONNECT TO NEAREST STORMWATER SYSTEM
- 14. PROVIDE EMERGENCY SPITTERS TO ALL BALCONIES.
- 15. PROVIDE AGG PIPE IN ALL LANDSCAPE AREA AND CONNECT TO THE STORMWATER DRAINAGE
- 16. PROVIDE AGG PIPE BEHIND THE RETAINING WALL AND CONNECT TO THE STORMWATER DRAINAGE SYSTEM.
- 17. TOP OF KERB AND INVERT OF GUTTER LEVELS & SERVICES ARE TO BE CHECKED ON SITE PRIOR ANY SITE WORK, INCLUDING CONSTRUCTION OF INTERNAL DRAINAGE SYSTEM. CONTACT ENGINEER IMMEDIATELY IF LEVEL VARIES FROM DESIGN DRAWING.
- 18. ALL RETAINING WALL FOR ABOVE GROUND OSD/BIORETENTION BASIN TO BE FULLY CONSTRUCTED WITHIN THE PROPERTY BOUNDARY.

SURFACE INLET PIT DIMENSION									
		MINIMUM INTERNAL DIMENSIONS (mm)							
DEPTH TO I OF OUT		RECTAI	CIRCULAR						
		WIDTH	LENGTH	DIAMETER					
	≤450	350	350	-					
>450	≤600	450	450	600					
>600	≤900	600	600	900					
>900	≤1200	600	900	1000					
>1200		900	900	1000					

DETENSION NOTE:

THE OSD BASIN/TANK IS TO BE BUILT TO THE CORRECT LEVEL & 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.

NOTES: DRAINAGE LINES

TO COLLECT SURFACE WATER

TO COLLECT ROOF WATER ONLY TO RAINWATER TANK

: 100Ø DOWN PIPE U.N.O.

P2: 150Ø UPVC PIPE AT 1.0% MIN. GRADE

P3: 225Ø UPVC PIPE AT 0.5% MIN. GRADE

P4: 300Ø UPVC PIPE AT 0.4% MIN. GRADE P5: 375Ø UPVC PIPE AT 0.4% MIN. GRADE

P6: 450Ø RCP PIPE AT 0.4% MIN. GRADE

@1% MIN. U.N.O.

=====: STORMWATER PIPE

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

DRAINAGE LINES SHOWN

DRAINAGE LINES SHOWN

ON-SITE

SYMBOLS FINISHED FLOOR LEVEL

TOP OF KERB PIT SURFACE LEVEL INVERT LEVEL STORMWATER DRAINAGE PIPE DOWNPIPE TO RAINWATER TANK 100Ø DOWN PIPE (U.N.O.)

VD VERTICAL DROP PIPE VERTICAL RISER

INSPECTION OPENING

MASONRY RETAINING WALL FLOOR WASTE 300Ø RAINWATER OUTLET 150Ø DISH DRAIN OUTLET 100Ø GRATED INLET PIT

GRATED DRAIN OVERLAND FLOW PATH

450 X 450 HINGED GRATE (MIN)

SPREADER EMERGENCY SPITTER

DRAWING No.

DO1

DO2

DO3

DO4

DO5

ABBREVIATIONS

DRAWING SCHEDULE

COVER SHEET, LEGEND & DRAWING SCHEDULE

BASEMENT STORMWATER DRAINAGE DETAILS

GROUND FLOOR/SITE STORMWATER DRAINAGE PLAN

GROUND FLOOR/SITE STORMWATER DRAINAGE DETAILS

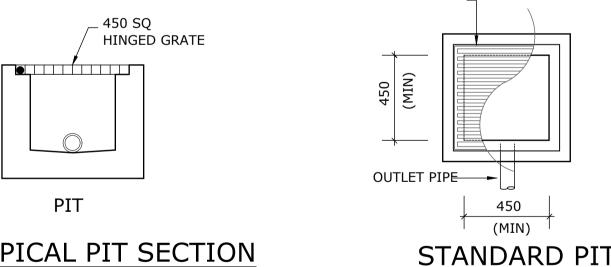
EROSION AND SEDIMENT CONTROL PLAN AND DETAILS

BASEMENT STORMWATER DRAINAGE PLAN

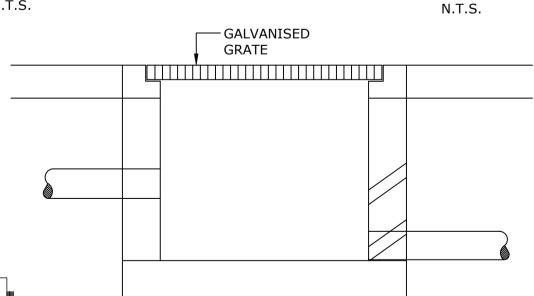
DRAWING TITLE

KIP KERB INLET PIT CONV. PIPE CONVERTER D/S DOWNSTREAM LL LOW LEVEL O/F OVERFLOW DDO DISH DRAIN OUTLET OB OBVERT LEVEL DN DIAMETER DP DOWNPIPE OSD ON-SITE DETENTION EX. EXISTING PROP. PROPOSED FFL FINISHED FLOOR LEVEL PVC POLYVINYLCHLORIDE GL GROUND LEVEL GMS GALVANISED MILD STEEL RW RETAINING WALI GSIP GROUND SURFACE INLET PIT RWT RAINWATER TANK GTD GRATED TRENCH DRAIN S/S STAINLESS STEEL

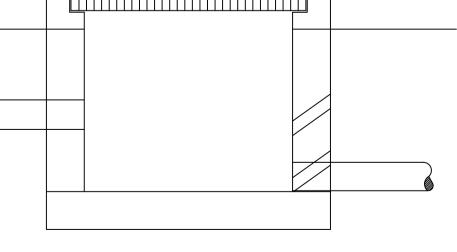
SURFACE LEVEL HIGH LEVEL STW STORMWATER INVERT LEVEL TK TOP OF KERB IO INSPECTING OPENING U/S UPSTREAM



TYPICAL PIT SECTION



N.T.S.



TYPICAL PIT DETAIL



LOCALITY SKETCH NOT TO SCALE



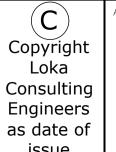
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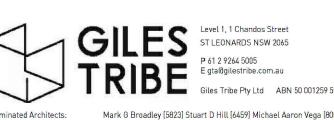
										THIS DRAW! PROPERTY CONSULTING			
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١.	FOR D.A. APPROVAL	L.Y.	L.Y.	20-08-20						WITHOUT TH			
)	AMENDMENT	ENG	DRAFT	DATE	No	AMENDMENT	ENG	DRAFT	DATE	CONSENT OF T			

WING IS THE Y OF LOKA G ENGINEERS ST NOT BE OPIED OR USED THE WRITTEN THE COMPANY

* NEW LEVEL

+ EXISTING LEVEL





RCHITECT

PROVIDE 150mm GAP UNDER THE FENCE

OPENING FOR EMERGENCY OVERFLOW.

AND IF BLOCK WALL PROVIDED, THEN PROVIDE





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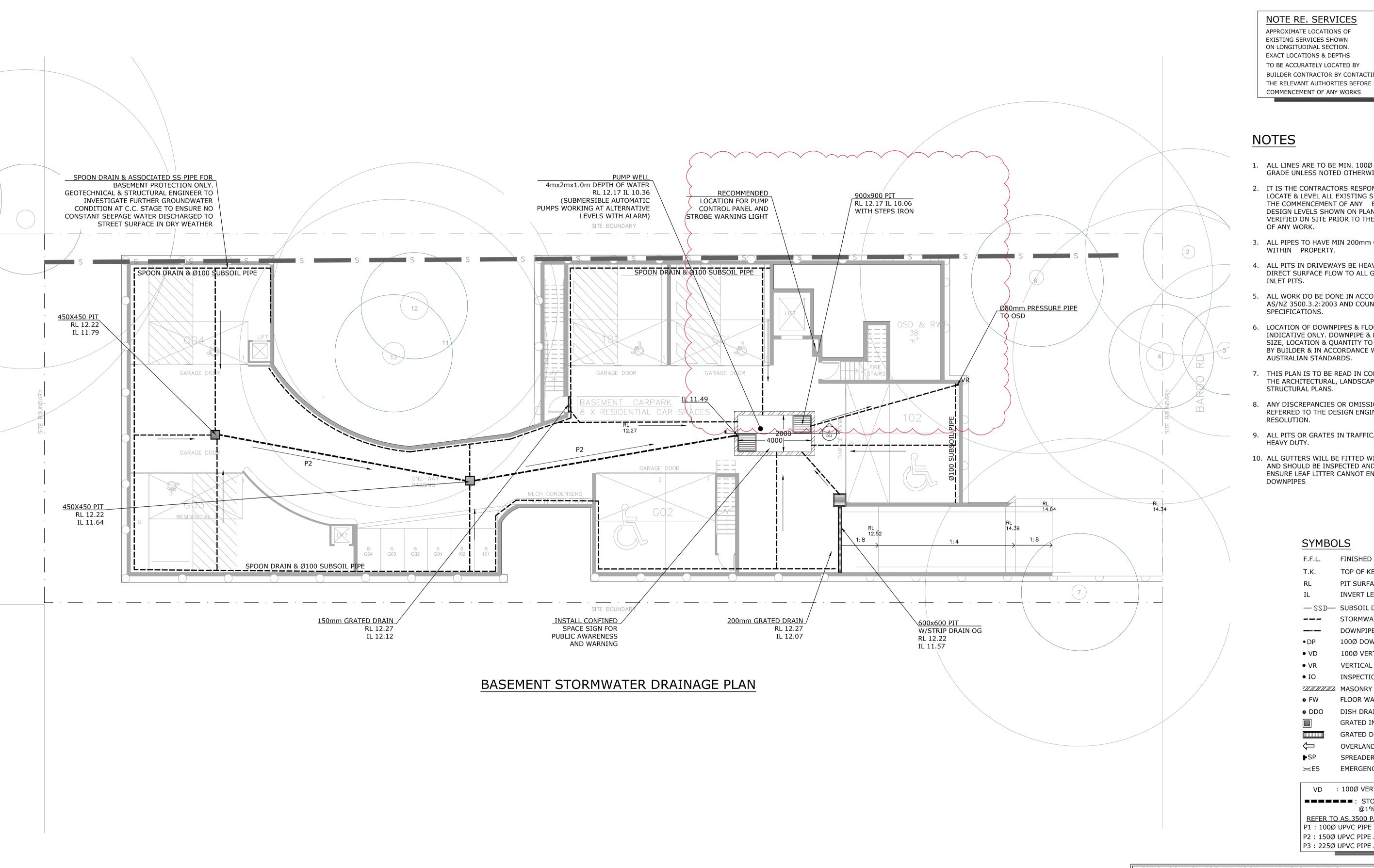
PROPOSED SENIOR LIVING 54 BARDO ROAD, NEWPORT, NSW

450

(MIN)

CONSENT AUTHORITY: NORTHERN BEACHES-FORMER PITTWATER COVER SHEET, LEGEND AND DRAWING SCHEDULE

PROJECT 54 BA	ARDO ROAD, NEW	PORT				
AUG 20	DRAWN L.Y.	DESIGNED L.Y.	CHECK N	ED I. L .		
SCALE @ A1 N.T.S.		JOB No 20NL103				
AUTHORISED		DWG No		REV		
NERMEIN L		D00				



NOTE RE. SERVICES

APPROXIMATE LOCATIONS OF EXISTING SERVICES SHOWN ON LONGITUDINAL SECTION. **EXACT LOCATIONS & DEPTHS** TO BE ACCURATELY LOCATED BY BUILDER CONTRACTOR BY CONTACTING



NOTES

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- 3. ALL PIPES TO HAVE MIN 200mm COVER IF LOCATED WITHIN PROPERTY.
- 4. ALL PITS IN DRIVEWAYS BE HEAVY DUTY GRATES. DIRECT SURFACE FLOW TO ALL GRATED SURFACE INLET PITS.
- 5. ALL WORK DO BE DONE IN ACCORDANCE WITH AS/NZ 3500.3.2:2003 AND COUNCIL SPECIFICATIONS.
- 6. 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.
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SYMBOLS

FINISHED FLOOR LEVEL T.K. TOP OF KERB PIT SURFACE LEVEL

INVERT LEVEL

— SSD— SUBSOIL DRAINAGE PIPE STORMWATER DRAINAGE PIPE DOWNPIPE TO RAINWATER TANK

100Ø DOWN PIPE (U.N.O.) 100Ø VERTICAL DROP (U.N.O.)

VERTICAL RISER INSPECTION OPENING

MASONRY RETAINING WALL FLOOR WASTE 300Ø

DISH DRAIN OUTLET 100Ø GRATED INLET PIT

GRATED DRAIN OVERLAND FLOW PATH

₽SP SPREADER **≍ES EMERGENCY SPITTER**

VD : 100Ø VERTICAL DROP (U.N.O.) **STORMWATER PIPE** @1% MIN. U.N.O. 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 0.5% 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

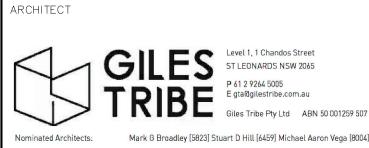
NOTES: ROAD RESERVE & FOOTWAY DRAINAGE ELEMENTS
ALL STORMWATER DRAINAGE ELEMENTS PROPOSED WITHIN THE ROAD RESERVE AND FOOTWAY SHALL BE CONSTRUCTED UNDER THE SUPERVISION AND TO THE SATISFACTION OF COUNCIL'S

NOT FOR CONSTRUCTION

1: 200@A1 1:100@A1 hilling 1 2 3 4 5 6 7 8 9 10

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С	FOR D.A. APPROVAL/ARCH UPDATES	L.Y.	L.Y.	17-03-21						AND MUST NOT BE
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lo	AMENDMENT	ENG	DRAFT	DATE	No	AMENDMENT	ENG	DRAFT	DATE	CONSENT OF THE COMPANY

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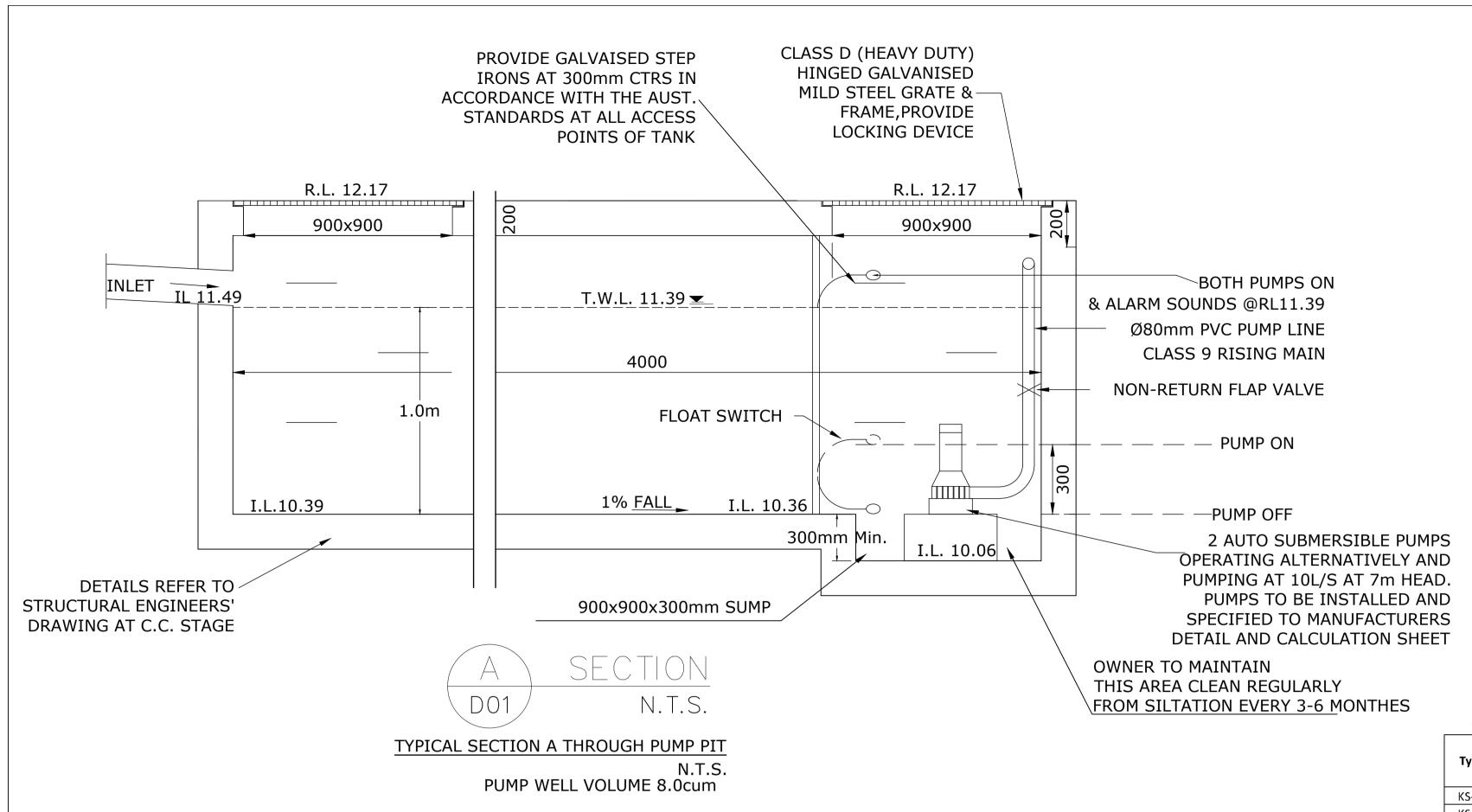
PROPOSED SENIOR LIVING 54 BARDO ROAD, NEWPORT, NSW

BASEMENT STORMWATER
DRAINAGE PLAN

ENGINEER.

SHEET SUBJECT

PROJECT 54 BA	ARDO ROAD, NEW	PORT				
APR 21	DRAWN L.Y.	DESIGNED L.Y.	CHECKED N.L.			
SCALE @ A1		JOB No				
1:100 U	.N.O	20NL103				
AUTHORISED		DWG No	REV			
NERMEIN L	_OKA	D01	D			



PUMP SPECIFICATIONS

STANDARD PUMP-OUT NOTES

THE PUMP-OUT SYSTEM IS DESIGNED TO WORK IN THE FOLLOWING MANNER -

- 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 & DRAIN 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 BASE ON 100 YEAR 2 HR STORM INTENSITY IS 49.10mm/hr, AREA DRAINING TOWARDS SUMP IS 70.1m2 Q=CIA/3600 = 1.0x49.1x70.1/3600 =0.956L/ S VOLUME REQUIRED IS 0.956x(2x60x60) =6884L

STORAGE PROVIDED 4000x2000x1000 = 8000L THEREFORE ADEQUATE STORAGE PROVIDED

PUMP OUT RATE BASED ON 100YR 5MINS. STORM = 273mm/hr

Q=CIA/3600 = 1.0x273x70.1/3600 = 5.32L/s

USE KS 30 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 7m HEAD

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

NOTE RE. SERVICES

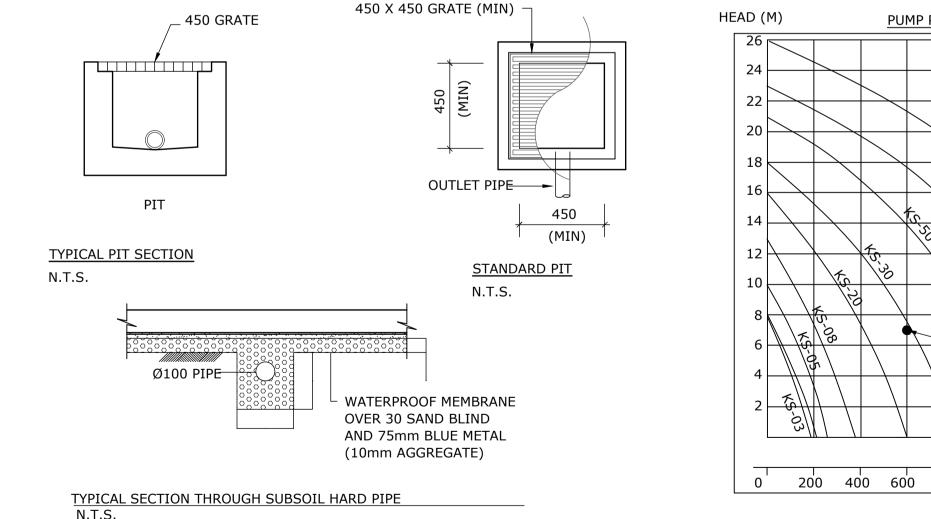
APPROXIMATE LOCATIONS OF
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THE RELEVANT AUTHORTIES BEFORE

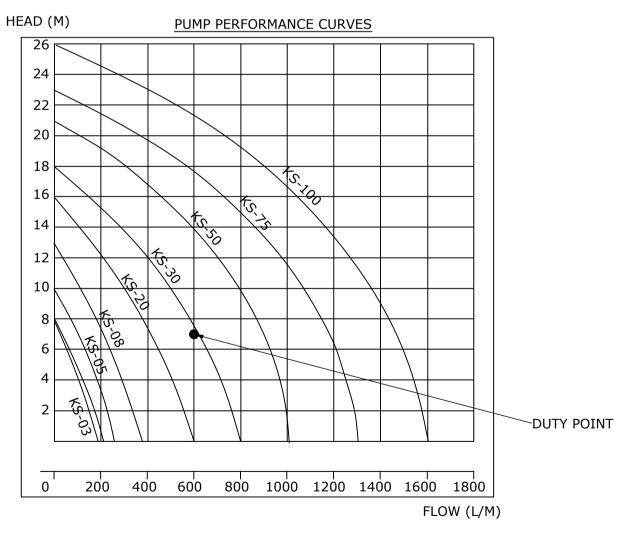
COMMENCEMENT OF ANY WORKS

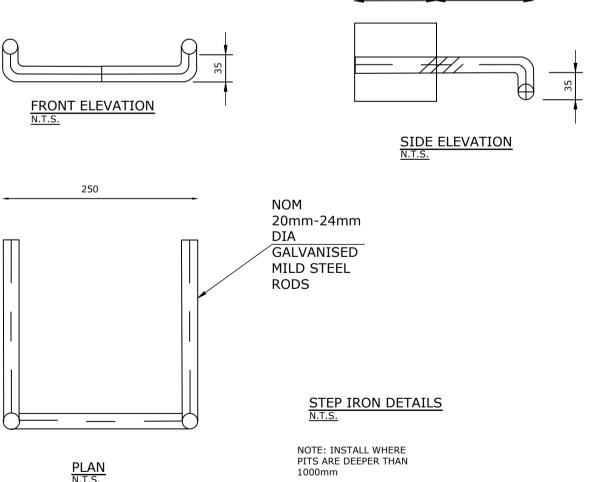


NOTES

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- 5. ALL WORK DO BE DONE IN ACCORDANCE WITH AS/NZ 3500.3.2:1998 AND COUNCIL SPECIFICATIONS.
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RECOMMENDED



NO ENTRY WITHOUT CONFINED SPACE TRAINING

WIDTH 200mm
COLOURS:

"DANGER" AND BACKGROUND WHITE
ELLIPTICAL AREA RED
RECTANGLE CONTAINING ELIPSE BLACK
OTHER LETTERING AND BORDER BLACK

MATERIALS POLYPROPYLENE

CONFINED SPACE WARNING SIGN
N.T.S.

WARNING

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

BASEMENT PUMP OUT FAILURE
WARNING SIGN

NOTE:-

HEIGHT 150mm

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

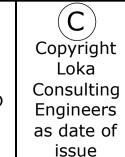
COLOURS :; -

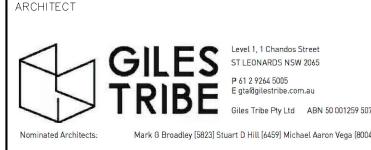
WARNING - RED BORDER AND OTHER COLOURING - BLACK

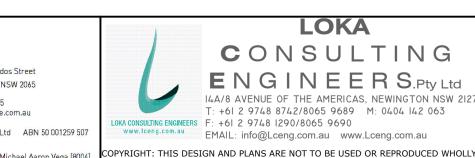
NOTE: A SUITABLE ALARM SYSTEM
POSITIONED AT ENTRANCE OF BASEMENT
CARPARK TO PROVIDE A FLOOD WARNING
IN CASE OF PUMP FAILURE (TO COUNCILS
SPEC). AS SHOWN ABOVE.

NOT FOR CONSTRUCTION

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PROJECT
PROPOSED SENIOR LIVING
54 BARDO ROAD,
NEWPORT, NSW

CONSENT AUTHORITY:
NORTHERN BEACHES—FORMER PITTWATER



SHEET SUBJECT

T	PROJECT 54 BARDO ROAD, NEWPORT								
MENT STORMWATER	SEP 20	DRAWN L.Y.	DESIGNED L.Y.	CHECK	ED I.L.				
IAGE DETAILS	SCALE @ A1		JOB No						
	N.T.S.		20NL	_103					
	AUTHORISED		DWG No		REV				
	NERMEIN I	_OKA	D02		В				

