STORMWATER MANAGEMENT PLAN **PROPOSED ALTERATIONS & ADDITIONS No.15 RIVERVIEW PARADE, NORTH MANLY**

GENERAL NOTES:

- THESE PLANS REMAIN THE PROPERTY OF NY CIVIL ENGINEERING PTY LTD AND ARE SUBJECT TO COPYRIGHT
- ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED. ALL REDUCED LEVELS (SURFACE LEVELS, INVERT LEVELS) AND CHAINAGES ARE IN METERS UNLESS OTHERWISE STATED. DO NOT SCALE OFF THE DRAWINGS, SCALES ARE AS SHOWN, USE FIGURED DIMENSIONS.
- THIS PLAN IS TO BE READ IN JUNCTION WITH LATEST ARCHITECTURAL STRUCTURAL UTILITY AND LANDSCAPE PLANS IN ADDITION TO ANY RELEVANT GEOTECHNICAL, SOIL CLASSIFICATION OR REF/ENVIRONMENTAL REPORTS. ENGINEER IS TO BE NOTIFIED OF ANY DISCREPANCIES QUOTED ON THIS PLAN.
- ALL WORKS SHALL BE CARRIED OUT TO LOCAL COUNCIL'S DEVELOPMENT CONTROL PLAN AND SPECIFICATIONS, AS/NZS 3500.3 AND B.C.A.
- ALL LEVELS SHALL RELATE TO THE ESTABLISHED BM, PM AND/OR LM. ALL EXISTING SERVICES ARE TO BE VERIFIED FOR LOCATION AND DEPTH PRIOR TO COMMENCEMENT OF ANY WORK, CONTRACTOR TO NOIFY DESIGNER OF ANY DISCREPANCIES OF SERVICE LEVELS QUIOTED ON THIS PLAN. ALL SURVEY INFORMATION, BUILDING AND FINISHED SURFACE LEVELS SHOWN IN THESE DRAWINGS ARE BASED ON LEVELS OBTAINED FROM DRAWINGS BY OTHERS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY PRIOR APPROVAL REQUIRED FROM COUNCIL WITH RESPECT TO POTENTIAL 6. IMPACT ON TREES FOR ANY WORKS SHOWN ON THIS DRAWING PRIOR TO THE COMMENCEMENT OF WORKS. NO TREES SHALL BE REMOVED WITHOUT THE WRITTEN PERMISSION OF COUNCIL.
- THE CONTRACTOR SHALL TAKE ALL DUE CARE TO USE THE ABSOLUTE MINIMUM AREA FOR CONSTRUCTION AND THAT NO UNDUE DAMAGE IS DONE TO THE EXISTING VEGETATION.
- THE CONTRACTOR SHALL COMPLY WITH CONDITIONS, AND SPECIFICATION OF COUNCIL AND ALL ACTS OF THE NSW EPA. 8
- THE CONTRACTOR SHALL TAKE ALL REASONABLE CARE TO PROTECT EXISTING SERVICES. DAMAGED SERVICES SHALL BE REPAIRED AT THE 9. CONTRACTOR'S EXPENSE
- ALL NEW WORK IS TO MAKE A SMOOTH JUNCTION WITH EXISTING WORF
- SUITABLE WARNING SIGNS AND BARRICADES ARE TO BE PROVIDED IN ACCORDANCE WITH THE AUSTRALIAN STANDARDS AND AS DIRECTED BY THE RELEVANT AUTHORITY
- SERVICES SHOWN ARE INDICATIVE ONLY FROM AVAILABLE INFORMATION AND THE TIME OF SITE INVESTIGATION (IF ANY). THE BUILDER IS TO 12. NOTIEV ENGINEER OF ANY DISCREPANCIES QUOTED ON THIS PLAN
- RESTORE ALL TRAFFIC AREAS TO PRE EXISTING CONDITION. FOR ALL SURFACES OTHER THAN IN TRAFFIC AREAS RESTORE DISTURBED 13. SURFACES TO PRE-EXISTING CONDITION AND COMPACT AS SPECIFIED.
- RESTORE ALL AUTHORITY OWNED AREAS TO COUNCIL AND/OR AUTHORITY STANDARD AND SPECIFICATION.
- THE WORK AS CONSTRUCTED WORKS SHALL BE INSPECTED BY THE ENGINEER, MINIMUM 48 HOURS NOTICE SHALL BE PROVIDED FOR ALL INSPECTION REQUESTS.
- THE DESIGN PLANS HEREIN ARE SUBJECT TO COUNCIL APPROVAL PRIOR TO CONSTRUCTION
- WORK AS CONSTRUCTED DRAWINGS TO BE REQUESTED AND RECEIVED IN CAD/.DWG FILE TYPE AND HARD COPY 'RED LINE' MARKUP FROM 17 CONSTRUCTOR FOR VERIFICATION AND CERTIFICATION.

ROOF STORMWATER DRAINAGE NOTES:

- ALL DOWN PIPES TO BE MINIMUM DN90 OR 100x50MM FOR GUTTERS SLOPE 1:500 AND STEEPER AS PER AS 3500.3 3.7.8
- 2. ALL ROOF GUTTERS TO HAVE OVERFLOW PROVISION IN ACCORDANCE WITH AS 3500.3 AND SECTIONS 3.5.3. 3.7.5 AND APPENDIX G OF AS 3500.3.
- ALL DOWNPIPES TO BE FITTED VERTICALLY TO THE SOLE OF EAVES GUTTERS, RAINHEAD AND/OR SUMP. 3.
- ALL DOWNPIPES TO DRAIN INTO RAINWATER TANK AND OR PIT PRIOR TO DISCHARGE OFFSITE UNLESS PRIOR APPROVAL IS OBTAINED FROM COUNCIL IN WRITING OR NOTED OTHERWISE ON THIS PLAN.
- ALL EAVES GUTTERS TO BE SIZED FOR ARI 20 AS PER AS 3500.3 3.5 AND APPENDIX H.
- ROOF DRAINAGE INSTALLATION TO BE IN ACCORDANCE TO AS 3500.3 SECTION 4.

STORMWATER DRAINAGE NOTES:

PIPE SIZE:	SURFACE INLE	ET PIT			GRATED TRENCH DRAIN	
1. THE MINIMUM PIPE SIZE SHALL BE:	SURFACE INLE	ET PIT	00		ABSORPTION TRENCH	
1.1. DN90 FOR ALL DOWNPIPES; 1.2. DN100 WHERE THE LINE ONLY RECEIVES ROOF STORMWATER RUNOFF, OR;	(WITH ENVIROPOD 200 N	/ICRON)				
1.3. DN100 WHERE THE LINE RECEIVES RUNOFF FROM PAVED OR UNPAVED AREAS.	ACCESS G	RATE			PROPOSED ROOF GUTTER FALL	→
PIPE GRADE:	(WITH GROSS POLLUTAN	IT TRAP)	DID		PROPOSED DOWNPIPE SPREADER	⊢● (SP)
THE MINIMUM PIPE GRADE SHALL BE: FOR DN100 - DN150 - 1 00%	450 SQUARE INTE	RVAL	450 X 4	450		
1.2. FOR DN225 - 0.50% 1.3 FOR DN300_0.45%	GRATE LEVEL =	75.50	SL 75.	50		
1.4. FOR DN375 - 0.35%		75.00			SUBSOIL PIPE	aa
STANDARD COVER:	INVERT LEVEL = RL	75.20	IL 75.	20	EXISTING STORMWATER PIPE	 sw
1. MINIMUM PIPE COVER FOR PVC PIPES SHALL BE AS PER AS 3500.3 TABLE 6.2.5:	PROPOSED DOWN	NPIPE	DP 90)	INSPECTION RISER	O IR
1.1. NOT SUBJECT TO VEHICULAR LOADING: 1.1.1. WITHOUT PAVEMENT SINGLE DWELLINGS - 100mm		n wiin.	e			
1.1.2. WITHOUT PAVEMENT OTHER THAN SINGLE DWELLINGS - 300mm 1.1.3. WITH PAVEMENT (BRICK/PAVERS) AND/OR UNREINFORCED CONCRETE - 100mm	NATURAL GROUND FINI	SHED	× 10.	00	RAINWATER HEAD	
1.2. SUBJECT TO VEHICULAR LOADING:	DEGIONE					
1.2.2. ROADS (UNSEALED) - 750mm 1.2.3. OTHER THAN ROADS (WITH PAVEMENT) - 100mm	-	STC	DRMWAT	ER PIT/STRU	CTURES NOTES:	
1.2.4. OTHER THAN ROADS (WITHOUT PAVEMENT) - 450mm	1	PIT SIZE	S AND DEPTHS			
PIPE INSTALLATION	-	1.	PIT SIZES WILL BE A	S FOLLOWS:		
1. PIPES AND FITTINGS FOR STORMWATER DRAINAGE SHALL BE AS FOLLOWS:			DEPTH (mm)	MIN. PIT SIZE (mm)]	
1.1 FOR PIPE SIZES UP TO DN225 - PVC WITH SQLVENT WELDED JOINTS (IN GROUND)			UP TO 450	350x350	-	
1.2. FOR PIPE SIZES GREATER THAN DN225 - RCP WITH RUBBER RING JOINTS.			450 - 600	450x450	-	
1.3. FOR LARGER PIPE DEPTHS AS SPECIFIED IN AS 3500.3 - RCP WITH RUBBER RING JOINTS.			600 - 900	600x600	-	
 FOR CRATED DRAINS SHALL BE MINIMUM DN150 IN NON-TRAFFICABLE FOR CRATED DRAINS SHALL BE MINIMUM DN150 IN NON-TRAFFICABLE FOR SAND DN225 IN TRAFFICABLE FOR FIGURE AND DN225 IN TRAFFICABLE AND DN25 INTER AND DN25 IN	IS MINIMUM DN150. S		900 - 1200	600x900		
 I on order to break or her to an investigation of the provided to the provided to	5.		1200+	900x900 (WITH STEP IRONS)		
3.1. AS 3725-1989 - LOADS ON BURIED CONCRETE PIPES	I	PIT DESI	GNS:			
3.2. AS 2566 - 1988 - BURIED FLEXIBLE PIPELINES		1.	TRENCH DRAINS: C	ONTINUOUS TRENCH DRAINS AR	E TO BE MIN. DN150 AND MIN. 100mm DEPTH. THE BA	RS OF THE GRATE ARE TO BE PARALLEL
 AS 1597.2 - 1990 - PRECAST REINFORCED CONCRETE BOX COLVERTS AS 3500 - 1990 NATIONAL PLUMBING AND DRAINAGE CODE - PART 2 SANITARY PLUMBING AND SANITARY D 	RAINAGE - SYDNEY WATER		TO THE DIRECTION	OF SURFACE FLOW.		
REQUIREMENTS.		2	STEP IRONS: PITS B	ETWEEN 1.2m AND 6m ARE TO H	AVE STEP IRONS IN ACCORDANCE WITH AS 1657. FOR	PITS GREATER THAN 6m OTHER MEANS
ALLOW TO TEST ALL PIPES AND PITS TO MANUFACTURERS REQUIREMENTS.						
		2				
CONNECTIONS TO STORMWATER SYSTEMS UNDER BUILDINGS:		J.	PLASTIC/PVC PITS.			
IN ACCORDANCE WITH AS 3500.3 SECTION 9.2		4.	IN-SITU PITS: IN-SIT	U PITS ARE TO BE CONSTRUCT	ED ON A CONCRETE BED OF AT LEAST 150mm THICK	THE WALLS ARE TO BE DESIGNED TO
			MEET THE MINIMUN	M REQUIREMENTS OF CLAUSE 4	4.6.3 OF AS 3500.4. PITS DEEPER THAN 1.8m SHALL	BE CONSTRUCTED WITH REINFORCED
CONNECTIONS TO COUNCIL STORMWATER SYSTEMS:			CONCRETE.			
CONNECTION TO COUNCIL STORMWATER SYSTEM TO BE IN ACCORDANCE TO LOCAL COUNCIL DCP AND STANDARDS	NO CONNECTIONS TO BE MADE	5.	GRATES: GRATES A	RE TO BE GALVANIZED STEEL GF	RID TYPE. GRATES ARE TO BE OF HEAVY-DUTY TYPE I	NAREAS WHERE THEY MAY BE SUBJECT
UNTIL PROPER PERMIT/APPROVALS ARE OBTAINED FROM LOCAL COUNCIL IN WRITING.			TO VEHICLE LOADIN	IG.		
10.000	<u> </u>	INSTALL	ATION NOTES:			
		1.	ALL PIPES INTO PIT	S TO BE CUT FLUSH WITH PIT WA	LL.	
EXISTING SERVICES SHOWN ON THESE PLANS ARE NOT GUARANTEED COMPLETE OR CORRECT AND FURTHER INFOR	RMATION IS REQUIRED FROM THE	2.	ALL PITS THAT ARE	INSTALLED AT GREATER THAN 60	00mm DEEP TO BE MIN. 600x600 PIT.	
RELEVANT AUTHORITY AND FIELD INVESTIGATION AND ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCT	TION.	3.	GRATED COVERS O	N PITS GREATER THAN 600mm TO) BE HINGED.	
		4	BASE OF PIT TO BE	SAME LEVEL OF INVERT OF OUT	FT	

- DRAWING TITLE RAWN NADER ZAKI MR ISSUED FOR DA 21.10.2022 DETAILS, NOTES & LE MIEAust CPEng NER PROJECT TITI **PROPOSED ALTERATIONS &** 0413 942 613 No.15 RIVERVIEW PAR NY CIVIL ENGINEERING NORTH MANLY www.nvcivilengineering.com.au

LEGEND

OUTLET PIPE FROM ANY PIT TO BE 20mm LOWER THAN INLET PIPE/S

	SHEET SIZE	A3	JOB REFERENCE
GEND	DESIGNED	MR	E220211
	CHECKED	VP	DRAWING No.
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DIMENSIONS (mm)						
	BOX GUTTER #1					
CATCHMENT AREA TO DOWNPIPE	20m ²					
BOX GUTTER WIDTH	200					
DEPTH OF BOX GUTTER (AT HP)	95					
DEPTH OF BOX GUTTER (AT RAIN HEAD)	100					
SLOPE OF BOX GUTTER	1:200					
DEPTH OF RAINHEAD (hr)	125					
LENGTH OF RAINHEAD (Ir)	120					
DOWNPIPE DIA 100						
ROOF DRAINAGE DESIGNED FOR 100 YEAR ARI STORM EVENT (I = 278 mm/hr)						





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		DIMENSIONS (n	nm)	1	
			BOX GUTTER #2	OVERFLOW	
		CATCHMENT AREA TO DOWNPIPE	11m ²	WALL	\searrow
IMUM EXPANSION		WIDTH OF BOX GUTTER	300		
SPACE (IIIII)		DEPTH OF BOX GUTTER (AT HP)	95		Į
		DEPTH OF BOX GUTTER (AT SUMP)	115		\leq
50		SLOPE OF BOX GUTTER	1:200	BOX GOTTER	
		SUMP WIDTH	300		
		SUMP LENGTH (Ir)	400		
50		SUMP DEPTH (hr)	50		
		OVERFLOW WIDTH	200		SUM
		OVERFLOW DEPTH	50		NTS
50		DOWNPIPE DIA	100		
50		ROOF DRAINAGE DESIGNED FOR 10 EVENT (I = 278 mm	00 YEAR ARI STORM /hr)		
30				1	
50		DIMENSIONS (h	nm)		
50			BOX GUTTER #3		
R LAPS SHALL BE		CATCHMENT AREA TO DOWNPIPE	33m ²		_
WIDE. DEVIATIONS		BOX GUTTER WIDTH	300		
		DEPTH OF BOX GUTTER (AT HP)	110		76
		DEPTH OF BOX GUTTER (AT RAIN HEAD)	135		Į (
		SLOPE OF BOX GUTTER	1:200		
		DEPTH OF RAINHEAD (hr)	125		
		LENGTH OF RAINHEAD (Ir)	120		
		DOWNPIPE DIA	100		
		ROOF DRAINAGE DESIGNED FOR 10 EVENT (I = 278 mm/	00 YEAR ARI STORM /hr)		RA
	BOUNDARY				NTS
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V NOMETAL ROOTING OVER LEE DATE DELOW					
	Rofeer Owners				

AS3500.3:2021 BOX GUTTER REQUIREMENTS								
	BASE METAL	MAXIMUM LENGTH B	MINIMUM EXPANSION					
MATERIALS	THICKNESS (mm)	ONE END FIXED AND ONE END FREE TO MOVE	BOTH ENDS FREE TO MOVE	SPACE (mm)				
	0.90	12	24	50				
ALOMINIOM	1.00	12	24					
	0.60	9	18					
COPPER	0.80	15	30	50				
	1.00	26	52					
STEEL	0.55	20	40	50				
STEEL	0.75	25	50	50				
STAINLESS STEEL	0.55	20	40	50				
PVC		10	20	30				
ZINC	0.80	10	20	50				
LAP JOINTS: FOR METAL GUTTERS WITH LAPS BETWEEN 20 mm TO 25 mm THE LAP SHALL BE FULLY SEALED. WIDER LAPS SHALL BE SEALED AND FASTENED AT EACH END OF THE LAP RATHER THAN FILLING THE TOTAL AREA.								
GRADIENTS: GRADIENTS SHALL BE NOT FLATTER THAN 1:200 FOR SOLE WIDTHS EQUAL TO OR LESS THAN 600 mm WIDE. DEVIATIONS FROM THESE GRADIENTS SHALL BE SMOOTH AND NOT CAUSE PERMANENT PONDING.								
OUTLETS: OUTLETS SHALL DISCHARGE THROUGH EITHER A RAINHEAD OR A SUMP.								

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	DESIGNED MR	E220211
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SHEET SIZE A3 JOB REFERENCE AILS E220211 DESIGNED MR DRAWING No. CHECKED YR D5 **ADDITIONS** ISSUE А ADE No. IN SET 7 SCALE AS NOTED

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