						5	TOI	RMW	ATI	R D	RAI	N									
[A] INP	UT DATA	۸:																			
(a) Site	data:																				
	rainfall in	tensit	v. I =	100 r	nm/h	ır															
	to be dra																				
	surface				•	-> Pı	ın₋∩f	f co	off.	C -	1										
(III) Site	, surracc	гурс. С	JOHELE		.00)	-> KU	111-01	1 000	۰۱۱۰٫	<u> </u>	•										
(b) D : :																					
	n details:				<u> </u>			_													
	rectangul													nm							
	ard, f = 15																				
	ırface is '							te' =	=> Ma	annin	g's c	coefi	f., N	= 0.	175						
Drain slo	ope of 1 ir	200 =	=> s = 1	/ 20	O = 0	0.005	,														
[B] CAL	CULATIO	NS:																			
(a) Disc!	harge (Qa	ct):																			
	C.I.A = 1 x		1200	/ (10))O x	60 x	, 60)	- 0	033	CII M	/s										
<u> </u>	5.1./A - 1 X	100 X	1200	(100	J	JU X	. 50)	- 0.	555	ou.III	, 3										
(b) 111	roulia ::!	ne (D)																			
	raulic radi																				
	c/s of flo			<u> </u>	<u></u>																
·	850 x 300																				
Wetted	perimete	r, P = l	o + 2d	= (85	50 + 2	2 x 3	(00)	′ 100	0 =	1.45	m										
Hydraul	ic radius,	R = A/	' P = 0.	255/	1.45	$\bar{5} = 0$.176	m													
(c) Velo	city (V) [b	y Man	ning's	form	ula]:																
	N) R^(2/ 3					1	176′	(2/	3) x	(0.0)	05)^	(1/ 2	2) = ().13 ı	n/s						
† i		, ,		Ì	ĺ						ĺ	Ì									
(d) Drai	n capacity	(Ocai)·																		
	A.V = 0.25			033	CII M	/5 >	 Oact	 - (= (0.031	3) O	K										
Qcup - 7	1.0 - 0.20	, o x o.	10 - 0	.000	C u	7 3 7	Que.	(()), O											
															FFL/	FGL					
		7/\//	\////	A \sqrt{2}										7//\	///	///	//^\				
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														154							
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					(X)/,	\\\\!	/\\$\/	(X)//			///	//>	//×/								
					(X)/, K	\\\\\!	/\\\\	/X//	85 0		///	//>	//S/								
					/\\\/ \				850)			//S/								
					<i>⟨</i> ⟨∀ <i>/,</i>			⟨\$// c/s	850)			//\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\								
					(X)/,			C/S	850 (DI)			//\\\/\								
					(A) //			C/S	850 (DI	M I			//S//								
					⟨ ◇ / /			C/S	850 (DI	M I	N M	M)	//\>/						Ele	ement	
					(X)// ←			C/S	850 (DI	M I		M)								ement	
	enic	:er	nte.	r	K	DR	AIN	C/S (Sca	850 (DI le: N	M I	N M	M)	//\>						S	SWD	
©	e p i Consultin	Der Engine	ite ers Pvt. Ltr	r	√S//	DR	AIN	C/S (Sca	850 (DI le: N	M I	N M	M)	//\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	101	4-CV	-CA-(001	Lo	S		
©	e pic	CET ng Engine	TE PVI. Ltd	Pi	K	DR	AIN	C/S (Sca	850 (DI le: N	M I ITS) C	N M	M)		101 hd. by		-CA-(001 Date	Lo	S	SWD	
Project:	e Pice Building-E		ite ers Pvt. Ltd	Pi	roject	DR	AIN	C/S (Sca	850 (DI le: N	M I ITS) C	N M	M)				-CA-(S	SWD	rids:
Project: Structure:	Building-E			Pi	oject Rev.	DR	AIN	C/S (Sca	850 (DI le: N	M I ITS) C	N M	M)				-CA-C			S	on/ G	rids:

					STO	DNANA	/ATED	DBAI	NI									
FAT LAIDU					310	RIVIV	VATER	DRAI	<u>IV</u>							-		
[A] INPU		A :																
(a) Site da	<u>ata:</u>																	
(i) Max. ra	infall ir	itensity,	I = 15	0 mm/hr														
(ii) Area to	o be dra	ained, A	= 3750	O sq.m														
(iii) Site s	urface :	type: Gra	ass (0.	35) => Ru	ın-off c	oeff	., C = C	.35										
(b) Drain o	details:																	
Assume tr		/s with h	ase wi	idth a -	300 mm	0.00	erall de	nth Γ		50 mm	n & si	ide s	lone	′\·H)	- 1·2			
	•							•			1 0 3	IGC 3	Юрс	(V.II)	- 1.2			
Free board														0.00	.75			
Drain surf						and	some v	veeas	=> IV	iannin	g's c	соетт	., IN =	: 0.0∠	2/5	-		
Drain slop	e of 1 ir	1 250 =>	s = 1/	250 = 0.0	004													
[B] CALCU	JLATIC	NS:																
(a) Dischar	rge (Qa	ct):																
Qact = C.I	.A = 0.3	35 x 150	x 375	0/ (1000) x 60 x	60)	= 0.05	5 cu.m	/s							1		
																+		
(b) Hydrau	ılic radi	IIS (B).										+				+		
Top width			_ 1500) mm: \//c	7++24 21	ant b)+ I	.4\2\.	(2 4)	\^31^4	1 5	670	g 20	1 mm		+		
·																+-		
Area of c/										1000	UUU	= 0.2	/ sq.	m		_		
Wetted pe							/ 1000	= 1.64	m									
Hydraulic	radius,	R = A/ P	= 0.27	7/1.64 =	0.165 r	n												
(c) Velocit	y (V) [b	y Mannir	ng's fo	ormula]:														
V = (1/ N)	R^(2/3	3) s^(1/ 2	2) = (1/	/ 0.0275) x 0.16	5^(2	?/ 3) x	(0.004)^(1/	['] 2) =	0.69	m/s						
								`								+		
(d) Drain o	capacity	(Ocan).																
Qcap = A.V				6 cu m/s	> Oact	(= O	055) ()K										
20up - 71.	0.27	7 0.07	0.10	0 04.111/ 9	Zuct	(- 0.										-		
																_		
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		//\\\\	V/// /	$\uparrow \forall \lambda$								\otimes / \langle	Y// &	///				
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					'`													
					DRA	N C	/S (DI	MIN	WW.)								
							cale: N									+		
				1		(~	ouic. I	· i <i>O)</i>	-			-						
				ł				Clier	ıt· –							Ele	ement	:
			TM	<u>L</u>											}	S	SWD	
(Oè	bid	ceni	ler	Project:	10	016	Doc	Doc. No.:			1016-CV)1		Locatio	on/ Gr	ids:
	■ Consulti	ng Engineers	rvt. Ltd.	Rev.	-	Ppd. by		Date Date			Chd. by			ate	- '		-	
Project: B	uilding-(2	1 ' P	а. <i>Б</i> у		Date	-+	Oil	a. Dy	+	ь	aio	+	Doo!	anotic	n.
				<u> </u>								-1			-	Desi	gnatio	11.
Structure:		astructu		1								_					-	
Type:	Storm	n water d	rain	0	M	ZO	25	5.02.20	21	Д	LUA		25.0	2.202	1 Sh	nt 1	of	. 1

																			$\overline{}$
						STOR	MWA1	ER DRAI	N										
[A] I NP	UT DA	TA:																	
(a) Site	data:																		
		Linte	ensity.	I = 12	5 mm/hr														
(ii) Area																			
					(1.00) =>	Run-off	cneff	C – 1											
(III) Site	Sui Tac	JC Ly	pc. 00	licicic	(1.00) =>	Kull-011	COCIT	., 0 - 1											
(h) Droin	. doto!	lo.																	_
(b) Drain			C 11		700	D (2 21	-0											
					700 mm =									f <u></u>					
					•			150 = 550	mm					<u>,</u>		@		λ	
					=> Mannii		ff., N	= 0.012						r	F-	\prec)	
Drain slo	pe of	1 in 2	200 =>	s = 1/	200 = 0.0	05								-	-	\rightarrow		-/	
															1	<u> </u>			
[B] CALC	CULAT	IOV	IS:																
(a) Disch	narge (Qact	t):													Fig-	-1A		
Qact = 0	C.I.A =	1 x 1	25 x 1	8585/	(1000 x 6	60 x 60)	= 0.64	45 cu.m/s									-		
														不			_		
(b) Hydr	aulic r	adius	s (R):													_			
				Ø = 2	ArcCos {(r - f)/ r	} = 1.9	25 radians	S					f	<u> </u>	\mapsto		1	
					r^2 {Ø -									\downarrow		\sim	>		
					$.\emptyset = 1.53$										-	_ <u>X</u>		7	-
					24/ 1.53 =		,												
i iyui aun	Cradic	13, IX	- A/ I	- 0.32	1.55 =	0.21211	1										45		
(a) Valas	:+ () ()	ГЬ	Manni	nalo fa	mmulal.											Fig-	-1B		
(c) Veloc						0.0104	0 (0)	(0.005)	(1)	2) 0	. 1	1-							
V = (1/ 1\	I) R^(Z	(/ 3)	S^(1/	Z) = (1 <i>i</i>	/ U.U12) X	0.212^(2/3)	x (0.005)/	`(1/ 2	2) = 2	2.1 m,	' S							
(1) 5		,	_ \																
(d) Drain																			
Qcap = A	A.V = 0	.324	x 2.1	= 0.68	cu.m/s > 0	2act (= 0).645)	, OK											
										FFL/	FGL								
					(() () ()	(10)	X (AX												
				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	/&\&\\\	///>///	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			//<!--/</b-->	$\langle \rangle \rangle \langle$		Y /						
						<i> </i> -			-										
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						1			/										
		+																	
		+						700											+
		+				├		700	H										+
+		+				D = 5 = -		(0111	~										+
		-				DRAIN		(DIM IN	MM))									_
		-				+	(Scal	e NTS)											
			M					0 !!== :									Ele	ement	:
				TM				Clien	::	-						'	Ç	SWD	1
(3)	epi	IC	en'	ter	Project:	100	7	Doc. No.:			100	7-C\/	-CA-	<u></u>		1.	-	on/ G	ride.
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Droiset	Dulle!!	.a. ^				r·μu.	Бy	Date		U	iiu. D)	′		Dale	-	╁	D - '		
Project:	Buildin				2								-			Designation:			
Structure:			tructu		1		_	0=1	10					40.	045	<u></u>		-	
Type:	Sto	orm v	vater d	rain	0	SN	R	27.12.20	19		MZO		27	.12.2	019	Sht	. 1	of	<u> 1</u>