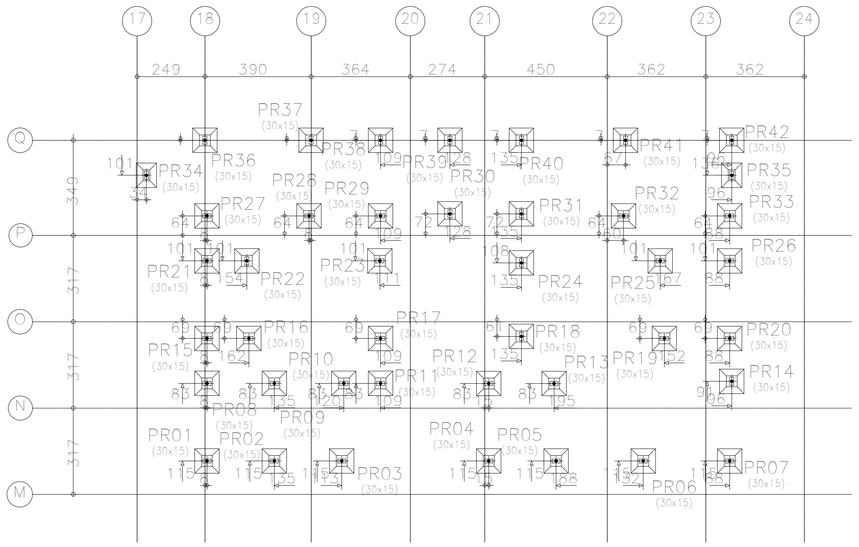
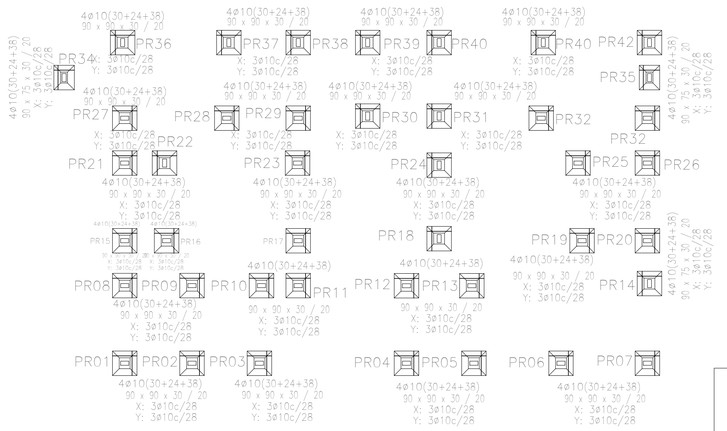
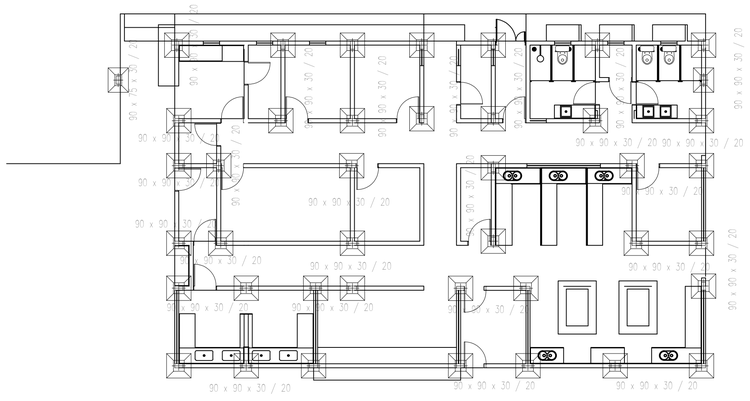


Fundação
Piso
Escala: 1:150



Fundação
Fundação
Concreto: C25, em geral
Escala: 1:150

QUADRO DE ELEMENTOS DE FUNDAÇÃO						
Referências	Dimensões (cm)	Altura (cm)	Armadura inf. X	Armadura inf. Y	Armadura sup. X	Armadura sup. Y
PR04, PR08, PR12, PR14, PR15, PR16, PR19, PR27, PR30 e PR31	90x90	30 / 20	3ø10c/28	3ø10c/28		
PR03, PR13, PR20, PR23, PR24, PR25, PR26, PR28, PR32, PR33, PR36, PR37, PR39, PR40, PR41 e PR42	90x90	30 / 20	3ø10c/28	3ø10c/28		
P08 e P34	90x90	30 / 20	3ø10c/28	4ø10c/26		
PR07 e PR38	90x90	30 / 20	3ø10c/28	3ø10c/28		
PR01 e PR21	90x90	30 / 20	3ø10c/28	3ø10c/28		
PR02, PR05, PR09, PR17, PR22 e PR29	90x90	30 / 20	3ø10c/28	3ø10c/28		
PR06, PR10 e PR11	90x90	30 / 20	3ø10c/28	3ø10c/28		
PR18	90x90	30 / 20	3ø10c/28	3ø10c/27		

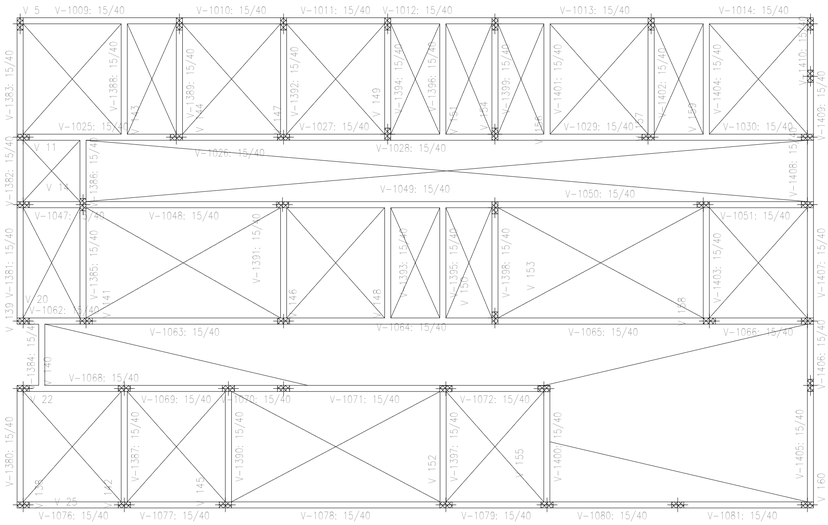


VÉRTICE ENGENHARIA
ALENDER HONÓRIO DE OLIVEIRA
CREA 039299 D CE
TEL : (88) 9 9264 8800

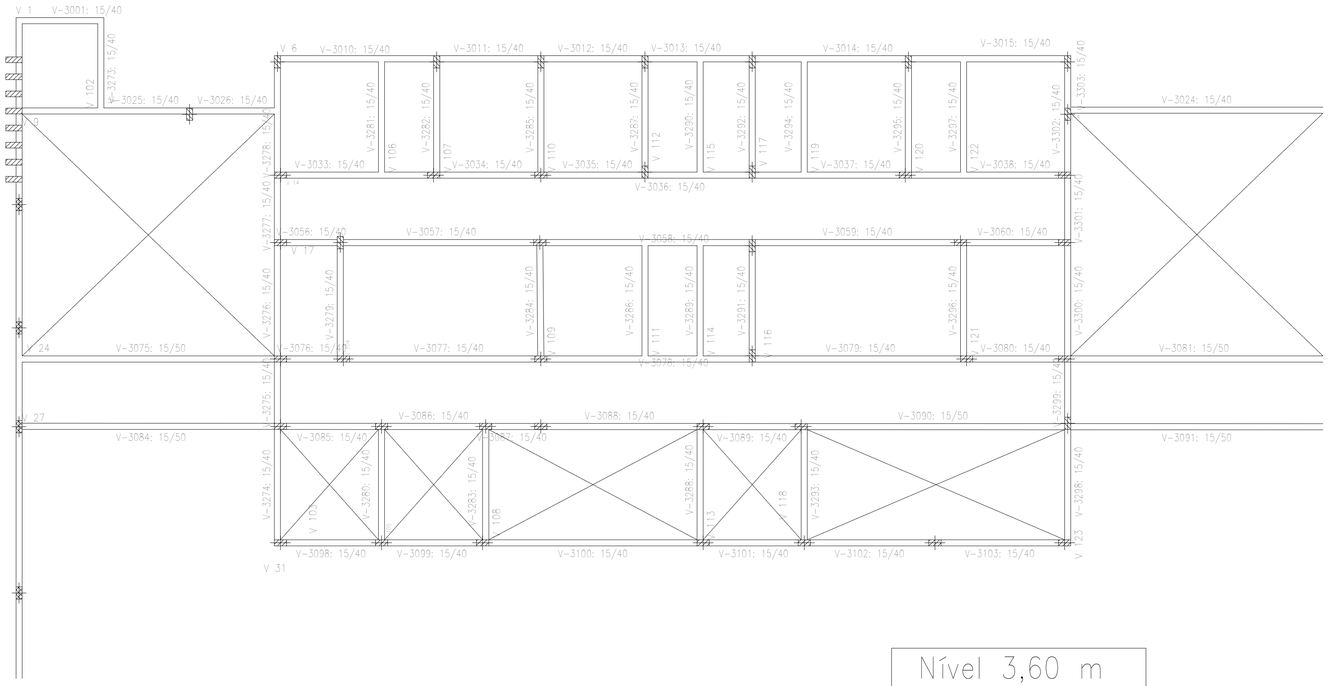
PLANTA DE LOCAÇÃO 1/150

AUTOR: *MÁXEL COELHO RODRIGUES MACIEL*
CREA: *061561442-6*

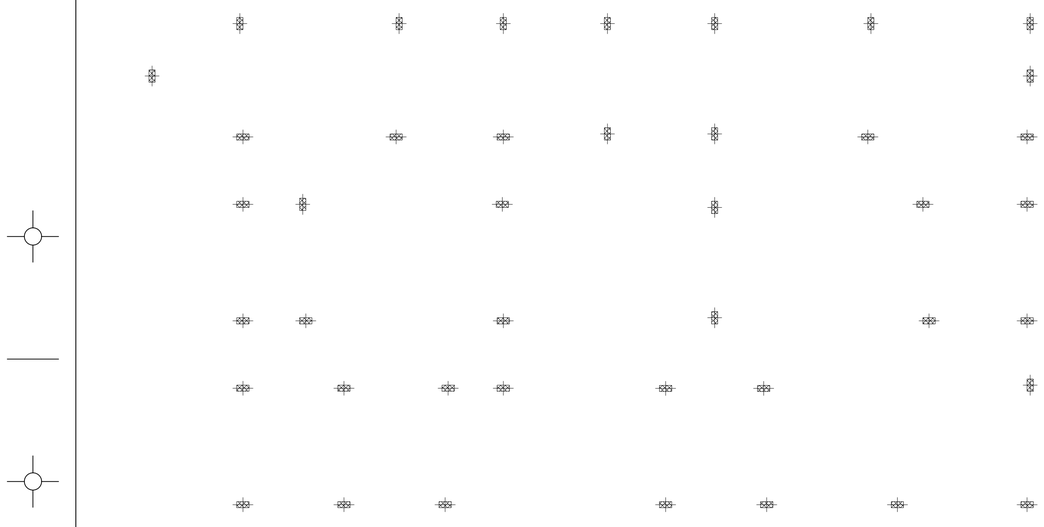
INSTITUTO FEDERAL DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA
DO SERTÃO PERNAMBUCANO – CAMPUS OURICURI



Nível 0 m
Piso
Escala: 1:50



Nível 3,60 m
Piso
Escala: 1:50



Nível 2,70m
Piso
Escala: 1:50

Pilar com mudança de seção

Pilar que morre

Pilar que continua

Pilar que nasce

Concreto Vigas: C25, volume total (26,70 m³)

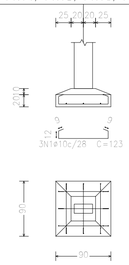
VÉRTICE ENGENHARIA
ALENDER HONÓRIO DE OLIVEIRA
CREA 039299 D CE
TEL : (88) 9 9264 8800

AUTOR: *MÁXEL COELHO RODRIGUES MACIEL*
CREA: *061561442-6*

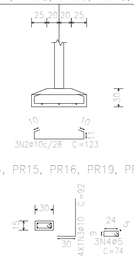
INSTITUTO FEDERAL DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA
DO SERTÃO PERNAMBUCANO – CAMPUS OURICURI

FÔRMAS DE VIGAS/LAJES - NÍVEL 0,0 m	*1/50*
FÔRMAS DE VIGAS/LAJES - NÍVEL 2,7 m	*1/50*
FÔRMAS DE VIGAS/LAJES - NÍVEL 3,6 m	*1/50*

PR04, PR08, PR12, PR14, PR15, PR16, PR19, PR27, PR30 e PR31

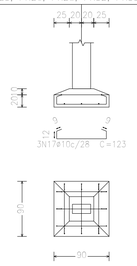


PR04, PR08, PR12, PR14, PR15, PR16, PR19, PR27, PR30 e PR31

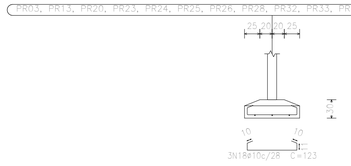


PR04, PR08, PR12, PR14, PR15, PR16, PR19, PR27, PR30 e PR31

PR03, PR13, PR20, PR23, PR24, PR25, PR26, PR28, PR32, PR33, PR36, PR37, PR39, PR40, PR41 e PR42



PR03, PR13, PR20, PR23, PR24, PR25, PR26, PR28, PR32, PR33, PR36, PR37, PR39, PR40, PR41 e PR42



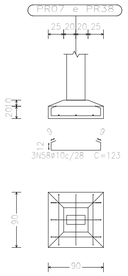
PR03, PR13, PR20, PR23, PR24, PR25, PR26, PR28, PR32, PR33, PR36, PR37, PR39, PR40, PR41 e PR42

Resumo Aço Fundação Detalhamento fundação	Comp. total (m)	Peso+10% (kg)	Total
CA-50			
ø5	128,76	21,81	
ø10	611,06	414,73	436,54

Concreto Sapatas: C25, volume total (8,12 m³)

Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)
PR12=PR14=PR15 PR16=PR19=PR27 PR30=PR31	3	ø10	4	30	62		92	368	2,3
	4	ø5	3		74		74	222	0,3
								Total+10%: (x10):	7,9 79,0
PR13=PR20=PR23 PR24=PR25=PR26 PR28=PR32=PR33 PR36=PR37=PR39 PR40=PR41=PR42	17	ø10	3	9	105	9	123	369	2,3
	18	ø10	3	10	103	10	123	369	2,3
	19	ø10	4	30	62		92	368	2,3
	20	ø5	3		74		74	222	0,3
								Total+10%: (x15):	7,9 118,5
PR85=PR86=PR87=PR88 PR89=PR90=PR91=PR92 PR07=PR38	58	ø10	3	9	105	9	123	369	2,3
	59	ø10	3		82		82	246	1,5
	60	ø10	4	30	62		92	368	2,3
	61	ø5	3		74		74	222	0,3
								Total+10%: (x10):	7,0 70,0
PR93=PR100=PR101 P102=PR103=PR104 PR105=PR106=PR107 PR01=PR21	66	ø10	3	9	105	9	123	369	2,3
	67	ø10	3		82		82	246	1,5
	68	ø10	4	30	62		92	368	2,3
	69	ø5	3		74		74	222	0,3
								Total+10%: (x11):	7,0 77,0
PR34=PR35	1	ø10	3		123		123	369	2,3
	2	ø10	3	11	86	11	108	324	2,0
	3	ø10	4	30	62		92	368	2,3
	4	ø5	3		74		74	222	0,3
								Total+10%: (x2):	7,6 15,2
PR02=PR05=PR09 PR17=PR22=PR29	30	ø10	3	9	105	9	123	369	2,3
	31	ø10	3	10	103	10	123	369	2,3
	32	ø10	4	30	62		92	368	2,3
	33	ø5	3		74		74	222	0,3
								Total+10%: (x6):	7,9 47,4
PR06=PR10=PR11	34	ø10	3	9	105	9	123	369	2,3
	35	ø10	3		82		82	246	1,5
	36	ø10	4	30	62		92	368	2,3
	37	ø5	3		74		74	222	0,3
								Total+10%: (x3):	7,0 21,0
PR18	38	ø10	3	9	105	9	123	369	2,3
	39	ø10	3	10	103	10	123	369	2,3
	40	ø10	4	30	62		92	368	2,3
	41	ø5	3		74		74	222	0,3
								Total+10%:	7,9
								ø5:	17,4
								ø10:	380,4
								Total:	988,5

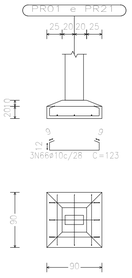
PR07 e PR38



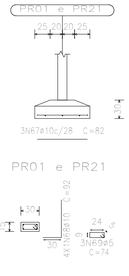
PR07 e PR38

PR07 e PR38

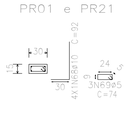
PR01 e PR21



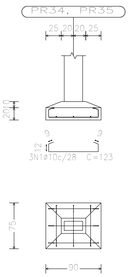
PR01 e PR21



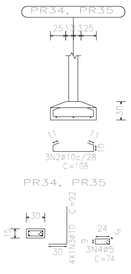
PR01 e PR21



PR34, PR35



PR34, PR35

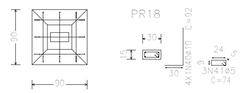


PR34, PR35

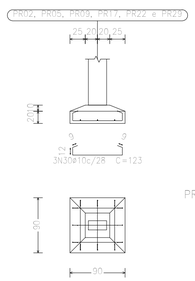
PR18

PR18

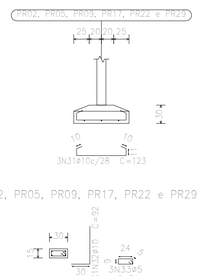
PR18



PR02, PR05, PR09, PR17, PR22 e PR29

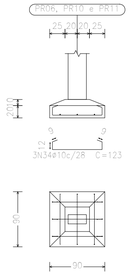


PR02, PR05, PR09, PR17, PR22 e PR29

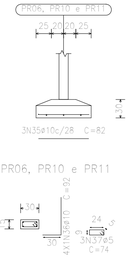


PR02, PR05, PR09, PR17, PR22 e PR29

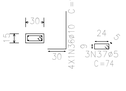
PR06, PR10 e PR11



PR06, PR10 e PR11



PR06, PR10 e PR11



QUADRO DE ELEMENTOS DE FUNDAÇÃO						
Referências	Dimensões (cm)	Altura (cm)	Armadura inf. x	Armadura inf. y	Armadura sup. x	Armadura sup. y
PR08, PR12, PR14, PR15, PR16, PR19, PR27, PR30 e PR31	90x90	20 / 20	3ø10c/28	3ø10c/28		
PR03, PR13, PR20, PR23, PR24, PR25, PR26, PR28, PR32, PR33, PR36, PR37, PR39, PR40, PR41 e PR42	90x90	20 / 20	3ø10c/28	3ø10c/28		
PR34, PR35	90x75	20 / 20	3ø10c/28	3ø10c/28		
PR07 e PR38	90x90	20 / 20	3ø10c/28	3ø10c/28		
PR01 e PR21	90x90	20 / 20	3ø10c/28	3ø10c/28		
PR02, PR05, PR09, PR17, PR22 e PR29	90x90	20 / 20	3ø10c/28	3ø10c/28		
PR06, PR10 e PR11	90x90	20 / 20	3ø10c/28	3ø10c/28		
PR18	90x90	20 / 20	3ø10c/28	3ø10c/27		

VÉRTICE ENGENHARIA

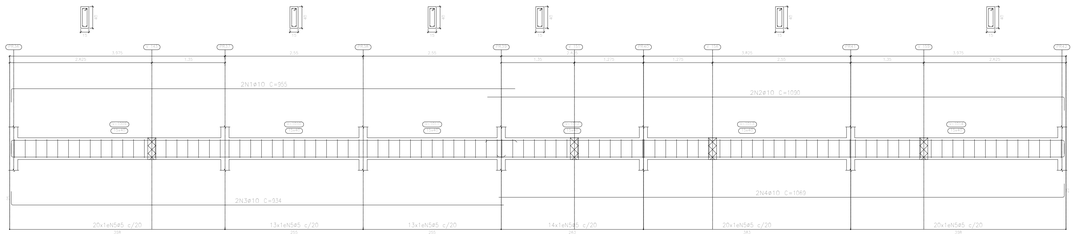
ALENDER HONÓRIO DE OLIVEIRA
CREA 039299 D CE
TEL : (88) 9 9264 8800

DETALHAMENTO DE FUNDAÇÃO 1/50

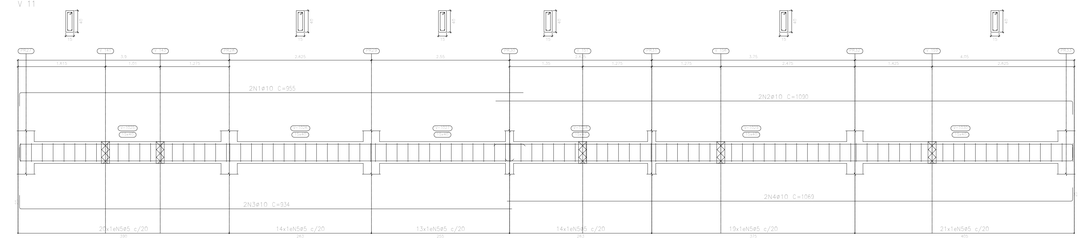
AUTOR: *MÁXEL COELHO RODRIGUES MACIEL*
CREA: *061561442-6*

INSTITUTO FEDERAL DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA DO SERTÃO PERNAMBUCANO – CAMPUS OURICURI

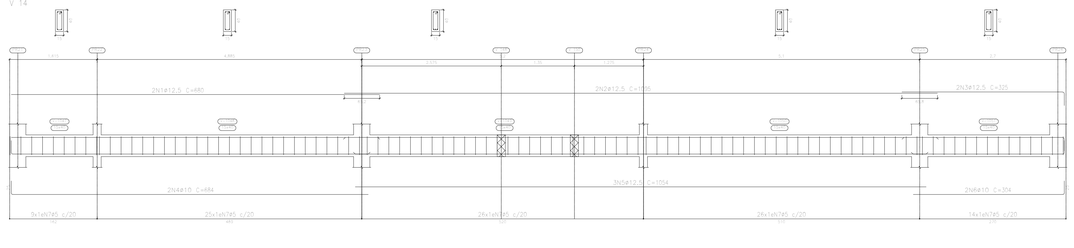
V 5



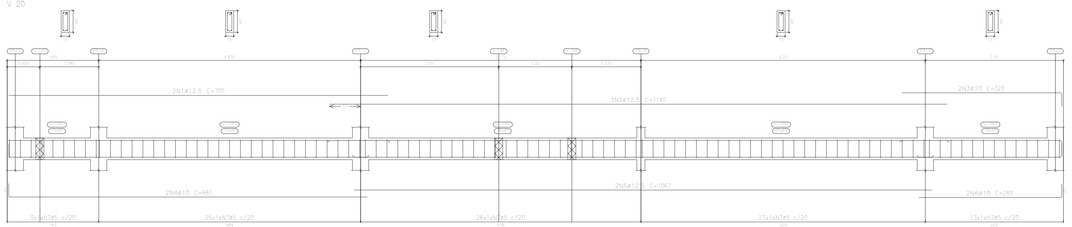
V 11



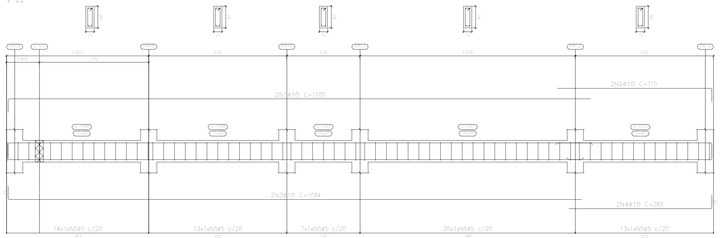
V 14



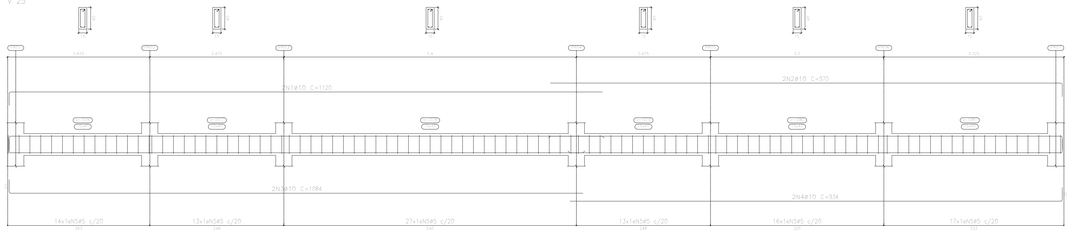
V 20



V 22



V 25



Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)
V 5	1	ø10	2	120	955	1910	11.8
	2	ø10	2	120 120 120 120 120 120 120 120	1090	2180	13.4
	3	ø10	2	120 120 120 120	934	1868	11.5
	4	ø10	2	120 120 120 120 120 120 120 120	1069	2138	13.2
	5	ø5	100	20	94	9400	14.8
						Total+10%:	77.2
V 11	1	ø10	2	120	955	1910	11.8
	2	ø10	2	120 120 120 120 120 120 120 120	1090	2180	13.4
	3	ø10	2	120 120 120 120	934	1868	11.5
	4	ø10	2	120 120 120 120 120 120 120 120	1069	2138	13.2
	5	ø5	101	20	94	9494	14.9
						Total+10%:	77.3
V 14	1	ø12.5	2	120	680	1360	23.1
	2	ø12.5	2	120 120 120 120 120 120 120 120	1035	2190	37.1
	3	ø12.5	2	120 120	325	650	8.3
	4	ø10	2	120 120 120 120	684	1368	8.4
	5	ø12.5	2	120 120 120 120 120 120 120 120	1054	3162	50.9
	6	ø10	2	120 120 120 120 120 120 120 120	304	608	3.7
	7	ø5	100	20	94	9400	14.8
						Total+10%:	157.7
V 20	1	ø12.5	2	120	705	1410	23.9
	2	ø12.5	2	120 120 120 120 120 120 120 120	1140	3420	52.9
	3	ø10	2	120 120	320	640	3.9
	4	ø10	2	120 120 120 120	687	1374	8.5
	5	ø12.5	2	120 120 120 120 120 120 120 120	1067	2134	20.8
	6	ø10	2	120 120 120 120 120 120 120 120	289	578	3.6
	7	ø5	100	20	94	9400	14.8
						Total+10%:	167.4
V 22	1	ø10	2	120	1105	2210	13.6
	2	ø10	2	120 120 120 120 120 120 120 120	310	620	3.8
	3	ø10	2	120 120 120 120	1084	2168	13.4
	4	ø10	2	120 120 120 120 120 120 120 120	289	578	3.6
	5	ø5	83	20	94	9238	9.9
						Total+10%:	48.7
V 25	1	ø10	2	120	1120	2240	13.8
	2	ø10	2	120 120 120 120 120 120 120 120	970	1940	12.0
	3	ø10	2	120 120 120 120	1084	2168	13.4
	4	ø10	2	120 120 120 120 120 120 120 120	934	1868	11.5
	5	ø5	100	20	94	9400	14.8
						Total+10%:	72.1
						ø5:	544.9
						ø10:	213.0
						ø12.5:	138.0
						Total:	435.0

Resumo Aço Vigas	Comp. total (m)	Peso+10% (kg)	Total
CA-50 ø5	5.33,92	90,45	
ø10	335,42	227,65	
ø12.5	143,16	151,65	469,75

Concreto Vigas: C25, volume total (26,70 m³)

Nível 0 m
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50
Aço dos estribos: CA-50
Escala vigas 1:40
Escala seções 1:40
Escala aberturas 1:40

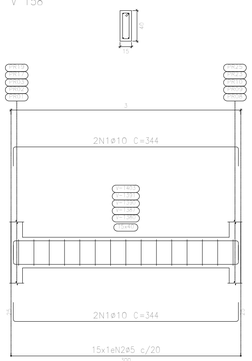
VÉRTICE ENGENHARIA
ALENDER HONÓRIO DE OLIVEIRA
CREA 039299 D CE
TEL : (88) 9 9264 8800

DETALHAMENTOS DE VIGAS - NIVEL 0,00 1:40

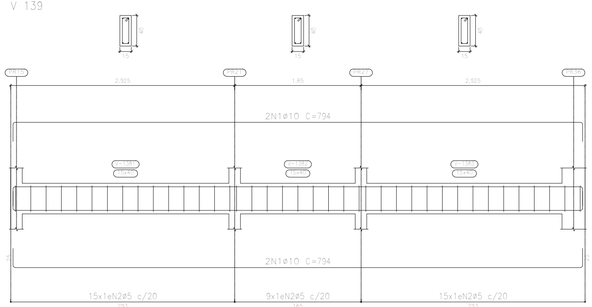
AUTOR: *MÁXEL COELHO RODRIGUES MACIEL*
CREA: *061561442-6*

INSTITUTO FEDERAL DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA
DO SERTÃO PERNAMBUCANO – CAMPUS OURICURI

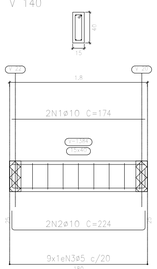
V 138
V 142
V 145
V 146
V 158



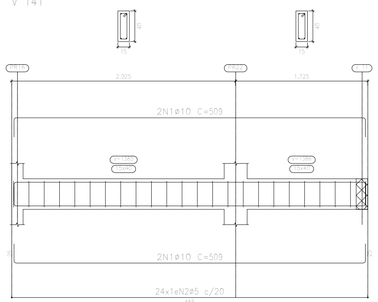
V 139



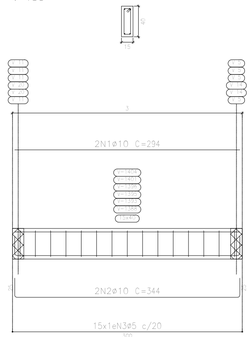
V 140



V 141



V 143
V 148
V 150
V 151
V 156
V 159

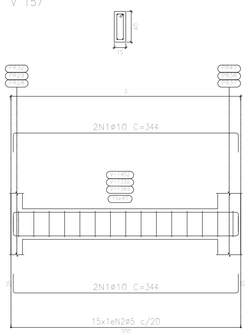


Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)
V 138=V 142=V 145 V 146=V 158	1	ø10	4	3 344 10	344	1376	8,5
	2	ø5	15	3 94 5	94	1410	2,2
					Total+10%:		11,8
					(x5):		59,0
V 139	1	ø10	4	3 744 10	794	3176	19,6
	2	ø5	39	3 94 5	94	3666	5,8
					Total+10%:		27,9
V 140	1	ø10	2	174	174	348	2,1
	2	ø10	2	3 174 10	224	448	2,8
	3	ø5	9	3 94 5	94	846	1,3
					Total+10%:		6,8
V 141	1	ø10	4	3 509 10	509	2036	12,5
	2	ø5	24	3 94 5	94	2256	3,5
					Total+10%:		17,6
V 143=V 148=V 150 V 151=V 156=V 159	1	ø10	2	294	294	588	3,6
	2	ø10	2	3 294 10	344	688	4,2
	3	ø5	15	3 94 5	94	1410	2,2
					Total+10%:		11,0
					(x6):		66,0
V 144=V 147=V 157	1	ø10	4	3 344 10	344	1376	8,5
	2	ø5	15	3 94 5	94	1410	2,2
					Total+10%:		11,8
					(x3):		35,4
V 149=V 153=V 154	1	ø10	4	3 344 10	344	1376	8,5
	2	ø5	15	3 94 5	94	1410	2,2
					Total+10%:		11,8
					(x3):		35,4
V 152=V 155	1	ø10	4	3 344 10	344	1376	8,5
	2	ø5	15	3 94 5	94	1410	2,2
					Total+10%:		11,8
					(x2):		23,6
V 160	1	ø10	2	3 1075 10	1100	2200	13,6
	2	ø10	2	165	165	330	2,0
	3	ø10	2	3 1066 10	1091	2182	13,4
	4	ø10	2	3 167 10	177	354	2,2
	5	ø5	63	3 94 5	94	5922	9,3
					Total+10%:		44,6
					ø5:		59,5
					ø10:		325,5
					Total:		285,0

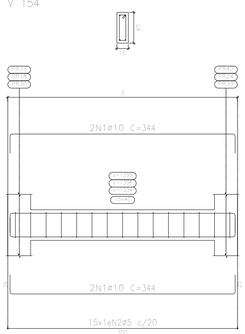
Resumo Aço Vigas	Comp. total (m)	Peso+10% (kg)	Total
CA-50 ø5	372,24	62,24	283,62
ø10	326,18	221,38	

Concreto Vigas: C25, volume total (26,70 m³)

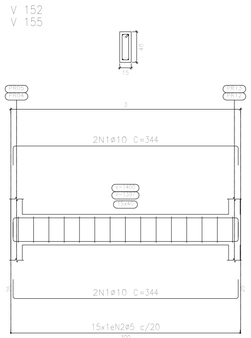
V 144
V 147
V 157



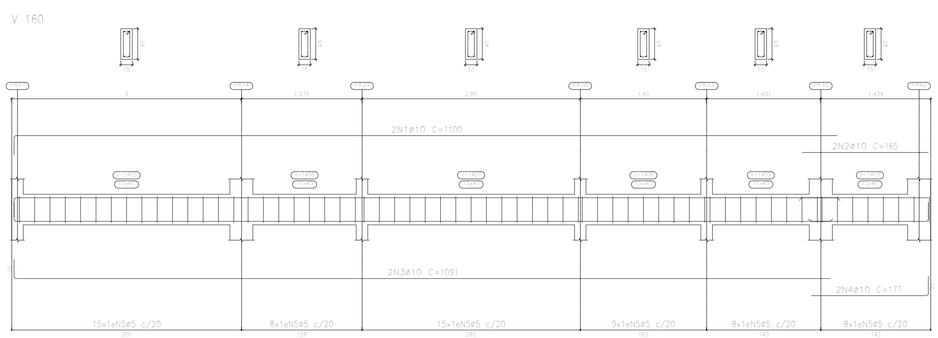
V 149
V 153
V 154



V 152
V 155



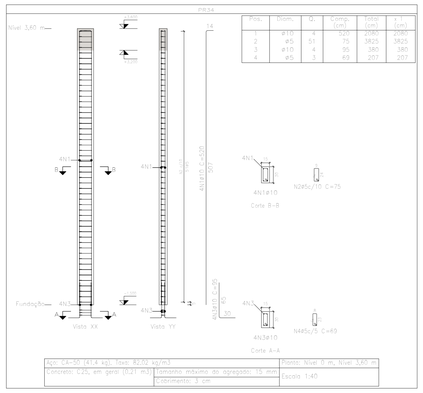
V 160



ALENDER HONÓRIO DE OLIVEIRA
CREA 039299 D CE
TEL.: (88) 9 9264 8800

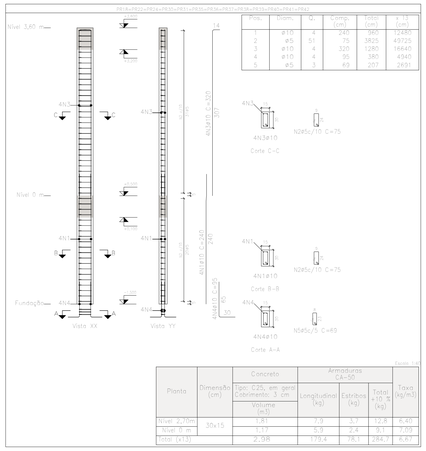
AUTOR: *MÁXEL COELHO RODRIGUES MACIEL*
CREA: *061561442-6*

INSTITUTO FEDERAL DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA
DO SERTÃO PERNAMBUCANO – CAMPUS OURICURI



Pos.	Bitola	Q.	Comp. (cm)	Total (cm)	+ 2,5 (cm)
1	ø10	4	520	2080	2080
2	ø5	51	75	3825	3825
3	ø10	4	95	380	380
4	ø5	3	69	207	207

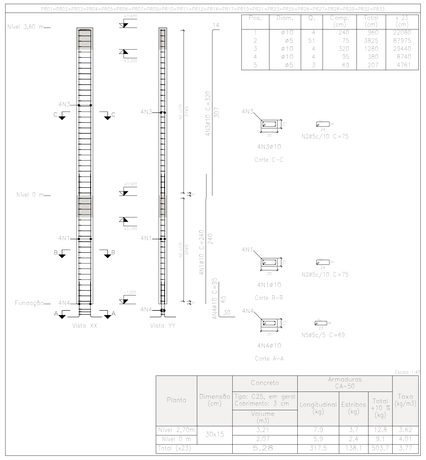
Aço: CA-50 (41,4 kg); Taxa: 82,02 kg/m3
Concreto: C25, em geral (0,21 m3); Tamanho máximo do agregado: 19 mm; Cobrimento: 3 cm
Pavto: Nível 0 m, Nível 3,60 m
Escala 1:40



Pos.	Bitola	Q.	Comp. (cm)	Total (cm)	+ 2,5 (cm)
1	ø10	4	245	980	12285
2	ø5	51	75	3825	45725
3	ø10	4	320	1280	16640
4	ø10	4	95	380	4940
5	ø5	3	69	207	2631

Planta	Dimensão (cm)	Concreto	Armaduras CA-50			Taxa (kg/m3)
		Tipo: C25, em geral Cobrimento: 3 cm	Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)				
Nível 2,70m	30x15	1,81	7,9	3,7	12,8	8,40
Nível 0 m		1,17	5,9	2,4	9,1	7,77
Total (x13)		2,98	179,4	78,1	284,7	8,67

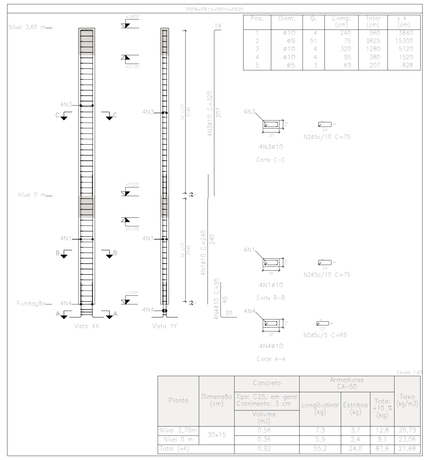
Escala 1:40



Pos.	Bitola	Q.	Comp. (cm)	Total (cm)	+ 2,5 (cm)
1	ø10	4	245	980	12285
2	ø5	51	75	3825	45725
3	ø10	4	320	1280	16640
4	ø10	4	95	380	4940
5	ø5	3	69	207	2631

Planta	Dimensão (cm)	Concreto	Armaduras CA-50			Taxa (kg/m3)
		Tipo: C25, em geral Cobrimento: 3 cm	Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)				
Nível 2,70m	30x15	0,56	7,9	3,7	12,8	20,79
Nível 0 m		0,36	5,9	2,4	9,1	23,56
Total (x4)		0,92	55,2	24,0	87,6	21,68

Escala 1:40



Pos.	Bitola	Q.	Comp. (cm)	Total (cm)	+ 2,5 (cm)
1	ø10	4	245	980	3845
2	ø5	51	75	3825	15305
3	ø10	4	325	1280	5125
4	ø10	4	95	380	1525
5	ø5	3	69	207	828

Planta	Dimensão (cm)	Concreto	Armaduras CA-50			Taxa (kg/m3)
		Tipo: C25, em geral Cobrimento: 3 cm	Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)				
Nível 2,70m	30x15	0,14	7,9	3,7	12,8	83,15
Nível 0 m		0,09	5,9	2,4	9,1	92,22
Total:		0,23	13,8	6,0	21,9	86,71

Escala 1:40

Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)
PR34	1	ø10	4		520	2080	12,8
	2	ø5	51		75	3825	6,0
	3	ø10	4		95	380	2,3
	4	ø5	3		69	207	0,3
						Total+10%	23,5
PR01=PR02=PR03 PR04=PR05=PR06 PR07=PR08=PR09 PR10=PR11=PR12=PR13 PR14=PR15=PR16 PR17=PR18=PR19 PR20=PR21=PR22=PR23 PR24=PR25=PR26 PR27=PR28=PR29 PR30=PR31=PR32 PR33	1	ø10	4		245	980	5,9
	2	ø5	51		75	3825	6,0
	3	ø10	4		325	1280	7,9
	4	ø10	4		95	380	2,3
	5	ø5	3		69	207	0,3
						Total+10% (x33)	24,6 (x) 349,8
PR18=PR22=PR24 PR30=PR31=PR35 PR36=PR37=PR38 PR39=PR40=PR41 PR42	1	ø10	4		245	980	5,9
	2	ø5	51		75	3825	6,0
	3	ø10	4		320	1280	7,9
	4	ø10	4		95	380	2,3
	5	ø5	3		69	207	0,3
						Total+10% (x12)	24,6 (x12) 319,8
PR08=PR13=PR15 PR20	1	ø10	4		245	980	5,9
	2	ø5	51		75	3825	6,0
	3	ø10	4		320	1280	7,9
	4	ø10	4		95	380	2,3
	5	ø5	3		69	207	0,3
						Total+10% (x4)	24,6 98,4
PR14	1	ø10	4		245	980	5,9
	2	ø5	51		75	3825	6,0
	3	ø10	4		325	1280	7,9
	4	ø10	4		95	380	2,3
	5	ø5	3		69	207	0,3
						Total+10%	24,6
						ø5:	244,4
						ø10:	679,2
						Total:	933,8

Resumo Aço Pilares	Comp. total (m)	Peso+10% (kg)	Total
CA-50 ø5	1.780,84	274,25	
ø10	1.098,80	677,96	952,21

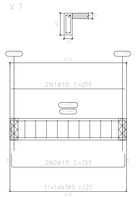
VÉRTICE ENGENHARIA
ALENDER HONÓRIO DE OLIVEIRA
CREA D39299 D CE
TEL : (88) 9 9264 8800

DETALHES DOS PILARES 1/40

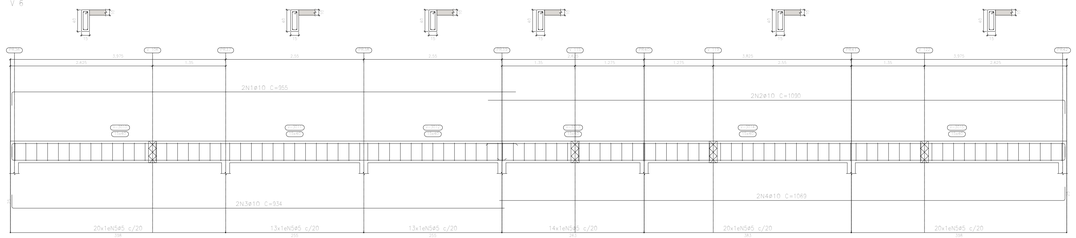
AUTOR: *MÁXIEL COELHO RODRIGUES MACIEL*
CREA: *081561442-6*

INSTITUTO FEDERAL DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA DO SERTÃO PERNAMBUCANO - CAMPUS OURICURI

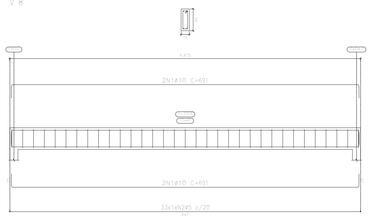
V 1



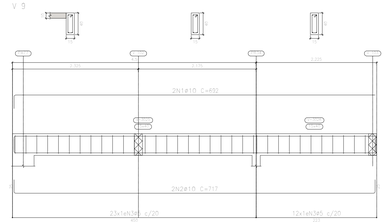
V 6



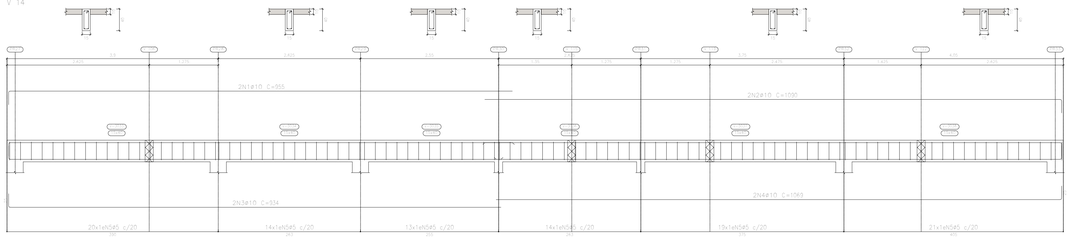
V 8



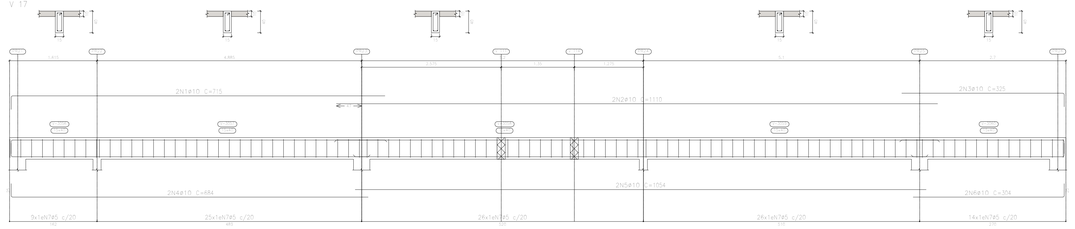
V 9



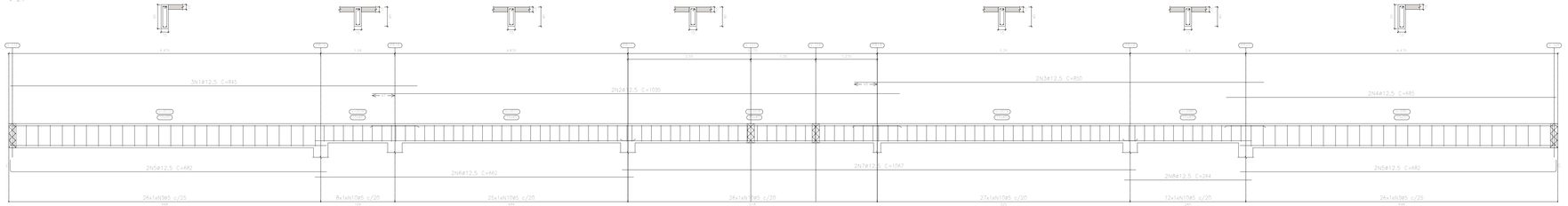
V 14



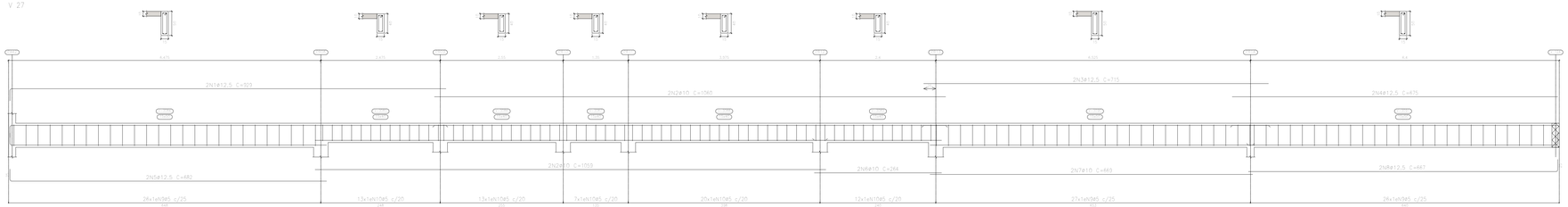
V 17



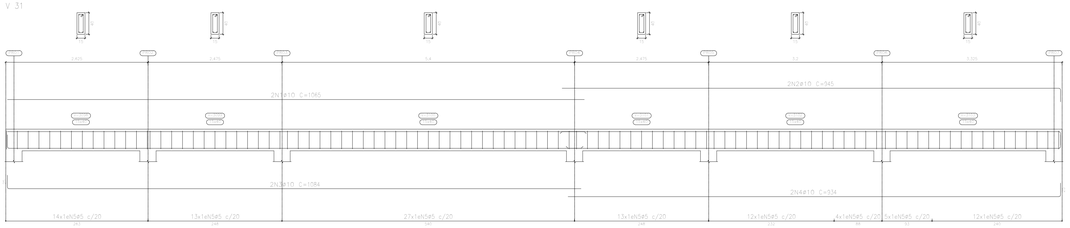
V 24



V 27



V 31



Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)
V 1	1	ø10	2		209	418	3,8
	2	ø10	2		259	518	3,2
	3	ø5	11		94	1034	1,6
	Totais 10%						8,7
V. 6	1	ø10	2		965	1930	11,9
	2	ø10	2		1090	2180	13,4
	3	ø10	2		934	1868	11,5
	4	ø10	2		1069	2138	13,2
	5	ø5	100		94	9400	14,8
	Totais 10%						71,2
V. 8	1	ø10	4		691	2764	17,0
	2	ø5	33		94	3102	4,9
	Totais 10%						24,1
V. 9	1	ø10	2		692	1384	8,5
	2	ø10	2		717	1434	8,8
	3	ø5	35		94	3290	5,2
	Totais 10%						26,8
V. 14	1	ø10	2		965	1930	11,8
	2	ø10	2		1090	2180	13,4
	3	ø10	2		934	1868	11,5
	4	ø10	2		1069	2138	13,2
	5	ø5	101		94	9494	14,9
	Totais 10%						71,3
V. 17	1	ø10	2		715	1430	8,8
	2	ø10	2		1110	2220	13,7
	3	ø10	2		525	650	4,0
	4	ø10	2		684	1368	8,4
	5	ø10	2		1054	2108	13,0
	6	ø10	2		354	658	3,7
	7	ø5	100		94	9400	14,8
	Totais 10%						84,0
V. 24	1	ø12,5	3		845	2535	24,4
	2	ø12,5	2		1095	2190	21,1
	3	ø12,5	2		850	1700	16,4
	4	ø12,5	2		683	1370	13,2
	5	ø12,5	4		682	2728	26,3
	6	ø12,5	2		662	1324	12,8
	7	ø12,5	2		1067	2134	20,6
	8	ø12,5	2		264	528	5,1
	9	ø5	53		114	5928	9,3
	10	ø5	98		94	9212	14,5
	Totais 10%						190,1
V. 27	1	ø12,5	2		929	1858	17,9
	2	ø10	4		1060	4240	26,1
	3	ø12,5	2		715	1430	13,8
	4	ø12,5	2		475	1356	13,0
	5	ø12,5	2		682	1364	13,1
	6	ø10	2		264	528	3,3
	7	ø10	2		663	1334	8,2
	8	ø12,5	2		667	1334	12,8
	9	ø5	113		114	9058	14,1
	10	ø5	85		94	8110	9,4
	Totais 10%						145,1
V. 31	1	ø10	2		1065	2130	13,1
	2	ø10	2		945	1890	11,6
	3	ø10	2		1084	2168	13,4
	4	ø10	2		334	668	4,1
	5	ø5	100		94	9400	14,8
	Totais 10%						70,8
						ø5:	585,9
						ø10:	268,7
						ø12,5:	210,5
						Total:	597,7

Concreto Vigas: C25, volume total (26,70 m³)

Resumo Aço Vigas	Comp. total (m)	Peso+10% (kg)	Total
CA-50 ø5	604,44	102,39	540,04
ø10	452,56	307,15	
ø12,5	218,45	231,40	

Nível 3,80 m
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50
Aço dos estribos: CA-50
Escala vigas 1:40
Escala seções 1:40
Escala aberturas 1:40

VÉRTICE ENGENHARIA

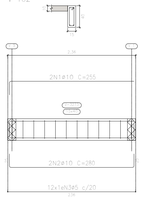
ALENDER HONÓRIO DE OLIVEIRA
CREA 039299 D CE
TEL.: (88) 9 9264 8800

DETALHAMENTOS DE VIGAS - NIVEL 3,80 1/40

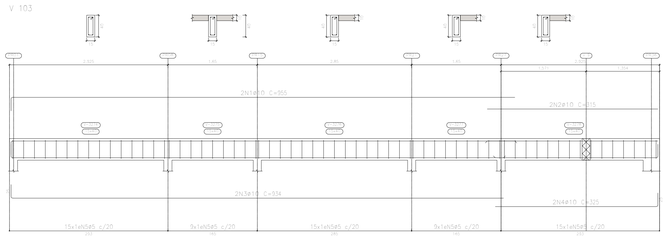
AUTOR: *MÁXEL COELHO RODRIGUES MACIEL*
CREA: *061561442-6*

INSTITUTO FEDERAL DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA
DO SERTÃO PERNAMBUCANO – CAMPUS OURICURI

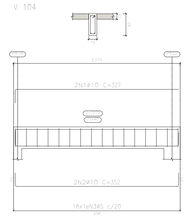
V 102



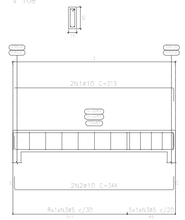
V 103



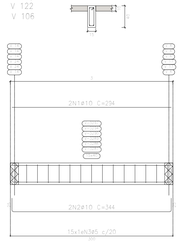
V 104



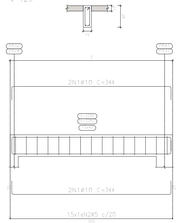
V 105
V 108



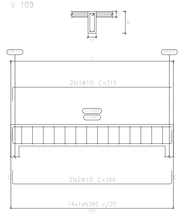
V 114
V 115
V 111
V 119
V 122
V 106



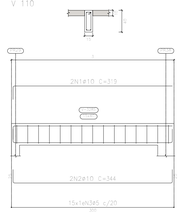
V 107
V 120



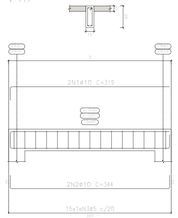
V 109



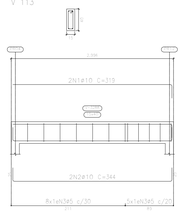
V 110



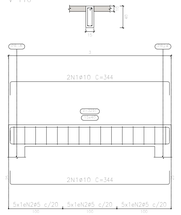
V 112
V 117



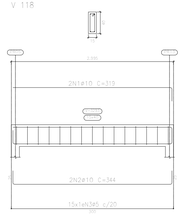
V 113



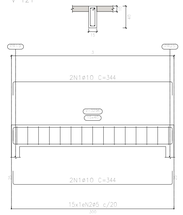
V 116



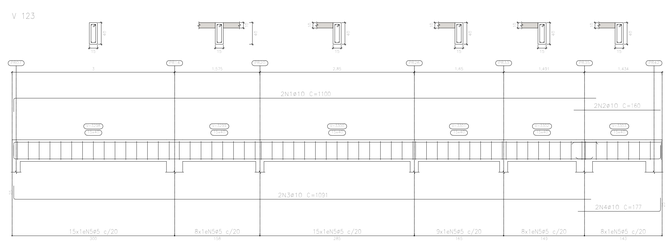
V 118



V 121



V 123



Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)
V 102	1	ø10	2	255	280	560	3,5
	2	ø10	2	280	280	560	3,5
	3	ø5	19	94	1128	1,8
					Total+10%:		9,2
V 103	1	ø10	2	555	555	1110	11,8
	2	ø10	2	315	315	630	3,9
	3	ø10	2	934	1868	11,5
	4	ø10	2	325	650	4,0
	5	ø5	47	94	9502	9,3
					Total+10%:		44,4
V 104	1	ø10	2	327	654	4,0
	2	ø10	2	702	1404	8,7
	3	ø5	19	94	1504	2,4
					Total+10%:		11,8
V 105=V 108	1	ø10	2	319	638	3,9
	2	ø10	2	344	688	4,2
	3	ø5	19	94	1222	1,9
					Total+10%:		11,0
					(x2):		22,0
V 106=V 107=V 114 V 115=V 119=V 122	1	ø10	2	294	588	3,6
	2	ø10	2	344	688	4,2
	3	ø5	19	94	1410	2,2
					Total+10%:		11,0
					(x6):		66,0
V 107=V 120	1	ø10	2	344	1376	8,5
	2	ø5	19	94	1410	2,2
					Total+10%:		11,8
					(x2):		23,6
V 109	1	ø10	2	319	638	3,9
	2	ø10	2	344	688	4,2
	3	ø5	19	94	1336	2,1
					Total+10%:		11,2
V 110	1	ø10	2	319	638	3,9
	2	ø10	2	344	688	4,2
	3	ø5	19	94	1410	2,2
					Total+10%:		11,3
V 112=V 117	1	ø10	2	319	638	3,9
	2	ø10	2	344	688	4,2
	3	ø5	19	94	1410	2,2
					Total+10%:		11,3
					(x2):		22,6
V 113	1	ø10	2	319	638	3,9
	2	ø10	2	344	688	4,2
	3	ø5	19	94	1222	1,9
					Total+10%:		11,0
V 116	1	ø10	2	344	1376	8,5
	2	ø5	19	94	1410	2,2
					Total+10%:		11,8
V 118	1	ø10	2	319	638	3,9
	2	ø10	2	344	688	4,2
	3	ø5	19	94	1410	2,2
					Total+10%:		11,3
V 121	1	ø10	2	344	1376	8,5
	2	ø5	19	94	1410	2,2
					Total+10%:		11,8
V 123	1	ø10	2	1100	2200	13,6
	2	ø10	2	160	320	2,0
	3	ø10	2	1091	2182	13,4
	4	ø10	2	177	354	2,2
	5	ø5	47	94	9502	9,3
					Total+10%:		44,6
					ø5:		61,45
					ø10:		222,3
					Total:		283,3

Concreto Vigas: C25, volume total (26,70 m³)

Resumo Aço Vigas	Comp. total (m)	Peso+10% (kg)	Total
CA-50 ø5	391,98	66,40	
ø10	363,10	246,44	
			312,84

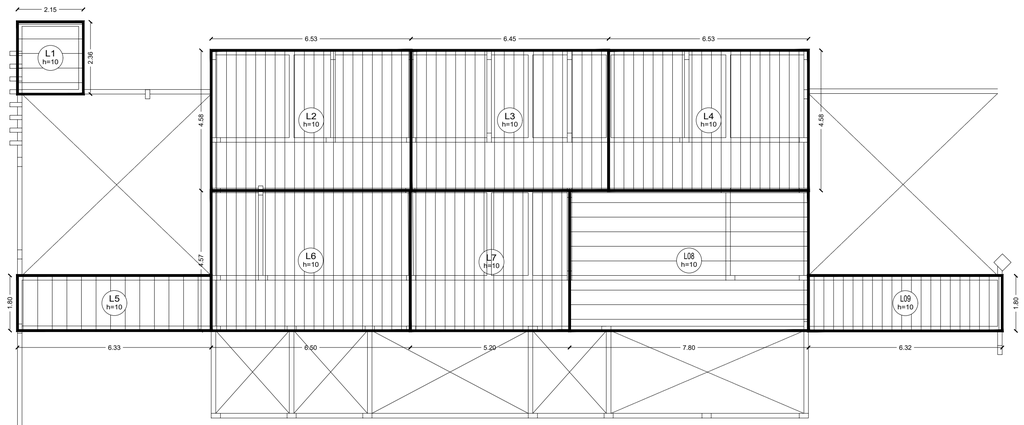
Nível 3,60 m
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50
Aço dos estribos: CA-50
Escala vigas 1:40
Escala seções 1:40
Escala aberturas 1:40

VÉRTICE ENGENHARIA
ALENDER HONÓRIO DE OLI
CREA 039293 D CE
TEL : (88) 9 9264 8800

DETALHAMENTOS DE VIGAS - NIVEL 3.60

AUTOR: *MÁXIEL COELHO RODRIGUES MACIEL*
CREA: *061561442-6*

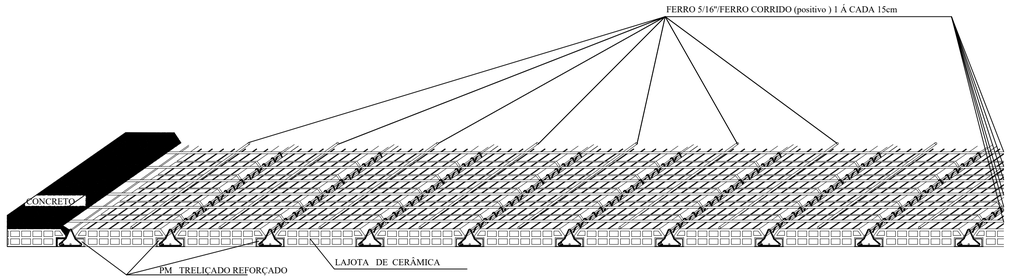
INSTITUTO FEDERAL DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA
DO SERTÃO PERNAMBUCANO – CAMPUS OURICURI

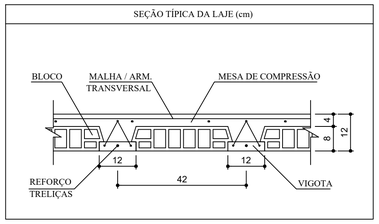


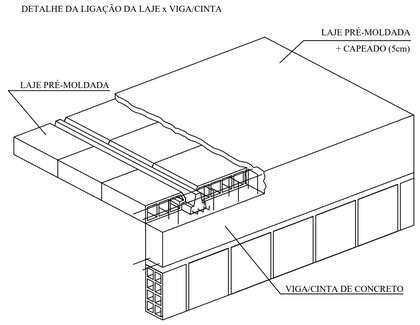
Nível 3,60 m
Concreto: C25, em geral
CA-50
Escala: 1:100

RESUMO DA ÁREA DA LAJE PRÉ-MOLDADA

LAJES	ÁREA
L01	5,07 m²
L02	29,85 m²
L03	29,51m²
L04	29,85 m²
L05	11,37 m²
L06	29,75 m²
L07	23,85 m²
L08	35,70 m²
L09	11,43 m²
ÁREA TOTAL	206,38 m²







VÉRTICE ENGENHARIA
ALENDER HONÓRIO DE OLIVEIRA
CREA 039299 D CE
TEL : (88) 9 9264 8800

LAJE-ARMADURA LONGITUDINAL INFERIOR 3,60 m 1/100
LAJE-ARMADURA TRANSVERSAL INFERIOR NIVEL3,60 1/100
LAJE - ARMADURA LONGITUDINAL SUPERIOR 3,60 m 1/100
LAJE-ARMADURATRANSVERSALSUPERIOR NIVEL 3,60 1/100

AUTOR: *MÁXEL COELHO RODRIGUES MACIEL*
CREA: *061561442-6*

INSTITUTO FEDERAL DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA DO SERTÃO PERNAMBUCANO – CAMPUS OURICURI