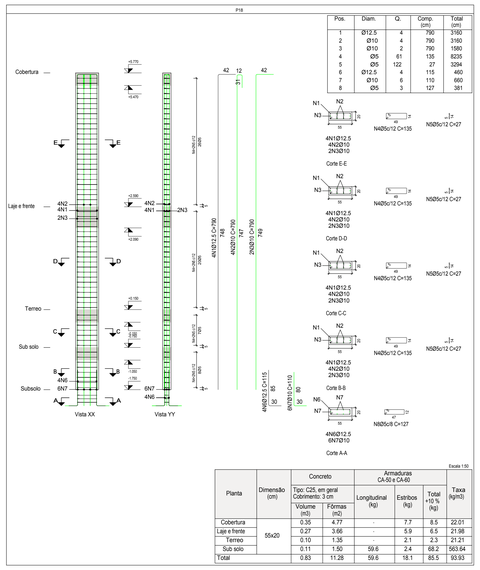
Pilares que nascem em Sub solo e chegam em Platibanda 2
Concreto: C25, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60

P18

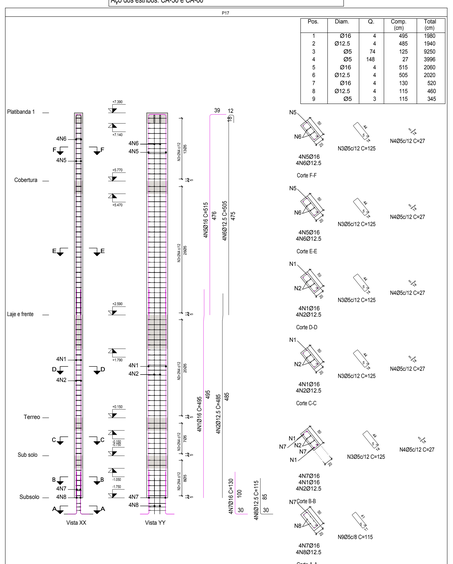


Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
1	Ø12.5	4	790	3160
2	Ø10	4	790	3160
3	Ø10	2	790	1580
4	Ø5	61	135	8235
5	Ø5	122	27	3294
6	Ø12.5	4	115	460
7	Ø10	6	110	660
8	Ø5	3	127	381

Escala 1:50

Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipo: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Cobertura	55x20	0.35	4.77	-	7.7	8.5	22.01
Laje e frente		0.27	3.66	-	5.9	6.5	21.98
Terreo		0.10	1.35	-	2.1	2.3	21.21
Sub solo		0.11	1.50	59.6	2.4	68.2	563.64
Total		0.83	11.28	59.6	18.1	85.5	93.93

P17

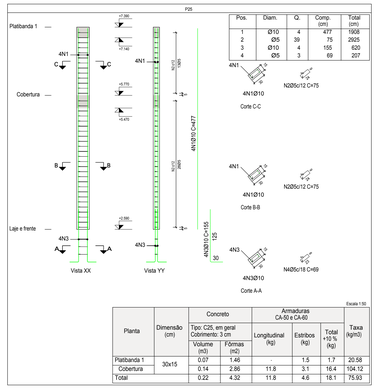


Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
1	Ø16	4	495	1980
2	Ø12.5	4	485	1940
3	Ø5	74	125	9250
4	Ø5	148	27	3996
5	Ø16	4	515	2060
6	Ø12.5	4	505	2020
7	Ø16	4	130	520
8	Ø12.5	4	115	460
9	Ø5	3	115	345

Escala 1:50

Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipo: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Platibanda 1	30x15	0.07	1.46	-	1.5	1.7	20.58
Cobertura		0.14	2.86	11.8	3.1	16.4	104.12
Laje e frente		0.15	2.44	-	2.7	3.0	18.44
Terreo		0.05	0.90	-	0.9	1.0	16.67
Sub solo		0.06	1.00	11.7	1.1	14.1	213.33
Total		0.55	9.14	23.5	9.9	36.8	60.90

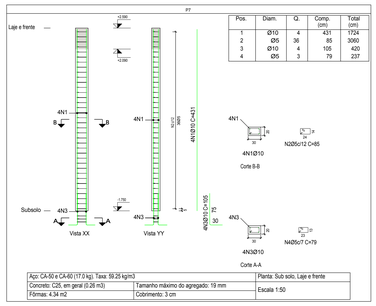
P25



Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
1	Ø10	4	431	1724
2	Ø5	36	85	3060
3	Ø10	4	105	420
4	Ø5	3	79	237

Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipc: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Platibanda 1	30x15	0.07	1.46	-	1.5	1.7	20.58
Cobertura		0.14	2.86	11.8	3.1	16.4	104.12
Laje e frente		0.15	2.44	-	2.7	3.0	18.44
Terreo		0.05	0.90	-	0.9	1.0	16.67
Sub solo		0.06	1.00	11.7	1.1	14.1	213.33
Total		0.55	9.14	23.5	9.9	36.8	60.90

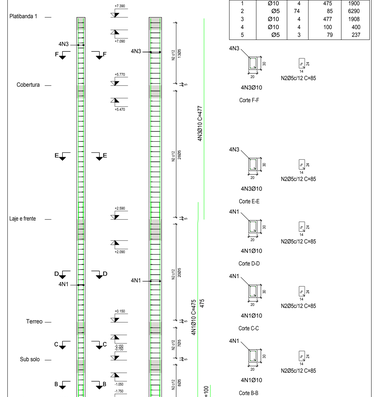
P7



Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
1	Ø10	4	431	1724
2	Ø5	36	85	3060
3	Ø10	4	105	420
4	Ø5	3	79	237

Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipc: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Cobertura	20x40	0.38	5.76	18.3	8.2	29.2	69.01
Laje e frente		0.20	2.93	-	4.1	4.5	21.00
Terreo		0.07	1.08	-	1.4	1.5	19.44
Sub solo		0.08	1.20	17.6	1.6	21.1	240.00
Total		0.73	10.97	35.9	15.4	56.3	70.02

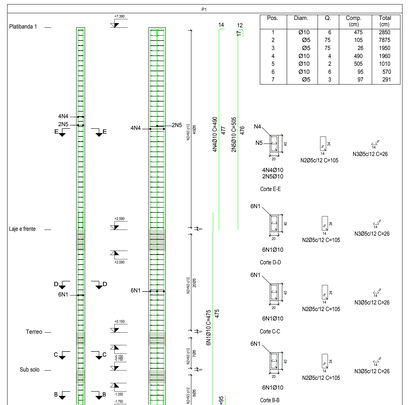
P6



Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
1	Ø10	4	475	1900
2	Ø5	74	85	6290
3	Ø10	4	477	1908
4	Ø10	4	100	400
5	Ø5	3	79	237

Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipc: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Platibanda 1	20x50	0.16	2.27	-	3.7	4.1	22.84
Cobertura		0.32	4.45	52.0	7.3	65.2	186.48
Laje e frente		0.24	3.42	-	5.6	6.2	22.95
Terreo		0.09	1.26	-	2.0	2.2	22.22
Sub solo		0.10	1.40	49.9	2.2	57.3	521.00
Total		0.91	12.80	101.9	20.8	135.0	134.25

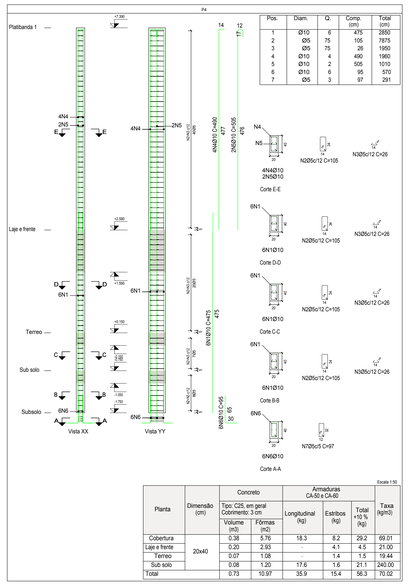
P1



Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
1	Ø10	6	475	2850
2	Ø5	75	105	7875
3	Ø5	75	26	1950
4	Ø10	4	490	1960
5	Ø10	2	505	1010
6	Ø10	6	95	570
7	Ø5	3	97	291

Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipc: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Cobertura	20x40	0.38	5.76	18.3	8.2	29.2	69.01
Laje e frente		0.20	2.93	-	4.1	4.5	21.00
Terreo		0.07	1.08	-	1.4	1.5	19.44
Sub solo		0.08	1.20	17.6	1.6	21.1	240.00
Total		0.73	10.97	35.9	15.4	56.3	70.02

P4



Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
1	Ø10	6	475	2850
2	Ø5	75	105	7875
3	Ø5	75	26	1950
4	Ø10	4	490	1960
5	Ø10	2	505	1010
6	Ø10	6	95	570
7	Ø5	3	97	291

Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipc: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Cobertura	20x40	0.38	5.76	18.3	8.2	29.2	69.01
Laje e frente		0.20	2.93	-	4.1	4.5	21.00
Terreo		0.07	1.08	-	1.4	1.5	19.44
Sub solo		0.08	1.20	17.6	1.6	21.1	240.00
Total		0.73	10.97	35.9	15.4	56.3	70.02

P16

Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
1	Ø10	4	490	1960
2	Ø5	39	75	2925
3	Ø10	4	195	780
4	Ø5	3	69	207

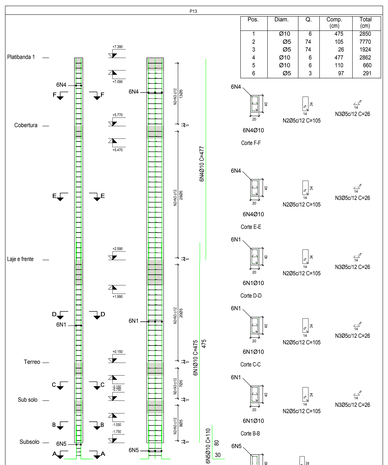
Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipc: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Platibanda 1	15x30	0.07	1.46	-	1.5	1.7	20.58
Cobertura		0.25	3.82	-	5.3	25.2	90.02
Laje e frente		0.20	2.93	-	4.1	4.5	21.00
Terreo		0.07	1.08	-	1.4	1.5	19.44
Sub solo		0.08	1.20	17.6	1.6	21.1	240.00
Total		0.73	10.97	35.2	15.2	55.3	68.79

P31

Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
1	Ø10	6	475	2850
2	Ø5	74	95	7030
3	Ø5	74	21	1554
4	Ø10	6	477	2862
5	Ø10	6	95	570
6	Ø5	3	87	261

Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipc: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Platibanda 1	15x40	0.15	2.27	-	2.4	2.6	24.69
Cobertura		0.19	3.50	17.6	4.7	24.5	116.88
Laje e frente		0.15	2.68	-	3.6	4.0	24.59
Terreo		0.05	0.99	-	1.3	1.4	24.07
Sub solo		0.06	1.10	17.6	1.5	21.0	318.33
Total		0.55	10.05	35.2	13.5	53.5	88.80

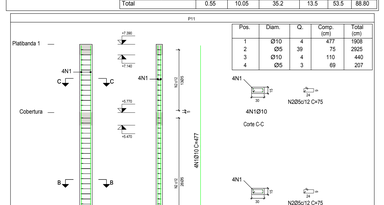
P13



Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
1	Ø10	6	475	2850
2	Ø5	74	105	7770
3	Ø5	74	26	1924
4	Ø10	6	477	2862
5	Ø10	6	110	660
6	Ø5	3	97	291

Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipc: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Platibanda 1	20x40	0.13	1.94	-	2.7	3.0	20.83
Cobertura		0.25	3.82	17.6	5.3	25.2	90.02
Laje e frente		0.20	2.93	-	4.1	4.5	21.00
Terreo		0.07	1.08	-	1.4	1.5	19.44
Sub solo		0.08	1.20	17.6	1.6	21.1	240.00
Total		0.73	10.97	35.2	15.2	55.3	68.79

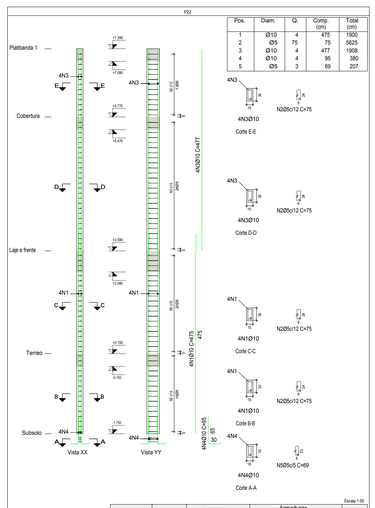
P11



Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
1	Ø10	4	477	1908
2	Ø5	39	75	2925
3	Ø10	4	110	440
4	Ø5	3	69	207

Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipc: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Platibanda 1	30x15	0.07	1.46	-	1.5	1.7	20.58
Cobertura		0.14	2.86	11.8	3.1	16.4	104.12
Total		0.22	4.32	11.8	4.6	18.1	75.93

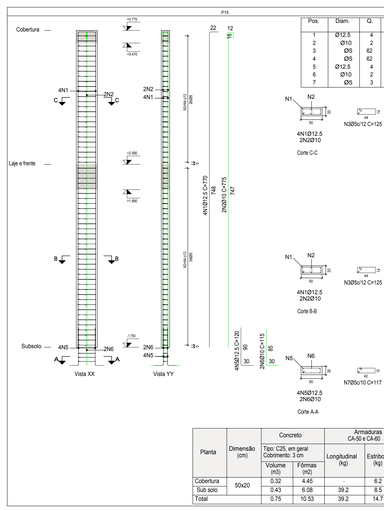
P22



Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
1	Ø10	4	475	1900
2	Ø5	75	105	7875
3	Ø5	75	26	1950
4	Ø10	4	477	1908
5	Ø5	3	69	207

Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipc: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Platibanda 1	15x30	0.07	1.46	-	1.5	1.7	20.58
Cobertura		0.14	2.86	11.8	3.1	16.4	104.12
Laje e frente		0.11	2.20	-	2.4	2.6	21.86
Sub solo		0.09	1.71	11.7	1.9	15.0	159.09
Total		0.41	8.23	23.5	8.8	35.7	78.77

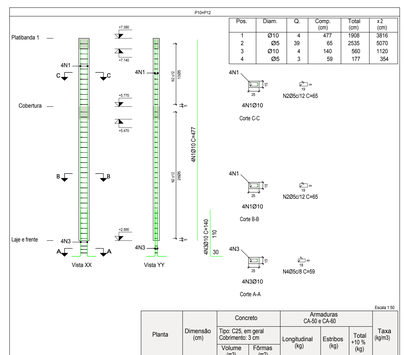
P15



Pos.	Diam.	Q.	Comp.	Total (cm)
1	Ø12.5	4	770	3080
2	Ø10	2	775	1550
3	Ø5	62	125	7750
4	Ø5	62	26	1612
5	Ø12.5	4	120	480
6	Ø10	2	115	230
7	Ø5	3	117	351

Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipc: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Cobertura	50x20	0.32	4.45	-	6.2	6.8	19.50
Sub solo		0.43	6.08	39.2	8.5	52.5	109.91
Total		0.75	10.53	39.2	14.7	59.3	71.68

P10=P12



Pos.	Diam.	Q.	Comp.	Total (cm)	x2 (cm)
1	Ø10	4	477	1908	3816
2	Ø5	39	65	2535	5070
3	Ø10	4	140	560	1120
4	Ø5	3	59	177	354

Planta	Dimensão (cm)	Concreto		Armaduras CA-50 e CA-60			Taxa (kg/m3)
		Tipc: C25, em geral Cobrimento: 3 cm		Longitudinal (kg)	Estribos (kg)	Total +10 % (kg)	
		Volume (m3)	Fôrmas (m2)				
Platibanda 1	25x15	0.12	1.30	-	1.3	1.4	10.70
Cobertura		0.24	2.54	11.8	2.7	16.0	60.80
Total (x2)		0.72	7.68	23.5	8.0	34.8	43.89

Elemento P11

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø10	4	477	477	1908	11.8	
2	Ø5	39	34 / 41	75	2925		4.6
3	Ø10	4	34 / 23	110	440	2.7	
4	Ø5	3	69 / 23	69	207		0.3
				Total+10%		16.0	5.4

P18

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø12.5	4	148 / 12 / 790	790	3160	30.4	
2	Ø10	4	747 / 24 / 23 / 790	790	3160	19.5	
3	Ø10	2	148 / 12 / 790	790	1580	9.7	
4	Ø5	61	34 / 23 / 135	135	8235		12.9
5	Ø5	122	27	27	3294		5.2
6	Ø12.5	4	115	115	460	4.4	
7	Ø10	6	R 80 / 110	110	660	4.1	
8	Ø5	3	R 80 / 23 / 127	127	381		0.6
				Total+10%		74.9	20.6

P17

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø16	4	478 / 17 / 1980	495	1980	31.3	
2	Ø12.5	4	833 / 18 / 485	485	1940	18.7	
3	Ø5	74	5 / 125	125	9250		14.5
4	Ø5	148	5 / 27	27	3996		6.3
5	Ø16	4	478 / 17 / 18 / 515	515	2060	32.5	
6	Ø12.5	4	833 / 17 / 18 / 505	505	2020	19.5	
7	Ø16	4	R 100 / 130	130	520	8.2	
8	Ø12.5	4	R 80 / 115	115	460	4.4	
9	Ø5	3	R 80 / 115	115	345		0.5
				Total+10%		126.1	23.4

P16

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø10	4	477 / 20	490	1960	12.1	
2	Ø5	39	24 / 23 / 75	75	2925		4.6
3	Ø10	4	R 100 / 195	195	780	4.8	
4	Ø5	3	R 80 / 23 / 69	69	207		0.3
				Total+10%		18.8	5.4

P25

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø10	4	477 / 20	477	1908	11.8	
2	Ø5	39	24 / 23 / 75	75	2925		4.6
3	Ø10	4	R 100 / 155	155	620	3.8	
4	Ø5	3	R 80 / 23 / 69	69	207		0.3
				Total+10%		17.2	5.4

P13

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø10	6	424 / 18 / 475	475	2850	17.6	
2	Ø5	74	24 / 23 / 105	105	7770		12.2
3	Ø5	74	24 / 23 / 26	26	1924		3.0
4	Ø10	6	477 / 20	477	2862	17.6	
5	Ø10	6	R 80 / 110	110	660	4.1	
6	Ø5	3	R 80 / 23 / 97	97	291		0.5
				Total+10%		43.2	17.3

P31

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø10	6	424 / 18 / 475	475	2850	17.6	
2	Ø5	74	24 / 23 / 95	95	7030		11.0
3	Ø5	74	24 / 23 / 21	21	1554		2.4
4	Ø10	6	477 / 20	477	2862	17.6	
5	Ø10	6	R 80 / 95	95	570	3.5	
6	Ø5	3	R 80 / 23 / 87	87	261		0.4
				Total+10%		42.6	15.2

P7

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø10	4	431 / 20	431	1724	10.6	
2	Ø5	36	24 / 23 / 85	85	3060		4.8
3	Ø10	4	R 100 / 105	105	420	2.6	
4	Ø5	3	R 80 / 23 / 79	79	237		0.4
				Total+10%		14.5	5.7

P9

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø10	4	424 / 18 / 475	475	1900	11.7	
2	Ø5	74	24 / 23 / 85	85	6290		9.9
3	Ø10	4	477 / 20	477	1908	11.8	
4	Ø10	4	R 100 / 100	100	400	2.5	
5	Ø5	3	R 80 / 23 / 79	79	237		0.4
				Total+10%		28.6	11.3

P1

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø10	6	424 / 18 / 475	475	2850	17.6	
2	Ø5	75	24 / 23 / 105	105	7875		12.4
3	Ø5	75	24 / 23 / 26	26	1950		3.1
4	Ø10	4	477 / 20	490	1960	12.1	
5	Ø10	2	477 / 20 / 23 / 505	505	1010	6.2	
6	Ø10	6	R 80 / 95	95	570	3.5	
7	Ø5	3	R 80 / 23 / 97	97	291		0.5
				Total+10%		43.3	17.6

P22

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø10	4	424 / 18 / 475	475	1900	11.7	
2	Ø5	75	24 / 23 / 75	75	5625		8.8
3	Ø10	4	477 / 20	477	1908	11.8	
4	Ø10	4	R 80 / 95	95	380	2.3	
5	Ø5	3	R 80 / 23 / 69	69	207		0.3
				Total+10%		28.4	10.0

P4

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø10	6	424 / 18 / 475	475	2850	17.6	
2	Ø5	75	24 / 23 / 105	105	7875		12.4
3	Ø5	75	24 / 23 / 26	26	1950		3.1
4	Ø10	4	477 / 20	490	1960	12.1	
5	Ø10	2	477 / 20 / 23 / 505	505	1010	6.2	
6	Ø10	6	R 80 / 95	95	570	3.5	
7	Ø5	3	R 80 / 23 / 97	97	291		0.5
				Total+10%		43.3	17.6

P15

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø12.5	4	748 / 22 / 770	770	3080	29.7	
2	Ø10	2	747 / 24 / 775	775	1550	9.6	
3	Ø5	62	24 / 23 / 125	125	7750		12.2
4	Ø5	62	24 / 23 / 26	26	1612		2.5
5	Ø12.5	4	R 80 / 120	120	480	4.6	
6	Ø10	2	R 80 / 115	115	230	1.4	
7	Ø5	3	R 80 / 42 / 117	117	351		0.6
				Total+10%		49.8	16.8

P10=P12

Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
1	Ø10	4	477 / 20	477	1908	11.8	
2	Ø5	39	24 / 23 / 65	65	2535		4.0
3	Ø10	4	R 100 / 140	140	560	3.5	
4	Ø5	3	R 80 / 23 / 59	59	177		0.3
				Total+10%		16.8	4.7
				(x2)		33.6	9.4
				Ø5:		0.0	181.1
				Ø10:		378.0	0.0
				Ø12.5:		122.9	0.0
				Ø16:		79.2	0.0
				Total:		580.1	181.1

PREFEITURA:
CREA:
BOMBEIRO OU NATURATINS

PROJETO ESTRUTURAL — Prancha: **02/10**

OBRA PUBLICA
OBRA: PALCO — CIDADE: PIUM - TO
PROPRIETÁRIO: Prefeitura Municipal de Pium- TO
ENDEREÇO: Praça Neco Baiano, Centro

QUADRO DE ÁREAS

Conforme projeto arquitetônico

ESCALA INDICADA

CONTEÚDO:
- Detalhes de pilares
- Lista de materiais

Proprietário: Nome: Prefeitura Municipal de Pium - TO
Autor do Projeto: ART: CREA: 317202-TO — ALDO JUNIOR MARTINS COELHO, Engenheiro Civil
Resp. Técnico: ART:

Revisão	Descrição Revisão	Aprovado	Data