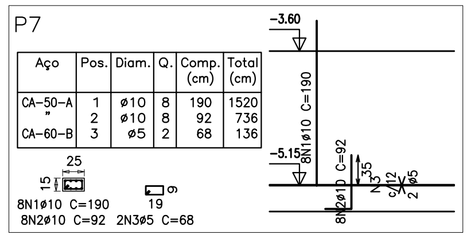
Pilares que terminam em
Nível -> -3.60 m
Concreto: C25, usina.rigor
Aço: CA-50-A e CA-60-B
Escala: 1:50

P7

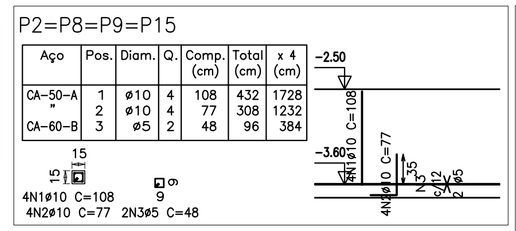


Aço	Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
CA-50-A	1	ø10	8	190	1520
"	2	ø10	8	92	736
CA-60-B	3	ø5	2	68	136

Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50-A (kg)	CA-60-B (kg)
P7	1	ø10	8		190		190	1520	9.5	
	2	ø10	8	30	62		92	736	4.6	
	3	ø5	2		68		68	136		0.2
							Total+10%:		15.5	0.2
								ø5:	0.0	0.2
								ø10:	15.5	0.0
								Total:	15.5	0.2

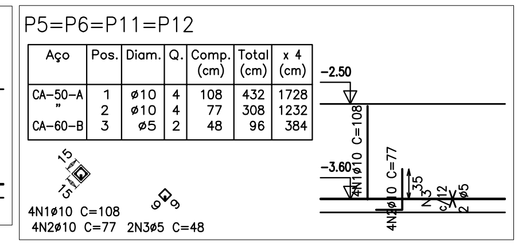
Pilares que terminam em
Nível -> -2.50 m
Concreto: C25, usina.rigor
Aço: CA-50-A e CA-60-B
Escala: 1:50

P2=P8=P9=P15



Aço	Pos.	Diam.	Q.	Comp. (cm)	Total (cm)	x 4 (cm)
CA-50-A	1	ø10	4	108	432	1728
"	2	ø10	4	77	308	1232
CA-60-B	3	ø5	2	48	96	384

P5=P6=P11=P12

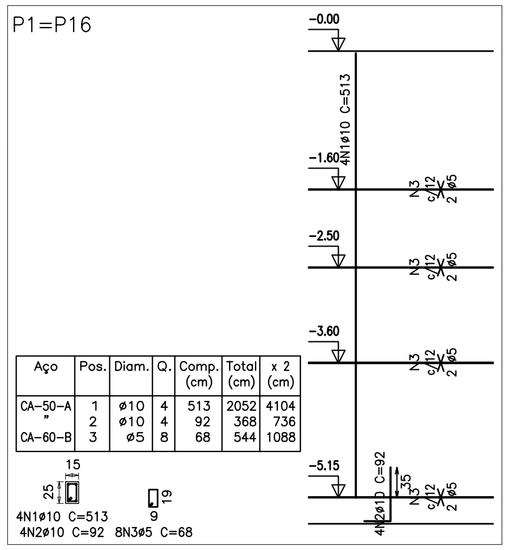


Aço	Pos.	Diam.	Q.	Comp. (cm)	Total (cm)	x 4 (cm)
CA-50-A	1	ø10	4	108	432	1728
"	2	ø10	4	77	308	1232
CA-60-B	3	ø5	2	48	96	384

Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50-A (kg)	CA-60-B (kg)
P2=P8=P9=P15	1	ø10	4		108		108	432	2.7	
	2	ø10	4	30	47		77	308	1.9	
	3	ø5	2		48		48	96		0.2
								Total+10%:	5.1	0.2
								(x4):	20.4	0.8
P5=P6=P11=P12	1	ø10	4		108		108	432	2.7	
	2	ø10	4	30	47		77	308	1.9	
	3	ø5	2		48		48	96		0.2
								Total+10%:	5.1	0.2
								(x4):	20.4	0.8
								ø5:	0.0	1.6
								ø10:	40.8	0.0
								Total:	40.8	1.6

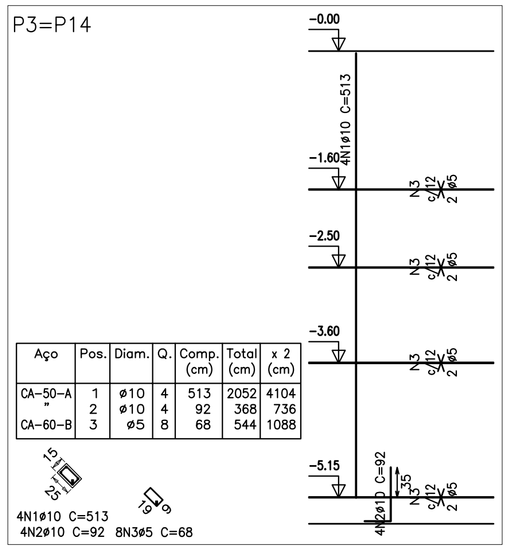
Pilares que terminam em
Nível -> 0,00
Concreto: C25, usina.rigor
Aço: CA-50-A e CA-60-B
Escala: 1:50

P1=P16



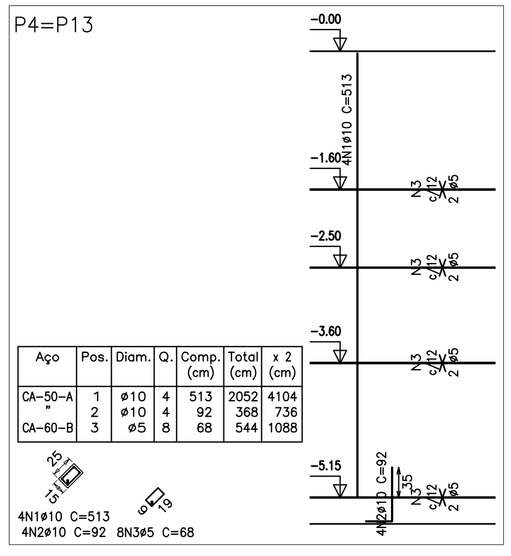
Aço	Pos.	Diam.	Q.	Comp. (cm)	Total (cm)	x 2 (cm)
CA-50-A	1	ø10	4	513	2052	4104
"	2	ø10	4	92	368	736
CA-60-B	3	ø5	8	68	544	1088

P3=P14



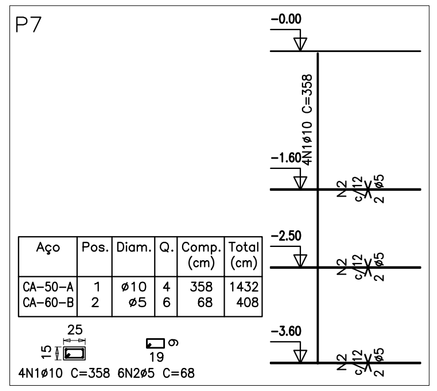
Aço	Pos.	Diam.	Q.	Comp. (cm)	Total (cm)	x 2 (cm)
CA-50-A	1	ø10	4	513	2052	4104
"	2	ø10	4	92	368	736
CA-60-B	3	ø5	8	68	544	1088

P4=P13



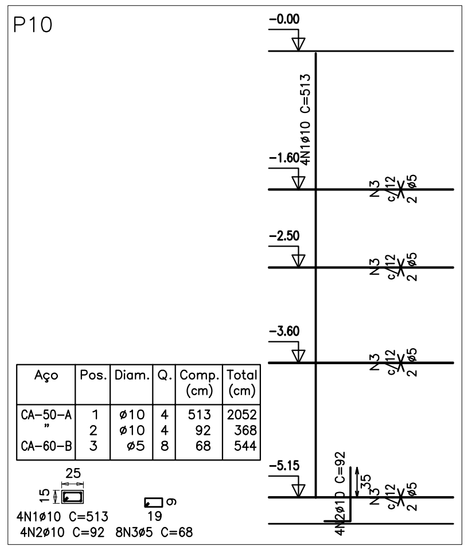
Aço	Pos.	Diam.	Q.	Comp. (cm)	Total (cm)	x 2 (cm)
CA-50-A	1	ø10	4	513	2052	4104
"	2	ø10	4	92	368	736
CA-60-B	3	ø5	8	68	544	1088

P7



Aço	Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
CA-50-A	1	ø10	4	358	1432
CA-60-B	2	ø5	6	68	408

P10

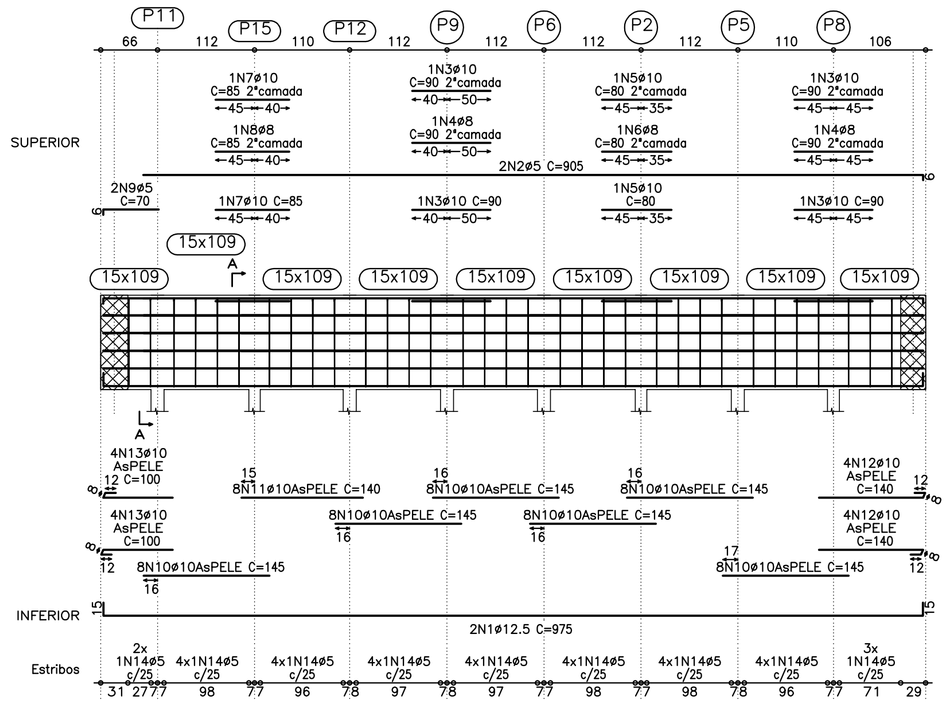


Aço	Pos.	Diam.	Q.	Comp. (cm)	Total (cm)
CA-50-A	1	ø10	4	513	2052
"	2	ø10	4	92	368
CA-60-B	3	ø5	8	68	544

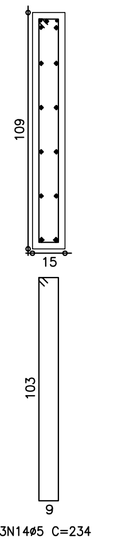
Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50-A (kg)	CA-60-B (kg)
P1=P16	1	ø10	4		513		513	2052	12.9	
	2	ø10	4	30	62		92	368	2.3	
	3	ø5	8		68		68	544		0.9
								Total+10%:	16.7	1.0
								(x2):	33.4	2.0
P3=P14	1	ø10	4		513		513	2052	12.9	
	2	ø10	4	30	62		92	368	2.3	
	3	ø5	8		68		68	544		0.9
								Total+10%:	16.7	1.0
								(x2):	33.4	2.0
P4=P13	1	ø10	4		513		513	2052	12.9	
	2	ø10	4	30	62		92	368	2.3	
	3	ø5	8		68		68	544		0.9
								Total+10%:	16.7	1.0
								(x2):	33.4	2.0
P7	1	ø10	4		358		358	1432	9.0	
	2	ø5	6		68		68	408		0.6
								Total+10%:	9.9	0.7
P10	1	ø10	4		513		513	2052	12.9	
	2	ø10	4	30	62		92	368	2.3	
	3	ø5	8		68		68	544		0.9
								Total+10%:	16.7	1.0
								ø5:	0.0	7.7
								ø10:	126.8	0.0
								Total:	126.8	7.7

Nível -> -2.50 m
Desenho de vigas
Concreto: C25, usina.rigor
Aço: CA-50-A e CA-60-B
Escala vigas: 1:50
Escala seções: 1:20

VB1
Escala 1:50



Corte A



Escala 1:20

Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50-A (kg)	CA-60-B (kg)
VB1	1	ø12.5	2	15	945	15	975	1950	19.1	
	2	ø5	2		899	6	905	1810		2.8
	3	ø10	4		90		90	360	2.3	
	4	ø8	2		90		90	180	0.7	
	5	ø10	2		80		80	160	1.0	
	6	ø8	1		80		80	80	0.3	
	7	ø10	2		85		85	170	1.1	
	8	ø8	1		85		85	85	0.3	
	9	ø5	2	6	64		70	140		0.2
	10	ø10	48		145		145	6960	43.7	
	11	ø10	8		140		140	1120	7.0	
	12	ø10	8		120	20	140	1120	7.0	
	13	ø10	8	20	80		100	800	5.0	
	14	ø5	33				234	7722		12.1
								Total+10%:	96.3	16.6
								ø5:	0.0	16.6
								ø8:	1.5	0.0
								ø10:	73.8	0.0
								ø12.5:	21.0	0.0
								Total:	96.3	16.6

LEGENDA:

NOTAS

ARTICULAÇÃO:

REVISÕES

Nº	NATUREZA DA REVISÃO	DATA	APROVO
00			
01			
02			
03			
04			
05			

CODEVASF

ELABORADO POR:

KL ENGENHARIA

MINISTÉRIO DA INTEGRAÇÃO NACIONAL - MI
COMPANHIA DE DESENVOLVIMENTO DOS VALES DO SÃO FRANCISCO E DO PARNAÍBA - CODEVASF

OBRA:
PROJETO BÁSICO DO SISTEMA DE ESGOTAMENTO SANITÁRIO DE UMBURANAS - BA

ASSUNTO:
PROJETO ESTRUTURAL - EEE_01
PAREDES - FORMAS E AMARRAÇÃO - 1ª PARTE

ENG. JOSÉ MENESCAL NETO	CREA 2066/D - CE	DATA: MARÇO/2009
ENG.	CREA	ESCALA: INDICADA
ENG.	CREA	ARQUIVO: 02-UMB-PB-EST-EEE_01-R0