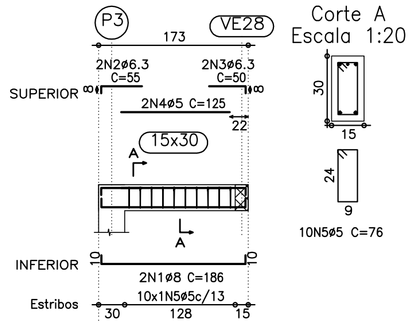
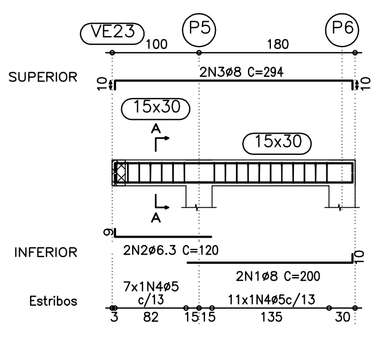
Nivel -> 4,10 m (315,100)
Desenho de vigas
Concreto: C25, usina.rigor
Aço: CA-50-A e CA-60-B
Escala vigas: 1:50
Escala seções: 1:20

VE1
Escala 1:50

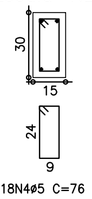


Corte A
Escala 1:20

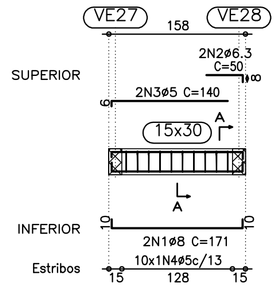
VE2
Escala 1:50



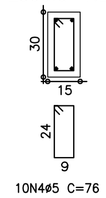
Corte A
Escala 1:20



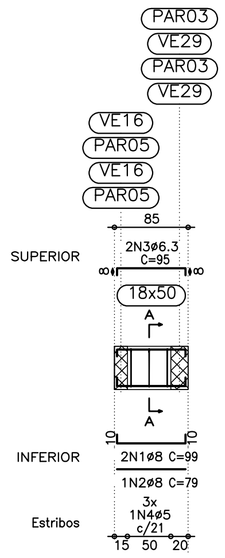
VE3
Escala 1:50



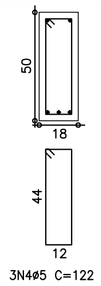
Corte A
Escala 1:20



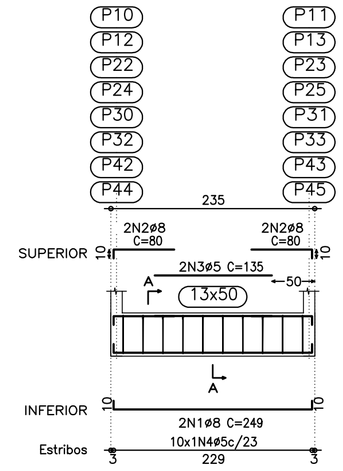
VE4
VE5
VE14
VE15
Escala 1:50



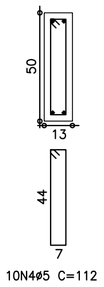
Corte A
Escala 1:20



VE6
VE7
VE8
VE9
VE10
VE11
VE12
VE13
Escala 1:50



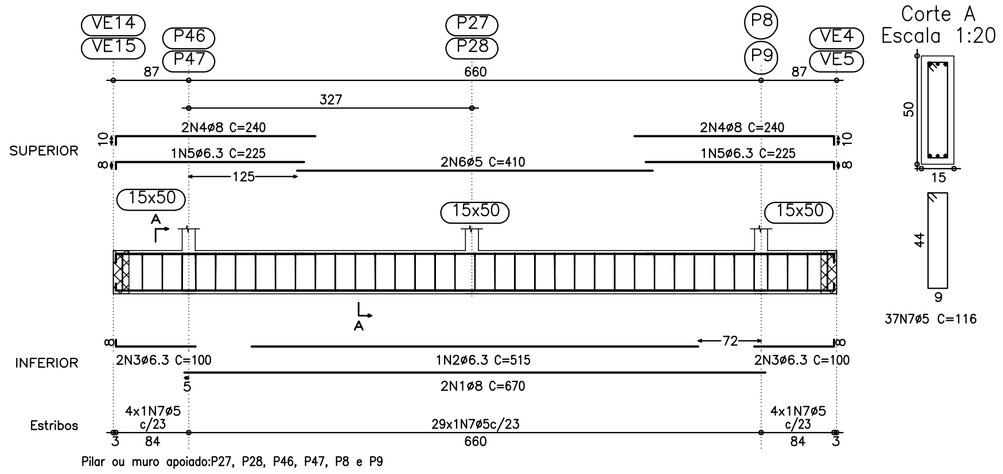
Corte A
Escala 1:20



Pilar ou muro apoiado:P10, P12, P22, P24, P30, P32, P42, P44, P11, P13, P23, P25, P31, P33, P43 e P45

Ver esperas no detalhamento de pilares ou vista de muros

VE16
VE29
Escala 1:50

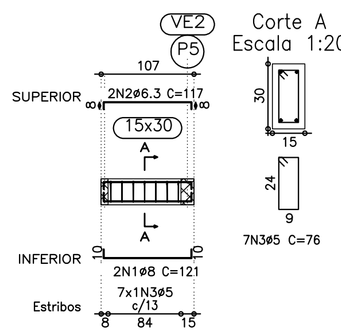


Corte A
Escala 1:20

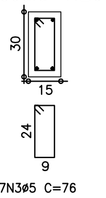
Pilar ou muro apoiado:P27, P28, P46, P47, P8 e P9

Ver esperas no detalhamento de pilares ou vista de muros

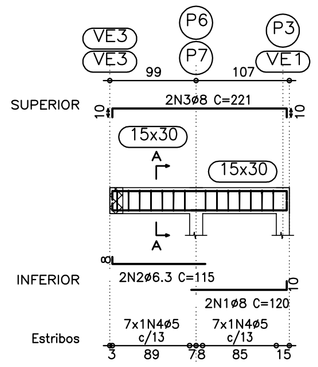
VE23
VE24
Escala 1:50



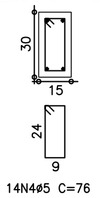
Corte A
Escala 1:20



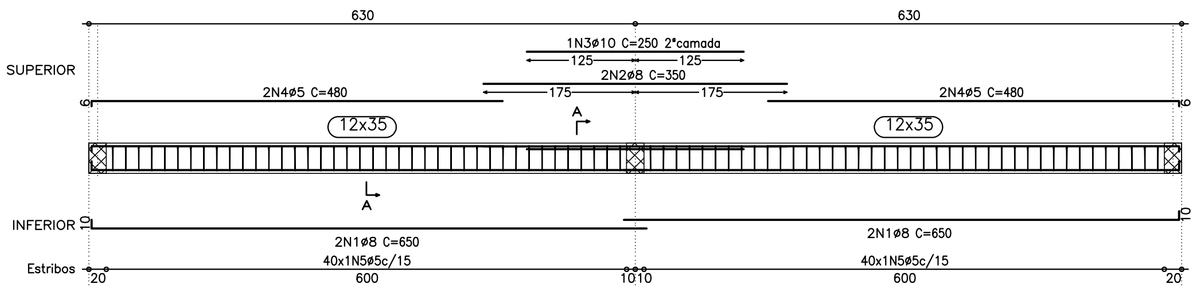
VE27
VE28
Escala 1:50



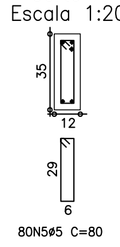
Corte A
Escala 1:20



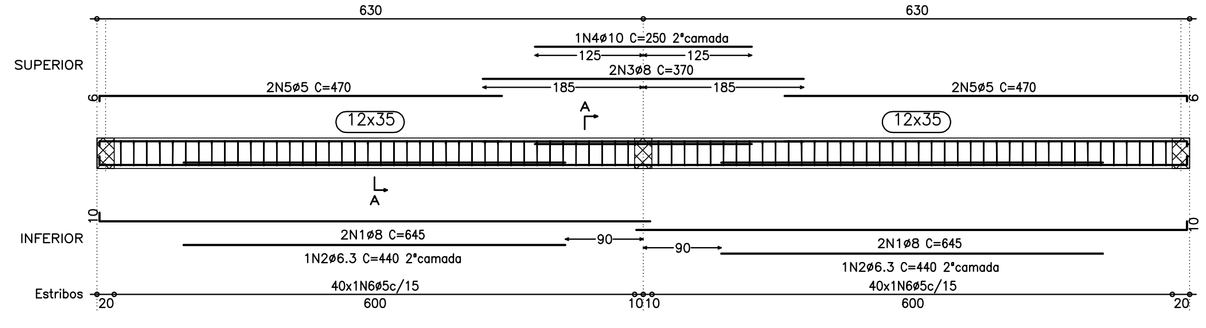
VE30
VE41
Escala 1:50



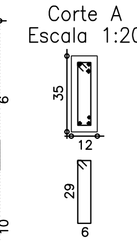
Corte A
Escala 1:20



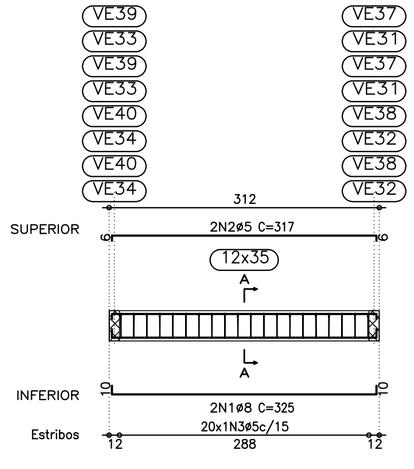
VE35
VE36
Escala 1:50



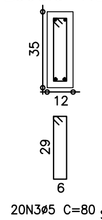
Corte A
Escala 1:20



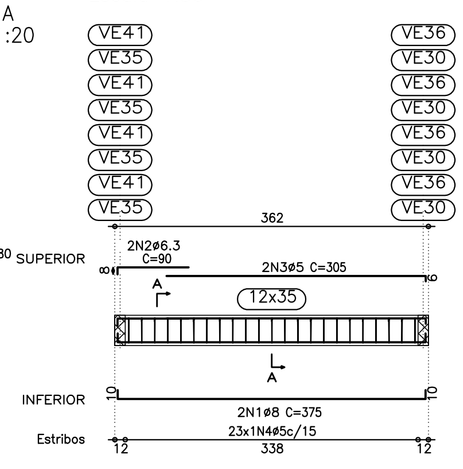
VE44
VE45
VE46
VE47
VE52
VE53
VE54
VE55
Escala 1:50



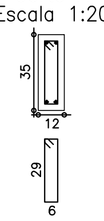
Corte A
Escala 1:20



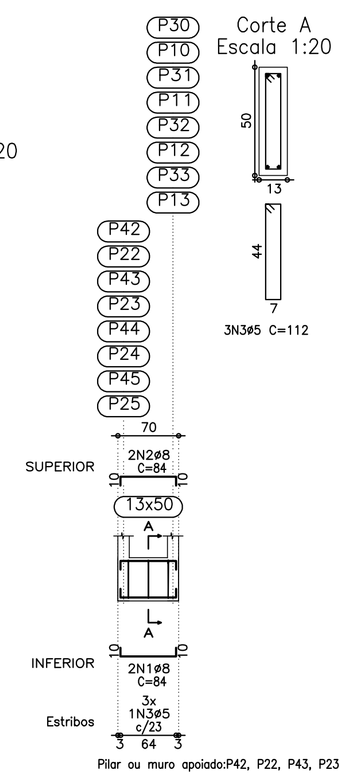
VE42
VE43
VE48
VE49
VE50
VE51
VE56
VE57
Escala 1:50



Corte A
Escala 1:20



VE17
VE18
VE19
VE20
VE21
VE22
VE25
VE26
Escala 1:50



Corte A
Escala 1:20

Pilar ou muro apoiado:P42, P22, P43, P23, P44, P24, P45, P25, P30, P10, P31, P11, P32, P12, P33 e P13

Ver esperas no detalhamento de pilares ou vista de muros

Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50-A (kg)	CA-60-B (kg)
VE1	1	ø8	2	10	166	10	186	372	1.5	
	2	ø6.3	2	8	47		55	110	0.3	
	3	ø6.3	2		42	8	50	100	0.2	
	4	ø5	2		125		125	250		0.4
	5	ø5	10				76	760		1.2
								Total+10%:	2.2	1.8
VE2	1	ø8	2		190	10	200	400	1.6	
	2	ø6.3	2	9	111		120	240	0.6	
	3	ø8	2	10	274	10	294	588	2.3	
	4	ø5	18				76	1368		2.1
								Total+10%:	5.0	2.3
VE3	1	ø8	2	10	151	10	171	342	1.3	
	2	ø6.3	2		42	8	50	100	0.2	
	3	ø5	2	6	134		140	280		0.4
	4	ø5	10				76	760		1.2
								Total+10%:	1.7	1.8
VE4=VE5=VE14 VE15	1	ø8	2	10	79	10	99	198	0.8	
	2	ø8	1		79		79	79	0.3	
	3	ø6.3	2	8	79	8	95	190	0.5	
	4	ø5	3				122	366		0.6
								Total+10%:	1.8	0.7
								(x4):	7.2	2.8
VE6=VE7=VE8=VE9 VE10=VE11=VE12 VE13	1	ø8	2	10	229	10	249	498	2.0	
	2	ø8	4	10	70		80	320	1.3	
	3	ø5	2		135		135	270		0.4
	4	ø5	10				112	1120		1.8
								Total+10%:	3.6	2.4
								(x8):	28.8	19.2
VE16=VE29	1	ø8	2		670		670	1340	5.3	
	2	ø6.3	1		515		515	515	1.3	
	3	ø6.3	4	8	92		100	400	1.0	
	4	ø8	4	10	230		240	960	3.8	
	5	ø6.3	2	8	217		225	450	1.1	
	6	ø5	2		410		410	820		1.3
	7	ø5	37				116	4292		6.7
								Total+10%:	13.8	8.8
								(x2):	27.6	17.6
VE17=VE18=VE19 VE20=VE21=VE22 VE25=VE26	1	ø8	2	10	64	10	84	168	0.7	
	2	ø8	2	10	64	10	84	168	0.7	
	3	ø5	3				112	336		0.5
								Total+10%:	1.5	0.6
								(x8):	12.0	4.8
VE23=VE24	1	ø8	2	10	101	10	121	242	0.9	
	2	ø6.3	2	8	101	8	117	234	0.6	
	3	ø5	7				76	532		0.8
								Total+10%:	1.7	0.9
								(x2):	3.4	1.8
VE27=VE28	1	ø8	2		110	10	120	240	0.9	
	2	ø6.3	2	8	107		115	230	0.6	
	3	ø8	2	10	201	10	221	442	1.7	
	4	ø5	14				76	1064		1.7
								Total+10%:	3.5	1.9
								(x2):	7.0	3.8
VE30=VE41	1	ø8	4	10	640		650	2600	10.2	
	2	ø8	2		350		350	700	2.7	
	3	ø10	1		250		250	250	1.6	
	4	ø5	4	6	474		480	1920		3.0
	5	ø5	80				80	6400		10.0
								Total+10%:	16.0	14.3
								(x2):	32.0	28.6
VE31=VE33=VE37 VE39	1	ø8	2	10	554	10	574	1148	4.5	
	2	ø8	2		125	10	135	270	1.1	
	3	ø5	2	6	454		460	920		1.4
	4	ø5	36				80	2880		4.5
								Total+10%:	6.2	6.5
								(x4):	24.8	26.0
VE35=VE36	1	ø8	4	10	635		645	2580	10.1	
	2	ø6.3	2		440		440	880	2.2	
	3	ø8	2		370		370	740	2.9	
	4	ø10	1		250		250	250	1.6	
	5	ø5	4	6	464		470	1880		3.0
	6	ø5	80				80	6400		10.0
								Total+10%:	18.5	14.3
								(x2):	37.0	28.6
VE42=VE43=VE48 VE49=VE50=VE51 VE56=VE57	1	ø8	2	10	355	10	375	750	2.9	
	2	ø6.3	2	8	82		90	180	0.4	
	3	ø5	2		299	6	305	610		1.0
	4	ø5	23				80	1840		2.9
								Total+10%:	3.6	4.3
								(x8):	28.8	34.4
VE32=VE34=VE38 VE40	1	ø8	2	10	554	10	574	1148	4.5	
	2	ø8	2	10	125		135	270	1.1	
	3	ø5	2		454	6	460	920		1.4
	4	ø5	36				80	2880		4.5
								Total+10%:	6.2	6.5
								(x4):	24.8	26.0
VE44=VE45=VE46 VE47=VE52=VE53 VE54=VE55	1	ø8	2	10	305	10	325	650	2.6	
	2	ø5	2	6	305	6	317	634		1.0
	3	ø5	20				80	1600		2.5
								Total+10%:	2.9	3.9
								(x8):	23.2	31.2
								ø5:	0.0	230.7
								ø6.3:	22.1	0.0
								ø8:	236.2	0.0
								ø10:	7.2	0.0
								Total:	265.5	230.7

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 - DAFA
VIGAS - FORMAS - 3ª PARTE

ENG. JOSÉ MENESCAL NETO	CREA 2066/D - CE	DATA:	MARÇO/2009
ENG.	CREA	ESCALA:	INDICADA
ENG.	CREA	ARQUIVO:	08-UMB-PB-EST-DAFA-R0