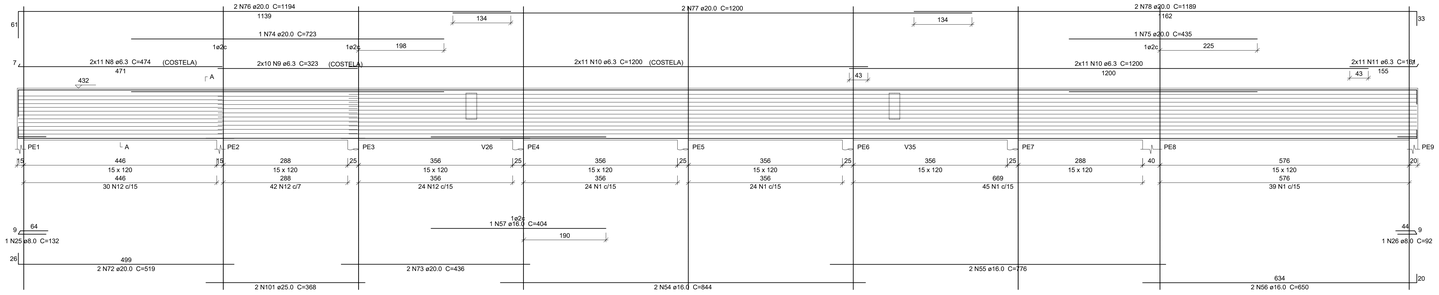
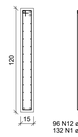
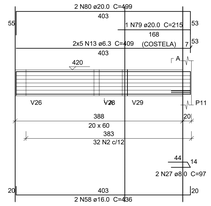
V1 (15 x 120)
ESC 1:50



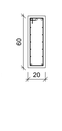
SEÇÃO A-A
ESC 1:25



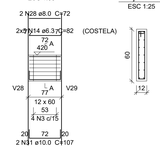
V5 (20 x 60)
ESC 1:50



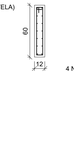
SEÇÃO A-A
ESC 1:25



V6 (12 x 60)
ESC 1:50



SEÇÃO A-A
ESC 1:25



Relação do aço

V1	V2	V3	
V4	V5	V6	
V7	V8	V9	
V10	V11	V12	
V13	V14	V15	
V17	V19	V24	

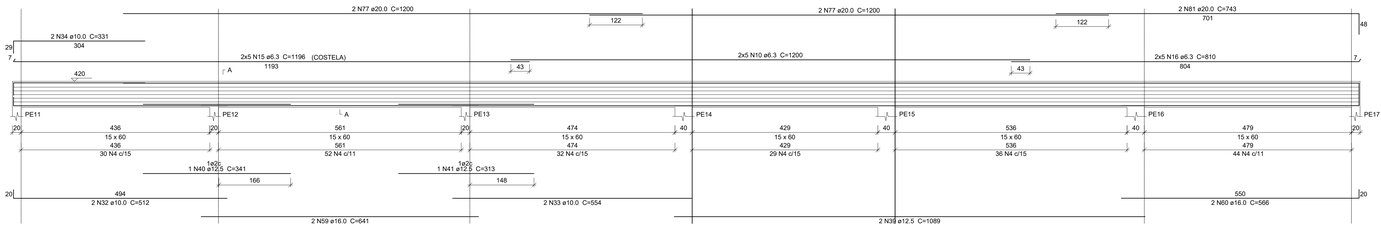
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	132	262	34584
	2	5.0	162	152	24624
	3	5.0	15	136	2040
	4	5.0	342	142	48564
	5	5.0	291	162	47142
	6	5.0	8	126	1008
	7	5.0	4	152	608
CA50	8	6.3	22	474	10428
	9	6.3	20	323	6460
	10	6.3	74	1200	88800
	11	6.3	22	161	3542
	12	6.3	96	262	25152
	13	6.3	10	409	4090
	14	6.3	40	82	3280
	15	6.3	30	1196	35880
	16	6.3	30	810	24300
	17	6.3	20	621	12420
	18	6.3	359	162	58158
	19	6.3	10	1056	10560
	20	6.3	10	399	3990
	21	6.3	10	226	2260
	22	6.3	10	1100	11000
	23	6.3	20	998	19960
	24	6.3	10	275	2750
	25	8.0	1	132	132
	26	8.0	2	92	184
	27	8.0	4	97	388
	28	8.0	8	72	576
	29	8.0	2	134	268
	30	8.0	3	142	426
	31	10.0	8	107	856
	32	10.0	2	512	1024
	33	10.0	2	554	1108
	34	10.0	2	331	662
	35	10.0	2	646	1292
	36	10.0	2	233	466
	37	10.0	3	168	504
	38	10.0	2	1033	2066
	39	12.5	2	1089	2178
	40	12.5	1	341	341
	41	12.5	1	313	313
	42	12.5	2	686	1372
	43	12.5	2	998	1996
	44	12.5	2	1073	2146
	45	12.5	2	373	746
	46	12.5	2	246	492
	47	12.5	2	266	532
	48	12.5	2	645	1290
	49	12.5	4	1032	4128
	50	12.5	1	250	250
	51	12.5	1	325	325
	52	12.5	2	1068	2136
	53	12.5	2	335	670
	54	16.0	2	844	1688
	55	16.0	2	776	1552
	56	16.0	2	650	1300
	57	16.0	1	404	404
	58	16.0	2	436	872
	59	16.0	2	641	1282
	60	16.0	2	566	1132
	61	16.0	4	383	1532
	62	16.0	6	420	2520
	63	16.0	1	224	224
	64	16.0	2	174	348
	65	16.0	2	336	672
	66	16.0	1	310	310
	67	16.0	2	492	984
	68	16.0	1	199	199
	69	16.0	2	325	650
	70	16.0	2	679	1358
	71	16.0	2	404	808
	72	20.0	2	519	1038
	73	20.0	2	436	872
	74	20.0	1	723	723
	75	20.0	1	435	435
	76	20.0	2	1194	2388
	77	20.0	8	1200	9600
	78	20.0	2	1189	2378
	79	20.0	1	215	215
	80	20.0	2	499	998
	81	20.0	2	743	1486
	82	20.0	1	415	415
	83	20.0	4	868	3472
	84	20.0	1	215	215
	85	20.0	1	250	250
	86	20.0	1	325	325
	87	20.0	1	360	360
	88	20.0	1	295	295
	89	20.0	1	1045	1045
	90	20.0	2	1194	2388
	91	20.0	2	1035	2070
	92	20.0	1	430	430
	93	20.0	4	839	3356
	94	20.0	2	823	1646
	95	20.0	2	1105	2210
	96	20.0	2	1073	2146
	97	20.0	2	833	1666
	98	20.0	1	241	241
	99	20.0	1	861	861
	100	20.0	2	1166	2332
	101	25.0	2	368	736
	102	25.0	1	400	400
	103	25.0	1	350	350
	104	25.0	1	235	235
	105	25.0	4	1200	4800
	106	25.0	2	507	1014

Resumo do aço

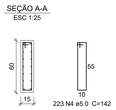
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	3230.3	869.5
	8.0	19.8	8.6
	10.0	79.8	54.1
	12.5	189.2	200.4
	16.0	178.4	309.6
	20.0	458.6	1244
	25.0	75.4	319.4
CA60	5.0	1585.7	268.9
PESO TOTAL (kg)			
CA50	3005.6		
CA60	268.9		

Volume de concreto (C-30) = 26.32 m³
Área de forma = 313.41 m²

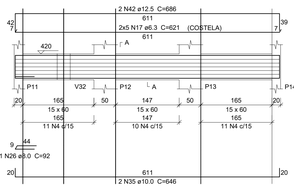
V2 (15 x 60)
ESC 1:50



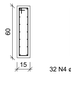
SEÇÃO A-A
ESC 1:25



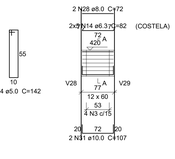
V7 (15 x 60)
ESC 1:50



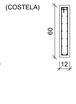
SEÇÃO A-A
ESC 1:25



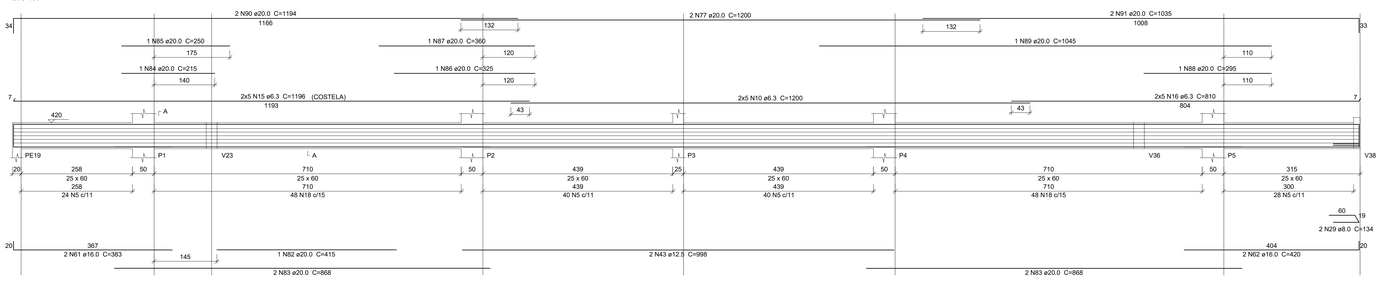
V8 (12 x 60)
ESC 1:50



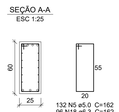
SEÇÃO A-A
ESC 1:25



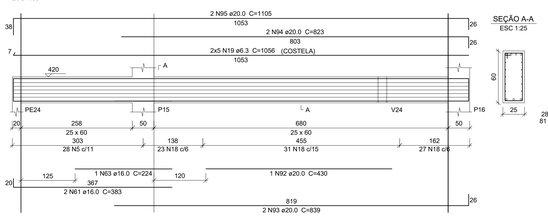
V3 (25 x 60)
ESC 1:50



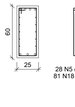
SEÇÃO A-A
ESC 1:25



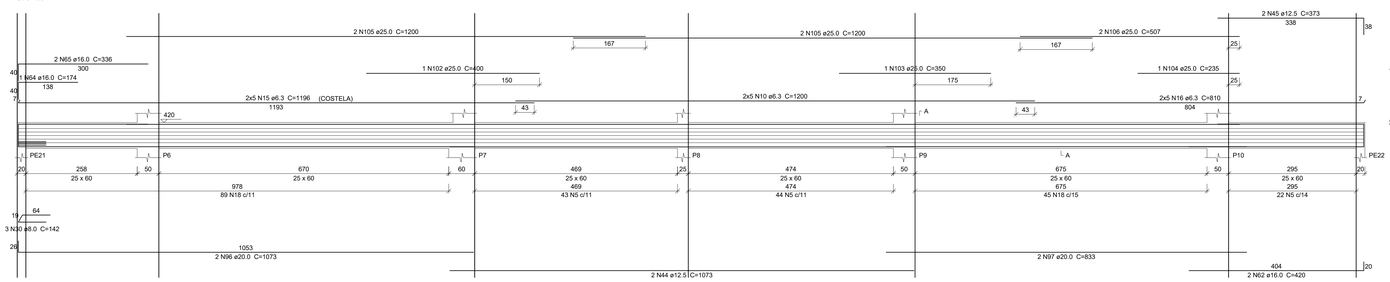
V9 (25 x 60)
ESC 1:50



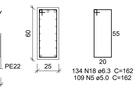
SEÇÃO A-A
ESC 1:25



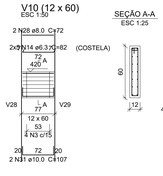
V4 (25 x 60)
ESC 1:50



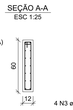
SEÇÃO A-A
ESC 1:25



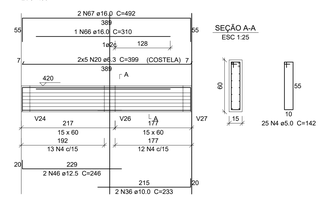
V10 (12 x 60)
ESC 1:50



SEÇÃO A-A
ESC 1:25

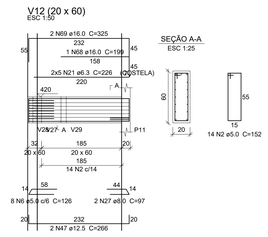


V11 (15 x 60)
ESC 1:50



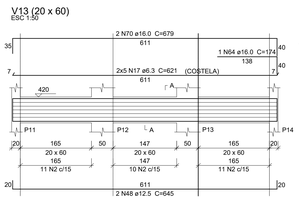
SEÇÃO A-A
ESC 1:25

V12 (20 x 60)
ESC 1:50

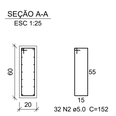


SEÇÃO A-A
ESC 1:25

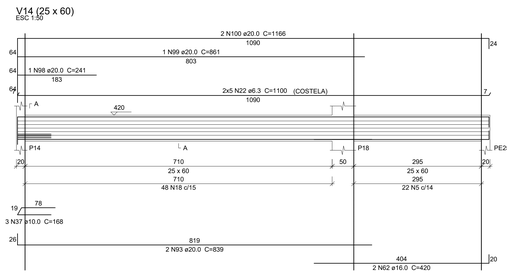
V13 (20 x 60)
ESC 1:50



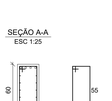
SEÇÃO A-A
ESC 1:25



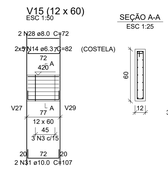
V14 (25 x 60)
ESC 1:50



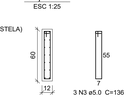
SEÇÃO A-A
ESC 1:25



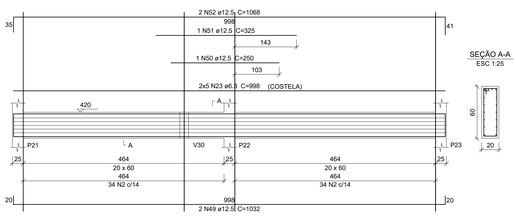
V15 (12 x 60)
ESC 1:50



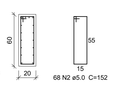
SEÇÃO A-A
ESC 1:25



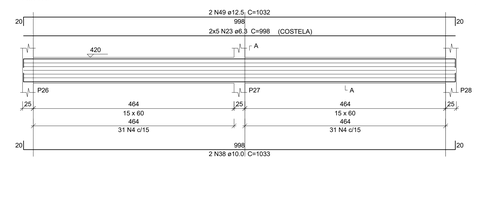
V17 (20 x 60)
ESC 1:50



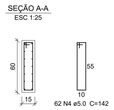
SEÇÃO A-A
ESC 1:25



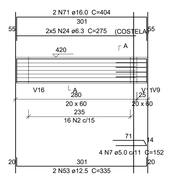
V19 (15 x 60)
ESC 1:50



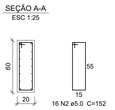
SEÇÃO A-A
ESC 1:25



V24 (20 x 60)
ESC 1:50



SEÇÃO A-A
ESC 1:25



ITEM	REVISÃO (CONTEÚDO)	RESPONS.	DATA

PROPRIETÁRIO: SERVIÇO SOCIAL DO COMÉRCIO - SESC

AUTOR DO PROJETO: ENGº CIVIL E ARQ ALEXANDRE DE MORAES FERREIRA - CREA/PA 4393D

DESENV. DO PROJETO: ENGº CIVIL ALMIR MAGALHÃES JR. - CREA/PA 151086898-4D

PREFEITURA

BOMBEIROS

DEMAIS ÓRGÃOS

PROPRIETÁRIO: SERVIÇO SOCIAL DO COMÉRCIO - SESC

ABL-CBK engenharia, arquitetura & paisagismo ltda.
FONE:(91) 3244-5726/e-mail: ablcbk@nautilus.com.br

PROJETO: CONSTRUÇÃO ED. 06 PAVIMENTOS DA UNIDADE DOCA
DISCIPLINA: ESTRUTURA
FASE: PROJETO EXECUTIVO

CONTEÚDO: ARMAÇÃO DAS VIGAS DO 2º PAVIMENTO - PARTE 1
DISCIPLINA | PRANCHA | TOTAL

Sesc
ENDEREÇO: RUA SENADOR MANOEL BARATA Nº 1873 - REDUTO - BELÉM/PA
AUTORES: ENGº CIVIL E ARQ ALEXANDRE DE MORAES FERREIRA - CREA/PA 4393D; ENGº CIVIL ALMIR MAGALHÃES JR. - CREA/PA 151086898-4D
RESPONSÁVEL TÉCNICO: ENGº CIVIL E ARQ ALEXANDRE DE MORAES FERREIRA - CREA/PA 4393D
VISTO

EST 31/64

ESCALA:	DATA:	REVISÃO:	DESENV. GRÁFICO:
INDICADA	JUNHO-2018	000	ENGº CIVIL ALMIR MAGALHÃES JR.

FORMATO ISO A0 - 1189 x 841 mm