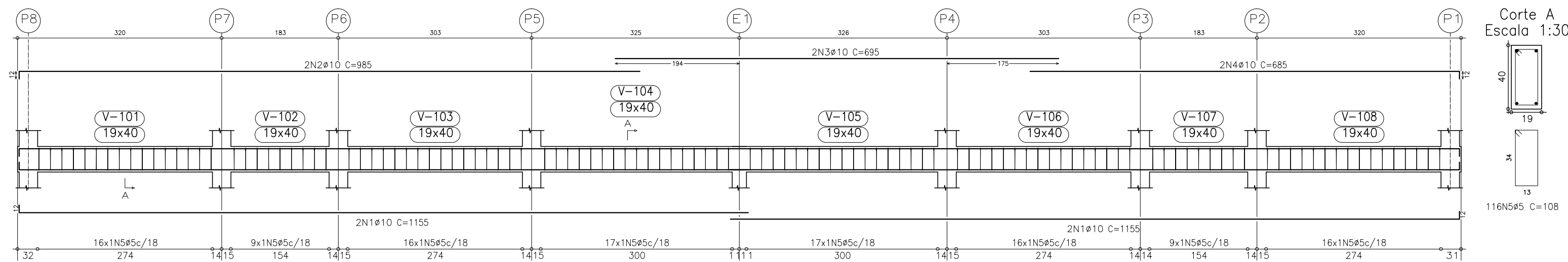
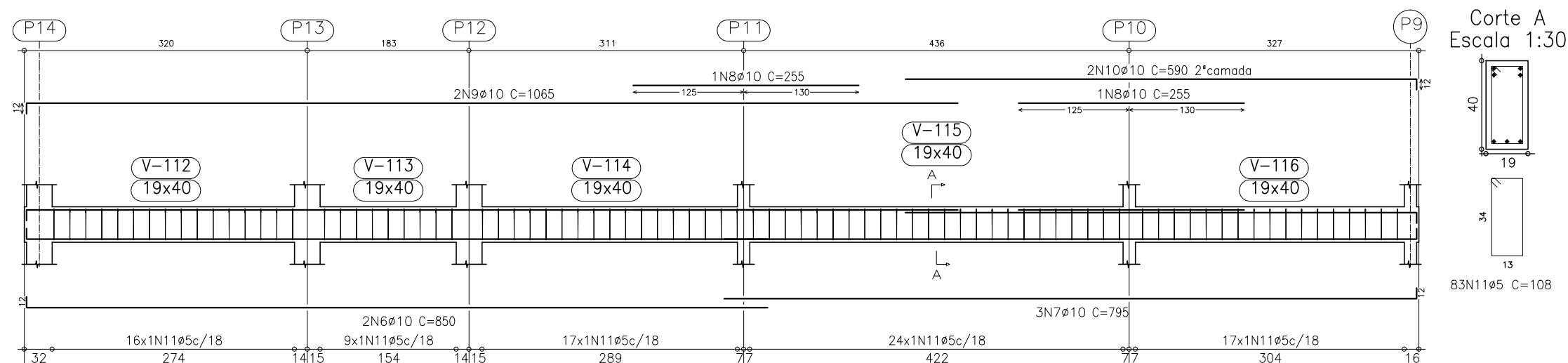


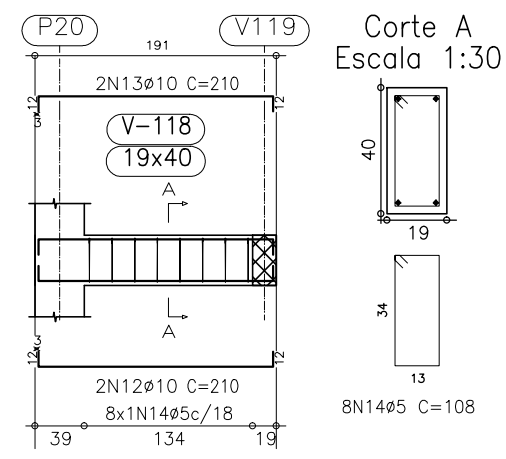
V101
Escala 1:60



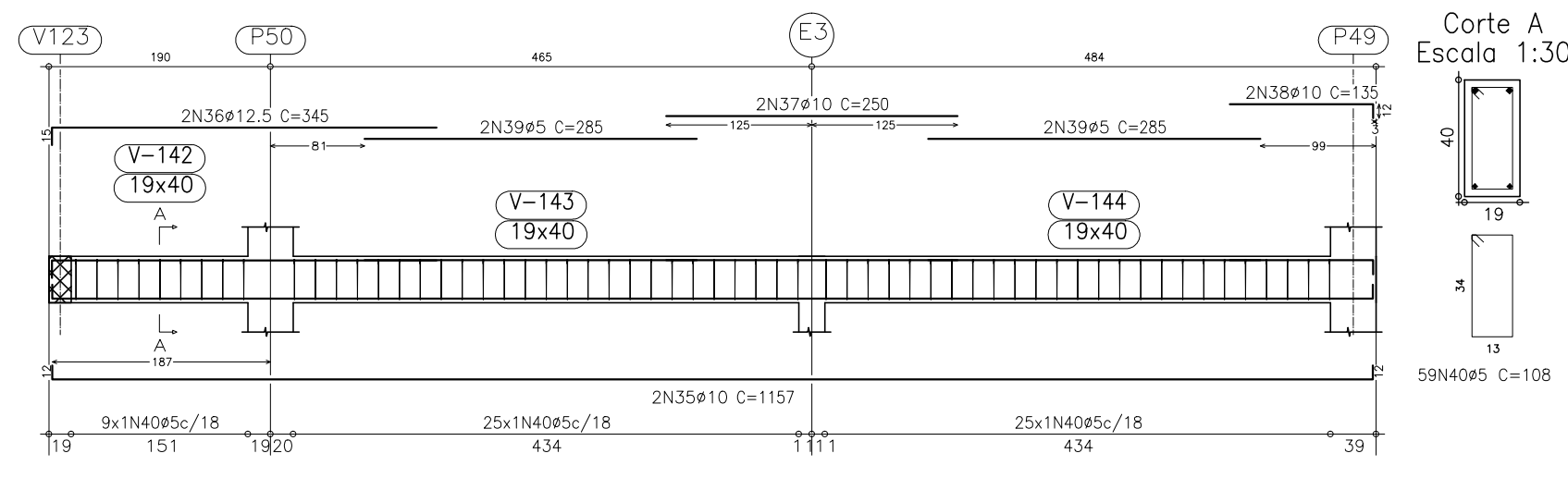
V105
Escala 1:60



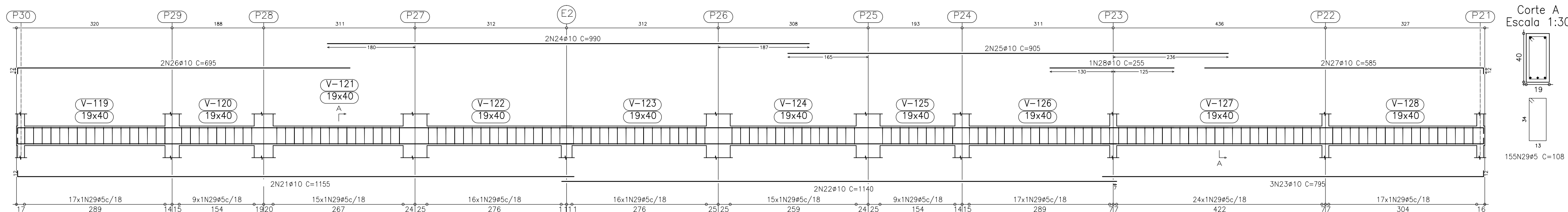
V107
Escala 1:60



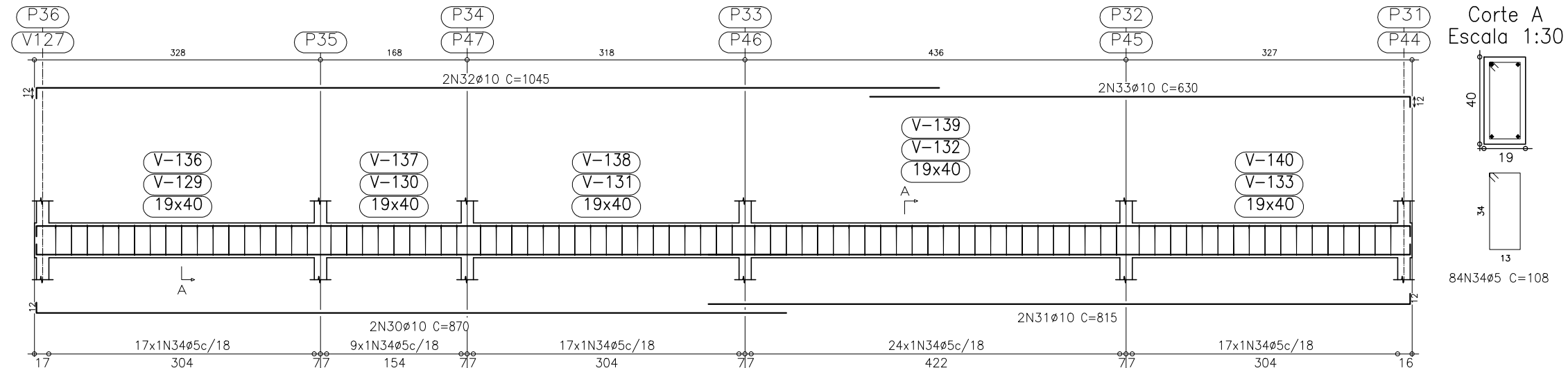
V114
Escala 1:60



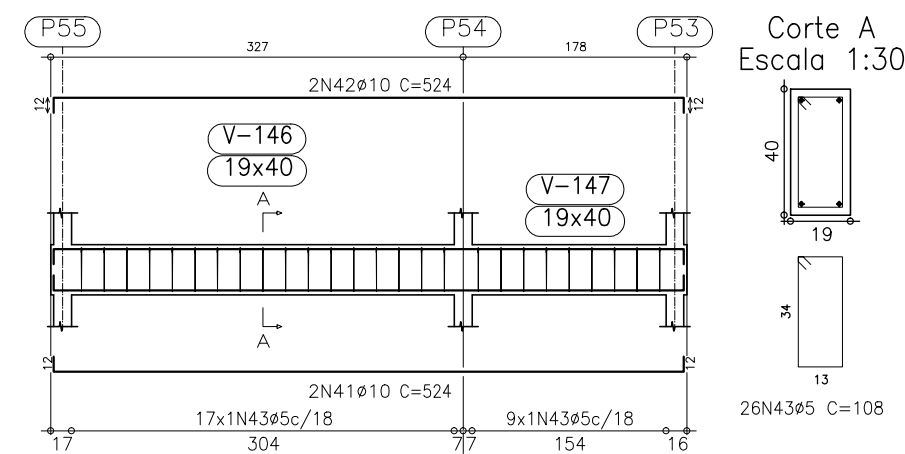
V108
Escala 1:60



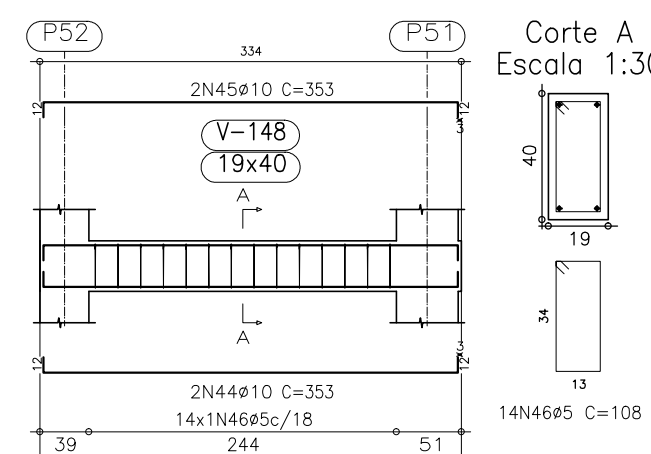
V109
V112
Escala 1:60



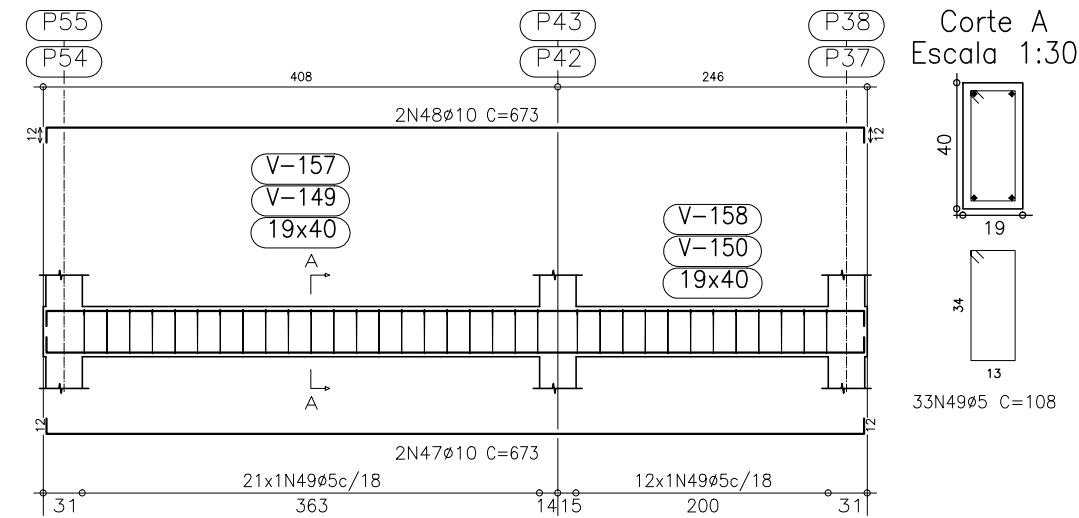
V116
Escala 1:60



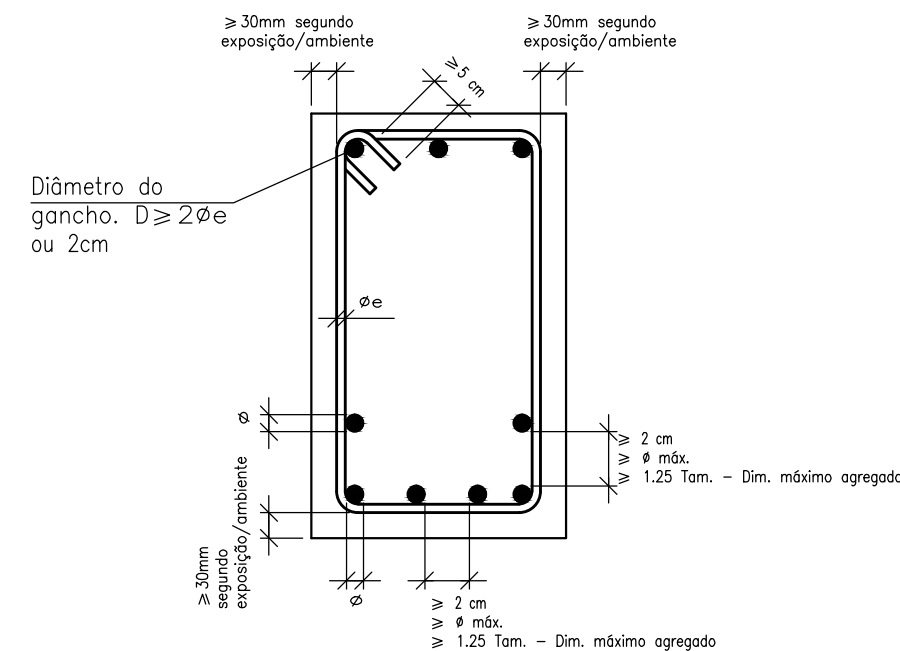
V117
Escala 1:60



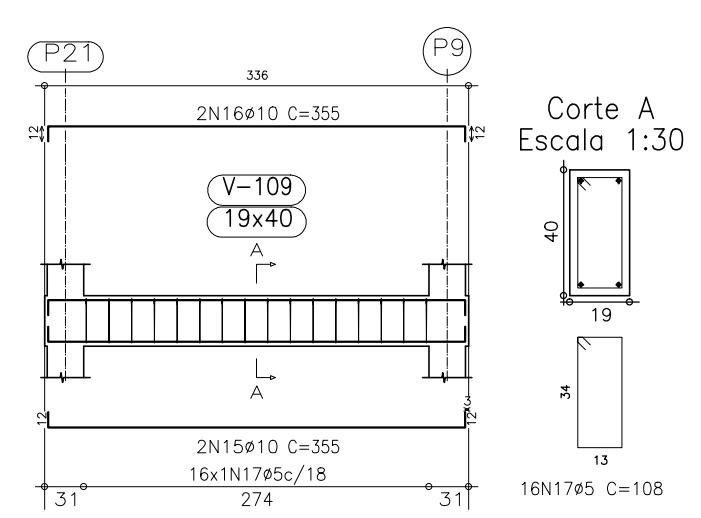
V118
V123
Escala 1:60



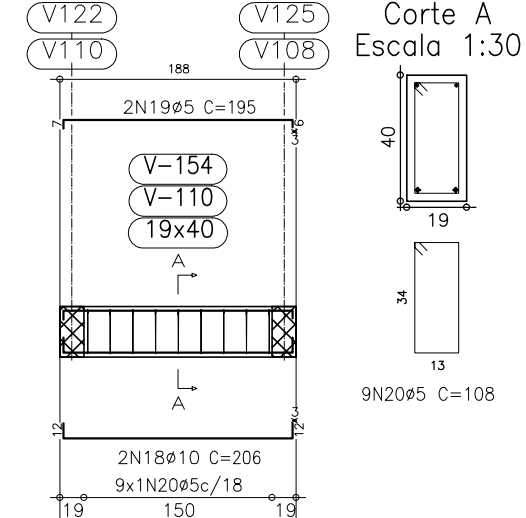
Cobrimentos e espaçamentos entre barras em vigas.



V102=V104=V106=V110=V111=V113
V115=V135=V136=V138=V139
Escala 1:60



V103
V121
Escala 1:60



Elemento	Pos.	Diam.	Q _d	Dob.	Retq.	Dob.	Comp.	Tota	CA-50-A	CA-60-B
V101	1	ø10	4	12	1143	838	1155	4620	28.0	
	2	ø10	2	12	973	985	1970	12.4		
	3	ø10	2	12	695	695	1390	8.7		
	4	ø10	2	12	673	673	1370	8.6		
	5	ø5	116				108	12529	19.7	
								Total+10%	64.6	21.7
V105	6	ø10	2	12	838	850	1700	10.7		
	7	ø10	2	12	783	795	1580	10.0		
	8	ø10	2	12	255	255	510	3.2		
	9	ø10	2	12	1053	1065	2130	13.4		
	10	ø10	2	12	578	590	1180	7.4		
	11	ø5	83				108	8964	14.1	
								Total+10%	54.7	15.5
V107	12	ø10	2	12	186	12	210	420	2.6	
	13	ø10	2	12	186	12	210	420	2.6	
	14	ø5	8				108	864	1.4	
								Total+10%	5.7	1.5
V102=V104=V106 V110=V111=V113 V115=V135=V136 V138=V139	15	ø10	2	12	331	12	355	710	4.5	
	16	ø10	2	12	331	12	355	710	4.5	
	17	ø5	16				108	1728	2.7	
								Total+10%	9.9	3.0
V103=V121	18	ø10	2	12	182	12	206	412	2.6	
	19	ø5	2	7	182	6	195	390	0.6	
	20	ø5	9				108	972	1.5	
								Total+10%	2.9	2.3
V108	21	ø10	2	12	1143	1155	2310	14.5		
	22	ø10	2	12	1140	1140	2280	14.3		
	23	ø10	3		783	795	1580	10.0		
	24	ø10	2		990	990	1980	12.4		
	25	ø10	2		905	905	1810	11.4		
	26	ø10	2	12	683	695	1390	8.7		
	27	ø10	2	12	573	585	1170	7.3		
	28	ø10	1		255	255	510	3.2		
	29	ø5	155				108	16740	26.3	
								Total+10%	93.7	28.9
V109=V112	30	ø10	2	12	858	870	1740	10.9		
	31	ø10	2	12	803	815	1630	10.2		
	32	ø10	2	12	1033	1045	2090	13.1		
	33	ø10	2		618	12	630	1260	7.9	
	34	ø5	84				108	9072	14.2	
								Total+10%	46.3	15.6
V114	35	ø10	2	12	1133	1157	2314	14.5		
	36	ø12.5	2	15	330	345	690	6.8		
	37	ø10	2		250	250	500	3.1		
	38	ø10	2		123	135	270	1.7		
	39	ø5	4		285	285	570	1.8		
	40	ø5	59				108	6372	10.0	
								Total+10%	28.7	13.0
V116	41	ø10	2	12	500	12	524	1048	6.6	
	42	ø10	2	12	500	12	524	1048	6.6	
	43	ø5	26				108	2808	4.4	
								Total+10%	14.5	4.8
V117	44	ø10	2	12	329	12	353	706	4.4	
	45	ø10	2	12	329	12	353	706	4.4	
	46	ø5	14				108	1512	2.4	
								Total+10%	9.7	2.6
V118=V123	47	ø10	2	12	649	12	673	1346	8.5	
	48	ø10	2	12	649	12	673	1346	8.5	
	49	ø5	33				108	3564	5.6	
								Total+10%	18.7	6.2
								(x2)	37.4	12.4
								ø5	0.0	169.2
								ø10	508.8	0.0
								ø12.5	7.5	0.0
								Total:	516.3	169.2

Resumo Aço	Comp. total	Peso+10%	Total
Baldrames	(m)	(kg)	
Vigas			
CA-50-A	ø6.3	13.9	4
ø10	1099.3	759	
ø12.5	6.9	7	770
CA-60-B	ø5	1472.9	254
Total			1024

ESPECIFICAÇÕES

- CONCRETO ESTRUTURAL fck >= 25 MPa E >= 25000 MPa
- AÇO CA-50A e CA-60B
- COBRIMENTO DAS ARMADURA e=3,0cm
- UTILIZAR ESPAÇADORES EM TODAS AS PEÇAS DE CONCRETO ARMADO
- CONFERIR TODAS AS MEDIDAS EM OBRA
- ESTA OBRA DEVERÁ SER EXECUTADA COM CONTROLE RIGOROSO, CONFORME NBR 6118-2003

04			
03			
02			
01			
REV.	MODIFICAÇÃO	RESP.	DATA
ENGENHEIRO RESPONSÁVEL	WILSON JORGE MARQUES - CREA nº 30609/0423		

GRACO PROJETOS, EMPREENDIMENTOS E CONSTRUÇÃO S/C LTDA.
RUA PADRE TEIXEIRA, 1531 - CENTRO - SÃO CARLOS - SP
FONE / FAX: (16) 3372-2188 / 3307-7643 - projetos@gracoarq.com.br - www.gracoarq.com.br

	PREFEITURA MUNICIPAL DE SÃO CARLOS SECRETARIA MUNICIPAL DE OBRAS PÚBLICAS	
Área Técnica	ESTRUTURA	DES. Nº
OBRA:	UNIDADE DE SAÚDE FAMILIAR - USF - CDHU	EST-03
LOCAL:	CONJUNTO HABITACIONAL SÃO CARLOS CDHU H. AVENIDA 1, SÃO CARLOS, S.P.	Folha nº
ASSUNTO:	ARMADAÇÃO DAS VIGAS DA FUNDAÇÃO	03/14
AUTOR DO PROJETO:	Eng. Wilson	Data: FEV/2012
RESPONSÁVEL:	Eng. Wilson	ETAPA: executivo
DESENHO:	Helton Calado	
ESCALAS:	Indicadas	
PROCESSO Nº		