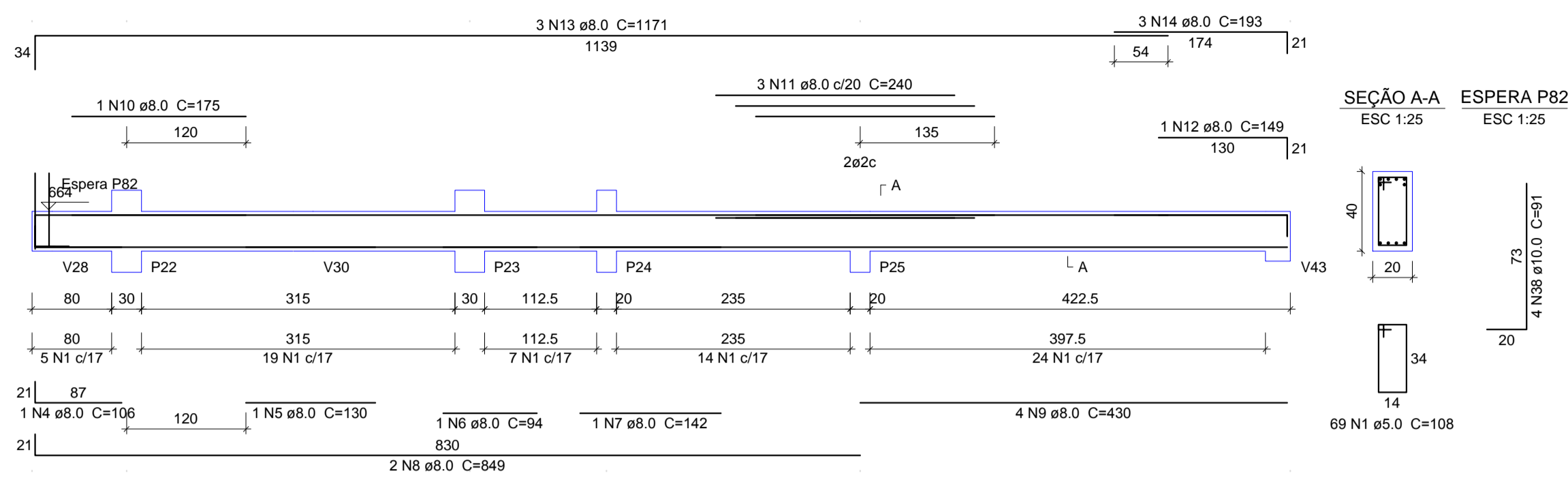
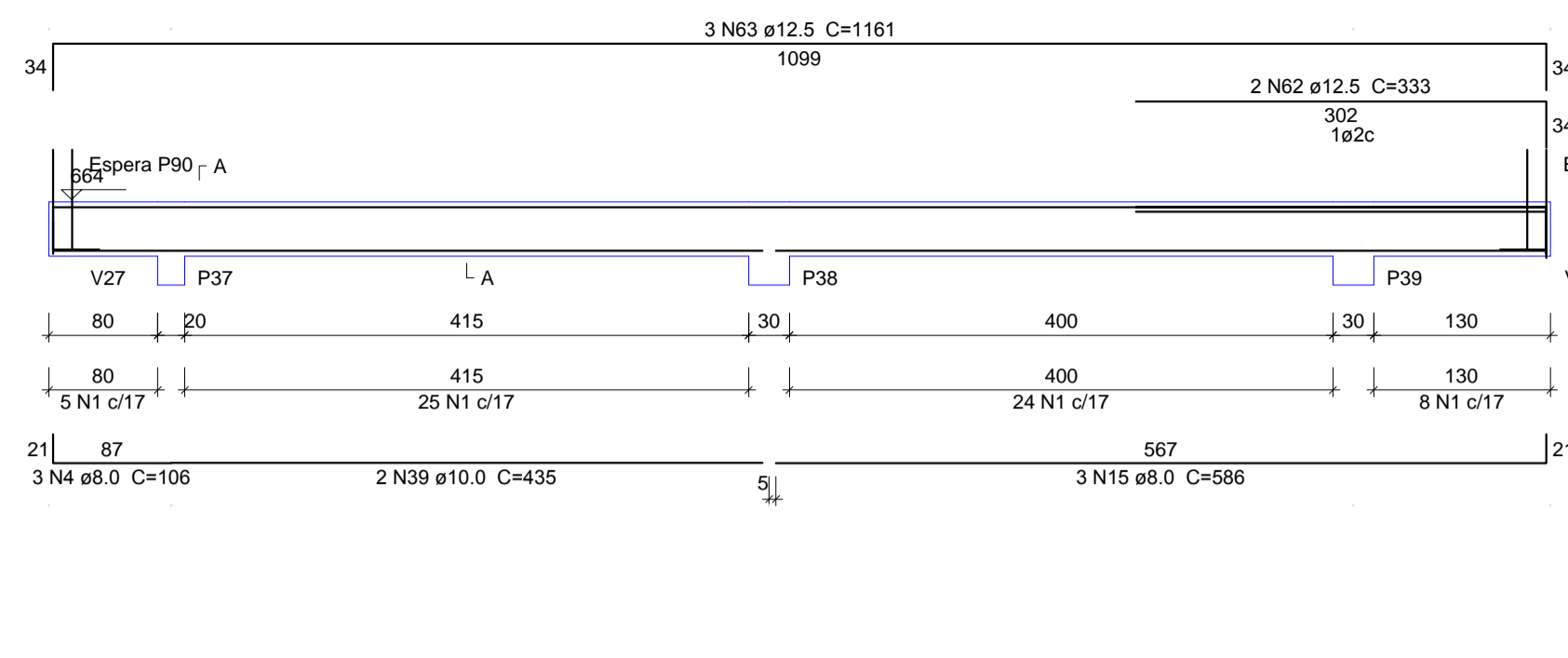


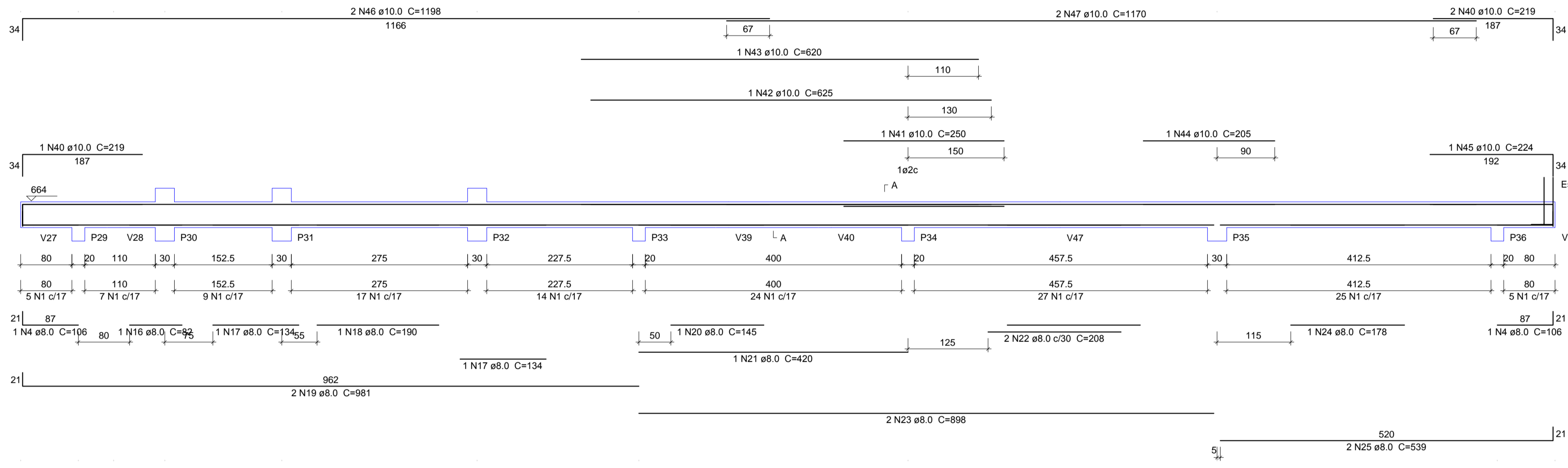
V11  
ESC 1:50



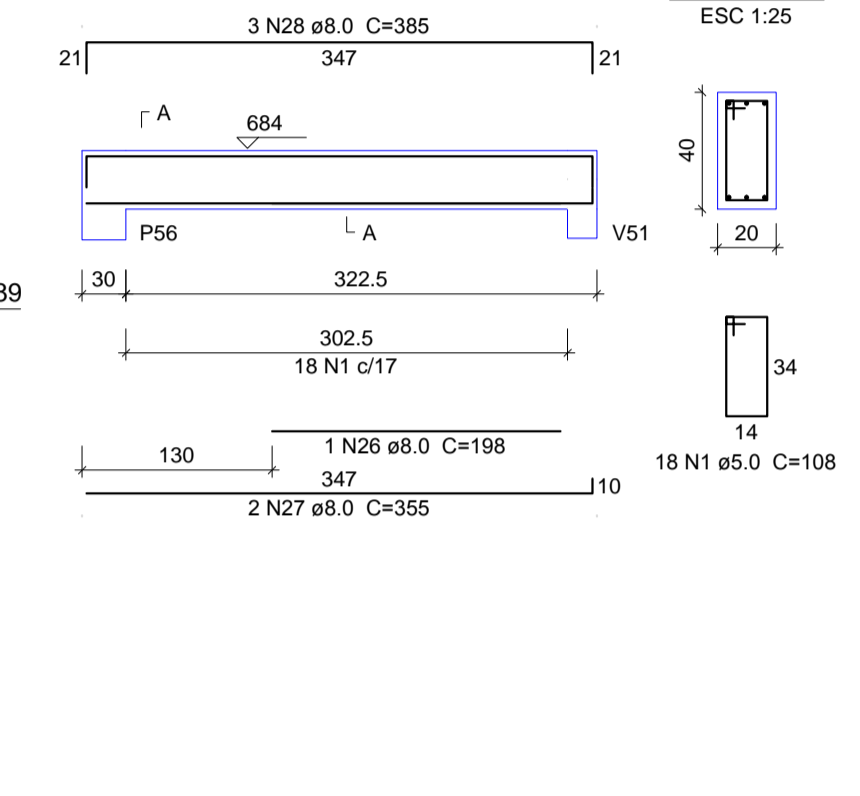
V17  
ESC 1:50



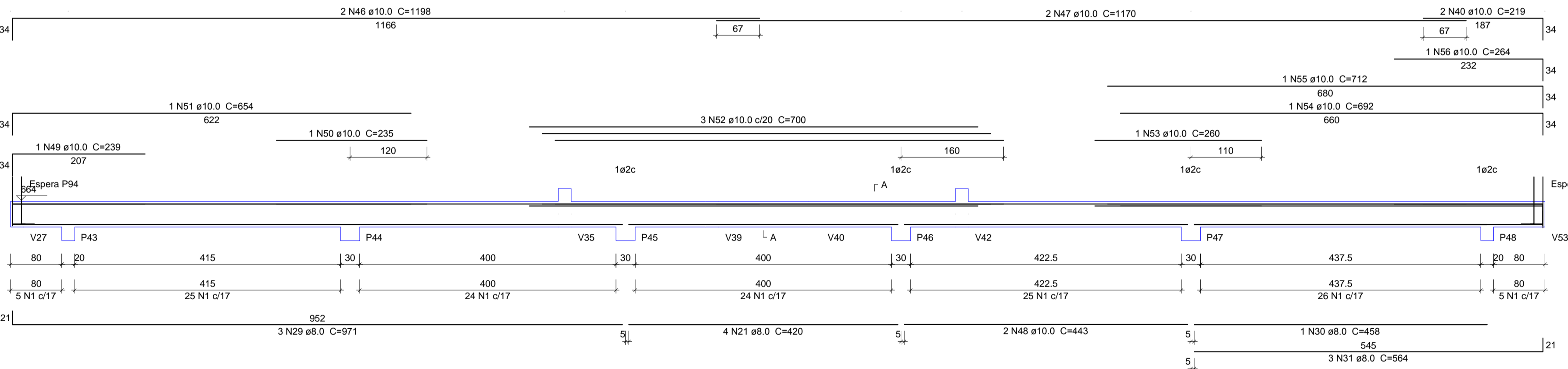
V15  
ESC 1:50



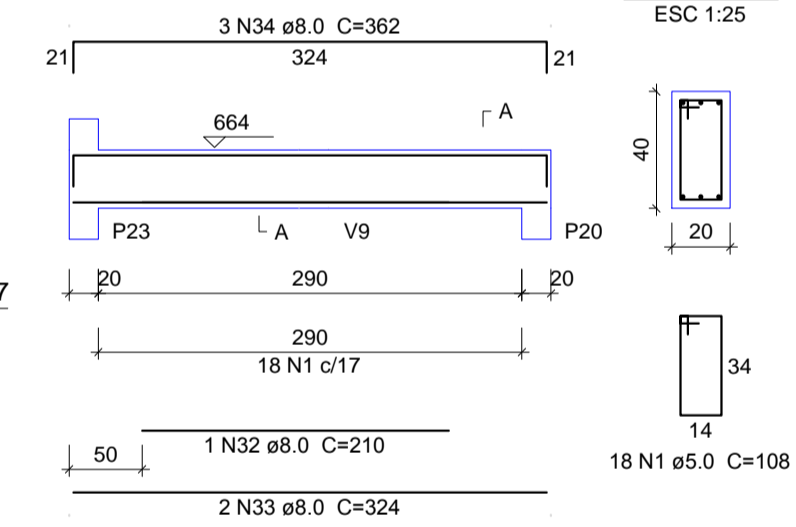
V21  
ESC 1:50



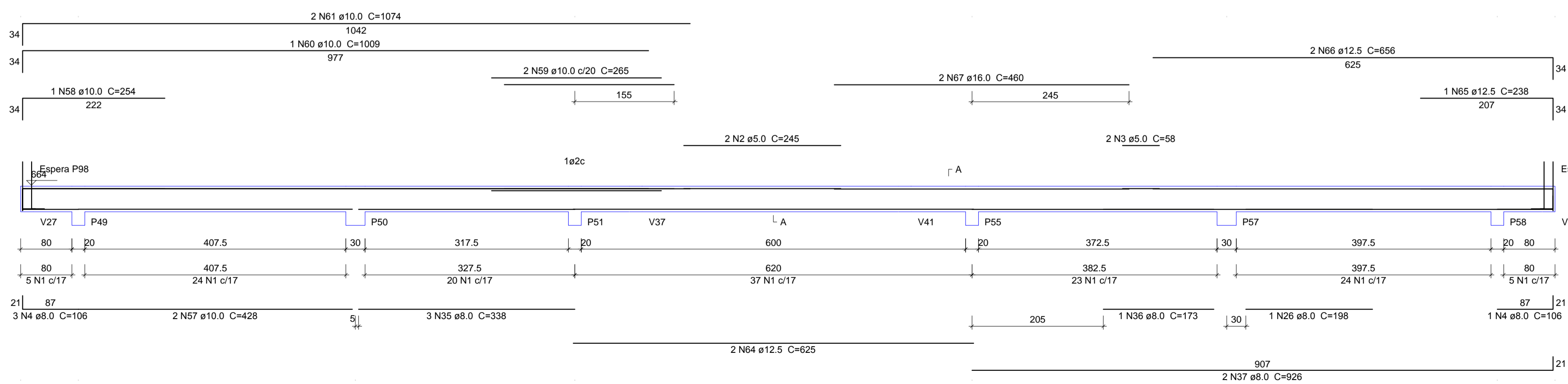
V18  
ESC 1:50



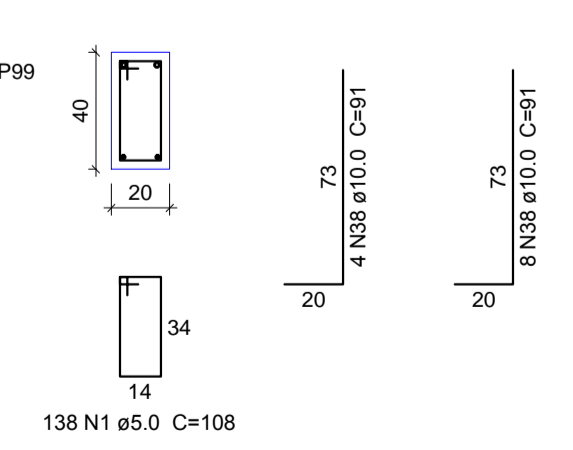
V32  
ESC 1:50



V19  
ESC 1:50



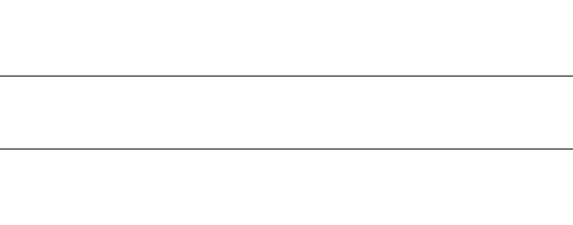
V11  
ESC 1:25



V17  
ESC 1:25



V15  
ESC 1:25



V21  
ESC 1:25



V18  
ESC 1:25



V32  
ESC 1:25



V19  
ESC 1:25



Relação do aço

ACO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	572	108	61776
	2	2.5	2	245	490
	3	5.0	2	58	116
CA50	4	8.0	10	106	1060
	5	8.0	1	130	130
	6	8.0	1	94	94
	7	8.0	1	142	142
	8	8.0	2	849	1698
	9	8.0	4	340	1720
	10	8.0	1	175	175
	11	8.0	3	240	720
	12	8.0	1	149	149
	13	8.0	3	1171	3513
	14	8.0	3	193	579
	15	8.0	3	586	1758
	16	8.0	1	82	82
	17	8.0	2	134	268
	18	8.0	1	190	190
	19	8.0	2	981	1962
	20	8.0	1	145	145
	21	8.0	5	420	2100
	22	3.0	22	208	416
	23	8.0	2	898	1796
	24	8.0	1	178	178
	25	8.0	2	539	1078
	26	8.0	2	198	396
	27	8.0	2	355	710
	28	8.0	3	385	1155
	29	8.0	3	971	2913
	30	8.0	1	458	458
	31	8.0	3	564	1692
	32	8.0	1	210	210
	33	8.0	3	324	972
	34	8.0	3	362	1086
	35	8.0	3	338	1014
	36	8.0	1	173	173
	37	8.0	2	926	1852
	38	10.0	36	91	3276
	39	10.0	2	435	870
	40	10.0	5	219	1095
	41	10.0	1	250	250
	42	10.0	1	625	625
	43	10.0	1	620	620
	44	10.0	1	205	205
	45	10.0	1	224	224
	46	10.0	4	1198	4792
	47	10.0	4	1170	4680
	48	10.0	2	443	886
	49	10.0	1	239	239
	50	10.0	1	235	235
	51	10.0	1	654	654
	52	10.0	3	700	2100
	53	10.0	1	260	260
	54	10.0	1	692	692
	55	10.0	1	712	712
	56	10.0	1	264	264
	57	10.0	2	428	856
	58	10.0	1	254	254
	59	10.0	2	265	530
	60	10.0	1	1009	1009
	61	10.0	2	1074	2148
	62	12.5	2	333	666
	63	12.5	3	1161	3483
	64	12.5	2	625	1250
	65	12.5	1	238	238
	66	12.5	2	656	1312
	67	16.0	2	460	920

Resumo do aço

ACO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	8.0	322.6	140
	10.0	274.8	186.3
	12.5	69.5	73.6
	16.0	9.2	16
CA60	5.0	623.9	105.6
<b>PESO TOTAL (kg)</b>			
CA50		416	
CA60		105.6	

Volume de concreto (C-30) = 8.19 m³  
Área de forma = 102.38 m²



**BERARDI ENGENHARIA & CONSTRUÇÕES LTDA.**  
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CNPJ: 13.425.382/0001-47

RESPONSÁVEL TÉCNICO: Jean Berardi Manica Engº Civil CREA-RS 133.545-D  
CONTRATANTE: Prefeitura Municipal de Jóiá Cnpj: 09.650.121/0001-92

PROJETO: **PROJETO ESTRUTURAL**  
CONTEUDO DA PRANCHA: **FERRAGENS VIGAS LAJE DE FORRO 02**

ENDEREÇO DA OBRA: Rua Dr. Edmar Kruehl - Nº 188 - Centro - Jóiá/RS  
PROJETISTA: Jean Berardi ESCALA: 1/50 DATA: Agosto de 2017 ÁREA DO PROJETO: 1.139,11 m²  
**E-16**

DIREITOS AUTORAIS RESERVADOS CONFORME ARTIGO 184 DO CÓDIGO PENAL LEI 9610 DE 19/02/1998 E RESOLUÇÃO CONFEA 205/71