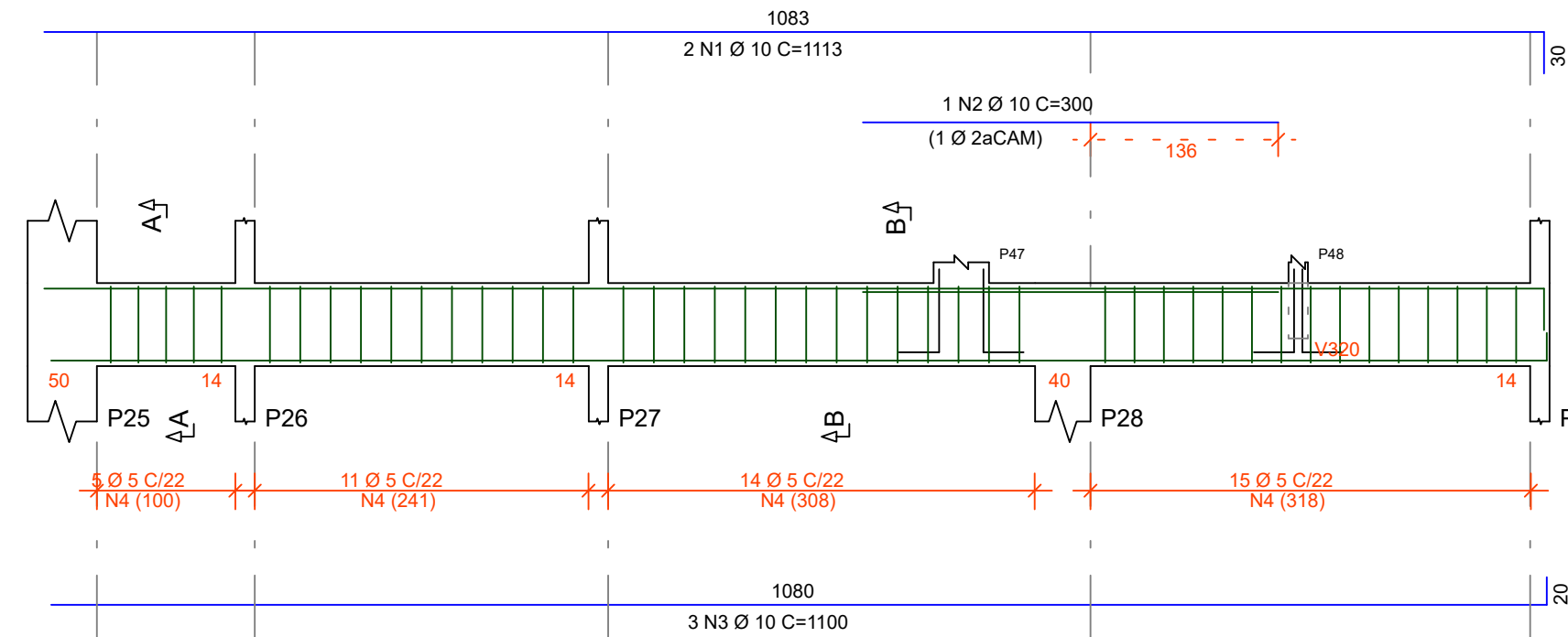
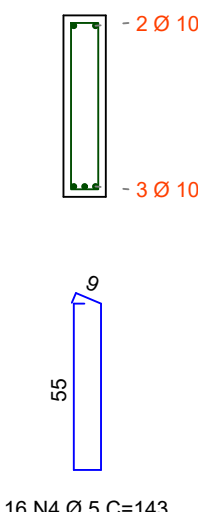


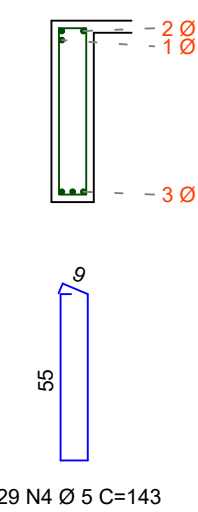
V309 14/60



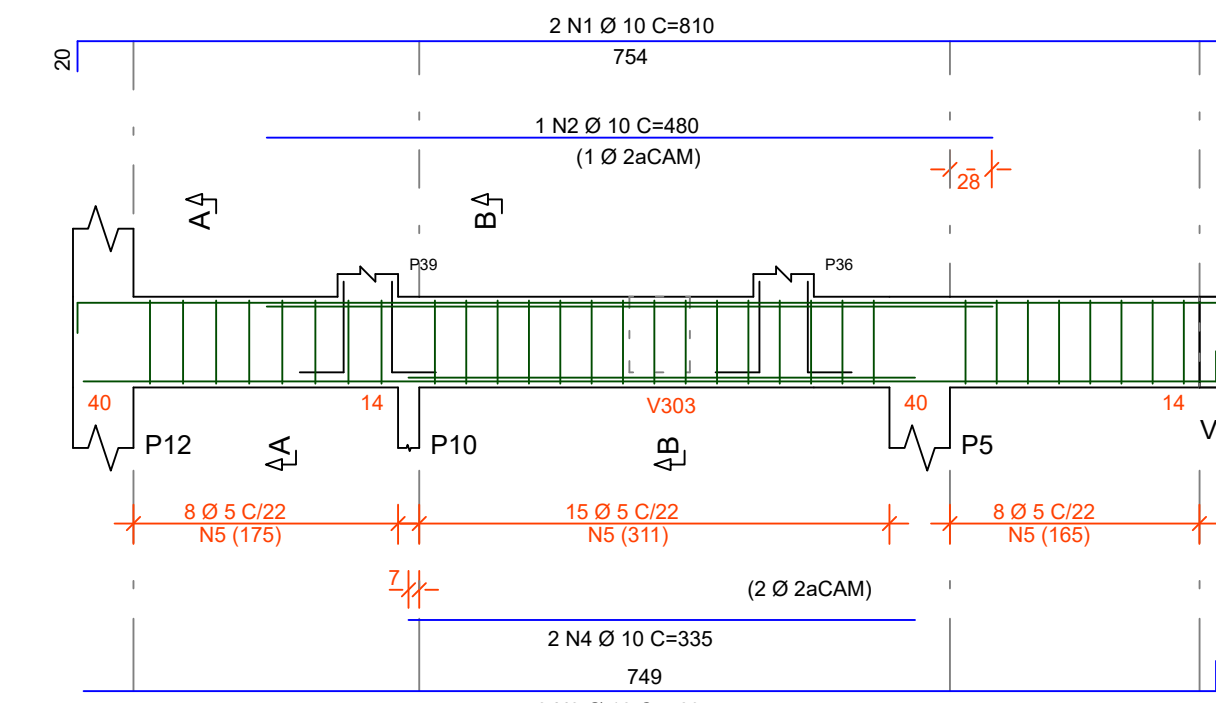
Corte A



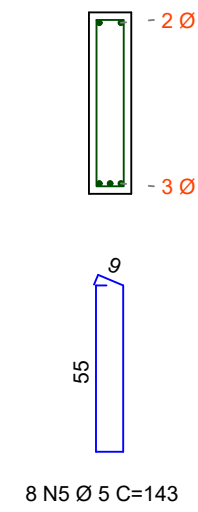
Corte B



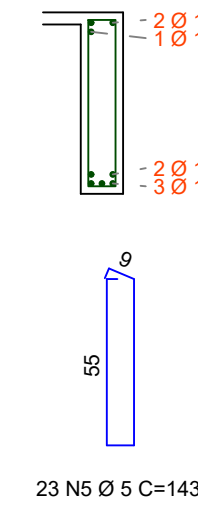
V310 14/60



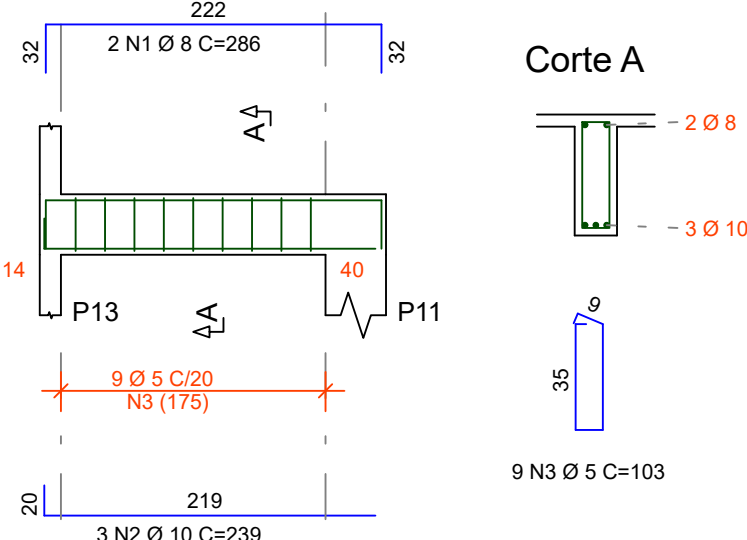
Corte A



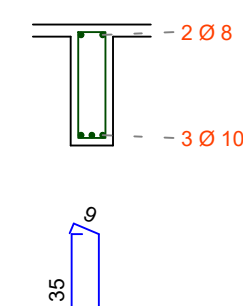
Corte B



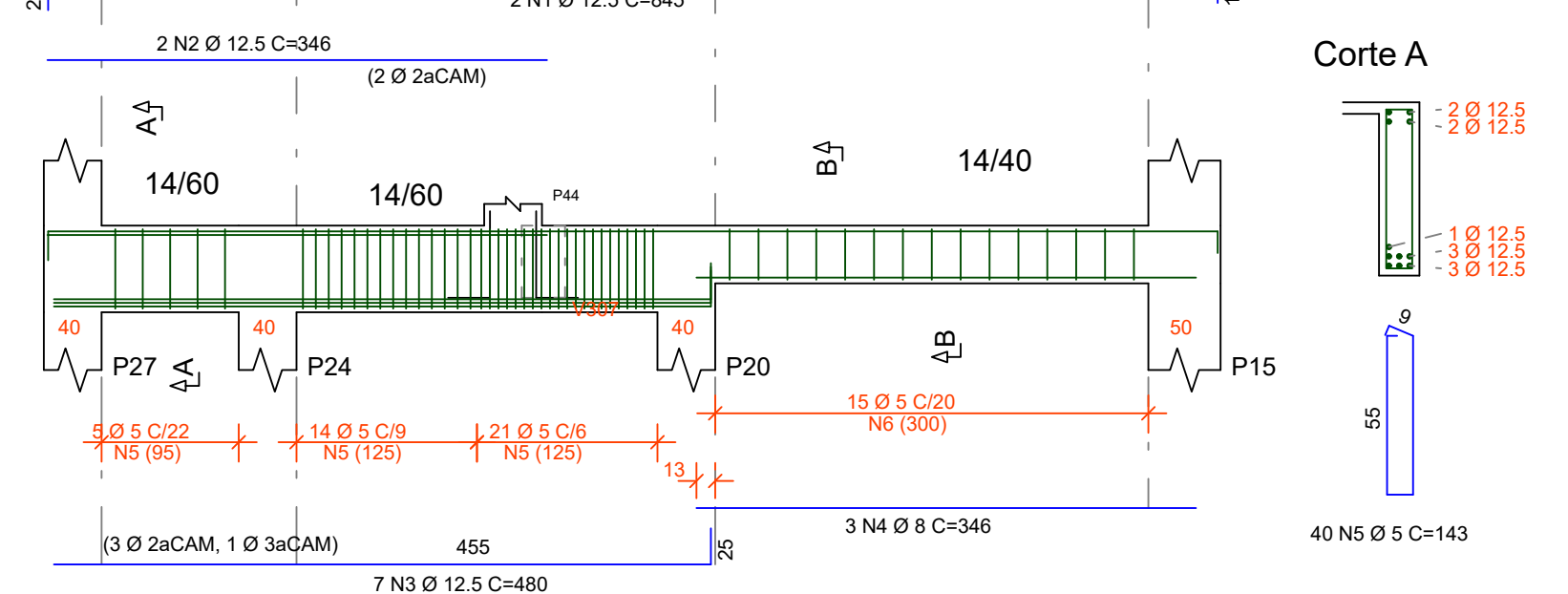
V311 14/40



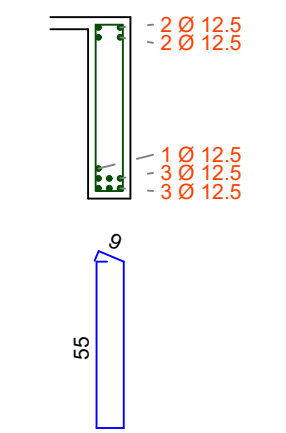
Corte A



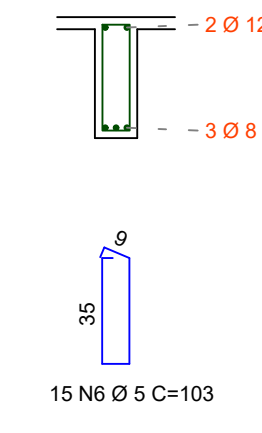
V314



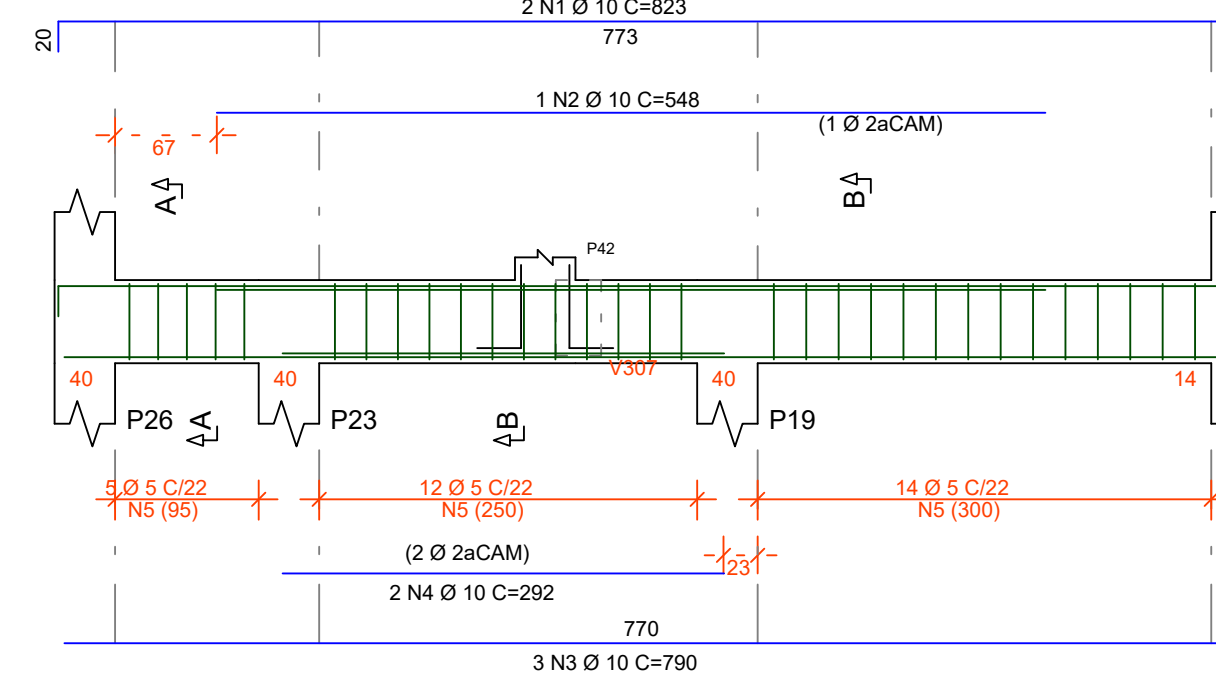
Corte A



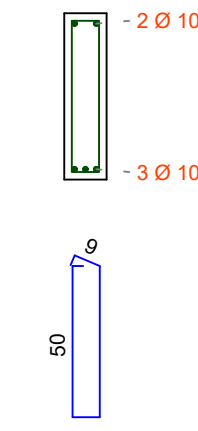
Corte B



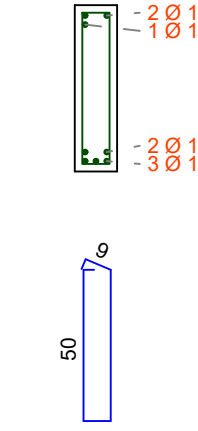
V313 14/55



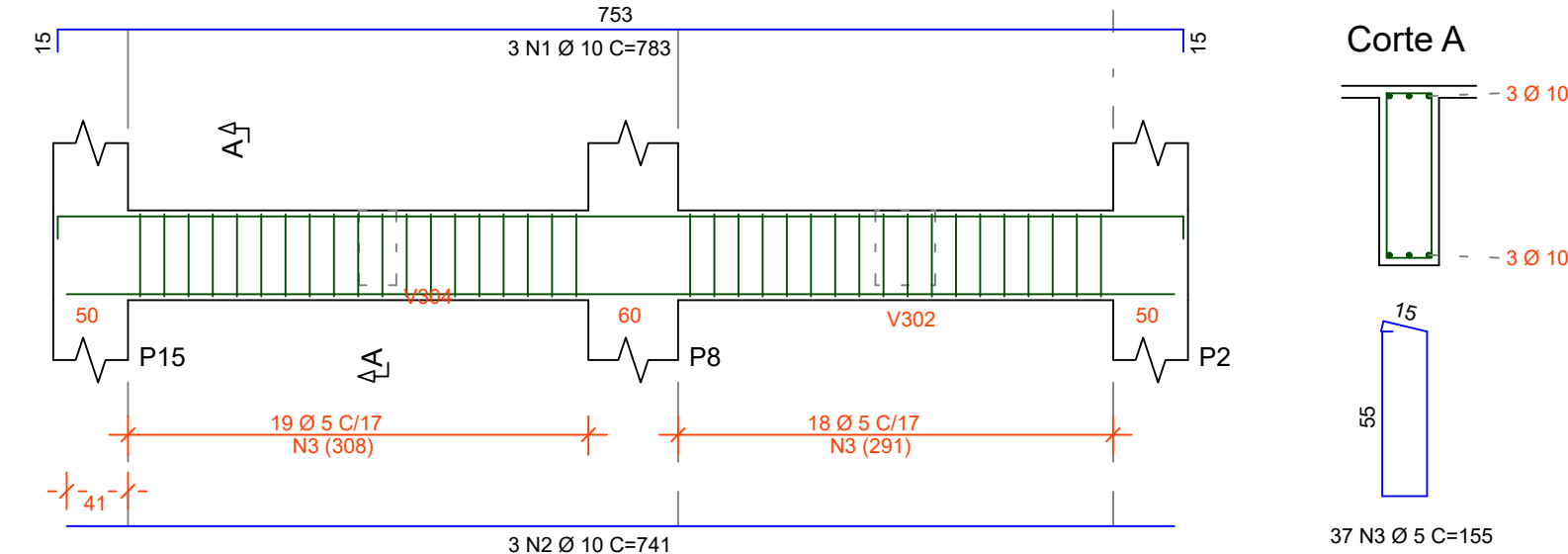
Corte A



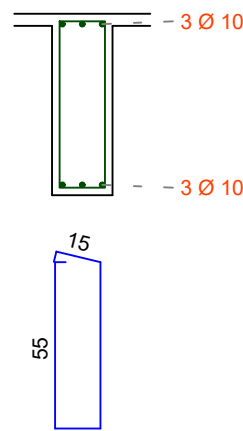
Corte B



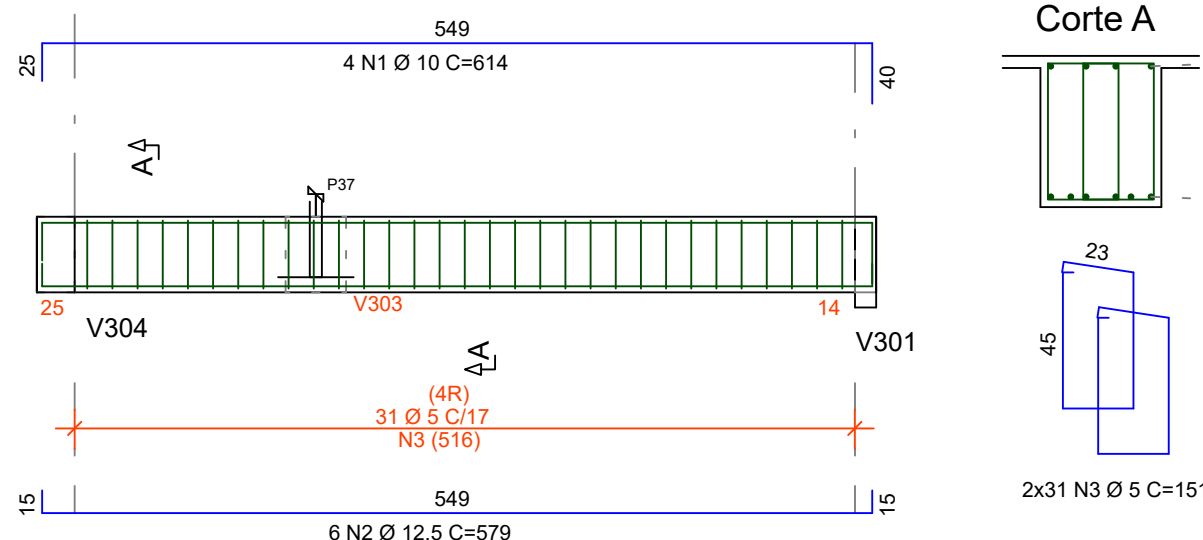
V315 20/60



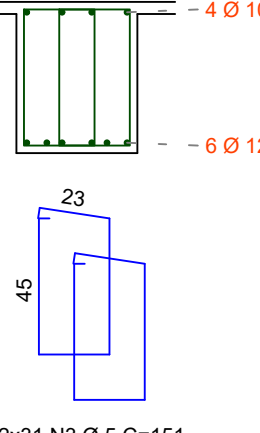
Corte A



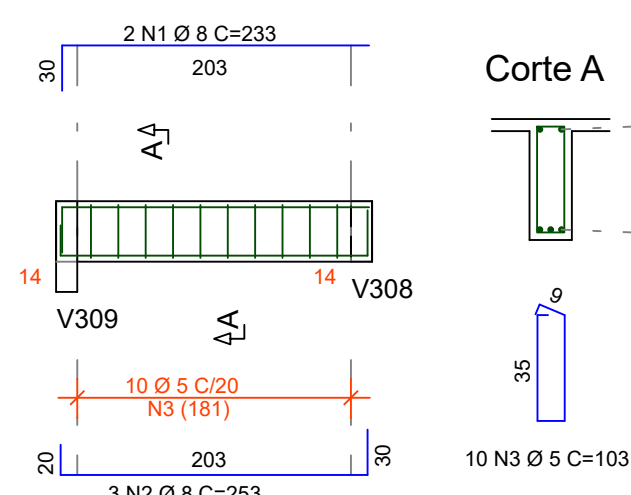
V312 40/50



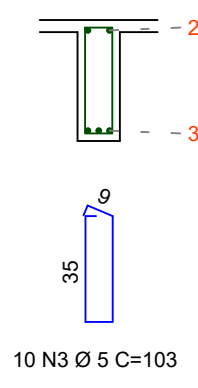
Corte A



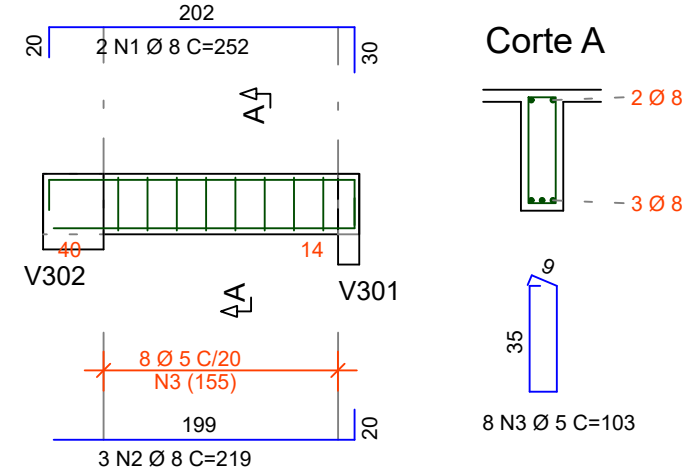
V320 14/40



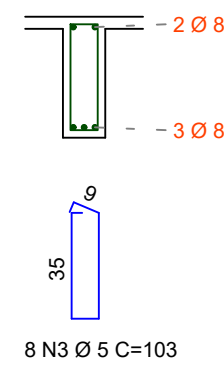
Corte A



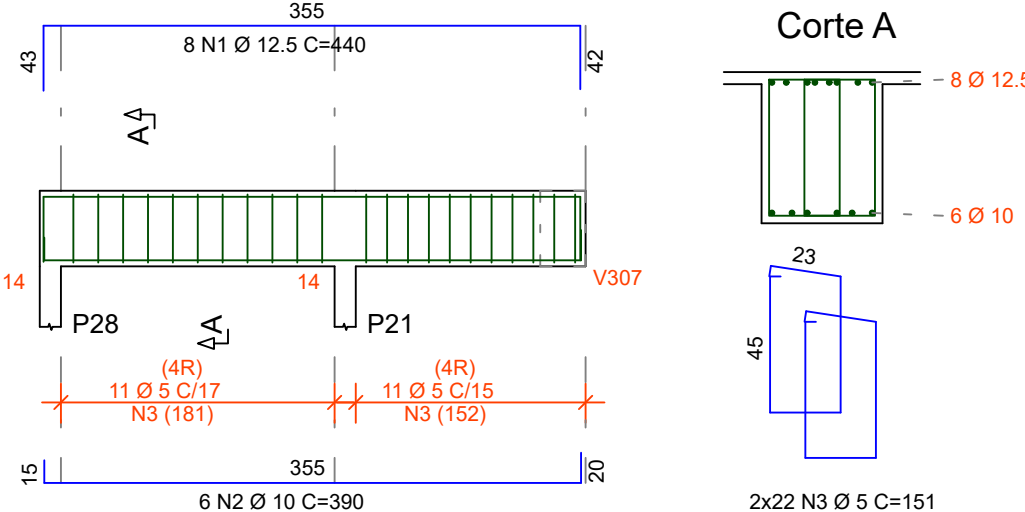
V321 14/40



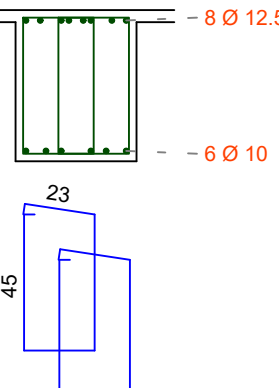
Corte A



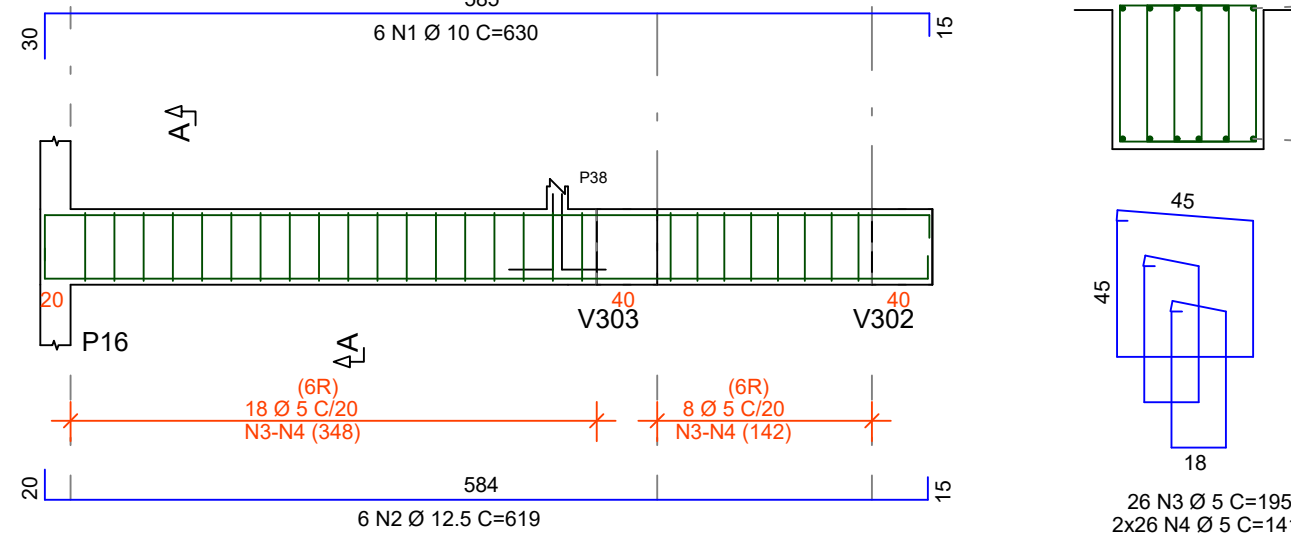
V316 40/50



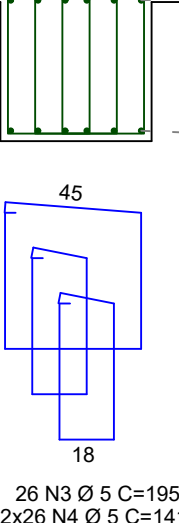
Corte A



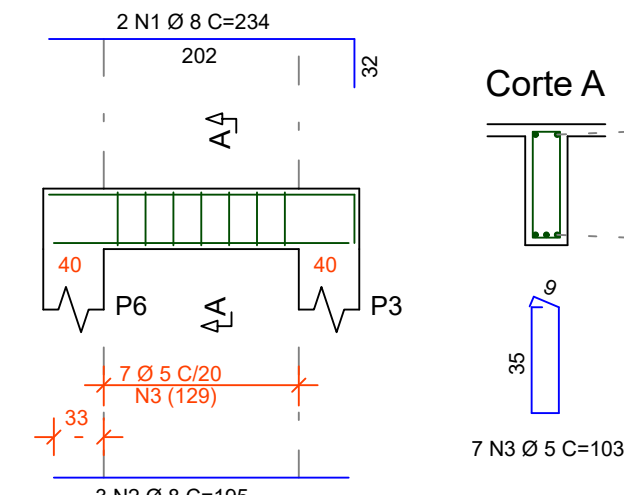
V317 50/50



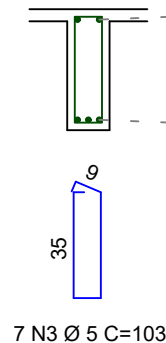
Corte A



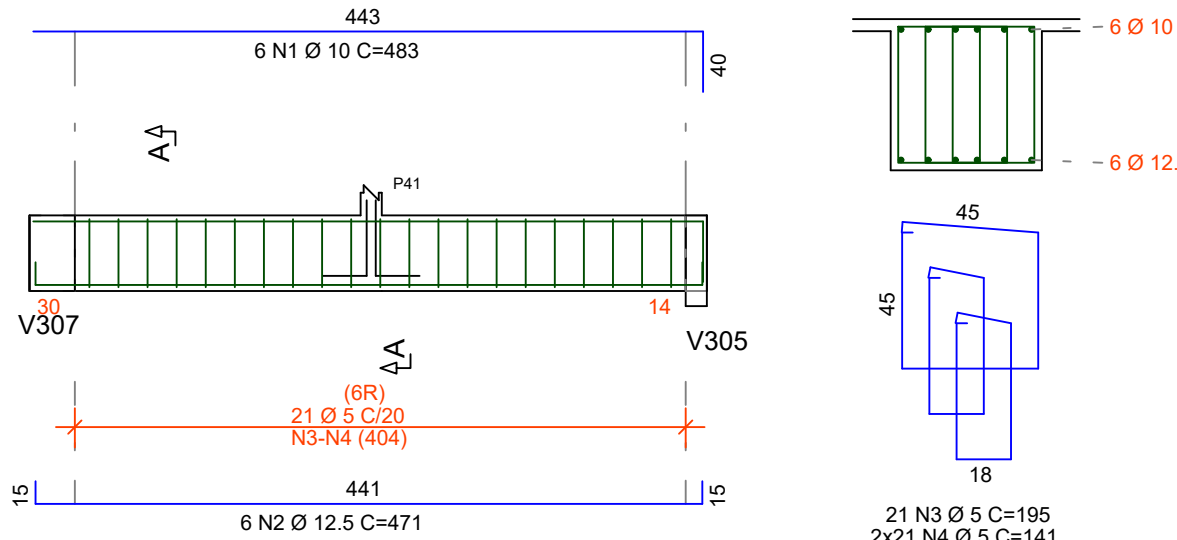
V318 14/40



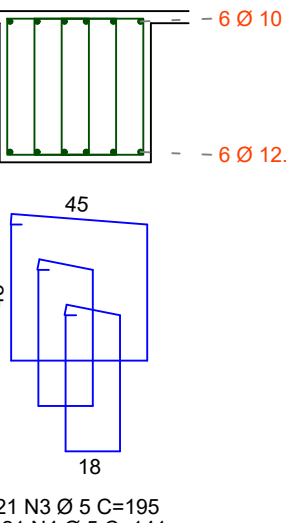
Corte A



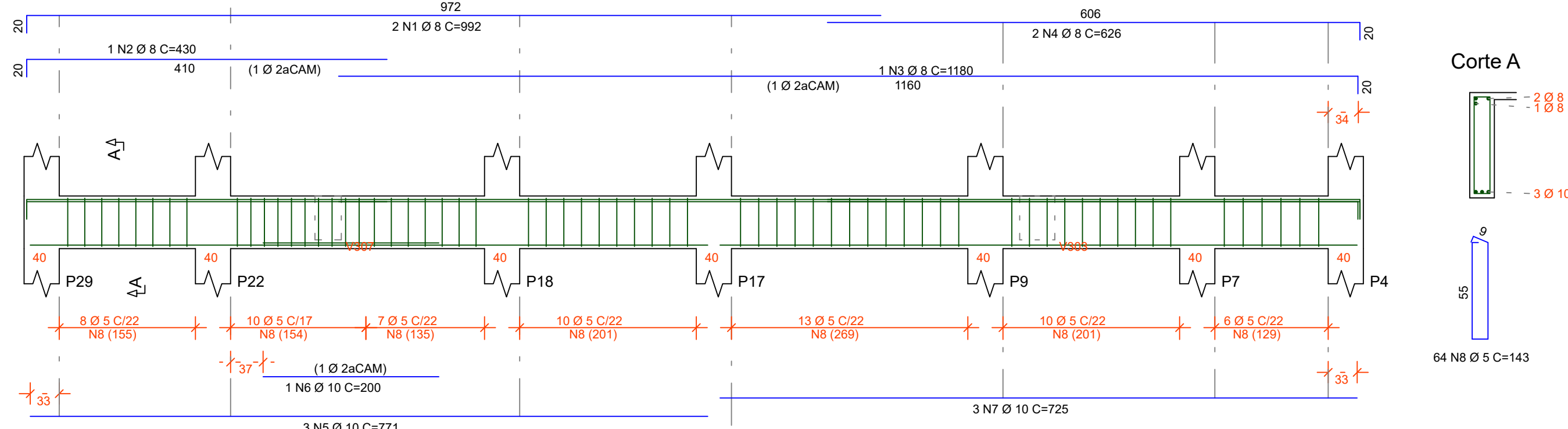
V319 50/50



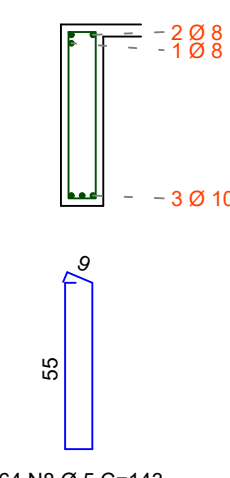
Corte A



V322 14/60



Corte A

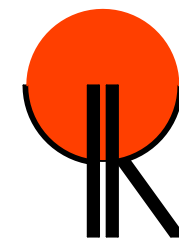


ÁÇO	POS	BIT (mm)	QUANT	COMPRIMENTO UNIT (cm)	TOTAL (cm)
V309					
50	1	10	2	1113	2226
50	2	10	1	300	300
50	3	10	3	1100	3300
60	4	5	45	143	6435
V310					
50	1	10	2	810	1620
50	2	10	1	480	480
50	3	10	3	769	2307
50	4	10	2	335	670
60	5	5	31	143	4433
V311					
50	1	8	2	286	572
50	2	10	3	239	717
60	3	5	9	103	927
V312					
50	1	10	4	614	2456
50	2	12.5	6	579	3474
60	3	5	82	151	9362
V313					
50	1	10	2	823	1646
50	2	10	1	548	548
50	3	10	3	790	2370
50	4	10	2	292	584
60	5	5	31	143	4123
V314					
50	1	12.5	2	845	1690
50	2	12.5	2	346	692
50	3	12.5	7	480	3360
50	4	5	3	346	1038
60	5	5	40	143	5720
60	6	5	15	103	1545
V315					
50	1	10	3	783	2349
50	2	10	3	741	2223
60	3	5	37	155	5735
V316					
50	1	12.5	8	440	3520
50	2	10	6	390	2340
60	3	5	44	151	6644
V317					
50	1	10	6	630	3780
50	2	12.5	6	619	3714
60	3	5	26	195	5070
60	4	5	52	141	7332
V318					
50	1	8	2	234	468
50	2	8	3	195	585
60	3	5	7	103	721
V319					
50	1	10	6	483	2898
50	2	12.5	6	471	2826
60	3	5	21	195	4095
60	4	5	42	141	5922
V320					
50	1	8	2	233	466
50	2	8	3	253	759
60	3	5	10	103	1030
V321					
50	1	8	2	252	504
50	2	8	3	219	657
60	3	5	8	103	824
V322					
50	1	8	2	982	1964
50	2	8	1	430	430
50	3	8	1	1180	1180
50	4	8	2	626	1252
50	5	10	3	771	2313
50	6	10	1	200	200
50	7	10	3	725	2175
60	8	5	64	143	9152

RESUMO ÁÇO CA 50-60			
ÁÇO	BIT (mm)	COMPR (m)	PESO (kg)
60	5	791	122
50	8	99	39
50	10	375	231
50	12.5	193	186
Peso Total	60 =		122 kg
Peso Total	50 =		456 kg

Volume de concreto de VIGAS (m³) 9.4 8.4

CONTROLE DAS REVISÕES:		
REVISÃO	DATA	DESCRIÇÃO



**YUTAKA KOBAYASHI**  
Engenharia de Estruturas

Rua Antônio Felipe, 2360 - CENTRO - Paranavaí - Paraná - CEP: 87704-030

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PROJETO:  
**ESTRUTURAL EM CONCRETO ARMADO**

CLIENTE:  
**VANESSA APARECIDA HENRIQUE BALAN**  
OBRA:  
PARA CONSTRUÇÃO DE UMA EDIFICAÇÃO COMERCIAL EM CONCRETO ARMADO  
LOCAL:  
RUA MACHADO DE ASSIS, 173 / RUA SANTA JOAQUINA DE VEDRUNA, 141 ZONA 06 - MARINGÁ - PR

REFERÊNCIA(s): Detalhes das Vigas do Superior (Folha 02 de 02);	REVISÃO: <b>R-00</b>	PRANCHA: <b>18</b>
RESPONSÁVEL TÉCNICO: Eng.º Msc. Exp. Yutaka Mario Kobayashi Júnior CREA PR-69.748/D	DATA CRIAÇÃO: 23/11/2020	FCK (MPa) 30 MPa
ART Nº: 1720205324537	PROJETO Nº: P-489	ESCALA: 1:50