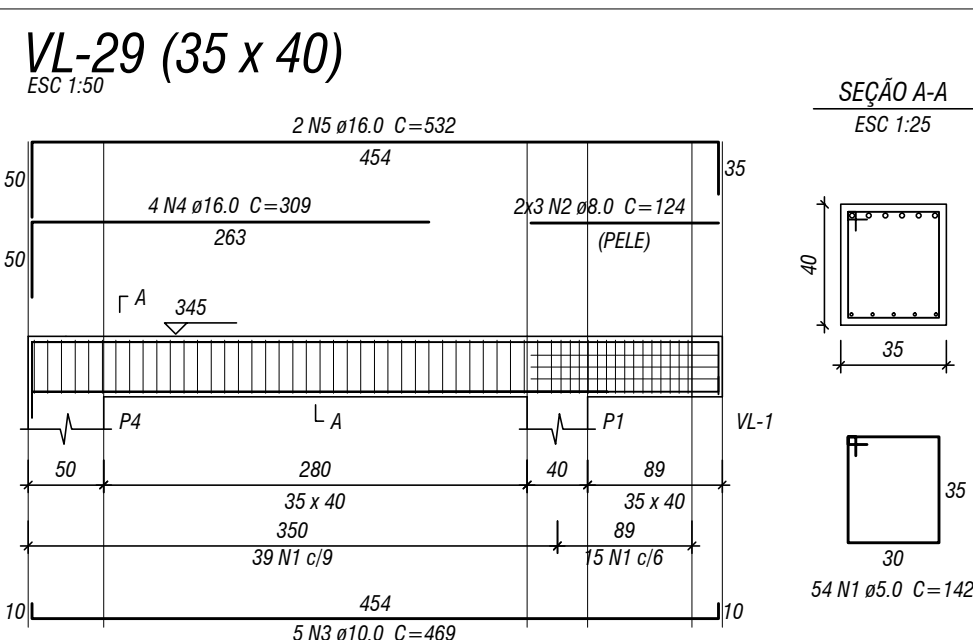
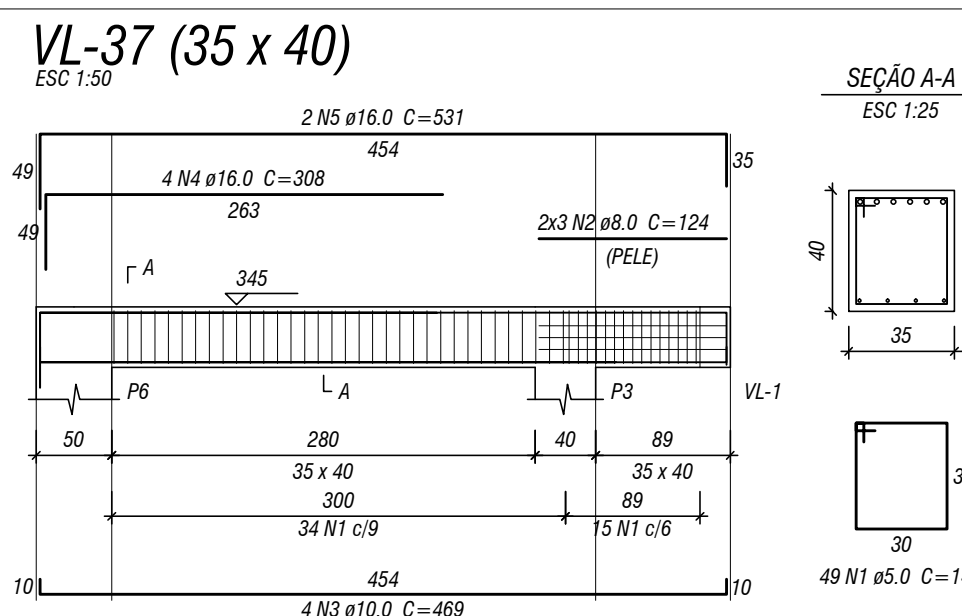
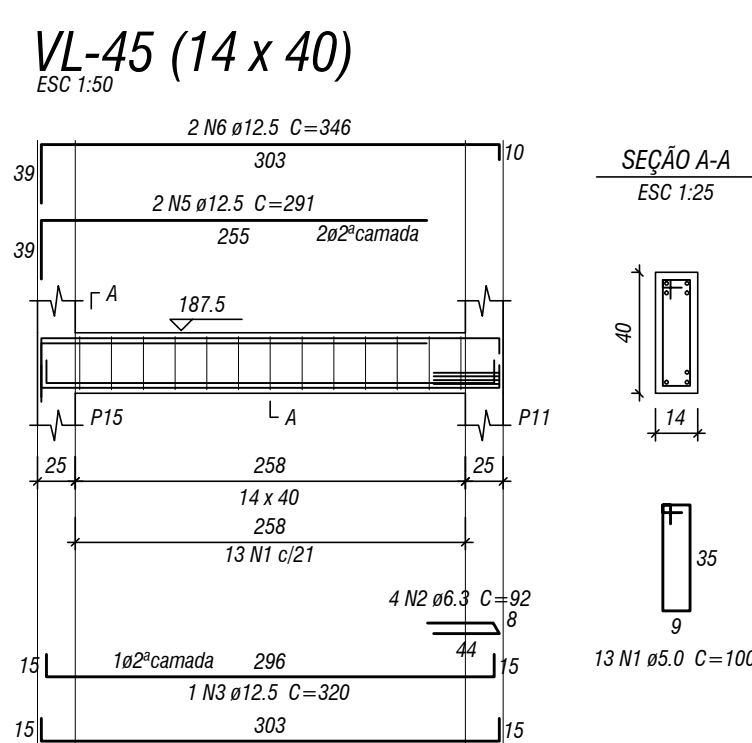
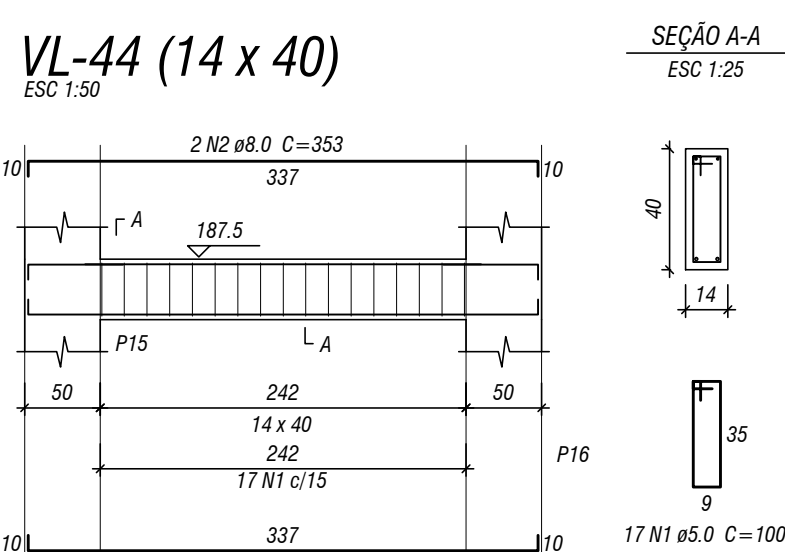
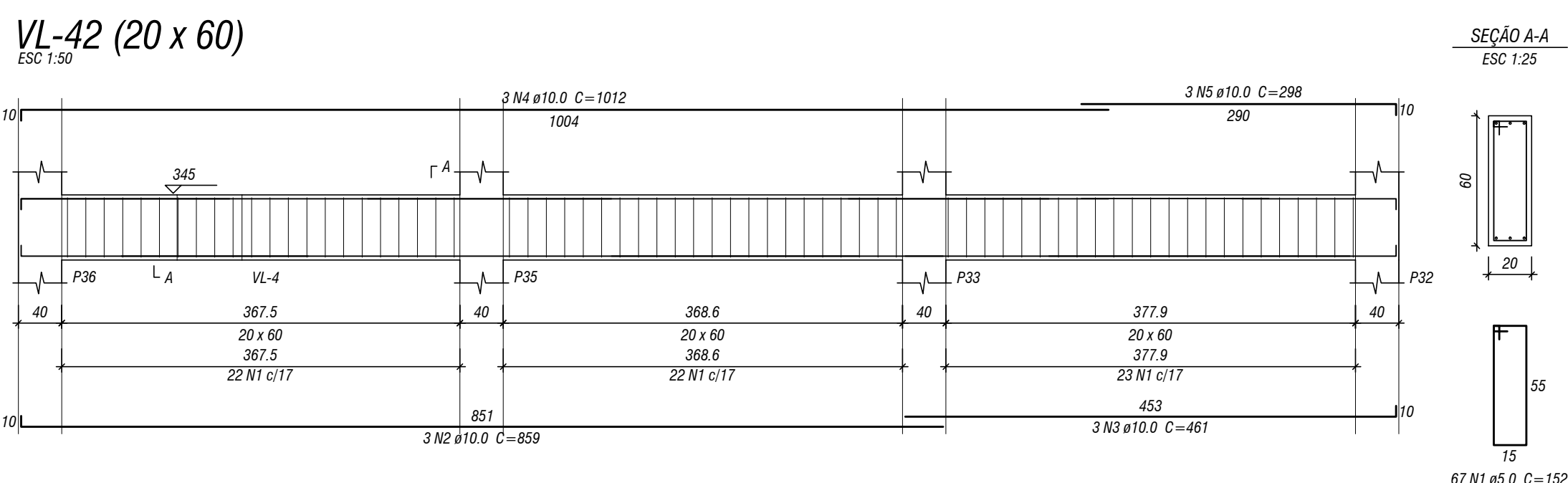


Relação do aço						
ELEMENTO	Q	N	DMM	Q	UNIT (cm)	C.TOTAL
VL-26	Q400	1	5.0	11	176	1936
	Q450	2	6.3	8	325	2800
	Q450	3	6.3	4	94	84
	Q450	4	6.3	2	215	430
	Q450	5	10.0	2	342	684
	Q450	6	10.0	2	166	332
VL-27	Q400	1	5.0	66	232	15776
	Q450	2	6.3	4	98	392
	Q450	3	8.0	8	1200	960
	Q450	4	8.0	4	396	2384
	Q450	5	12.5	1	200	200
	Q450	6	12.5	4	1081	4324
VL-28	Q450	7	12.5	17	1054	1908
	Q450	8	12.5	1	380	380
	Q450	9	12.5	2	415	830
	Q450	10	12.5	4	1197	4782
	Q450	11	12.5	1	386	386
	Q450	1	6.3	4	168	672
VL-29	Q450	2	8.0	8	1125	9000
	Q450	3	8.0	57	162	9186
	Q450	4	12.5	16	134	2144
	Q450	5	16.0	2	508	1016
	Q450	6	16.0	2	512	2048
	Q450	7	16.0	4	690	1760
VL-30	Q450	8	16.0	2	370	740
	Q450	9	16.0	2	832	1664
	Q450	10	16.0	2	1170	2340
	Q400	1	5.0	54	142	7668
	Q450	2	8.0	8	124	744
	Q450	3	10.0	8	2045	1636
VL-31	Q450	4	16.0	4	309	1236
	Q450	5	16.0	2	532	1064
	Q450	6	16.0	2	188	376
	Q450	7	12.5	3	1176	2916
	Q450	8	12.5	3	1068	3204
	Q450	9	12.5	1	917	917
VL-32	Q450	3	12.5	12	1291	1549
	Q450	6	12.5	3	829	2487
	Q450	7	16.0	3	420	1260
	Q450	8	16.0	4	405	1620
	Q450	9	16.0	2	558	1116
	Q450	10	16.0	2	807	1614
VL-33	Q450	11	16.0	2	1197	2394
	Q450	12	16.0	2	1200	2400
	Q450	13	16.0	2	689	1378
	Q400	1	5.0	29	122	3338
	Q450	2	6.3	11	141	705
	Q450	3	10.0	3	471	1413
VL-34	Q450	4	12.5	3	228	884
	Q450	5	12.5	3	521	1563
	Q450	6	16.0	2	202	404
	Q450	2	6.3	3	92	276
	Q450	3	8.0	12	350	4200
	Q450	4	12.5	1	219	219
VL-35	Q450	5	12.5	4	393	1572
	Q450	6	12.5	4	438	1752
	Q450	7	12.5	5	1071	2676
	Q450	2	8.0	2	208	416
	Q450	3	12.5	8	42	336
	Q450	4	12.5	6	66	396
VL-36	Q450	5	12.5	8	120	960
	Q400	1	5.0	86	252	21672
	Q450	2	6.3	4	108	432
	Q450	3	8.0	17	1200	14400
	Q450	4	8.0	12	394	4728
	Q450	5	10.0	78	237	18912
VL-37	Q450	6	16.0	1	629	629
	Q450	7	16.0	5	988	4940
	Q450	8	16.0	3	583	1749
	Q450	9	20.0	2	325	650
	Q450	10	20.0	4	1184	4736
	Q450	11	20.0	2	503	1006
VL-38	Q450	12	20.0	2	609	1218
	Q450	1	5.0	142	18	6558
	Q450	2	6.3	8	124	744
	Q450	3	10.0	4	469	1878
	Q450	4	16.0	4	308	1232
	Q450	5	16.0	2	511	1022
VL-39	Q450	1	6.3	1	208	208
	Q450	2	6.3	2	269	538
	Q450	3	8.0	3	311	622
	Q450	4	8.0	8	1120	8960
	Q450	5	8.0	45	192	8640
	Q450	6	10.0	3	249	747
VL-40	Q450	7	16.0	10	144	1440
	Q450	8	20.0	1	347	347
	Q450	9	20.0	3	507	1521
	Q450	10	20.0	3	1160	3480
	Q450	11	20.0	3	480	1440
	Q450	12	20.0	3	660	1980
VL-41	Q450	1	5.0	17	106	1702
	Q450	2	6.3	8	176	1408
	Q450	3	6.3	2	94	188
	Q450	4	10.0	2	109	218
	Q450	5	10.0	2	116	232
	Q450	6	10.0	2	112	224
VL-42	Q400	1	5.0	67	152	10184
	Q450	2	10.0	3	859	2577
	Q450	3	10.0	3	871	2613
	Q450	4	10.0	3	1012	3036
	Q450	5	10.0	3	298	894
	Q400	1	5.0	17	100	1700
VL-43	Q450	2	6.3	8	176	1408
	Q450	3	10.0	2	352	704
	Q450	1	5.0	13	100	1300
	Q450	2	6.3	8	176	1408
	Q450	3	12.5	1	320	320
	Q450	4	12.5	2	327	654
VL-44	Q450	5	12.5	2	331	662
	Q450	6	12.5	2	346	692
	Q450	7	12.5	2	346	692
	Q450	8	12.5	2	346	692
	Q450	9	12.5	2	346	692
	Q450	10	12.5	2	346	692

Resumo do aço			
AÇO	DIAM	C.TOTAL (m)	PESO (kg)
CA50	6,3	297,1	72,7
	8,0	754,7	297,8
	10,0	345,2	212,8
	12,5	358,2	345
	16,0	345,4	545,1
	20,0	164,2	404,9
CA60	5,0	782,6	120,6
PESO TOTAL			
CA50	1878,3		
CA60	120,6		



PENAKS PAKA POLDAEM					
COR	PENAK N	ESK	COR	PENAK N	ESK
1 (red)	7	0.15	8	7	0.10
2 (yellow)	2	0.27	15	7	0.10
3 (green)	7	0.10	141	7	0.60
4 (cyan)	7	0.30	151	7	0.60
5 (blue)	7	0.60	161	7	0.60
6 (magenta)	7	0.40	demis	7	0.22
7 (white)	7	0.22			

[illegible]

PROJETO:			
ESTRUTURAL EM CONCRETO ARMADO			
CLIENTE:			
RODRIGO KOJO			
OBRA:			
Para Construção de Uma Edificação Residencial Coletiva - Edifício Jardins de France			
LOCAL:			
Rua Francisco Glicério, nº 1.033 - Zona 07 - Maringá - Paraná			
REFERÊNCIA(S):	REVISÃO:	PRANCHA:	
Detalhes das Vigas do Lazer (Folha 03 de 03)	R-00	28	
<>		68	
<>			
RESPONSÁVEL TÉCNICO:	DATA CRIAÇÃO:	DATA DA REVISÃO:	
	09/04/2013	N/C	
Eng.º Esp. Yutaka Mario Kobayashi Júnior CREA PR-89.748/D	ART Nº:	PROJETO Nº:	ESCALAS:
	20122498064	P-181	INDICADAS