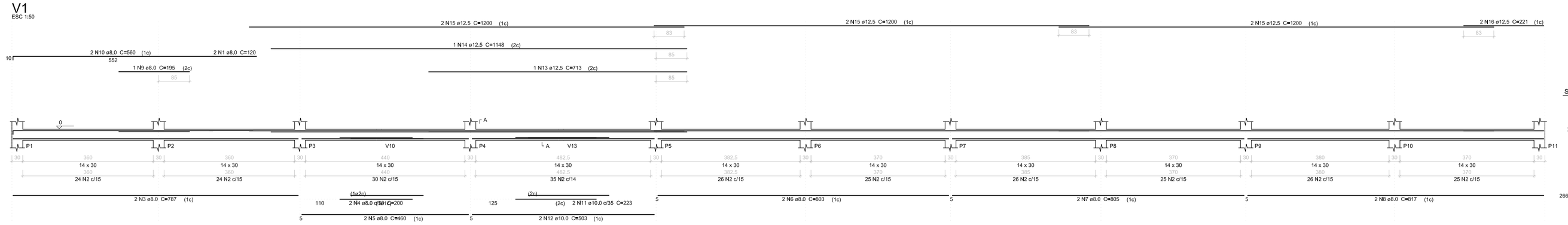
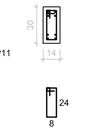
V1
ESC 1:50



SEÇÃO A-A
ESC 1:25



Relação do aço

V2 V3 V5
V6 V7 V8
V9 V10 V11
V12 V13 V14
V15 V16 V17
V18 V19 V20

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5,0	2	270	540
	2	5,0	632	76	48032
	3	5,0	2	98	196
	4	5,0	2	277	554
	5	5,0	2	107	214
	6	5,0	2	405	810
	7	5,0	2	429	858
CA50	8	8,0	1	185	185
	9	8,0	2	478	956
	10	8,0	1	123	123
	11	8,0	2	188	376
	12	8,0	4	81	324
	13	8,0	2	251	502
	14	8,0	1	244	244
	15	8,0	2	250	500
	16	8,0	2	782	1564
	17	8,0	2	482	964
	18	8,0	2	1154	2308
	19	8,0	2	158	316
	20	8,0	2	839	1678
	21	8,0	1	170	170
	22	8,0	2	861	1722
	23	8,0	2	616	1232
	24	8,0	2	541	1082
	25	8,0	1	396	396
	26	8,0	2	550	1100
	27	8,0	2	324	648
	28	8,0	1	157	157
	29	8,0	2	343	686
	30	8,0	1	246	246
	31	8,0	2	429	858
	32	8,0	2	51	102
	33	8,0	3	437	1311
	34	8,0	1	167	167
	35	8,0	1	324	324
	36	8,0	2	639	1278
	37	8,0	2	216	432
	38	8,0	6	242	1452
	39	8,0	4	631	2524
	40	8,0	2	180	360
	41	8,0	2	669	1338
	42	8,0	4	224	896
	43	8,0	2	667	1334
	44	8,0	2	831	1662
	45	8,0	1	150	150
	46	8,0	2	860	1720
	47	10,0	2	271	542
	48	10,0	1	267	267
	49	10,0	1	301	301
	50	10,0	2	448	896
	51	10,0	1	190	190
	52	10,0	2	668	1336
	53	12,5	2	298	596
	54	12,5	2	527	1054
	55	12,5	1	215	215
	56	12,5	2	427	854
	57	12,5	1	186	186
	58	12,5	2	482	964
	59	16,0	2	290	580
	60	16,0	2	415	830
	61	16,0	1	275	275
	62	16,0	2	477	954
	63	16,0	1	205	205
	64	16,0	2	496	992

Relação do aço

V1

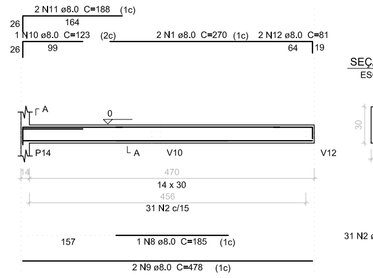
AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5,0	2	120	240
	2	5,0	266	76	20216
CA50	3	8,0	2	787	1574
	4	8,0	2	200	400
	5	8,0	2	460	920
	6	8,0	2	803	1606
	7	8,0	2	805	1610
	8	8,0	2	817	1634
	9	8,0	1	195	195
	10	8,0	2	560	1120
	11	10,0	2	223	446
	12	10,0	2	503	1006
	13	12,5	1	713	713
	14	12,5	1	1148	1148
	15	12,5	6	1200	7200
	16	12,5	2	221	442

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8,0	90,6	39,3
	10,0	14,6	9,8
	12,5	95,1	100,7
CA60	5,0	204,6	34,7
PESO TOTAL			
CA50	149,9		
CA60	34,7		

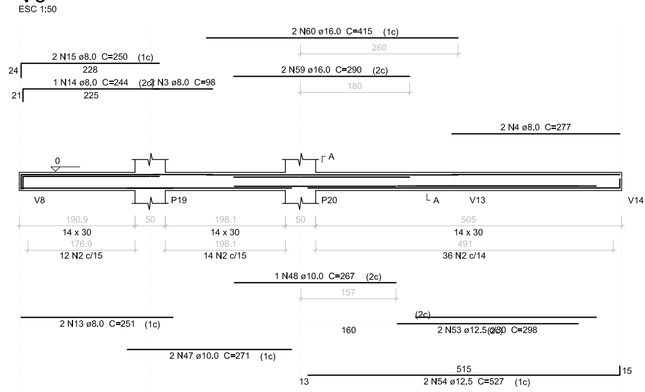
Vol. de concreto total (C-30) = 1,78 m³
Área de forma total = 31,3 m²

V2
ESC 1:50



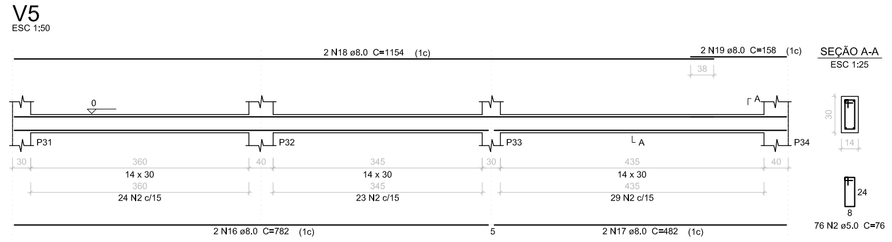
SEÇÃO A-A
ESC 1:25

V3
ESC 1:50



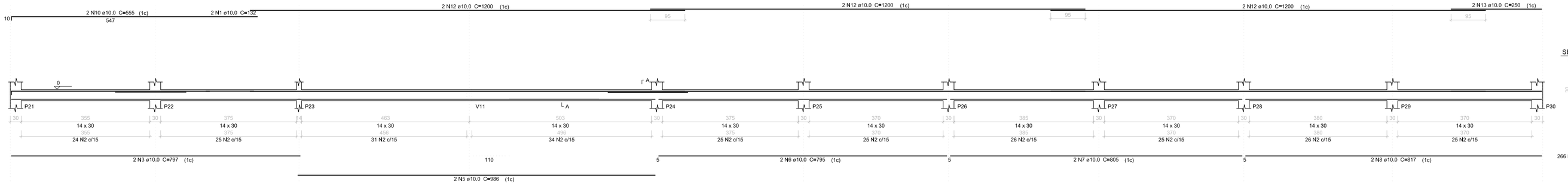
SEÇÃO A-A
ESC 1:25

V5
ESC 1:50

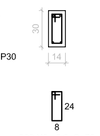


SEÇÃO A-A
ESC 1:25

V4
ESC 1:50



SEÇÃO A-A
ESC 1:25



Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8,0	333,9	144,9
	10,0	35,4	24
	12,5	38,7	41
	16,0	38,4	66,6
CA60	5,0	512,1	86,8
PESO TOTAL			
CA50	276,5		
CA60	86,8		

Vol. de concreto total (C-30) = 4,26 m³
Área de forma total = 75,04 m²

Relação do aço

V21

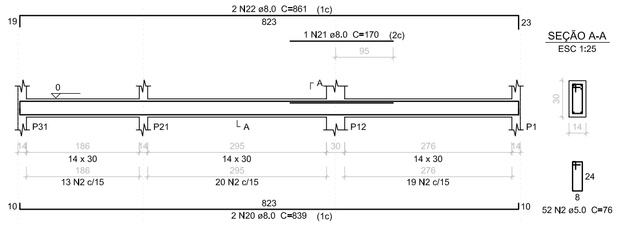
AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5,0	185	76	14060
CA50	2	8,0	2	942	1884
	3	8,0	2	805	1610
	4	8,0	2	800	1600
	5	8,0	2	407	814
	6	8,0	4	1200	4800
	7	8,0	2	660	1320

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8,0	120,3	52,2
CA60	5,0	140,6	23,8
PESO TOTAL			
CA50	52,2		
CA60	23,8		

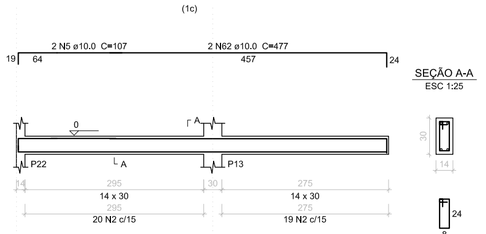
Vol. de concreto total (C-30) = 1,26 m³
Área de forma total = 22,13 m²

V6
ESC 1:50



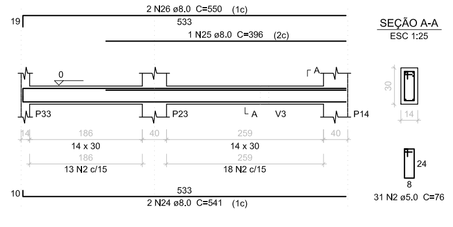
SEÇÃO A-A
ESC 1:25

V7
ESC 1:50



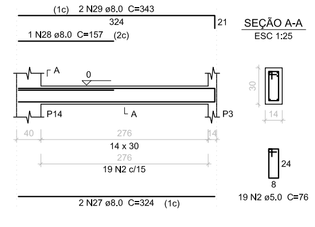
SEÇÃO A-A
ESC 1:25

V8
ESC 1:50



SEÇÃO A-A
ESC 1:25

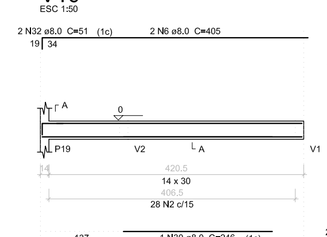
V9
ESC 1:50



SEÇÃO A-A
ESC 1:25

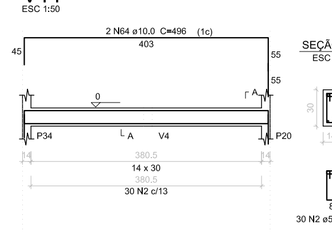
ESC 1:25

V10
ESC 1:50



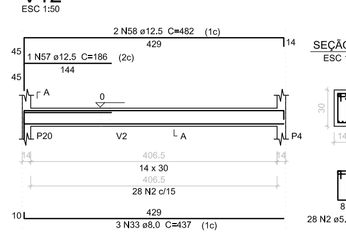
SEÇÃO A-A
ESC 1:25

V11
ESC 1:50



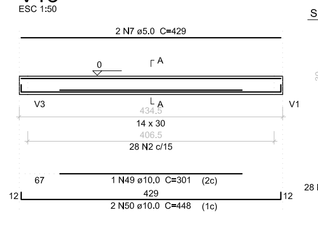
SEÇÃO A-A
ESC 1:25

V12
ESC 1:50

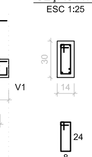


SEÇÃO A-A
ESC 1:25

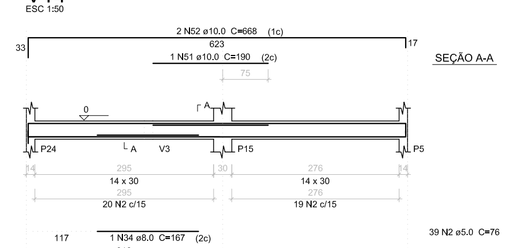
V13
ESC 1:50



SEÇÃO A-A
ESC 1:25

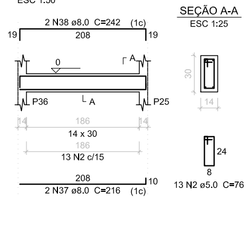


V14
ESC 1:50



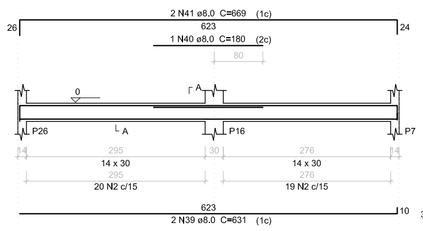
SEÇÃO A-A

V15
ESC 1:50



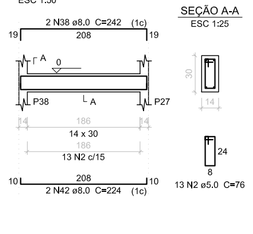
SEÇÃO A-A
ESC 1:25

V16
ESC 1:50



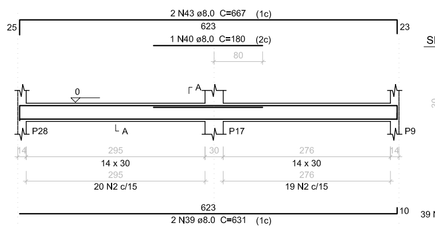
SEÇÃO A-A
ESC 1:25

V17
ESC 1:50



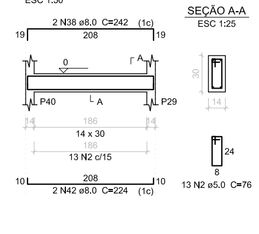
SEÇÃO A-A
ESC 1:25

V18
ESC 1:50



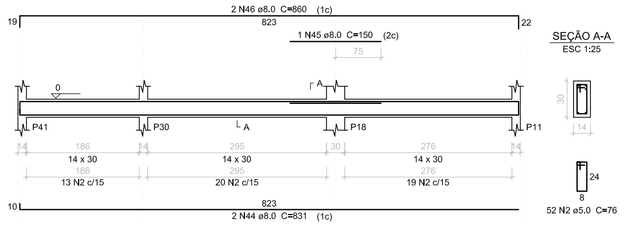
SEÇÃO A-A
ESC 1:25

V19
ESC 1:50



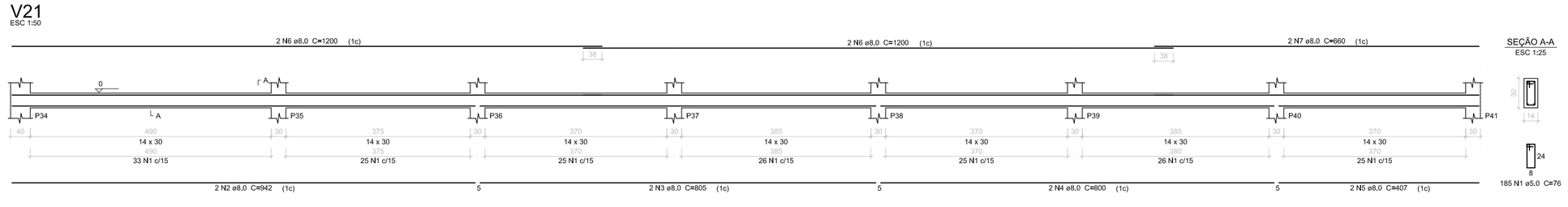
SEÇÃO A-A
ESC 1:25

V20
ESC 1:50



SEÇÃO A-A
ESC 1:25

V21
ESC 1:50



SEÇÃO A-A
ESC 1:25

MUNICIPIO DE CHOPINZINHO
GESTÃO 2017–2020
DIVISÃO DE PLANEJAMENTO E PROJETOS

Empreendimento:
Reforma e Ampliação da Escola Municipal Maria Evanira Silvério

Endereço da Obra:
Rua Frei Vito, 3691, lote 02, quadra 10, matr. 22276
Bairro Nossa Senhora Aparecida

Prancha: 04/06

Título das plantas:
– VIGAS BALDRAME

Chefe Executivo Municipal:
ÁLVARO DÊNIS CENI SCOLARO
Prefeito Municipal

Especificação:
PROJETO ESTRUTURAL

Responsável Técnico:
RONALDO MIOTTO MARTINS
Engenheiro Civil - CREA-PR 138208/D

Escala: Indicada
Desenho: RONALDO
Data: 24/mai/2017
Área Total: 351,09m²
Versão: 1ª versão

A1