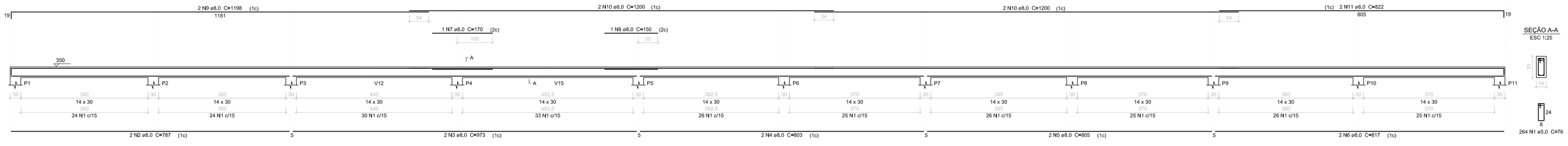
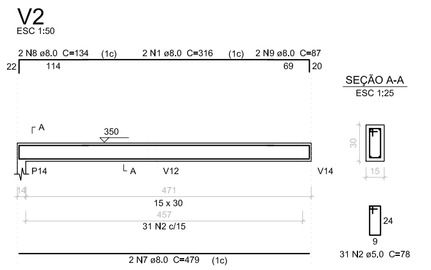
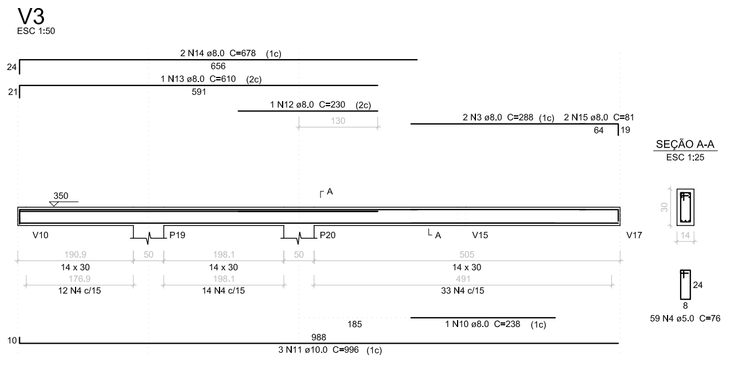
V1
ESC 1:50



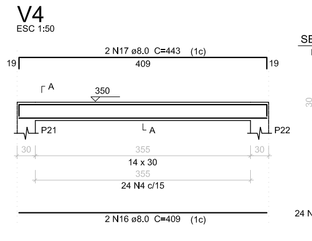
V2
ESC 1:50



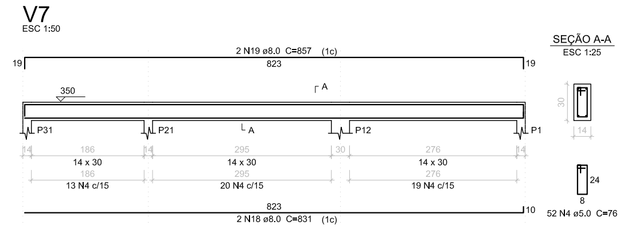
V3
ESC 1:50



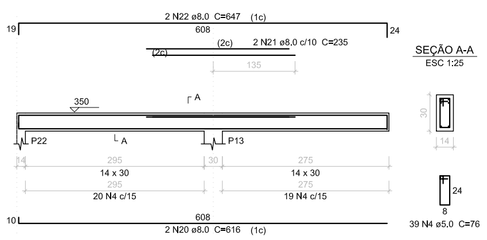
V4
ESC 1:50



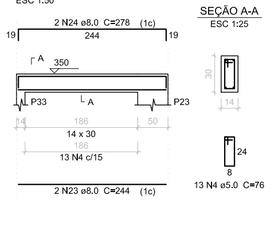
V7
ESC 1:50



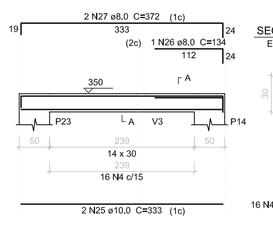
V8
ESC 1:50



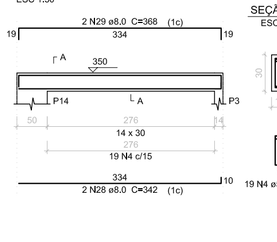
V9
ESC 1:50



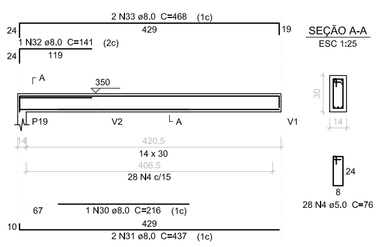
V10
ESC 1:50



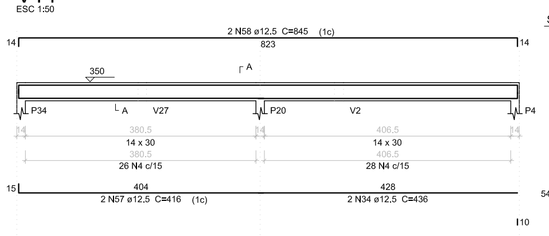
V11
ESC 1:50



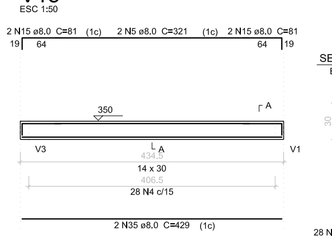
V12
ESC 1:50



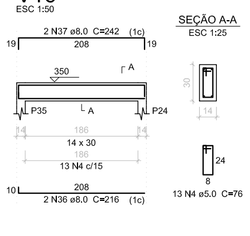
V14
ESC 1:50



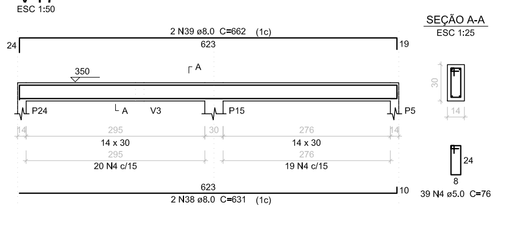
V15
ESC 1:50



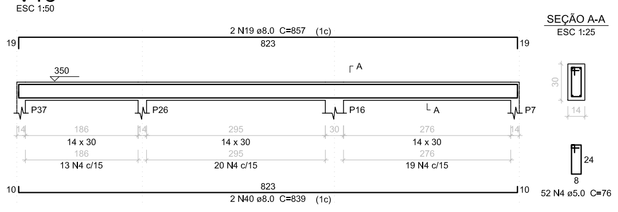
V16
ESC 1:50



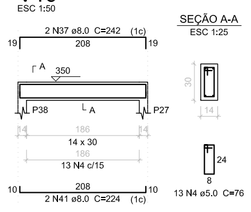
V17
ESC 1:50



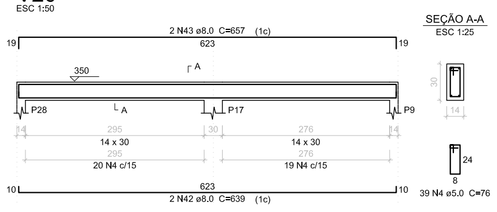
V18
ESC 1:50



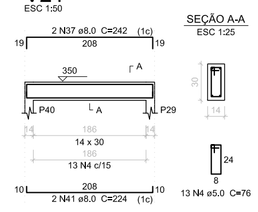
V19
ESC 1:50



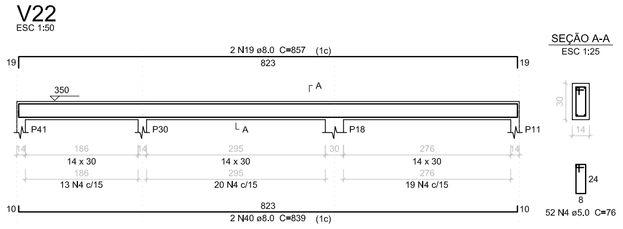
V20
ESC 1:50



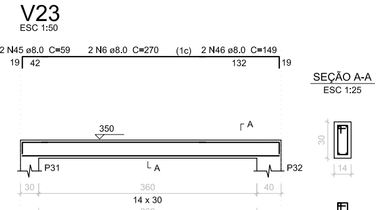
V21
ESC 1:50



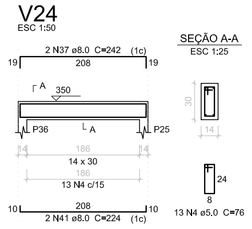
V22
ESC 1:50



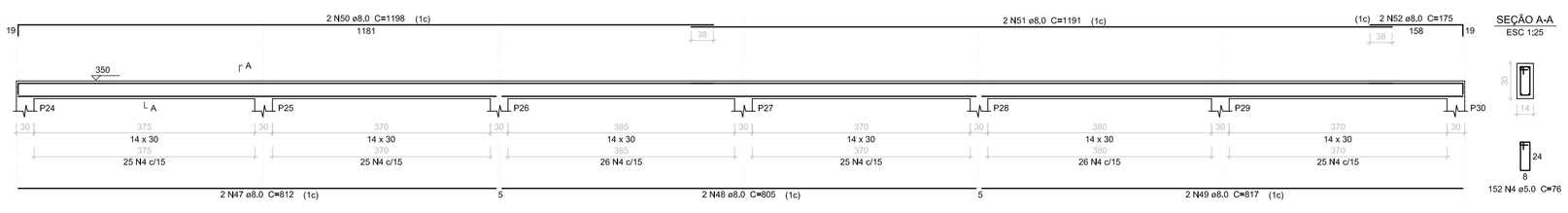
V23
ESC 1:50



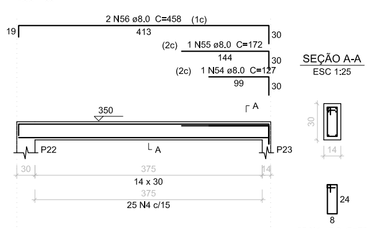
V24
ESC 1:50



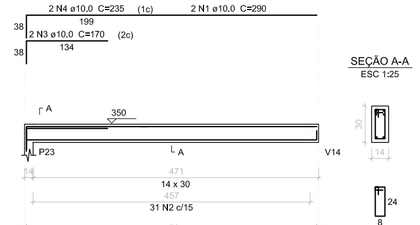
V25
ESC 1:50



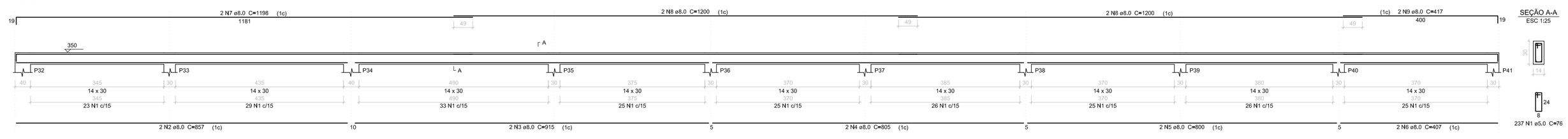
V26
ESC 1:50



V27
ESC 1:50



V28
ESC 1:50



Relação do aço
V27

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	2	290	580
	2	5.0	31	76	2356
CA50	3	10.0	2	170	340
	4	10.0	2	235	470
	5	12.5	2	503	1006

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10.0	8.1	5.5
	12.5	10.1	10.7
CA60	5.0	29.4	5
PESO TOTAL			
CA50	16.2		
CA60	5		

Vol. de concreto total (C-25) = 0.2 m³
Área de forma total = 3.59 m²

Relação do aço
V28

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	237	76	18012
CA50	2	8.0	2	857	1714
	3	8.0	2	915	1830
	4	8.0	2	805	1610
	5	8.0	2	800	1600
	6	8.0	2	407	814
	7	8.0	2	1198	2396
	8	8.0	4	1200	4800
	9	8.0	2	417	834

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	156	67.7
CA60	5.0	180.2	30.5
PESO TOTAL			
CA50	67.7		
CA60	30.5		

Vol. de concreto total (C-25) = 1.61 m³
Área de forma total = 28.42 m²

Relação do aço
V1

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	264	76	20064
CA50	2	8.0	2	787	1574
	3	8.0	2	973	1946
	4	8.0	2	803	1606
	5	8.0	2	805	1610
	6	8.0	2	817	1634
	7	8.0	1	170	170
	8	8.0	1	150	150
	9	8.0	2	1198	2396
	10	8.0	4	1200	4800
	11	8.0	2	822	1644

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	175.3	76.1
CA60	5.0	200.7	34
PESO TOTAL			
CA50	76.1		
CA60	34		

Vol. de concreto total (C-25) = 1.78 m³
Área de forma total = 31.3 m²

Relação do aço

V2	V3	V4
V7	V8	V9
V10	V11	V12
V14	V15	V16
V17	V18	V19
V20	V21	V22
V23	V24	V25
V26		

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	2	316	632
	2	5.0	31	78	2418
	3	5.0	2	288	576
	4	5.0	767	76	58292
	5	5.0	2	321	642
	6	5.0	2	270	540
CA50	7	8.0	2	479	958
	8	8.0	2	134	268
	9	8.0	2	87	174
	10	8.0	1	238	238
	11	8.0	2	996	1992
	12	8.0	1	230	230
	13	8.0	1	610	610
	14	8.0	2	678	1356
	15	8.0	6	81	486
	16	8.0	2	409	818
	17	8.0	2	443	886
	18	8.0	2	831	1662
	19	8.0	6	857	5142
	20	8.0	2	616	1232
	21	8.0	2	235	470
	22	8.0	2	647	1294
	23	8.0	2	244	488
	24	8.0	2	278	556
	25	8.0	2	333	666
	26	8.0	1	134	134
	27	8.0	2	372	744
	28	8.0	2	342	684
	29	8.0	2	368	736
	30	8.0	1	216	216
	31	8.0	2	437	874
	32	8.0	1	141	141
	33	8.0	2	468	936
	34	8.0	2	436	872
	35	8.0	2	429	858
	36	8.0	2	216	432
	37	8.0	8	242	1936
	38	8.0	2	631	1262
	39	8.0	2	662	1324
	40	8.0	4	839	3356
	41	8.0	6	224	1344
	42	8.0	2	639	1278
	43	8.0	2	657	1314
	44	8.0	2	424	848
	45	8.0	2	59	118
	46	8.0	2	149	298
	47	8.0	2	812	1624
	48	8.0	2	805	1610
	49	8.0	2	817	1634
	50	8.0	2	1198	2396
	51	8.0	2	1191	2382
	52	8.0	2	175	350
	53	8.0	2	413	826
	54	8.0	1	127	127
	55	8.0	1	172	172
	56	8.0	2	458	916
	57	12.5	2	416	832
	58	12.5	2	845	1690

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	512.7	222.5
	12.5	25.3	26.7
CA60	5.0	631	107
PESO TOTAL			
CA50	249.2		
CA60	107		

Vol. de concreto total (C-25) = 5.49 m³
Área de forma total = 96.58 m²

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: 03/06

Título das plantas:
– VIGAS COBERTURA

Chefe Executivo Municipal:
ÁLVARO DÊNIS CENI SCOLARO
Prefeito Municipal

Especificação:
PROJETO ESTRUTURAL

Responsável Técnico
RONALDO MIOTTO MARTINS
Engenheiro Civil - CREA/PR 130268/D

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

A1