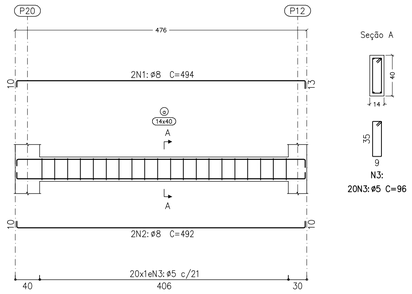
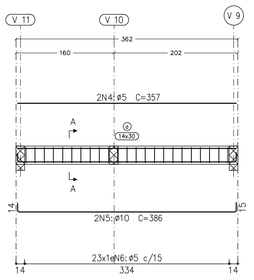
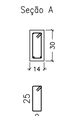
Térreo
Desenho de vigas
Concreto: C20, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:50
Escala seções 1:30
Escala aberturas 1:20

V 15
Escala vigas 1:50
Escala seções 1:30

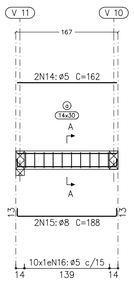


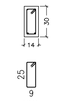
V 16
Escala vigas 1:50
Escala seções 1:30



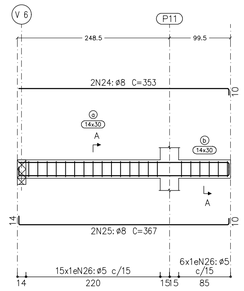


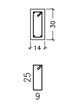
V 19
Escala vigas 1:50
Escala seções 1:30



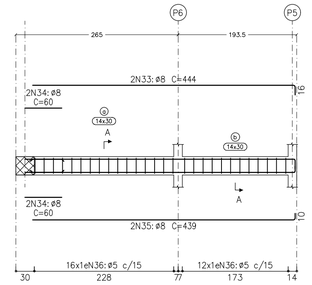


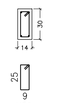
V 22
Escala vigas 1:50
Escala seções 1:30



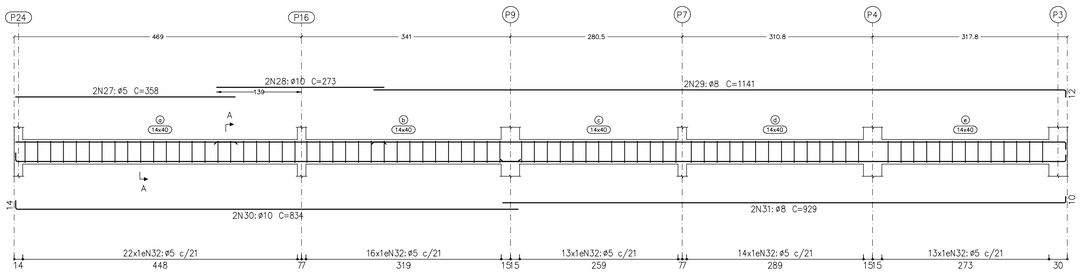


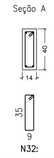
V 23
Escala vigas 1:50
Escala seções 1:30



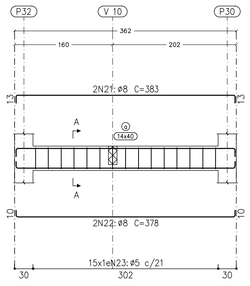


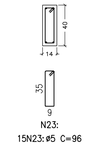
V 26
Escala vigas 1:50
Escala seções 1:30



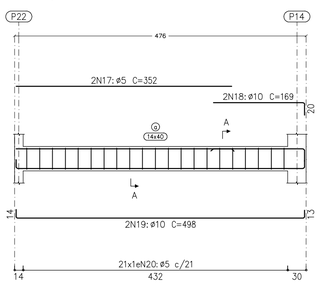


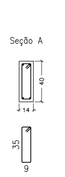
V 21
Escala vigas 1:50
Escala seções 1:30





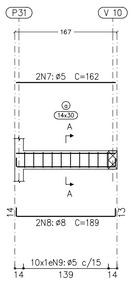
V 20
Escala vigas 1:50
Escala seções 1:30

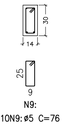




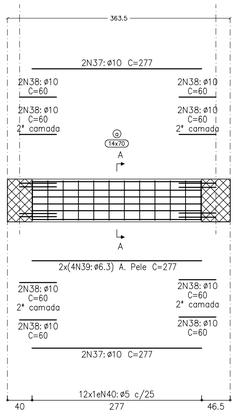
V 18
Escala vigas 1:50
Escala seções 1:30

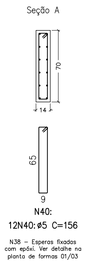
V 17
Escala vigas 1:50
Escala seções 1:30



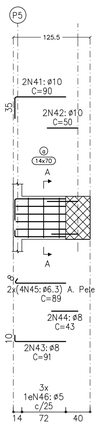


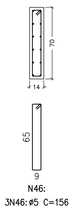
V 25
Escala vigas 1:50
Escala seções 1:30



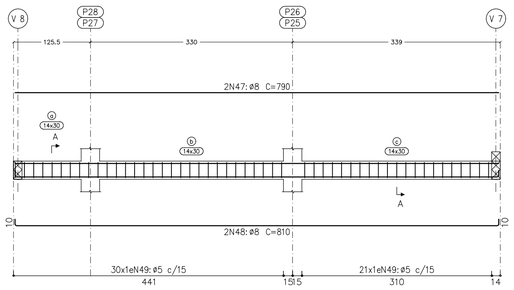


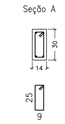
V 24
Escala vigas 1:50
Escala seções 1:30





V 13=V 14
Escala vigas 1:50
Escala seções 1:30





Elemento	Pos.	Diam.	Q.	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 15	1	ø8	2	494	988	3.9	
	2	ø8	2	492	984	3.9	
	3	ø5	20	96	1920		3.0
					Total+10%:	8.6	3.3
V 16	4	ø5	2	357	714		1.1
	5	ø10	2	386	772	4.8	
	6	ø5	23	76	1748		2.7
					Total+10%:	5.3	4.2
V 17	7	ø5	2	162	324		0.5
	8	ø8	2	189	378	1.5	
	9	ø5	10	76	760		1.2
					Total+10%:	1.7	1.9
V 18	10	ø8	2	382	764	3.0	
	11	ø12.5	2	390	780	7.5	
	12	ø8	2	278	556	2.2	
	13	ø5	16	96	1536		2.4
					Total+10%:	14.0	2.6
V 19	14	ø5	2	162	324		0.5
	15	ø8	2	188	376	1.5	
	16	ø5	10	76	760		1.2
					Total+10%:	1.7	1.9
V 20	17	ø5	2	352	704		1.1
	18	ø10	2	169	338	2.1	
	19	ø10	2	498	996	6.1	
	20	ø5	21	96	2016		3.2
					Total+10%:	9.0	4.7
V 21	21	ø8	2	383	766	3.0	
	22	ø8	2	378	756	3.0	
	23	ø5	15	96	1440		2.3
					Total+10%:	6.6	2.5
V 22	24	ø8	2	353	706	2.8	
	25	ø8	2	367	734	2.9	
	26	ø5	21	76	1596		2.5
					Total+10%:	6.3	2.8
V 26	27	ø5	2	358	716		1.1
	28	ø10	2	273	546	3.4	
	29	ø8	2	1141	2282	9.0	
	30	ø10	2	834	1668	10.3	
	31	ø8	2	929	1858	7.3	
	32	ø5	76	96	7488		11.8
					Total+10%:	33.0	14.2
V 23	33	ø8	2	444	888	3.5	
	34	ø8	4	60	240	0.9	
	35	ø8	2	439	878	3.5	
	36	ø5	28	76	2128		3.3
					Total+10%:	8.7	3.6
V 25	37	ø10	4	282	1128	7.0	
	38	ø10	16	60	960	5.9	
	39	ø6.3	8	345	2760	6.8	
	40	ø5	12	156	1872		2.9
					Total+10%:	21.7	3.2
V 24	41	ø10	2	120	240	1.5	
	42	ø10	2	50	100	0.6	
	43	ø8	2	96	192	0.8	
	44	ø8	2	43	86	0.3	
	45	ø6.3	8	124	992	2.4	
	46	ø5	3	156	468		0.7
					Total+10%:	6.2	0.8
V 13=V 14	47	ø8	2	790	1580	6.2	
	48	ø8	2	810	1620	6.4	
	49	ø5	51	76	3876		6.1
					Total+10%:	13.9	6.7
					(x2):	27.8	13.4
					ø5:	0.0	59.1
					ø6.3:	10.2	0.0
					ø8:	86.2	0.0
					ø10:	45.9	0.0
					ø12.5:	8.3	0.0
					Total:	150.6	59.1

Concreto 20MPa

REVISÕES				
NÚMERO	DATA	DESCRIÇÃO	DESENHO	VERIF.

PROJETO ESTRUTURAL

ProEng
ENGENHARIA E ARQUITETURA
CREA/SC 120.020-5
Rua dos Ferroviários, 279 - Tubarão / SC
proengengenharia@live.com
(48)3626-1466

EQUIPE TÉCNICA:
Eng.º Civil Celso Zanoni Filho
CREA/SC 061.511-0
Eng.ª Civil Jéssica Tartari da Silva
CREA/SC 147.347-0
Eng.º Eletricista Eduardo Marcelo da Silva
CREA/SC 107.293-8
Eng.º Mecânico Fábio Domingos Guimarães
CREA/SC 075.436-1

RESPONSÁVEL TÉCNICO PELO PROJETO
Eng.º Civil Celso Zanoni Filho

PROPRIETÁRIO DOCUMENTAÇÃO
PREFEITURA MUNICIPAL DE ANGELINA
CNPJ: 82.951.195/0001-10

Escola Municipal de Barra Clara
Barra Clara
Angelina/SC

APROVAÇÃO

CONTEÚDO: - Vigas do térreo - 02/02 -

ESCALA: INDIC.

CAD	ÁREA	DATA	OBRA	PRANCHA
C.Z.F	441,21m²	Fev/2024	943	VI 02 / 04