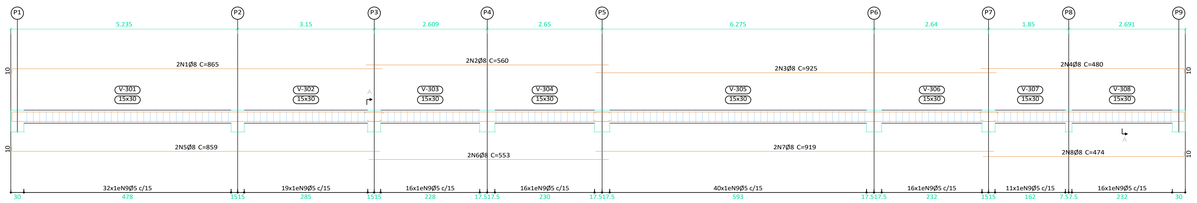
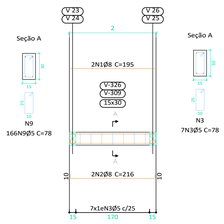
V 1
Escala vigas 1:50
Escala seções 1:25

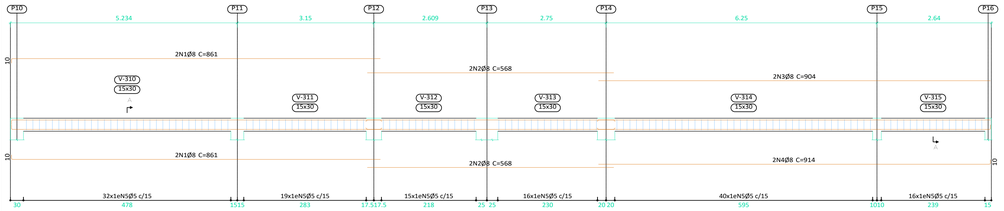


Escala vigas 1:50
Escala seções 1:25

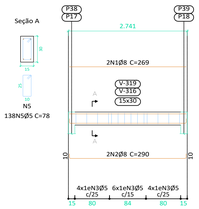


Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 1	1	Ø8	2	10.4	854.6		865	1730	6.8	
	2	Ø8	2		560		560	1120	4.4	
	3	Ø8	2		925		925	1850	7.3	
	4	Ø8	2		469.6	10.4	480	960	3.8	
	5	Ø8	2	10.4	848.4		859	1718	6.8	
	6	Ø8	2		553.4		553	1106	4.4	
	7	Ø8	2		919.1		919	1838	7.3	
	8	Ø8	2		464.1	10.4	474	948	3.7	
	9	Ø5	166	5	68	5	78	12948		20.3
							Total+10%:		49.0	22.3
V 2=V 9	1	Ø8	2		195		195	390	1.5	
	2	Ø8	2	10.4	195	10.4	216	432	1.7	
	3	Ø5	7	5	68	5	78	546		0.9
							Total+10%:		3.5	1.0
							(x2):		7.0	2.0
V 3	1	Ø8	4	10.4	851		861	3444	13.6	
	2	Ø8	4		568.4		568	2272	9.0	
	3	Ø8	2		904		904	1808	7.1	
	4	Ø8	2		904	10.4	914	1828	7.2	
	5	Ø5	138	5	68	5	78	10764		16.9
							Total+10%:		40.6	18.6
V 4=V 7	1	Ø8	2		269.1		269	538	2.1	
	2	Ø8	2	10.4	269.1	10.4	290	580	2.3	
	3	Ø5	14	5	68	5	78	1092		1.7
							Total+10%:		4.8	1.9
							(x2):		9.6	3.8
V 5	1	Ø8	2		274.1	10.4	284	568	2.2	
	2	Ø8	2	10.4	274.1	10.4	295	590	2.3	
	3	Ø5	16	5	68	5	78	1248		2.0
							Total+10%:		5.0	2.2
V 6	1	Ø8	2		271.6	10.4	282	564	2.2	
	2	Ø8	2	10.4	271.6	10.4	292	584	2.3	
	3	Ø5	16	5	68	5	78	1248		2.0
							Total+10%:		5.0	2.2
V 8	1	Ø8	2	10.4	1049.6		1060	2120	8.4	
	2	Ø8	2		1005		1005	2010	7.9	
	3	Ø8	2		274.1		274	548	2.2	
	4	Ø8	2	10.4	044.4		1055	2110	8.3	
	5	Ø8	2		1002.5		1003	2006	7.9	
	6	Ø8	2		274.1	10.4	284	568	2.2	
	7	Ø5	137	5	68	5	78	10686		16.8
							Total+10%:		40.6	18.5
V 10	1	Ø8	2	10.4	049.6		1060	2120	8.4	
	2	Ø8	2		1000		1000	2000	7.9	
	3	Ø8	2		725.6		726	1452	5.7	
	4	Ø8	2	10.4	044.3		1055	2110	8.3	
	5	Ø8	2		995		995	1990	7.9	
	6	Ø8	2		725.6	10.4	736	1472	5.8	
	7	Ø5	160	5	68	5	78	12480		19.6
							Total+10%:		48.4	21.6
V 11=V 12=V 14	1	Ø8	4	10.4	802.4	10.4	423	1692	6.7	
V 15=V 16=V 17	2	Ø5	25	5	68	5	78	1950		3.1
V 18							Total+10%:		7.4	3.4
							(x7):		51.8	23.8
							Ø5:	0.0	315.0	
							Ø8:	257.0	0.0	
							Total:	257.0	315.0	

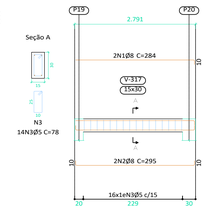
V 3
Escala vigas 1:50
Escala seções 1:25



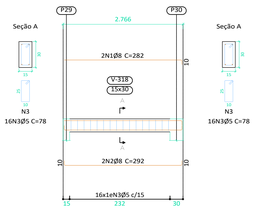
V 4
V 7
Escala vigas 1:50
Escala seções 1:25



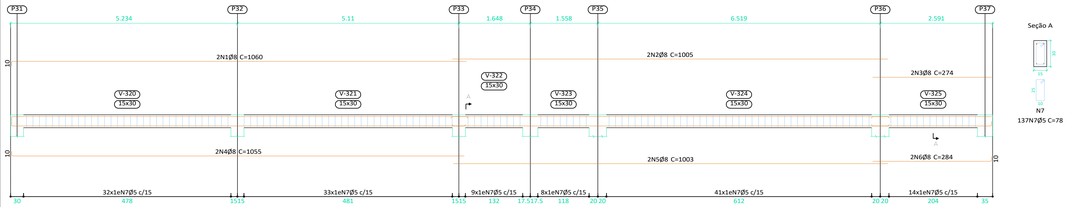
V 5
Escala vigas 1:50
Escala seções 1:25



V 6
Escala vigas 1:50
Escala seções 1:25



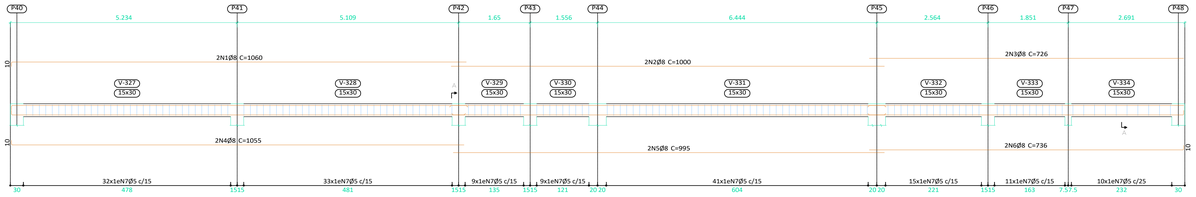
V 8
Escala vigas 1:50
Escala seções 1:25



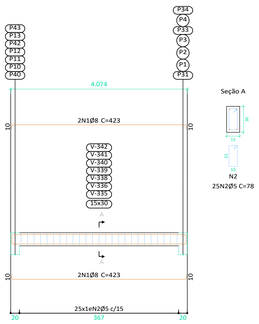
cobertura m
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:50
Escala seções 1:25
Escala aberturas 1:25

Elemento	Pos.	Diam.	Q.	Dob. (cm)	Reta (cm)	Dob. (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 13	1	Ø8	2	10.4	802.4	10.4	423	846	3.3	
	2	Ø8	2	10.4	802.4	11.4	424	848	3.3	
	3	Ø5	25	5	68	5	78	1950		3.1
							Total+10%:		7.3	3.4
V 19	1	Ø8	2	10.4	405	10.4	426	852	3.4	
	2	Ø8	2	10.4	405	11.4	427	854	3.4	
	3	Ø5	25	5	68	5	78	1950		3.1
							Total+10%:		7.5	3.4
V 20=V 21	1	Ø8	4	10.4	405	10.4	426	1704	6.7	
	2	Ø5	25	5	68	5	78	1950		3.1
							Total+10%:		7.4	3.4
							(x2):		14.8	6.8
V 22	1	Ø8	4	10.4	405	10.4	426	1704	6.7	
	2	Ø5	24	5	68	5	78	1872		2.9
							Total+10%:		7.4	3.2
V 23	1	Ø8	4	10.4	402.5	10.4	423	1692	6.7	
	2	Ø5	25	5	68	5	78	1950		3.1
							Total+10%:		7.4	3.4
V 24	1	Ø8	4	10.4	400	10.4	421	1684	6.6	
	2	Ø5	24	5	68	5	78	1872		2.9
							Total+10%:		7.3	3.2
V 25	1	Ø8	2		617.5	10.4	628	1256	5.0	
	2	Ø8	2	10.4	617.5	10.4	638	1276	5.0	
	3	Ø5	36	5	68	5	78	2808		4.4
							Total+10%:		11.0	4.8
V 26	1	Ø8	4	10.4	615	10.4	636	2544	10.0	
	2	Ø5	36	5	68	5	78	2808		4.4
							Total+10%:		11.0	4.8
V 27	1	Ø8	4	10.4	615	10.4	636	2544	10.0	
	2	Ø5	38	5	68	5	78	2964		4.7
							Total+10%:		11.0	5.2
V 28	1	Ø8	4	10.4	615	10.4	636	2544	10.0	
	2	Ø5	38	5	68	5	78	2964		4.7
							Total+10%:		11.0	5.2
							Ø5:	0.0	43.4	
							Ø8:	95.7	0.0	
							Total:	95.7	43.4	

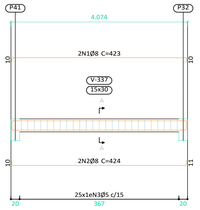
V 10
Escala vigas 1:50
Escala seções 1:25



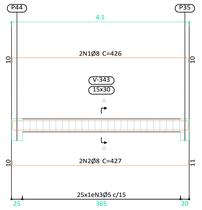
V 11
V 12
V 14
V 15
V 16
V 17
V 18
Escala vigas 1:50
Escala seções 1:25



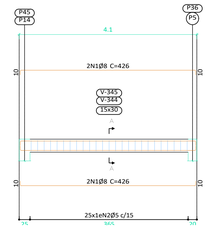
V 13
Escala vigas 1:50
Escala seções 1:25



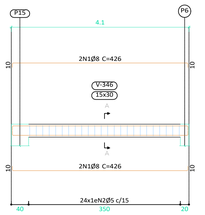
V 19
Escala vigas 1:50
Escala seções 1:25



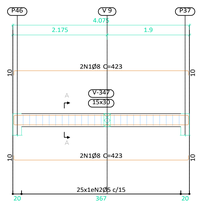
V 20
V 21
Escala vigas 1:50
Escala seções 1:25



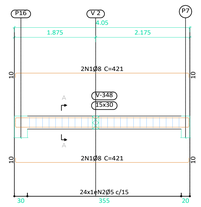
V 22
Escala vigas 1:50
Escala seções 1:25



V 23
Escala vigas 1:50
Escala seções 1:25



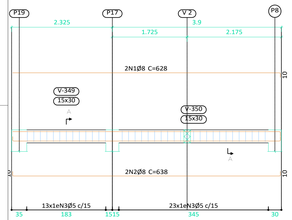
V 24
Escala vigas 1:50
Escala seções 1:25



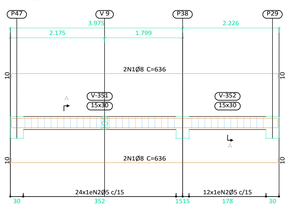
Resumo Aço Desenho de vigas		Comp. total (m)	Peso+10% (kg)	Total
CA-50	Ø8	812.1	353	353
CA-60	Ø5	913.4	158	158
Total				511

cobertura m
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:50
Escala seções 1:25
Escala aberturas 1:25

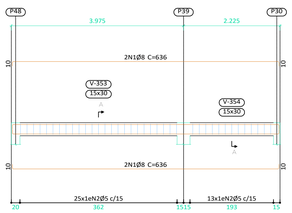
Escala vigas 1:50
Escala seções 1:25



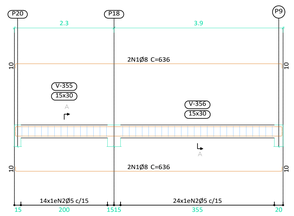
V 26
Escala vigas 1:50
Escala seções 1:25



V 27
Escala vigas 1:50
Escala seções 1:25



Escala vigas 1:50
Escala seções 1:25



MAX HENRIQUE VELOSO DA SILVA:12718420685
Assinado de forma digital por MAX HENRIQUE VELOSO DA SILVA:12718420685
Dados: 2023.04.18 16:04:25 -03'00'

ATUALIZAÇÃO

REV.	DESCRIÇÃO	DATA	EXEC.	VERIF.	APROV.
0	EMISSÃO INICIAL				

CONTRATADA: CARVALHO AMARAL ENGENHARIA
CNPJ Nº: 16.783.066/0001-35
Rua Cachoeira, Centro, nº 726, 1º andar Centro, Montes Claros/MG, CEP: 39401-074
RESP. TEC. MAX HENRIQUE VELOSO DA SILVA
REG. CREA: MG 248.998/D

CONTRATANTE: PREF. MUNICIPAL CLARO DOS POÇÕES/MG
CNPJ Nº: 23.822.724/0001-02
CACHOEIRA, 51 CENTRO
CLARO DOS POÇÕES-MG
CEP: 39360-000
MUNICÍPIO/ÁREA: CLARO DOS POÇÕES/MG
RESPONSÁVEL CONTRATANTE: PREF. MUNICIPAL DE CLARO DOS POÇÕES /MG

TÍTULO: MERCADO MUNICIPAL DE CLARO DOS POÇÕES
PROJETO ESTRUTURAL
DETALHES DAS VIGAS; QUADROS

ENDEREÇO DA OBRA: AV. TANCREDO NEVES

DATA: 04/04/2023 | ESCALA: INDICADA | PRANCHA: 11/13

ARQUIVO: DE-2022.2079-MG.CLA.-EST-EXE.001=0