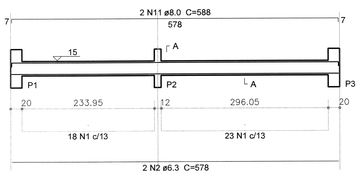
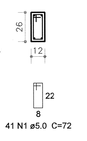
VIGAS DO PAVIMENTO TÉRREO

V1
ESC 1:50

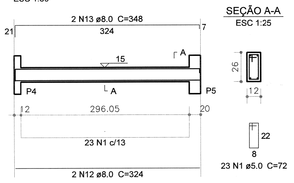


SEÇÃO A-A
ESC 1:25



41 N1 ø5.0 C=72

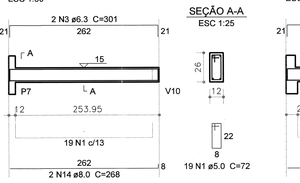
V2
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=72

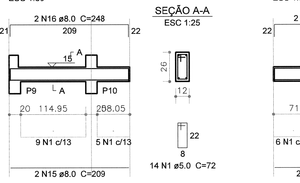
V3
ESC 1:50



SEÇÃO A-A
ESC 1:25

19 N1 ø5.0 C=72

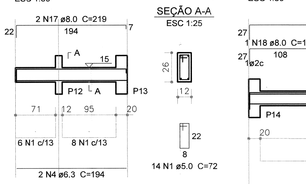
V4
ESC 1:50



SEÇÃO A-A
ESC 1:25

14 N1 ø5.0 C=72

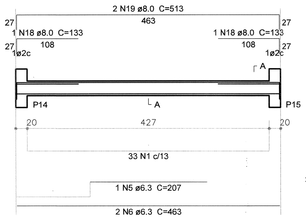
V5
ESC 1:50



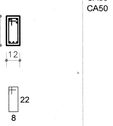
SEÇÃO A-A
ESC 1:25

14 N1 ø5.0 C=72

V6
ESC 1:50

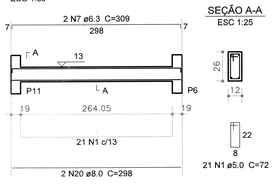


SEÇÃO A-A
ESC 1:25



33 N1 ø5.0 C=72

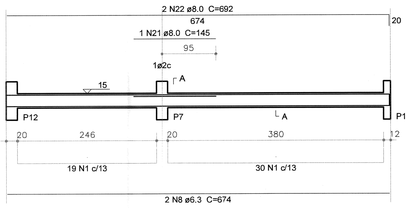
V7
ESC 1:50



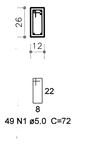
SEÇÃO A-A
ESC 1:25

21 N1 ø5.0 C=72

V8
ESC 1:50

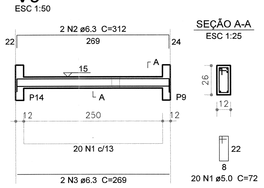


SEÇÃO A-A
ESC 1:25



49 N1 ø5.0 C=72

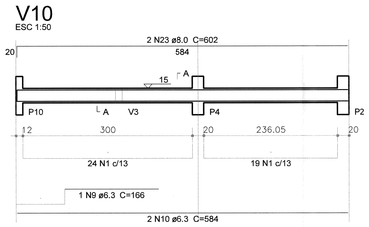
V9
ESC 1:50



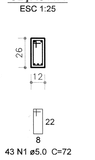
SEÇÃO A-A
ESC 1:25

20 N1 ø5.0 C=72

V10
ESC 1:50

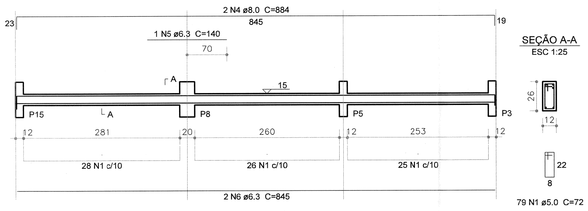


SEÇÃO A-A
ESC 1:25



43 N1 ø5.0 C=72

V11
ESC 1:50



SEÇÃO A-A
ESC 1:25

79 N1 ø5.0 C=72

Relação do aço

V9 V11

AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	99	72	7128
CA50	2	6.3	2	312	624
	3	6.3	2	269	538
	4	8.0	2	884	1768
	5	6.3	1	140	140
	6	6.3	2	845	1690

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	29.9	8.3
	8.0	17.7	7.8
CA60	5.0	71.3	12.5
PESO TOTAL (kg)			
CA50	16.3	Volume de concreto (C-20) = 0.35m³	
CA60	12.5	Área de forma = 7.13 m²	

Relação do aço

V1 V2 V3
V4 V5 V6
V7 V8 V10

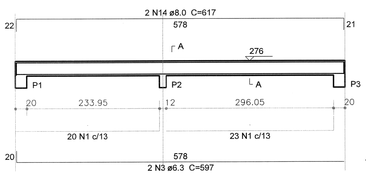
AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	257	72	18504
CA50	2	6.3	2	578	1156
	3	6.3	2	301	602
	4	6.3	2	164	388
	5	6.3	1	207	207
	6	6.3	2	463	926
	7	6.3	2	309	618
	8	6.3	2	674	1348
	9	6.3	1	166	166
	10	6.3	2	584	1168
	11	8.0	2	588	1176
	12	8.0	2	324	648
	13	8.0	2	348	696
	14	8.0	2	268	536
	15	8.0	2	209	418
	16	8.0	2	248	496
	17	8.0	2	219	438
	18	8.0	2	133	266
	19	8.0	2	513	1026
	20	8.0	2	298	596
	21	8.0	1	145	145
	22	8.0	2	692	1384
	23	8.0	2	602	1204

Resumo do aço

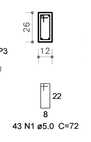
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	65.8	17.7
	8.0	90.3	39.2
CA60	5.0	185.1	31.4
PESO TOTAL (kg)			
CA50	56.9	Volume de concreto (C-20) = 1.13 m³	
CA60	31.4	Área de forma = 23.18 m²	

VIGAS DO PAVIMENTO SUPERIOR

V1
ESC 1:50

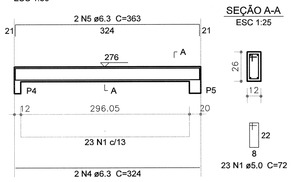


SEÇÃO A-A
ESC 1:25



43 N1 ø5.0 C=72

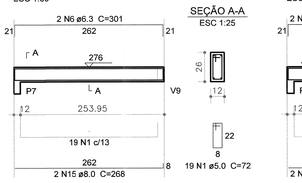
V2
ESC 1:50



SEÇÃO A-A
ESC 1:25

23 N1 ø5.0 C=72

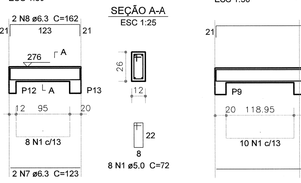
V3
ESC 1:50



SEÇÃO A-A
ESC 1:25

19 N1 ø5.0 C=72

V5
ESC 1:50



SEÇÃO A-A
ESC 1:25

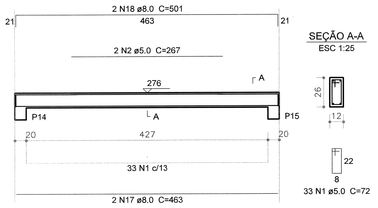
8 N1 ø5.0 C=72

V4
ESC 1:50

SEÇÃO A-A
ESC 1:25

34 N1 ø5.0 C=72

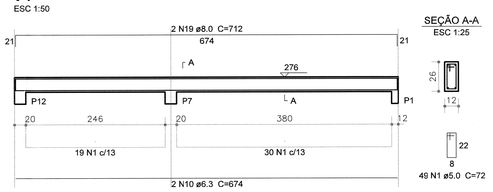
V6
ESC 1:50



SEÇÃO A-A
ESC 1:25

33 N1 ø5.0 C=72

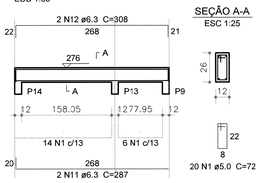
V7
ESC 1:50



SEÇÃO A-A
ESC 1:25

49 N1 ø5.0 C=72

V8
ESC 1:50



SEÇÃO A-A
ESC 1:25

20 N1 ø5.0 C=72

Relação do aço

V1 V2 V3
V4 V5 V6
V7 V8 V9

AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	272	72	19584
	2	5.0	2	267	534
CA50	3	6.3	2	597	1194
	4	6.3	2	324	648
	5	6.3	2	363	726
	6	6.3	2	301	602
	7	6.3	2	123	246
	8	6.3	2	162	324
	9	6.3	2	467	934
	10	6.3	2	674	1348
	11	6.3	2	287	574
	12	6.3	2	308	616
	13	6.3	2	260	520
	14	8.0	2	617	1234
	15	8.0	2	268	536
	16	8.0	2	506	1012
	17	8.0	2	463	926
	18	8.0	2	501	1002
	19	8.0	2	712	1424
	20	8.0	3	326	978
	21	8.0	2	180	360
	22	8.0	2	616	1232

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	77.4	20.8
	8.0	87.1	37.8
CA60	5.0	201.2	34.1
PESO TOTAL (kg)			
CA50	58.6	Volume de concreto (C-20) = 1.18 m³	
CA60	34.1	Área de forma = 24.19 m²	

Relação do aço

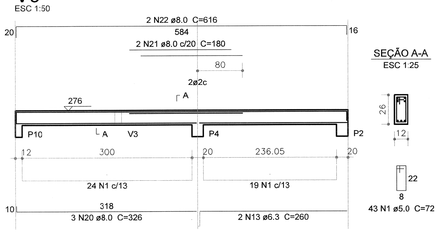
V10

AÇO	N	DIAM (mm)	QUANT (Barras)	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	79	72	5688
CA50	2	8.0	2	884	1768
	3	6.3	1	140	140
	4	8.0	2	845	970

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	14	3.9
	8.0	27.4	12.1
CA60	5.0	56.9	10.1
PESO TOTAL (kg)			
CA50	10.1	Volume de concreto (C-20) = 0.26m³	
CA60	16.0	Área de forma = 5.4m²	

V9
ESC 1:50



SEÇÃO A-A
ESC 1:25

43 N1 ø5.0 C=72

V10
ESC 1:50

SEÇÃO A-A
ESC 1:25

79 N1 ø5.0 C=72

USO EXCLUSIVO DA COHAPAR

REVISÕES

REV	DATA	DESCRIÇÃO	AUTOR
R00	08/06/2017	EMISSÃO INICIAL	
R01	05/09/17	Adequação dos pilares conforme projeto arquitetônico	
		Alteração do dimensionamento dos pilares	OVIE-R_RUY

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USO EXCLUSIVO DA COHAPAR

RESPONSÁVEL TÉCNICO - COHAPAR:

Raquel Mantovani R. Santos
ENGº CIVIL
CREA 19.928/D-PR

COHAPAR

ANUÊNCIA DO ENGENHEIRO DO ESCRITÓRIO REGIONAL - COHAPAR:

COHAPAR

COHAPAR
Companhia de Habitação do Paraná

PRANCHA: EST 02 02
REVISÃO: R 01

MBP 47PD
47,68m²
APOIO À PRODUÇÃO

MORAR BEM PARANÁ

PROJETO ESTRUTURAL
VIGAS DO PAV. INFERIOR E PAV. SUPERIOR

autor projeto: R.MANTOVANI	autor desenho: R_RUY
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