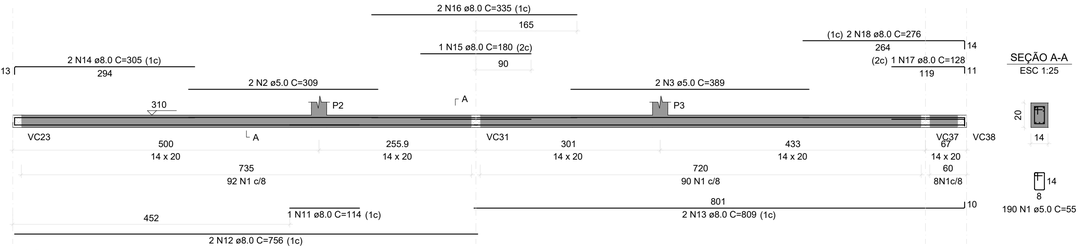
VC4 VC5 VC6
VC7 VC8 VC9
VC10 VC11 VC12
VC13 VC14 VC15
VC16 VC17 VC18
VC19 VC20 VC21
VC22 VC23 VC24
VC25 VC26 VC27

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	405	55	22275
	2	5.0	2	309	618
	3	5.0	2	389	778
	4	5.0	437	97	42389
	5	5.0	2	369	738
	6	5.0	2	384	768
	7	5.0	2	428	856
	8	5.0	2	334	668
	9	5.0	2	331	662
CA50	10	6.3	4	77	308
	11	8.0	1	114	114
	12	8.0	2	756	1512
	13	8.0	2	809	1618
	14	8.0	2	305	610
	15	8.0	3	180	540
	16	8.0	2	335	670
	17	8.0	1	128	128
	18	8.0	2	276	552
	19	8.0	2	773	1546
	20	8.0	1	165	165
	21	8.0	2	815	1630
	22	8.0	2	388	776
	23	8.0	2	386	772
	24	8.0	1	125	125
	25	8.0	1	185	185
	26	8.0	2	434	868
	27	8.0	1	134	134
	28	8.0	3	214	642
	29	8.0	2	369	738
	30	8.0	2	419	838
	31	8.0	1	117	117
	32	8.0	1	167	167
	33	8.0	2	212	424
	34	8.0	1	162	162
	35	8.0	1	165	165
	36	8.0	2	225	450
	37	8.0	4	252	1008
	38	8.0	1	156	156
	39	8.0	2	290	580
	40	8.0	2	539	1078
	41	8.0	1	395	395
	42	8.0	2	578	1156
	43	8.0	2	294	588
	44	8.0	2	343	686
	45	8.0	2	393	786
	46	8.0	2	189	378
	47	8.0	2	239	478
	48	8.0	4	743	2972
	49	8.0	4	793	3172
	50	8.0	2	392	784
	51	8.0	2	416	832
	52	8.0	2	210	420
	53	8.0	1	142	142
	54	8.0	1	145	145
	55	8.0	2	195	390
	56	8.0	2	812	1624
	57	8.0	1	108	108
	58	8.0	2	755	1510
	59	8.0	2	809	1618
	60	8.0	2	196	392
	61	8.0	2	360	720
	62	8.0	1	153	153
	63	8.0	2	296	592
	64	8.0	2	572	1144
	65	8.0	2	177	354
	66	8.0	2	135	270
	67	8.0	2	77	154
	68	8.0	2	89	178
	69	8.0	2	311	622
	70	8.0	2	336	672
	71	8.0	4	293	1172
	72	8.0	2	406	812
	73	8.0	1	97	97
	74	8.0	2	414	828
	75	8.0	2	92	184
	76	8.0	2	96	192
	77	8.0	2	303	606
	78	8.0	2	353	706
	79	8.0	2	85	170
	80	8.0	2	316	632
	81	8.0	2	366	732
	82	8.0	2	166	332
	83	8.0	2	216	432
	84	10.0	2	442	884
	85	10.0	1	379	379
	86	10.0	2	748	1496
	87	10.0	1	161	161
	88	10.0	2	246	492
	89	10.0	2	571	1142
	90	10.0	1	105	105
	91	10.0	2	115	230
	92	12.5	2	748	1496

RESUMO DO AÇO

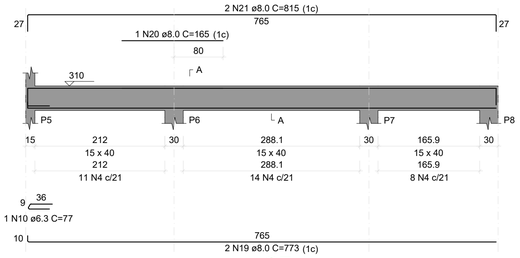
AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10% (kg)
CA50	6.3	3.1	0.8
	8.0	488	211.8
	10.0	48.9	33.2
	12.5	15	15.9
CA60	5.0	697.5	118.3
PESO TOTAL (kg)			

VC1
ESC 1:50



SEÇÃO A-A
ESC 1:25

VC2
ESC 1:50



SEÇÃO A-A
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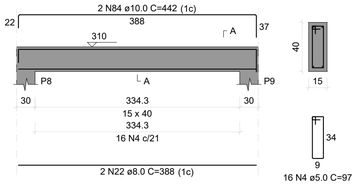
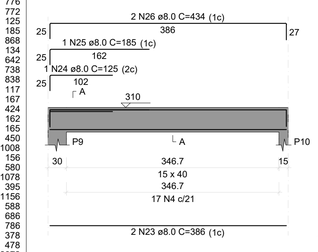
VC3
ESC 1:50



SEÇÃO A-A
ESC 1:25

VC4
ESC 1:50



SEÇÃO A-A
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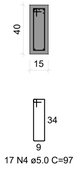

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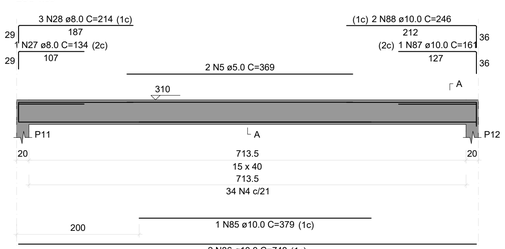
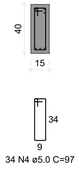


SEÇÃO A-A
ESC 1:25



VC6
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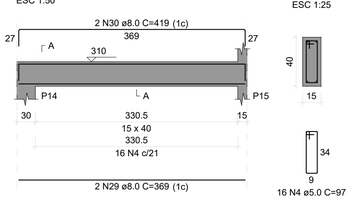
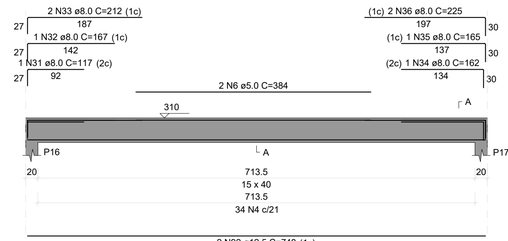
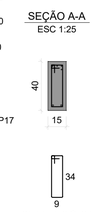


SEÇÃO A-A
ESC 1:25

VC7
ESC 1:50



SEÇÃO A-A
ESC 1:25



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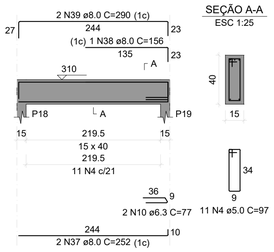
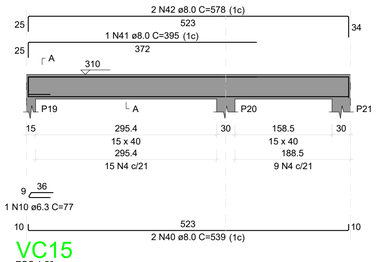


SEÇÃO A-A
ESC 1:25

VC9
ESC 1:50



SEÇÃO A-A
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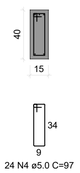

VC10
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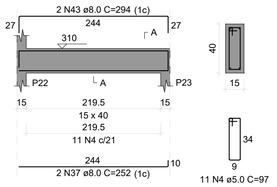
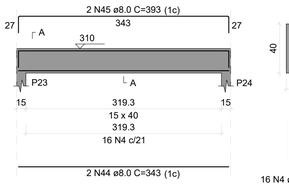
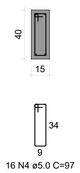


SEÇÃO A-A
ESC 1:25

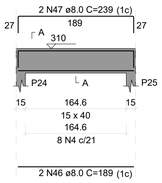
VC11
ESC 1:50



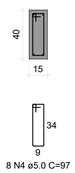
SEÇÃO A-A
ESC 1:25



VC12
ESC 1:50



SEÇÃO A-A
ESC 1:25



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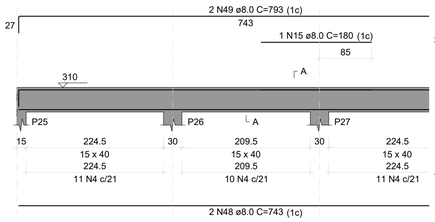

VC14
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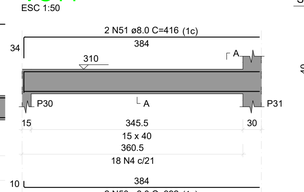

SEÇÃO A-A
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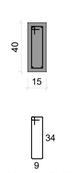

VC15
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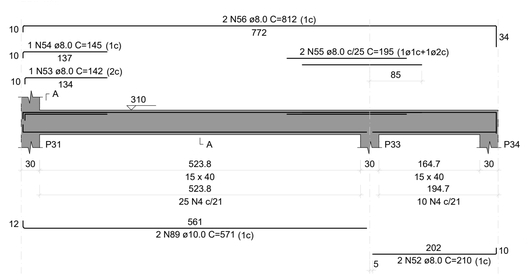
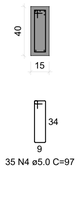


SEÇÃO A-A
ESC 1:25



VC16
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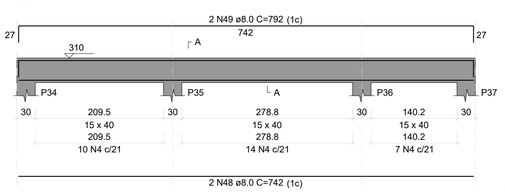
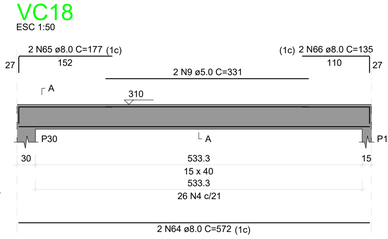
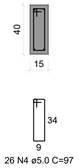


SEÇÃO A-A
ESC 1:25

VC18
ESC 1:50



SEÇÃO A-A
ESC 1:25



VC19
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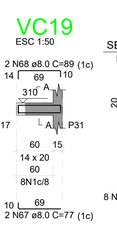
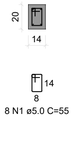
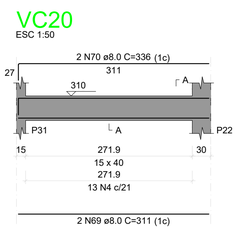


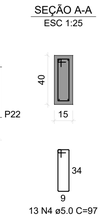
SEÇÃO A-A
ESC 1:25



VC20
ESC 1:50



SEÇÃO A-A
ESC 1:25



VC17
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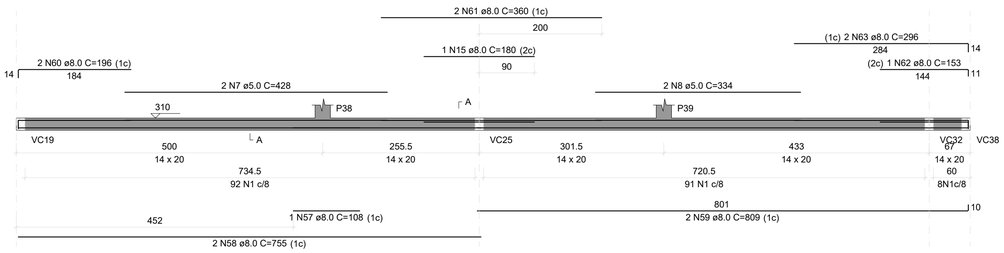
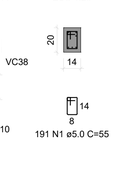


SEÇÃO A-A
ESC 1:25



VC21
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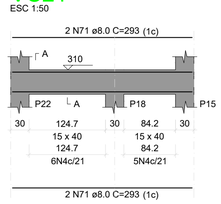
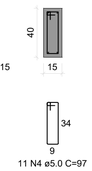


SEÇÃO A-A
ESC 1:25



VC22
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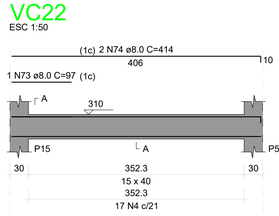
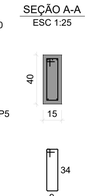
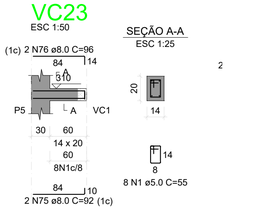


SEÇÃO A-A
ESC 1:25

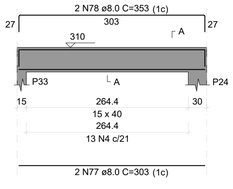


VC23
ESC 1:50

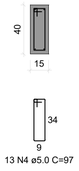


SEÇÃO A-A
ESC 1:25

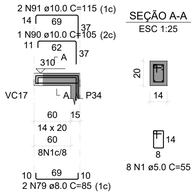
VC24
ESC 1:50



SEÇÃO A-A
ESC 1:25

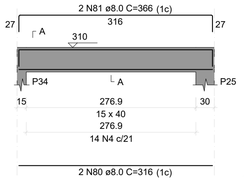


VC25
ESC 1:50

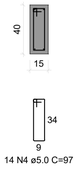


SEÇÃO A-A
ESC 1:25

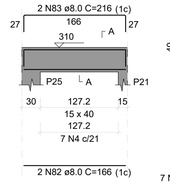
VC26
ESC 1:50



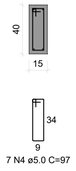
SEÇÃO A-A
ESC 1:25



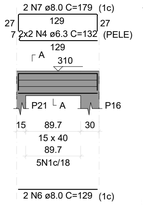
VC27
ESC 1:50



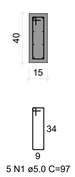
SEÇÃO A-A
ESC 1:25



VC28
ESC 1:50



SEÇÃO A-A
ESC 1:25



VC29
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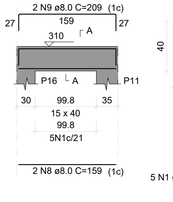
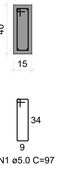


SEÇÃO A-A
ESC 1:25



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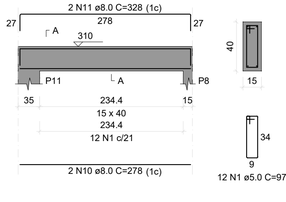
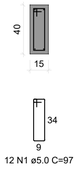


SEÇÃO A-A
ESC 1:25



VC31
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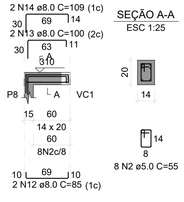

SEÇÃO A-A
ESC 1:25

NOTAS

a) Resistência característica do concreto - Fck=25 MPa;
a1) Relação água/cimento em massa: menor ou igual a 0,60
a2) Cimento CP II - Z
a3) Cons. mínimo de cimento (NBR12655:2006): maior ou igual a 280kg/m³
a4) Módulo de elasticidade secante do concreto: Ecs=24GPa
a5) Brita calcária - Dmax = 19mm (brita 1)

b) Aços: CA-50 e CA-60.

c) Classe de agressividade ambiental II (moderada).
Cnom (vigas): 3,0 cm (Externas e Contato c/ solo) / 2,5 cm (Internas)
Cnom (pilares): 3,0 cm(Externas) / 2,5 cm(Internas) / 4,5 cm(Contato c/ solo)
Cnom (lajes): 2,5 cm
Cnom (fundações): 4,5 cm

d) Cargas de paredes sobre vigas (NBR 6120:2019):
d1) parede 11,5+2cm+2cm: 1,7 kN/m²;
d2) parede 14+2cm+2cm: 1,9 kN/m²;

REV. Nº	DATA	DESCRIÇÃO
R01	03/09/21	Primeira Revisão do Projeto
R00	23/07/21	Versão Inicial do Projeto

AUTORES DO PROJETO:

EXCELÊNCIA ENGENHARIA E MEIO AMBIENTE LTDA EPP
CNPJ: 00.564.373/0001-95

Eng. Thaíce L. P. Marques Neis
CREA: 1213568269

INTERESSADO:
DAE - DEPARTAMENTO DE ÁGUA E ESGOTO DE VÁRZEA GRANDE
CNPJ: 02.555.079/0001-42

EMPREENDIMENTO:
ETA BOM SUCESSO

ENDEREÇO:
Rod MT 050, Jardim Botânico, Várzea Grande - MT
Latitude: 15°42'37.08"S/ Longitude: 56° 8'12.10"O

ASSUNTO:
Projeto Estrutural da Casa de Química - ETA
Detalhes - Vigas Baldrames e Cinta

NOMENCLATURA:

DATA: 03/09/2021

ESCALA: INDICADA

FOLHA: 006 / 009

02 ESC 1:50 **CASA DE QUÍMICA**
DETALHES DA VIGA CINTA