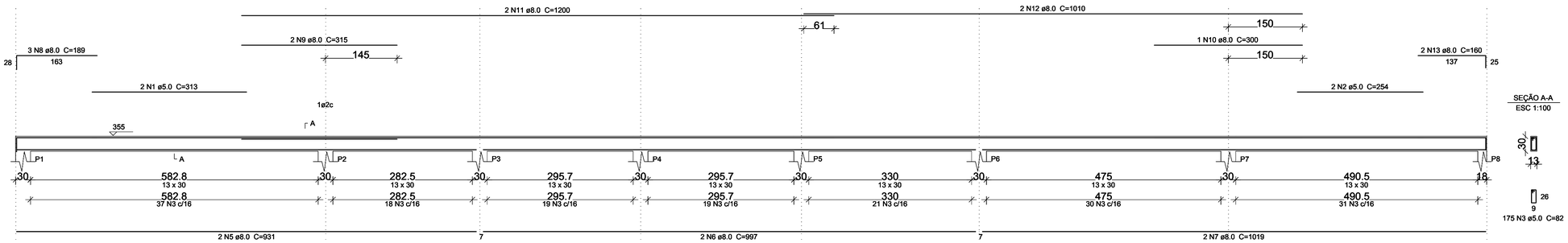
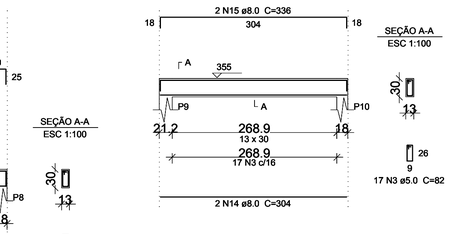
V1
ESC 1:100



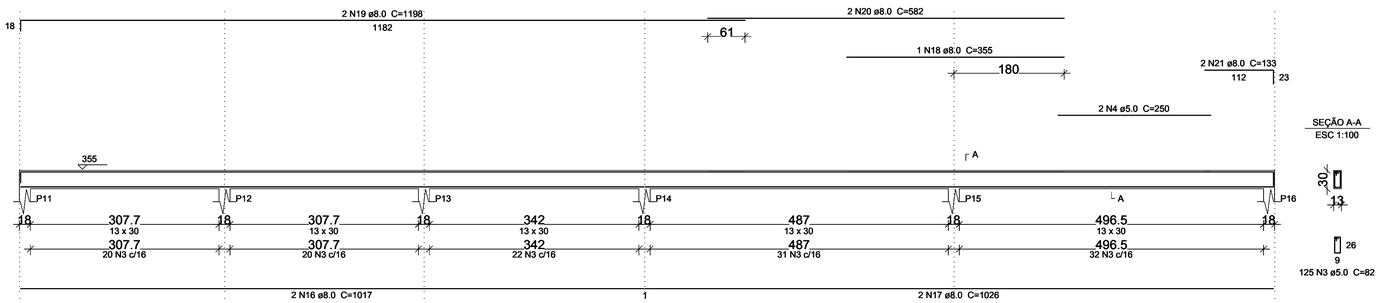
SEÇÃO A-A
ESC 1:100



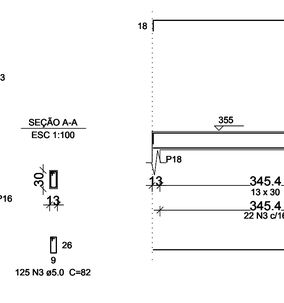
V2
ESC 1:100

SEÇÃO A-A
ESC 1:100

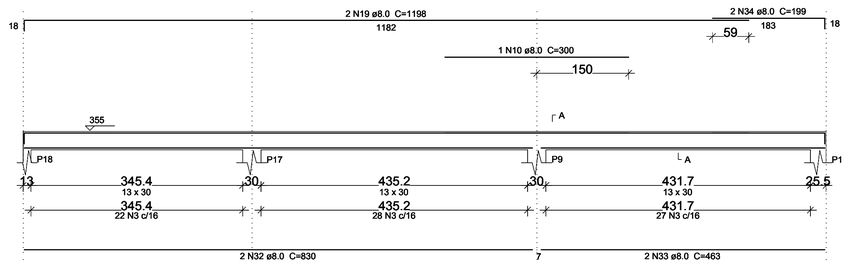
V3
ESC 1:100



SEÇÃO A-A
ESC 1:100

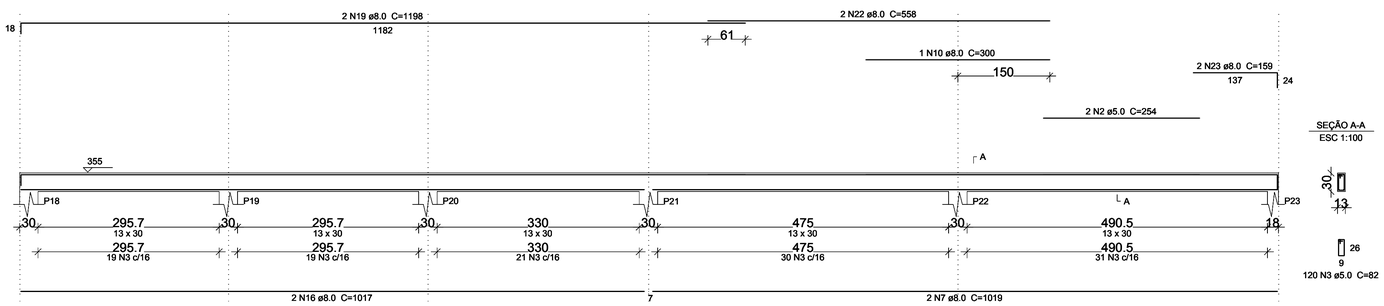


V13
ESC 1:100

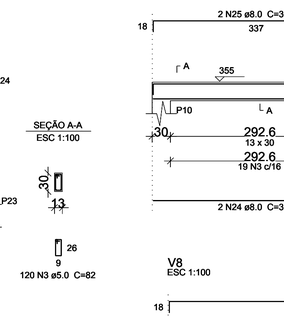


SEÇÃO A-A
ESC 1:100

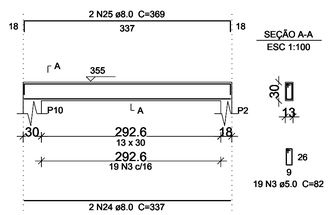
V4
ESC 1:100



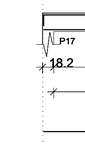
SEÇÃO A-A
ESC 1:100



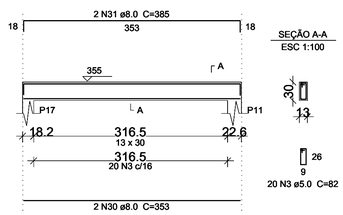
V5
ESC 1:100



SEÇÃO A-A
ESC 1:100

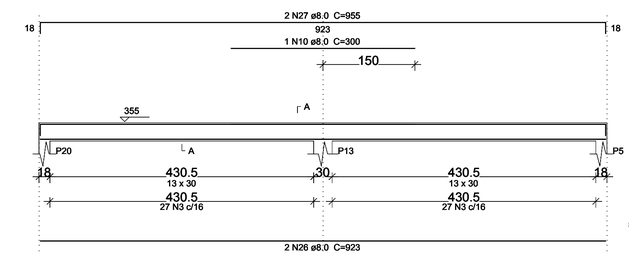


V12
ESC 1:100

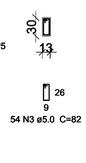


SEÇÃO A-A
ESC 1:100

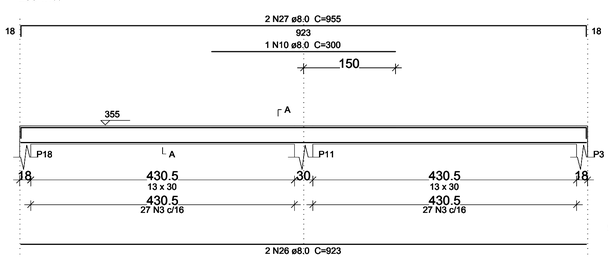
V8
ESC 1:100



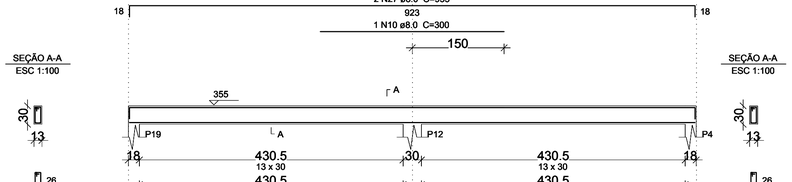
SEÇÃO A-A
ESC 1:100



V6
ESC 1:100



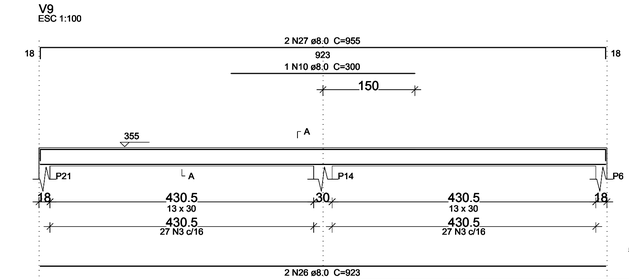
SEÇÃO A-A
ESC 1:100



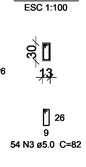
V7
ESC 1:100

SEÇÃO A-A
ESC 1:100

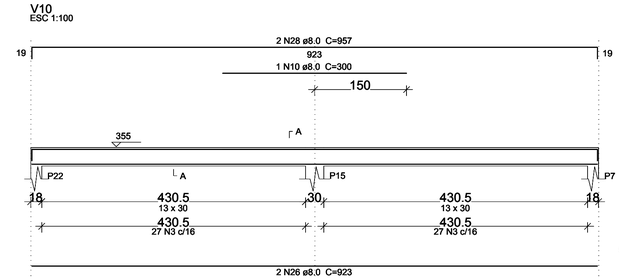
V9
ESC 1:100



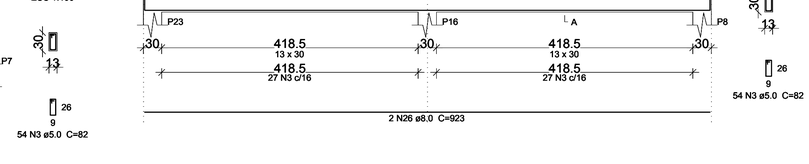
SEÇÃO A-A
ESC 1:100



V10
ESC 1:100



SEÇÃO A-A
ESC 1:100



V11
ESC 1:100

SEÇÃO A-A
ESC 1:100

Relação do aço

V1	V2	V3
V4	V5	V6
V7	V8	V9
V10	V11	V12
V13		

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	2	313	626
	2	5.0	4	254	1016
	3	5.0	877	82	71914
	4	5.0	2	250	500
CA50	5	8.0	2	931	1862
	6	8.0	2	997	1994
	7	8.0	4	1019	4076
	8	8.0	3	189	567
	9	8.0	2	315	630
	10	8.0	8	300	2400
	11	8.0	2	1200	2400
	12	8.0	2	1010	2020
	13	8.0	2	160	320
	14	8.0	2	304	608
	15	8.0	2	336	672
	16	8.0	4	1017	4068
	17	8.0	2	1026	2052
	18	8.0	1	355	355
	19	8.0	6	1198	7188
	20	8.0	2	582	1164
	21	8.0	2	133	266
	22	8.0	2	558	1116
	23	8.0	2	159	318
	24	8.0	2	337	674
	25	8.0	2	369	738
	26	8.0	12	923	11076
	27	8.0	8	955	7640
	28	8.0	2	957	1914
	29	8.0	2	967	1934
	30	8.0	2	353	706
	31	8.0	2	385	770
	32	8.0	2	830	1660
	33	8.0	2	463	926
	34	8.0	2	199	398

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.0	625.2	271.3
CA60	5.0	740.6	125.6

PESO TOTAL	
CA50	271.3
CA60	125.6

Vol. de concreto total (C-25) = 5.84 m³
Área de forma total = 109.23 m²

OBRA: CONSTRUÇÃO DO REFEITÓRIO DO IFPA	PROPRIETÁRIO: IFPA-CÂMPUS ABAETETUBA	TIPO DE PROJETO: ESTRUTURAL	ÁREA CONST. 234,49 m²
DATA: 2019	RESP. TÉCNICO PRINCIPAL: MILLENO RAMOS DE SOUZA CREA-PA 1514093596	LOCAL: BAIRRO FRANCILÂNDIA, AV. RIO DE JANEIRO, Nº 3322 ABAETETUBA/PA	ESCALA: INDICADA
DESENHISTA: MILLENO	FORMATO: A1 841x524 MM	ASSUNTO: ARMAÇÃO DAS VIGAS DA COBERTURA	PRANCHA: 5/5