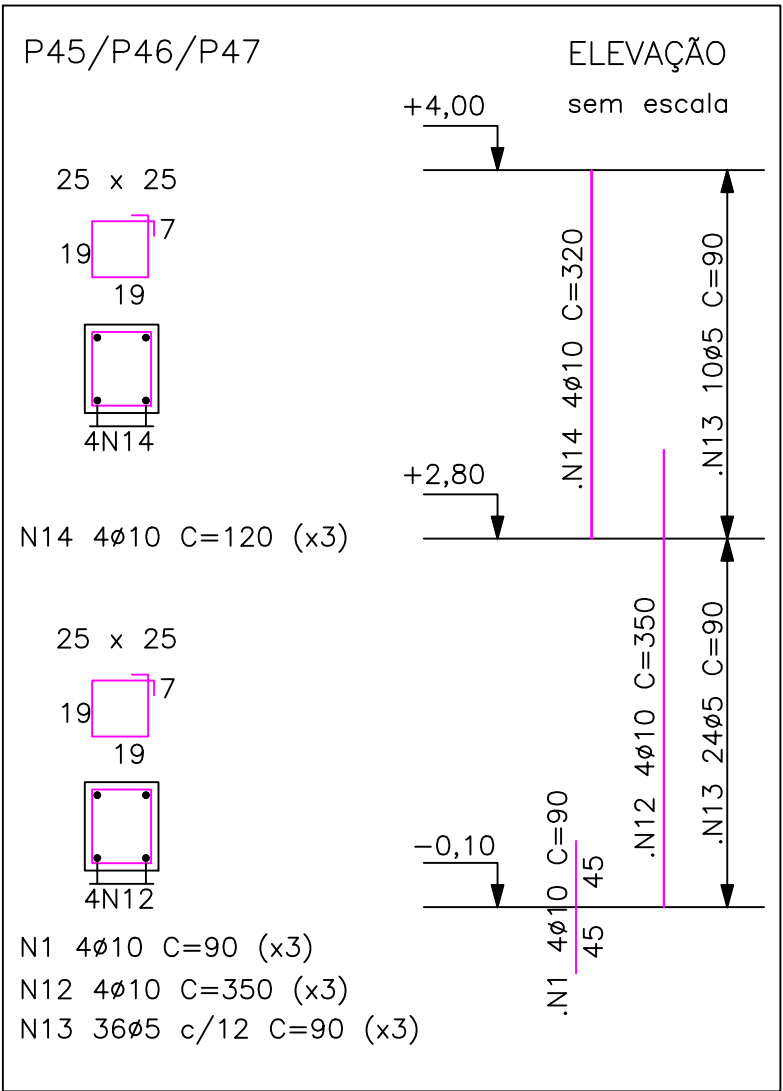
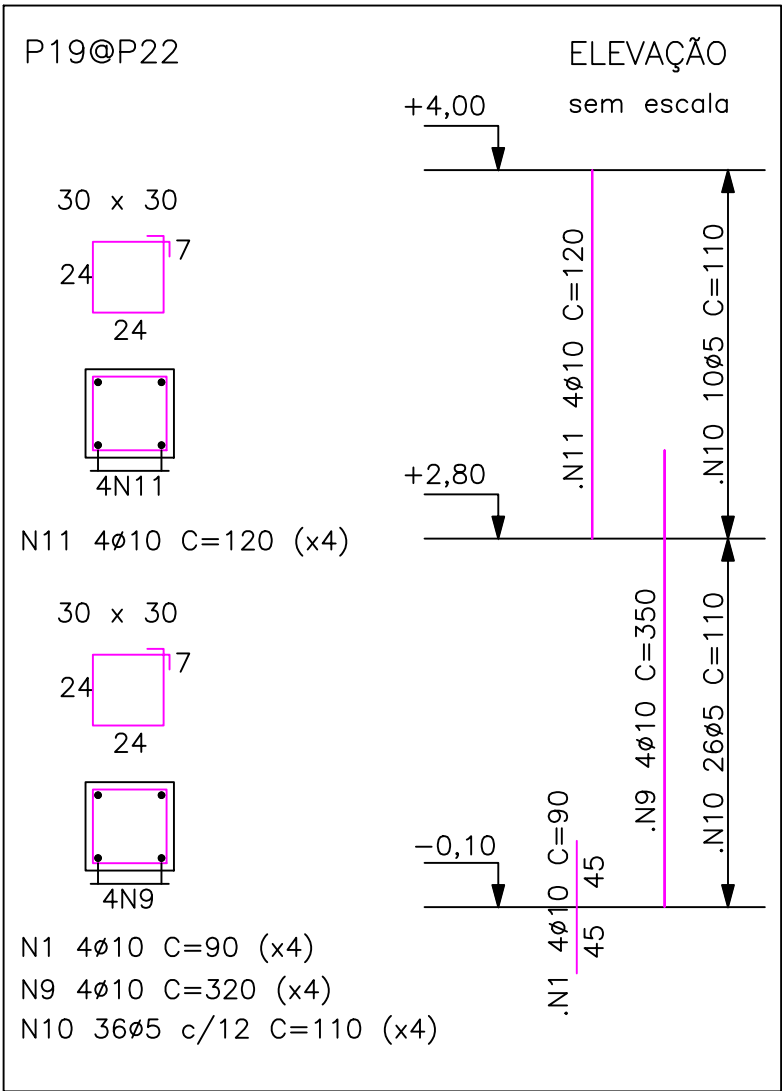
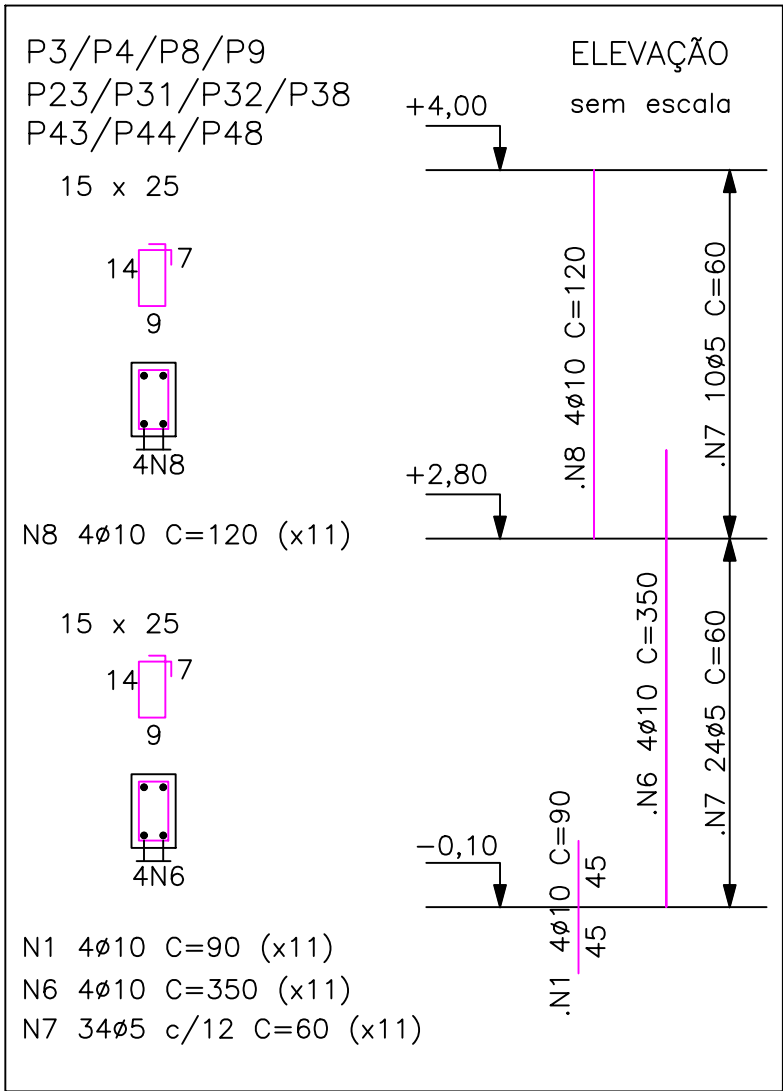
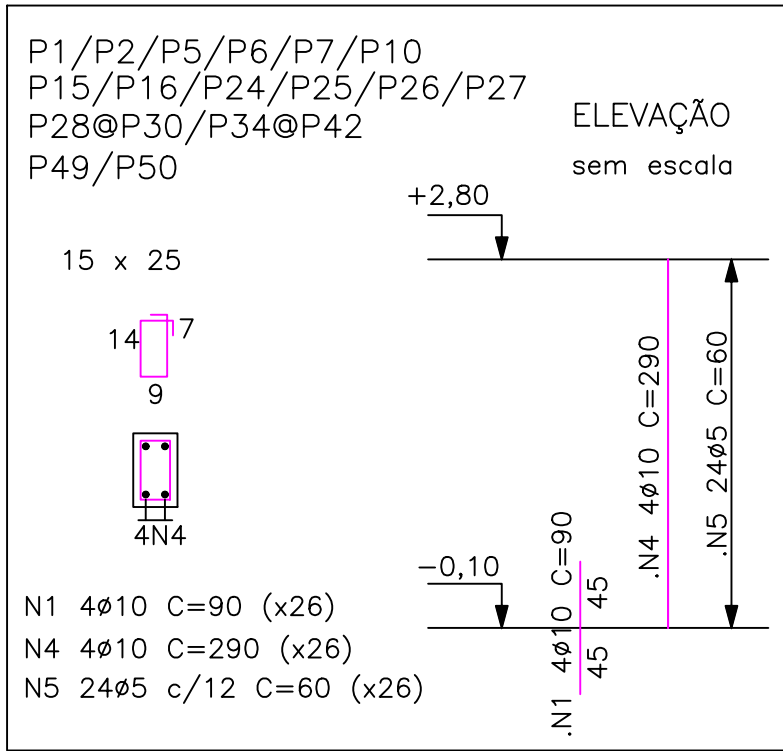
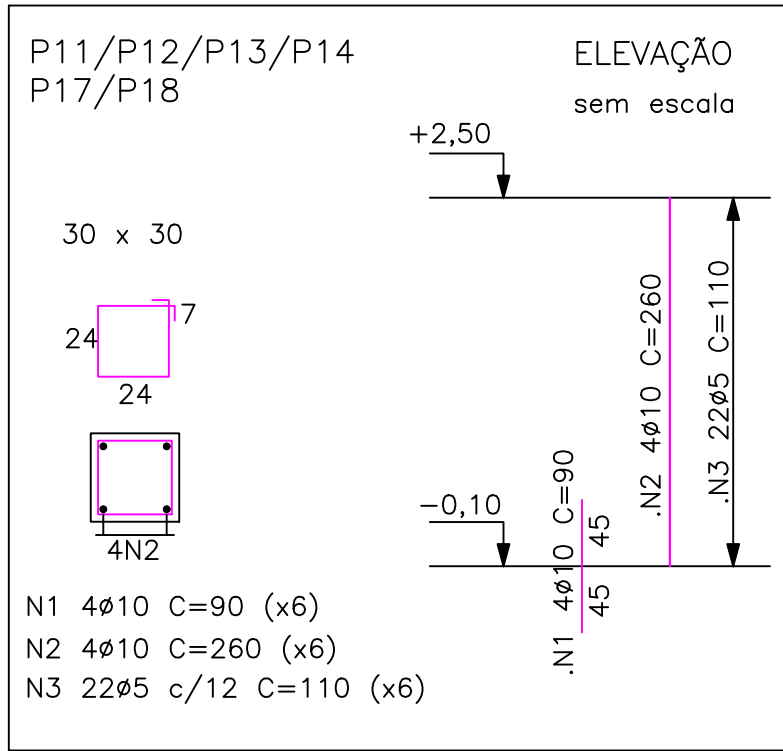
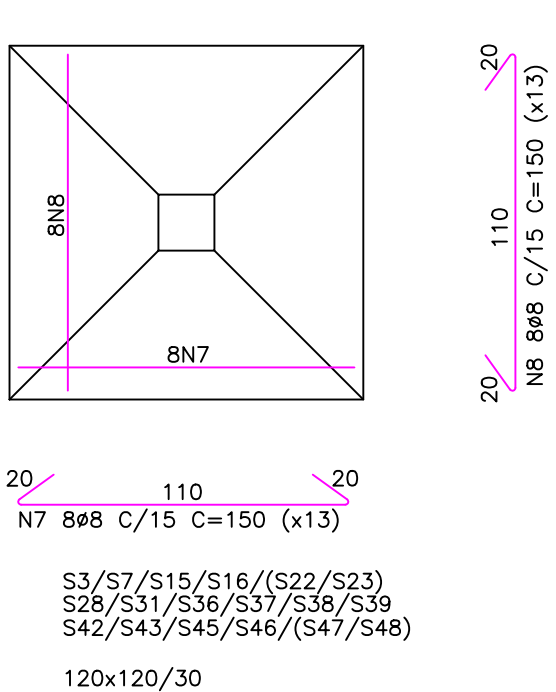
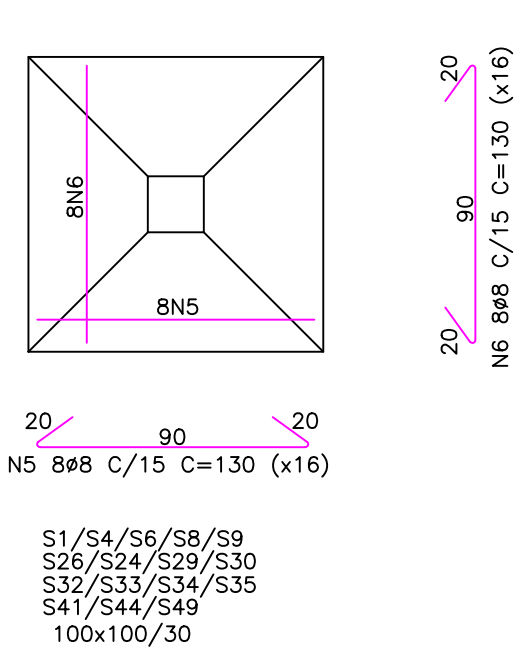
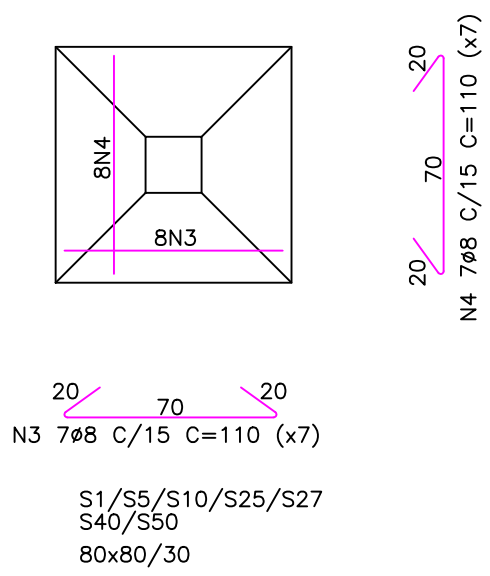
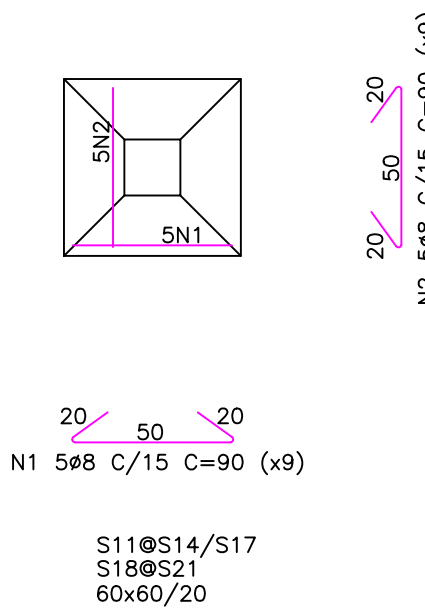




N	Ø	Quant.	C(cm)	T(m)
1	10	200	90	180
2	10	24	260	63
3	5	132	110	146
4	10	104	290	302
5	5	4	320	13
6	10	44	350	154
7	5	374	60	60
8	10	44	120	53
9	10	16	320	52
10	5	144	110	159
11	10	16	120	20
12	10	12	350	42
13	5	108	90	98
14	10	12	120	144

QUADRO DE RESUMO			
AÇO	Ø	Total(metros)	Peso(kg)
CA60	5.0	476	54
CA50	10.0	1010	593
Peso total =			647



N	Ø	Quant.	C(cm)	T(m)
1	10	45	90	41
2	10	45	90	41
3	10	49	110	54
4	10	49	110	54
5	10	128	130	167
6	10	128	130	167
7	10	104	150	156
8	10	104	150	156

QUADRO DE RESUMO			
AÇO	Ø	Total(metros)	Peso(kg)
CA50	10.0	836	524
Peso total =			525

- Notas:
- 1 - COTAS EM CENTIMETRO E NIVEIS EM METRO.
 - 2 - CONCRETO ARMADO: ESTRUTURA - CLASSE C-25 (25 MPa).
 - 3 - FATOR ÁGUA/CEMENTO DO CONCRETO ≤ 0,55.
 - 4 - COBRIMENTO DA ARMADURA DE 3,00 cm

RAIOS DE CURVATURA PARA DOBRAMENTO DE BARRAS

RAIOS DE DOBRAMENTO (cm)			
Ø	Barras Curvas	Estribos	Ganchos
4.2	3.2	1.1	1.1
5.0	3.8	1.3	1.3
6.0	4.5	1.5	1.5
6.3	4.7	1.6	1.6
8.0	6.0	2.0	2.0
10	7.5	2.5	2.5
12.5	9.4	3.1	3.1
16	12.0	4.0	4.0
20	15.0	5.0	8.0
22.5	17.0	5.7	9.0
25	18.8	6.3	10

- Ø = Diâmetro da barra
- BARRAS CURVAS : $r_i=7.5\phi$
 - ESTRIBOS : $r_i=2.5\phi$
 - GANCHOS PARA $\phi < 20$ mm : $r_i=2.5\phi$
GANCHOS PARA $\phi \geq 20$ mm : $r_i=4.0\phi$



OBRA: CONSTRUÇÃO DE ESCOLA MUNICIPAL			
LOCAL: R. AMÉLIO JOSÉ FERREIRA, DISTRITO SERRA DA CANASTRA, MUNICÍPIO SÃO ROQUE DE MINAS			
PROJETO ESTRUTURAL			
PROPRIETÁRIO:		ASSUNTO:	
PREFEITURA M. DE SÃO ROQUE DE MINAS/MG-CNPJ: 18.306.670/0001-04		ARMAÇÃO DOS PILARES E SAPATAS	
RESPONSÁVEL:		DESENHO:	PROJETO:
BRUNO CÉSAR DA SILVA CORREIA-CREA 168.800/D-MG		DATA: FEV/2026	FOLHA: 06/12