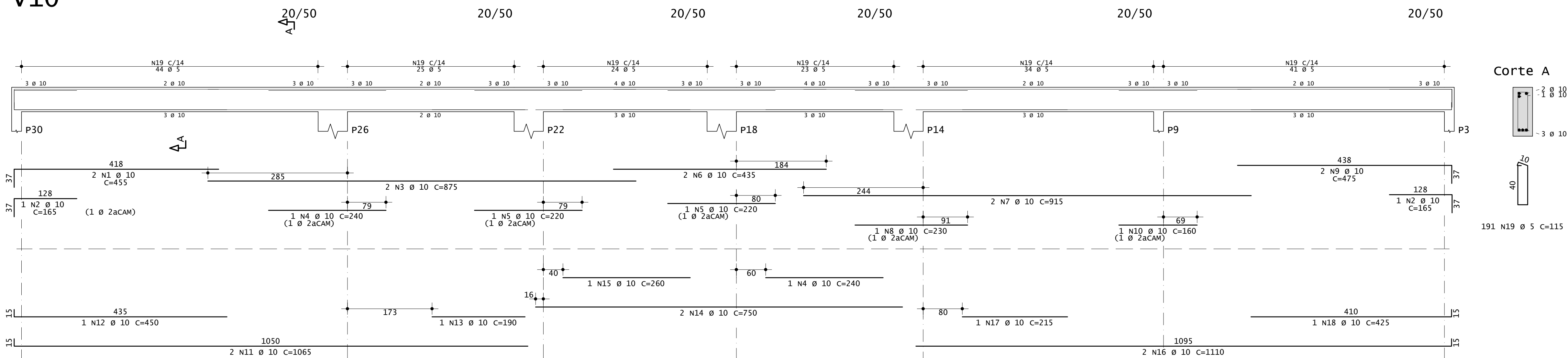
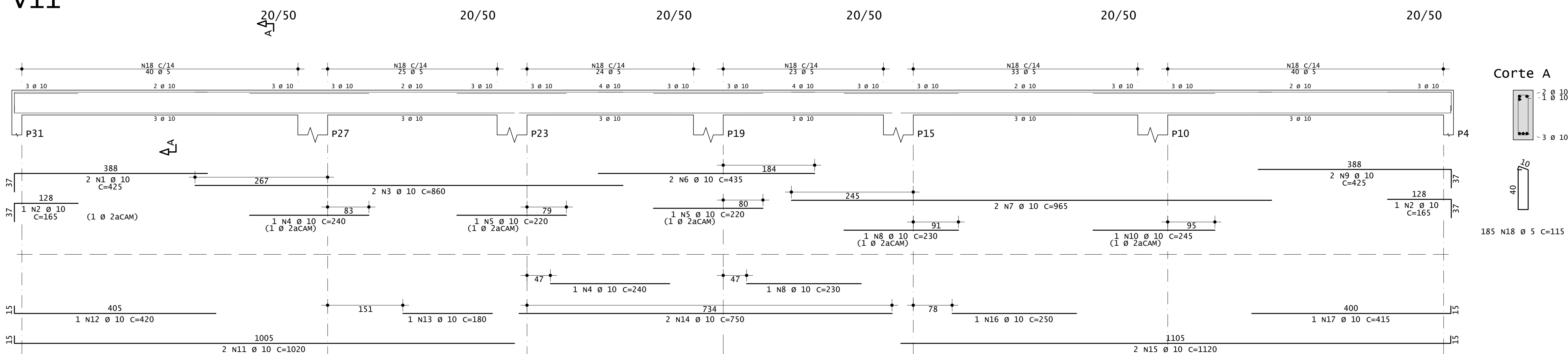


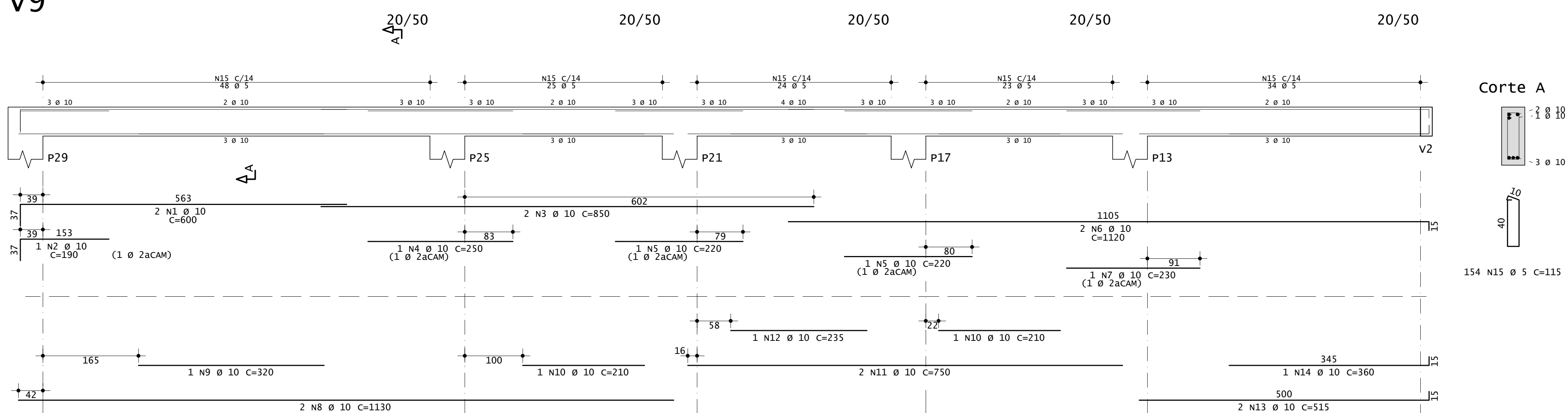
v10



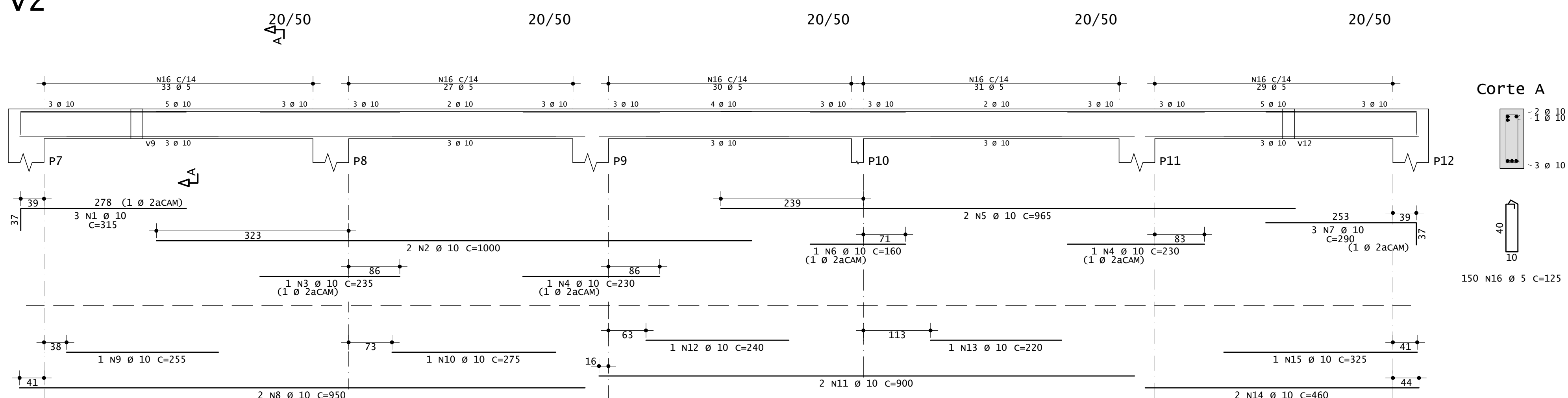
v11



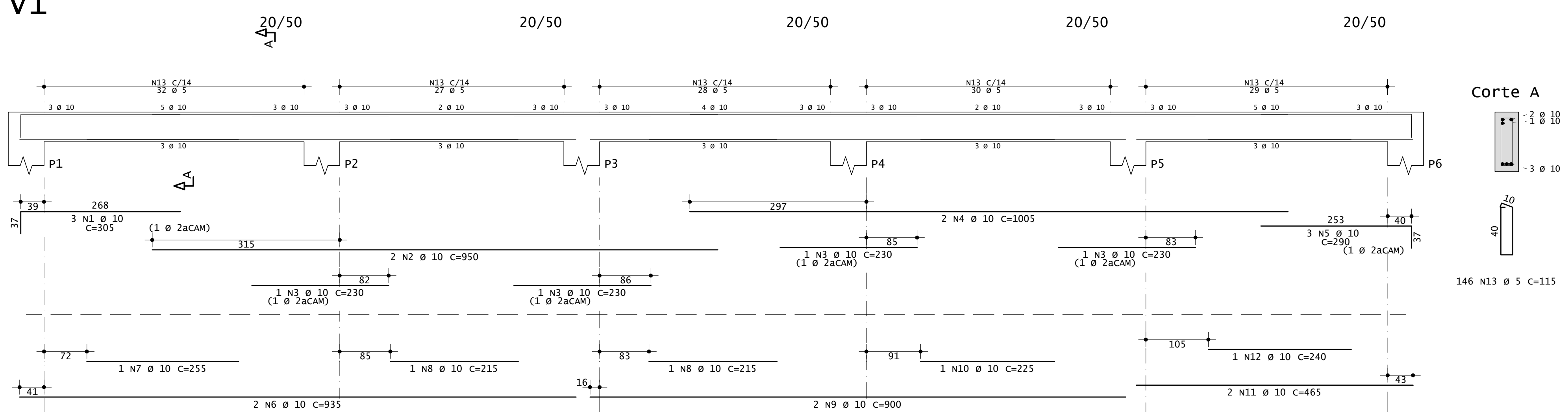
v9



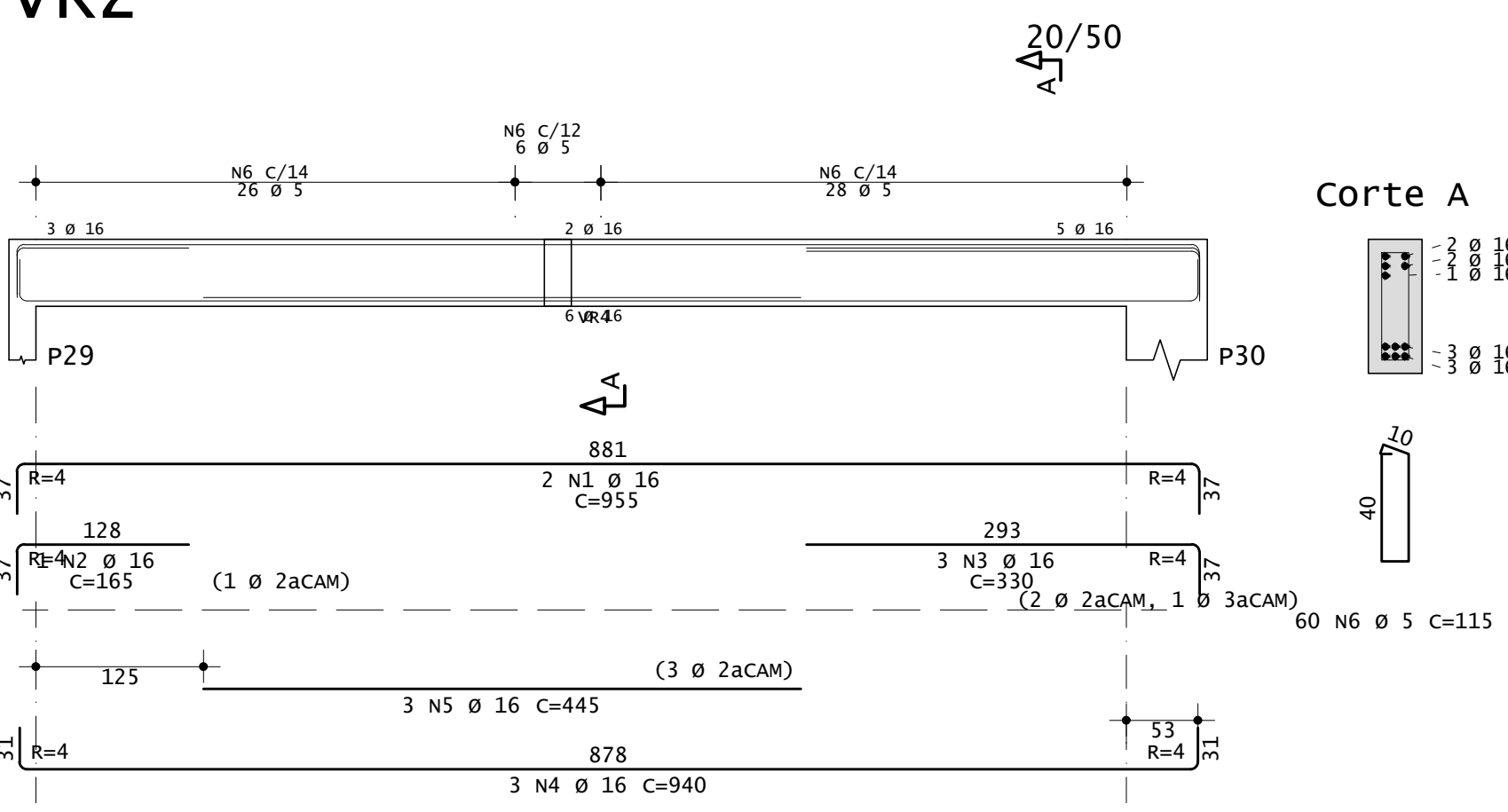
v2



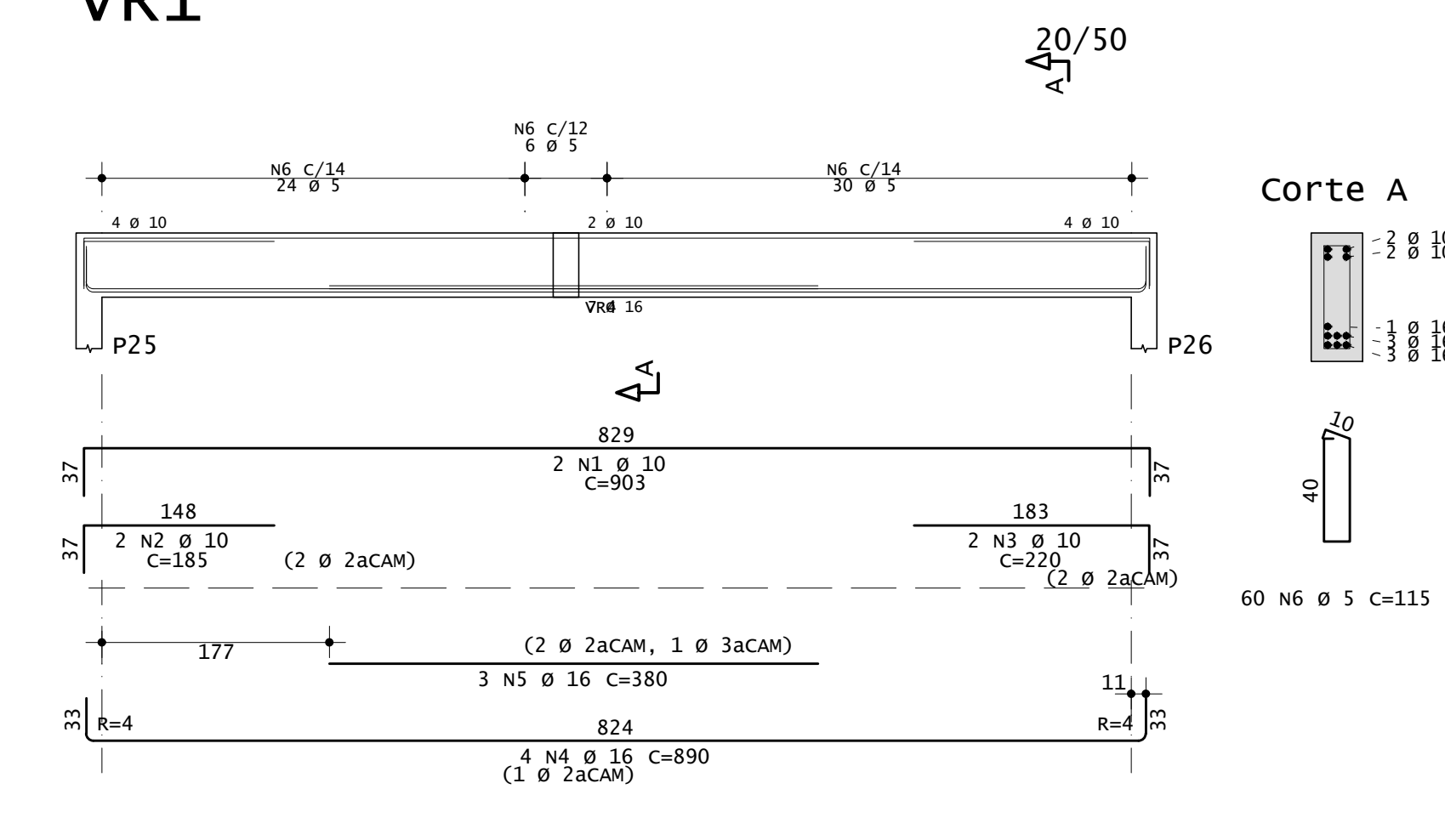
v1



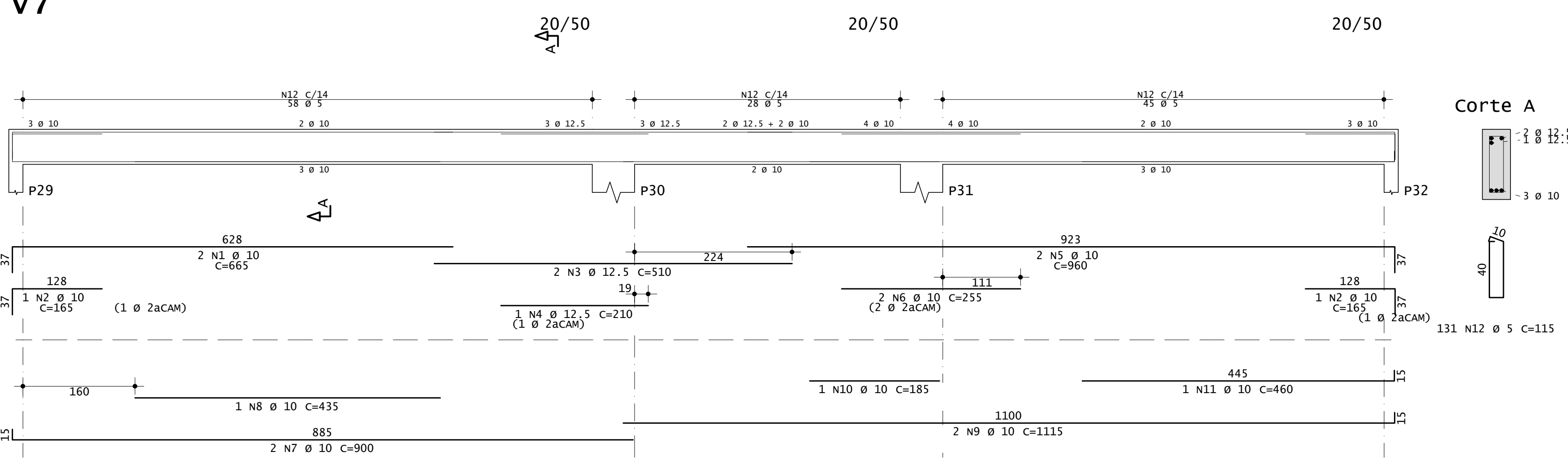
VR2



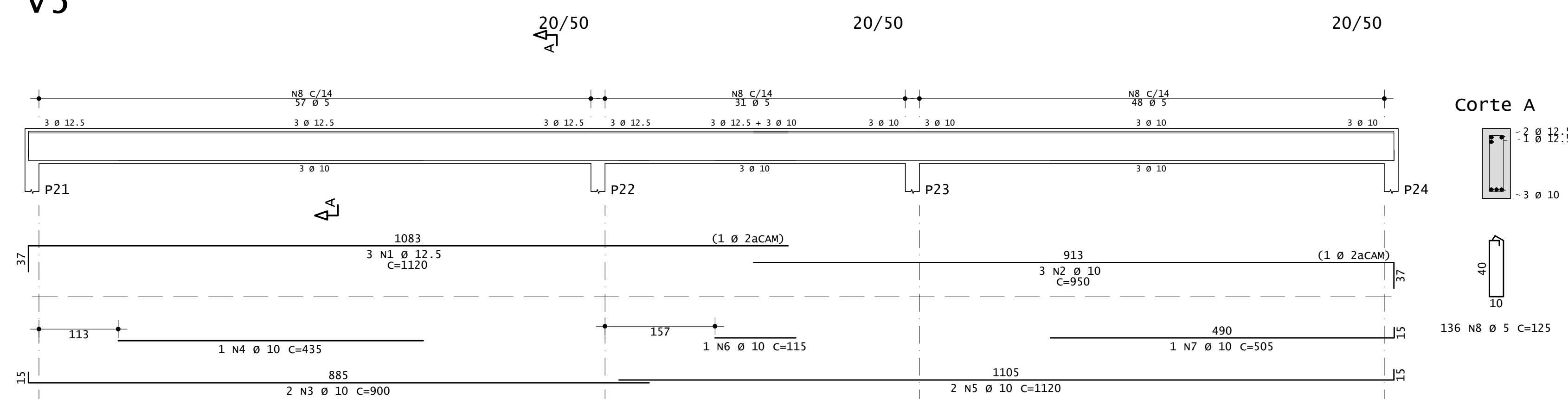
VR1



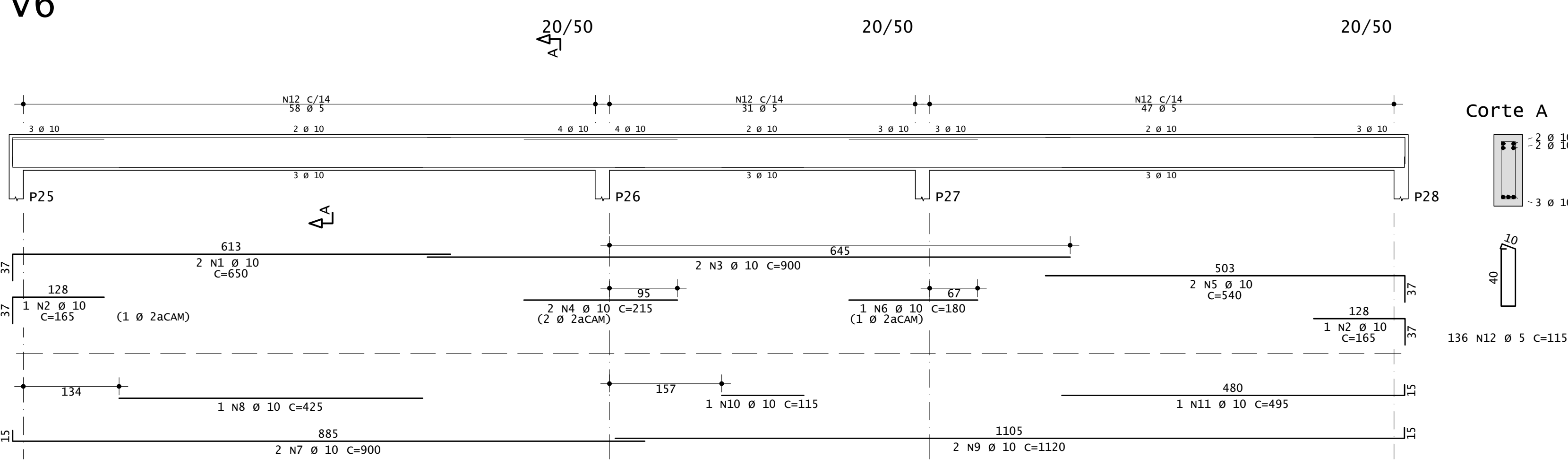
v7



v5



v6



| | AQO | POS | BIT (mm) | QUANT | COMPLEMENT | |
|----|-----|-----|----------|-------|------------|----------------|
| | | | | | UNIT (cm) | TOTAL |
| V1 | | 50A | 1 | 10 | 3 | 905 915 |
| | | 50A | 2 | 10 | 1 | 1300 1300 |
| | | 50A | 3 | 10 | 4 | 220 230 |
| | | 50A | 4 | 10 | 2 | 1005 1005 |
| | | 50A | 5 | 10 | 3 | 290 870 |
| | | 50A | 6 | 10 | 1 | 915 1800 |
| | | 50A | 7 | 10 | 1 | 255 255 |
| | | 50A | 8 | 10 | 1 | 900 1800 |
| | | 50A | 10 | 10 | 1 | 225 225 |
| | | 50A | 11 | 10 | 1 | 465 465 |
| | | 50A | 12 | 10 | 2 | 240 240 |
| | | 50A | 13 | 5 | 146 | 115 146 |
| | V2 | | 50A | 1 | 10 | 3 |
| | | 50A | 2 | 10 | 2 | 1000 2000 |
| | | 50A | 5 | 10 | 1 | 235 235 |
| | | 50A | 4 | 10 | 2 | 460 460 |
| | | 50A | 5 | 10 | 2 | 965 1390 |
| | | 50A | 6 | 10 | 1 | 160 160 |
| | | 50A | 7 | 10 | 3 | 290 870 |
| | | 50A | 8 | 10 | 1 | 950 950 |
| | | 50A | 9 | 10 | 1 | 255 255 |
| | | 50A | 10 | 10 | 1 | 275 275 |
| | | 50A | 11 | 10 | 1 | 900 1800 |
| | | 50A | 12 | 10 | 1 | 240 240 |
| | | 50A | 13 | 10 | 2 | 220 220 |
| V2 | | 50A | 14 | 10 | 2 | 460 920 |
| | | 50A | 15 | 10 | 1 | 125 125 |
| | | 60A | 16 | 5 | 150 | 125 18750 |

| | | | | | |
|-----|---|------|-----|------|-------|
| 50A | 1 | 12.5 | 3 | 1120 | 3360 |
| 50A | 2 | 10 | 3 | 950 | 2850 |
| 50A | 3 | 10 | 2 | 900 | 1800 |
| 50A | 4 | 10 | 1 | 435 | 435 |
| 50A | 5 | 10 | 2 | 1120 | 2240 |
| 50A | 6 | 10 | 1 | 115 | 115 |
| 50A | 7 | 10 | 1 | 505 | 505 |
| 60A | 8 | 5 | 136 | 125 | 17000 |

| | | | | | |
|-----|----|----|-----|------|-------|
| 50A | 1 | 10 | 2 | 650 | 1300 |
| 50A | 2 | 10 | 2 | 165 | 330 |
| 50A | 3 | 10 | 2 | 900 | 1800 |
| 50A | 4 | 10 | 2 | 215 | 430 |
| 50A | 5 | 10 | 2 | 540 | 1080 |
| 50A | 6 | 10 | 1 | 180 | 180 |
| 50A | 7 | 10 | 2 | 900 | 1800 |
| 50A | 8 | 10 | 1 | 425 | 425 |
| 50A | 9 | 10 | 2 | 1120 | 2240 |
| 50A | 10 | 10 | 1 | 115 | 115 |
| 50A | 11 | 10 | 1 | 495 | 495 |
| 60A | 12 | 5 | 136 | 115 | 15640 |

| | | | | | |
|-----|----|------|-----|------|-------|
| 50A | 1 | 10 | 2 | 665 | 1330 |
| 50A | 2 | 10 | 2 | 165 | 330 |
| 50A | 3 | 12.5 | 2 | 510 | 1020 |
| 50A | 4 | 12.5 | 1 | 210 | 210 |
| 50A | 5 | 10 | 2 | 960 | 1920 |
| 50A | 6 | 10 | 2 | 955 | 510 |
| 50A | 7 | 10 | 2 | 200 | 1800 |
| 50A | 8 | 10 | 1 | 435 | 435 |
| 50A | 9 | 10 | 2 | 1115 | 2230 |
| 50A | 10 | 10 | 1 | 185 | 185 |
| 50A | 11 | 10 | 1 | 460 | 460 |
| 60A | 12 | 5 | 131 | 115 | 15065 |

| | | | | | |
|-----|----|----|-----|------|-------|
| 50A | 1 | 10 | 2 | 600 | 1200 |
| 50A | 2 | 10 | 1 | 180 | 190 |
| 50A | 3 | 10 | 2 | 850 | 1700 |
| 50A | 4 | 10 | 1 | 250 | 250 |
| 50A | 5 | 10 | 2 | 250 | 450 |
| 50A | 6 | 10 | 2 | 1120 | 2240 |
| 50A | 7 | 10 | 1 | 230 | 230 |
| 50A | 8 | 10 | 2 | 1130 | 2260 |
| 50A | 9 | 10 | 1 | 320 | 320 |
| 50A | 10 | 10 | 2 | 210 | 420 |
| 50A | 11 | 10 | 2 | 750 | 1500 |
| 50A | 12 | 10 | 1 | 235 | 235 |
| 50A | 13 | 10 | 2 | 515 | 1030 |
| 50A | 14 | 10 | 1 | 360 | 360 |
| 50A | 15 | 5 | 154 | 115 | 17710 |

| | | | | | | |
|----|-----|----|----|-----|------|-------|
| 10 | 50A | 1 | 10 | 2 | 455 | 910 |
| | 50A | 2 | 10 | 2 | 165 | 330 |
| | 50A | 3 | 10 | 2 | 875 | 1750 |
| | 50A | 4 | 10 | 2 | 240 | 480 |
| | 50A | 5 | 10 | 2 | 220 | 440 |
| | 50A | 6 | 10 | 2 | 435 | 870 |
| | 50A | 7 | 10 | 2 | 915 | 1830 |
| | 50A | 8 | 10 | 2 | 230 | 230 |
| | 50A | 9 | 10 | 2 | 475 | 950 |
| | 50A | 10 | 10 | 2 | 160 | 160 |
| | 50A | 11 | 10 | 2 | 1085 | 2130 |
| | 50A | 12 | 10 | 1 | 450 | 450 |
| | 50A | 13 | 10 | 1 | 190 | 190 |
| | 50A | 14 | 10 | 2 | 7750 | 1550 |
| | 50A | 15 | 10 | 1 | 260 | 260 |
| | 50A | 16 | 10 | 2 | 1110 | 2220 |
| | 50A | 17 | 10 | 1 | 215 | 215 |
| | 50A | 18 | 10 | 1 | 425 | 425 |
| | 60A | 19 | 5 | 191 | 115 | 21965 |

| | | | | | |
|-----|----|----|---|------|------|
| 50A | 1 | 10 | 2 | 425 | 850 |
| 50A | 2 | 10 | 2 | 165 | 330 |
| 50A | 3 | 10 | 2 | 860 | 1720 |
| 50A | 4 | 10 | 2 | 440 | 880 |
| 50A | 5 | 10 | 2 | 220 | 440 |
| 50A | 6 | 10 | 2 | 430 | 860 |
| 50A | 7 | 10 | 2 | 965 | 1930 |
| 50A | 8 | 10 | 2 | 330 | 660 |
| 50A | 9 | 10 | 2 | 425 | 850 |
| 50A | 10 | 10 | 2 | 425 | 850 |
| 50A | 11 | 10 | 2 | 1020 | 2040 |
| 50A | 12 | 10 | 2 | 425 | 850 |
| 50A | 13 | 10 | 1 | 180 | 180 |
| 50A | 14 | 10 | 2 | 750 | 1500 |
| 50A | 15 | 10 | 1 | 1120 | 2240 |
| 50A | 16 | 10 | 2 | 250 | 500 |
| 50A | 17 | 10 | 1 | 415 | 415 |

| | | | | | | |
|-----|-----|---|----|----|-----|------|
| VR1 | 50A | 1 | 10 | 2 | 903 | 1806 |
| | 50A | 2 | 10 | 2 | 185 | 370 |
| | 50A | 3 | 10 | 2 | 220 | 440 |
| | 50A | 4 | 16 | 4 | 890 | 3560 |
| | 50A | 5 | 16 | 3 | 380 | 1140 |
| | 50A | 6 | 5 | 60 | 115 | 6900 |
| | VR2 | | | | | |

| | | | | | | |
|-----|-----|---|----|----|-----|------|
| VRZ | | | | | | |
| | 50A | 1 | 16 | 2 | 955 | 1910 |
| | 50A | 2 | 16 | 1 | 165 | 165 |
| | 50A | 3 | 16 | 3 | 330 | 990 |
| | 50A | 4 | 16 | 3 | 940 | 2820 |
| | 50A | 5 | 16 | 3 | 445 | 1335 |
| | 60A | 6 | 5 | 60 | 115 | 6900 |

| RESUMO AÇO CA 50-60 | | | |
|---------------------|-------------|--------------|--------------|
| AÇO | BIT (mm) | COMPR (m) | PESO (kg) |
| 60A | 5 | 1580 | 243 |
| 50A | 10 | 978 | 603 |
| 50A | 12.5 | 46 | 44 |
| 50A | 16 | 119 | 188 |
| Peso Total | 60A = | | 243 kg |
| Peso Total | 50A = | | 836 kg |

TOS, PROJETOS E CONSTRUÇÃO LTDA

PORTOS E HIDROVIAS - CPH
MUNICÍPIO DE AFUÁ

| | |
|-------------------------|----------|
| FILHO - CREA 5571-D/PA | DES. N.º |
| NETTO - CREA 1515122280 | 008 |
| Armadura vigamento | |

| | |
|-----------|----|
| REV. N. 9 | 00 |
|-----------|----|

| | | | |
|---------|----------------------|----------|-----------|
| DESENHO | AFUA-COB-VIG-008-R00 | CONCRETO | fck=40MPa |
|---------|----------------------|----------|-----------|