

Forma do pavimento TÉRREO

| Vigas |            |               |            |
|-------|------------|---------------|------------|
| Nome  | Seção (cm) | Elevação (cm) | Nível (cm) |
| VB1   | 15x40      | 0             | 11         |
| VB2   | 15x40      | 0             | 11         |
| VB3   | 15x40      | 0             | 11         |
| VB4   | 15x40      | 0             | 11         |
| VB5   | 15x40      | 0             | 11         |
| VB6   | 15x40      | 0             | 11         |
| VB7   | 15x40      | 0             | 11         |
| VB8   | 15x40      | 0             | 11         |
| VB9   | 15x40      | 0             | 11         |
| VB10  | 15x40      | 0             | 11         |
| VB11  | 15x40      | 0             | 11         |
| VB12  | 15x40      | 0             | 11         |
| VB13  | 15x40      | 0             | 11         |
| VB14  | 15x40      | 0             | 11         |
| VB15  | 15x40      | 0             | 11         |
| VB16  | 15x40      | 0             | 11         |
| VB17  | 15x40      | 0             | 11         |
| VB18  | 15x40      | 0             | 11         |
| VB19  | 15x40      | 0             | 11         |
| VB20  | 15x40      | 0             | 11         |
| VB21  | 15x40      | 0             | 11         |
| VB22  | 15x40      | 0             | 11         |
| VB23  | 15x40      | 0             | 11         |
| VB24  | 15x40      | 0             | 11         |
| VB25  | 15x40      | 0             | 11         |
| VB26  | 15x40      | 0             | 11         |
| VB27  | 15x40      | 0             | 11         |
| VB28  | 15x40      | 0             | 11         |
| VB29  | 15x40      | 0             | 11         |
| VB30  | 15x40      | 0             | 11         |


| Pilares |            |               |            |
|---------|------------|---------------|------------|
| Nome    | Seção (cm) | Elevação (cm) | Nível (cm) |
| P1      | 35 x 80    | 0             | 11         |
| P2      | 35 x 80    | 0             | 11         |
| P3      | 35 x 80    | 0             | 11         |
| P4      | 35 x 80    | 0             | 11         |
| P5      | 35 x 80    | 0             | 11         |
| P6      | 35 x 80    | 0             | 11         |
| P7      | 35 x 80    | 0             | 11         |
| P8      | 35 x 80    | 0             | 11         |
| P9      | 35 x 80    | 0             | 11         |
| P10     | 20 x 40    | 0             | 11         |
| P11     | 20 x 40    | 0             | 11         |
| P12     | 20 x 40    | 0             | 11         |
| P13     | 20 x 40    | 0             | 11         |
| P14     | 20 x 40    | 0             | 11         |
| P15     | 20 x 40    | 0             | 11         |
| P16     | 25 x 50    | 0             | 11         |
| P17     | 20 x 40    | 0             | 11         |
| P18     | 20 x 50    | 0             | 11         |
| P19     | 20 x 50    | 0             | 11         |
| P20     | 20 x 40    | 0             | 11         |
| P21     | 20 x 50    | 0             | 11         |
| P22     | 20 x 40    | 0             | 11         |
| P23     | 20 x 50    | 0             | 11         |
| P24     | 20 x 40    | 0             | 11         |
| P25     | 20 x 50    | 0             | 11         |
| P26     | 20 x 50    | 0             | 11         |
| P27     | 20 x 40    | 0             | 11         |
| P28     | 20 x 50    | 0             | 11         |
| P29     | 20 x 40    | 0             | 11         |
| P30     | 25 x 50    | 0             | 11         |
| P31     | 25 x 50    | 0             | 11         |
| P32     | 20 x 40    | 0             | 11         |
| P33     | 20 x 50    | 0             | 11         |
| P34     | 20 x 50    | 0             | 11         |
| P35     | 20 x 40    | 0             | 11         |
| P36     | 20 x 50    | 0             | 11         |
| P37     | 20 x 40    | 0             | 11         |
| P38     | 20 x 50    | 0             | 11         |
| P39     | 20 x 50    | 0             | 11         |
| P40     | 20 x 50    | 0             | 11         |
| P41     | 20 x 40    | 0             | 11         |
| P42     | 20 x 40    | 0             | 11         |
| P43     | 20 x 40    | 0             | 11         |
| P44     | 25 x 50    | 0             | 11         |
| P45     | 20 x 30    | 0             | 11         |
| P46     | 20 x 30    | 0             | 11         |
| P47     | 35 x 80    | 0             | 11         |
| P48     | 20 x 40    | 0             | 11         |
| P49     | 35 x 80    | 0             | 11         |
| P50     | 35 x 80    | 0             | 11         |
| P51     | 20 x 40    | 0             | 11         |
| P52     | 35 x 80    | 0             | 11         |
| P53     | 20 x 40    | 0             | 11         |
| P54     | 35 x 80    | 0             | 11         |
| P55     | 35 x 80    | 0             | 11         |
| P56     | 35 x 80    | 0             | 11         |
| P57     | 20 x 40    | 0             | 11         |
| P58     | 35 x 80    | 0             | 11         |
| P59     | 20 x 40    | 0             | 11         |
| P60     | 35 x 80    | 0             | 11         |

| Características dos materiais |               |               |                 |
|-------------------------------|---------------|---------------|-----------------|
| fck (kgf/cm²)                 | Ecs (kgf/cm²) | fct (kgf/cm²) | Abatimento (cm) |
| 300                           | 2007,16       | 29            | 5,00            |

Dimensão máxima do agregado = 19 mm

| Legenda dos Pilares |                            |
|---------------------|----------------------------|
|                     | Pilar que morre            |
|                     | Pilar que passa            |
|                     | Pilar que nasce            |
|                     | Pilar com mudança de seção |


|    |                    |              |      |
|----|--------------------|--------------|------|
| Nº | ALTERAÇÃO/REVISÕES | REVISADO POR | DATA |
|    |                    |              |      |
|    |                    |              |      |



INSTITUTO FEDERAL  
SERGIPE

AUTOR DO PROJETO:

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PROJETO ESTRUTURAL  
CAMPUS JAPARATUBA/SE

|           |       |  |       |         |             |          |  |  |  |                |  |
|-----------|-------|--|-------|---------|-------------|----------|--|--|--|----------------|--|
| CLIENTE:  |       | INSTITUTO FEDERAL DE SERGIPE - CAMPUS JAPARATUBA |       |         |             |          |  |  |  |                |  |
| ENDEREÇO: |       | ROD. LÚCIO PRADO, S/N - JAPARATUBA/SE            |       |         |             |          |  |  |  | ESCALA: 1:100  |  |
| PLANTA:   |       | BLOCO SALAS DE AULA<br>FORMA DAS VIGAS BALDRAMES |       |         |             |          |  |  |  | DATA: JUN/2024 |  |
|           |       |  |       |         |             |          |  |  |  |                |  |
| CAMPUS:   | OBRA: | ESPECIALIDADE:                                   | FASE: | SERIAL: | QUANTIDADE: | REVISÃO: |  |  |  |                |  |
| JAP       | CAM   | ESI  | PE    | 002     | 026         | 000      |  |  |  |                |  |



TÉRREO - L1  
ESC 1:20

80 35

74 29

N2

150 6 N1 ø5.0 C=218  
ø16.0 C=219

20 -139

150 8 N1 c/19

ESC 1:25

Technical drawing of a square plate with a central rectangular hole. The outer square has a side length of 125 mm. The inner rectangle has a width of 35 mm and a height of 80 mm. The plate has a thickness of 14 mm. The drawing shows the front and top views with dimensions and material specifications.

Dimensions and specifications:

- Outer square side: 125
- Inner rectangle width: 35
- Inner rectangle height: 80
- Plate thickness: 14
- Material: 12 N8 a8.0 c10 C=183
- Bottom edge dimensions: 14, 119, 14
- Bottom edge material specification: 14 N12 ø10.0 c12 C=142

TÉRREO - L1  
ESC 1:20

35  
80  
29  
74  
150  
16.0  
20  
-139  
ESC 1:25

8 N1 ø5.0 C=218  
8 N2 ø5.0 C=44

Technical drawing of a T-joint (T-junction) showing dimensions and a weld symbol. The drawing includes a vertical dimension of 150 on the left, a horizontal dimension of 11 on the right, and a weld symbol (a circle with a cross) indicating a fillet weld. The bottom flange has a width of 20 and a thickness of 30.

Technical drawing of a T-beam cross-section. The total height is 150. The flange thickness is 20. The web height is 11. The flange width is 35. The drawing shows a T-beam with a vertical web and a horizontal flange. Dimensions are given in millimeters.

TERREO - L1  
ESC 1:20

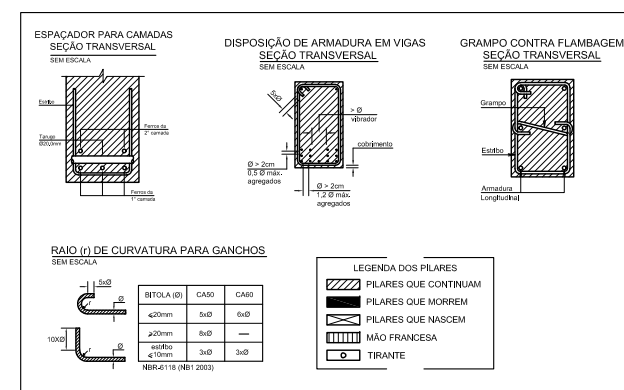
35  
50  
74  
29  
N1  
N2  
150  
20  
139  
8 N1 e/5.0 C=218  
ESC 1:25

Technical drawing of a T-beam cross-section. The total height is 150. The flange thickness is 11. The web height is 119. The flange width is 20. The web width is 30.

| 6xS2<br>S27 | 6xS4<br>5xS56 | S16          |                   |              |                 |
|-------------|---------------|--------------|-------------------|--------------|-----------------|
| AÇO         | N             | DIAM<br>(mm) | QUANT<br>(Barras) | UNIT<br>(cm) | C.TOTAL<br>(cm) |
| CA60        | 1             | 5.0          | 136               | 218          | 29648           |
|             | 2             | 5.0          | 136               | 44           | 5984            |
|             | 3             | 5.0          | 130               | 108          | 14040           |
|             | 4             | 5.0          | 208               | 29           | 6032            |
|             | 5             | 5.0          | 78                | 128          | 9984            |
| CA50        | 6             | 5.0          | 52                | 138          | 7176            |
|             | 7             | 5.0          | 104               | 34           | 3536            |
|             | 8             | 8.0          | 60                | 183          | 10980           |
|             | 9             | 8.0          | 72                | 188          | 13536           |
|             | 10            | 8.0          | 154               | 163          | 25102           |
|             | 11            | 8.0          | 126               | 168          | 21168           |
|             | 12            | 10.0         | 400               | 142          | 56800           |
|             | 13            | 10.0         | 66                | 202          | 13332           |
|             | 14            | 10.0         | 18                | 165          | 2970            |
|             | 15            | 10.0         | 110               | 201          | 22110           |
|             | 16            | 10.0         | 30                | 67           | 2010            |
|             | 17            | 12.5         | 72                | 156          | 11232           |
|             | 18            | 12.5         | 18                | 83           | 1494            |
|             | 19            | 16.0         | 102               | 219          | 22338           |

| AÇO                | DIAM<br>(mm) | C.TOTAL<br>(m) | PESO + 10 %<br>(kg) |
|--------------------|--------------|----------------|---------------------|
| CA50               | 8.0          | 707.9          | 307.2               |
|                    | 10.0         | 972.3          | 659.4               |
|                    | 12.5         | 127.3          | 134.9               |
|                    | 16.0         | 223.4          | 387.8               |
| CA60               | 5.0          | 764            | 129.5               |
| PESO TOTAL<br>(kg) |              |                |                     |
| CA50               | 1489.3       |                |                     |
| CA60               | 129.5        |                |                     |

Volume de concreto (C-30) = 29.71 m<sup>3</sup>  
Área de forma = 140.71 m<sup>2</sup>



| CLASSE DE AGRESSIVIDADE AMBIENTAL<br>(NBR 6118: 2014)   |  |
|---|--|
| II - MODERADA URBANA  | <p>FATORES ATENUANTES:</p> <ul style="list-style-type: none"> <li>- Controle Rigor de qualidade e medidas na obra,</li> <li>- Ambientes revestidos com argamassa e plântas.</li> </ul> |
| <p>COBERTURAS:</p> <p>PLATEIAS: 3,0cm</p> <p>VIGAS: 3,0cm</p> <p>LAJES: 2,5cm</p> <p>FUNDAÇÕES: 3,0cm</p> | <p>CONCRETO ADOTADO:</p> <p>C30 F<sub>ck</sub> = 30MPa</p> <p>E<sub>cs</sub> = 269716 Kg/cm<sup>2</sup></p> <p>FATOR AUMENTO DO CONCRETO: a/c ≤ 0,55</p>                               |

TÉRREO - L1

The floor plan includes the following dimensions:

- Top Section:** A long horizontal section with a total width of 12.5. It contains three smaller rectangular areas with widths of 3.6, 3.6, and 3.6.
- Middle Section:** A central area containing several rectangles. One rectangle has a height of 4.0 and a width of 2.0. Another rectangle below it has a height of 1.4 and a width of 1.7. To the right of these are two vertical rectangles with heights of 3.4 and 1.4, and a small square labeled N4.
- Bottom Section:** Two large rectangular areas at the bottom with dimensions 3x13 N3 ø5.0 C=108 and 3x13 N4 ø5.0 C=29.
- Right Margin:** Vertical dimensions of 1.39 and 1.50 are shown next to the right edge of the plan.

TERREO - L1

ESC 120

13 N5 ø5.0 C=128

13 N4 ø5.0 C=29

14

44

20

33

11

6 N15 ø7.0 C=201

150

13 N6 ø12

139

N4

TÉRREO - L1  
ESC 1:20

6 N16 ø10.0

13 N3 ø5.0 C=108  
13 N4 ø5.0 C=29

13 N3 ø12

ESC 1:25

TÉRREO - L1  
ESC 1:20

6x13 N3 a=5.0 C=108  
6x13 N4 a=5.0 C=29

34

14

N4

6x8 N5 a=10.0 C=201

6x13 N3 a=12

33

33

150

150

139

20

11

ESC 1:20

Solo com capacidade de suporte  $> 2,00 \text{ kgf/cm}^2$   
Solo compactado sobre a sapata  
peso específico  $> 1600,00 \text{ kgf/m}^3$

TÉRREO - L1  
ESC 1:20

25  
60  
19  
44  
N7  
4x13 N6 ø5.0 C=138  
4x26 N7 ø5.0 C=34  
33  
11  
150  
150  
20  
-139  
ESC 1:25  
4x13 N6 ø12  
4x8 N15 ø10.0 C=201

TÉRREO - L1  
ESC 1:20

11  
20  
33  
150  
150  
50  
14  
44  
N4  
5x13 N5 ø5.0 C=128  
5x13 N4 ø5.0 C=29  
5x13 N5 ø12  
-139  
ESC 1:25

Technical drawing of a square plate with a central rectangular hole. The outer square has a side length of 125. The inner rectangle has a width of 119 and a height of 14. The distance from the outer edge to the inner rectangle's edge is labeled 'VAR' on both the horizontal and vertical dimensions.

|    |                    |              |      |
|----|--------------------|--------------|------|
|    |                    |              |      |
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|    |                    |              |      |
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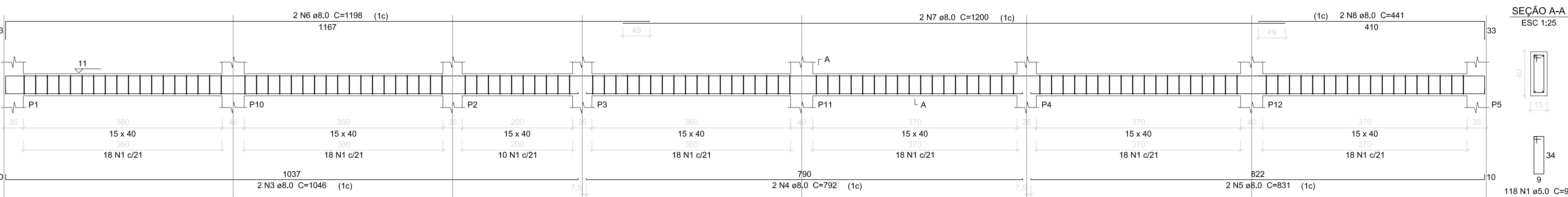
|  |   |
|--|---|
| CLIENTE: <b>INSTITUTO FEDERAL DE SERGIPE - CAMPUS JAPARATUBA</b> |   |
| ENDEREÇO: <b>ROD. LÚCIO PRADO, S/N - JAPARATUBA/SE</b>           | ESCALA: <b>1:1</b>                              |
| PLANTA: <b>BLOCO SALAS DE AULA<br/>ARMAÇÃO DAS SAPATAS 1 - 2</b> | DATA: <b>JUN/2019</b><br><br>PRANCHA: <b>03</b> |



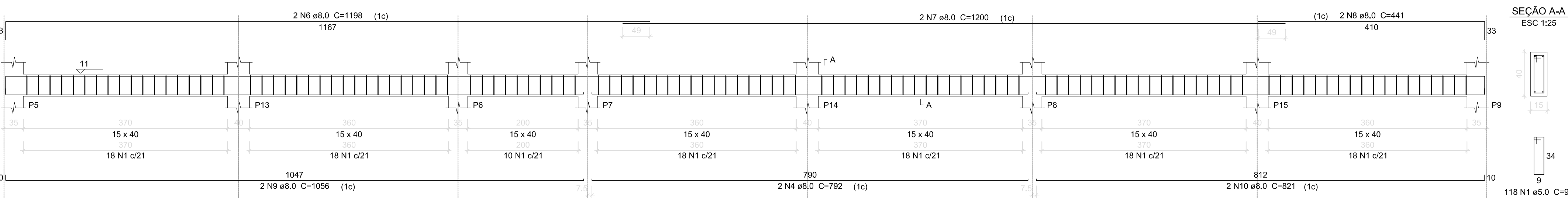




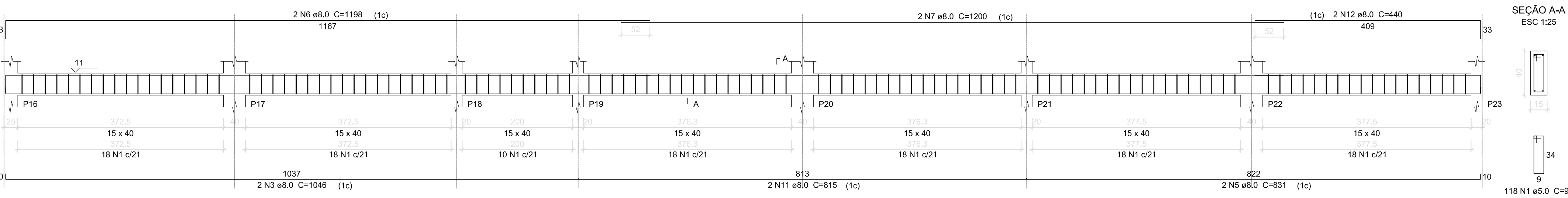
VB1 (15 x 40)



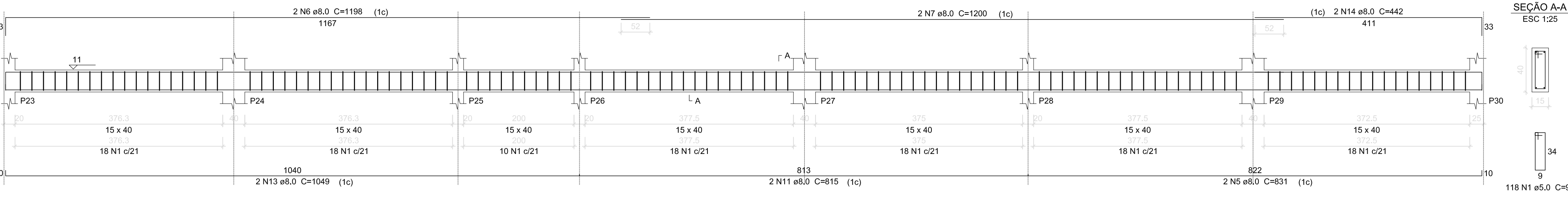
VB2 (15 x 40)



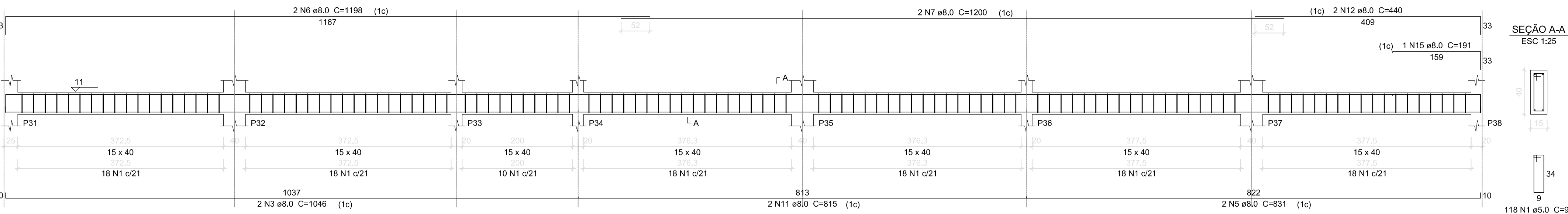
VB3 (15 x 40)



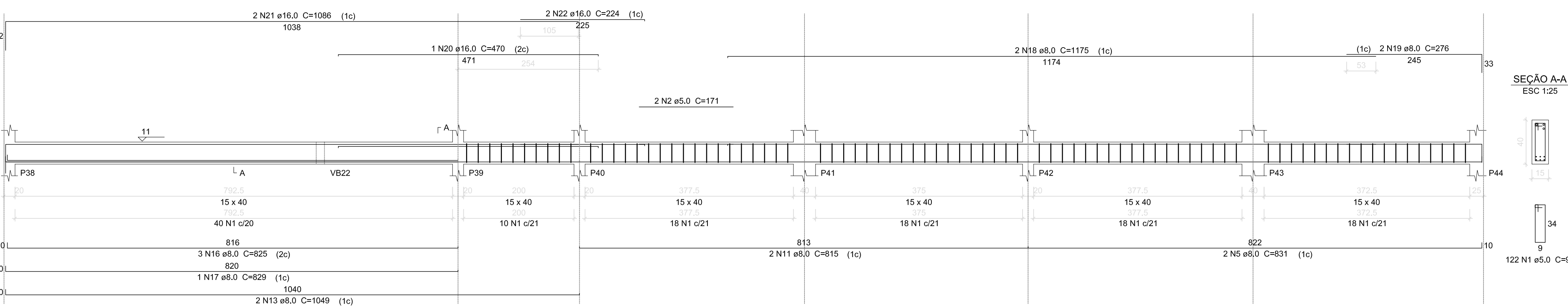
VB4 (15 x 40)



VB5 (15 x 40)



VB6 (15 x 40)



Relação do aço


| VB1  | VB2  | VB3       |                |           |              |
|------|------|-----------|----------------|-----------|--------------|
| VB4  | VB5  | VB6       |                |           |              |
| AÇO  | N    | DIAM (mm) | QUANT (BARRAS) | UNIT (cm) | C.TOTAL (cm) |
| CA60 | 1    | 5.0       | 712            | 98        | 69776        |
| CA50 | 2    | 5.0       | 2              | 171       | 342          |
|      | 3    | 8.0       | 6              | 1046      | 6276         |
|      | 4    | 8.0       | 4              | 792       | 3168         |
|      | 5    | 8.0       | 10             | 831       | 8310         |
|      | 6    | 8.0       | 10             | 1198      | 11980        |
|      | 7    | 8.0       | 10             | 1200      | 12000        |
|      | 8    | 8.0       | 4              | 441       | 1764         |
|      | 9    | 8.0       | 2              | 1056      | 2112         |
|      | 10   | 8.0       | 2              | 821       | 1642         |
|      | 11   | 8.0       | 8              | 815       | 6520         |
|      | 12   | 8.0       | 4              | 440       | 1760         |
| 13   | 8.0  | 4         | 1049           | 4198      |              |
| 14   | 8.0  | 2         | 442            | 884       |              |
| 15   | 8.0  | 1         | 191            | 191       |              |
| 16   | 8.0  | 3         | 825            | 2475      |              |
| 17   | 8.0  | 1         | 829            | 829       |              |
| 18   | 8.0  | 2         | 1175           | 2350      |              |
| 19   | 8.0  | 2         | 276            | 552       |              |
| 20   | 16.0 | 1         | 470            | 470       |              |
| 21   | 16.0 | 2         | 1086           | 2172      |              |
| 22   | 16.0 | 2         | 224            | 448       |              |

Resumo do aço

| ACO             | DIAM (mm) | C.TOTAL (m) | PESO + 10 % (kg) |
|-----------------|-----------|-------------|------------------|
| CA50            | 8.0       | 670.1       | 290.8            |
| CA60            | 16.0      | 30.9        | 53.6             |
| CA60            | 5.0       | 701.2       | 118.9            |
| PESO TOTAL (kg) |           |             |                  |
| CA50            | 344.5     |             |                  |
| CA60            | 118.9     |             |                  |

Volume de concreto (C-30) = 9,65 m³  
Área de forma = 152,61 m²


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|----|--------------------|--------------|------|
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| ENDEREÇO: |  | ROD. LÚCIO PRADO, S/N - JAPARATUBA/SE                  |  |  |  |  |  |  |  |  |  |
| PLANTA:   |  | BLOCO SALAS DE AULA<br>ARMAÇÃO DAS VIGAS BALDRAMES 1-3 |  |  |  |  |  |  |  |  |  |
|           |  | PRANCHA:   |  |  |  |  |  |  |  |  |  |
|           |  | 05/26  |  |  |  |  |  |  |  |  |  |
| CAMPUS:   |  | JAPCAMESTPEQOSQ26R00                                   |  |  |  |  |  |  |  |  |  |