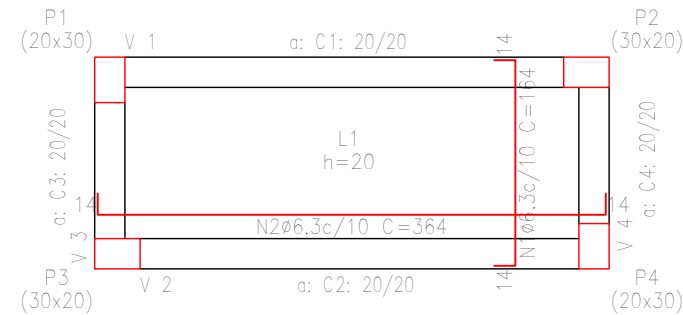


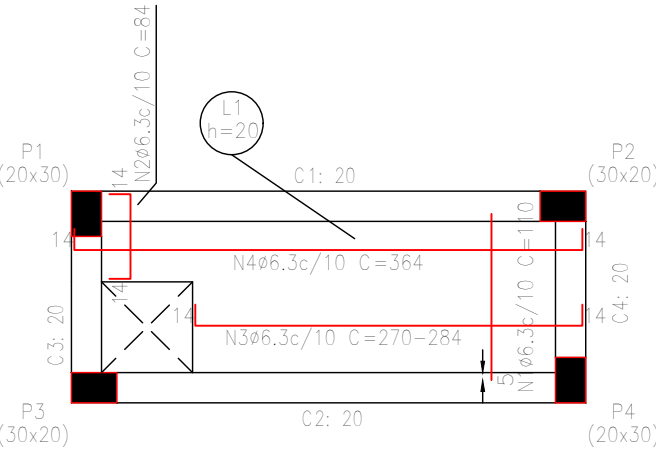
DETALHAMENTO DE LAJES



PLANTA DE ARM. POSITIVA - LAJE DE FUNDAÇÃO (-1,50)  
esc 1:50

| Elemento                       | Pos. | Diam. | Q. | Dob.<br>(cm) | Ret.<br>(cm) | Dob.<br>(cm) | Comp.<br>(cm) | Total<br>(cm) | CA-50<br>(kg) | CA-60<br>(kg) |
|--------------------------------|------|-------|----|--------------|--------------|--------------|---------------|---------------|---------------|---------------|
| Armadura longitudinal inferior | 1    | ø6.3  | 33 | 14           | 136          | 14           | 164           | 5420          | 13.3          |               |
|                                | 2    | ø6.3  | 13 | 14           | 336          | 14           | 364           | 4732          | 11.6          |               |
| Total+10%:                     |      |       |    |              |              |              |               |               | 27.4          |               |
| Total:                         |      |       |    |              |              |              |               |               | 27.4          | 0.0           |

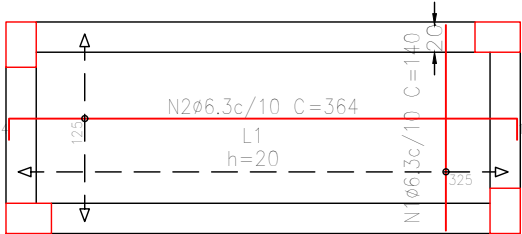
| Resumo Aço Fundação            |      | Comp. total (m) | Peso+10% (kg) |
|--------------------------------|------|-----------------|---------------|
| Armadura longitudinal inferior |      |                 |               |
| CA-50                          | ø6.3 | 101.4           | 27            |



PLANTA DE ARM. POSITIVA - LAJE TOPO (-0,10)  
esc 1:50

| Elemento                       | Pos. | Diam. | Q. | Dob.<br>(cm) | Ret.<br>(cm) | Dob.<br>(cm) | Comp.<br>(cm) | Total<br>(cm) | CA-50<br>(kg) | CA-60<br>(kg) |
|--------------------------------|------|-------|----|--------------|--------------|--------------|---------------|---------------|---------------|---------------|
| Armadura longitudinal inferior | 1    | ø6.3  | 25 | 14           | 110          | 14           | 110           | 2750          | 6.7           |               |
|                                | 2    | ø6.3  | 8  | 14           | 56           | 14           | 84            | 672           | 1.6           |               |
|                                | 3    | ø6.3  | 8  | 14           | VAR.         | 14           | VAR.          | 2232          | 5.5           |               |
|                                | 4    | ø6.3  | 5  | 14           | 336          | 14           | 364           | 1620          | 4.5           |               |
| Total+10%:                     |      |       |    |              |              |              |               |               | 20.1          |               |
| Total:                         |      |       |    |              |              |              |               |               | 20.1          | 0.0           |

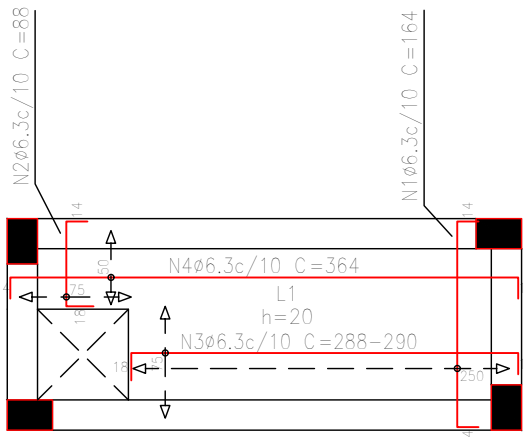
| Resumo Aço TERREO              |      | Comp. total (m) | Peso+10% (kg) |
|--------------------------------|------|-----------------|---------------|
| Armadura longitudinal inferior |      |                 |               |
| CA-50                          | ø6.3 | 74.7            | 20            |



PLANTA DE ARM. NEGATIVA - LAJE DE FUNDAÇÃO (-1,50)  
esc 1:50

| Elemento                       | Pos. | Diam. | Q. | Dob.<br>(cm) | Ret.<br>(cm) | Dob.<br>(cm) | Comp.<br>(cm) | Total<br>(cm) | CA-50<br>(kg) | CA-60<br>(kg) |
|--------------------------------|------|-------|----|--------------|--------------|--------------|---------------|---------------|---------------|---------------|
| Armadura longitudinal superior | 1    | ø6.3  | 33 | 14           | 140          | 14           | 140           | 4620          | 11.3          |               |
|                                | 2    | ø6.3  | 13 | 14           | 336          | 14           | 364           | 4732          | 11.6          |               |
| Total+10%:                     |      |       |    |              |              |              |               |               | 25.2          |               |
| Total:                         |      |       |    |              |              |              |               |               | 25.2          | 0.0           |

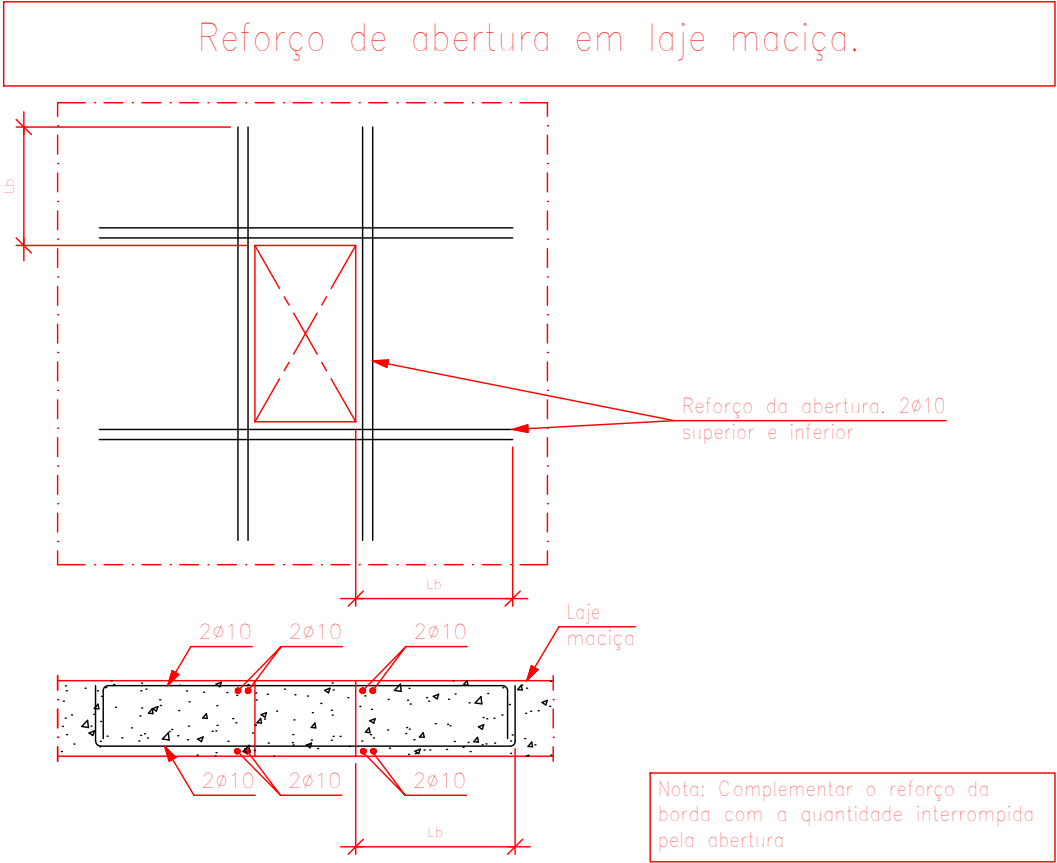
| Resumo Aço Fundação            |      | Comp. total (m) | Peso+10% (kg) |
|--------------------------------|------|-----------------|---------------|
| Armadura longitudinal superior |      |                 |               |
| CA-50                          | ø6.3 | 93.5            | 25            |



PLANTA DE ARM. NEGATIVA - LAJE TOPO (-0,10)  
esc 1:50

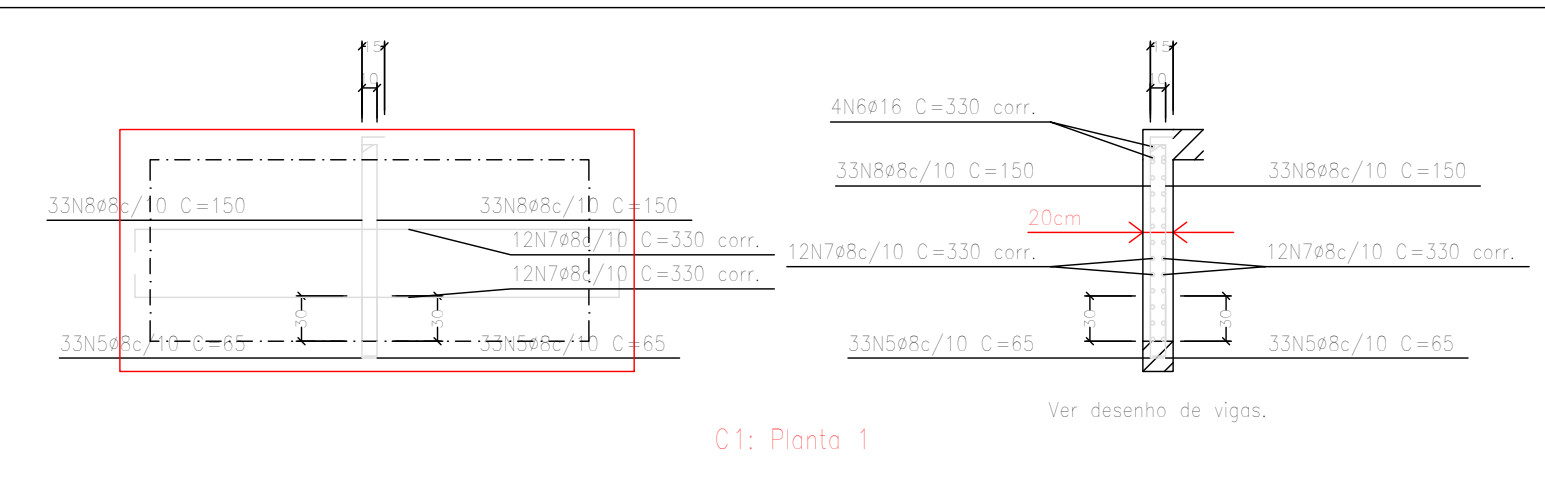
| Elemento                       | Pos. | Diam. | Q. | Dob.<br>(cm) | Ret.<br>(cm) | Dob.<br>(cm) | Comp.<br>(cm) | Total<br>(cm) | CA-50<br>(kg) | CA-60<br>(kg) |
|--------------------------------|------|-------|----|--------------|--------------|--------------|---------------|---------------|---------------|---------------|
| Armadura longitudinal superior | 1    | ø6.3  | 25 | 14           | 136          | 14           | 164           | 4100          | 10.0          |               |
|                                | 2    | ø6.3  | 8  | 18           | 56           | 14           | 88            | 704           | 1.7           |               |
|                                | 3    | ø6.3  | 8  | 14           | 256          | 18           | 288           | 3304          | 5.6           |               |
|                                | 4    | ø6.3  | 5  | 14           | 336          | 14           | 364           | 1820          | 4.5           |               |
| Total+10%:                     |      |       |    |              |              |              |               |               | 24.0          |               |
| Total:                         |      |       |    |              |              |              |               |               | 24.0          | 0.0           |

| Resumo Aço TERREO              |      | Comp. total (m) | Peso+10% (kg) |
|--------------------------------|------|-----------------|---------------|
| Armadura longitudinal superior |      |                 |               |
| CA-50                          | ø6.3 | 89.3            | 24            |

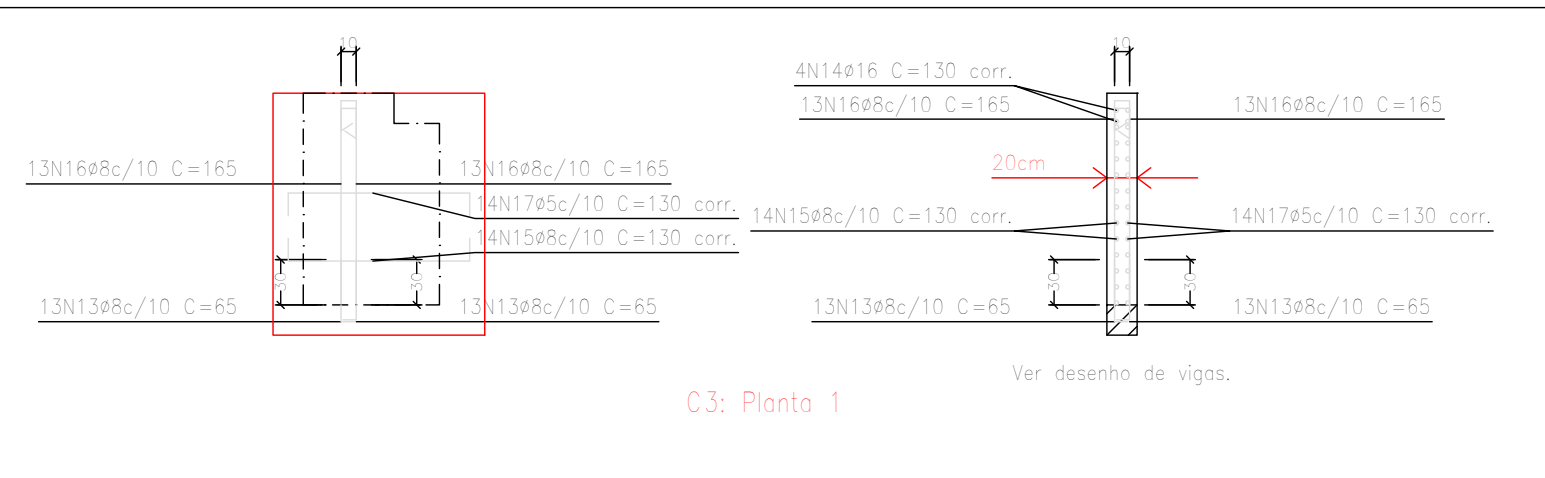


| LEGENDA |        |
|---------|--------|
| —       | 5.0mm  |
| —       | 6.3mm  |
| —       | 8.0mm  |
| —       | 10.0mm |
| —       | 12.5mm |
| —       | 16.0mm |
| —       | 20.0mm |

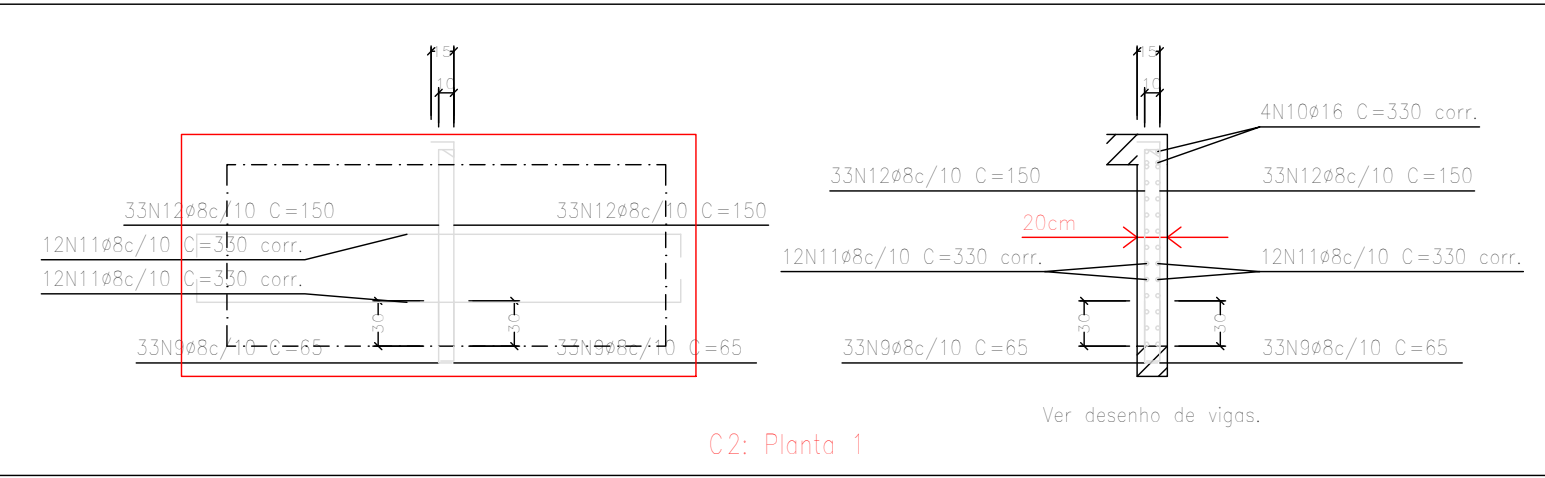
DETALHAMENTO DE MUROS



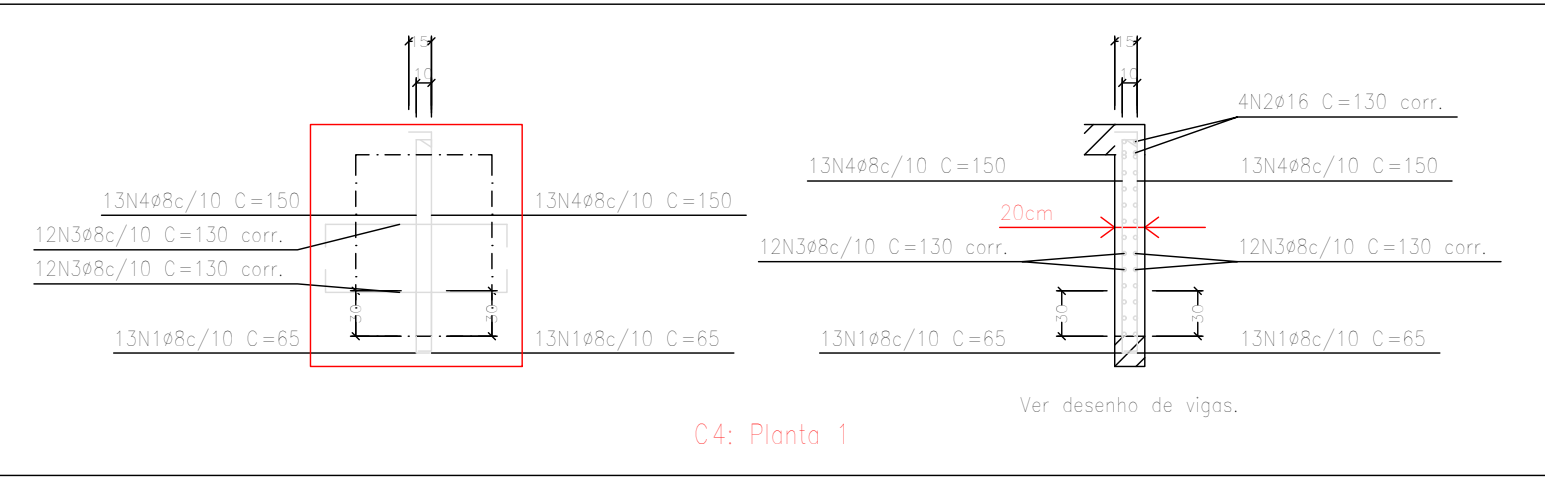
C1: Planta 1



C3: Planta 1



C2: Planta 1

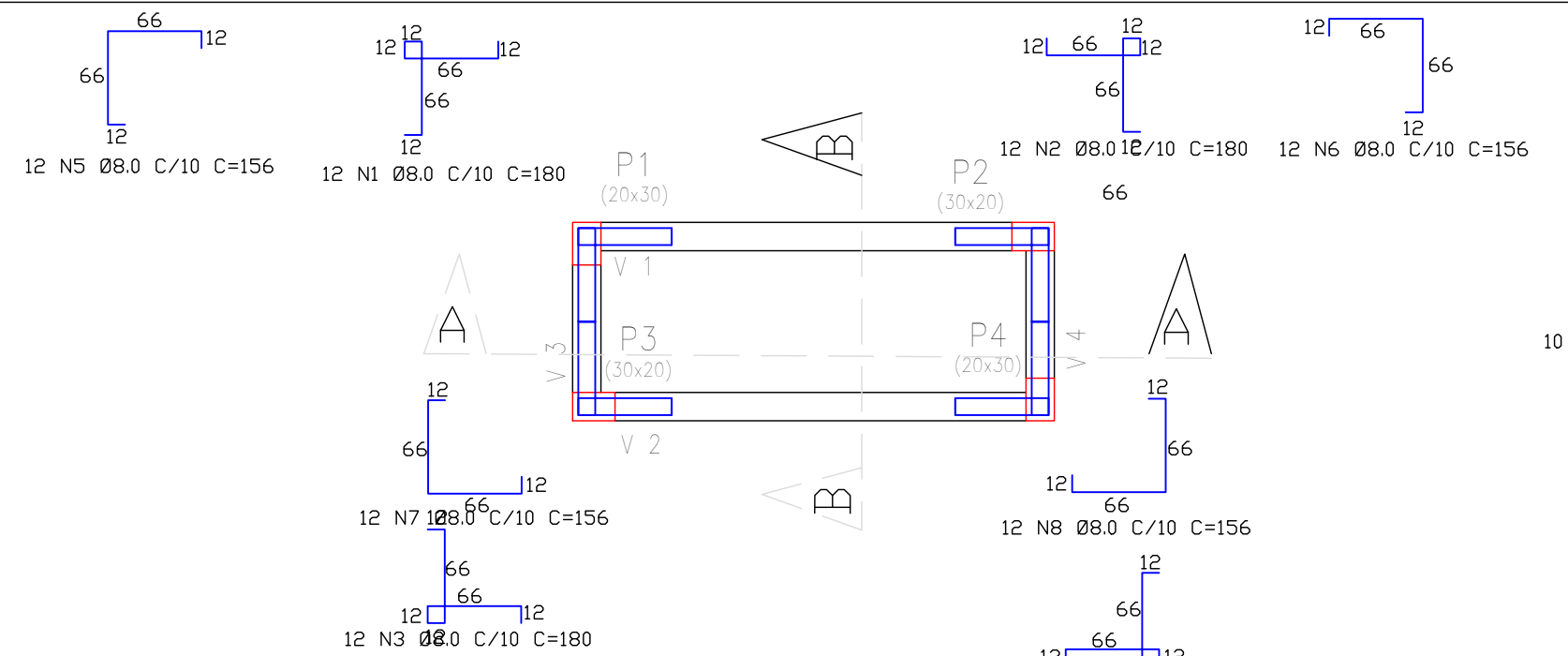


C4: Planta 1

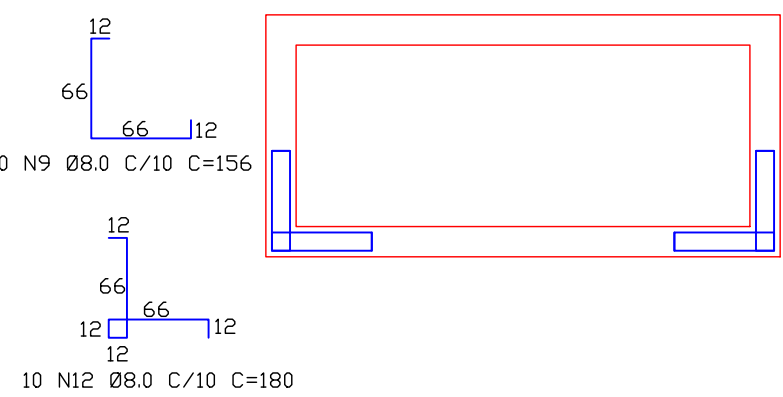
| Elemento   | Pos.       | Diam. | Q. | Dob.<br>(cm) | Ret.<br>(cm) | Dob.<br>(cm) | Comp.<br>(cm) | Total<br>(cm) | CA-50<br>(kg) | CA-60<br>(kg) |
|------------|------------|-------|----|--------------|--------------|--------------|---------------|---------------|---------------|---------------|
| C4         | 1          | ø8    | 26 | 20           | 45           | VAR.         | VAR.          | 1690          | 6.7           |               |
|            | 2          | ø16   | 4  | VAR.         | VAR.         | VAR.         | 520           | 8.2           |               |               |
|            | 3          | ø8    | 24 | VAR.         | VAR.         | VAR.         | 3120          | 12.3          |               |               |
|            | 4          | ø8    | 26 | 15           | 135          | VAR.         | 150           | 3900          | 15.4          |               |
| Total+10%: |            |       |    |              |              |              |               |               | 46.9          |               |
| C1         | 5          | ø8    | 66 | 20           | 45           | VAR.         | VAR.          | 4290          | 16.9          |               |
|            | 6          | ø16   | 4  | VAR.         | VAR.         | VAR.         | 1320          | 20.8          |               |               |
|            | 7          | ø8    | 24 | VAR.         | VAR.         | VAR.         | 7920          | 31.3          |               |               |
|            | 8          | ø8    | 66 | 15           | 135          | VAR.         | 150           | 9900          | 39.1          |               |
| Total+10%: |            |       |    |              |              |              |               |               | 118.9         |               |
| C2         | 9          | ø8    | 66 | 20           | 45           | VAR.         | VAR.          | 4290          | 16.9          |               |
|            | 10         | ø16   | 4  | VAR.         | VAR.         | VAR.         | 1320          | 20.8          |               |               |
|            | 11         | ø8    | 24 | VAR.         | VAR.         | VAR.         | 7920          | 31.3          |               |               |
|            | 12         | ø8    | 66 | 15           | 135          | VAR.         | 150           | 9900          | 39.1          |               |
| Total+10%: |            |       |    |              |              |              |               |               | 118.9         |               |
| C3         | 13         | ø8    | 26 | 20           | 45           | VAR.         | VAR.          | 1690          | 6.7           |               |
|            | 14         | ø16   | 4  | VAR.         | VAR.         | VAR.         | 520           | 8.2           |               |               |
|            | 15         | ø8    | 14 | VAR.         | VAR.         | VAR.         | 1820          | 7.2           |               |               |
|            | 16         | ø8    | 26 | 30           | 135          | VAR.         | 165           | 4290          | 16.9          |               |
| C3         | 17         | ø5    | 14 | VAR.         | VAR.         | VAR.         | 1820          | 1820          |               | 2.9           |
|            | Total+10%: |       |    |              |              |              |               |               | 42.9          | 3.2           |
| ø5:        |            |       |    |              |              |              |               | 0.0           | 0.2           |               |
| ø8:        |            |       |    |              |              |              |               | 263.7         | 0.0           |               |
| ø16:       |            |       |    |              |              |              |               | 63.9          | 0.0           |               |
| Total:     |            |       |    |              |              |              |               | 327.6         | 3.3           |               |

| Resumo Aço Muros de concreto armada |     | Comp. total (m) | Peso+10% (kg) | Total |
|-------------------------------------|-----|-----------------|---------------|-------|
| CA-50                               | ø8  | 607.3           | 264           |       |
| CA-60                               | ø16 | 36.8            | 64            | 328   |
| CA-60                               | ø5  | 18.2            | 3             | 3     |
| Total                               |     |                 |               | 331   |

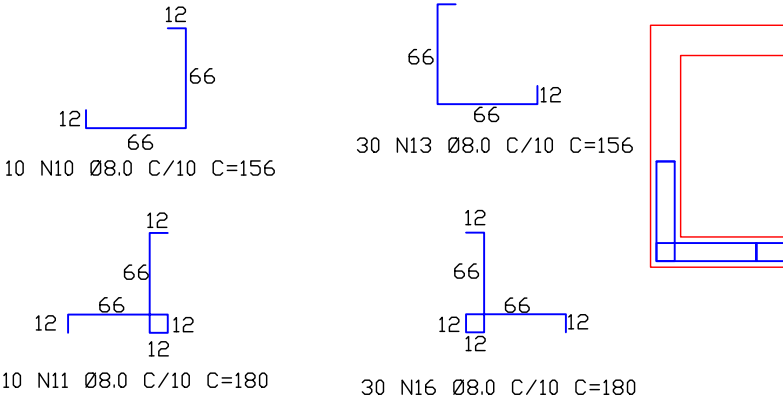
DETALHAMENTO DE NÓS MATA-CANTO



DET. NÓ MATA-CANTO - PLANTA  
esc 1:50



DET. NÓ MATA-CANTO - CORTE A-A  
esc 1:50



DET. NÓ MATA-CANTO - CORTE B-B  
esc 1:50

| Elemento     | Pos. | Diam. | Q. | Dob.<br>(cm) | Ret.<br>(cm) | Dob.<br>(cm) | Comp.<br>(cm) | Total<br>(cm) | CA-50<br>(kg) | CA-60<br>(kg) |
|--------------|------|-------|----|--------------|--------------|--------------|---------------|---------------|---------------|---------------|
| Planta baixa | 1    | ø8    | 12 |              |              |              | 180           | 2160          | 8.6           |               |
|              | 2    | ø8    | 12 |              |              |              | 180           | 2160          | 8.6           |               |
|              | 3    | ø8    | 12 |              |              |              | 180           | 2160          | 8.6           |               |
|              | 4    | ø8    | 12 |              |              |              | 180           | 2160          | 8.6           |               |
|              | 5    | ø8    | 12 |              |              |              | 156           | 1872          | 7.5           |               |
|              | 6    | ø8    | 12 |              |              |              | 156           | 1872          | 7.5           |               |
|              | 7    | ø8    | 12 |              |              |              | 156           | 1872          | 7.5           |               |
|              | 8    | ø8    | 12 |              |              |              | 156           | 1872          | 7.5           |               |
| Total+10%:   |      |       |    |              |              |              |               |               | 70.9          |               |
| Corte A-A    | 9    | ø8    | 10 |              |              |              | 156           | 1872          | 6.2           |               |
|              | 10   | ø8    | 10 |              |              |              | 156           | 1872          | 6.2           |               |
|              | 11   | ø8    | 10 |              |              |              | 180           | 2160          | 7.2           |               |
|              | 12   | ø8    | 10 |              |              |              | 180           | 2160          | 7.2           |               |
| Total+10%:   |      |       |    |              |              |              |               |               | 29.5          |               |
| Corte B-B    | 13   | ø8    | 30 |              |              |              | 156           | 4680          | 18.5          |               |
|              | 14   | ø8    | 30 |              |              |              | 156           | 4680          | 18.5          |               |
|              | 15   | ø8    | 30 |              |              |              | 180           | 5400          | 21.5          |               |
|              | 16   | ø8    | 30 |              |              |              | 180           | 5400          | 21.5          |               |
| Total+10%:   |      |       |    |              |              |              |               |               | 88            |               |
| Total:       |      |       |    |              |              |              |               |               | 189           | 0.0           |
| Total:       |      |       |    |              |              |              |               |               | 189           | 0.0           |



CONCRETO  
fck = 25 MPa

AÇO: CA-50 E CA-60

PROJETO ESTRUTURAL

|                                                         |                                                                                             |                                      |                                                  |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------------|
| Responsável Técnico                                     |                                                                                             | Administração Municipal              |                                                  |
| TÚLIO ANDRÉ ROCHA DE OLIVEIRA<br>CREA PE Nº: 1820648907 |                                                                                             | SIVALDO RODRIGUES ALBINO<br>PREFEITO |                                                  |
| Área:                                                   | Área terreno _____ m²<br>Área construída _____ m²                                           | Obra:                                | Projeto de reforma da Praça da Bíblia - cisterna |
|                                                         |                                                                                             | Endereço:                            | Praça da Bíblia, s/n, Heliópolis, Garanhuns/PE   |
| Assunto:                                                | DETALHAMENTO DE LAJES<br>DETALHAMENTO DE NÓ MATA-CANTO<br>DETALHAMENTO DE MUROS DE CONCRETO |                                      | Folha:<br><br>02/02                              |
| Escala: Conforme projeto                                | Data:<br>julho/2024                                                                         | ART / RRT Nº:<br>PE20241168045       | Órgão Financiador:<br>Recurso Próprio            |
| Proprietário:                                           | Prefeitura Municipal de Garanhuns                                                           | Estrutural                           |                                                  |