

| TRANSFORMADOR NO. TR-04B-03 DE SERVICIOS AUXILIARES DE 112,5 KVA | POSTE POLIESTER Y FIBRA DE VIDRIO | SECCIÓN VÍA | CARGA LUMINARIAS | CARGA TOTAL LUMINARIA LED (KVA) | CARGA TOTAL USUARIOS (KVA) | CARGA DEMANDADA USUARIOS (KVA) | CAPACIDAD TRANSFORMADOR (KVA) | RESERVA (KVA) | BAJANTES | | CORTACIRCUITOS | | CON DPS CON TESTIGO, PROGRAMADOR HORARIO DE A-P Y RELEVADOR | | | | |
|--|-----------------------------------|----------------|------------------|---------------------------------|------------------------------|--------------------------------|-------------------------------|-----------------------------|---------------------------------------|---------------------------|-------------------------|--------------|---|---------|----------------------|-----------------------------|--------|
| | | | | | | | | | FASES | | 25 | KACI | BREAKERS 2X20 A. | | CORRIENTE (AMPERIOS) | CORRIENTE (AMPERIOS) X 1,25 | |
| | | | | | | | | | NEUTRO | | CIRCUITO 2F - 3H - 220V | | | | | | |
| 460/220-127 V | | | | 2.427 | 98.54 | 68.98 | 112.50 | 43.55 | COBRE -THW | CIRCUITO 2F - 3H - 220V | | | | | | | |
| TRAMO | LONGITUD (METROS X KG) | ANCHO (METROS) | LED (W) | CARGA LUMINARIAS LED (KVA) | NÚMERO DE LUMINARIAS (UNID.) | CARGAS AUXILIARES (KVA) | CARGA TOTAL (KVA) | LONGITUD DEL TRAMO (METROS) | SUMATORIA LONGITUD DEL TRAMO (METROS) | MOMENTO ELÉCTRICO (KVAXM) | CALIBRE CU | DIÁMETRO PVC | % REGULACIÓN MOMENTO X CTE | | | | |
| VANOS | | | | | | | | | | | SUBTERRÁNEO | PULGADAS | CTE | TOTAL % | | | |
| PP-04B-01 | CSP1 | 12X510 | Z-V | 72 | 0.090 | 2 | 0.023 | 2.203 | 50.00 | 50.00 | 10.125 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.09 | 1.15 | 1.44 |
| CSP1 | CSP2 | 12X510 | Z-V | 72 | 0.090 | 2 | 0.023 | 2.203 | 30.00 | 80.00 | 16.200 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.14 | 1.15 | 1.44 |
| CSP2 | CSP3 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 44.98 | 124.98 | 9.569 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.08 | 0.44 | 0.54 |
| CSP3 | CSP4 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 30.00 | 154.98 | 11.866 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.10 | 0.44 | 0.54 |
| CSP4 | CSP5 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 24.08 | 179.06 | 13.709 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.12 | 0.44 | 0.54 |
| CSP5 | CSP6 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 41.00 | 220.06 | 16.848 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.15 | 0.44 | 0.54 |
| CSP6 | CSP7 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 29.43 | 249.49 | 19.102 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.17 | 0.44 | 0.54 |
| CSP7 | CSP8 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 29.43 | 278.92 | 21.355 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.19 | 0.44 | 0.54 |
| CSP8 | CSP9 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 29.43 | 308.35 | 23.608 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.21 | 0.44 | 0.54 |
| CSP9 | CSP10 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 29.43 | 337.78 | 25.861 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.23 | 0.44 | 0.54 |
| TOTAL TRAMO PRINCIPAL | 10 | | | 536 | 0.670 | 12 | 0.168 | 1.018 | 337.78 | | | 2#8, 1# 12 | 3/4" | 0.0088 | 1.48 | 5.781 | 7.227 |
| CSD | CSP11 | 12X510 | Z-V | 72 | 0.090 | 2 | 0.023 | 0.203 | 39.30 | 39.30 | 7.958 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.07 | 1.15 | 1.44 |
| CSC | CSP12 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 16.88 | 56.18 | 4.301 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.04 | 0.44 | 0.54 |
| CSP12 | CSP13 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 30.00 | 86.18 | 6.598 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.06 | 0.44 | 0.54 |
| C5B | CSP14 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 21.12 | 107.30 | 8.215 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.07 | 0.44 | 0.54 |
| CSP14 | CSP15 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 29.00 | 136.30 | 10.435 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.09 | 0.44 | 0.54 |
| CSP15 | CSP16 | 10X510 | 6.00 | 39 | 0.049 | 1 | 0.012 | 0.061 | 33.80 | 170.10 | 10.365 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.09 | 0.35 | 0.43 |
| CSP16 | CSP17 | 10X510 | 6.00 | 39 | 0.049 | 1 | 0.012 | 0.061 | 30.00 | 200.10 | 12.194 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.11 | 0.35 | 0.43 |
| CSP17 | CSP18 | 10X510 | 6.00 | 39 | 0.049 | 1 | 0.012 | 0.061 | 32.78 | 232.88 | 14.191 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.12 | 0.35 | 0.43 |
| CSP18 | CSP19 | 10X510 | 6.00 | 39 | 0.049 | 1 | 0.012 | 0.061 | 30.00 | 262.88 | 16.019 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.14 | 0.35 | 0.43 |
| CSP19 | CSP20 | 12X510 | Z-V | 72 | 0.090 | 1 | 0.023 | 0.113 | 22.00 | 284.88 | 32.049 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.28 | 0.64 | 0.80 |
| C5F | CSP21 | 10X510 | 10.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 28.80 | 313.68 | 24.016 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.21 | 0.44 | 0.54 |
| C5F | CSP22 | 10X510 | 10.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 21.36 | 335.04 | 25.652 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.23 | 0.44 | 0.54 |
| C5E | CSP23 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 6.00 | 341.04 | 26.111 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.23 | 0.44 | 0.54 |
| C5A | CSP24 | 12X510 | Z-V | 72 | 0.090 | 1 | 0.023 | 0.113 | 29.26 | 370.30 | 41.659 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.37 | 0.64 | 0.80 |
| C5A | CSP25 | 12X510 | Z-V | 72 | 0.090 | 2 | 0.023 | 0.203 | 24.00 | 394.30 | 79.846 | 2#8, 1# 12 | 3/4" | 0.0088 | 0.70 | 1.15 | 1.44 |
| TOTAL TRAMOS AUXILIARES | 15 | | | 787 | 0.984 | 17 | 0.246 | 1.410 | 394.30 | | | 2#8, 1# 12 | 3/4" | 0.0088 | 2.613 | 8.010 | 10.012 |
| TOTAL | 25 | | | 1323 | 1.654 | 29 | 0.413 | 2.427 | 732.08 | | | 2#8, 1# 12 | 3/4" | 0.0088 | 13.791 | 17.239 | |

CUADRO DE CÁLCULO DEL CIRCUITO DE ILUMINACIÓN NO. 5. QUE SALE DEL TABLERO GENERAL DE 220V PP-04B-01 DE LA SUBESTACIÓN SEDIMENTACIÓN PRIMARIA N. 2.

| TRANSFORMADOR NO. TR-04C-03 DE SERVICIOS AUXILIARES DE 112,5 KVA | POSTE POLIESTER Y FIBRA DE VIDRIO | SECCIÓN VÍA | CARGA LUMINARIAS | CARGA TOTAL LUMINARIA LED (KVA) | CARGA TOTAL USUARIOS (KVA) | CARGA DEMANDADA USUARIOS (KVA) | CAPACIDAD TRANSFORMADOR (KVA) | RESERVA (KVA) | BAJANTES | | CORTACIRCUITOS | | CON DPS CON TESTIGO, PROGRAMADOR HORARIO DE A-P Y RELEVADOR | | | | |
|--|-----------------------------------|----------------|------------------|---------------------------------|------------------------------|--------------------------------|-------------------------------|-----------------------------|---------------------------------------|---------------------------|-------------------------|--------------|---|---------|----------------------|-----------------------------|--------|
| | | | | | | | | | FASES | | 25 | KACI | BREAKERS 2X20 A. | | CORRIENTE (AMPERIOS) | CORRIENTE (AMPERIOS) X 1,25 | |
| | | | | | | | | | NEUTRO | | CIRCUITO 2F - 3H - 220V | | | | | | |
| 460/220-127 V | | | | 2.162 | 112.05 | 78.44 | 112.50 | 34.06 | COBRE -THW | CIRCUITO 2F - 3H - 220V | | | | | | | |
| TRAMO | LONGITUD (METROS X KG) | ANCHO (METROS) | LED (W) | CARGA LUMINARIAS LED (KVA) | NÚMERO DE LUMINARIAS (UNID.) | CARGAS AUXILIARES (KVA) | CARGA TOTAL (KVA) | LONGITUD DEL TRAMO (METROS) | SUMATORIA LONGITUD DEL TRAMO (METROS) | MOMENTO ELÉCTRICO (KVAXM) | CALIBRE CU | DIÁMETRO PVC | % REGULACIÓN MOMENTO X CTE | | | | |
| VANOS | | | | | | | | | | | SUBTERRÁNEO | PULGADAS | CTE | TOTAL % | | | |
| PP-04C-01 | C6P1 | 10X510 | 10.00 | 49 | 0.061 | 1 | 0.015 | 0.077 | 34.00 | 34.00 | 2.603 | 2#6, 1# 12 | 3/4" | 0.006 | 0.02 | 0.44 | 0.54 |
| C6P1 | C6P2 | 10X510 | 6.00 | 39 | 0.049 | 1 | 0.012 | 0.061 | 26.11 | 60.11 | 3.663 | 2#6, 1# 12 | 3/4" | 0.006 | 0.02 | 0.35 | 0.43 |
| C6P2 | C6P3 | 12X510 | Z-V | 72 | 0.090 | 2 | 0.023 | 0.203 | 47.00 | 107.11 | 21.690 | 2#6, 1# 12 | 3/4" | 0.006 | 0.13 | 1.15 | 1.44 |
| C6P3 | C6P4 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 30.00 | 137.11 | 10.497 | 2#6, 1# 12 | 3/4" | 0.006 | 0.06 | 0.44 | 0.54 |
| C6P4 | C6P5 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 18.70 | 155.81 | 11.929 | 2#6, 1# 12 | 3/4" | 0.006 | 0.07 | 0.44 | 0.54 |
| C6P5 | C6P6 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 20.33 | 176.14 | 13.486 | 2#6, 1# 12 | 3/4" | 0.006 | 0.08 | 0.44 | 0.54 |
| C6P6 | C6P7 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 21.10 | 197.24 | 15.101 | 2#6, 1# 12 | 3/4" | 0.006 | 0.09 | 0.44 | 0.54 |
| C6P7 | C6P8 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 26.80 | 224.04 | 17.153 | 2#6, 1# 12 | 3/4" | 0.006 | 0.10 | 0.44 | 0.54 |
| C6P8 | C6P9 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 27.00 | 251.04 | 19.220 | 2#6, 1# 12 | 3/4" | 0.006 | 0.12 | 0.44 | 0.54 |
| C6P9 | C6P10 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 27.00 | 278.04 | 21.287 | 2#6, 1# 12 | 3/4" | 0.006 | 0.13 | 0.44 | 0.54 |
| C6P10 | C6P11 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 27.00 | 305.04 | 23.355 | 2#6, 1# 12 | 3/4" | 0.006 | 0.14 | 0.44 | 0.54 |
| C6P11 | C6P12 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 30.00 | 335.04 | 25.652 | 2#6, 1# 12 | 3/4" | 0.006 | 0.15 | 0.44 | 0.54 |
| C6P12 | C6P13 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 30.00 | 365.04 | 27.948 | 2#6, 1# 12 | 3/4" | 0.006 | 0.17 | 0.44 | 0.54 |
| C6P13 | C6P14 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 30.00 | 395.04 | 30.245 | 2#6, 1# 12 | 3/4" | 0.006 | 0.18 | 0.44 | 0.54 |
| C6P14 | C6P15 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 30.00 | 425.04 | 32.542 | 2#6, 1# 12 | 3/4" | 0.006 | 0.20 | 0.44 | 0.54 |
| C6P15 | C6P16 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 30.00 | 455.04 | 34.839 | 2#6, 1# 12 | 3/4" | 0.006 | 0.21 | 0.44 | 0.54 |
| C6P16 | C6P17 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 30.00 | 485.04 | 37.136 | 2#6, 1# 12 | 3/4" | 0.006 | 0.22 | 0.44 | 0.54 |
| C6P17 | C6P18 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 27.00 | 512.04 | 39.203 | 2#6, 1# 12 | 3/4" | 0.006 | 0.24 | 0.44 | 0.54 |
| C6P18 | C6P19 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 27.00 | 539.04 | 41.270 | 2#6, 1# 12 | 3/4" | 0.006 | 0.25 | 0.44 | 0.54 |
| C6P19 | C6P20 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 27.00 | 566.04 | 43.337 | 2#6, 1# 12 | 3/4" | 0.006 | 0.26 | 0.44 | 0.54 |
| TOTAL TRAMO PRINCIPAL | 20 | | | 993 | 1.241 | 21 | 0.310 | 1.642 | 566.04 | | | 2#6, 1# 12 | 3/4" | 0.006 | 2.83 | 9.327 | 11.659 |
| C6P5 | C6P21 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 22.00 | 22.00 | 1.684 | 2#6, 1# 12 | 3/4" | 0.006 | 0.010 | 0.44 | 0.54 |
| C6P21 | C6P22 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 27.00 | 49.00 | 3.752 | 2#6, 1# 12 | 3/4" | 0.006 | 0.02 | 0.44 | 0.54 |
| C6P22 | C6P23 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 27.00 | 76.00 | 5.819 | 2#6, 1# 12 | 3/4" | 0.006 | 0.03 | 0.44 | 0.54 |
| C6P23 | C6P24 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 27.00 | 103.00 | 7.886 | 2#6, 1# 12 | 3/4" | 0.006 | 0.05 | 0.44 | 0.54 |
| C6P24 | C6P25 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 30.00 | 133.00 | 10.183 | 2#6, 1# 12 | 3/4" | 0.006 | 0.06 | 0.44 | 0.54 |
| C6P25 | C6P26 | 10X510 | 9.20 | 49 | 0.061 | 1 | 0.015 | 0.077 | 30.00 | 163.00 | 12.480 | 2#6, 1# 12 | 3/4" | 0.006 | 0.07 | 0.44 | 0.54 |
| C6A | C6P27 | 10X510 | 6.00 | 39 | 0.049 | 1 | 0.012 | 0.061 | 22.30 | 185.30 | 11.292 | 2#6, 1# 12 | 3/4" | 0.006 | 0.07 | 0.35 | 0.43 |
| TOTAL TRAMOS AUXILIARES | 7 | | | 333 | 0.416 | 7 | 0.104 | 0.520 | 185.30 | | | 2#6, 1# 12 | 3/4" | 0.006 | 0.32 | 2.956 | 3.695 |
| TOTAL | 27 | | | 1326 | 1.658 | 28 | 0.414 | 2.162 | 751.34 | | | 2#6, 1# 12 | 3/4" | 0.0024 | 12.283 | 15.354 | |

CUADRO DE CÁLCULO DEL CIRCUITO DE ILUMINACIÓN NO. 6. QUE SALE DEL TABLERO GENERAL DE 220V PP-04C-01 DE LA SUBESTACIÓN SEDIMENTACIÓN PRIMARIA N. 3.

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| CONTRATO DE CONSULTORIA No. 1-02-2500-0600-2011 | UNIÓN TEMPORAL PTAR CANOAS CONTRATO EAB No. 1-15-2500-0646-2012 | ACUEDUCTO AGUA ALCANTARILLADO Y ASEO DE BOGOTÁ |
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